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2,633,896

LEG SUPPORT FOR INVALIDS' FOLDING CHAIRS

Filed Aug. 25, 1950

2 SHEETS—SHEET 1

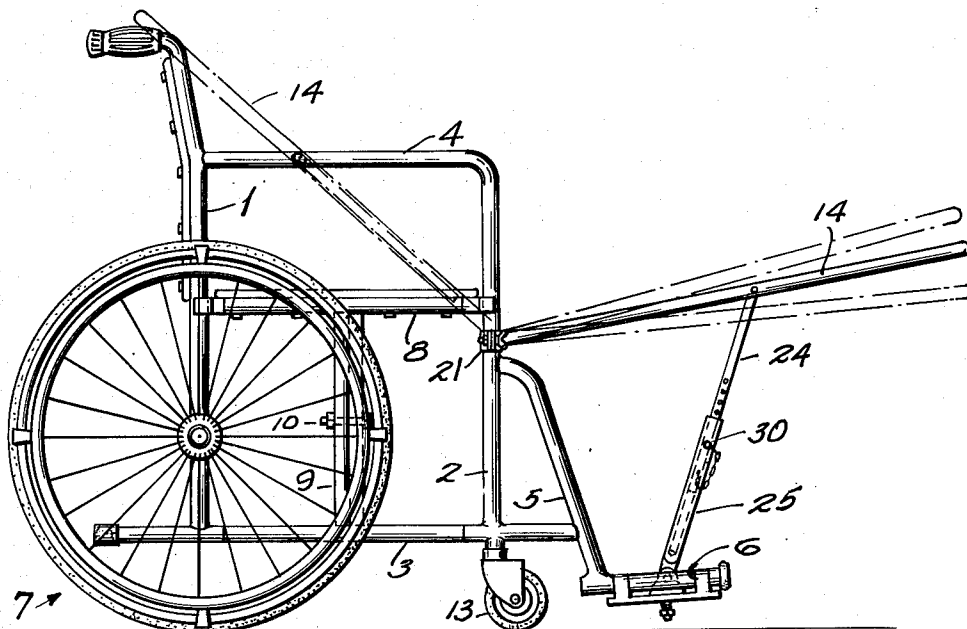


FIG. 1.

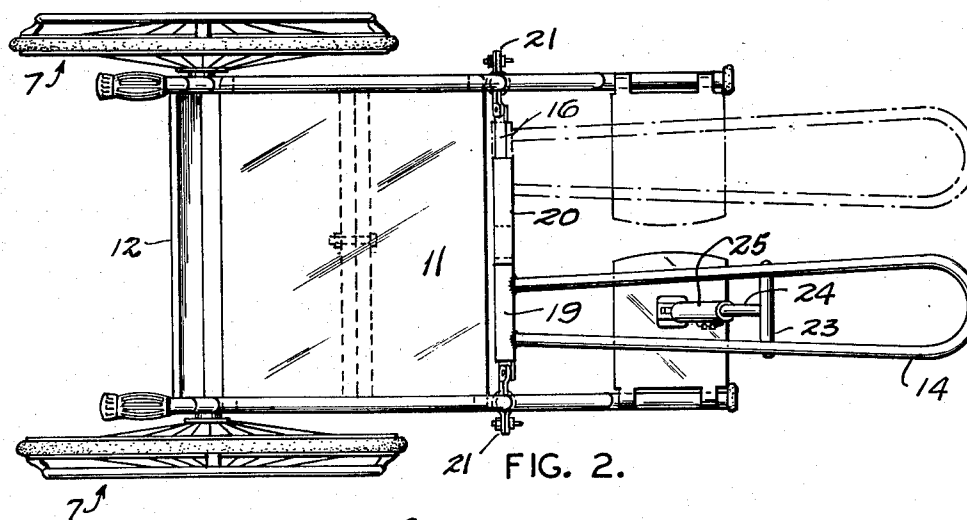


FIG. 2.

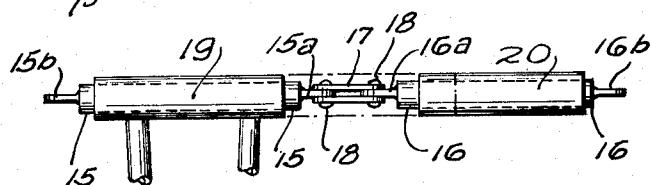


FIG. 6.

