July 17, 1951 C. S. McCARTHY 2,561,285

COLLAPSIBLE BASSINET

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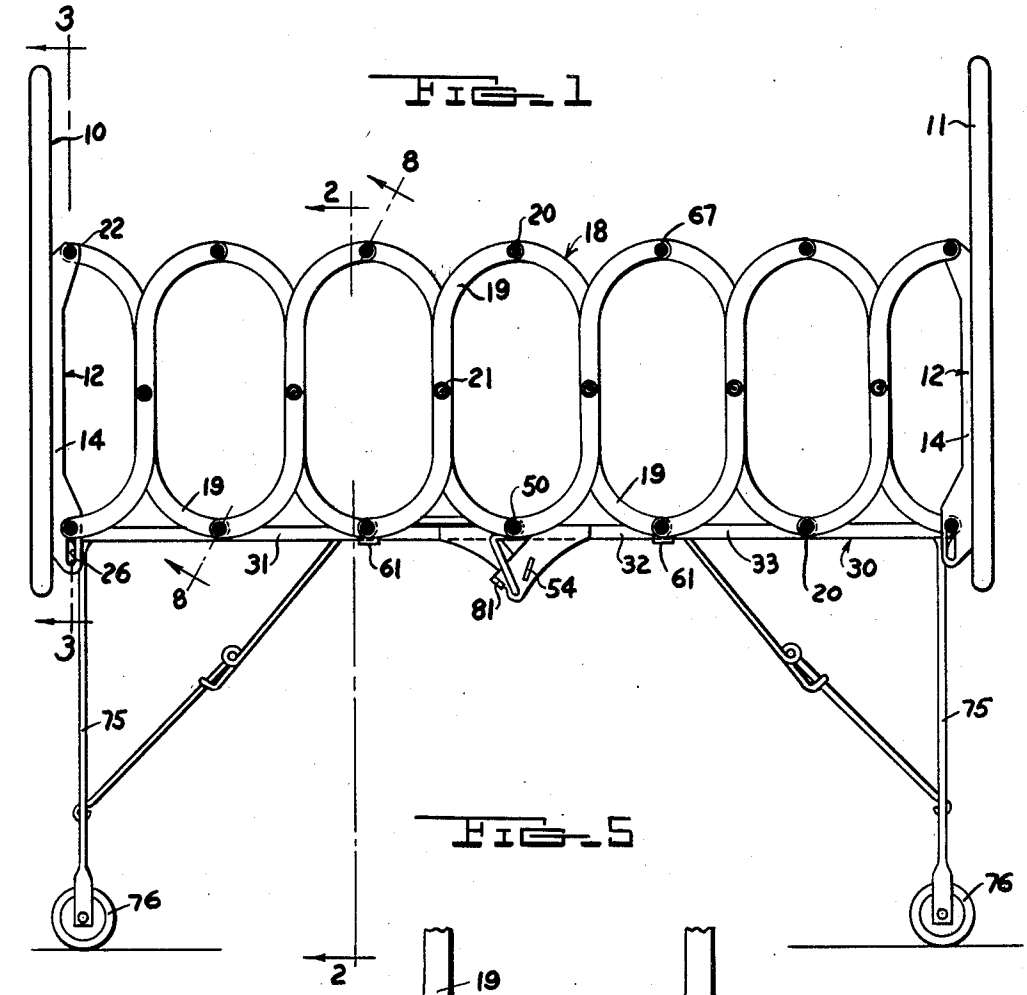


