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2,810,554

PLAY PEN

Filed April 29, 1953

2 Sheets-Sheet 1

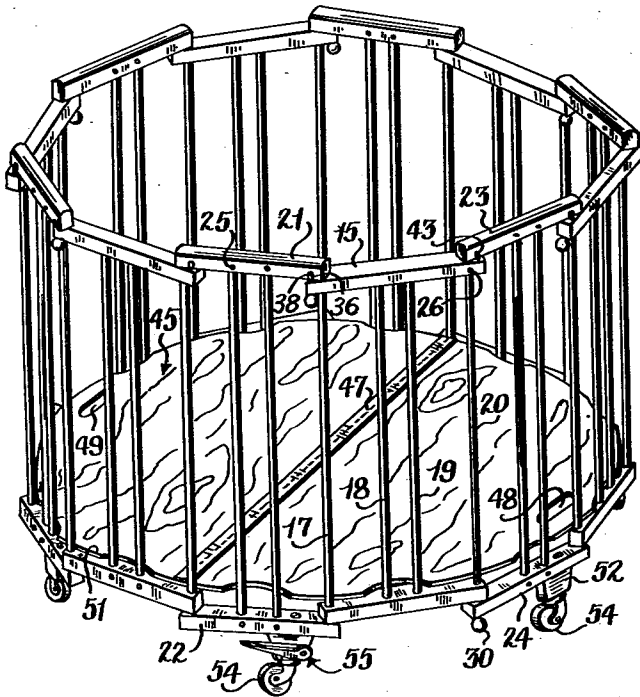


FIG. 1

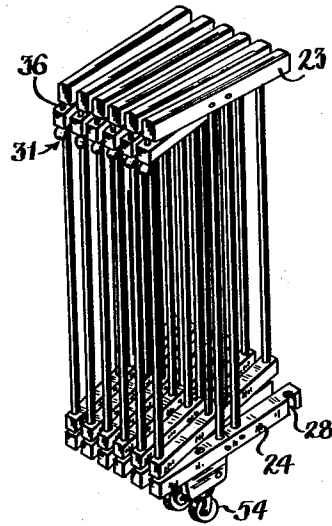


FIG. 2

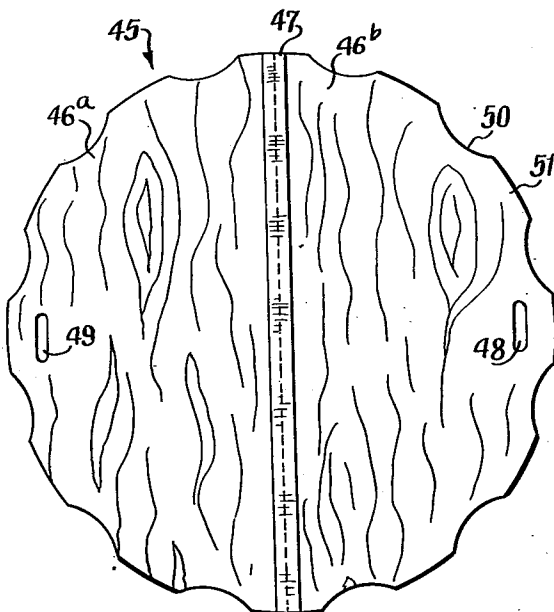


FIG. 3

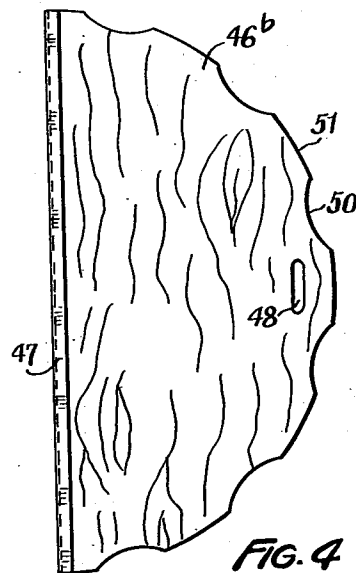


FIG. 4

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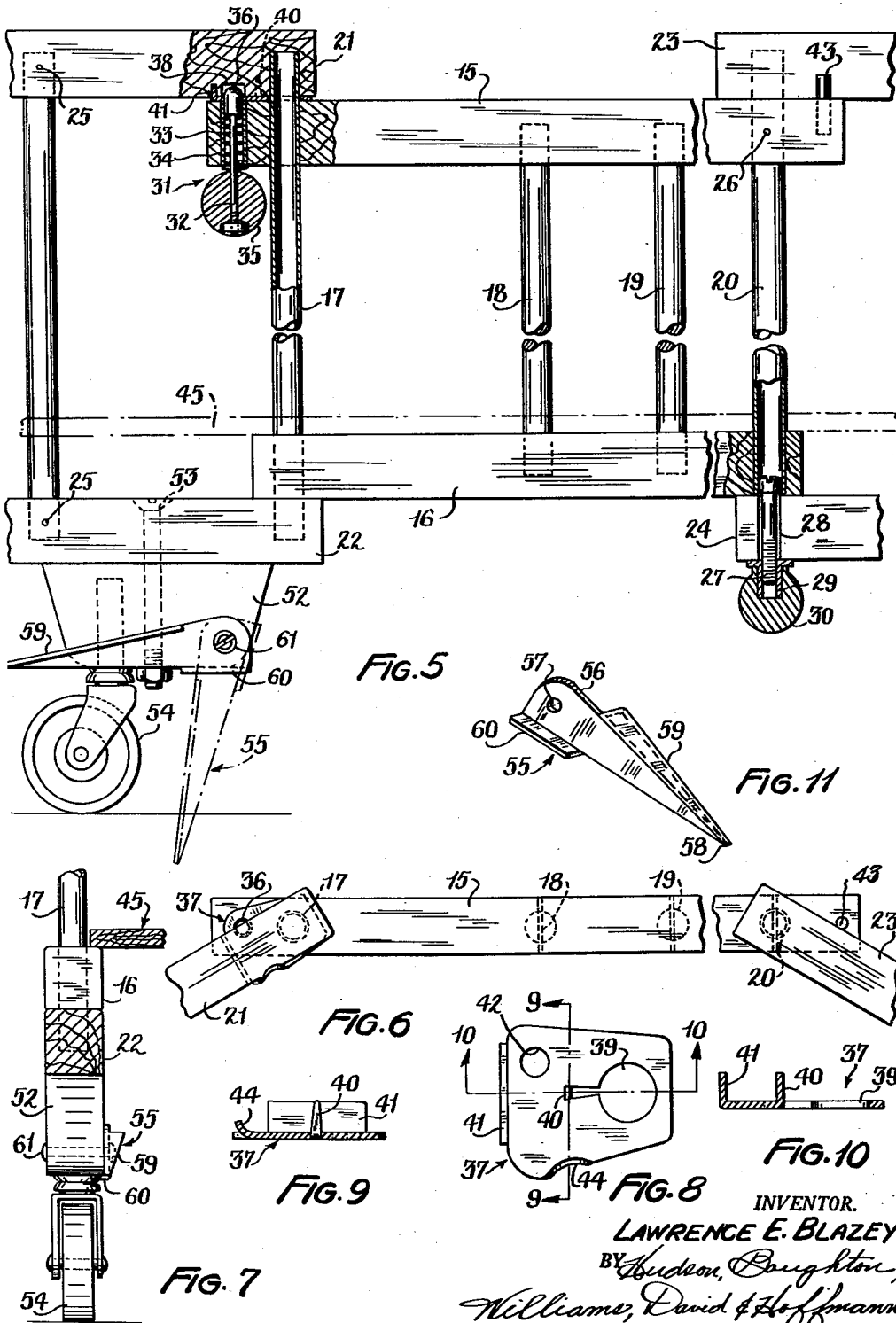
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PLAY PEN

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2 Claims. (Cl. 256—25)

This invention relates to fence-like structures, commonly known as play pens, in which young children may be placed for exercise and recreation.

An object of the invention is to provide an improved play pen which is so constructed that it selectively provides a rigid polygonal fence-like enclosure or may be easily folded into a compact configuration requiring less space than do conventional constructions.

