March 18, 1924. 1,487,171

J. F. LA VIGNE

INVALID CARRIER

Filed April 18, 1923 2 Sheets-Sheet 1

Fig. 1.

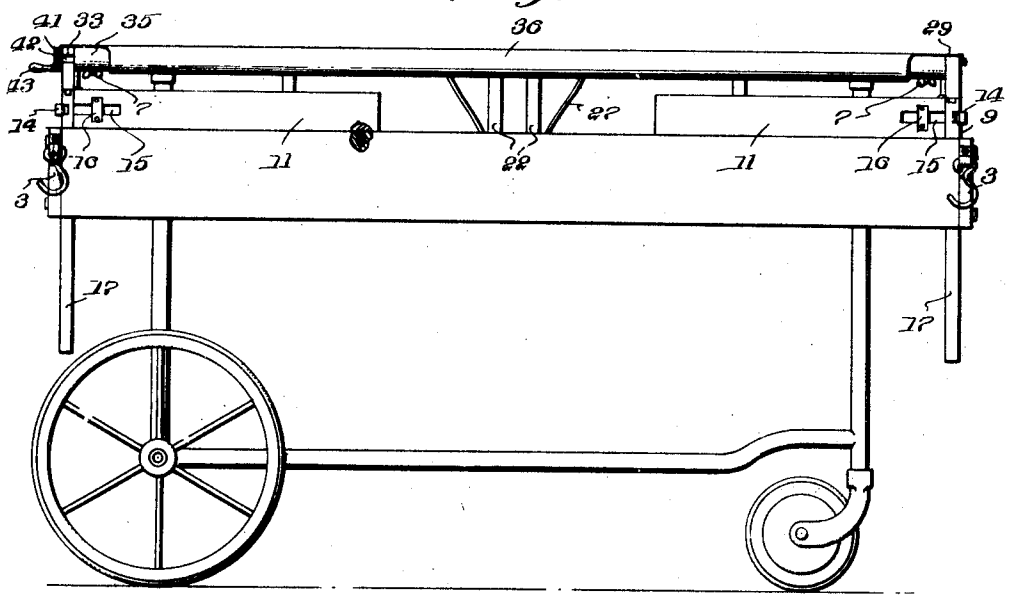
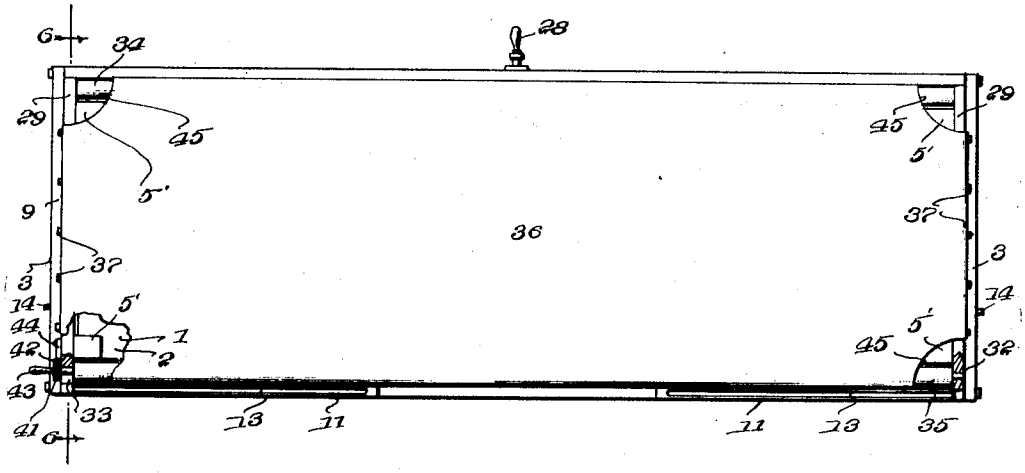


Fig. 3.



J. F. LaVigne
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS:

March 18, 1924. 1,487,171

J. F. LA VIGNE.

INVALID CARRIER

Filed April 18, 1923 2 Sheets-Sheet 2

Fig. 2.

