

Oct. 10, 1967

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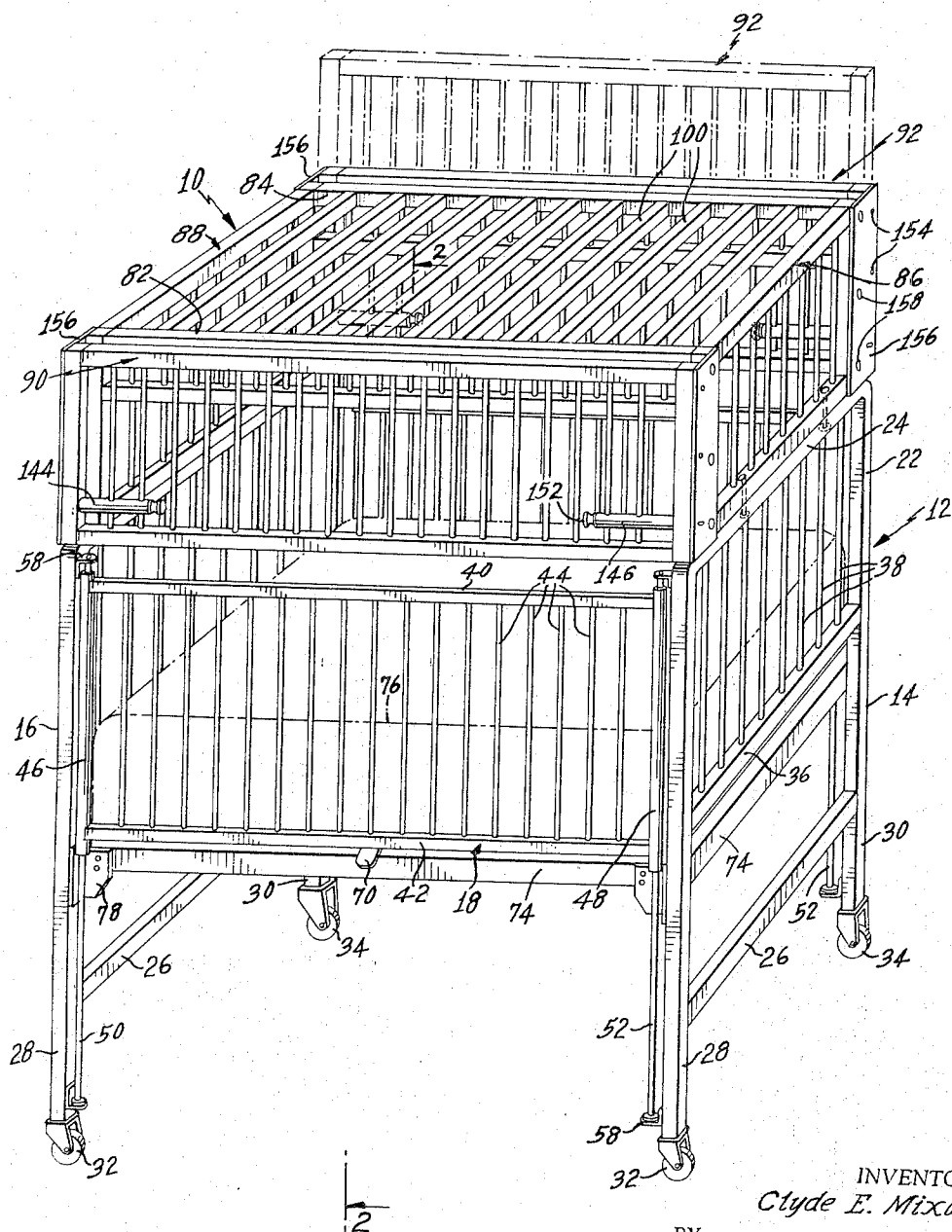
3,345,653

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4 Sheets-Sheet 1

FIG. 1



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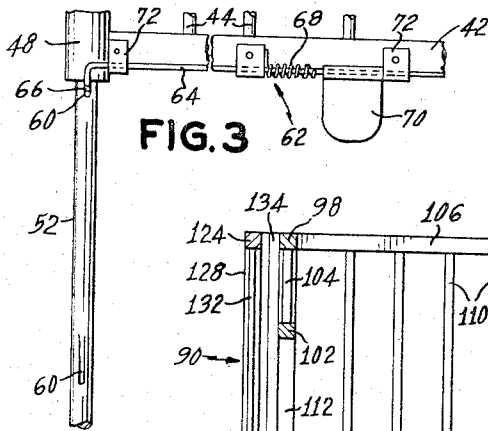


