Oct. 29, 1957 N. S. IRWIN 2,811,402

FURNITURE HAVING TUBULAR LEGS

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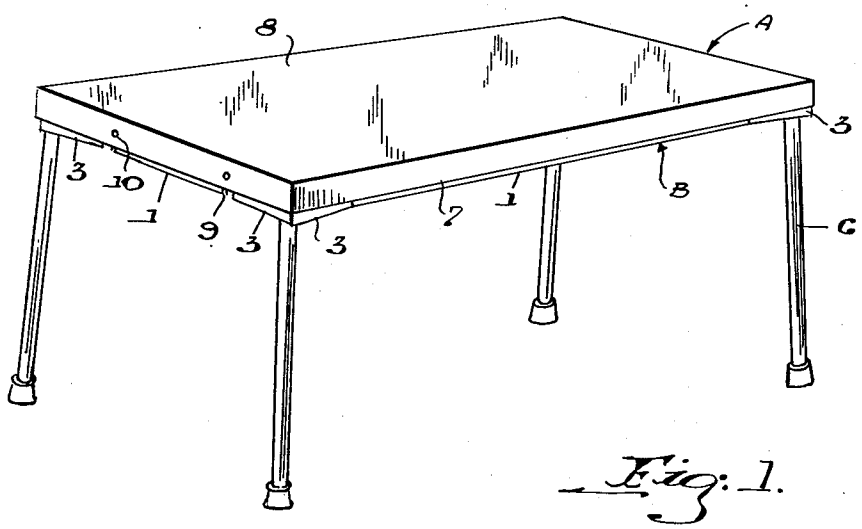

Fig. 1.

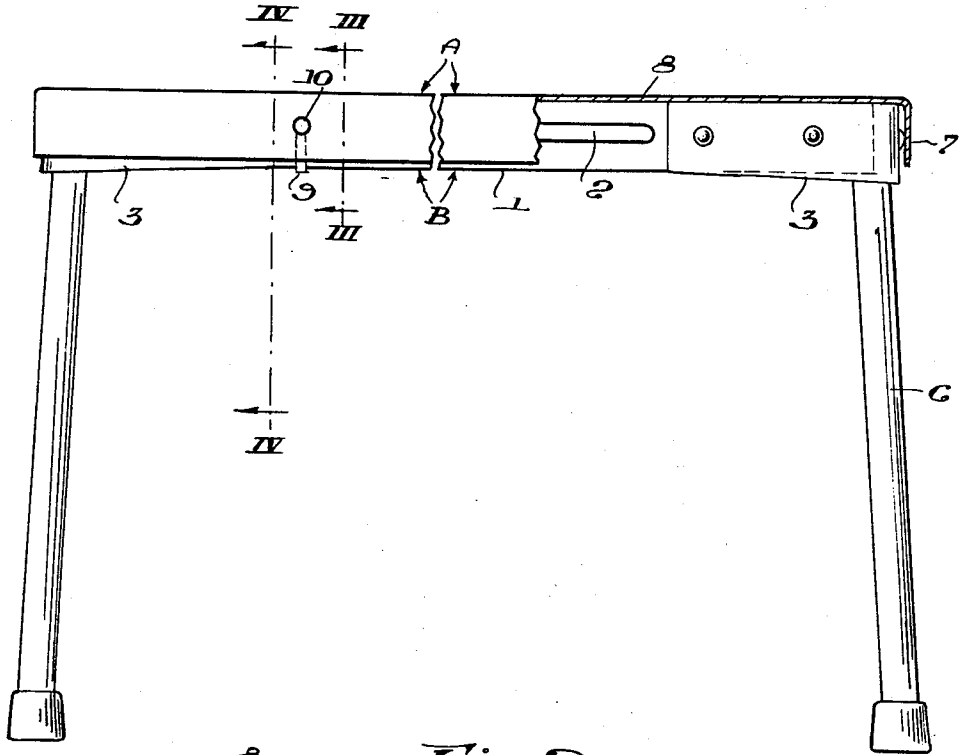

Fig. 2.

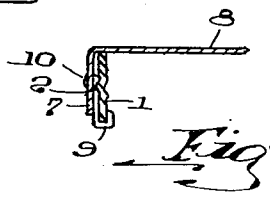

Fig. 3.

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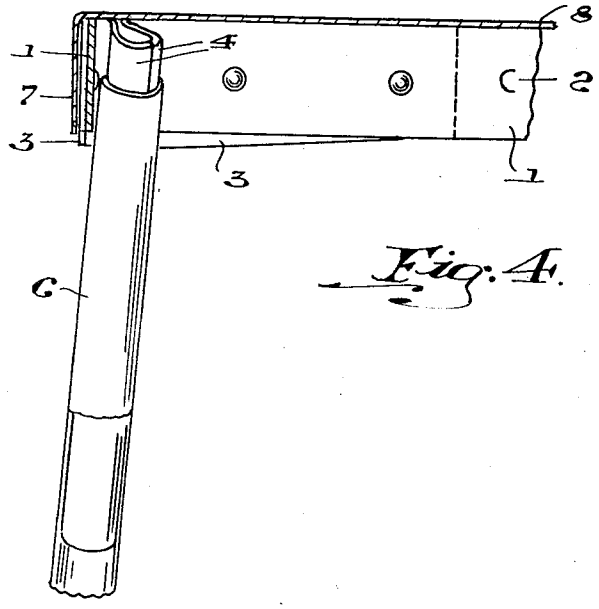

Fig. 4.

