

No. 658,216.

Patented Sept. 18, 1900.

E. E. MUNGER.
BED.

(Application filed Oct. 11, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig-1.

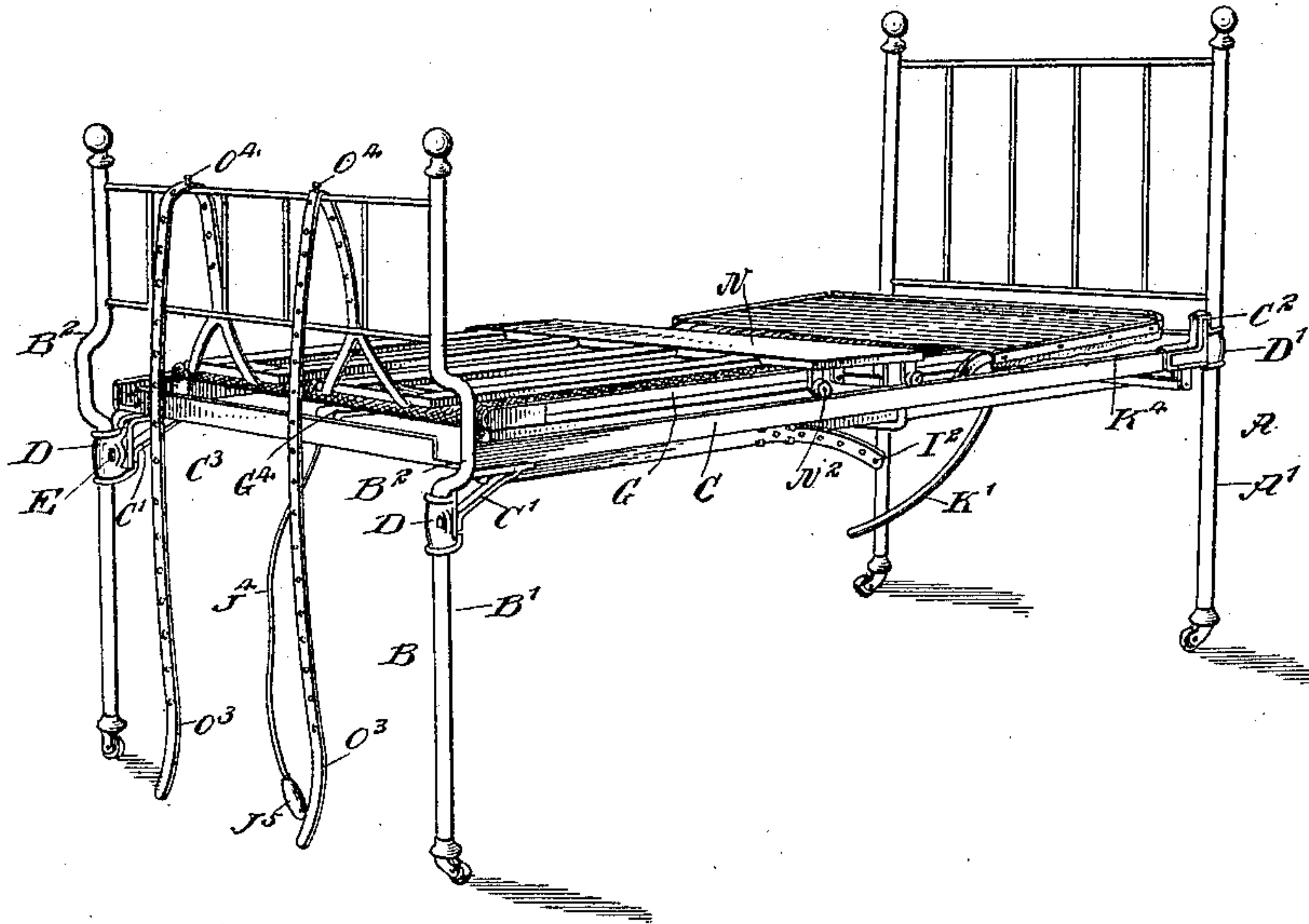
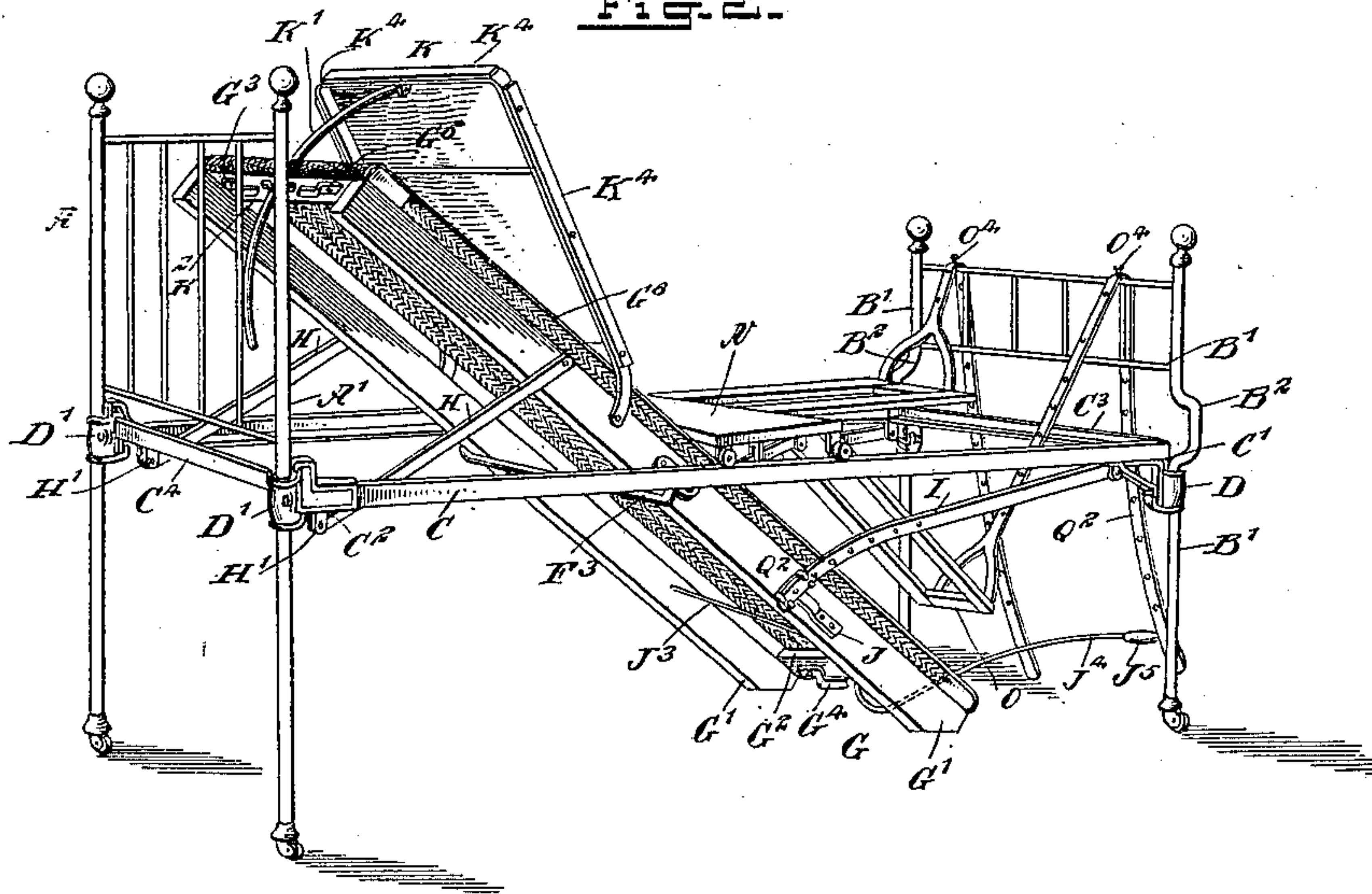


