M. LOWY.

FOLDING CRIB OR BED.

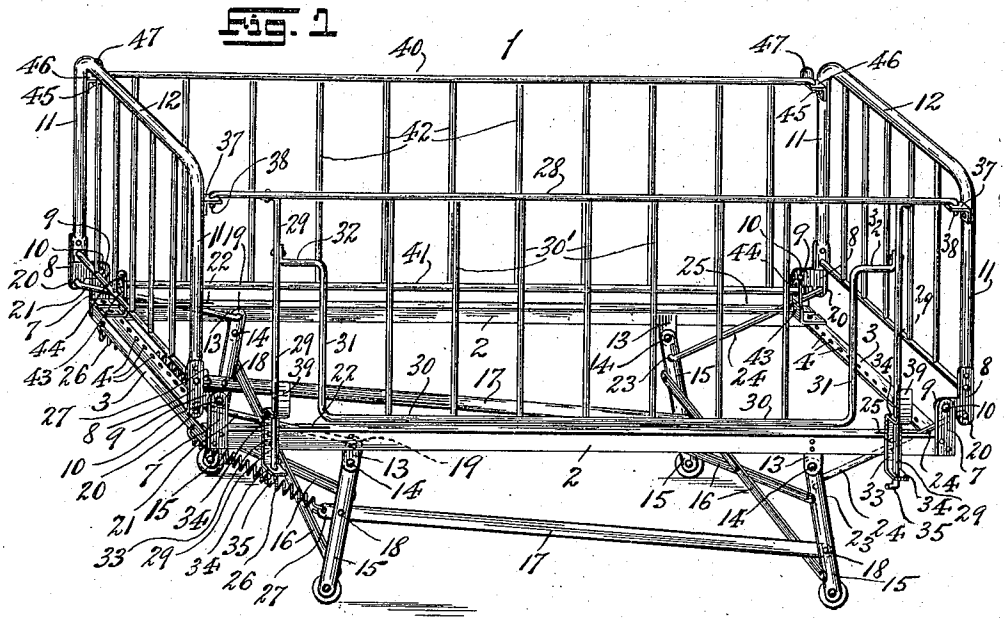
APPLICATION FILED JUNE 18, 1915.

1,216,709.

Patented Feb. 20, 1917.

3 SHEETS—SHEET 1.

Fig. 1.



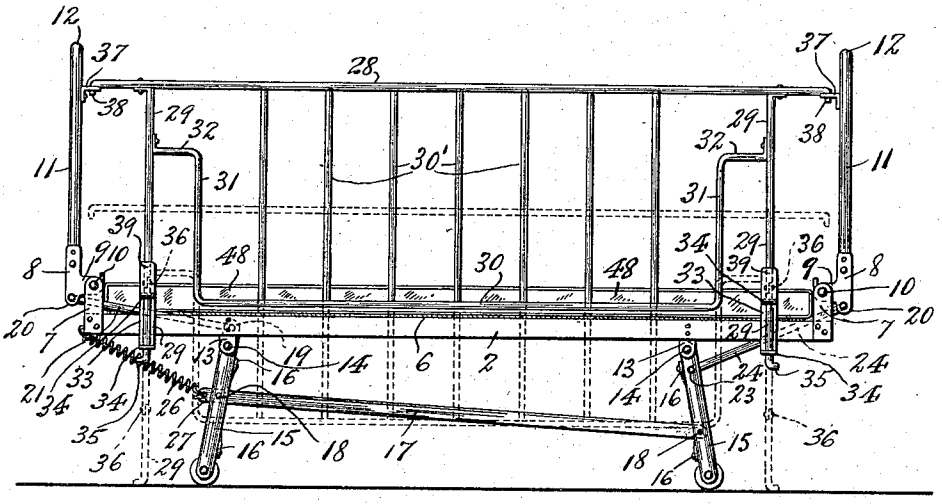


Fig. 2.

WITNESSES:

Fredk W. Frantzel

Eva C. Desch.

INVENTOR

Morris Lowy,

BY

Frantzel & Richards,

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

M. LOWY.

FOLDING CRIB OR BED.

APPLICATION FILED JUNE 18, 1915.

1,216,709.

