

No. 669,414

Patented Mar. 5, 1901.

R. C. HILTON.
VALVE FOR INFLATION.

(Application filed Nov. 12, 1900.)

(No Model.)

Fig. 1.

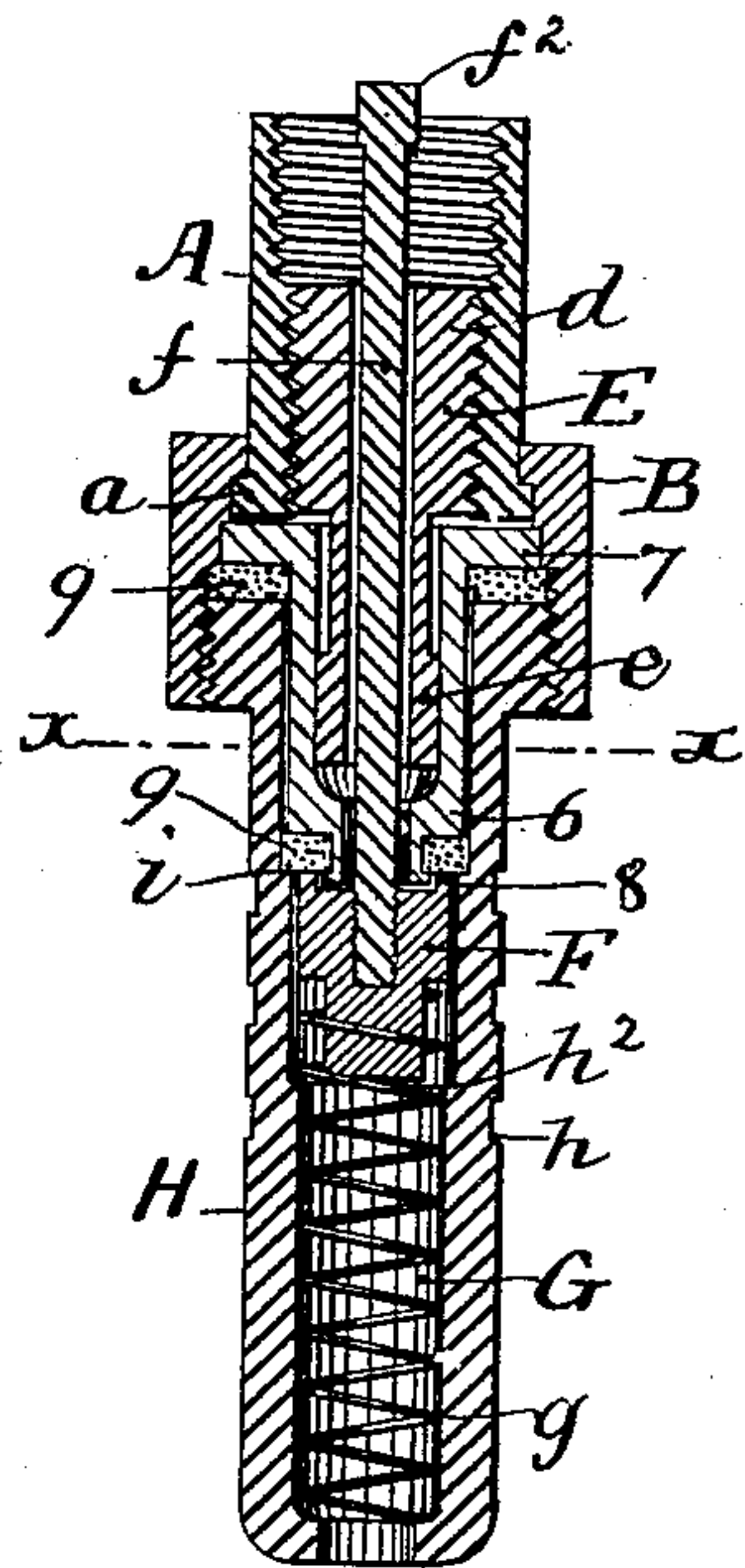


Fig. 2.

