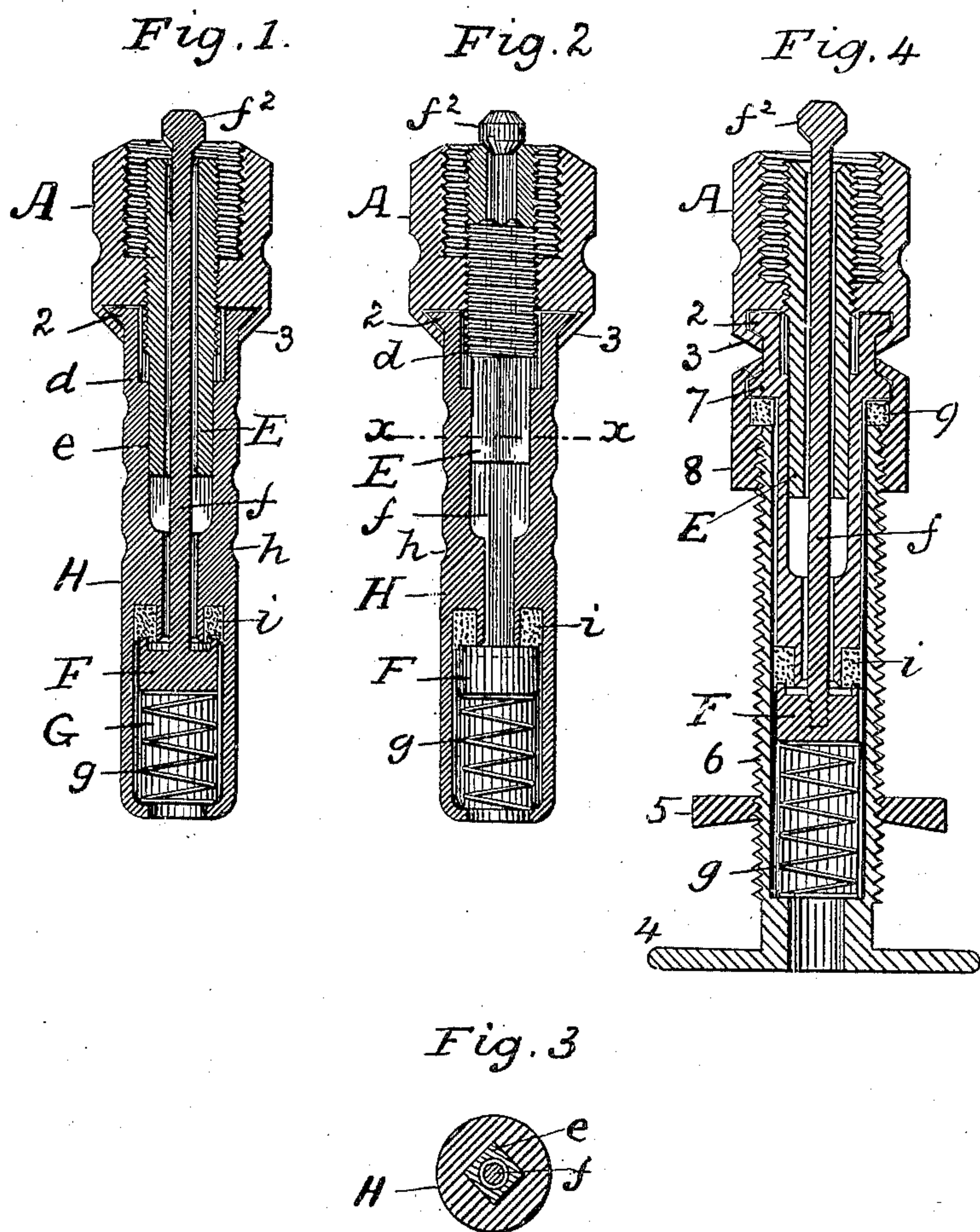


R. C. HILTON.
VALVE FOR INFLATION.
(Application filed Aug. 28, 1900.)

(No Model.)



Inventor

Roland C. Hilton

Witnesses

R. F. Storm

J. J. Masson

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UNITED STATES PATENT OFFICE.

ROLAND C. HILTON, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR OF
ONE-FOURTH TO JAMES M. WILLIS, JR., OF SAME PLACE.

VALVE FOR INFLATION.

SPECIFICATION forming part of Letters Patent No. 672,271, dated April 16, 1901.

Application filed August 28, 1900. Serial No. 28,323. (No model.)

To all whom it may concern.

