Jan. 19, 1971 A. E. HARRIS 3,555,579

FOLDING BED FRAME

Filed Sept. 25, 1968

Fig. 1

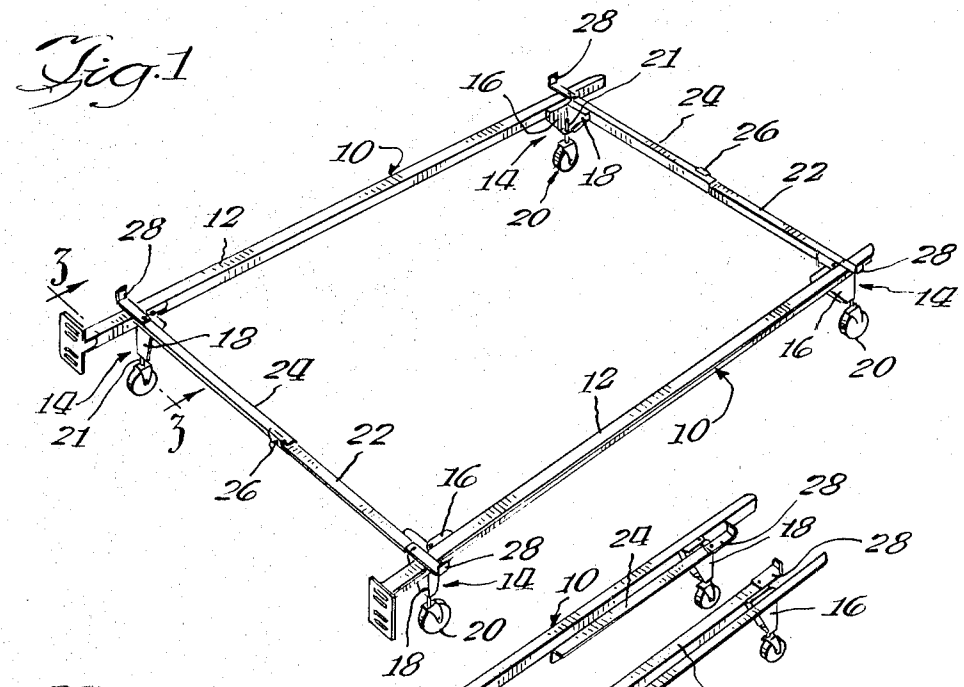


Fig. 2

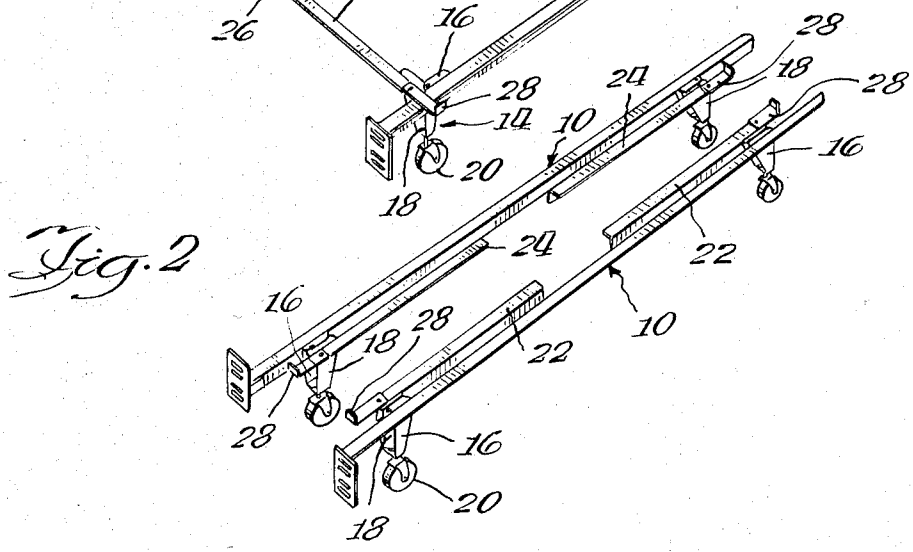
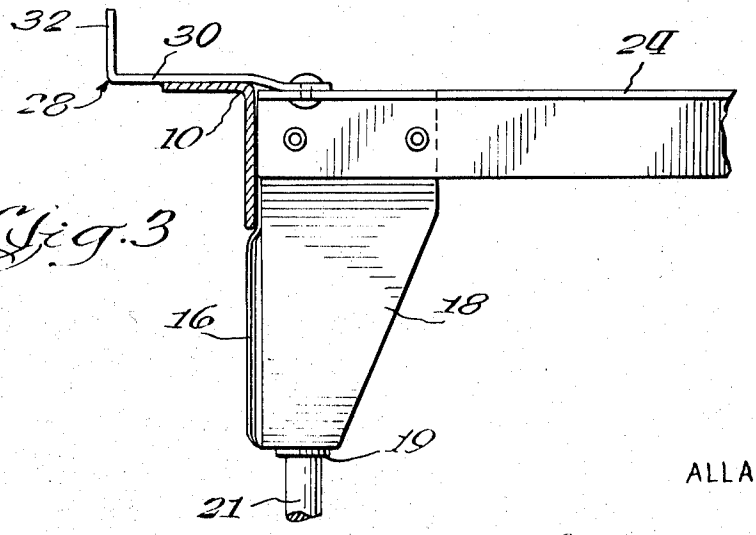


