Jan. 14, 1958 U. J. REFRIGERI 2,819,642

PLASTIC CAP HAVING PARALLEL PARTITIONS TO ENGAGE THE SIDES OF A NUT

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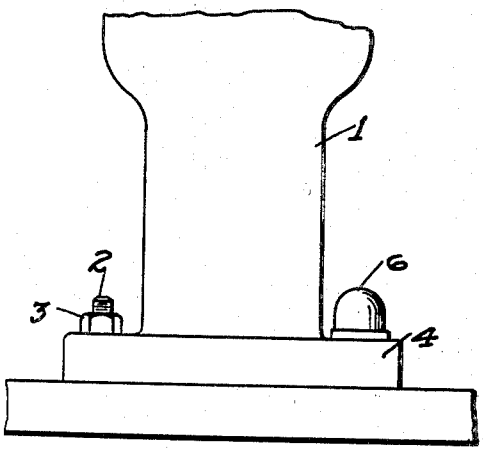


Fig. 1.

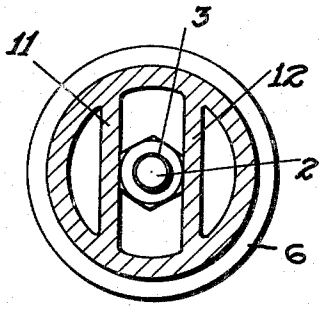


Fig. 3.

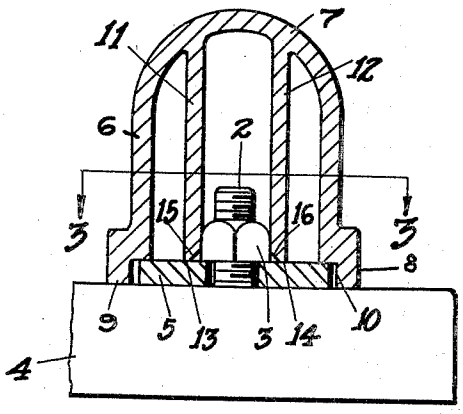


Fig. 2.

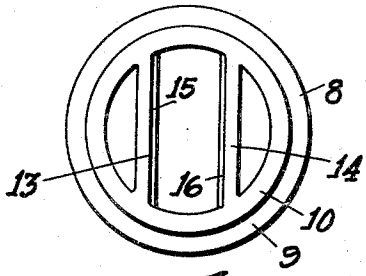


Fig. 4.

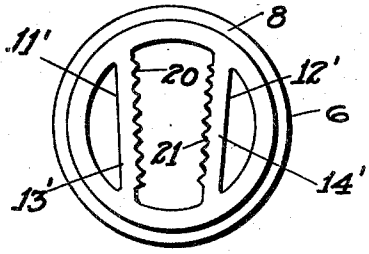


Fig. 5.

INVENTOR

Ugo J. Refrigeri

BY George W. Kennedy Jr.

ATTORNEY

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PLASTIC CAP HAVING PARALLEL PARTITIONS TO ENGAGE THE SIDES OF A NUT

Ugo J. Refrigeri, Leominster, Mass.

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2 Claims. (Cl. 85—53)

This invention relates to a plastic cap which can be used to cover any exposed nut and bolt which would otherwise present an unsightly appearance. More particularly, this invention relates to a cap for covering the exposed closet bolts and nuts which are used in toilet fixtures such as water closet stools, tubs, lavatories, bowls or the like.

In connection with the latter types of toilet fixtures, it is conventional to employ hollow porcelain (or china) caps which are first filled with a suitable cement and then pressed over the exposed closet bolt. However, when the cement has dried, the caps oftentimes become loose and are subsequently knocked off during a sweeping or cleaning operation. In such cases, much labor is required to re-cement the displaced cap back into position.

Other caps employed for the same purposes are provided with internal threading so as to permit them to be screwed in nut-covering relation, onto the exposed bolts. Naturally, this feature of internal threading will add substantially to the manufacturing cost of the caps.

My invention overcomes these disadvantages of previous caps of this type, by providing a cementless and threadless cap of one-piece molded plastic, whose interior construction, as hereinafter described, permits it to obtain an adequate frictional gripping engagement with opposite flat sides of the nut.

