Oct. 3, 1961 M. V. GALLOWAY 3,002,199

BED EQUIPPED WITH GUARD MEANS

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Fig. 1.

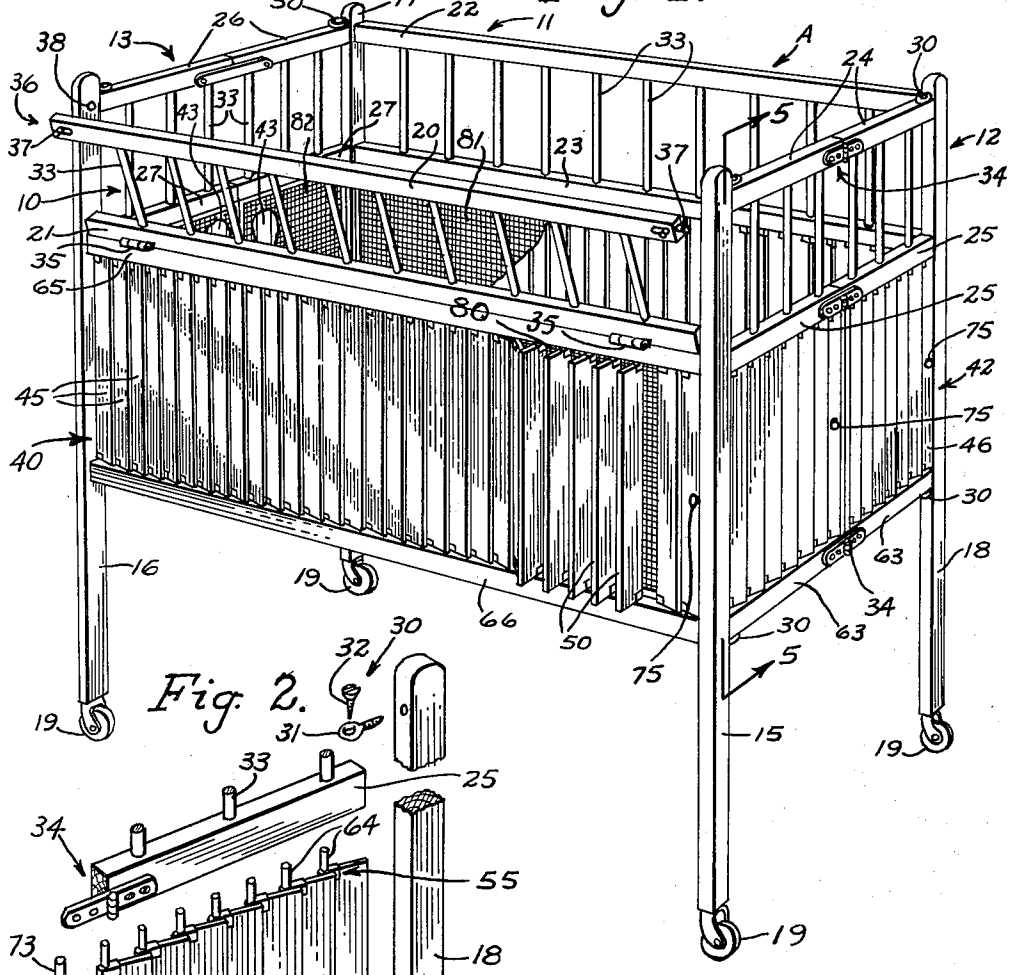
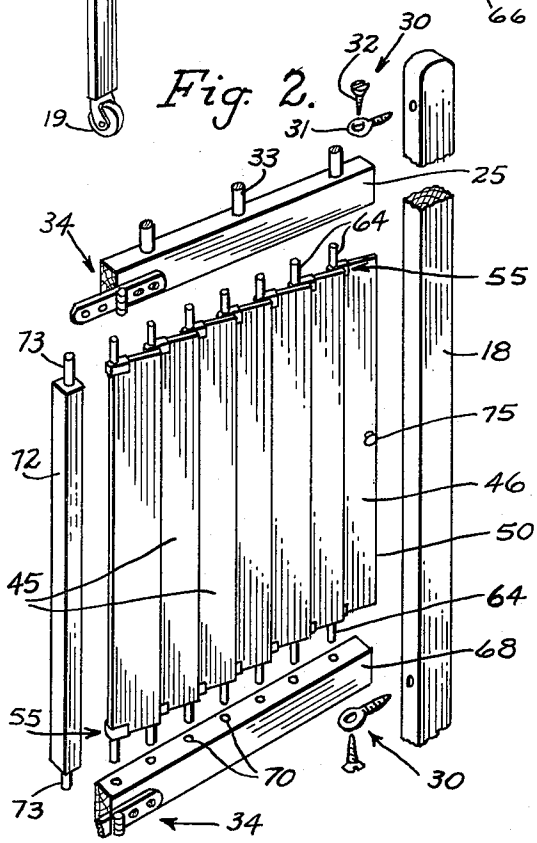