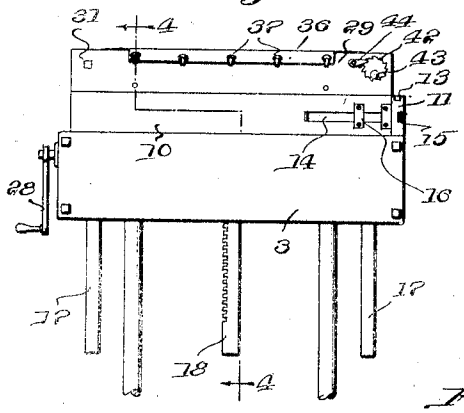


Fig. 5.

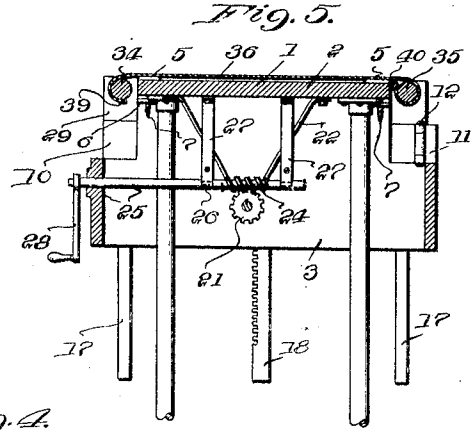


Fig. 4.

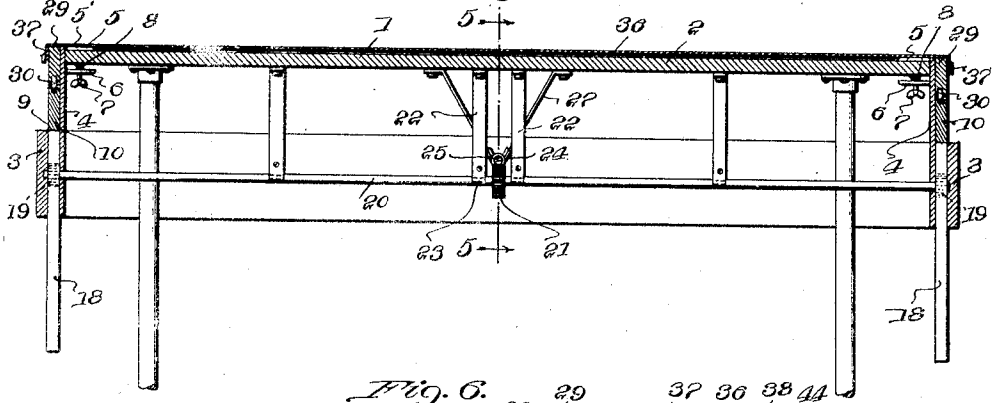
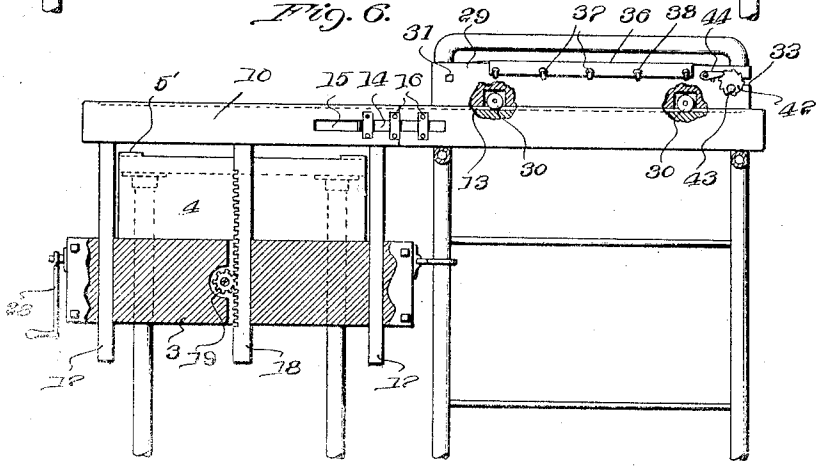


Fig. 6.



J. F. La Vigne
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS:

Patented Mar. 18, 1924. 1,487,171

UNITED STATES PATENT OFFICE.

JOSEPH F. LA VIGNE, OF LAUREL, MISSISSIPPI.

INVALID CARRIER.

Application filed April 18, 1923. Serial No. 632,975.

To all whom it may concern:

Be it known that I, JOSEPH F. LA VIGNE, a citizen of the United States, residing at Laurel, in the county of Jones and State of Mississippi, have invented new and useful Improvements in Invalid Carriers, of which the following is a specification.