FIG. 3

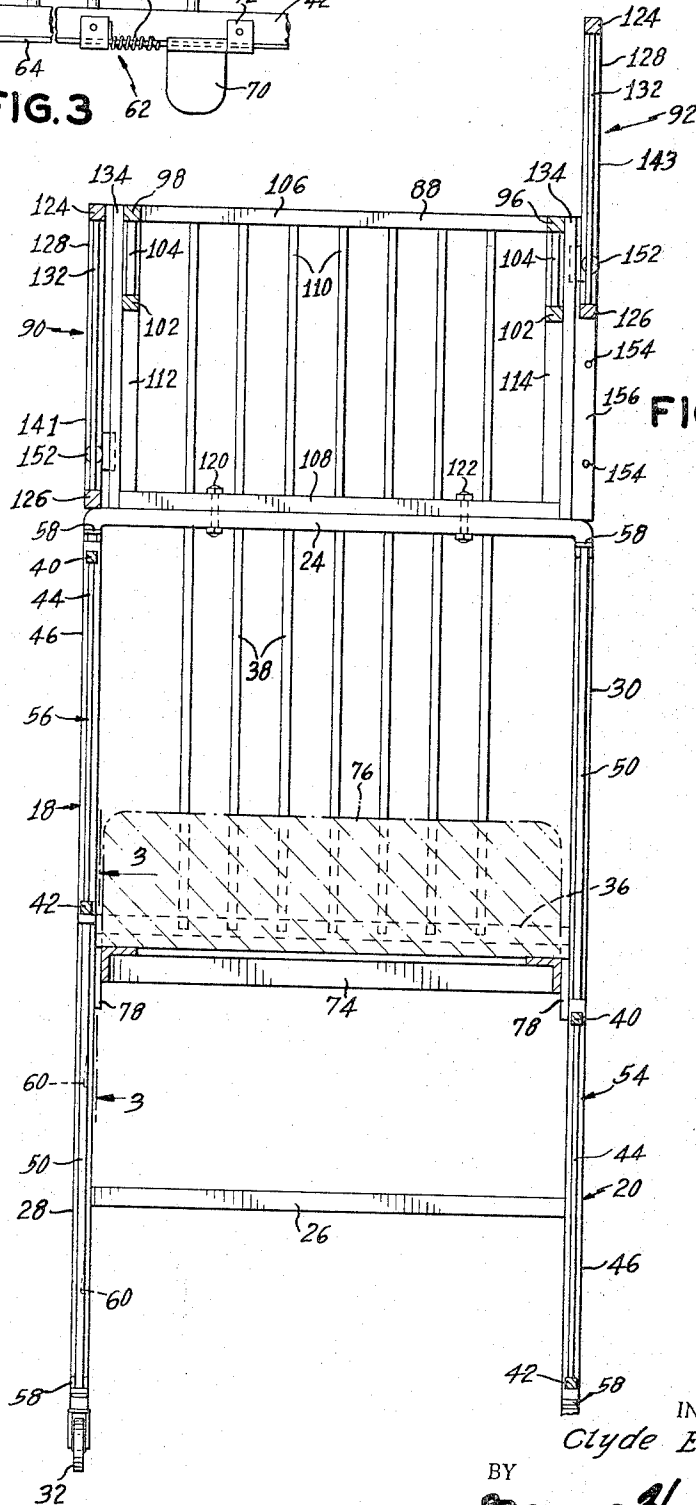


FIG. 2

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FIG. 4

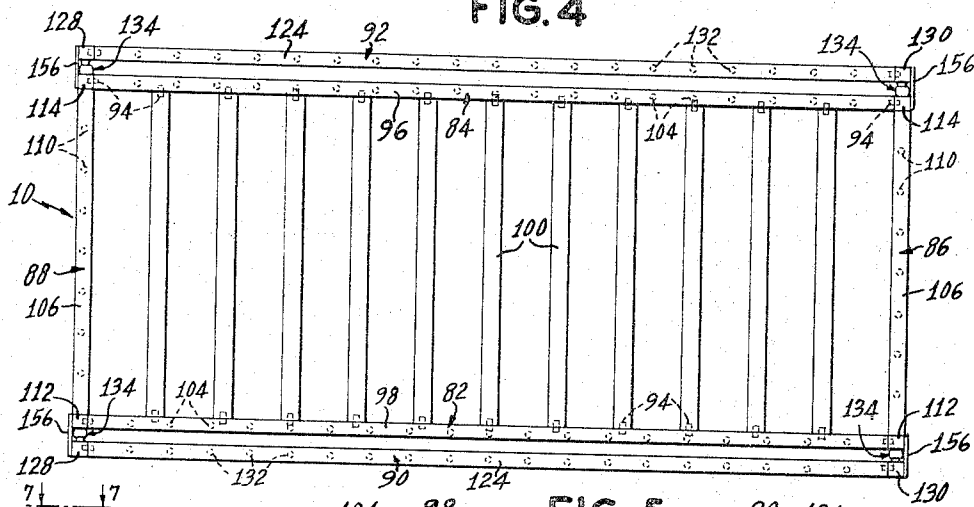


FIG. 5

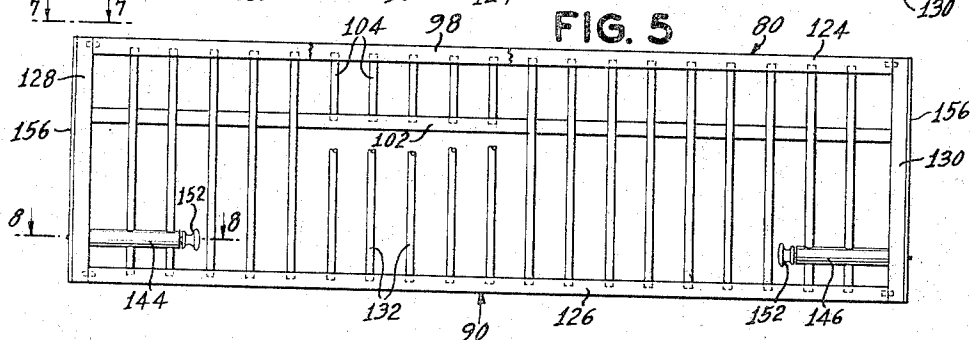


FIG. 7

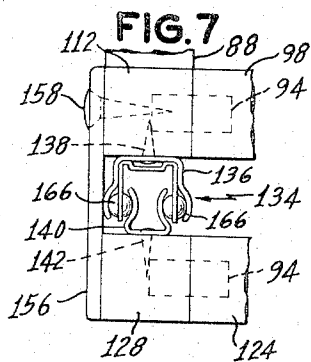


FIG. 6

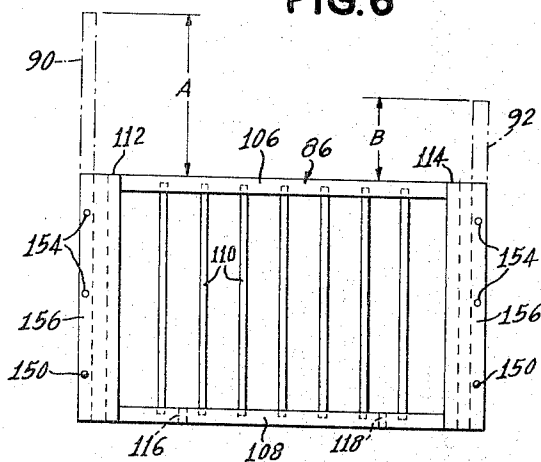
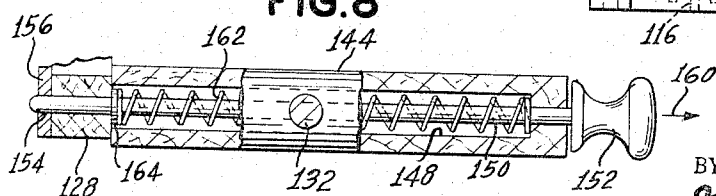


FIG. 8



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10 Claims. (Cl. 5—97)

This invention relates to improvements in children's cribs or infant's beds. More particularly, this invention is concerned with an improved top for a child's crib, especially those types of cribs found in the pediatric wards of hospitals.

