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CASTER GUARD

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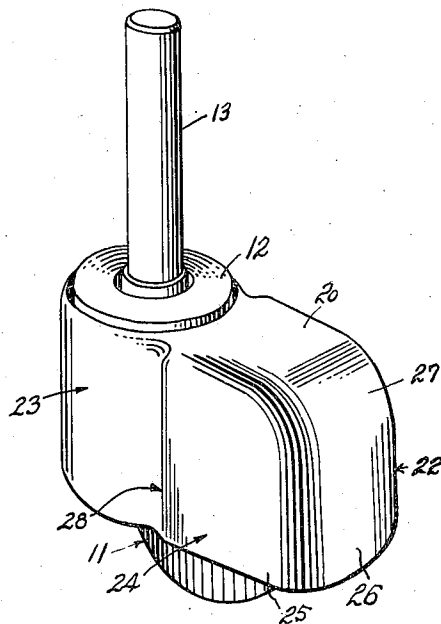


FIG. 1

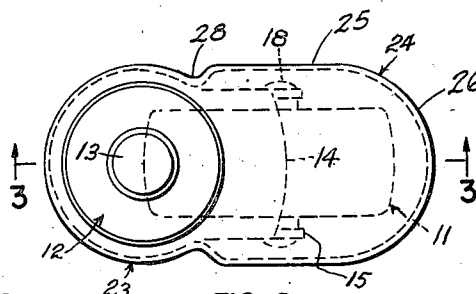


FIG. 2

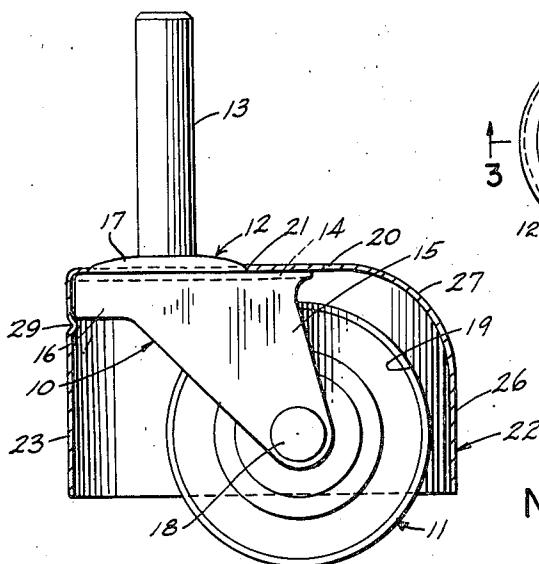


FIG. 3

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CASTER GUARD

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The present invention relates to a new and improved guard for roller casters.

Conventional casters for posture chairs and office chairs commonly are provided with rollers having rubber treads which are uncovered, and, therefore, likely to scuff, mar, soil or otherwise injure the footwear of the user. The uncovered rollers are particularly objectionable in those instances where the users, such for example as clerical workers and stenographers, wear sling or open heel shoes.

The primary object of the present invention is to provide a novel caster guard which effectively encloses the roller from the top and all sides, and which, therefore, prevents the user from contacting the caster or caster roller with personal foot apparel. As a result, it is impossible for the user while occupying the chair, and regardless of the disposition of the user's feet, either to snag or soil the user's hosiery, or to scuff, scratch, mar, soil or otherwise injure the user's shoes.

Another object is to provide a new and improved caster guard which materially improves the appearance of the caster.

A further object is to provide a novel caster guard which fully encloses the caster except from the underside, and which is adapted to be provided as a separate unit capable of being readily and removably assembled with the caster frame without disassembling the caster.

Other objects and advantages will become apparent as the description proceeds.

In the accompanying drawings,

Figure 1 is a perspective view of a conventional caster provided with a guard embodying the features of the present invention.

Fig. 2 is a plan view of the caster and guard assembly.

Fig. 3 is a side view of the caster with the guard shown in vertical section along line 3—3 of Fig. 2.

Referring more particularly to the drawings, guards constructed in accordance with the present invention may be adapted for various kinds and types of roller casters. For purposes of illustration, I have shown a caster of conventional design adapted particularly for use on posture chairs, and comprising a frame 10 supporting a roller 11, and connected through a swivel bearing 12 to a supporting stem 13 adapted to be inserted with a frictional grip into a socket in the end of a chair leg (not shown). More particularly, the frame 10 as shown comprises a generally bifurcated structure having an intermediate flat top wall 14, and spaced parallel depending legs or bearing brackets 15 struck down from op-

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posite sides thereof in forwardly inclined relation to the axis of the stem 13. The upper portion of the frame 10 is formed with a narrow depending arcuate marginal flange 16 which interconnects the rear edges of the legs 15 and which defines a generally cylindrical housing for supporting the bearing 12 for the lower end of the stem 13. The bearing 12 comprises a circular top retainer 17 for a series of antifriction roller elements (not shown). This retainer consists of an annular flange secured to the lower end of the stem 13 and overlying the top wall 14 of the frame 10. The roller 11 is positioned between, and is journaled on, a bearing pin 18 fixed in the lower ends of the legs 15, and in the present instance is provided with a peripheral tread 19 of rubber or other equivalent material.