Fig. 2.



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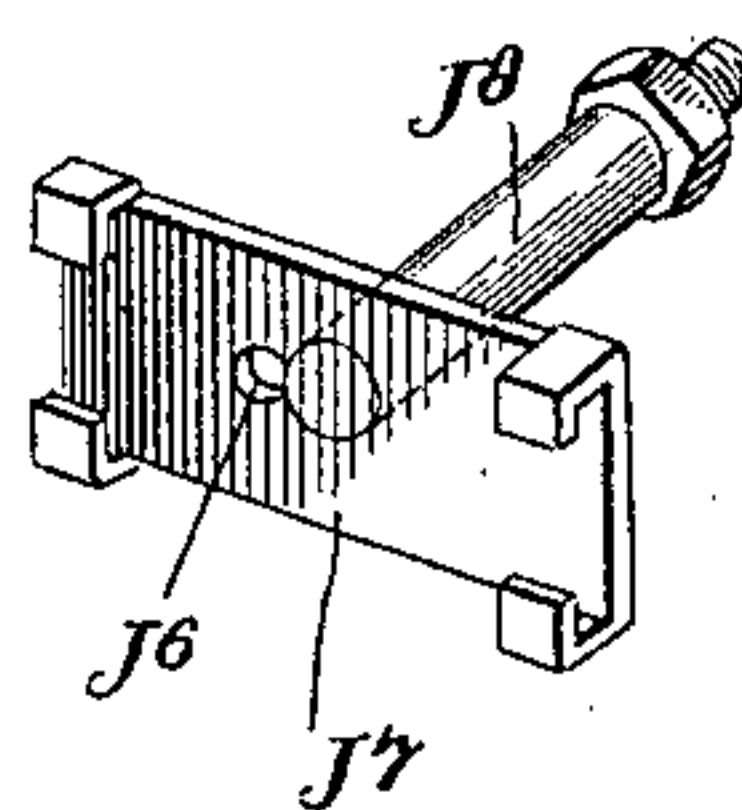
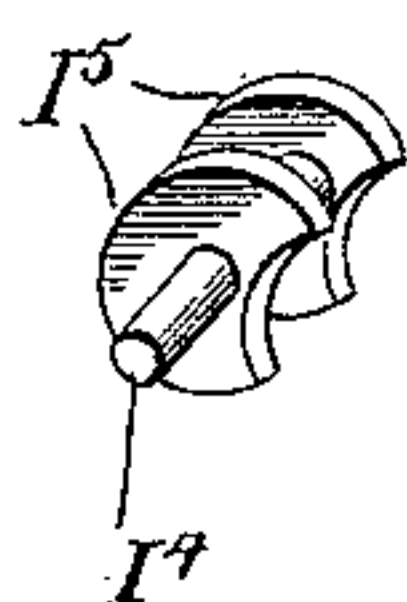