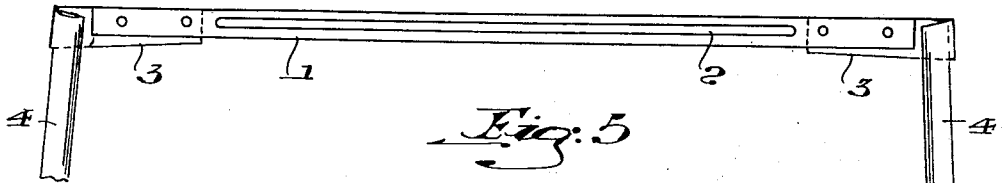

Fig. 5

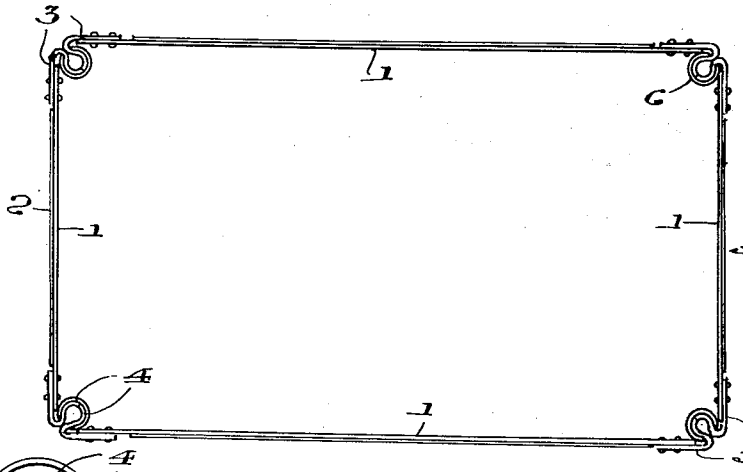

Fig. 6.

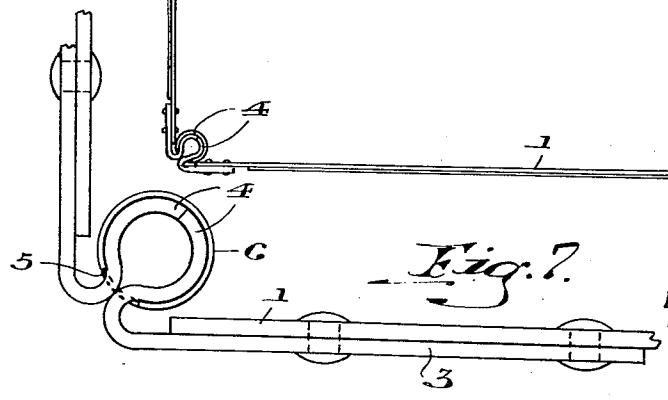

Fig. 7.

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FURNITURE HAVING TUBULAR LEGS

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4 Claims. (Cl. 311—111)

This invention relates to furniture, and more particularly to articles, such as tables or benches, which can be sold in the knockdown and readily assembled by the purchasers.

It is among the objects of this invention to provide such an article of furniture which can be shipped in a knocked down and substantially flat condition, which can be made completely of metal, which can be quickly assembled without the use of screws and bolts, and which is inexpensive but sturdy in construction. Another object is to provide such furniture in which a few standard parts can be assembled in different ways to produce tables, benches or the like in several different shapes and sizes.

In accordance with this invention a frame for a piece of furniture is formed from side and end members held together at the corners by the legs of the furniture. Thus, there is a pair of brackets at the top of each leg, each bracket having an arm projecting laterally from the upper end of a stem that extends down into the leg. The stems of the two brackets are inserted in each leg with the adjoining arms extending away from each other toward the legs at two other corners of the frame. A bar extends horizontally between each pair of adjacent legs and is secured to the bracket arms at its opposite ends. The bars and brackets form the frame, which is held together by the legs. The top member of the piece has a flat horizontal area supported by the frame and surrounded by a depending flange that substantially covers the outside of the frame.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which

Fig. 1 is a perspective view of a table made in accordance with my invention;

Fig. 2 is an enlarged end view of the table with part of the top broken away;

Fig. 3 is a vertical section through an end of the table taken on the line III—III of Fig. 2;

Fig. 4 is an enlarged vertical section taken on the line IV—IV of Fig. 2;

Fig. 5 is a side view of one of the frame members;

Fig. 6 is a plan view of the frame supported by the legs; and

Fig. 7 is an enlarged fragmentary plan view of a corner of the frame.

