

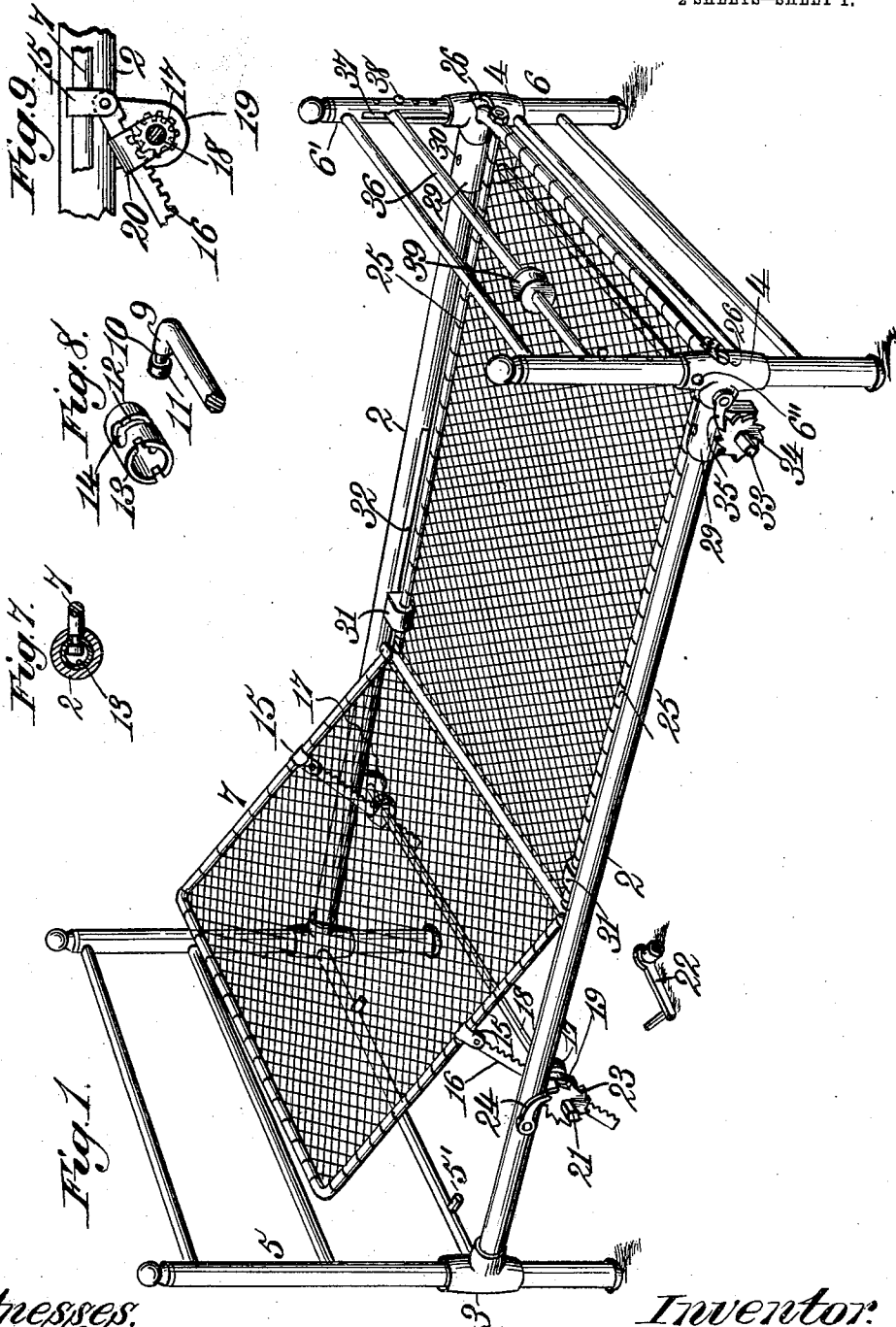
No. 890,407.

PATENTED JUNE 9, 1908.

G. B. COLLES.  
INVALID BED.

APPLICATION FILED SEPT. 12, 1907.

