A. H. SCHAFFERT.

FURNITURE CONSTRUCTION.

APPLICATION FILED JULY 26, 1911.

1,029,467.

Patented June 11, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

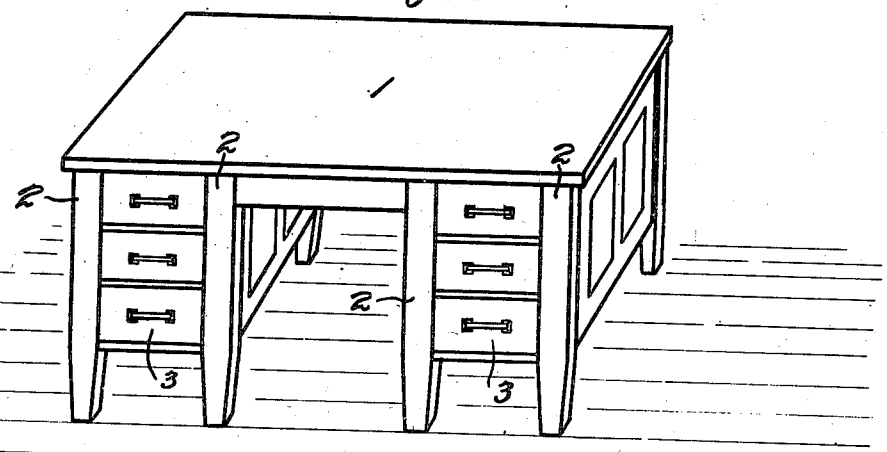


Fig. 4

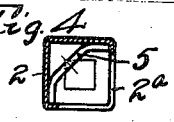
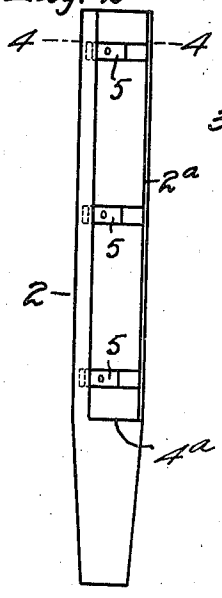


Fig. 2



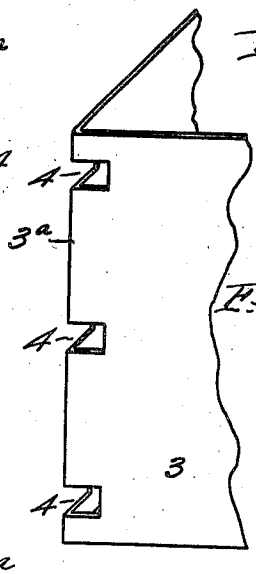
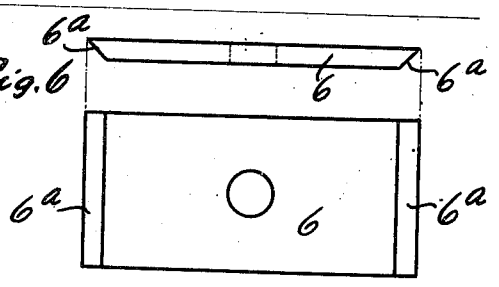


Fig. 3

Fig. 6



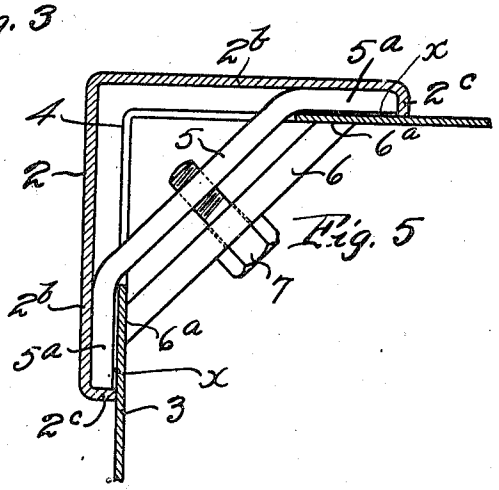


Fig. 5

WITNESSES:

A. C. Stewart

Agnes A. Johnston.

Adolf H. Schaffert, INVENTOR.

BY W. C. Carman

ATTORNEY.

A. H. SCHAFFERT.

FURNITURE CONSTRUCTION.

