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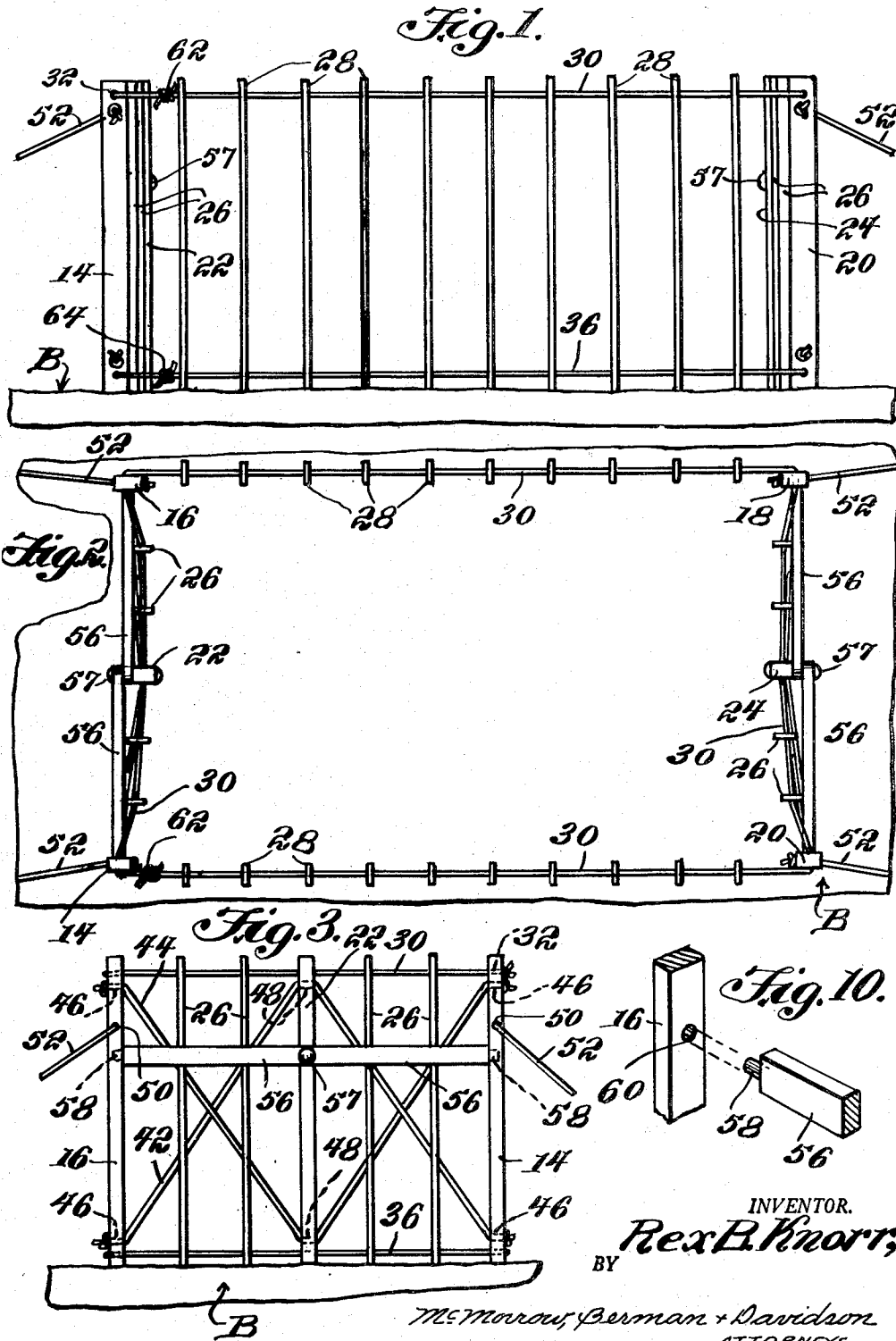
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COLLAPSIBLE ENCLOSURE FOR INFANTS

