Oct. 7, 1930. M. C. SCHWEINERT 1,777,329

QUICK DETACHABLE DUST CAP OR THE LIKE

Original Filed April 9, 1921

Fig.1.

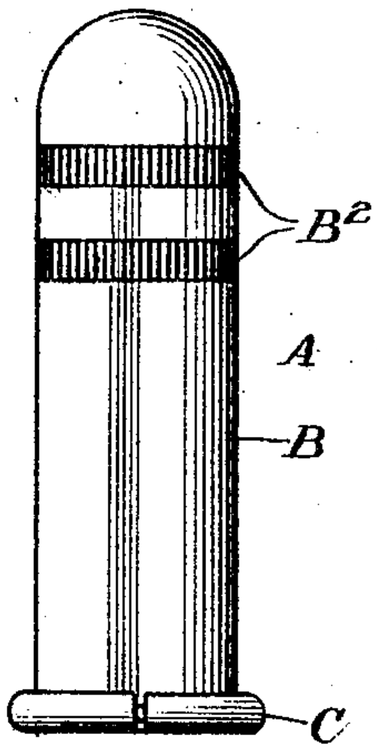


Fig.2.

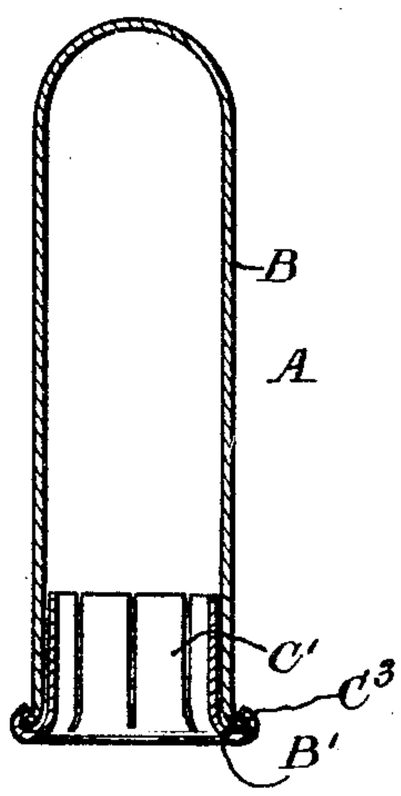


Fig.3.

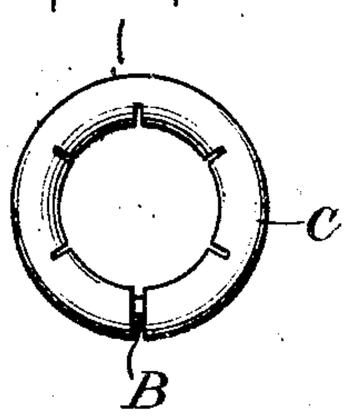


Fig.4.

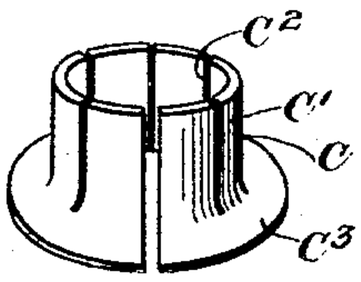
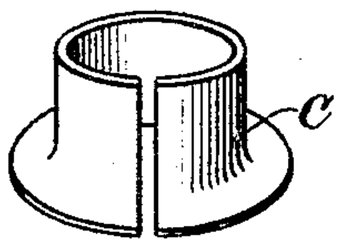


Fig.5.



INVENTOR
Maximilian Charles Schweinert
BY
Fraser, Turk & Hayes
ATTORNEYS

Patented Oct. 7, 1930 1,777,329

UNITED STATES PATENT OFFICE

MAXIMILIAN CHARLES SCHWEINERT, OF WEST HOBOKEN, NEW JERSEY; CARL E. WHITNEY, MAY SCHWEINERT, AND THE FARMERS LOAN AND TRUST COMPANY EXECUTORS OF SAID MAXIMILIAN C. SCHWEINERT, DECEASED

QUICK-DETACHABLE DUST CAP OR THE LIKE

Application filed April 9, 1921, Serial No. 459,826. Renewed November 19, 1926.

This invention relates to quick detachable dust caps for tire valves, and aims to provide certain improvements therein.

The dust cap of the present invention relates to that type of quick detachable cap which is held on the valve stem by frictional contact, and which may be applied or removed from the stem by merely a pushing or pulling movement of the cap relative to the stem.