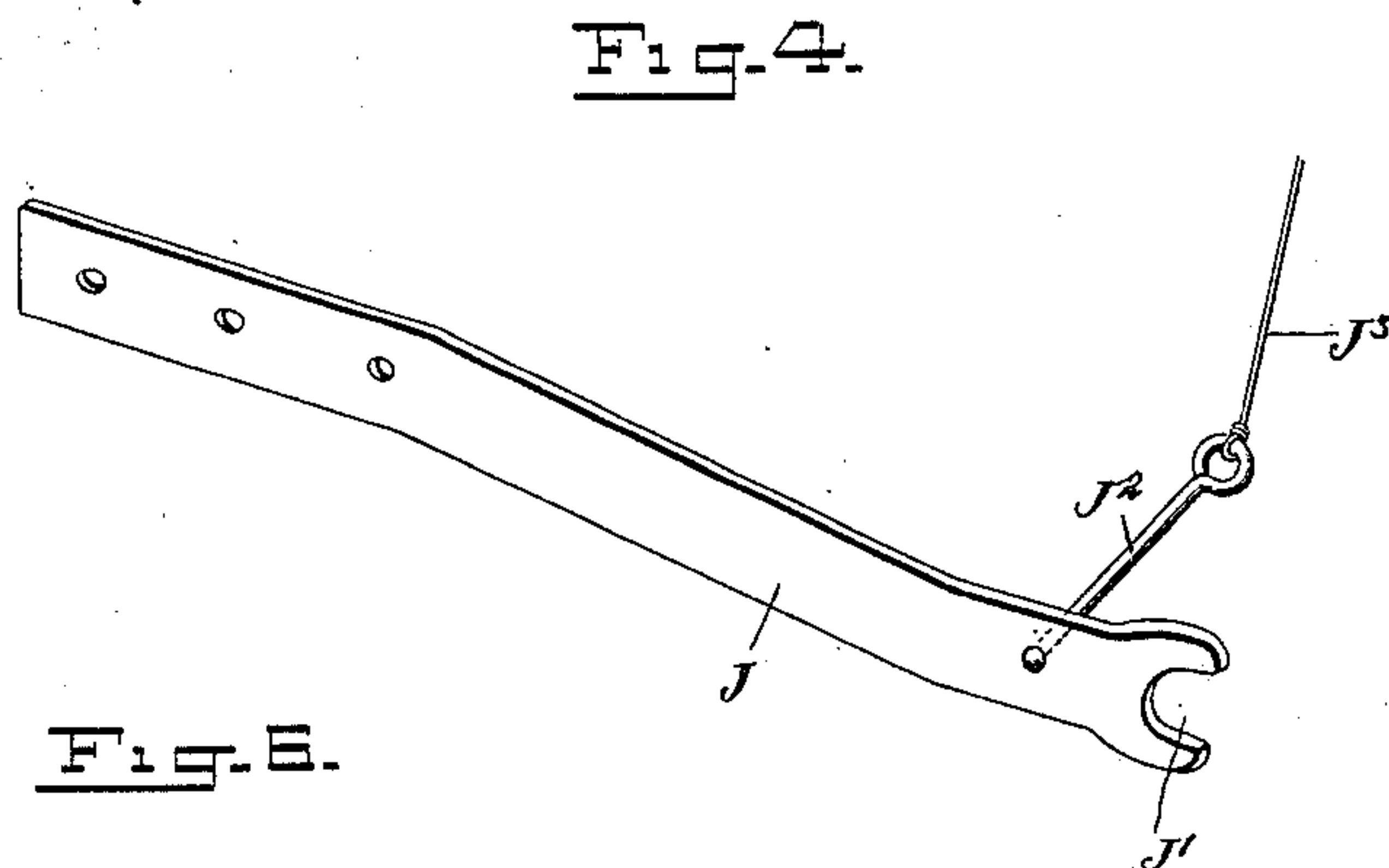
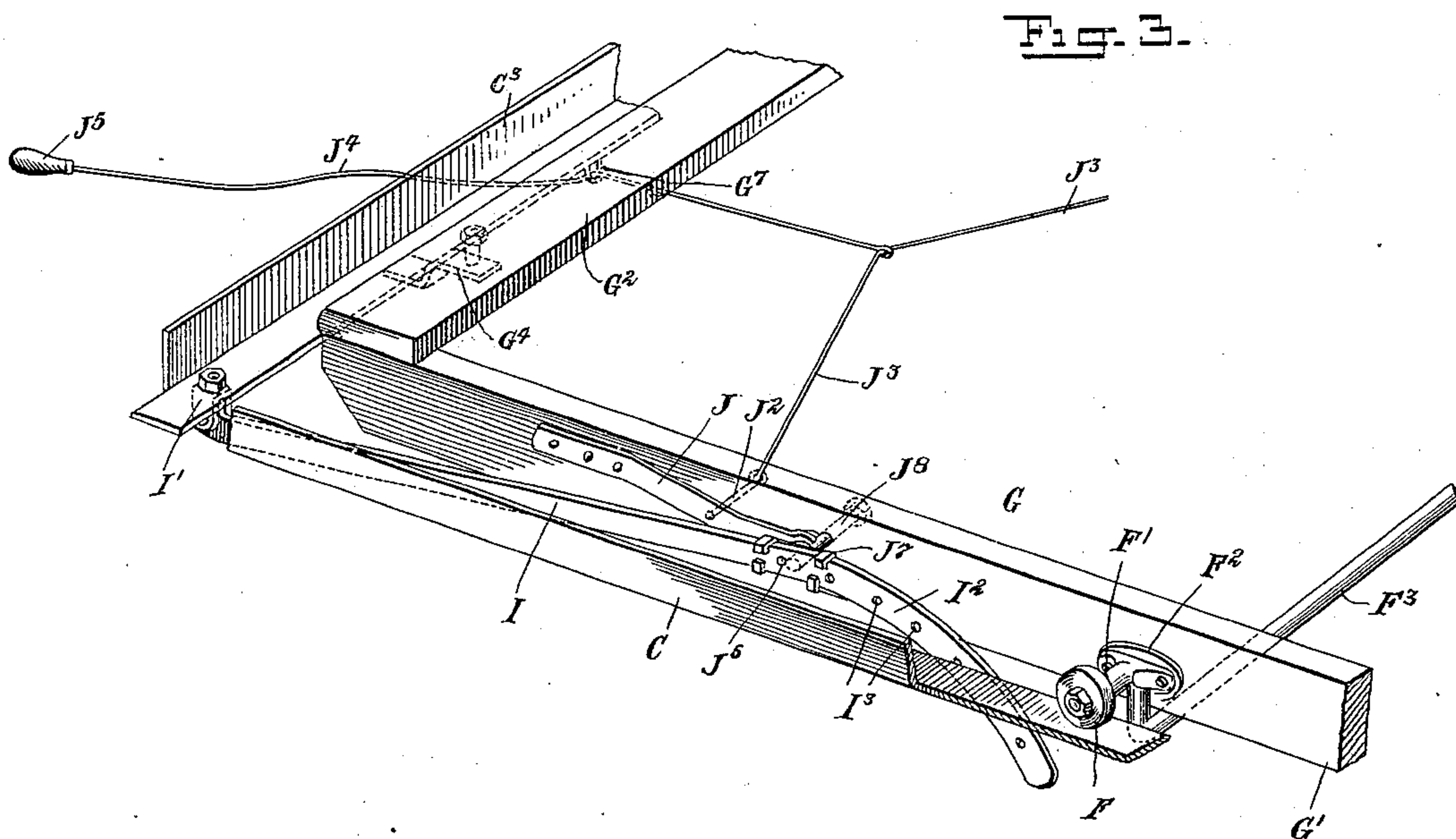
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3 Sheets—Sheet 2.



