

H. M. TERRY.
 CONVERTIBLE BED.
 APPLICATION FILED SEPT. 4, 1912.

1,055,241.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

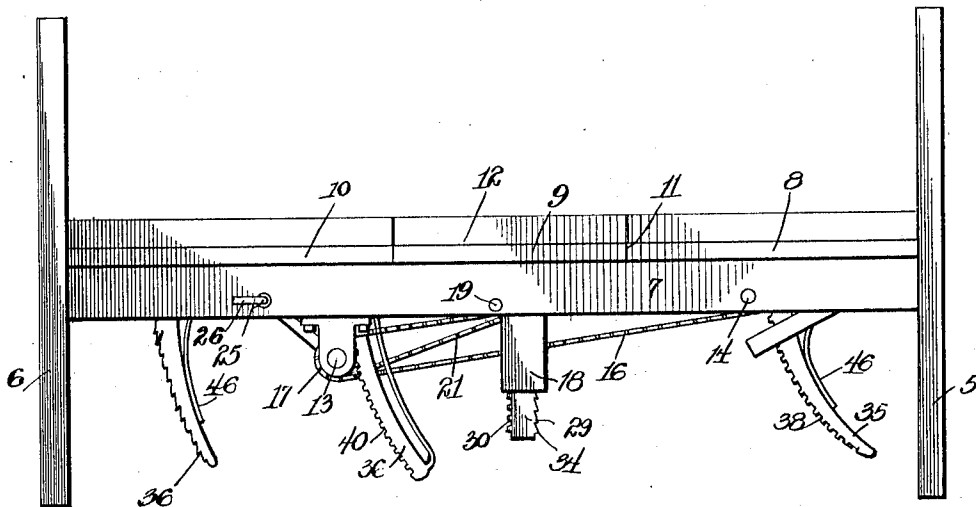
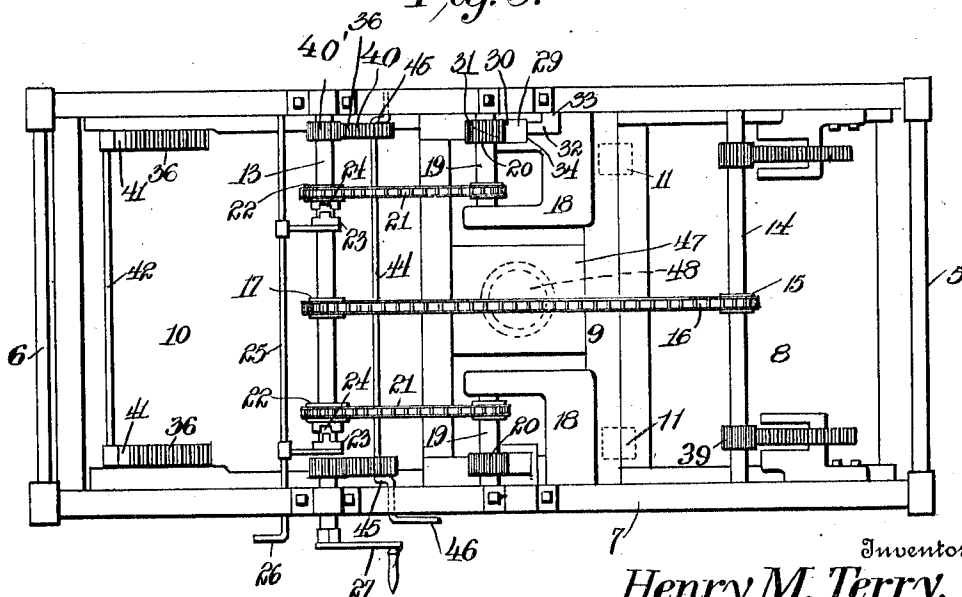


Fig. 3.



