Dec. 1, 1959 W. A. SCHWARTZ 2,915,112

CHAIR AND HORIZONTAL CARRIER FOR INVALIDS

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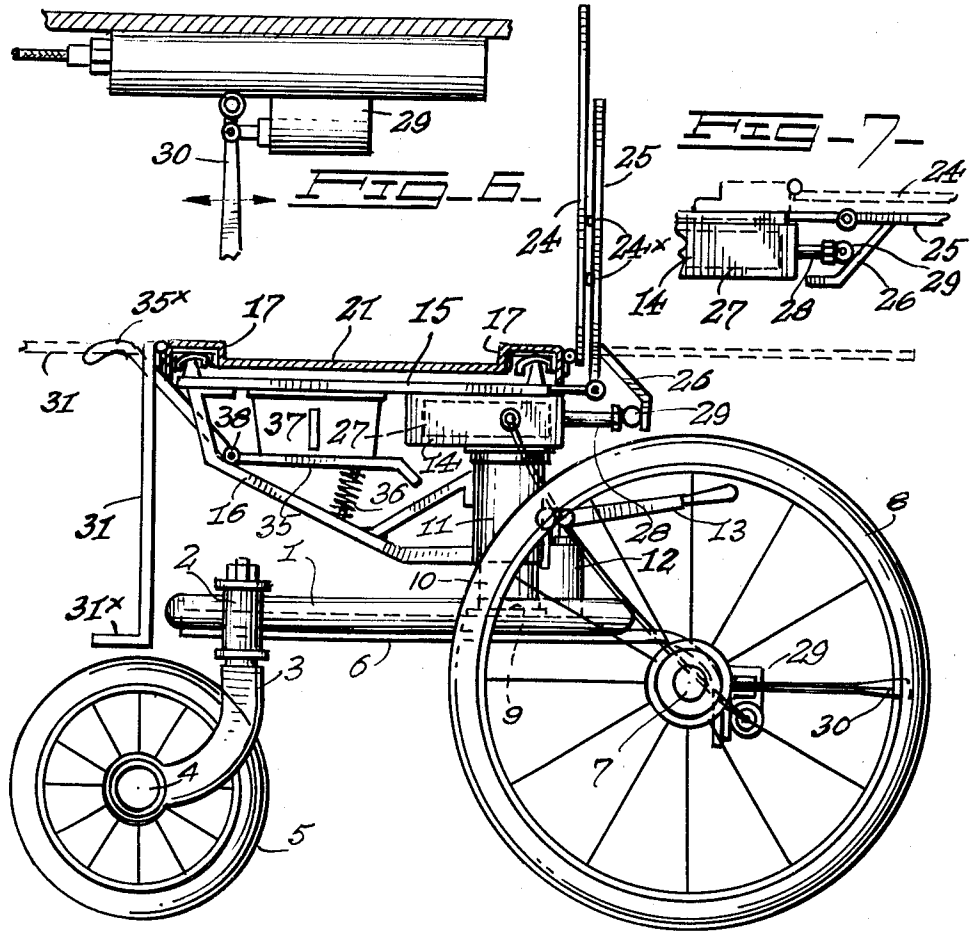


FIG. 1

FIG. 6

FIG. 7

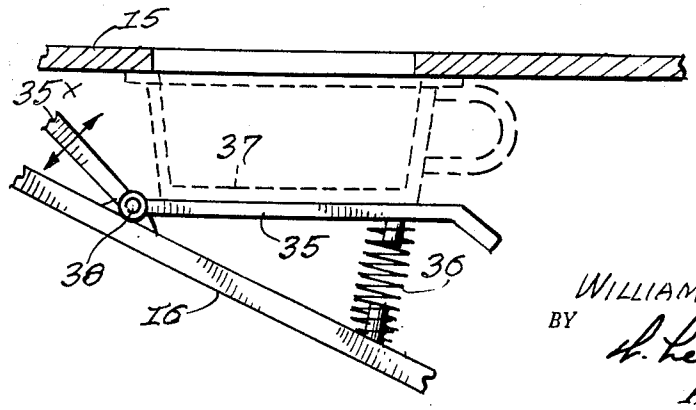


FIG. 5

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FIG. 2.

