

C. F. MOORE.  
INVALID LIFTER, SWING, AND WHEEL CHAIR COMBINED  
APPLICATION FILED DEC. 26, 1908.

924,177.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

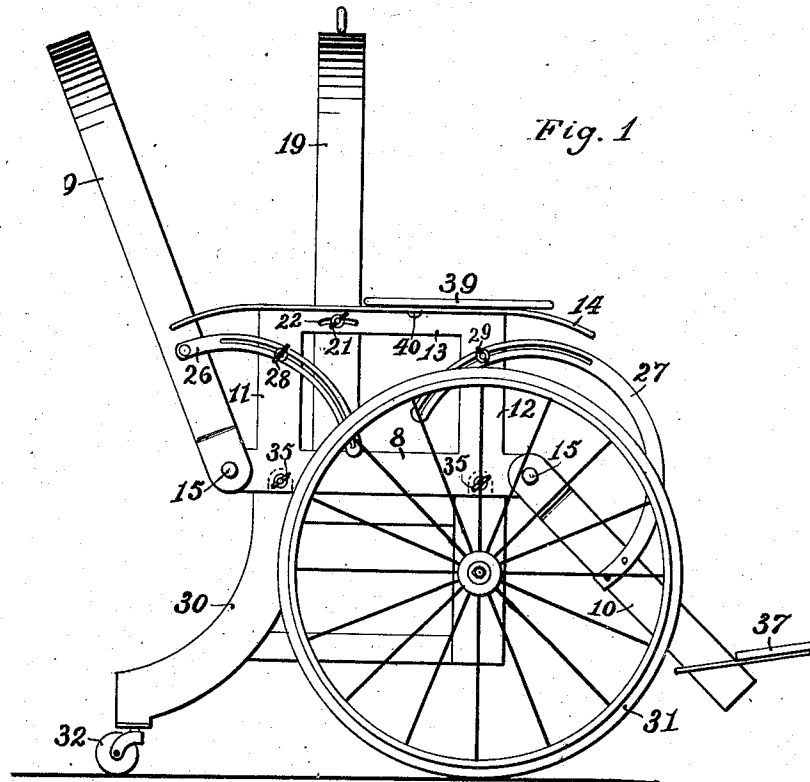
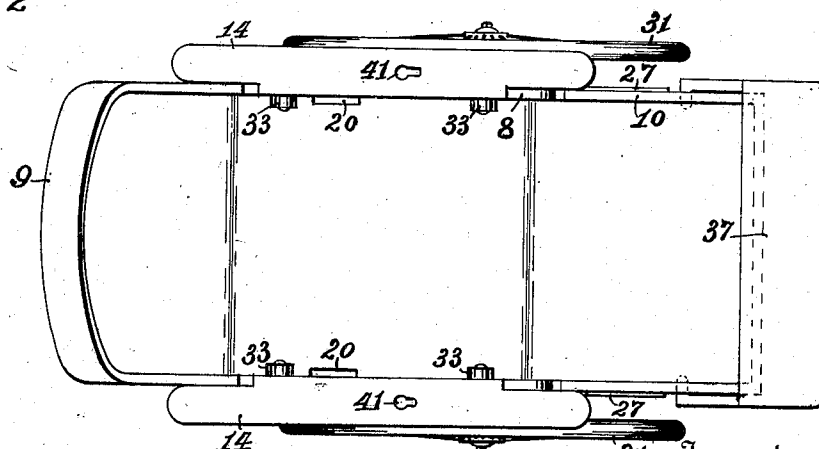


