

Jan. 13, 1953

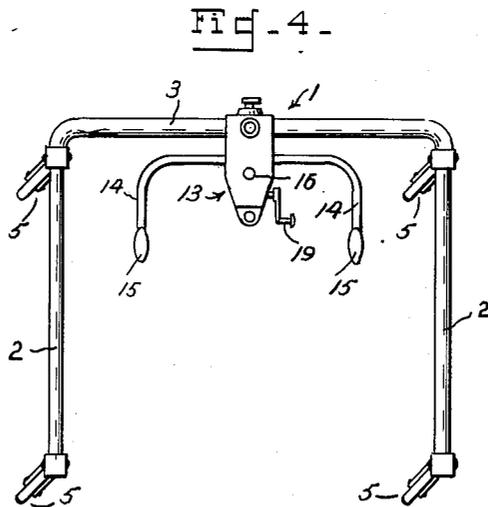
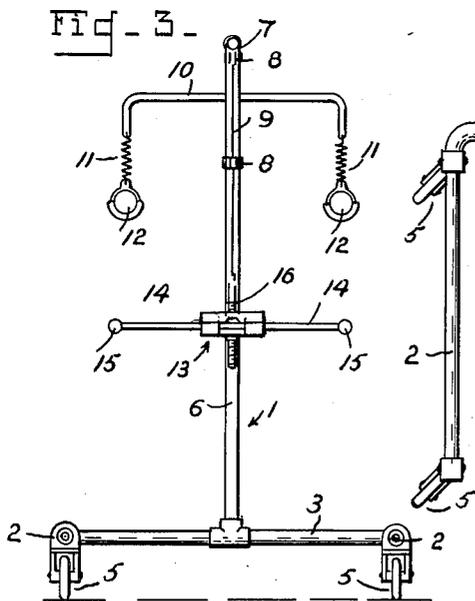
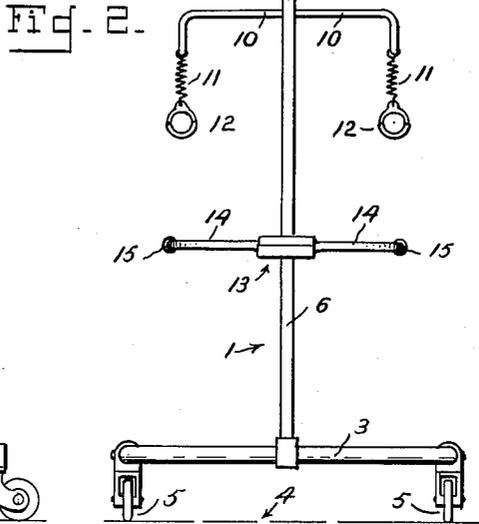
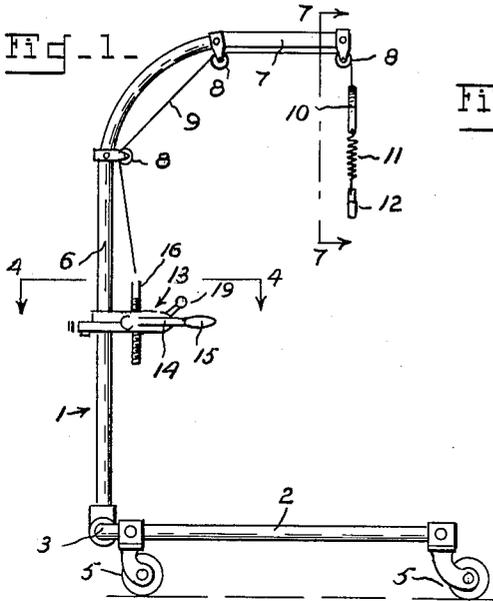
L. RICHARDSON ET AL

2,625,202

WALKER FOR INVALIDS

Filed June 15, 1949

2 SHEETS—SHEET 1



INVENTORS
Lawrence Richardson
Cleves Richardson

BY

Murray Thorne
ATTORNEY

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2 SHEETS—SHEET 2

Fig. 5.

