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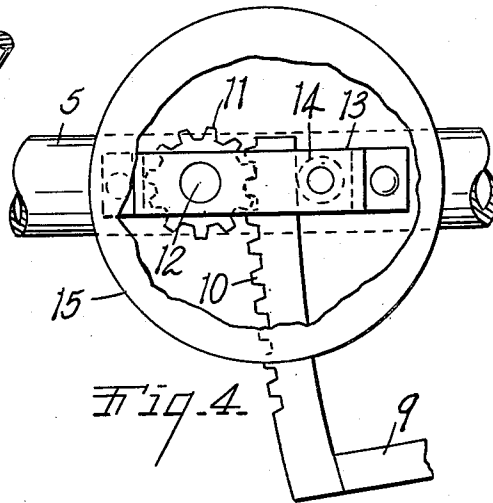
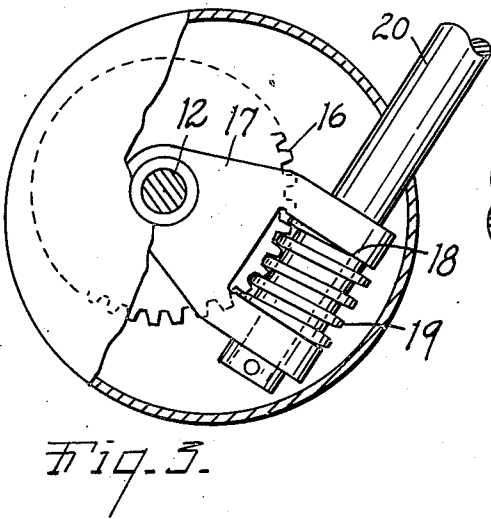
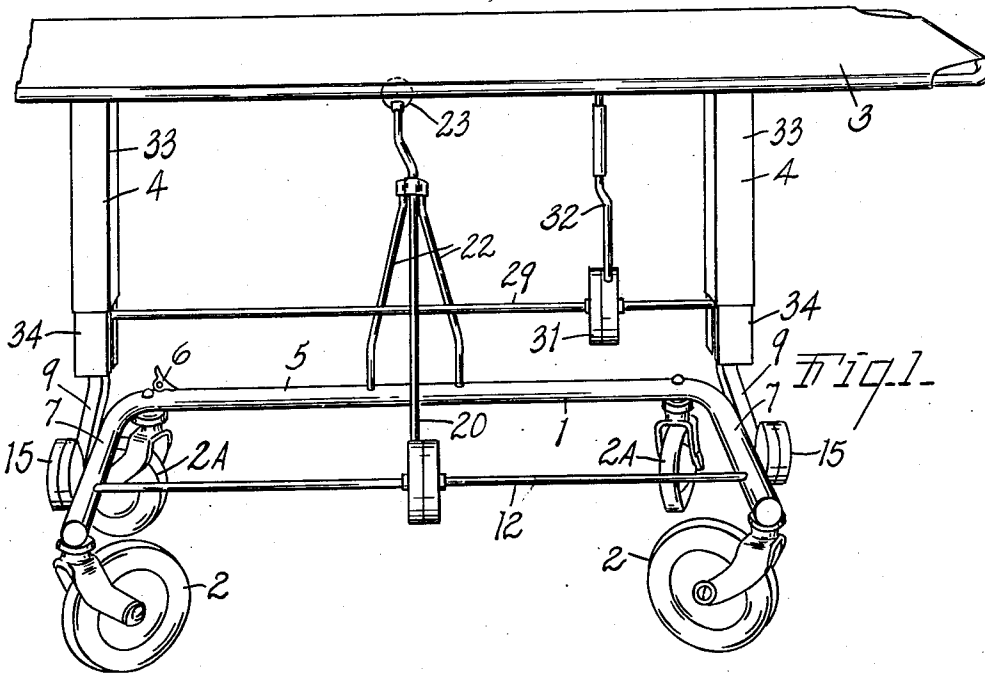
J. E. SUTTON

2,610,330

WHEELED TABLE FOR TRANSFERRING INVALIDS

Filed April 25, 1949

2 SHEETS--SHEET 1



INVENTOR.
Jay E. Sutton
BY *Philo A. Earl*
ATTORNEY.