Another object of the invention is to provide an improved folding play pen, as defined above, which is formed of sections pivoted together and which are held in predetermined angular relationship by manually operatable latch means and/or fixed stops, the latch means being attractive in appearance, easily operated and so formed that it is possible to tell at a glance whether or not they are properly engaged in locking position.

A further object of the invention is to provide an improved play pen, as defined above, with the sections thereof formed by spaced upper and lower horizontal members joined by vertically extending rod-like members with those of the latter members which are adjacent the ends of the horizontal members also serving as the pivotal connections between the sections.

An additional object of the invention is to provide an improved play pen, as defined above, wherein a removable floor is provided by a foldable member adapted to rest upon at least some of the lower horizontal members of the sections and provided with recesses in its periphery to accommodate certain of the rod-like vertical members.

The invention also has as an object thereof the provision of an improved play pen, as defined above, wherein at least some of the lower horizontal members are provided with caster mounts that are adapted to have ground anchor or gripping means pivoted thereto and cooperating therewith for selective positioning either in inoperative or in operative ground gripping positions.

The invention further resides in certain novel features of the construction and in the combination of the parts of apparatus in which the invention is embodied, and further objects and advantages of the invention will be apparent to those skilled in the art to which the invention pertains from the following description of the presently preferred embodiment, described with reference to the accompanying drawings forming a part of this application and in which:

Fig. 1 is a perspective view of a play pen constructed in accordance with this invention as it appears when ready for use;

Fig. 2 is a perspective view of the play pen shown in Fig. 1 when folded for transportation and/or storage;

Fig. 3 is a top plan view of the foldable bottom of the play pen in extended position;

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

Fig. 5 is an enlarged fragmentary view, partly in section and partly in side elevation, showing the manner in which the sections are pivoted together, the details of the

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latching members and pins for retaining the sections in predetermined angular relationship, the manner in which the continuity of the side of the pen may be interrupted for folding, and the details of the caster mounting and ground gripping devices, the foldable bottom being indicated in broken lines;

Fig. 6 is a detached top plan view of a portion of the upper members of the play pen as seen from the top of Fig. 5;

Fig. 7 is a detached fragmentary view of the lower portion of the play pen, the view being partially in section and partially in end elevation as seen from the left-hand side of Fig. 5, the removable bottom of the structure being shown in place;

Fig. 8 is a top plan view of one of the striker plates that is provided for cooperation with the latching means; Fig. 9 is a transverse sectional view taken on the line 9—9 of Fig. 8;

Fig. 10 is a longitudinal sectional view through the striker plate taken on the line 10—10 of Fig. 8; and

Fig. 11 is a detached perspective view of one of the ground gripping or ground anchor, spike-members.

A play pen embodying this invention is constructed as a plurality of rectangular sections pivoted together and selectively disposable either in folded condition, as shown in Fig. 2, or extended into a closed polygon as indicated in Fig. 1. Each of the sections comprises an upper horizontal rail or member 15 and a lower horizontal rail or member 16 which extend in spaced horizontal relationship and are interconnected by rod-like vertically extending members 17, 18, 19 and 20. The rails 15 and 16 may be formed of any suitable material but are here shown as being wooden and the vertical members 17 to 20 may be formed of wood, plastic or metal.

In the illustrated embodiment, the vertical members 17 to 20 are shown as hollow metal tubes and the members 17 and 20, adjacent the ends of the horizontal members of a section, extend above and below the upper and lower surfaces, respectively, of the upper and lower members 15 and 16 of that section. These extending portions of the vertical members 17 and 20 are received in aligned openings in the horizontally extending members 21, 22, 23 and 24 of the adjacent sections and hence the members 17 and 20 are each part of two sections as will be apparent from Fig. 5. The rod or member 17 is freely turnable within the members 15 and 16 through which it extends and thus provides a pivotal connection therebetween. Any suitable means may be employed for preventing displacement of the rod-like members from their positions in the rails. As here shown, the ends of the rods are received in sockets in the rails and drive pins or nails 25 extend through the uppermost and lowermost rails 21, 22 and the intermediate rods of the sections formed by such rails. This is sufficient to retain the other rods in place but it will be apparent that the latter may be similarly provided with drive pins or nails or may be glued if desired.

