Feb. 26, 1946. J. R. WRIGHT 2,395,603

FOLDABLE PLAY PEN

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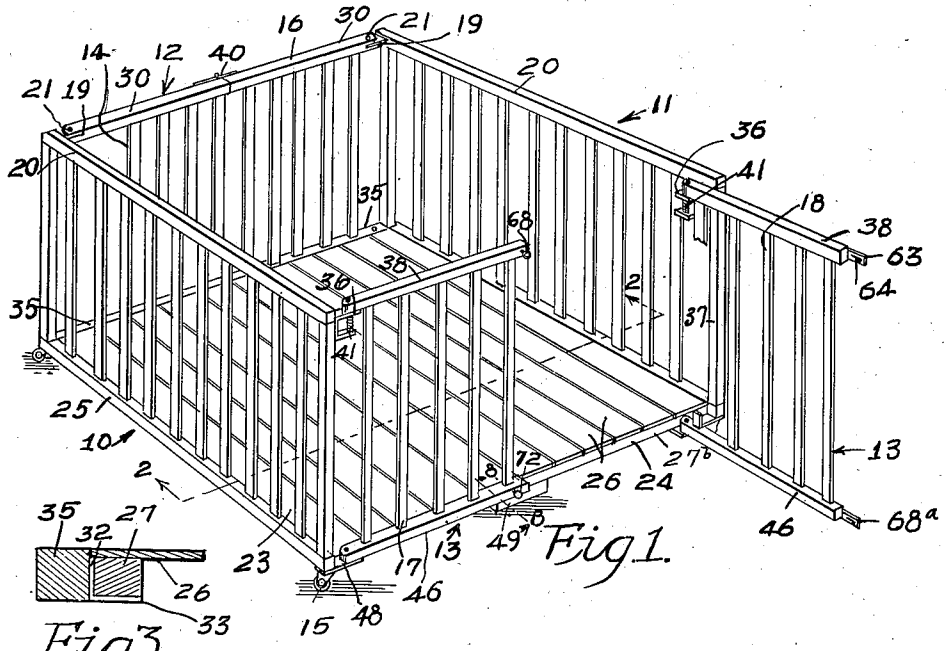


Fig. 1.

Fig. 3.

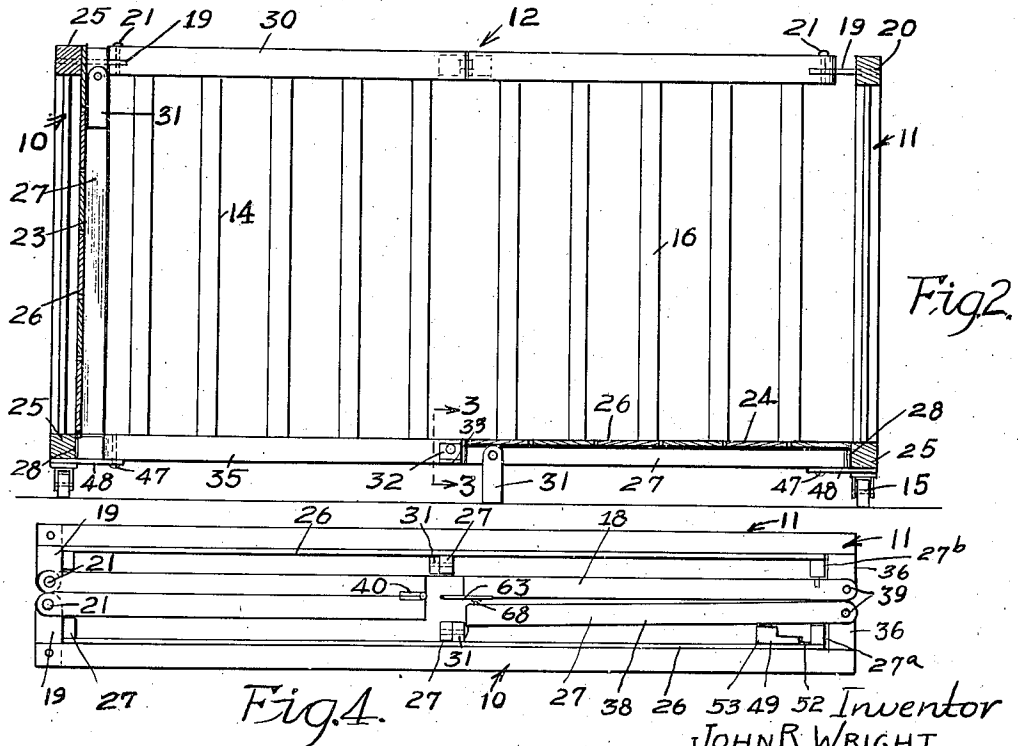


Fig. 2.