APPLICATION FILED JULY 26, 1911.

1,029,467.

Patented June 11, 1912.

2 SHEETS—SHEET 2.

Fig. 7.

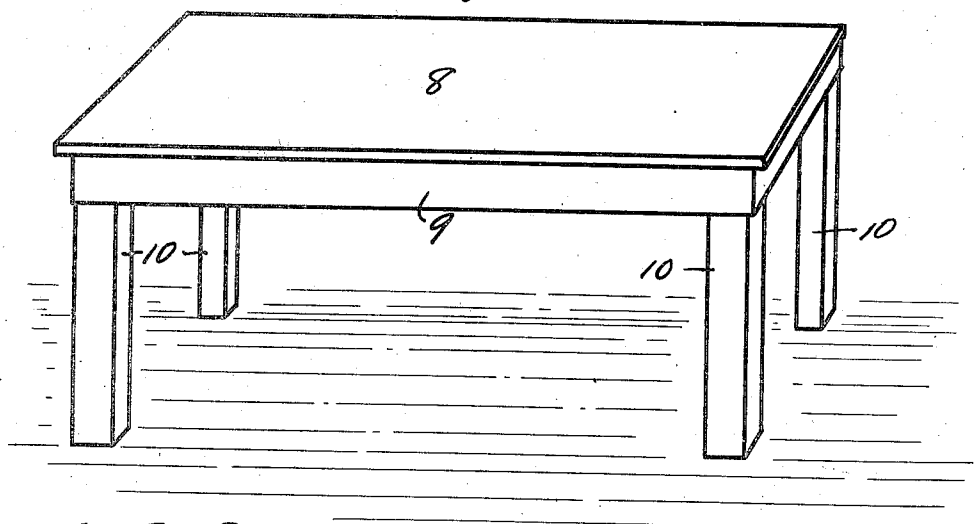


Fig. 8

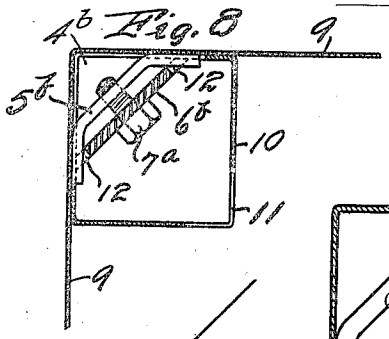


Fig. 9

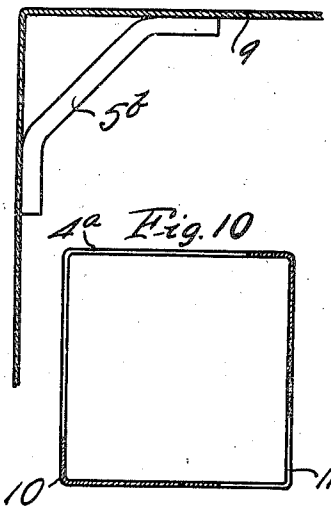


Fig. 10

Fig. 11

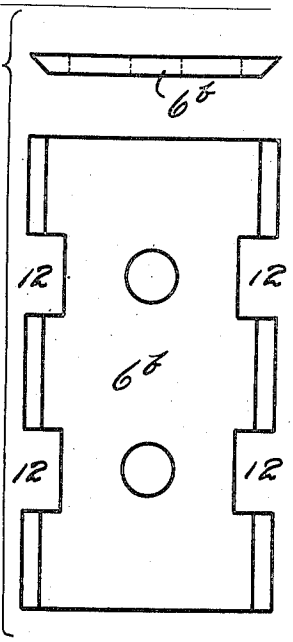
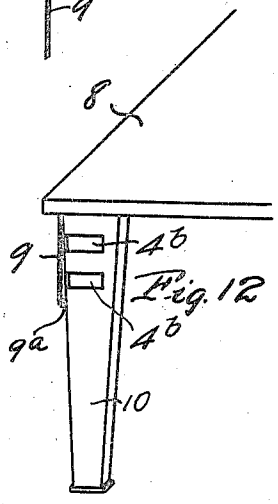


Fig. 12



WITNESSES:

H. C. Stewart

Agnes A. J. Johnston

Adolf H. Schaffert, INVENTOR.

BY W. C. Carman

ATTORNEY.

UNITED STATES PATENT OFFICE.

