

Aug. 21, 1945.

J. PEZZANO

2,383,340

COMBINATION WHEEL-CHAIR, TABLE, AND BED

Filed June 6, 1944

3 Sheets-Sheet 1

FIG. 1.

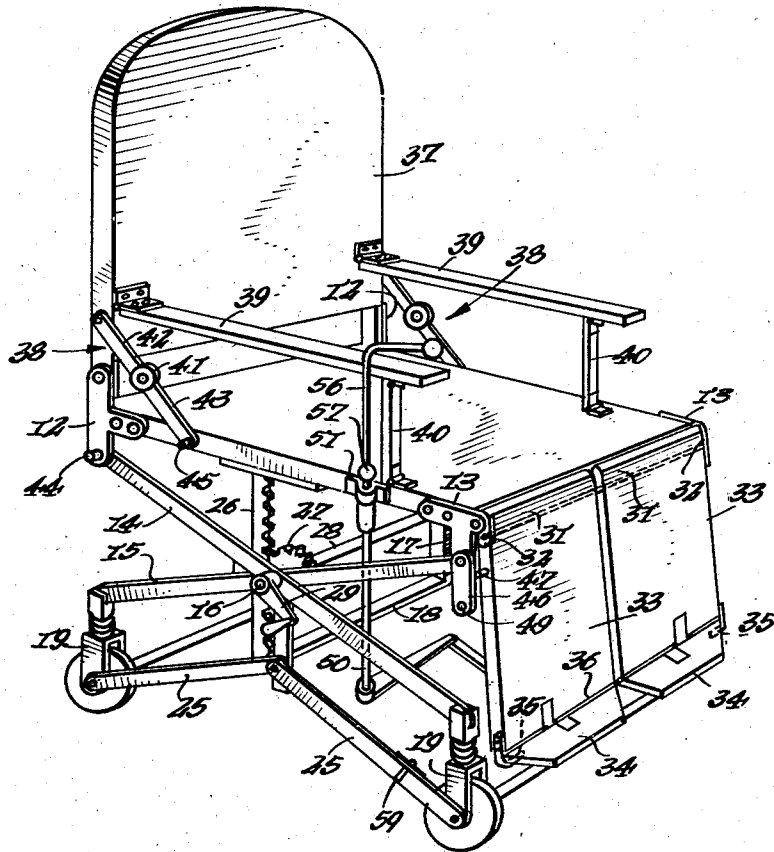


FIG. 6.

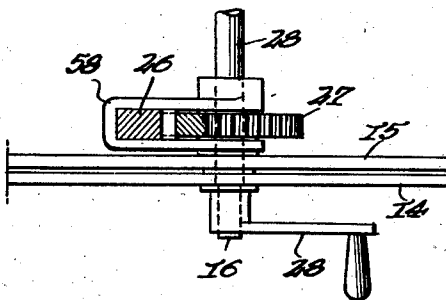
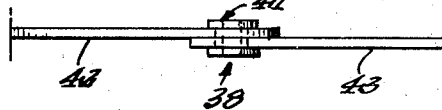


FIG. 7.



INVENTOR.
JOSEPH PEZZANO.
BY J. Ledermann
ATTORNEY.

Aug. 21, 1945.

