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L. GOLUB ET AL

3,233,254

PLAY PEN

Original Filed Jan. 6, 1960

3 Sheets-Sheet 1

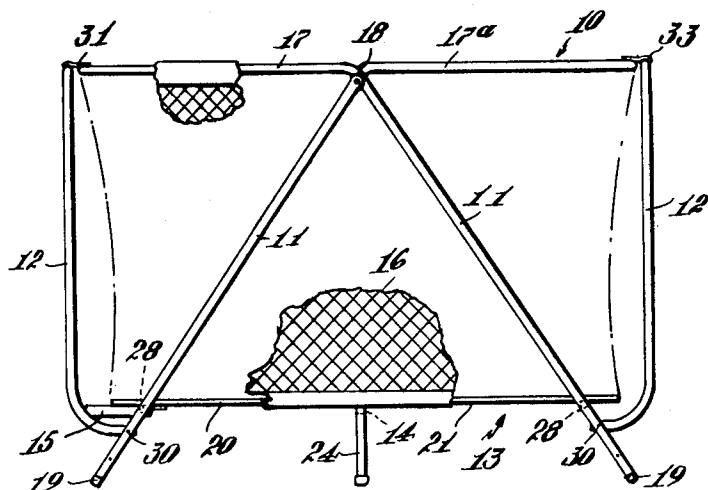


Fig. 1

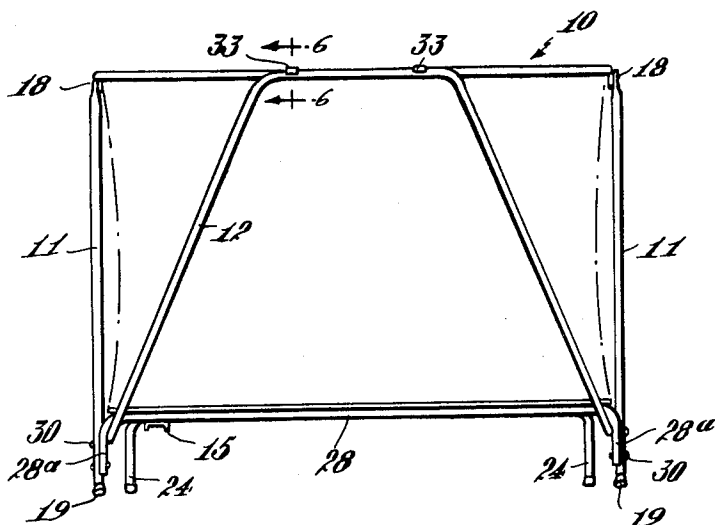


Fig. 2

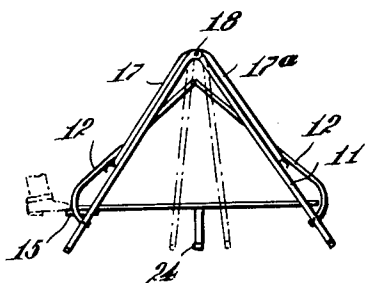


Fig. 3

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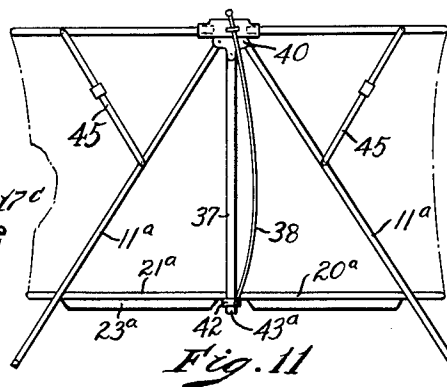
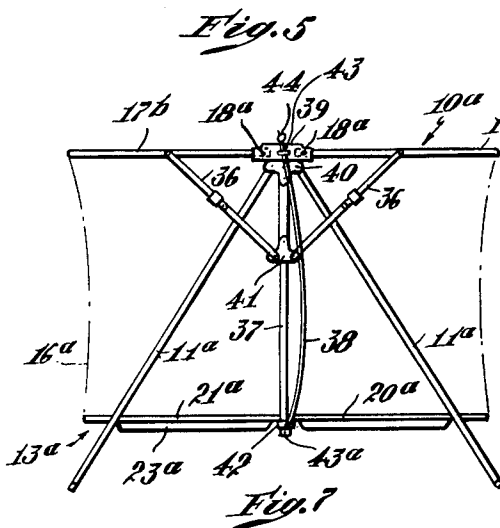
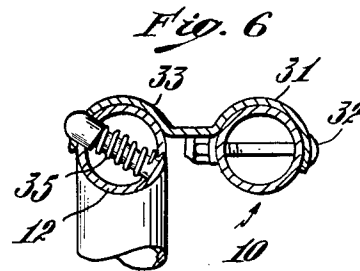
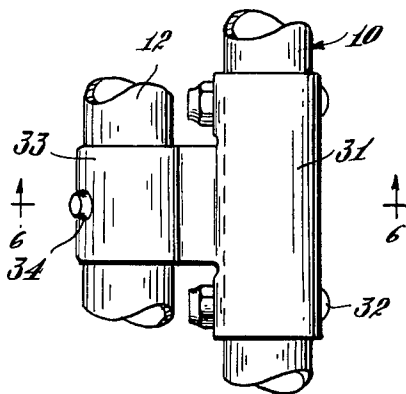
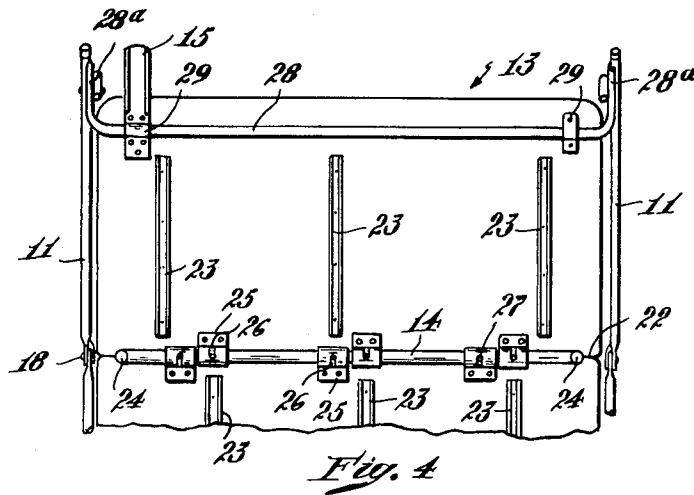
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PLAY PEN

