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LATCH DEVICE FOR FLOOR OF BABY YARDS

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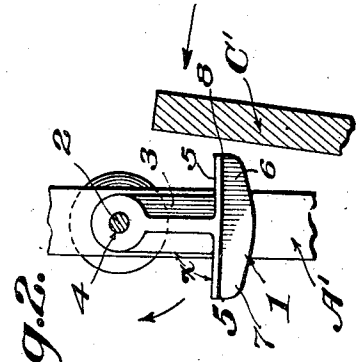



Fig. 2.

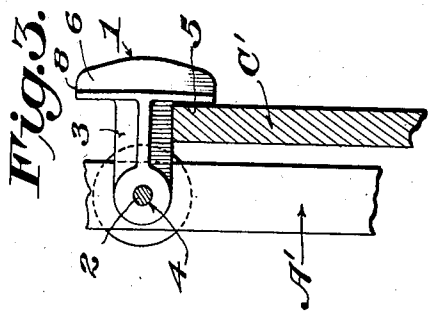



Fig. 3.

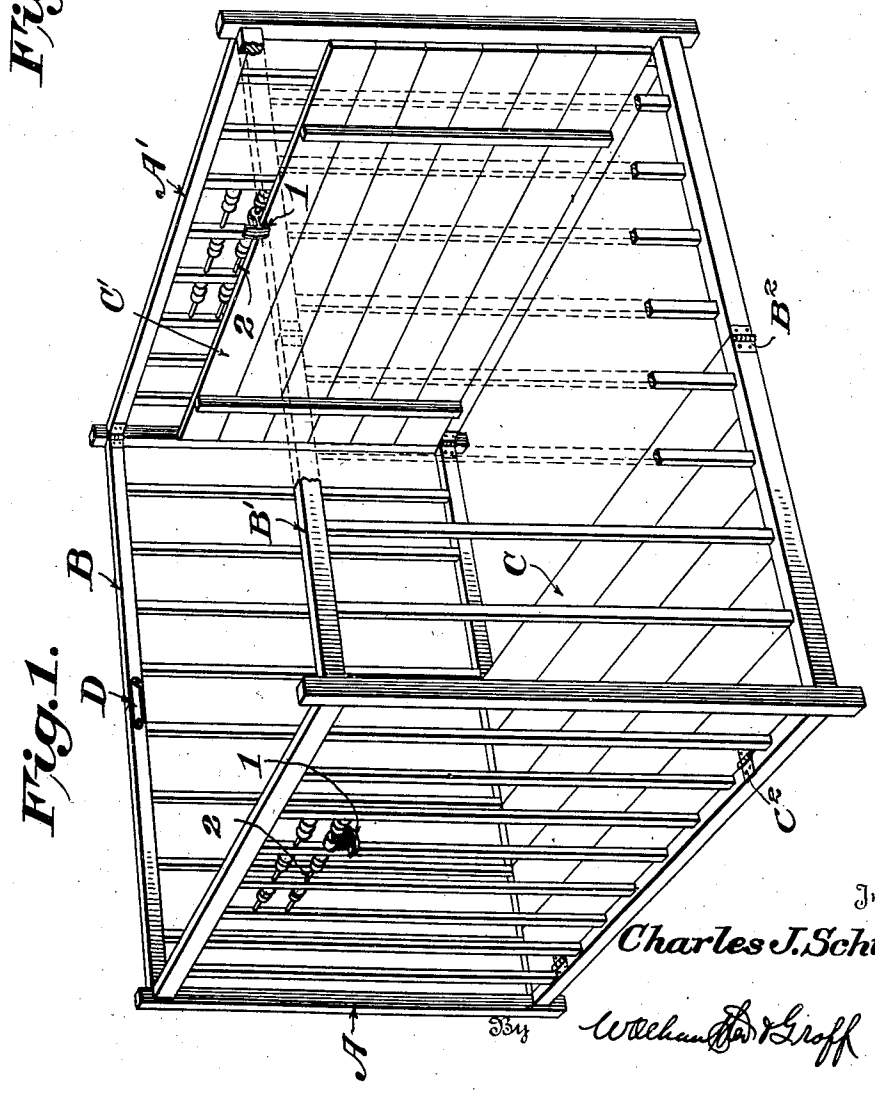



Fig. 1.

