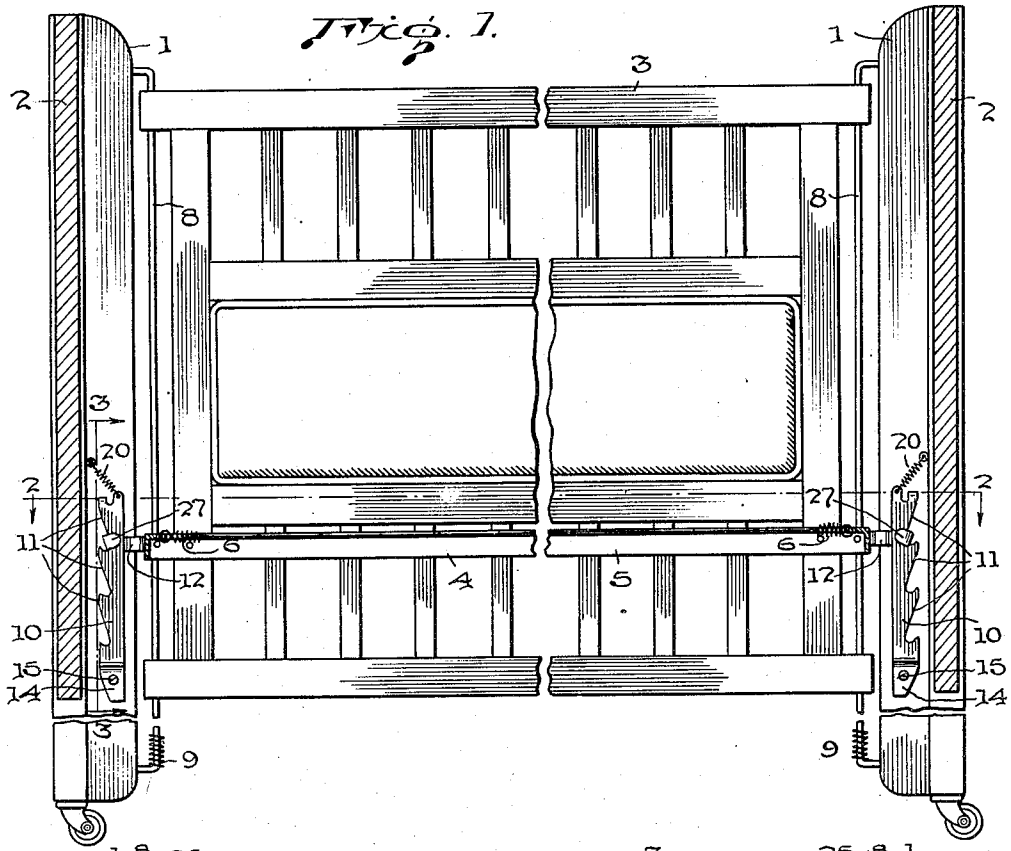
July 24, 1951 A. MARS ET AL 2,562,053

ADJUSTABLE SUPPORT FOR CRIB BED SPRINGS

Filed Sept. 2, 1948 2 Sheets-Sheet 1

Fig. 1.



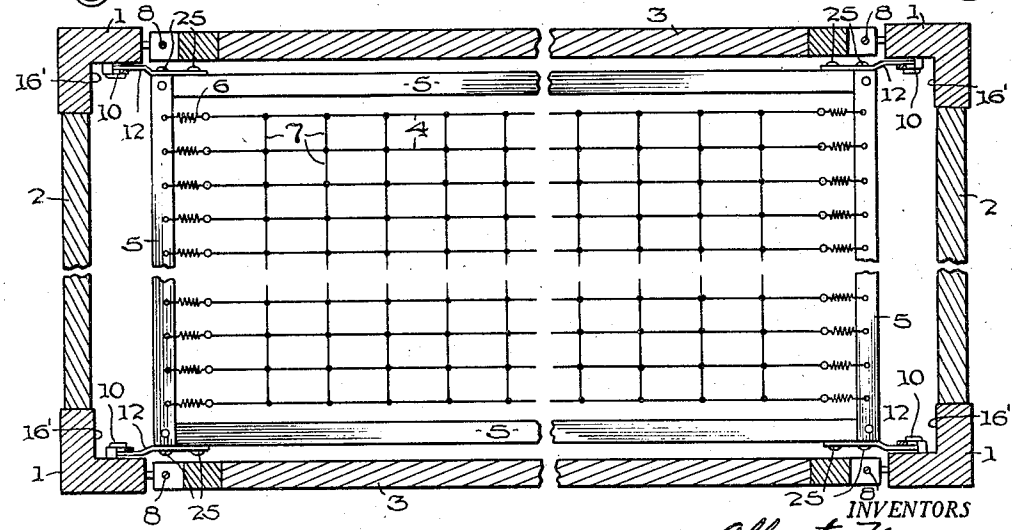


Fig. 2.