The object of this invention is to provide a rolling table, such as is commonly used in hospitals, with a means for supporting thereabove a stretcher whereby a patient may be moved from his bed to an operating table, transferred with the stretcher from the rolling table on to the operating table, removed therefrom after the operation and again wheeled on the rolling table back to his bed, transferred from the rolling table with the stretcher on the bed, and wherein the frame for the stretcher is of such construction as to permit of the same being readily removed from the canvas body thereof so that the patient can lie in comfort thereon when arranged in his bed or whereby the canvas body of the stretcher may be employed as a rolling sheet for moving the patient therefrom on to the bed, the transfer of the patient being accomplished without necessitating the attendants laying hands on the patient.

To the attainment of the foregoing, and other objects which will present themselves as the nature of the invention is better understood, reference is to be had to the drawings which accompany and which form part of this application.

In the drawings:—

Figure 1 is a side elevation showing the improvement attached to a wheeled or rolling hospital table.

Figure 2 is an end view.

Figure 3 is a top plan view.

Figure 4 is a sectional view approximately on the line 4—4 of Figure 2.

Figure 5 is a sectional view approximately on the line 5—5 of Figure 2.

Figure 6 is a sectional view approximately on the line 6—6 of Figure 3, the stretcher being removed, and the parts being arranged to permit of the stretcher being moved off of the device on to an operating table or bed.

A wheeled table, such as is ordinarily employed in hospitals and which is commonly known as a rolling table is, in the drawings, indicated by the numeral 1. These tables are usually employed for transferring patients from beds to an operating table and for returning the patient from the table to the bed. In such instances it is necessary that the patient be handled by the attendants which is apt to interfere with the success of the operation and which is at times extremely painful to the patient.

In the present instance, I secure to the ends of the top 2 of the table 1, block members 3. Each of the members 3 is of a width approximately equalling that of the table top 2, each of the said members 3 having its inner edge formed with a reduced extension or web 4, the said webs having their upper edges at their corners flanged, as at 5′ to provide jaws 5. Similar jaws 6 are formed on the webs below the jaws 5, the last mentioned jaws having threaded openings preferably surrounded by boss-like flanges, and through these openings there are screwed winged bolts 7 having swiveled heads 8 on the ends thereof, and these heads are designed for frictional contact with the under face of the top 2 to force the upper jaws 5 against the upper face of the said top, and consequently support the block-like members 3 on the rolling table.

For distinction the shoulders provided between the members 3 and the web extensions 4 thereof are indicated in the drawings by the numeral 9, and on each of these shoulders there rests a track. Each track comprises an inner section 10, and an outer section 11 connected to one end of the section 10 by a rule joint hinge 12. Normally the section 11 is designed to be swung against the section 10, the shoulder 9 being of a width equalling the combined thickness of the track sections 10 and 11, and suitable means may be employed for holding the swinging section 11 latched against the fixed section 10. Both track sections 10 and 11 have their upper faces provided with longitudinal grooves 13 that terminate a suitable distance away from the outer ends of the said sections, the said grooves designed to register when the sections 11 are swung to longitudinal alignment with the sections 10. When in such positions the sections 10 and 11 are rigidly connected through the medium of a bolt member 14 that is let in grooves 15 on one of the sides or faces of the respective track sections, the grooves being of a materially greater length than that of the bolt, and suitable strips 16 bridge the grooves. When the outer section is folded against the inner track section the bolt 14

is wholly received in the groove in the inner track section 10, and is moved partly out of the groove in the inner track section and into the groove in the swinging track section when both of said sections are in alignment. It is, of course, to be understood that the bolt contacts with the longitudinal walls provided by the grooves to afford a rigid brace for the track sections.

The inner track sections 10, adjacent to their ends are provided with depending rods 17 that pass through guide openings in the block members 3. The inner track section is provided with a depending rack bar 18 that likewise passes through a suitable opening in the block 3.