Other and further objects and advantageous features of my invention will hereinafter more fully appear in connection with a detailed description of the drawings, in which

Fig. 1 represents a front view of the lower portion of a conventional toilet bowl showing my novel cap as applied to one of the closet bolts.

Fig. 2 is an enlarged vertical cross-sectional view of my cap.

Fig. 3 is a section view taken along section line 3—3 of Fig. 2.

Fig. 4 is a bottom view of my cap.

Fig. 5 is a bottom view of a modified form of my cap.

Fig. 1 shows a closet bowl 1, whose usual base flange 4 is held in place on the floor by passage through said base of a plurality of upstanding bolts 2, 2, one of which, uncovered, appears at the left in Fig. 1. As shown in Fig. 2, each bolt 2 receives on its upper end a hexagonal retaining nut 3 of standard size, as well as a suitable washer 5, interposed between nut 3 and the upper surface of the bowl's base 4.

The cup of my invention, for covering this usual bolt-washer-nut combination, is a one-piece molded plastic hollow body 6, here shown as formed with a closed dome top 7. At its open lower end, the hollow cap body 6 is flanged outwardly at 8 to provide an enlarged substantially annular terminal surface 9 adapted to seat on the base 4 of the closet bowl 1. This terminal surface 9 surrounds an adjacent internal annular groove 10 of body 6, which groove 10 is of sufficient depth and diameter to receive and to encircle with ample radial clearance (see Fig. 2), the outer edge portion of the usual washer 5.

This hollow cap's interior construction, as shown in Figs. 2, 3 and 4, consists of two integrally-molded thin-walled substantially parallel vertical partitions 11 and 12, extending downwardly from the closed top 7. The respective lower edges 13 and 14 of these partitions are spaced above the cap's outside lower annular surface 9 by approximately the depth of annular groove 10, so as to

avoid any interference by washer 5 with the frictional gripping action of these partitions on the nut 2.

Such gripping action is obtained, by reason of the fact that the partitions' opposed inner surfaces are spaced apart, as shown in Figs. 2 and 3, by an amount approximately equal to the distance between any two opposite flat faces of the nut 2. Thus it is that when my so-constructed cap is applied, substantially concentrically as shown in Fig. 3, to the usual exposed bolt-washer-nut combination, the snugness or tightness of the two partitions' friction fit, against opposite flat faces of nut 2, can always be measurably increased, if need be, by giving the cap a slight horizontal displacement, in a direction paralleling its two interior partitions 11 and 12. Such displacement is permitted by the cap's interior clearance (Fig. 2) with washer 5; the increased frictional gripping engagement with nut 2 stems from the fact that the partitions 11 and 12 are stiffer and less yieldable toward the ends of the elongated space between them, than at the center of said space.

Partitions 11 and 12 appear to be substantially parallel, but actually it is preferable that they converge slightly in the downward direction so as to give a better gripping action on the nut 3. Also the lower edges 13 and 14 are bevelled on their inner opposed surfaces as at 15 and 16, so as to permit the cap to be slipped over the nut more easily.

In the modification shown in Fig. 5, the lower edges 13' and 14' of the partitions 11' and 12' are not parallel as they are in the modification shown in the other figures. The inner opposed surfaces of the partitions 11' and 12' are serrated as at 20 and 21. The cap of Fig. 5, after it is placed over the nut 3, will be pushed in a horizontal direction in order to achieve the proper gripping action.

Whereas my invention has been described with particular reference to the drawings illustrated herein, other and further modifications apart from those shown could be made within the spirit of my invention.

I claim:

1. As a new article of manufacture, a covering cap for the exposed retaining nut and bolt of a closet bowl or the like, said cap being a one-piece molded plastic hollow body, closed at the top and open at the base, and providing interiorly two thin-walled integral substantially parallel vertical partitions having their opposed inner surfaces spaced by approximately the distance between any two opposite flat faces of said nut, for gripping said nut frictionally on said two faces when said cap is in covering position, the space between said partitions permitting said so-positioned cap, by sidewise shifting in parallelism with said partitions to increase its friction gripping action on said nut.

2. A covering cap as claimed in claim 1, wherein said hollow body's open base extends beyond the lower edges of said partitions, to surround a washer on said bolt beneath said retaining nut, with adequate radial clearance to permit said sidewise shifting movement of said cap to occur.

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