J. RUST.

ADJUSTABLE BED.

APPLICATION FILED DEC. 5, 1917.

1,265,253.

Patented May 7, 1918.

4 SHEETS—SHEET 1.

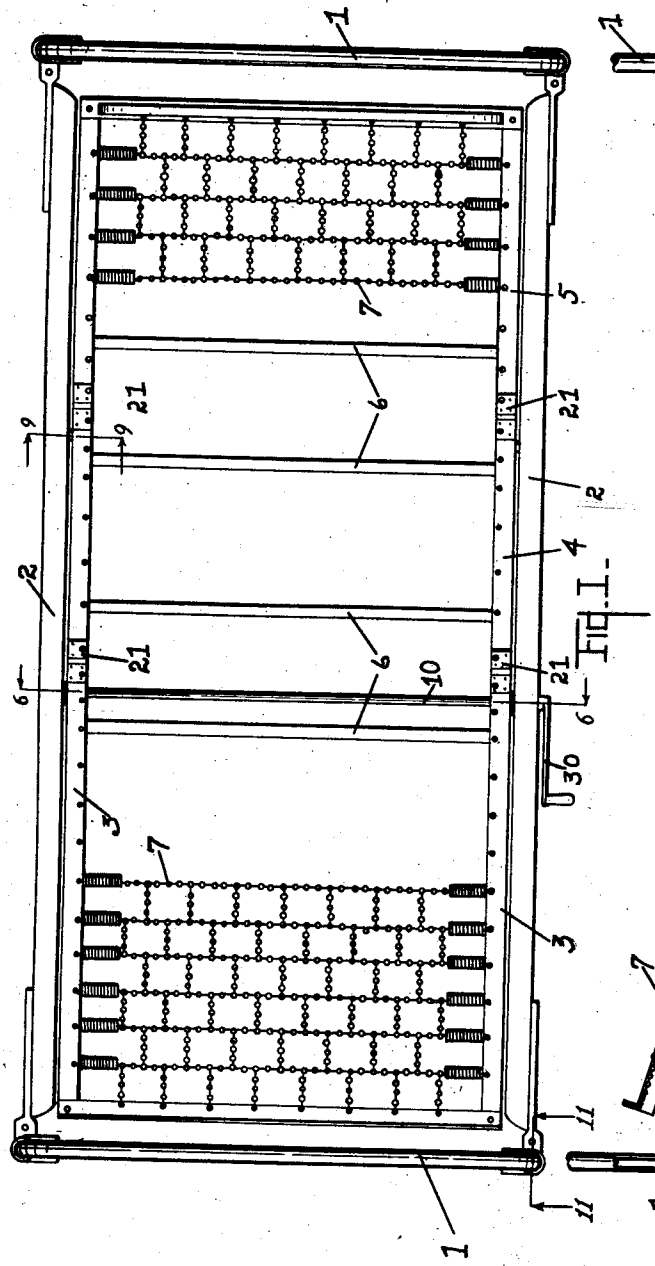


Fig. I.

