

Aug. 14, 1951

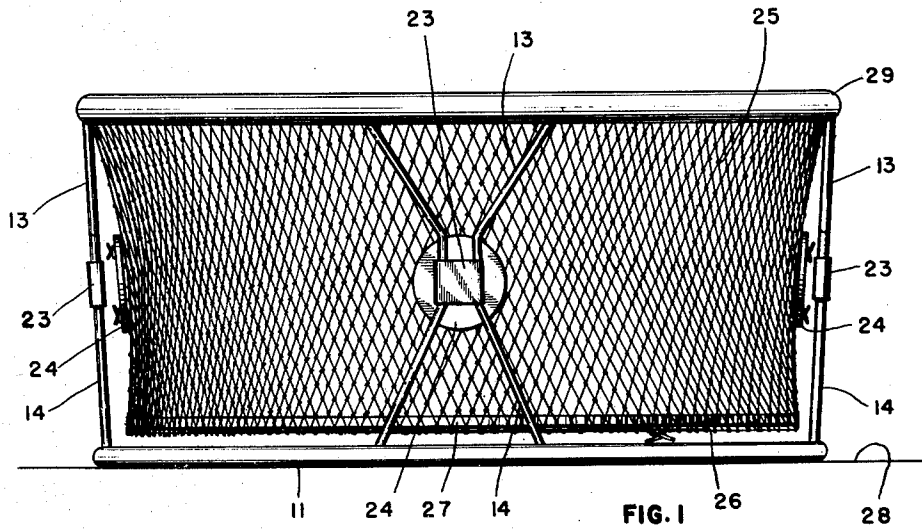
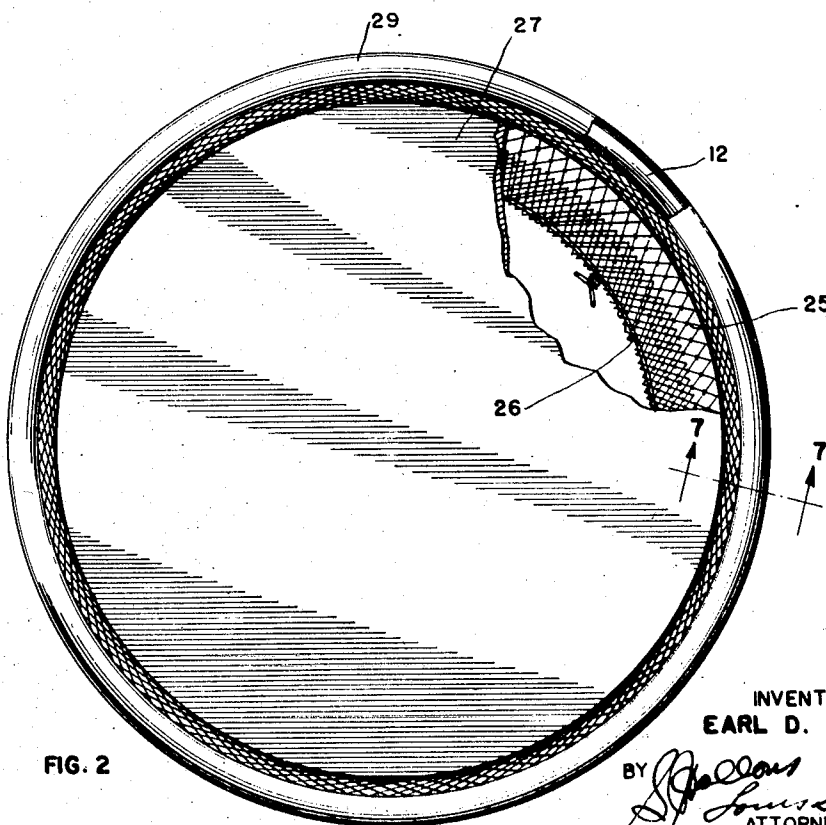
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2,563,915

