

[54] **MOLDED BED FRAME LEG**

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[51] Int. Cl. A47c 19/00

[58] Field of Search 5/200 R, 310, 176 R; 248/188, 188.8

[56] **References Cited**

UNITED STATES PATENTS

2,772,424 12/1956 Roche et al. 5/176 R

2,911,656 11/1959 Roche et al. 5/310
3,134,566 5/1964 Beene 248/188.8

Primary Examiner—James C. Mitchell
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[57] **ABSTRACT**

A molded plastic one-piece bed frame support leg having a pair of parallel, laterally spaced upper flange means, a U-shaped section connecting the flange means together and adapted to receive a leg of a cross rail angle therein, and a center tubular support section connecting to one of the flange means and blending into part of the U-shaped section. A caster can be completely received in and supported by the lower end of the tubular support section which is vertically extending when the bed frame is in use.

6 Claims, 6 Drawing Figures

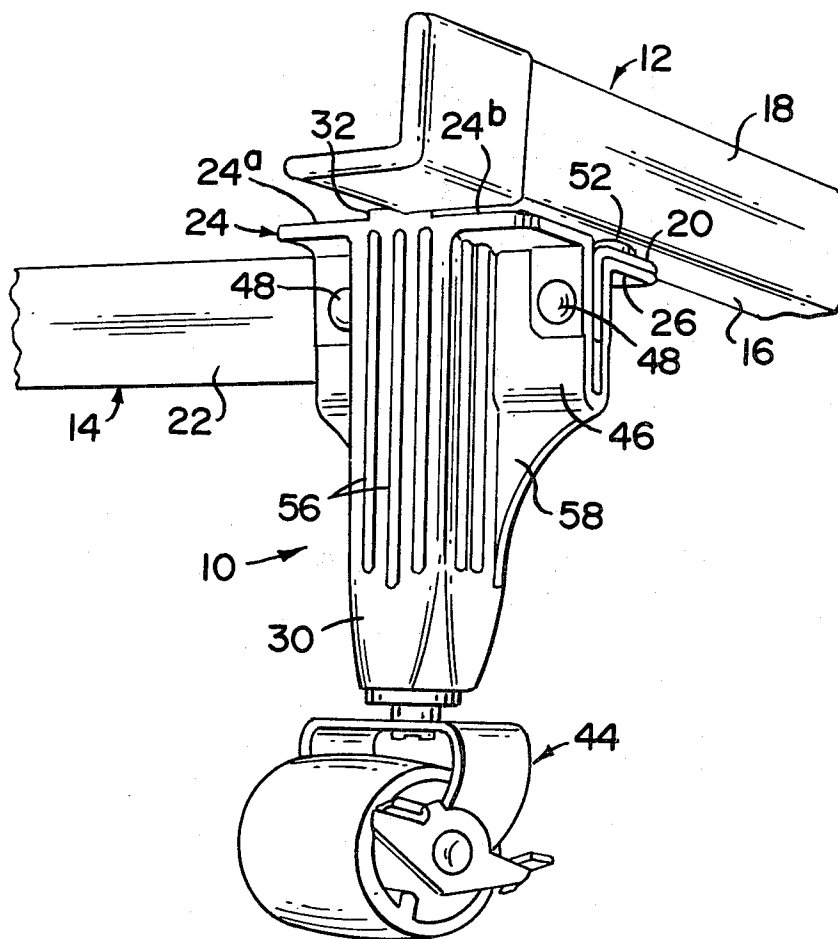


FIG. 1

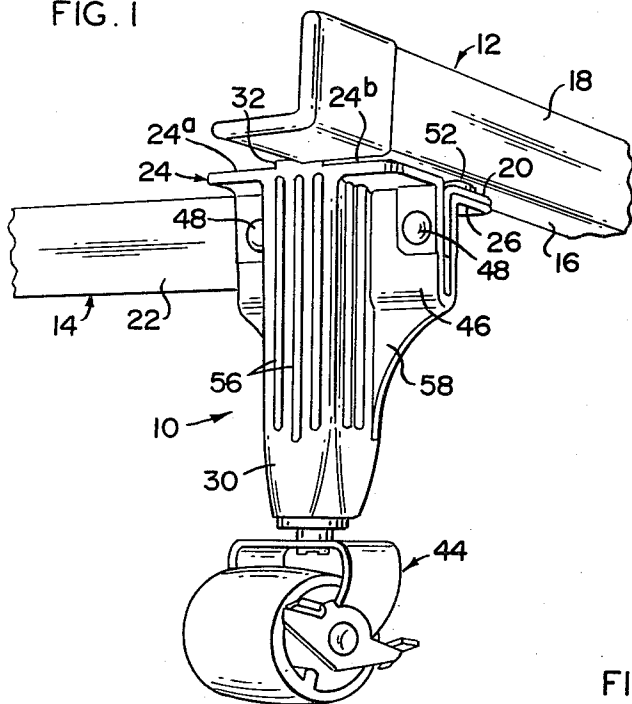


FIG. 2

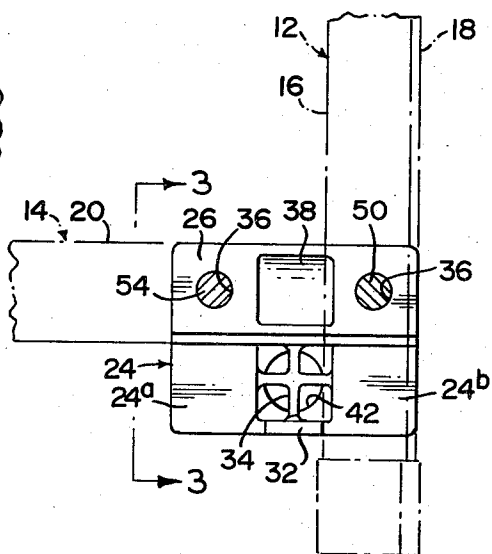


FIG. 4

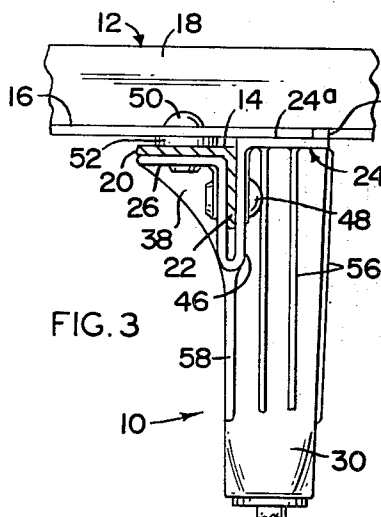


FIG. 3

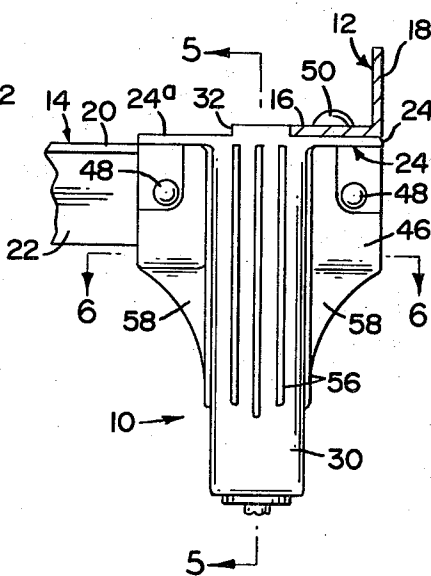


FIG. 5

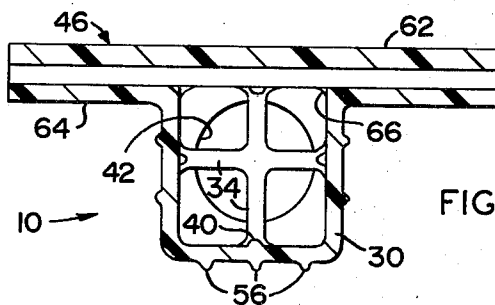
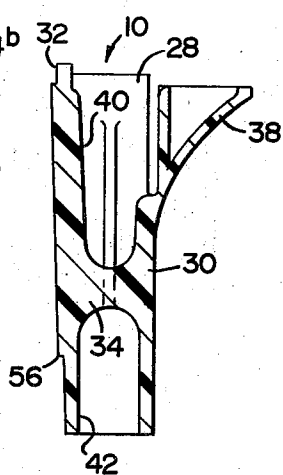


FIG. 6

MOLDED BED FRAME LEG

This invention relates to bed frame support legs and to combinations of the same with a bed frame of the type including side rails and cross rail sections pivotally connected to the side rails for forming an operative bed frame.

BACKGROUND OF INVENTION