2 SHEETS—SHEET 1.



Witnesses:  
Robert Courtt,  
J. B. Kuefer

Inventor:  
George B. Colles.  
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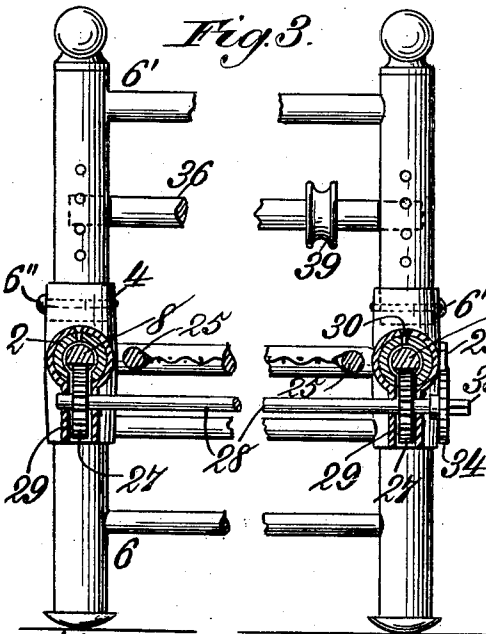
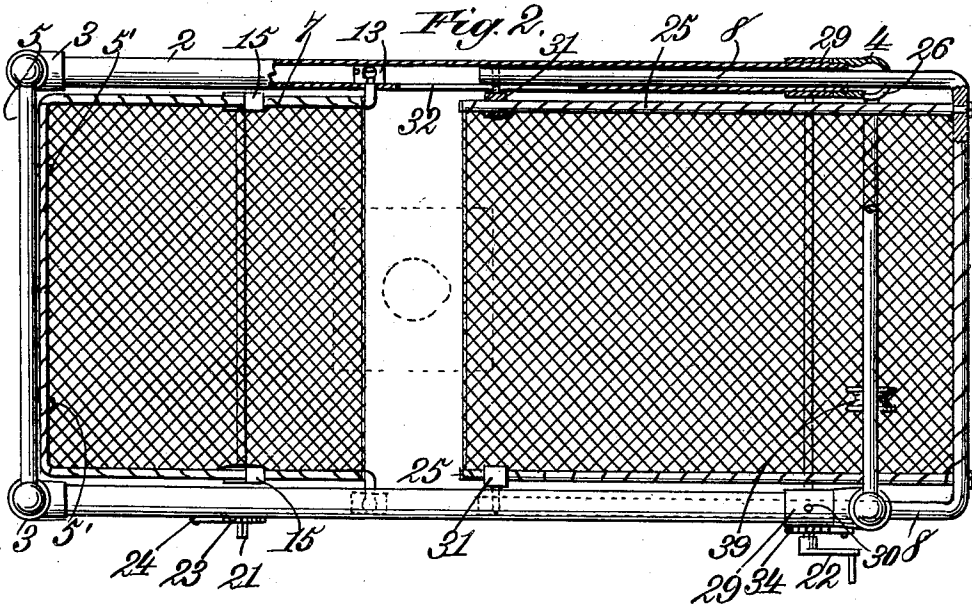
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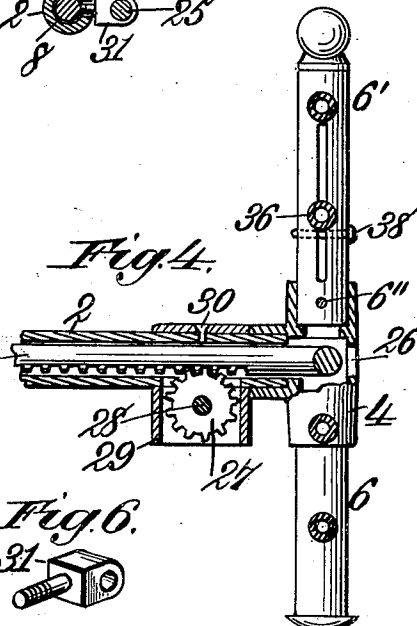
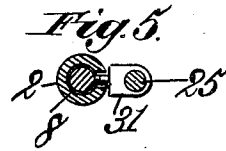
G. B. COLLES.  
INVALID BED.