INFANT'S PLAY PEN

Filed Aug. 19, 1946

4 Sheets-Sheet 1



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4 Sheets-Sheet 2

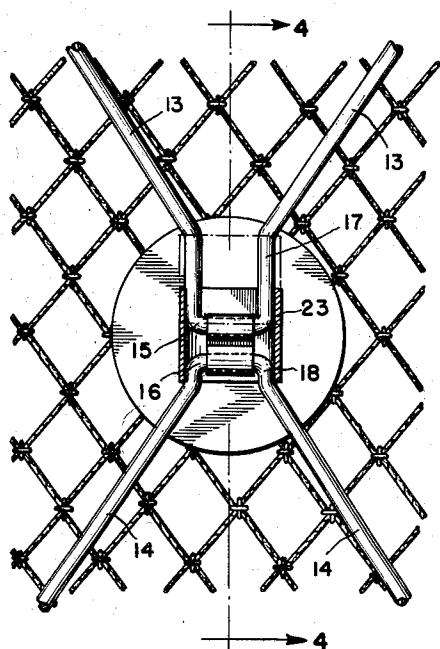


FIG. 3

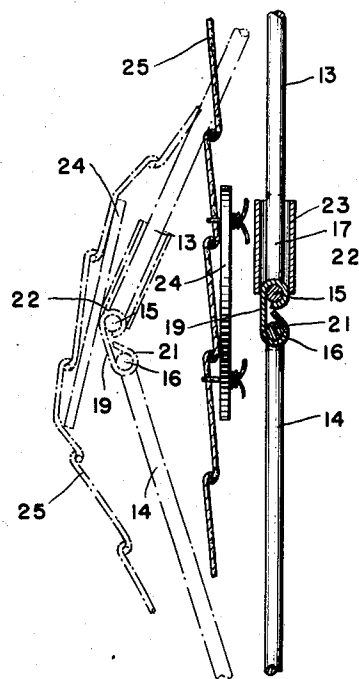


FIG. 4

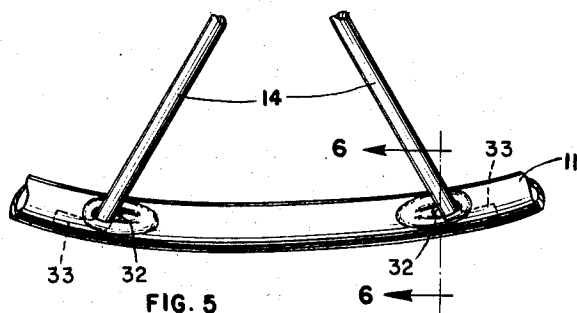


FIG. 5