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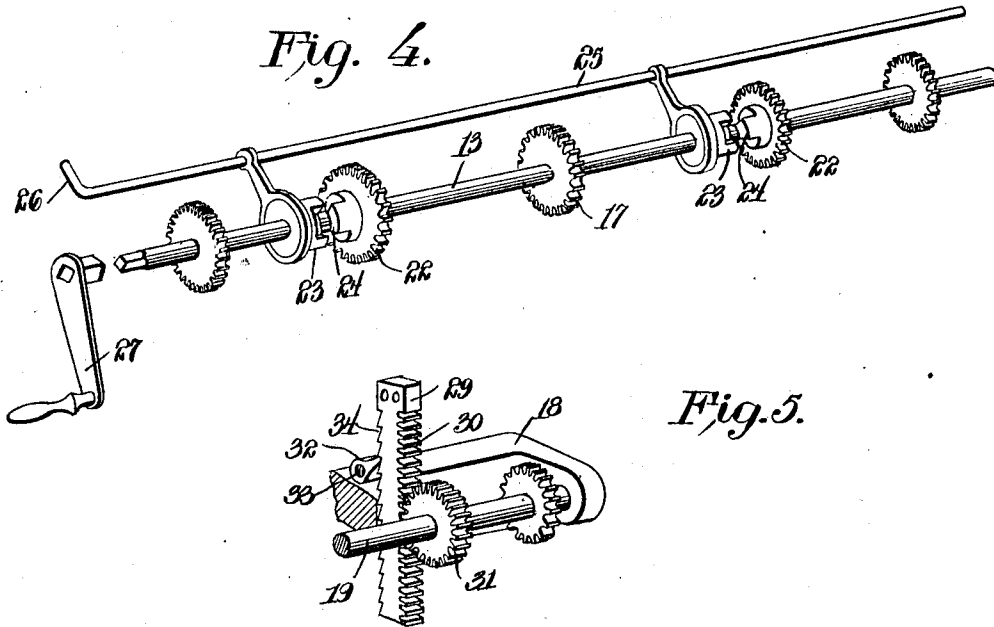
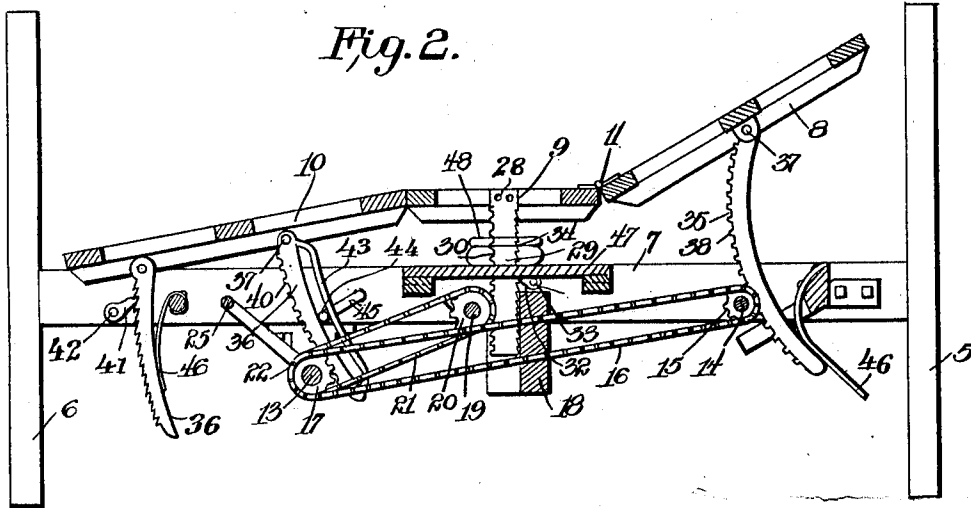
By Victor J. Evans.
 Attorney

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2 SHEETS—SHEET 2.



Witnesses

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CONVERTIBLE BED.

1,055,241.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed September 4, 1912. Serial No. 718,495.

To all whom it may concern:

Be it known that I, HENRY M. TERRY, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented new and useful Improvements in Convertible Beds, of which the following is a specification.

The invention relates to beds, and more particularly to the class of convertible beds for use in hospitals, or the like.

