

(No Model.)

J. POWELL.
COCK OR VALVE.

No. 408,320.

Patented Aug. 6, 1889.

FIG. 1.

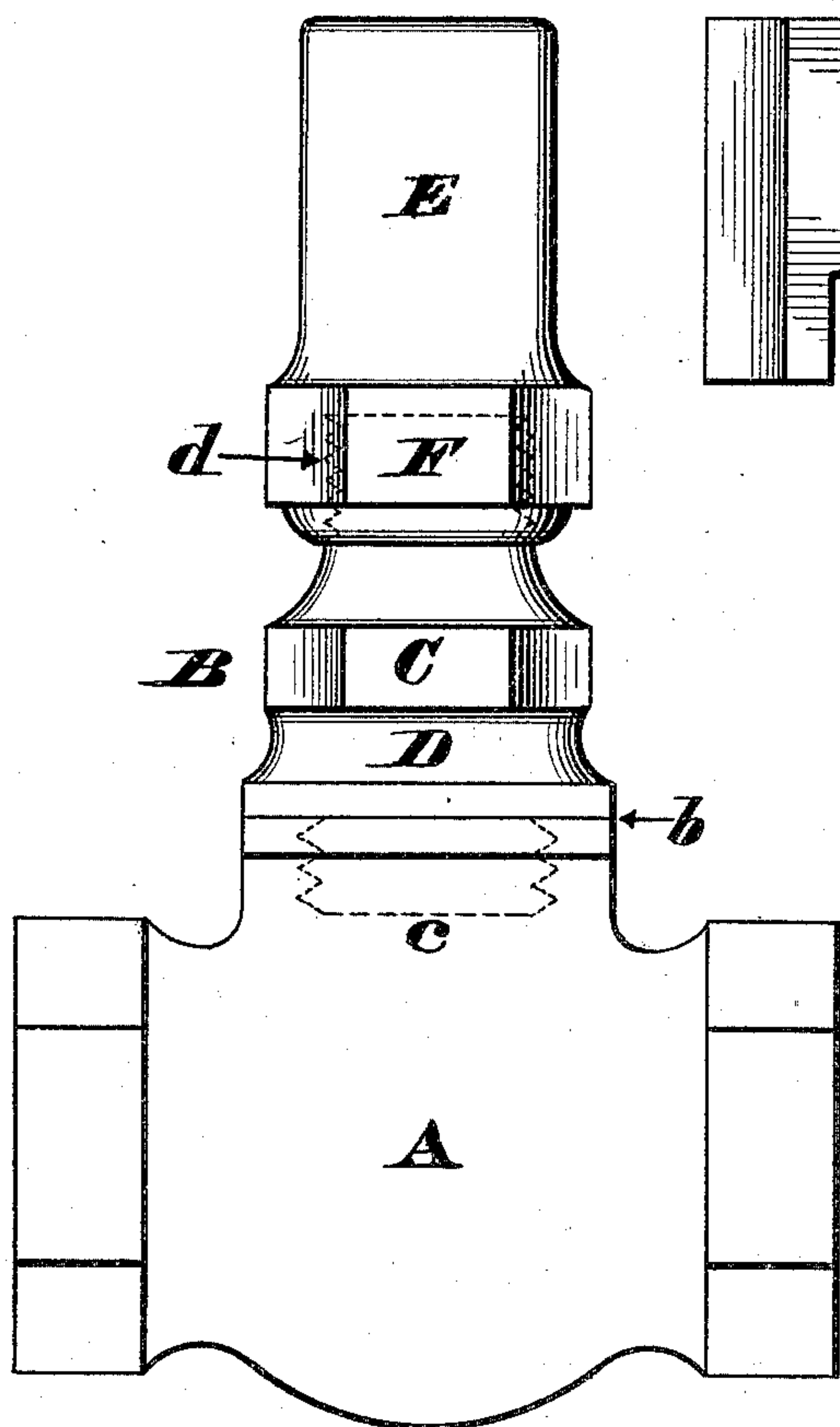


FIG. 2.

