Sept. 3, 1957 H. LEVIN 2,804,631

ADJUSTABLE CRIB SIDE

Filed Jan. 31, 1956

FIG. 1

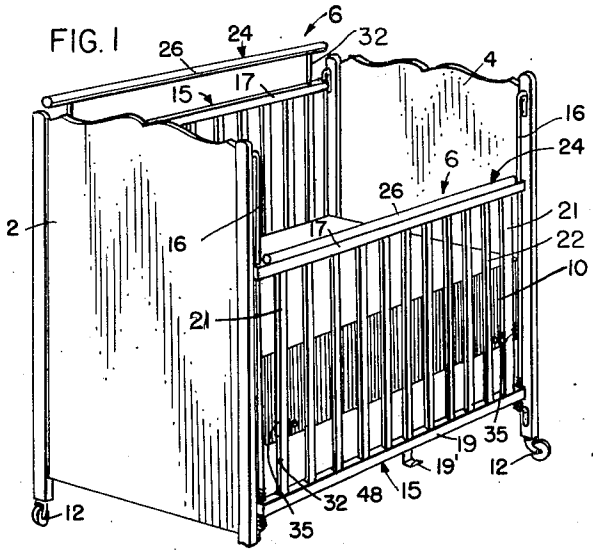


FIG. 3

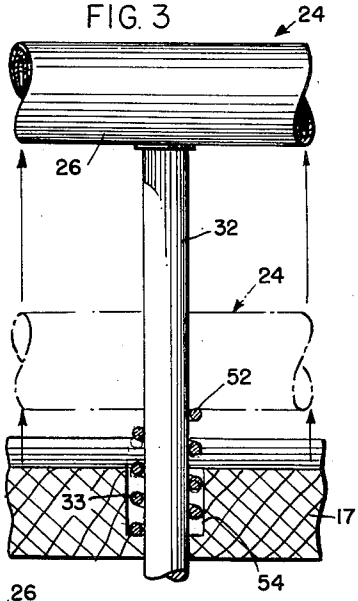


FIG. 2

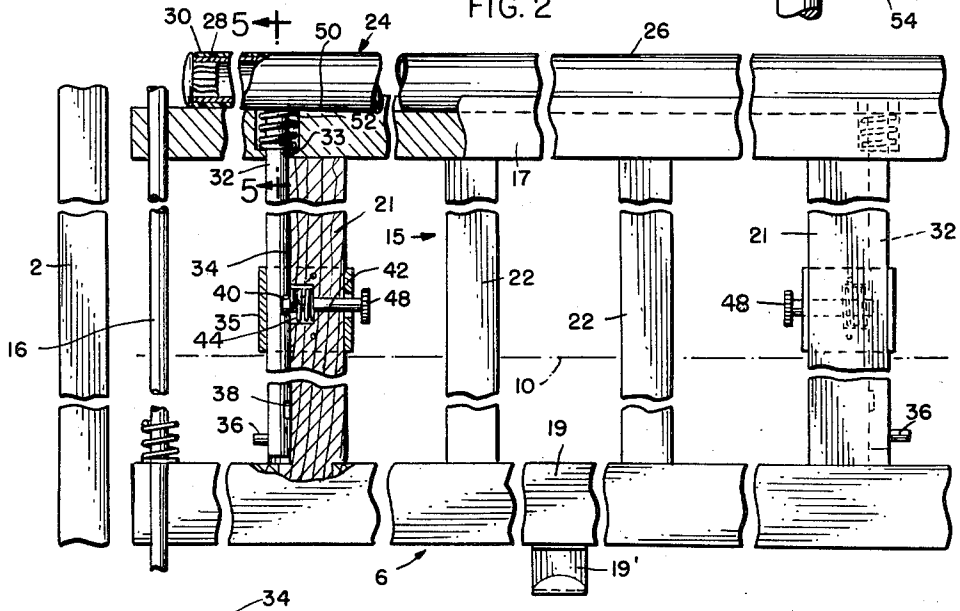


FIG. 4

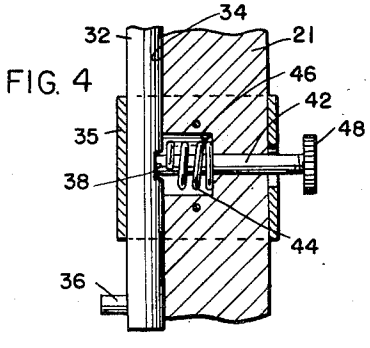
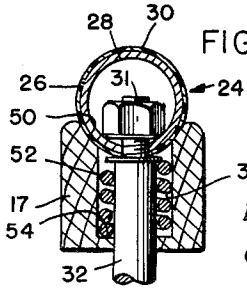


FIG. 5



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ADJUSTABLE CRIB SIDE

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8 Claims. (Cl. 5—100)

This application is a continuation-in-part of my co-pending application Serial No. 466,566, filed November 3, 1954, on an Adjustable Crib Side.