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2 SHEETS—SHEET 2

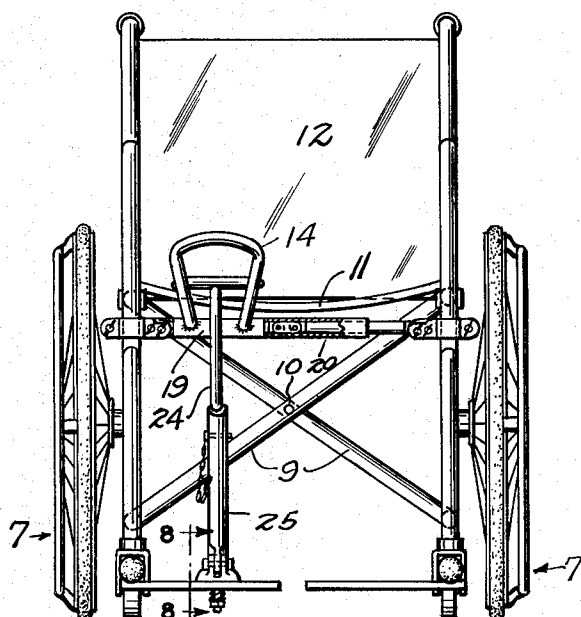


FIG. 3.

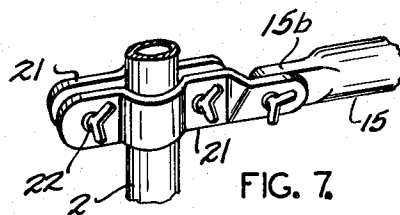


FIG. 7.

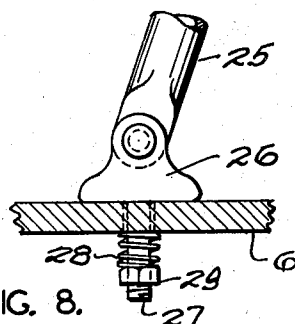


FIG. 8.

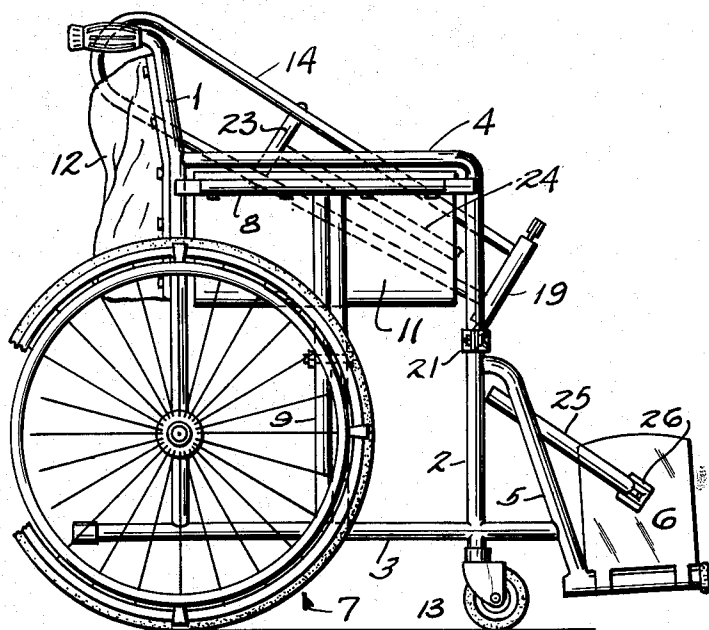


FIG. 4.

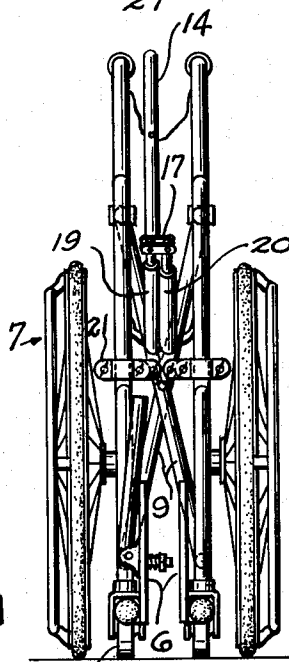


FIG. 5.

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LEG SUPPORT FOR INVALIDS' FOLDING CHAIRS

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11 Claims. (Cl. 155—30)

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The invention relates to invalids' chairs, particularly of the wheeled type adapted to be folded readily for transportation in an automobile or otherwise and the invention consists in a leg support to extend outwardly from the seat when in use and to be folded with the chair when the chair is folded.