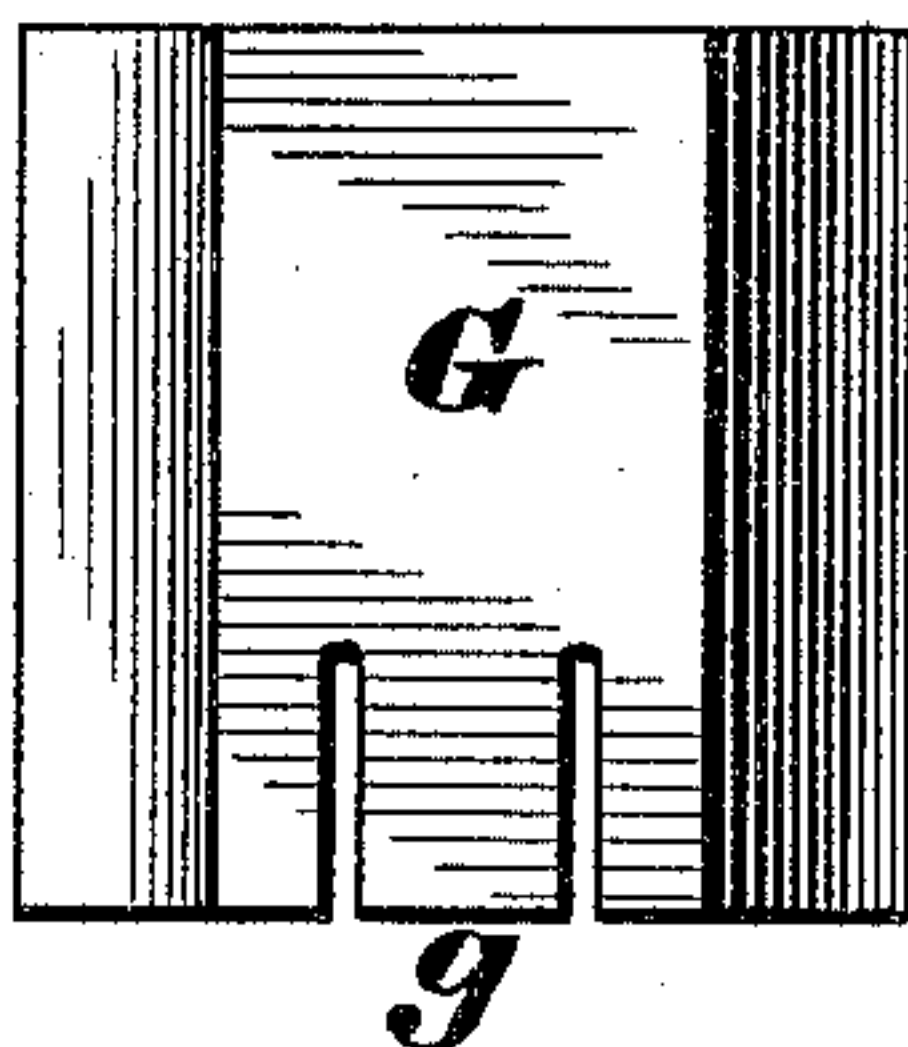


FIG. 3.

