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H. SINGER

2,502,759

FURNITURE CASTER

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Fig. 1.

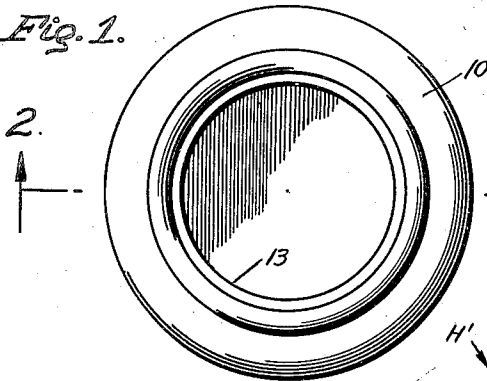


Fig. 2.

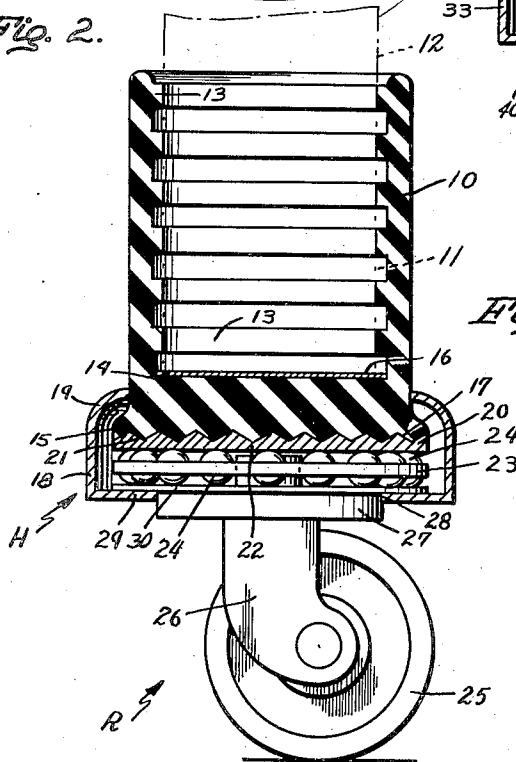


Fig. 4.

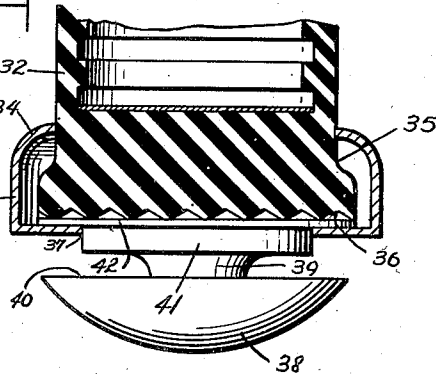
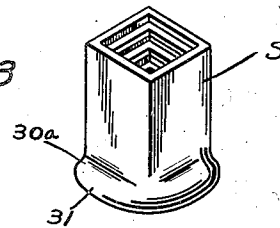


Fig. 3



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FURNITURE CASTER

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7 Claims. (Cl. 16-44)

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My invention relates to furniture and more particularly to furniture casters.

The main object of my invention is to provide a furniture caster constructed so that its function is practically noiseless, since the bottom of a rubber socket, by means of which the caster is attached to the leg of the piece of furniture, is permanently in pressure contact with the metal parts of the construction, whereby any rattling or the like of these metal parts is eliminated.

Another object of my invention is to provide a furniture caster of the character indicated above which is adapted to be mounted onto a leg of a piece of furniture without the use of any kind of carpenter tools, because no drilling of holes nor tightening of screws or the like is required to secure the furniture caster according to my invention in working position.

Other objects of my invention not specifically mentioned may appear in the following specification describing my invention with reference to the accompanying drawing illustrating preferred embodiments of my invention. It is, however, to be understood, that my invention is not to be limited or restricted to the exact construction and combination of parts described in the specification and shown in the drawing, but that such changes and modifications may be made which fall within the scope of the claims appended hereto.

In order that my invention may be better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in top plan of a caster embodying the invention;

Figure 2 is a sectional view taken substantially on the line 2-2 of Figure 1;

Figure 3 is a view in perspective illustrating a modified form of socket; and

Figure 4 is a fragmentary view partly in section and partly in elevation of a caster constructed in accordance with another embodiment of the invention.

The furniture caster forming the subject matter of my invention comprises a socket 10 made from rubber or the like, which is adapted to receive and engage the lower end portion 11 of a leg 12 of a piece of furniture (not shown). The socket 10 is equipped on its inner surface with a plurality of horizontal ribs 13, which are adapted to get a firm grip on the lower furniture leg portion 11, thereby enhancing the function of the socket 10. The bottom 14 of the socket is made of thick elastic rubber and projects circumferen-

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tially beyond the outside surface of the socket 10 as shown at 15. A layer 16 of adhesive material such as cement or the like may be arranged between the bottom surface of the furniture leg 12 and the top surface of the socket bottom 14. The bottom surface 17 of the socket bottom 14 is not finished but left rough for a purpose to be described later. The outside wall 18 of a substantially cylindrical housing H has an inwardly curved upper portion 19. The bottom portion of the socket 10 is forced from above into said housing, so that the edge of the curved housing wall portion 19 engages the outside of the socket just above the enlarged socket bottom portion 15. A disklike plate 20 is arranged inside the housing H underneath the socket bottom 14. The upper surface 21 of the plate 20 is unfinished and the under side 22 of said plate is finished smoothly and evenly. An annular ball bearing 23 is located in the housing H below the disklike plate 20 so that said plate rests on the uppermost portions of the balls 24 of the ball bearing 23, when the caster is assembled and in working position.

