May 31, 1927. 1,630,492

F. KUSTERLE

CONNECTION FOR TUBES

Filed June 9, 1924

Fig. 1.

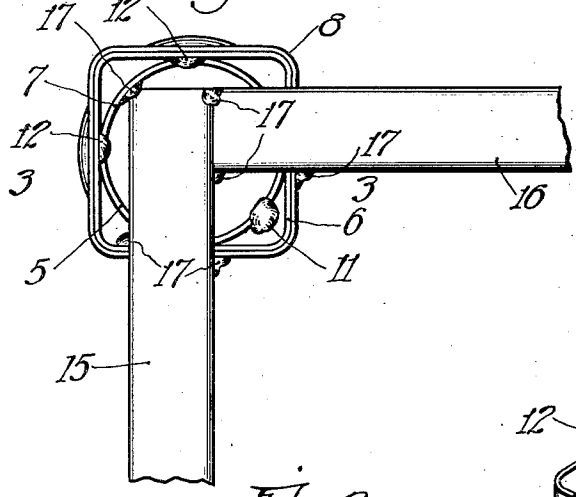



Fig. 4.

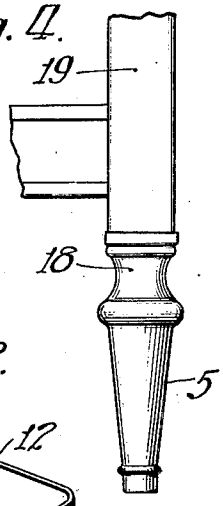



Fig. 2.

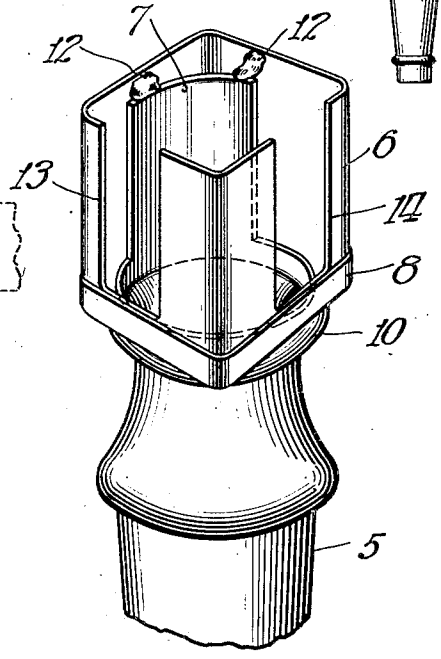
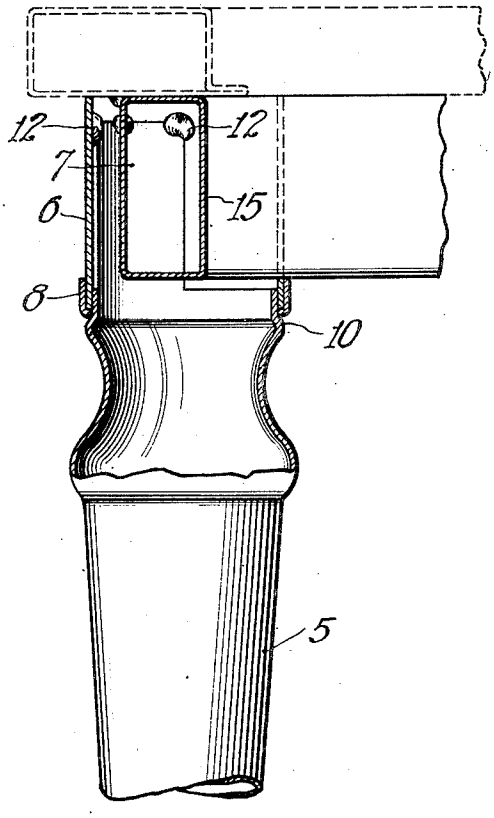



Fig. 3.




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Patented May 31, 1927. 1,630,492

# UNITED STATES PATENT OFFICE.

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## CONNECTION FOR TUBES.

Application filed June 9, 1924. Serial No. 718,716.

This invention relates to the joining of light-weight metal tubes and more particularly the types used in the construction of metal furniture such as chairs, bedsteads, etc., and has for its primary object to provide a simple, strong and economical joint which is attractive in appearance.

Further objects are to facilitate the welding, brazing or soldering operation, to conceal the joint, to strengthen the tubing at the joint, to insure the proper positioning of the tube sections, and to join tube sections of different sizes and shapes as, for example, a square tube with a round tube.

The many other objects and advantages will be better understood by reference to the following specification when considered in connection with the accompanying drawing illustrating certain selected embodiments thereof, in which:—

Fig. 1 is a top plan view of a portion of a chair frame embodying certain principles of my invention.

