United States Patent [19]

Larkin

[11] **3,754,289**

[45] **Aug. 28, 1973**

[54] **BED BASE**

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[21] Appl. No.: **229,962**

[52] **U.S. Cl.** ..... **5/201,** 5/131, 5/200 R, 5/200 C, 5/207

[51] **Int. Cl.** **A47c 19/00**

[58] **Field of Search** ..... 5/58, 131, 200, 200 C, 5/201, 207, 238, 282 R, 285, 286, 300, 308, 322, 333

[56] **References Cited**

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Attorney—John R. Walker, III

[57] **ABSTRACT**

A bed base for supporting a box spring which includes a downwardly projecting support member extending substantially along the longitudinal centerline thereof and normally having a mattress resting thereon. The bed base includes a pair of side panels and a pair of end panels. The side panels are shorter than the box spring is long, and the end panels are shorter than the box spring is wide. The side and end panels are equal in width and span a distance or enclose the space between the box spring and the floor. The opposite ends of the side panels include vertical tongue structure and the opposite ends of the end panels are provided with vertical grooves for receiving the tongues of the side panels to rigidly and removably lock the side panels to the end panels, thus establishing a continuous ledge for restingly supportint the box spring with the perimeter thereof projecting outwardly from the bed base. The box spring is precluded from side to side shifting by providing a groove in each of the end panels for receiving the downwardly projecting support member.