Referring to Fig. 1 of the drawings, the top member A of the table is supported by a rectangular frame B, from the corners of which tubular legs C extend down to the floor. Preferably, the legs are inclined outwardly slightly to improve the appearance of the table. It is not necessary that the table be rectangular, as this invention is equally applicable to triangular tables and those with more than four sides.

The frame of the table is formed from four horizontally extending frame members, which form the sides and ends of the frame, and are held together at the corners of the frame by the legs. As shown in Fig. 5, each frame member consists of a horizontally extending strap-like bar 1, which may be provided with a central longitudinally extending corrugation forming a stiffening rib 2. The opposite ends of each bar are riveted or welded to a pair of brackets. Each of these brackets has an arm 3 that overlaps the end of the bar and is fastened to it as just mentioned. The outer end of the arm is integrally connected to one edge of the upper end of a downwardly extending stem 4. Preferably, the arm is connected to the outer edge of the stem so that the upper ends of the legs will be located inside of the frame. In such case, the arm extends across the stem in spaced relation with it and then is doubled back to the edge of the stem, as shown in Fig. 7. It will be seen in Figs. 6 and 7 that at each corner of the frame, two brackets of different side members are disposed with their stems side by side. With a rectangular frame, the arms of these two brackets extend away from each other at right angles. The stems of the two brackets engage each other and are of such size and shape in cross section, semi-cylindrical for example, that they will fit tightly within the upper part of one of the tubular legs C. In other words, each leg and the adjoining two stems are telescoped and fit snugly enough together to remain in assembled relationship. The upper end of the leg preferably is provided with a downwardly extending slot 5 (Fig. 7) that receives the bent outer ends of the bracket arms to permit the top of the leg to be slid up into the angle formed by the brackets, as shown in Fig. 4. The interengaging arms and slots will also prevent the legs from being turned on the stems of the brackets. When the eight stems are inserted in the upper ends of the four legs, the frame side members will be securely held together in the shape of a rectangular frame supported by the legs, as shown in Fig. 6.

The top of the table is formed preferably from a sheet of metal, stainless steel for example, which has its marginal portions bent downwardly to form a flange 7 surrounding the horizontal area 8 of the top. This top member, which resembles an inverted tray, is fitted over the frame, with the surrounding flange overlying and covering most of the frame. The flange should fit rather snugly around the frame so that the top member will not be loose on the frame. The fit may be tight enough to prevent the top member from being lifted off the frame when the table is picked up, especially if the lower edge of the frame projects a short distance below flange 7 so that the table will be lifted by the frame and not by the top member. However, to assure a secure connection between the top and the frame, the two can be fastened together in any suitable manner. To avoid having to match up holes in the flange and the frame for the reception of screws or bolts, it is preferred to provide only the flange with holes. One or two at each end of the table are sufficient. As shown in Figs. 2 and 3, flexible metal strip 9 having a head 10 at its outer end, is inserted in each hole and pushed down through the space between the flange and the frame until the head engages the flange around the hole. The lower end of the strip then is bent upward around the lower edge of the frame. The frame and top member then cannot come apart.

Before this table is assembled, it can be shipped and stored as a flat package that will have very little bulk. This can be done because the legs and the separate side members of the frame can be laid down flat in the tray formed by the inverted table top. The package will be no thicker than the width of the top flange 7.

By using four frame members having the same length, square tables can be produced. If the frame is small, the product can serve as a stool or stand. A narrow frame with short legs will form the base of a bench. It will therefore be seen that by using frame members of different lengths and legs of different lengths, such items as

benches, stools, coffee tables or regular tables can be produced. The brackets will be the same in every case, as will also be the manner of assembling the different parts.

According to the provisions of the patent statutes, I have explained the principle of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. An article of furniture comprising a plurality of tubular legs, a pair of brackets at the top of each leg, each bracket having an arm projecting laterally from the top of a leg and having a stem extending down into that leg, the stems of a pair of said brackets being inserted in each leg with the adjoining arms extending away from each other toward two other legs, a bar extending horizontally between each pair of adjacent legs and secured to the bracket arms at its opposite ends, said bars and brackets forming a frame held together by the legs, and a top member having a flat horizontal area supported by the frame and surrounded by a depending flange substantially covering the outside of the frame.

2. An article of furniture according to claim 1, in which the upper ends of said stems are located inside the corners of the frame.

3. An article of furniture according to claim 1, in which one end of each bracket arm extends across the adjoining stem in spaced relation therewith and is integrally

joined to an edge of the stem by a connecting portion, and the upper end of the adjoining leg is provided with a downwardly extending slot receiving said connecting portion, whereby the legs extend up into the frame.

4. In an article of furniture, a base comprising a plurality of tubular legs, a pair of brackets at the top of each leg, each bracket having an arm projecting laterally from the top of a leg and having a stem extending down into that leg, the stems of a pair of said brackets being inserted in each leg with the adjoining arms extending away from each other toward two other legs, and a bar extending horizontally between each pair of adjacent legs and secured to the bracket arms at its opposite ends, said bars and brackets forming a frame held together by the legs, said frame being adapted to support a covering top member.

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