Patented Feb. 20, 1917.

3 SHEETS—SHEET 2.

Fig. 3

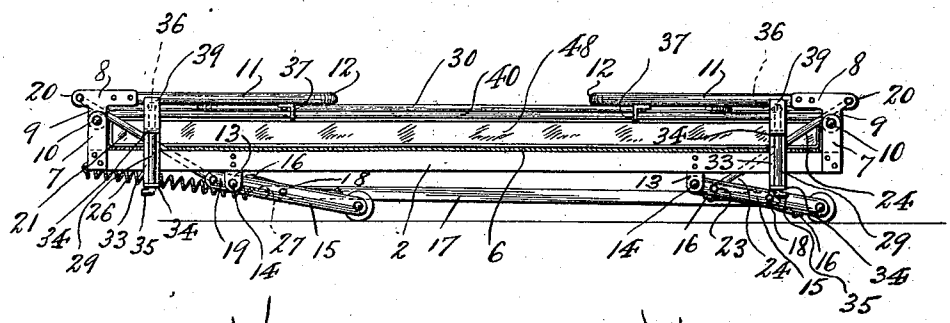


Fig. 4

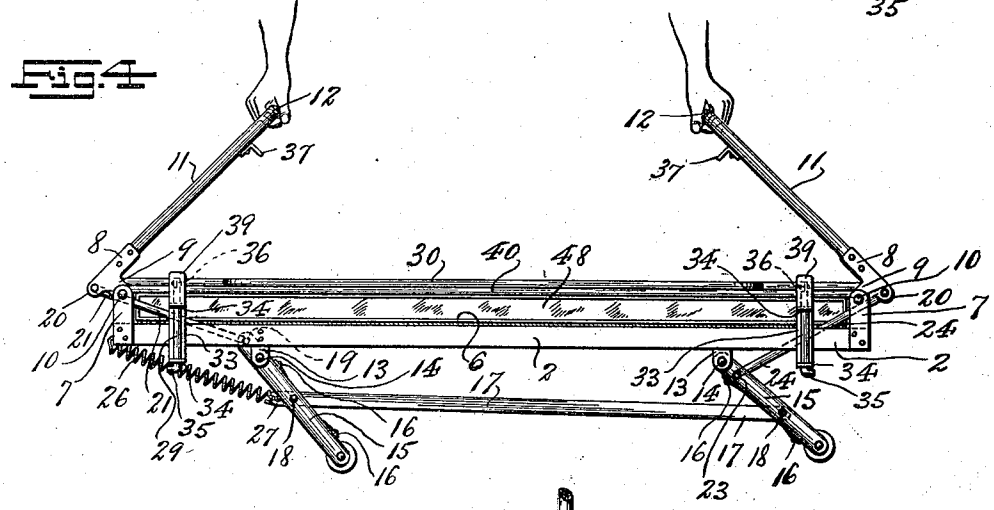
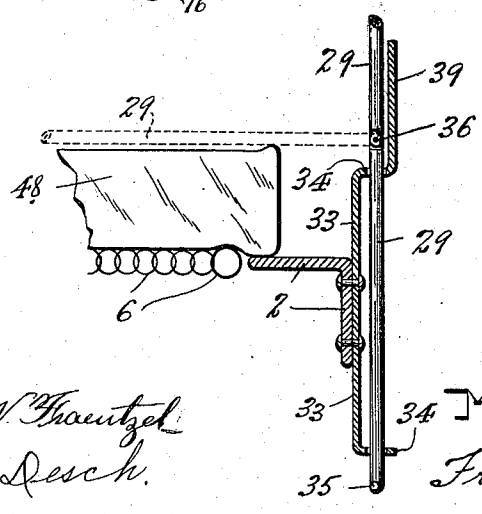


Fig. 7



WITNESSES:

Chas. W. Traentzel

Eva E. Desch.

INVENTOR

Morris Lowy,

BY

Fraentzel & Richards,

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

M. LOWY.

FOLDING CRIB OR BED.

APPLICATION FILED JUNE 18, 1915.

1,216,709.

Patented Feb. 20, 1917.

