Feb. 20, 1962 C. J. SCHIEMER 3,021,553

LATCH HINGE FOR PLAY YARD

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Fig. 1.

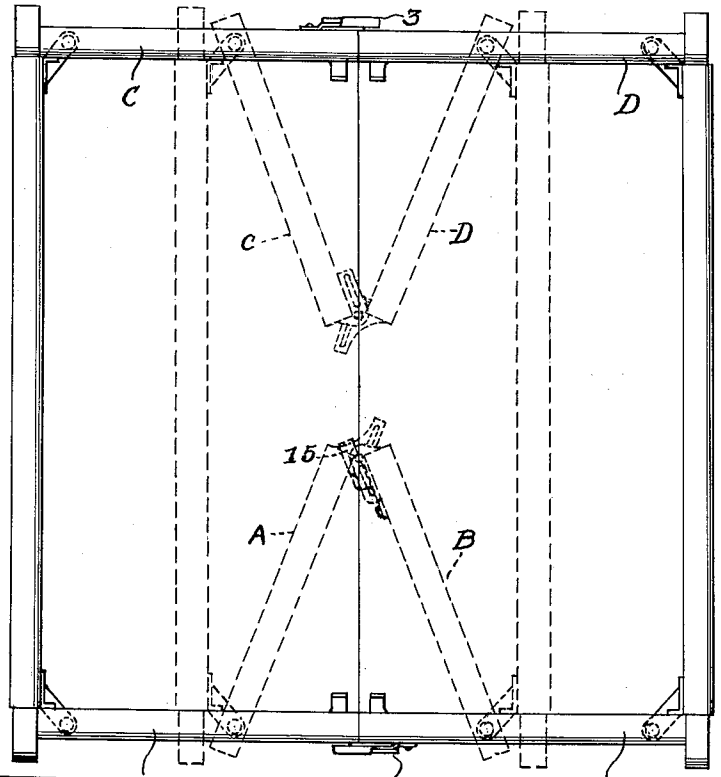
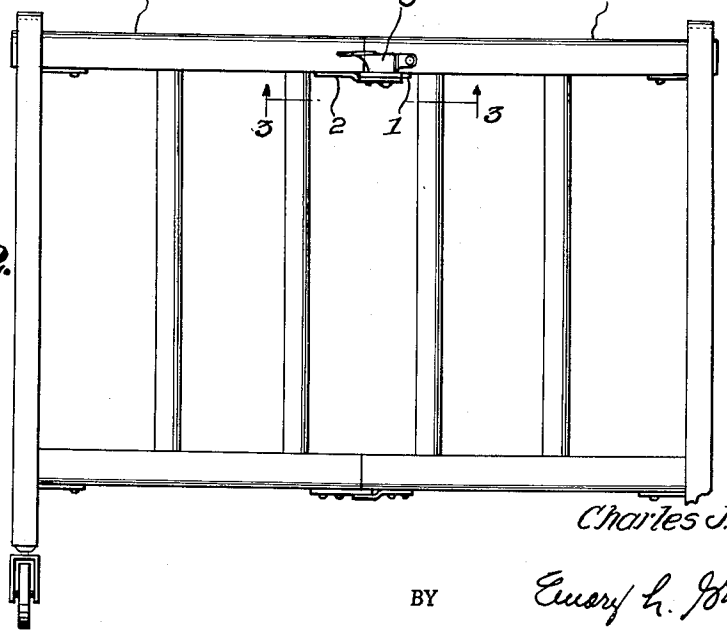


Fig. 2.



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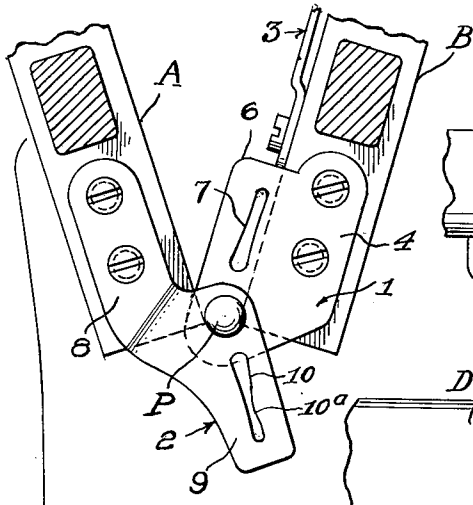


Fig. 3.

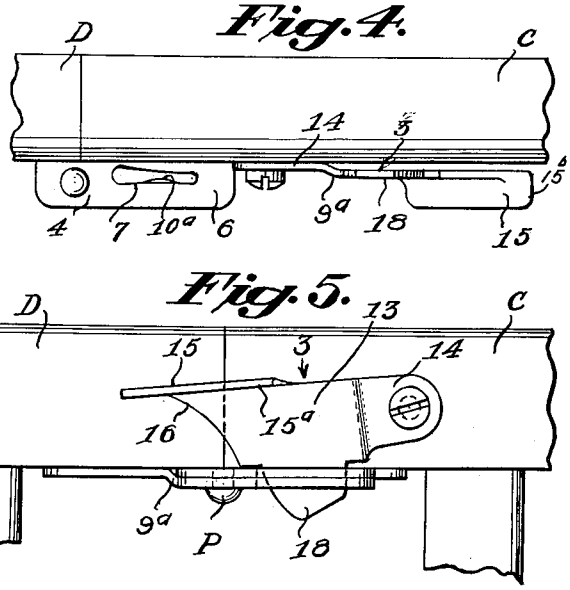


Fig. 4.