The primary object of the invention is the provision of a bed wherein the mattress support or frame therefor is formed in a plurality of sections, at least two of which are hinged together, whereby on adjusting the same an occupant of the bed can be brought from lying to sitting position without the necessity of bodily handling such occupant, thus avoiding shock to the latter when it is desired to change the position of the patient.

Another object of the invention is the provision of a bed wherein an occupant will be comfortable and when necessary the position of the latter can be changed, so as to bring the patient to sitting, reclining or lying position without requiring exertion on the part of said patient, or the attendant, or the necessity of bodily moving such patient.

A further object of the invention is the provision of a bed which is simple in construction, strong, durable, readily and easily operated, and inexpensive in manufacture.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a side elevation of a bed constructed in accordance with the invention. Fig. 2 is a vertical longitudinal sectional view through the bed showing the same adjusted. Fig. 3 is a bottom plan view of the bed. Fig. 4 is a perspective view of the operating shaft, showing the clutches and sprocket wheels mounted thereon, and its crank handle detached. Fig. 5 is a perspective view of one of the stud shaft brackets, the shaft and rack bar being in relative working position together with the locking dog or catch.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals, the bed comprises a head frame 5, foot frame 6, and side rails 7, the latter being detachably connected to the head and foot frames in any ordinary well-known manner. Adapted to normally rest upon the side rails of the bed is an adjustable mattress support or frame hereinafter more fully described.

The mattress support or frame comprises sections 8, 9 and 10 respectively, the sections 8 and 9 being connected together by means of hinges 11, so that the section 8 can be swung at an angle with respect to the section 9 when the occasion requires. Adapted to be superimposed upon the mattress support or frame is a sectional mattress 12, the sections of which are of a size corresponding to the sections 8, 9 and 10 of the frame, so that the mattress will not interfere with the raising and lowering or the independent adjustment of the sections of the mattress support or frame.

Journaled transversely in the side rails 7 of the bed is an operating shaft 13, while spaced therefrom and arranged contiguous to the head frame 5 and journaled in the side rails 7 is a counter shaft 14, which has fixed thereto medially thereof a sprocket wheel 15 over which is trained a driven sprocket chain 16, the same being also trained over a sprocket wheel 17 fixed centrally to the operating shaft 13, so that on the rotation of the latter similar movement will be simultaneously imparted to the counter shaft 14.

Formed integral with the side rails 7 of the bed and projecting inwardly are brackets 18, in which are journaled rotatable stud shafts 19, to which are fixed sprocket wheels 20, having trained thereover endless sprocket chains 21, the same being also trained over sprocket wheels 22 loosely journaled or mounted upon the operating shaft 13, the said sprocket wheels 22 being held against displacement longitudinally upon the operating shaft 13 in any desirable manner, and on the locking of the sprocket wheels 22 upon the operating shaft motion therefrom may be transferred to the stud shafts 19 for rotating the same simultaneously therewith.

Splined or otherwise keyed to the operating shaft 13 for sliding movement longitudinally thereon are clutch members 23, which are adapted for positive engagement with clutch surfaces 24, formed on the ends

adjacent thereto of the sprocket wheels 22, loosely carried by the said operating shaft, so that the latter will be held fast on the shaft when the clutch members are thrown into engagement with the same. Acting upon the clutch members 23 is an actuating shaft 25, the same being slidably mounted in the side rails 7 of the bed, and is formed with a handle 26 to permit the manual manipulation thereof, for throwing the clutches in engagement with and disengaging the same from the sprocket wheels 22 when desired.

Detachably engaged with one end of the operating shaft 13 is a crank 27, whereby the said shaft may be readily turned as the occasion requires.

Depending from the section 9 and connected thereto by means of fasteners 28 are double rack bars 29, the teeth 30 forming the racks at one side of the bars being in mesh with rack pinion 31 fixed to the stud shafts 19, so that when the latter are rotated in one direction the section 9 will be raised to the desired elevation above the side rails 7 of the bed and on reversing the direction of rotation of the stud shafts, the said section 9 will be lowered on to the side rails of the bed. When the rack bars 29 have been raised the same may be sustained in their adjusted position by means of locking dogs 32, which are pivoted to the side rails of the bed at 33, and engage the rack teeth 34 on said bars.