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3 Sheets-Sheet 3

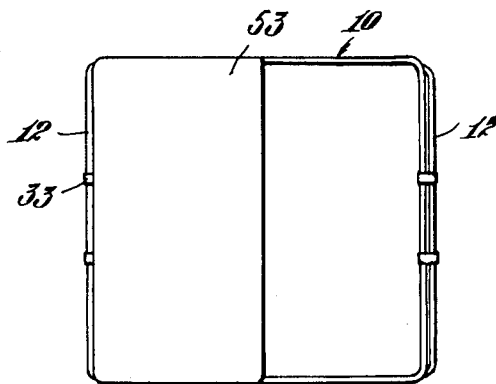


Fig. 8

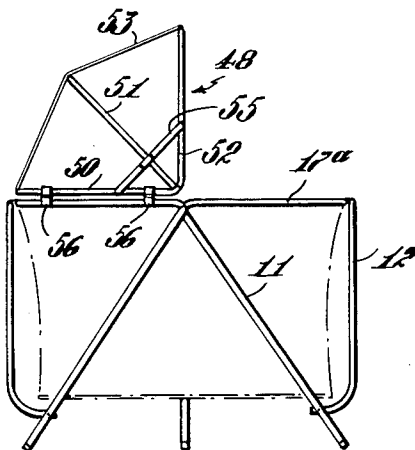


Fig. 9

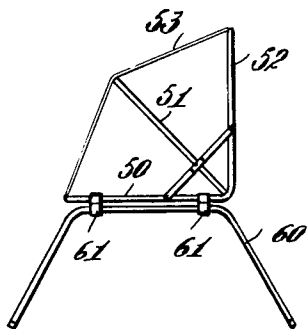


Fig. 10

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1

3,233,254

PLAY PEN

Leo Golub, Marblehead, and Max Zaiger, Swampscott, Mass., assignors, by direct and mesne assignments, of sixty-seven percent to Paul R. Engel, sixteen and one-half percent to Winslow E. Thomson, and sixteen and one-half percent to John R. Schoree