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3 Sheets—Sheet 3.

Fig. 7.

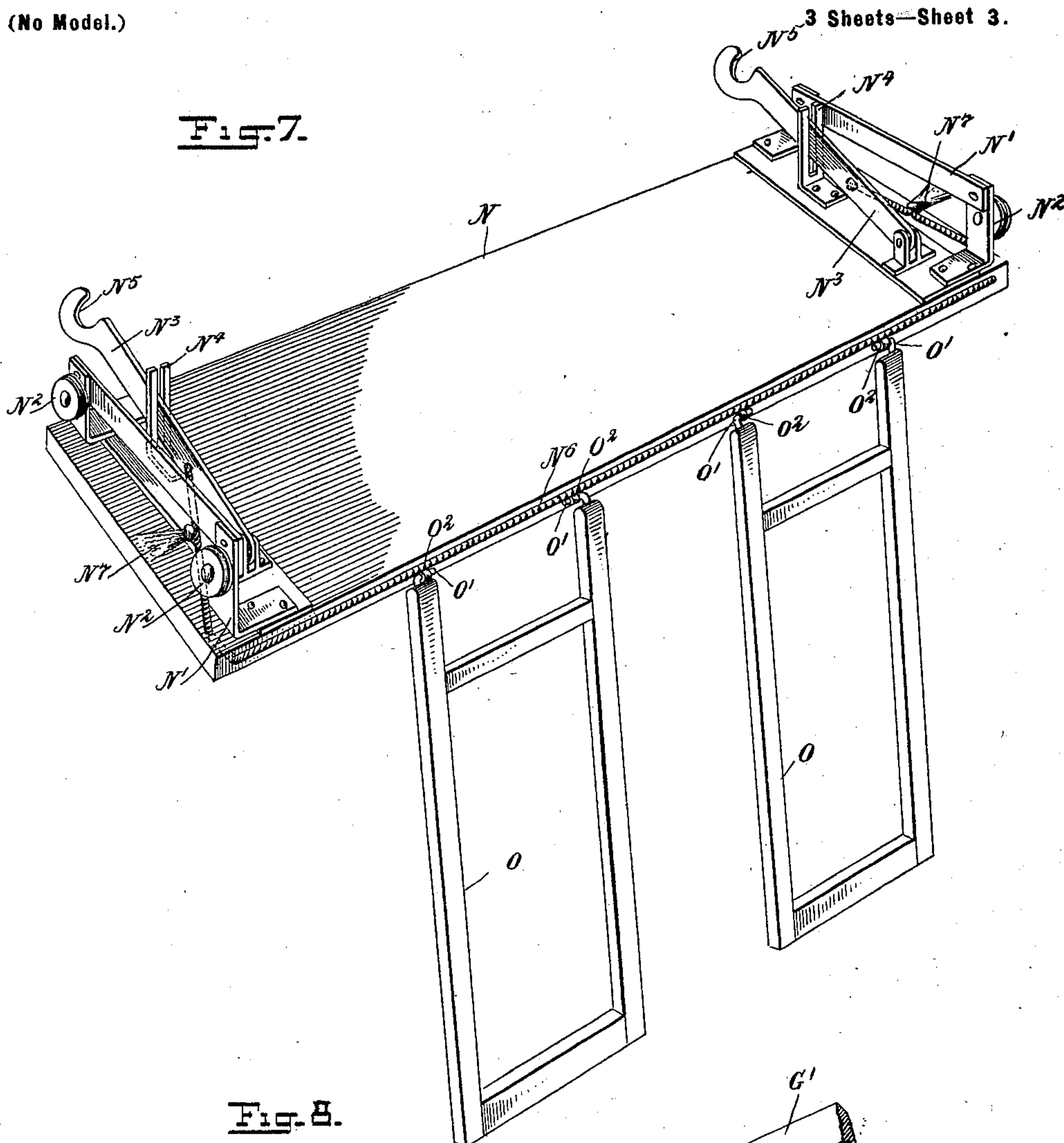
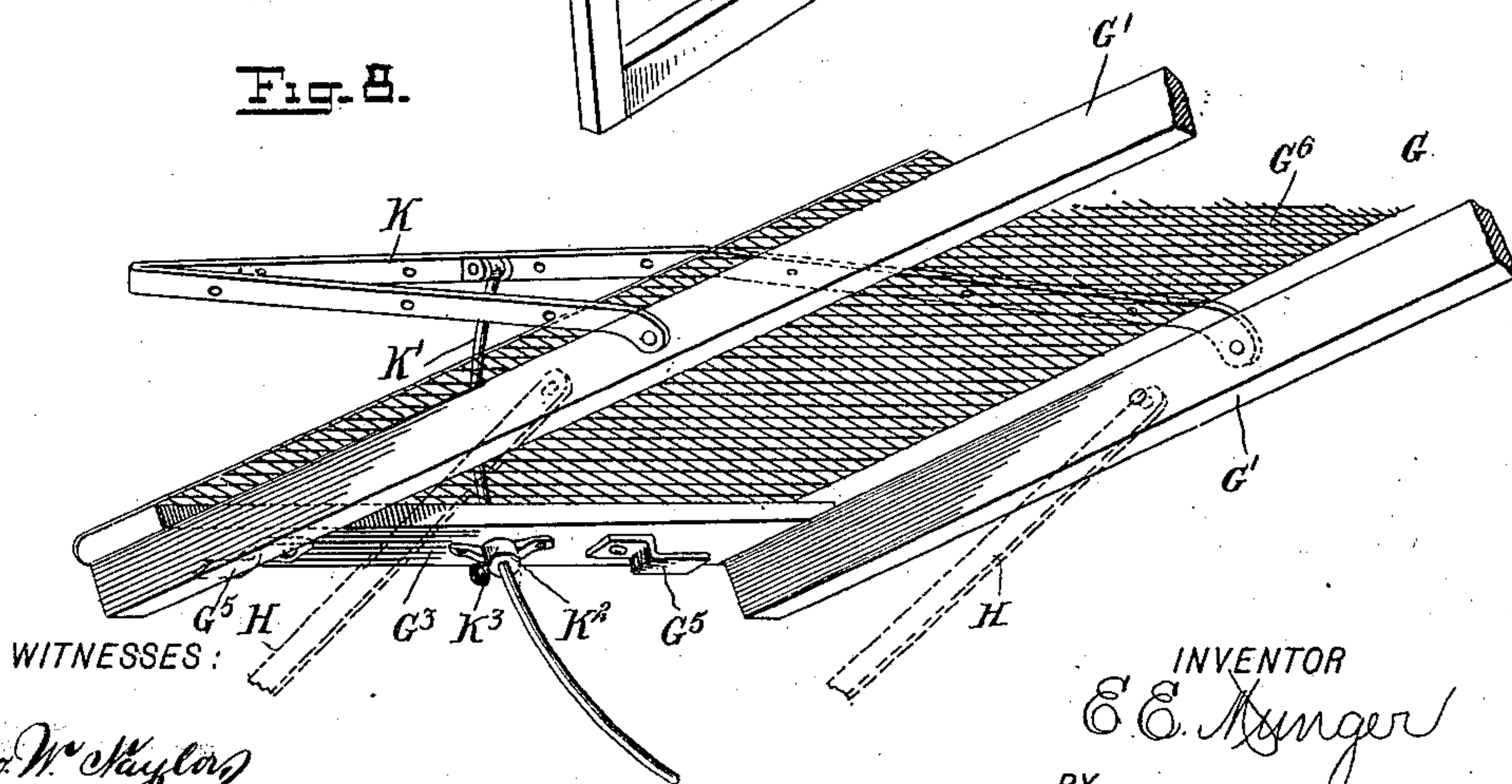


Fig. 8.