Fig. 4.

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Fig. 5.

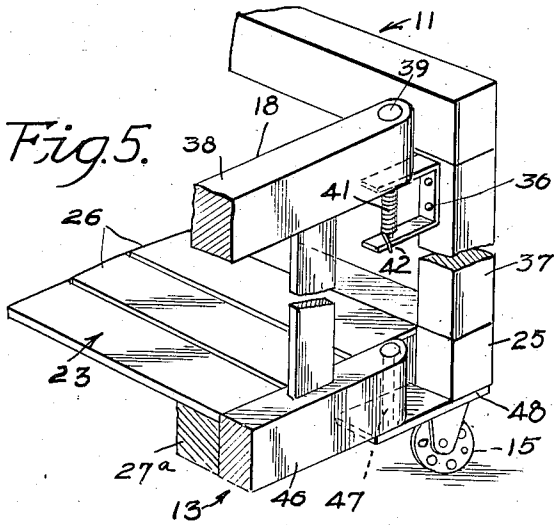
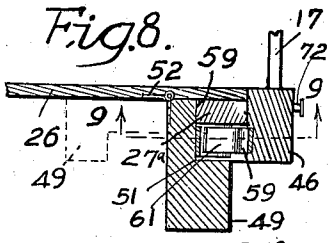


Fig. 6.

Fig. 8.



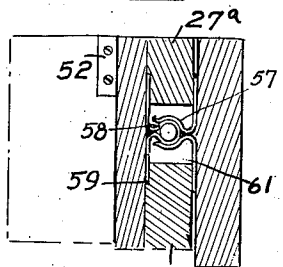


Fig. 9.

