

July 19, 1949.

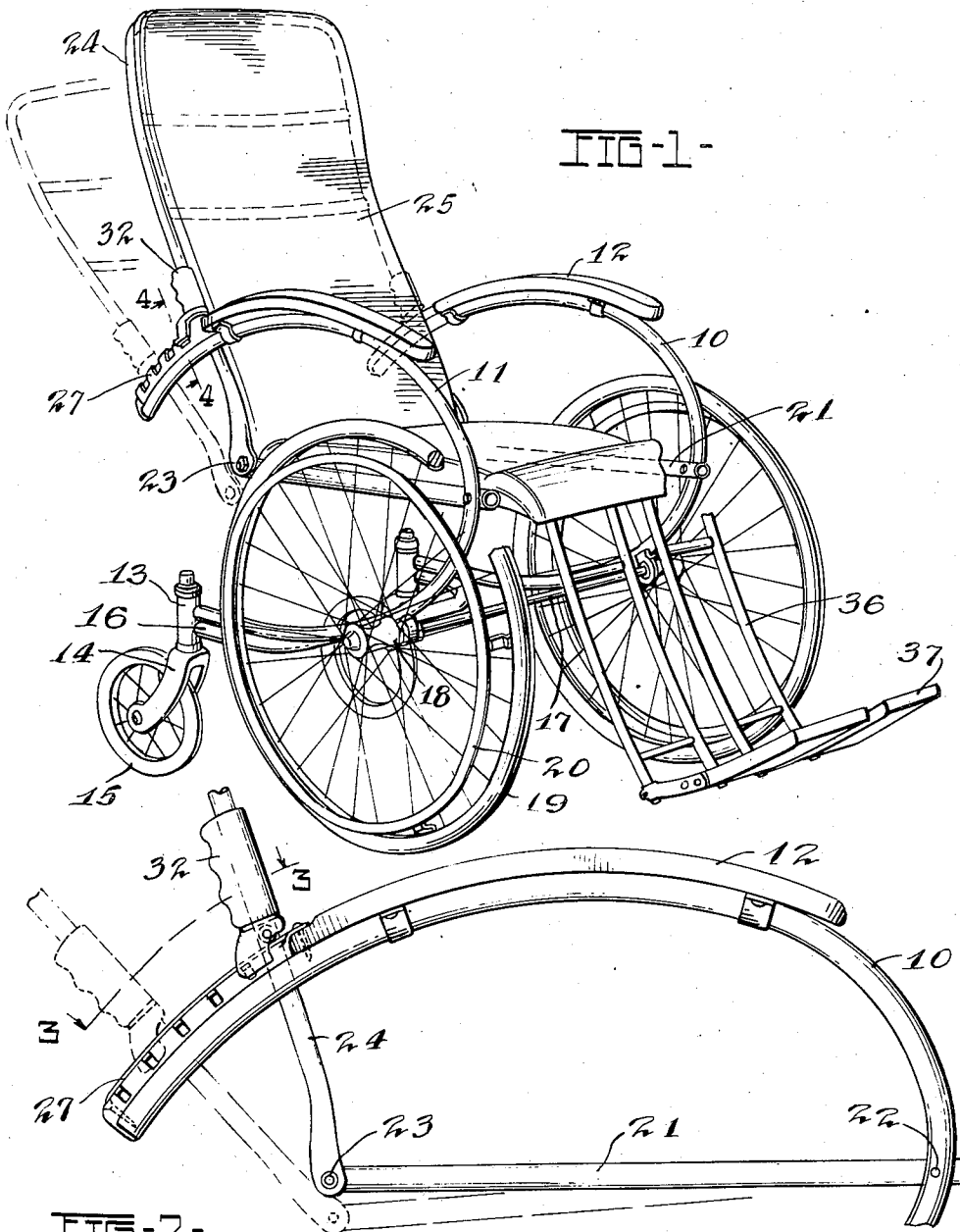
J. G. RIDEOUT

2,476,769

INVALID CHAIR

Filed Oct. 13, 1945

2 Sheets-Sheet 1



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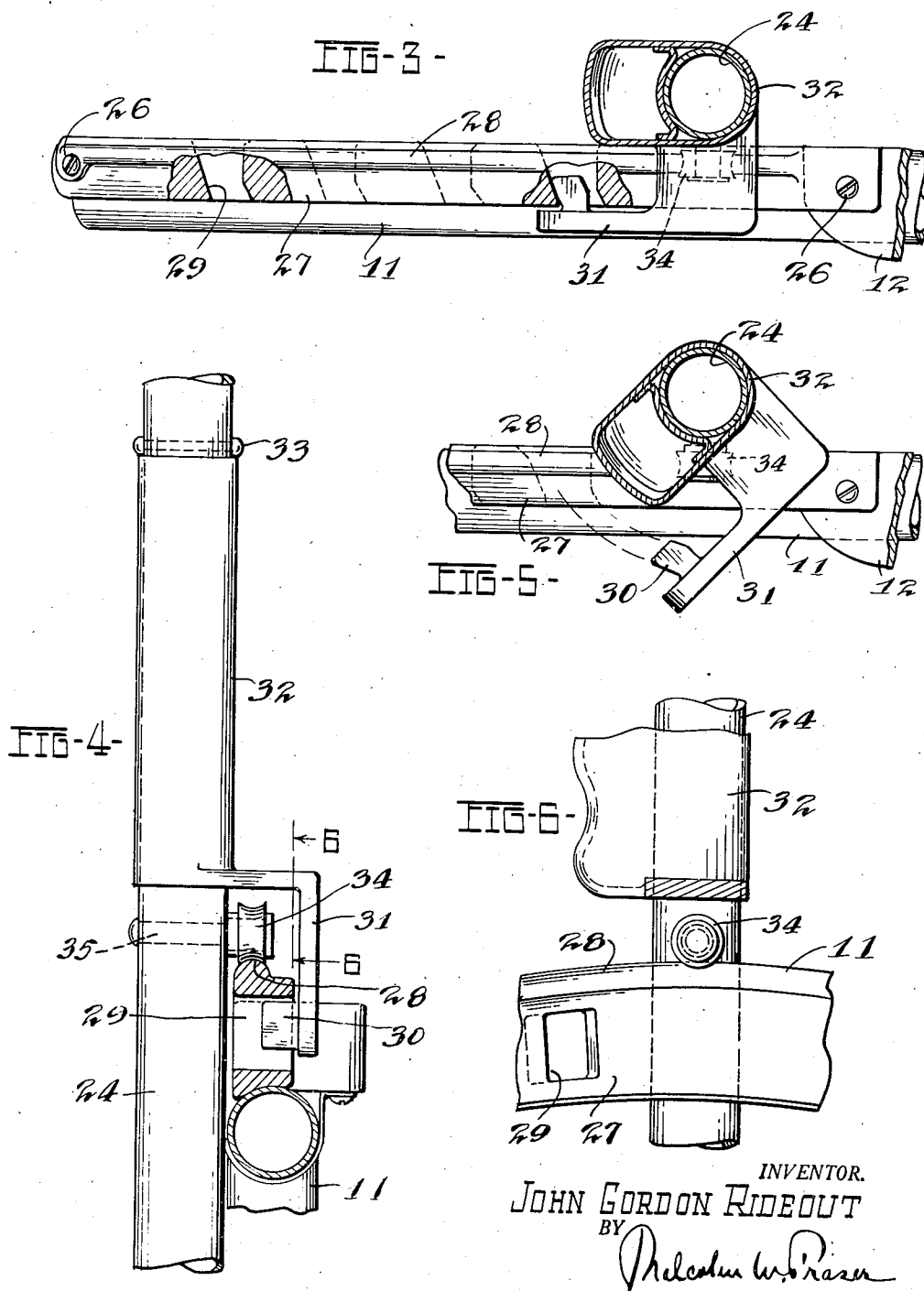
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UNITED STATES PATENT OFFICE

2,476,769

INVALID CHAIR

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2 Claims. (Cl. 155—30)

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This invention relates to invalid chairs, and an object is to produce a new and improved invalid chair in which the back and seat assembly is so connected to the frame parts as to benefit from the inherent resiliency or springiness of the frame thereby to enhance the comfort of the occupant.

Another object is to produce an invalid wheel chair in which the frame as well as the back and seat assembly are of tubular construction.

A further object is to produce an invalid chair in which portions of the frame are of resilient construction and in which the back and seat assembly is suspended from such frame parts in order to secure the benefit of such resiliency.

A still further object is to provide an invalid chair with a back and seat assembly which is adjustably connected to frame parts enabling tilting motion of the back and concomitant raising or lowering of the rear portion of the seat for adding to the restful comfort of the occupant.

Other objects and advantages of the invention will hereinafter appear and for purposes of illustration but not of limitation, an embodiment of the invention is shown on the accompanying drawings in which

Figure 1 is a front perspective elevation of an invalid wheel chair;

Figure 2 is an enlarged fragmentary side elevation of one of the frame parts and the associated back and seat assembly, showing the selective adjustment thereof;

Figure 3 is an enlarged sectional view substantially on the line 3—3 of Figure 2;

Figure 4 is an enlarged sectional view on the line 4—4 of Figure 1;

Figure 5 is an enlarged fragmentary sectional view somewhat similar to Figure 3 but showing one of the back holding latches or catches in unlatched or released position; and

Figure 6 is a fragmentary sectional view substantially on the line 6—6 of Figure 4.