5 Claims, 7 Drawing Figures

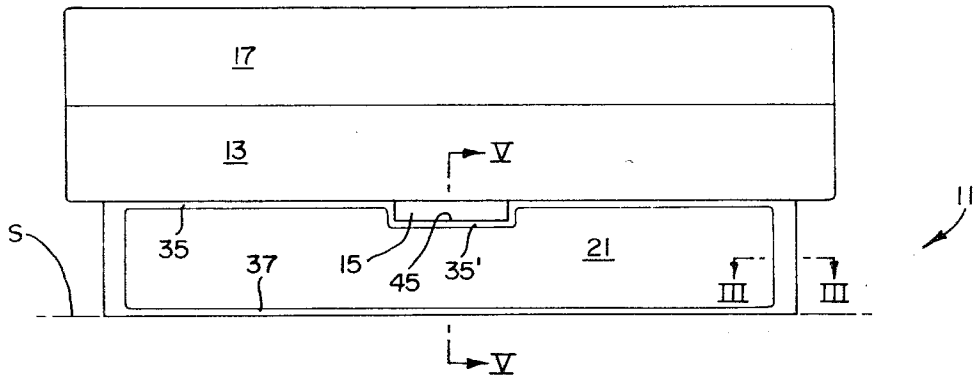


FIG. 1

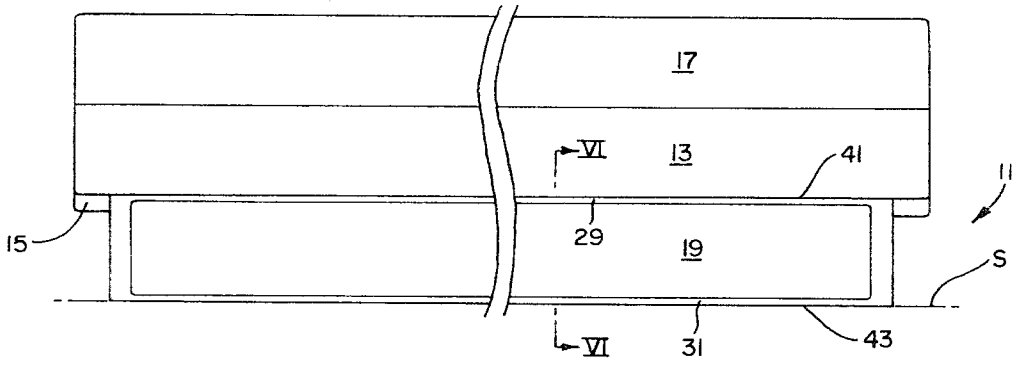


FIG. 2

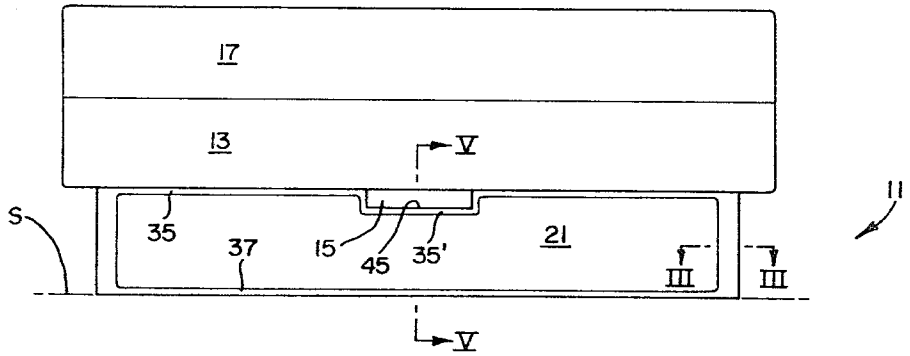


FIG. 3

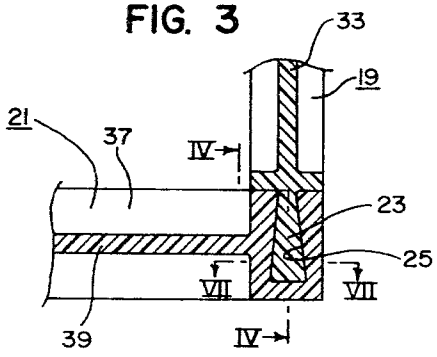


FIG. 4

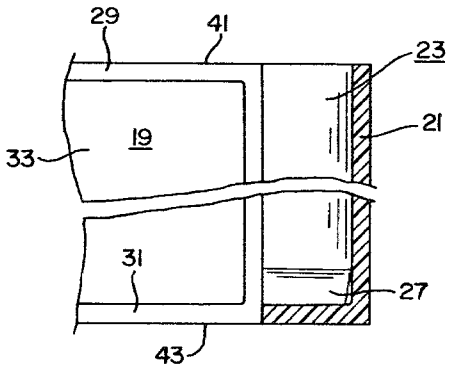


FIG. 5

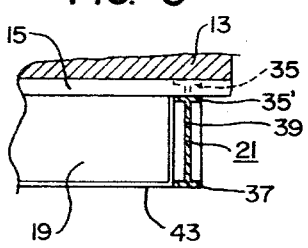


FIG. 6

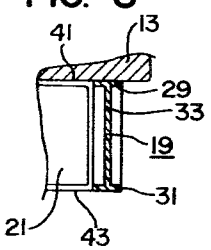
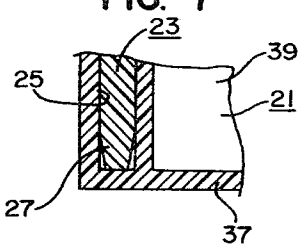


FIG. 7



BED BASE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to bed base structure for supporting a box spring.

2. Description of the Prior Art

Heretofore, there have been so-called Hollywood-type beds which usually included angle iron structure suitably arranged to constitute the side rails having horizontal flanges for restingly supporting the sides of the box spring and upwardly directed flanges for preventing side to side shifting of the box spring. The side rails usually are supported a spaced apart distance by a head and foot lateral angle iron member which does not engage the box spring. Additionally, legs are attached to the angle iron structure to support the box spring a distance above the floor. Oftentimes, casters are included for facilitating movement of the bed over the floor. Hollywood beds may or may not include a headboard, and the bedspread usually extends to the floor so as to obscure the supporting structure.

Certain disadvantages prevail in prior beds of the type above described: First, the box spring is supported from the extreme side portion thereof. The weight of the people sleeping in the bed places undue stress on the support structure thereof. Second, the rails are not supported rigidly by the head and foot lateral support members, i.e., oftentimes skewing slightly, thus allowing the box spring to slip from the rail and cause the bed to collapse. Obviously, in addition to being aggravating, the box spring is usually damaged as a result thereof. Third, removing dust and other debris from beneath the bed is a neverending chore. Additionally, articles often are misplaced by being inadvertently kicked beneath the bed, e.g., oftentimes guests in a motel check out and leave their shoes beneath the bed. Fourth, the legs of the Hollywood bed are hazardous and a source of frustration. In other words, a guest in a motel or other unfamiliar environment oftentimes injures his foot by banging it against the legs of the bed.