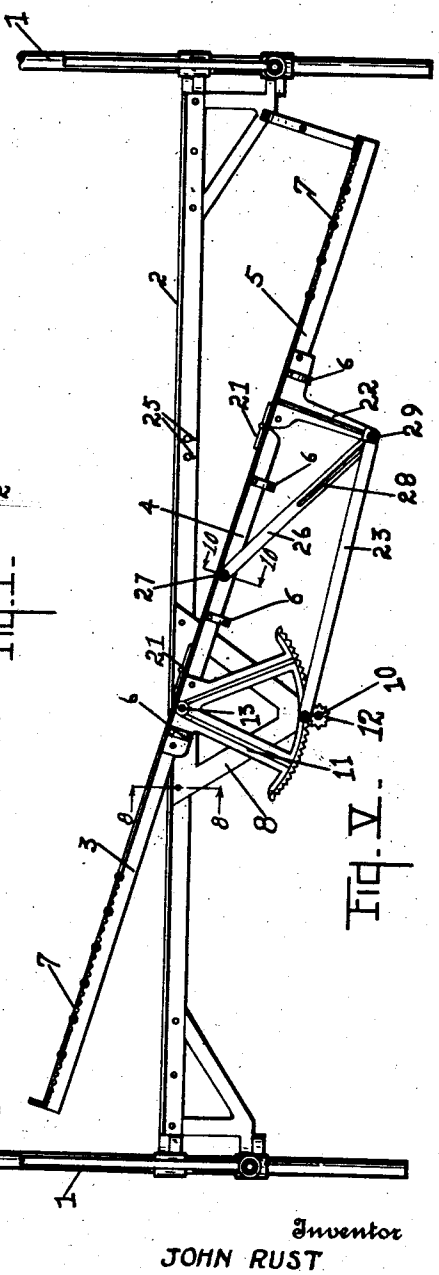


Fig. V.

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Witnesses

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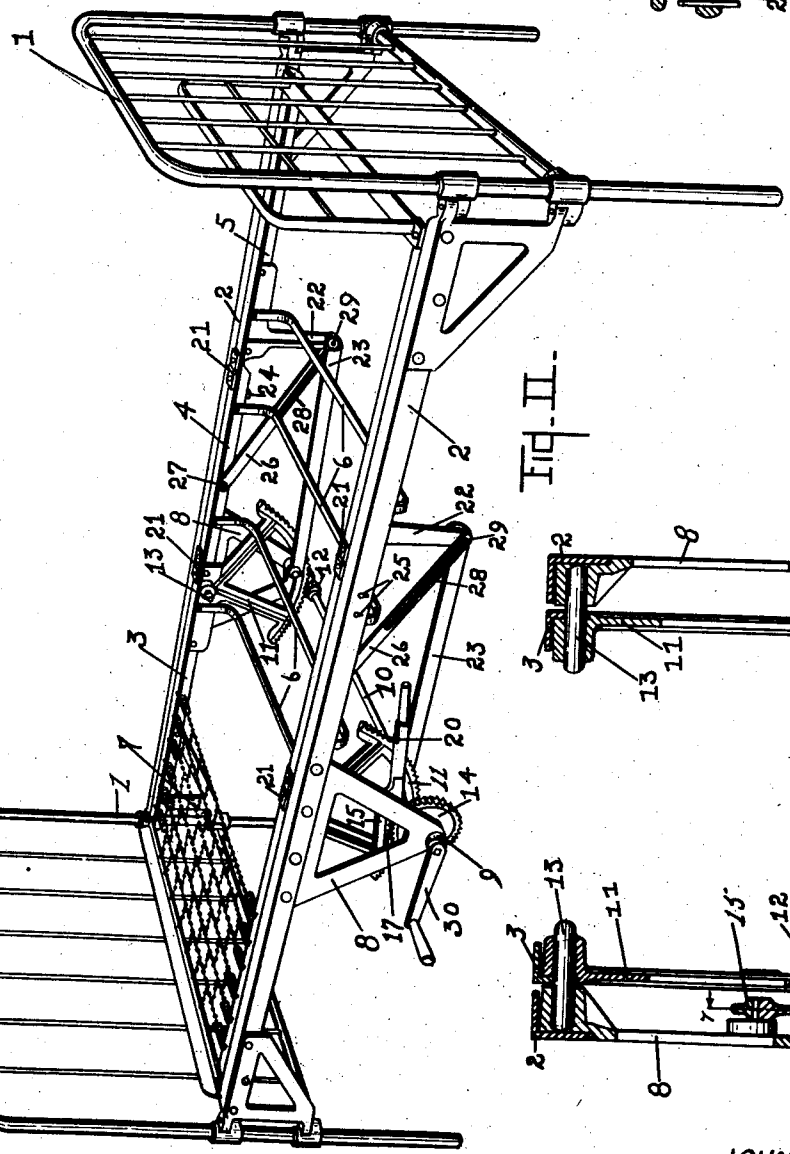


Fig. II.

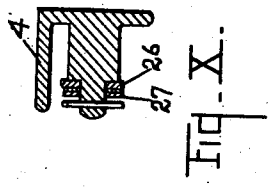


Fig. X.