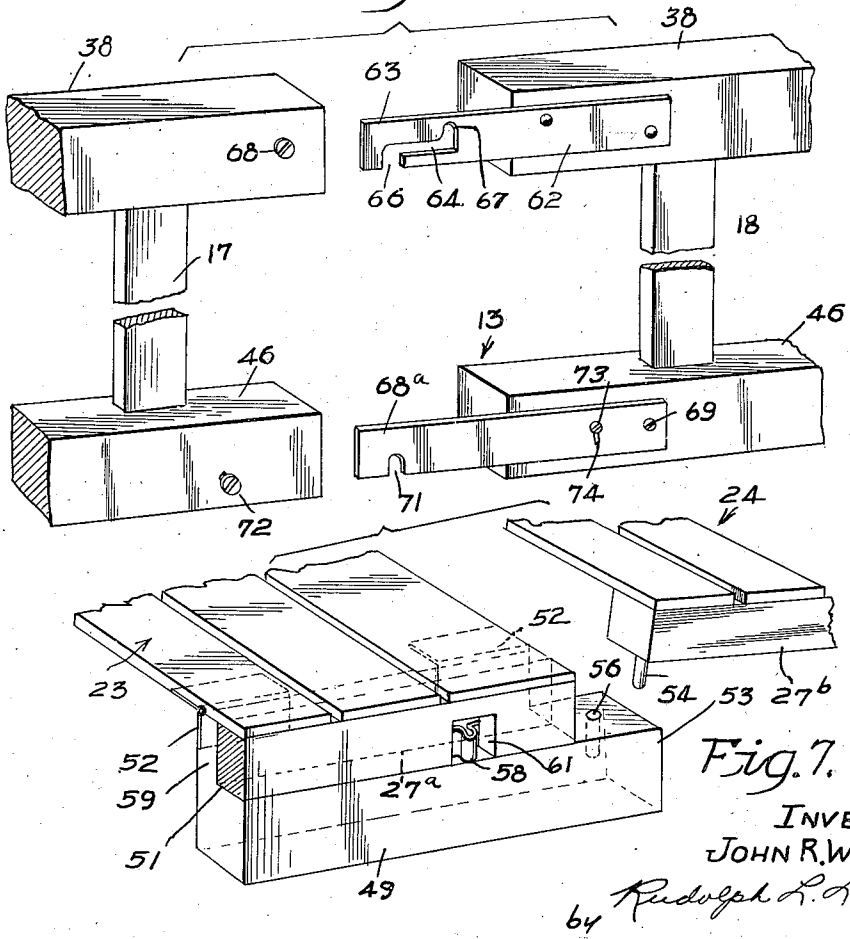


Fig. 7.

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Patented Feb. 26, 1946 2,395,603

UNITED STATES PATENT OFFICE

2,395,603

FOLDABLE PLAY PEN

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Application July 3, 1944, Serial No. 543,291

4 Claims. (Cl. 5—99)

This invention relates generally to play yards or pens for children and in particular to a portable child's play pen of foldable type.

Foldable play pens of the prior art generally include side rails and end rails, with each end rail being foldable and comprised of two members pivoted at their outer ends to an adjacent side rail to provide for their pivotal movement to extended or open positions in longitudinal alignment normal to the side rails, and to folded positions adjacent the inner surface of a side rail. Further these pens usually have a foldable floor comprised of two sections each of which sections is pivoted to the bottom of an adjacent side rail for pivotal movement to an open position between the side rails and end rails, and to a closed position against a corresponding rail.

When the play pen is set up the corresponding members in an end rail are locked together in their open positions. The floor sections are located between the side and end rails and supported in a spaced relation from the ground or floor surface by suitable blocks or like means located centrally of the floor sections and coacting means on the floor sections and end rails. As a result it is necessary for a person to lean over a rail to remove or place a child within the pen. This is particularly inconvenient for mothers who must lift and carry a child many times during the day, since it imposes an additional strain in requiring them to bend over a rail whenever a child is to be raised or deposited within the play pen.

It is an object of this invention, therefore, to provide an improved child's play pen.

Another object of this invention is to provide a child's foldable play pen in which a child can be removed from or placed in the pen without requiring a person to bend over a side of the pen.

A further object of this invention is to provide a child's foldable play pen which is capable of being set up or folded without at any time requiring a person to bend over a side of the pen.

A feature of this invention is found in the provision of a child's foldable play pen in which a foldable floor is supported in a spaced relation above a floor or ground surface independently of at least one of the foldable end rails of the pen, which one rail is comprised of a pair of members at least one of which is pivotally movable through an angular distance of substantially 180°. Means are provided to releasably lock the end rail members in an extended or set-up position against lateral and vertical movement, and with such one member constituting a gate for opening and closing the pen after the pen has been set up.

Further objects, features and advantages of this invention will become apparent from the following description when taken in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of a child's foldable play pen of this invention shown in a set-up position and with one member of an end rail in an open position to permit a person to enter the pen;

Fig. 2 is a transverse sectional view as seen along the line 2—2 in Fig. 1, with one of the floor sections shown in a folded position;

Fig. 3 is a detail sectional view taken on the line 3—3 in Fig. 2;

Fig. 4 is a plan view of the play pen in a folded position;

Fig. 5 is an enlarged fragmentary perspective view of a member of the end rail illustrated in open position in Fig. 1;

Fig. 6 is a fragmentary perspective view showing coacting means on two members comprising a foldable end rail, for releasably locking the end rail in an extended or set-up position;

Fig. 7 is a perspective view of a block member for supporting the two floor sections of the foldable floor independently of an end rail, with one of the floor sections being shown in a moved position;

Fig. 8 is an enlarged sectional view taken on the line 8—8 in Fig. 1; and

Fig. 9 is a sectional view as seen on line 9—9 in Fig. 8.

