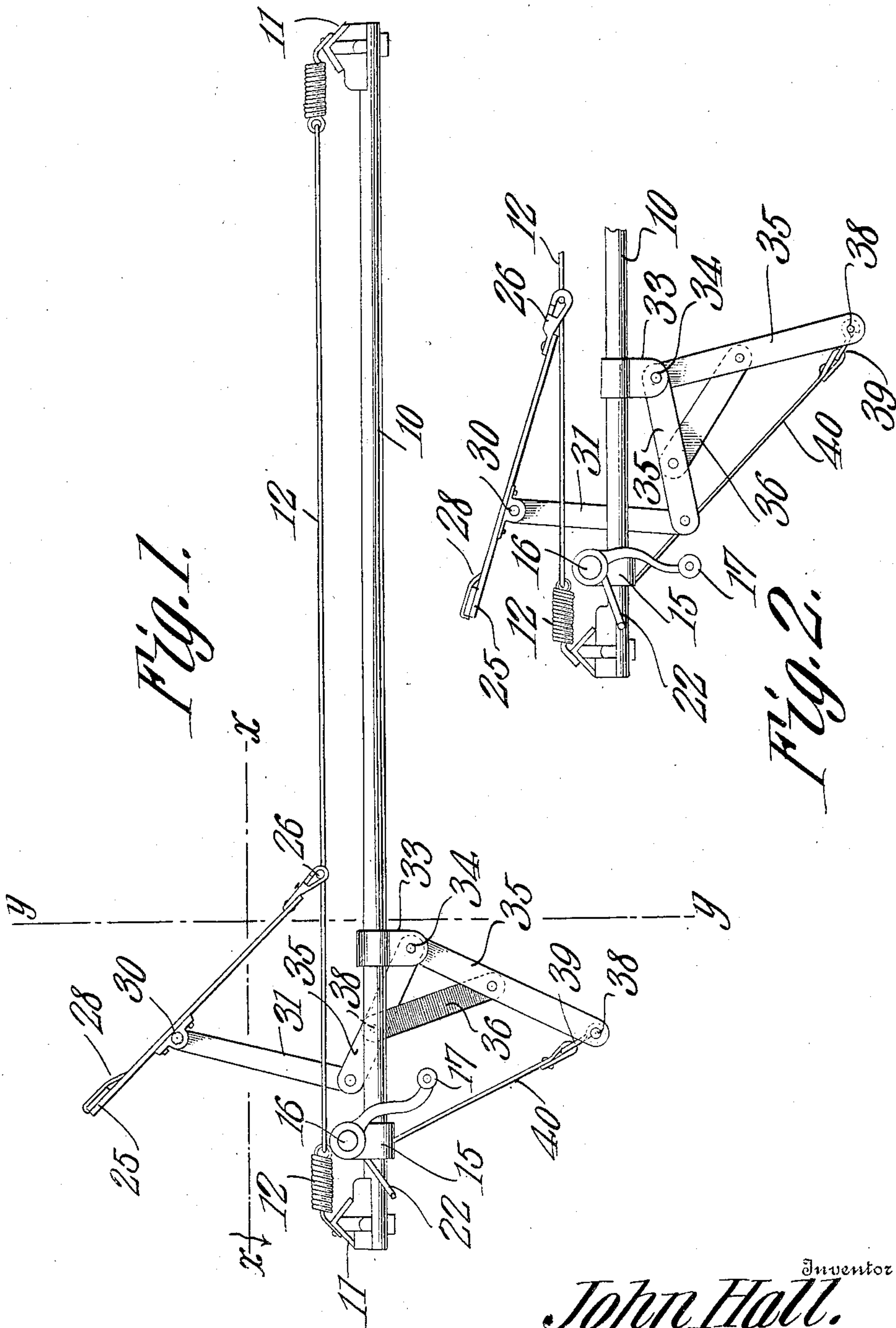


No. 897,891.

PATENTED SEPT. 8, 1908.