Fig. 3



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FOLDING BED FRAME

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ABSTRACT OF THE DISCLOSURE

A folding bed frame made of a pair of spaced side rails, and end rail portions pivotally mounted on the side rails, and movable thereon between a folded position adjacent the associated side rail and an extended position normal thereto. Each of the end rail portions in their extended positions are secured by a clamp or other means to an opposite end rail portion mounted on the other side rail to form a complete end rail. Brackets for restraining lateral movement of a box spring on the bed frame are mounted at an end of each end rail portion to overlie and extend laterally outward of the side rails when the end rail portions are in extended position, and to occupy a laterally retracted position when the end rail portions are in folded position.

BACKGROUND OF THE INVENTION

Foldable bed frames find wide commercial acceptance because they can be folded into a package of reduced size for ease of storage and shipment. A typical foldable bed frame is shown in the Goldberg Pat. No. 2,985,894.

It has been recognized as desirable to provide a foldable bed frame in which the side rails are located inwardly from the sides of a box spring carried thereon to make the side rails less visible. To accomplish this, the Paine et al. Pat. No. 3,123,837 teaches the use of L-shaped brackets which are rigidly attached to the side rails and which extend laterally outward from the side rails to engage the box spring. This permits the side rails to be inwardly located in the desired manner.

The L-shaped brackets which are mounted on side rails, however, create a problem in shipping of the foldable bed frames since they protrude outwardly from the side rail in an exposed manner. They are thus subject to being bent or broken off the side rails when the rails are carelessly and roughly handled during shipping and storage. Also, when foldable bed rails having fixed brackets on the side rails are wrapped for shipping in kraft paper or the like, the brackets are likely to punch outwardly through the paper during handling, exposing the interior of the package to dirt and dust, and creating an unsightly package.

DESCRIPTION OF THE INVENTION

In accordance with this invention, a foldable bed frame is provided in which the side rails are normally located inwardly from the sides of the box spring which they carry, the brackets which prevent lateral motion of the box spring being mounted on the ends of pivotable end rail sections. Thus, when the end rail sections are extended in their operative position perpendicular to the side rails, the brackets extend laterally outwardly of the side rails to retain the box spring, but when the end rail sections are pivoted into a folded position generally parallel to the side rails, the brackets are drawn laterally inwardly and no longer protrude outwardly to the side. The brackets are protected in their folded position, and less care is needed in moving, handling, and packaging the bed rails of this invention.

Numerous other advantages and features of the present invention will become readily apparent from the following detailed description of the invention and of one embodiment thereof, from the claims and from the accompanying drawings in which each and every detail shown is fully and completely disclosed as part of the specification, and in which like numerals refer to like parts.

THE DRAWING

FIG. 1 is a perspective view of the folding bed frame of this invention in its extended, operating position, preparatory to receiving and supporting a box spring;

FIG. 2 is a perspective view of the folding bed frame of this invention broken down into its two component side rail assemblies, which are shown in their folded positions;

FIG. 3 is a sectional view taken along the line 3—3 of FIG. 1, showing the relationship of an end rail portion, a side rail, and a bracket in the extended position.

DESCRIPTION OF SPECIFIC EMBODIMENT

Referring to FIGS. 1 and 3, a folding bed frame is disclosed having a pair of spaced side rails **10** with flat upper surfaces **12** for the support of a box spring thereon.

A pair of supporting leg assemblies **14** are connected to each of said side rails and comprise a pair of hinged leaf portions **16** and **18** which are connected together by an upper and lower hinge to permit leaf portions **16** and **18** to move between the positions shown in FIG. 1 and FIG. 2 respectively. At the bottom of each supporting leg assembly there is a socket **19** which carries shank **21**, which, in turn, carries wheel **20**.

