

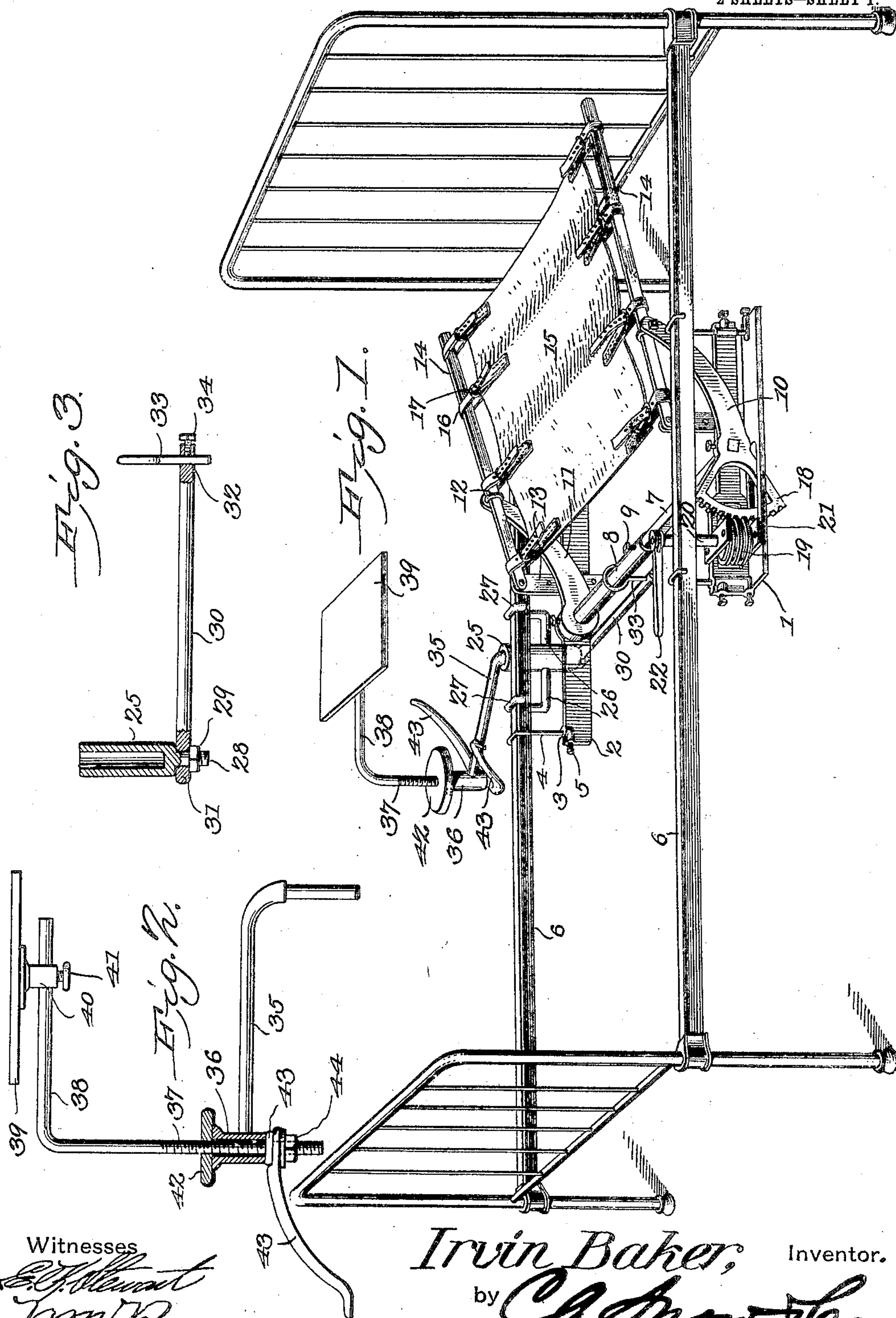
No. 817,951.

PATENTED APR. 17, 1906.

I. BAKER.
INVALID BED ATTACHMENT.

APPLICATION FILED MAY 27, 1905.

