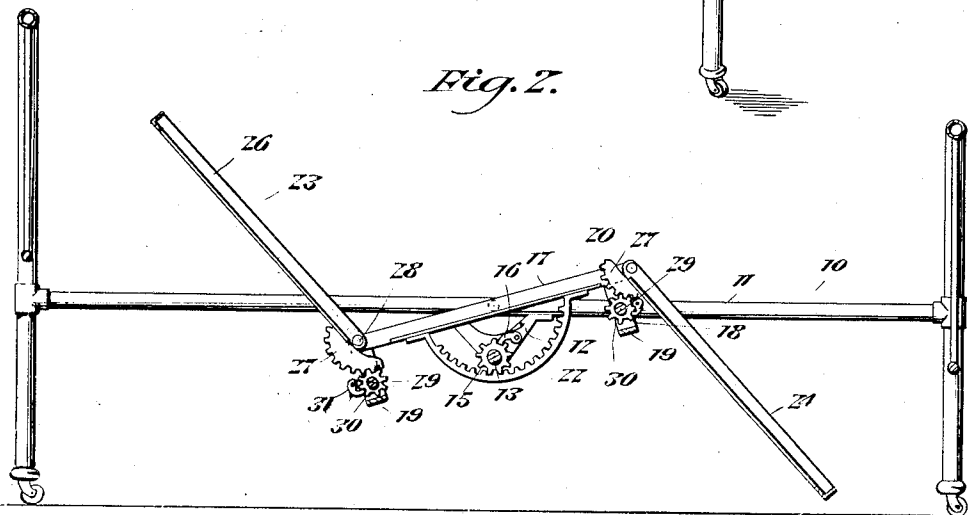
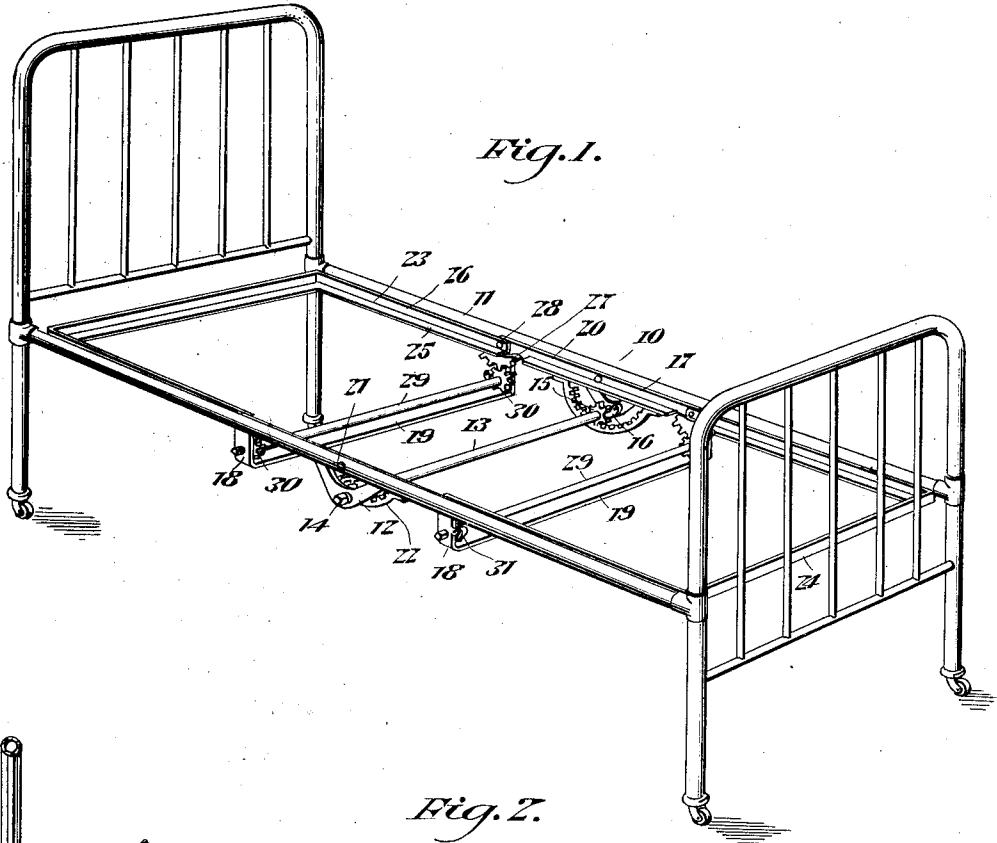


