March 11, 1958 H. M. THOMPSON 2,826,242

LEG SUPPORT FOR INVALIDS' FOLDING CHAIR

Filed Dec. 18, 1953 2 Sheets-Sheet 1

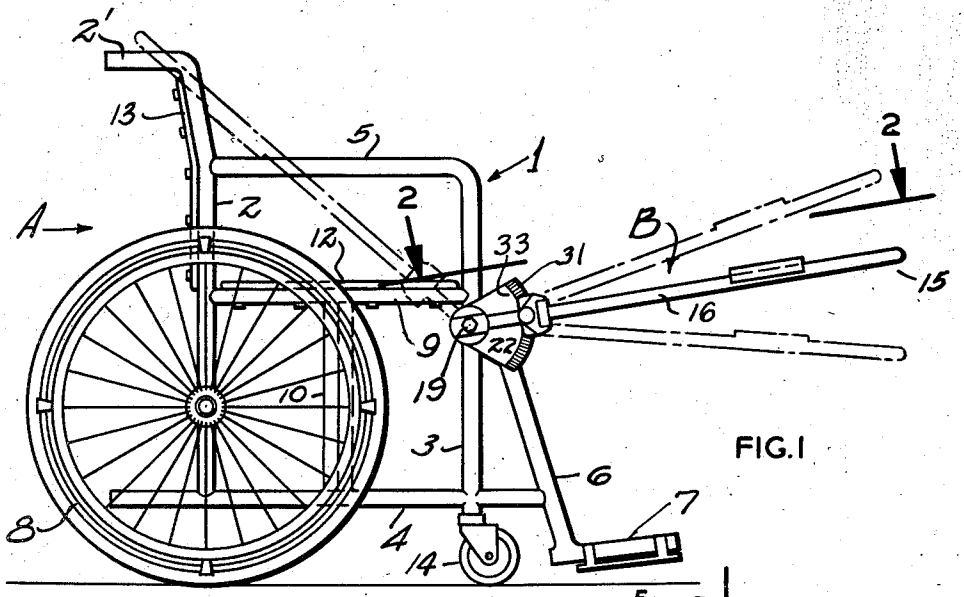


FIG. 1

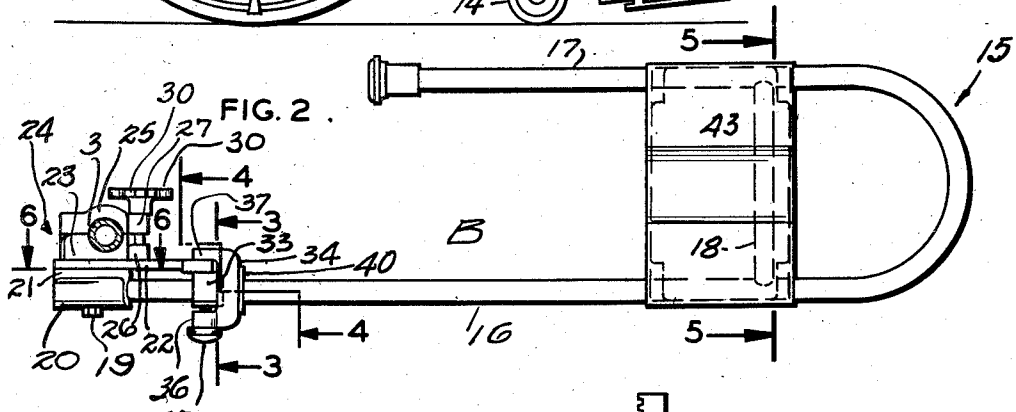


FIG. 2

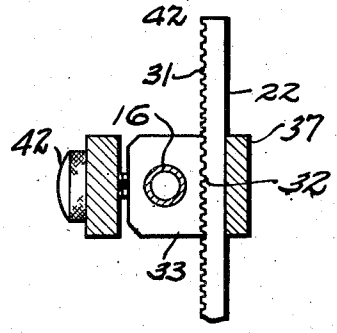


FIG. 3

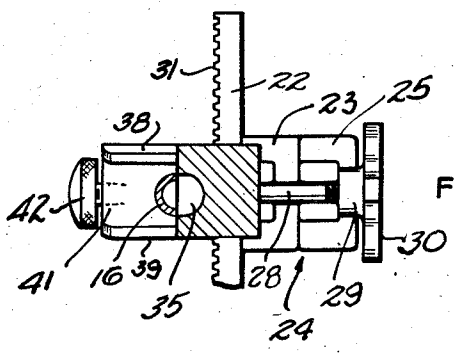


FIG. 4

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LEG SUPPORT FOR INVALIDS' FOLDING CHAIR