Original application Jan. 6, 1960, Ser. No. 728, now Patent No. 3,095,583, dated July 2, 1963. Divided and this application May 10, 1963, Ser. No. 279,547
11 Claims. (Cl. 5—99)

This invention relates to improvements in collapsible play pens or play yards for babies and is a division of our application Serial No. 728, filed January 6, 1960, now Patent No. 3,095,583. One of the principal objects of our invention is the provision of play pens which are more rigid in construction, safer in use, and which can be collapsed readily and compactly from a standing position.

A significant object of our invention is to provide an improved construction for supporting a foldable play pen floor at the center along the folding or hinged axis when in the open position and for slidable guiding thereof while the play pen is being folded and unfolded.

Other and further objects and advantages will be apparent from the following description and claims and by reference to the accompanying drawings wherein:

FIG. 1 is a side view of a child's play pen according to one embodiment of the present invention;

FIG. 2 is an end view of the play pen shown in FIG. 1;

FIG. 3 is a side view, on reduced scale, showing the frame and the manner of collapsing the play pen shown in FIG. 1;

FIG. 4 is a partial bottom view of the play pen according to FIG. 1;

FIG. 5 is a plan view, on an enlarged scale, showing releasable means for joining the end member support to the upper frame of the play pen according to FIG. 1;

FIG. 6 is a section on the line 6—6 of FIG. 5;

FIGS. 7 and 11 are side views, on a slightly reduced scale, of a second and third embodiment of the present invention;

FIG. 8 is a plan view, on a reduced scale, of the play pen of FIG. 1 with canopy attached;

FIG. 9 is a side view of the play pen and canopy of FIG. 8; and

FIG. 10 is a side view of the canopy shown in FIGS. 8 and 9 detached from the play pen and mounted on separate, auxiliary legs.

Referring to FIGS. 1—4, the play pen illustrated comprises a generally rectangular upper frame 10, downwardly diverging legs 11 at opposite sides thereof, end members 12, a floor 13, axial rod 14, foot treadle 15 and enclosing material 16, preferably nylon netting.

The upper frame 10 comprises aluminum tube material and has two U-shaped halves 17 and 17a which fold on pivots 18 at the midpoint of opposite sides thereof. Legs 11 are pivotally attached at their upper ends to the pivots 18 and diverge downwardly in open position, terminating in feet 19.

Floor 13 comprises two halves 20 and 21 which fold upwardly along a meeting or parting line 22 extending from side to side at the midpoint of the floor. As shown, each floor section 20, 21 is reinforced by a plurality of channels 23 attached thereto.

Axial rod 14 extends from side to side of the play pen beneath the floor axis 22 and terminates in depending legs 24 which contact the supporting surface for the play pen to support the floor 13 in open position. Hinges 25 are riveted or otherwise secured to the floor 13 and embrace the axial rod 14. Hinges 25 are provided with opposed, axially spaced, quarter-round slots 26. Pins

2

27 project from axial rod 14 and engage slots 26. In open position, the pins 27 engage opposite ends of slots 26 thereby preventing the floor from sagging below a horizontal plane and locate legs 24 in vertical position.