Fig. 5.

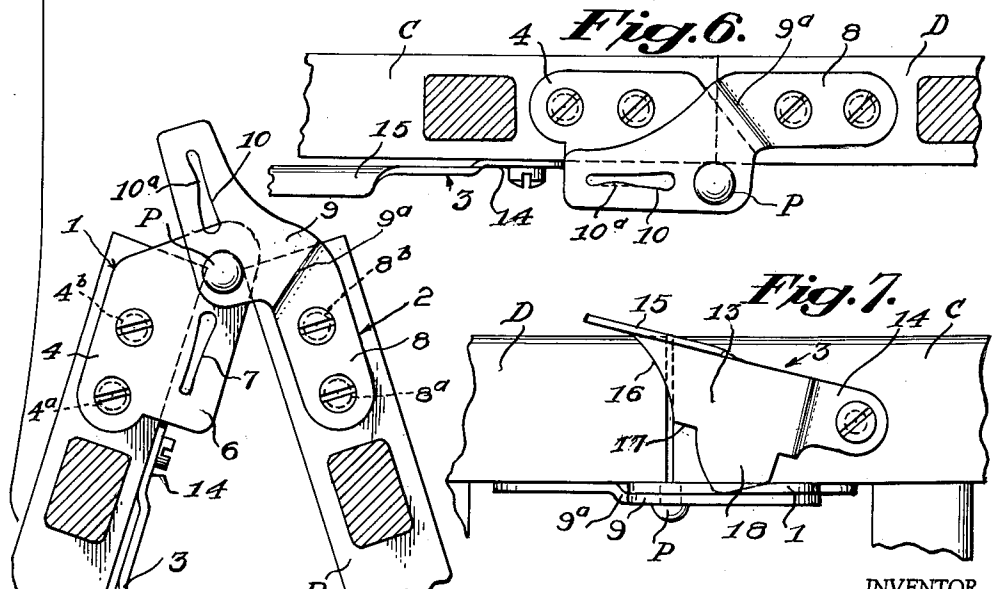


Fig. 6.

Fig. 7.

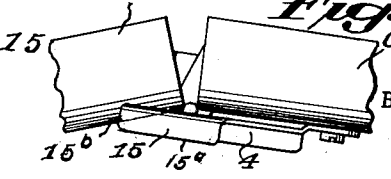


Fig. 8.

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LATCH HINGE FOR PLAY YARD

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3 Claims. (Cl. 16—146)

This invention relates to a latching hinge device for use in connecting and latching a pair of foldable rail members of an enclosure such as for example, the side rails of a collapsible child's play pen.

One object of the invention is to provide a latching hinge which is located on the outer side of the side rails rather than on the inside thereof thereby lessening accessibility to the child as well as the likelihood of injury which might occur should the child fall against the latch.

Another object is to provide means whereby when the latch member is unlatched and the play pen is collapsed, the latch member will be retained in ready position by an adjacent side rail so that it will automatically drop into the keeper slots upon opening up the play pen to provide initial latching of the side rails and prevent collapse thereof.

A further object of the invention is to provide wedging means for frictionally securing the latch member in latched position so that it would be exceedingly difficult for a child to unlatch the device.

Other objects and advantages of the invention will be apparent during the course of the following description.

FIGURE 1 is a top plan view of the play pen with same partially collapsed as indicated in dotted lines.

FIGURE 2 is a side elevational view of the play pen, partially broken away.

FIGURE 3 is a broken full scale view as observed in the plane of line 3—3 of FIGURE 2 with the play pen partially collapsed.

FIGURE 4 is a full size fragmented top view with parts in position to receive the latch.

FIGURE 5 is a side elevational view with the latch in locking position.

FIGURE 6 is a bottom plan view of the structure shown in FIGURE 4.

FIGURE 7 is a fragmental side elevational view showing the latch in unlocked position just prior to collapsing the play pen.

FIGURE 8 is a top plan view of the structure shown in FIG. 7 on a reduced scale.

Referring to the drawings in detail, FIGURES 1 and 2 show a collapsible type play pen including split upper rail sections A, B, C, D with the latching hinge of the present invention applied thereto.

The latching hinge comprises the upper hinge leaf **1**, a lower hinge leaf **2** and a latch member **3**.

