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2,825,071

AUTOMATICALLY FOLDING PLAY-YARD

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2 Sheets-Sheet 1

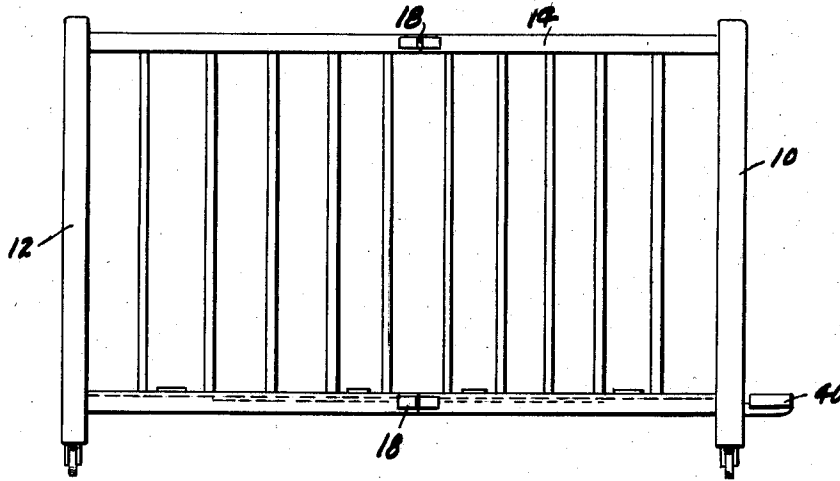


FIG. 1

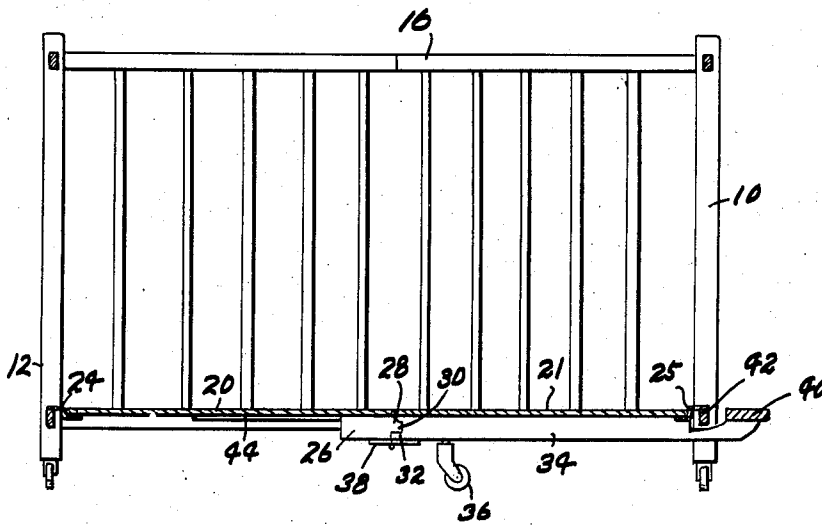


FIG. 2

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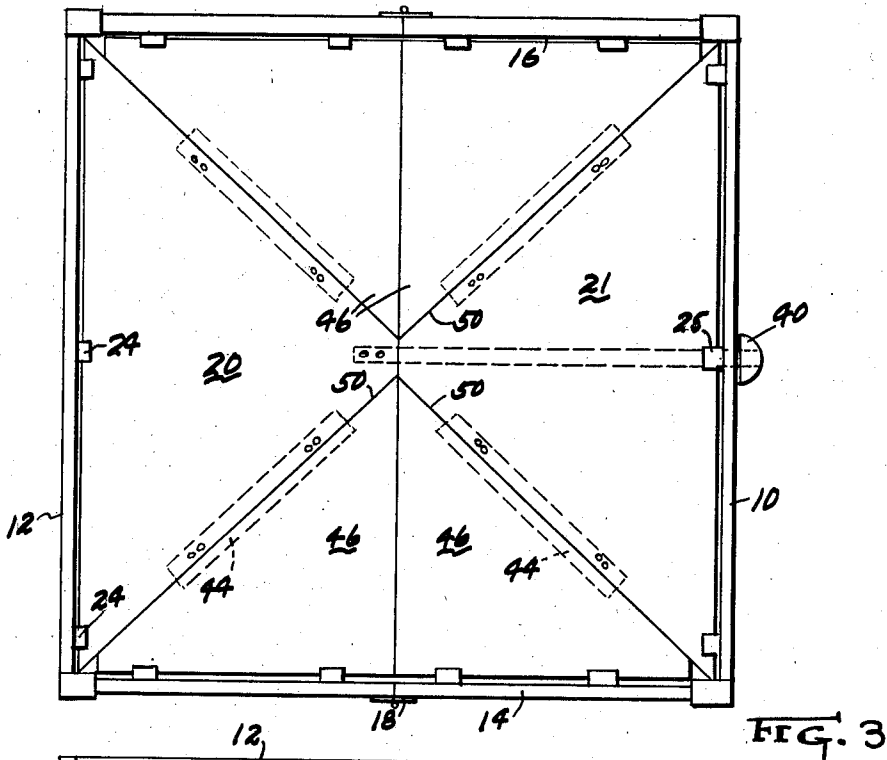