Fig. 2.



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Fig. 3.

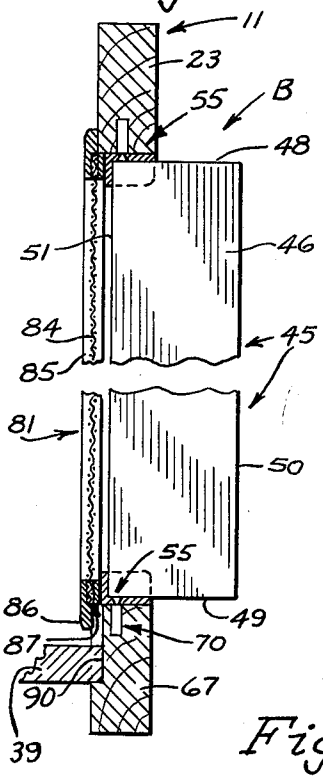


Fig. 4.

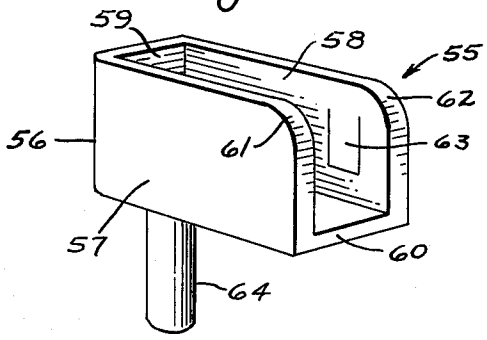


Fig. 6.

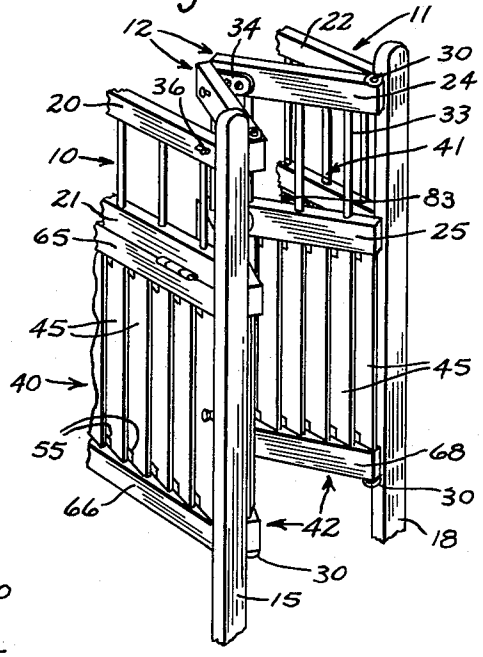
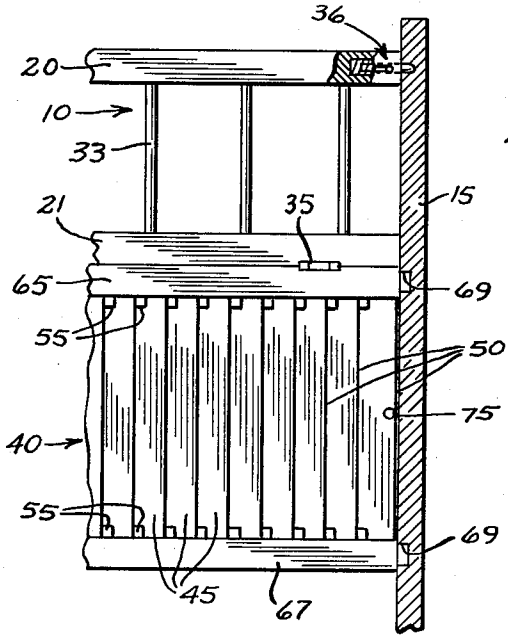


