

Sept. 17, 1963

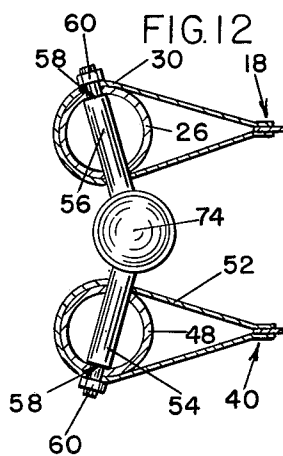
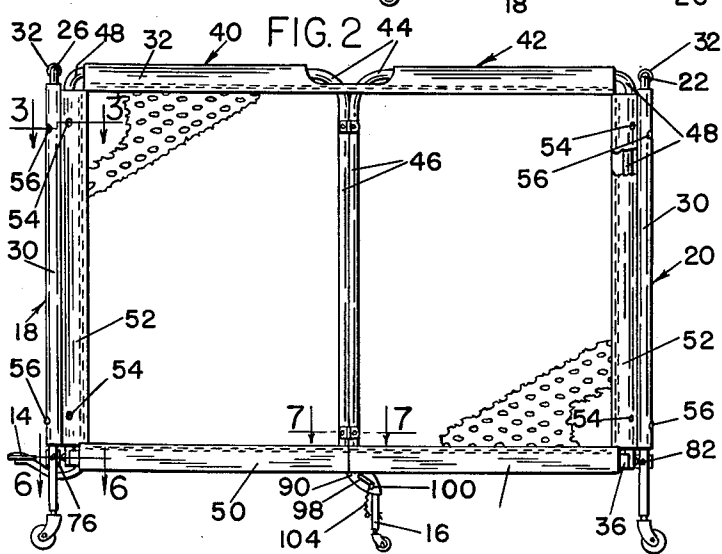
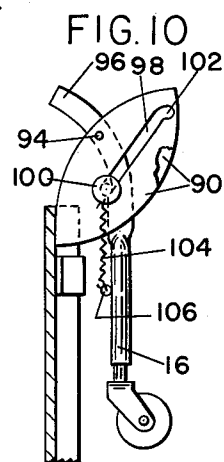
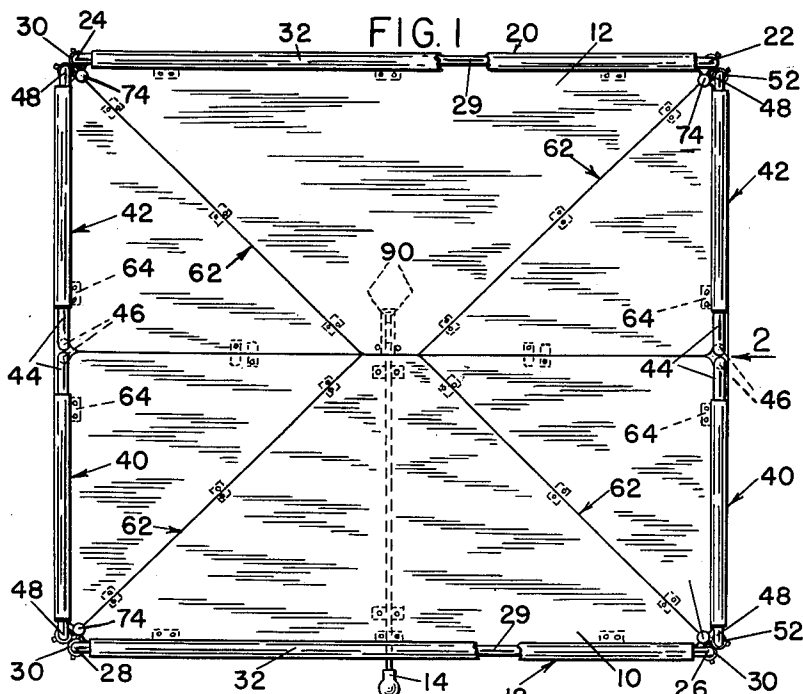
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3,103,670

