Nov. 28, 1967 C. T. MARTIN 3,354,475

STRUCTURAL CONNECTION FOR BEDS AND THE LIKE

Filed Nov. 30, 1966

Fig. 1.

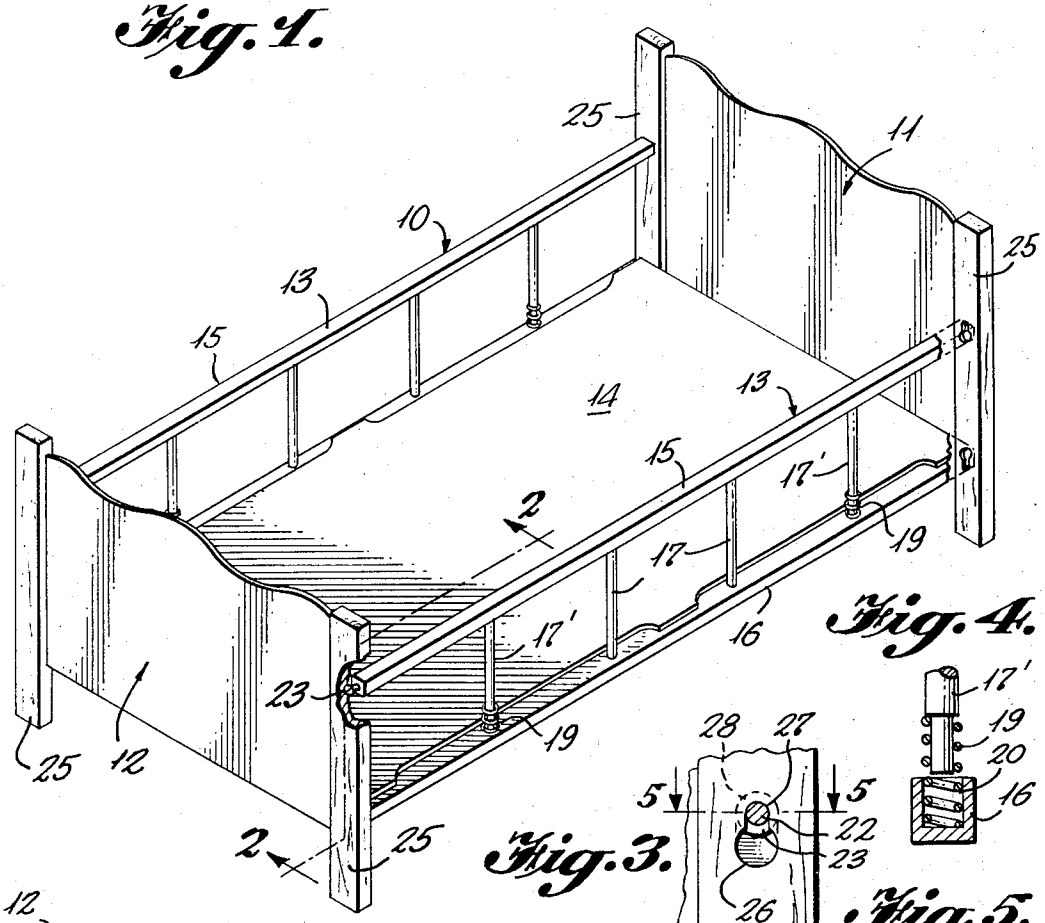


Fig. 4.

Fig. 3.

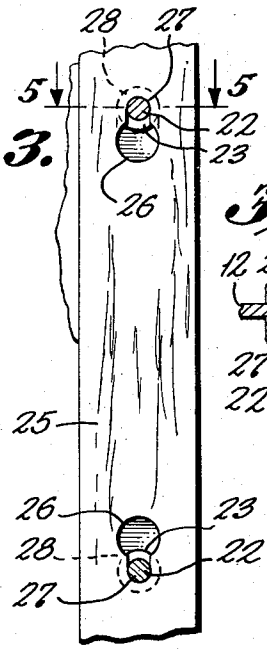


Fig. 5.

