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MEANS FOR LIFTING AND TRANSPORTING INVALIDS.

APPLICATION FILED MAY 18, 1918.

1,349,674. **Patented Aug. 17, 1920.**

Fig. 1.

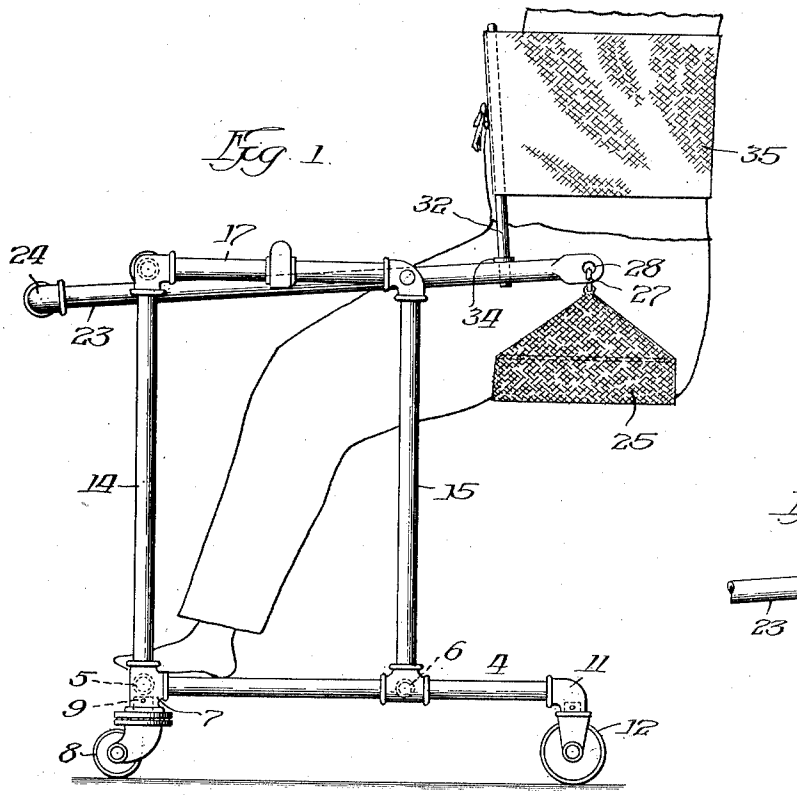


Fig. 3.

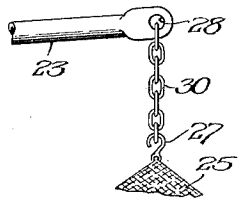
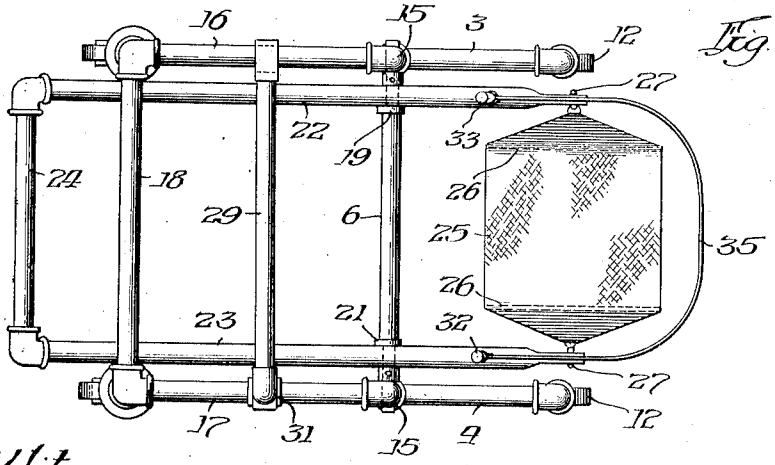


Fig. 2.



Witness:

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UNITED STATES PATENT OFFICE.

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MEANS FOR LIFTING AND TRANSPORTING INVALIDS.

1,349,674. Specification of Letters Patent. Patented Aug. 17, 1920.

Application filed May 18, 1918. Serial No. 235,227.

To all whom it may concern:

Be it known that I, STANLEY S. JENKINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Lifting and Transporting Invalids, of which the following is a specification.

This invention relates to a device or apparatus for lifting and transporting invalids who are able to sit up, but unable to walk. The device is very useful in hospitals or in the home for lifting the patient from a bed and transporting him to the bath room, or to a chair or couch or other location which the patient is unable to reach without being carried.

