

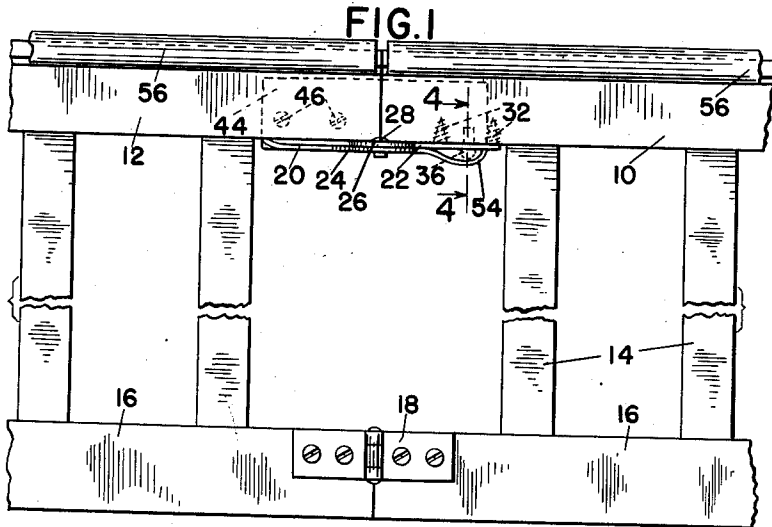
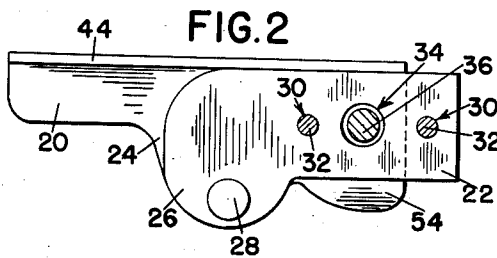
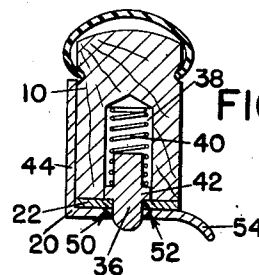
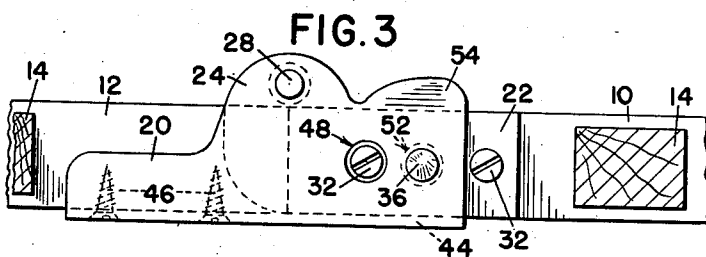
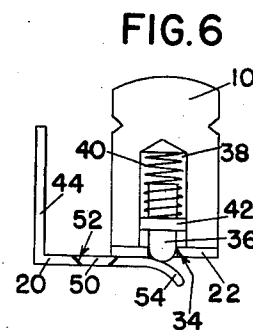
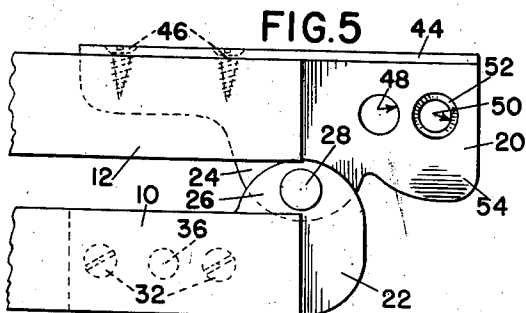
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LATCHING HINGE CONSTRUCTION

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LATCHING HINGE CONSTRUCTION

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4 Claims. (Cl. 16—144)

This invention relates to new and improved latching hinge construction particularly adapted for the use of infant's folding play yards and the like, and the principal object thereof resides in the provision of a hinge construction which latches automatically when the swinging side walls or members hinged together are brought into extended aligned condition.

Other objects of the invention include a latching hinge construction comprising a pair of flat relatively superposed hinge leaves pivoted together and incorporating a detent on one hinge leaf and an aperture or the like for receiving and holding the detent on the other hinge leaf, together with means on the latter for camming or retracting the detent as the hinge leaves are swung toward latching condition, so that the detent snaps into the aperture and is latched thereby; and the provision of a hinge construction as recited wherein the detent is quickly and easily manually retracted so that the device may be easily unlatched in order to swing the hinge leaves and the members connected thereto into a different relationship from that obtaining when the device is in latched condition.

A still further object of the invention resides in a latching hinge construction particularly adapted for but not limited to the folding side walls of a play yard or like construction comprising a pair of hinge leaves in flat superposed relationship for securement to the rails or similar members which are to be articulated by the hinge, said hinge leaves being pivotally connected at the break or joint between the articulated members on an axis laterally offset from said members; and the provision of a latching hinge construction as aforesaid embodying a flange on one hinge leaf for covering and protecting the joint or break between the articulated members, strengthening the joint, and providing a guard preventing one's fingers from accidentally entering the space at the joint during the swinging of the members and being consequently pinched thereby.

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 elevation showing the latching hinge applied to a play yard folding side wall or the like, parts being broken away;

Fig. 2 is an enlarged plan view of the hinge, parts being in section, and certain of the parts omitted;

Fig. 3 is a bottom plan view thereof;

Fig. 4 is an enlarged section on line 4—4 of Fig. 1;

Fig. 5 is a view similar to Fig. 2 but showing the hinge unlatched; and

Fig. 6 is a diagrammatic view illustrating the automatic action of the hinge.

