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H. RICHARDSON

CORNER LOCK FOR BEDSTEADS

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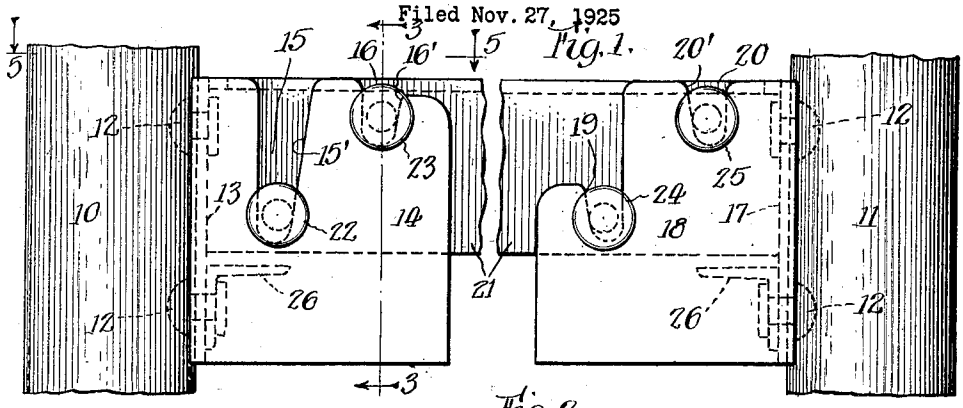


Fig. 1.

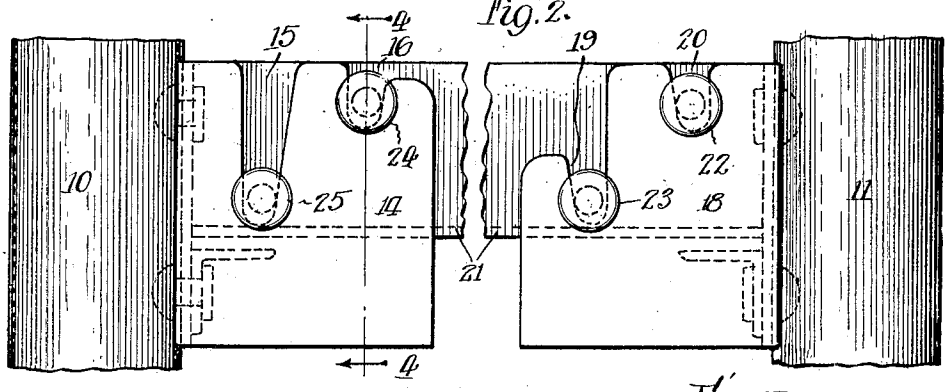


Fig. 2.

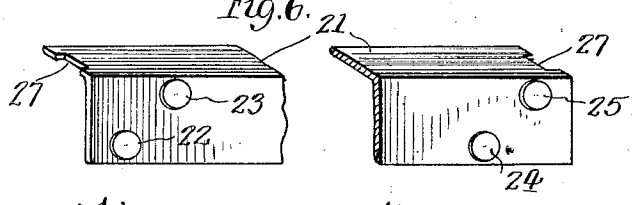


Fig. 6.

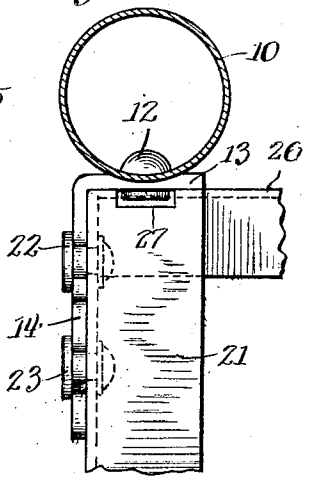


Fig. 5.

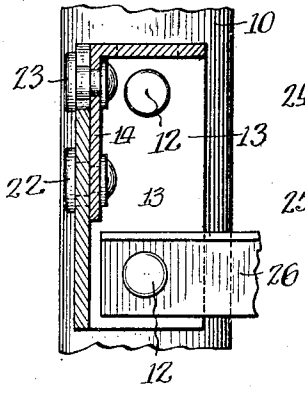


Fig. 3.

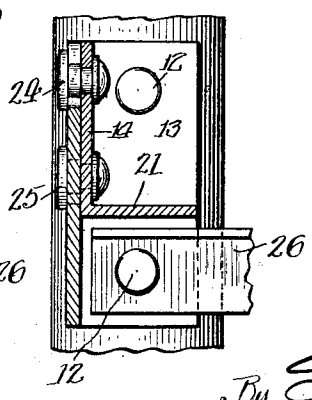


Fig. 4.

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UNITED STATES PATENT OFFICE.

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CORNER LOCK FOR BEDSTEADS.