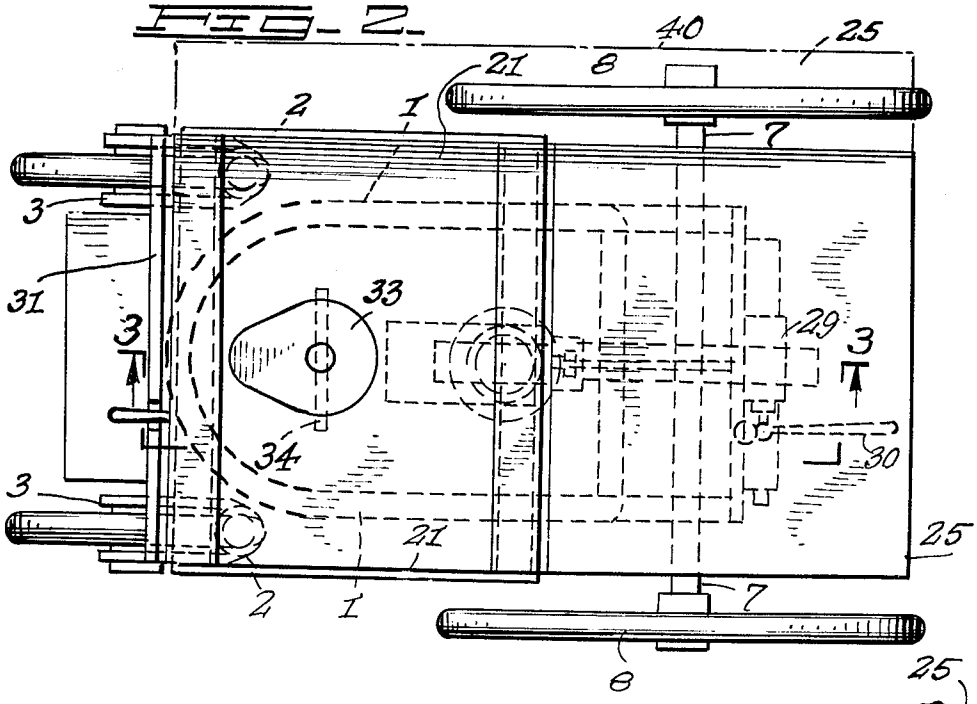


FIG. 3.

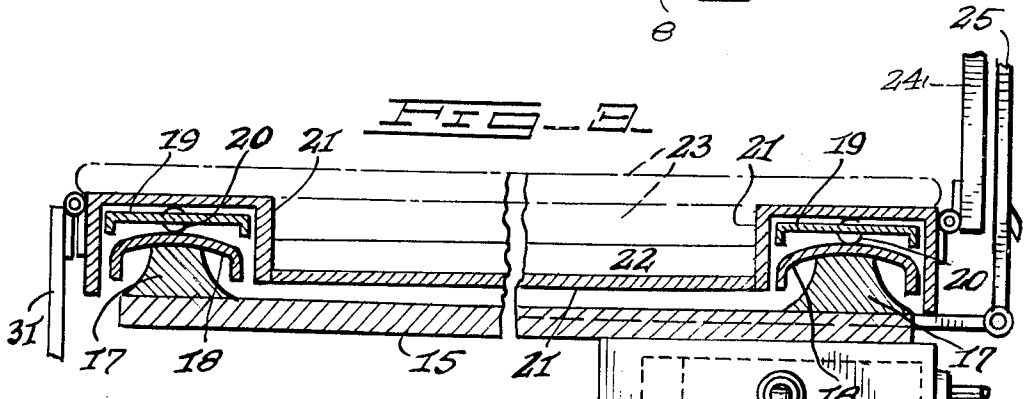
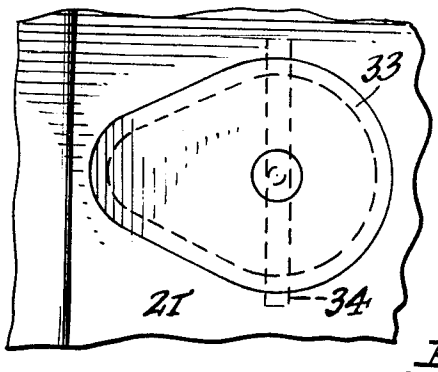


FIG. 4.



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CHAIR AND HORIZONTAL CARRIER FOR INVALIDS

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Application August 6, 1957, Serial No. 676,685

2 Claims. (Cl. 155—30)

The object of the invention is to improve upon the structure subject of my Patent 2,681,455, June 22, 1954, by which chair and pallet elements of special form may readily be operated by hydraulic means permitting the said supporting elements to be laterally moved onto the top of the bed for removal of the patient, and the support which serves as a chair back can be lowered from upright position to horizontal position and held at any point of recumbency of the patient by the use of a remote control hydraulic ram. These and other objects of the invention will be described with reference to the accompanying drawing, in which:

Fig. 1 is a view in elevation illustrating an embodiment of the invention.

Fig. 2 is a plan view, partly in dotted lines, with the back elements horizontal.

Fig. 3 is an enlarged view in section on the line 3—3, Fig. 2.

Fig. 4 is a fragmentary view showing the use of the removable cover for a bedpan support.

Fig. 5 is a view in elevation, partly in section showing the releasable bedpan support.

Fig. 6 is a fragmentary view, partly in section showing the rearmost hydraulic ram which actuates through suitable intermediaries the chairback.

Fig. 7 is a fragmentary detail view showing the chairback ram element with the chairback in horizontal position.