Each block-like member 3 has an opening or pocket communicating with the opening through which the rack 18 is received, and in each of these pockets there is journaled a cog wheel 19 in mesh with the teeth of the rack 18. The shaft for the cog wheels is indicated by the numeral 20 and has approximately centrally secured thereon a worm wheel 21. The top 2 of the rolling table is provided with depending members 22 having bearings 23 for the shaft 20, and it is between two of these members 22 that the worm wheel 21 is arranged. The worm wheel is engaged by a worm 24, the shaft of which being indicated by the numeral 25. The shaft is provided at spaced intervals with annular depressions for the reception of sectional bearings 26 provided upon the lower ends of hangers 27 secured to the bottom of the table top 2. By this means the shaft 25 is held from longitudinal movement, and the outer end of the shaft has removably secured thereon a crank handle 28. It will be apparent that by turning the shaft 25 the worm will turn the worm wheel to impart a rotary movement to the shaft 20 which, through the medium of the cog wheels 19 secured thereon and engaging the racks 18 will raise or lower the tracks, and incident to the coengagement of the worm wheel with the worm, the tracks will be locked in either raised or lowered positions.

Designed to be arranged over and being of a width equalling that of the inner track sections 10 are members which constitute what I will term a carriage. These members are each of a length equalling that of the track sections, and are indicated, in the drawings, by the numeral 29. Each member 29 has its lower face provided with a pocket in which there is journaled a wheel or roller 30 of a width to be snugly received in the groove 13 of both track sections. Each member 29 is provided with a square or rectangular opening 31 adjacent one of its ends, one of said members being provided with a round opening 32 adjacent its opposite end, the second member having its end opposite that provided with the squared opening formed with a central slot 33, the inner wall of which is rounded. Through the squared openings of the members constituting the carriage there are inserted the reduced squared ends of a cross sectionally rounded bar 34, and through the round opening and through the slot there are inserted the rounded reduced ends of a second cross sectionally rounded bar 35. The bars 34 and 35 provide the longitudinal members of a frame for a canvas stretcher 36, the ends of the said frame being provided by the members 29 which I have termed a carriage. The members 29 are provided with catch elements 37 engaged by coacting catch elements 38 on the ends of the fabric stretcher 36, one of the edges of the said stretcher being folded upon itself around the bar 34 and having coengaging catch elements 39. The opposite edge of the fabric stretcher is rolled around the bar 35, and is preferably secured to the said bar by catch means 40. The trunnion on the bar 35 that projects through the slot 33 is of a greater length than the trunnion that extends through the round opening in the carriage frame for the stretcher, and this last mentioned trunnion, indicated for distinction by the numeral 41 has secured thereon a ratchet wheel 42 provided with an operating handle 43. The ratchet wheel is engaged by a dog 44 pivotally secured upon the referred to end member of the stretcher carriage. By this means it will be noted that the stretcher may be tightly wound upon its supporting frame or carriage. Also, by an arrangement as above described it will be seen that when the canvas body of the stretcher is slackened that the elements constituting the frame or carriage therefor may be readily separated. The canvas body has its corners cutaway, as at 45 so that an attendant may grasp either the ends or sides of the stretcher carriage when it is desired to manually carry a patient on the stretcher and also when the stretcher carriage is to be directed on to the tracks of the device or off of said tracks.

The operation of the improvement may be briefly described as follows:

The rolling table is of a height equal to or less than the bed in which the patient lies. The frame or carriage of the stretcher is removed therefrom, and arranged on the bed, the patient being either rolled or placed thereon. The stretcher frame or carriage is then connected to the fabric body. The rolling table is wheeled against or near the bedstead. The outer sections of the track may be swung to align with the inner sections and locked together. The shaft 25 is operated so that the tracks will be in position to receive the wheels of the stretcher carriage thereon, so that the attendants have merely to move the carriage in the direction of the rolling table. The patient is now wheeled

adjacent to the operating table, and the shaft 25 is again rotated to elevate the tracks and the stretcher frame so that the former will be at a height equalling that of the operating table. The patient with the stretcher is again rolled off of the device on to the operating table. The patient rests on the stretcher during the operation, and thereafter is again moved with the stretcher on to the tracks carried by the rolling table and again wheeled to his bed and delivered thereon in a manner as above described. The frame or carriage is supported from the stretcher body, and the said body may serve as a sheet for the bed of the patient.

