

(No Model.)

G. H. F. SCHRADER.
TIRE VALVE CAP.

No. 580,006.

Patented Apr. 6, 1897.

FIG. 1.

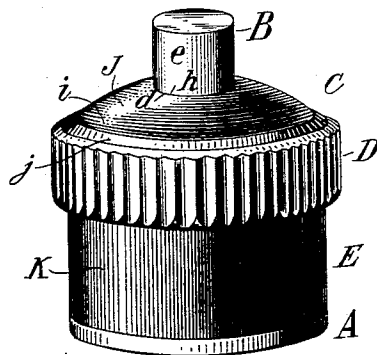


FIG. 2.

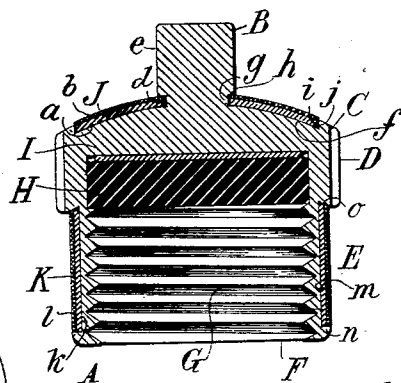


FIG. 6.

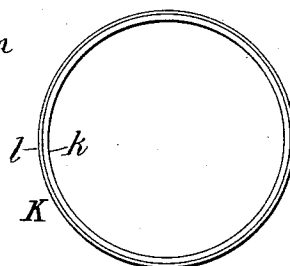


FIG. 3.

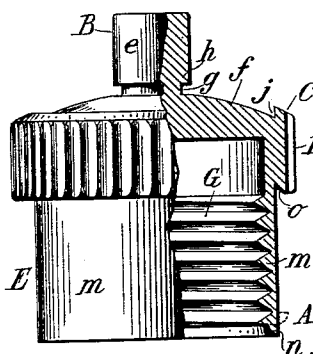


FIG. 7.

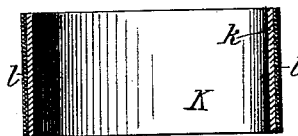


FIG. 5.

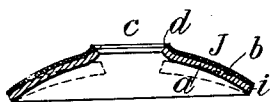
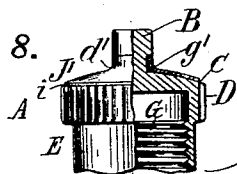


FIG. 8.



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TIRE-VALVE CAP.

SPECIFICATION forming part of Letters Patent No. 580,006, dated April 6, 1897.

Application filed July 31, 1896. Serial No. 601,146. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. F. SCHRADER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Tire-Valve Caps, of which the following is a specification.

This invention relates to caps for tire-valves, and aims to provide certain improvements therein, which will be hereinafter fully set forth with reference to the accompanying drawings, which show the invention in several adaptations as applied to a cap adapted to inclose the end of a tire-valve and having for that purpose an internal threaded cavity for screwing on the external threaded end of the valve.

In the drawings, Figure 1 is a perspective view of a tire-valve cap constructed according to the preferred form of my improvements. Fig. 2 is an axial section thereof. Fig. 3 is a side elevation, partly in section, showing the cap-body before application of the covering. Fig. 4 is a plan, and Fig. 5 an axial section, of the top covering. Fig. 6 is a plan, and Fig. 7 is an axial section, of the side covering; and Fig. 8 is a side elevation, partly in axial section, showing a modification in which the top covering only is used.

Referring to the drawings, let A indicate the body of a tire-valve cap; B, the deflating-pin thereof; C, the top surface of the cap; D, the knurled or roughened grasping band or handle of the cap; E, the reduced cylindrical side thereof; F, the bottom thereof; G, the internally-screw-threaded socket of the cap; H, a packing-washer therein, and I an anti-friction metal disk between this washer and the top wall of the socket G.

As thus far described, the cap may be of any usual or suitable construction, adapted either for engaging the male thread of an externally-screw-threaded valve-body or for engaging the female thread of an internal screw-threaded valve-body to serve as a closure or plug for the open end of the latter.

According to one feature of my present invention I provide the body A with a separate and auxiliary top covering or guard J, and according to another feature I provide the body with a separate side covering or guard K. The guard J is preferably a thin concavo-