Each of the sections comprising the structure is similarly constructed and pivotally interconnected with the horizontal members of adjacent sections in overlapping relationship as indicated in Figs. 1 and 5 with the outermost rod-like members such as 17 and 20 of adjacent sections common to two such sections and providing the pivotal connection therebetween. However, one of these pivotal connections is so constructed that the adjacent sections may be detached one from the other to thereby facilitate folding of the structure. For this purpose, one of the vertical members, such as 20, does not have the outer ends thereof fixedly connected to the horizontal rail members such as 23 and 24. Instead, the member 20 will be connected to the member 15 by a suit-

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able means, such as a transversely extending nail or drive pin as indicated at 26 in Fig. 5. The upwardly extending portion of this member 20 is then removably received in a bore or socket provided on the underside of the member 23. The lower portion of the member 20 is provided with a threaded extension 27 which is adapted to be received in a slot 28 provided in the lower horizontal member 24, one side of this slot being open as will be apparent from Figs. 2 and 5. In the form shown, the threaded extension 27 is provided by disposing a bolt within the tube 20 and securing the head in the lower portion of the tube by any suitable means so that the shank of the bolt extends outwardly of the tube and is adapted to be received in the slot 28. The lower portion of the threaded extension 27 is provided with a suitable wing nut or with a nut member 29 which is here shown as a threaded portion in an enlarged knob 30.

The construction just described is such that, when the play pen is to be assembled, the several sections are swung relative to each other about their pivotal connections to dispose the same in the predetermined polygonal configuration which will dispose the members 23 and 24 adjacent the members 15 and 16. Then the member 23 is lifted sufficiently to allow it to fit over the upper end of the rod-like member 20 and the lower member 24 is moved laterally to engage the vertical groove or slot 28 with the threaded extension 27. The nut member 29 is then tightened thus securing the parts in this predetermined relationship. The play pen may be folded for storage and/or transportation by loosening the nut member 29 and reversing the above procedures whereupon the several sections may be folded one upon the other as indicated in Fig. 2 thus providing a compact and easily handled arrangement.

In order to maintain the several sections of the play pen in proper angular relationship when in extended position, an improved latching means is provided for each of the sections. Referring now to Fig. 5, it will be seen that the upper members or rails of the alternate sections of the structure, such as the members 15, are each provided adjacent one end thereof with a vertically reciprocating latch means, generally designated 31, the outer end of which is engageable with the upper rail member of the adjacent section. In the form shown, the latching means comprise pin-like members 32, the upper ends of which are enlarged and engage one end of a compression spring 33, the other end of the latter resting upon the intumed end of a tubular member or sleeve 34 in which the pin-like members 32 reciprocate and which tubular members or sleeves are suitably retained in the rail members such as 15. The lower ends of the pin-like members 32 extend below the rail members, such as 15, and this lower extension portion is provided with a suitable means by which the pin-like members may be manually grasped and retracted. This manually engageable means may also serve to enhance the appearance of the structure in addition to being functional in nature and hence are here shown as spheres or balls 35.

The compression springs 33 of the latching means 31 normally tend to project the enlarged upper ends 36 of the pin-like members above the surface of the rail members, such as 15, in which they are supported, but the members may be retracted by grasping the balls 35 and pulling downwardly thereon. The projecting portions 36 are adapted to be received in aligned openings or recesses in the upper rails, such as, 21 of the adjacent sections to thereby maintain the sections in fixed angular relationship. When, as here illustrated, the rails are formed of wood the undersurfaces of the upper rail members are preferably provided with striker plates 37 in the region of the openings or recesses 38 in the rails.

As shown in Figs. 5, 6, 8, 9 and 10, the striker plates 37 are preferably formed from a plate or sheet of metal and have an opening 39 therethrough for the reception of the rod-like members such as 17 and 20. Adjacent

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this opening 39, a portion of the plate 37 is struck up to provide a prong or spur 40 which may be driven into the material of the upper rail or member, such as 21, to secure the striker plate in position. In addition, the striker plate 37 preferably has an integral flange 41 adjacent one edge which may be formed by bending up an edge portion of the plate, which flange is adapted to be received in a suitable groove or slot in the undersurface of the upper member or rail on which it is mounted. Spaced from the opening 39 is a second hole or opening 42 in the striker plate 37 and this hole or opening is of a diameter to slidably receive the enlarged upper end 36 of the associated latching member, the hole 42 being aligned with the opening or recess 38 in the rail on which the plate is mounted, see Fig. 5.