The caster guard, constituting the exemplary embodiment of the invention, is in the form of a one-piece hood, preferably stamped and drawn out of a piece of heavy gauge sheet metal, and adapted to be removably assembled with the frame 10 to enclose both the frame and roller 11 from the top and all sides. With the guard in position, only the lower flight of the roller 11 projects therefrom for engagement with the floor. Thus, the guard or hood comprises a flat elongated top wall 20 adapted to rest on the wall 14 of the caster frame 10 and having a circular opening 21 adapted to closely encircle the bearing retainer 17 on the stem 13. The edge of the opening 21 is curved inwardly to engage the rounded edge of the cylindrical portion of the caster frame 10. The guard has a perimetrical skirt 22 depending from the top wall 20 and extending completely about the caster frame 10 and roller 11. The rear portion of the skirt 22 comprises a generally cylindrical section 23 concentric to the opening 21, and conforming to and frictionally embracing the cylindrical bearing housing 16. The front portion of the skirt 22 comprises a generally elongated housing section 24 with spaced parallel flat side walls 25 connected by a rounded front wall 26. To present a smooth stream-line exterior devoid of sharp exposed edges, which if present might catch or mar the foot apparel of the user, the junctures of the top wall 20 with the side and front walls 25 and 26 of the skirt section 24 are rounded as indicated at 27.

To insure an extensive frictional grip, the sides of the skirt 22 between the sections 23 and 24 are formed with vertical indentations 28, thereby extending the cylindrical form of the section 23 as much as possible. As a result, the

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cylindrical section 23 through engagement with the housing 16 serves to locate and maintain the guard in proper angular position. By reason of the form of the opposite end sections 23 and 24 and the intermediate grooves or indentations 28, the skirt 22 is generally of figure 8 shape.

Any suitable means may be provided for releasably locking the guard in position on the frame 10. In the present instance, this means comprises an indentation 29 formed in the wall of the cylindrical section 23 of the skirt 22 and defining a lug adapted to engage underneath the lower edge of the bearing housing 16.

In assembling the guard with the caster, the stem 13 is merely inserted from the underside of the guard through the opening 21 in the top wall 20 to fit the bearing housing 16 within the guard section 23 and against the underside of the top wall 20. The parts have sufficient flexure to permit the lug 29 to pass over the bearing housing 16 and snap into retaining position. When assembled with the frame 10, the guard will revolve with the roller 11 about the axis of the stem 13 and will not interfere with the normal use of the caster.

It will be evident that the guard is detachably secured in position, and, hence, may be readily assembled with or removed from the caster frame 10. When the guard is assembled with the frame, it is held tightly in position the same as if these parts were rigidly connected. The guard presents an attractive exterior and enhances the appearance of the caster. Also, the guard fully encloses the frame 10 and the roller 11 from the top and all sides so that it is impossible for the hosiery or shoes of the user to become caught in any way or even to contact the caster.

I claim as my invention:

1. A caster guard adapted to be removably mounted on a caster having a frame with a partially circular bearing housing and depending legs, a stem extending upwardly from said frame axially of said housing, and a roller supported between said legs, said guard comprising a one-piece hood adapted to be removably supported on said frame including a top wall adapted to rest on said frame and having an opening to receive said stem, said hood also including a

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depending perimetrical skirt portion extending all around said top wall to enclose the lower portion of the caster, said skirt portion being formed with a partially cylindrical section for snugly embracing said bearing housing and a generally elongated section enclosing said legs and said roller, said sections being defined by vertical grooves indented in the side walls of said skirt and effective to frictionally grip the sides of said frame for retaining said hood in assembled relation with the caster.

2. A caster guard adapted to be removably mounted on a caster having a frame with a partially circular bearing housing at one end and forwardly and downwardly inclined legs depending at opposite sides, an upwardly projecting stem supported on said frame by an anti-friction bearing including a circular retainer secured to the stem and overlying said housing, and a roller positioned between and rotatably supported on said legs, said guard comprising a one-piece hood including a top wall adapted to rest on the top of said frame and having a clearance opening for said retainer, said hood also including a depending perimetrical skirt portion extending all around the top wall of the hood to enclose the lower portion of the caster, said skirt portion being formed with a partially cylindrical section conforming to and adapted to frictionally embrace said bearing housing whereby to prevent relative shifting of the caster and said hood transversely of said stem, and a generally elongated section extending from said cylindrical section to enclose said legs and said roller.

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