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COLLAPSIBLE BED

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FIG. 1

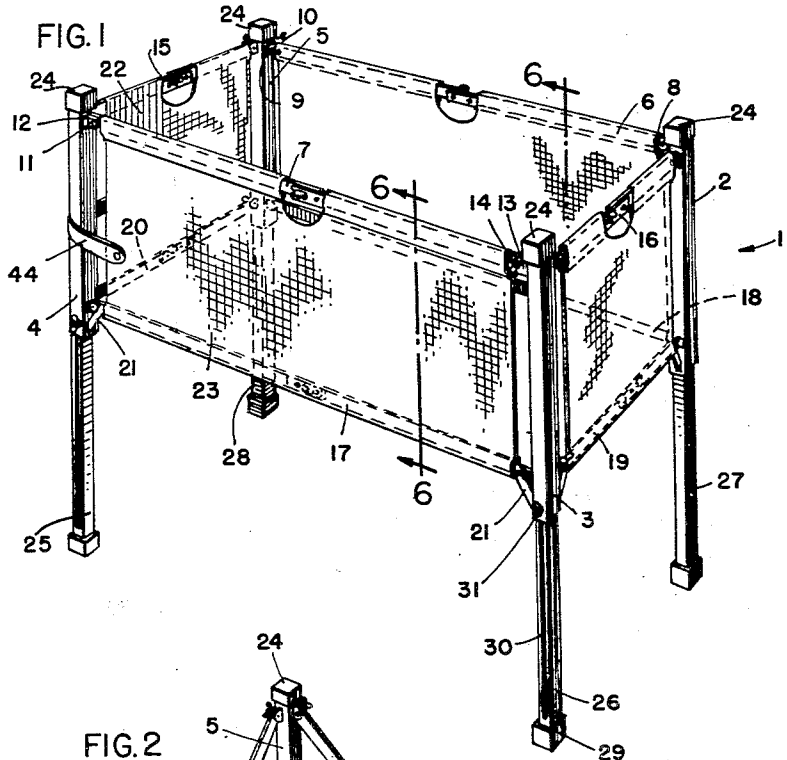
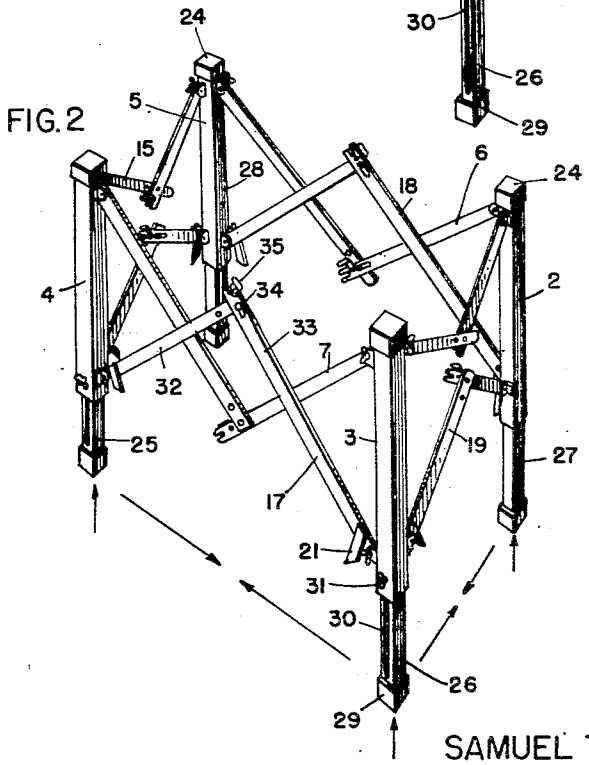