2 SHEETS—SHEET 1.



Witnesses

E. J. Bennett
Irvin Baker

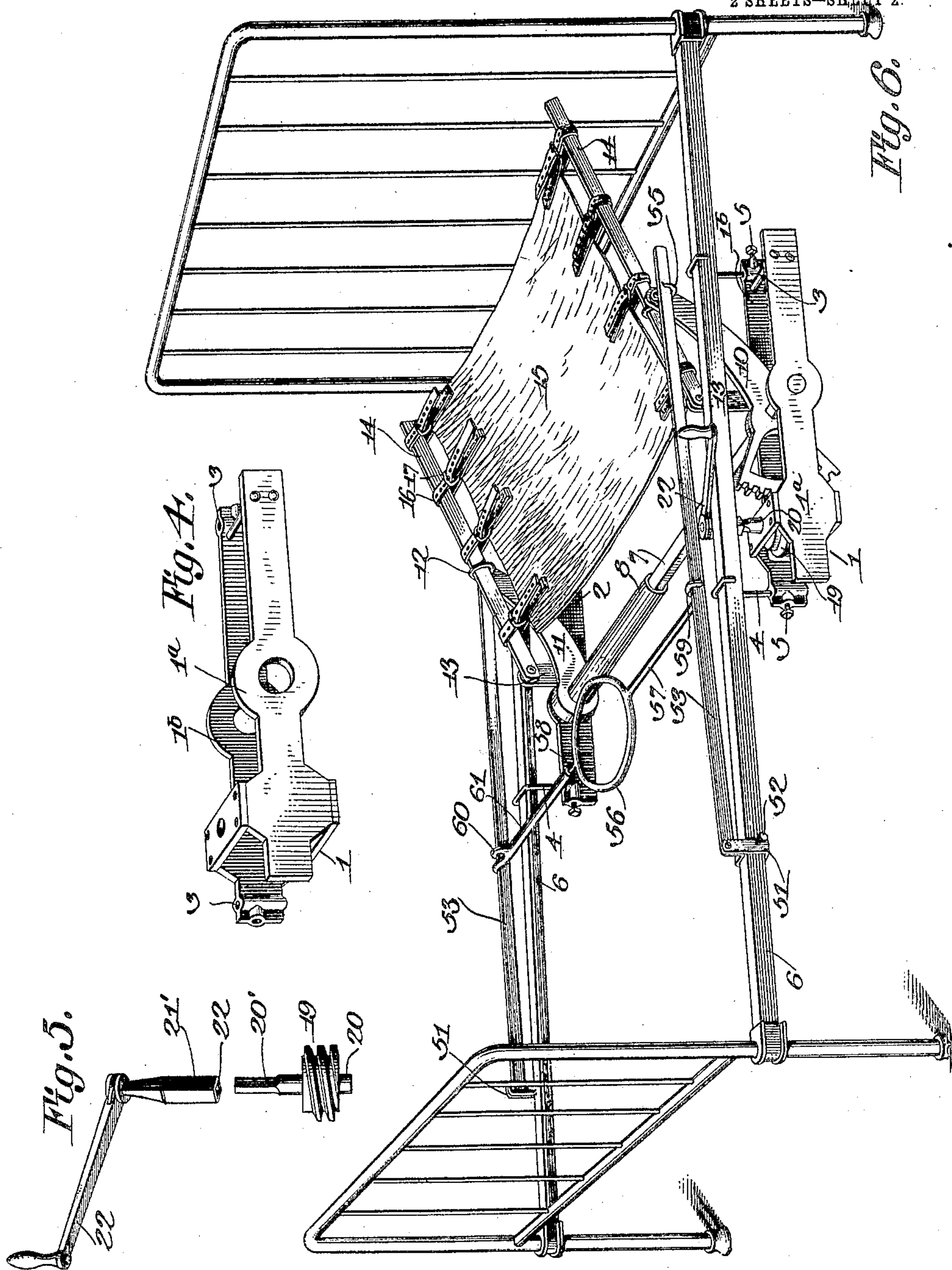
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UNITED STATES PATENT OFFICE.