Floor sections 13 are pivotally attached to the support rods 28 by means of clips 29 beneath opposite ends of floor 13. Rods 28 have projecting ends 28a rigidly secured to the ends of opposed legs 11 on either side of the play pen by means of bolts 30. End members 12 are generally U-shaped and have inturning ends pivotally secured by the bolts 30 to legs 11 on opposite sides of the play pen. Each outer end of frame 10 has sleeves 31 (FIGS. 5 and 6) secured thereto by means of bolts 32. Sleeves 31 carry projecting tongues 33 curved to embrace the closed or upper portion of end members 12 and having therein holes 34. The upper or closed portion of end member 12 is provided with spring pins 35, the ends of which are depressible inwardly but which normally project beyond the circumference of rod member 12. In open position, pins 35 project through holes 34 of bracket 31 to lock the upper frame member 10 in horizontal position.

For the purpose of safety, a spaced plurality of pins 35 and holes 34 are provided on each end member 12 so that a child cannot inadvertently release the supporting end member 12 by accidentally or otherwise depressing a single pin.

In collapsing the play pen, pins 35 are depressed to release end members 12, the halves 17 and 17a of upper frame 10 are collapsed downwardly against legs 11, and end members 12 are then folded inwardly over rod 14 (FIG. 3). The upper ends of end members 12 are then grasped and foot treadle 15 pressed upon to fold the floor 13 upwardly while lifting moderately or pulling on end members 12. Thus the play pen can be collapsed, after disengaging end members 12, by a single motion by an operator in standing or near-standing position, thus eliminating the stooping or bending heretofore required.

In addition to the improved manner of collapsing the pen, and to the safety feature embodied in a plurality of locking pins 35, the play pen illustrated has the further advantage of providing a substantially more rigid structure by utilization of rigid end members 12 in conjunction with legs 11 thereby substantially reducing the tendency of the play pen to skew.

A further embodiment of the invention is illustrated in FIG. 7 and comprises an upper frame 10a with halves 17b and 17c, legs 11a, floor 13a with halves 20a and 21a and channel braces 23a, elbow braces 36, vertical posts 37 and a draw string 38. The vertical posts 37 have an upper fitting 39 containing pivots 18a for upper frame halves 17b and 17c, a fitting 40 to which legs 11a are pivotally secured and a fitting 41 to which the collapsible braces 36 are secured. In this embodiment, the axial rod 14 beneath the center of the floor 13a terminates in rings 42 at each end which slidably engage the lower portion of the vertical posts 37. In open position, the floor 13a is supported in horizontal position by means of pins 43a in the lower ends of vertical posts 37 which engage the rings 42 to limit downward movement of the floor. Draw string 38 is secured at its lower end to one of rings 42, passes upwardly through a retaining ring 43 on fitting 39 and terminates in a ball 44 held by ring 43. To collapse the play pen, braces 36 are folded, upper frame halves 17b and 17c folded down against legs 11a and the floor and legs are collapsed by drawing on draw string 38.

While upper frame braces 36 are shown in FIG. 7 pivotally attached at their lower ends to fitting 41 on vertical posts 37, they can also be attached to legs 11a as shown in FIG. 11 at lines 45.

FIGS. 8 and 9 illustrate a canopy 48 attached to the

play pen of FIG. 1. This canopy comprises lower U-shaped frame member 50, intermediate U-shaped frame member 51, upper U-shaped frame member 52, and canopy cover material 53. Frame members 50, 51 and 52 are mounted at their open ends to a pivot 54 at each side and on which the canopy folds. Elbow braces or folding brackets 55 are provided on opposite sides of the canopy and have their ends attached to lower frame 50 and upper frame 52 respectively. Clamps 56 are provided on each open arm of lower frame member 50 which secure the canopy to upper frame member 10 of the play pen.

While the canopy 48 is herein illustrated mounted on the play pen of FIG. 1, it is obvious that it can also be attached to the play pen shown in FIG. 7 as well as play pens of other types having upper frame members. However, the combination is particularly advantageous with the play pens, as illustrated, which have opposed diverging legs and wherein the ends of the upper frame member fold thereagainst since the canopy will collapse or fold with the play pen without requiring its removal.

The canopy illustrated has further utility in that it can be removed from the play pen and attached to separate legs 60 (FIG. 10) by clamps 61 which can be clamps 56, if desired. The canopy can therefore be used to cover the play pen or to cover a separate chair or the like, as required.