FIG. 2




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FIG. 3

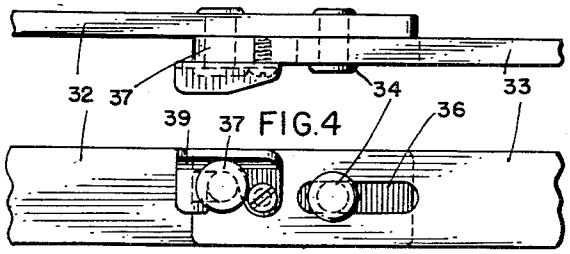



FIG. 4




FIG. 5

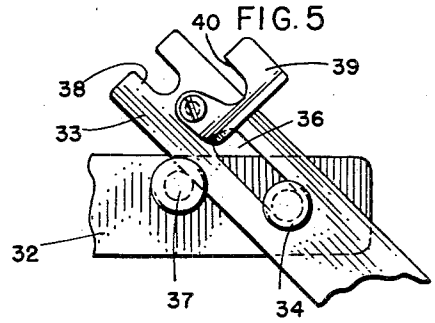



FIG. 6

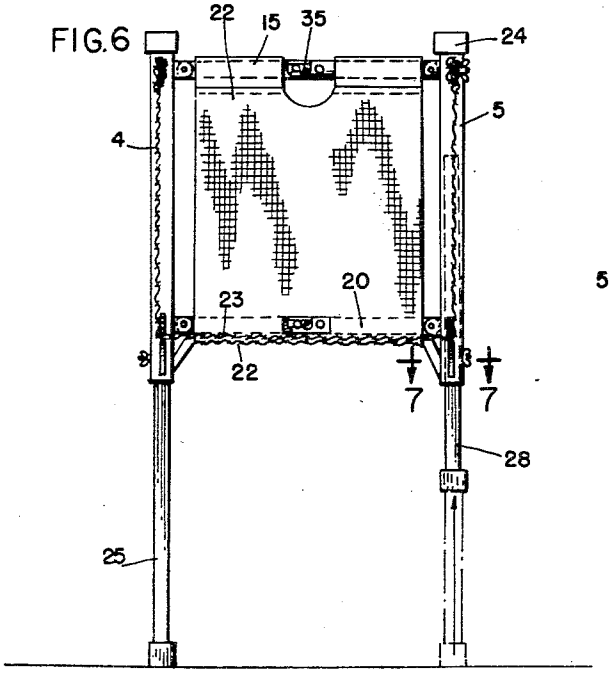
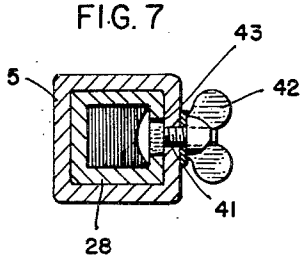



FIG. 7




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# COLLAPSIBLE BED

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Application September 6, 1951, Serial No. 245,312

2 Claims. (Cl. 5—99)

This invention relates to a collapsible bed and more particularly to a bed for children which is collapsible and foldable into a small compact portable unit.

It is an object of the invention to provide a collapsible bed in which all of the structural parts are collapsible and yet remain attached to one another in collapsed position.

Another object of the invention is to provide a collapsible bed in which the structural members are foldable and collapsible into a small unit substantially the same length as the corner members.

It is a further object of the invention to provide a collapsible bed in which some of the structural members fold upon one another and others telescope to form a compact unit.

These and other objects and advantages of the invention will be more clearly understood upon a consideration of the following description taken in conjunction with the accompanying drawings wherein similar reference numerals are employed to designate similar parts in all of the figures and in which:

Figure 1 is a perspective view of the bed fully extended and provided with fabric inserts between the structural members;

Figure 2 is a perspective view of the structural elements of the bed in partially collapsed and folded position;

Figure 3 is an enlarged top plan view of the novel clasp and latch arrangement of the invention for positively securing foldable frame members in extended position;

Figure 4 is an enlarged side elevational view of the clasp of Figure 3 in extended position;

Figure 5 is an enlarged side elevational view of the clasp of Figures 3 and 4 in partially folded position;

Figure 6 is a sectional view taken from the lines 6—6 of Figure 1; and

Figure 7 is a sectional view taken from the lines 7—7 of Figure 6.