The present invention relates to baby cribs having sides which are adjustable in elevation. When these crib sides are lowered, an adult may reach into the crib and remove a child therefrom with relative ease. The difficulty with adjustable crib sides heretofore used is that the tops of the sides in their raised positions were too low to prevent an agile child from climbing over the side and falling to the floor, resulting often in permanent or serious injury to the child. The problem cannot be solved by simply making the crib sides higher since in such case there would be insufficient space between the bottoms of the raised sides and the floor to lower the crib sides the necessary distance to permit an adult to place a child into or remove him from the crib with ease.

The adjustable crib side disclosed in my aforementioned application is a solution to this problem. As there disclosed, an auxiliary crib side is carried on the top of the regular adjustable crib side and is slidably supported thereon between raised and lowered positions relative thereto. In this way, when both the regular crib side and the auxiliary crib side are raised to their fullest extent, an agile child within the crib may not readily climb over the auxiliary crib side. To maintain the auxiliary crib side in its upper position, a pair of spring urged latch pins are used which enter openings in a pair of depending slide members associated with the adjustable crib side. Release of the latch pins requires both hands of the operator, and when so released the adjustable crib side would fall under its own weight, striking with force the upper rail of the regular adjustable crib side, producing a disturbing noise. The noise would be particularly objectionable if the child in the crib was sleeping.

It is accordingly one of the objects of this invention to provide an auxiliary crib side extension which may be raised or lowered relative to the regular crib side without objectionable noise which would disturb a child in the crib. An ancillary object of this invention is to provide an auxiliary crib side extension which when released from a raised position and allowed to fall under its own weight is cushioned to minimize wear on the parts involved as well as to avoid objectionable noise.

Still another object of the invention is to provide an extension rail for a crib side which in its lowered position rests on the upper rail of the crib side and is locked in such position, and further, wherein means is provided upon unlocking of the auxiliary rail extension for automatically raising the extension rail a small amount so that a person's hand may be readily inserted under the rail extension to raise the same to an upper position.

Briefly, in the preferred form of the invention, the aforementioned extension rail has a pair of depending slide rods slidingly mounted in vertical grooves cut in the vertical bars of the crib side. The upper rail of the crib side is provided with a recess into which the extension rail is partially nestled in its lowered position

so that the extension rail appears to be an integral, non-movable part of the regular crib side. Compression springs seated in shouldered holes in the upper rail of the crib side urge the extension rail in an upward direction. Upward movement of the extension rail is prevented by spring urged latch means which enter the notches or recesses in the slide rods depending from the extension rail. Upon release of the latch means, the aforementioned springs raise the extension rail a small distance above the upper rail of the crib side to enable a person to readily place his fingers beneath the extension rail to raise the same to an upper position. The latch means enters another recess in the depending slide rods of the extension rail when the latter is in said upper position. Upon release of the latch means, the extension rail drops under its own weight, and is cushioned as it strikes the upper extremities of the aforementioned compression springs. Not only is excessive wear and shock on the upper rail thereby prevented, but disturbing noises are also avoided.

It is an overall object of this invention to provide an adjustable crib side as above described which is so simple and inexpensive that the cost of manufacture of a crib with the aforementioned crib side extension represents an exceedingly small fraction of the overall cost of a crib.

Other objects, advantages and features of the invention will become apparent upon making reference to the specification to follow and the drawings wherein:

Fig. 1 is a perspective view of a crib incorporating the adjustable crib side of the present invention, and shows one of the adjustable crib sides in its fully lowered position and the opposite adjustable crib side in its fully raised position;

Fig. 2 is a fragmentary side elevational view, partially in section, of the front, lowered adjustable crib side in Fig. 1;

Fig. 3 is a fragmentary side view, in partial section, of the upper portion of the adjustable crib side when the extension rail is in its fully raised position and shown in dotted lines the partially raised position of the extension rail when the latch means has been removed from the slide rods;

Fig. 4 is an enlarged vertical section through the vertical post of the adjustable crib side which slidably supports the auxiliary crib side, showing details of the latch mechanism for locking the adjustable crib side in its raised position; and

Fig. 5 is an enlarged transverse section through the extension rail and the main crib side showing the former partially nestled in the latter.

Reference should now be made to the drawings where like reference numerals indicate like elements throughout.