3 SHEETS—SHEET 3.

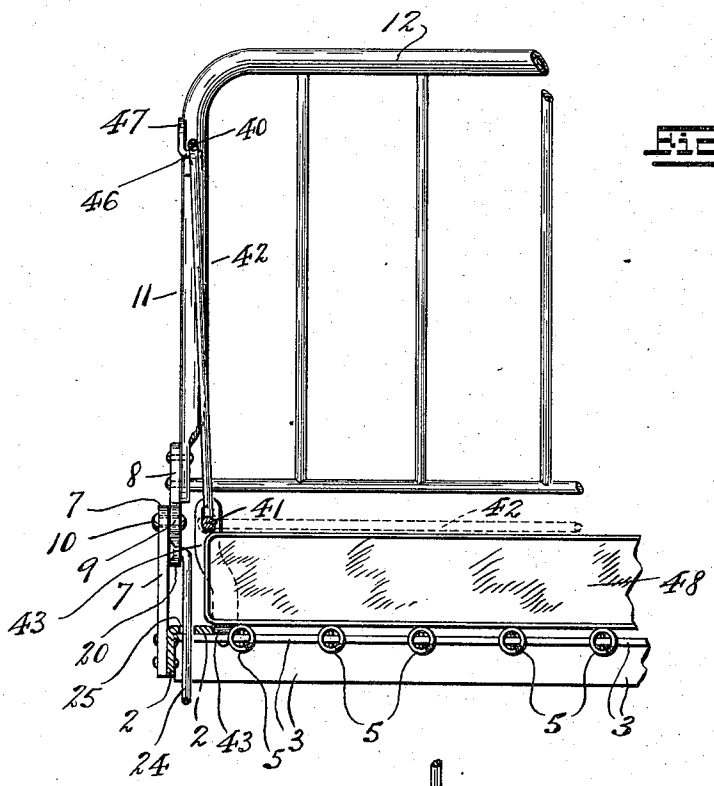


Fig. 5

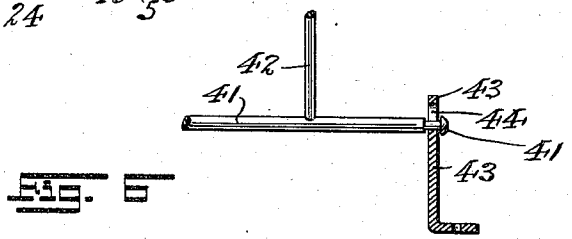


Fig. 6

WITNESSES:

Fredk. W. Frantzel.

Eva E. Desch

INVENTOR

Morris Lowy,

BY

Frantzel & Richards,

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MORRIS LOWY, OF NEW YORK, N. Y.

FOLDING CRIB OR BED.

1,216,709. Specification of Letters Patent. Patented Feb. 20, 1917.

Application filed June 18, 1915. Serial No. 34,814.

To all whom it may concern:

Be it known that I, MORRIS LOWY, 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 Folding Cribs or Beds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

The present invention relates, generally, to improvements in folding cribs, which possess foldable end sections providing head and foot sections, and foldable side sections or side guards, together with foldable standards for supporting the crib when in use.

The present invention has for its principal object to provide a novel construction of folding or collapsible crib or bed, which is light, durable, simple, cheap to manufacture, and which can readily be folded so as to occupy a small space when not in use, or when storing or when shipping the same.

Another object of the present invention is to provide in connection with a main horizontal crib frame, with which the usual springs and mattress are arranged, a pivoted arrangement of end sections at each end thereof, together with pivoted and foldable standards or leg-members, the latter being so interconnected by link-members with said pivoted end sections, that the operation of either folding or opening the latter will be simultaneously transmitted to the standards or leg-members to automatically fold or open the same, thereby assuring a very simple and easily operated folding crib or bed.

A still further object of the present invention is to provide foldable side sections or guards which are provided in connection with the main frame, and which are provided with means for connecting the same when in operative open position with the end sections providing the head and foot of the crib; and, furthermore, the present invention provides a novel construction of side section or guard which is not only articulated to provide for the folding operation, but is also mounted and constructed to permit of a bodily vertical sliding movement thereof relative to the open crib, so that the same may be dropped or lowered to render easy the placing of a child in the crib or the removal of the same from the crib.