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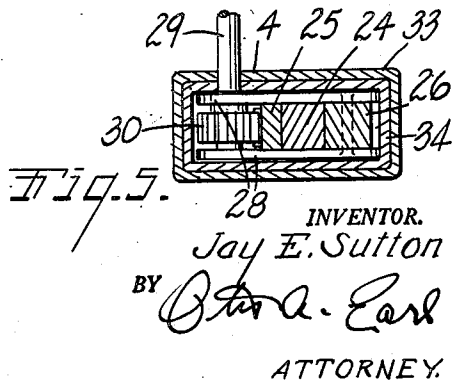
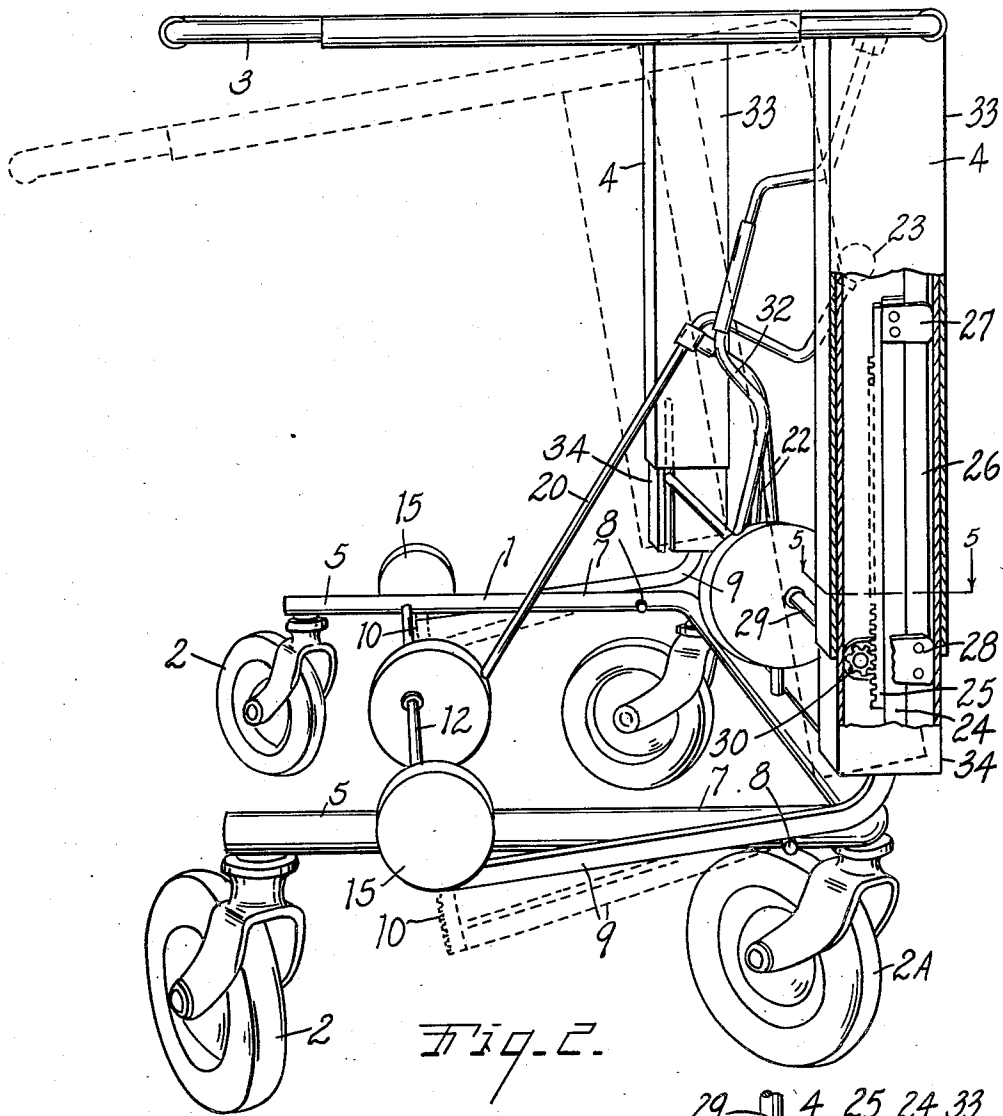
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2 SHEETS--SHEET 2



