

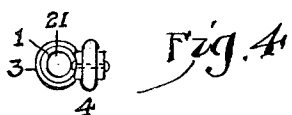
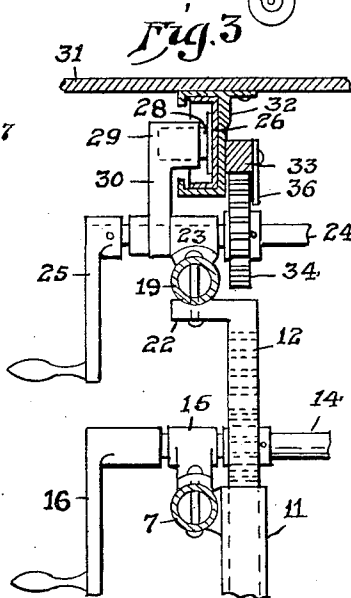
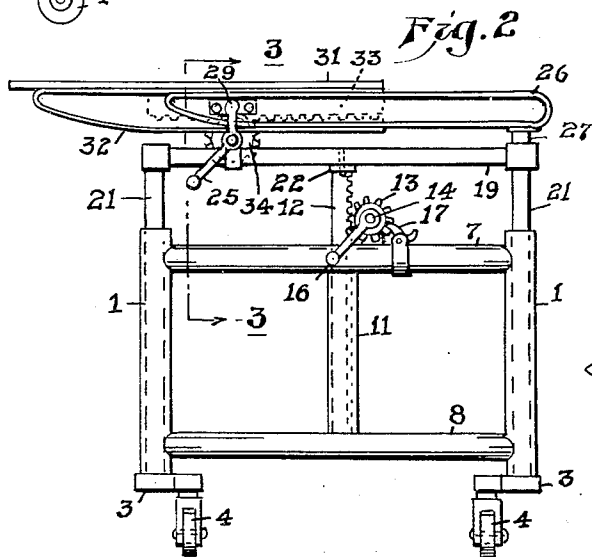
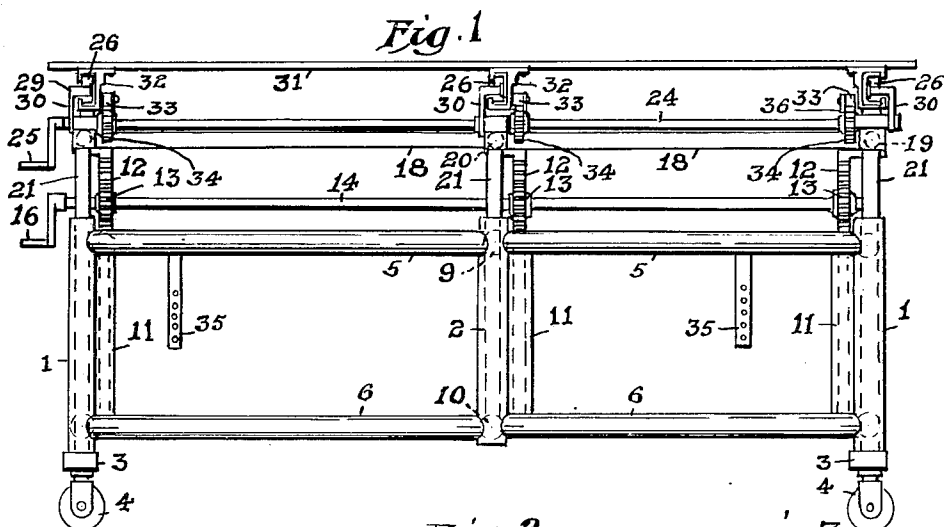
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PATIENT'S TRANSFER CARRIAGE

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UNITED STATES PATENT OFFICE

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PATIENT'S TRANSFER CARRIAGE

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This invention relates to patients' transfer carriages.

Such carriages are used for transporting hospital patients from their beds to the operating table and vice versa, and in general where a more or less helpless person is to be moved from one place to another.

Usually such carriages comprise a frame supported on wheels or casters and provided with a flat surface upon which the patient is laid. In some cases this surface may be raised or lowered.

The patient is lifted from the conveyer to the bed or operating table and vice versa.

The object which I have in view is to provide an improved carriage which will be more convenient and whose use will involve a minimum disturbance and discomfort to the patient, a very important consideration especially in the case of a patient who has just passed through an operation.

In general my improved patient's transfer carriage comprises a lower frame movably supported on wheels or casters, and an upper frame mounted on the lower frame so as to be raised and lowered relatively to the latter.

Specifically the upper frame is provided with vertical legs which telescope within the vertical legs of the lower frame. Suitable means, preferably rack and gear, are provided for raising and lowering the upper frame.

Mounted on the upper frame is an apron which is horizontally movable relative to the upper frame so that it may be caused to bridge the space between the bed or the operating table and the carriage so that the patient may be shifted from the bed or operating table to the apron or vice versa.

Specifically the upper carriage and the apron are provided with members in telescopic relation whereby the apron is slidably supported on the carriage, and means, such as rack and gear, are provided for shifting the apron relative to the carriage.

Other novel features of construction, and also of arrangement of parts, will appear from the following description.

In the accompanying drawings, wherein I have illustrated a practical embodiment of the principles of my invention, Fig. 1 is a

side elevation of my improved patient's transfer carriage.

Fig. 2 is an end view of the same looking from the left in Fig. 1, the apron being shown partially extended.

Fig. 3 is an enlarged detail view taken along the line 3—3 in Fig. 2.

Fig. 4 is a bottom plan view of one of the legs.

