R. MAINKER.

METAL BEDSTEAD.

APPLICATION FILED OCT. 18, 1913.

1,082,165. Patented Dec. 23, 1913.

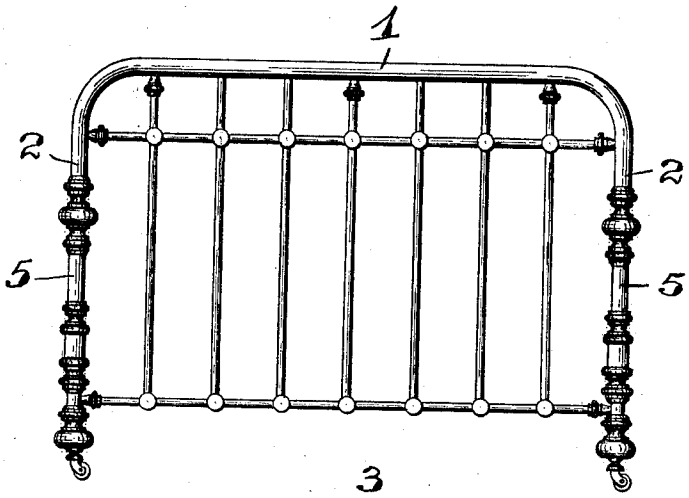



Fig. 1

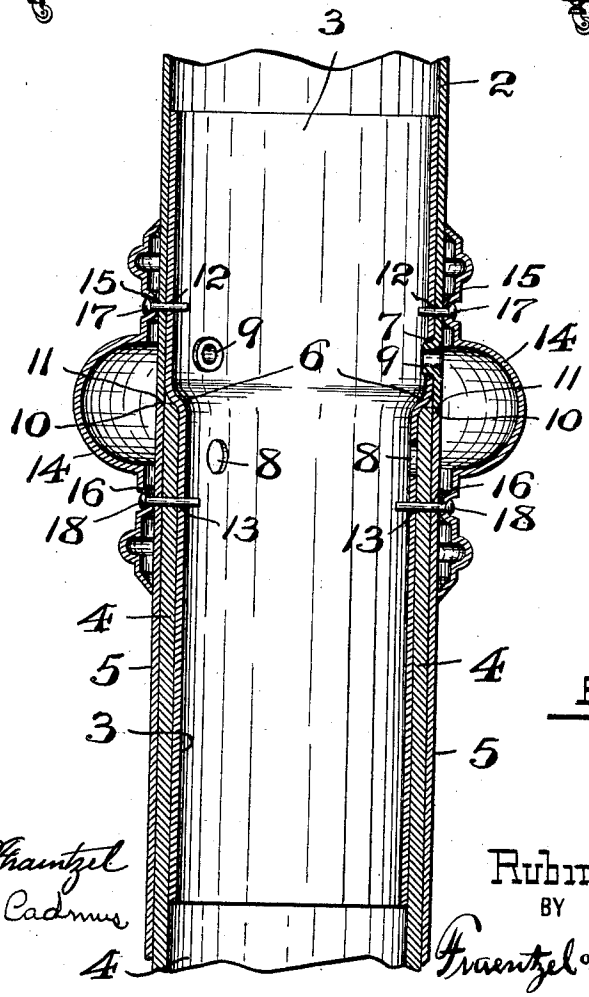



Fig. 2

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# UNITED STATES PATENT OFFICE.

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## METAL BEDSTEAD.

1,082,165. Specification of Letters Patent. Patented Dec. 23, 1913.

Application filed October 18, 1913. Serial No. 795,822.

*To all whom it may concern:*

Be it known that I, RUBIN MAINKER, a citizen of the United States, residing at Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Metal Bedsteads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention has reference, generally, to improvements pertaining to metal bedsteads; and, the present invention relates, more particularly, to a novel means and method of connecting the tubular members of a metal bedstead in their assembled relation and more especially the bushing within the upper tubular frame portion of the bedstead, usually made of thin brass tubing, without the employment of the usual rivets.

The invention has for its principal object, in the art pertaining to metal bedsteads, to positively unite by means of a tubular steel or similar bushing, the lower brass-tube covered hollow or tubular bed-post, made of steel tubing, or similar metal, to the upper frame-portion of the bedstead, made of thin brass tubing, in a most efficient and simple manner, without the use of the usual rivets, or without soldering, at the same time providing a method by means of which the various elements of the metal bedstead are readily and quickly united and at a considerable reduction in the cost of manufacture.

In metal bedsteads of the character herein set forth, the tubular posts are made from a rigid metal, such as steel tubing, covered with a casing of thin tubular brass, the upper frame-portion of the bedstead being made of thin tubular brass, the said upper frame-portion being united to the posts by means of tubular bushings, usually short pieces of steel tubing, the thin brass upper frame-portion heretofore having been secured to the portions of the bushings projecting above the ends of the tubular posts by means of rivets, necessitating the drilling of holes for the rivets through the combined thicknesses of the steel bushing and the tubular brass frame-portions.