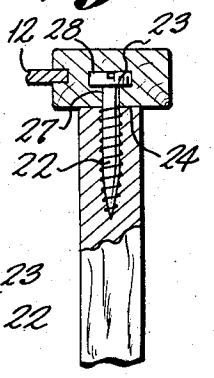
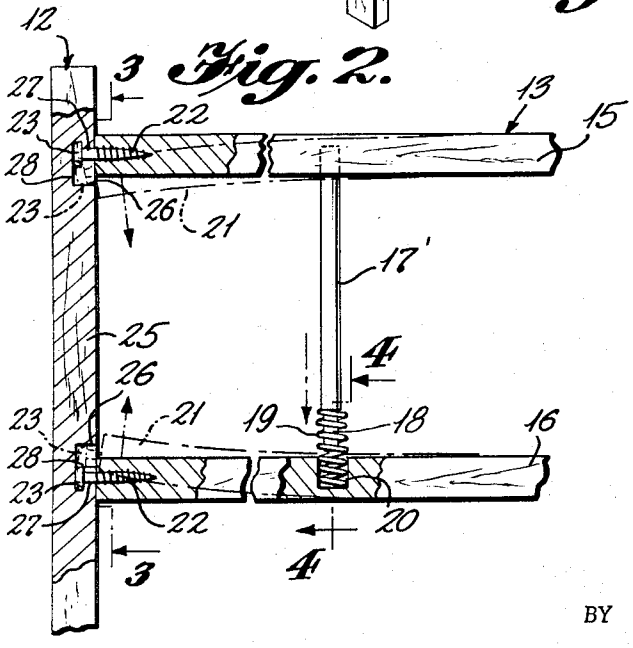


Fig. 2.



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United States Patent Office 3,354,475
Patented Nov. 28, 1967

3,354,475

STRUCTURAL CONNECTION FOR BEDS AND THE LIKE

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Filed Nov. 30, 1966, Ser. No. 597,987
4 Claims. (Cl. 5—93)

ABSTRACT OF THE DISCLOSURE

A quickly releasable connection or joint for the side and end sections of doll beds and like articles employing opposed keyhole slots and coacting headed fasteners carried by arms which are tensioned toward locking positions.

As compared to the prior art, the invention provides a more economical and a more simplified joint or connection between the side rails of a crib or doll bed and the head and foot boards thereof. Additionally, the assembly of the parts is greatly facilitated and the connected members will not separate until pressure is applied to the resilient arm extensions of the side rails. Brackets, screws and other separable fasteners commonly employed in the prior art are eliminated and there are no loose parts in the assembly likely to be lost. In this connection, the invention is particularly applicable to articles sold to the retail customer in a "knock-down" condition to be erected by the customer upon removal from the package.

Other objectives of the invention will be apparent during the course of the following detailed description.

In the accompanying drawings, forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

FIGURE 1 is a perspective view of a doll bed embodying the invention;

FIGURE 2 is an enlarged fragmentary vertical section taken on line 2—2 of FIGURE 1;

FIGURE 3 is an enlarged vertical section taken on line 3—3 of FIGURE 2;

FIGURE 4 is a fragmentary vertical section taken on line 4—4 of FIGURE 2; and

FIGURE 5 is a horizontal fragmentary section taken on line 5—5 of FIGURE 3.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 10 designates a doll bed or the like in its entirety having head and foot boards or panels 11 and 12, connected with the opposite ends of side members 13 by means of a connection or joint forming the subject matter of the invention. A removable bed bottom 14 rests upon the side members 13, as shown.

The connection proper which embodies the invention is shown in detail in FIGURES 2 through 5. Referring to these figures, each side member 13 comprises upper and lower bars 15 and 16 connected at intervals by spindles 17 rigid therewith. The endmost spindles 17′ of each side member 13 are secured rigidly to the upper bar 15 but have a moving connection with the lower bar 16 through the provision of a reduced lower end portion 18 surrounded by a spring 19 which merely serves as a guide. The lower end of the spring is seated in a recess 20 of the lower bar or rail 16. This arrangement simply allows the end spindle 17′ to move axially under certain conditions relative to the lower bar 16. As will be explained, the spindle 17′ moves with the upper bar 15 when the latter is deflected during the operation of the invention. The spring 19 is not relied upon as the force employed for producing the actual connection of parts, in accordance with the invention.

The upper and lower bars 15 and 16 of the bed side

members inherently possess resiliency even though they are quite stiff, and the end portions of the bars may be manually deflected inwardly as shown in broken lines at 21 in FIGURE 2. When released, the bars will return automatically to their normal parallel positions and this characteristic is utilized in making the connection or joint of the invention. The previously-described relative movement of the spindle 17 and bar 16 makes possible the deflection or bending of the end portions of the bars 15 and 16, as shown.