A preliminary patentability search revealed the following U. S. patents: Sullivan U.S. Pat. No. 754,255; Martin U.S. Pat. No. 1,259,764; Edelstein U.S. Pat. No. 1,355,545; Hamilton U.S. Pat. No. 2,596,995; Johnston U.S. Pat. No. 2,793,407; and Fata U.S. Pat. No. 3,090,086. None of the above references show or suggest applicant's bed base structure.

SUMMARY OF THE INVENTION

The present invention is directed towards overcoming the disadvantages and problems relative to previous bed base structure. The concept of the present invention is to provide a bed base for supporting a box spring which box spring includes a downwardly projecting support member extending substantially along the longitudinal centerline thereof and normally having a mattress resting thereon. The bed base of the present invention includes a pair of side panels and a pair of end panels. The side panels are shorter than the box spring is long and the end panels are shorter than the box spring is wide. The side and end panels are equal in width and span the distance or enclose the space between the box spring and the floor, i. e., the entire perimeter of the box spring projecting outwardly a distance from the bed base.

The opposite ends of the side panels include vertical tongue structure and the opposite ends of the end panels are provided with vertical grooves for receiving the tongues of the side panels to rigidly and removably lock the side panels to the end panels, thus establishing a continuous ledge for restingly supporting the box spring. Side to side shifting of the box spring is precluded by providing a groove in each of the end panels for receiving the downwardly projecting support member of the box spring. The side and end panels preferably are respectively integrally formed from polystyrene plastic. In addition to obviating the above-mentioned disadvantages, the bed base of the present invention affords more equal support of the box spring in utilizing more of the foundation or cross structure thereof for support. This is achieved by supporting the box spring along the sides a distance inwardly from the perimeter thereof, and additionally, the end panels engage the box spring along the head and foot portions thereof so as to provide optimum support.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view of the bed base of the present invention shown supporting a box spring having a mattress resting thereon.

FIG. 2 is an end view thereof.

FIG. 3 is a sectional view taken as on the line III—III of FIG. 2.

FIG. 4 is a sectional view taken as on the line IV—IV of FIG. 3.

FIG. 5 is a sectional view taken as on the line V—V of FIG. 2.

FIG. 6 is a sectional view taken as on the line VI—VI of FIG. 1.

FIG. 7 is a sectional view taken as on the line VII—VII of FIG. 3.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The bed base **11** of the present invention is intended for supporting a box spring **13** which includes the usual downwardly projecting support or structural member **15** extending substantially along the longitudinal centerline thereof and normally having a mattress **17** resting thereon. From FIGS. **1** and **2** of the drawings, it may be seen that the bed base **11** is resting upon a supporting surface S and supports the box spring **13** a spaced distance above the supporting surface S.

The bed base **11** generally comprises a pair of side panels **19** and a pair of end panels **21**. From FIG. **1** of the drawings, it may be seen that the side panels **19** have length thereto which is shorter than is the length of the box spring **13**. From FIG. **2** of the drawings, it may be seen that the end panels **21** have lengths thereto which are shorter than is the width of the box spring **13**. Additionally, both side and end panels **19, 21** have sufficient width to span the distance or enclose the space between the box spring **13** and the supporting surface S.

The opposite ends of the side panels **19** include a tapered tongue **23** and the opposite ends of the end panels **21** are provided with a tapered groove **25**. The grooves **25** are complementally shaped to the tongues **23** and respectively receive the tongues **23** to rigidly and removably lock the side panels **19** to the end panels **21**.

From FIGS. 4 and 7 of the drawings, it may be seen that the tongue 23 includes a lower portion 27 which tapers in more sharply than does the upper portion of the tongue 23.