Fig. 2 is a perspective view of the leg construction illustrated in Fig. 1.

Fig. 3 is a partial section on the line 3—3 of Fig. 1, and

Fig. 4 is an elevation of a portion of a bedstead frame in which my improved joint is incorporated.

Referring to the drawing and particularly Figs. 1 to 3, the joint is used to connect a round tube section as 5 to a length or section of square tube as 6. The section 5 is one of the ornamental legs of a chair and the section 6 is a portion of the frame which is to be connected to the upper end of said leg and in alignment therewith. The section 5 is preferably provided with a parallel extension 7 of proper diameter to fit snugly within the section 6 when the sections are assembled.

A stamped mount 8 of proper size and shape to fit snugly over the lower end of section 6 is slid over the upper end of the section 5 and forms a substantially cup-shaped socket to receive and fit about the lower end of the section 6. The bottom wall of this mount forms an abutment on which the end of the section 6 rests and is apertured to fit snugly around the extension 7. The tube section 5 is preferably provided with an enlargement forming a shoulder 10 to support the downward thrust imposed upon the mount.

In the assembly operation the mount 8 for convenience is preferably welded to the tube section 5, as at 11. The lower end of the section 6 is telescoped over the upper end of the section 5 in axial alignment until this end of the section 6 is seated in the socket formed by the mount 8. Thus the sections are accurately positioned relative to each other. The sections may be permanently connected together in various ways, but I prefer to weld the upper end of the extension 7 to the opposing wall of the section 6 as at 12. I have used the term "weld" to include braze, solder or otherwise fasten. The mount 8 while concealing the joint, also forms an ornamental trim around the lower end of the tube 6. A joint of this character is particularly advantageous with light-weight tubing such as is generally used in metal furniture.

In the present embodiment, the section 6 is cut away as at 13 and 14 to admit the frame members 15 and 16 respectively of the chair frame. These members are preferably welded to the leg and to each other as at 17.

In Fig. 4 is illustrated the application of my invention to bedstead construction. The leg section 18 of round tubing is connected to the square post section 19 in the same manner as with the sections 5 and 6 of the previous embodiment.

While the principles of my invention are applicable to joints for various tube sections, they are particularly advantageous where the sections are of different shape. It will be readily evident from the foregoing description that my improved joint is simple, strong and economical as well as attractive in appearance.

The described details of construction being merely illustrative of my invention, it will be understood that the scope of the invention should be determined by reference to the appended claims, said claims being constructed as broadly as possible consistent with the state of the art.

I claim as my invention:

1. In a structure of the class described, the combination of a tube, a mount secured on said tube at an interval from its end, a second tube of a larger size and different shape telescoping the end of the first mentioned tube and having its end seated against said mount, the periphery of said abutment corresponding to the size and shape of the

larger tube and a welded connection between the telescoping ends of the tubes.

2. In a structure of the class described, the combination of a tube, a mount fitting said tube and welded thereon at an interval from the end, a second tube telescoping the end of the first mentioned tube and having its end abutting said mount, and a welded connection between the telescoping ends of the tubes, said mount being provided with an edge flange to fit about the abutting end of said second tube.

3. In a structure of the class described the combination of a tube having an annular shoulder formed thereon at an interval from one end, a mount fitting on said tube and resting against said shoulder, a socket in said mount, a second tube telescoping the end of the first mentioned tube and having its end seated in the socket in said mount, and a connection between the telescoping ends of said tubes.

4. In a structure of the class described, the combination of a tube having an annular shoulder formed thereon adjacent one end, a mount fitting around the outside of said tube and abutting said shoulder, a welded connection between said tube and said mount, a second tube having its end fitting in said mount, said first mentioned tube having an extension projecting into the second tube, and a welded connection between said extension and said second tube.

5. In a structure of the class described, the combination of an inner tube having an annular shoulder portion intermediate its ends and projecting outwardly beyond an adjacent portion of said tube, a mount apertured to fit said portion and supported by said shoulder, and an outer tube of different shape telescoping over said portion of the first mentioned tube, and having its end seated against said mount, said mount having an outer portion shaped to conform with the shape of the second tube.

6. In a structure of the class described, the combination of an inner tube having an annular shoulder portion intermediate its ends and projecting outwardly beyond an adjacent portion of said tube, a mount apertured to fit said portion and supported by said shoulder, and an outer tube of different shape telescoping over said portion of the first mentioned tube, and having its end seated against said mount, said mount having an outer portion shaped to conform with the shape of the second tube, and having a flange for enclosing the seated end of the last mentioned tube.

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