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SPECIFICATION forming part of Letters Patent No. 658,216, dated September 18, 1900.

Application filed October 11, 1899. Serial No. 733,248. (No model.)

To all whom it may concern:

Be it known that I, ELBERT E. MUNGER, of Spencer, in the county of Clay and State of Iowa, have invented a new and Improved Bed, of which the following is a full, clear, and exact description.

The invention relates to beds such as shown and described in the Letters Patent of the United States, No. 602,347, granted to me on April 12, 1898.

The object of the present invention is to provide a new and improved bed more especially designed for use in sick-rooms, hospitals, and the like and arranged to permit of easily adjusting the mattress-support to bring the mattress into any desired position, so as to facilitate the handling of an invalid on the bed without removal or unnecessary annoyance.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement with a patient in position in the bed. Fig. 2 is a like view of the improvement with the mattress removed and parts in a different position. Fig. 3 is an enlarged sectional perspective view of the bed-frame and the mattress-support. Fig. 4 is an enlarged perspective view of the spring locking-arm for locking the mattress-support to the pivot-brace. Fig. 5 is an enlarged perspective view of the slide carried by the mattress-support and slidably engaging the pivot-brace. Fig. 6 is an enlarged perspective view of the pin controlled by the locking-arm and adapted to lock the slide to the brace. Fig. 7 is an enlarged inverted perspective view of the seat and leg rests, and Fig. 8 is an under side perspective view of the head end of the mattress-support and the head-rest.

The improved bed is provided with a suitable head A, a foot B, and a bed-frame having side rails C, to the lower end of which are attached brackets C', removably secured to collars D, attached to posts B' of the foot B,

and the upper ends of said side rails C are provided with brackets C², removably hung on collars D', secured to the posts A' of the head A. The brackets C' at the foot of the bed are connected with each other by a cross-piece C³, and a similar cross-piece C⁴ connects the brackets C² with each other at the head of the bed. (See Figs. 1 and 2.) The side rails C, as well as the cross-pieces C³ C⁴, are made L-shaped in cross-section, preferably of pieces of angle-iron, as is plainly indicated in Fig. 3, the vertical member of the cross-piece C³ terminating at both ends a distance from the bracket C' to permit of conveniently introducing or removing the seat, as hereinafter more fully described.

On the horizontal members of the side rails C of the bed-frame are mounted to travel wheels or rollers F, journaled on axles F', formed at their inner ends with plates F², fastened to the side rails G' of the mattress-support G, the plates F² being rigidly connected with each other by a U-shaped cross-bar F³, which forms with said plates a brace for the side rails G' of the mattress-support. The wheels or rollers F serve as a fulcrum for swinging the mattress-support G from a horizontal into an inclined position and for moving the mattress forward or backward when in an inclined position, the wheels F then traveling on the horizontal members of the side rails C as a track.

The ends of the rails G' of the mattress-support G are connected with each other at the top by cross-pieces G² G³, carrying pivoted latches G⁴ G⁵, respectively, of which the latches G⁴ are adapted to rest on the top of the horizontal member of the cross-piece C³ and the latches G⁵ are adapted to rest on the horizontal member of the cross-piece C⁴, so that the mattress-support is firmly supported in the bed-frame when in a horizontal position to relieve the braces I, which are hereinafter described, of undue strain and to prevent the mattress-support from accidentally swinging into an inclined position. When, however, it is desired to move the mattress into an inclined position, the latches G⁴ G⁵ are swung inward out of engagement with the cross-pieces C³ C⁴, so that the support G is free to turn and to travel on the wheels F, as above explained. The mattress-support G is pro-

vided with the usual mattress-spring G^6 , secured at its ends to the cross-pieces $G^2 G^3$, as indicated in Figs. 2 and 8.

Near the upper ends of the side rails G' of the mattress-support G are pivoted the links H , pivotally connected with the lugs H' , held on the head cross-piece C^4 , so that whenever the mattress-support is swung into an inclined position on the wheels F as the fulcrum then the said mattress-support is caused to travel toward the head end of the bed, and when the mattress-support is returned back into a normal horizontal position the links cause the mattress-support to move toward the lower end of the bed to bring the mattress-support at its ends in proper relation to the cross-pieces $C^3 C^4$ of the bed-frame.