FOLDING PLAY YARD CONSTRUCTION

Filed Feb. 12, 1962

2 Sheets-Sheet 1



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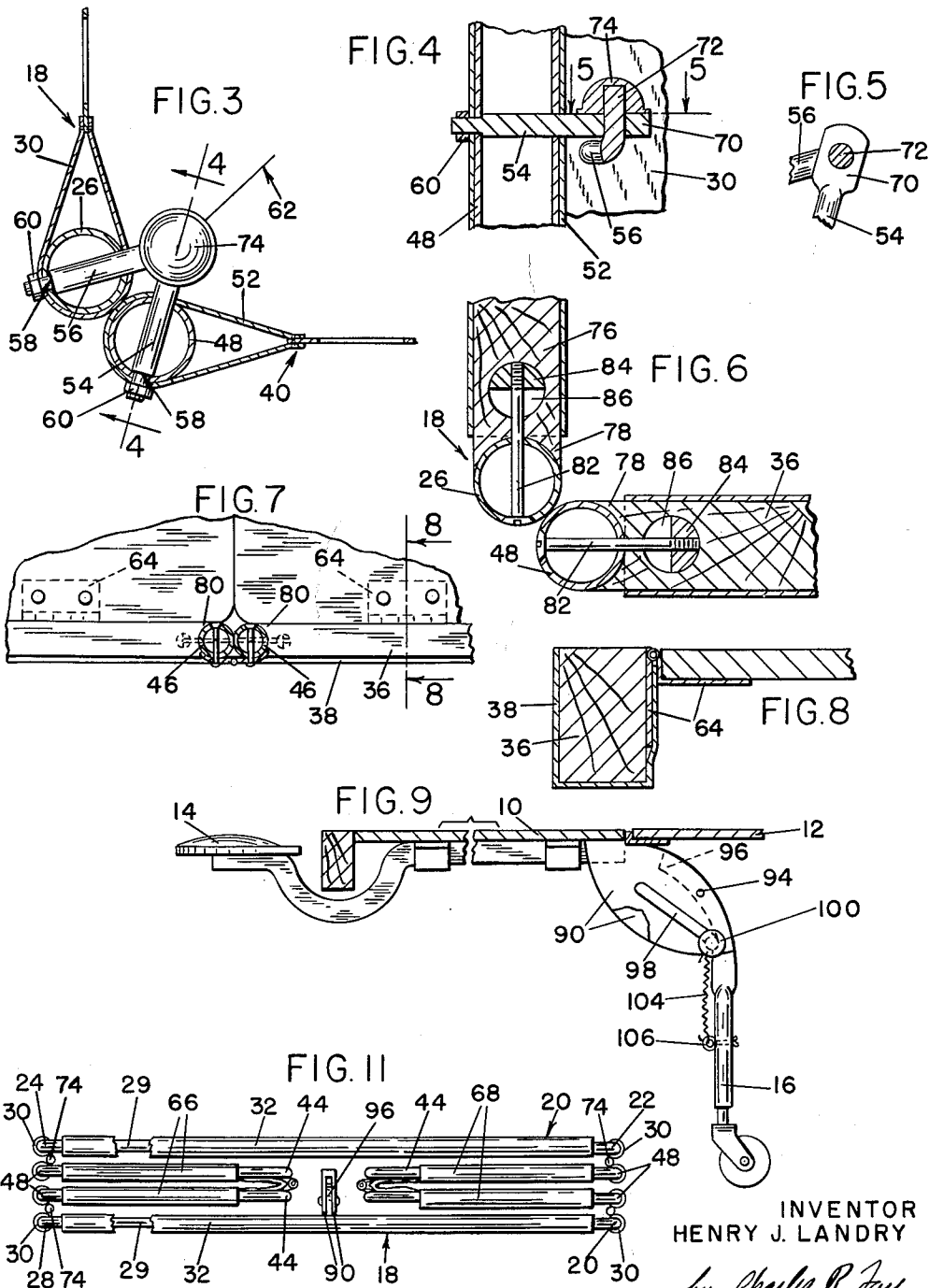
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2 Sheets-Sheet 2



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1

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FOLDING PLAY YARD CONSTRUCTION
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Filed Feb. 12, 1962, Ser. No. 172,392
8 Claims. (Cl. 5—99)

This invention relates to a new and improved play yard construction, and the principal object of the invention resides in the provision of a new and improved two-part corner post construction which is particularly but not necessarily adapted to the type of automatic folding floor disclosed in my prior Patent No. 2,489,188; the new and improved corner post construction providing for easier and more even folding of the play yard together with the formation of more tightly stretched side walls when extended, the corner posts being folded to the same planes; and the provision of a new and improved hinge construction for the double corner posts by which means the corner posts are moved into a tightly engaged condition when the play yard is extended, and to a mutually spaced condition when the play yard is folded, thus providing room in the folded play yard for the folded floor sections, so that they do not extend into and damage the side walls of the play yard, said side walls being preferably made of net or the like which can be stretched and tightened when the side walls are extended, providing the maximum rigidity in a net or fabric side wall construction for play yards.