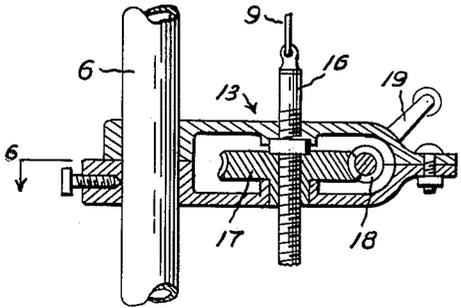


Fig. 7.

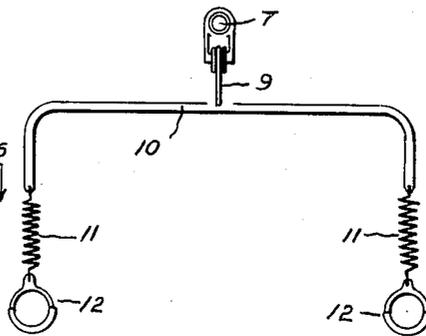


Fig. 6.

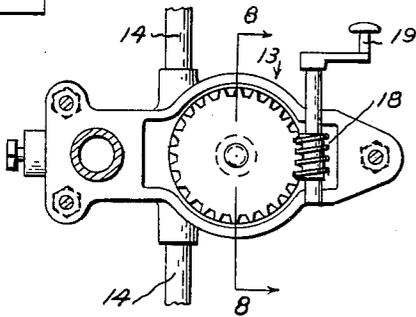


Fig. 8.

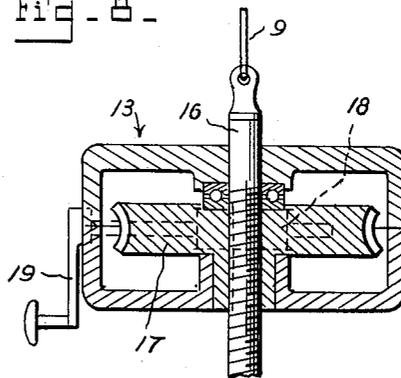
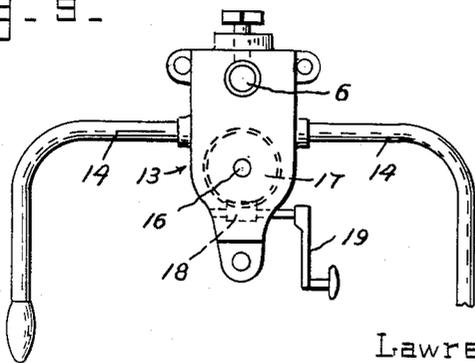


Fig. 9.



INVENTORS
Lawrence Richardson
Cleves Richardson

By *Munson Hare*
ATTORNEY

UNITED STATES PATENT OFFICE

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WALKER FOR INVALIDS

Lawrence Richardson, Cambridge, Mass., and
Cleves Richardson, Louisville, Ky.

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13 Claims. (Cl. 155—24)

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This invention relates to a walker for invalids, hospital bed patients, cripples and others temporarily or permanently incapacitated from walking due to weakness or physical inability causes.

One object of the invention is to provide a simple, reliable and efficient type of wheeled device of this character whereby an invalid or patient may be supported and enabled to move himself from place to place.

Another object of the invention is to provide a device of this character which may be arranged alongside a bed and which embodies a base to extend under the bed and adjustable and resilient supporting means adapted in such arrangement of the device to extend over the bed, whereby a patient may raise himself out of bed and move from place to place with the aid of the walker and then, on returning to a position alongside the bed, may lower himself onto the bed again.

Still another object of the invention is to provide novel and improved supporting and raising and lowering means for the purpose, which raising and lowering means may be operated by the patient or an attendant and is simple of construction and so constructed that it will not slip and cause the patient to fall.

Still another object of the invention is to provide adjustable supporting means including resiliently mounted arm pit or shoulder engaging members which will accommodate themselves to the up and down body movements of the wearer and allow easy walking movements reducing strain and fatigue.

