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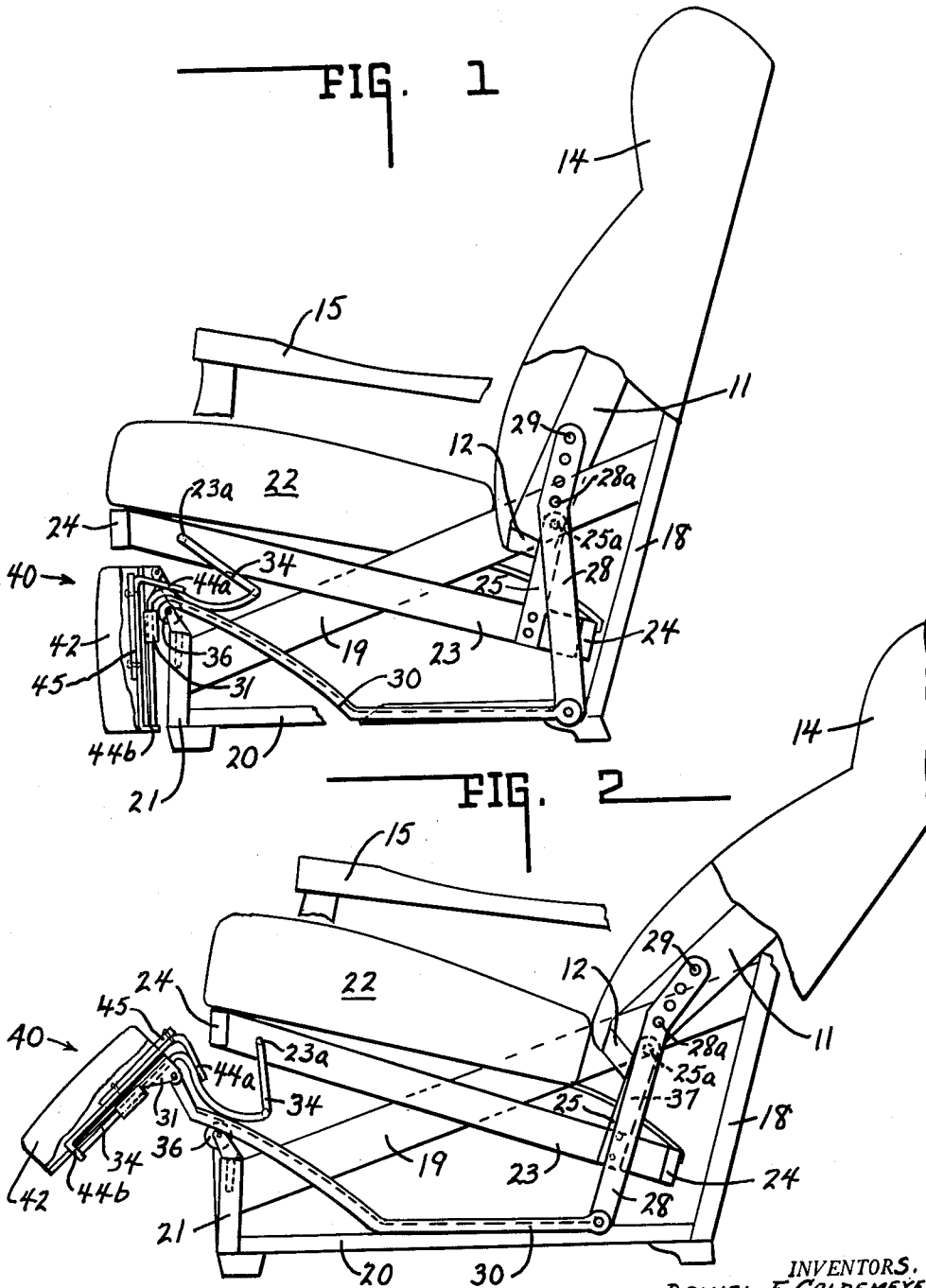
D. F. CALDEMEYER ETAL

3,083,996

RECLINING CHAIR

Filed June 15, 1959

2 Sheets-Sheet 1



INVENTORS,
DANIEL F. CALDEMEYER,
HOWARD M. QUAKENBUSH.