The invention also relates to the provision of an improved center leg support.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

FIG. 1 is a top plan view of the new play yard showing the same extended;

FIG. 2 is a view in elevation thereof, looking in the direction of arrow 2 in FIG. 1;

FIG. 3 is an enlarged section on line 3—3 of FIG. 2;

FIG. 4 is a section on line 4—4 of FIG. 3;

FIG. 5 is a section on line 5—5 of FIG. 4;

FIG. 6 is an enlarged section on line 6—6 of FIG. 2;

FIG. 7 is an enlarged section on line 7—7 of FIG. 2;

FIG. 8 is a section on line 8—8 of FIG. 7;

FIG. 9 is an enlarged view showing the new center leg support in extended condition;

FIG. 10 is a similar view showing the same folded;

FIG. 11 shows the entire play yard folded, and

FIG. 12 is a view similar to FIG. 3 but showing the parts in folded condition.

In carrying out the present invention, it is preferred that the play yard construction of the present invention be applied to an automatically folding play yard having the multi-part floor sections 10 and 12 as shown in FIG. 1 and including for instance a treadle 14 and a center leg support 16. However, it is to be understood that the invention is also applicable to other forms of play yards and this will be clear to those skilled in the art as explained below.

One of the main characteristics of the present invention resides in the fact that the front and rear side walls indicated generally at 18 and 20 are formed of tubular frame members in rectangular form over which a fabric or net side wall is arranged by hems. These rectangular frames are provided with end members indicated at 22, 24, 26 and 28, which are merely bent portions of the top rail members 29. The end members are provided with hems or seams which provide tubular fabric members 30, 30 similar to those at 32 for top rail members. A similar construction can be utilized at the bottom rail also although the bottom rail as shown in FIG. 8 may

2

comprise a structural member 36 around which the fabric seam or the like 38 is extended. The fabric or net side walls are thus easily removed and replaced.

The end walls are in-swinging double members as best shown in FIG. 2 and these are constructed in the same way. Each panel indicated generally at 40, 42 comprises in general a U-shaped tubular member having top rails at 44, center uprights 46, 46 and end members 48, 48, and the construction at the lower rail 50, 50 may be the same or similar to that described above with relation to the front and rear walls 18 and 20.

Now it will be seen that each upright end member 22, 24, 26, 28 for the front and rear walls has a corresponding cooperating similar end member 48 which is the outside upright end member of the pairs of panels 40 and 42 comprising the in-swinging side wall members. As shown in FIGS. 3 and 12, the member at 26 which is of course comparable with those at 22, 24 and 28, is provided with the hem which attaches the net or fabric side wall member thereto. The member 48 has a similar hem construction which is indicated in FIGS. 3 and 12 by the reference numeral 52.

The end members at 26 and 48 as well as the other pairs of end members which form the corner posts for the play yard are thus arranged in pairs so that each corner post is seen to be double and each corner post is separately secured to its own panel member of net or fabric material as above described. These double corner posts are interpivotated in a novel manner by sets of hinges near the top and the bottom or otherwise located and which comprise pairs of pins 54, 56. Each pin is provided with a reduced portion forming an abutment or shoulder 58. These pins may be secured as for instance by a washer and nut arrangement at 60 through the fabric of the respective hem portions 30 and 52 (see FIG. 3).

When the yard is extended, the edges of the folding floors indicated by a line 62 in FIGS. 1 and 3 is at a 45° angle with respect to the side walls of the play yard and this line bisects the double corner post. The pins 54, 56 extend at an incline with relation to each other at all times and particularly when the corner posts are in extended position of the play yard (see FIG. 3).

