Oct. 9, 1928. 1,686,653

R. H. HENEMIER

DEFLATING VALVE CAP

Original Filed Aug. 10. 1922

Fig. 3.

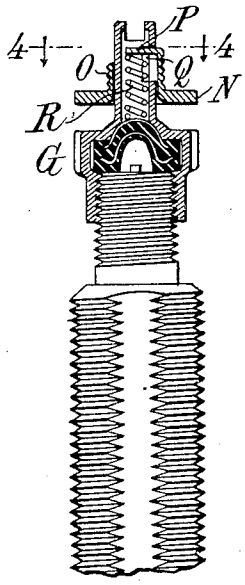


Fig. 2.

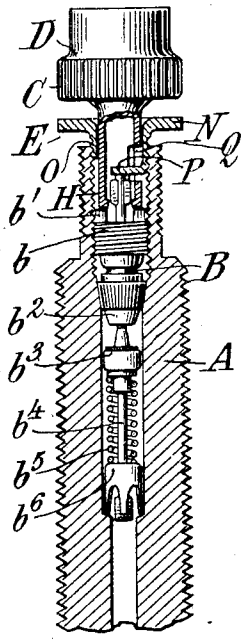


Fig. 1.

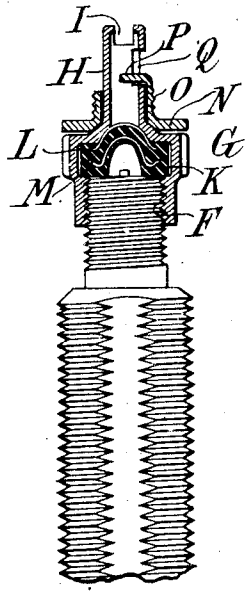


Fig. 4.

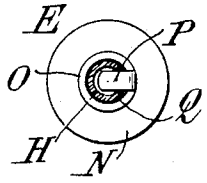
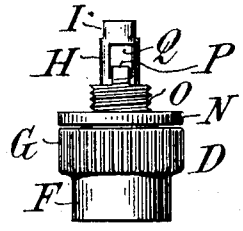


Fig. 5.



INVENTOR :

Robert H. Henemier.

By Attorneys,

Drawer, Dirk & Myers

Patented Oct. 9, 1928. 1,686,659

UNITED STATES PATENT OFFICE.

ROBERT H. HENEMIER, OF NEW YORK, N. Y., ASSIGNOR TO A. SCHRADER'S SON, INCORPORATED, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

DEFLATING VALVE CAP.

Application filed August 10, 1922, Serial No. 580,943. Renewed March 3, 1928.

The present invention relates to deflating valve caps and aims to provide certain improvements therein.

An object of the present invention is to provide a deflating valve cap which will have all the characteristics of the standard valve cap now upon the market, and in addition thereto have a tire valve deflating means which will hold a tire valve in unseated position without necessitating the deflator being held by the operator throughout the period of deflating.

Another object of the invention is to provide the standard valve cap having a screw-driver projection and an overall diameter less than the diameter of the valve casing with deflating means which will not interfere with the functioning of the screw-driver projection or preclude the application of a quick acting dust cap thereover.

A still further object of the invention is to provide a valve deflating cap in which the deflator is normally urged to a position to unseat the tire valve when the deflator is placed in contact therewith.

With these and other objects in view, I have devised the valve deflating cap of the present invention which in its essential parts consists of a standard valve cap, the screw-driver projection of which carries deflating means, and means for detachably holding the deflating means in operative position on a valve stem.

In the accompanying drawings wherein I have shown the preferred embodiments of my invention,—

Figure 1 is a longitudinal section of the invention applied over the nipple of a valve casing, the latter being shown in elevation;

Fig. 2 is a longitudinal section of the invention showing the deflating means in operative position upon a valve casing, the latter being shown in section;

Fig. 3 is a section similar to Fig. 1, showing a modification;

Fig. 4 is a section taken on the line 4—4 of Fig. 3;

Fig. 5 is an elevation of the invention shown in Fig. 1, taken at right angles thereto.