J. HALL.
INVALID BED.
APPLICATION FILED DEC. 6, 1907.

2 SHEETS—SHEET 1.



Witnesses

E. H. Stewart
Herbert D. Lawson

John Hall. Inventor

C. A. Snow & Co. Attorneys

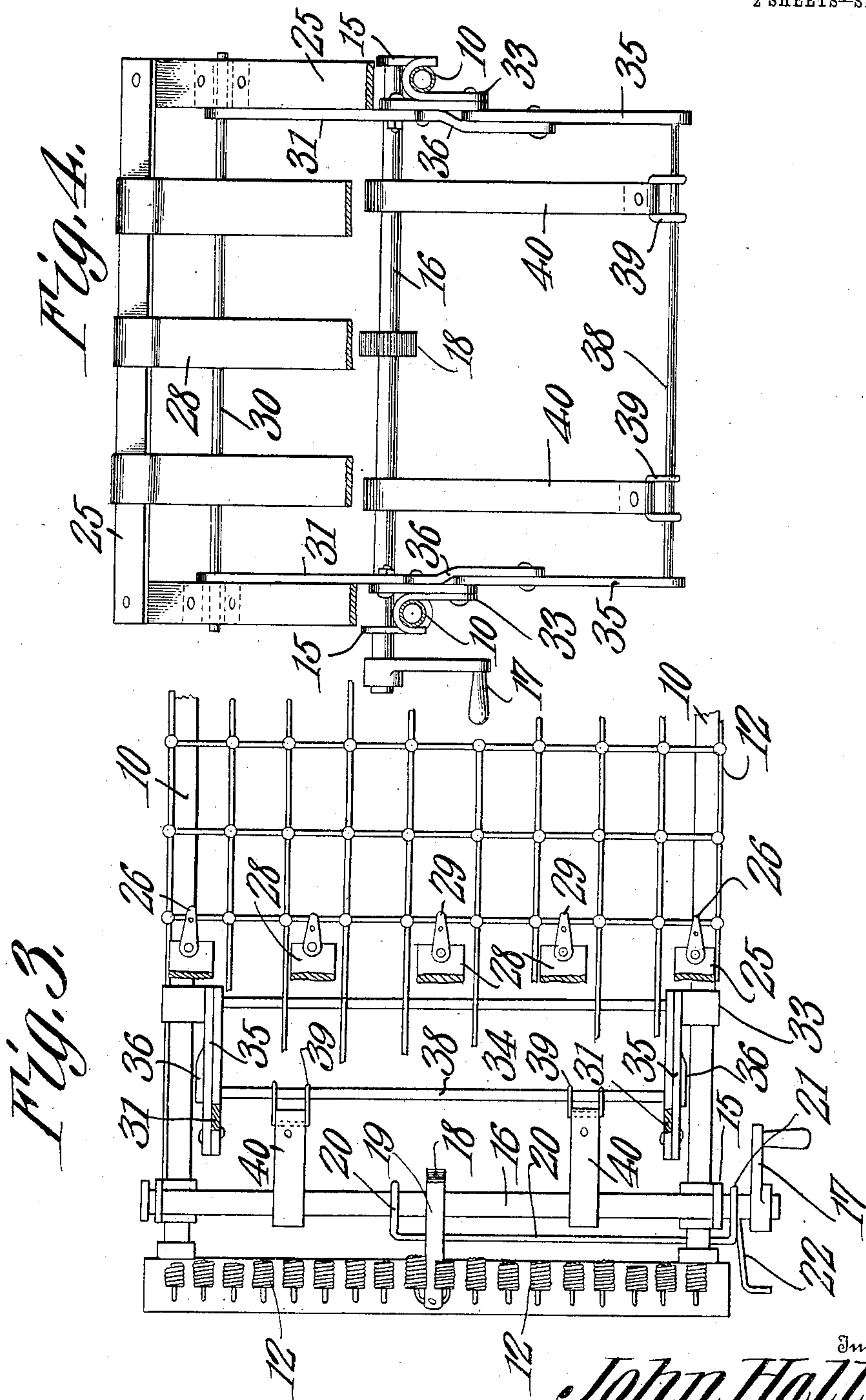
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By

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UNITED STATES PATENT OFFICE.

JOHN HALL, OF NORTH MONROE, NEW HAMPSHIRE.

INVALID-BED.

No. 897,891.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Original application filed September 19, 1907, Serial No. 391,971. Divided and this application filed December 6, 1907. Serial No. 405,392.

To all whom it may concern:

Be it known that I, JOHN HALL, a citizen of the United States, residing at North Monroe, in the county of Grafton and State of New Hampshire, have invented a new and useful Invalid-Bed, of which the following is a specification.

This invention relates to invalid beds and is a division of an application filed by me on Sept. 19, 1907, Serial No. 391,971.

The principal object is to provide a bed of novel construction in which the patient may be moved from a reclining to a sitting position and the back held at any desired angle.

A still further object is to provide means of this character designed to be made and sold as a distinct and separate article of manufacture to be applied to existing bedsteads of any type.