Still another object of the present invention is to so mount and arrange the foldable sections of the crib in connection with the main frame that the folding or opening operation of the same may be easily accomplished without necessity of removing the mattress or bed clothes necessary to the practical use of the crib.

Other objects of the present invention, not at this time more particularly enumerated, will be clearly understood from the following detailed description of my present invention.

With the various objects of my present invention in view, the same consists, primarily, in the novel construction of foldable or collapsible crib hereinafter set forth; and the invention consists furthermore in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the said parts, all of which will be more fully described in the following specification, and then finally embodied in the claims which are appended to and which form an essential part of the said specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of the novel construction of foldable or collapsible crib made according to and embodying the principles of my present invention, the same being shown in its open or extended position ready for use, except that to more clearly illustrate the mechanism the springs and mattress associated with the crib when in use have been omitted.

Fig. 2 is a side elevation of the novel foldable or collapsible crib in open or extended position, the same also including the usual springs and mattress; this view further illustrating by dotted representation the vertical movement or drop of which one of the side sections or guards is capable.

Fig. 3 is a side elevation of the novel foldable or collapsible crib in its folded or collapsed position.

Fig. 4 is a similar side elevation of the

same, but illustrating the manner of operating the crib to either unfold or to collapse the same.

Fig. 5 is a detail transverse section of a portion of the foldable or collapsible crib, the same being drawn on an enlarged scale.

Fig. 6 is a detail of a bracket-mounting for pivotally mounting a side section or guard.

Fig. 7 is a detail transverse section of the means for supporting a side section or guard so that the same is capable of both a foldable or pivotal movement and a vertical sliding movement or drop.

Similar characters of reference are employed in all of the hereinabove described views to indicate corresponding parts.

Referring now to said drawings the reference character 1 indicates the complete foldable or collapsible crib made according to and embodying the principles of my present invention, the same comprising a horizontally disposed main frame, comprising the longitudinal members 2, and the lateral members 3 interconnecting the ends of said longitudinal members, said longitudinal and lateral members being preferably constructed of angle iron. The inner marginal edges of said lateral members 3 are each provided with a row of perforations or holes 4, into which are hooked the outer ends of helical springs 5, the inner ends of which are secured to a suitable spring-fabric 6, which is thus spread or stretched horizontally in supported connection with said main frame.

Riveted or otherwise secured to each end of said longitudinal members 2, so as to be disposed at each corner of said main frame, are upwardly and vertically extending fulcrum posts 7.

The reference character 8 indicates a pivot-block or member, which is provided intermediate of its ends with a laterally projecting perforated lug 9. This lug 9 is pivoted, by means of a suitable pintle 10, to a fulcrum post 7. Secured to the upper ends of said pivot blocks or members 8, which are connected with transversely opposite fulcrum posts 7, are the vertical posts 11 of end sections 12 of any desirable design.

Riveted or otherwise secured to said longitudinal members 2 of the main frame, so as to be positioned adjacent to, but spaced a proper distance from the ends thereof, are downwardly and vertically extending fulcrum-posts 13.

Pivotally secured, by suitable pintles 14, to transversely opposite fulcrum-posts 13 are leg-members or standards 15. The transversely opposite leg-members or standards 15 are interconnected by laterally extending cross-bars 16, and interconnecting the longitudinally opposite leg-members or standards 15 are connecting-rods 17, the latter being pivoted to said leg-members or standards with which they are associated by pintles 18.

One set or pair of transversely opposite leg-members or standards 15 are provided with upwardly extending lever arms 19 extending above the fulcrum thereof. The lower ends of each pivot-block or member 8, which support the end sections 12, are provided with downwardly extending lever-arms 20, extending below the pivot points of said end sections. The reference character 21 indicates link-members which interconnect the lever-arms 19 of said set or pair of leg-members or standards 15 with the lever-arms 20 of one set or pair of pivot-blocks or members 8 which support an adjacent end section. If desired the longitudinal members 2 of the main-frame may be slotted as at 22, to permit the passage and movement therethrough of said link-members 21, although this is not absolutely essential, since the parts may be so connected that said link-members may pass either on the inner or outer side of said longitudinal members 2. The opposite set or pair of transversely opposite leg-members or standards 15 are provided with link-fulcrums 23 located below the pivoting point thereof. The downwardly extending lever-arms 20 of the set or pair of pivot-blocks or members 8 supporting the opposite end section 12 are interconnected with said link-fulcrums 23 by means of link-members 24, which, if desired, may pass and move through slots 25 formed in said longitudinal members 2 of said main frame.