Still another object of the invention is to provide a walking device which is free from complex parts liable to get out of order and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts, hereinafter more fully described and claimed, and as shown in the accompanying drawing, in which:

Fig. 1 is a view in side elevation of a walker embodying the invention.

Fig. 2 is a view in front elevation of the walker.

Fig. 3 is a rear elevation thereof.

Fig. 4 is a section plan view on line 4—4 of Fig. 1.

Fig. 5 is a detail vertical section showing the hoist or gear forming part of the raising and lowering means.

Fig. 6 is a horizontal section thereof taken on line 6—6 of Fig. 5.

Fig. 7 is a section taken on line 7—7 of Fig. 1.

Fig. 8 is a section taken on line 8—8 of Fig. 6.

Fig. 9 is a plan view of the hoist gear casing and handle bar unit, the frame upright appearing in section.

Referring now more particularly to the draw-

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ings, 1 designates a wheeled carriage including a horizontal base frame which is U-shaped and comprises two longitudinal side bars 2 connected at their forward ends by a cross bar 3, said base frame being open at the rear to provide a passageway 4 allowing free movement of the legs of the patient into and out of the space between the side bars under certain conditions when the patient is entering or leaving the device. The base frame is provided at its front corner and at the rear ends of the bars 2 with supporting wheels 5 preferably of caster wheel type.

Fixed to and rising from the center of the bar 3 is a standard or upright in the form of a rod 6 having its upper end extended rearwardly and curved to form a suspension arm 7 overhanging the open center of the base frame in rear of the bar 3. At spaced points in its length the arm 7 carries guide pulleys 8 in guided engagement with which is a suspension chain, rope or cable 9. The rear end of this member 9 depends at the rear end of the arm 7 and carries a body supporting sling. This sling consists of a horizontal transverse rod or bar 10 centrally connected to the suspension member 9 and carrying at its ends depending springs 11 to which are attached loops 12. The transverse bar 10 is arranged to bridge over and across the head or shoulders of the person to be supported so that the arms of the person may be projected through the loops 12 to bring the loops under the arm pits of the person, whereby the body of the person may be supported in an upright position with his legs depending through the open carriage frame and with his feet resting upon the floor or ground. As the loops are resiliently supported they are adapted to move up and down as well as forwardly and backwardly to accommodate themselves to and permit of the body movements of a person in the normal course of walking, particularly the irregular movements of an invalid, thus allowing the person to walk more freely and with less restraint and fatigue.

Slidably mounted for adjustment on the upright 6 is a gear casing 13 to which are secured rearwardly extending handle bars 14 provided with hand grips 15. These grips are adapted to be engaged by the hands of the person so that by the use of his hands the person may assist in supporting himself in walking position, and by means of the handle bars the walker device may be controlled and guided with facility.

Attached at its upper end to the lower or forward end of the flexible supporting member 9 is a threaded rod 16 which extends down and through the gear casing 13. In the casing are arranged a gear nut 17 engaging the rod and worm gear mechanism 18 for rotating the nut, whereby the rod may be raised and lowered to effect up and down travel of the member 9 so that the sling 10 may be raised and lowered.

The shaft of the worm gearing extends outwardly from the casing and has attached thereto a crank handle or wheel 19 whereby the gearing may be actuated by the patient or an attendant to adjust the sling to a proper elevation and to adapt the patient to raise himself from or lower himself onto a bed, or permit these operations to be performed by an attendant if the patient is unable to perform them.

In the use of the device, as in connection with an invalid or bed patient in a hospital, the device is brought alongside the bed with a portion of the base frame 1 projecting under the bed so that the handle bars and sling will extend over the bed and in position to be manipulated by the patient. The sling, if raised, is then lowered so that the patient may thrust his arms through the loops 12 and bring them under his arm pits and grip the handle bars to assist in raising himself up in bed and in position to bring his legs beyond the side of the bed so that by elevation of the sling the patient may be lifted and supported in standing position ready to walk. This movement of the sling to raise the patient to standing position may be effected by means of the gearing, operated either by the patient or, if he is unable, by an attendant. The character of the gearing used allows this to be easily done and the sling to be adjusted to the exact elevation desired to support the patient with more or less of his weight on his feet. The patient may then walk while supported by the walking device, or the patient may employ a walking motion if he is not strong enough to propel the machine by his feet, while the walking device is pushed or pulled by an attendant. At the end of a walking exercise the walking device may be brought again alongside the bed and the patient lowered onto the bed in an obvious manner, by his own efforts alone or aided by an attendant. It will be noted that in the operation of the gearing there are no parts to be tripped or reversed previous to raising or lowering actions, whereby its construction and operation are simplified, and that the gearing is self-locking in all positions, so that the sling cannot be accidentally released and allow the patient to fall.