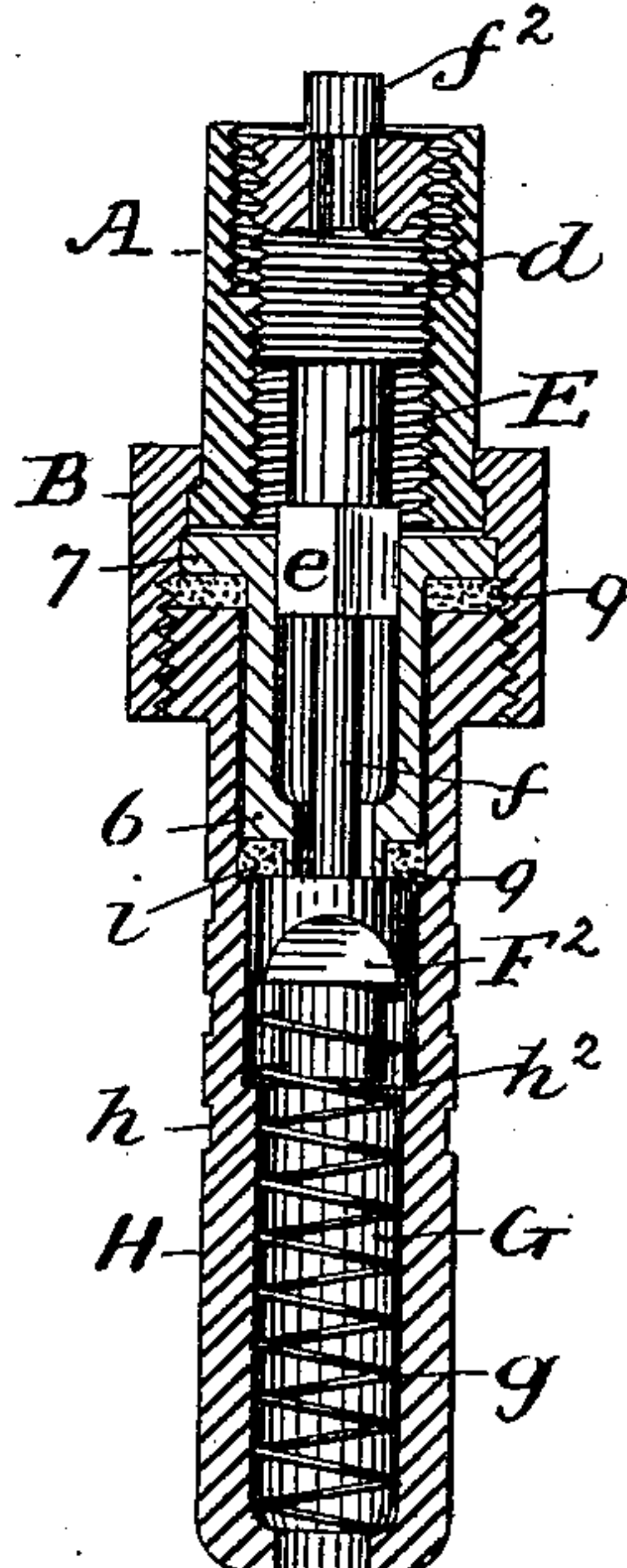


Fig. 3.

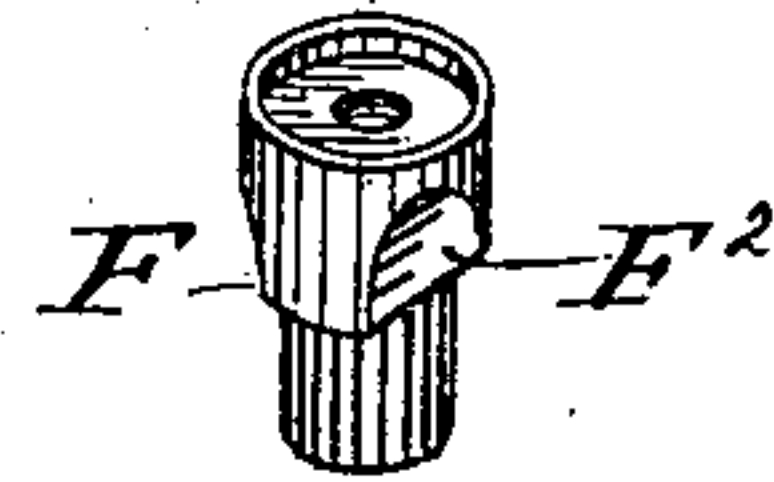
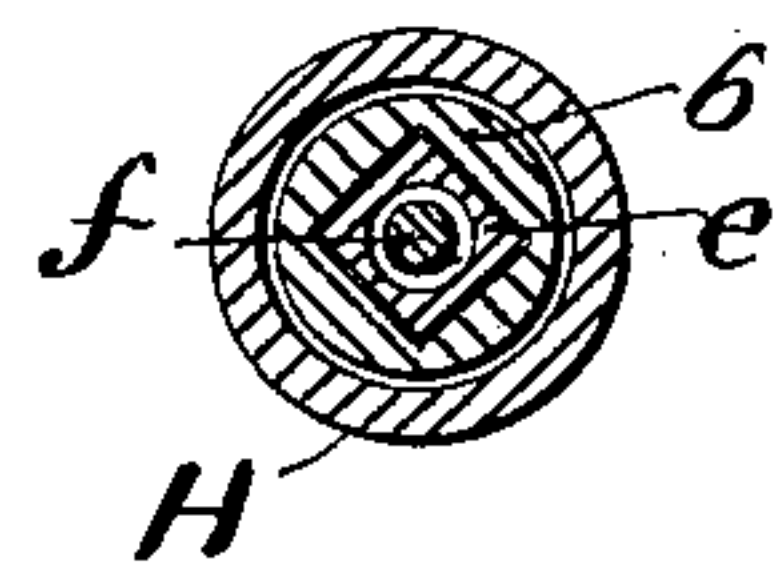


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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

VALVE FOR INFLATION.