This invention has been chosen to be illustrated as applied to the meeting ends of the top rail of an articulated side wall of a folding play yard or the like, and in Fig. 1 the reference numerals 10, 12 indicate the two

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members going to make up the top rail, numeral 14 indicates the usual upright stiles, numeral 16, 16 indicates the two members making up the bottom rail, and reference numeral 18 indicates the conventional hinge connecting the parts 16, 16. In the prior art, a hinge 18 is also used to connect the parts 10 and 12 but the present invention eliminates the need for this hinge.

The new automatic latching hinge comprises a pair of flat hinge leaves respectively indicated at 20 and 22. Each hinge leaf is provided with a co-planar laterally extending offset as at 24 and 26 respectively. These offsets are connected by a pivot of any convenient kind such as a rivet and indicated at 28.

The hinge leaf 22 is provided with three holes, two of which at 30 accommodate screws or other fasteners 32 which secure the plate 22 to the member 10. In this case this is shown as at the lower edge of the member 10 and this positioning of the hinge substantially conceals the same and also renders the hinge easier to operate and safer from accidental unlatching as for instance by the occupant of the play yard.

The third hole 34 is for the purpose of accommodating the spring detent 36, which as shown in Figs. 4 and 6 is located in a bore 38 in the rail member 10 at the lower edge thereof. This detent is normally yieldingly urged outwardly of the bore 38 by means of detent spring 40 and it is provided with a shoulder 42 which abuts the hinge leaf 22 so that the outwardmost extension of the detent is as shown in Fig. 4, but it may be retracted as shown in Fig. 6. The detent 36 has a rounded end portion that extends beyond the hinge leaf 20 and a cylindrical portion engageable with the wall of hole 50 when the detent is fully latched.

The hinge leaf 20 is provided with a lateral upstanding flange 44 at the side edge thereof opposite the hinge 28 and this flange may be used among other things to provide for fasteners 46 securing hinge leaf 20 to member 12. These fasteners could of course be positioned elsewhere. Hinge leaf 20 is provided with an aperture 48 which as shown in Fig. 3 may be used to apply one fastener 32 to hinge leaf 22 in aligned, latched condition of the hinge plates. There is provided also an additional hole 50 which is preferably beveled at its upward edge as shown at 52 for the purpose of receiving and holding spring detent 36.

With the members latched as in Figs. 2 and 3, the assembly of the entire device to the two members 10 and 12 is seen to be extremely simple and accurate and this fact alone completely obviates the usual sloppy fit ordinarily found in similar members 10 and 12 in devices of the present nature.

At the edge of hinge leaf 20 where the pivot 28 appears there is a downwardly declined camming lip 54 and this is used to cam back or retract detent 36 as the leaves 20 and 22 are moved from unlatched condition as in Fig. 5 to latching condition, see Fig. 6. Upon full alignment of the hinge leaves, and consequently of members 10 and 12, the detent of course springs down through aperture 34 thus automatically latching the parts in extended condition.

When it is desired to unlatch these members it is merely necessary for the operator to lightly press upwardly on the detent 36 and once the rounded end thereof is in the region of the bevel 52, the members 10 and 12 are easily swung to the Fig. 5 position because the bevel itself cams the detent further and thus provides for complete unlatching. Thus it will be seen that the present automatically latching hinge is extremely convenient and easy to operate, and in addition it rigidifies the joint and protects it due to flange 44.

In some cases a plastic guard strip indicated at 56 is

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used and in this case the flange 44 preferably approaches the plastic guard strip in order to substantially completely cover the break between members 10 and 12.

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

1. A latching hinge for latching a pair of elongated members in end-to-end alignment or to release the same for selective swinging motion into side-by-side location by the hinge, said latching hinge comprising a first hinge leaf secured to a member, a second hinge leaf secured to the other member, said leaves overlapping in part for mutual flat contacting relation, a pivot hinging the leaves together at the overlapping area, a portion of the first hinge leaf extending past the pivot to overlies the second hinge leaf in aligned latched condition of the members, said first hinge leaf having a detent receiving hole in the portion thereof which extends past the pivot and overlies the second hinge leaf, a spring-pressed detent substantially housed and concealed in the member to which said second hinge leaf is attached, and passing through an aperture in said second hinge leaf and urged to move in a direction parallel with the pivot axis through said detent receiving hole therefor when said hinge leaves and elongated members are in end-to-end alignment, said detent having a cylindrical portion engageable in said detent receiving hole to positively latch the overlapping portion against pivotal movement, and a rounded end portion, whereby when said detent is manually depressed to remove the cylindrical portion from said detent receiving hole, said detent will be cammed by said

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rounded end portion out of said detent receiving hole as the hinge members are pivoted.

2. A latching hinge as set forth in claim 1, wherein the first hinge leaf includes a flange overlapping the second hinge leaf at the edge of the latter when the leaves are latched to provide a finger shield covering the joint between the two elongated members.

3. A latching hinge as set forth in claim 1 wherein the overlapping area of the hinge leaves in which the hinge pivot is contained is laterally offset relative to the elongated members generally located at the adjacent end of the member but offset laterally thereof.

4. A latching hinge as set forth in claim 1 wherein said extension of the first hinge leaf includes an inclined cam portion causing depression of the spring-pressed detent as the hinge leaves swing toward latched condition.

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