IRVIN BAKER, OF LATTY, OHIO.

INVALID-BED ATTACHMENT.

No. 817,951.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed May 27, 1905. Serial No. 262,648.

To all whom it may concern:

Be it known that I, IRVIN BAKER, a citizen of the United States, residing at Latty, in the county of Paulding and State of Ohio, have invented a new and useful Invalid-Bed Attachment, of which the following is a specification.

This invention relates to invalid-bed attachments of that class which may be applied to an ordinary bed for the purpose of promoting the comfort of the occupant by first providing means whereby the occupant may be easily and without manual handling raised from a recumbent to a reclining or sitting posture, and, secondly, by providing a swinging table which may be readily moved to a position in front of the occupant.

Among the objects of the invention are to simplify and improve the construction and operation of the device, to render the same adjustable to various sizes and widths of beds, to so construct the back-rest as to not interfere with the comfort of the occupant of the bed while in a recumbent position, to provide for the ready removal of the back-rest member for the purpose of cleaning or disinfecting the same, and to provide means whereby the device may be quickly and easily mounted in position for operation or detached, as may be required.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications to which recourse may be had within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a perspective view showing the invention applied to a bed of ordinary construction. Fig. 2 is a sectional detail view of the table-support. Fig. 3 is a sectional detail view taken through the

table-stand. Fig. 4 is a detail view showing a slightly-modified construction of the frame member 1. Fig. 5 is a detail perspective view showing the preferred construction of the worm-carrying shaft 20. Fig. 6 is a perspective view showing the improved device in combination with an attachment for elevating the hips of a patient.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The frame of the improved device includes a pair of side members 1 and 2, the former of which is represented as an angle-bar, although, as shown in Fig. 4 of the drawings, it may be composed of two suitably constructed and connected side members 1^a 1^b or in any other convenient manner. Said frame members are provided with sockets 3 for the reception of hook members 4, which are adjustably secured in said sockets by means of set-screws 5 and which are adapted to catch over the side rails 6 of an ordinary bed with which the said frame members may in this manner be connected, provision being made for the vertical adjustment of the said frame members by the set-screws engaging the shanks of the supporting-hooks. By simply reversing the hooks the frames may be supported upon the outer sides of the bed-rails instead of upon the inner sides, as shown in the drawings.

The frame members 1 2 are connected with each other by means of a telescopic shaft, including a non-circular member 7, journaled in the frame member 1, and a tubular section 8, journaled in the frame member 2, said shaft-sections being adjustably connected by means of a set-screw 9. The shaft-sections 7 and 8 are provided near their outer ends with lever-arms 10 11, provided near their outer ends with eyebolts 12. The frame members 1 2 are provided with uprights 13, at the upper ends of which are pivoted arms 14, serving to support the back-rest 15, which latter is preferably composed of a sheet of flexible material, textile or otherwise, such as canvas duck, rubber, rubber cloth, or the like, the same being provided with straps 16 and buckles 17, whereby it may be stretched upon and between the arms 14 in such a manner as to be capable of operating between the side rails of the bed. The arms 14 extend

slidably through the eyebolts 12 of the levers 10 11, with which they are in this manner connected.

The lever 10 is provided with a rack-segment 18, meshing with a worm 19 upon a shaft 20, which latter is journaled in the side member 1, and has an additional bearing in a bracket 21, connected with said side member. The shaft 20 is composed of two members 20' and 21', the upper one of which, 21', has a non-circular socket 22', adapted to engage the non-circular upper end of the lower member 20', so that it may be readily detached and moved out of the way. The upper member of the shaft 20 has a ratchet-handle 22, whereby it may be rotated either by the nurse or by the occupant of the bed. It is obvious that when the shaft is rotated the worm 19 will engage the segment-rack 18, causing the oscillation of the rock-shaft 7 8 and the operation of the levers 10 11 to raise or lower the back-rest-carrying arms, according to the direction of rotation, thus raising the occupant of the bed to and supporting him in any desired position.