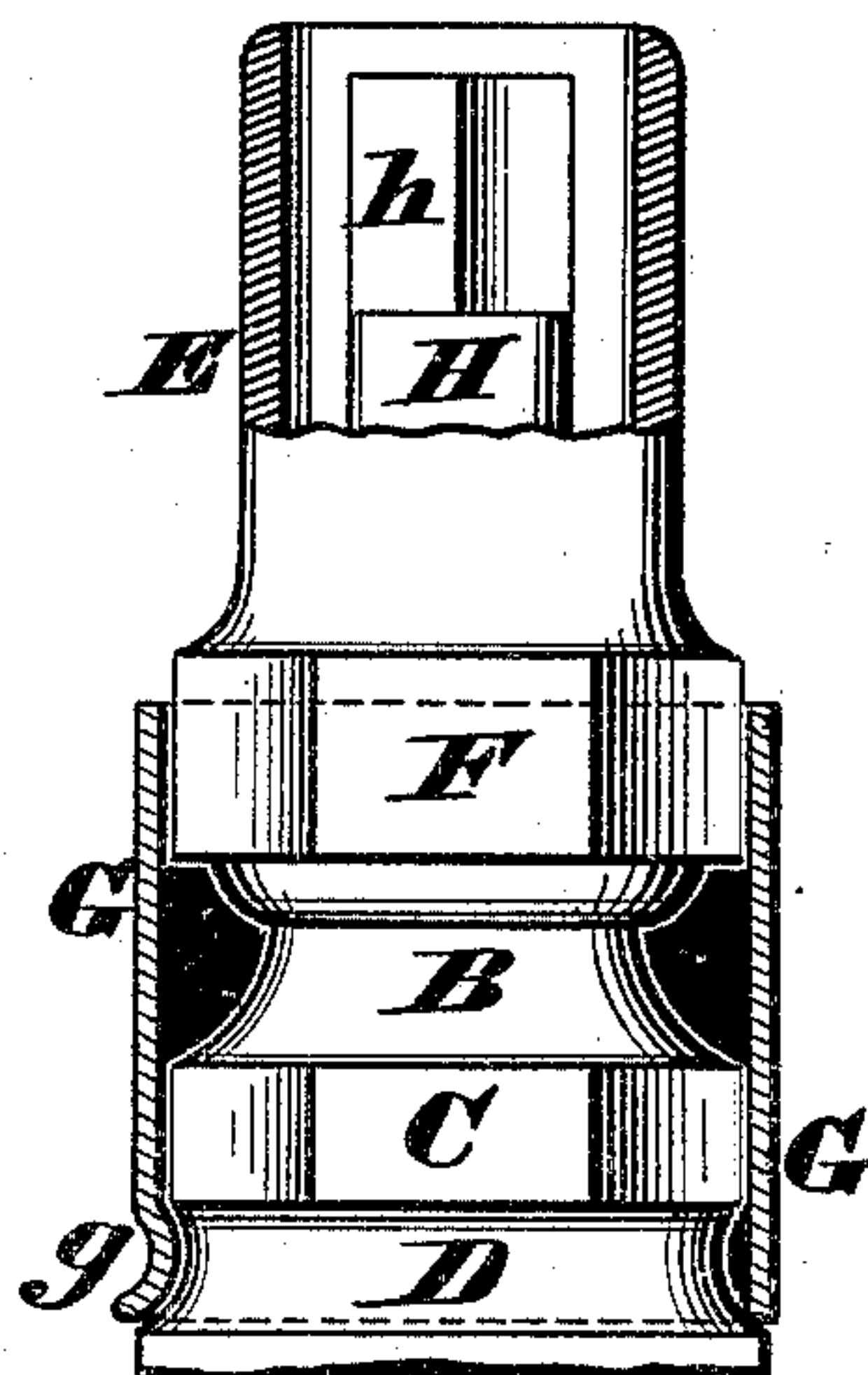


FIG. 4.