Referring to the drawings, I have shown at 1, Fig. 2, and also in Fig. 1, a U-shape tubular frame 1 at the opposite sides of which are mounted sleeve bearings 2 for the stub axles of yokes 3, which carry axles 4 on which are mounted the wheels 5 at the front of the structure. As indicated in Fig. 1, each side of the frame 1 has welded thereto at its lower surface a strap 6, which at its rear end is bent over and secured to an axle 7, on which the rear wheels 8 are rotationally mounted.

Standing from side to side of the frame 1, and welded thereto is a cross-piece 9, Fig. 1, for supporting a hydraulic ram assembly, and which includes a ram element 10, and a vertically moving sleeve 11, which is moved up and down by fluid pressure, or the release of fluid pressure, as the case may be. This fluid pressure being generated by a pump 12, operated by a handle 13.

Carried at the top of ram cylinder 11 is a casing 14, which in turn supports a table 15. For augmenting support of the table, struts 16 lead from the base of the sleeve to the front of the table as indicated in Fig. 1.

It will be seen from the foregoing that inasmuch as sleeve 11 is free to rotate, table 15 and casing 14 can be swung to one side or the other, and for a total rotation of 180°. This rotation is, of course, relative to frame 1, and the wheels which carry it.

Table 15 is provided with spaced supports 17 which extend transversely and which carry tracks 18, which coact with ball-retaining members 19 and ball-bearings 20 to provide a rolling support for a pallet 21.

Said ball-bearing supports are contained in transversely extending box-like ends of the pallet 21, and the centre area of the pallet is depressed. This depression may receive a lowermost member 22 of wood or the like and uppermost cusion members 23 as indicated in Fig. 3.

By operating handle 13, fluid will be forced into cylinder 11, and this will raise the cylinder and the chair-pallet elements carried thereby to the desired height. A usual pressure release valve will lower the elements, as well understood in the art of hydraulic rams. Thus the specific form of hydraulic ram may be as desired and as a mechanism forms no part of the present invention.

It will be seen from the drawings that pallet member 21 has hinged thereto at its rear end a section which may have the double function of a chair back and pallet section. In Fig. 1 said section is upright as a chair back, and is indicated at 24. It preferably is provided with one or more transversely extending rub bars or rails at 24x for abutment by an operating arm 25 which is hinged to table 15 and carries a downwardly and outwardly inclined extension 26 terminating in a normally vertical end when section 25 is raised to vertical position or thereabouts.

Carried at the top of cylinder 11 is the casing 14, as previously explained, and in this casing as indicated by the dotted lines 27 is a hydraulic ram having a piston rod 28 and which preferably will have a roller 29 at its end.

For the operation of ram 27 and its piston rod 28, I have conveniently mounted the pump therefor at the lower back of the structure, as for example on the rear of the tubular frame 1, or on straps such as those indicated at Fig. 6 and carried by the tubular frame. Such a pump is indicated at 29 and its handle at 30.

At the front of the primary pallet member 21 is a front section 31 which is hinged to member 21 and which may be lowered or raised as desired. It may have an extension 31x to serve as a footrest when the device is used as an invalids chair or as a vertical abutment when the section 31 is moved to the horizontal. Any suitable means may be employed for releasably holding said pallet section in horizontal position and therefore a specific means has not been illustrated.

Members 15 and 21 are formed with an opening normally closed by a cover 33 having, if desired, an underlying swivel-catch 34 for engaging the under face of member 21. A spring-pressed support 35, with its spring at 36, is provided for releasably holding in place a bed pan or like container 37, said support being pivoted at 38 on strut 16, for example, and having a handle at 35x which can give, by slight upward movement, release of pressure on the container 37 to permit manual withdrawal of the latter, and its replacement.

It will be seen that the pallet assembly may be rotated approximately 180° and also, as to the pallet per se, with its rear and front extensions, provision is made for lateral movement, as to the dotted line position at 40, Fig. 2, so that a patient may be moved onto or from the pallet at bed height position with the margins of the pallet and its sections actually resting upon the mattress of the bed, when desired.

It will be understood that various modifications may be made in the form and arrangement of the elements illustrated in the drawings without departure from the spirit of the invention.

Having described my invention, what I claim and desire to secure by Letters Patent, is as follows:

1. In combination with a chair and horizontal carrier for invalids having a frame and front and rear wheels thereon, a first hydraulic ram mounted on the frame and including a vertically actuable member formed with a depending sleeve, a second hydraulic ram and a casing

therefor carried at the top of the sleeve, the second ram having a horizontally movable piston, a sub-frame carried by the sleeve of the first named ram, a pallet slidable on said sub-frame, a pallet section hinged to one end of the pallet and movable upwardly as a chair back, said pallet being adapted as a chair seat, and said pallet section having a member operatively positioned for engagement by said horizontally movable piston of the second ram for raising said pallet section, and a second pallet section hinged to an end of the pallet and adapted to be lowered as a leg and foot rest.

2. A chair and horizontal carrier for invalids, constructed in accordance with claim 1, in which the first hydraulic ram is mounted on the frame toward one end of the latter, and the sub-frame is carried by the sleeve of said first ram, the sleeve, the sub-frame, the pallet and the pallet section, being bodily rotatable.

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