BY

Warren H. Flackbert,
ATTORNEY

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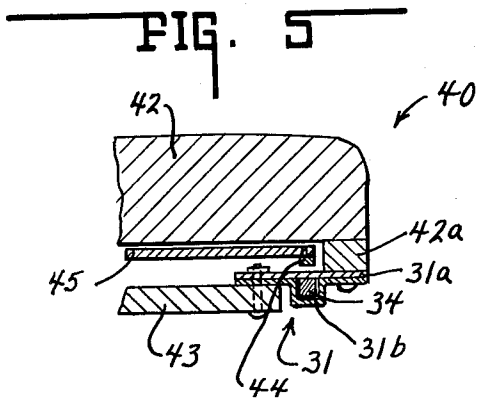
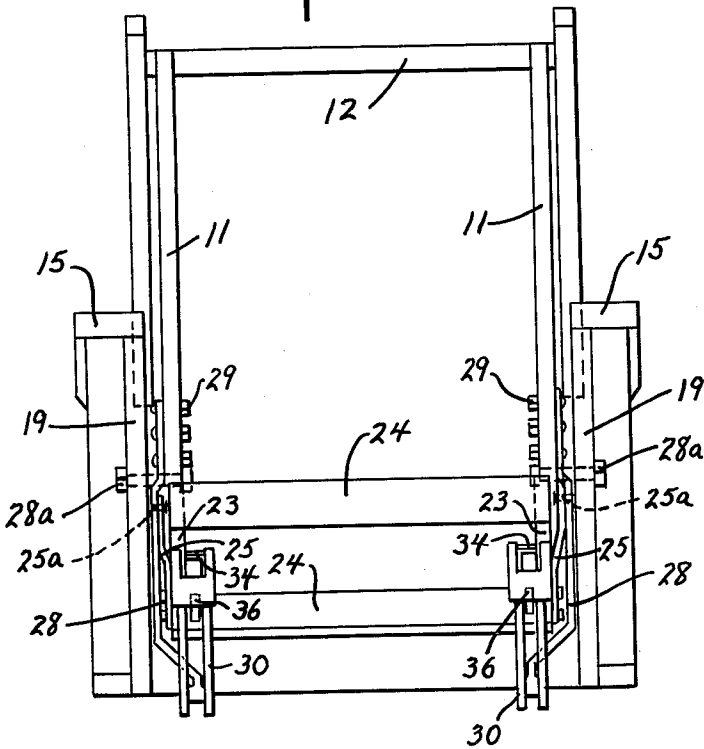
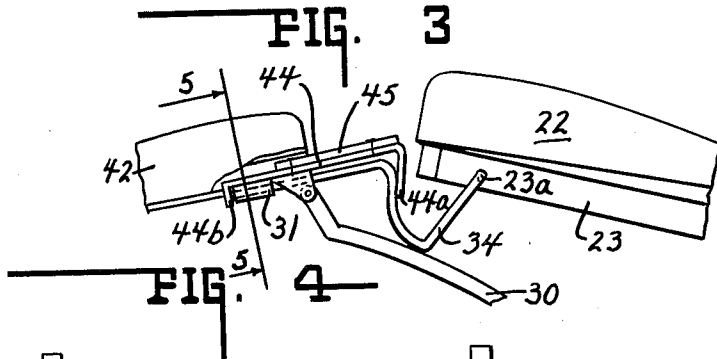
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INVENTORS.
DANIEL F. CALDEMEYER.
HOWARD M. QUAKENBUSH.

BY
Warren D. Flackbart
ATTORNEYS

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3,083,996

RECLINING CHAIR

Daniel F. Caldemeyer, Vanderburgh County, and Howard Menlo Quakenbush, Evansville, Ind., assignors to National Furniture Manufacturing Co., Inc., Evansville, Ind., a corporation of Indiana
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The present invention generally relates to a reclining chair and more particularly to an improvement in a leg guard therefor which provides utility as well as added attractiveness to the overall chair structure when in a reclined position.

As is known, when a reclining chair of the general type described and claimed in the Quakenbush Patent No. 2,749,970, entitled Reclining Chair, which issued June 12, 1956, is in a reclined or extended position, and depending upon overall dimensioning thereof, a space usually appears between the seat cushion and the footrest. Such space makes the generally hidden mechanical components of the chair visible to the user, and oftentimes serves as an area through which articles are inadvertently dropped.

By virtue of the instant invention the applicants have provided a new and novel leg guard having a decorative appearance complementing the chair, which is disposed beneath the footrest when the chair is in a straight or nonextended position, and which is automatically uncovered and disposed in the space between the footrest and the seat cushion when the chair is reclined or extended. In addition, the structure forming this leg guard provides a simplified stop mechanism for the overall reclining movement of the chair.