From the foregoing description, taken in connection with the drawing, the construction and mode of operation of the walking device will be readily understood without a further and extended description, and it will be seen that the device combines simplicity of construction with the manifold advantages set forth. While the construction disclosed is preferred, it is to be understood that changes in the form, construction and arrangement of parts may be made, within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described our invention, what we claim is:

1. A device of the character described for supporting and aiding a person in walking comprising a wheeled carriage including a horizontal U-shaped base frame, an upright rising from the front of the base frame and having its upper end extending rearwardly to form an arm overhanging the open center of the base frame, a flexible suspending member in traveling relation to said arm and depending therefrom at the rear end thereof, a sling bar centrally connected to the rear end of the flexible suspending member, loops at opposite ends of the bar and resiliently connected therewith for up and down movements independent

thereof, and means connected with the suspending member for moving said member to raise and lower the sling bar.

2. A device of the character described for supporting and aiding a person in walking comprising a wheeled base frame, an upright rising from the front of the frame and having an upper end portion extending rearwardly over the frame, a gear casing mounted on the upright, handle bars carried by the casing, a threaded rod extending through the casing, a flexible travelable suspension member in guided relation to the upright and connected at one end to the rod and having its opposite end depending at the free end of the rearwardly extending upper end of the upright, a sling having arm pit engaging members connected to the latter named end of the flexible member, and gearing in said casing engaging the rod and operable to raise and lower the same and transmit movement to the flexible member.

3. A device of the character described for supporting and aiding a person in walking comprising a wheeled carriage including a horizontal U-shaped base frame, an upright rising from the front of the base frame and having its upper end extending rearwardly and overhanging the open center of the base frame, a flexible suspending member in traveling relation to said arm and depending therefrom at the rear end thereof, a body supporting sling bar connected to the rear end of the suspending member, suspension springs at the end of said sling bar, loops supported by the springs to receive the arms and engage the arm pits of the person to be supported, and means connected with the suspending member for moving said member to raise and lower the sling.

4. A device of the character described for supporting and aiding a person in walking comprising a wheeled carriage including a horizontal U-shaped base frame, an upright rising from the front of the base frame and having its upper end extending rearwardly and overhanging the open center of the base frame, a flexible suspending member in traveling relation to said arm and depending therefrom at the rear end thereof, a sling bar centrally connected to the rear end of the flexible suspending member, loops at the opposite ends of the bar and resiliently connected therewith for up and down movements independent thereof, a gear casing slidably mounted on the upright, and gearing in said casing connected with the suspending member for moving said member to raise and lower the sling bar.

5. A device of the character described for supporting and aiding a person in walking comprising a wheeled base frame, an upright rising from the front of the frame and having an upper end portion extending rearwardly over the frame, a gear casing mounted on the upright, handle bars carried by the casing, a threaded rod extending through the casing, a flexible travelable suspension member in guided relation to the upright and connected at one end to the rod and having its opposite end depending at the free end of the rearwardly extending upper end of the upright, a sling having arm pit engaging members connected to the latter named end of the flexible member, and worm gearing in said casing engaging the rod and operable to raise and lower the same and transmit movement to the flexible member and to lock the same in any adjusted position.

6. A device of the character described for supporting and aiding a person in walking comprising a wheeled carriage including a horizontal U-

shaped base frame, an upright rising from the front of the base frame and having its upper end extending rearwardly and overhanging the open center of the base frame, a flexible suspending member in traveling relation to said arm and depending therefrom at the rear end thereof, a body supporting sling connected to the rear end of the suspending member and means slidably connected with the upright and including gearing connected with the suspending member for moving said member to raise and lower the sling.

