

W. J. CURTIS.
ADJUSTABLE SUPPORT FOR BEDS.
APPLICATION FILED JAN. 6, 1913.

1,059,842.

Patented Apr. 22, 1913.

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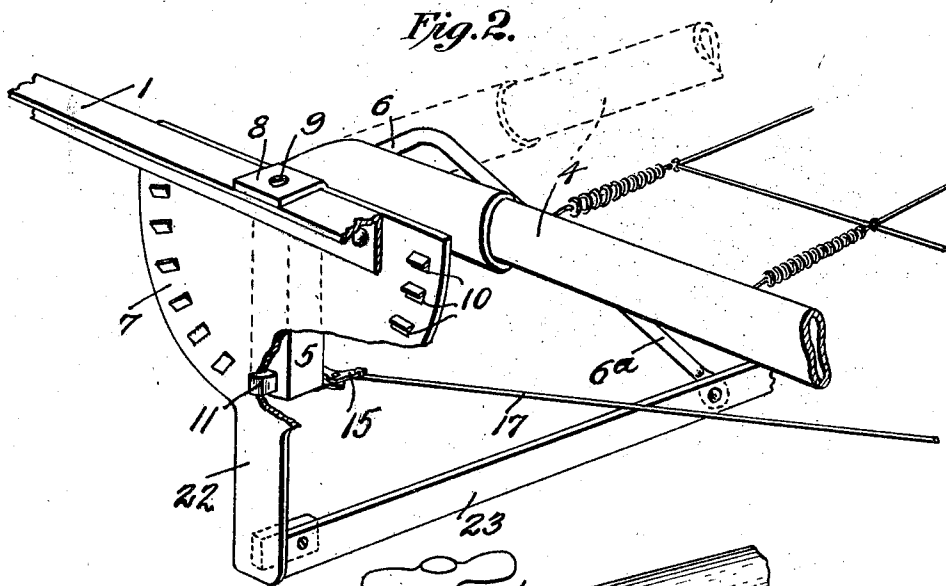
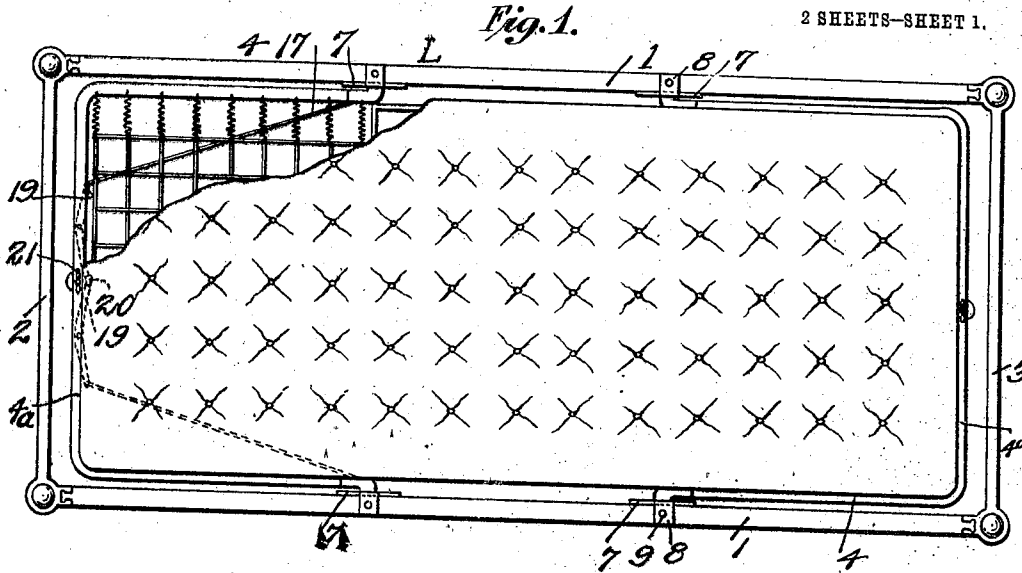
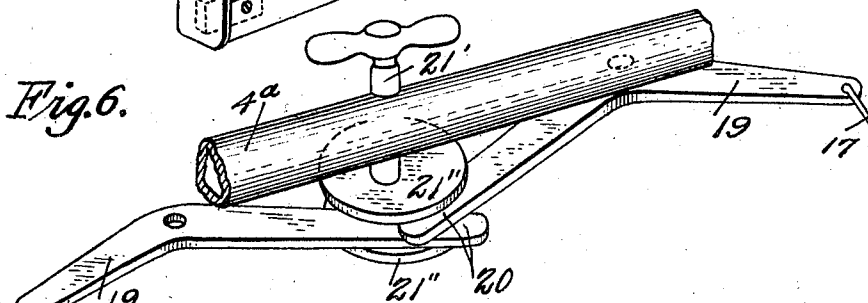


Fig. 6.