Another object is to provide an adjustable back rest in which the adjusting means is located within the space between the rails of the bedstead in order to prevent obstructions.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a side elevation of a bed having the present improvements applied thereto. Fig. 2 is a similar view of a back rest adjusted to a position different from that disclosed in Fig. 1. Fig. 3 is an enlarged section on line $x-x$, Fig. 1, portions of the fabric constituting the bed bottom being removed. Fig. 4 is a vertical transverse section on line $y-y$, Fig. 1, the fabric and springs of the bed bottom and the end rail of the frame being removed.

Referring to the figures by characters of reference, 10 designates the pair of side bars and 11 the end bars of a substantially rectangular frame constituting the bed proper, the end bars serving for the support of a spring 12 which may be of any ordinary construction, but it is preferred to employ a spring of the type shown wherein the mesh is open, so that certain of the operating members of the back rest may be readily passed through the spring.

The side bars or rails 10 carry vertical

brackets 15 in which is journaled a shaft 16 having at one end a winding crank 17, and on the shaft is a ratchet wheel 18 that is arranged to be engaged by a pivoted locking pawl 19, the pawl being under the control of a release bar 20 having two arms 21 that are pivoted on the shaft proper, one of the arms being extended to form a handle 22 adjacent to the crank 17, so that the pawls may be moved to release position from the winding end of the shaft.

The back rest comprises a substantially U-shaped frame 25, the side bars of which are connected to the springs by small hooks 26 which permit free swinging of the frame in order to move the mattress up or down, and arranged between the side bars are flexible mattress supporting strips 28, the lower ends of which are provided with spring engaging hooks 29, while the upper ends of said strips are connected to the cross bar of the frame. Secured to the lower faces of the parallel bars of the frame 25 is a cross bar 30 to which are pivoted the upper ends of a pair of links 31 which links pass downward through the mesh of the spring. The side rails of the bed are further provided with brackets or hangers 33 carrying a transversely disposed shaft 34, to which are secured two bell crank levers 35, each of these being preferably reinforced by a brace bar 36. The approximately horizontal arms of the bell crank levers are connected together by a cross bar 38. The cross bar 38 is engaged by hooks 39 that are secured to the lower ends of flexible members 40 in the form of straps, chains or the like, the upper ends of said flexible members being secured to the shaft 16, so that as the shaft is turned, these flexible members will be wound thereon, and the bell crank frame will operate to elevate the back rest to any desired angle, and when this angle is reached, the frame will be held in its adjusted position by the pawl 19. To lower the back rest to horizontal position it is merely necessary to release the pawl and lower the rest by allowing the first movement of the winding shaft. It will be observed that all of this mechanism is carried by the bed proper, and not by the bedstead, so that in case of sickness, the ordinary spring bed may be removed from the bedstead, and the bed forming the subject of the present invention

substituted therefor, without the necessity of purchasing an entirely new bedstead or frame.

What is claimed is:

- 5 1. In an invalid bed, a spring structure including a spring carrying frame, an adjustable back rest connected to the spring, a shaft journaled in bearings carried by the spring frame, hangers carried by said frame, 10 a cross bar or shaft mounted in the hangers, bell crank levers fulcrumed on said cross bar or shaft, links extending from the upper arms of the bell crank levers through the mesh of the spring and connected to the 15 back rest, and flexible members extending from the other arms of the bell crank levers to the shaft.
2. In an invalid bed, a spring structure including a spring carrying frame, a back rest 20 connected to the spring, a winding shaft, bearings carried by the spring frame and supporting said winding shaft, an operating crank at one end of the winding shaft, a ratchet wheel on said shaft, a pawl engaging 25 the ratchet wheel, a pawl release bar pivotally mounted on the shaft, a second shaft mounted in hangers depending from the spring frame, a pair of bell crank levers on said second shaft, links connecting the upper 30 arms of the bell crank levers to the back rest, said links extending through the mesh of the spring, and flexible members extend-

ing from the lower arms of said bell crank levers to the winding shaft.

3. In an invalid bed a spring structure including a spring supporting frame, a back 35 rest comprising flexible members, means thereon detachably engaging the spring, non-flexible members constituting a support for the flexible members, means upon said non- 40 flexible members for detachably engaging the spring, the flexible and non-flexible members being supported at their lower ends solely by the spring, a winding shaft, and means actuated thereby for adjusting and 45 supporting the back rest.

4. In an invalid bed, a spring structure including a spring carrying frame, hangers carried by the frame, bell crank levers pivotally 50 supported by the hangers, upstanding links upon the bell crank levers, a back rest pivotally mounted upon said links and including flexible and non-flexible members, means 55 upon each of said members for detachably engaging the wire structure, and means mounted upon the frame for actuating the bell crank levers.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN HALL.

Witnesses:

JAMES G. PEABODY,
JENNETTE W. PEABODY.