

June 7, 1955

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2,710,053

STRETCHER INTERCONNECTING FURNITURE LEGS

Filed Sept. 18, 1950

Fig. 3.

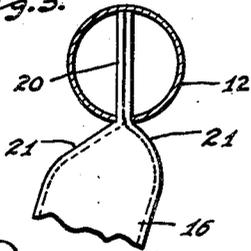


Fig. 2.

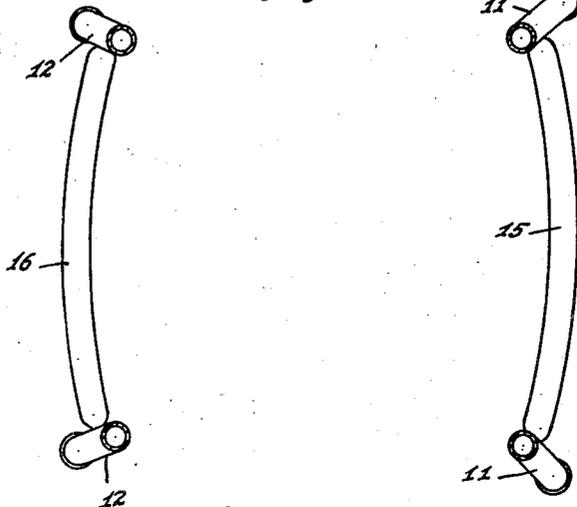


Fig. 1.

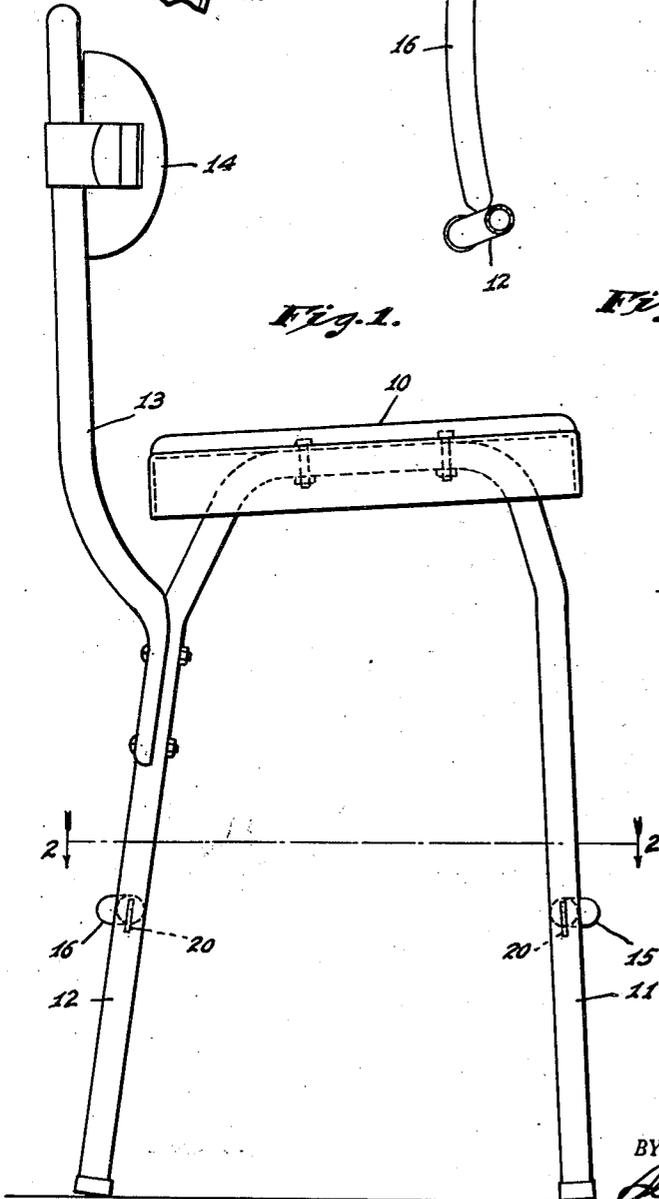


Fig. 4.

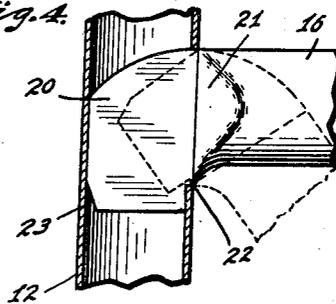
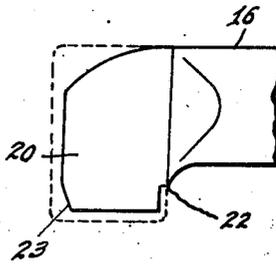


Fig. 5.



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**STRETCHER INTERCONNECTING FURNITURE LEGS**

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Application September 18, 1950, Serial No. 185,476

5 Claims. (Cl. 155—197)

This invention relates to furniture and more particularly to articles of furniture having tubular metal legs interconnected by stretchers. It is an object of this invention to provide a novel and effective means for joining tubular legs to an interconnecting stretcher. A further object of the invention is to produce between tubular metal legs and an associated stretcher a joint which will possess adequate strength and rigidity, and which at the same time, will have an attractive appearance.

In carrying out the invention, each tubular leg to which a stretcher is to be connected is provided with an elongated slot; and the stretcher, which is desirably also made of metal tubing, is flattened at its ends and formed to enter the slots in the legs which it is to interconnect. The flattened portion is trimmed so that it will include a portion projecting laterally from one side of the stretcher, such projecting portion extending within and longitudinally of the leg beyond one end of the slot therein when the stretcher and leg are assembled. Preferably, each flattened portion is so shaped that it extends diametrically across the tubular leg and bears against the inner surface thereof opposite the slot in the leg.