When a person using a wheeled chair has his leg in a cast or otherwise immobile, it is a common practice to insert one end of a crutch, or a similarly rigid board, under the patient's buttocks so that the crutch or board sticks straight out from the seat to afford a support for the leg. Obviously this is uncomfortable for the patient, particularly after extended use, and does not afford any adjustment as to the angle between the leg and the body. If the patient is not ambulatory, and hence does not have other use of the crutch, it means that he must take the crutch with him and handle it, in addition to the chair, when transporting the chair.

The main object of the present invention is to provide a leg support on an invalid's chair which may be adjusted to different angles with the chair seat and which may be folded with the chair when the chair is folded.

Another object is to embody the chair support in a complete unit which may be readily applied to existing chairs without changing the structure or machining the chairs.

Another object is to render the leg support readily shiftable from the right hand side of the chair to the left hand side of the chair.

These and other objects as will appear from the following description are attained by the structure illustrated in the accompanying drawings, in which:

Figure 1 is a side view of a wheeled chair now in general use equipped with the leg support referred to above.

Figure 2 is a top view of the structure shown in Figure 1 with the leg support shown in full lines at the right hand side of the chair and shown in broken lines at the left hand side of the chair.

Figure 3 is a front view of the structures shown in Figures 1 and 2.

Figure 4 is a side view of the structure with the chair and leg support folded for transporting the chair.

Figure 5 is a front view of the folded chair and leg support as shown in Figure 4.

Figures 6, 7, and 8 are detail views as will be explained below.

The chair comprises two side frames, each

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including a rear upright 1, a front upright 2, a bottom horizontal 3, an arm 4, and a support 5 for the footrest or treadle 6. Each side frame mounts a wheel 7. Seat bars 8 extend between uprights 1 and 2 and are slidable vertically thereon. Horizontals 3 and seat bars 8 are connected by a pair of cross bars 9, pivoted to each other at 10, and hold the side frames parallel by accommodating their movement to and from each other. The seat 11 and back 12 are of flexible material. Pilot wheels or casters 13 are mounted on the lower ends of uprights 2. All of the above described structure is well-known in the art and forms a part of the present invention only in combination with the leg support.

The leg support comprises a substantially rigid cradle 14 shown as an elongated U tube. This cradle is attached at one end to the uprights 2 and is supported intermediate its ends from one of the chair's foot treadles 6.

The attachment to the chair uprights comprises a transverse member preferably formed of two pieces of tubing 15 and 16, arranged end to end and terminating in adjacent ears 15A and 16A, pivotally connected by links 17 and rivets 18. Sleeves 19 and 20 are slidably mounted on tubes 15 and 16, respectively, and either sleeve may be moved towards the outer end of the tube upon which it is mounted and the other sleeve moved over the adjacent ends of tubes 15 and 16 and the interconnecting links 17, as indicated by the position of sleeve 20 in Figures 2 and 3, and when so positioned renders elements 15, 16, and 17 into a substantially rigid unit from end to end. When both sleeves are moved toward the outer ends of tubes 15, 16 (Figure 6), the transverse member may be doubled upon itself as indicated in Figures 4 and 5.

The outer ends of tubes 15, 16 terminate in ears 15B and 16B, respectively, and are provided with clips 21 connected by screws with wing nuts 22 for ready attachment to the chair uprights 2.

The ends of the legs of cradle 14 are welded or otherwise secured to tube 19. A cross piece 23 extends between and is pivoted to the cradle legs intermediate the ends of the cradle, and a brace element 24 extends transversely of piece 23 and is telescopingly received in the brace element 25 provided at its end with a pivotal connection 26 terminating in a stud 27 for projection through the chair footrest treadle 6 where it is secured by a spring 28 and a nut 29. Brace elements 24 and 25 are separable and

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may be secured in adjusted positions by a pin 30 placed in selected aligned apertures in the two parts of the brace.

From the above description, it will be seen that the leg support comprising cradle 14, transverse members 15, 16, 17, 19, 20, and brace 24, 25 forms a complete unit, readily applicable to existing chairs by clamping clips 21 about the chair uprights and inserting connection 26 through one of the chair treadles. The cradle may then be adjusted to anyone of the positions indicated in Figure 1 by extending or retracting the brace elements 24, 25. The cradle may be shifted from the position shown in full lines in Figure 2 to the position shown in broken lines by removing wing nuts 22 and brace nut 29, withdrawing stud 27 from one treadle 6 and inserting it in the other treadle and reversing the transverse member end for end, thus adapting the support for the left leg instead of the right leg.