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## LATCH DEVICE FOR FLOORS OF BABY YARDS

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6 Claims. (Cl. 5—99)

This invention relates to nursery furniture, and more particularly to an improvement which facilitates collapsing and storing baby yards or pens.

Devices of the type above referred to usually include an enclosure formed by side walls, certain of which are collapsible or foldable and floor sections hingedly connected to the non-folding walls. Said floor sections, in their lowered position, not only form a complete base or floor but at the same time assist in maintaining the proper angular relation of the walls when the device is in use. However, when it is desired to collapse the device for storage, each floor section must be raised into parallel relation with the related side wall to which it is hinged, and, under ordinary circumstances, it is necessary for the party collapsing the device to use both hands to hold the floor sections elevated while attempting to inwardly collapse the side walls disposed at right angles to the walls carrying the floor sections.

While it has heretofore been proposed to hold the floor sections elevated with reference to the side walls by crude expedients, such as leather tie-backs, or, alternatively, tying a string or cord to the floor sections for the same purpose, nevertheless, no simple, safe, reliable, and practical means has been heretofore provided for automatically holding the floor sections in elevated position by merely raising them preliminary to collapsing the hinged side walls.

Accordingly, a primary object of the invention is to provide means for holding the floor sections in elevated position prior to collapsing the side walls of the pen, said means automatically functioning by impact due to elevating the floor sections with ordinary force toward the side wall or frame. In that connection the invention contemplates a simple form of pendulous latch device which will automatically function by the mere act of swinging the floor section parallel to its related side wall, said device presenting no hazards when not in use, and, therefore, not exposing the child using the pen to injury.

A further object of the invention is to provide a simple and practical form of latch device which may be economically made and installed and which will last the life of the article itself.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangements of parts hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawing, in which:

Figure 1 is a perspective view of a baby yard or pen embodying the present invention.

Figure 2 is a detail vertical sectional view showing the pendulous latch device in its normal position and about to be engaged by the edge of a floor section.

Figure 3 is a view similar to Figure 2 showing the latch device in actuated position, that is, engaging the edge of the floor section.

Similar reference characters designate corresponding parts through the several figures of the drawing.

Referring to Figure 1, it will be observed that the yard or pen comprises the side walls A—A' and the side walls B—B', said side walls preferably including spaced vertically disposed slats or bars and top and bottom rails. The walls A—A' have the floor section C and C' connected thereto by the hinges $C^2$. The side walls B—B' are usually hinged as at $B^2$ to "break" inwardly and are provided with suitable hooks or catch devices D for maintaining the walls straight and in erect position when the pen is in use. When it is desired to collapse the device for storage, it is first necessary to lift the floor sections C and C' and then move the side walls B and B' inwardly at the hinges $B^2$ after the latches D have been released.

According to the present invention, it is proposed to equip the side walls A—A' at a suitable location with the present pendulous automatic latch device 1. That is to say, it is proposed to mount on the rod 2, which ordinarily holds ornaments for the child's amusement, the latch 1 which will function so as to automatically engage the edge of its related floor section when the latter is raised.

As will be observed more particularly from Figures 2 and 3, the latch device consists of a body or shank portion 3 formed with an eye having an opening 4 to receive the mounting element, which, for example, may be the rod 2 or its equivalent. The end of the body opposite the eye is provided with a horizontal head which includes the oppositely extended arm portions 6 and 7. The outer end 8 of the arm 6 constitutes an impact receiving or striking face and the included angle $x$ between the shank or body 3 and the upper surface of the arm 7 constitutes a floor-engaging hook. From the foregoing description and the drawing, it will be apparent that the latch device 1 is of substantially inverted T-shaped formation and is freely swingable, in a plane normal to the side wall, on the

support or rod 2, in an opening formed in the side wall, said opening, in the example shown, being formed by a pair of adjacent slats.

When the floor sections C are lowered, the latch device I assumes the position shown in full lines in Figure 2. However, when it is desired to collapse the pen, it is only necessary to lift a floor section until the upper edge thereof strikes the impact surface 8 thereby imparting a swinging movement to the pendulous latch body so as to swing it from its normal position through an arc of approximately 270° until the hook *x* formed by the included angle of the shank and the upper surface of the arm 7 engage over the edge of the floor section. The floor sections need only be moved upwardly with a relatively quick snapping motion in order to impart swinging movement to the latch and cause the floor section to be automatically held in elevated position. When both floor sections are elevated, with respect to their related side walls, the catches D may be released and the side wall sections B and B′ folded inwardly on the hinges $B^2$.