In order to lock the mattress-support G in the desired inclined position, the following device is provided: Braces I are pivoted on lugs I' , bolted or otherwise fastened to the horizontal member of the cross-piece C^3 , and the said braces extend between the side rails G' of the mattress-support G and the side rails C of the bed-frame. (See Fig. 3.) The forward end of each brace I is curved downwardly, as at I^2 , and is provided with spaced apertures I^3 , one of which is adapted to be engaged at a time by a pin I^4 , on which are mounted to turn two collars I^5 , (see Fig. 6,) between which extends loosely the forked end J' of a spring-arm J , secured to the outer face of the corresponding side rail G' . The spring-arm J is attached near its free end to a transverse pin J^2 , fitted to slide in a bearing in the side rail G' , and the inner ends of the two pins J^2 are connected with each other by a cord or wire J^3 , to the middle of which is attached a cord J^4 , extending through eyes or staples G^7 on the cross-piece G^2 , to then reach under the cross-piece C^3 , a handle J^5 being on the end of the cord J^4 to allow the operator to pull said cord J^4 and the cord J^3 and cause the pins J^2 to slide inward toward each other and to swing the spring-arms J toward the side rails G' . In doing so the forked ends J' of the arms J move the collars I^5 and pins I^4 inward to disconnect the pins from the corresponding apertures I^3 in the braces I . When the operator releases the pull on the handle J^5 , the arms J by their own resiliency again swing outward to their former positions to again engage the pins I^4 with the apertures I^3 . Each of the pins I^4 extends through an aperture J^6 in a slide J^7 , held to slide on the corresponding brace I , the slide being mounted to turn on a pin J^8 , bolted or otherwise secured to the corresponding side rail G' . The collars I^5 are cut out at one side, as is plainly shown in Fig. 6, to engage the pin J^8 , so that the latter forms a bearing for the said collars in their transverse and rotary movements.

Now it is evident that when the pins I^4 are simultaneously withdrawn from the apertures I^3 in the braces I upon the operator pulling the handle J^5 and the mattress-sup-

port G is swung into an inclined position, as shown in Fig. 2, then the pins I^4 drop into the outermost apertures I^3 , when the operator releases the pull on the handle J^5 , so that the braces I are securely locked to the side rails G' to hold the mattress-support locked in an inclined position.

The head-rest K has a frame made U-shaped and is pivoted at its ends to the side rails G' of the mattress-support G , as is plainly illustrated in Fig. 2 and also in Fig. 8, and at the middle portion of said frame is pivoted a segmental arm K' , slidable in a bearing K^2 , secured to the under side of the cross-piece G^3 , a set-screw K^3 screwing in the bearing for securing the segmental arm K' in position to hold the head-rest at a desired angle relative to the mattress-support. The frame of the head-rest is covered with a suitable piece of canvas, and on the sides and end of the frame are held by screws the clamping-plates K^4 , between which and the corresponding portions of the head-rest frame are clamped the flaps L' , which are sewed or otherwise attached to the head and sides of the mattress L , near the upper end thereof, as is plainly indicated in Fig. 1. Thus the mattress is locked to the head-rest, and as the latter is held on the mattress-support said support can be conveniently swung in an inclined position without danger of the mattress sliding down out of position.

In order to accommodate a patient in a sitting position at the time the mattress-support is in an inclined position, as shown in Fig. 2, a seat N is provided, having at its under side brackets N' , in which are journaled the shafts of grooved wheels N^2 , adapted to travel on the upper edge of the vertically-disposed members of the side rails C . (See Figs. 1, 2, and 7.)

By reference to Figs. 1 and 2 it will be seen that the seat N can be conveniently slipped upon the side rails C from the foot end of the bed, especially as the posts B' are provided at the side rails C and the cross-piece C^3 with outwardly-curved portions B^2 , and the brackets C' and the rollers D' are located below the side rails C to permit the ready passage of the seat N . For the same reason the ends of the vertical member of the cross-piece C^3 are shorter than the ends of the horizontal member to allow the brackets N' to pass into position, the brackets being sufficiently high to bring the seat N over the spring G^6 of the mattress-support when the latter is in a horizontal position. The seat N is especially serviceable when the mattress is in an inclined position, said seat N then extending with its inner edge close to the spring G^6 , the mattress passing over the seat and then extending downward over leg-rests O , the upper portion of the mattress being attached to the head-rest K , so as to form a convenient easy chair for the patient. When the seat N is in this innermost position, it is locked in place by arms N^3 , pivoted to the brackets N' and mounted

to swing up and down in guideways N^4 , secured to or forming part of the brackets N' . The rear ends of the arms N^3 are formed into hooks N^5 , adapted to hook upon the axles F' . Thus when the hooks N^5 engage the said axles the seat is prevented from accidentally traveling on its track on the side rails C.

In order to disengage the hooks N^5 from the axles F' , the following arrangement is provided: The arms N^3 are engaged between their pivot ends and the hooks by the ends of a rope or cord N^6 , which extends through apertures in the seat N, along the front edge thereof, as shown in Fig. 7. On the side portions of the cord or rope N^6 are arranged tassels N^7 , which when pulled by the operator in an outward direction cause an upward swinging of the arms N^3 simultaneously, so that the hooks N^5 are lifted out of engagement with the axles F' to permit of moving the seat N to the foot end of the bed and over the side rails C, if desired, in case the seat is not used for the time being.

The leg-rests O, previously mentioned, are in the form of two rectangular frames, (see Fig. 7,) having transversely-extending pintles O' at their upper ends to engage eyes O^2 , secured to the front edge of the seat N. On the free ends of the leg-rests O are secured straps O^3 , (see Figs. 1 and 2,) extending upward and over the top cross-bar of the foot B, and each strap is provided with apertures adapted to engage pins O^4 , secured on the said cross-bar, to lock the straps in position and hold the leg-rests O in the desired inclined position. (See Fig. 2.)

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A bed having side rails, a complete mattress-support mounted to swing bodily on said side rails and to travel in a longitudinal direction thereon and means whereby the mattress-support may swing bodily and travel longitudinally of the said rails, substantially as shown and described.