Due to the angularity of the pins 54, 56, the corner posts 48 and 26 are positioned very close in tightly abutting relation when the play yard is extended and held in such extended position by the folding floor. This provides for an extremely rigid extended condition of the walls of the play yard, it being pointed out that the floor members are all hinged by concealed hinges as at 64 in FIG. 8 with respect to the adjoining bottom rail portions of the walls of the play yard.

However, as shown in FIGS. 11 and 12, when the play yard is folded the double posts 26 and 48 as well as the other pairs of corner posts separate and this separates each front and rear wall 18 and 20 from the infolding side walls as shown at 66 and 68 in FIG. 11, providing plenty of space for the overlapping floor portions of the multi-part floor sections to be folded in between the in-swinging side walls 66 and 68 in FIG. 11 and the front and rear walls 18 and 20, and the action is accomplished by reason of the angularity of the pins 54 and 56 relative to each other.

The pins 54 and 56 extend inwardly of the play yard (see FIGS. 3 and 4) passing completely through the respective tubular double corner post members. The pins are hinged by flattening one of the pins as for instance pin 54 at 70, and providing an aperture, and a turned up end 72 of pin 56 can be passed through the aperture and capped with an acorn nut or equivalent at 74. A smooth hinged construction is thus provided by which

the objects of the invention are carried out, in particular the provision of abutting the members of the double corner posts tightly together in the extended condition of the play yard while providing for spacing of the wall members of the play yard when the same is folded.

As shown in FIG. 6, the bottom rail members 36 and 76 are shaped at their ends as at 78 to conform to the corner posts and also to side post construction (see FIG. 7) at 80, and any desired fastening means can be utilized for securing the members relative to each other but it is preferred that as shown in FIG. 6 machine screw 82 be passed through each of the tubular upright members and threaded into a semi-cylindrical nut 84 located in an opening 86 in the respective bottom rails.

Referring now to FIGS. 9 and 10, the novel center leg construction is shown, this conforming in general to my copending patent application Serial No. 164,446, filed January 5, 1962. It will be seen that the treadle 14 extends in under the floor part 10 and rigidly mounts at its inner end a pair of spaced vertical plates 90, 90 which between them pivot leg 16 at 94. This leg has an extending portion 96 (see FIG. 10) by which means the leg is extended from the FIG. 10 to the FIG. 9 position upon the extension of the floor. The plates 90, 90 are provided with a pair of corresponding slots at 98 in which freely rides a cross pin 100. The slots 98 are provided at their extreme ends with notches 102 in which the pin 100 is located in the extended position of the floor yard and this of course latches the leg so it will not fold accidentally.

In order to increase the effect of this pin as a latching means, a spring 104 is attached to the pin 100 and to a fastener such as a cotter pin 106 in the leg 92. The pin 100 being freely slidable in slots 98, the action of this construction is as follows:

When the play yard is in folded condition, the center leg construction 16 is as shown in FIG. 10, but when the floor is folded down, the leg 92 swings out by gravity and the pin 100 follows it becoming eventually lodged in notches 102 to releasably latch the leg in the FIG. 9 extended condition. The spring is in a stretched or taut condition in FIG. 9 so that it will be seen that the spring forces the pin 100 to follow when the leg moves relatively to floor 10 from the FIG. 10 to the FIG. 9 position, and tends to hold the pin in this position.

On the other hand, when the floor is once more raised in order to fold the play yard, gravity causes leg 16 to force pin 100 out of its notch and now down the slot, reversely, and in this condition the spring 104 is loosened. It will be seen that the distance from the cotter pin 106 to pin 100 in FIG. 9 is greater than this distance in FIG. 10 due to the position of pivot 94.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. A folding play yard comprising front and rear wall members and two pairs of inwardly foldable side walls interposed therebetween at the ends thereof defining a floor area when extended, said wall members being hingedly interconnected to be folded into close parallel association with each other, a pair of floor sections pivotally secured to the respective front and rear wall members,

(a) a supporting element fixed to the under surface of one of the floor sections for movement therewith and having a portion extending into the area of the adjacent edge of the other floor section when the floor sections are extended to open position,

(b) and a center floor supporting leg swingingly connected to said supporting element and depending therebelow, said center floor supporting leg being movable by gravity from a position parallel to its floor section when folded to a position at right angles thereto when extended,

(c) and latching means on the supporting element latching said leg in its extended position at right angles to the floor, said center leg releasing the latching means when the floor section is raised in its folding action to allow the leg to fold back into parallel position with respect to its floor section,

(d) said latching means comprising a plate having a slot arranged at an incline with respect to the respective floor section and a latch element slidable in said slot by gravity toward the leg when the leg is swung out from its floor section towards its extended supporting condition, said slot extending into close association with the leg and said latch element coming to rest at an edge of said leg to releasably latch the same in extended condition thereof, and a spring connected to said latching element and to said leg, said spring being stretched in extended condition of the leg to hold the latching element in position in association with the leg but said spring becoming untensioned and limp when the leg is folded back into parallel condition with respect to said floor.