In Hollywood style metal bed frames, it always is a problem to make these bed frames resistant to bending, and to provide sturdy, effective support legs therefor. These bed frames are made by a number of manufacturers and the pricing of the frames is quite competitive. Primarily, the bed frames are made from metal components, such as angle iron and stampings.

Inasmuch as portions of the bed frames, and especially the legs thereof, normally are quite noticeable in a room, it is quite desirable that the support legs be attractive in design and naturally be free from sharp edges or jagged corners which might injure or damage bed covers coming into contact therewith.

A number of patents have been issued heretofore on various designs of bed frame legs and representative patents in this field include U.S. Pat. Nos. D-179,428; 2,772,424; and 3,114,917.

The general object of the present invention is to provide a strong molded plastic leg for use in bed frames, and which leg is characterized by the provision of a main support column therein, and a pair of horizontal upper support flanges.

Another object of the invention is to provide a bed frame support leg of attractive design, which leg has no sharp corners or jagged edges therein, and which bed frame leg can be readily secured to other frame components to provide an operative structure.

A further object of the invention is to provide a one-piece support leg for a bed frame and wherein the bed frame support leg has a recess extending down thereinto from the upper edge thereof to permit a leg of a cross rail angle to be attached to the support leg from both sides of the angle leg.

Yet another object of the invention is to provide a bed frame support leg with a pair of upper load carrying flanges to engage the side rail and cross rail of a bed frame for adding strength and stability to the frame when in operative assembled position; to control pivotal movement of a cross rail in the frame by a lug on the support leg; and to provide a support leg which completely encompasses the caster stem socket for improved stability in the engagement of the caster stem with its positioning socket.

The foregoing and other objects and advantages of the invention will be made more apparent as the specification proceeds.

Reference now is made to the accompanying drawings, wherein:

FIG. 1 is a fragmentary perspective view showing the bed frame leg and its assembly into a portion of a bed frame;

FIG. 2 is a top plan of the bed frame leg with the bed frame components being shown in phantom;

FIG. 3 is a vertical section taken on line 3—3 of FIG. 2 with the bed frame leg and associated frame components being shown in assembled relationship;

FIG. 4 is a vertical section through a bed frame side rail showing an assembly of the bed frame leg and cross rail connected thereto;

FIG. 5 is a vertical section of the bed frame leg taken on line 5—5 of FIG. 4; and

FIG. 6 is a slightly enlarged horizontal section of the leg taken on line 6—6 of FIG. 4.

When referring to corresponding members shown in the drawings and referred to in the specification, corresponding numerals are used to facilitate comparison therebetween.