Fig. 2



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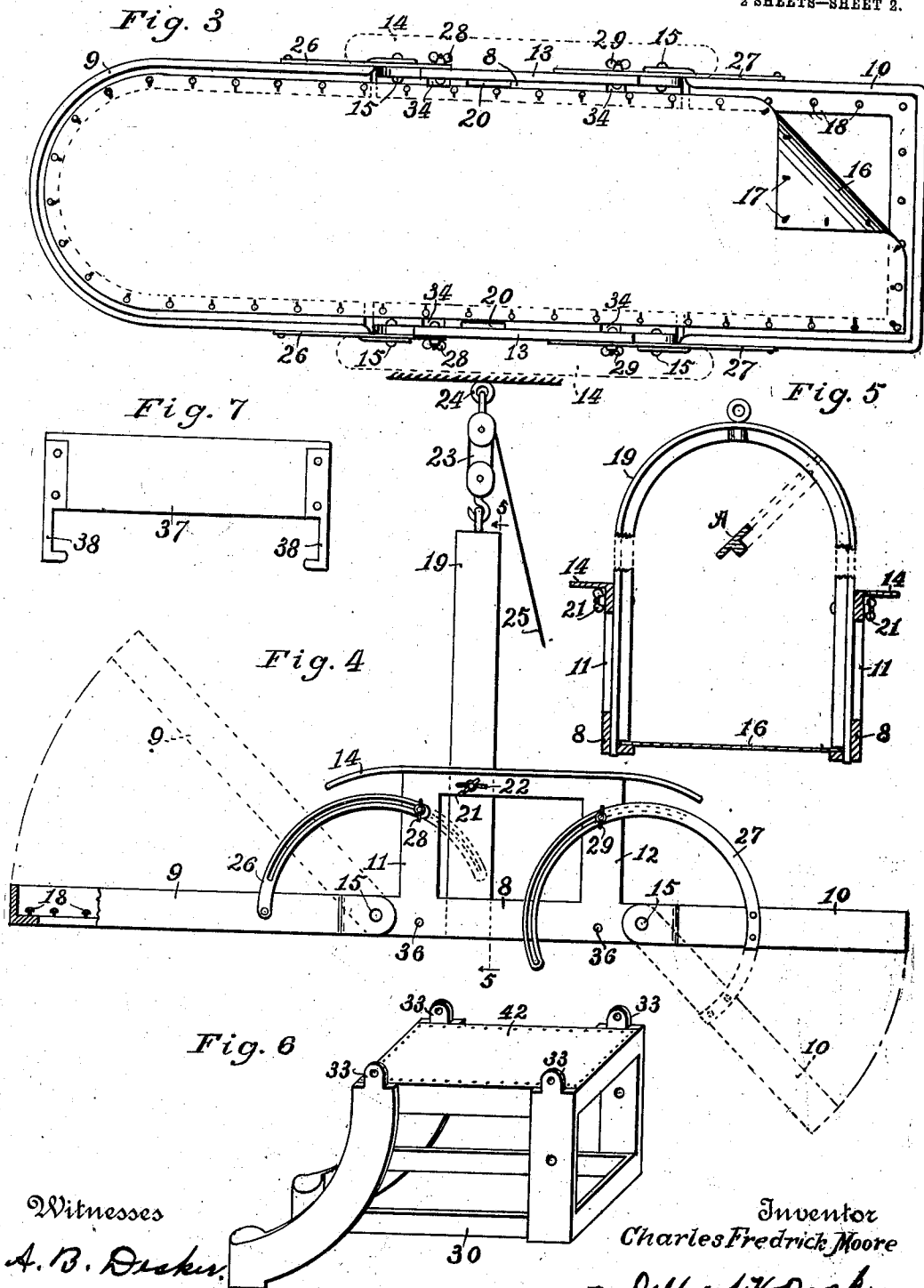
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# UNITED STATES PATENT OFFICE.

CHARLES FREDRICK MOORE, OF GILLETT, PENNSYLVANIA.

## INVALID LIFTER, SWING, AND WHEEL-CHAIR COMBINED.

No. 924,177.

Specification of Letters Patent.

Patented June 8, 1909.

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*To all whom it may concern:*

Be it known that I, CHARLES FREDRICK MOORE, a citizen of the United States, residing at Gillett, in the county of Bradford and State of Pennsylvania, have invented a new and useful Improvement in Invalid Lifters, Swings, and Wheel-Chairs Combined, of which the following is a specification.

This invention relates to devices for use in the care of the sick or helpless and has special reference to the combination in one device of a lifter, a swing chair and a wheel chair.

The chief object of the invention is to provide in one device all the apparatus or means necessary for an attendant to properly care for an invalid with greatest ease to himself and the greatest comfort to the invalid.

With this object in view the invention consists in the structure of parts and their combination and association for the purpose specified substantially as hereinafter set forth and claimed.