ADOLF H. SCHAFFERT, OF YOUNGSTOWN, OHIO, ASSIGNOR TO THE GENERAL FIRE-PROOFING COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF OHIO.

FURNITURE CONSTRUCTION.

1,029,467. Specification of Letters Patent. Patented June 11, 1912.

Application filed July 26, 1911. Serial No. 640,725.

To all whom it may concern:

Be it known that I, ADOLF H. SCHAFFERT, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Furniture Construction, of which the following is a specification.

The present invention relates in general to furniture, and more particularly to a novel and improved manner of connecting various parts thereof, such as the legs or uprights to the top or body portion.

The invention is more especially designed to be employed in the construction of sheet metal furniture, the primary object thereof being the provision of a simple, inexpensive and effective means whereby the parts are held rigidly together when assembled, and can be quickly and easily taken apart or put together without marring the finish, thereby admitting of the furniture being shipped in a knock down condition.

A further object of the invention is the provision of a construction of this character in which there are no exposed bolts, screws, rivets or the like, all surfaces being plain or flat so as to be readily and cheaply polished or rubbed by machinery.

With these and other objects in view, the invention consists in certain novel combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a perspective view of a desk in which the legs are secured to the top or body portion by a construction involving the present invention. Fig. 2 is a detail view of one of the legs detached. Fig. 3 is a similar view of one corner of the body portion of the desk. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 2. Fig. 5 is an enlarged horizontal sectional view through one corner of the desk. Fig. 6 is a detail view of one of the clamping plates. Fig. 7 is a perspective view of a table in which the legs are secured to the body portion by a construction involving a slightly modified form of the invention. Fig. 8 is a horizontal sectional view on an enlarged scale through one corner of the table. Fig. 9 is an enlarged horizontal sectional view through one corner of the apron of the table, the leg being removed. Fig. 10 is an enlarged horizontal sectional view through the upper portion of one of the legs. Fig. 11 is an enlarged detail view of one of the clamping plates, and Fig. 12 is a perspective view of one corner of a table involving a slightly different construction, a portion of the apron being broken away.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

The present invention may be employed for connecting different elements of an article of furniture, wherever such a construction is adapted to be utilized, and while it will be illustrated and described as employed for connecting the legs or uprights to the top or body portion, yet it will be understood that it is not to be restricted to this specific use.

In Figs. 1 to 6 inclusive the construction is illustrated as applied to a desk, while in Figs. 7 to 12 inclusive it is shown as applied to a table, both the desk and table being preferably constructed of sheet metal.

Referring to Figs. 1 to 6 inclusive, the numeral 1 designates the top of a desk which is supported by the legs 2, and provided with the usual body portion 3 in which the drawers may be mounted. As indicated more clearly in Figs. 2 and 4, the legs 2 have a hollow formation and are substantially rectangular in cross section. The upper portion of each of the legs is cut away along one of the longitudinal edges thereof, as indicated at 2^a, to receive the corresponding corner 3^a of the body portion. This corner 3^a of the body portion rests upon the shoulder 4^a provided at the lower end of the cut away portion 2^a so that all of the weight is carried directly to the leg. Each of the corners 3^a is provided with one or more notches 4, the said notches receiving cross bars 5 which extend diagonally across the interior of the leg 2 and have the ends thereof rigidly secured to the said legs. Diagonally disposed clamping plates 6 are arranged within the corners 3^a of the body portion so as to bear against the sides thereof and be disposed substantially parallel to the cross bars 5. Fastening members such

as the clamping bolts 7 are employed for securing the plates 6 to the respective cross bars 5, the said bolts passing loosely through the clamping plates and having a threaded engagement with the cross bars. With this construction, it will be obvious that when the bolts 7 are tightened the legs 2 will be drawn tightly against the corners of the desk and held rigidly in position. However, the bolts can be very easily removed should it be desired to remove the legs for any purpose.

In the specific construction shown upon the drawings, the upper portion of each of the legs 2 comprises the sides 2^b arranged at right angles to each other, the edges of the sides carrying the lips 2^c which bear against the body portion 3 and provide suitable pockets for the reception of the ends 5^a of the cross bars 5. The ends of the clamping plates 6 are also shown as beveled at 6^a so as to fit accurately against the sides of the body portion 3. Any suitable means may be utilized for securing the cross bars 5 to the legs 2, although this result is preferably accomplished by a process known as "spot welding," since the use of rivets or similar fastening members is thereby avoided, and the legs have a smooth exterior surface free from all projections. This is a very great advantage, since the smooth surfaces can be cheaply polished or rubbed by machinery, and all expensive hand polishing is avoided.