When the chair is to be folded, it is only necessary to slide the sleeve which is over links 17, usually sleeve 20, to the outer end of the transverse member and remove pin 30 from the brace. Cradle 14 may then be swung upwardly and rearwardly over seat 11 (Figure 1) and the transverse member may be folded on its links 17 to turn the cradle in a vertical plane as the chair side frames are moved towards each other (Figures 4, 5). This folding operation of the chair and leg support is readily and quickly effected for placing the chair in an automobile, streetcar, or in a closet, and is just as readily and quickly opened out when it is to be used again.

If it is desired that the leg support be a part of the original equipment of the chair, suitable simple brackets could be provided on uprights 2 for attachment of the ends of the transverse member.

The leg support is shown as formed of tubular metal to produce a light, strong structure, but these features and other details of the construction may be varied substantially without departing from the spirit of the invention. The exclusive use of those modifications coming within the scope of the claims is contemplated.

What is claimed is:

1. A leg support for application to a folding chair, comprising a substantially rigid elongated cradle, a transverse member secured to one end of the cradle with spaced elements arranged for detachable connection to a chair, said member comprising elongated parts arranged end to end and connected by linkage having transverse pivots at its ends to the adjacent ends of said parts, and readily releasable means for locking the linkage and parts against swinging on said pivots when said elongated parts are aligned.

2. A leg support for application to a folding chair, comprising a substantially rigid elongated cradle, a transverse member secured to one end of said cradle with its ends arranged for attachment to the sides of a chair, said member comprising elongated parts arranged end to end and connected by linkage having transverse pivotal connections at its ends to said parts, means for locking the linkage and parts against movement about said pivots with the members aligned, and a brace having a pivotal connection at one end to the cradle intermediate the ends of the latter and having a pivotal connection at its other end for attachment to the chair footrest.

3. A leg support as described in claim 2 in which the brace comprises separable telescoping parts provided with interlocking means.

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4. A structure as described in claim 2 in which the connection between the cradle and the transverse member is between the linkage and one end of the transverse member and the means for locking the linkage is slidable over the ends of the linkage from the other end of the transverse member.

5. A leg support for application to a folding chair, comprising a cradle, a transverse member pivoted to one end of said cradle and comprising two elongated parts arranged end to end and pivotally connected by intermediate links so that the member may be doubled on itself, a sleeve substantially shorter than the transverse member and slidable thereon to a position over said links and the adjacent ends of said parts to lock said parts in alignment.

6. A leg support for application to a folding chair, comprising a cradle, a transverse member pivoted to one end of said cradle and comprising two elongated parts arranged end to end and pivotally connected by intermediate links so that the member may be doubled on itself, a relatively short sleeve slidable along said member to a position over one of said parts only to clear said links, and to a position over said links and the adjacent ends of said parts to lock said parts in alignment, a brace pivoted at one end to said cradle intermediate the ends of the latter and comprising separable telescoping parts, and a removable connection securing said parts in selective assembly.

7. A folding wheel chair including wheeled sides, a seat, a back, a footrest, and a leg support having a pivotal connection to said sides to swing parallel therewith into a position between the sides, said support normally extending outwardly from the seat and having a two part brace extending from the footrest to a portion of the support spaced from the seat, the chair being foldable transversely to bring the wheeled sides together, one part of the brace being pivotally connected to the footrest and the other part of the brace being pivotally connected to the leg support and movable into position parallel thereto and movable with said support about its pivotal connection to said sides into position between the said sides.

8. A folding wheel chair including wheeled sides, a seat, a back, a transverse member extending between said sides near the forward edge of the seat and being pivoted to said sides and comprising elongated parts hinged together so that the member may be doubled upon itself, and a leg support extending outwardly from one of said parts and pivoted thereto to swing about the axis of said part from a position extending outwardly from the chair seat to a position between the chair sides above said seat.

9. A chair as described in claim 8 which includes a footrest on each side, there being an adjustable brace pivotally connected to the leg support and to one of the footrests.

10. A chair as described in claim 8 which includes a footrest on each side, there being an adjustable brace pivotally connected to the leg support and to one of the footrests, said brace being formed of separable parts, one pivotally connected to the footrest and the other pivotally connected to the leg support.

11. A folding wheel chair including wheeled sides, a seat, a back, a transverse member extending between said sides near the forward edge of the seat and being pivoted to said sides and comprising elongated parts hinged together so

that the member may be doubled upon itself, a leg support pivotally connected at one end to one of said parts and extending therefrom perpendicularly to the axis of said part, and a brace pivotally connected at one end to said cradle intermediate the ends of the latter and movable about its pivot to a selected position at either side of the cradle, the ends of said member being detachably secured to said sides to permit reversal of the member end for end and the position of said cradle to either of said wheeled sides.

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