The telescopic rock-shaft enables the device to be applied to beds of various widths, and the straps whereby the back-rest is connected with the arms 14 likewise enable said back-rest to be applied to and used in connection with the device regardless of the width of the bed to which it is applied.

In Fig. 6 of the drawings has been shown a device forming an important part of the invention and adapted to be used in connection with the parts thus far described. Said device, which is for the purpose of elevating the hips of the patient or occupant of the bed so as to admit of the ready introduction of a bed vessel, consists, primarily, of a pair of lugs 51, having clamping means, such as set-screws 52, whereby they may be clamped in position adjustably upon the side rails of the bed, the clamping means of said lugs being of any suitable construction which will enable them to be mounted upon various forms of rails. Pivotaly connected with said lugs are rods or arms 53. Nuts 54, having extended hook members 55, are substituted for the ordinary nuts or bars upon the eyebolts 12, and said hook members afford supports for the free ends of the rods 53, which latter, however, when not in use may be permitted to drop upon the floor adjacent to the sides of the bed.

A ring 56, which may be of any suitable material and which may be padded, if preferred, is provided with oppositely-extending arms 57 and 58, the former of which terminates in a hook 59 and the latter of which has a telescopic extension member 60, terminating in a hook 61.

To use this attachment, the device is first

manipulated until the patient reclines flat upon his back. The rods 53 are then adjusted in the hooks 55 and the ring 56 is slipped beneath the hips of the patient, the hooks 59 and 61 being placed in engagement with the rods 53. The device may now be operated to elevate the free ends of the levers 10 11, thus raising the free ends of the rods or levers 53 and elevating the ring 56 until a bed vessel may be placed underneath. The telescopic extension-arm 60 enables the attachment to be used in connection with beds of various widths.

A tubular cylindrical member 25 constitutes a socket, which is provided with laterally-extending arms 26, terminating in hooks 27, engaging one of the side rails of the bed upon which the socket 25 is thus supported. Said socket has a downward-extending screw-threaded member or bolt 28, having a clamp-nut 29. A rod 30 is provided at one end with an eye 31, engaging the bolt 28. Said rod is provided near its opposite end with a transverse opening 32, in which is fitted an adjustable hook or eye member 33, adapted to be secured in position by means of a set-screw 34 in the end of the rod. The eye member 33 engages the tubular member of the rock-shaft connecting the side members 1 2 of the frame, with which it is adjustably connected by the set-screw 34. The outer end of the rod 30 is connected by the clamp-nut 29 with the socket 25, which latter is thus firmly secured in position.

Swiveled in the socket 25 is an arm 35, the outer end of which carries a tubular socket 36, through which extends a screw-threaded rod 37, having at its upper end a laterally-extending arm or bracket 38, upon which is adjustably mounted a table 39, provided upon its under side with a transversely-perforated lug 40, engaging the arm or bracket 38 and secured upon the latter by means of a set-screw 41. The screw-threaded rod 37 has a hand-wheel 42, constituting a nut, whereby said rod may be raised or lowered with relation to the tubular socket 36, thus raising or lowering the table 39 to a suitable elevation. By the swiveled arm 35 the tilting table 39 may be swung over the bed in front of the occupant thereof, and said table may be tilted to any desired position, as will be readily understood. Upon the lower end of the screw-threaded rod 37, which extends through the lower end of the tubular socket 36, are swiveled a pair of legs 43, which are held in place by means of a clamp-nut 44. These legs may be utilized when the arm 35 is removed from the socket 25 as supporting members, converting the table into a floor-stand. When the device is used in connection with the socket 25, attached to a bed, the said legs may be inverted, as shown in Fig. 1 of the

drawings, so as not to interfere with the movement of the arm 35 when the latter is swung over the bed in front of the occupant.