INVENTORS
Albert Mars
BY Andrew Gorretta
Robb & Robb
Attorneys

July 24, 1951 A. MARS ET AL 2,562,053

ADJUSTABLE SUPPORT FOR CRIB BED SPRINGS

Filed Sept. 2, 1948 2 Sheets-Sheet 2

Fig. 3.

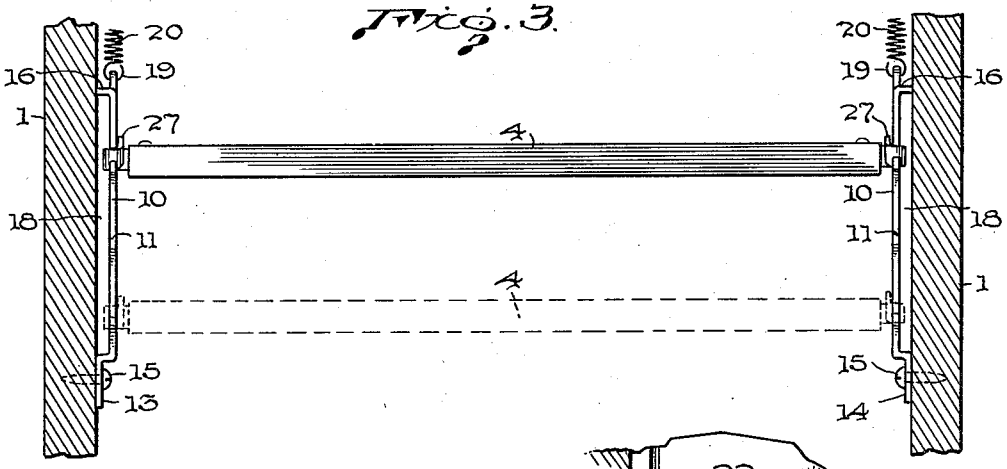


Fig. 4.

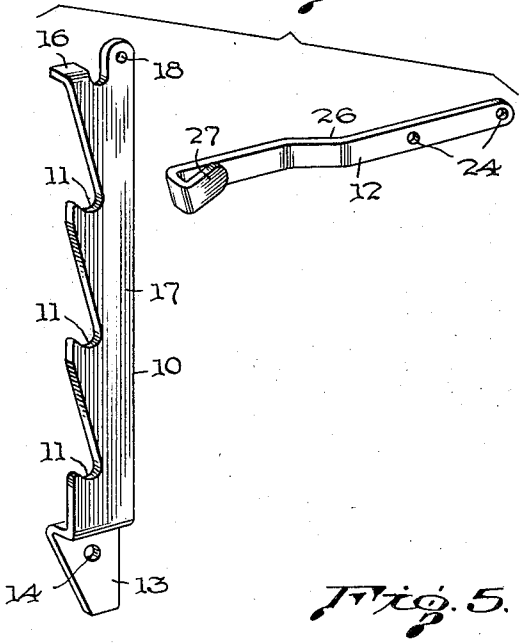
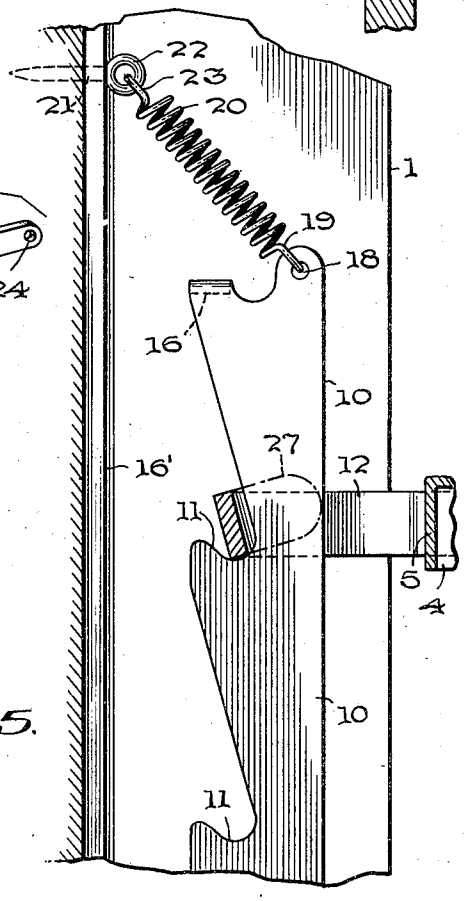


Fig. 5.