Fig. VI.

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4 SHEETS—SHEET 3.

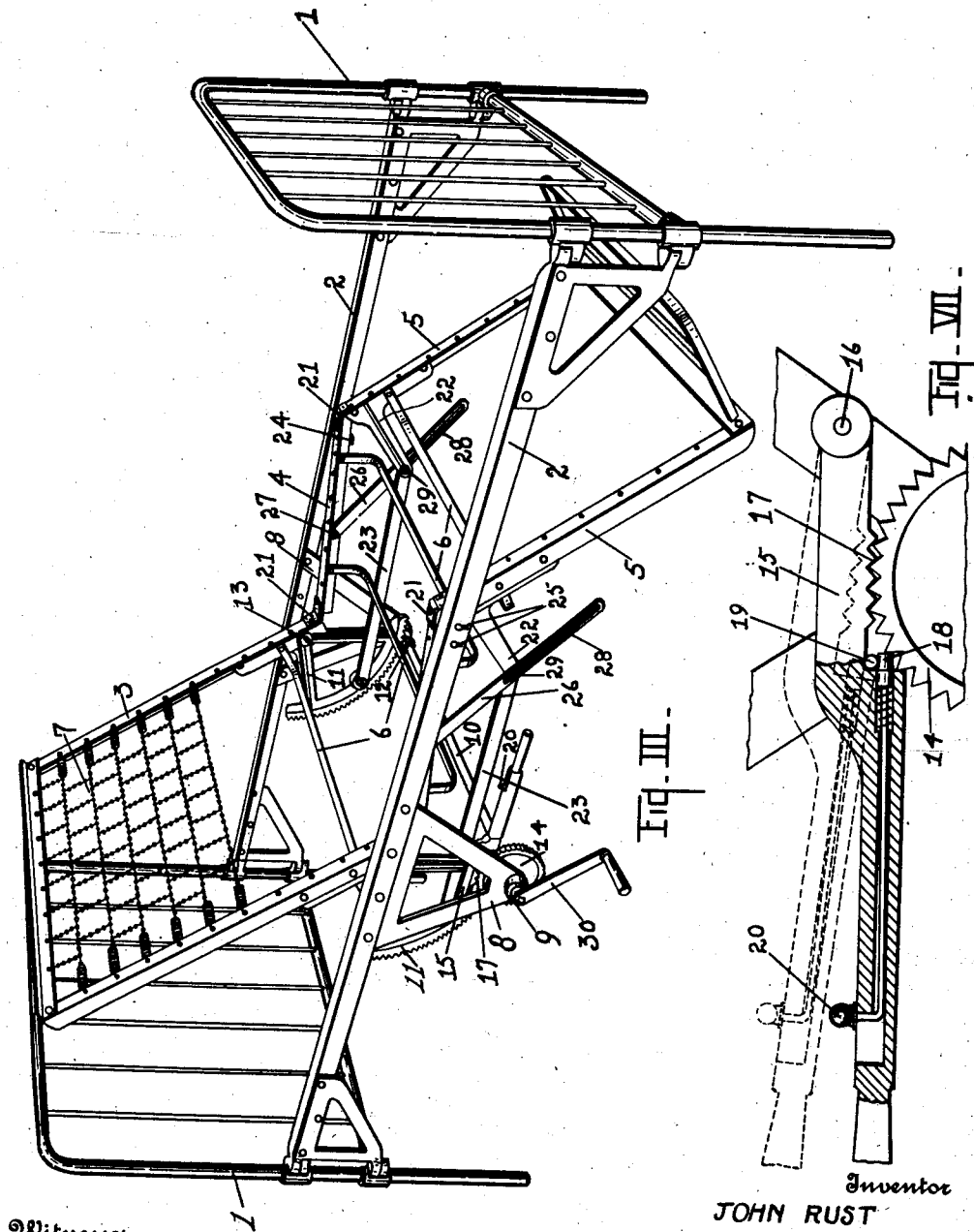


Fig. III.

Fig. VII.