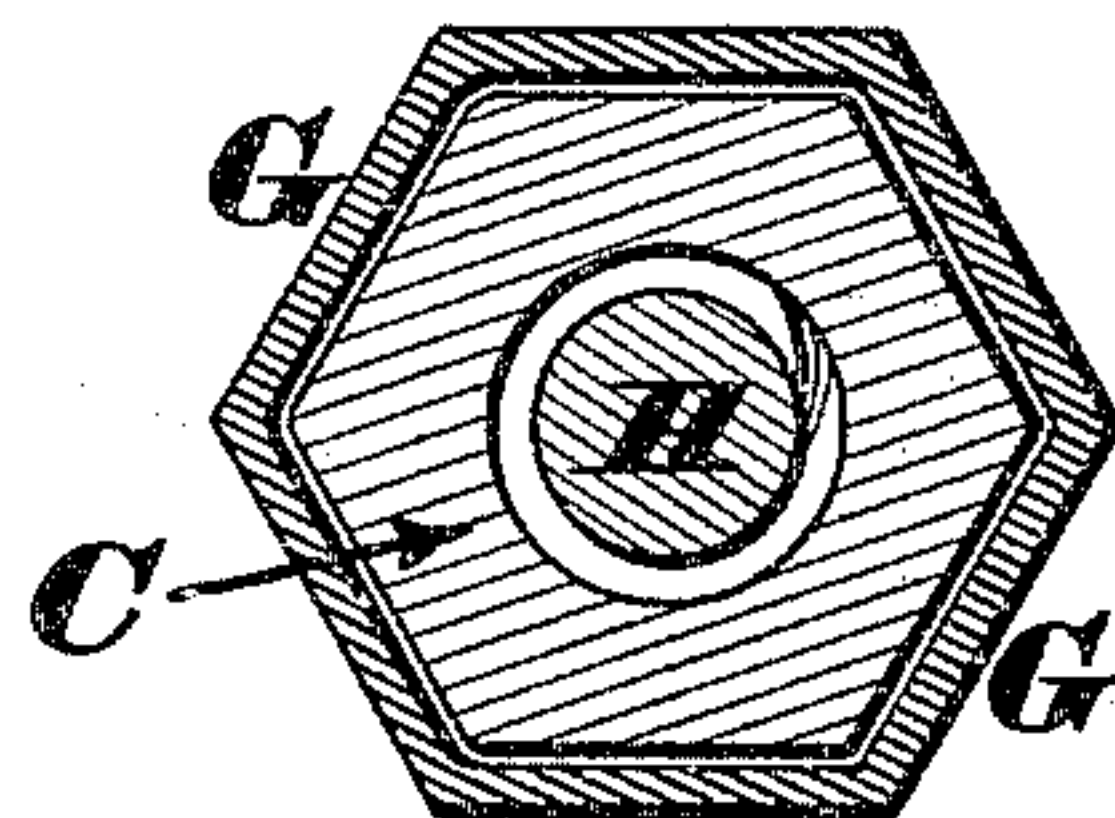


FIG. 5.

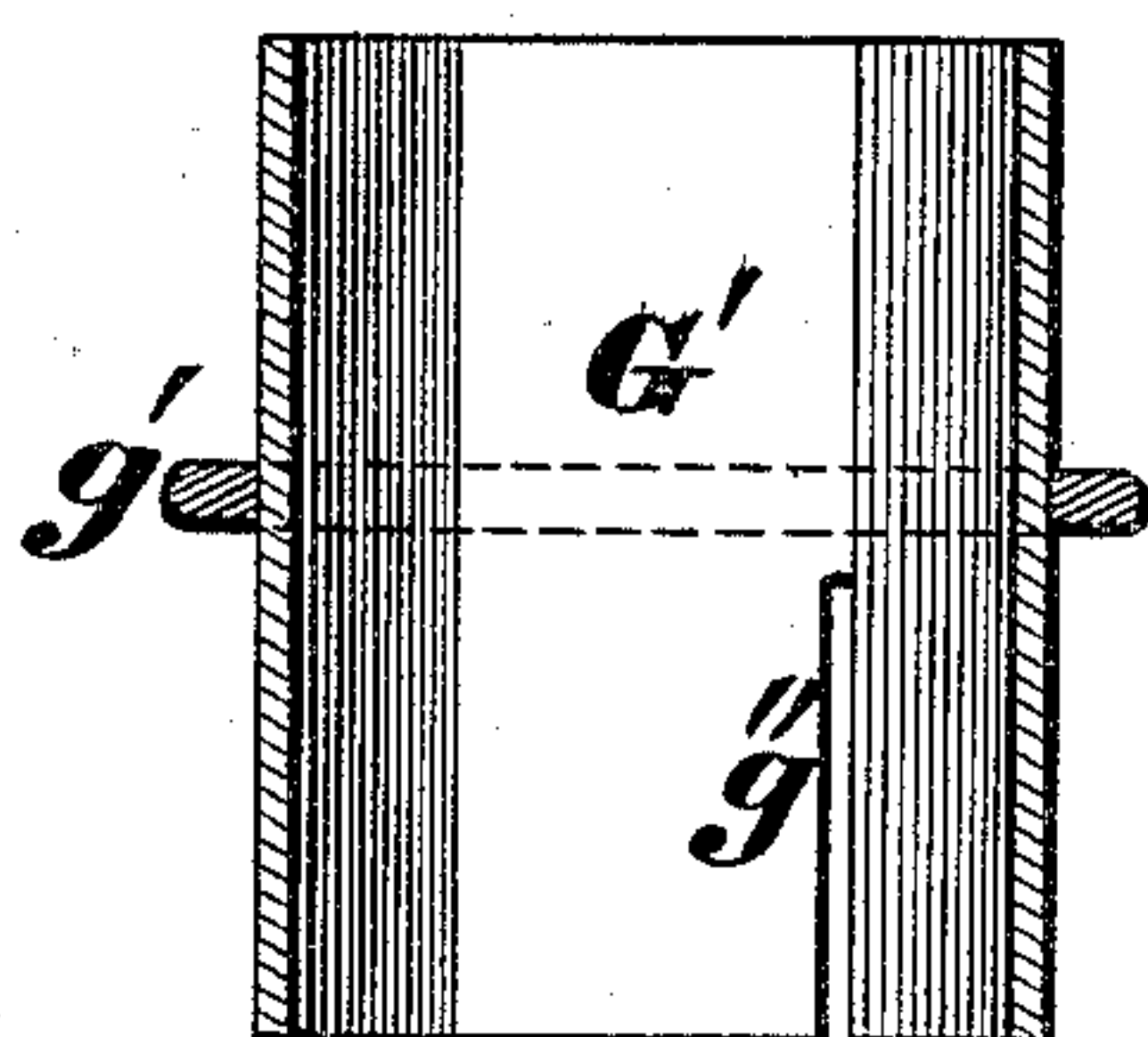


FIG. 6.