The extreme ends of each bar 15 and 16 carry screws or pin elements 22 firmly anchored therein, having enlarged heads 23 spaced outwardly from the end faces 24 of the bars 15 and 16. The elements 22 are rigid with the bars and move with the bars when they are deflected, as in FIGURE 2.

The leg members 25 of the head and foot boards 11 and 12 are each provided with vertically spaced oppositely formed keyhole slots in their inner faces including large circularly curved entrance portions 26 and connecting reduced portions 27 extending vertically in opposite directions. These keyhole openings or slots face the ends of the bars 15 and 16, as indicated in the drawings. The keyhole slots enter into internal locking cavities 28 of the leg members 25 which are of the full width of the larger slot portions 26, as shown in dotted lines in FIGURE 3.

When the end portions of the bars 15 and 16 are in their normal parallel fully separated positions and relieved of bending stress, the headed elements 22 are in alignment with the narrow parts 27 of the keyhole slots, whereby the heads 23 may be disposed in the outer end portions of the internal locking cavities 28. This locking condition is shown clearly in full lines in FIGURE 2 and also in FIGURE 3. Whenever it is desired to separate the head and foot boards 11 and 12 from the side members 13 or from one such member, the end portions of the bars 15 and 16 are deflected inwardly as at 21 and this positions the heads 23 adjacent the large entrance portions 26 of the keyhole slots, whereby the heads 23 may be withdrawn from the chambers 28 and the parts separated.

In a similar manner, when the bed parts are being assembled or connected, the end portions or bars 15 and 16 are deflected inwardly as in FIGURE 2 and the heads 23 are introduced through the large slot portions 26 and enter the internal locking cavity 28. The bars 15 and 16 are released and return to their untensioned, parallel positions shown in FIGURE 2 where the elements 22 enter the narrow slot portions 27 and the heads 23 are locked behind these narrow portions and disposed within the outer ends of the cavities 28, FIGURES 2 and 3. The head boards and side members are then securely and rigidly connected and cannot separate until the ends of the bars 15 and 16 are again deflected inwardly.

It should now be apparent that a quickly releasable connection between the bed members is provided which involves no separable fasteners or brackets likely to be lost during the erection or dismantling of the bed. The parts require only a simple manual manipulation for assembling and disassembling and a fully knock-down construction is provided and also one which is sturdy and very economical.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or scope of the subjoined claims.

I claim:

1. A quick releasable connection for a pair of substan-

tially right angular members, a portion of one member having a pair of spaced oppositely facing keyhole slots in one surface thereof and an internal locking cavity behind each keyhole slot in communication therewith, said keyhole slots having relatively wide entrance portions and relatively narrow locking portions, a pair of spaced bars constituting parts of the other member and being normally parallel and susbtantially alignable with said slots and including end portions adapted to be flexed laterally, said end portions returning to normal parallel relation when released, and headed pin-like elements anchored to the ends of said bar end portions with the heads thereof spaced from the ends of the bar end portions, said heads adapted to pass through the relatively wide entrance portions of the slots when the bar end portions are flexed laterally and adapted to engage behind the relatively narrow locking portions of the slots when the bar end portions are released, said heads being only slightly smaller than the relatively wide entrance portions of the slots and substantially wider than the narrow locking portions of the slots.

2. The invention as defined by claim **1**, and wherein the internal locking cavities are of substantially the same width as the relatively wide entrance portions of the slots and extend somewhat beyond the relatively narrow locking portions of the slots so that said heads while in the

locking position have a wall of substantial width on both sides thereof to prevent appreciable movement of the heads.

3. The invention as defined by claim **1**, and wherein the relatively narrow locking portions of the keyhole slots extend outwardly in opposite directions relative to a point between the keyhole slots and said bar end portions being flexed laterally inwardly toward each other to position said heads in alignment with the relatively wide entrance portions of the keyhole slots, said heads returning outwardly with the bar end portions upon release of the latter.

4. The invention as defined by claim **3**, and a spindle element extending transversely between the bar end portions and rigidly connected to one bar end portion and having a relatively movable connection with the other bar end portion.

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