July 8, 1947. W. H. RABE 2,423,659

ANTISKID DEVICE FOR CHAIRS

Filed Nov. 12, 1943

Fig. 1

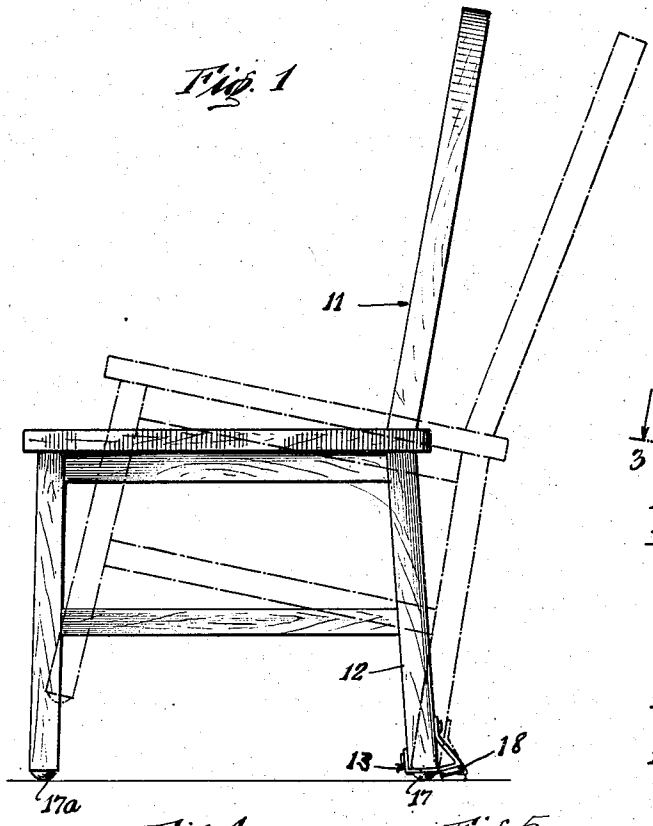



Fig. 2

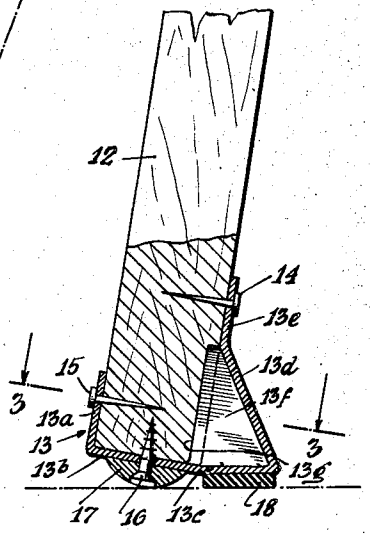



Fig. 3

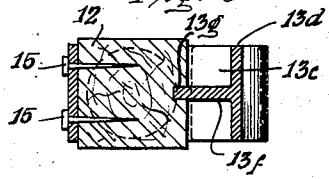



Fig. 4

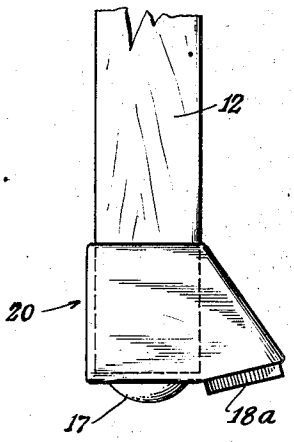



Fig. 5

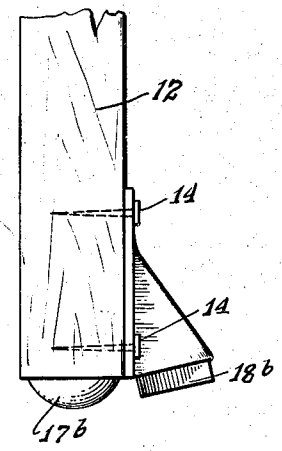
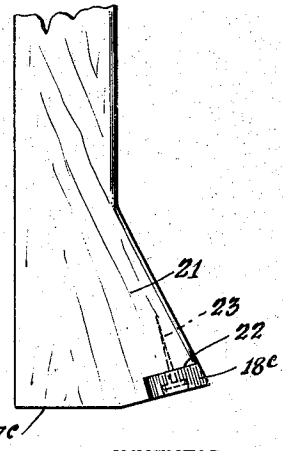