Fig. 5.



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BED EQUIPPED WITH GUARD MEANS

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3 Claims. (Cl. 5—100)

This invention relates to beds and more particularly to guard means associated therewith in order to protect the occupant of the bed. The invention is illustrated as applied to a crib. The guard means is primarily adapted, for example, to protect the baby occupant of the crib from drafts, excessive sunshine, lighted electric lamps and the like, annoyances by small children, and keeps nursing bottles and toys inside the crib, yet permits air and sunshine to enter the crib as desired.

An important object of the invention is to provide a bed, such as a crib, having guard means, including louvers which are so positioned that the baby occupant cannot use them in order to climb up them and out of the bed.

Another important object is to provide a crib having guard means, including louvers which are positioned with their longitudinal axes substantially vertical, whereby the baby occupant cannot use them as steps or rungs in order to climb up them and out of the crib.

An additional important object is to provide guard means as described above wherein the louvers are individually operable so that desired ones may be manipulated, rather than a bank of them. Thus a wide selection of open or closed louvers is possible, such as those disposed at one side of the crib, for example, with those adjacent the baby's head closed, an area of louvers, adjacent the baby's body, open, and an area of louvers, adjacent the baby's feet, closed.

Still another important object is to provide guard means as described, whereby the louvers, being individually hand manipulated and not manipulated as a bank by lever means, for example, will not cause injury by pinching the fingers of the operator.

Yet another important object is to provide guard means, including louvers which may be manipulated so that some of them, on one side guard portion for example, may be fully open, others closed and still others only partly open, thus being positioned to divert entry of currents of air, allow entry of currents of air or deflect the entry of currents of air to the crib.

Furthermore, an important object is to provide louvers, all of which are adapted to operate in the same direction so that, assuming all louvers to be opened, the operator merely needs to walk around the crib in one direction and by a light hand pressure close the louvers one after the other by a mere sweep of the hand.

A further object of the invention is that in neither closed nor open position do the louvers project inwardly of the planes of the rails of the crib and the louvers are of such width that, when all of them are opened, no louver projects very far outwardly beyond the planes of the outermost edge of the crib railings.

An additional important object is to provide guard means including a foraminous screen so positioned, closely adjacent the inside faces of groups of louvers, that, even with open louvers, a child, for example, exteriorly of the louvered crib cannot reach the baby occupant nor can the baby occupant reach and manipulate the louvers, or be injured by playing with the louvers.

Other objects and advantages of the invention will be apparent during the course of the following detailed description of the invention, taken in connection with the following drawings, forming portions of this disclosure and in which drawings:

FIG. 1 is a perspective view of a crib with the guard means installed thereon.

FIG. 2 is an exploded perspective view of a portion of the guard means.

FIG. 3 is a fragmentary view, partly in vertical section and partly in elevation, of the guard means.

FIG. 4 is a perspective view of a hinge means for the louvers of the guard means.

FIG. 5 is a fragmentary view, partly in vertical section, substantially on the line 5—5 of FIG. 1.

FIG. 6 is a perspective view of an end portion, partly folded, and fragments of the two side portions of a crib with guard means installed thereon.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention and wherein similar reference characters designate corresponding parts throughout the several views, the letter A designates a bed and B, the guard means.