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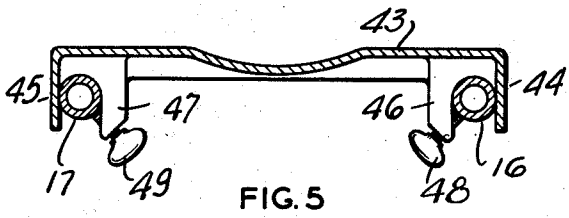


FIG. 5

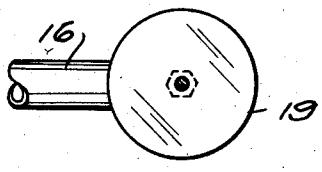


FIG. 6

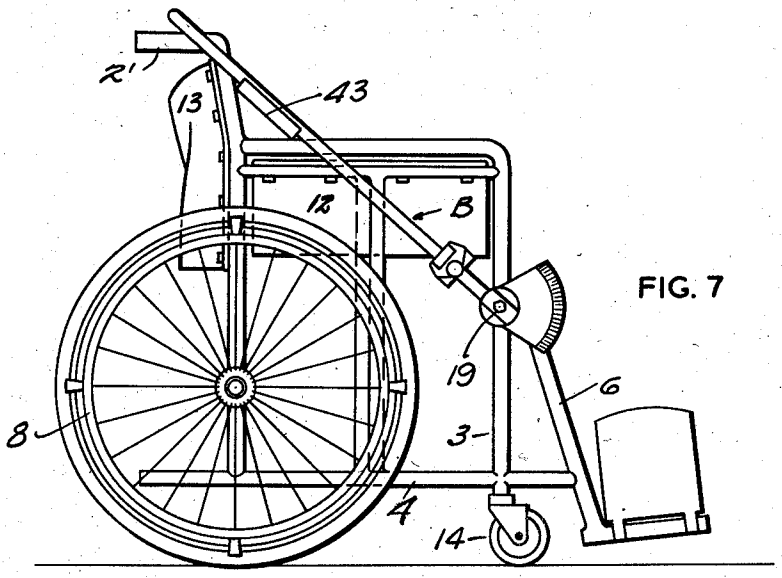


FIG. 7

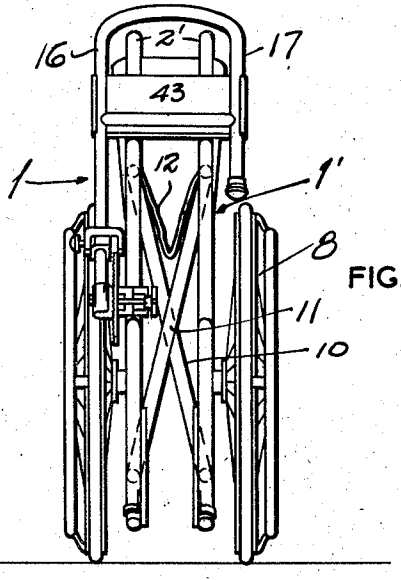


FIG. 8

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LEG SUPPORT FOR INVALIDS' FOLDING CHAIR

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Application December 18, 1953, Serial No. 398,963

5 Claims. (Cl. 155—171)

This invention relates in general to invalids' chairs, particularly of the foldable wheeled type and, more specifically, to a leg support for ready attachment to the chair and adapted to extend outwardly from the chair when the chair is in use and to be folded with the chair and swung into position to prevent accidental opening thereof.

One object of the present invention is to provide a leg support for invalids' chairs which easily and effectively may be adjusted to different angles consistent with the user's comfort.

Another object is to provide a leg support which may be readily attached to any existing chair structure without prior modification thereof, and which is equally easily mountable for use on either the right or left side of the chair.

Another object is to provide a leg support having a U-shaped frame, for swingable disposition upon a folding wheel chair whereby when the chair is in folded or inoperative position, the support may be swung into surrounding relation with respect to some of the chair parts to hold the chair against unfolding.

A further object is to provide an invalid leg support which is of simple construction, is reliable in use, and is economically manufactured.

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 wheel chair now in general use having engaged thereon the leg support referred to above.

Figure 2 is a transverse section view taken along line 2—2 of Figure 1.