A number of devices have heretofore been provided for preventing children from climbing or falling out of infant cribs, and thereby suffer injury, be unavailable when needed, or generally not stay put; but most of these devices are attendant with disadvantages of one kind or another. For example, some of the prior devices prevent the child from standing erect and walking within the confines of the bed and further hamper full observation of the area surrounding the bed. Restrains, such as protective vests, jackets, tapes, straps and nets induce an undesirable adverse psychological reaction, among other disadvantages. Further, most of these devices do not provide for the infallible safety intended and on occasions, some of which are tragic have failed in their protective functions.

Therefore it is a general object of this invention to provide an improved top for an infant crib which avoids the above described disadvantages attendant with the use of devices heretofore available; and which is simple and sturdy in construction, inexpensive to manufacture, easy to install and manipulate, neat in appearance and which provides a safety means for preventing the infant occupying the crib from climbing over the sides of the crib.

Another object of the present invention is to provide a safety device in the form of an attachment which is readily mounted upon and demounted from an existing crib having the usual upright side and end walls, particularly those types of cribs found in the pediatric wards of hospitals, and which is capable of adding its full advantages to such conventional cribs.

A specific object of the subject invention is to provide a crib top device designed to afford ample head room in the crib and constructed to permit full freedom of movement of the occupant within the normal confines of the crib without the danger of the occupant thereof falling out of the crib when unattended.

A further specific object of the instant invention is to provide a crib top safety device having portions thereof capable of being moved entirely out of the way to allow ready and full access to the occupant of the crib. In this connection it should be mentioned that the cribs embodying this invention are particularly adapted for use in hospitals and nurseries such as to afford quick and easy access by doctors and nurses to the occupant thereof and at all other times to provide reliable protection for the occupant from the danger of falling out of the crib.

The novel features which are believed to be characteristic of this invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawings in which:

FIG. 1 is a front perspective view of a typical infant's crib provided with the improved crib top of the present invention;

FIG. 2 is a cross-sectional view through the crib and attached crib top taken along the line 2—2 of FIG. 1;

FIG. 3 is a partial elevational view taken along the

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line 3—3 of FIG. 2 looking in the direction of the arrows; FIG. 4 is a top view of the improved crib top of this invention;

FIG. 5 is a side view of the crib top with portions thereof being broken away;

FIG. 6 is an end view of the crib top;

FIG. 7 is an enlarged partial top plan view taken along line 7—7 of FIG. 5;

FIG. 8 is a partial transverse sectional view taken along line 8—8 of FIG. 5;

FIG. 9 is a front view of the ball bearing slide used to raise and lower the sides of the crib top of this invention;

FIG. 10 is a rear view of the ball bearing slide;

FIG. 11 is an enlarged cross-sectional view taken along line 11—11 of FIG. 9;

FIG. 12 is a cross-sectional view taken along the line 12—12 of FIG. 11;

FIG. 13 is a cross-sectional view taken along the line 13—13 of FIG. 11; and

FIG. 14 is a cross-sectional view taken along the line 14—14 of FIG. 11.

With detailed reference to the drawings now, and in particular to FIG. 1 thereof, the crib top of this invention being generally designated by reference numeral 10 is shown attached to and in combination with an infant's crib or child's bed 12. The bed 12 is similar to that typically found in the pediatric wards of hospitals or nurseries and includes the conventional end walls 14 and 16 and side walls 18 and 20. Each of the end walls 14 and 16 include a frame 22 having a top rail 24, bottom rail 26 and depending leg portions 28 and 30 terminating in casters or wheels 32 and 34. Each end wall is additionally provided with an intermediate rail or bracing member 36. Each end wall is further provided with a series of generally parallel upright bars 38 extending between top rail 24 and intermediate rail 36, such as to provide a safe, yet somewhat open enclosure for the occupant of the crib.

Each side wall 18 (20) includes a top rail 40, bottom rail 42 and generally parallel and upright bars 44 extending therebetween, similar to and for the same purpose as bars 38. Side walls 18 and 20 also have end rails 46 and 48 which are mounted upon and movable along guides or slides 50 and 52, from the position indicated by reference numeral 54 to the position indicated by reference numeral 56 in FIG. 2, such as to either provide full access to the occupant of the crib or to retain the occupant therein. The guides or slides 50 and 52 are attached to end walls of the crib by means of L-shaped brackets such as at 58.