Attention now is directed to the details of the structure shown in the accompanying drawings, and a bed frame support leg is indicated as a whole by the numeral 10. This leg 10 is a molded, unitary product which is made from any suitable plastic molding material as is available commercially today. This support leg 10 is primarily designed for use with Hollywood bed frames and a side rail 12 of such a frame is shown in FIG. 1 of the drawings, while a cross rail section or cross rail 14 is also shown in the drawings and the leg 10 is used in operatively assembling cross rails to the side rails in bed frames of the Hollywood style, as well as to provide mobile support therefor. These Hollywood bed frames are conventional in construction and are of the type as shown, for example, in U.S. Pat. No. 2,772,424. The cross rail 14 is pivotally secured to the side rail 12 as explained hereinafter in more detail. Normally, both the side rail 12 and cross rail 14 are made from conventional metal angles, and with the side rail 12 having a horizontal leg 16 and a vertically extending leg 18. The cross rail 14 normally has a horizontal leg 20 and a vertical leg 22 and the bed frame engages box springs or other bedding members in an operative bed frame.

The support leg 10 has a pair of parallel laterally spaced horizontally directed support flange members 24 and 26 provided thereon with the flange 26 being slightly lower than the flange 24, and with the flange 24 primarily comprising spaced sections or wings 24a and 24b separated by an open upper end 28 of a center vertically extending tubular support section or column 30 formed in the leg. An upwardly protruding locking lug 32 is formed on the upper end 28 of the center support column 30 and is positioned intermediate the sections or wings 24a and 24b of the flange 24. Intersecting vertically extending stiffening gussets 34 are formed in the bore or center portion of the support column 30 intermediate the top and bottom ends thereof for aiding in forming a sturdy, strong load carrying section in the leg 10. Such gussets are, of course, integral with the support column.

The lower flange 26 has a pair of apertures 36 therein for receiving securing means to attach the leg in operative association with the bed frame, and this flange 26 preferably is provided with an arcuate reinforcing center section or brace 38 that smoothly blends into the lower surface of this lower flange 26 and extends downwardly into a vertically extending portion of the leg spaced directly below the center portion of this lower flange 26. Such brace 38 may be hollow as indicated in FIG. 5 to reduce the amount of material required to form the leg without impairing the strength thereof.

The center support column 30 may include a vertically extending reinforcing rib 40 formed on the upper inner surface of this tubular support column while a socket 42, open at the lower end of the support column 30, for a caster stem and/or its positioning means is formed in the leg for receiving and completely encompassing suitable caster stems and caster stem socket positioning means. A conventional caster 44 is shown operatively engaging the lower end of the support leg 10

and having a caster stem (not shown) extending up into the caster socket 42 to position the same in operative engagement with the bed frame.

As clearly shown in the drawings, the flanges 24 and 26 have downwardly extending web means integrally formed therewith on adjacent laterally inner edges thereof and which reinforcing means form a substantially U-shaped section 46 that extends laterally of the bed frame leg and extends vertically downwardly of the bed frame leg a suitable distance so that the vertically extending leg 22 of the cross rail 14 can be received therein. These web portions or reinforcing sections in the support leg have horizontally aligned holes formed therein for receiving rivets or equivalent means 48 that extend through such holes and through holes in the vertical leg 22 of the cross rail 14 to affix the cross rail leg securely to the bed frame support leg. The horizontal flange 20 of the cross rail 14 is supported on the upper surface of this flange 26. The vertical flange or leg 22 is engaged on both sides by opposing surfaces of the U-shaped section 46 which snugly receive the cross rail leg therein to support it fixedly in position.

The support leg 10 is pivotally secured to the side rail 12, as by a rivet 50 or equivalent means that extends through preformed holes formed in the horizontal leg or flange 16 of the side rail, the horizontal flange 20 of the cross rail and through the lower flange 26 and holes formed therein. Usually a spacing washer 52 is carried on the shank of this rivet to aid in providing some spacing of the rails for pivotal action between the cross rail and side rail of the bed frame.

The cross rail 14 is further secured to the support leg 10 by a rivet 54 engaging a laterally inner portion of the support leg and the lower flange 26.