Fig. 6




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## ANTISKID DEVICE FOR CHAIRS

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2 Claims. (Cl. 155—77)

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This invention relates to an anti-skid device for chairs, and has for an object to provide an arrangement associated with the rear legs of a chair arranged to prevent skidding of the chair when it is tilted rearwardly by the occupant.

Another object is to provide such an arrangement in the nature of an attachment which may be readily applied to a standard chair.

When in normal position on the floor, it is desirable that chairs be freely slidable on the floor. To assure this, it has become common to provide buttons of smooth metal on the bottom of chair legs. Whether or not such buttons are provided, it frequently occurs that a user will tilt a chair back to a angle exceeding the angle of repose so that the rear legs of the chair will slide in a forward direction, precipitating the chair and its occupant to the floor, possibly causing injury.

It is an object to provide means to avoid such skidding while at the same time permitting easy sliding of the chair along the floor when in normal position on the floor.

It is another object to arrange an anti-skid element on the rear legs of a chair in such a manner that it will normally be out of contact with the floor so that the chair may be slid easily but will come into contact with the floor when the chair is tilted rearwardly to an angle approaching a dangerous condition.

These and other objects will become apparent from the following description taken in connection with the attached drawings showing several illustrative embodiments of the invention and wherein:

Fig. 1 is a side view of a chair showing the invention applied to a rear leg thereof, a tilted position of the chair being shown in dotted lines;

Fig. 2 is an enlarged fragmentary view, partly in cross-section, of the device shown in Fig. 1;

Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 2, looking in the direction of the arrows;

Fig. 4 is a side view of a part of a chair leg showing a modification;

Fig. 5 shows another modification; and

Fig. 6 shows a specially constructed rear chair leg embodying the invention.

Referring to said drawings, the numeral 11 indicates generally a chair which may be of any usual construction, including two rear legs 12. In the form shown in Figs. 1, 2, and 3, there is fixed to each of the rear legs an attachment generally designated 13 which consists of a forward side wall 13*a*, a bottom wall 13*b* abutting the bottom of the leg, an extension 13*c* of the bottom wall, a rear wall 13*d*, and an extension thereof 13*e*.

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As shown, there is also a web 13*f* which serves to stiffen and strengthen the parts. As shown, said web 13*f* extends into a slot 13*g* in the rear edge of the leg 12. The attachment is shown secured to the leg as by a nail or screw 14 passing through a hole in the member 13*e* and a nail or screw 15 passing through the member 13*a* as well as by a nail or screw 16 passing through the bottom plate 13*b*. As shown, the fastening member 16 also serves to hold in place a button 17 preferably made of metal or other hard material and having a smooth surface to normally facilitate sliding of the chair on the floor. If desired, the button 17 may be made integral with the attachment 13 or fixed thereto as by solder or other means.

The front legs are shown as provided with similar buttons 17*a* for the same purpose.

Secured to the extension 13*c* is a pad 18 of rubber or other friction material firmly secured to the plate as by glue or vulcanization, or, to facilitate removal and replacement, by such means as screws countersunk into the pad.