The side walls 18 and 20 of the crib are selectively positionable along the slides or guides 50 and 52 from the fully opened position 54 to the fully closed position 56 by means of holes or notches 60 on the inner side of the guides 50 and 52 and by means of the heretofore known spring latch mechanism 62, as depicted in FIG. 3.

Latch mechanism 62 includes a rotatable rod 64 having a finger or tongue 66 at each of its outer ends which is spring biased by means of the coil spring 68 to engage holes or notches 60. A lever or push-plate 70 is fixedly attached to rotatable rod 64 such that by pushing lever 70 finger 66 may be disengaged from notch 60 such that the crib side may be lowered when desired. All of mechanism 62 is attached to the lower rail 42 of the crib side wall 40 by brackets 72.

The crib 12 is further provided with a frame 74 on which a crib mattress 76 is supported. Brackets such as at 78 attached to the end walls 14 and 16 support frame 74 in position to receive and support the mattress 76.

The improved crib top 10 of this invention includes a top wall 80 having two depending side portions 82 and 84,

two end walls 86 and 88, and two adjustable and positionable side walls 90 and 92. The top wall 80, its depending side portions 82 and 84, and the end walls 86 and 88 are fitted together and attached one to the other by appropriate means, such as by gluing and the use of dowel pegs as at 94.

Top wall 80 includes two longitudinally extending substantially parallel side rails 96 and 98 having a series or plurality of spaced generally parallel and horizontal bars or cross members 100 extending therebetween and connected thereto by suitable means. Each depending side portion 82 (84) of top 80 includes one of the longitudinal extending side rails 96 or 98 of the top wall 80 and further includes an additional longitudinally extending rail, such as lower rail or member 102, which is generally parallel to one of the side rails of the top wall, such as side rail 98, and disposed underneath and downwardly spaced from the side rail. The downwardly depending side sections 82 and 84 of the top wall 80 further include appropriately spaced generally parallel and vertical bars or members 104 extending between the lower rail such as 102 and the side rail 98 and connected therebetween as depicted in FIG. 5. Short depending side walls 82 and 84 in addition to serving other functions strengthen and rigidify the crib top of this invention.

Each of the end walls 86 and 88 includes a generally horizontal extending top rail, such as 106, a generally horizontal extending bottom rail, such as 108, and a series or plurality of spaced generally parallel, vertically extending bars or members 110 spanning the space between the upper and lower rails 106 and 108 and connected thereto. Each end wall further includes and is terminated by a pair of generally vertical end rails or posts 112 and 114 which extend between and are connected to the upper and lower rails 106 and 108. A pair of holes 116 and 118 are bored generally vertically through lower rail 108 such that the assembled crib top may be detachably connected to top rail 24 of the crib at each of its end walls by means of a pair of bolts and round nuts 120 and 122, as more clearly depicted in FIG. 2. End walls 86 and 88, which determine the height of the crib top 10, may vary in height over a considerable range, but should be high enough to provide adequate head room for the occupant of the crib to walk about freely within the crib; and yet, be of such a height that the crib with its crib top attachment in place thereon may be readily rolled in and out of rooms and about the corridors or halls of hospitals, nurseries, and the like with adequate clearance of door heights and other structures.

Each of the side walls 90 and 92 of the crib top includes a top rail 124, a bottom rail 126 and two end rails or posts 128 and 130, all of which are connected together in a conventional manner. A series or plurality of spaced generally parallel and vertical bars or members 132 extend between the lower and upper rails 124 and 126 and are connected thereto to complete the side wall. The side walls 90 and 92 are movably attached to the rest of the crib top at the four corners thereof by means of ball bearing slides 134, the connection at one corner being depicted in FIG. 7. The structure and operation of the slide 134 itself being described hereinafter in connection with FIGS. 9 through 14. The larger or fixed portion 136 of slide 134 is attached by means of screws 138 to one end rail or post 112 of one end wall and the smaller or movable portion 140 of the slide is attached by screws 142 to one end rail or post 128 of the side wall, such that the side walls 90 and 92 move upward and downward in a generally vertical direction relative to the fixed top and end walls of the crib top.