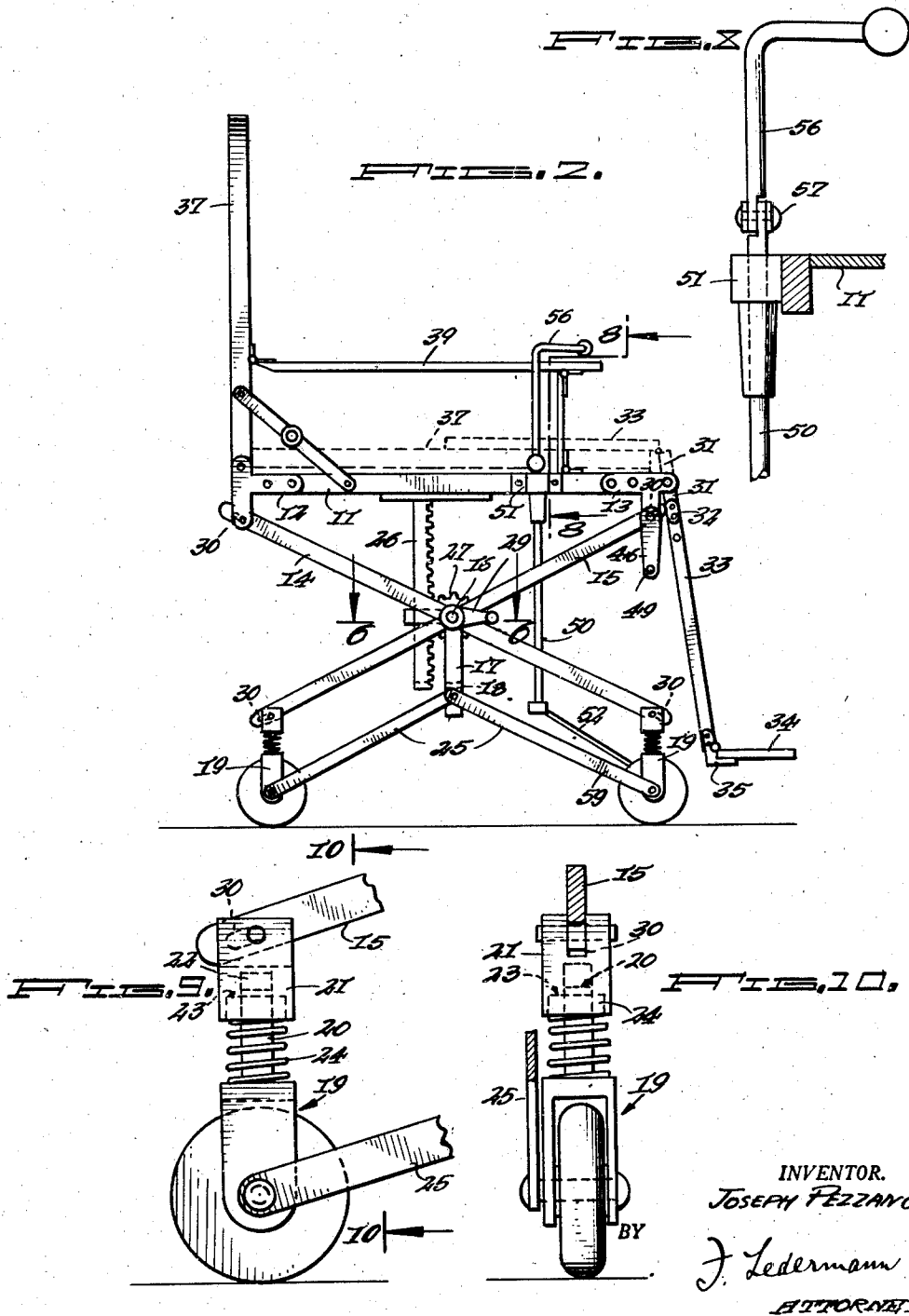
J. PEZZANO

2,383,340

COMBINATION WHEEL-CHAIR, TABLE, AND BED

Filed June 6, 1944

3 Sheets-Sheet 2



Aug. 21, 1945.

J. PEZZANO

2,383,340

COMBINATION WHEEL-CHAIR, TABLE, AND BED

Filed June 6, 1944

3 Sheets-Sheet 3

FIG. 5.

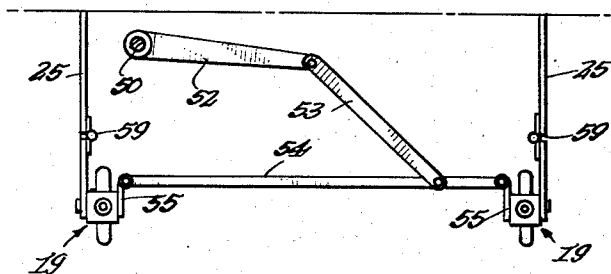


FIG. 3.