FIG. 1

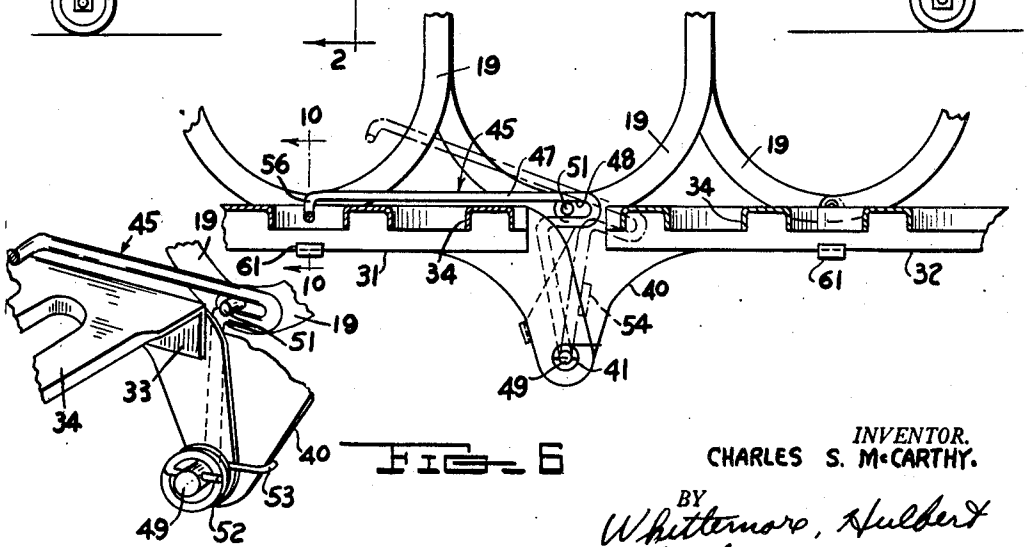


FIG. 5

FIG. 6

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FIG. 2

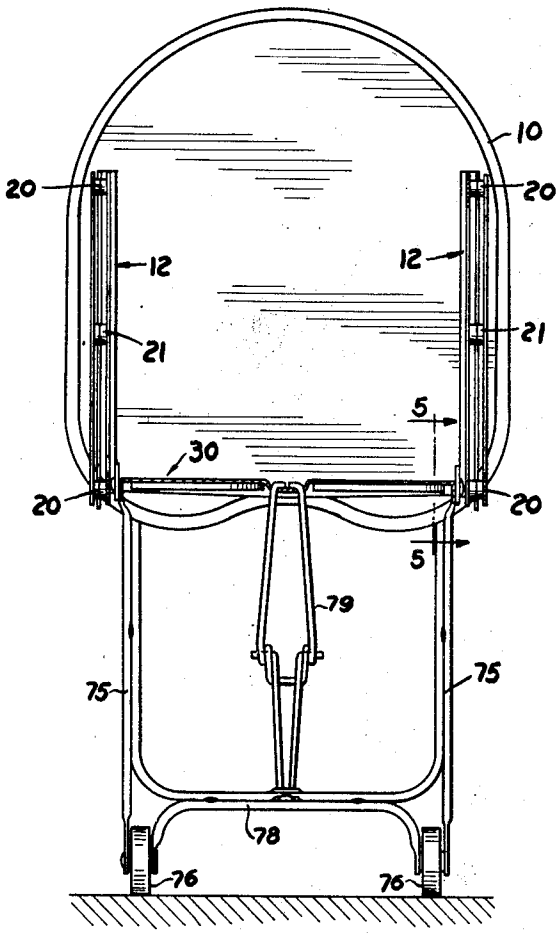


FIG. 12

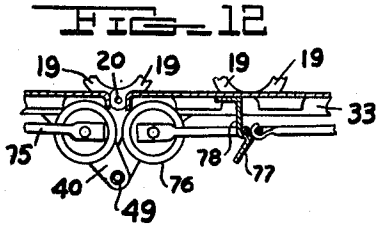
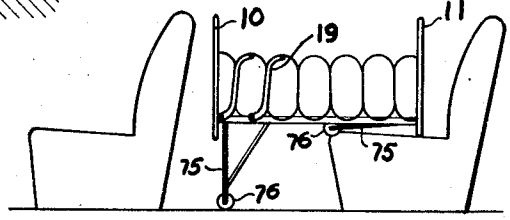