INVENTORS
Albert Mars
BY Andrew Gorretta
Robert Cobb
Attorneys

Patented July 24, 1951 2,562,053

UNITED STATES PATENT OFFICE

2,562,053

ADJUSTABLE SUPPORT FOR CRIB BED SPRINGS

Albert Mars and Andrew Gorretta,
Cleveland, Ohio

Application September 2, 1948, Serial No. 47,496

11 Claims. (Cl. 5—11)

1

The present invention relates to supports for bed springs, and more especially, to a new and improved adjustable support for crib bed springs which permits variation or adjustment of the elevation of the springs.

In the use of crib beds for small infants in their early stages of growth, when frequent attendance upon and handling of the infant is required, it has been found to be inconvenient and unduly tiring on the attendant to perform the daily and substantially constant cares and attentions usually required by the child while lying in the crib and supported thereby at the usual elevation determined by the conventional arrangement of the crib springs which are normally fixed at a relatively low elevation, therefore necessitating frequent stooping or bending over by the attendant, with consequent discomfort to and strain of the attendant's back. This discomfort and strain is not appreciably reduced even when the usual side boards or side rails of the crib are of the so-called "drop" type, or are otherwise movable to afford more convenient access to the child, as in some types of crib constructions, since the springs are ordinarily fixed and always remain at a relatively low elevation, with the child consequently supported at a correspondingly low elevation.

With the view to eliminating, or at least reducing, the inconvenience and discomfort of the attendant which result from the ordinary crib bed constructions employing fixed, relatively low springs, it is the primary object of the present invention to provide a relatively inexpensive, simple and improved adjustable spring support affording a substantial range of vertical adjustment of the springs, and which may be easily and quickly applied to crib beds, without materially increasing the cost of manufacture of the bed, or which may be applied to existing crib beds at a very nominal expense.

A further object of the invention is to provide an improved spring support for crib beds which is sturdy and safe, and which can be easily and quickly adjusted to dispose the springs at any convenient or desired elevation as the particular occasion or circumstance requires, while also permitting progressive lowering of the springs as the child grows and develops in size, consistent with the desired safety of the child and minimum risk of falling or climbing out of the crib while unattended.

Another object of the invention is to provide an improved, notched, bracket member for attachment to the corner post or leg of a crib

2

bed, together with an arm of special form for attachment to the corresponding corner of the crib spring frame or unit, which arm is selectively engageable with vertically spaced notches of the bracket member, whereby to provide a positive and safe adjustable support for the crib springs.

The invention is still further characterized by the unique and particular arrangement and relationship of the bracket and arm aforesaid which insures positive and effective interlocking the same at all times, while permitting change of the crib spring elevation at will.

Other and further objects and advantages of the invention will be hereinafter described and the novel features thereof defined in the appended claims.

In the drawings:

Figure 1 is a longitudinal, vertical sectional view taken through a crib bed equipped with adjusting means for adjusting the elevation of the crib spring unit, according to the present invention;

Figure 2 is a horizontal sectional view taken on the plane of the line 2—2 of Figure 1, and more particularly showing the adjusting means at each corner of the crib bed and spring unit;

Figure 3 is a fragmentary vertical sectional view on a somewhat enlarged scale, as taken on the plane of the line 3—3 of Figure 1, with the spring unit adjusting means shown in end elevation, and with the spring unit represented in full lines in the adjusted position of maximum elevation, and in broken lines in the adjusted position of minimum elevation;

Figure 4 is a composite view in perspective of one of the notched corner post brackets and its corresponding cooperating spring unit corner arm; and

Figure 5 is a fragmentary enlarged view, partly in vertical section and partly in side elevation, showing in clearer detail the crib spring adjusting means at one corner of the crib bed.