The accompanying drawing illustrates the invention: Fig. 1 is a side elevation of a stool; Fig. 2 is a horizontal section on the line 2—2 of Fig. 1; Figs. 3 and 4 are transverse and longitudinal sections respectively through one of the stool-legs illustrating on an enlarged scale the joint between the leg and an associated stretcher; and Fig. 5 is an elevation illustrating an intermediate step in the formation of a stretcher-end.

The stool illustrated in the drawing comprises a seat 10, conveniently formed of sheet metal. Legs for supporting the seat are provided by two lengths of metal tubing each of which is bent into a general inverted U-shape to provide a front leg 11 and a rear leg 12. Any convenient form of means (not shown) may be employed to secure the generally horizontal intermediate portions of the bent tubing to the underside of the seat 10. Secured to the rear legs 12 is a back support 13 to which a back 14 is attached. Below the seat, the front legs are interconnected by a stretcher 15 and the rear legs by a stretcher 16. This particular form of stool is shown merely for purposes of illustration and the invention is in no way limited to it.

In embodying the invention of this application in a stool such as that shown in the drawing, each leg of the stool is provided in its inner face with a vertically elongated slot extending through the tube-wall. The stretchers 15 and 16 are desirably formed of metal tubing, which may be of the same diameter as that used in forming the legs. Each end of each stretcher is collapsed and flattened, as shown in Fig. 5, to form a double-thickness portion 20 defined by relatively abrupt shoulders 21, the formation of the flattened portion 20 desirably being so effected that such portion will project laterally from the stretcher beyond only one side thereof. The initial shape of the flattened portion is generally as indicated in dotted lines in Fig. 5. After the flattening

operation, the double-thickness portion 20 is trimmed to the full-line shape shown in Fig. 5. In this trimming, a notch 22 is formed in the flattened portion at the lower ends of the shoulders 21, such notch having a horizontal width substantially equal to the thickness of the material from which the legs 11 and 12 are formed. The outer edge of the flattened portion is cut away parallel to the shoulders 21 and at a distance from the side edge of the notch 22 equal to the interior diameter of the tube from which the legs are formed. The upper side of the flattened portion is cut away on or within a radius from the base of the notch 22 equal substantially to the lengths of the shoulders 21. In addition, the outer lower corner of each flattened portion 20 may be struck off, as indicated at 23.

The slot in each of the legs 11 and 12 has a width equal to the thickness of the flat stretcher-portion 20 and a length equal to the distance between the base of the notch 22 and the upper edge of the flat portion at the shoulders 21. Accordingly, the stretcher can be assembled with each of its associated legs by inserting the flattened portion into the leg-slot, with the stretcher held approximately in the dotted-line position shown in Fig. 4, until the base of the notch 22 engages the lower end of the slot in the leg, whereupon the stretcher is rotated relatively to the leg about the lower end of the slot into its final position. Desirably, the final shape imparted to the flattened portion by the trimming operation is such that when the stretcher is in its final position the flattened portion will bear against the inner face of the tubular leg and resiliently deform the metal of such leg at the base of the notch 22 and at the upper outer corner of the flattened portion. The resultant stress introduced into the metal of the leg makes for a tight joint and the elimination of any looseness and possibilities of rattling. The shoulders 21 effectively conceal the slots in the legs, thus resulting in an attractive appearance.

I claim as my invention:

1. In an article of furniture having two tubular metal legs, a stretcher interconnecting said legs, said legs being provided in their adjacent sides with elongated, longitudinally extending slots, each end portion of the stretcher being flattened and extending through the slot into the interior of the leg, the flattened stretcher-portion substantially filling the slot and having an extension which extends downwardly within the leg beyond one end of the associated slot, the outer edge of each flattened portion engaging the inner surface of the leg opposite the slot and above said extension and the extension engaging the inner surface of the leg beneath said slot to limit to a predetermined value the distance within which the upper ends of the legs may approach each other, and holding means acting between the upper ends of the legs and holding them at less than such predetermined distance apart to introduce strains into each leg at the points where it engages the outer edge of each flattened portion and the opposite edge of the associated extension.
2. In an article of furniture having two tubular metal legs, a stretcher interconnecting said legs, said legs being provided in their adjacent sides with elongated, longitudinally extending slots, each end portion of the stretcher being flattened and extending through the slot into the interior of the leg, the flattened stretcher-portion substantially filling the slot and having an extension which extends downwardly within the leg beyond one end of the associated slot, the outer edge of each flattened portion and the opposite edge of such extension engaging opposite sides of the interior surface of the associated leg at vertically spaced points to limit relative rotation of the leg and stretcher in one direction,

and holding means spaced from the stretcher for inducing strain to such legs in the plane of the stretcher and leg for causing snug and binding contact of the leg with the stretcher extension at such vertically spaced points.

3. The invention set forth in claim 1 with the addition that said article of furniture is a chair or the like having a seat located above said stretcher, said holding means comprising said seat and means for securing the upper ends of the legs thereto. 5

4. The invention set forth in claim 2 with the addition that said article of furniture is a chair or the like having a seat located above said stretcher, said holding means comprising said seat and means for securing the upper ends of the legs thereto. 10

5. The invention set forth in claim 2 with the addition that said stretcher is formed of tubular stock collapsed at its ends. 15

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