FIG. 14



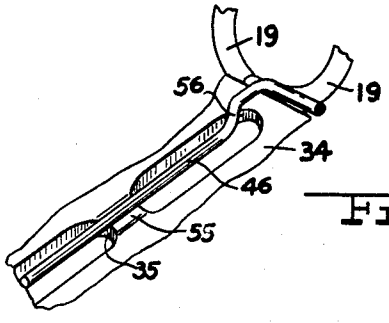


FIG. 7

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FIG. 13

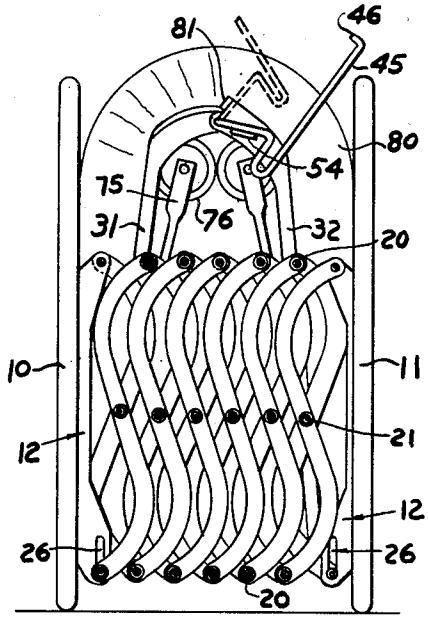


FIG. 4

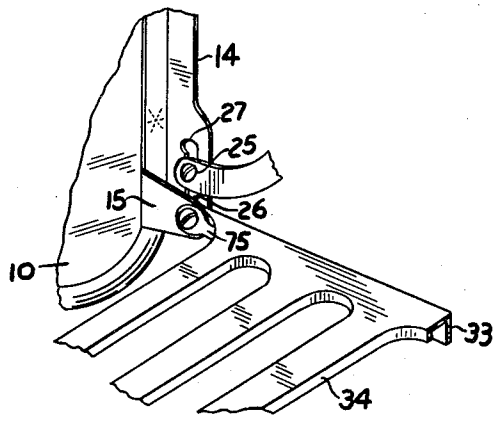


FIG. 9

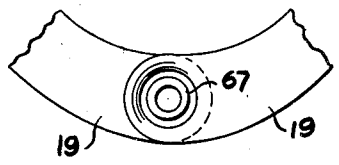


FIG. 3

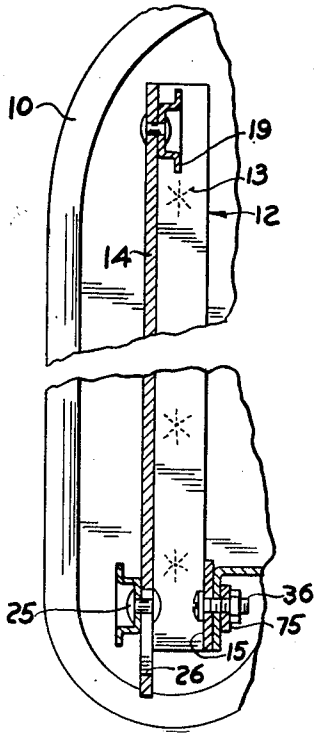


FIG. 8

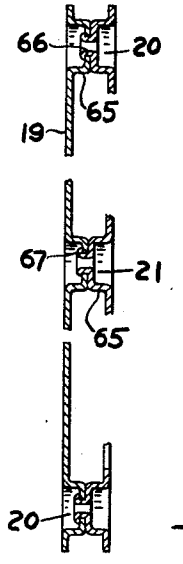


FIG. 10

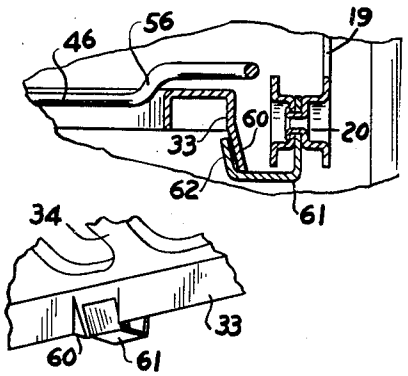


FIG. 11

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Patented July 17, 1951

2,561,285

UNITED STATES PATENT OFFICE

2,561,285

COLLAPSIBLE BASSINET

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Application November 28, 1947, Serial No. 788,600

13 Claims. (Cl. 5—99)

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The present invention relates to a collapsible bassinet.

It is an object of the present invention to provide a collapsible bassinet which may be quickly extended to open position or collapsed to closed position with a minimum of effort and attention.

It is a further object of the present invention to provide a collapsible bassinet including collapsible lazy tong side members provided with means for engaging the bottom of the bassinet to prevent lateral displacement of the sides of the bassinet when the bassinet is in extended position.

It is a further object of the present invention to provide a collapsible bassinet having a bottom formed of two halves hinged together in combination with a dual purpose handle shaped to provide an interlock with the sides of the bassinet when the bassinet is extended to provide for rigidity of the entire structure.