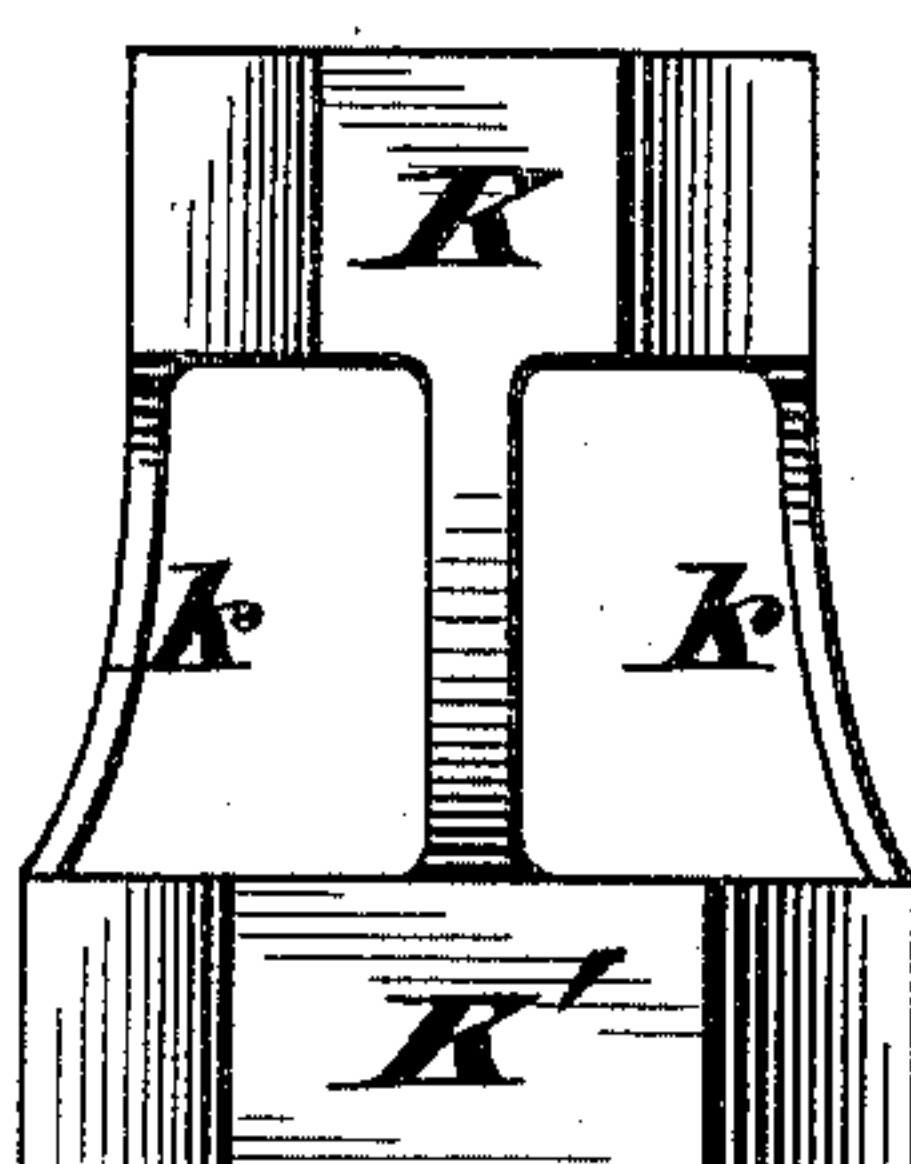