The peculiar manner of connecting the leg-members or standards with the respective end sections, as immediately above described, is for the purpose of securing a proper transmission of operating force to the leg-members or standards which will result in both sets or pairs of the latter swinging or folding in one and the same direction, although the respective end sections both swing inwardly or toward each other, and consequently in opposite directions when they are operated.

While I have shown and described the pivot blocks or members 8 for connection with the vertical posts 11 of the respective end-sections 12, I do not wish to be understood as limiting myself to their use, since said vertical posts 11 may be directly pivoted to the fulcrum posts 7, if desired, and the respective link-members 21 and 24 may be connected with ends of said posts 11 extending downwardly beyond the pivot points thereof.

The reference character 26 indicates pull spring members, the inner ends of which are secured to perforated ends 27 of the connecting-rods 17 which extend between the longitudinally opposite leg-members or standards

15, and the outer ends of said pull-springs are anchored upon some convenient point of the main frame, such, for example, as a portion of a lateral member 3. These springs 26 exert such pulls upon the leg-members or standards 15, when opening the crib from its folded condition, as to render that operation easy of accomplishment with little exertion, as will be more clearly understood from an inspection of Fig. 4, and when the crib is entirely folded or collapsed, the link-members interconnecting said leg-members or standards with the end-sections having crossed the pivot points of the latter, the tendency of the pull of said springs 26, is then to maintain the crib folded or collapsed, as will be more fully understood from an inspection of Fig. 3.

The reference character 28 indicates the top-rail of a side or guard section. Connected with said top-rail adjacent to its opposite ends are downwardly depending vertical rails 29. The bottom-rail 30 is bent upwardly at its ends as at 31, and then laterally as at 32 to connect the same with the respective vertical rails 29 adjacent to the upper ends of the latter, thus leaving the lower ends of said vertical rails unobstructed. The top and bottom rails are connected by a plurality of intermediate vertical rails 30'. Secured by rivets or otherwise to the longitudinal members 2 of the main frame, so as to be properly located thereon are guide-members 33 provided with laterally extending perforated lugs 34 through which said vertical rails may move or slide and by which such movement is guided. The lower ends of said vertical rails are provided with foot-pieces 35, of any desirable form, the same being adapted to prevent the withdrawal of said vertical rails from their proper associated relation to said guide-members. Each vertical rail 29 is articulated by means of a hinge-like joint 36, which when the side or guard section is in normal unfolded and raised position is located slightly above the guide-members 33. Connected with the longitudinally opposite vertical posts 11 of said respective end-sections 12 are perforated coupling lugs 37, the perforations or openings of which are adapted to receive the lock-pins or studs 38 which depend from the opposite ends of the top-rail 28, so that the said side or guard section, when raised, may be connected or coupled with the opposite end sections 12 so as to extend therebetween in normal operative position.

While I have shown in the drawings the said coupling lugs 37 perforated and the top-rail 28 provided at its ends with depending lock-pins or studs, it will be clearly understood that, if desired this arrangement may be reversed, that is to say, the coupling-lugs 37 may be provided with upwardly extending studs or lock-pins, and the perforations be provided in the ends of said top-rail 28, or any other suitable coupling device whch will serve the purpose may be employed.

Each guide-member 33 is provided, in connection with its upper perforated lug 34, with an upwardly extending stop-arm 39, which extends outside of said vertical rails 29, and upwardly beyond the articulated joints 36 of the same, so that if by any chance a child placed in the crib should accidentally disengage the top-rail 28 from its above described connection with the end-sections 12, the side section or guard would be prevented by the engagement of the vertical rails with said stop-arms from yielding or swinging outward on their joints 36, and thus permitting the child to fall out of the crib. If it is desired to place a child in the crib, or remove it therefrom, the top-rail 28 may be disengaged or uncoupled from the end-sections 12, and the side or guard section lowered bodily and vertically downward, so that its vertical rails 29 slide downwardly through said guide-members 33, the side or guard section then assuming the position shown by the dotted lines in Fig. 2, and thus eliminating the necessity of lifting the child in or out over the normally raised side or guard section.