It is a further object of the present invention to provide a collapsible bassinet having collapsible sides constructed of hinged links forming a lazy tong arrangement in combination with means spacing the links laterally from each other to avoid shearing action upon opening and closing of the bassinet.

It is a further object of the present invention to provide a bassinet comprising head and footboards, a foldable bottom comprising halves hinged to the footboard, and headboard and to each other, collapsible sides of lazy tong construction, and foldable supporting leg structures adapted to lie along the bottom of the bassinet.

It is a further object of the present invention to provide a collapsible bassinet having a bottom structure composed of two halves, side structures in the form of collapsible lazy tongs, and interengaging supporting means at the bottom of the side structures and at the sides of the bottom structure to support the side structures against lateral displacement and to assist in supporting the bottom structure in operative position.

Other objects and features of the invention will become apparent as the description proceeds, especially when taken in conjunction with the accompanying drawings, wherein:

Figure 1 is a side elevation of the bassinet in open or extended position showing its legs extended to supporting position;

Figure 2 is a section on the line 2—2, Figure 1;

Figure 3 is a fragmentary section on the line 3—3, Figure 1;

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Figure 4 is a fragmentary perspective view illustrating the manner in which the bottom portion and one leg of the side structure are secured to a head or footboard;

Figure 5 is a fragmentary section on the line 5—5, Figure 2;

Figure 6 is a fragmentary perspective view illustrating the supporting interlock provided by the handle;

Figure 7 is a fragmentary perspective view illustrating the provision of a nesting recess in the bottom structure for receiving the transverse portion of the handle;

Figure 8 is a fragmentary section on the line 8—8, Figure 1;

Figure 9 is a fragmentary side view of the pivot connection between a pair of links of the lazy tong construction;

Figure 10 is a fragmentary section on the line 10—10, Figure 5;

Figure 11 is a fragmentary perspective view illustrating the interlock between the side construction and the bottom construction;

Figure 12 is a fragmentary section showing the clip which supports the leg structures in a folded or collapsed position;

Figure 13 is a side elevation of the collapsible bassinet in closed or collapsed position; and

Figure 14 is a simplified side elevation showing one manner of using the bassinet.

Referring now to the drawings, the collapsible bassinet comprises a headboard 10 and footboard 11. Secured to opposite sides of the head and footboards 10 and 11 are supporting brackets 12 which may be secured to the head and footboards by welding or riveting, as indicated at 13. Brackets 12 have inwardly extending, full length flanges 14 and relatively short, inwardly extending flanges 15 provided adjacent the bottom thereof. A collapsible side structure indicated generally at 18 is provided, this structure being in the form of a lazy tong arrangement and comprising a plurality of generally S-shaped links 19, the ends of which are pivoted together as indicated at 20 and intermediate portions of which are pivoted together as indicated at 21. The end link elements 19 are pivoted to the head and footboards 10 and 11, fixed pivots 22 being provided at the top of the side structure with the flange 14, the bottoms of the end links having headed pins 25 slidable in vertically extending slots 26 formed adjacent the lower end of the flanges 14. As best seen in Figure 4, the vertical slots 26 are provided preferably with enlarged openings 27 adjacent the top to

permit insertion of the heads of the pins 25 in assembly. The arrangement just described permits opening and closing of the bassinet by movement of the head and footboards 10 and 11 toward and away from each other while the head and footboards are maintained by the lazy tong construction of the sides in substantially parallel relationship.

A foldable bottom structure indicated generally at 30 is provided and comprises two halves 31 and 32 pivoted respectively to the headboard 10 and footboard 11. The bottom structure is formed of shaped sheet metal, as well illustrated in Figure 4, and comprises elongated side ribs 33 of generally channel formation interconnected by the transverse ribs 34. A central longitudinal rib is formed by webbing as indicated at 35 in Figure 7. The bottom halves 31 and 32 are hinged at their outer ends to the head and footboards and specifically this hinged connection is provided by bolts 36 or the like passing through bolt-receiving openings formed in the flange 15 on the bracket 12.

The adjacent edges of the bottom halves are hinged together and for this purpose each of the halves 31 and 32 is provided with brackets 40 having pivot-receiving openings 41.