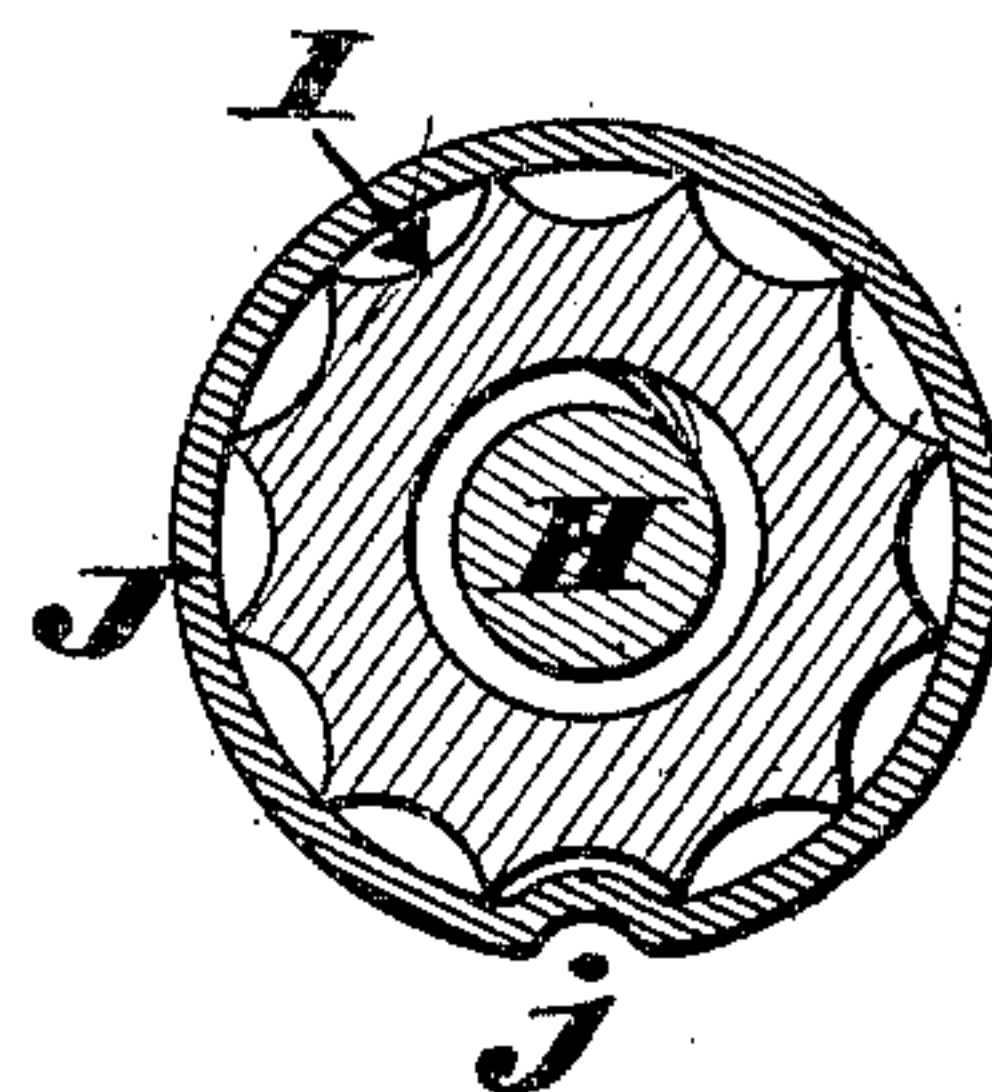