FIG. 3

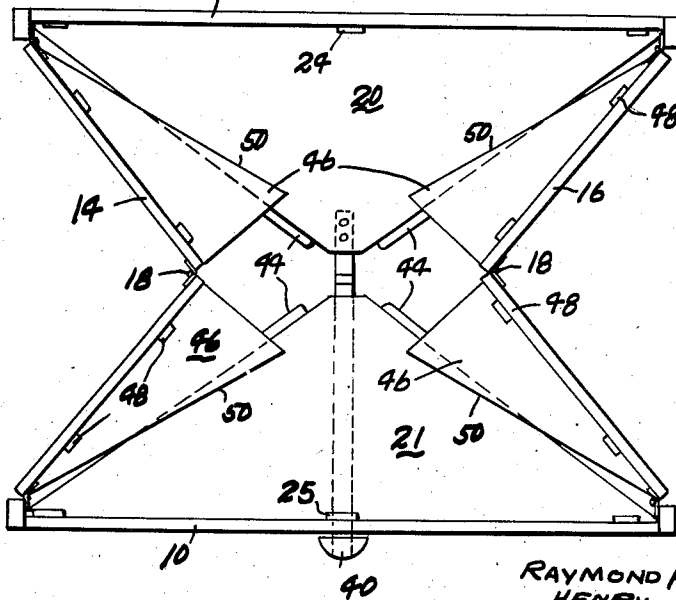


FIG. 4

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AUTOMATICALLY FOLDING PLAY-YARD

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3 Claims. (Cl. 5—99)

This invention relates to new and improved folding play-yards embodying means for automatically folding the same, whereby the play-yard may be folded completely by the operator from one side thereof.

The principal object of the invention resides in the provision of a folding play-yard having a pair of opposite end walls, in-folding articulated side walls hinged to the end walls and forming an enclosure therewith when extended, and floor elements, said floor elements being divided into two main sections, each of which is sub-divided into a plurality of sections, each of the sections being individually hinged, either to a side or an end wall element, but said sections being independent of each other insofar as any folding action is concerned, merely having inter-engaging supporting means for supporting the same in completely extended condition; and the provision of means for folding the play-yard above described comprising a lever hinged to one wall only of said play-yard, said lever being rigidly connected to the adjacent hinged floor section and having a hinge or the like articulated connection at its inner end for securement to the opposite section in the other main floor element, so that when the lever is actuated by the operator, the two floor sections are pivotally moved upwardly, there being means provided for initiating the same movement in the other sections, and the in-folding ends being initiated in their in-folding motion at the same time.

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 view in side elevation of a play-yard embodying the present invention;

Fig. 2 is a similar view with parts in section;

Fig. 3 is a top plan view of the play-yard when extended; and

Fig. 4 is a top plan view of the play-yard partially folded.

The play-yard of the present invention comprises a pair of rigid end walls that are generally designated at 10 and 12, and these end walls are inter-connected by a pair of in-folding side walls, generally indicated at 14 and 16, each of these side walls being hinged in the middle as at 18.

Each rigid end wall 10 and 12 has pivoted thereto by any convenient means a generally triangular floor-piece 20 and 21. In the present instance, these triangular pieces may be actually hinged as by hinges 24, 25 but they may be secured or pivoted by straps or any other means forming a pivotal relationship. It is preferred that the hinges 24 should partly underlie the surface of the floor elements (see Fig. 2).