With reference to the drawings there is illustrated in Figs. 1, 2 and 4 a child's foldable play pen comprising side rails 10 and 11 and foldable ends rails 12 and 13. The opposite ends of the side rails are provided with caster wheels 15 whereby the pen is movable to any desired location. Each end rail 12 and 13 is comprised of a pair of rail members 14 and 16, and 17 and 18, respectively. The members 14 and 16 are pivotally connected, in a usual manner, adjacent the outer ends of their upper and lower frame members 30 and 35, respectively, with corresponding frame members 20 and 25 of adjacent side rails 10 and 11 by means including plate members 19 carried on the frame members 20 and 25 of the side rails 10 and 11. The plate members 19 are projected outwardly from a corresponding side rail 10 and 11 to positions within associated frame members 30 and 35 of the end members 14 and 16. A pin 21 is extended through each projected end of a plate member 19 and a corresponding frame member 30 and 35 whereby each rail mem-

ber 14 and 16 is pivotally movable relative to an adjacent side rail to an open position normal to the side rails, and to a second or folded position adjacent the inner surface of a corresponding side rail. The rail members 14 and 16 are pivotally connected at their inner adjacent ends, in a usual manner by hinge members 40 connected between the frame members 30 and between the frame members 35.

The floor of the play pen is comprised of two like sections 23 and 24 each of which includes longitudinally extended floor members 26 and transverse frame members 27, three of which are illustrated in Fig. 4. The outer sides of each floor section 23 and 24 are pivoted to a corresponding lower frame member 25 of a side rail 10 and 11 by hinge members 28 connected at one end to each of the floor frame members 27 and at an opposite end to the lower frame member 25 of the side rails 10 and 11. Each floor section is thus pivotally movable to a folded position flat against a corresponding side rail 10 and 11, and to an open position normal to a side rail and substantially in the plane of the lower frame member 25 of a side rail.

The floor in its open position is supported above the floor or ground surface substantially in the plane of the lower frame members 25 of the side rails 10 and 11 by means including pivoted members 31 pivotally supported on the central floor members 27 adjacent the inner ends of such members. The members 31, when the floor sections are in a folded position, are pivotally movable to positions alongside of and in the plane of the central frame members 27 as indicated for the member 31 of the floor section 23 shown in folded position in Fig. 2. When the floor sections are in an open position the members 31 are pivotally movable to a position projected laterally outwardly from the bottom of a floor section as illustrated for the member 31 on the open floor section 24 shown in Fig. 2.

The ends of the floor sections 23 and 24 adjacent the end rail 12 are supported on the end rail 12 by means including a right-angled bracket 32 mounted on each of the lower frame members 35 of the end rail members 14 and 16, with a leg 33 thereof projected laterally outwardly from the inner surface of these rail members (Figs. 2 and 3). When the members 14 and 16 are in their open positions as shown in Fig. 1, the outer frame members 27 for each of the floor sections 23 and 24, located adjacent the end rail 12, are supported on the leg members 33 of the brackets 32.

The play pen as thus far described is of a general and well known construction and forms no part of the present invention. In play pens of this construction the floor is supported at its opposite ends on the end rails of the pen in all respects similar to the support of the floor on the end rail 12, as described above. It will be seen, therefore, that when the play pen is set up it is necessary, for the support of the floor, that the end rails of the pen always be locked in their open position, since any movement of an end rail out of a floor supporting position would result in the floor adjacent such end rail being permitted to fall to the ground surface when weight is applied on the floor. As a result play pens now commercially available, and following the general construction described above, require that the end rails and side rails be in relatively fixed positions at all times, when the pen is set up, in order to properly support the floor. In turn whenever a child is placed in or removed from the pen it is necessary for a person handling a child to lean over a rail to an appreciable extent. This is inconvenient for short persons, and objectionable generally because of the additional strain imposed on a person's back, particularly when such persons are recent mothers.

To overcome these objections the present invention provides a support for the floor adjacent the end rail 13 which is independent of the end rail 13 so that this end rail is capable of being moved outwardly from the floor, when the pen is set up. The members 17 and 18 of the end rail 13 thus constitute gate members for opening and closing the pen in its set-up position. Access within the pen is thus provided for handling a child, or for removing and placing a child in the pen, without the necessity of a person having to lean over a side of the pen.

