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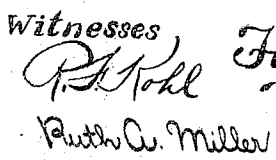
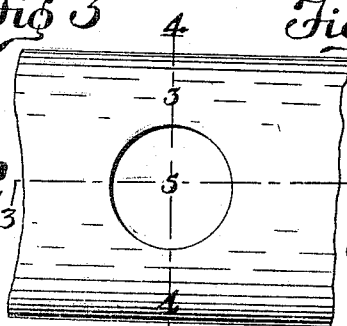


Fig 2



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UNITED STATES PATENT OFFICE.

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METAL BEDSTEAD.

998,582.

Specification of Letters Patent.

Patented July 18, 1911

Application filed March 20, 1911. Serial No. 615,456.

To all whom it may concern:

Be it known that I, JOSEPH C. LUCAS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Metal Bedsteads, of which the following is a specification.

The invention relates to the construction of metal bedsteads, and more particularly to the joints of the frame members; and the general object of the improvement is to provide a secure and rigid joint, in which the securing means are entirely inclosed within the members when they are assembled to form the joint, and therefore cannot affect or mar the exterior surface of the same. This general object, together with ancillary advantages pertaining to the construction and assembling of the parts, and to the rigidity of the joint, are attained by the preferred embodiment of the invention illustrated in the accompanying drawing, forming part hereof, in which—

Figure 1 is an elevation of one end frame of a bedstead, showing a conventional arrangement of the pillars and top, the cross bar and the filling bars, and illustrating the application of the improvement thereto; Fig. 2, a fragmentary side view of the tubular receiving bar; Fig. 3, a section of same on line 3—3, Fig. 2, showing also the inserted member and the joint complete; Fig. 4, a section on line 4—4, Figs. 2 and 3; Fig. 5, a fragmentary side view of the inserted bar; and Fig. 6, a fragmentary section of the locking bolt and adjacent parts.

Similar numerals refer to similar parts throughout the drawing.

The end frame of an iron bedstead may include the side or corner pillars 1, the top or upper connecting bar 2, the lower connecting bar 3, and the intervening upright filling bars 4. These bars may be made either in round or other form of cross section, and in the illustrated embodiment of the invention, these bars are shown to be tubular or hollow members; although it will be understood that for the purposes of this invention it is not essential to make the bars round in cross section, or to make the inserted bars hollow.

As shown in the drawing, the side bars 1 and the top bar 2 may be made of a single tube bent or curved to form the corners and in the wall of these tubes are provided the

round openings 5 to receive the inserted ends of the connecting bar 3 and the upper ends of the filling bars 4. And the lower cross bar 3 is likewise made of a tube and is provided with the round openings 5 in the wall to receive the lower ends of the filling bars 4.

The cross section of each opening 5 is shaped like the external cross section of the inserted bar, and it is preferably formed slightly smaller, say one sixty-fourth of an inch less in diameter, than the inserted bar, so that when the inserted bar is driven or otherwise forced into the opening, the rim of the opening will rigidly grip the inserted bar.

The inserted bars as 4 are preferably made tubular in form as shown, and are provided with the radial apertures 6 in their walls, which apertures are located by preference directly opposite each other, and are so arranged as to register just within the rim of the opening of the receiving bar when the end of the inserted bar abuts the inside of the opposite wall of the receiving bar 3, as at 7 in Fig. 4.

The spring-resisted locking bolts 8 are provided and operate in the radial apertures, and, as shown, these bolts are formed by the outwardly-bent end portions of the U-shaped wire spring 9, the yoke of which may be provided with one or more coils 10 to increase the spring action thereof. The ends of the bolts normally protrude from the apertures beyond the wall of the inserted bar, and the forward side of the protruding portion of each bolt, that is, the side toward the adjacent end of the inserted bar, is provided with the beveled face 11, the extent of which beveled face is preferably limited, as shown, to the protruding part of the bolt, so that the forward side of the shank of the bolt normally abuts squarely against the forward side 12 of the aperture to the extreme outer end thereof, thus firmly and rigidly supporting the protruding end of the bolt against a forward thrust; and the arms of the U-shaped spring are arranged to abut against the inner sides of the tubular inserted bar, as at 13, so that only the beveled faced ends of the bolts will protrude, as described above.