Crib sides 90 and 92 are selectively positionable in various positions, from the fully closed position 141 to the fully opened position 143, as depicted in FIG. 2, such as to maintain the occupant of the crib therein and prevent him from falling out of the same when unattended, or to permit quick and ready access to the occupant by doctors or nurses and the like when need arises.

Each of the side walls 90 and 92 is provided with

means such that the sides may be locked or secured in selected positions; e.g., the fully closed position 141 of FIG. 2, the fully opened position indicated by A and the half-way opened position B of FIG. 6. These positioning or locking means include for each side wall a pair of barrel members or elements 144 and 146 each of which has a bore 148 therethrough and each of which is provided with a moveable rod 150 extending through the bore of the barrel and through an end post, such as 128, of the side wall (see FIG. 8). Rod 150 is equipped with a handle 152 at one end and the opposite end of the rod projects through the crib end post 128 and into and through any one of a series of holes 154 within a flange member 156 which is secured to an end post such as 112, of the crib top end wall by means of screws 158. To release a side wall from its locked or secured position in one set of the holes 154, the rod 150 is pulled rearward by its handle 152 in the direction of arrow 160, against the force of coil spring 162 contained within bore 148 acting against a disc 164 fixedly attached to the rod, such that the end of the rod opposite the handle is withdrawn from hole 154 within flange 156. When both of the locking means 144 and 146 on one of the side walls are operated in this manner the side walls may be selectively adjusted upward or downward to correspond to a new set of holes 154 in the flanges 156, and then locked in position by releasing the handles 152 such that the rods 150 project into and extend through the new set of holes 154. While only three holes 154 are provided in the embodiment of the crib top shown, such that the side walls 90 and 92 may be locked or secured in the fully opened position, the fully closed position or an intermediate half-way opened position, others could be provided if so desired, such that the movable side walls could be selectively secured in other positions.

The ball bearing slide 134 employed at each corner of the crib top is more fully depicted in FIGS. 9 through 14. As there shown, the slide includes a fixed or larger member 136 and a sliding or smaller member 140 which generally fits within the fixed portion 136. The slide assembly further includes three pairs or sets of ball bearings such as at 166 and a holder or retainer for the sets of ball bearings 168. The ball bearing sets 166 not only provide bearing surfaces between the members 136 and 140 of the slide assembly such that they may slide relative to each other in an easy and free manner, but also maintain and hold the members of the slide assembly in place and together, as is more clearly depicted in FIG. 13. Slideable member 140 is movable from a position completely within member 136, as indicated in FIG. 9, to a fully extending position as indicated by the dashed lines 170 of FIG. 9. Member 136 is provided with a stop 172 at its upper end and a stop 174 at its lower end, formed from a cut and turned up portion of slide member 136, such as to give the slide assembly limits to its closed and opened positions, and to further prevent the members of the assembly from becoming disengaged one from the other. Fixed member 136 is additionally provided with a plurality of screw holes 176 such that the same may be mounted to the end posts, such as 112 and 114, of the end walls 86 and 88 of the crib top by means of screws 138. The lower end of the sliding member 140 of the assembly is provided with a stop 178 which abuts the lower end of the ball bearing retainer 168 when the slide assembly is fully opened to prevent the members thereof from becoming disengaged. Member 140 of the slide assembly is also provided with screw holes 180 such that it may be attached to the end posts, such as 128 and 130, of the side walls 90 and 92 of the crib top.

The various pieces and elements forming the crib top herein contemplated may be constructed of any suitable material, those materials which are relatively rigid but of a light-weight character being preferred. Among the material which may be suggested are tubular metals such as

aluminum or steel, wood or other cellulosic materials, synthetic resinous materials, and the like.

While only a certain preferred embodiment of this invention has been shown and described by way of illustration, many modifications will occur to those skilled in the art and it is, therefore, desired that it be understood that it is intended in the appended claims to cover all such modifications as fall within the true spirit and scope of this invention.