Thus referring to Figs. 1 and 5 the member 18 of the end rail 13 is pivotally supported on the side rail 11 by means including a double acting hinge comprising a substantially U-shaped bracket 36 mounted adjacent the top of the upright frame member 37 of the side rail 11, and with the bracket legs extended below the upper frame member 38 of the rail member 18 in a vertically spaced relation. A bolt 39 is extended through the upper frame member 38 and through the legs of the U bracket 36. Mounted about the bolt 39 and between the legs of the bracket 36 is a coil spring 41 having one end 42 attached to the lower bracket leg, and its opposite end 43 attached to the inside of the upper frame member 38 of the end rail member 18 so that the member 18 is biased by the spring 41 toward its open position shown in Fig. 1.

The lower frame member 46 of the end rail member 18 is pivoted on a pin or bolt 47 extended through a plate member 48 projected laterally from the lower frame member 25 of the side rail 11 (Fig. 5). The rail member 17 is pivotally supported on the side rail 10 in all ways similar to the support of the rail member 18 on the side rail 11, so that a further description of its support is believed to be unnecessary.

It is thus seen that the rail members 17 and 18 of the end rail 13 are movable to folded positions inwardly of and adjacent to the inner surfaces of the side rails 10 and 11, and through an angular distance of substantially 180° away from their folded positions and in substantial longitudinal alignment with their corresponding side rails, with the movement of the rail members 17 and 18 to their open positions being accomplished in part by the action of the springs 41.

The floor section 23 at its end adjacent the rail member 17 carries a pivoted block member 49 having a longitudinally extended recessed portion 51 along one side thereof adapted to receive the transverse floor frame member indicated at 27*a*. As shown in Figs. 7 and 8 the block 49 is pivoted to the lower side of the floor members 26, forming part of the floor section 23, and adjacent to the frame member 27*a* by a pair of hinges 52 to provide for its movement to a position below the frame member 27*a*, and with the frame member 27*a* received within the recessed portion 51, and to a folded position, indicated in dotted lines in Fig. 8, against the under side of the floor members 26 and within the space defined by the projection of the frame member 27*a* from the floor members.

The block member has a portion 53 extended outwardly from the inner side of the floor section 23 to a supporting position below the frame member 27*b* of the floor section 24 when the floor sec-

tions 23 and 24 are in their open positions. Thus when the pen is set up, the block member 49 is moved to its position shown in Fig. 7, and the floor section 23 is opened prior to the floor section 24. By virtue of the pivoted supporting members 31 on the central frame members 27, and the support of the floor sections 23 and 24 on the end rail 12 and side rails 10 and 11 in the manner previously described, it is apparent that the floor is supported at all of its four sides independently of the end rail 13. To retain the floor section 24 against moving away from a supported position on the block member 49 the frame member 27b, at its inner end, is provided with a downwardly projected dowel pin 54 adapted to be received in an opening or cavity 56 formed in the upper surface of the block member extension 53.

In the use of the play pen of this invention it is contemplated that both of the rail members 17 and 18 of the end rail 13 be operable as a gate for opening and closing the pen, or that only the member 18 be so operated and the member 17 maintained closed. For this purpose the member 17, when the member 18 is to be operated as a gate, is releasably locked in its closed position shown in Fig. 1 by means comprising a U-shaped spring clip 57 mounted on the lower frame member 46 of the rail member 17 and projected laterally from such member (Figs. 7, 8 and 9). A mating member 58, adapted to be frictionally engaged within the clip 57, is mounted on the side wall 59 of the recessed portion 51 in the block member 49, and is extended across such recessed portion.

When the block 49 is in its moved position shown in Fig. 7 the member 58 is receivable within a notch 61 formed in the floor frame member 27a whereby the clip 57, on movement of the rail member 17 to its closed position shown in Fig. 1, is movable within the notch 61 into a frictionally engaged position with the member 58 to releasably hold the rail member 17 against movement away from the floor. With the rail member 17 thus held, the rail member 18 is movable to open and closed positions, and retained in an open position by the spring 41. In order to also open the rail member 17 it is only necessary to overcome the holding action of the spring clip 57, with the member 17 being retained in an open position by the action of its associated spring 41.