Like reference characters designate corresponding parts in the several figures of the drawings, wherein the invention is shown applied to a crib bed of conventional construction having four corner posts or legs respectively designated 1 at the respective corners of the bed, end panels 2 extending transversely between each pair of corner posts 1 at the respective opposite ends of the bed, and side boards or rails 3 extending longitudinally between each pair of corner posts 1 at the respective opposite sides of the bed, together with a crib spring unit which preferably

includes a rigid frame 5 extending completely around the four sides of the spring unit and forming a rigid supporting frame for the usual coil springs 6 and the usual interconnected network of links or wires 7. The frame 5 is illustrated in the conventional form of angle irons, and in the ordinary crib bed construction, this frame would be connected to the corner posts or legs 1 at a fixed elevation, whereas in the case of the present invention, the connection or support for the spring unit is adjustable as will hereinafter be more fully described, in order to permit adjustment or variation of the elevation of the spring unit.

Either or both of the side boards or rails 3 may be of the "drop" type, permitting the same to be raised or lowered as the occasion requires, the raising or lowering movements being accomplished by slidably mounting the side boards or rails 3 on vertically extended rods 8 which are suitably attached to the respective corner posts 1, as more particularly illustrated in Figures 1 and 2, the rods loosely passing through openings in the opposite ends of the respective side boards or rails. A coil spring 9 is usually mounted at the bottom of each rod 8 to cushion the side boards or rails when the same are dropped or lowered.

These details of the crib construction are not material to the present invention, and have been described and illustrated herein merely by way of example of one type of crib construction to which the present invention is applicable. Accordingly, it is to be understood that the invention is not limited to use with crib constructions embodying all of the detailed features described and illustrated herein, since it will be obvious that such details may be changed or varied without affecting the spring adjusting means which will now be more particularly described.

As will be observed from the drawings, each corner of the spring unit 4 is connected to one of the corner posts or legs 1 by a special adjustable supporting means which includes a notched bracket 10 which is provided with a plurality of vertically spaced notches 11 in one edge thereof, and an arm 12 which is rigidly anchored at one end to the spring unit 4 at each corner of the spring unit, the opposite end of each arm being selectively engageable with the notches 11 of an adjacent bracket 10.

The details of the bracket 10 and arms 12 are more clearly shown in Figures 4 and 5 of the drawings, from which it will be seen that each bracket 10 has the form of an elongated plate, preferably formed of metal or other suitable rigid material, the lower end of the plate being laterally offset, as at 13, and provided with an opening 14 therethrough for the reception of a screw or bolt as shown at 15 in Figures 1 to 3 inclusive, said screw or bolt serving to pivotally attach the bracket to the corner post 1, each corner post being preferably rabbeted or notched out, as indicated at 16' in Figure 2, so that the brackets at the corresponding ends of the crib may be spaced from each other at the required distance corresponding to the spacing of the arms 12 at the adjacent end of the spring unit 4. The upper end of each bracket 10 is provided with a laterally extended lug or tongue 16 which bears against the corner post 1 when the bracket 10 is pivotally mounted on the corner post by means of the screw or bolt 15, thereby causing the intermediate portion 17 of the bracket which lies between the parts 16 and 13 and which is notched at 11, to be positively spaced from the face of the corner post, as indicated at 18 in Figure 3, thereby affording sufficient clearance between the bracket and the corner post for free and unobstructed vertical movements of the arm 12 which is extended through the space 18 so as to always lie outside of the bracket. It will be further observed that the notches 11 in each bracket are formed in the outer edge thereof, that is, the edge which is disposed next to the end panels of the crib, and each notch is sloped upwardly and outwardly from the base thereof towards the next notch above the same, thereby giving the outer edge of each bracket the form of a series of inclined steps.

The upper end of each bracket 10 is also provided with an aperture 18 which is formed therethrough for the purpose of receiving the hooked end 19 of a coil spring 20, said coil spring thus being anchored by the hook 19 to the bracket 10 at one end, and the opposite end of the spring 20 being suitably anchored to the corner post 1, as by means of a screw or bolt 21 having an eye 22 for engaging the hook 23 on the corresponding end of the spring 20. As will be best seen from Figures 1 and 5, the anchor screw 21 is attached to the corner post 1 at a point somewhat above the upper end of the bracket 10 so that the spring 20 is normally inclined at approximately 45°, more or less, thereby causing the spring to yieldingly bias or urge the bracket 10 in a counter-clockwise direction, as viewed in Figures 1 and 5, about the axis of the anchor screw 15, the bracket being free to pivot on the anchor screw towards and away from the base of the rabbeted groove or notch 16' in the corner post 1.