The outer appearance of the center support column 30 in the leg is made more attractive by the provision of vertically extending ribs 56 thereon and by gradually tapering the support column inwardly at its lower end. Likewise, reinforcing webs 58 are provided at laterally spaced lower margins of the reinforcing section 46 and they curve inwardly of the support leg and blend into one wall of the tubular support column.

FIG. 4 shows that when the support leg 10 is engaged with a cross rail and side rail in an operative bed frame, one end of the lug 32 at the upper end of the support leg abuts against the laterally inner edge of the side rail 12 when the cross rail is operatively positioned to extend perpendicular to the side rail.

It will be realized that all of the components and portions of the support leg 10 are of an integral, unitary construction and that the flanges 24 and 26 blend smoothly into the remaining portions of the leg and that the center support column 30 in the leg, as well as the other part of the leg are made of any suitable thickness from a high strength plastic moldable plastic.

The U-shaped reinforcing section 46 in the support leg forms one vertically extending wall 62 which is continuous from edge to edge in the leg whereas a wall 64 forming the opposed portion of this section may be interrupted as indicated at 66 in FIG. 5 of the drawings at the upper end of the support column 30 as a sturdy leg construction is still obtained.

A sturdy attractive leg has been provided by this invention. It is durable and meets the objects of the invention.

While one complete embodiment of the invention has been disclosed herein, it will be appreciated that modification of this particular embodiment of the in-

vention may be resorted to without departing from the scope of the invention.

I claim:

1. A bed frame leg comprising a one-piece molded plastic body including a pair of parallel laterally spaced upper flange means, a U-shaped section connecting said flange means together and adapted to receive a leg of a cross rail angle therein, and a center tubular support section connecting to one of said flange means and blending into part of said U-shaped section, one of said upper flange means being adapted to have a bed frame cross rail secured thereto.

2. A bed frame leg as in claim 1 where said U-shaped section terminates at laterally spaced bottom portions thereof into strengthening webs blending into said support section.

3. A bed frame leg as in claim 1 where an upwardly protruding stop lug is formed at a center portion of one of said flange means to abut on an edge of a side rail and limit arcuate movement of a cross rail when the leg is operatively engaged with a bed frame.

4. A bed frame leg comprising a one-piece molded plastic body including a tubular center support, upper flange means extending in opposite directions from said center support at its upper end, a lower support flange spaced laterally from but parallel to said upper flange means, said flange means and said support flange having adjacent parallel laterally inner edges, and a generally U-shaped section connecting at its upper ends to the adjacent laterally inner edges of said flange means and said flange and blending into a wall of said center support at the lower end of said U-shaped section.

5. The combination in a bed frame comprising a bed frame leg formed as a one-piece molded plastic body including a tubular center support, upper flange means, a lower support flange spaced laterally from but parallel to said upper flange means, said flange means and said support flange having adjacent parallel laterally inner edges, and a generally U-shaped section connecting to the adjacent laterally inner edges of said flange means and said flange and blending into a wall of said center support at the lower end of said U-shaped section; and a metal angle cross rail having one flange received in said U-shaped section and a second flange bearing on said lower support flange, a metal angle bed frame side rail, a securing means extending through legs of said side rail and cross rail, and said lower support flange to secure the cross rail and support leg pivotally to the side rail, and rivet means extending through said U-shaped section and said flange of said cross rail for securing said cross rail to said bed frame leg.

6. The combination as in claim 5 where an upwardly protruding stop lug is formed at a center portion of said upper flange means to abut on an edge of a side rail and limit arcuate movement of a cross rail to a position extending perpendicularly to the side rail.

7. The combination as in claim 5 where said upper flange means supports said side rail, and said second flange of said cross rail is positioned below and movable under said side rail.

8. A bed frame leg as in claim 1 where said support section has a continuous periphery at a bottom portion thereof, and an upper portion of said support section has an interrupted inner periphery.

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