It will be seen that in the normal position of the chair, as shown in full lines in Fig. 1, the chair contacts with the floor only by means of the buttons 17 and 17*a* so that it can be moved about readily by sliding the chair on the floor. However, if the chair is tilted back to a certain point, such as the dotted line position of Fig. 1, the friction material 18 will be brought into engagement with the floor. At this angle of inclination, or any greater angle, the frictional or adhesive characteristics of the pad 18 will assure that the chair will not skid forwardly, as might occur in the use of an ordinary chair, whether or not provided with conventional buttons. The parts are so arranged that the pad 18 will contact the floor at an angle of inclination well removed from the angle of repose. Therefore, there is no danger of the chair skidding although it is free to slide upon the floor in the usual manner when the chair is in normal position.

Fig. 4 shows a modification in which the attachment, generally designated 20, is provided with a socket for receiving the bottom of the chair leg, the socket being either rectangular or circular in cross-section, depending upon what is desired for the particular type of chair to which it is to be attached. It is held in place merely by friction or also by means of a screw, such as screw 16, passing through a button, such as 17. A pad 18*a* of friction material may be of the same construction as the pad 18 and will function in the same manner.

Fig. 5 shows a device which is merely fastened

to the rear edge of the chair leg as by nails or screws 14. The button 17b, if used, may be of conventional construction. If no button is used, the device would be attached to the chair at a correspondingly higher point. The pad 18b of friction material may be of the same construction and perform the same functions as the pad 18.

The form shown in Fig. 6 contemplates a special leg construction, the leg having a bottom surface 17c and being formed with a rearward extension 21 of approximately the form shown, which extension is formed with a recess 22 within which is mounted a pad 18c of friction material which, in this instance, could either be glued in place or attached by means of a nail or other fastening device 23. It is of course to be understood that instead of providing the leg with a rearward extension 21 the depth of the chair leg may be made sufficient to have its rear edge extend directly upward from the rear edge of the recess 22. In that case, about half of the bottom of the leg would normally serve to support the chair and the rear half of the bottom of the leg would be inclined upwardly and rearwardly and serve to support the friction pad 18c.

It will be noted that the constructions shown and described will serve admirably to accomplish the objects stated above. It is to be understood however, that the constructions disclosed above are intended merely as illustrative of the invention and not as limiting as various modifications therein may be made without departing from the invention as defined by a proper interpretation of the claims which follow.

I claim:

1. In a chair having a pair of front and a pair of rigid rear legs, means at the lower end of each of said rear legs providing supporting surfaces at the bottom of each of said rear legs comprising a downwardly facing surface centered approximately in line with the longitudinal axis of the leg and extending generally transverse to said axis, adapted to rest upon and slidably engage the floor when the chair is in normal position and all four legs bear upon the floor, and a downwardly-facing friction surface arranged rearwardly and upwardly of each of said slidable surfaces and each closely adjacent to its respective slidable surface, said slidable and friction surfaces being in fixed relationship to the respective leg and to each other, and said friction surfaces being above the floor when the chair is in normal position but engaging the floor when the chair is tilted rearwardly whereby the slidable surfaces are raised from the floor when the chair is tilted still further rearwardly, thus preventing skidding of the bottoms of the rear legs when the chair is tilted rearwardly by the occupant.

2. Attachment means for the bottom of the



rear legs of a chair having a pair of front and a pair of rigid rear legs, said attachment means having supporting surfaces comprising means constituting a downwardly-facing surface adapted to be centered approximately in line with the longitudinal axis of the leg of a chair to which it is attached, which surface extends generally transverse to such axis and is adapted to rest upon and slidably engage the floor when the chair is in a normal position and all four legs bear upon the floor, said attachment means being also provided with a downwardly-facing friction surface arranged rearwardly and upwardly of the slidable surface closely adjacent and in fixed relationship to said slidable surface, said means providing said surfaces being adapted to be rigidly connected to the leg, said friction surface being above the floor when the chair is in normal position but engaging the floor when the chair is tilted rearwardly whereby the slidable surface is caused to be raised from the floor when the chair is tilted still further rearwardly, thus preventing skidding of the bottoms of the rear legs when the chair is tilted rearwardly by the occupant.

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