To maintain the end rail 13 in a closed position the upper frame member 38 of the member 18 is provided on one side and adjacent its outer end with a plate member 62 having an extension 63 projected outwardly from the inner end of the frame member 38 (Fig. 6). A longitudinally extended slot 64 in the plate extension 63 is open at its outer end 65 to the bottom of the plate 62 and is formed with an upwardly extending recess 67 at its inner end. The upper frame member 38 of the rail member 17 is provided with a laterally extended catch member or screw 68 adjacent its inner end adapted to be received within the open slot end 65 and moved within the slot 64 to a releasably locked position within the recess 67. This locking of the screw 68 with the plate member 62 at the recess 67 is accomplished by initially tilting the rail member 18 upwardly at its inner end to position the screw 68 at the slot opening 66 and then moving the rail members 17 and 18 inwardly toward each other until the screw 68 is received within the notch or recess 67.

The lower ends of the rail members 17 and 18 are releasably locked together by means comprising a latch member 68a having one end pivoted at 69 to the lower frame member 46 of the rail member 18 and an opposite end projected outwardly from the inner end of the frame member 46. The extended end of the latch member 68a is formed with a notch 71 open to the bottom of the latch member and adapted to receive a pin or screw 72 projected laterally outwardly from the inner end of the lower frame member 46 of the member 17. When the members 17 and 18 are in their closed positions the latch member 68a is initially in an upwardly moved position so as to provide for the recess 71 being positioned over the screw 72.

The downward pivotal movement of the latch member 68a is limited by a stop screw 73 carried adjacent the inner end of the lower frame member 46 of the rail member 18 and loosely receivable in a transversely extended slot 74 formed in the latch member 68a. The engagement of the upper end of the slot 74 with the stop screw 73 defines a lowermost position of the latch 68a at which the outer end of the latch 68a is in a spaced relation above a ground or floor surface. By virtue of this limited movement of the latch member 68a the rail member 18 is freely operable as a gate from a closed position to its open position shown in Fig. 1 without any interference from the latch member 68a as a result of its engagement with the ground or floor surface.

Assume that the pen is in its set-up position and is to be folded. The rail member 18 is disconnected from the rail member 17 and moved to its open position so as to permit moving the floor sections 23 and 24 without requiring a person leaning over a side of the pen. The floor section 24 is then folded upwardly against the inner surface of the side rail 11 and the member 31 on the central frame 27 of the floor section 24 dropped in a position in alignment with such central member, to a position illustrated for the pivoted member 31 on the floor section 23 in Fig. 2. The floor section 23 is then folded upwardly against the side rail 10 and the block member 49 moved to its dotted line position shown in Fig. 8. The rail members 17 and 18 are then moved against corresponding bottoms of the floor sections 23 and 24, respectively. With the pen thus folded the end rail 12 is folded inwardly at its hinged connection 40 so as to position the rail members 14 and 16 against corresponding floor sections 23 and 24. When this is accomplished the rail members 14 and 16, 17 and 18 are moved flat against each other as illustrated in Fig. 4, so that the complete pen is foldable into a compact unit which is readily moved about on the caster wheels 15. In opening the play pen the procedure described above for folding the play pen is reversed.

From a consideration of the above description it is seen that the invention provides a foldable play pen which is of a simple and rugged construction, easily adapted to be moved about, and readily set up or folded. During either the setting up or the folding operations access is had to all parts of the play pen without requiring a person to lean over a side rail of the pen, and when the pen is in a set-up position end rail members 17 and 18 thereof are operable as gate members to provide access within the pen without requiring a person to lean over the pen. The floor supporting member 49 adjacent the rail members 17 and 18 is readily movable to an operating position, and to a folded position in which it does not interfere with the compact folding of the play pen. The means for locking the rail

members 17 and 18 in a pen closing position are of a construction adapted to maintain such members against either lateral or vertical movement, and further are of a construction so as to be incapable of movement to a released position by a child located within the play pen.

Although the invention has been described with respect to a preferred embodiment thereof it is to be understood that it is not to be so limited since modifications can be made therein which are within the full intended scope of this invention as defined by the appended claims.