The invention is illustrated in the two sheets of drawings, which form a part of the specification.

In these drawings Figure 1 represents in side elevation the combined lifter, swing chair and wheel chair with accessories in place; Fig. 2 represents in plan, the device, as seen in Fig. 1, with the exception that the spreading bail, to which the lifting means is attachable has been omitted; Fig. 3 represents in plan the hinged, sectional lifting frame with its detachable flexible bottom, the arm rests to the seat section being omitted and their location indicated by dotted lines; Fig. 4 represents, in side elevation, the lifting frame with spreading bail attached and lifting means applied thereto, the head section and leg section of the frame being shown by dots in adjusted positions substantially such as they would occupy when the device is converted into a swing chair; Fig. 5 represents a vertical transverse section, taken in the plane indicated by line 5-5, Fig. 4, a portion of the bail being broken away to accommodate the view to its location; Fig. 6 represents in perspective the wheel pedestal frame, the motor wheels being omitted for clearer illustration; and Fig. 7 is an underside view of the detachable foot rest.

The greatest difficulty generally experi-

enced in the care of an invalid is that of lifting him from his bed. By the present invention this is very easily accomplished. For this purpose the lifter consists of a frame, which may be made of any suitable material, either wood or metal, and is preferably made in three sections, a seat section, as indicated at 8, a head section 9, and a leg section 10. The seat section is also preferably provided with arms consisting of uprights 11 and 12 and cross bars 13, which may be capped if desired, with an arm rest 14. The sections of the frame are preferably angular in cross section as clearly seen in Fig. 5 and at the left-hand end of Fig. 4 where a portion of the frame is broken away to show the form of the frame. The several sections are hinged together in any suitable manner, permanently or detachably. In the drawing the hinged pintles are indicated at 15, as consisting of rivets. The bottom for this frame is preferably made of some flexible material such as canvas which may be readily washed. Such bottom is indicated at 16. This piece of canvas may be provided with eyelets or button holes about its edge, as indicated at 17, by which it may be secured to hooks or pins on the lower flange of the frame. Such pins are indicated at 18. In Fig. 3 one corner of the detachable bottom is shown rolled back to indicate the ready removability and attachability thereof.

To place an invalid upon the frame the bottom is detached and laid upon the bed and the invalid rolled onto it in the same manner as he is rolled onto a clean sheet when changing the bed clothing. After the invalid has been placed upon the bottom the frame may be placed over him and the bottom hooked thereto. Then for convenience in lifting him from the bed a bail, as 17, is provided. This bail preferably consists of an arched strip of wood or metal made T-shaped in cross section, as indicated at A in Fig. 5. This bail may be attached to the frame in any suitable manner. It is here shown attached thereto by cutting back the mid-rib at the lower ends of the bail and inserting the ends of the web portion in sockets, such as most clearly shown at 20 in Figs. 2 and 3, the same being occupied by the ends of said bail in the illustration in Fig. 5. The bail is preferably secured in place by means of bolts passed through it and through the cross rail 13 of the arms of

the seat section. These bolts may be provided with thumb-nuts, as indicated at 21. For the sake of adjusting the relative position of the upper end of the bail to the center of gravity of the patient and the frame, slots as 22 may be provided in the cross rails 13. The lifting means may consist of any desired form of tackle, as indicated at 23, and for convenience may be hooked into an eye-bolt 24, screwed into the ceiling. The attendant then, by pulling upon the fall 25, may raise the frame and patient from the bed. The frame when thus raised may be converted into a swing chair, if desired. For this purpose the head and leg sections may be provided with any suitable adjustment devices, such for instance as the slotted sectors 26 and 27, through the slots of which pass bolts provided with thumb-nuts 28 and 29 respectively, said bolts being located in the uprights 11 and 12 respectively of the seat section. In Fig. 4 the head and foot sections are shown by dotted lines in a comfortable half reclining position, such as they may be made to take to change the position of the patient. While in this position the attendant may swing him if so desired, the fall from the tackle being secured to the bail, or to the chair, or to a cleat placed in any suitable part of the room.