It should be understood that the foregoing description is for the purpose of illustration only and that the invention includes all modifications falling within the scope of the appended claims.

We claim:

1. A foldable play pen comprising, in combination:

- (a) a pair of vertical posts;
- (b) an upper frame having two sections, the free ends of which are pivotally interconnected to said posts;
- (c) a pair of floor panels hinged together along adjacent edges thereof;
- (d) means for supporting the outer edge portions of said panels and said upper frame in open positions when the play pen is in an open position;
- (e) means for folding said adjacent hinged edges of said floor panels upwardly to a collapsed position; and
- (f) means supporting said hinged edges of said panels from said posts when in an open position.

2. A foldable play pen in accordance with claim 1 in which said hinge edge supporting means includes a rod to which said panels are hinged, said rod terminating in slidable connections with said posts.

3. A foldable play pen in accordance with claim 1 in which said (d) means includes a pair of substantially vertical support members pivoted to each post, said outer edge portions of said panels being pivoted to opposing ones of said support members.

4. A play pen in accordance with claim 1 in which said panel hinge edge supporting means includes a slidable connection between said adjacent hinged edges of the floor panels and each of said vertical posts.

5. A play pen in accordance with claim 1 including a pull string between said free edge of one of said floor panels at one side thereof and extending to said upper frame for collapsing said play pen.

6. A foldable play pen comprising, in combination

- (a) an upper frame having two sections,
- (b) a pair of vertical posts extending downwardly from said upper frame,
- (c) means pivoting the free ends of each of said upper frame sections to said posts,
- (d) a pair of generally vertical support members,
- (e) a pair of floor panels upwardly collapsibly hinged together along adjacent edges thereof,

(f) means supporting said hinged edges of said panels from said posts when in an open position,

(g) means supporting the outer edge portions of said panels from said support members, and

(h) means for supporting said upper frame in an open position relative to said floor panels when the play pen is in an open position.

7. A foldable play pen comprising, in combination:

- (a) an upper frame having two sections;
- (b) a pair of vertical posts extending downwardly from said upper frame;
- (c) means pivoting the free ends of each of said upper frame sections to said posts;
- (d) a pair of generally vertical support members pivoted to each post;
- (e) a pair of floor panels hinged together along adjacent edges thereof;
- (f) means supporting said hinged edges of said panels from said posts when in an open position; and
- (g) means supporting the outer edge portions of said panels from said support members.

8. A foldable play pen comprising, in combination:

- (a) an upper frame having two sections;
- (b) a pair of vertical posts extending downwardly from said upper frame;
- (c) means pivoting the free ends of each of said upper frame sections to said posts;
- (d) a pair of floor panels hinged together along adjacent edges hereof;
- (e) means slidably connecting said hinged edges of said panels to said posts for movement between open and closed positions along said post; and
- (f) means supporting the outer edge portions of said panels and said upper frame in open positions when the play pen is in an open position.

9. A foldable play pen in accordance with claim 8 in which said slidable connecting means comprises a ring surrounding at least one of said posts.

10. A foldable play pen in accordance with claim 8 in which said slidable connecting means comprises a ring surrounding each post, each ring being integral with a rod forming a hinge pin for the panel hinges.

11. A foldable play pen comprising, in combination,

- (a) an upper frame having two sections pivoted with respect to each other,
- (b) a pair of vertical posts, each being carried by said upper frame between said two sections,
- (c) a pair of legs pivotally interconnected with each of said posts on opposing sides of said upper frame,
- (d) a floor having two sections,
- (e) means for rigidly connecting opposing ones of said pairs of legs and pivotally supporting each of said floor sections at substantially their outer edges relative to said opposing legs,
- (f) means between said floor sections and each of said posts pivoting said floor sections relative to each other, and slidably supporting said floor sections, where pivoted, for movement between open and closed positions along said post, and
- (g) means supporting said upper frame in an open position relative to said floor when the play pen is in an open position.

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