In Figs. 7 to 12 inclusive the invention is shown as employed for securing the legs of a table in position, and the arrangement of the cross bars and clamping plates is the reverse of what has been previously described. The numeral 8 designates the top of the table, and pendent from this top is the usual apron 9 to which the upper ends of the legs 10 are secured. As in the previous instance, these legs are constructed of sheet metal and have a hollow formation. The upper end of each of the legs 10 is provided in one corner thereof with one or more notches 4^b adapted to receive corresponding cross bars 5^b secured to the corners of the apron 9. These cross bars extend diagonally across the corners of the apron 9 and are engaged by clamping bolts 7^a extending through clamping plates 6^b arranged diagonally within the legs 10 and bearing against the sides thereof. An opening 11 is formed in the inner corner of each of the legs 10 so that access can be readily had to the bolts 7^a for removing the same or placing them in position. It will thus be obvious that the clamping plates 6^b are carried by the legs and the cross bars 5^b carried by the apron 9, whereas in the previous construction the cross bars were carried by the legs and the clamping plates by the desk. It may also be noted that with the desk a separate clamping plate 6 is employed for each of the cross bars 5, while with the table a single clamping plate 6^b serves for all of the cross bars 5^b of each of the legs, the edges of the plates 6^b being notched at 12 to receive the ends of the cross bars. As in the previous instance, the cross bars are preferably secured in position by means of "spot welding," so as to leave a perfectly smooth exterior surface which can be readily polished by machinery.

A slight modification is shown in Fig. 12 in which the legs 10^a have a tapered formation and the lower edge of the apron is turned inwardly at 9^a to compensate for the tapering of the legs. The manner of securing the legs to the apron, however, is identical with that previously described.

The improved joint described herein possesses special utility in its application to metal furniture and not only secures a finished appearance, but also provides a very strong and tight joint held in locked condition under tension. In this connection it will be observed that a practical feature of the invention is that of having the clamping plates binding against sheet metal members that will yield sufficiently under the binding pressure of said plates to secure perfectly tight joints which present a nice finish. This function is more pronounced in the preferred form of the invention shown in Fig. 5 of the drawings, and referring thereto it will be observed that the apron or sheet-metal member 3 has a clearance from the rigid end portions 5^a of the cross-bars 5, said clearance being indicated at x of said figure. This clearance is also in the line of pressure from the ends of the clamping plates 6 so that when such plates are drawn tight the portions of the metal part 3 engaged thereby will spring sufficiently to make a perfectly tight joint of well-finished appearance.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A joint and fastening for metal furniture construction comprising a sheet-metal member having a corner notch, a second sheet-metal member receiving the corner of the first mentioned member, a rigid cross-bar carried by one of the members and having a clearance at its ends from the other member, and also engaging within the notch of said other member, a clamping-plate arranged in opposition to the cross-bar and having its ends exerting a binding pressure against resilient portions of the member having the corner notch, and an adjustable fastening device connecting the clamping plate to the cross-bar.

2. A joint and fastening for metal furniture construction comprising a member having a corner notch, a second member receiving the corner of the first mentioned member, a rigid cross bar carried by one of said

members and engaging within said notch, a clamping plate arranged in substantial parallelism to said cross bar and having its ends exerting a binding pressure against opposite portions of the member having the corner notch, and an adjustable fastening device connecting the clamping plate to said cross bar.

3. A joint and fastening for furniture construction comprising a hollow upright leg member having one side thereof cut away and formed with a supporting shoulder, and a superstructure including a body portion having its corner fitting within the leg member and resting on said shoulder, the said corner of the body also having formed therein a notch, a cross bar rigidly fitted within the leg member and arranged diagonally therein so as to engage with the said notch, a clamping plate fitted within the corner of the body portion and adjustably binding against opposite walls thereof, and a clamping screw adjustably connecting said plate with the cross bar.

ADOLF H. SCHAFFERT.

Witnesses:
H. E. WHITE,
O. D. KAISER.