It will be evident that, when the enlarged portions 36 of the latching means are aligned with the openings 42 in the striker plates and the associated openings or recesses 38 in the upper rail members, the portions 36 will enter therein under the action of the springs 33. To facilitate ascertaining the presence of the portions 36 in the associated openings, and hence the proper locking action of the latch means, a side opening is provided for each recess 38 on that side of its rail member which is on the external periphery of the assembled play pen, see Fig. 1.

If desired, a latch means 31 and striker plate 37 may be provided at both ends of the alternate upper rail members, such as 15. However, in the illustrated embodiment a retractable latching means is provided adjacent one end only of each alternate rail member and a fixed projection or stop, in the form of an upwardly extending pin 43, is provided at the other end of each such alternate rail member. These pins are adapted to contact the outer side surface of the upper rail members of the adjacent sections, as will be seen in Fig. 5, and, together with the latch means, maintain the sections in predetermined angular relationship.

When it is desired to fold the play pen, the nut member 29 is removed or loosened, as mentioned above, whereupon the adjacent sections are separated as has been previously described. Then, by sequentially retracting the latch members 31, the several sections of the play pen may be folded one upon the other in the manner illustrated in Fig. 2. In reassembling the play pen, it is only necessary to redispense the several sections in proper angular relationship whereupon the latch means 31 will automatically engage in the openings 42 and openings or recesses 38. For this purpose, the striker plates 37 have the edges, which engage the upper ends 36 of the latching means, bent or relieved as indicated at 44 to provide a camming action upon the latching means and the enlarged ends 36 of the latter are rounded to likewise facilitate such camming. However, should the sections be moved relative to each other to a position such that a portion 36 is disposed at the opposite side of plate 37 from the surface 44 so that the latch means is not retracted upon relative arcuate movement of the sections, the latching means 31 can be manually retracted and thus held until the parts have been aligned so that the portion 36 of the latch pin can enter the opening 42 and recess 38.

The play pen is preferably provided with a folding platform or floor 45 which may be made of plywood, or the like. As here shown the floor is formed of two substantially identical pieces, 46^a and 46^b, hinged together by any suitable means as, for example, by a canvas strip or the like 47, which is glued or otherwise secured to the two portions. If desired, the platform or floor 45 may be formed of more than two pieces or portions. For example, it may be divided into three parts hinged together as by canvas strips or the like. In such a construction the several portions may all be of the same width or the two end portions may be identical and the middle portion of different width.

Each part of the platform or floor 45 is preferably provided with an elongated opening or slot, such as 48 and 49, for receiving the fingers or hand of an individual thereby facilitating placing and removing of the platform or floor. The periphery of the platform or floor is provided with recesses 50 of suitable configuration to accommodate the vertically extending rod-like members 18 and 19 which are disposed at the least distance from the center of the play pen. The portions of the periphery of the platform such as 51 between the recesses 50 rest upon the uppermost of the lower rail members, such as 16, of the foldable sections of the play pen thereby supporting the platform in spaced relationship to the floor or ground on which the play pen is positioned.

The lower horizontal members of the play pen are provided at spaced locations with caster mounting members or brackets 52 which may be secured to the lower rails or members in any desired manner. As here shown, the lowermost rail members, such as 22 and 24, are each provided with one of the caster mounts and the latter are secured to the adjacent rail or members such as 22 by one or more elongated bolts 53. Each of the caster mounting means or brackets 52 is provided with a conventional caster wheel 54 of well-known construction and, in addition, one or more of the mounting members or brackets 52 are also provided with a ground gripping or anchor member 55.

The ground gripping member or anchor 55 is preferably formed from sheet metal and tapers from an enlarged portion 56, in which is provided an opening 57 for a pivot, to a pointed end 58 which is adapted to be inserted into the ground. The member 55 also preferably has a flange portion 59 extending along one edge of its length thus providing strengthening for the member and more secure holding action when the member is inserted in the ground. The upper edge of the flange portion 59 may serve as a convenient means by which the foot of the user can engage the member to move it to operative position and force the member into the ground.