Figure 3 is a transverse section view taken along line 3—3 of Figure 2.

Figure 4 is a transverse section view taken along line 4—4 of Figure 2.

Figure 5 is a transverse section view taken along line 5—5 of Figure 2.

Figure 6 is a transverse section view taken along line 6—6 of Figure 2.

Figure 7 is a side view of the wheel chair in folded position with the leg support lockingly disposed.

Figure 8 is a front view of the wheel chair in folded position.

Referring now to the drawings, A generally designates a folding wheel chair which comprises two side frames 1, 1', each including a rear upright 2, a front upright or leg 3, a bottom horizontal 4, an arm 5, and a support 6 for the foot rest or treadle 7. Rear uprights 2 are bent rearwardly at their upper ends to provide handles 2'. Each side frame mounts a wheel 8. Seat bars 9 extend between corresponding rear and front uprights 2, 3, respectively, and are slidable vertically thereon. Bottom horizontals 4 are connected to opposite seat bars 9 by a pair of cross bars 10, pivotally engaged to each other, at 11, for maintaining the side frames in parallel relation for accommodating their movement toward and away from

each other for folding and unfolding operation. The seat 12 and back 13 are formed of flexible material, such as canvas and the like. Pilot wheels or castors 14 are mounted on the lower ends of each front upright 3. 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 described hereinbelow.

The leg support designated B comprises a substantially rigid U-shaped frame or cradle 15, preferably of tubular construction and including a normally outer long leg 16, and an inner short leg 17. A brace or cross bar 18 for rigidifying cradle 15 extends between legs 16, 17 and is welded thereto at its opposite ends. Mounted on the end of leg 16 by a pivot bolt 19 is a bracket 20 having an integrally-formed, inwardly-presented enlarged circular side face 21 for lateral support of, and relative rotational movement with respect to, a sector shaped locking member 22 integral with fixed jaw 23 of a clamp 24 engaged on the inner end of bolt 19. Clamp 24 includes a hinged jaw 25 for cooperation with jaw 23 for ready attachment to one of the chair uprights 3. Projecting from the forward face of each jaw member 23, 25 is a pair of keeper-forming parallel lugs 26, 27 for a retaining bolt 28 pinned at one of its ends to the lugs 26 and threadedly mounting at its opposite end a nut 29 having an enlarged star-shaped head 30 engaging the outer face of lug 27 to permit ready tightening and loosening thereof. When clamp 24 is secured to a chair upright, locking member 22 will be fixedly presented for swinging of cradle 15 upon pivot bolt 19.

Fixed locking member 22 is provided on its normally outer face with a series of teeth or serrations 31 adjacent its periphery and extending throughout its arc and engaging teeth 32 formed on the confronting side face of a cooperating, block-shaped locking member 33 fixed on leg 16 spacedly from bracket 20. Abutting the forward face of locking member 33 is the web portion of a U-shaped member 34 having an elongated aperture 35 loosely receiving leg 16. Clamp 34 includes arms 36, 37 extending rearwardly parallel to and spacedly from the adjacent sides of locking member 33. On its forward face, clamp 34 is transversely recessed to form upper and lower guide surfaces 38, 39 for a guide block 40 secured on leg 16. Thus, the path of shiftable movement of clamp 34 is defined by guide block 40 and locking block 33. Arm 36 is transversely tapped at 41 for a clamp screw 42, which when tightened will abut against the adjacent side face of locking member 33 to hold it in meshing, locked relation with locking member 22, the outer face of which will engage the inner face of arm 37 (Figure 3). Thus, tightening of clamp screw 42 draws arm 37 against locking member 22 causing same to mesh with cooperating lock member 33 and cradle 15 is presented at the desired angle to uprights 3. Loosening of clamp screw 42, releases clamp 34 to permit disengagement of locking members 22, 33 and allow free swinging of cradle 15 into selected position.

Movable upon cradle legs 16, 17 is a generally rectangular leg support plate 43 having lateral depending flanges 44, 45 for slidably engaging the outer surfaces of legs 16, 17 respectively. On the under surface of plate 43 is a pair of bosses 46, 47 (Figure 5) tapped for set screws 48, 49 respectively, for engaging legs 16, 17 to retain plate 43 in adjusted position thereon.