Referring to the drawings, the lower frame is of the following construction.

At the four corners the vertical tubular legs 1 are provided. At each side an intermediate leg 2 is also provided but these intermediate legs need not extend downwardly as far as the corner legs 1. The lower ends of the legs 1 are provided with swivel plates 3 carrying the casters 4.

5 and 6 represent the upper and lower horizontal side rails which connect the legs 1 and 2.

At the ends the legs 1 are connected by the upper and lower cross rails 7 and 8. Likewise the intermediate legs 2 are connected by the upper and lower cross rails 9 and 10.

11 represents vertically disposed sleeves which are fixed to the centers of the end cross rails 7 and 8 and the intermediate cross rails 9 and 10.

12 represents vertically disposed racks which telescope downwardly in the sleeves 11 and which are engaged by the pinions 13 fixed on a horizontally disposed shaft 14 journaled in bearings 15 fixed to the upper cross rails 7 and 9.

One end of the shaft 14 is provided with a hand crank 16 and a pawl 17 mounted on the adjacent rail 7 is arranged to engage the pinion 13 to prevent accidental descent of the racks and their burden.

The upper carriage frame is composed of horizontally disposed side members 18, and cross members 19 and intermediate cross members 20. The upper frame is provided at its four corners and intermediate of its sides with depending legs 21 which telescope down into the legs 1 and 2 of the lower frame.

The upper frame is supported by the racks 12 which are provided with horizontal upper

end portions or flanges 22 which are bolted from below to the cross rails 19 and 20.

23 represents sleeve bearings mounted on the cross rails 19 and 20 adjacent to the front side of the carriage, the left in Fig. 2, and a shaft 24 is journaled in said bearings, one end of the shaft being provided with a hand crank 25.

26 represents channel bars disposed horizontally on their edges and resting at their rear ends on the upward extensions 27 of the legs 21 of the rear side of the carriage, the right side in Fig. 2.

The other ends of the bars 26 are supported by studs 28 riveted or otherwise secured to the front faces of the bars and received into sockets 29 on the upper ends of brackets 30 extending rigidly from the sleeve bearings 23.

The apron 31, upon which the patient rests, is a rigid table surface to the underside of which are rigidly attached the channel bars 32 in which the said channel bars 26 telescope or nest as best illustrated in Figs. 2 and 3, the apron 31 being thus supported by the upper frame but slidable relative thereto transversely to the longitudinal axis of the carriage.

The rear faces of the apron channel bars 32 are provided with rack bars 33 which are engaged from below by the gears 34 on the shaft 24.

The lower edges and flanges of the channel bars 26 and 32 converge upwardly so that when the apron is extended, from right to left in Fig. 2, over a bed, the channel bars 32 will move over and sink downwardly into the mattress and thus permit the apron 31 to rest on the bed for the easy shifting of the patient either from or onto the apron.

The converged ends of the nested channel bars also act to prevent the apron from being retracted beyond its centered position relative to the carriage.

When the patient is to be removed from a bed to the operating table, the carriage is run along the side of the bed, and if necessary fastened thereon, as by means of straps 35 which may be permanently attached to the rails 5.

The apron 31 is now raised, by the rotation of the crank 16 to the proper height and is then extended over the bed by the rotation of the crank 25. The patient is then shifted onto the apron and the latter retracted by means of the crank 25 to its centered position relative to the carriage. The carriage is then run alongside of the operating table and the apron raised to the proper height and extended over the operating table and the patient shifted off the apron onto the table. The method of returning the patient from the operating table to the bed is similar.

It is evident that the transfer of the patient is accomplished with a minimum amount of handling and disturbance.

When the apron is run over the bed or operating table, the weight of the patient will cause the apron to dip with the pins 28 as its axis, thus pressing the apron down into the mattress or flat on the bed. When the apron is centered on the carriage, it rests on the extensions 27.

My improved carriage may be employed in transporting the sick or invalids under any circumstances, and may also be used for subjecting convalescents to sunshine and fresh air.

I prefer to provide a guard plate 36 which depends from the rack bar 33 and encloses the gear 34 to prevent the bedclothes catching on the rack.

What I desire to claim is:

1. In a transfer stretcher, a frame having rigid transverse bars supported at their ends, transverse channel members spaced above said transverse bars, a rigid support for one end of each channel member fixed to the corresponding end of the respective cross bar, a bracket connecting each channel member with a respective cross bar adjacent their remaining ends, the several brackets having aligned journals formed therein, a stretcher including transversely extending C-bars embracing said channels and slidable therealong, racks each secured to the web of a respective C-bar and facing downwardly, a shaft extending through said journals, gears on said shaft meshing with respective racks, and a crank on one end of said shaft.

2. In a transfer stretcher, a frame having rigid transverse bars supported at their ends, transverse channel members spaced above said transverse bars, a rigid support for one end of each channel member fixed to the corresponding end of the respective cross bar, a bracket connecting each channel member with a respective cross bar adjacent their remaining ends, the several brackets having aligned journals formed therein, each of said brackets including a stud secured to the inner face of the web of the respective channel and projecting from between the flanges thereof and further including a member rigidly fixed to the respective bar and having a socket wherein said stud fits, a stretcher including transversely extending C-bars embracing said channels and slidable therealong, racks each secured to the web of a respective C-bar and facing downwardly, a shaft extending through said journals, gears on said shaft meshing with respective racks, and a crank on one end of said shaft.

Signed at Pittsburgh, Pa., this 4th day of February, 1929.

MYLES J. GILROY.