2. A bed having side rails, a support for the entire mattress, and wheels journaled on said support between its ends so that the entire mattress may be inclined, said wheels resting on the rails and being mounted to travel thereon.

3. A bed having side rails, a mattress-support having side rails, a cross-bar connecting the mattress-support rails with each other between their ends, axles integral with said bar, and wheels journaled on the axles and mounted to travel on the side rails of the bed, substantially as shown and described.

4. A bed having side rails of angle-iron, the horizontal members thereof extending inwardly at the bottom, and a support for the entire mattress fulcrumed on said horizontal members, the fulcrum for said support being in the form of wheels mounted to travel on said horizontal members, substantially as shown and described.

5. A bed-frame having head-posts and foot-posts, side rails connecting said posts, and angle-iron cross-pieces, the vertical member of the cross-piece at the foot end of the frame terminating at a distance from the side rails, substantially as shown and described.

6. A bed having a bed-frame of angle-iron side rails and angle iron cross-pieces rigidly connected together, the horizontal members of said rails and cross-pieces being at the bottom and extending inwardly, the vertical member of the foot cross-piece terminating at its ends a distance from the junction of the cross-piece with the side rails, substantially as shown and described.

7. A bed having side rails, and a wheeled seat mounted to travel on said rails, substantially as shown and described.

8. A bed having side rails of angle-iron, and a seat provided with wheels adapted to travel on said side rails, substantially as shown and described.

9. A bed having side rails, a mattress-support fulcrumed on said side rails, and a seat mounted to travel on said side rails and extending over the mattress-support, substantially as shown and described.

10. A bed having side rails, a mattress-support fulcrumed on said side rails, a seat mounted to travel on said side rails and extending over the mattress-support, and means for locking the seat to the mattress-support, substantially as shown and described.

11. A bed having side rails, a mattress-support having transverse axles, wheels on the said axles and engaging said rails, a wheeled seat on said rails, and hook-arms pivoted on said seat and adapted to engage said axles to lock the seat in position relative to the mattress-support, substantially as shown and described.

12. A bed having side rails, a mattress-support having transverse axles, wheels on said axles and engaging said rails, a wheeled seat on said rails, hook-arms pivoted on said seat and adapted to engage said axles to lock the seat in position relative to the mattress-support, and means for disconnecting said arms from said axles, substantially as shown and described.

13. A bed having a bed-frame, a mattress-support fulcrumed thereon, links pivotally connecting the head ends of said bed-frame with the sides of the mattress-support, and braces pivoted on the foot ends of said bed-frame and adjustably connected with the sides of said mattress-support, substantially as shown and described.

14. A bed having a bed-frame, a mattress-support fulcrumed thereon, links pivotally connecting the head ends of said bed-frame with the sides of the mattress-support, braces pivoted on the foot ends of said bed-frame and adjustably connected with the sides of said mattress-support, the connection between the foot and braces and bed-frame comprising a slide on each brace and carried by the mat-

5 tress-support, and a spring locking-pin under the control of the operator and held removably in said slide to engage one of a series of apertures in the brace, substantially as shown and described.

10 15. A bed having a mattress-support, a bed-frame, a brace pivoted on said bed-frame, a slide movable on said brace, a pin secured to the slide and attached to the mattress-support, a locking-pin slidable in said slide to engage one of a series of apertures in said brace, and a spring-arm under the control of the operator, and attached to the said mattress-support and engaging said locking-pin, to move the latter in or out of engagement with said brace, substantially as shown and described.

15 16. A bed having a mattress-support, a bed-frame, a brace pivoted on said bed-frame, a slide movable on said brace, a pin secured to the slide and attached to the mattress-support, a locking-pin slidable in said slide to engage one of a series of apertures in said brace, a spring-arm under the control of the operator, and attached to the said mattress-support and engaging said locking-pin, to move the latter in or out of engagement with said brace, and means for imparting movement to said spring-arm in one direction, to move the locking-pin out of engagement with said brace, substantially as shown and described.

20 17. A bed-frame having head-posts and foot-posts, side rails connecting said posts, and cross-pieces of which the one at the foot end of the frame is secured directly to the side

35 rails, at a distance from their point of attachment to the foot-posts, the foot-posts having outwardly-bent portions at about the same height as that of the cross-piece, substantially as shown and described.

40 18. A bed having a head, a foot, a bed-frame, a mattress-support fulcrumed on said bed-frame, a seat carried on said bed-frame, a leg-rest pivoted to said seat, and straps on the free end of said leg-rest, and adapted to be secured to said foot, to hold the leg-rest in position relatively to said seat, substantially as shown and described.

45 19. A bed having a head, a foot, a bed-frame, a mattress-support fulcrumed on said bed-frame, a seat carried on said bed-frame, a leg-rest pivoted to said seat, straps on the free end of said leg-rest, and adapted to be secured to said foot, to hold the leg-rest in position relatively to said seat, and means for locking the seat to said mattress-support, substantially as shown and described.

50 20. A bed having a frame provided with a longitudinal track or guideway, head-posts, and foot-posts provided with outwardly-bent portions at about the height of said track, and a seat mounted to slide on said track and to pass between the outwardly-bent portions of the foot-posts, substantially as shown and described.

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Witnesses:

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