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2 SHEETS-SHEET 2.

Fig. 3.

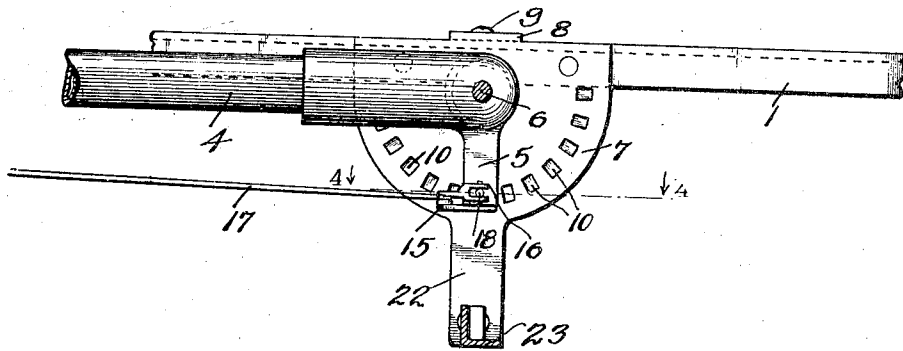


Fig. 4.

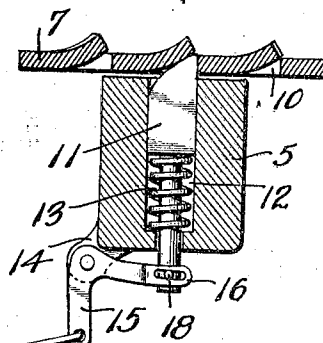


Fig. 5.

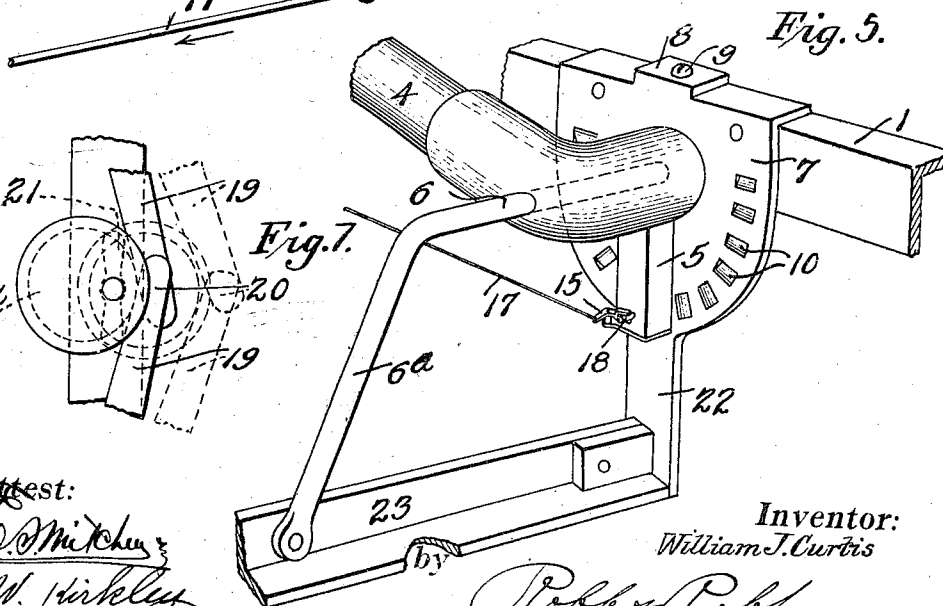
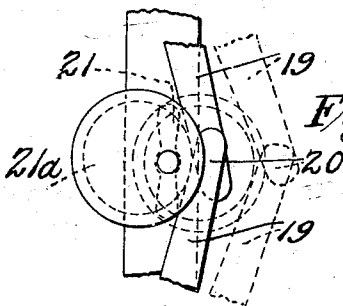


Fig. 7.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE SUPPORT FOR BEDS.

1.059.842.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed January 6, 1913. Serial No. 740,492.

To all whom it may concern:

Be it known that I, WILLIAM J. CURTIS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Adjustable Supports for Beds, of which the following is a specification.

The adjustable support for beds, as hereinafter described, is of the general type comprising a supporting frame or head adapted to be located at one or both ends of a bed and to be adjustable so as to occupy upwardly or downwardly inclined positions.

The support is especially advantageous for use in connection with invalid beds to vary the positions of portions of the body of the occupant of the bed.