F. R. PAYNE,  
INVALID'S BED.

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1,356,467.

Patented Oct. 19, 1920.  
3 SHEETS—SHEET 1.



Inventor

*F. R. Payne*

Witnesses

*W. J. Evans*

By *Victor J. Evans*

Attorney

F. R. PAYNE.  
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3 SHEETS—SHEET 2.

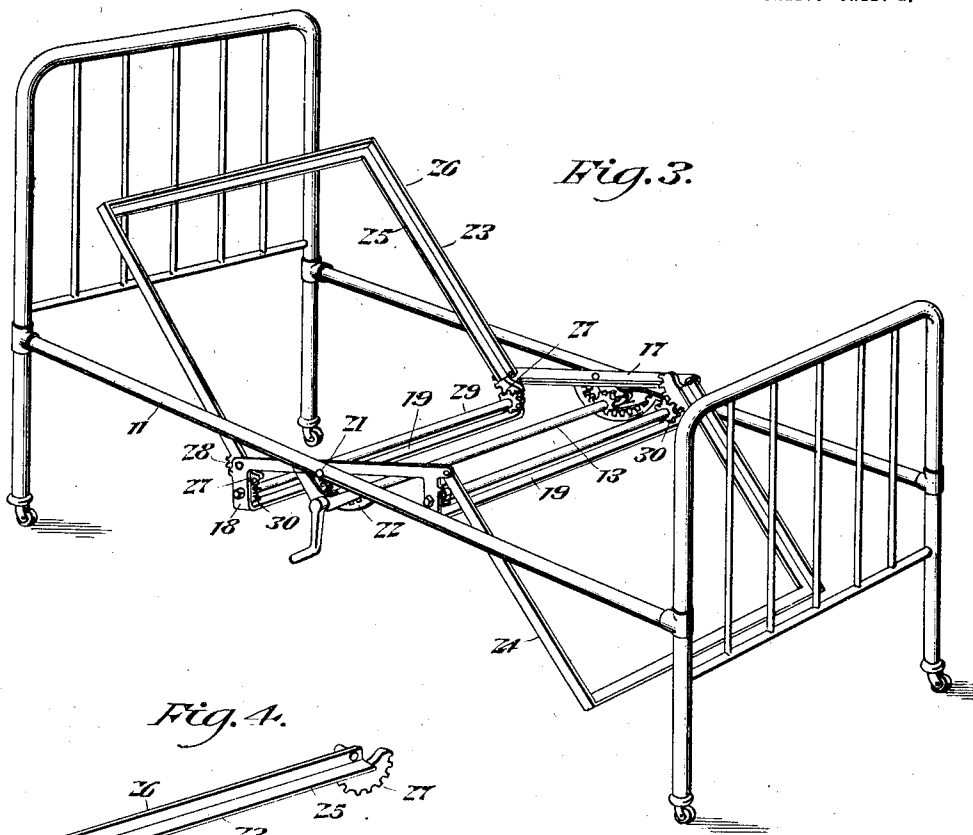


Fig. 3.