Filed Aug. 21, 1953

2 Sheets-Sheet 1



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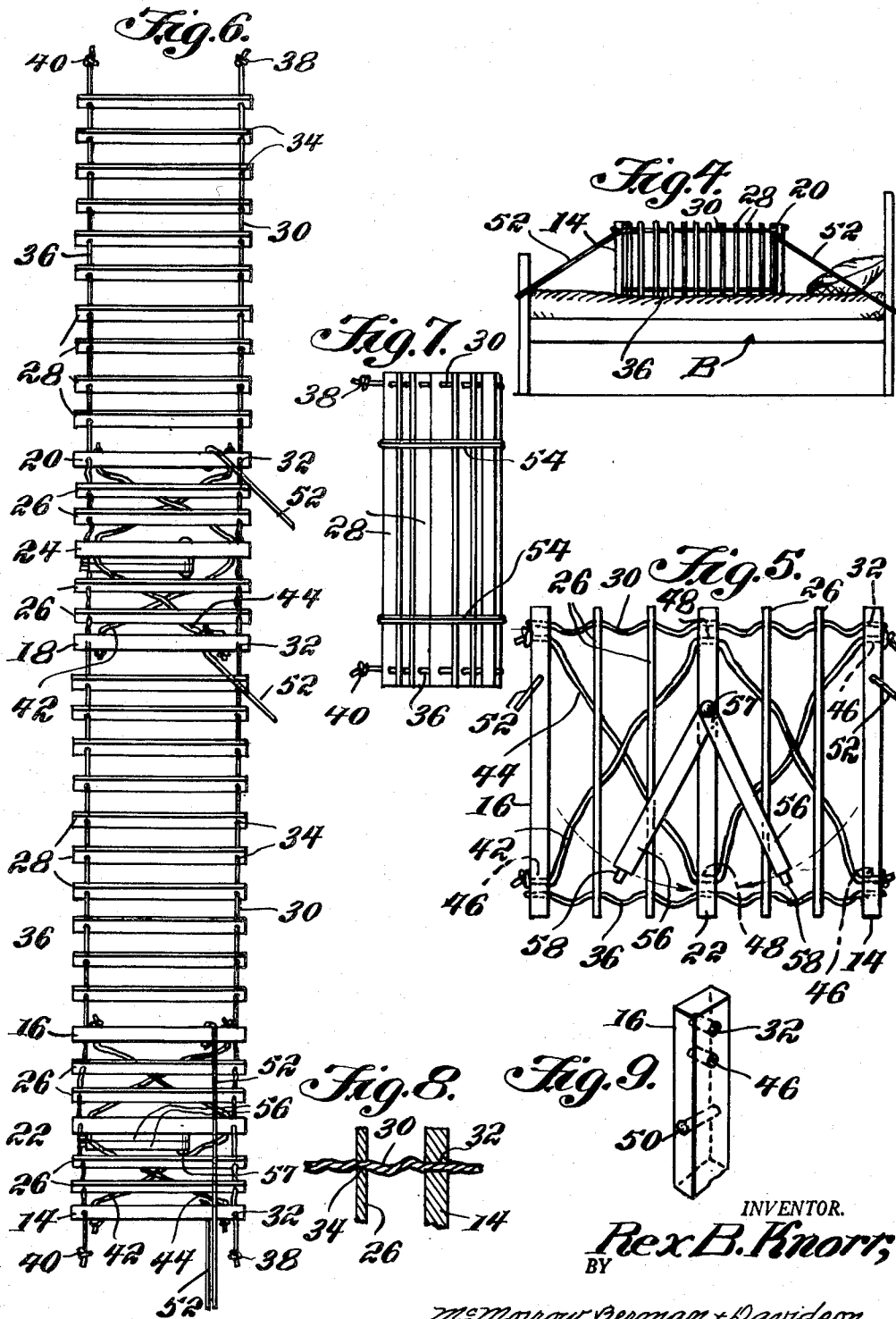
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COLLAPSIBLE ENCLOSURE FOR INFANTS

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2 Claims. (Cl. 256—25)

This invention relates to a knock-down or collapsible structure adapted to provide an enclosure for an infant, the structure being so designed as to be usable as a play-pen, crib, or the like.

In many instances, particularly when a family is traveling, it is desired to erect a play-pen, crib, or related enclosure for an infant. However, in most cases, structures of this type are not collapsible into so small an area as to facilitate their being included among luggage or other articles being carried during the journey.

The main object of the present invention, accordingly, is to provide a knock-down enclosure for infants which will be collapsible into a minimum area, the structure constituting the present invention being so designed as to be folded into a relatively small, cylindrical article when not in use.

Another object of importance is to provide a structure of the character referred to which, when it is to be used, can be erected in a minimum of time and with little difficulty.