Referring to the drawings, let A indicate a valve casing having a valve inside B positioned therein, and the valve deflating cap of the present invention C adapted to fit the end of the casing A. The valve inside B as shown is of usual construction, and consists of the valve plug b having the lugs b', the valve seat b^2, the valve check b^3 carried by the valve pin b^4, the valve spring b^5, and the valve spring seat b^6, all of which are insertable and removable into and from the casing as a unit. The valve deflating cap C comprises essentially two elements, namely, the valve cap D and the deflating means E.

The valve cap D is preferably of standard construction, and consists of a shell formed of a single piece of metal drawn to suitable shape and having an internally threaded portion F, an intermediate portion G, and a hollow screw-driver projection H having the usual slots I formed therein. The intermediate portion G is preferably enlarged and has its exterior milled or knurled to provide a suitable gripping surface therefor. This enlargement provides an enlarged interior chamber above the screw-threaded portion in which is located a dome-shaped packing gasket K adapted to provide a tight seal with the top of the valve stem. This packing gasket is preferably provided at its top with a dome-shaped anti-friction member L and reinforced by a correspondingly shaped washer M embedded within the gasket. The construction of the cap member D thus far described is substantially that of the standard valve cap now upon the market.

According to the present invention, such valve cap is provided with valve deflating means so associated therewith as not to interfere with the functions which said cap is normally called upon to perform. The valve deflating means is preferably carried by the screw-driver projection H on its exterior, and, as herein shown, consists of a disk-like member N having a bushing extension O and a lip P bent inwardly at right angles with respect thereto, and extending into the hollow portion of the screw-driver projection through a suitable opening Q formed in the side wall thereof preferably below the top. The lip P is adapted to function as a deflator. In order to hold the deflating means in operative position on a valve stem, so as to maintain the valve check in unseated position, the exterior of the bushing O is provided with screw-threads adapted to engage the internal thread of the valve casing. It will be understood, however, that any other suitable means carried by the valve cap or the member N,

which will not interfere with the functioning of the screw-driver projection, may be employed for this purpose. The deflating means as thus described is slidably mounted on the screw-driver projection, but it will be understood that said means may also be rotatably mounted thereon if desired.

In the embodiment of the invention shown in Fig. 3, the deflating means is slidably mounted on the screw-driver projection and the deflator normally urged toward the top of the screw-driver projection by resilient means associated therewith. As herein shown, the resilient means consists of a helical spring R, located within the hollow projection, one end of the spring bearing against the top of the anti-friction member L and the other end against the deflator. In this construction the means for holding the deflator in operative engagement with the valve is at all times in a position facilitating such engagement because of the spring action on said means. In the construction shown in Figs. 1 and 2 the deflating means may be either first moved to the top of the screw-driver projection to bring the holding means into engaging position with the valve, or the screw-driver projection inserted into the valve nipple until the deflator Q engages the top of the valve pin, and the cap or holding means then turned into holding engagement with said valve. In resorting to this latter practice, care must be exercised to avoid having the slots I in the screw-driver projection engage the lugs *b'* on the valve inside, as such engagement would prevent the turning of the holding means into holding engagement with the valve.

While I have shown and described the preferred embodiments of my invention, I do not wish to be limited to the specific constructions disclosed, since various changes may be resorted to without departing from the spirit of the invention.

What I claim is:—

1. In combination with a tire valve cap having a hollow projection with a slot in the side thereof, of a deflator comprising a member engaging over said projection and having means for detachably engaging the end portion of a valve stem, and a part extending into the hollow projection of the cap through the slot in the side thereof to serve as a tire valve unseating means.

2. In combination with a tire valve cap having a hollow projection with a slot in the side thereof, of a deflator comprising a member slidably engaging over said projection and having means for detachably engaging the end portion of a valve stem, and a part extending into the hollow projection of the cap through the slot in the side thereof to serve as a tire valve unseating means, and spring means within the hollow projection normally urging the inwardly-extending part of the deflator toward the top of the hollow projection.

3. In combination with a tire valve cap having a hollow projection with a slot cut in the side thereof, of a deflator comprising a disk having a hollow externally-threaded projection engageable with the internal threads of a tire valve and provided with an inturned lip on the end thereof to engage a valve stem of said tire valve to depress the same when said threads are engaged, the projection of the deflator engaging over the projection of the cap with the inturned lip extending through the slot, whereby the deflator and cap are held in assembled relation.

In witness whereof, I have hereunto signed my name.

ROBERT H. HENEMIER.