According to the invention there is now provided a collapsible bed which is rigid and secure in its extended position and in which all of the parts of the frame remain attached together when the frame is collapsed, folded and telescoped to form a lightweight, compact, portable unit. The upper, lateral and transverse frame members are foldable downwardly and the lower lateral and transverse frame members are foldable upwardly and the legs telescope into the corner posts, all for the purpose of forming a small compact unit which is not substantially larger than the space occupied by the four posts. A latch means is provided to secure the two portions of a centrally pivoted frame member in longitudinal extension and means are provided for securing the telescoping legs to the corner posts at any desired point of extension.

The invention will be described by reciting the details of one particular embodiment thereof but it should be understood that the invention is not limited to this particular embodiment. With this understanding in mind Figure 1 illustrates a bed 1 having corner posts 2, 3, 4 and 5 at the four corners thereof and a pair of upper, lateral frame members 6 and 7 extending between the posts. The member 6 is pivotally secured to the post 2 by means of the rivet 8 which passes through an angle member (not shown) welded to the post 2. At the opposite end the member 6 is detachably and pivotally secured to an angle member 9 by means of the wing nut 10.

Similarly the member 7 is pivotally secured to the post 4 by means of the riveted connection 11 through the angle member 12 welded to the post 4. At the opposite end the



member 7 is detachably and pivotally secured to the angle member 13 on the post 3 by means of the wing nut 14. Since the end or transverse frame members 15 and 16 are secured to the posts in the same manner as the members 6 and 7, it will not be necessary to recite all of the details of the connection. For the same reason it will not be necessary to recite all of the connections by which the lower lateral frame members 17 and 18 and the lower end or transverse frame members 19 and 20 are secured to their respective posts. A plurality of angle supports 21—21 are located between the lower frame members and the posts in order to provide additional support for the frame members in extended position.

A fabric web 22 is supported on the frame member 15 by inserting the member 15 through a loop formed by folding the end of the web 22 upon itself and sewing the end thereof to the web. The web 22 is supported on the corresponding lower end frame member 20 and passes across the bottom of the bed where it is supported by the lower end frame member 19 and the upper frame member 16. Another web 23 is similarly supported on the upper lateral members 6 and 7 and passes across the bottom of the bed thereby forming a double layer of webbing with the web 22. The web members 22 and 23 may be made of any suitable material such as canvas, cotton duck, heavy netting and the like. The lighter weight, strong fibers such as nylon, may also be used where the advantage of light weight will offset the additional expense.

Ornamental caps 24—24 are located at the top of each of the posts 2, 3, 4 and 5 and the opposite ends of the posts are left open to receive the legs 25, 26, 27 and 28. The legs are suitably made in a shape and size such that they fit snugly within the hollow posts but at the same time are slidably advanceable or retractable with respect to the posts. For example, the leg 26 having a foot portion 29 at the lower end thereof is adapted to fit within the post 3 and may be telescoped to form a member only slightly longer than the post 3. The leg 26 is preferably hollow and has a slot 30 extending lengthwise thereof and adapted to receive the head of a bolt upon which the wing nut 31 is secured. When it is desired to telescope the leg 26 with the post 3 it is necessary only to loosen the wing nut 31 and push the leg 26 into retracted position. It will be apparent of course that the leg 26 may take any suitable position with respect to the post 3, as for example, its partially retracted position as illustrated in Figure 2.

The bed is shown in partially folded position in Figure 2 and it will be observed that the various frame members consist of two pieces pivotally connected for ease of folding. Since all of the frame members operate in a similar manner, it will be necessary to describe the operation of only one in order that the invention be fully understood. The lower lateral frame member 17 in Figure 2 is actually made up of two interconnected parts 32 and 33 which are pivotally secured at the inner ends thereof by the rivet 34. The particular arrangement at the pivotal connection will be described in greater detail with respect to Figures 3, 4 and 5.

As previously stated each of the legs 25–28 is partially retracted or telescoped into its corresponding post 2–5. It will also be observed with respect to Figure 2 that the lower lateral frame members and the lower end members are all arranged to fold upwardly in one plane while the upper frame members are all arranged to fold downwardly in a parallel plane so that all come snugly together in a single small package in fully folded position.