In addition to the flange 59, the member 55 has a second but shorter flange portion 60 extending at substantially right angles to the member 55 adjacent the enlarged portion 56. This flange 60 is adapted to selectively cooperate with the bottom and one side of the caster mounting means or bracket 52 to thereby define the inoperative and operative positions of the ground gripping member or anchor 55. Thus, as shown in full lines in Fig. 5, when the flange 60 engages the lower surface of the bracket or mounting means 52, the ground gripping member 55 extends substantially horizontally in inoperative position so that the play pen may be moved upon its casters. However, the member 55 may be swung so as to extend substantially vertically downwardly whereupon the surface of the flange portion 60 will engage the adjacent side surface of the bracket 52, as indicated in broken lines in Fig. 5, in which position, the lower end of the ground gripping member will extend below the lower surface of the caster wheel and can penetrate into the ground. The ground gripping means or anchor may be pivotally secured to the mounting means or bracket 52 by a bolt 61, or other suitable means, thereby facilitating removal of the member should it be desired to employ the play pen only indoors.

It is believed that the construction and mode of use of the play pen will now be fully appreciated without need of detailed repetition. Consequently, in summary, it is sufficient to note that in assembling the play pen, the sections thereof are swung relative to each other from the position shown in Fig. 2 to that shown in Fig. 1. The angularity of this polygonal configuration being exactly determined by engagement of the pins 43 with the adjacent rails and by entrance of the latching means into the openings 38 and 42 in the upper rails and the striker plates thereon. The member 23 is then engaged with the rod 20 and the slot or opening 28 is engaged

about the portion 27 whereupon the nut member 29 is tightened and the removable bottom or platform inserted. Should it be desired to employ the play pen outdoors with the pen anchored against movement, one or more of the ground gripping members or anchors 55 may be swung to operative position and forced into the ground. When it is desired to store or transport the play pen, the removable bottom is lifted from place and folded as shown in Fig. 4, after which the nut member 29 is loosened, the lower rail member 24 swung relative to the rail 16 and the upper rail member 23 lifted from the end of rod 20 so that the two sections joined thereby are released one from the other whereupon the subsequent release of each of the latching means 31 permits folding of the play pen to the compact configuration shown in Fig. 2.

Although the invention has been described in considerable detail with respect to the construction of the presently preferred embodiment, it will be evident that alterations may be made therein without departing from the principles of the invention. Thus, while the rod-like members such as 17 and 20 have each been made a part of two adjacent sections and thus employed for providing the hinge or pivotal connections between the sections, such hinge or pivot may be provided by other means. Likewise, the number, spacing and material of the rod-like members, may be varied from that mentioned or shown. It will also be evident that the means by which the sections are releasably connected in predetermined relationship may be varied from the specific form here shown and that more than one ground engaging member or anchor may be employed. Further, when the rail members are formed of metal or the like the striker plates 37 need not be used. These and other changes which will readily occur to those skilled in the art, after having the benefit of this disclosure, are all considered as coming within the ambit of the invention, the scope of which is determined by the subjoined claims.

Having thus described my invention, I claim:

1. A foldable play pen comprising a plurality of sections each including vertically spaced lower and upper horizontal members joined in vertically spaced relationship by rod-like members extending therebetween, means pivotally interconnecting the horizontal members of adjacent sections together with at least one of the last-mentioned means including means providing for separability between adjacent sections, whereby the sections may be selectively folded upon each other or disposed at angles to each other to form a closed polygonal enclosure, and means for maintaining said sections in predetermined angular relationship when forming said polygonal enclosure including a vertically slidable latch member adjacent one end of each alternate one of said upper horizontal members, the adjacent end of each of the others of said horizontal members having a recess therein for reception of the latch member with each of said recesses having an opening thereinto from the outer side of the horizontal member in which it is located so that the presence of the latch member extending into such recess can be readily observed, and a fixed projection extending vertically from each of said alternate ones of the upper horizontal members adjacent the other end thereof for engagement with the side of the adjacent one of said other upper horizontal members.

2. A foldable play pen as defined in claim 1 and further comprising spring means normally urging said latch members in a direction for engagement in said recesses.

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