Another object of importance is to provide an enclosure of the character stated which, despite its adaptability for collapsing to a small size, will nevertheless be sufficiently strong when erected as to insure against the infant leaving the confining space within the enclosure.

Yet another object is to provide a device as stated which will be capable of manufacture at a minimum of cost, from conventional slat and post stock and conventional rope or cord.

Another object is to provide a collapsible structure of the type referred to which will have a foldable brace means at each end thereof, said brace means being adapted, when extended to operative position, to support the several corner posts of the structure in stationary, upright positions upon a support such as a bed or the like.

Yet another object is to provide a folding play-pen or crib which will be so designed as to permit it to be contained within a length of rubber sheeting or the like, which sheeting, when the structure is erected, can be used as a waterproof bottom covering for a bed or other support on which the folding enclosure is erected.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawings, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a side elevational view of a knock-down enclosure for infants formed in accordance with the present invention, a supporting structure therefor being illustrated fragmentarily;

Figure 2 is a top plan view of the collapsible enclosure in which the support therefor has been illustrated fragmentarily and in top plan;

Figure 3 is an end elevational view;

Figure 4 is a reduced side elevational view showing the collapsible enclosure erected upon a conventional bed;

Figure 5 is a view similar to Figure 3 showing the enclosure at an intermediate stage between a fully collapsed and fully erected position;

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Figure 6 is a plan view showing the invention laid flat, before knots are tied;

Figure 7 is a side elevational view of the device fully collapsed;

Figure 8 is a fragmentary sectional view showing the details of the connection between a stringer element and the slats and corner posts associated therewith;

Figure 9 is a fragmentary perspective view of one of the corner posts; and

Figure 10 is a fragmentary, exploded perspective view showing the details of the connection between one of the brace members and a corner post.

The reference numerals 14, 16, 18 and 20 have been applied in the drawings to the corner posts of the knock-down infant's enclosure constituting the present invention. These are spaced rectangularly when the enclosure is erected, as will be readily noted from Figure 2. Thus, at each end of the enclosure, there is provided a pair of transversely spaced corner posts.

Spaced equal distances from the posts of each pair are end posts 22, 24. One end post is disposed midway between the corner posts 14, 16 at one end of the enclosure, this being the end post 22. The end post 24 is similarly disposed midway between the corner posts 18, 20 at the other end of the structure.

At each end of the structure, I provide a plurality of end slats 26. Further, along each side of the structure, a series of side slats 28 is employed. The end and side slats cooperate with the corner and end posts to define a rectangular, infant-confining enclosure shown to particular advantage in Figure 2.

Stringer elements are associated with the several posts and slats, to connect the same in the desired relationship. These include top and bottom stringer elements, in the illustrated example of the invention, but it will be understood that any number of stringer elements can be used, with the several stringer elements being spaced longitudinally of the posts, that is, vertically of the posts when the device is erected.

The top stringer element 30 can be formed from a length of conventional rope material, plastic cord, or the like, and is extended through top openings 32 of the several corner posts, and top openings 34 of the several slats, Figure 8. The openings 32, 34 are so proportioned as to cause the stringer element to bind tightly therein, and as a result, the slats and corner posts are engaged with the top stringer element against movement longitudinally of said element, thus to locate the several slats and posts in selected, spaced relationship when the device is erected.

A bottom stringer element has been designated by the reference numeral 36, and is identical in all respects to the top stringer element, except for its being extended through openings formed in the bottom ends of the several slats and posts. The bottom stringer element, like the top element, is engaged with the slats and posts in such a manner as to prevent the posts and slats from moving longitudinally of the bottom element.

At its opposite ends, the top element is knotted as at 38, the opposite ends of the bottom stringer element 36 being similarly knotted as at 40. It will be understood, in this regard, that instead of knotting the ends of the stringer elements, it might be desired, in a commercial embodiment of the invention, to form enlargements through the medium of any other well known expedient.

It is also desirable that there be utilized, in association with each end post and the corner posts adjacent thereto, flexible brace elements 42, 44. The flexible brace elements are preferably arranged as shown in Figures 3 and 5. As will be noted, at the opposite ends of the corner posts openings 46 are formed, adjacent the top and bottom stringer elements. The brace element 42 has its opposite ends engaged in the openings 46 at the

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lower ends of the corner posts, said brace element 42 being extended, at a location medially disposed between its ends, through a transverse passage 48 formed in one end of the end post.

