

M. C. SCHWEINERT.
CAP FOR TIRE VALVES.

APPLICATION FILED JAN. 26, 1916. RENEWED JAN. 20, 1920.

1,356,476.

Patented Oct. 19, 1920.

Fig. 2.

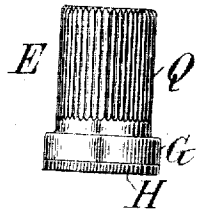


Fig. 1.

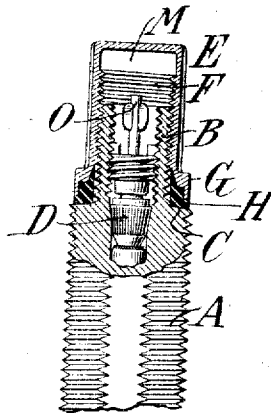


Fig. 3.

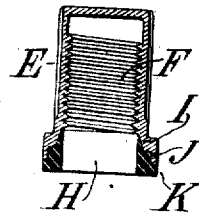


Fig. 4.

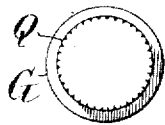


Fig. 5.

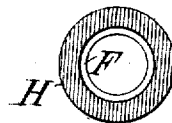
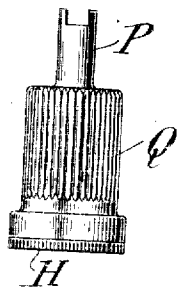


Fig. 6.



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CAP FOR TIRE-VALVES.

1,356,476.

Specification of Letters Patent.

Patented Oct. 19, 1920.

Application filed January 28, 1916, Serial No. 74,333. Renewed January 30, 1920. Serial No. 333,916.

To all whom it may concern:

Be it known that I, MAXIMILIAN CHARLES SCHWEINERT, a citizen of the United States of America, residing in West Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Caps for Tire-Valves, of which the following is a specification.

This invention relates to caps particularly adapted for pneumatic tire valves. In the standard pneumatic tire valve a casing is provided which passes through the rim of the wheel, and the outer end of this casing is formed with a reduced portion or nipple which is screwthreaded on the exterior to receive a cap, by means of which the valve casing is closed to prevent leakage from the interior should any air pass through the valve insides or check portion. Such caps have heretofore been provided with a packing which contacts with the extreme outer end of the nipple, the packing being compressed against the end by the screwing on of the cap. According to the present invention a cap is provided which carries the packing designed to contact with the shoulder formed between the body of the casing and the nipple. By this means the entire thread of the nipple is protected and the outer end thereof is left free and available for other purposes such as contact with a packing carried by the valve insides or the like.

Referring to the drawings which illustrate several forms of the invention.—

Figure 1 is a sectional view of a cap constructed according to the present invention as applied to a standard valve;

Fig. 2 is an elevation of a cap.

Fig. 3 is a section of the cap detached.

Fig. 4 is a top view.

Fig. 5 is an under side view.

Fig. 6 is an elevation of a cap having the usual screw-driver projection for manipulating the standard valve insides.

Referring to the drawings let A indicate a tire valve casing having at its upper part a nipple B of reduced diameter so that there is formed between the two a shoulder C. The casing A may carry the usual valve insides D or any other suitable insides or check mechanism.

E indicates the cap which, according to the present invention, is considerably longer than those heretofore commonly employed, the cap being provided on its interior with

threads F designed to engage the exterior threads of the nipple. Near the bottom of the cap it is preferably formed with an enlarged portion G which constitutes in effect a flange preferably of slightly less diameter than that of the casing A. Within the enlarged portion G is a packing H which is designed to contact with the shoulder C and form a tight joint therewith whereby to prevent any possible leakage through the valve casing. Preferably the cap is formed with an internal tapered portion I and a groove or recess J, and the packing H is preferably constructed with an exterior configuration which will fit these parts. Preferably also the packing is sufficiently enlarged at its lower end providing a flange K which extends slightly below the metal of the cap.

The construction thus described provides a packing which is capable of making a tight joint with the valve casing and holding its place within the cap.