I claim:

1. A foldable play pen comprising side members and foldable end walls with one of said end walls including two separable wall portions, means pivotally supporting the outer ends of said two wall portions to an adjacent side member, a foldable floor comprised of two sections, each of said floor sections being pivoted at its outer side to the bottom of an adjacent side member and pivotally movable to an open position normal to said side member, means for supporting the floor in said open position above a ground surface including a member adapted to rest on the ground surface and connected to one of said floor sections, an extension on said member projected outwardly from said one floor section to a position for supporting the other of said floor sections, said extension having an opening in the top surface thereof, a projection on said other floor section receivable in said opening, when the floor is in an open position, to hold said two floor sections against lateral movement away from each other, co-acting means on one of said wall portions and on said one floor section for releasably holding said one wall portion against pivotal movement in a position adjacent to said one floor section and substantially normal to its corresponding side member, with said other wall portion being pivotally movable outwardly from the other of said floor sections to a position in substantial longitudinal alignment with its corresponding side member to constitute a gate member to close and open the pen, and means for releasably locking said two wall portions together when said other wall portion is in a pen closing position.

2. A foldable play pen comprising a pair of side members, and a pair of foldable end rails, with one of said end rails including two separable rail members, means pivoting the outer ends of said two rail members to adjacent side members, a two section foldable floor, with each floor section pivoted at its outer end to the lower end of an adjacent side member, said floor sections, when the foldable end rails are in an open position, being pivotally movable toward each other to an open position between said side members and said end rails, means for supporting said floor in an open position above a ground surface including a block member adapted to rest on the ground surface and carried on one of said floor sections adjacent one of said rail members, said block member having a portion extended below the other of said floor sections to support said other floor section, means for releasably connecting said other floor section with said extended portion to hold said two floor sections against spreading apart when said floor is in an open position, other means for releasably connecting said one floor section with said one rail member to hold said one rail member against pivotal movement in an open position, with the other of said rail members being pivotally movable in longitudinal alignment with said one rail member in an open position to close the pen, and pivotally movable from said longitudinally aligned position to a position in substantial longitudinal alignment relative to its corresponding side member to open the pen, and means for releasably locking said two rail members together in longitudinal alignment.

3. A foldable play pen comprising a pair of side members and a pair of foldable end walls, a foldable floor comprised of two sections, means pivotally supporting each floor section at its outer side to an adjacent side wall for up and down pivotal movement to an open horizontal position between said side members and end walls and to a folded upright position against an adjacent side member, when said end walls are in an open position, means releasably connecting said floor sections against movement away from each other in an open position, with one of said end walls including two separable wall portions, means for supporting said foldable floor above a ground surface including block members carried on the under side of said floor adjacent to said one end wall, means pivoting one of said wall portions at its outer end to one of said side members for pivotal movement from a first position folded adjacent to said one side member to a second position in substantial longitudinal alignment with said one side member, means pivoting the other of said wall portions at its outer end to the second one of said side members for pivotal movement from a first position folded adjacent to said second side member to a second position substantially normal to said second side member, and means for releasably connecting said two wall portions together, when they are in substantial longitudinal alignment, to close the pen, with said one wall portion being pivotally movable from a pen closing position to said second position therefor to constitute a gate for opening and closing the pen.

4. A foldable play pen comprising side members and foldable end walls, with one of said end walls including two separable wall portions, a foldable floor comprised of two sections, means pivotally supporting each floor section at its outer side to an adjacent side member for up and down pivotal movement to an open horizontal position between said side members and end walls and to a folded upright position against an adjacent side member, when said end walls are in an open position normal to said side members, means for supporting said floor in an open position above a ground surface including block members carried on the under side of said floor sections adapted to rest on the ground surface, means for releasably connecting said floor sections together in open position against lateral spreading movement, means pivotally supporting each of said wall portions at the outer end thereof on an adjacent side member, coacting means on one of said wall portions and on one of said floor sections for releasably holding said one wall portion in its open position, and means releasably locking said two wall portions together in their open positions to close the pen, with the other of said wall portions being pivotally movable outwardly from the pen, on release from said one wall portion to constitute a gate for opening and closing the pen.

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