The bed A is illustrated by way of example as a crib, with parallel side portions **10** and **11** and parallel end portions **12** and **13** joining the side portions **10** and **11** and defining a crib compartment. Included are corner posts **15**, **16**, **17** and **18** which preferably mount casters **19** at their lower ends. Extending from the corner posts **15** and **16** are the upper and lower side rails **20** and **21** respectively and extending from the corner posts **17** and **18** are the upper and lower side rails **22** and **23** respectively. Extending from the corner posts **15** and **18** are shown, by way of example, pairs of upper and lower end rails **24** and **25** respectively, and extending from the corner posts **16** and **17** are, by way of example, pairs of upper and lower ends rails **26** and **27**. In the example shown, the rails **23**, **25** and **27** may form also portions of the guard means B as will be hereinafter detailed. For the purpose of collapsing the bed A, the end portions **12** and **13** may be folded, as illustrated by the end portion **12** in FIG. 6, since the rails **24** and **25** as well as the rails **26** and **27** may be hinged as by the hinge means **30**, best shown in FIG. 2. This means may comprise a screw-eye **31**, as of steel, with its screw-threaded shank screwed into a corner post, as the corner post **18** of FIG. 2, and one portion of the screw-threaded shank, for example, of a suitable member, as a screw **32**, as of iron or steel, extending through the eye of the screw-eye **31** and the other portion of the shank extending into the adjacent rail, as the rail **24**. Joining the rails **20** and **21**, **22** and **23**, **24** and **25** and **26** and **27** and rigid therewith are spaced-apart spindles, designated generally as **33**. Any suitable hinge means **34** may be employed to hinge the pairs of rails **24** together as well as hinge the pairs of rails **25** together, the rails **26** together and the rails **27** together. The means **34** may be conventional leaf hinges, conventionally attached. The side portion **10** is illustrated as a drop portion and may be hinged to the rail **60** (to be subsequently described) of the guard means B, as by hinge means **35** which may be two or more conventional leaf hinges with one leaf of each conventionally secured to the rail **21** at its bottom face and the other leaf of each hinge secured to the rail **60** at its upper face, so that the portion **10** will swing outwardly and downwardly. Any suitable conventional fastener means **36** may be employed to detachably secure the portion **10** to the posts **15** and **16**, such as conventional spring-biased bolts **37** carried by the rail **20** and keeper sockets **38** carried by the posts **15** and **16**. It will be noted that the portions **10** to **13** inclusive are illustrated, by way of example, to extend from adjacent the upper ends of the posts **15** to **18** inclusive, as the case may be, downwardly a distance less than the width of the guard means B, subsequently to be described.

Any suitable means may be provided to support a con-

ventional mattress (not shown) within the crib. For example conventional removable slats 39 may be provided.

The guard means B is illustrated, by way of example, to include parallel side guard portions 40 and 41 and pairs of end guard portions 42 and 43, all disposed below the associated side and end portions 10 and 13 inclusive of the bed A.

Preferably all the louvers 45 of the guard means B are alike and each comprises an elongate member or slat with opposite faces 46 and 47, an upper or top edge 48, lower or bottom edge 49, forward or free edge 50 and rear or pivoted edge 51. The louvers 45 are preferably of thin lightweight wood or plastic but may be of hardened rubber or of soft metal, all free of sharp edges or corners. All louvers 45 are upwardly-extending preferably with their longitudinal axes and axes of rotation substantially vertical. They do not extend with their longitudinal axes horizontal.

I prefer to employ the pivot means 55, illustrated best in FIG. 4, which is a view greatly enlarged over views of the pivot means 55 shown, for example in FIG. 2. Each of the means 55 comprises a substantially trough-shaped body portion 56 and pivot pin 64. The body portion has substantially parallel side walls 57 and 58 and one end wall 59 joining the side walls, and a wall 60 joining the walls 57, 58 and 59 to define a recess. Preferably the edge portions 61 and 62 of the walls 57 and 58 are rounded. One wall, as the wall 58 is conventionally slit to provide the tongue 63 for a purpose later described. It will be appreciated, particularly in FIGS. 3 and 4, that the pivot pin 64 projects from the wall 56 and is disposed adjacent the wall 59. The pivot means 55 is preferably of metal, such as steel or aluminum.