According to the present invention, there is provided a quick detachable dust cap, embodying a cap portion and a separately formed foot portion, the foot portion constituting frictional spring means for holding the cap on the stem. The foot portion is so positioned with relation to the cap portion as to provide means for limiting the expansibility of the spring means to a point within its elastic limit, so that its effectiveness is not readily destroyed.

The present invention also comprehends the provision of a dust cap, wherein the frictional engagement between the spring means and the valve stem may be furnished, in whole or in part, by the circumferential contractile force of the spring means, although spring arms may be alone employed for this purpose. Certain other features of improvements are also provided.

Referring to the drawings:—

Figure 1 is a side elevation of the cap.

Fig. 2 is a diametrical section thereof.

Fig. 3 is a bottom plan view of the cap.

Fig. 4 is a perspective view of the spring element, constituting the foot portion of the cap, prior to its mounting on the cap portion; and

Fig. 5 is a similar view of a modified form of spring element.

Referring to the drawings, let A indicate the cap as a whole, which comprises a cap portion B, closed at its outer end, and a foot portion C, affixed to the cap portion at its open end, in any approved manner, and, as here shown, through the medium of interengaging flanges on said members. The cap portion B, which may be made in any approved manner, is preferably formed by the drawing process, from brass or other suitable material, and is provided, at its open end, with an outwardly extending flange B′, over which is turned the flange C^3 of the foot portion C. The foot portion C preferably comprises a circular spring band, which may be continuous or discontinuous, as desired, and said band is preferably formed, at its lower edge, with a flange C^3, adapted to be connected to the flange B′ in some appropriate manner. The spring band C is preferably, although not necessarily, formed with longitudinal slits C^2, which provide the band with spring arms C′, which are adapted to frictionally engage the tire valve and hold the cap thereon.

The connection between the interengaging flanges B′ and C^3 is preferably a loose connection as shown in Fig. 2, to allow for the circumferential expansion of the split band constituting the foot portion of the cap, so that the cap may be held directly on the tire valve, solely by the circumferential contractile force of the spring band. However, it is to be understood that the frictional engagement between the cap and tire valve may be furnished wholly or in part by the spring arms on the foot portion where such construction is employed. Where the frictional engagement between the cap and tire valve is to be furnished entirely by the spring arms, the band carrying the arms may be in the form of a continuous ring, fixedly connected to the cap portion.

In all embodiments of the invention, the spring band or sleeve constituting the foot portion of the cap is positioned within the cap portion, adjacent the open end thereof, and has a normal diameter slightly less than that of the tire valve, and also that of the cap portion, so that, when it is applied over the tire valve, it will be expanded and held thereon by the inherent tendency of the spring band to regain its normal diameter. As previously stated, this expansion may be of the spring band as a whole, of the individual spring arms, or the combined effect of both. The space between the spring band and the inner wall of the cap portion is such as to prevent the expansion of the spring band to a point beyond the elastic limit of the metal

constituting the band. By so designing the parts, it is obvious that no permanent distortion of the spring element can take place, as the spring will revert to its normal form when the cap is removed from the valve, and, consequently, the gripping action between the cap and the valve stem can be maintained indefinitely.

In Fig. 5 of the drawings, I have shown an embodiment of the invention, wherein the sleeve constituting the foot portion of the cap consists of a split spring ring, without spring fingers. When a foot portion of this type is used, the frictional holding action between the cap and tire valve is furnished solely by the circumferential expansion of the sleeve.

While I have shown and described several embodiments of my invention, it is understood that I do not wish to be limited thereto, as various modifications may be resorted to, within the spirit of the invention.

What I claim is:

1. A quick detachable dust cap for direct application on a threaded member, comprising a cap portion and a separately formed circular spring band materially shorter than the cap adapted to frictionally engage with a threaded member to hold the cap thereon when the cap is pushed over said threaded member, the spring band and the lower open end of the cap portion each having a flange, which flanges are interlocked to loosely connect the cap portion and spring band together and hold said parts against relative longitudinal movement in either direction.

2. A quick detachable dust cap for direct application on a threaded member, comprising a cap portion and a separately formed foot portion materially shorter than the cap and having integral spring means adapted to frictionally engage with a threaded member to hold the cap thereon when the cap is pushed over said threaded member, the foot portion and the lower open end of the cap portion each having a flange, which flanges are interlocked to connect said portions together against relative longitudinal movement in either direction.

In witness whereof, I have hereunto signed my name.

MAXIMILIAN CHARLES SCHWEINERT.