In this regard, it should be pointed out that I prefer that the panels 19, 21 be respectively integrally formed from polystyrene plastic or any other suitable plastic, e. g., Dow 456 high impact polystyrene foamed to .7 g/cc specific gravity. Accordingly, it will be appreciated by those skilled in the art that a draft angle of one-half degree is suggested for the molding process of the panels 19, 21. For example, let us assume that the width (vertical dimension) of the panels 19, 21 is equal to 7-1/2 inches. Accordingly, the width of the groove 25 adjacent the bottom thereof might be 7/16 inches, and the width adjacent the top thereof would be one-half inch, i. e., the overall length of the groove being 7¼ inches. Additionally, the tongue 23 would be broader at the top than at the bottom, i. e., even when the sharply tapered portion 27 is disregarded. More specifically, the groove 23 is complementally shaped to accept the tongue 23 with a recommended 0.005 inch fit, thus providing means for rigidly and removably locking the side panels 19 to the end panels 21. It should be noted also from FIGS. 4 and 7 of the drawings that the vertically extending tongue and grooves 23, 25 have lengths thereto which are slightly shorter than are the width of the side and end panels 19, 21.

From FIGS. 5 and 6 of the drawings, it may be seen that the side and end panels 19, 21 are similar in cross section, i. e., both have I-beamlike shape in cross section thereto. More specifically, the side panels 19 include upper and lower horizontal flange members 29, 31 joined by a vertical web 33. Additionally, the end panels 21 include upper and lower horizontal flange members 35, 37 joined by a vertical web 39. The upper flanges 29, 29; 35, 35 establishing a continuous ledge depicted in part by the numeral 41 for restingly supporting the box spring 13. The lower flanges 31, 31; 37, 37 establish a continuous plane depicted in part by the numeral 43 for contiguously engaging the supporting surface S.

The upper flange 35 of each of the end panels 21 has an offset portion 35' defining a notch 45. The notch 45 in each of the panels 21 preferably is disposed intermediate the ends thereof and receives the aforementioned support or structural member 15. The notch 45 is close fitted to the support member 15 and prevents side to side shifting of the box spring 13.

Although the invention has been described and illustrated with respect to a preferred embodiment thereof, it is not to be so limited since changes and modifications may be made therein which are within the full intended scope of the invention.

I claim:

1. In combination, a box spring, a mattress supported upon said box spring, a bed base for resting upon a supporting surface to support said box spring a distance there-above, said bed base comprising a pair of spaced apart side panels having lengths thereto which are shorter than is the length of said box spring, a pair of spaced apart end panels having lengths thereto which are shorter than is the width of said box spring, said side and end panels having widths thereto which spans the distance between said box spring and the supporting surface, means for rigidly and removably locking said end panels to said side panels with the upper surfaces of said end and side panels establishing a continuous ledge restingly supporting said box spring, said box spring including a downwardly projecting support member extending substantially along the longitudinal center line thereof, and the upper surfaces of said pair of end panels respectively being provided with notches disposed intermediate the ends thereof receiving remote portions of said support member.

2. The combination of claim 1 in which said means for rigidly and removably locking said end panels to said side panels includes tongue and groove structure with the opposite ends of said end panels being provided with said grooves and the opposite ends of said side panels including said tongues.

3. The combination of claim 2 in which said tongue and grooves extend vertically and respectively have lengths thereto which are slightly shorter than are the widths of said end and side panels.

4. In combination, a box spring including a downwardly projecting support member extending along the longitudinal axis thereof, a mattress supported upon said box spring, a bed base for resting upon a supporting surface and to support said box spring a distance thereabove, said bed base comprising a pair of spaced apart side panels having lengths thereto which are shorter than the length of said box spring, a pair of spaced apart end panels having lengths thereto which are shorter than the width of said box spring, said side and end panels having widths thereto which are shorter than the width of said box spring, said side and end panels spanning the distance between said box spring and the supporting surface, and the opposite ends of said side panels including tapered tongue structure, the opposite ends of said end panels being provided with tapered grooves respectively receiving said tongues to rigidly and removably lock said side panels to said end panels with the upper surfaces thereof establishing a continuous ledge restingly supporting said box spring, said tongue and grooves extending vertically and terminating downwardly a distance above the supporting surface, each of said end panels having the upper surface thereof provided with a notch intermediate said grooves, said notches respectively receiving opposite end portions of said downwardly projecting support member of said box spring to prevent side to side shifting of said box spring.

5. The combination of claim 4 in which said side and end panels are integrally formed respectively from polystyrene plastic.

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