The clasp 35 illustrated in detail in Figures 3, 4 and 5 is employed for the purpose of securing the two segments of a foldable frame member in longitudinally extended position. For example, the element 32 and the element 33 of the lower lateral frame member 17 are adapted to be pivotally secured to one another by means of the rivet 34. The rivet is secured to the member 32 and slidably engages an elongated opening 36 adjacent the end of the element 33. A second rivet 37 is fixed to the element 32 at a position slightly more remote from the end than the rivet 34. An extended portion of the rivet 37 is adapted to receive the detent 38 in the end of the member 33 when the members are in their fully extended relationship. Lateral movement of the elements 32 and 33 with respect to one another in extended, locked position is prevented

by means of the latch 39 which is pivotally secured to the member 33 adjacent the detent 38 and is provided with its own detent 40. The latch 39 is movable to advanced position where it contacts the rivet 37 and prevents lateral movement of the members 32 and 33.

In the sectional view illustrated in Figure 6 the overlapping of the two webs 23 and 22 at the bottom of the bed is clearly shown. Likewise the manner in which the leg 28 telescopes into the post 5 is more fully illustrated. In Figure 7 the detailed cross sectional view shows the post 5 as being square and hollow and having the wing bolt 41 and the wing nut 42 associated therewith. The leg 28 is shown as being square and hollow and having an elongated opening 43 therein adapted to receive the flanged head of the bolt 41. By tightening the wing nut 42 it becomes possible to secure the leg 28 in any desired position with respect to the post 5 and this arrangement has the advantage that the bed may be lowered or raised through practically the full length of the leg in order to adjust it to varying uses.

It is contemplated that the posts of the bed will be made of any suitable square, rectangular, round or oblong metal tubing so long as the posts are adapted to receive telescoping legs of a complementary shape and slightly smaller size. For example, it may be suitable to make the posts of square light weight metal tubing 1" by 1" in size. The legs are then fabricated from square tubing of a similar material in ¾" by ¾" size. The metal tubing may be ordinary steel or iron tubing or it may preferably be a light weight metal or alloy such as aluminum, magnesium or stainless steel. The various foldable frame members may likewise be fabricated from aluminum, magnesium or mild carbon steel in the form of solid rods or bars, or round or square tubing. When the device is fabricated of such light weight metals it is more easily portable and when folded and collapsed, it takes the form of a small compact bundle which may suitably be held tightly in compacted form by means of the strap 44. (Fig. 1.)

Numerous embodiments other than that disclosed herein in detail for purposes of illustration will be suggested to one familiar with the art. It is contemplated that the invention shall include such embodiments provided they fall within the scope of the appended claims.

The invention is hereby claimed as follows:

1. A collapsible bed comprising corner posts, a plurality of upper lateral and end frame members and a similar plurality of lower lateral and end frame members, each of said frame members being pivotally mounted at one end on a corner post and detachably, pivotally mounted at the other end on another post, said upper frame members being centrally slidably pivoted for folding downwardly and said lower frame members being centrally slidably pivoted for folding upwardly, clasp means for securing each said frame member in longitudinal extension including a flanged rivet mounted on one section of said member, a complementary detent in the other section of said member and a latch mounted adjacent said detent and adapted for contact with said rivet, a plurality of legs extending from said posts and adapted to telescope into said posts in retracted position, and means to secure said legs in extended position.



2. A collapsible bed comprising corner posts, a plurality of upper lateral and end frame members and a similar plurality of lower lateral and end frame members, each of said frame members being pivotally mounted at one end on a corner post and detachably, pivotally mounted at the other end on another post, said upper frame members being centrally slidably pivoted for folding downwardly and said lower frame members being centrally slidably pivoted for folding upwardly, clasp means for securing each said frame member in longitudinal extension including a flanged rivet mounted on one section of said member, a complementary detent in the other section of said member and a latch mounted adjacent said detent and adapted for contact with said rivet, a flexible web removably supported at opposite ends thereof by and slidably movable on said respective upper lateral frame members and also extending around said lower lateral frame members outwardly thereof, a second flexible web removably supported at opposite ends thereof by and slidably movable on said respective upper end frame members and also extending around said lower end frame members outwardly thereof, a plurality of legs extending from said posts and adapted to telescope into said posts in retracted position, and means to secure said legs in extended position.


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