To assemble the parts, the spring-connected locking bolts 8 are inserted through the forward end of the tubular inserted bar, for which purpose they are sprung together as

by tweezers to enter the cavity of the bar, after which they are pushed in until the ends of the bolts register with the respective apertures, whereupon the connecting spring forces the bolts into their normal operative position. And it is evident that by driving or otherwise forcing the end of the inserted bar into the opening of the receiving bar, the beveled faces on the ends of the bolts will slidably impinge the rim of the opening and force the bolts in to pass the same, until the end of the inserted bar abuts the opposite wall of the receiving bar, thus bringing the apertures inside the opening-wall thereof, whereupon the bolts will be forced and held out by action of the connecting spring, and the rear sides 14 of the protruding portions of the bolts will squarely abut the inner side of the rim of the opening, thus securely locking the parts in this relation and making a secure and rigid joint. It is furthermore evident that by this form of construction the drilling of the apertures for the bolt apertures is done before the members are assembled, and that there are no external apertures, bolts or rivets to affect or mar the visible portions of the joint. And it is also evident that the tight grip of the rim of the opening around the inserted bar, in conjunction with the abutment of the end of the inserted bar against the opposite wall of the receiving bar, and the interlocking of the bolts with the inner side of the rim of the opening, make such a tight joint that the inserted bar cannot be flexed in the opening to crack the enamel with which the parts may be finished.

The particular form of connecting spring for the bolts which is illustrated and described herein is not essential to the general object of the invention, and the scope of the invention is not limited thereto; but this form of spring is preferable for the reason that it is economically made and readily inserted in the inserted bar when the same is made tubular in form as shown. In assembling the end frame of a bed, it will be understood that the locking bolts need not be used in all the filling bars, and in practice it is generally found sufficient to lock the middle upright filling bar in each end frame of the bed, as shown by broken lines in Fig. 1. It will also be understood that the protruding ends of the bolts are not necessarily beveled on the forward side, but the beveled shape is preferred for an automatic action of the bolts in passing the rim of the opening in the receiving bar.

I claim:

1. A metal-bedstead joint composed of a hollow member having an opening in its wall, another hollow member inserted in the opening and having opposite apertures in its wall, bolts operating in the apertures and

having beveled ends normally protruding therefrom, and a U-shaped spring with a coiled yoke connecting the bolts to force them outward.

2. A metal-bedstead joint composed of a hollow member having an opening in its wall, another hollow member inserted in the opening and having opposite apertures in its wall, bolts operating in the apertures and having beveled ends normally protruding therefrom, and a U-shaped spring connecting the bolts to force them outward.

3. A metal-bedstead joint composed of a hollow member having an opening in its wall, another member inserted in the opening and having opposite apertures in its wall, bolts operating in the apertures and having beveled ends normally protruding therefrom, and a spring connecting the bolts to force them outward.

4. A metal-bedstead joint composed of a tubular member having a round opening in its wall, another tubular member inserted in the opening and having radial apertures in its wall, spring-resisted bolts operating in the apertures and having beveled ends normally protruding therefrom.

5. A metal-bedstead joint composed of a hollow member having an opening in its wall, another member inserted in the opening and having radial apertures in its wall, spring-resisted bolts operating in the apertures and having beveled ends normally protruding therefrom.

6. A metal-bedstead joint composed of a hollow member having an opening in its wall, another member inserted in the opening and having apertures in its wall, beveled spring-bolts operating in the apertures and normally protruding therefrom.

7. A metal-bedstead joint including a hollow receiving member having an opening in its side, another member inserted in the opening and having an aperture in its side, a spring bolt operating in and normally protruding from the aperture and adapted to be forced inward to pass the rim of the opening and to spring outward to lock against the inner side thereof when the end of the one member is inserted in the opening to abut the opposite wall of the other member.

8. A metal-bedstead joint including a hollow receiving member having an opening in its side, another member inserted in the opening and having an aperture in its side, a spring bolt operating in and normally protruding from the aperture and adapted to be forced inward to pass the rim of the opening and to spring outward to lock against the inner side thereof when the end of the one member is inserted in the opening of the other member.

9. A metal-bedstead joint-member composed of a tube having opposite apertures in

its wall, and radial bolts normally protruded through the apertures and having an integral U-shaped wire connecting spring with a coil in its yoke.

- 5 10. A metal-bedstead joint-member composed of a tube having opposite apertures in its wall, and radial bolts normally protruded

through the apertures and having an integral U-shaped wire connecting spring.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