When it is desired to move the patient about or from the room the frame may be located upon a wheel pedestal, such for instance as that illustrated in Figs. 1 and 6. This pedestal may be provided with the usual wheels of a wheel chair, as for instance with rubber-tired wheels indicated at 31 and pivoted or caster wheels indicated at 32. To insure the proper location of the frame upon the pedestal and its retention in such location, tenons, as 33, may be provided on the uprights of the pedestal and these tenons inserted in the mortises in the seat section of the frame, such mortises being represented in Fig. 3 at 34 and as occupied by the tenons 33 in Fig. 2. For the ready attachment and separation of the frame and pedestal bolts with thumb-nuts 35 may be passed through the tenons 33 and the holes 36 in the sides of the seat frame.

When the parts have been assembled, as just described, the head section and leg section may be further adjusted to suit the comfort of the patient and the spreading bail removed. The patient may then be wheeled about, or if sufficiently convalescent, may wheel himself about.

For the greater comfort of the occupant of the chair or swing, a foot rest may be provided substantially as indicated at 37, Figs. 1, 2 and 7. This foot rest is preferably provided, as shown, with what may be termed link clamps 38, whereby it may be readily adjusted upon the sides of the leg section and firmly held in place, the link grips hold-

ing at their ends respectively against the upper and lower edges of the frame of the leg section.

A table for any desired purpose may be provided for the occupant of the chair or swing such as indicated at 39 in Fig. 1. To secure this table in place screws 40 are preferably located in its under surface, the heads of which may be passed through the key-hole slots 41, Fig. 2, in the arm rests 14. By this means the table or tray is readily detachable and detachable.

While it is preferable to provide the frame with a removable bottom of fabric, as already described, the frame may, however, be provided with any other form of bottom, as indicated in Fig. 2. With a flexible bottom it is essential that the bail used in lifting the frame be of sufficient rigidity to keep the sides of the frame spread apart against the tendency of the weight of the patient to draw them together. For that reason the bail is formed with the reinforcing rib shown in Fig. 5 and already referred to. To add further support to the patient and give him a more comfortable seat when the frame is placed upon the pedestal, a seat is preferably provided upon the pedestal itself, as indicated at 42 in Fig. 6. The pedestal thus provided may also serve as a seat and may be used by the patient for short intervals without the frame. When a permanent bottom is provided for the lifting frame it is then necessary to lift the patient into the frame and to facilitate this the arms of the seat may obviously be made removable.

The invention claimed is:—

1. A device for the care of invalids, consisting of a chair body, the parts of which are adjustable relatively to one another, a suspension-bail adapted for detachable connection to said chair body whereby to produce an invalid lifter or a swing chair in accordance with the adjusted position of the parts of said body, and a wheel pedestal adapted for detachable connection to said chair body whereby to produce a wheel chair when attached to said body.

2. In a device for the care of invalids, a lifter consisting of a sectional jointed frame devoid of intermediate cross braces in the plane of the frame, a flexible bottom for said frame detachably connected to the sides and ends of the frame, a bracing or spreading bail connected to the sides of the frame and arched above it to provide a lifting means for the frame and for counteracting the tendency of the sides of the frame to bow in when the patient is on the flexible bottom, and means for adjusting and holding the sections of the frame in any desired relative angular relation.

3. In a device for the care of invalids, a lifter consisting of a sectional jointed frame, means for adjusting and holding said sec-

tions in any desired relative angular relation, a wheel pedestal, and means for detachably connecting the frame to said pedestal.

4. In a device for the care of invalids, a  
5 lifter consisting of a sectional, jointed frame, means for adjusting and holding said sections in any desired relative angular relation, a detachable flexible bottom for said frame, a spreading bail detachably connected to one  
10 of said sections, a wheel pedestal, and means for detachably connecting the frame to said pedestal.

5. In a device for the care of invalids, a  
15 lifter consisting of a sectional, jointed frame, means for adjusting and holding said sections in any desired relative angular relation, a detachable flexible bottom for said frame,

a spreading bail detachably connected to one of said sections, and a wheel pedestal provided with a seat to support the section of  
20 the frame to which the spreading bail is attached.

6. In a device for the care of invalids, a lifter consisting of a jointed frame forming a seat section, a head section and a leg section, a flexible bottom for said frame, means  
25 for adjusting and holding said sections in any desired relative angular relation, and a wheel pedestal provided with a seat adapted to support the seat of said frame.

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