In use, leg support B is clamped to front upright 3 in the manner above described and clamp screw 42 is loosened to free cradle 15 for desired adjustment, whereupon said screw 42 is tightened for effective clamping action. Plate 43 may then be located for supporting the patient's leg at a comfortable position. Leg support B can be readily secured to either upright 3 of chair A for accommodating the particular injured leg of the user. A

switching from one upright 3 to the other merely involves an inversion of support B with attendant remounting of plate 43.

When chair A is folded, as for storage or transportation purposes, clamp screw 42 is loosened and cradle 15 is then swung upwardly and rearwardly whereby legs 16, 17 will move through arcs laterally outwardly of side frames 1, 1', respectively, into a position wherein the arcuate part of cradle 15 is presented immediately above handles 2' and plate 43 abuts on the transverse margin against uprights 2 and on the other transverse margin against arms 5 and support B serves as a restraint for inhibiting premature unfolding of the chair. Prior to swinging support B as described, plate 43 is initially adjusted upon legs 16, 17 substantially forwardly of cross bar 18 so as to be presented between chair arms 5 and rear uprights 2 shown in Figures 7 and 8. Leg support B thus provides a double function, namely, when chair A is unfolded to support a patient's leg and when chair A is folded to serve as a restraining member to maintain the chair in folded position.

Leg support B has been described primarily for use with a folding wheel chair. It is obvious that said support is equally adapted for operative use with any existing type of chair structure since clamps 24 can be readily secured to the legs of such for presenting support B in operative attitude.

The details of construction may be varied without departing from the spirit of the invention and the exclusive use of those modifications coming within the scope of the claims is contemplated.

What is claimed is:

1. A device for attachment to a chair to support a user's leg and comprising a clamp for engagement upon a chair part, a cradle having a pivotal mounting on said clamp, a locking member carried by said clamp, a cooperative locking member mounted on said cradle, and means for drawing said locking members together axially of said mounting for holding the cradle in selected position, the cradle comprising spaced parallel elongated bars extending from the clamp and interconnected at their outer ends, one of which bars is carried by one of the locking members and the other of which bars terminate at a point spaced from the chair engaging portion of the clamp, there being a support plate extending between said bars and detachably secured thereto at a point spaced from the clamp, the clamp and cradle being invertible for positioning the same at opposite sides of a chair, and the plate being mountable on the cradle in either position.

2. A chair including sides, a seat, a back, said chair being adapted for transverse folding whereby said sides are brought together, and a leg support including a cradle, said leg support being pivotally engaged on said chair for swingable movement between an operative position wherein the cradle extends outwardly and forwardly from the chair when the latter is unfolded, and an inoperative position when the chair is folded wherein said leg support is in upwardly swung position with the cradle receiving between its sides the chair sides to prevent unfolding of the chair.

3. A wheel chair including wheeled sides, a seat, a back, said chair being adapted for transverse folding whereby said sides are brought together, and a leg support including parallel elongated spaced apart members, said leg support being pivoted on the chair for swingable movement between an operative position wherein said members extend outwardly and forwardly from the chair when the latter is unfolded, and an inoperative position when the chair is folded wherein said leg support is in upwardly swung position with the spaced members receiving between them the wheeled sides of the chair to hold the chair folded.

4. A wheeled chair including wheeled sides, a seat, a back, front and rear uprights, said chair being adapted for transverse folding whereby said wheeled sides are brought together, and a leg support for normal extension forwardly of the chair comprising clamping means for engagement on one of said front uprights, and a U-shaped cradle having its legs spaced apart a greater distance than the width of said chair over said sides in folded position, said cradle being pivotally mounted near one end on said clamping means for vertical swingable movement with respect to the chair whereby when the chair is in folded position said cradle may be upwardly swung for presenting its legs at opposite sides of the folded wheeled sides to prevent accidental unfolding of the chair.

5. A wheeled chair including wheeled sides, a seat, a back, front and rear uprights, arms extending forwardly from said rear uprights, the chair being adapted for transverse folding whereby said wheeled sides are brought together, and a leg support for normal extension forwardly of the chair comprising clamping means for engagement on one of said front uprights, a U-shaped cradle having its legs spaced apart a greater distance than the width of the chair over said sides when folded, and a transverse plate member slidably disposed on said cradle, said cradle being pivotally mounted on said clamping means for vertical swingable movement with respect to the chair whereby when the chair is in folded position, said cradle may be upwardly swung for presenting its legs at opposite sides of the folded wheeled sides to prevent accidental unfolding of the chair, and with said plate member abutting on one margin against said rear uprights and on another margin against said arms.

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