UNITED STATES PATENT OFFICE

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WHEELED TABLE FOR TRANSFERRING INVALIDS

Jay E. Sutton, Detroit, Mich.

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10 Claims. (Cl. 5—86)

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This invention relates to improvements in wheeled tables for transferring invalids.

The principal objects of this invention are:

First, to provide a simplified form of wheeled table or hospital carrier for transporting invalids in which the table or invalid supporting portion is both vertically and angularly adjustable so as to tilt downwardly and depress the side of a bed for facilitating transfer of the invalid from the bed to the table.

Second, to provide an invalid carrier in which the tilting motion of the table occurs about a pivot located adjacent to the base of the carrier and remote from the free edge of the table whereby a minimum amount of motion of the tilting mechanism results in a maximum amount of movement of the table.

Third, to provide an invalid carrier having a simplified form of vertical adjusting mechanism for the table carried entirely on swingably mounted supports so that the vertical position of the table can be changed in any of the angularly adjusted positions of the table.

Other objects and advantages relating to the details of my table will be apparent from a consideration of the following description and claims.

The drawings of which there are two sheets illustrate a preferred form of the table on the carrier.

Fig. 1 is an elevational view from what may be considered the front side of the carrier.

Fig. 2 is a perspective view of the end of the carrier, portions of the upright casings being broken away to illustrate the elevating mechanism and with the dotted lines indicating the tilted position of the table.

Fig. 3 is a fragmentary end elevational view partially broken away in vertical section through the driving mechanism for tilting the table.

Fig. 4 is a fragmentary end elevational view of the coupling between the table support and the table tilting shaft, the view being partially broken away to illustrate the operating connection.

Fig. 5 is a fragmentary horizontal cross-sectional view through one of the uprights of the table and taken along the plane of the line 5—5 in Fig. 2.

My mobile table is designed primarily for use in hospitals for transporting invalids between hospital beds and operating rooms, etc., and consists generally of a base 1 mounted on caster wheels 2. A table 3 for supporting the patient is carried on the uprights 4 for vertical and

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tilting adjustment as will be described in greater detail.

The base 1 consists of a generally U-shaped tubular member 5 having its open end facing the front of the carrier and having the caster wheels 2 mounted on the underside thereof in any of several well-known methods. Attention is called to the fact that one of the wheels 2A is longitudinally offset from the other wheel 2 on the end of the base so that both wheels will not pass over a bump or obstruction at the same time when the table is moved longitudinally. This provides smoother rolling motion of the carrier as it passes over irregularities such as the entrance to elevators. It will further be noted that one of the wheels is provided with a lock 6 for locking the caster in one position for easier steering of the carrier.

The end arms 7 of the tube 5 are provided with aligned pivots 8 (see Fig. 2) located adjacent to the rear side of the base and projecting outwardly from the ends thereof. The pivots 8 are secured to and support the L-shaped arms 9 with the lower branches of the arms projecting forwardly along side of the arms 7 of the base. The forward ends of the branches 9 have the segmental racks 10 secured thereto for operative engagement with pinions 11. The pinions 11 are fixedly secured to the ends of a tilt shaft 12 and the shaft 12 is journaled in the end arms 7 of the base. Straps 13 are secured to the end arms and positioned in overlapping relation to the pinions 11 and racks 10. Backing rollers 14 are carried on straps for holding the racks in engagement with the pinions 11. The two piece drum-like decorative casing 15 is provided around the pinions and the ends of the racks.