The crib structure there shown includes a head board 2 and a foot board 4 both of a height which will prevent an agile child in the crib from climbing thereover. The sides of the crib are formed by crib side assemblies generally indicated by the reference numerals 6—6 and are supported for vertical adjustment in a manner to be described. A mattress 10 is supported in any suitable manner between the crib side and, as is conventional, may be supported at a number of different elevations by suitable means not shown. The entire crib structure is supported upon casters 12 depending from the bottom of the head and foot boards.

Each crib side assembly includes a main frame or lower crib side section 15 which is similar in size and appearance to a conventional vertically adjustable crib side. It thus has an upper cross rail 17, a lower cross rail 19, and a series of spaced, vertical, wooden post members 21—22 which are spaced apart a sufficiently small distance to prevent a baby from wedging his or her

head therebetween. The outermost posts **21—21** are wider than the intermediate posts. The main side frames **15—15** are supported for vertical sliding movement on vertical rods **16—16** in a well known manner, and may assume a lowermost position where the bottom rails **19—19** are close to the floor and the upper rails **17—17** are at an elevation which enables an average adult to place a child into or remove a child from the crib with relative ease, even when the mattress **10** is in its lowermost position. The main crib side frames **15—15** are raiseable into an upper position on the vertical slide rods **16—16** (see rear crib side of Fig. 1) where their top rails **17—17** are spaced an appreciable amount below the tops of the head and foot boards. Raising of an arm **19'** depending from each bottom rail **19** releases the side frame **15** for movement in a conventional manner.

Each crib side frame carries an auxiliary upper side section **24** which is vertically adjustable with respect to the associated lower main crib side **15**. When the upper and lower sections **24** and **15** of the crib side assembly are in their raised positions, the top of the upper side section **24** is approximately at or above the tops of the head and foot boards, which may be two and one-half to three feet from the top of the mattress **10**. (The top of the lower crib side section **15** may be about one and three-quarters feet from the top of the mattress **10** when in its raised position.) Then, an average sized child of as much as four or more years old cannot climb over the sides from inside the crib. When both crib side sections **15** and **24** are in their lowered positions (see front crib side of Fig. 1) the child may be easily placed into or removed from the crib.

Referring now more particularly to Figs. 2 through 4, each auxiliary upper crib side section **24** has a hand extension rail **26** extending generally parallel to the upper rail **17** of the associated lower or main crib side section. This extension rail includes an inner tubular, preferably metal body **28** around which is applied a plastic tube **30**. Depending from the rail **26** at a point adjacent to the ends thereof are respective slide rods **32—32** each of which passes through a shouldered hole **33** formed in the upper rail **17** of the lower crib side section. The slide rods are secured to the extension rail tube **28** by cap screws **31—31** threading into the upper ends of the slide rods from within the tube **28**. The outermost posts **21—21** are grooved at **34—34** and the slide rods **32—32** extend into the grooves. A metal channel piece **35** is secured around each outermost post **21** so that the flanges thereof straddle the sides of the post, one of the flanges closing off a portion of the associated post groove. Thus, the latter flange together with the walls of the hole **33** in the upper rail **17** guide the slide rods of the extension rail **26** for vertical sliding movement relative to the lower crib side section **15**. An extension **36** at the bottom of each slide rod **32**, by its abutment with the bottom of the associated channel piece **35**, limits the upward travel of the extension rail **26**. For reasons to be explained, the extension rail slide rods **32—32** are each provided with vertically spaced notches or recesses **38** and **40** on the sides thereof which are adjacent to the inner wall of the post grooves **34—34**.

The uppermost recess **40** cooperates with a latch pin **42** extending through a lateral or horizontal opening in the associated crib side post **21** to lock the auxiliary upper crib side section **24** in a lowered position. The latch pin **42** is urged toward the associated slide rod **32** by a compression spring **44** nestled within a recess **46** formed in the side of the associated crib side post **21**. The outer end of the spring is secured to the latch pin **42** and the other end of the spring bears against the inner wall of the recess **46**. The outer end of the latch pin **42** extends through an opening formed in one of the flanges of the channel piece **35** and terminates in a head **48** which may

be grasped by a person and pulled out to remove the latch pin from the slide rod recess.