To assist in the latter I prefer to apply the packing in a partly vulcanized state and then mold it by a second vulcanizing process directly in place.

An important feature of the invention is the provision of a cap of sufficient length so that above the end of the nipple there is provided a chamber M which is sufficiently large to inclose the projecting end O of the valve insides or any other projecting parts of the latter such as manipulating flanges or the like, and such chamber is preferably made of the full internal diameter of the cap although this may be varied from in special instances.

In Fig. 6 I have shown the cap as provided with the usual screw-driver projection P which is formed at the top of the chamber M. In either construction the body of the cap will be indicated at Q, is preferably of the same external diameter throughout, and is provided with a knurled or ribbed face. This affords a long grasping portion by which the cap may be manipulated in contradistinction to the axially short band with which the usual cap is provided. The cap is hence easy to turn, and considerable force may be exercised by the use of the fingers in tightening it in place.

By the present invention the entire screw-threaded portion of the nipple is protected so that it is not liable to be fouled with dirt or subject to accident while at the same time

the upper end of the nipple is left available for other purposes such as those described. Furthermore, to a very considerable extent the present valve cap performs the function

5 of a dust cap since the nipple threads are all protected by the cap. Nevertheless it is desirable that the external diameter of the cap shall not exceed that of the valve since this construction permits a dust cap to be used
10 if desired. Furthermore, it is preferable that a valve with the cap in place shall be capable of being passed through the ordinary hole in the tire rim which would be impossible if the cap exceeded the diameter
15 of the casing to any substantial extent.

While I have shown and described several forms of the invention, it will be understood that I do not wish to be limited thereto since various changes may be made therein
20 without departing from the invention.

What I claim is:—

1. The combination with a valve casing having a nipple of reduced diameter and a
25 said nipple, of a cap adapted to screw on said nipple, and to inclose the same throughout its length, the external diameter of said cap being no greater than the external diameter of said casing and said cap having a pack-
30 ing fixed to its lower end and lying exteriorly of the external diameter of said nipple, and interiorly of the external diameter of said casing, whereby the cap when in position does not interfere with the applica-
35 tion of a dust cap or the like to said casing.

2. The combination with a valve casing having a nipple of reduced diameter and a
40 shoulder between the body of the casing and said nipple, of a cap adapted to screw on said nipple and to inclose the same throughout its length, the external diameter of said cap being no greater than the external di-
45 ameter of said casing, and said cap having a packing vulcanized to its lower end, and lying exteriorly of the external diameter of said nipple and interiorly of the external diameter of said casing, whereby the cap

when in position does not interfere with the application of a dust cap or the like to said casing. 50

3. The combination with a valve casing having a nipple of reduced diameter and a
55 shoulder between the body of the casing and said nipple, of a cap adapted to screw on said nipple and to inclose the same throughout its length, the external diameter of said cap being no greater than the external di-
60 ameter of said casing, and said cap having a recess at its lower end, and a packing fixed in said recess, and lying exteriorly of the external diameter of said nipple and interiorly of the external diame-
65 ter of said casing, whereby the cap when in position does not interfere with the applica-
tion of a dust cap or the like to said casing.

4. The combination with a valve casing having a nipple of reduced diameter and a
70 shoulder between the body of the casing and said nipple, of a cap adapted to screw on said nipple and to inclose the same throughout its length, the external diameter of said cap being no greater than the external di-
75 ameter of said casing, and said cap having an enlargement at its lower end, a recess in said enlargement, and a packing fixed in said recess, and lying exteriorly of the ex-
80 ternal diameter of said nipple and interiorly of the external diameter of said casing, whereby the cap when in position does not interfere with the application of a dust cap or the like to said casing.

5. A valve cap having an enlarged por-
85 tion at its lower end, an internal face, and a recess, and a packing contacting with said face and entering said recess, and said pack-
ing having a portion extending below said enlarged portion of the cap.

In witness whereof, I have hereunto signed my name in the presence of two sub-
scribing witnesses.

MAXIMILIAN CHARLES SCHWEINERT.

Witnesses:

CHAS. LYON RUSSELL,
THOMAS I. WALLACE.