The center of the tilt shaft 12 is provided with a driving gear 16 fixedly secured to the shaft and a yoke 17 which has its arm positioned on each side of the gear and apertured to rotatably pass the shaft 12. The base of the yoke 17 is bifurcated as at 18 to receive the worm 19 in tangential driving engagement with the gear 16. The bifurcations of the yoke are bored coaxially with the worm to receive the lower end of the tilting crank 20 for driving the worm. The upper end of the tilting crank is braced and rotatably supported by the brace rods 22 and a knob 23 is carried by the upper end of the crank.

The upright branches 24 of the L-shaped arms 9 are provided with longitudinal racks 25 on their forward sides and are lapped along the depending posts 26 which support the framework of the table 3. U-shaped straps 27 secured to

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the upper ends of the branches 24 slidably secure the members together. The lower ends of the uprights 26 are provided with forwardly extending plates 28 which extend along the sides of the branches 24 and are apertured to receive the ends of the elevator shaft 29.

Elevating pinions 30 are carried by the elevator shaft 29 in driving engagement with the racks 25 so that rotation of the elevator shaft which is carried by the uprights 26 and plates 28 will cause the uprights and table to move vertically with respect to the branches 24 of the L-shaped arms.

Intermediate of its ends the elevator shaft 29 is provided with a housing 31 which encloses a driving gear and pinion similar to the mechanism shown in Fig. 3. An elevating crank 32 extends from the housing 31 and has its upper end secured to the frame of the table 3. Thus rotation of the crank 32 will change the elevation of the table with respect to the base regardless of the angular position of the table.

Decorative rectangular metal sleeves 33 and 34 are secured respectively to the uprights 26 and upright branches 24 enclose the uprights and the elevating mechanism.

From the foregoing description it will be apparent that the forward side of my table may be pushed over the edge of a hospital bed with the front side of the base rolling underneath the bed. The table 3 can then be lowered into contact with the bed and the front edge of the table then tilted forwardly and downwardly to depress the mattress and springs so that the table and bed form a trough for facilitating sliding or rolling the patient on to the table. After the patient is placed on the table, the table can be raised to horizontal position and the entire carrier pushed to a new position. In removing the patient from the table to another bed or operating table the reverse process can obviously be carried out.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. An invalid transporting device comprising a generally horizontal U-shaped base member having caster wheels at its four corners, L-shaped arms pivotally secured to the ends of said base at points near the closed side of said base, said arms being pivoted near their bends with their lower branches extending forwardly from the pivot and their upper branches extending upwardly above said base, a tilt shaft journaled on said base and having pinions on the ends thereof, segmental racks secured to the forward ends of the lower branches of said arms and operatively engaged with said pinions, a crank rotatably carried by said base and having a worm for rotating said tilt shaft, a table member having depending supports on its back side positioned along side of the upper branches of said arms, plates holding said supports and upper branches in sliding engagement, an elevating shaft rotatably carried between said plates and having elevating pinions on the ends thereof, racks carried by said upper branches and engaged with said elevating pinions, and an elevating crank carried by said table and elevating shaft and having a driving connection to said elevating shaft.

2. An invalid transporting device comprising a generally horizontal base member having caster wheels at its four corners, L-shaped arms pivotally secured to the ends of said base at points near the back side of said base, said arms being pivoted near their bends with their lower branch-

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es extending forwardly from the pivot and their upper branches extending upwardly above said base, a tilt shaft journaled on said base and having pinions on the ends thereof, segmental racks secured to the forward ends of the lower branches of said arms and operatively engaged with said pinions, a crank rotatably carried by said base and having a worm for rotating said tilt shaft, a table member having depending supports on its back side positioned along side of the upper branches of said arms, plates holding said supports and upper branches in sliding engagement, an elevating shaft rotatably carried between said plates and having elevating pinions on the ends thereof, racks carried by said upper branches and engaged with said elevating pinions, and an elevating crank carried by said table and elevating shaft and having a driving connection to said elevating shaft.