The operation and advantages of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The general construction is simple and inexpensive. The device may be easily and quickly applied to beds of various widths and may be readily manipulated not only to raise the occupant of the bed to a sitting posture, but to change his position without actual handling, thus affording great relief in many cases. The device with the single exception of the back-rest may be constructed of metal or similar material, which may be easily kept clean and disinfected, and the back-rest itself may be easily changed, cleansed, and disinfected when required. The back-rest, consisting of but a single thickness of material, need not interfere in the least with the comfort of the occupant of the bed while in a recumbent position. In many cases it will be found of great advantage by affording means for slightly raising the body of the invalid from actual contact with the bedclothes, thus permitting free circulation of air, and for this purpose the back-rest member may, if desired, be made of foraminous or reticulated material. The rock-shaft of the back-rest-operating device affords means for the secure attachment of the table-supporting socket, and the table, the supporting means of which pivotally engages said socket, is a convenient appendage to the device.

Having thus described the invention, what is claimed is—

1. In a device of the class described, a pair of frame members having rail-engaging hooks, a rock-shaft connecting said frame members, levers upon said rock-shafts, and pivoted back-rest-supporting arms having slidable connection with said levers.

2. In a device of the class described, a pair of frame members having supporting means, a rock-shaft spacing and connecting said frame members, levers upon said rock-shaft, pivoted back-rest-supporting arms having sliding connection with said levers, and means for oscillating the rock-shaft.

3. In a device of the class described, a pair of frame members having supporting means, a telescopic rock-shaft adjustably connecting and spacing said frame members, levers upon said rock-shaft, pivoted back-rest-supporting arms having sliding connection with said levers, a rack-segment upon one of said levers, and a worm supported for rotation in mesh with said rack-segment.

4. A pair of frame members having supporting means, a rock-shaft spacing and connecting said frame members, levers upon

said rock-shaft, eyebolts at the free ends of said levers, pivoted back-rest-supporting arms slidably engaging said eyebolts, a rack segment upon one of the levers, and a worm supported for rotation in mesh with said rack-segment.

5. In a device of the class described, a pair of frame members having supporting-arms, levers having pivotal relation to the frame members and carrying eyebolts near their outer ends, back-rest-supporting arms pivoted upon the frame members and extending slidably through the eyebolts of the levers, a segment-rack connected with one of the levers, and a worm supported for rotation in mesh with said rack.

6. In a device of the class described, a pair of frame members having supporting means, a rock-shaft spacing and supporting said frame members, levers upon said rock-shaft, a back-rest device operated by said levers, a rack-segment upon one of said levers, a worm supported for rotation in mesh with said rack, and a ratchet-handle upon the worm-carrying shaft.

7. In a device of the class described, a pair of frame members having supporting means, a rock-shaft spacing and supporting said frame members, levers upon said rock-shaft, a back-rest device operated by said levers, a rack-segment upon one of said levers, a worm-carrying shaft supported for rotation with the worm in mesh with said rack said shaft being composed of separable members, and a ratchet-handle upon the upper detachable member of the worm-carrying shaft.

8. In a device of the class described, a pair of pivotally-supported arms, means for simultaneously adjusting said arms, and a ring or annulus having oppositely-extending members provided with hooks for adjustable engagement with said arms.

9. In a device of the class described, a pair of lugs having bed-rail-engaging clamps, arms pivotally connected with said lugs, means for effecting adjustment of the free ends of said arms, and a ring or annulus having oppositely-extending members adapted for adjustable connection with said arms.

10. In a device of the class described, a rock-shaft having levers, a pair of lugs having bed-rail-engaging means, arms pivotally connected with said lugs, means for supporting the arms slidably and detachably with relation to the free ends of the levers, and a ring or annulus having oppositely-extending members provided with means whereby they may be supported adjustably upon the pivoted arms.

11. In a device of the class described, a telescoping rock-shaft having levers, lugs having bed-rail-engaging means, arms pivotally connected with said lugs, hooks upon

the levers adapted to support the free ends of
said arms, means for oscillating the lever-car-
rying rock-shaft, and a ring or annulus hav-
ing oppositely-extending members terminat-
5 ing in hooks adapted to engage the pivoted
arms; one of said members being composed
of two parts one of which telescopes within
the other.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 10
the presence of two witnesses.

IRVIN BAKER.

Witnesses:

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RALPH J. DINDOT