FIG. 7.



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JAMES POWELL, OF CINCINNATI, OHIO.

COCK OR VALVE.

SPECIFICATION forming part of Letters Patent No. 408,320, dated August 6, 1889.

Application filed March 25, 1887. Serial No. 232,364. (No model.)

To all whom it may concern:

Be it known that I, JAMES POWELL, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cocks or Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises a novel locking device, wherewith the stuffing-box or gland of a valve, cock, or faucet is so coupled to the neck or other stationary part of the shell as to be incapable of accidental turning when the valve-stem is operated. This locking device consists of a thin tube, usually made of sheet metal, and having practically the same form in transverse section as the non-circular collars of the neck and stuffing-box, in order that said device may be readily slipped over said collars when the faces of the same are coincident or in the same plane. The lower portion of the lock-tube is slotted longitudinally to afford a yielding tongue or section, whose free edge is adapted to snap into or engage with a groove of the neck, and thus prevent any accidental upward shifting of the tube, either by the vibrations of the machinery or otherwise, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of a valve arranged to permit the application of one form of my locking device. Fig. 2 is a side elevation of said device. Fig. 3 is a sectional elevation showing the method of applying the locking device. Fig. 4 is a transverse section of said device. Figs. 5, 6, and 7 are modifications of the invention.

Referring to Fig. 1, A represents the body or shell of a cock, valve, faucet, or other similar device for controlling the flow of gas, steam, or fluids, said shell being provided with a neck B for the reception of the valve-stem. This neck may be integral with the shell, if desired; but in the present case it is intended to be coupled thereto at the joint *b*, said neck being provided with a collar C, wherewith it is grasped by a wrench or spanner when screwed to said shell, this screw-threaded coupling being indicated by the dotted lines *c*.

D is an annular groove near the base of said neck, and *d* is a screw-thread at the upper

end thereof. Engaged with this screw-thread is an elongated stuffing-box E, having a collar F, of the same diameter and shape as the collar C of the neck. In the drawings these collars are shown as being hexagonal; but they may be square or octagonal, or any other desired polygonal shape that will permit the use of a wrench or spanner.

G represents the tubular locking device, which is usually made of thin sheet metal, and has at bottom an inwardly-bent tongue or spring *g*.

H is the valve-stem traversing the neck and stuffing-box, said stem being here shown as having at top a square arbor *h* to receive a socket-wrench, wherewith the valve is opened and closed.

The operation of this form of my locking device is as follows: When the stuffing-box E is screwed down, so as to compress the packing in the usual manner, care must be taken to arrest the box in such a position as to bring the faces of collar F in line with the faces of collar C, in order that the locking device G may be readily slipped over said coincident collars. When this is done, the tongue *g* snaps into the annular groove D, and thus prevents the tube G slipping either up or down, while the hexagonal shape of said tube prevents its turning. (See Fig. 4.) It is evident said tube now serves as a lock or fastener that prevents the stuffing-box being turned either to the right or left, no matter how often or how violently the stem H may be operated. Therefore there is no danger of leakage around the packing, which is a great advantage peculiar to my valve, and renders it especially useful for natural gas and other vapors that escape through very minute passages. When the packing needs to be further compressed, the tongue *g* is disengaged from the groove D, and the locking device G is then pulled off from the neck B and stuffing-box E, after which act the necessary adjustments are made.

The above is a description of the locking device as adapted for application to a neck and stuffing-box having polygonal collars of the same size and shape; but these collars may vary with different styles of cocks and valves, and therefore some provision must be made to render said device more general in its use. When the collars—both of the neck

and stuffing-box—are fluted, as seen at I in Fig. 7, the locking device may consist of a plain cylinder J, having an inward longitudinal bend or rib *j*, adapted to engage with either of said flutes, and thus fasten the stuffing-box in its proper place, the lower portion of this ribbed tube being provided with a tongue similar to that seen in Figs. 2 and 3.

Fig. 6 shows a modification in which a lower hexagonal section K' is united to an upper hexagonal section K by bars *k*, thus making a cage of the locking device, which is adapted to surround a pair of collars of unequal diameters.

Fig. 5 shows a locking device G', of the same shape as seen in Figs. 2 and 4, said device being surrounded with an annular band or ledge *g'*. This band may be either integral with the device or it may be attached thereto, its duty being to afford a secure grasp that enables the application or detachment of said device. *g''* is a slot in one angle of this device to render it elastic or yielding. It will be noticed that the lower portions of these various locking-tubes are rendered elastic by being slotted and then bent or sprung inwardly, so as to enable them to be readily engaged with the grooved neck of a valve, cock, or faucet. Consequently said tubes are secured to the cock without employing clamps, screws, or other extraneous devices.

I claim as my invention—

1. A cock or valve having a collared neck and a collared stuffing-box screwed thereto, which collars are practically of the same shape in transverse section, in combination with a longitudinally-sliding tube that bears on all sides against the various faces of said collars and locks the stuffing-box when engaged with the neck-collar, substantially as herein described.

2. In combination with a cock or valve having a stuffing-box screwed to its annularly-grooved neck, a tube provided with an inwardly-bent spring tongue or section at one end, which tube completely surrounds the collars of said neck and box, and thereby locks the latter when said tube is shifted longitudinally for the purpose of causing said tongue to engage with the annular groove, said collars being practically of the same shape in transverse section, as herein described.

3. A cock or valve provided with a shiftable tube that surrounds the neck and stuffing-box and locks the latter, said tube having a yielding section and a peripheral flange or rib, as *g'*, for the purpose described.

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

JAMES POWELL.

Witnesses:

JAMES H. LAYMAN,
SAML. S. CARPENTER.