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This invention pertains to improvements in what are commonly known as corner locks for bedsteads, including the instrumentalities by which the side rails or end rails, or both, of a bedstead frame, or the side rails of a bed spring are separably united to the corner post of the bedstead frame.

In one known type of corner locks there is employed an L-shaped bracket, conveniently and cheaply formed as a section of a rolled angle bar, one limb of which is bolted or riveted to the post of the bed frame, the other limb projecting forwardly at right angles thereto parallel with a side of the frame, and formed with a notch in its upper edge created by punching out or otherwise displacing the metal. The angular side rail used in connection with this type of lock is equipped simply with a centrally located laterally projecting pin or stud riveted therein which engages an inclined edge of the said notch, in a manner to wedge the side rail against the post plate of the corner bracket.

The amount of abutting surface provided by the end of a side rail wedged against a plate of a bracket, is too small for the corner posts of a bed to be either efficiently or permanently held against any tendency to tilt relatively to the side rail under the frequently occurring strains to which the bed frame is subjected simply by means of the thrust of a single stud against an inclined edge of a notch in the manner above described.

One important object of my present invention is to provide a corner lock structure of the general type last referred to, wherein the relative tilting tendency above referred to shall be effectively overcome. This is preferably accomplished by means of two vertically and horizontally spaced rail locking members preferably located near the upper and lower horizontal edges of a vertical limb of a side rail engaged with two correspondingly spaced notches in the bracket which, in the preferred construction illustrated and hereinafter described, act to cam or wedge the end of the side rail at both its upper and lower portions against the post plate or other member of the bracket. Another object is to provide an improved structure which will function with equal efficiency in both the upright and inverted positions of the side rail, and by which the side rail may be locked to the bracket solely by a relative downward movement.

The preferred form of bracket used for the accomplishment of these objects is composed solely of a section of a rolled angle bar, one limb of which is secured to a bed post and the other limb, consisting of the side wall of the said bracket, is provided with two horizontally and vertically spaced notches both of which are preferably formed with an inclined edge extending in a downward direction towards the bed post. The side rail used in connection with the corner lock construction shown and described herein is preferably composed of an integral angle bar and two vertically and horizontally spaced rail locking pins on each of the end portions of the vertical limb of said bar. When engaged with the bracket a portion of the vertical limb of the angle bar side rail preferably lies inwardly of the said bracket side wall, the said pins being adapted to engage with the notches of the side walls of an oppositely facing pair of brackets preferably in a manner to tightly wedge the vertical limb of the side rail against a part of the bracket. In the preferred form of the invention, the notches forming elements of the upper rail locking means are the inner notch in the side wall of one bracket and the outer notch in the side wall of the oppositely facing bracket, which permits the side rail to be used in either upright or inverted position, and, in either position, permits the side rail to be mounted on the bracket by a downward movement only.

Still further objects and attendant advantages of the invention will be apparent to persons skilled in the art as the same become better understood by reference to the following detailed description, taken in connection with the accompanying drawing, wherein I have illustrated and described one simple and practical embodiment of the principle of the invention.

Referring to the drawings—

Fig. 1 is a fragmentary side elevation of head and foot corner posts of a bedstead frame, the upper and lower angle brackets attached thereto, and an angle bar side rail, broken out between its ends, engaged with said brackets by my improved locking means; the rail being shown in the upright

position commonly employed for the support of a bed spring frame;

Fig. 2 is a view similar to Fig. 1, but showing the same side rail mounted in the corner brackets in relatively inverted position, wherein it is adapted to the support of cross slats such as are to some extent employed for mounting of individual bed springs or the support of a bed spring frame;

Fig. 3 is a vertical section across the side rail and bracket in the plane of the line 3—3 of Fig. 1;

Fig. 4 is a view similar to Fig. 3, in the plane of the line 4—4 of Fig. 2;

Fig. 5 is a top plan view in cross-section through one of the corner posts on the line 5—5 of Fig. 1;

Fig. 6 is a perspective elevation of the side rail, broken out between its ends, showing the relative positions of the locking studs at the two ends thereof.

Referring to Figs. 1 to 6 inclusive of the drawings, 10 may designate the head post, and 11 the foot post on the same side of a bed frame. Attached to the head post 10 by the rivets indicated at 12 is one limb 13 of an L-shaped corner bracket, the other limb 14 of which projects forwardly from the corner post, and is formed in its upper edge with a pair of notches that are spaced lengthwise of the limb 14. The deeper notch 15 is located nearest to the post plate 13 and post 10, while the remote notch 16 is shallower and is located some distance beyond or forwardly of the notch 15. In the preferred construction herein illustrated, both notches are formed with inclined front edges 15′ and 16′ respectively.