SPECIFICATION forming part of Letters Patent No. 669,414, dated March 5, 1901

Application filed November 12, 1900. Serial No. 36,287. (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 object the production of simple, reliable, and inexpensive devices to facilitate the inflation of articles, particularly pneumatic tires, and the prevention of the accidental removal of the head of the device, although said head is adapted to be revolved within a thimble secured to the body of the device, as shown in the accompanying drawings, in which—

20 Figure 1 represents, on an enlarged scale, a longitudinal central section of the parts of the device with the central hollow plug lowered to nearly the bottom of its course and away from the bottom 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 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 perspective view of the valve removed from the casing. Fig. 4 is a transverse section on line $x x$ of Fig. 1.

30 In said drawings the casing or body H is generally secured within a short rubber tube attached to a hollow rubber tire and is generally provided with annular grooves h in its periphery to increase the adhesion of said short tube thereto. Said body H is outwardly cylindrical and its interior is also cylindrical; but the upper portion of said interior is of greater diameter, having two collars or shelves formed in its walls. Within the upper portion is placed the valve-seat carrier 6, the exterior of which is cylindrical and has its upper end provided with a flange 7. Its interior is quadrangular nearly its whole length to

receive a plug E, the lower end e of which is correspondingly formed, the quadrangular portion preventing the latter from rotating while being elevated or lowered by engagement of its screw-threaded upper end with the head A of the device.

The lower portion or chamber G of the body H contains the valve F and a coiled 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 lower portion of the valve F. The resilience of the spring is only slightly stronger than necessary to carry the weight of the valve-stem and valve, so that the latter is normally bearing against the seat or packing i , supported by the valve-seat carrier 6, but not strong enough to prevent the valve-stem and valve 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.

75 The valve F fits loosely within the inner chamber G, so that air can pass around it to the object intended to be inflated. For the same purpose its stem f (which may be integral with said valve) fits loosely within the valve-seat carrier 6 and 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 the head A the latter will have a tendency to release the valve from its locked position until said nipple is wholly secured to the head A. After finishing the pumping a few left-hand turns of said head and nipple together will lock the valve-stem to the position shown in Fig. 2.

85 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 head A is rotated toward the left side, which lifts the plug E to the position shown in Fig. 2.

To prevent the valve F from being blown too far within the chamber G during the process of inflation, and thereby prevent the head f^2 from closing the top of the passage surrounding the stem f , the inner surface of the

casing H has a shoulder h^2 to arrest the valve F, and said valve has its sides cut away at F² for the passage of air, even if it is temporarily seated upon the shoulder h^2 .

5 To retain the packing i of the valve-seat carrier 6 immobile while it is subjected to a blast of air, its inner portion is supported by a flange 8, formed on the lower end of the neck of said carrier 6, and its outer portion
10 is supported on a shoulder 9, formed on the inner face of the casing H. To permit access to the interior of said casing to remove the packing or valve-seat and also keep the head A united to the casing H, the upper end of
15 said casing is provided with a flange H^x, the periphery of which is screw-threaded, and a union B, interiorly screw-tapped, is made to engage with said flange, while its upper end bears upon a flange a , formed around the
20 lower end of the head A of the device. Within the union is placed a packing-ring 9 to render the parts air-tight at that point, and the tube H and union B may be additionally soldered or brazed together.

25 Having now fully described my invention, I claim—

1. In a valve for inflation, the combination of a chambered body internally wider in its

upper end having shoulders on the inner face of its wall, a carrier within the upper end of
30 said body and having its interior quadrangular, a screw-threaded plug having its quadrangular portion within the quadrangular interior of the valve-seat carrier, and a valve
35 having its headed stem passing through said valve-seat carrier and through said plug substantially as described.

2. The combination of a chambered body internally wider in its upper end, having
40 shoulders in its walls, a valve-seat carrier having a flanged top and interior quadrangular, a collar on its lower end and packing around its collar, a screw-plug having a quadrangular
45 portion, a valve having its headed stem passing through said plug, a tubular head screw-threaded internally and having a circumferential flange around its lower end, and
50 a thimble retaining said head united to the chambered body substantially as described.

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

ROLAND C. HILTON.

Witnesses:

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