convex disk having an inner wall of thin slightly-elastic sheet metal *a* and an outer wall of smooth relatively soft and colored enamel or other material *b*, which is baked or otherwise suitably formed on the wall *a*. The disk J has a central aperture *c*, surrounded by the slightly outturned or distorted edges *d*, the space through which is just sufficient to permit the disk to be forced over the cylindrical exterior *e* of the projection B of the cap. The top C of the cap is formed with a slightly tapering or convex face *f*, extending from the projection B to or nearly to the knurled portion D, and the projection at its junction with this wall is formed with an annular groove *g* in its wall *e*, the bottom of which groove may be flush with and a continuation of the top wall *f*, while the top of the groove constitutes a projecting shoulder *h*. The disk J is forced over the projection B until its concave bottom face lies close upon the convex top face of the body and its inner edge *d* is opposite the groove *g*, into which groove this edge is forced or sprung until it is passed beneath and firmly held by the shoulder *h*. To insure a tight fit, the disk may be initially formed with a greater bulge than that of the wall *f*, as shown in Fig. 5, so that in pressing it home on such wall it will be distorted elastically to the position shown in dotted lines in such figure, whereupon being held in this position by the shoulder *h* its elastic tendency to resume its normal position will cause its body and its outer edges *i* to tightly embrace the top wall of the cap, thus preventing any looseness or rattling.

I prefer to terminate the disk J inwardly of the outer edge of the top C and to form a shoulder *j* on this wall, against which shoulder the outer edge of the disk bears or is forced. This shoulder may, when used, be formed parallel with the axis of the cap, so that it is undercut relative to the curvature of the disk, as shown in Figs. 2 and 3, in which figures the top wall *f* is shown as turned down from the normal surface of the top C, so that the disk J is partially countersunk in the latter. If desired, the forcing of the disk within the flanges *j* may be relied on for fastening it in place.

The side guards or rings K consist of a sep-

arate endless ring composed of an inner thin sheet-metal wall *k* and an outer wall *l*, of enamel, paint, or other suitable composition, preferably covered and baked or otherwise suitably formed on the wall *k*. The combined material is formed into a ring by stamping, spinning, or drawing it into substantially cylindrical shape and of a size snugly fitting the cylindrical external wall *m* of the cap. The ring *K* is of a width nearly equaling the depth of the side *E* of the cap, and when forced thereover is best held in place by slightly swaging or turning out a lip *n* on the cap against the lower edge of the ring, this lip making then a shoulder holding the ring in place. At top the ring is forced into an undercut shoulder *o* or is otherwise suitably held beneath the handle *D* of the cap.

The disk *J* and ring *K* are preferably both of the same material and may be of the same or different colors. Each may be rotative on the cap or rigid thereon. Their distinctive appearance gives an improved appearance to the cap, while they serve to indicate clearly the proper portion to be grasped by the hand for applying or removing the cap. When either is rotative, it serves as a guard against unintentional turning of the cap, since then the covering grasped will turn on the cap and the latter can only be turned by its handle *D*.

In the modification shown in Fig. 8 the disk *J'* covers all the top of the cap and part of the sides of the projection *B*, the end of the latter and the handle *D* being exposed and no side covering being employed. In this case the flange *d'* continues outwardly in tubular form and enters an elongated groove *g'* in the projection *B*. The outer edge *i* of the disk is here exposed and terminates flush with the bottoms of the notches constituting the roughing of the handle *D*.

It will be seen that my invention provides improvements which can be readily and advantageously availed of, and it will be understood that the invention is not limited to the particular details of construction and arrangement of parts nor to the particular combination of features set forth as constituting the preferred form of the invention, since it can be employed according to such modifications as circumstances or the judgment of those skilled in the art may dictate without departing from the spirit of the invention.

What I claim is—

1. In tire-valve caps, a cap-body having a

top, a projection centrally thereof, and a grasping portion surrounding the edge of the top, in combination with a separate annular disk of different material from, rotatable on, and covering, the top between said projection and portion, surrounding said projection and fitting against said top between said projection and said grasping portion and differentiating the latter, and means fastening said disk and body movably together.

2. In tire-valves, a body having a handle portion and reduced cylindrical side walls below it, in combination with a separate side covering of a different material from, rotatable on, and covering, the side walls between said portion and the lower end of the body, consisting of a ring surrounding and fitting said side walls below and of less diameter than and differentiating said handle portion, and means fastening said ring movably on said body.

3. In tire-valve caps, a body having a handle *D*, a top, and a central projection thereon having an annular groove, in combination with a separate annular disk *J* having an aperture passing over said projection, fitting said top, and fitting at its inner edge within said groove, and thereby fastened on said body, said disk covering said top, differentiated from said handle, and indicating the latter.

4. In tire-valve caps, a body having a convex top having an annular shoulder *j* surrounding it, in combination with a separate convex disk *J* of thin material fitting said top within said shoulder and differentiated from said top.

5. In tire-valve caps, a cap-body, having a concave top and a rough grasping portion surrounding it, in combination with a separate convex covering fastened rotatably to said top and covering it from said portion inwardly, and consisting of a thin sheet-metal wall bearing against said body and an outer wall of colored composition adhering to said sheet-metal wall, said covering differentiated from said body and exposing and indicating a salient portion thereof.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE H. F. SCHIRADER.

Witnesses:

GEORGE H. FRASER,

THOMAS F. WALLACE.