While, if desired, both side guard sections may be constructed and arranged in the manner immediately above described, it is found preferable to provide for the vertical movement of but one side or guard section, a pivotal or swinging movement of the opposite side or guard section being all that is required. I have therefore shown the opposite side or guard section of my novel folding or collapsible crib as consisting of a slightly different construction. The said opposite side or guard section comprises a top-rail 40, a bottom-rail 41 and a plurality of interconnecting vertical rails 42. Secured to and suitably located upon a convenient portion of said main frame, so as to be situated longitudinally opposite each other, are a pair of pivot-brackets 43, the upwardly extending ends of which are provided with slightly elongated slots 44. Journaled in said slots 44 are the opposite ends of the bottom-rail 41. As thus arranged the said bottom-rail 41 is fulcrumed so that the whole side or guard section can swing on the axis of said bottom-rail. The top-rail 40 is provided at its opposite ends with lock-pins or studs 45 which depend therefrom, and which are normally receivable in perforations or openings of coupling-lugs 46 which are secured to the vertical posts 11 of the opposite end-sections 12.

Of course this arrangement of coupling devices may be reversed, that is the ends of the top-rail may be perforated and the cou-

pling lugs provided with studs for insertion through said perforations, or any other convenient coupling means may be substituted. Each lug 46 is provided at its outer marginal edge with a vertically and upwardly extending stop-lug 47, which serves to engage said top-rail 40, if a child placed within the crib accidentally disengages the lock-pins or studs 45 from said coupling-lugs 46, thus stopping the side or guard section from swinging outward, and perhaps causing the child to fall out of the crib. When it is desired the top-rail 40 may be disengaged from its above described connection with the respective end sections, by slightly lifting the same which removes the lock-pins or studs 45 from the coupling-lugs 46, this operation being permitted, since the bottom-rail 41 may lift slightly in the slots 44 of the brackets 43 to which said bottom-rail is pivoted.

It will be noticed that the pivoting points of said end-sections and said respective side or guard sections of the crib are all slightly elevated above the upper side of the main frame, and consequently they are so connected with said main-frame as to move or swing into folded position over a mattress 48 (and bed-clothing if desired) with which the crib is provided, thus eliminating the necessity of removing the latter when folding or collapsing the crib.

Briefly the operation of the crib is carried out as follows:—When it is desired to fold or collapse the same, the side or guard sections are disconnected from the end-sections and folded or swung inwardly one over the other, then by grasping the upper ends of the end-sections, the same are folded or swung downwardly over the already folded side or guard sections, the operation of said end-sections providing a lever movement which is transmitted through the respective pairs of link-members to the leg-members or standards, thus simultaneously causing the collapse of the latter to folded position as already above described, and as clearly illustrated in the accompanying drawings. To open and set up the crib the opposite operation or swinging of the end-sections to open or raised position will simultaneously unfold and operatively position the leg-members or standards, whereupon the side or guard members may be unfolded and raised to their normal positions, and connected with and between said end-sections.

It will thus be apparent that the present invention not only provides a very simple and efficient construction of folding or collapsible crib, but also one which can be operated to either open or fold the same by a simple movement, and with a minimum expenditure of strength or exertion.

I am aware that the construction of the different parts of my novel folding or collapsible crib may be varied, as well as the combinations and arrangements of such parts, hence, I intend to claim the device generically, and do not limit myself to the precise construction of the details thereof, nor do I limit myself to the exact arrangements and combinations of the various parts, or to the exact details of said parts, as described in the foregoing specification, or as illustrated in the accompanying drawings.