One of the primary objects of this invention is to provide a device of this character which will be strong and durable in construction, neat and compact in appearance, one which will occupy but little space when not in use and which is small enough to be moved and turned within narrow limits, so that it will readily pass through doors, narrow halls and the like.

For the purpose of facilitating an understanding of my invention I have illustrated on the accompanying drawing, one preferred embodiment thereof, from an inspection of which when considered in connection with the following description, my invention and many of its inherent advantages should be readily appreciated.

Referring to the drawing:—

Figure 1 is a side elevation of a device embodying my invention, showing a patient carried thereby;

Fig. 2 is a plan view of the construction shown in Fig. 1; and

Fig. 3 is a fragmentary view of a slight modification.

By reference to the drawing, it will be observed that the construction comprises essentially a frame and lifting and carrying mechanism mounted thereon, the frame consisting of a base portion mounted upon casters and an upright portion carried by the base portion.

The frame is preferably made of round metal piping with suitable connecting couplings, although it may be, if preferred, of other desirable metal construction. In the form shown in the drawing, the base portion of the frame comprises side members 3 and 4 extending longitudinally of the apparatus, these members being connected at one end by a cross member 5 and intermediate their ends by a cross bracing member 6. Fourway couplings 7 at the front corners of the base portion of the frame provide a means for the ready attachment of caster wheels 8, which may be secured to the frame by threading plugs 9 into the lower branches of the couplings, which plugs are provided with central openings to receive the shanks of the caster wheel yokes which are secured to the plugs by pins passing through the shanks, or by other preferred fastening means. At the rear ends of the members 4, L-shaped couplings 11 afford provision for similar attachment of the caster wheels 12 as shown in the drawing.

The upright portion of the frame comprises the front corner posts 14 and the intermediate posts 15, the upper ends of these posts being connected together by side members 16 and 17 and the cross member 18, suitably shaped couplings being employed for rigidly securing the members together.

Near the top of and between the posts 15, I have pivotally mounted upon bearing pintles 19 and 21 projecting inwardly from the posts, a lifting and carrying device comprising a pair of arms 22 and 23 projecting forwardly beneath the cross member 18 and joined at their forward ends by a cross bar 24. The rear ends of these arms terminate substantially over the caster wheels 12, so that the weight of the patient carried by the rear ends of these arms is disposed within the wheel base of the apparatus, thereby obviating any tendency of the device to tip over.

A seat 25 of flexible material, preferably a strong fabric, such as heavy canvas or the like, is made substantially hammock shape and is provided with stretcher bars 26 near the ends thereof, which serve to hold the seat portion in distended flat position. This seat is adapted to be detachably secured to the rear ends of the lifting and carrying arms 22 so as to hang between and below these bars, as shown. Any preferred method of detachably securing the seat to these bars may be utilized, but in the present instance I have shown for purpose of illustration the seat as being equipped at each end with a hook 27 adapted to be engaged in openings 28 formed in the ends of the bars 22 and 23, the ends of

these bars being preferably flattened as shown, to facilitate engagement of the hooks therewith.

To use my apparatus for the purpose of lifting a patient from a bed, for instance, the seat is first detached from the arms and laid upon the bed near the edge thereof so that the patient when assuming a sitting position on the edge of the bed, will be seated upon this seat. The truck or carrier is then wheeled into position directly in front of the patient, the rear wheels 12 being run under the bed so that the rear ends of the arms 22 and 23 are disposed above the bed at each side of the patient. The seat is then attached to the arms by engaging the hooks with the openings in the rear ends of the arms, and if the bed should be low the apparatus can be tilted about the rollers 12 as a fulcrum by lifting the front rollers 8 off from the floor, so as to bring the rear ends of the arms downwardly sufficiently to permit the engagement of the seat hooks therewith. The patient then places his feet upon one of the cross members 5 or 6 of the frame structure and he may then be lifted clear off the bed by pressing downwardly upon the cross bar 24 which connects the arms 22 and 23. It will be observed that a considerable leverage is afforded by these arms, so that a small person may lift a large patient, and after he has been lifted clear off the bed the truck may be rolled away from the bed, whereupon the arms may be permitted to assume their position shown in Fig. 1 in which upward movement of the front ends of the arms is limited by the cross member 18 of the frame. The patient may now be wheeled to any desired location with very little effort and may be deposited upon a chair, couch or the like, by simply reversing the operation previously described. It should be manifest that in the entire operation of removing the patient from the bed and depositing him in any desired location, it is unnecessary to touch the patient or lift him by hand in any particular, as his entire weight is lifted and shifted by my improved apparatus.