With my present invention, I propose to first provide the steel bushing with two sets of vertically alined holes or perforations, the bushing being also preferably formed with an annular offset, with one set of said holes or perforations below said annular offset. The non-perforated tubular end-portions of the upper thin brass frame-portion are slipped over the perforated upper parts of the bushings, slipping the end-portions of the upper thin brass frame-portion down to the annular offsets of the bushings. Using the lower set of holes or perforations in the bushings as guides, by means of a punch, or other similar implement, the workman forces those portions of the upper thin frame-portion located over the upper set of holes or perforations into said holes or perforations in the tubular steel bushings, whereby the thin brass is perforated and inwardly extending retaining or fastening members are formed which are driven into said upper set of holes or perforations in the tubular steel bushings, and by means of which the parts are positively united, without the use of rivets or solder. Brass-covered tubular steel posts are now driven, from below, upon the projecting end-portions of the said bushings, until the brass casings or coverings of said steel posts butt upon the ends of the thin brass upper frame-portion. Suitable tubular ornaments are then slipped over the joints of the assembled parts, said ornaments being suitably secured in place, preferably, by means of pins which are driven into and are held by means of friction, in small holes or perforations variously located and formed in any suitable manner in the above-assembled parts.

With the various objects of the present invention in view, the said invention consists, primarily, in the novel means and method of uniting the upper thin brass frame-portion of a metal bedstead to tubular steel or other suitable metal bushings, without the use of rivets or solder, and by means of such bushings uniting the upper thin brass frame-portion of the bedstead to the brass-incased tubular steel or other metal posts, substantially as set forth in the fol-

lowing specification; and, the invention consists, furthermore, in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the said parts, all of which will be more fully described in detail in the said specification, and then finally embodied in the clauses of the claim which are appended to and which form an essential part of the said specification.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a face view of one of the end frame-sections of a metal bedstead, the upper thin brass frame-portion thereof and the tubular posts being united according to the principles of the present invention. Fig. 2 is a detail transverse section, on an enlarged scale, of one of the tubular bushings, and portions of the upper thin brass frame-portion and the incased tubular post, united in the manner of the present invention.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring now to the said drawings, the reference-characters 2, 2, indicate the thin brass tubular end-members of the upper frame-portion 1 of any one of the end frame-sections of a metal bedstead; 3, indicates the tubular metal bushing, usually a piece of steel tubing; and 4 indicates the tubular posts, also usually made of steel tubing, and incased by thin brass tubing, as 5.

As shown in Fig. 2 of the drawings, the bushing 3 is made with an annular shoulder or offset, as 6, so that the maximum diameter of the lower reduced portion of said sleeve is approximately equal to the minimum or internal diameter of the tubular post 4, the maximum diameter of said post being equal, or approximately so, to the maximum diameter of the larger upper portion of the said bushing 3. The said bushing 3 is also provided in its upper enlarged portion, at points near the said annular shoulder or offset 6, with a series of holes or perforations 7, and in vertical alinement with the said holes or perforations 7, the said reduced portion of the bushing 3 is provided at points near the said annular shoulder or offset 6 with another series of holes or perforations 8, the said latter series of holes or perforations serving merely as a guiding means for the purposes hereinabove stated.

In practice, the bushings 3 are inserted in the lower open ends of the thin brass end-members 2, 2, of the frame-portion 1, to the position indicated in said Fig. 2. By means of a punch or other suitable tool, using the holes or perforations 8 as a guiding means, the thin metal portions which are located over the holes or perforations 7, are forced in inward directions into the said holes or perforations 7, so as to form eyelet-like holding members or elements, as 9, which are forced into tight holding engagement with the metal portions which surround said holes or perforations 7, and whereby, as will be clearly evident, the bushings 3 and the thin tubular brass end-members 2 are positively united and rigidly connected. The brass-incased posts 4 are now driven upon the projecting reduced portions of the bushings 3, until the marginal edge-portions 10 of the thin brass-casings 5 are brought directly against the marginal edge-portions 11 of the thin brass tubular end-members 2 of the frame-portion 1. Holes or perforations 12 and 13 are now drilled in the assembled parts, and an ornamental sleeve 14 is slipped over the joint formed by the abutting ends of the tubular brass members 2 and 5, the said sleeve 14 being provided with holes or perforations 15 and 16 which are brought into registration with the previously mentioned holes or perforations 12 and 13. Suitable holding or retaining pins 17 and 18 are now firmly driven into the registering holes 12 and 15, and 13 and 16, whereby the sleeve 14 is securely held in place, as will be clearly evident from an inspection of said Fig. 2 of the drawings.