A multiple-function handle 45 is provided having a transverse carrying portion 46 and legs 47 shaped to provide a pin-receiving recess 48, as best seen in Figure 5. The ends of the legs 47 are bent inwardly, as indicated at 49 in Figure 6, and pass through the openings 41 provided in the pivot brackets 40 carried by the bottom halves 31 and 32. Thus the inwardly extending portions 41 of the handle 45 serve as pivot pins for interconnecting the bottom halves 31 and 32.

The pivot connection provided at the bottom between the central links 19, which connection is illustrated at 50 in Figure 1, includes an inwardly extending pin 51 which is positioned to be received within the recess 48 when the bassinet is in extended position and when the handle 45 is depressed to the full line position illustrated in Figures 5 and 6. This provides an interlock between the side structure 18 and the bottom structure 30 which imparts rigidity to the bassinet in extended position.

As previously stated, the bottom structure includes a central longitudinally extending rib formed by an aligned series of webs 35, as illustrated in Figure 7. In order to receive the transverse portion 46 of the handle below the upper surface of the top structure, the appropriate one of the webs 35 is depressed as indicated at 55 in Figure 7 and the transverse portion 46 of the handle is offset as indicated at 56.

The bassinet has been designed so that it may be extended simply by grasping the head and footboard and moving them apart, at which time the bottom halves fall into extended position and the side structures extend to the operative position shown in Figure 1. At this time in order to simplify the operation and to provide a construction which is substantially foolproof, it is desirable that the handle 45 be retained in position such that the recesses 48 formed therein are in alignment with the pins 51. With this arrangement it is then only necessary for the user to depress the handle to the full line position shown in Figure 6 and the bassinet is firmly locked in extended position. In order to insure that the handle 45 remains in the dotted line position of Figure 5 as the bassinet is extended, a spring 52 is provided having a portion extending through the transverse pivot portion 49 of the handle, the spring having one end 53 engaging one of the brackets 40, all as illustrated in Figure 6. The effect of the spring is to bias the handle upwardly when the bassinet is in extended position so that the parts occupy the dotted line position shown in Figure 5. Abutments 54 are provided on brackets 40 and will be engaged by the legs of the handle to insure proper registration between the recess 48 and the pins 51.

The construction just described provides for a very useful and important function. It will be apparent that since the handle 45 has inwardly bent portions 49 which serve as the pivot connections between the adjacent ends of the bottom halves 31 and 32, and since upward movement of the handle from full line to the dotted line position illustrated in Figure 6 releases the handle from pins 51, it is possible to collapse the bassinet completely simply by grasping the transverse portion 46 of the handle and lifting it. The first effect will be to move the handle to a position in which the pins 51 are released from the recesses 48. Further lifting of the handle raises the mutually hinged portions of the bottom sections 31 and 32 and will result in parallel movement of the head and footboards toward each other and the collapse of the lazy tong side construction. Therefore the construction provides for opening the bassinet simply by grasping the head and footboards and moving them apart, after which the parts are locked in open position by depressing the handle. The opening operation is even simpler and comprises simply grasping the handle and raising it, which results in the complete collapse of the bassinet.

In order to provide for additional support when the bassinet is in open or extended position, the side flanges 33 of the bottom sections are formed outwardly as indicated at 60 to provide downwardly open camming and supporting pockets or recesses. Hooks 61, carried at the appropriate ones of the bottom pivot connections between links 19, have upwardly and slightly outwardly extending flanges 62 adapted to register with and enter into the recesses 60. Accordingly, the bottom halves 31 and 32 are supported from the lazy tong structure when the bassinet is in open position. In addition to the support thus provided there is a second supporting interlock provided by actuation of the handle from the dotted line to the full line position as seen in Figure 5, which has previously been described. It may be observed at this time that the supporting interlock provided by the recesses 48 receiving the pins 51 is primarily a support against downward movement of the bottom halves 31 and 32 whereas the interlocking support between the recesses 60 and camming flanges 62 not only supports the bottom halves 31 and 32 against downward movement but also supports the relatively flexible lazy tong side constructions against outward movement.