I claim:—

1. In a folding crib or bed, a horizontal main frame for the support of springs and a mattress, upwardly extending fulcrum posts at each corner of said main frame, end sections pivoted to and between laterally opposite fulcrum posts, said end sections being provided at each lower end with a downwardly extending lever-arm, leg-members pivoted to said main frame so as to extend beneath the same, one set or pair of laterally opposite leg-members each having an upwardly extending lever-arm extending above its pivot point, a pair of link-members interconnecting the upwardly extending lever-arms of said pair of leg-members with the lever-arms of the adjacent end-section, and a second pair of link-members interconnecting the lever-arms of said opposite end section with the remaining pair of laterally opposite leg-members at points beneath the pivot points of the latter.

2. In a folding crib or bed, a horizontal main frame for the support of springs and a mattress, upwardly extending fulcrum posts at each corner of said main frame, end sections pivoted to and between laterally opposite fulcrum posts, said end sections being provided at each lower end with a downwardly extending lever-arm, leg-members pivoted to said main frame so as to extend beneath the same, one set or pair of laterally opposite leg-members each having an upwardly extending lever-arm extending above its pivot point, a pair of link-members interconnecting the upwardly extending lever-arms of said pair of leg-members with the lever-arms of the adjacent end-section, a second pair of link-members interconnecting the lever-arms of said opposite end section with the remaining pair of laterally opposite leg-members at points beneath the pivot points of the latter, connecting-rods interconnecting and pivoted to longitudinally opposite leg-members, and coiled pull-springs connected between one end of said main frame and said connecting-rods.

3. In a folding crib, a horizontal main frame for the support of springs and a mattress, upwardly extending fulcrum posts at each corner of said main frame, end sections pivoted to and between laterally opposite fulcrum posts, said end sections being provided at each lower end with a downwardly

extending lever-arm, leg-members pivoted to said main frame so as to extend beneath the same, one set or pair of laterally opposite leg-members each having an upwardly extending lever-arm extending above its pivot point, a pair of link-members interconnecting the upwardly extending lever-arms of said pair of leg-members with the lever-arms of the adjacent end-section, a second pair of link-members interconnecting the lever-arms of said opposite end section with the remaining pair of laterally opposite leg-members at points beneath the pivot points of the latter, connecting-rods interconnecting and pivoted to longitudinally opposite leg-members, coiled pull-springs connected between one end of said main frame and said connecting-rods, side sections in pivotal connection with said main frame, and means for connecting said side sections to and between said end sections when said crib is opened or unfolded.

4. The combination with a main frame having interconnected foldable end sections and foldable leg-members pivoted to said main frame so as to operate simultaneously, of a side or guard section comprising a top-rail, a pair of downwardly extending vertical rails, and a grill-work supported by said top and vertical rails, guide-members in which said vertical rails are slidably supported, each vertical rail having a hinge-joint whereby said side or guard section may be folded as well as moved vertically, coupling-lugs connected with said end-sections, and means connected with the ends of said top-rail adapted to engage said coupling-lugs.

5. The combination with a main frame having interconnected foldable end sections and foldable leg-members pivoted to said main frame so as to operate simultaneously, of a side or guard section comprising a top-rail, a pair of downwardly extending vertical rails, and a grill-work supported by said top and vertical rails, guide-members in which said vertical rails are slidably supported, each vertical rail having a hinge-joint whereby said side or guard section may be folded as well as moved vertically, coupling-lugs connected with said end-sections, means connected with the ends of said top-rail adapted to engage said coupling-lugs, and stop-members connected with said guide-members adapted to engage said vertical rails above their hinge-joints to limit the folding movement thereof to an inward direction.

6. The combination with a main frame having interconnected foldable end sections and foldable leg-members pivoted to said main frame so as to operate simultaneously, of a side or guard section having a top-rail and a bottom-rail interconnected by vertical rails, coupling-lugs connected with said end-sections, means connected with the ends of said top-rail adapted to engage said coupling-lugs, means for pivoting said bottom-rail to said main frame whereby said side or guard section is capable of a swinging movement and a limited upward lift to disengage said top-rail from said coupling-lugs, and upwardly extending stop-lugs connected with the outer edges of said coupling-lugs adapted to engage said top-rail and limit the swinging or folding movement of said side or guard section to an inward direction.

In testimony that I claim the invention set forth above I have hereunto set my hand this 16th day of June, 1915.

MORRIS LOWY.

Witnesses:
GEORGE D. RICHARDS,
MARION M. BANTA.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."