There are, of course, two pivot means 55 for each louver 45 with the edge portions, adjacent the edges 48 and 49 seated in the trough or recess of the body portion 56, the wall 60 being in face contact with either the edge 48 or edge 49, as the case may be, and the edge 51 in face contact with the wall 59, and the walls 57 and 58 in face contact with the faces 46 and 47 respectively of the louver. When so positioned, the tongue 63 may be peened inwardly to indent the material of the louver and thus retain together the pivot means 55 and louver 45.

The louvers 45 have their pivot pins 64 socketed in suitable bearings which are preferably in the rails 23, 25 or 27 and an upper side or guard means rail 65 and bottom or lowermost guard means rails 66 and 67 and pairs of bottom or lowermost end guard means rails 68 and pairs of bottom-most end guard means rails, like the rails 68, for the end guard portions 43 opposite the end guard portions 42, since the end guard portions 42 and 43 are alike. The corner posts 15 to 18 inclusive may be mortised as illustrated for the post 15, at 69 to receive the reduced ends of the several side rails 65, 66 and 67.

Sockets for all of the pivot pins 64 are designated as 70 and are shown in FIGS. 2 and 3, being equally spaced-apart cylindrical recesses arranged in rows and of a size so that the louvers 45 may be manually swung with some slight resistance. These recesses must be so spaced on the rail (in forward or backward position) that, when the louver is open, the pivoted edge 51 just clears the guard portions 80 to 83 inclusive.

The uprights 72 extend with their dowels 73 extending into suitable sockets in the rails 25, 27 and 68, and may be glued therein as is well known in the art.

Because the louvers 45 are adapted to close with only slight overlapping of their edge portions adjacent their forward edges 50 (for example, this overlap may be one-quarter inch) and the terminal louvers are very close to the uprights 72 (best shown in FIG. 2) at the inner side edges of the pairs of end guard portions 42 and 43, I prefer to provide some means, as the pull means 75 to assist the fingers of the operator to manipulate these particular louvers in opening them. Such means may be finger holds or buttons, carried by these louvers and projecting from their outer faces 46. The same means performs the same function for the terminal louvers 45 of the side guard portions 40 and 41 nearest the corner posts 15 and 17 as well as for the terminal louvers 45 of the end guard portions 42 and 43 nearest the corner posts 16 and 18. Otherwise, the exposed forward edges 50 of the overlapping louvers provide bearing for the ball of a finger of an operator in order for the latter to swing individual louvers to open or partly open positions, as desired. In order to close even a long bank of louvers, such as those of the side guard portions 41 or 42, a sweep of the hand across the portion will close them all one after another.

The same types of hinge means 30 and 34 may be used for the end guard portions.

Associated with the guard portions 41 to 43, are the guard portions 80 to 83 inclusive, best shown in FIG. 3 but also shown in FIG. 1, each being a suitable foraminous guard element 84 disposed in a frame 85, and frictionally retained by posts, rails and uprights as will be subsequently detailed.

Each guard portion 80 to 83 may have a foraminous element 84 in the form of a taut screen which is preferably of Fiberglas, which is soft and flexible, while the frame 85 may be of wood, hardened plastic material or aluminum. The frame 85 is thin (for example one-quarter inch thick) with peripheral flanges 86 and the edges 87 providing shoulders for seating upon the posts, rails, and uprights and being frictionally held thereby. Of course, in the example shown, the guard portions 82 and 83 are in pairs as are the end guard portions 42 and 43. From FIG. 3 it will be seen that the guard portion 81 extends very slightly away from the vertical planes of the rails 23 and 67 and, consequently, only very slightly into the compartment of the crib. This is characteristic of all of the guard portions 80 to 83 inclusive.

The rails 66 and 67 may be provided, at their inner sides, with spaced-apart recesses 90 for removable slats 39.