The upper hinge leaf **1** includes a flat body portion **4** having a pair of fastener receiving openings *4a*, *4b* therein and a projection or flange **6** which extends laterally outwardly beyond the outer face of the rail to which it is attached. The projection **6** is provided with an elongated tapered keeper slot **7**. The lower hinge leaf **2** includes a flat body portion **8** having a pair of fastener receiving openings *8a*, *8b* andis also provided with an offset plate **9** bent downwardly as shown at *9a* (FIGS. 3, 4) and out of the plane of the body **8** so as to lie beneath the lateral projection **6** of hinge leaf **1** when the leaves are connected by a pintle P. The offset plate **9** extends laterally outwardly beyond the outer face of the rail to which it is attached and is also provided with an elongated tapered slot **10**. One edge of the narrow end of the slot **10** extends inwardly as indicated at *10a* thus forming an opening of narrower dimensions at this point than the width of slot **7** in the hinge leaf **1** for a purpose to be later described.

On the outer face of the same side rail on which the

upper hinge leaf **1** is mounted the aforesaid latch **3** is pivotally secured. Said latch comprises a body **13** having an attaching ear **14** at one end thereof and offset from the plane of the body. The upper portion of the body is bent outwardly at right angles thereto to form a combined latch supporting means and finger grip **15**, whereas, the forward edge **16** of the body is curved rearwardly and inwardly forming a shoulder **17**. The lower edge of the body is formed into a tongue or detent **18** adapted to engage in the slots **7** and **10** when they are in registry to latch the side rails in alignment and erected position.

When the play pen is in collapsed condition, the rear edge *15a* of the finger piece **15** rests on the upper edge of the adjacent side rail A or D for example, while the detent **18** lies directly above the slot **7**. Upon opening up the play pen and bringing the split side rails into axial or longitudinal alignment, the finger piece **15** rides along the adjacent side rail until the front edge *15b* is clear thereof and then the detent **18** drops by gravity completely through slot **7** and partially through slot **10**. The side rails are thus latched in open position. In order to secure the latch tightly against accidental disengagement or disengagement by the child occupying the play pen, downward pressure on the finger piece will cause the detent **18** to wedgingly engage the narrow portion *10a* of the lower slot **10** bringing the side rails into complete alignment with each other and providing tight frictional engagement of the latch member with the hinge leaves. When it is desired to collapse the play pen, the finger piece **15** is moved upwardly to free the detent **18** from slot **10** and both rail sections are moved inwardly. Immediately after disengagement, the detent **18** is temporarily supported by the surface of the flange **6** adjacent the outer edge of slot **7**, and as the side rails are further collapsed, the front edge *15b* of finger piece **15** is picked up by the inwardly moving edge of side rail A or D as the case may be, and is cammed upwardly so that the rear edge *15a* of finger piece **15** is then supported by the upper edge of the side rail.

I claim:

1. A latching hinge for connecting the collapsible side rails of a play pen and latching them when the play pen is opened for use comprising, upper and lower hinge leaves each secured to the inner end of a related collapsible side rail along the bottom thereof, said upper leaf overlying said lower leaf, said upper leaf having a projection and said lower leaf having an offset, said projection and said offset extending laterally outwardly beyond the outer face of said side rails, pivot means at one end of said offset and said projection hinging the leaves together, said upper and lower leaves having a slot in their projection and offset portions, respectively, said slots substantially registering with each other when the play pen is opened for use and the side rails are aligned, a latch pivoted to the outer face of one of the side rails, said latch including a detent at its lower end and supporting means at the upper end thereof cooperating with an adjacent side rail to retain the latch in disengaged position, whereby upon movement of the collapsible side rails from collapsed, parallel position to opened, aligned position, said supporting means is released from engagement with the adjacent side rail permitting said detent to drop into the substantially aligned slots in said hinge leaves and latch said side rails.

2. A latching hinge for connecting the collapsible side rails of a play pen and latching them when the play pen is opened for use comprising, upper and lower hinge leaves each secured to the inner end of a related collapsible side rail along the bottom thereof, said upper leaf overlying said lower leaf, said upper leaf having a projection and said lower leaf having an offset, said projection and said offset extending laterally outwardly beyond the

outer face of said side rails, pivot means at one end of said offset and said projection hinging the leaves together, said upper and lower leaves having a slot in their projection and offset portions, respectively, said slots substantially registering with each other when the play pen is open for use and the side rails are aligned, a latch pivoted to the outer face of one of the side rails, said latch comprising a body, a finger grip at the top edge of the body, the lower edge of the body provding a detent, said slot in the lower hinge narrower at one end than said slot in the upper hinge leaf to provide wedging engagement with said detent, whereby, upon movement of the collapsible side rails from collapsed, parallel position to open, aligned position, said detent will drop into the substantially aligned slots in said hinge leaves and latch said side rails.

3. A latching hinge according to claim 2 wherein the

finger grip of said latch extends outwardly from said body at right angles thereto, the front edge of said body tapered downwardly and rearwardly so that when the detent of said latch is disengaged from latching position and said side rails are collapsed, the finger grip is cammed upwardly and supported by the top surface of the adjacent side rail to retain said latch in ready position to drop into said slots when they are brought into axial alignment during opening of the play pen.

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