Each of the supporting arms 12 is provided with one or more apertures 24 at the inner end thereof to receive rivets or bolts 25 which serve to rigidly attach the arm to the corner of the spring unit 4. At an intermediate point along each arm 12, the arm is laterally offset outwardly, as indicated at 26, so that the outer end of the arm will extend through the space 18 at the outside of the corresponding bracket 10, and the extreme outer end of each arm is reversely bent upon itself, as indicated at 27, to form a hook which embraces about the outer edge of the corresponding bracket 10 with which the arm 12 cooperates. In bending the hooks 27, the corner bend at the junction of the hook and the arm proper is made on an angle generally corresponding to the angle of inclination of the outer edge of the bracket 10 between each notch 11, thereby causing the hook to ride flat against the outer edge of the bracket as the arm moves upwardly or downwardly during adjustment of the elevation of the spring unit 4. Due to this inclination, the hook ends of the arms 12 will always seat fully and safely in the bottom of each notch 11, as clearly shown in Figure 5.

When all the supporting arms 12 are engaged in the uppermost notches 11 of the respective brackets 10, the spring unit 4 will assume a horizontal position at its maximum elevation. When it is desired to lower the spring unit, the brackets 10 are rocked inwardly to disengage the same from the arms 12 and permit the arms and the spring unit to be dropped downwardly to the desired extent until re-engaged with a lower notch 11 in the respective brackets, the lowermost notches determining the minimum elevation of the spring unit. Conversely, when the spring unit is to be elevated from one of the lower po-

sitions, it is only necessary to lift the spring unit upwardly, and the hooks 27 on the arms 26 will slide freely on the brackets 10, as permitted by the yielding action of the springs 20, until the hooks reach the desired notches at a higher elevation, whereupon the hooks will automatically re-engage in these notches. Due to the fact that the arms 12 always lie between the brackets 10 and the corner post 1, at a point above the screw anchors 15 and the laterally offset portions 13 of the brackets, there is never any danger that the spring unit 4 will accidentally fall or pass below the bottom ends of the brackets 10 during the adjusting operations above referred to, since the laterally offset portions 13 of the brackets form positive stops or abutments to preclude movement of the arms 26 substantially beyond the lowermost notches 11 in the brackets 10. This safety feature, together with the biasing action of the springs 20, always insures positive support of the spring unit 4 in all positions of adjustment, and contributes to the simplicity of the adjusting operation.

While only three notches have been shown in the brackets 10 illustrated in the drawings, it will be obvious that the length and number of notches in each bracket may be varied or increased as desired and is within the intended scope of the invention. Likewise, it is to be understood that the brackets 10 and arms 26 may be applied to the crib construction either in the course of the original manufacture of the crib, or subsequent to such original manufacture such as cribs already in use, in which latter event the brackets 10 and arms 12 can be sold separately in sets, together with the appropriate fastenings or hardware as may be necessary to install the brackets and arms on existing cribs of any suitable type.

We claim:

1. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and side boards longitudinally extended between the corner posts at the opposite sides of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post in perpendicular relation to said end panels and an arm rigidly connected to each corner of the spring unit, said brackets and arms having interlocking engagement with each other in selective positions of vertical adjustment.

2. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and the side boards longitudinally extended between the corner posts at the opposite sides of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post in perpendicular relation to said end panels and having a plurality of vertically spaced notches formed therein, and an arm rigidly connected to each corner of the spring unit, said arms having selective engagement with the notches of the respective brackets.

3. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and side boards longitudinally extended between the corner posts at the opposite sides of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post having a plurality of vertically spaced notches formed therein, an arm rigidly connected to each corner of the spring unit, said arms having selective engagement with the notches of the respective brackets, and means for yieldably biasing said pivotal brackets in a direction tending to cause automatic engagement of the arms in the bracket notches.

4. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and side boards longitudinally extended between the corners posts at the opposite sides of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post in perpendicular relation to said end panels and having a plurality of vertically spaced notches formed in one edge thereof, and an arm rigidly connected to each corner of the spring unit and having a reversely bent hooked extremity embracing the notched edge of its adjacent bracket and selectively engageable with the notches of the bracket.

5. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and side boards longitudinally extended between the corner posts at the opposite sides of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post and having a plurality of vertically spaced notches formed in one edge thereof, an arm rigidly connected to each corner of the spring unit and having a reversely bent hooked extremity embracing the notched edge of its adjacent bracket and selectively engageable with the notches of the bracket, and means for yieldably biasing the pivotal brackets in a direction tending to cause automatic seating of the hooked extremities of the arms in the bracket notches.

6. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and side boards longitudinally extended between the corner posts at the opposite sides of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post and having a plurality of vertically spaced notches formed in one end thereof, an arm rigidly connected to each

corner of the spring unit and having a reversely bent hooked extremity embracing the notched edge of its adjacent bracket and selectively engageable with the notches of the bracket, and spring means connecting the free end of each bracket with the corner post on which the bracket is pivotally mounted for yieldably biasing the pivotal brackets in a direction tending to cause automatic seating of the hooked extremities of the arms of the bracket notches.

7. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and side boards longitudinally extended between the corner posts at the opposite ends of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post and having a plurality of vertically spaced notches formed in one edge thereof, an arm rigidly connected to each corner of the spring unit and having a reversely bent hooked extremity embracing the notched edge of its adjacent bracket and selectively engageable with the notches of the bracket, and spring means connecting the free end of each bracket with the corner post on which the bracket is pivotally mounted for yieldably biasing the pivotal brackets in a direction tending to cause automatic seating of the hooked extremities of the arms in the bracket notches, and the edge of each bracket between the notches being inclined upwardly and outwardly from the bottom of each notch to the next notch above, and the hooked extremity of each coacting arm being bent on an angle substantially corresponding to the inclination aforesaid.

8. In a crib bed of the class described, the combination with corner posts having transversely extended end panels therebetween at the opposite ends of the bed and side boards longitudinally extended between the corner posts at the opposite sides of the bed, and a spring unit horizontally disposed within the confines of the end panels and side boards aforesaid, of adjustable supporting means for the spring unit to support the spring unit at different elevations, said supporting means comprising a bracket member pivotally mounted on each corner post and having a plurality of vertically spaced notches formed in one edge thereof, an arm rigidly connected to each corner of the spring unit and having a reversely bent hooked extremity embracing the notched edge of its adjacent bracket and selectively engageable with the notches of the bracket, and spring means connecting the free end of each bracket with the corner post on which the bracket is pivotally mounted for yieldably biasing the pivotal brackets in a direction tending to

cause automatic seating of the hooked extremities of the arms in the bracket notches, and each of said corner posts being provided with a longitudinally rabbetted channel or groove at the inner side thereof in which the bracket is mounted and is free to pivot in a vertical plane.

9. Adjustable supporting means for crib bed spring units, comprising a bracket member having vertically spaced notches formed in one edge thereof intermediate its opposite ends, said opposite ends being laterally offset, the lower end of said bracket having means for pivotally connecting the bracket member to a corner post of the crib and the upper end of said bracket having means for yieldably connecting the same to said corner post for supporting the upper end of said bracket, and an arm coacting with the bracket member aforesaid and having means at one end for rigidly anchoring the same to a corner of the spring unit, and having a hooked extremity at the opposite end for selective engagement with the notches of the bracket member.

10. Adjustable supporting means as defined in claim 9, wherein the notched edge of the bracket member is inclined upwardly and outwardly between each adjacent pair of notches, and the hooked extremity of the arm is bent on a corresponding inclination.

11. Adjustable supporting means for bed spring units, comprising a supporting member adapted to be pivotally attached at one end to each corner post of a bed, and a coacting member adapted to be rigidly attached to the spring unit, said members having selective interlocking engagement with each other in a plurality of positions respectively determining different elevations of the spring unit aforesaid, said supporting member having biasing means at its free end, adapted to be connected to the corner post aforesaid, whereby the pivotally mounted supporting member will be yieldably biased in a direction tending to cause automatic interlocking engagement between the supporting member and the coacting member.

ALBERT MARS.
ANDREW GORRETTA.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,171,024	Clark	Feb. 8, 1916
1,694,659	Kusterle	Dec. 11, 1928
2,297,963	Kroll et al.	Oct. 6, 1942
2,397,697	Shaw	Apr. 2, 1946
2,532,236	Klaskin	Nov. 28, 1950

FOREIGN PATENTS

Number	Country	Date
17,916	Great Britain	Jan. 21, 1915