APPLICATION FILED SEPT. 12, 1907.

2 SHEETS—SHEET 2.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

GEORGE B. COLLES, OF HARRIMAN, TENNESSEE.

## INVALID-BED.

No. 890,407.

Specification of Letters Patent.

Patented June 9, 1908.

Application filed September 12, 1907. Serial No. 392,515.

*To all whom it may concern:*

Be it known that I, GEORGE B. COLLES, a citizen of the United States, residing at Harriman, in the county of Roane and State of Tennessee, have invented new and useful Improvements in Invalid-Beds, of which the following is a specification.

This invention relates to invalid beds or as they are sometimes called surgical bedsteads, the object of the invention being to provide a simple and effective apparatus of this character which is comparatively light yet thoroughly strong; which can be inexpensively manufactured, and the parts of which can be readily assembled.

In the present case the bed comprises a bottom which is adapted to support a pad or mattress, or the patient may lie directly on such bottom. The latter is composed of sections which can be separated longitudinally of the bed for the purpose of providing a space when it becomes necessary for the patient to use a commode placed under said bottom. The upper of said sections is angularly adjustable, and I provide means for raising the same when it becomes necessary to lift the body of a patient for the purpose of feeding or for any other reason.

I have described in a general way a bed involving some of the features of my invention; the foregoing and other features will be fully set forth in the following description wherein is outlined that form of embodiment of the invention which I have selected for illustration in the drawings accompanying and forming part of this specification.

Referring to said drawings: Figure 1 is a perspective view of said bed. Fig. 2 is a top plan view of the same. Fig. 3 is a cross sectional view of the bed with the intermediate portions removed. Fig. 4 is a longitudinal section of one of the side rails and foot of the bed. Fig. 5 is a sectional detail view, the section being taken through one of said side rails and showing a portion of one of the sections of the bottom. Fig. 6 is a like view in perspective of a screw. Fig. 7 is a sectional detail view showing a manner of mounting the swinging or tilting section of the bottom. Fig. 8 is a perspective view of the sleeve and side bar shown in Fig. 7. Fig. 9 is a detail view showing part of the means for elevating the tilting section of the bottom.

Like characters refer to like parts throughout the several figures of the drawings.

The bed includes in its organization two side rails each denoted by 2, and the ends of these side rails are shown as fitted in the tees denoted by 3 and 4 of the head 5 and foot 6 respectively, said head and foot being preferably stationary with respect to said side rails and provided with hard rubber pads as substitutes for casters. The side rails 2 with the head 5 and foot 6 constitute the body of the bed. Said side rails are shown as being hollow and this construction may be obtained by making said side rails of tubing or piping; the head and foot will also preferably be constructed of suitably connected tubes, by virtue of which lightness and strength are obtained.

The bed bottom preferably consists of an upper or head section as 7 and a lower section as 8. In the present case the two sections 7 and 8 may be separated longitudinally of the bed by the endwise movement of the section 8, the section 7 being tiltably or angularly adjustable.

The adjustable section 7 of the bed bottom is shown as consisting of a yoke with which is connected woven wire in the manner followed in constructing ordinary bed bottoms. The side bars of the section or yoke 7 are provided with lateral projections as 9 preferably channeled as at 10 whereby there is formed a head as 11 at the outer end of each of said lateral projections 9. These lateral projections 9 are adapted to enter slots as 12 formed circumferentially in sleeves as 13 fitted in the hollow or tubular side rails 2. Each slot 12 has a terminally enlarged portion 14 the purpose of which will now appear, although it should be explained at this time that the side rails 2 are perforated to receive the lateral projections 9.