Depending from the sections 8 and 10 are pairs of arcuate-shaped rack bars 35 and 36 respectively, the same being connected to the said section by means of pivots 37, the rack teeth 38 of the bar 35 being designed to mesh with pinions 39 fixed to the counter-shaft 14, while the rack teeth 40 on one pair of the bars 36 engage or mesh with pinions 40' fixed to the shaft 13 and the rack teeth 40'' on the other pair of bars 36 are engaged by means of locking dogs 41, the same being fixed to a shaft 42 journaled in the side rails 7 of the bed. Formed on the rack bars 36 having teeth 40 are guide loops 43, in which is engaged the crank 44 of a turning shaft 45, the same being formed with a handle 46 which permits the turning of the shaft 45 so that the said rack bars 36 may be brought into or out of engagement with the pinions 40' as will be clearly apparent.

The rack bars 35 and also the rack teeth 40 on the rack bars 36 are held in positive engagement with the pinion 39 and dogs 41 respectively by means of lift springs 46 which are suitably connected to the bed and work against the said rack bars.

It will be noted that by the employment of the clutch members 23 the counter-shaft 14 can be independently operated with respect to the stud shafts 19 on the throwing in of the clutch members 23 with the clutch

surfaces 24 of the sprocket wheels 22, the stud shafts 19 being simultaneously rotated with the counter-shaft 14 whereby the sections 8 and 9 will be raised or adjusted together.

Fixed to the side rails of the bed directly beneath the section 9 is a support such as a shelf 47 which is designed as a rest for a receptacle when the said section 9 has been raised to a position for convenient use by the patient.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the construction and operation of the invention will be clearly understood, and therefore, a more extended explanation has been omitted.

What is claimed is:—

1. In a bedstead, a mattress frame comprising a plurality of sections adapted to normally rest upon the side rails of the bedstead, hinges connecting a pair of said sections, racks connected to the sections, means engaging a series of the racks for raising a pair of the sections, means having connection with said first named means for controlling the same, and means for locking the remaining rack in adjusted position.

2. In a bedstead, a mattress frame comprising a plurality of sections adapted to normally rest upon the side walls of the bedstead, hinges connecting a pair of said sections, racks connected to the sections, means engaging a series of the racks for raising a pair of the sections, means having connection with said first named means for controlling the same, means for locking the remaining rack in adjusted position, and a rest connected with the side rails of the bedstead and lying beneath one of said sections.

3. In a bedstead, a mattress frame comprising a plurality of sections adapted to normally rest upon the side walls of the bedstead, hinges connecting a pair of said sections, racks connected to the sections, means engaging a series of the racks for raising a pair of the sections, means having connection with said first named means for controlling the same, means for locking the remaining rack in adjusted position, a rest connected with the side rails of the bedstead, and clutch means controlling the connections between the driving means and one of the driven means.

4. In a bedstead, a mattress frame comprising a plurality of sections adapted to normally rest upon the side walls of the bedstead, hinges connecting a pair of said sections, racks connected to the sections, means engaging a series of the racks for raising a pair of the sections, means having connection with said first named means for controlling the same, means for locking the remaining rack in adjusted position, a rest

connected with the side rails of the bedstead and lying beneath one of said sections, clutch means controlling the connections between the driving means and one of the
5 driven means, and manually operable means for actuating the clutch means.

5. In a bedstead, a mattress frame comprising a plurality of sections adapted to normally rest upon the side walls of the
10 bedstead, hinges connecting a pair of said sections, racks connected to the sections, means engaging a series of the racks for raising a pair of the sections, means having connection with said first named means for
15 controlling the same, means for locking the remaining rack in adjusted position, a rest

connected with the side rails of the bedstead and lying beneath one of said sections, clutch means controlling the connections between the driving means and one of
20 the driven means, manually operable means for actuating the clutch means, and means acting upon one pair of racks to move same into and out of engagement with the driven
25 means.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY M. TERRY.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