The guard portions 80 to 83 inclusive are removable, since they are frictionally retained, for cleaning, and the louvers 45 are readily cleaned since they are readily opened to their full extent to positions where all the faces 46 and 47 of the louvers of a guard portion are substantially in parallelism.

The guard portions 40 to 43 inclusive do not interfere with folding of the bed A as may be appreciated from FIG. 6 where the end portions 12 and 42 of the bed are being folded inwardly so that they will contact the side portions 10 and 40 or 11 and 41, as the case may be.

In FIG. 1 it will be noted that the louvers 45 at the left-hand part of the side guard portion 40 are closed, while the louvers at the right-hand part of this side guard portion are fully open. A person moving from left to right along this last mentioned part may close all or selected of the open louvers by a slight pressure along the portions thereof adjacent their edges 50, by a mere sweep of the hand. Each louver is independent of all others for manipulation thereof.

Various changes may be made to the forms of the invention herein shown and described without departing from the spirit of the invention or scope of the claims.

What is claimed is:

1. A bed including upwardly-extending corner posts, side and end bed panel portions carried by the upper parts of said corner posts; and guard means including a plurality of guard portions carried by said corner posts below said bed panel portions, said guard portions including guard rails, a bank of substantially parallel louvers, with the longitudinal axes of said louvers extending upwardly, and pivot means for each of said louvers, carried by said guard rails and said louvers, pivoting each of said louvers on its longitudinal axis for individual manual rotation of each louver, whereby a selected lou-

ver of a guard portion may be manually manipulated to open, closed or partly closed positions independently of all others of the louvers of said guard portion.

2. A bed including upwardly-extending corner posts, side and end bed portions adjacent and carried by only the upper parts of said corner posts; and guard means including a louvered guard portion having an outer face and an inner face and including a guard rail bridging the space between two of said corner posts below one of said bed portions and carried by said two of said corner posts, a bank of substantially parallel louvers, with the longitudinal axes of said louvers extending upwardly, each louver having an upwardly-extending rear edge and an upwardly-extending front edge, with said front edge extending outwardly when said louver is in an open position, and pivot means for each of said louvers, carried by said guard rails and said louvers, for manual pivoting, by the hand of an operator placed thereon, each of said louvers, independently of all others of said louvers, on their longitudinal axes, comprising pivot pins for each louver connected therewith adjacent said rear edge, whereby said louvers open outwardly of the interior of said bed, and the front edges of the open and partly open louvers may be contacted by the hand of an operator to close selected of said open and partly open louvers by a sweep of said hand as said operator moves along said guard portion; said guard means also including a foraminous guard portion extending over said inner face and facing the rear upwardly extending edges of said louvers when said louvers are in open positions.

3. A bed including upwardly-extending corner posts, side and end bed panel portions, carried by the upper parts of said corner posts, each end bed panel portion comprising a pair of panel sections provided with upper and lower rails, hinge means hinging said pair of sections to the adjacent corner posts to swing in substantially

horizontal paths, and hinge means hinging together the sections of each bed panel portion, to swing in substantially horizontal paths; and guard means, including two end guard portions, disposed below said end bed panel portions, each end guard portion comprising a pair of end guard sections, with each end guard section being provided with a guard rail substantially paralleling the adjacent lower rail of the adjacent end bed panel section, hinge means hinging each end guard section to the adjacent corner post to swing in a substantially horizontal path, and hinge means hinging together each section of a pair of end guard portions to swing in a substantially horizontal path, a bank of substantially parallel louvers, with their longitudinal axes extending upwardly each having an upper edge and a lower edge, and pivot means for each of said louvers, carried by said louvers, the lower rails of said end bed panel sections and the rails of said end guard sections, comprising a pivot pin extending from the upper edge of each louver, and a pivot pin extending from the lower edge of each louver, and all pins extending into pivot pin-receiving openings in said lower rails of said end bed panel sections and the rails of said end guard sections, whereby each louver may be pivoted independently of every other louver.

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