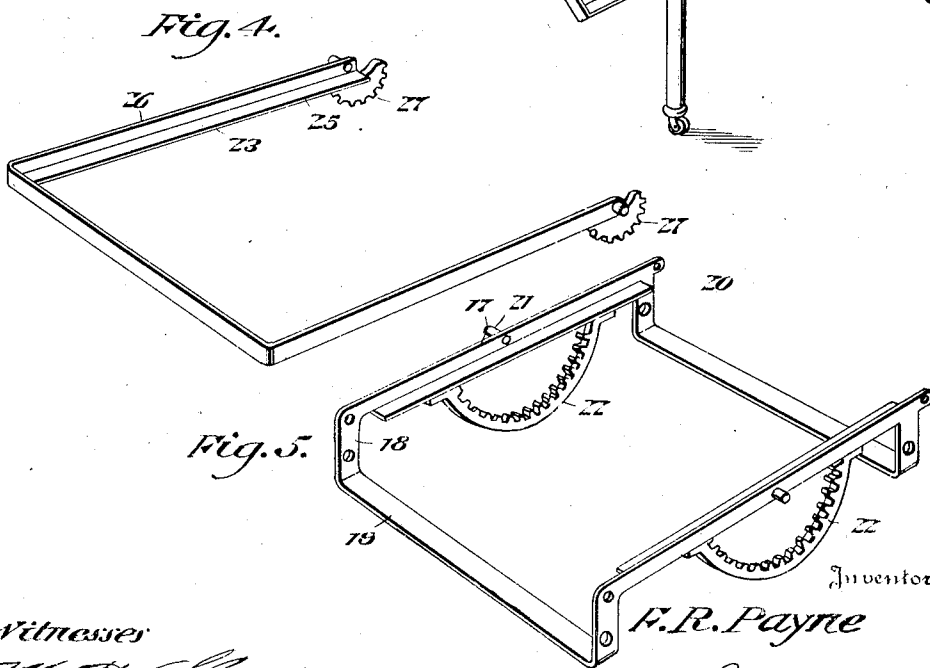


Fig. 4.

Fig. 5.