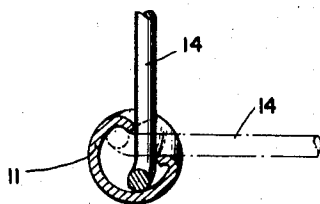


FIG. 6

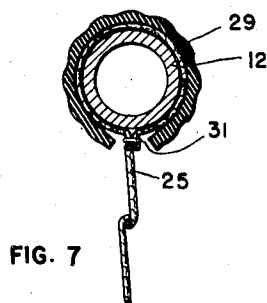


FIG. 7

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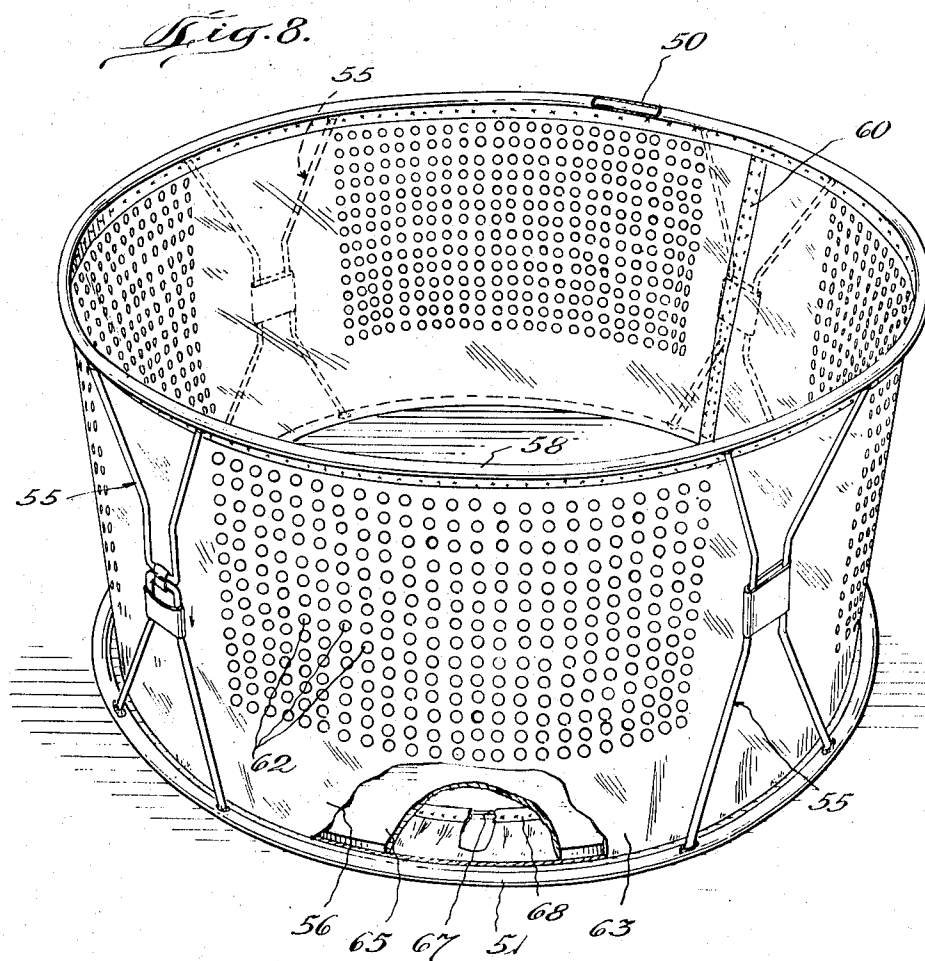
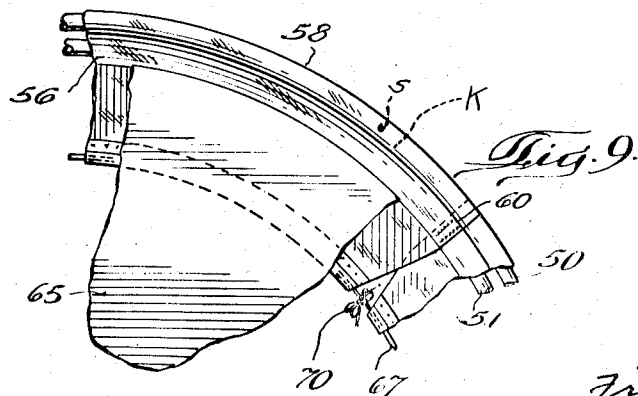
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4 Sheets-Sheet 3