3. An invalid transporting device comprising a generally horizontal base having caster wheels at its four corners, L-shaped arms pivotally secured to the ends of said base at points near the back side of said base, said arms being pivoted near their bends with their lower branches extending forwardly from the pivot and their upper branches extending upwardly above said base, a tilt shaft journaled on said base and having pinions on the ends thereof, segmental racks secured to the forward ends of the lower branches of said arms and operatively engaged with said pinions, a crank supported from said tilt shaft and having a worm for rotating said tilt shaft, a table member having supports depending from its back side positioned along side of the upper branches of said arms, means holding said supports and upper branches in sliding engagement, an elevating shaft rotatably carried by said means and having elevating pinions on the ends thereof, racks carried by said upper branches and engaged with said elevating pinions, and an elevating crank supported by said elevating shaft and having a driving connection to said elevating shaft.

4. An invalid transporting device comprising a generally horizontal base having wheels, L-shaped arms pivotally secured to the ends of said base at points near the back side of said base, said arms being pivoted near their bends with their lower branches extending forwardly from the pivot and their upper branches extending upwardly above said base, a tilt shaft journaled on said base and having pinions on the ends thereof, segmental racks secured to the forward ends of the lower branches of said arms and operatively engaged with said pinions, a gear on said tilt shaft, a crank having a worm engaged with said gear for rotating said tilt shaft, a table member having supports depending from its back side positioned along side of the upper branches of said arms, means holding said supports and upper branches in sliding engagement, an elevating shaft rotatably carried by said means and having elevating pinions on the ends thereof, racks carried by said upper branches and engaged with said elevating pinions, and an elevating crank having a driving connection to said elevating shaft.

5. An invalid transporting device comprising a base member having wheels, L-shaped arms pivotally secured near their apex to said base at points near the back side of said base, said arms having their lower branches extending forwardly from the pivot and their upper branches extending upwardly above said base,

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a tilt shaft journaled on said base and having pinions on the ends thereof, segmental racks secured to the forward ends of the lower branches of said arms and operatively engaged with said pinions, a crank rotatably supported on said base and drivingly engaged with said tilt shaft for rotating said tilt shaft, a table member having depending supports positioned adjacent to the upper branches of said arms, means holding said supports and upper branches in sliding engagement, an elevating shaft rotatably carried by said supports and having elevating pinions on the ends thereof, racks carried by said upper branches and engaged with said elevating pinions, and an elevating crank having a driving connection to said elevating shaft.

6. An invalid carrying device comprising a wheeled base, L-shaped uprights pivoted to said base near one side thereof and having lower branches projecting forwardly from said pivot, means carried by said base and engageable with the forward ends of said lower branches for tilting said L-shaped uprights, a table having depending supports slidably connected to the upper branches of said uprights, and means carried by said table for vertically adjusting said supports on said upper branches.

7. An invalid carrying device comprising a wheeled base, an L-shaped upright pivoted to said base near one side thereof and having a lower branch projecting forwardly from said pivot, means carried by said base and engageable with the forward end of said lower branch for tilting said L-shaped upright, a table having a depending support slidably connected to the upper branch of said upright, and means carried by said table for vertically adjusting said support on said upper branch.

8. An invalid carrying device comprising a wheeled base, an L-shaped upright pivoted to said base near one side thereof and having a lower branch projecting forwardly from said

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pivot, means carried by said base and engageable with the forward end of said branch for tilting said L-shaped upright, a table having a depending support slidably connected to the upper branch of said arm, and means for vertically adjusting said support on said upper branch.

9. An invalid carrying device comprising a wheeled base, an upright pivoted to said base near one side thereof and having a lower branch projecting forwardly from said pivot, means carried by said base and engageable with the forward end of said branch for tilting said upright, and a table having a depending support slidably connected to said upright, and means for vertically adjusting said support on said upright.

10. An invalid carrying device comprising a wheeled base, an upright pivoted to said base near one side thereof and having a lower branch projecting forwardly from said pivot, means carried by said base and engageable with the forward end of said branch for tilting said upright, and a table supported from its rear edge by said upright.

JAY E. SUTTON.

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