2. A folding play yard comprising front and rear wall members and two pairs of inwardly foldable side walls interposed therebetween at the ends thereof defining a floor area when extended, said wall members being hingedly interconnected to be folded into close parallel association with each other, a pair of floor sections pivotally secured to the respective front and rear wall members,

(a) a supporting element fixed to the under surface of one of the floor sections for movement therewith and having a portion extending into the area of the adjacent edge of the other floor section when the floor sections are extended to open position,

(b) and a center floor supporting leg swingingly connected to said supporting element and depending therebelow, said center floor supporting leg being movable by gravity from a position parallel to its floor section when folded to a position at right angles thereto when extended,

(c) and latching means on the supporting element latching said leg in its extended position at right angles to the floor, said center leg itself releasing the latching means when the floor section is raised in its folding action to allow the leg to fold back into parallel position with respect to its floor section,

(d) said latching means comprising a plate, a slot in the plate, said slot being inclined relative to the floor, a loosely movable latch element in the slot moved by gravity toward the leg when the leg is swung out from its floor section towards its extended supporting condition into close association with the leg, and means to hold the latching element in position in association with the leg, but releasing the latch element when the respective floor section is folded.

3. A folding play yard comprising front and rear wall members and two pairs of inwardly foldable side walls interposed therebetween at the ends thereof defining a floor area when extended, said wall members being hingedly interconnected to be folded into close parallel association with each other, a pair of floor sections pivotally secured to the respective front and rear wall members,

(a) corner posts between each inwardly foldable side wall and each front and rear wall member, each corner post comprising two parts, one part of each post being on a respective front or rear wall member and the other part being on an inwardly foldable side wall,

(b) and hinge means connecting the two parts of each corner post, said hinge means comprising hinge members connected separately to each corner post part and swingingly connected to each other, said hinge members being constructed and arranged for separating the individual parts of each corner post when the floor yard is folded and causing the two parts of each corner post to come into close association with each other when extended.

5

4. The folding play yard of claim 3 wherein said hinge members each comprises a pin extending substantially diametrically through each individual part of each corner post, said pins extending into the area of the play yard at the interior thereof.

5. The folding play yard of claim 3 wherein said hinge members each comprises a pin extending substantially diametrically through each individual part of each corner post, said pins extending into the area of the play yard at the interior thereof, said pins extending at an angle with respect to each other when the play yard is extended and at a greater angle with respect to each other when the play yard is folded.

6. The folding play yard of claim 3 wherein said hinge members each comprises a pin extending substantially diametrically through each individual part of each corner post, said pins extending into the area of the play yard at the interior thereof, said pins extending at an angle with respect to each other when the play yard is extended and at a greater angle with respect to each other when the play yard is folded, said pins overlapping at the interior of the play yard, and means pivotally folding the same together.

7. The folding play yard of claim 3 wherein said hinge members each comprises a pin extending substantially diametrically through each individual part of each corner post, said pins extending into the area of the play yard at the interior thereof, said pins extending at an angle

6

with respect to each other when the play yard is extended and at a greater angle with respect to each other when the play yard is folded, said pins overlapping at the interior of the play yard, and means pivotally folding the same together, said last-named means including a turned end on one pin and means forming an aperture on the other pin receiving said turned end.

8. The folding play yard of claim 3 wherein said hinge members each comprises a pin extending substantially diametrically through each individual part of each corner post, said pins extending into the area of the play yard at the interior thereof, said pins extending at an angle with respect to each other when the play yard is extended and at a greater angle with respect to each other when the play yard is folded, said pins overlapping at the interior of the play yard, and means pivotally folding the same together, said last-named means including a turned end on one pin and means forming an aperture on the other pin receiving said turned end, and means covering the turned end.

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