Witnesses  
*W. A. [Signature]*

Inventor  
*F. R. Payne*  
By *Victor J. Evans*  
Attorney

F. R. PAYNE.  
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3 SHEETS—SHEET 3.

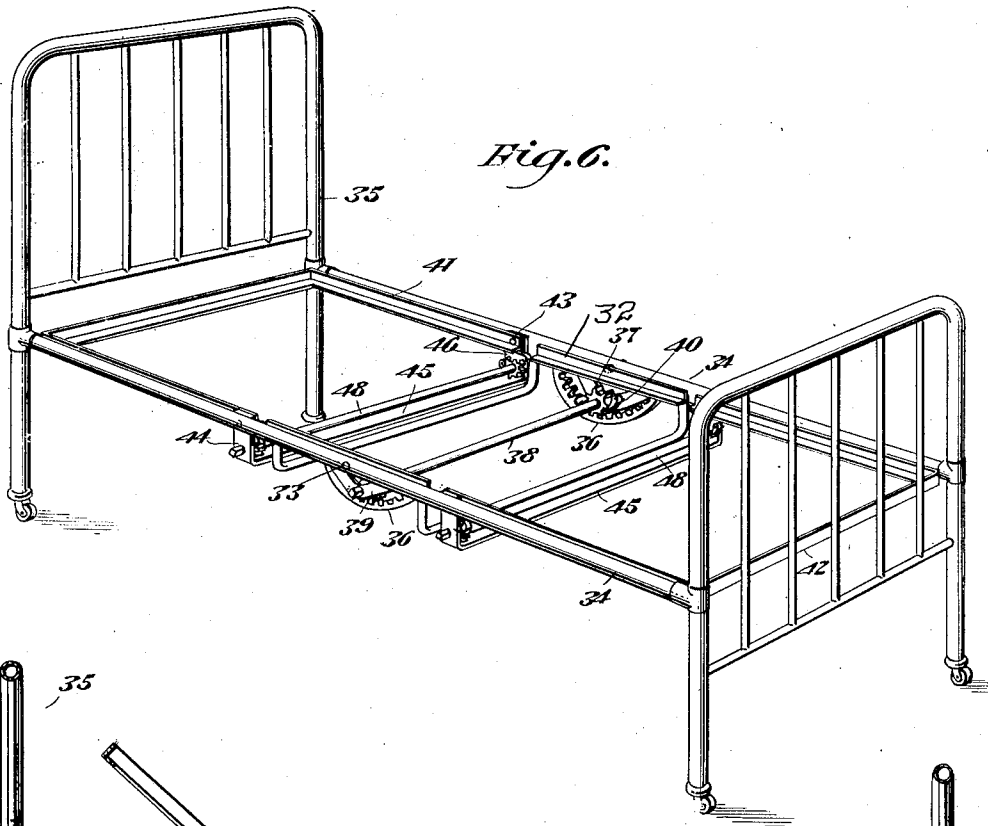


Fig. 6.

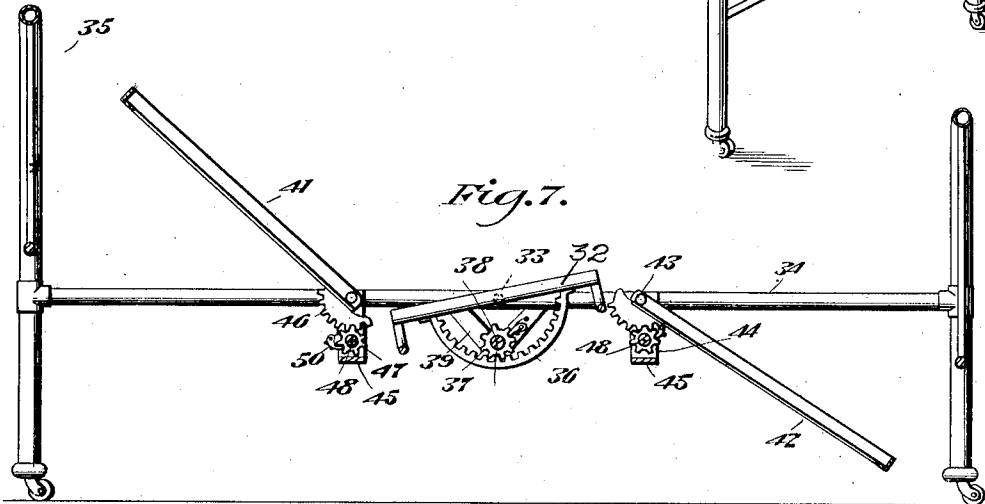


Fig. 7.

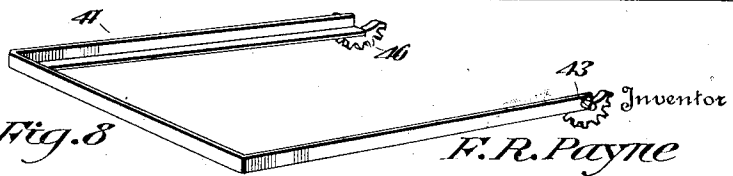


Fig. 8

Witnesses

*M. H. [Signature]*

Inventor

F. R. Payne

By *Victor J. Evans*

Attorney

# UNITED STATES PATENT OFFICE.

FREDERICK R. PAYNE, OF CHICAGO, ILLINOIS.

## INVALID'S BED.

1,356,467.

Specification of Letters Patent.

Patented Oct. 19, 1920.

Application filed February 4, 1919. Serial No. 274,907.

*To all whom it may concern:*

Be it known that I, FREDERICK R. PAYNE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Invalids' Beds, of which the following is a specification.

This invention relates to improvements in invalids' beds, and has for its primary object to provide a bed of this character which is simple of construction and which may be cheaply manufactured, and which embodies a bottom constructed of a plurality of sections which are relatively adjustable where-  
by the same may be brought to different widths or angles to suit the convenience of the patient, and dispose the parts in different positions as occasion may demand.