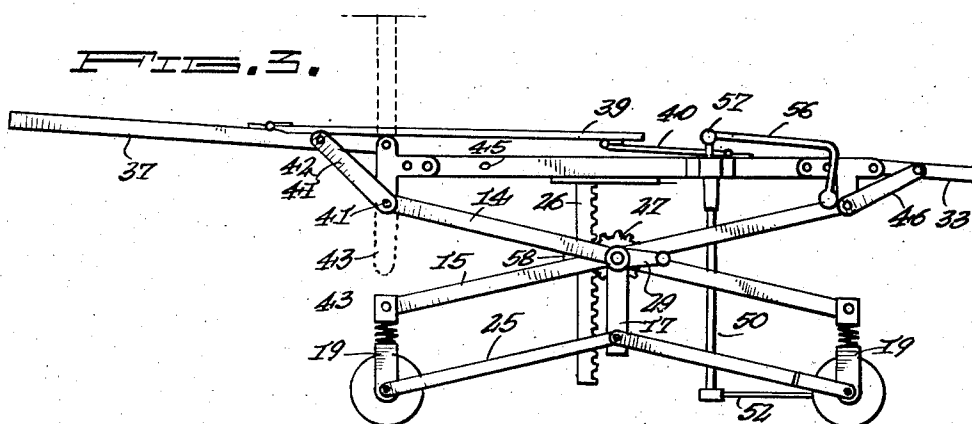
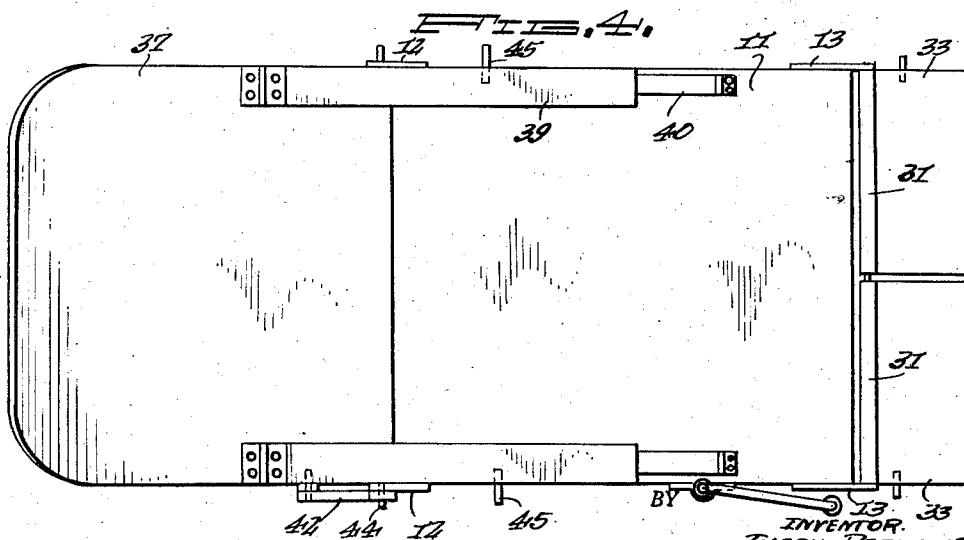


FIG. 4.



INVENTOR.
JOSEPH PEZZANO
J. Ledermann
ATTORNEY.

UNITED STATES PATENT OFFICE

2,383,340.

COMBINATION WHEEL CHAIR, TABLE,
AND BED

Joseph Pezzano, Staten Island, N. Y.

Application June 6, 1944, Serial No. 538,926

1 Claim. (Cl. 155-91)

This invention relates to wheel chairs, and aims primarily to provide a novel and practical wheel chair which can be readily collapsed into a small compact mass, which can also readily be converted into a bed or table, and which can be readily raised or lowered.

The above as well as other objects will become apparent in the description below, wherein characters of reference refer to like-numbered parts on the accompanying drawings. Referring to the drawings, it is to be noted that they are intended for the purpose of illustration only, and it is neither intended nor desired to limit the invention necessarily to the specific details of construction shown excepting insofar as they may be deemed essential to the invention.

Referring briefly to the drawings,

Fig. 1 is a perspective view of the chair.

Fig. 2 is a side view of the chair.

Fig. 3 is a side view of the chair showing the same in lowered condition and also with the back and leg members folded into a table.

Fig. 4 is a plan view of Fig. 3.

Fig. 5 is a fragmentary plan view of the detail of the steering mechanism of the chair.

Fig. 6 is a sectional view taken on the line 6-6 of Fig. 2.

Fig. 7 is a plan view of the link per se joining the back of the chair with the seat when the back is upright and supporting the back of the chair when the latter is substantially horizontal.

Fig. 8 is a sectional view taken on the line 8-8 of Fig. 2, showing another detail of the steering mechanism.

Fig. 9 is a fragmentary side view of one of the chair wheels and its related structure.

Fig. 10 is a sectional view taken on the line 10-10 of Fig. 9.

Referring in detail to the drawings, the numeral 11 indicates the chair seat, at the four corner edges of which brackets 12 and 13 are secured. From each of the brackets 12, a rigid member 14 is pivotally supported on one end, and these members extend downward in a forward direction. Similarly, from each bracket 13 a member 15 is pivotally supported and extends downward in a rearward direction. On each side of the chair, the member 14 is pivoted to the member 15 at the midpoints of both on a pin 16. Also pivoted to the pin 16 is a downwardly extending upright member 17, and a cross-member 18 is secured to both uprights 17 to brace the same.

Casters 19 are provided at the four corners of the chair, in the yokes of which upright stems 20 are rotatably mounted which extend upward

into housings 21 which have axial openings 22 into which the stems 20 project slidably. An annular shoulder 23 is formed around the opening 22, and a coiled spring 24 surrounding the stem 20 rests in the caster yoke at the bottom and has its upper end registering in the annular socket below the shoulder or roof 23. The wheels of the casters are thus provided with shock absorbers as well as being rotatable.