Be it known that I, ROLAND C. HILTON, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Valves for Inflation, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has for its objects the production of simple, reliable, and inexpensive devices to facilitate the inflation of articles, particularly pneumatic tires, and the prevention of the removal and often the loss of the
15 cap of the device, said cap being in this construction permanently secured and clenched to the body of the device carrying the valve-seat, although well adapted to be revolved around the head of said body, as shown in the accompanying drawings, in which—

Figure 1 represents, on an enlarged scale, a longitudinal central section of the parts of the device with the central hollow plug lowered a short distance away from the bottom
25 of the head of the valve-stem as it is during the process of inflation. Fig. 2 is also a longitudinal section of the device, showing the upper portion of the hollow plug in section, its middle portion being in elevation to show the left-hand thread thereon and its lower portion quadrangular and received loosely in engagement with the corresponding four walls of a chamber within the device, the upper
30 end of said plug being forced under the head of the valve-stem to lock the valve on its seat after inflation has been made. Fig. 3 is a transverse section on line *xx* of Fig. 2. Fig. 4 is a longitudinal section of a modification having substantially the same arrangement
40 of internal parts shown in the other figures.

In said drawings the casing or body H, Figs. 1 and 2, is generally secured within a short rubber tube attached to a hollow rubber tire and is generally provided with annular
45 grooves *h* in its periphery to increase the adhesion of said short tube thereto. Said body H is outwardly cylindrical and has therein two superposed chambers. The upper chamber has its upper portion *d* cylindrical; but
50 the lower portion *e* is polygonal, preferably quadrangular, to receive a correspondingly-

formed plug E, the quadrangular portion preventing the latter from rotating while being elevated or lowered by the cap A. The lower chamber G contains the valve F and a coiled
55 spring *g* of light wire, the latter having its lower end bearing upon the inwardly-flanged lower end of the body H and its upper end bearing against the bottom of the valve F. The resilience of the spring is only slightly stronger
60 than necessary to carry the weight of the valve-stem and valve, so that the latter is normally bearing against the seat or the packing *i*, carried by the body H, but not strong enough to prevent the valve-stem and valve
65 from being pressed down by the jet of air sent down by the air-pump while its piston is forced downward; but the spring *g* causes the valve F to act as a check-valve while the pump's piston is ascending for a new stroke. 70

The valve F fits loosely within the chamber G, so that air can pass around it to the object intended to be inflated. For the same purpose its stem *f*, which is preferably integral therewith, fits loosely within the body H and
75 within the plug E. The upper portion *d* of said plug is screw-threaded, preferably with a left-hand thread, so that when the right-hand screw-nipple, generally found on the outer end of a pump's hose, is connected with
80 the cap A the latter will have no tendency to release the valve from its locked position until said nipple is wholly secured to the cap A, after which two or three right-hand turns of
85 said cap and nipple together will release the valve-stem to the position shown in Figs. 1 and 4. The upper end of the valve-stem *f* has a head *f*², by which the valve is pulled up against its seat when the cap A is rotated toward the left side, which lifts the plug E to
90 the position shown in Fig. 2. The under side of the head *f*² or the top of the plug E has radial serrations to permit the passage of air between them at any time.

To prevent the cap A to be detached from
95 the valve-seat carrier or body H and possibly be lost, said cap is revoluble, but permanently secured to said body H. For this purpose said body has a laterally-projecting head 2 and the cap has an inwardly-flanged lower end 3,
100 which is made to engage with the under side of said head.

In the modification shown in Fig. 4 the cap permanently attached to the valve-seat body is applied to the kind of valve for inflation which is clamped to the wall of a tire between
5 a broad inner flange 4 and a nut 5 and possibly some washers. To secure the screw-threaded tube 6 to the valve-seat carrier, the latter is provided with a collar 7 at a short distance below the head 2, and a thimble 8 is
10 made to surround the collar 7 and has its upper edge flanged inwardly thereon. Within the thimble is placed a packing-ring 9, and under it the thimble is screw-tapped for engagement with the upper portion of the screw-
15 threaded tube 6, and said tube and thimble may be additionally soldered or brazed together.

Having now fully described my invention, I claim—

20 1. In a valve for inflation the combination of a chambered body carrying a valve-seat and having a laterally-projecting head, a screw-threaded plug partly within the chamber of said body, a valve adapted to bear on
25 the valve-seat and having its stem passing loosely through the plug, and a cap internally screw-tapped to engage the plug and having its lower end embracing the head of the chambered body and permanently secured thereto
30 substantially as described.

2. The combination of a chambered body carrying a valve-seat and having a laterally-projecting head, a screw-threaded plug having its lower end polygonal, a valve adapted to bear on the valve-seat and having its stem
35 passing loosely through the plug, and a cap internally screw-tapped to engage the plug and having its lower end loosely embracing the head of the chambered body and permanently secured thereto substantially as de-
40 scribed.

3. The combination of a chambered body carrying a valve-seat and having a laterally-projecting head, a screw-threaded plug partly within the chamber of said body, a valve
45 adapted to bear on the valve-seat and having its stem passing loosely through the plug, and a cap internally screw-threaded for screw devices having different diameters, the outer one being of larger diameter than the inner
50 one to engage the plug, said cap having its lower end permanently secured to the chambered body substantially as described.

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

ROLAND C. HILTON.

Witnesses:

GEO. F. WEEDEN,
CLIFFORD P. SHERMAN.