Similarly attached to the foot post 11 is an L-shaped corner bracket, one limb 17 of which is attached to the post by the rivets 12, while the other limb 18 projects inwardly toward the mating head post bracket and is formed in its upper edge with a relatively deep notch 19 preferably formed with an inclined edge 19′ and with a relatively shallow notch 20 formed with a similar inclined edge 20′. It will be observed that the two L-shaped corner brackets are generally similar, but that the positions of the lower and upper notches of the two brackets are relatively reversed; that is to say, the lower notch 19 of the foot bracket is remote from the post plate 17 and corner post 11, and the upper notch 20 is nearest the post plate and post; whereas, in the case of the head bracket, these relative positions of the lower and upper notches are reversed. 21 designates the removable side rail of the bed frame, shown in perspective detail in Fig. 6, and consisting, as usual, of a rolled angle bar. The rail 21 at its head end is equipped, on the vertical limb thereof, with a pair of laterally offset headed locking studs 22 and 23 respectively, and at its foot end with similarly offset locking studs 24 and 25. It will be noticed that, of the studs 22 and 23 at the head end, the lower stud 22 is nearest the end of the rail, while the upper stud 23 is remote from the end of the rail; and that these relative positions are just reversed in the case of the studs at the foot end, the upper stud 25 being nearest the rail end and the lower stud 24 remote from the rail end.

The side rail, in its upright position, is coupled to the head and foot brackets by simply lowering the studs 22 and 23 into the notches 15 and 16 of the head bracket and the studs 24 and 25 into the notches 19 and 20 of the foot bracket, as shown in Fig. 1.

When it is desired to mount the side rails in inverted or upside down position, the rail is inverted and turned end for end, and then engaged with the brackets; in position the locking studs 25 and 24 will engage with the notches 15 and 16, respectively; while the locking studs 23 and 22 will engage with the notches 19 and 20 respectively, as shown in Fig. 2. The described construction, therefore, readily permits the mounting of the side rail in the corner brackets in either the upright or the inverted position, as the particular bed spring equipment in any instance may require.

At 26 I have indicated a fragment of the usual end rail which connects the head or foot posts with each other, said end rail being conveniently connected to the post plates and posts by the lower rivet 12. The ends of the horizontal limbs of the side rails are notched out, as shown at 27 in Fig. 6, to permit the horizontal limbs to be lowered over the heads of the upper rivets 12 when mounting the side rail in inverted position in the brackets. By reason of the described construction, employing a pair of vertically and horizontally offset co-operating notches and studs in each bracket and rail end, a high degree of angular rigidity is obtained, since the two studs and notches manifestly co-operate with each other to oppose any tilting of the corner post and bracket in a vertical plane relatively to the side rail. This resistance to such tilting tendency exists whether the notches are so formed as to wedge the end of the side rail against the post plate or not, but preferably the wedging form shown and described is employed in carrying out the invention. It will also be noted that the relative inversion of the positions of the lower and upper notches on the head and foot brackets, with a corresponding relative inversion of the co-operating studs on the head and foot ends of the side rail adapt the brackets and side

rail to co-operative engagement equally well in the upright and inverted positions of the side rail illustrated in Figs. 1 and 2, respectively.

In the construction illustrated portions of the side rail lie against the inner sides of the wing plates 14 and 18 of the brackets, and the downwardly inclined front walls or edges of the notches acting through the studs cam the ends of the rail at both their upper and lower portions against the post plates of the brackets, whereby a very strong and rigid connection is established that effectively resists any canting or tilting tendency of the corner posts in the vertical plane of the side rail.

In addition to the foregoing, a plurality of headed studs both vertically and horizontally offset relatively to each other overlapping the sides of the wing plates are well adapted to resist sidewise and angular strains in a horizontal direction between the side rail and the corner brackets; such strains being brought into play when the bedstead is pulled or pushed over the floor at or from one side or corner.

It is manifest that detail changes and modifications may be made in the described construction without departing from the principle of the invention or sacrificing any of its inherent advantages. Hence, I reserve all such variations and modifications as fall within the spirit and purview of the appended claims.

I claim—

1. In a bedstead structure, the combination of a co-operating pair of brackets adapted to be secured to oppositely facing corner posts of a bed, each of said brackets having a post plate and a side wall formed with upper and lower rail locking elements comprising two horizontally spaced notches, the notches constituting the upper rail locking elements being the inner notch in the side wall of one of said brackets and the outer notch in the side wall of the other bracket, and a side rail having its end portions each provided with upper and lower rail locking members adapted to engage with the said spaced notches and removably lock said side rail to said bracket.

2. In a beadstead structure, the combination of a cooperating pair of brackets adapted to be secured to oppositely facing corner posts of a bed, each of said brackets having a post plate and a side wall formed with vertically spaced inner and outer notches reversely arranged as to height on the two brackets, and a side rail having each of its end portions provided with two vertically spaced inner and outer rail locking members reversely arranged as to height on the two rail end portions adapted to engage with said notches and removably lock said side rail to said brackets in both the upright and inverted positions of said side rail.

HENRY RICHARDSON.