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INFANT'S PLAY PEN

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4 Sheets-Sheet 4

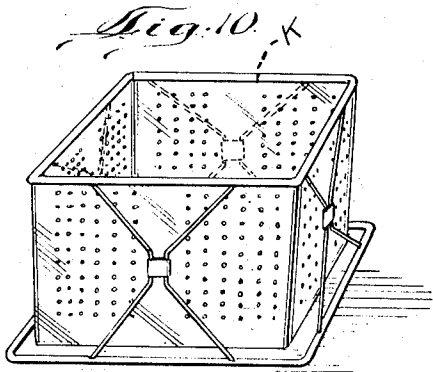
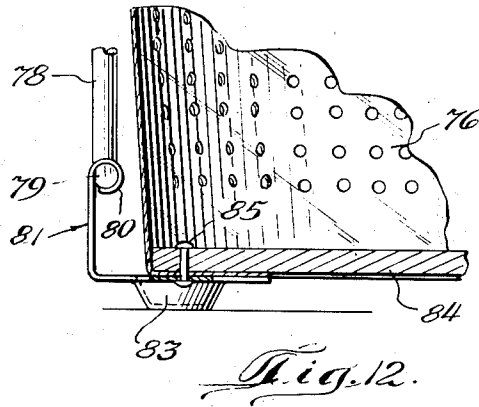
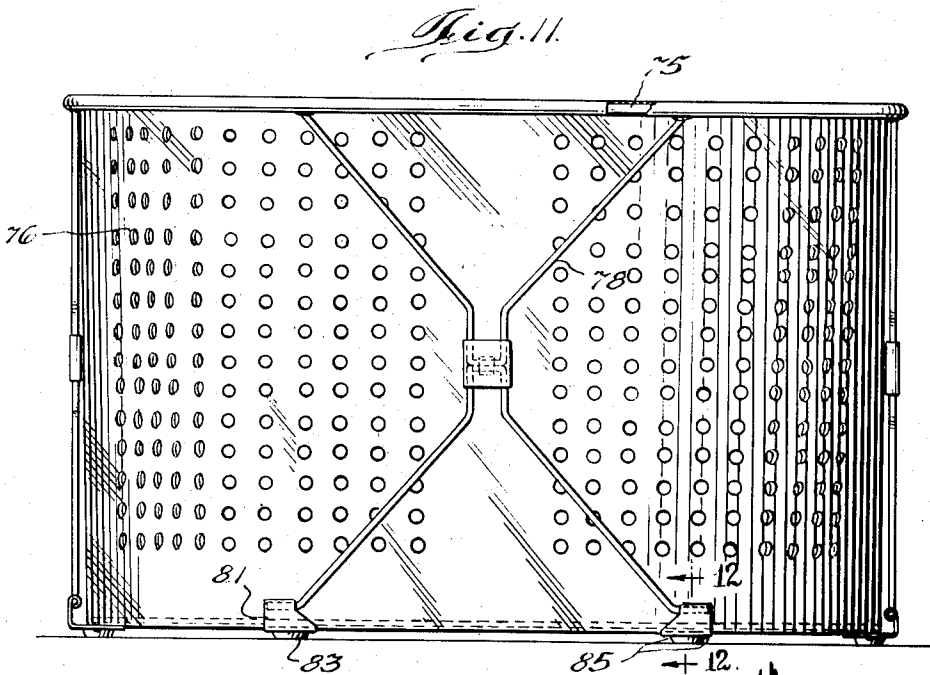
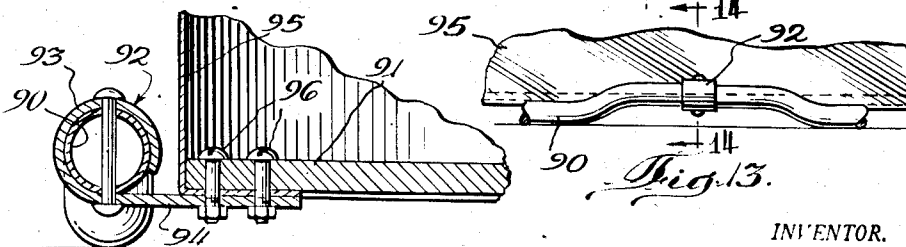


Fig. 14.

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2,563,915

INFANT'S PLAY PEN

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Application August 19, 1946, Serial No. 691,576

6 Claims. (Cl. 5—98)

1

My invention relates to infant's play pens, and has to do more particularly with a collapsible play pen of novel construction which will be especially safe for a young child and will have numerous other advantages, as will hereinafter appear.

As is well known, young children who have not yet acquired full coordination of their muscles, fall frequently from a crawling or partially erect position, and if the surface upon which they are standing is hard and unyielding, they may suffer from bruising and shock. A particular object of my invention is to provide a child's play pen which will have a floor of yielding or "floating" suspension, so as to reduce the effects of falls.

Another object of my invention is to provide a play pen which will be collapsible for easy transportation in a minimum of space and of light weight. It is preferably of round contour, to facilitate rolling from place to place, although I am not limited to this shape.

Still another object is to provide a device of the character described which will have a base or platform suspended above the floor of the room, by means of a wall which in turn is carried by a rail, this rail being maintained in elevated position by means of collapsible supports.