7. A device of the character described for supporting and aiding a person in walking comprising a wheeled carriage including a horizontal U-shaped base frame, an upright rising from the front of the base frame and having its upper end extending rearwardly and overhanging the open center of the base frame, a flexible suspending member in traveling relation to said arm and depending therefrom at the rear end thereof, a sling bar centrally connected to the rear end of the flexible suspending member, loops at the opposite ends of the bar and resiliently connected therewith for up and down movements independent thereof, and means slidably connected with the upright and including gearing connected with the suspending member for moving said member to raise and lower the sling bar.

8. A device of the character described for supporting and aiding a person in walking comprising a wheeled base frame, an upright rising from the front of the frame and having an upper end portion extending rearwardly over the frame, a gear casing mounted on the upright, handle bars carried by the casing, a motion transmitting member extending through the casing, a flexible travelable suspension member in guided relation to the upright and connected at one end to the upright and having its opposite end depending at the free end of the rearwardly extending upper end of the upright, a body supporting sling connected to the latter named end of the flexible member, and gearing in said casing engaging the motion transmitting member and operable to raise and lower the same and transmit movement to the flexible member.

9. A device of the character described for supporting and aiding a person in walking, comprising a wheeled carriage including a horizontal substantially U-shaped base frame having a front bar and a pair of rearwardly extending side bars, an upright rising from the center of the front bar, and having its upper portion extending rearwardly to form an arm overhanging the open center of the base frame, a flexible suspending member in traveling relation to said arm and depending therefrom at the rear end thereof, a supporting sling connected to the rear end of the supporting member having loops to receive the arms and engage the armpits of the person to be supported, handlebars adjustably mounted with reference to the upright, and means connecting the forward end of said flexible member to said handlebars.

10. A device of the character described for supporting and aiding a person in walking, comprising a wheeled carriage including a horizontal substantially U-shaped base frame having a front bar and a pair of rearwardly extending side bars, an upright rising from the center of the front bar, and having its upper portion extending rearwardly to form an arm overhanging the open

center of the base frame, a flexible suspending member in traveling relation to said arm and depending therefrom at the rear end thereof, a supporting sling connected to the rear end of the supporting member having loops to receive the arms and engage the armpits of the person to be supported, handlebars adjustably mounted with reference to the upright, means connecting the front end of said flexible suspending member to said handlebars, and means connected to said flexible suspending member and operable from a position adjacent the handlebars for moving said member to raise or lower the sling.

11. A perambulator comprising a wheeled base frame having a central open space for the feet of a walker, an upright rising from the front of the base frame and including a portion extending rearwardly to provide a supporting arm having its rear end overlying the open center of the base frame, an elongated flexible member slidably carried by said upright and rearwardly extending arm having depending means for resiliently supporting the shoulders of a walker, and means slidably mounted on said upright for adjusting said flexible member lengthwise of said upright and rearwardly extending arm.

12. A perambulator comprising a wheeled base frame, having a central open space for the feet of a walker, an upright rising from the front of the base frame and including an upper portion extending rearwardly over the open space, a flexible and slidable suspending member carried by said upright and rearwardly extending arm, and including a depending portion at the rear end thereof, a supporting sling carried by said depending portion, handlebars slidably and adjustably carried by the upright, and means connecting the end of the flexible member opposite said depending end to said handlebars.

13. A perambulator comprising a wheeled base frame, having a central open space for the feet of a walker, an upright rising from the front of the base frame and including a portion extending rearwardly to form an arm overhanging the open center of the base frame, a flexible suspending member slidably carried by said upright and rearwardly extending arm, and having an end portion depending from the rear thereof, a supporting sling connected to said depending end portion, and provided with resilient shoulder supporting means, handlebars adjustably mounted with reference to the upright, and means connecting one end of the flexible members to said handlebars.

LAWRENCE RICHARDSON.
CLEVES RICHARDSON.

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