The illustrated embodiment of the invention comprises an invalid wheel chair which comprises a pair of laterally spaced frame parts 10 and 11, each of which is formed from tubing and is in the shape of an inverted C. The upper arms of each of the frame members have clamped thereto an arm rest 12 and the lower ends are shown secured to vertically disposed sleeves 13 which receive the posts carrying the forks 14 at their lower ends for caster wheels 15. Also secured to the sleeves 13 is a U-shaped tubular brace 16 which connects the frame parts 10 and 11 together.

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At the front end portion of the inverted C-shaped frame parts 10 and 11 and at the lower portion thereof is fixed a shaft 17 which is secured respectively to the frame parts by brackets 18. The main wheels 19 are secured to the end portions of the shaft 17 and are provided with the usual hand engaging rim portions 20 for self-propulsion of the chair.

The frame for the seat and back assembly is made up of tubular parts and consists of a seat frame 21 which is pivotally connected at 22 at its front end to an intermediate part of the frame members 10 and 11 respectively and the rear end of the seat frame is pivoted at 23 to the back frame 24. Suitable cushions 25 are mounted on the seat and back frame members.

On the rear end portion of each of the inverted C-shaped frame members 10 and 11 and secured thereto by screws 26 is an arched keeper member 27 which has a curvature conforming to the curvature of the portion of the frame member to which it is attached. Each keeper member 27 is formed with a raised track portion 28 and a series of longitudinally spaced socket portions 29 to receive a latch member 30 which is carried by an arm 31 of a rotatable sleeve 32 which rotatably fits the adjacent tubular frame part of the back 24, it being understood that the frame 24 for the back is of inverted U-shape. As indicated particularly in Figures 3 to 6, the sleeve may be rocked in one direction or the other to bring the latch member 30 into engagement with one or another of the sockets 29 for securing the back frame 24 selectively in the desired adjusted position. Each of the sleeves 32 is held against upward sliding movement on the back frame by a pin 33.

Engaging the track 28 on the keeper member 27 is a grooved roller 34 which is rotatable on a pin 35 passing through the respective portion of the back frame 24 and the arrangement is such that the swinging movement of the back frame 24 about its pivot 23 causes the roller 34 to move along the track 28 and a portion of the weight of the occupant is transmitted through the roller 34 and the keeper 27 to the tubular frame parts 10 and 11 which are of sufficient springiness or resiliency thereby to enhance the comfort to the occupant of the chair. It will be manifest, therefore, that the seat and back assembly is resiliently suspended from the frame parts and thereby obviating the ordinary rigid and uncomfortable invalid chair construction. It will further be observed that the curvature of the rear end portions of the frame members 10 and 11 is such that

as the back frame 24 is swung rearwardly, as, for example, to the broken line position shown in Figure 1, the rear end of the seat frame 21 inclines downwardly, thus adding substantially to the comfort of the occupant. Such downward swinging movement of the seat frame, of course, is dependent upon the swinging movement of the back frame 24, but is sufficient so that greater comfort is afforded to the occupant. Ordinarily the position of the back is predetermined and is readily accomplished by simply rocking the two sleeves 32 and then swinging the back frame to the desired position, and thereafter the sleeves 32 are rocked in order to bring the keepers 30 into engagement with the selected socket 29.

Leg rests 36 are suitably connected to the front end of the seat frame 21 and carry foot rests 37 at the lower ends thereof. Since the mounting and construction of the leg rests form no part of the present, detail illustration and description thereof is not considered necessary.

From the above description, it will be manifest that I have provided exceedingly simple and efficient construction in which the parts are fabricated essentially from tubes and in which the back and seat assembly is resiliently suspended from the frame parts. Another important feature is in the inclining of the seat frame upon the adjustment of the back frame and this is ordinarily accomplished upon the adjustment of the back frame to the selected position.

It is to be understood that numerous changes in details of construction, arrangement and operation may be effected without departing from the spirit of the invention especially as defined in the appended claims.

What I claim is:

1. An invalid chair comprising a frame having a pair of laterally spaced substantially C-shaped frame members formed of continuously curved,

spring metal bars, each member having a pair of vertically spaced, upper and lower horizontally disposed curved arm portions rigidly connected at the front by a vertically disposed curved front portion, the rear end of each upper arm portion being free for vertical spring movement, a back frame between said frame members, a seat frame pivotally connected at its rear end to said back frame, a pivotal mounting connecting the forward portions of the seat frame to said frame members, means for suspending the back frame from the upper arm portions, adjustable means for retaining the back in different selected positions, an ambulatory mounting for the said frame and including caster means and hand wheels connected at spaced points along said lower curved arm portions respectively.

2. An invalid chair as claimed in claim 1, in which a small caster is mounted at the extreme rear end of the lower arm portion of each frame member, and a large hand wheel is mounted on each lower arm portion at a point spaced forwardly from the caster mounting.

JOHN GORDON RIDEOUT.

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