Also, in accordance with my invention, the wall of the pen is flexible, yieldable, and somewhat resilient, so as to impart to the platform a floating or yielding base for the body of the occupant; this wall, by the nature of its material, facilitates the foldable or collapsible characteristic above referred to and is readily cleaned with soap and water.

Another object of my invention is to provide such a device wherein the wall of the pen is perforated or foraminous. Such material facilitates ventilation, which is especially desirable in warm weather.

For a more comprehensive understanding of the present invention, reference will now be had to the accompanying drawings and to the following detailed description in which similar reference characters designate corresponding parts throughout, and in which:

Fig. 1 is a side elevation of a child's play pen having embodied therein the essential features of the present invention;

Fig. 2 is a plan view of the play pen device featured in Fig. 1;

Fig. 3 is an enlarged detail view of a hinge bracket and latching sleeve associated therewith shown partially in section;

Fig. 4 is an enlarged side sectional view of the

2

apparatus featured in Fig. 3 and taken approximately on line 4—4 thereof;

Fig. 5 is an enlarged detail plan view of the base ring element showing the hinge bracket extremities and their manner of pivotal securement thereat;

Fig. 6 is an enlarged detail sectional view taken approximately on line 6—6 of Fig. 5; and

Fig. 7 is an enlarged detail sectional view taken approximately on line 7—7 of Fig. 2;

Fig. 8 is a perspective view of a play pen constituting another embodiment of my invention;

Fig. 9 is a bottom plan view of the device of Fig. 8;

Fig. 10 is a perspective view of a pen embodying my invention but of contour other than round;

Fig. 11 is a side elevation of another embodiment wherein the floor is supported in a different way from the other embodiments;

Fig. 12 is a sectional view taken on line 12—12 of Fig. 11;

Fig. 13 is a fragmentary elevation of still another mode of support, and

Fig. 14 is a sectional view on line 14—14 of Fig. 13.

Referring now more particularly to the details of construction, attention is directed to the tubular ring members 11 and 12, Figs. 1 and 7, which may be of substantially the same diameter or, if preferred, the upper ring member 12 may be constructed of a slightly larger diameter. The two rings are made of seamless tubing butt-welded to afford continuity peripherally and at four equidistant points circumferentially the two rings 11 and 12 are connected to each other by means of four hinge elements, each element of which consists of a substantially triangular bent rod 13 or 14, see Fig. 3.

Near their point of juncture the rod elements 13 and 14 are formed as best indicated in Fig. 3, that is, each with a horizontal section 15 and 16. The hinge elements 13 are provided with somewhat longer approach portions, as at 17, than the corresponding portions 18 of the members 14, and around the two horizontal sections 15 and 16 are encircled the link straps 19 as shown in Fig. 4. Preferably the lowermost encirclement of each link 19, as shown at 21, is spot-welded to the portion 16 so that pivotal movement is confined to the encirclement 22 around hinge portion 15. In dotted outline in Fig. 4 a condition of partial collapse of the hinge elements 13 and 14 is portrayed and the ultimate

3

condition of collapse is achieved when the two frame rings 11 and 12 are brought close together.

Collapse of the hinge around the pivot portion 15 requires that the retaining sleeves 23 of each hinge member be raised to the position indicated in full lines and in dotted outline in Fig. 4. When the sleeve 23 is brought down into the position shown in full lines in Fig. 3, which condition obtains when the play pen is erected for use, collapse of the hinge is prevented and in order to safeguard against inadvertent manipulation, such as might be contemplated on the part of older infants, there are provided in radial alinement with each hinge member a series of circular discs 24 made of flexible material such as sponge or molded rubber. These discs also serve to prevent the hinge mechanism from becoming tangled with the net 25.

The netting is preferably made of interlocked fish or seine cord or it may be an application of fishing net drawn circumferentially taut and secured edgewise around the upper rail 12 after the manner indicated in Fig. 7. The lower edge of the net is preferably doubled over and drawn in, as by means of a purse string type of constricting cord 26, Fig. 2. In this manner the edge of the net underlaps the play pen floor 27 and floats the latter member in spaced relation to the floor surface 28 as shown in Fig. 1.