Witnesses

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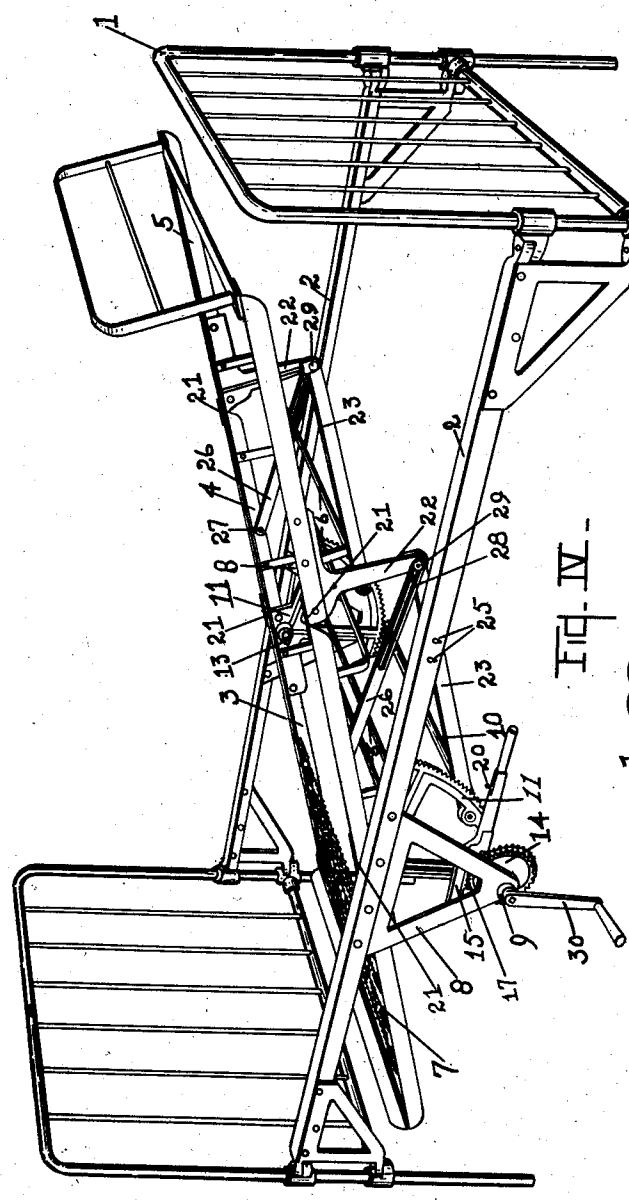
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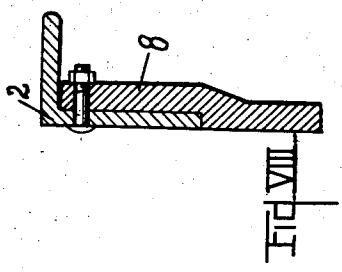


Fig. VIII

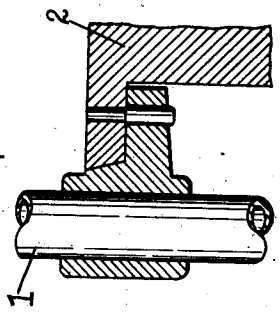


Fig. XI

Fig. IV

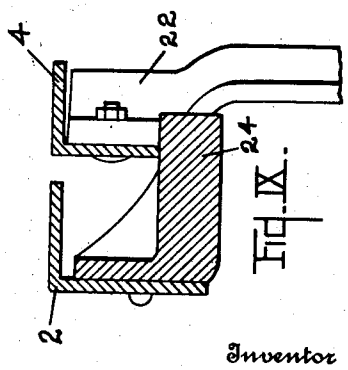


Fig. IX

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN RUST, OF KALAMAZOO, MICHIGAN.

ADJUSTABLE BED.

1,265,253. Specification of Letters Patent. Patented May 7, 1918.

Application filed December 5, 1917. Serial No. 205,496.

To all whom it may concern:

Be it known that I, JOHN RUST, a citizen of the United States, residing at the city and county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Adjustable Beds, of which the following is a specification.