What is claimed as new and what it is desired to secure by Letters Patent of the United States is:

1. A safety top attachment for a child's crib having upright side and end walls comprising in combination a generally horizontal top wall adapted to extend longitudinally of the elongated body portion of the crib and above the crib side and end walls, a pair of depending generally upright end walls each being fixedly attached to said top wall at its opposite ends, said end walls having generally horizontal lower edges which generally align with the upper edges of the upright end walls of the crib, a movable generally upright side gate extending between opposite said end walls and having a generally horizontal lower edge, attaching means slideably and adjustably attaching said side gate to said opposite end walls whereby said side gate may be selectively and adjustably moved from a lower position with said lower edge of said side gate adjacent said lower edges of said end walls and generally within the same plane defined by said lower edges of said end walls to an upper position with said lower edges of said side gate spaced thereabove.

2. The safety top attachment for a child's crib as defined in claim 1 further comprising a depending short side wall member, said short side wall member being fixedly attached between said opposite end walls and to said top wall adjacent said movable side gate, said short side wall member terminating in a generally horizontal lower edge downwardly spaced from said top wall whereby the safety top attachment is strengthened and rigidified.

3. The safety top attachment for a child's crib as defined in claim 1 further comprising locking means associated with said side gate for selectively and releasably locking said side gate in said lower position and in said upper position.

4. The safety top attachment for a child's crib as defined in claim 3 wherein said locking means includes a pair of locking members respectively disposed adjacent said side gate opposite ends, each of said pair of locking members being spring biased to its locked position, said pair of locking members being concurrently released from their locked positions prior to movement of said side gate.

5. The safety top attachment for a child's crib as defined in claim 1 wherein said attaching means includes a ball-bearing slide mechanism at the ends of said side gate, said mechanism having one portion attached to said side gate and another portion attached to said end wall of said safety top attachment.

6. The safety top attachment for a child's crib as defined in claim 3 wherein said locking means includes a flange attached to one of said end walls and extending outwardly therefrom toward said side gate, said flange having a plurality of passageways extending therethrough, said passageways being in vertical alignment with each other and being in line with one end of said side gate, a pin slidingly mounted on said side gate adjacent said one end wall, said pin being adapted to be selectively inserted and removed from said passageways within said

flange, and a spring biasing said pin toward said passageways.

7. In an infant crib comprising in combination end members having generally horizontal upper edges, said gates extending longitudinally between said end members and having generally horizontal upper edges, said upper edges of said side gates being on a level below said upper edges of said end members, the improvement comprising a safety top for said crib providing adequate head room such that the occupant of said crib may freely walk within said crib, said safety top being detachably connected to said generally horizontal upper edges of said end members of said crib, said safety top including a generally horizontal upper wall, a pair of depending generally upright end walls each of which is fixedly connected to said upper wall at its opposite ends, said end walls of said safety top having generally horizontal lower edges which rest upon said generally horizontal upper edges of said end members of said crib, a pair of generally upright side walls having generally horizontal lower edges terminating adjacently above said spaced from said generally horizontal upper edges of said crib side gates, attaching means slideably and adjustably attaching each of said top side walls to said end walls on their opposite sides whereby said top side walls may be selectively raised to provide ready access to the occupant of said crib and lowered to prevent the occupant from falling out of the same.

8. In the infant crib as defined in claim 7 further comprising locking means associated with each said top side wall for selectively and releasably locking each said top side wall in raised and in the fully lowered positions.

9. In the infant crib as defined in claim 7 wherein said attaching means includes a ball-bearing slide mechanism at each end of each said top side wall, said mechanism having one portion attached to said side wall and another portion attached to one of said end walls of said safety top.

10. In the infant crib as defined in claim 8 wherein said locking means includes a flange connected to one side of one of said top end walls and extending outwardly therefrom towards one of said top side walls, said flange having a plurality of passageways extending therethrough, said passageways being in vertical alignment with each other and being in line with one end of said one top side wall, a pin slidingly mounted on said one top side wall adjacent said one end wall said pin being adapted to be selectively inserted and removed from said passageways within said flange, and a spring biasing said pin toward said passageways.

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CASIMIR A. NUNBERG, *Primary Examiner.*

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,345,653

October 10, 1967

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It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 6, line 4, for "said" read -- side --; same column 6, line 21, for "said" read -- and --.

Signed and sealed this 12th day of November 1968.

(SEAL)

Attest:

Edward M. Fletcher, Jr.

Attesting Officer

EDWARD J. BRENNER

Commissioner of Patents