It will be observed that the upper ends of the posts 15 are not braced apart, as a brace rod at this point would interfere with freedom of the patient's legs, but in order to enhance the strength and durability of the apparatus, and to counteract the tendency of the upper ends of these posts to move toward each other under the weight of the patient, I have provided a cross brace rod 29 connecting the side members 16 and 17 intermediate their ends. This rod is preferably hinged to the side member 17 at 31, while its opposite end is provided with downwardly projecting fingers adapted to straddle the member 16 when the bar 29 is in operative position shown. Should it be found that this bar interferes with the freedom of the patient, it may be moved out of the way by swinging its free end upwardly about the hinge connection 31 with the side member 17, so that this bar is finally disposed outside the frame and hangs from the frame member 17.

I have also made provision for supporting the patient's back in case the patient is weak, or that he desires to sit in the carrier for some length of time. With this end in view, the bars 22 and 23 near their rear ends are provided with vertically disposed openings adapted to receive the lower ends of the metal pins 32 and 33, which are removably inserted in these openings, the pins being equipped with shoulders 34 to limit their insertion into the openings. These pins carry a broad band or web 35 which extends back of the patient and affords a support or back against which he may lean when sitting in the carrier. This back support may be readily placed in position after the patient has been placed in the apparatus, as previously described, and may be removed again by simply withdrawing the pins 32 and 33 whenever the patient is to be again deposited.

Instead of attaching the seat hooks directly to the ends of the levers 22 and 23, which necessitates tilting the entire apparatus when the patient is to be removed from or deposited upon a low couch or the like, I may equip the arms with chains 30, as shown in Fig. 3 with which the hooks 27 may be engaged at any convenient height.

From the foregoing, it will be manifest that I have provided an apparatus by which a patient can be readily and easily lifted and transported from place to place with very little effort, and its use very materially lightens the labor of a nurse or attendant upon whom the labor of moving the patient devolves. My apparatus can be used very advantageously in hospitals, and in military hospitals where patients are suffering from wounds which prohibit them from walking but do not interfere with their sitting up, the apparatus is very desirable as the patient may be moved to any desired location where he may sit for a considerable period of time in comfort with the assistance of the back rest 35.

The details of construction illustrated and described may, of course, be varied within wide limits without departing from the essence of this invention as defined in the following claims.

I claim:

1. In a device of the character described, the combination of a portable frame comprising a base portion provided with caster wheels, an upright portion consisting of a pair of upwardly extending posts at each side of the base portion, each pair of posts

being united at their top by longitudinally extending members, and two of said posts being connected together by a transversely extending member, a pair of lever arms fulcrumed on the two unconnected posts, said arms being connected together at their forward ends but unconnected at their rear ends, the arms extending beneath said transverse post connecting member whereby upward movement of the forward ends of the arms is limited, and means pivotally mounted on one of said longitudinal extending post connecting members and detachably connected to the other of said members to provide a transverse brace between said members.

2. In a device of the character described, the combination of a portable frame comprising a base portion provided with caster wheels, an upright portion consisting of a pair of upwardly extending posts at each side of the base portion, each pair of posts being united at their top by longitudinally extending members, and two of said posts being connected together by a transversely extending member, and a pair of lever arms fulcrumed on the two unconnected posts, said arms being connected together at their forward ends but unconnected at their rear ends, said arms extending beneath said transverse post connecting member whereby upward movement of the forward ends of the arms is limited.

3. In a device of the character described, the combination of a portable frame comprising a base portion and an upright portion, lifting and carrying arms pivotally mounted on said upright portion, a seat detachably suspended between said arms, and a detachable back rest carried by said arms above said seat.

4. In a device of the character described, the combination of a portable frame comprising a base portion and an upright portion, cross members connecting the upper parts of the upright portion, lifting and carrying arms pivotally mounted on said upright portion intermediate the ends of said frame, the front ends of said arms projecting forwardly beneath one of said cross members of said frame, a fabric seat adapted to be detachably suspended from the rear ends of said arms, and a back rest detachably carried by said arms.

STANLEY S. JENKINS.