This invention relates to improvements in adjustable beds.

The main objects of this invention are:

First, to provide an improved adjustable bed well adapted for the use of invalids and in hospitals.

Second, to provide an improved adjustable bed which may be tilted as a whole to elevate the head or the foot or adjusted to provide a seat or chair.

Third, to provide an improved bed having these advantages which is very easily manipulated to different positions.

Fourth, to provide an improved adjustable bed which is comparatively simple and economical in structure.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a plan view of a structure embodying the features of my invention, portions of the bed bottom being omitted.

Fig. II is a perspective view.

Fig. III is a perspective view of the structure adjusted as a chair.

Fig. IV is a perspective view with the foot of the bed bottom elevated.

Fig. V is a detail longitudinal section with the head of the bed bottom elevated.

Fig. VI is a detail transverse section on a line corresponding to line 6—6 of Fig. I.

Fig. VII is a detail section of the locking mechanism on a line corresponding to line 7—7 of Fig. VI.

Fig. VIII is a detail section on a line corresponding to line 8—8 of Fig. V, showing details of the hangers.

Fig. IX is a detail section on a line corresponding to line 9—9 of Fig. I, showing the arrangement of the seat rest.

Fig. X is a detail section on a line corresponding to line 10—10 of Fig. V.

Fig. XI is a detail vertical section on a line corresponding to line 11—11 of Fig. I, showing details of the connection for the side rails.

In the drawing similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, the structure illustrated comprises a bed frame, designated generally by the numeral 1, and comprising head and foot members and side rails 2. The bed bottom comprises the head section 3, seat section 4 and foot section 5. These sections are formed of side pieces connected by suitable cross pieces, the intermediate cross pieces 6 being shaped like inverted yokes.

The flexible spring bottom 7 is continuous, only a portion, however, being illustrated.

On each side rail I mount a hanger 8 having bearings 9 at the lower ends thereof for the actuating shaft 10. Segments 11 are rigidly secured to the head section 3 at the inner end thereof. The shaft 10 is provided with pinions 12 meshing with these segments. The segments are pivotally supported by the pivots 13 carried by the hangers,—see Fig. VI.

The shaft is provided with a locking ratchet wheel 14. A locking pawl 15 provided with a series of teeth 17 to coact with the ratchet wheel is pivoted on one of the hangers at 16.

To retain the locking pawl in engaging position it is provided with a reciprocating catch 18 adapted to engage a pin 19 on the hanger,—see Fig. VII. To release the pawl this catch 18 is retracted, it being provided with a finger piece 20 for convenience in manipulation. With this catch retracted the pawl may be lifted from or is free to ratchet over the wheel 14.

The bed bottom sections are joined by the hinges 21.

The foot section 5 has downwardly projecting arms 22 at its inner end which are connected to the segments by the links 23 so that when the segments are swung by means of the actuating shaft the foot section is swung on its pivot.

To support the seat section when the structure is adjusted as a chair I provide a pair of rests 24 adapted to engage key hole slots 25 in the side rails. These rests are disposed so that they support the end of the seat portion adjacent the foot section,—see Fig. III.

To limit the swing of the end section relative to the seat section I provide links 26 which are pivoted to the seat section at 27 and longitudinally slotted at 28 to engage pins 29 on the arms. The slots are of such length that the outer ends of the slots engage the pins 29 when the end section is in alinement with the seat section,—see Figs. II and V.

The actuating shaft is provided with a crank 30.

With the parts thus arranged, the bed bottom may be tilted to a forwardly inclined position, that is, with the head elevated, as shown in Fig. V, or to a rearwardly inclined position or with the foot elevated, as shown in Fig. IV, or as a seat, as shown in Fig. III, merely by the manipulation of the crank and the insertion or removal of the supports or rests 24. These rests should be inserted when the bed is to be adjusted as a seat and should be removed when the bed is to be tilted to a forwardly inclined position, as shown in Fig. V.

My improved adjustable bed is very easily manipulated or adjusted by the means illustrated and may be securely locked in its adjusted positions.