End rail portions **22** and **24** are pivotally mounted on the side rails **10** by attachment to the respective leaves **18** of supporting leg assemblies **14**. The end rail portions **22** and **24** are thus movable between a folded position adjacent to and generally parallel with the associated side rail (the position shown in FIG. 2) and an extended position normal to the associated side rail **10** (shown in FIG. 1).

Each of the end rail portions, when in its extended position, is slidably engageable with an opposite end rail portion. In the embodiment shown herein, end rail portions **22** and **24** are made of angle iron and fit together in sliding relation, with side rail portion **22** fitting within the angle groove defined by side rail portion **24**.

The side rail portions **22** and **24** are secured together in their extended, engaged positions by screw clamp **26**.

Brackets **28** are secured to the ends of end rail portions **22** and **24** which are mounted on supporting leg assemblies **14**. Brackets **28** are each shown to comprise a horizontal, generally flat member **30** and upwardly turned end **32**. Flat member **30** extends away from the end rail portion **22** or **24** on which it is mounted in a direction generally longitudinal to the end rail portion. Upwardly turned end **32** is used for engagement with the sides of a box spring which rests on side rails **10** and end rail portions **22** and **24**.

When the end rail portions are in their extended position as shown in FIG. 1, brackets **28** overlie side rails **10** and extend laterally outward thereof to retain the sides of a box spring resting on the side rails **10**. This permits the side rails **10** to be located inwardly from the sides of the box spring. As is evident from FIG. 3, bracket portions **30** include an upwardly offset portion that is positioned in face abutting engagement with the upper surface of the respective side rail **12** to derive support therefrom.

When end rail portions **22** and **24** are in folded position as shown in FIG. 2, brackets **28** occupy a laterally retracted position relative to side rails **10**. In the laterally retracted position, brackets **28** are less exposed, and less subject to being bent or broken. Also, brackets **28** in their laterally retracted position are less likely to protrude through any wrapping which may be placed around the rail assemblies.

From the foregoing, it will be observed that numerous variations and modifications may be effected without departing from the true spirit and scope of the novel concept of the invention. It is, of course, intended to cover by the appended claims all such modifications as fall within the scope of the claims.

What is claimed is:

1. A folding bed frame for supporting a box spring there on comprising: first and second spaced parallel side frame members, each side frame member being L-shaped in cross-section and including a horizontally disposed first flange and a second flange extending downwardly therefrom; first and second cross frame members extending perpendicularly between said side frame members adjacent each end thereof, each cross frame member including first and second frame portions; means connecting one end of said first frame portions to said first side frame member for pivotal movement of said first frame portions about a vertical axis spaced inwardly of the second flange of the first side frame member, said connecting means permitting said first frame portions to be freely moved from a storage position parallel with said first side frame member and an extended position perpendicular thereto; means connecting one end of said second frame portions to said second side frame member for pivotal movement of said second frame portions about a vertical axis spaced inwardly of the second flange of the second side frame member, said latter connection means permitting said second frame portions to be freely moved between a storage position parallel to said second side frame member and an extended position perpendicular thereto, the end of each second frame portion remote from said latter connection means overlapping the end of a first frame portion remote from the first mentioned connection means in the extended positions thereof; means for securing the overlapping ends of said frame portions to retain the frame portions in their extended positions; and bracket means connected to said one ends of said first and second frame portions, said bracket means each including a mounting portion connected adjacent said one end of a frame portion and a box spring confining portion extending upwardly from the mounting portion, each mounting portion being longitudinally aligned with its respective frame portion and extending outwardly beyond said one end thereof, whereby said mounting portions extend outwardly above the side frame members when the frame portions of said cross frame members are in the extended position and are positioned inwardly on the side frame members when the frame portions of said cross frame members are in the storage position.

2. A folding bed frame as set forth in claim 1 wherein a section of the mounting portion of each bracket means is positioned in face abutting supported engagement with the first flange of a side frame member when the frame portions of said cross frame members are in the extended position.

3. A folding bed frame as set forth in claim 2 in which the frame portions of said cross frame members are L-shaped in cross section with a first flange thereof being horizontally disposed and a second flange thereof being vertically disposed, the horizontal flanges of the frame portions of said cross frame members being positioned below the first flange of said side frame members, the mounting portion of each bracket means being connected to the horizontal flange of a frame portion of a cross frame member and including an upwardly offset portion that provides said section that is positioned in face abutting supported engagement with the first flange of a side frame member.

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5—178, 201