The invention resides particularly in the special means employed for pivotally mounting the support on the frame of the bed, for holding the support in adjusted positions, and in the peculiar operating mechanism for the said holding means.

In the accompanying drawings: Figure 1 is a plan view of a bed frame and mattress in place thereon, the mattress being broken away to bring out more clearly the arrangement and construction of one of the adjustable supports constituting the invention. Fig. 2 is a fragmentary perspective view, certain parts broken away, bringing out more clearly the portions of the locking mechanism. Fig. 3 is a fragmentary view showing the locking mechanism in elevation. Fig. 4 is a sectional view taken about on the line 4-4 of Fig. 3. Fig. 5 is a fragmentary view of an end portion of the bed, bringing out more clearly the arrangement of the parts of the locking mechanism, and means for connecting the support with the frame of the bed. Fig. 6 is a fragmentary perspective view, bringing out more clearly the manipulative means controlling adjustment of the support. Fig. 7 is a detail view of the same.

Throughout the following detail description and on the several figures of the drawings, similar parts are referred to by like reference characters.

While the invention is shown in the drawings as applied to a bed of ordinary construction consisting of the side rails 1, the head 2, and the foot 3, it is to be understood that the improvements hereinafter set forth in detail may be readily used in

connection with couches, lounges, or the like. Since the adjustable supports 4, illustrated as located at opposite ends of the bed in Fig. 1, are of identically the same construction, one only of said supports will now be described.

Each support 4 consists primarily of a U-shaped frame made of tubing, or the like, the sides of the support being provided at their free ends with downwardly projecting arms 5, and being pivotally connected at said ends, as shown at 6, to the side rails 1 of the bed. The pivotal connections between the sides of the support 4 and the bed are established by the provision of plates 7 formed with suitable bearings for the pivots 6 above referred to. The plates 7 comprise body portions of approximately semi-circular shape and each plate has at its upper end an outstanding flange 8 which extends over the adjacent rail 1 and is fastened thereto by a screw 9 or similar fastening member. Near its curved edge portion, each plate 7 is formed with a plurality of openings 10 made by punching out portions of the metal of the plate at intervals, and a sliding catch 11 formed with a curved engaging nose is mounted in a transverse opening 12 formed in the lower end of the adjacent arm 5, and is adapted to engage with the openings 10 of the plate 7 in order to coöperate in locking the support 4 at a predetermined adjustment.

The catches 11 supported on the arms 5 of the support 4 have springs 13 engaging the same and normally tending to project the catches into engagement with the plates 7. Extending inwardly from each arm 5 of the support 4 is a lug 14 on which is pivoted a bell crank lever 15, one arm of which is bifurcated and slotted, as shown at 16, the other arm having a flexible connection 17 attached thereto. A pin 18 extending vertically through the innermost end portion of the catch 11 is engaged in the slots of the bifurcated portion 16 to thereby connect the parts 15 and 11 together. The connections 17 lead from the pivoted ends of the sides of the support 4 to the end bar 4^a of said support where each connection is attached to the outer end of a lever 19 which is pivoted between its ends to the end bar 4^a. The levers 19, two in number, are loosely engaged together at their adjacent ends, as shown at 20, and are adapted to have a slight pivotal or toggle movement imparted thereto

through the action of a handle 21 which is secured to said end bar 4^a of the support 4. Movement of the levers 19 in the manner mentioned is adapted to create a pull on the connections 17, thereby imparting pivotal movement to the levers 15 and withdrawing the catches 11 from their engagement with the plates 7, under which conditions the support 4 is free to be lowered to any suitable adjustment. Owing to the peculiar manner of formation of the openings 10 of the plates 7, and the noses of the catches 11, said catches may have a sort of ratchet movement while engaged with the plates 7 so that the supports 4 can be readily raised by merely grasping the end bars thereof and without any manipulation of the handle 21. During such upward movement of the supports 4, the catches ratchet freely into and out of engagement with the openings 10 of the plates 7.

Each of the plates 7 is formed with a downwardly projecting arm 22 and the arms 22 are connected together by a cross bar 23 which is an angle plate, as apparent upon reference to Fig. 3 of the drawings. The provision of the part 23 braces the structure of the supporting members which carry the support 4, this being of advantage in a device of the class described.

By reason of the peculiar mounting of the handle 21 upon the end bar 4^a of the support 4, said handle is always in a convenient location to be manipulated by the hand of the operator which grasps the support in effecting any adjustment of the latter.

The flexibility of the connections 17 is necessary in order to permit free ratcheting movement of the catches 11 during upward movement of the support 4.