From the foregoing description of my present invention, and from an inspection of said Fig. 2 of the drawings, it will be clearly seen, that the various parts are easily and quickly brought into their assembled and positively united relation, and especially are the thin tubular brass end-members of the upper frame-portion securely and positively united to the steel bushings without the use of rivets or solder, as heretofore, so that thereby the parts are more quickly united, and the cost of the manufacture greatly reduced, because of the uncertain operation of inserting a clenching or riveting tool within the assembled tubular members is clearly avoided.

Of course it will be understood, that in lieu of the series of holes or perforations 8 in the reduced portions of the bushings 3, other suitable guiding means may be employed in connection with the said reduced portions for readily finding the brass covered holes or perforations 7, prior to the punching operations for forcing the brass parts of the end-members 2 into the said holes or perforations 7. I am aware, therefore, that some changes may be made in the arrangements and combinations of the various devices and parts, as well as in the details of the construction of the same, without departing from the scope of the present invention as described in the said specification, and as defined in the clauses of the claim which are appended to the said specification. Hence, I do not limit my present invention to the exact arrangements and

combinations of the various devices and parts as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

I claim:—

1. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with a series of perforations, and eyelet-like retaining members forced out of the tubular end-member of said upper frame-portion and projecting into said series of perforations, substantially as and for the purposes set forth.

2. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with a series of perforations, eyelet-like retaining members forced out of the tubular end-member of said upper frame-portion and projecting into said series of perforations, and a guiding means upon said bushing and vertically in alinement with said perforations, substantially as and for the purposes set forth.

3. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with a series of perforations, eyelet-like retaining members forced out of the tubular end-member of said upper frame-portion and projecting into said series of perforations, and a second series of guiding perforations in said bushing vertically in alinement with the said first-mentioned perforations, substantially as and for the purposes set forth.

4. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with a series of perforations, eyelet-like retaining members forced out of the tubular end-member of said upper frame-portion and projecting into said series of perforations, and a tubular post slipped over another portion of said bushing, substantially as and for the purposes set forth.

5. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with a series of perforations, eyelet-like retaining members forced out of the tubular end-member of said upper frame-portion and projecting into said series of perforations, and a guiding means upon said bushing and vertically in alinement with said perforations, and a sheet-metal incased tubular post slipped over another portion of said bushing, substantially as and for the purposes set forth.

6. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with a series of perforation, eyelet-like retaining members forced out of the tubular end-member of said upper frame-portion and projecting into said series of perforations, and a second series of guiding perforations in said bushing vertically in alinement with the said first-mentioned perforations, and a sheet-metal incased tubular post slipped over another portion of said bushing, substantially as and for the purposes set forth.

7. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with an annular shoulder, said bushing being also provided with a series of perforations located above said annular shoulder, eyelet-like retaining members forced out of said tubular end-member of said upper frame-portion and projecting into said series of perforations, a tubular metal post slipped over another portion of said bushing, the upper edge-portion of said post butting against said marginal shoulder of the bushing, and a thin sheet-metal casing upon said post, the upper edge-portion of said casing butting against the free marginal edge-portion of the tubular end-member of said upper frame-portion, substantially as and for the purposes set forth.

8. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with an annular shoulder, said bushing being also provided with a series of perforations located above said annular shoulder, eyelet-like retaining members forced out of said tubular end-member of said upper frame-portion and projecting into said series of perforations, and a guiding means upon said bushing below said annular shoulder and vertically in alinement with said perforations, a tubular metal post slipped over another portion of said bushing, the upper edge-portion of said post butting against said marginal shoulder of the bushing, and a thin sheet-metal casing upon said post, the upper edge-portion of said casing butting against the free marginal edge-portion of the tubular end-member of said upper frame-portion, substantially as and for the purposes set forth.

9. In metal bedsteads, in combination with the tubular end-member of the upper thin metal frame-portion, a tubular metal bushing, said bushing being provided with an annular shoulder, said bushing being also provided with a series of perforations located above said annular shoulder, eyelet-like retaining members forced out of said tubular

end-member of said upper frame-portion and projecting into said series of perforations, and a second series of guiding perforations, and a second series of guiding perforations in said bushing below said annular shoulder and vertically in alinement with the perforations located above said annular shoulder, a tubular metal post slipped over another portion of said bushing, the upper edge-portion of said post butting against said marginal shoulder of the bushing, and a thin sheet-metal casing upon said post, the upper edge-portion of said casing butting against the free marginal edge-portion of the tubular end-member of said upper frame-portion, substantially as and for the purposes set forth.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 15th day of October, 1913.

RUBIN MAINKER.

Witnesses:

FREDK. C. FRAENTZEL,

FREDK. H. W. FRAENTZEL.

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