In assembling the parts of the bed the sleeves 13 are inserted in the side rails 2 from one end thereof and passed along said rails until the slots 12 are coincident with the perforations in said rails, through which the projections 9 are to be passed. Said sleeves 12 are then turned by a screw-driver or similar implement, and they are slotted for such purpose, until the enlarged portions 14 of the slots 12 are in register with the perforations in the side rails 2 through which the projections are to be passed. When this is done said projections can be projected through said perforations and through the wide or enlarged portions 14 of the slots 12. When 110

this is accomplished the sleeves 13 will be turned in a direction to cause the necks 10 to enter the narrow or main portions of the slots 12, the width of which equals respectively approximately that of the diameter of said necks, which necks are the bottoms of the channels 10 to which I have previously referred. This construction provides for an effective pivotal mounting of the upper section of the bed bottom and said upper section is firmly held in place, while, owing to the connection between the same and the sleeves 13, the latter cannot be moved in an endwise direction. When, however, the sleeves 13 are turned so that the wide portions 14 of the slots 12 are opposite the heads or buttons 11 the said upper section can be dismounted.

I have shown as connected to the side bars of the section 7 brackets as 15 and to the same are preferably pivotally connected rack-bars as 16 which depend from said brackets 15 and the teeth of which are adapted to mesh with those of pinions as 17 fastened to the transverse shaft 18 rotatably carried by bearings as 19 fastened to and depending from the side rails 2. The rack-bars 16 are shown as straddled by clips as 20, the sides of which are perforated to receive the shaft 18, as shown best in Fig. 9. These clips maintain the rack-bars 16 in operative relation with the respective pinions 17 throughout the different angular adjustments of the bottom section 7. One end of the shaft 18 is shown as squared as indicated by the character 21, and this squared portion is adapted to receive a removable hand-crank as 22 which, when applied to said squared portion and revolved, is adapted to rotate the shaft 18 for the purpose of raising the section 7 through the intermediate parts. Said section 7 may be lowered by its weight and the crank-arm 22 by being grasped by an attendant can be utilized to prevent too sudden a drop of said section 7. The shaft 18 is shown as having fastened thereto in proximity to the squared portion 21 a ratchet-wheel 23 engageable by a pawl as 24 shown as pivoted on the adjacent side rail 2, the pawl being in the present case of the gravity type and riding over the teeth of the ratchet-wheel 23 on the elevation of the section 7, so as to prevent accidental dropping of said section 7.

The lower section 8 of the bed bottom is also shown as being of yoke-form and to the end bar thereof I have shown as fastened the outer ends of the parallel bars 25 between which the wire fabric of said section or yoke 8 extends. The bars 25 are slightly longer than the section 8, as best shown in Fig. 2. The sides of the section 8 are incased in or housed by the tubular side rails 2 and move longitudinally thereof, so that the section 8 can be separated from the section 7 for the

purpose hereinbefore set forth and as shown in Fig. 2. The tees 4 constituting part of the foot 6 are slotted as at 26 for the passage of the sides of said section 8, and the slots 26 are so shaped as to permit the end bar of the section 8 being brought into vertical alignment with the posts and cross-bars of said foot 6 when said section 8 is in its extreme innermost position, whereby said end bar will not interfere with the action of the rope to which I have also hereinbefore referred. The sides of the section 8 are made in the form of rack-bars, the teeth of which are engageable by pinions as 27 carried by the transverse shaft 28 supported by boxes as 29 which clip the side rails 2 near the lower or foot ends thereof and which are held in place thereon preferably by pins as 30, as shown best in Fig. 4. It is an easy matter to slip the boxes 29 over the rails 2 and, when said boxes are in the desired position, they can be there held by the insertion of the pins 30; it is just as easy a matter to remove the boxes.

The bars or rods 25 are shown as passing through perforations in the heads or screws as 31, the shanks of which pass through slots as 32, as shown for example in Fig. 1, and are tapped into the sides of the section 8. The screws 31 constitute simple and convenient coupling members between or means for uniting the respective bars or rods 25 and sides of the said section 8. The shanks of said screws 31 by abutting against the ends of the slots 32 limit the endwise movement of the section 8. In assembling the parts of the bed, the sides of the section 8 will be inserted in the rails 2 after which the screws 31 will be connected with said sides. Following this the rods or bars 25 will be passed through the perforations in the heads of said screws and will be connected with the end bar of said section 8. Finally the fabric which is to compose said bottom will be connected with the bars 25 and also with the end bar of the section 8.