The manner of connection of the support 4 with the plates 7 is especially advantageous, as mentioned above. Pivots 6 are utilized for this purpose and these pivots really constitute extensions at the upper ends of braces 6^a that are secured at their lower ends to the cross bar 23. The pivot extensions 6 pass through openings or bearings in the end portions of the sides of the support 4 and enter openings in the plates 7 to establish the desired pivotal connection between the parts 4 and 7, as shown most clearly in Fig. 5 of the drawings.

The cooperation of the handle 21 with the levers 19 is illustrated in Fig. 6 where it will be noted that the handle 21 is rotatable and is carried by a stem 21' passing through the part 4^a of the support 4. On the lower end of the stem 21' are mounted spaced disks 21'' between which the free adjacent ends of the levers 19 are received, said ends being engageable by an eccentric 21^a located intermediate the members 21''. Oscillatory movement of the levers 19 may be effected

by merely turning the handle 21, which imparts simultaneous movement to the disks 21'' and eccentric 21^a.

Having thus described the invention, what is claimed as new is:

1. In combination, a bed comprising side rails, plates attached to said side rails, an adjustable support comprising sides pivotally connected with said plates and formed with downwardly extending arms movable alongside the plates during adjustment of said support, horizontally disposed bell crank levers pivoted to the free end portions of said arms, horizontally operating catches supported on said arms and each connected with one arm of an adjacent bell crank lever, and manipulative means connected with the other arms of the bell crank levers to control engagement of the catches with the plates whereby to hold the support at predetermined adjustments, said plates having suitable engaging portions to cooperate with the catches.

2. In combination, a bed comprising side rails, plates attached to said side rails, an adjustable support comprising sides pivotally connected with said plates and formed with downwardly extending arms movable alongside the plates during adjustments of said support, horizontally disposed bell crank levers pivoted to the free end portions of said arms, horizontally operating catches supported on said arms and each connected with one arm of an adjacent bell crank lever, the plates being provided with openings with which the catches aforesaid are adapted to engage to hold the support at predetermined adjustments, and manipulative means consisting of a handle and connections between said handle and the other arms of the bell crank levers whereby the bell crank levers may be simultaneously operated to withdraw the catches from engagement with the plates.

3. In combination, a bed comprising side rails, plates attached to said side rails, an adjustable support comprising sides pivotally connected with said plates and formed with downwardly extending arms movable alongside the plates during adjustment of said support, horizontally disposed bell crank levers pivoted to the free end portions of said arms, horizontally operating catches supported on said arms and each connected with one arm of an adjacent bell crank lever, the plates aforesaid being formed with openings arranged on arc graduated about the pivotal axis of the support as a center and with which openings the catches aforesaid are adapted to engage to hold the support at a predetermined adjustment, manipulative means to operate the catches aforesaid to disengage the same from the plates and comprising flexible connections attached to the other arms of the bell crank levers, le-

vers pivoted between their ends to the end of the adjustable support, a connection between adjacent ends of the levers, the opposite ends of the last mentioned levers being
 5 connected with the flexible connections aforesaid, and a handle for actuating the last mentioned levers to cause simultaneous movement of the bell crank levers, and corresponding movement of the catches with
 10 which said bell crank levers are connected.

4. In combination, a bed comprising side rails, plates attached to said side rails, an adjustable support comprising sides pivotally connected with said plates and formed
 15 with downwardly extending arms movable alongside the plates during adjustment of said support, horizontally disposed bell crank levers pivoted to the free end portions of said arms, horizontally operating
 20 catches supported on said arms and each connected with one arm of an adjacent bell crank lever, and manipulative means associated with the other arms of the bell crank levers and comprising a handle mounted on
 25 an end of the support, spaced disks carried by said handle, levers pivoted to said support and having adjacent ends received between said spaced disks, connections between opposite ends of the last mentioned levers
 30 leading to the bell crank levers, and an eccentric between the disks aforesaid to en-

gage and operate the second mentioned levers.

5. In combination, a bed comprising side rails, plates carried by said side rails, a
 35 cross bar connecting said plates, an adjustable support comprising side arms having end portions arranged adjacent to the plates, and brace means connected with the cross bar and constituting pivot means connecting
 40 the support with the plates.

6. In combination, a bed comprising side rails, plates depending from said rails, a
 cross bar connecting said plates together, an
 adjustable support comprising sides termi-
 45 nating adjacent to said plates, brace members connected at their lower ends with the cross bar and formed with extensions at their upper ends passing through adjacent
 portions of the sides of the support and the
 50 plates to thereby pivotally connect said parts together, and locking mechanism intermediate the support and the plates whereby to hold the support in adjustable positions.
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In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM J. CURTIS.

Witnesses:

HARRY DORCHER,
 MAURO DEPANESCOY.