The relative spacing between the floor 27 of the pen and the floor line 28 of the room may be regulated in accordance with adjustment of the drawstring 26 and where it is preferred that the floor 27 be permitted to touch the floor line 28 this adjustment may be made lax, otherwise conversely, with the resulting effect that the pen floor 27 will be resiliently suspended. The upper rail 12 is covered by a rubber sheathing 29 which may be made of a length of molded rubber hose split as at 31 and of accurate measurement or length so as to afford abutment end to end at the point of juncture.

The extremities of the hinge elements 13 and 14 are formed as best indicated in Fig. 5 under which conditions they extend through openings 32 in the tubing 11 and 12 and are spread outwardly as at 33 to insure against inadvertent withdrawal. The region around the openings 32 is preferably deformed so as to permit a partial nesting of the approach portions of the hinge rod extremities 14 throughout the various degrees of angle between erect and collapsed positions as best designated in Fig. 6.

Referring now to Figs. 8 and 9, these views illustrate a play pen which is substantially the same as the one previously described, but having a different type of side wall material. That is to say, the supporting frame in general may be essentially the same, comprising top and bottom tubular members 50 and 51, respectively, connected by means of collapsible hinge members 55.

The wall material in this embodiment comprises a flexible thermo-plastic sheeting 56, which may for example be formed of one of the well known vinyl compounds having suitable characteristics. The sheet material is lapped over and spot fused along one edge thereof to form a hem 58 whereby it is attached in suspended relation to the upper tube or bar 50, and the ends of sheet 56 may be lapped and fused along a vertical seam 60 so as to provide a substantially continuous side wall.

Inasmuch as ventilation is highly desirable in the interior of the pen, I provide a plurality of perforations 62 throughout the major extent of

4

the side wall 56. However, in order that the occupant may not be subjected to drafts which might be flowing along the floor, I preferably maintain the lower marginal portion 63 of the side wall unperforated.

The platform 65 of the pen may be substantially similar to that of the other embodiment, the sheet material forming the side wall 56 being drawn around the edge of the floor 65 and secured by means of a draw cord 67 extending through a hem 68. The ends of the draw cord are tied as at 70 with the desired degree of tautness to maintain the platform 65 at a desired elevation from the floor of the room; such elevation of course will depend upon the weight of the child. Inasmuch as the platform will yield when the child jumps or falls, it will be preferred to maintain the platform at such a height that it will not strike the floor when the full weight of the child descends. Thus, the child will be spared from any severe jolt or shock as a result of falling.

As seen in Fig. 10, my improved pen may be square, hexagonal, etc., although round is preferred for reasons mentioned.

While the full floating platform shown in Figs. 1-10 and described above is preferred, certain features and advantages of my invention may be employed with other types of platform supports. Thus, in Figs. 11 and 12 I show a play pen which may be round, square or of other contour and having a top tubular rail 75 to which is secured, as by a hem, a side wall 76 which may be similar to the walls previously described, viz., foraminous, netted, etc. The rail 75 is supported by collapsible hinge members 78, the lower ends of which terminate in pintles 79 which are swiveled in straps 80 of brackets 81. These brackets 81 are generally rectangular (Fig. 12) and have feet 83 embossed in the lower portion thereof. The platform 84 may be secured to the brackets 81 as by rivets 85.

This embodiment has all of the advantages described for the others except the floating feature, such as ready collapsibility, etc.

The embodiment of Figs. 13 and 14 is essentially similar to that of Figs. 11 and 12 except that here a lower tubular rail 90 is provided which supports the platform 91 by means of straps 92. Each strap 92 has a circular portion 93 riveted to rail 90 and a horizontal extension 94 secured to the platform 91 and retaining the underlapped side wall 95. Screws 96 may be used here to permit replacing the side wall when necessary. The rail 90 may be upwardly bent adjacent the supporting straps 92 (Fig. 13) to give the platform an elevation from the floor and impart some resilience thereto when the child's weight falls thereon. Collapsible hinged supports (not shown) may be used as in the other forms.