A further object of the invention is to produce a sectional bottom which may be applied to the side rails of an ordinary construction of bedsteads and wherein the sections comprising the bottom are relatively adjustable to assume different angles and effectively locked when so adjusted as well as when the sections are brought to alinement.

With these and other objects in view, the invention, consists in the features of construction, combination and arrangement of parts, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the improvement.

Fig. 2 is an approximately central longitudinal view through the same, the sections of the bottom being arranged angularly with respect to each other.

Fig. 3 is a perspective view of the improvement, the parts being in the position shown in Fig. 2.

Fig. 4 is a perspective view of one of the end sections.

Fig. 5 is a perspective view of the center section.

Fig. 6 is a perspective view of a modified form of the bed.

Fig. 7 is an approximately central longitudinal sectional view through the same, the sections comprising the bottom being arranged at an angle with respect to each other.

Fig. 8 is a perspective view of one of the end sections of the bottom.

The bedstead is broadly indicated by the numeral 10, and the side rails, removably connected to the corner posts of the head and foot of the bedstead by the numerals 11.

To the side rails 11, at the center thereof are connected or may be formed, oppositely arranged depending brackets 12 which are preferably V-shaped in plan. The brackets have alining openings which provide bearings for a shaft 13, the said shaft being held by collars, or by any suitable means against longitudinal movement, and the said shaft having one or if desired both of its ends squared in cross section as indicated by 14, and these squared portions are designed to receive the socket of a suitable handle whereby the shaft 13 may be rotated. Keyed or otherwise secured to the shaft, and preferably contacting with the brackets 12 are toothed wheels 15 one or both being preferably engaged by a spring pressed dog 16, although any other suitable means may be provided for holding the shaft 13 against turning.

The bed bottom comprises a central section and end sections which are arranged between the side rails 11. The center section, in the preferred embodiment of the improvement includes parallel side members 17 having their ends formed with depending portions 18 and a connecting member 19 for the said depending portions 18. Thus the central section 20 is in the nature of a frame, being substantially rectangular in plan and U-shaped in end elevation. The side members 17 are preferably provided with centrally arranged outwardly extending trunnions 21 which are received in bearing openings in the side rails 11, the trunnions and the bearings therefor being arranged directly above the shaft 13. Secured to each of the sides 17 of the central member 20 is an arched rack 22, and the teeth of these racks are engaged by the toothed wheels 15 of the shaft 13. It will thus be apparent that by turning the shaft 13 the center section 20 may be tilted on its trunnions 21 to arrange the same at a desired angle with respect to the sides 11 of the bedstead and may be held at such angle by the co-engagement of the spring dogs 16 with the toothed wheels 15. The frame of the center member 20, or at least the side members 17 thereof is constructed of angle-irons, the horizontal flanges of which being arranged at the lower edges

and being inturned, and upon these flanges may rest suitable slats which support the springs for the mattress.

The end frames, while of a similar construction are indicated for distinction by the numerals 23 and 24 respectively. The section 23 will hereinafter, for convenience be referred to as the head section, the same being arranged adjacent the head post of the bed, and the section 24 will be referred to as the foot section.

Both the sections 23 and 24 are in the nature of a U-shaped frame each preferably constructed of an angle-iron, or otherwise having their lower edges provided with inturned flanges 25. The side members 26 of the respective frames, at the free ends thereof are formed with or have rigidly secured thereon arched toothed segments 27, and upward of these segments the said side members 26 are provided with outstanding trunnions designed to be received in bearing openings in the ends of the side members 17 of the central frame 20, or may be otherwise pivotally connected with the said ends of the said side members as indicated by the numerals 28. The flanges 25 may be notched to receive slats or may directly receive the frame, the frames having each the section of a mattress or parts of a single mattress resting thereon, or on the springs for such mattress.