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

1. In an adjustable bed, the combination of a frame comprising side rails, hangers on said side rails, a bed bottom comprising pivotally connected head, seat, and foot sections, segments on which said head section is mounted pivotally mounted on said hangers, a shaft carried by said hangers, pinions on said shaft coacting with said segments, depending arms on said foot section, links connecting said arms to said segments, links pivotally connected to said seat section and having a pin and slot connection with said arms limiting the upward swing of said foot section relative to said seat section, and rests for said seat section removably mounted on said side rails.

2. In an adjustable bed, the combination of a frame comprising side rails, hangers on said side rails, a bed bottom comprising pivotally connected head, seat and foot sections, segments on which said head section is mounted pivotally mounted on said hangers, a shaft carried by said hangers, pinions on said shaft coacting with said segments, depending arms on said foot section, links connecting said arms to said segments, and links pivotally connected to said seat section and having a pin and slot connection with said arms limiting the upward swing of said foot section relative to said seat section.

3. In an adjustable bed, the combination of a frame comprising side rails, hangers on said side rails, a bed bottom comprising pivotally connected head, seat and foot sections, segments on which said head section is mounted pivotally mounted on said hangers, a shaft carried by said hangers, pinions on said shaft coacting with said segments, depending arms on said foot section, links connecting said arms to said segments, and rests for said seat section removably mounted on said side rails.

4. In an adjustable bed, the combination of a frame comprising side rails, hangers on said side rails, a bed bottom comprising pivotally connected head, seat and foot sections, segments on which said head section is mounted pivotally mounted on said hangers, a shaft carried by said hangers, pinions on said shaft coacting with said segments, depending arms on said foot section, and links connecting said arms to said segments.

5. In an adjustable bed, the combination of a frame comprising side rails, hangers on said side rails, a bed bottom comprising pivotally connected head, seat and foot sections, segments on which said head section is mounted pivotally mounted on said hangers, a shaft carried by said hangers, pinions on said shaft coacting with said segments, a locking ratchet wheel on said shaft, a locking pawl coacting with said locking ratchet, depending arms on said foot section, and links connecting said arms to said segments.

6. In an adjustable bed, the combination of a supporting frame, a bed bottom comprising pivotally connected head, seat and foot sections, the head section being supported for pivotal adjustment on said frame, segments secured to said head section, an actuating shaft, pinions on said shaft coacting with said segments, a locking means for said shaft, links connecting said foot section to said segments, a locking means for said shaft, links connecting said foot section to said segments, links pivotally connected to said seat section and having a lost motion connection with said foot section limiting the upward swing thereof relative to said seat section, and rests for said seat section removably mounted on said side rails.

7. In an adjustable bed, the combination of a supporting frame, a bed bottom comprising pivotally connected and adjustable head, seat and foot sections, the head section being supported for pivotal adjustment on said frame and capable of being brought into alinement and tilted forwardly or rearwardly, segments secured to said head section, an actuating shaft, pinions on said shaft coacting with said segments, a locking

means for said shaft, links connecting said foot section to said segments, and rests for said seat section removably mounted on said side rails to support and limit the downward movement of the forward edge of said seat when the bed is adjusted as a chair.

8. In an adjustable bed, the combination of a supporting frame, a bed bottom comprising pivotally connected head, seat and foot sections, the head section being supported for pivotal adjustment on said frame, segments secured to said head section, an actuating shaft, pinions on said shaft coacting with said segments, a locking means for said shaft, links connecting said foot section to said segments, and links pivotally connected to said seat section and having a lost motion connection with said foot section limiting the upward swing thereof relative to said seat section.

9. In an adjustable bed, the combination of a supporting frame, a bed bottom comprising pivotally connected head, seat, and foot sections, the head section being supported for pivotal adjustment on said frame, adjusting members secured to said head section, links connecting said foot section to said adjusting members, and means limiting the upward swing of said foot section relative to said seat section so that after said sections are brought into alinement continued actuation of the head section tilts the bed bottom as a whole.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

JOHN RUST. [L. S.]

Witnesses:
REMMERT VAN DORN,
HARRY L. GERNAUT.