A roller construction R comprises a roller 25, mounted rotatably between a pair of prongs 26 extending downwardly from a round body 27 projecting upwardly through a central opening 28 provided in the bottom 29 of the housing H. A disklike member 30 formed on the upper end portion of the body 27 is located inside the housing and extends circumferentially beyond the edge of the body 27. When the furniture caster, according to my invention, is assembled and in working position on the leg of a piece of furniture, the balls 24 of the ball bearing 23 rest on the disklike member 30.

The rough bottom surface 17 of the socket 10 is forced into permanent pressure contact with the rough upper surface 21 of the disklike plate 20 resting on the balls 24 of the ball bearing 23. The roller construction R is free to rotate on the balls 24 and there are no loose metal parts or metal parts adapted to become loose and to cause any noise. The housing H is formed to permit the elastic bottom portion 24 to spread circumferentially under any weight added to the dead weight of the piece of furniture.

In Figure 3, a perspective view of a modified form of the socket used in the above described furniture caster is shown. The above described socket 10 is to be used on substantially round legs of furniture. The socket S, shown in Figure 3, is to be used on substantially square furniture leg ends. It has a comparatively thick elastic and substantially cylindrical bottom portion 30a

projecting all around beyond the substantially square socket S. The lower portion 31 of the cylindrical bottom portion 30a is flared outwardly so that the edge of the curved top wall portion 19 of a housing H can engage the cylindrical bottom portion 30a above the flared out portion 31, and that the above described roller construction R may be attached to the socket S in the same manner as to the socket 10.

In Figure 4, a modified form of the furniture caster, according to my invention, is shown, which is especially adapted to be used on pieces of furniture which are not moved frequently. In this modified form my caster comprises a socket 32 formed like the above described socket 10 and also made from rubber or the like. A housing H' has a substantially cylindrical wall 33, the upper end portion 34 of which is bent inwardly and engages the socket 32 above the enlarged lower portion 35 thereof. The bottom surface 36 of the socket 32 is unfinished. A central opening 37 is provided in the bottom of the housing H'.

A glide caster button 38 has a partly globular lower face form, and a short neck 39 extends upwardly from the flat top surface 40 of said button and is located centrally thereof. On the upper end of the neck 39, a flat round body 41 is formed, which extends through the opening 37 into the housing H' and has at its upper end portion a circumferential flange 42. The upper surfaces of the body 41 and the flange 42 are located in the same plane and are unfinished so that these two unfinished surfaces contact with the unfinished surface 36 and prevent any noise producing movement of the glider button relative to the housing H'.

I claim:

1. A caster comprising a body of elastic material, means for securing the same to the lower portion of a leg of a piece of furniture, the body having a thick heavy circumferentially enlarged bottom portion, a housing enclosing the said enlarged bottom portion, and a roller construction having a portion extending into and swivelly held by said housing.

2. A caster comprising a body of elastic material, means for securing the same to the lower portion of a leg of a piece of furniture, the body having a thick heavy circumferentially enlarged bottom portion, a housing enclosing the said enlarged bottom portion, the housing having an annular bottom, and a roller construction coupled to said housing and comprising a roller rotatably mounted between a pair of prongs extending downwardly from a circular body, a disklike member on the top portion of the said body and a cylindrical lug positioned centrally on and extending upwardly from the disklike member, said disklike member being located inside the housing and above the annular bottom thereof, an annular ball bearing resting on said disklike member, the cylindrical lug extending through said annular bearing, and a disklike plate arranged to rest on the ball bearing and supporting the enlarged bottom portion of the socket.

3. A caster construction as set forth in claim 2, wherein, the lower surface of the said bottom portion and the abutting upper surface of the disklike plate are unfinished and the lower surface of said plate is smoothly finished.

4. A caster of the character described, comprising a body of elastic material, means for securing the same to the lower portion of a leg of a piece of furniture, the body having a thick heavy circumferentially enlarged bottom portion, a housing enclosing the said enlarged bottom portion, the housing having a bottom provided with a central opening, a disklike member located in the housing below said bottom portion, a round body formed centrally on the lower surface of said disklike member and extending downwardly through the central opening in the housing bottom, a comparatively short central neck on the lower surface of the said round body and a supporting button on the lower end of the neck, said button having a partly globular bottom surface.

5. A caster as set forth in claim 4, wherein the abutting surfaces of the enlarged bottom portion and of the disklike member are unfinished.

6. A caster construction of the character described, comprising a body of elastic material, means for securing the same to the lower portion of a leg of a piece of furniture, the body having a thick heavy circumferentially enlarged lower end portion adapted to be positioned beneath the end of a leg of a piece of furniture to which the body is attached, a housing enclosing the said enlarged bottom portion and having an inside diameter materially greater than the overall diameter of the enclosed portion, said housing having a bottom wall provided with a central opening, a disk disposed within the housing and resting upon said bottom wall, a circular member carried upon the underside of the disk and extending downwardly through the opening of said housing bottom wall, and a floor engaging foot portion carried upon the underside of said circular body, the said disk being rotatable in the housing between said bottom wall and the lower part of the said thickened portion of the body of elastic material.

7. A caster construction of the character stated in claim 6, wherein said housing has a side wall provided with an intumed top portion engaging the body of elastic material above the circumferentially enlarged bottom portion thereof, the space between the circumferentially enlarged bottom portion and the encircling part of the housing providing for lateral expansion of the elastic material under load.

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The following references are of record in the file of this patent:

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