The shaft 28 is shown as having a squared portion 33 which may receive the hand-crank 22 for the purpose of moving the section 8 longitudinally of the bed. Said shaft is shown as having fastened thereto a ratchet-wheel 34 engageable by a pawl as 35 pivoted on one of the tees 4. The pawl 35 normally engages the ratchet-wheel 34 to prevent accidental outward movement of the section 8. When, however, it is desired to move said section 8 outward said pawl 35 will be disengaged from the coöperating ratchet-wheel.

I have shown as extending between the posts of the foot 6 a shaft 36 the ends of which pass through elongated slots as 37 formed on the inner sides of said posts, by virtue of which said shaft 36 can be vertically adjusted. The shaft 36 is supported at its ends by pins as 38 which can be set in different perforations in said posts to hold said

shaft in its respective adjusted positions. The shaft 36 rotatively supports a pulley or guide-wheel 39 over which a weight-carrying rope such as that to which I have hereinbefore alluded may be passed.

The lowermost cross bar of the head 5 is shown as equipped with several projections or studs as 5' on which the extreme head portion or cross bar of the section 7 is adapted to rest when said section 7 is in horizontal alinement with the section 8.

The upper portion 6' of the foot 6 is preferably removably mounted, being fitted in the tees 4 for this purpose and normally held in place by pins as 6". By removing these pins 6" the said upper portion 6' can be lifted from place so that a doctor or surgeon can freely operate on a patient from the lower end or foot instead of from the side of the bed.

What I claim is:

1. A bed the body of which comprises side rails, a foot and a bottom both stationary with respect to said side rails, and a sectional bottom for the bed, said side rails being hollow, and one of the sections of the bottom having sides fitted in said hollow side rails for endwise movement and also having an end adapted to occupy a position substantially in line with said foot.

2. A bed having side rails, a head and a foot to which said side rails are connected, and a sectional bottom, the side rails being hollow and one of the sections of the bottom having sides fitted in the hollow side rails for endwise movement, the foot having slots for the passage of said sides, and said slots being positioned to receive the end of said movable bottom section to bring said end in vertical alinement with said foot.

3. A bed having side rails a sectional bottom, the side rails being hollow, and one of the sections of the bottom having sides fitted in the hollow side rails for endwise movement, and said section of the bottom having bars located outside said side rails, means connecting said bars and sides, and woven wire material extending between said bars.

4. A bed having side rails, a bottom member provided with sides, said side rails slidably receiving said sides, and the bottom member also having fabric-supporting bars,

and coupling means between the respective sides and bars.

5. A bed having tubular side rails, a bottom member provided with sides slidingly fitted in said side rails, said bottom member also having fabric-supporting bars between said sides and outside said side rails, and coupling means connecting the said sides and bars, the said rails being slotted for the passage of said coupling means.

6. A bed having side rails, a bottom having a movable section provided with sides, the side rails being hollow to receive said sides for endwise movement, bars connected with the end of said movable section and located between the sides thereof, and perforated screws the perforations of which are adapted to receive said bars, the shanks of the screws being tapped into said sides, and the rails having slots to receive said shanks.

7. A bed having hollow side rails, a bed bottom provided with a swinging section having pivot-projections, and sleeves removably fitted in said side rails for supporting the said pivot-projections to permit swinging motion of said swinging section.

8. A bed having hollow side rails, a bed-bottom provided with a swinging section having lateral projections, and slotted sleeves in said side rails through the slots of which said projections are passed for turning movement.

9. A bed having hollow side rails, sleeves turnably fitted in said side rails, each sleeve having a slot terminating in a widened portion, and a bottom having a swinging section, the sides of which are provided with lateral projections, the side rails being perforated to receive said projections, each of the latter extending into the sleeves through the respective slots thereof, and said projections having peripherally channeled portions normally located and turning in said slots.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE B. COLLES.

Witnesses:

HEATH SUTHERLAND,  
MARY S. HANDY.