On each side of the chair a pair of oppositely extending links 25 are pivoted to the bottom of the upright members 17, and their outer ends are pivoted to the front and rear casters respectively, in such manner that they are and always remain parallel with the members 14 and 15 as is obvious. On each side of the chair, a vertical rack bar 26 is secured to the chair bottom. Just inside the members 14 and 15 on each side of the chair, a pinion 27 is rigid on the shaft 28, the latter being an integral extension of the pins 16; in other words, the pins 16 are on the extremities of the shaft 28. A crank 29 is secured to one or both of the pins 16. The extremities of the members 14 and 15 are slotted at 30 for the obvious purpose of permitting these members to be collapsed in lazy-tongs fashion.

It is now apparent that the chair seat 11 may be readily raised or lowered by turning the crank 29. A pair of axially aligned slat-like members 31 are axially pivoted to the brackets 13, and by means of ears 32 the leg boards 33 are pivotally supported in a hanging position from the slats 31. Foot rests 34 are pivotally supported on a rod 36 and limit stops 35 are provided in the form of brackets 35 secured to the boards 33.

The seat back 37 is hinged to the seat bracket 12 in an obvious manner, and is maintained in upright position by linked brackets 38; the normal position of the seat back 37 is preferably slightly tilted rearward, not shown. The brackets 38 then prevent the back 37 from falling backward. To fold the back 37 down upon the seat 11, it need simply be folded about its hinge into the position shown in Fig. 2 in broken lines. The chair arms 39 are hinged at the rear to the seat back 37, and at the front to uprights 40, the latter being also hinged to the seat 11, all as shown. Thus, the seat arms will also obviously fold down when the back 37 is so folded. Likewise, the seat back may be folded rearward into the position shown in Fig. 3, and the leg boards 33 may also be folded upward, as shown in Fig. 3.

The brackets 38 comprise hollow tubular pivots 41 having the two arms or links 42 and 43 thereof pivotally secured thereto, as shown in

Fig. 7. The lower end of each bracket 12 has a pin 44 extending outward therefrom, and each side of the seat 11 has also a pin 45 extending therefrom near the rear thereof. The arm 43 has a hole in the extremity thereof in which the pin 45 registers normally, when the seat back 37 is upright. To fold the seat outward as shown in Fig. 3, the link 43 is disengaged from the pin 45, and when molded substantially horizontally, the hollow pivot 41 is passed over the pin 44, so that the arm 42 serves as a brace to the horizontal chair back and the arm 43 hangs loosely.

To support the foot boards 33 in horizontal position, on each bracket 13 a link 46 is pivotally secured, and normally hangs loosely downward. Pins 47 project from the upper side edges of the boards 33, and when the latter are horizontal the hole 49 in the outer end of the link 46 is passed over the pin 47 on each side, thus bracing the horizontal foot boards. Thus, as shown in Fig. 3, a substantially horizontal bed surface is provided by the chair back 37, the seat 11, and the foot boards 33.

To enable steering of the chair, a post 50 is rotatably supported in a bracket 51 on the seat 11. The base of this post is rigid on the end of an arm 52 in whose end a link 53 is pivoted. A cross arm 54 has its extremities pivoted to ears or lugs 55 on the caster yokes 19 of the front wheels. A crank or handle 56 is pivotally joined at 75 to the top of the post 50, whereby the post is turned to actuate the steering mechanism in an obvious manner. When the chair is folded

into the condition of a bed or table, as shown in Fig. 3, the crank 56 is folded down on its pivot 57 over the edge of the chair seat 11. The foot boards 33 may also be folded down upon the chair seat 11 as shown in Fig. 2.

It is obvious from the above description that a wheel chair has been devised which attains the desirable objects and advantages set forth. Obviously, modifications in form and structure may be made without departing from the spirit and scope of the invention. A bracket 58 through openings in the ends of which (and which is in the form of a yoke) the shaft 28 extends, maintains the rack 26 in contact with the pinion 27. Hinges 59 are provided near the front ends of members 25 so that the front wheels may be dirigible.

I claim:

A chair seat having a chair back pivoted thereto, upright lazy tong members secured to the underside of said seat to support the same, casters secured to the lower extremities of said members, rack bars extending vertically downward from said seat, a shaft extending horizontally under said seat and having its extremities journaled in two opposed pivots of said lazy tong members, pinions on said shaft engaging said rack bars, said shaft having a crank thereon, rotation of said crank in one direction causing said pinion to raise said rack to extend said lazy tongs and raise said seat, and vice versa.

JOSEPH PEZZANO.