The bassinet is ordinarily provided with fabric side covers (not shown) and it is contemplated that in collapsed position it may contain not only a mattress pad but possibly a sheet or the like. It is therefore desirable that the lazy tong construction be arranged to prevent a shearing action as the link elements 19 thereof move over each other between open and closed position. In order to accomplish this desirable result the construction best illustrated in Figures 3, 8 and 9 is employed. The link elements 19 at the sides

are formed of sheet metal and each is provided with formed portions or abutments 65. As best seen in Figure 8, the abutment 65 on one set of links is provided with a rivet-receiving opening 66. The bottom wall of the abutment 65 on the cooperating link has an extruded rivet portion 67 which in assembly is extended through the opening 66 and riveted over to provide a pivot connection between the links. The result of the construction just described is that portions of the links 19 which would otherwise slide over each other and provide a shearing effect are spaced apart by an amount equal to twice the height of the abutments 65. In order that this construction may be provided and still maintain the sides in parallelism with the flanges 14, the end links of the lazy tong structure are preferably secured to the flanges 14 as illustrated in Figure 3. Here it will be noted that the upper end of the end link 19 is secured to one side of the flange 14 and the bottom end of the cooperating end link is secured to the opposite side of the flange 14.

The construction includes supporting legs for the bassinet, these legs being indicated at 75 and preferably being formed of bent rod construction welded or otherwise secured together. Two such leg constructions are provided, one being provided to the headboard and one being provided to the footboard. Conveniently, the leg construction 75 may be pivoted to the short flanges 15 formed on the supporting brackets 12. Adjacent the lower ends of the leg constructions are preferably provided wheels 76 so that the bassinet construction may be rolled on the floor. The leg constructions 75 are each foldable to collapsed position against the underside of the adjacent one of the bottom halves 31 and 32 and for this purpose spring catches 77 are provided on the underside of the bottom halves in position to receive and engage a lower crosspiece 78 on the leg construction. A collapsible bracing strut 79 is provided which is adapted to assume an over-center locking position when the legs are extended so as to positively prevent accidental collapse of the legs when the bassinet is in use.

Since the common pivot connection between the bottom halves 31 and 32 is displaced substantially from their plane as indicated in Figure 5, the bottom halves are spaced apart a substantial distance when the bassinet is collapsed and this provides room intermediate the bottom halves when in closed position to receive the folded leg structure 75 and the wheels 76, all as well illustrated in Figure 13.

In Figure 13 the bassinet is illustrated in closed position and a foldable mattress pad 80 is indicated as included therein. In this figure the handle 45 is shown in full lines in the position which it will occupy as a result of being spring biased against the stop 54. Hinge brackets 40 are, however, provided with additional stops 81 whose function is to determine the position of the handle 45 when it is employed to lift and carry the bassinet. In Figure 13 the carrying position of the handle 45 is illustrated in dotted lines and it will be observed that the legs thereof are at this time in engagement with the stops or abutments 81.

Referring now to Figure 14, there is illustrated one possible use of the collapsible bassinet. In this figure the bassinet is shown with one leg structure 75 extended and the other leg structure in folded position against the bottom. The

leg structures 75 are of a height such that when the device is supported in an automobile one end with the legs folded may rest upon the seat and the other end may be supported by the leg structure in extended position, at which time the bassinet will remain substantially horizontal.

The bassinet is accordingly adapted to assume four positions. These positions are the closed or folded position; the open or extended position with both legs folded, at which time it may be supported upon a chair pad, table or the like; a third position in which one of the leg structures is extended and the other is folded and the bassinet is supported by one leg structure and by independent supporting means, such, for example, as an automobile seat; and finally the open or extended position in which the bassinet is supported by both legs in open or extended position.

The drawings and the foregoing specification constitute a description of the improved collapsible bassinet in such full, clear, concise and exact terms as to enable any person skilled in the art to practice the invention, the scope of which is indicated by the appended claims.

What I claim as my invention is:

1. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and foot boards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, a handle pivotally secured to said bottom, and means on said sides engageable by said handle when said bassinet is extended to lock said bassinet in extended position.

2. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, a bail-like handle pivotally secured to said bottom adjacent the mutual hinge of the two halves thereof, pin-receiving recesses in the legs of said handle, and pins extending inwardly from the mid portions of said sides, said pins entering said recesses when said handle is pressed down against the bassinet bottom.

3. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, a bail-like handle pivotally secured to said bottom adjacent the mutual hinge of the two halves thereof, pin-receiving recesses in the legs of said handle, pins extending inwardly from the mid portions of said sides, and spring means biasing said handle in a direction to align said pins and recesses when said bassinet is extended, said pins entering said recesses when said handle is pressed down against the bassinet bottom.

4. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, a bail-like handle pivotally secured to said bottom adjacent the mutual hinge of the two halves thereof, pin-receiving recesses in the legs of said handle, pins extending inwardly from the mid portions of said sides, and spring means biasing said handle in a direction to align said pins and recesses when said bassinet is extended, said pins entering said recesses when said handle is pressed down against the bassinet bottom, said bassinet bottom having a transverse recess

therein for receiving transverse portions of said handle below the top surface of said bottom.

5. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, a handle pivotally secured to said bottom at the hinge interconnecting the two halves thereof, said handle comprising a pair of arms each provided with a pin-receiving recess and an upper transverse portion shaped to lie across the bottom of said bassinet, and pins carried by the bottoms of said sides engageable in said recesses when said handle is folded down into engagement with the bottom of said bassinet.

6. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, a handle pivotally secured to said bottom at the hinge interconnecting the two halves thereof, said handle comprising a pair of arms each provided with a pin-receiving recess and an upper transverse portion shaped to lie across the bottom of said bassinet, pins carried by the bottoms of said sides engageable in said recesses when said handle is folded down into engagement with the bottom of said bassinet, spring means biasing said handle away from the bottom of said bassinet in extended position, and stop means for said handle effective to align said pins and recesses when said bassinet is extended.

7. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, a handle pivotally secured to said bottom at the hinge interconnecting the two halves thereof, said handle comprising a pair of arms each provided with a pin-receiving recess and an upper transverse portion shaped to lie across the bottom of said bassinet, pins carried by the bottoms of said sides engageable in said recesses when said handle is folded down into engagement with the bottom of said bassinet, spring means biasing said handle away from the bottom of said bassinet in extended position, first stop means for said handle effective to align said pins and recesses when said bassinet is extended, and second stop means effective to limit movement of said handle to approximately central position when said bassinet is folded.

8. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, and cooperating interlocking elements carried at the bottom of said sides and at the edges of said bottom engageable automatically upon extension of said bassinet to support said sides against lateral displacement.

9. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides of lazy tong construction, cooperating interlocking elements carried at the bottom of said sides and at the edges of said bottom engageable automatically upon extension of said bassinet to support said sides against lateral displacement, said elements comprising upwardly extending hooks carried at the bottom of said bassinet sides, and downwardly open camming and interlocking recesses at the edges of said bassinet bottom halves in position to engage said hooks as said bassinet is extended.

10. A collapsible bassinet comprising head and footboards, collapsible sides of lazy tong construction, a bottom comprising bottom halves hinged at opposite ends to the head and footboards, and having their adjacent ends hinged together, and a carrying handle secured to said bottom halves adjacent their mutual hinge so that lifting on said handle collapses the bassinet, the hinge between said bottom halves at their adjacent ends including pivot pins carried by said handle.

11. A collapsible bassinet comprising head and footboards, collapsible sides of lazy tong construction, a bottom comprising bottom halves hinged at opposite ends to the head and footboards, and having their adjacent ends provided with pivot pin-receiving openings, a wire carrying handle having bent end portions extending through the pivot-receiving openings, and cooperating locking means on said handle and the sides of said bassinet in position to be engaged by downward movement of said handle into the plane of said bottom when said bassinet is open, whereby said bassinet may be unlocked and collapsed by simple lifting movement of said handle.

12. A collapsible bassinet comprising head and footboards, collapsible sides, a bottom comprising bottom halves hinged at opposite ends to the head and footboards, and having their adjacent ends provided with pivot pin-receiving openings, a wire carrying handle having bent end portions extending through the pivot-receiving openings, and cooperating locking means on said handle and the sides of said bassinet in position to be engaged by downward movement of said handle into the plane of said bottom when said bassinet is open, whereby said bassinet may be unlocked and collapsed by simple lifting movement of said handle.

13. A folding bassinet comprising rigid head and footboards, a bottom formed of two halves hinged to the head and footboards respectively and hinged together midway between the head and footboards, collapsible sides, a bail-like handle pivotally secured to said bottom adjacent the mutual hinge of the two halves thereof, pin-receiving recesses in the legs of said handle, and pins extending inwardly from the mid portions of said sides, said pins entering said recesses when said handle is pressed down against the bassinet bottom.

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