The two floor elements 20 and 21 are inter-connected. Depending from the apex of floor piece 20, there is a block 26 secured thereto and this block has a forwardly extending nose 28 that underlies triangular floor section 21 to a slight extent when the floor sections are extended

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as shown in Fig. 2. This nose fits into a notch 30 having a part 32 on a lever member 34, so that the lever member 34 supports the part 26 at the junction line of the two apices of the triangular floor members 20 and 21. The lever member 34 may have a caster 36 for supporting the same generally centrally of the entire floor, and this caster may be offset from the lever or it may be foldable or removable for the folded position of the parts.

Lever member 34 and the depending member 26 may be inter-connected by some means as for instance a hinge 38. Lever member 34 is provided with a footpiece or pedal 40 which may be operated by the foot or manually as will be hereinafter described. The lever member 34 extends generally under the wall 10 and being secured to floor member 21 is essentially hinged by a hinge 25 to the bottom rail 42 of the rigid wall 10.

Each triangular member 20 and 21 is provided with some kind of supporting cleat element such as shown at 44, these supporting elements being secured to the under sides of the sections at the respective angular edges of the members 20, 21 and extending outwardly from said edges as clearly shown in Fig. 4. These cleats are adapted to support in horizontal extended condition a plurality of triangular floor members 46, each of which is pivoted or hinged at 48 to a respective element of the in-folding side walls 14 and 16. The members 46 are otherwise completely unconnected from the triangular floor members 20 and 21 and are perfectly free to pivot on horizontal axes of the hinges 48 but when in extended horizontal condition, they rest on and are supported by the visible extending edges of the supporting cleats 44 (Fig. 4).

It is desired to be emphasized that the particular angles involved between any of the walls or floor members and between the respective floor members are immaterial to this invention. The angle between any member 46 and either member 20 or 21 may be 45° with respect to the walls 10 and 14 or 16 or 12 and 14 or 16, but this angle may be greater than or less than 45° and the operation of the device does not depend upon any particular angle involved.

It will be seen that the triangular floor pieces 46 are completely free to rise up but they may not under any circumstances depend below a horizontal floor line due to the construction and inter-cooperation between the main floor parts 20 and 21.

Assuming the play-yard to be in extended operative condition as in Fig. 3, the floor parts 20, 21 and 46 are all horizontal and coplanar. The floor part 21 is supported by means of the lever 34 and caster 36, and the floor part 20 is supported through the block 26 by the same parts; and the several floor parts 46 are supported by their hinges and the respective cleats 44. It being desired to fold the play-yard, the operator depresses pedal 40 and this has the effect of raising the apices of the triangular parts 20 and 21, and this in turn through the cleats 44, raises the apices of the various floor parts 46, which then overlie to a small extent at least the corresponding edges of the floor parts 20 and 21 (see Fig. 4). The folding action having now been initiated, the operator merely continues depression of the pedal 40 and consequent raising of lever 34, and this of course swings the end walls 10 and 12 in toward each other, the connection at 38 continuing to rise. As the end walls 10 and 12 are brought in toward each other, it is obvious that the in-folding walls 14 and 16 must continue to move inwardly toward each other and finally the end walls 10 and 12 will be brought in toward each other to a maximum folded degree; but at no time do the edges 50 of the floor sections 46 slip under floor sections 20 and 21, and this is due to the fact that floor sections 46 are really folded first and will lie flatly against their

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respective articulated parts of the end walls 14 and 16. The folding action is usually assisted by the hands of the operator.

When it is desired to extend the play-yard, the walls 10 and 12 are separated manually and by gravity the floor parts 20 and 21 descend, allowing floor parts 46 to descend after them; at the point where the floor parts 20 and 21 become substantially horizontal, the floor parts 46 snap into position coplanar therewith and on cleats 44 as in Fig. 3.

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

1. A folding structure comprising a pair of rigid end walls, a pair of folding articulated side walls joining the end walls, a pair of main floor members each pivoted with respect to each other, a secondary floor member pivoted to each of said articulated side walls and movable therewith, means on each main floor member to support contiguous edges of the secondary floor members, the latter being otherwise free thereof, and means to raise the main floor members, drawing the end walls toward each other, said supporting means raising the secondary floor members slightly above the main floor members and folding the same upwards as the main floor members rise.

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2. The structure of claim 1 wherein certain of the floor members generally are triangular in shape.

3. A folding play yard comprising a pair of rigid ends, a pair of folding sides hinged to and connecting the ends, a pair of folding floor members, an inter-connecting linkage between and secured to parts of both floor members, said linkage being effective to cause movement of one floor member to be communicated to the other floor member, further floor members free of the first-named floor members, and means on the latter to initiate folding motion of the free floor members.

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