It is thought that the foregoing description, when taken in connection with the drawings will fully set forth the construction, operation and advantages of the improvement to those skilled in the art to which such inventions relate, it being noted that a hospital patient may be transferred from a bed to an operating table or to other parts of a hospital without his body being touched by the attendants so that pain and danger thus occasioned will be successfully overcome. The stretcher body, as previously stated, may be employed as a sheet for the body of the patient, as I, from experience, have found that such articles may be as readily cleaned as a linen sheet and are as comfortable to a patient. I have herein set forth a satisfactory and preferred embodiment of the improvement as it now appears to me, but it is to be understood that the nature of the invention is such as to render the same susceptible to all such changes and modifications as fall within the scope of what I claim.

Having described the invention, I claim:—

1. In a device for the purpose set forth, the combination with a roller table, of shouldered blocks secured to the ends thereof, a grooved track supported on the shoulders of the block, a collapsible stretcher frame having its end members provided with rollers received in the grooves of the tracks, and means for raising or lowering the tracks and stretcher frame on the roller table.

2. In a device for the purpose set forth, the combination with a roller table, of shouldered blocks clamped to the ends of said table, a track resting on the shoulder of each block and comprising two sections connected by rule joints, means latching the sections when arranged side to side, means supporting the outer section when swung to longitudinal alignment with the inner section, a collapsible stretcher frame having its ends resting on the inner track sections susceptible to sliding movement laterally over the table when the outer track sections are extended, and means for vertically adjusting the tracks and stretcher frame with respect to the table.

3. In a device for the purpose set forth, the combination with a roller table, of shouldered blocks clamped on the ends of the top thereof, grooved tracks resting on each shoulder, each of said tracks comprising two hingedly connected sections, guide means between the inner track section and the blocks, a collapsible stretcher frame having its end members provided with rollers received in the grooves of the inner track sections and designed to be also received in the grooves of the outer track sections when the latter are swung to longitudinal alignment with the said inner track sections, means bracing and securing the track sections when in last mentioned position, and means for vertically adjusting the tracks and stretcher frame with respect to the table.

4. The combination with a rolling table for hospital use, of shouldered blocks clamped to the ends of the top of the table, a grooved track resting on the shoulder of each block and comprising two hingedly connected sections, guide means between the inner track sections and the blocks for holding the former on the latter, means latching the track sections when the outer track section is swung against the inner track section, means bracing and locking the outer track section to the inner track section when swung to longitudinal alignment therewith, a sectional frame supporting a stretcher thereon, means removably securing the stretcher to the frame, means for turning one of the frame sections to wind the stretcher thereon, means latching said mentioned means, the end sections of the stretchers having rollers received in the grooves of the inner track sections and designed to be also received in the grooves of the outer track sections when the latter are swung into longitudinal alignment with the inner track sections, and means for vertically adjusting the tracks and stretcher frame with respect to the table.

5. In a device for the purpose set forth, the combination with a roller table for hospital use, of shouldered blocks clamped to the ends of the top of the table, grooved tracks resting on the shoulders of the blocks, each including two hinged sections, means latching the sections together when swung against each other, means locking and bracing the sections when the outer section is swung to longitudinal alignment with the inner section, depending guide members on the inner section passing through the blocks, a rack bar on each of the inner track sections also passing through the blocks, a shaft having its ends journaled in bearings in the blocks, cog wheels carried by the shaft in mesh with the rack bars, means for revolving the shaft whereby to raise or

lower the tracks with respect to the blocks and table, and a sectional stretcher frame having its end members provided with rollers received in the grooves of the inner track section and designed to be likewise received in the grooves of the outer track section when the latter is swung on the inner track section and the stretcher frame is moved laterally over the table.

6. The combination with a roller table for hospital use, of shouldered blocks removably secured to the ends of the table top, a grooved track on the shoulder of each block, each track comprising two hingedly connected sections, means latching and supporting the outer on the inner track section when the latter has been swung to longitudinal alignment with the former, guide rods on the inner track section passing through the blocks, a rack bar on the inner track sections also passing through the blocks, a shaft having its ends journaled in bearings in the blocks, cog wheels on the shafts in mesh with the rack bars, a worm wheel on the shaft, a second shaft arranged transversely with respect to the first mentioned shaft journaled in bearings on the table and having a worm in mesh with the worm wheel, a removable operating handle for the last mentioned shaft, and a sectional stretcher frame having its end members provided with rollers received in the grooves of the inner track section and movable into the grooves of the outer track section when the latter is swung to align with the inner track section.

In testimony whereof I affix my signature.

JOSEPH F. LA VIGNE.