Similarly, the flexible brace element 44 has its ends engaged in the openings 46 at the upper ends of the corner posts, the mid-length portion of the flexible brace element 44 being extended through a transverse passage or aperture 48 formed in the lower end of the associated end post.

In this way, the brace means at each end of the structure includes flexible X-braces, with said X-braces being disposed between the end post and each corner post associated therewith.

Included as part of the bracing structure of the device are corner guy elements 52 of flexible material such as rope, plastic cord, or the like. The guy elements 52 are each connected to a corner post, at the upper end of the corner post. The guy elements, at those ends thereof remote from the posts, are connectible to selected structural parts of a support such as a conventional bed B (see Figure 4).

The bracing structure at the opposite ends of the knockdown enclosure also includes swinging brace bars 56. A pair of brace bars 56 is provided on each end post, and as will be noted from Figures 3 and 5, the brace bars 56 of each pair are swingably mounted on a single pivot pin 57. The brace bars, when the device is not in use, can be swung in the direction of the arrows shown in Figure 5, into full longitudinal alignment with the respective end posts. When, however, the device is to be erected, the brace bars are swung upwardly into horizontal positions as shown in Figure 3, with the outer ends of the brace bars being formed with axial studs 58 adapted to be removably engaged in recesses 60 of the corner posts.

When the device is not in use, it can be rolled into a cylindrical form as shown in Figure 7, and can be secured by ties 54 or the like. It will be noted, at this point, that in a commercial embodiment, it would probably be desirable to confine the rolled-up structure in a container or length of rubberized fabric or similar material, to form a portable article that can be conveniently carried. Subsequently, when the device is to be used, the container or length of rubberized fabric or waterproof sheeting can be laid flat below the enclosure to protect the bed or other support on which the enclosure is erected.

Assuming that it is desired to unfold the structure, one would begin with the device rolled up in the manner shown in Figure 7. After the ties or flexible container have been removed, it is merely necessary that the entire device be unrolled. When the device is fully unrolled, it will be laid flat upon the support such as a bed B. Of course, since the article will be manufactured with the ends of its stringer elements connected, it will be doubled when laid flat on the bed.

The next step is to attach the guy elements 52 to rectangularly spaced structural parts of the associated support. Thus, in the example shown, the guy elements are attached at their outer ends to the several corner posts of the bed B. This causes the foldable enclosure to be erected, it being understood that the opposite ends of the stringer elements 30, 36 will have been knotted or otherwise joined in the manner shown in Figures 1 and 2 at 62, 64. Means other than knotting can be employed, if desired, to connect the ends of the respective stringer elements.

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The brace bars 56 are now swung upwardly from their folded position, and the axial studs thereof are engaged in the recesses 60 of the several corner posts. The foldable enclosure will now be ready for use, and it will be readily seen that the device can be erected in minimum time and with little effort and difficulty.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. A collapsible enclosure for infants comprising: a plurality of corner posts, said corner posts being rectangularly spaced to provide a pair of corner posts at each end of the enclosure; flexible stringer means extending from post to post to connect the same together; a series of slats strung upon said stringer means in the spaces between the posts to cooperate with the posts in forming an infant-confining enclosure; end posts disposed between the posts of each end of the enclosure, said end posts being strung upon said means; and swingable brace members carried by the end posts and separably connectible to the corner posts, to provide a rigid bracing assembly at each end of the enclosure adapted for holding the corner posts in upright, stationary positions upon a supporting structure.

2. A collapsible enclosure for infants comprising: a plurality of corner posts, said corner posts being rectangularly spaced to provide a pair of corner posts at each end of the enclosure; flexible stringer means extending from post to post to connect the same together; a series of slats strung upon said stringer means in the spaces between the posts to cooperate with the posts in forming an infant-confining enclosure; end posts parallel to and disposed medially between the posts of each end of the enclosure, said end posts being strung upon said means at their opposite ends; and a pair of swingable brace members having a common pivotal connection at one end to each end post located between the stringer means, said brace members being swingable between a first, inoperative position in which they are collapsed into longitudinal alignment with their associated end posts, and an extended, use position in which they extend in perpendicularity to their associated end posts, said brace members having means at their other ends for separably connecting the same to the adjacent corner posts in the extended positions of the brace members, thus to provide a rigid bracing assembly at each end of the enclosure adapted for holding the corner posts in an upright, stationary position upon a supporting structure.

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