In the production of devices embodying my invention, the tubular top rail is first formed with a slight gap between the ends thereof and a plug of metal, wood, or other suitable material is driven into one end thereof. This plug may have a conically tapered end extending out from the tube. A slight space is left between the free end of the plug and the other end of the tube so that the hem of the wall portion of the play pen may be threaded first onto the tapered plug and thence onto the rail until the hem is entirely disposed thereon in its proper position. The other end of the rail is then brought into registry with the tapered end of the plug and the latter inserted therein until a tapped hole in the plug is in registry with an aperture spaced a short dis-

5

tance from the end of the tube. A set screw (Fig. 9) is then threaded through this aperture and into the cavity of the plug locking the ends of the tube together in juxtaposition to each other as at K, Figs. 9 and 10. The hinged bracket members are then assembled in an obvious manner. Where a thermo-plastic sheeting is used for the wall member, openings for attachment of the bracket legs may be made in the hem of the thermo-plastic by touching the latter with a hot rod or other suitable tool.

While the present invention has been explained and described with reference to specifically contemplated features, it is to be understood nevertheless that numerous other variations and modifications may be afforded without departing from the essential spirit or scope thereof. It is accordingly not intended that the invention be confined to the structural details portrayed in the accompanying drawings nor to the language employed in the foregoing detailed description, except as indicated in the hereunto appended claims.

This application is in part a continuation of my co-pending application Ser. No. 607,343, filed July 27, 1945, which has become abandoned.

The invention claimed is:

1. In a play pen apparatus, a pair of circular defining rails, a plurality of hinged support elements spaced equidistant peripherally and pivotally engaging said rails, a play pen floor and a peripheral netting lashed to the upper one of said rails and underlapping said floor so as to support said floor in resilient floating condition, said netting forming a side wall of said pen, and drawstring means retaining said netting in supporting relation to said floor.

2. A play pen construction comprising a pair of circular defining rails, a plurality of peripherally spaced hinge elements pivotally engaging said rails for affording erect and collapse condition therebetween, a peripheral net defining a wall having its upper edge lashed to the upper one of said rails, a floor member, the net underlapping the floor member and having drawstring means for retaining it, and a plurality of protective discs secured to said net in alinement with said hinge elements to afford protection to said net during collapse movements of said hinge elements.

3. A play pen comprising a pair of concentric ring members, a plurality of supporting struts connecting said ring members each comprising a pair of rod formed elements mutually pivoted at midpoint and each element terminating in outwardly flaring pivot pintles receivable within appropriately spaced openings in related ones of said members, a circular net lashed to the uppermost one of said ring members and tied under at its lowermost edging, and a circular floor element supported in floating suspension by said net.

6

4. A play pen construction comprising a pair of circular defining rails, a plurality of peripherally spaced elements pivotally engaging said rails and intermediately hingeable for affording erect and collapsed condition of said rails, a peripheral net having its upper edge lashed to the upper one of said rails, a floor member, drawstring means for underlapping the lower edge of said net beneath said floor member, and a plurality of protective discs secured to said net opposite an intermediate portion of said spaced elements to afford protection to said net during collapse movements of said hinge elements.

5. In a play pen, a pair of continuous rails, a plurality of hinged support elements spaced substantially equidistant peripherally of and pivotally engaging said rails, a play pen floor, and a peripheral flexible side wall secured to the upper one of said rails and underlapping said floor so as to support the floor in resilient floating condition, and drawstring means retaining said side wall in supporting relation to said floor.

6. In a play pen, a pair of continuous rails, a plurality of support elements spaced substantially equidistant peripherally of and pivotally engaging said rails, said support elements being collapsibly hinged intermediate said rails to permit packing and storage of said pen in relatively flat condition, means for locking said hinges to maintain the support elements in erect condition, a play pen floor, and a peripheral flexible side wall secured to the upper one of said rails and underlapping said floor so as to support the floor in resilient floating condition, and means for detachably securing said side wall under said floor in supporting relation to the latter.

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