When the upper auxiliary crib side is in its lowermost position, its hand rail **26** is seated within a longitudinal recess **50** formed in the upper surface of the upper rail **17** of the lower crib side section **15**. In the latter position of the extension rail **26**, the rail is urged upwardly by a pair of compression springs **52** seated on the upwardly facing shoulders **54—54** in the holes **33—33**. When the latch pin heads **48—48** are pulled out to unlatch the slide rods **32**, the compression springs **52—52** push the extension hand rail **26** to a position a small distance above the upper rail **17** of the lower crib side section, shown in dotted lines in Fig. 3. Sufficient clearance is provided between the rails **17** and **26** to enable a person to readily place his fingers around the rail so that the rail may be readily raised to its upper position. When the extension rail **26** has been raised approximately to or slightly above the top of the head and foot boards **2** and **4**, the spring urged latch pins **42—42** enter the lowermost slide rod recesses **38—38**. The extension rail is then automatically locked into its upper position relative to the lower adjustable crib side section **15**.

When a person pulls on both latch pins **42—42**, the slide rods **32—32** become unlatched and the auxiliary upper crib side section falls under its own weight. The extension rail **26** when falling is prevented from making contact with the upper rail **17** of the lower adjustable crib side section by the compression springs **52—52** which extend above the top of the rail **17** to thereby cushion the falling extension rail and minimize wear and to prevent objectionable noise. As previously stated, pressing the extension rail **26** further downwardly to compress the springs **52—52**, the bottom of the extension rail **26** can be brought into contact with the top of the upper rail **17**. This brings the latch pins **42—42** automatically into the uppermost slide rod recesses **40—40** which locks the extension rail into its lowest position. When the extension rail is in this position nestled within the rail recesses **50**, the extension rail appears to be integral with the upper rail **17**. When the lower or main adjustable crib side section **15** is then lowered to the position shown in Fig. 1, the extension rail **26** is at an elevation which permits an adult to readily gain access to the crib.

To raise the adjustable crib side assembly into a position where it is safe to keep the child in the crib, the depending arm **19'** is raised to release the adjustable crib side section **15** for upward movement where it is raised to its uppermost position, following which the extension rail is raised in the manner above explained. In the fully raised position of the extension rail, note that there are no vertical members between the slide rods **32—32** so that the child has a relatively free horizontal field of view between the slide rods **32** and the rails **26** and **17**. However, it is within the purview of the present invention to include an intermediate cross rail vertically adjustable along the slide rods **32—32**, similar to that disclosed in my aforementioned co-pending application Serial No. 466,566. In such case, the intermediate rail would be nestled within a recess provided in the extension rail **26** or the upper rail **17**.

It should be noted that numerous modifications may be made of the preferred embodiment of the invention above described without deviating from the broader aspects thereof.

I claim:

1. In a baby crib, a crib side assembly adjustable in elevation to give ready access to a baby in the crib when the side assembly is lowered and to prevent the baby from climbing over the side when raised, comprising: a lower crib side section mounted for vertical movement between a lowered position where the bottom thereof is near floor level and an upper position, an upper aux-

iliary crib side section carried on the top of said lower section and mounted for up and down movement with respect thereto, the top of said auxiliary side section, when it and said lower crib side section are in their raised positions, being at an elevation above the crib mattress which prevents a child in the crib from climbing thereover, and when the lower and upper side sections are in their lowered positions the top of said auxiliary side section being sufficiently low that an average adult may easily place the child into or remove the child from the crib, compressible spring means carried upon said lower crib side section and in its uncompressed state extending a short distance above the top thereof for cushioning the fall of said auxiliary side section when released from said raised position, and releasable latch means carried by said lower crib side section and interlocking with said auxiliary side section in its lowermost position where it compresses said spring means, and in said fully raised position thereof, for holding the auxiliary side section in position relative to the lower crib side section.

2. In a baby crib, a crib side assembly adjustable in elevation to give ready access to a baby in the crib when the side assembly is lowered and to prevent the baby from climbing over the side when raised, comprising: a lower crib side section mounted for vertical movement between a lowered position where the bottom thereof is near floor level and an upper position, an upper auxiliary crib side section carried on the top of said lower section and mounted for up and down movement with respect thereto, the top of said auxiliary side section, when it and said lower crib side section are in their raised positions, being at an elevation above the crib mattress which prevents a child in the crib from climing thereover, and when the lower and upper side sections are in their lowered positions the top of said auxiliary side section being sufficiently low that an average adult may easily place the child into or remove the child from the crib, spring means carried upon said lower crib side section for cushioning the fall of said auxiliary side section when released from said raised position, and releasable latch means carried by said lower crib side section and interlocking with said auxiliary side section in said fully raised position thereof for holding the auxiliary side section in position relative to the lower crib side section.