The latch device I may be made of metal or any other suitable material, such as any of the available synthetic plastics, or may even be made of wire. Its essential characteristic is that it has an impact surface lying to one side of the center of gravity of the latch so that when said surface is struck by the ascending floor section, movement will be imparted thereto to effect latching engagement with the floor section. Of course, when it is desired to open up the pen for use, it is only necessary to swing the latch in such a direction as to release the hook portion from the edge of the floor section and the latter may be permitted to fall to the desired normal horizontal position.

From the foregoing, it will be apparent that the present invention provides a novel pendulous latch device which gravitates to its normal position, but which, when actuated by impact from a floor section will automatically engage and hold a floor section in its elevated position, that is, parallel to the side wall to which it is hinged. In this way, the hands of the operator are entirely free to manipulate the side walls of the pen without interference from the floor sections, thereby greatly facilitating the collapsing operation.

I claim:

1. In a baby pen, the combination with a side wall having an opening and a floor section hinged thereto for swinging movement into a plane parallel to the said side wall section, of a latch device pivotally supported by the side wall in said opening and swingable in said opening in a plane normal to said side wall, said device comprising a body having a top pivot opening and a bottom head portion at right angles thereto, said head portion including oppositely extending arms whose inner faces form included angles with respect to the body, the outer end of one of said arms serving as an impact surface adapted to be engaged by the floor section when in motion to impart angular movement to the latch about the axis of its pivot opening thereby to bring one of said included angles of the body into holding engagement with the edge of the floor section.

2. In a baby pen, the combination with a side wall having an opening and a floor section hinged thereto for swinging movement into a plane parallel to the said side wall section, of a latch device comprising a body of substantially inverted T-shaped formation to provide a shank and opposite arms, said device having the upper end of its shank pivoted to a side wall of the pen and swingable in said opening in a plane normal to the side wall, whereby, when a floor section hinged to the side wall carrying the latch device is swung upwardly, the said floor section will engage the end of one arm of the latch device to impart angular rotary movement thereto and swing the opposite arm into holding engagement with the edge of the floor section.

3. In a baby pen, the combination with a side wall having an opening and a floor section hinged thereto for swinging movement into a plane parallel to the said side wall section, of a latch device comprising body of substantially inverted T-shaped formation pendulously supported on a side wall and swingable in said opening in a plane normal to the side wall, said device having its center of gravity lying substantially within the plane of said side wall whereby one outer end of the head of the T projects inwardly of the side wall so that when a floor section hinged to the side wall is raised toward said side wall, the said floor section will engage the inwardly projecting end of the T and impart rotary motion to the latch device to swing the opposite side of the T into holding engagement with the floor section.

4. In a collapsible baby pen, the combination with a side wall having an opening and a floor section hinged to the lower portion thereof, whereby the free edge of said section may swing upwardly toward said side wall, of a latch device pendulously carried by said side wall and having a floor-engaging portion, said device swingable in said opening in a plane normal to said side wall and including means adapted to be struck by the free edge of the floor section when the latter is swung into substantially parallel relation to said side wall to be set in motion to cause the floor-engaging portion to engage and hold the floor section in elevated position.

5. In a collapsible baby pen, the combination with a side wall having an opening formed by spaced slats and a floor section hinged adjacent the lower edge of said wall and having its free edge adapted to be swung upwardly toward the wall, of a pivoted floor latch freely suspended from said side wall and swingable in said opening in a plane normal to the side wall, said latch having a portion lying in the path of movement of the free edge of said floor section and adapted to be engaged thereby to be swung automatically into holding engagement with the free edge of the floor section.

6. In a baby pen the combination with a side wall, and a floor section hinged to the lower portion of said side wall for elevation into a plane substantially parallel thereto, of a horizontal rod element forming part of said side wall and located above the floor section, a latch device including a shank rotatably supported at one end on said rod and shiftable from an inoperative non-latching position to an operative floor-engaging latching position, said latch device including portions disposed at right angles to the shank and at the end of the latter opposite the end supported on the rod, thereby forming hooks, said floor section when elevated striking and imparting rotary movement to said latch whereby one hook will embrace the side and bottom of the floor section.

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