Accordingly, the principal object of the present invention is to provide a leg guard for a reclining chair which extends between the footrest and the seat cushion when the chair is moved to a reclined position.

Another object of the present invention is to provide a leg guard for a reclining chair which is normally hidden from view when the chair is in an inoperative or non-reclining position.

A still further object of the present invention is to provide a leg guard for a reclining chair which simply and effectively combines with existing structure to form a new and improved stop for the reclining movement of the chair, as well as the aforesaid extension of the leg guard to the desired position between the footrest and the seat cushion when the chair is in fully extended position.

A further and more general object of the present invention is to provide a leg guard for a reclining chair which, when uncovered by movement of a chair to a reclining position, provides decorative attractiveness to the chair, as well as increased utility.

Other objects and a better understanding of the invention will become more apparent from the following description, taken in conjunction with the accompanying drawings, wherein

FIG. 1 is a view in side elevation, partly fragmentary, showing the instant invention in conjunction with a typical reclining chair;

FIG. 2 is a view in side elevation, partly fragmentary, showing the instant invention when the reclining chair of FIG. 1 is in a partly extended position;

FIG. 3 is a detailed fragmentary view showing the instant invention when the reclining chair of FIG. 1 is in a fully extended position;

FIG. 4 is a view in front elevation of the reclining chair of FIG. 1, with the footrest and the leg of the footrest control cam removed for reasons of clarity; and,

FIG. 5 is an enlarged fragmentary view in vertical section, taken at line 5-5 of FIG. 3 and looking in the direc-

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tion of the arrows, showing mounting details of the novel leg guard forming the instant invention.

For the purposes of promoting an understanding of the principles of the invention, reference will now be made to the embodiment illustrated in the drawings and specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended, such alterations and further modifications in the illustrated device, and such further applications of the principles of the invention as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention relates.

Referring now to the figures, a typical reclining chair in conjunction with which the applicants' novel invention is used comprises a substantially rectangular back frame defined by side rails 11 and top and bottom rails 12 (see also FIG. 4) forming a conventional back rest 14. The reclining chair also includes arms 15 and an arm and seat frame assembly generally indicated at 18, 19, 20 and 21. A seat cushion 22 is supported by a seat frame comprising side rails 23 and end rails 24.

Extending downwardly from the side rails 11 of the back rest 14 are back hanger straps 28 which are conventionally secured thereto by carriage bolts 29, for example. The back hanger straps 28 pivotally connect to cam and track members 30, the latter having footrest hanger guides 31 pivotally connected at the other free ends thereof. Cams 34, positioned on the side rails 23 of the seat frame at 23a, slidably and pivotally engage the cam and track members 30 through the intermediate portion thereof, with the generally inverted U-type cross section of the latter receiving casters 36 positioned therebeneath on the seat frame assembly at 21.

The back rest 14 is pivotally secured to the arm and seat frame assembly by bolts 28a which extend through the back hanger straps 28 into the rails 19 thereof. The seat frame is secured to the back hanger straps 28 through seat hanger straps 25 which extend upwardly from the side rails 23 of the seat frame, with the seat hanger straps 25 pivotally engaging the back hanger straps 28 through pivot members 25a thereon. It should be noted that each of the pivot members 25a forming the pivot for the seat frame is adjacent to and substantially in the same vertical plane with the pivot 28a for the back rest.

Considering now, in detail, the footrest structure 40 in connection with which the leg guard forming the instant invention is used, the footrest hanger guides 31, disposed beneath the footrest cushion 42, have openings therein through which the free ends of the cams 34 slidably move. One portion of each of the guides 31 is secured by conventional means to the bottom surface of a side frame 42a of the footrest structure 40, with other portions thereof being secured together through a common reinforcing member 43 (see FIG. 5). In a typical structure embodying the instant invention, the guides 31 each comprises a flat base member 31a and an associated plate member 31b having an enlarged central portion, the latter providing the opening through which the cam 34 slides.

Disposed on the cams 34 are brackets 44 which each have an upper end 44a secured thereto as by welding, for example, and a lower end 44b extending downwardly, and also secured thereto, and engaging the end of the cam 34. The latter structure serves as a stop for the reclining movement of the chair, to be discussed more fully herebelow. The applicants' novel leg guard 45 is mounted on the brackets 44 through common screw means, for example. In the preferred form of the invention, the leg guard 45 is formed from wood, and either

upholstered or otherwise ornamented to complement the overall decorative appearance of the reclining chair.