3. In a baby crib, a crib side assembly adjustable in elevation to give ready access to a baby in the crib when the side assembly is lowered and to prevent the baby from climbing over the side when raised, comprising: a lower crib side section mounted for vertical movement between a lowered position and an upper position, an upper auxiliary crib side section carried on the top of said lower section and mounted for up and down movement with respect thereto, the top of said auxiliary side section, when it and said lower crib side section are in their raised positions, being at an elevation above the crib mattress which prevents a child in the crib from climing thereover, and when the lower and upper side sections are in their lowered positions the top of said auxiliary side section being sufficiently low that an average adult may easily place the child into or remove the child from the crib, compressible spring means carried upon said lower crib side section for cushioning the fall of said auxiliary side section when released from said raised position, and releasable latch means carried by said lower crib side section and interlocking with said auxiliary side section in said fully raised position thereof for holding the auxiliary side section in position relative to the lower crib side section.

4. In a baby crib, a crib side assembly adjustable in elevation to give ready access to a baby in the crib when the side assembly is lowered and to prevent the baby from climbing over the side when raised, comprising: a lower crib side section mounted for vertical movement between a lowered position where the bottom thereof is near floor level and a fully raised position, an upper auxiliary crib side section carried on the top of said lower section and mounted for up and down movement with respect thereto, the top of said auxiliary side section, when it and said lower crib side section are in their fully raised positions, being at an elevation above the crib mattress which prevents a child in the crib from climbing thereover, and when the lower and upper side sections are in their lowered positions the top of said auxiliary side section being sufficiently low that an average adult may easily place the child into or remove the child from the crib, spring means urging said upper auxiliary side section toward a raised position relative to said lower crib side section, and releasable means for holding said auxiliary side section in its lower position relative to said lower crib side section against the force of said spring means.

5. In a baby crib having a main adjustable side which is mounted for up and down movement and is lockable in its raised position, and which has a longitudinal recess in the top thereof, an auxiliary crib side section which is carried by said main adjustable side so as to be movable therewith between its raised and lowered positions, said auxiliary crib side section being mounted for up and down movement with respect to said main adjustable side and including an upper rail from which depend side members, means associated with said main adjustable side which guides said depending members for vertical movement relative to said main adjustable side, said upper rail being movable from a lowered position, where it is at least partially nestled within said longitudinal recess in and in contact with the top of said main adjustable crib side, to a fully raised position relative thereto, spring means in the top of said main adjustable side for urging said upper rail to a partially raised position where a person may readily grasp the rail and raise the same to said uppermost position, and means for locking said upper rail in said fully raised position relative to said main adjustable side and for locking said rail in a lowered position where it is in said recess and makes contact with the top of said main adjustable side and compresses said spring means.

6. In a baby crib having a main adjustable side which is mounted for up and down movement and is lockable in its raised position, an auxiliary crib side section which is carried by said main adjustable side so as to be movable therewith between its raised and lowered positions, said auxiliary crib side section being mounted for up and down movement with respect to said main adjustable side and including an upper rail from which depend side members, means associated with said main adjustable side which guides said depending members for vertical movement relative to said main adjustable side, said upper rail being movable from a lowered position, where it is partially nestled within said longitudinal recess in and in contact with the top of said main adjustable crib side, to a fully raised position relative thereto, spring means for urging said upper rail to a raised position, and means for locking said rail in a lowered position where it makes contact with the top of said main adjustable side and compresses said spring means.

7. In a baby crib having a main adjustable side which is mounted for up and down movement and is lockable in its raised position, an auxiliary crib side section which is carried by said main adjustable side so as to be movable therewith between its raised and lowered positions, said auxiliary crib side section being mounted for up and down movement with respect to said main adjustable side and including an upper rail from which depend side members, means associated with said main adjustable side which guides said depending members for vertical movement relative to said main adjustable side, said upper rail being movable from a lowered position, where it is in contact with the top of said main adjustable crib side, to a fully raised position relative thereto, spring means for urging said upper rail to a partially raised position, and means for locking said upper rail in said fully raised

position relative to said main adjustable side and for locking said rail in a lowered position where it makes contact with the top of said main adjustable side and compresses said spring means.

8. In a baby crib having a main adjustable side which is mounted for up and down movement and is lockable in its raised position, an auxiliary crib side section which is carried by said main adjustable side so as to be movable therewith between its raised and lowered positions, said auxiliary crib side section being mounted for up and down movement with respect to said main adjustable side and including an upper rail from which depend side members, means associated with said main adjustable side which guides said depending members for vertical movement relative to said main adjustable side, said upper rail being manually movable from a lowered position to a raised position relative to said main adjustable side, releasable means for locking said upper rail in said raised position, and cushion means for engaging and cushioning the auxiliary crib side section when it falls upon release of said releasable locking means before the auxiliary crib side strikes said main adjustable side.

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