

No. 685,816.

J. E. CLAYTOR.

Patented Nov. 5, 1901.

VALVE.

(Application filed June 12, 1901.)

(No Model.)

Fig. 1.

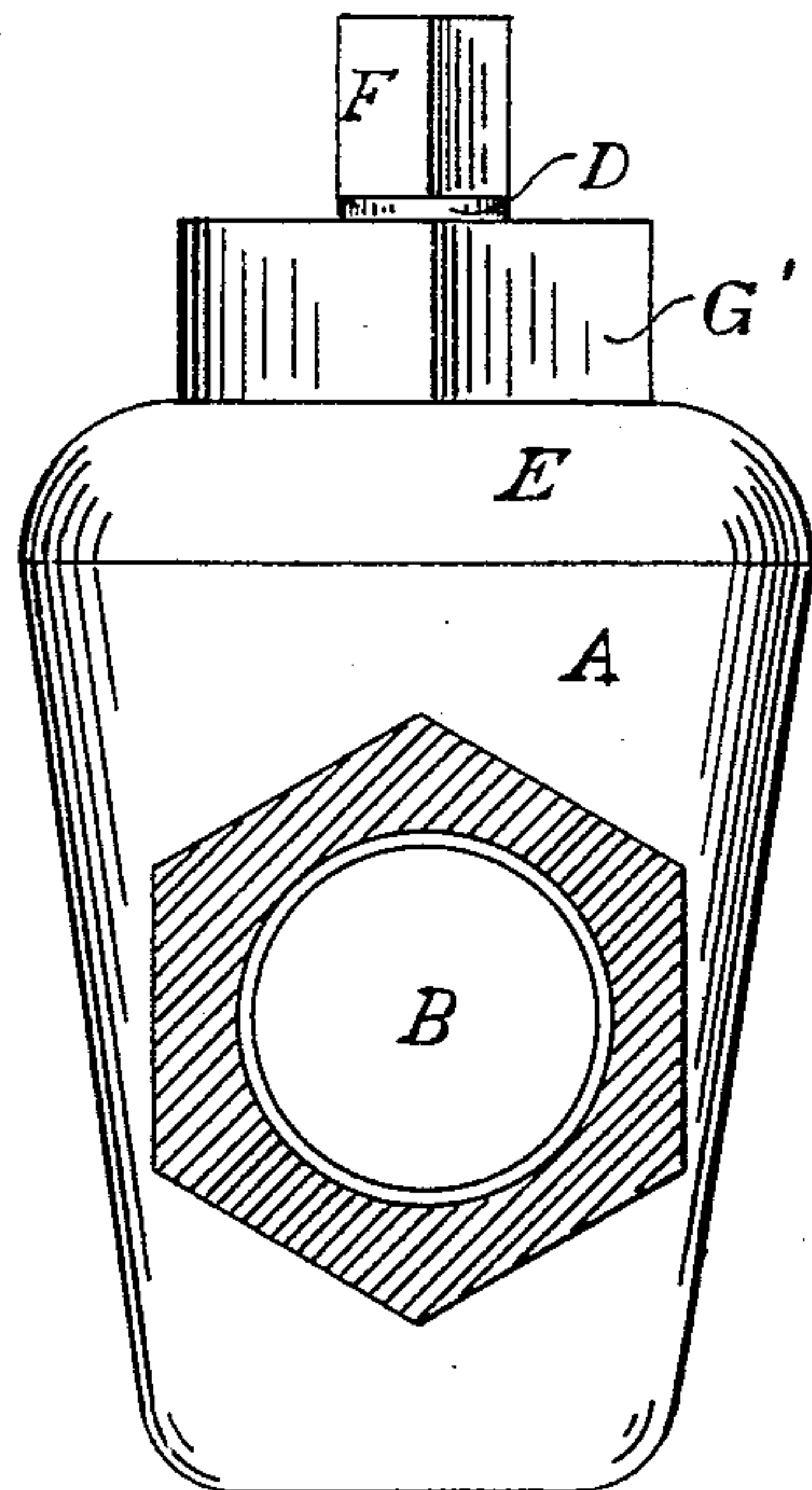
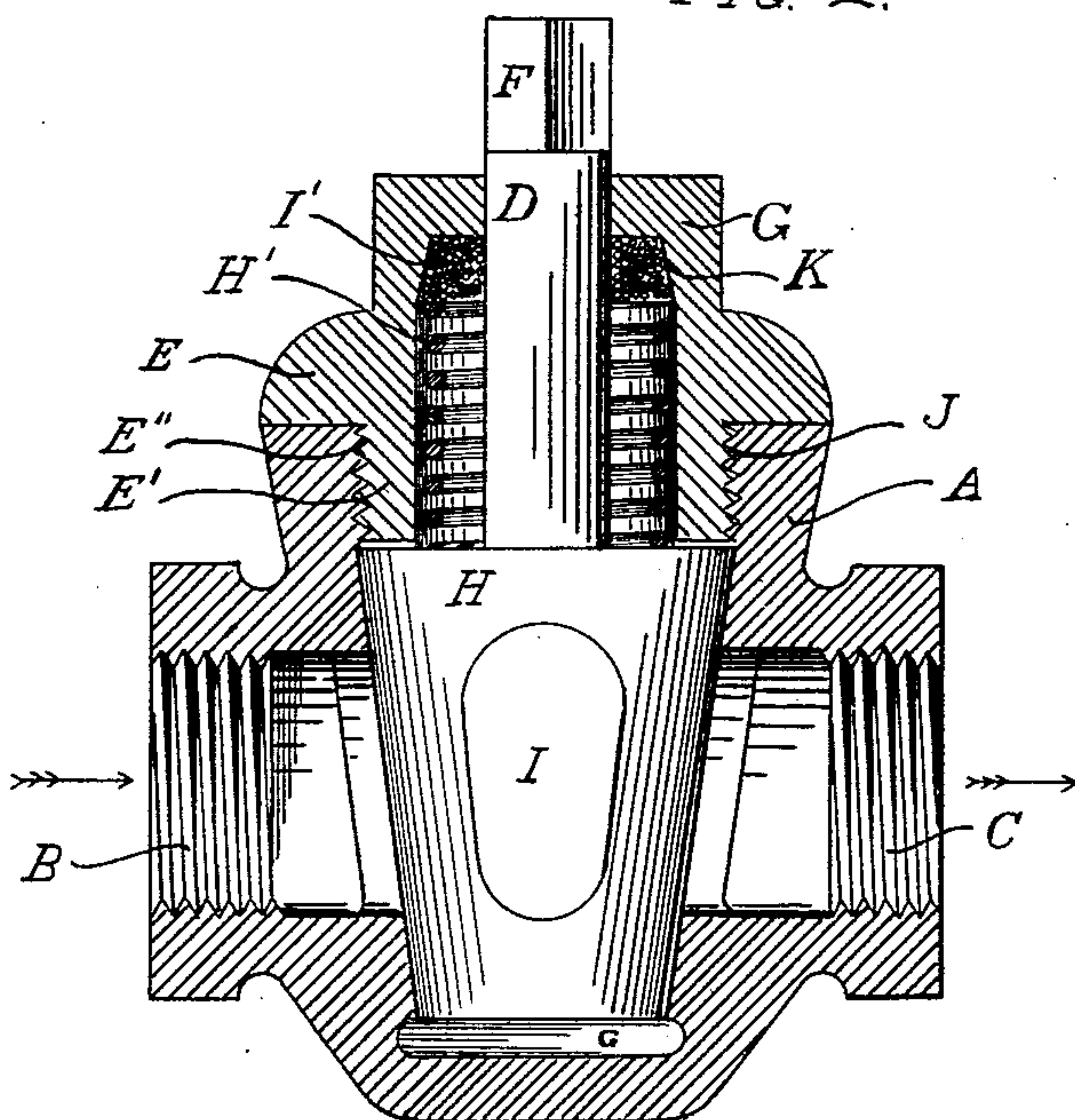