The depending members 18, at the ends of the side members 17 of the center frame 20 are provided with alining openings forming bearings for shafts 29, the said shafts being held against longitudinal movement in any desired or preferred manner, and the said shafts having keyed or otherwise secured thereon toothed wheels 30, which mesh with the toothed segments. The ends of the shaft may be cranked or may be squared in cross section to receive the sockets of crank handle members, or the crank handle, which is designed to engage with the ends of the shaft 13, and by turning the shafts 29 it will be apparent that the head and foot sections 23 and 24 may be swung to a desired angle with respect to the center section of the frame 20. To hold the shafts against rotation and to hold the sections 23 and 24 at desired inclinations, the toothed wheels 30 may be engaged by spring pressed dogs 31, or any other desired mechanism may be employed for this purpose.

In the construction illustrated in Figs. 6 to 8 of the drawings the center frame 32 for the bottom has its side member centrally pivoted, as at 33 to the side rail 34 of the bedstead 35. The sides of the said center member or frame 32 are provided with depending arched racks 36 which are engaged by toothed wheels 37 secured on a shaft 38 journaled in bearing openings in brackets 39 secured to and depending from the side

rails 34 of the bedstead 35. The ends of the shaft 38 are bent to provide a crank or the said ends may be shaped to receive the socket of a crank handle whereby the shaft may be turned and consequently swing the center section 32 on its pivots 33 to bring the same at a desired inclination with respect to the bedstead. The toothed wheels 39 on the shaft 38 are preferably engaged by spring pressed dogs 40 so that the shaft is normally held against turning, and the dogs are, of course, released when it is desired to turn the shaft and tilt the center frame 32. The side members of the center frame are in the nature of angle bars to receive the slats which support the spring of the mattress, or the mattress may rest directly upon the inturned flanges or horizontal portions of the said angle bars.

The end frames, for the bottom, indicated by the numerals 41 and 42 respectively are in the nature of U-shaped members, and are also constructed of angle bars, the horizontal flanges of which are inturned. The side arms or members of the frames 41 and 42 are provided with outstanding trunnions, at the outer ends thereof, the said trunnions being indicated by the numerals 43 and being received in bearing openings in the side rails 34, or in the vertical end portions of substantially U-shaped cross pieces 44, the flanged ends 44 of the same being secured to the side rails 34 of the bedstead 35. The ends of the side members of the frames 41 and 42 are formed with or have secured thereon depending toothed segments 46 which are engaged by toothed wheels 47 on a shaft 48 that passes through bearing openings in the flanged sides 44 of the connecting members 45. The shaft is held against longitudinal movement either by contact of the toothed wheels 47 with the inner faces of the ends 44 of the members 45, or in any other desired manner, and the projecting ends of the shafts may be cranked or arranged to receive the socket of a crank handle thereon. The shaft 48 is normally held from turning, preferably through the medium of spring pressed dogs 50 engaging with the toothed wheels 47, but any other desired means may be provided for this purpose. With this construction the end sections may be adjusted independent of each other and independent of the center section 32, and in both of the forms of the device the bottom of the bedstead may be arranged at desired angles to best suit the comfort of the invalid or other persons reclining thereon.

The elements constituting the improvement are, as far as possible, constructed of tubing reinforced by strengthening rods received in said tubings. This not only produces a very strong structure but the elements constituting the same being round

in cross section will not collect dust thereon so that the bed may be easily cleaned.

Having thus described the invention, what I claim is:

5 In combination with the side rails of a bedstead having depending brackets at the center thereof, of a bottom frame between the rails and including a center frame and end frames, each of said frames having in-  
10 turned flanges, and the end frames being substantially U-shape in plan, toothed segments on the inner ends of the end frames, arched toothed segments on the center frame,

a pivotal connection between the end frames and the central frame, a shaft journaled in 15 the mentioned brackets, toothed wheels thereon meshing with the arched segments, locking means for the last mentioned shafts journaled in the center frame, toothed 20 wheels on said shafts meshing with the toothed segments of the end frames, and locking means for the last mentioned toothed wheels.

In witness whereof I affix my signature.

FREDERICK R. PAYNE.