When it is desired to move the reclining chair from an upright to a lounging position, or to move the chair from any one position to a second selective position, it is necessary only to apply force to upset the balance condition of the chair mechanism by sitting in the chair and pushing against the upper part of the back rest 14. The user thus causes the back rest 14 to exert a clockwise torque around the pivot 28a which overcomes the counterclockwise torque at the pivot between the cam and track members 30 and the back hanger straps 28, and causes the seat frame and the cam and track members 30 to move forwardly. The rotating action of the back rest 14 causes the seat to rise upwardly inasmuch as the cam and track members 30 are moving forwardly over the casters 36, which forward motion rotates the cams 34 which bear on the upper surface of the cam and track members 30. Accordingly, as the cams 34 are pivotally connected to the seat frame at the side rails 23 thereof, the seat frame, with the seat cushion 22 thereon, is elevated.

As the preceding action occurs, the footrest structure 40 is moved outwardly and upwardly (see FIGS. 1 and 2) to a fully extended position (see FIG. 3) when the chair is in its full lounging position. The foregoing is accomplished through the forward and outward movement of the cam and track members 30 on the casters 36 which, when combined with the movement of the cams 34 effect sliding of the free end of the latter through the guides 31 positioned beneath the seat rest.

As the footrest structure 40 moves, the leg guard 45 mounted on the brackets 44 is uncovered from its normal position therebelow when the reclining chair is upright. The footrest structure 40 continues to move, revealing more of the leg guard 45, until the lower ends 44b of the brackets 44 engage the guides 31 (see FIG. 3), the latter serving as a stop for the footrest structure 40 as well as for the entire reclining chair. It should be noted that in a lounging position, the leg guard 45 approximately fills the space between the seat cushion 22 of the seat frame and the footrest structure 40.

When the reclining chair is moved from a position of lounging to the upright position illustrated by FIG. 1, a reverse action to that described hereabove is effected so that the applicants' novel leg guard 45 is thereafter concealed beneath the footrest structure 40. It should be noted that in any intermediate position between an upright position and a full lounging position, the leg guard 45 is partially visible, depending upon the particular position, thereby providing the desired utilitarian as well as decorative effect.

From the preceding it should be apparent that the applicants have provided a novel leg guard for a reclining type chair which simply and conveniently slides into view when the chair is moved from an upright position to a lounging position, with the leg guard being partly visible at intermediate positions of movement of the chair.

The applicants have provided for such effective action with a minimum of operative components, and with structure which may be readily integrated onto the typical form of reclining chair now in use.

It should be apparent that the novel leg guard structure described hereabove is susceptible to various changes and modifications within the spirit of the invention. For example, the particular mounting means disclosed in the preceding description may be modified and re-dimensioned, as desired. In this connection, and by way of example, it has been found that the invention may be effectively practiced without having the upper ends 44a of the brackets 44 welded or otherwise secured to the cams 34. Thus, the above description should be considered illustrative and not as limiting the scope of the following claims.

We claim:

1. In a chair having a seat movable between an upright position and a reclining position, said chair including a footrest and a leg guard, articulated framework means connecting said seat, footrest and leg guard for relative movement of said footrest and leg guard with respect to each other and to said seat between a first position when the seat is upright to a second position when the seat is reclining, and support means slidably mounting said leg guard on said footrest, said framework means including an element connected with said leg guard to slidably move the leg guard from a position behind the footrest in the upright position of the seat to a position between the footrest and the seat in the reclining position of the seat.

2. The structure of claim 1, where another element of the articulated framework means provides a stop defining one of said positions of the seat.

3. In a chair having a seat movable between an upright position and a reclining position, a footrest, a leg guard, support means connecting the footrest and leg guard for telescopic movement with respect to each other, control mechanism connecting said footrest and leg guard with said seat for relative pivotal movement with respect thereto, said control mechanism including cam means to move said leg guard from a position concealed behind the footrest when the seat is upright to an uncovered position when the seat is reclining.

4. The structure of claim 3, wherein said cam means includes bracket means, and said leg guard is mounted on said bracket means.

5. The structure of claim 4, wherein portions of the bracket means and said cam means form a stop mechanism for movement of the footrest.

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