Fig. 2.



WITNESSES:

C. S. Mottlake.
W. A. Thornburg

INVENTOR

BY *James E. Claytor*
Wm. Val Brown
ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES E. CLAYTOR, OF HARTFORD CITY, INDIANA, ASSIGNOR OF ONE-HALF
TO CHARLES DHE, OF HARTFORD CITY, INDIANA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 685,816, dated November 5, 1901.

Application filed June 12, 1901. Serial No. 64,222. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. CLAYTOR, a citizen of the United States, residing at Hartford City, in the county of Blackford and State of Indiana, have invented a new and useful Valve, of which the following is a specification.

This invention relates to a new and useful improvement in valves, the aim and purpose of the invention being to construct a valve of but few parts, thereby dispensing with considerable cost.

A further object is to provide a cap for the casing proper which also acts as a stuffing-box.

A still further object is to use a spring which will hold the plug down to take up all loss by wear and at the same time keep the packing in place.

These and other objects not hereinbefore mentioned are accomplished by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is an end elevation of a valve-case with my improved cap thereon; and Fig. 2 is a vertical central longitudinal section through the same, the plug or valve and spring being shown in elevation.

In the drawings, A designates the casing. The casing is provided with an inlet B and an outlet C. The interior of the casing is provided with a vertical conical-shaped opening or chamber. In this opening is a conical-shaped plug H, which is adapted to fit snugly within the opening. The plug is provided with the port I.

The parts so far described are of the usual construction in this class of valves.

Extending from the upper end of the plug H is a stem D, which has its upper end provided with a squared head F. Above the conical-shaped opening in the casing is another opening, which forms a continuation of the conical-shaped opening. This latter opening is provided with vertical screw-threaded sides, as shown at J, Fig. 2.

E designates a cap and stuffing-box combined. This cap is provided with a depending annular flange E'. This flange is provided with the exterior screw-threads E'',

which are adapted to engage with the threads J. The inner portion of this cap is hollowed out, as shown in Fig. 2, and for a purpose hereinafter described. The upper portion of the cap is reduced and is formed in the shape of a nut, as shown at G. This nut portion G is provided with a centrally-arranged aperture, through which the stem D passes, as shown in Fig. 2.

I' designates a packing-ring surrounding the stem D and resting against the bottom side of the top of the cap. Also surrounding the stem D is a spring H'. The upper coil of this spring bears against the lower side of the packing-ring I' and the lower portion of the spring rests against the top of the plug H. It will be noticed that by this construction the spring performs two functions—namely, first, to hold the packing-ring up against the bottom of the top of the cap, thereby tending to make the packing expand around the stem tightly, and thereby make a tight joint; second, to hold the conical-shaped plug down tight against the seat, thereby automatically taking up all wear and keeping it constantly ground down to make a tight joint and prevent any leakage. By referring to Fig. 2 it will be seen that the lower portion of the casing just below the conical opening is provided with a chamber G to allow room for the plug to grind down.

As before described, the cap is provided with a hollowed-out portion or chamber, in which are located the packing-ring and spring. By referring to Fig. 2 it will be seen that the upper portion of this chamber tapers inwardly, as shown at K, and within this tapering portion is the packing-ring I. This tapering portion will act as a wedge and contracting means for the packing, as the spring is normally pressing this packing upward against the bottom of the top of the cap, and the higher the packing is pressed the tighter it will be contracted, owing to the tapering sides, so that the packing will at all times be pressed firmly and tightly around the stem, make any leakage impossible. If thought desirable, there can be located packing between the cap and casing. This is not necessary, however, in ordinary use to which the valves are placed.

By the construction just described it will

be seen that the cap acts as a stuffing-box for the packing as well as for a cap and the use of glands and other packing is dispensed with.

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

In a valve, the combination with a casing provided with a conical-shaped opening or chamber, of a conical-shaped plug in the
10 chamber, a cap secured over the chamber in the casing provided with a hollowed-out portion forming a chamber, the upper portion of this chamber tapering inwardly, a stem extending from the plug and through the cap,
15 a packing surrounding the stem and posi-

tioned in the inwardly-tapering portion of the chamber in the cap and resting against the bottom of the top of the cap, and a coiled spring surrounding the stem having its upper coil bearing against the packing and its lower coil bearing against the top of the plug. 20

In testimony whereof I have hereunto affixed my signature in the presence of witnesses.

JAMES E. CLAYTOR.

Witnesses:

JOHN M. BONHAM,
CHAS. DHE,
J. T. TRAUT.