

Dec. 11, 1945.

M. GREITZER

2,390,878

CHAIR

Filed July 17, 1943

Fig. 1.

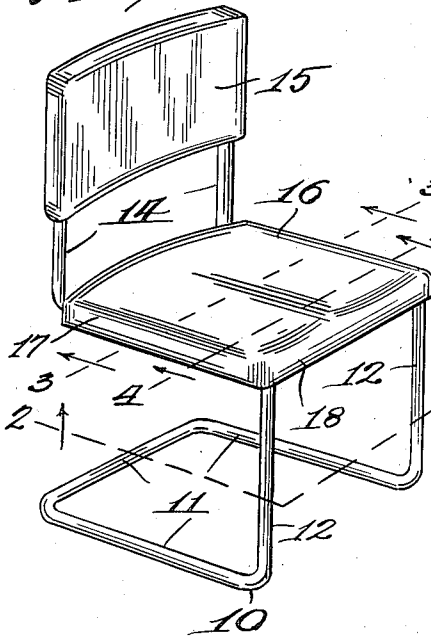


Fig. 2.

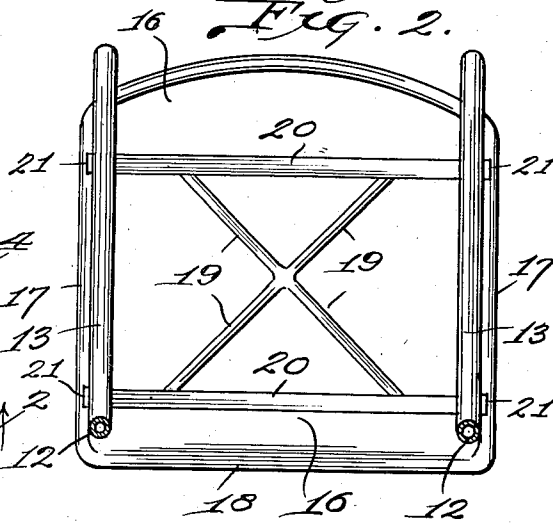


Fig. 3.

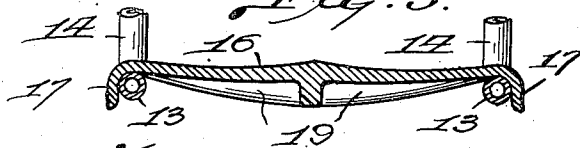


Fig. 4.

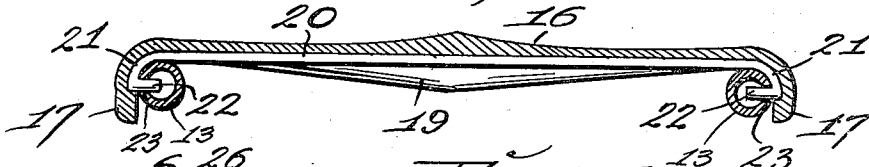


Fig. 5.

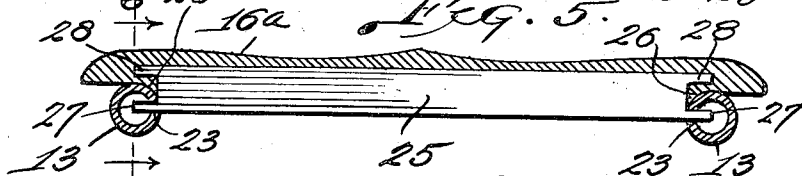


Fig. 6.

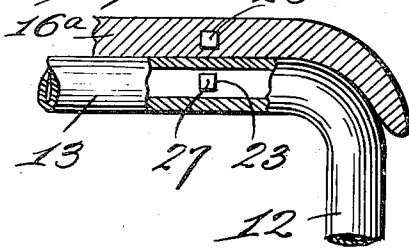


Fig. 7.

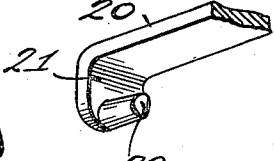
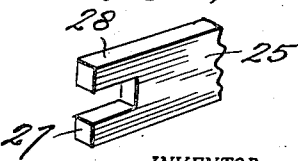


Fig. 8.



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# UNITED STATES PATENT OFFICE

2,390,878

CHAIR

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Application July 17, 1943, Serial No. 495,151

7 Claims. (Cl. 155—196)

My invention relates to a chair of the particular type covered by United States Letters Patent Number 2,306,878 issued to me December 29, 1942, also other existing forms of similar chairs.

The principal objects of my present invention are to generally improve upon and simplify the construction of the chair disclosed in my aforesaid patent and further, to provide a chair comprising a one piece frame preferably composed of metal tubing together with a seat and a back detachably applied to said frame, and, further, to provide a chair which may be readily assembled and taken apart thereby enabling a number of chairs in disassembled or knock-down condition to be packed in nested arrangement for storage or transportation, thus enabling a chair manufacturer to obtain advantage of minimum transportation and storage charges, and, further, to provide a chair of the character referred to which, when properly assembled, is very strong, rigid and substantial and comparatively light in weight.

Further objects of my invention are to provide a chair constructed so that the seat and back may be applied to the one piece metal frame without requiring the use of tools or fastening devices, such as screws, bolts or the like, thus effecting a material saving of time, labor and consequent expense in the assembly of the parts of the chairs, and enabling the same to be assembled or taken apart by unskilled labor, and, further, to provide a chair which combines simplicity of construction with strength, rigidity and minimum weight and at the same time, presenting a neat and pleasing appearance.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully disclosed and claimed and illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a chair constructed in accordance with my invention.

Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1 and looking against the under-side of the chair seat.

Fig. 3 is a cross section taken on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged cross section taken approximately on the line 4—4 of Fig. 1.

Fig. 5 is a cross section similar to Fig. 4 and showing a modified structure.

Fig. 6 is an enlarged detail section taken on the line 6—6 of Fig. 5.

Fig. 7 is a perspective view of one end of one of the seat reinforcing and attaching bars.

Fig. 8 is a detail perspective of the end portion of one of the modified forms of seat reinforcing and attaching bars.

Referring by numerals to the accompanying drawing, and, particularly, to the construction illustrated in Figs. 1, 2, 3, 4 and 7, 10 designates the chair frame which is preferably formed from a single piece of metal tubing, the central portion of which is bent to form a horizontally disposed U-shape floor engaging frame 11, and projecting upwardly from the forward ends of the side members of said frame are legs 12.

From the upper ends of the legs 12, the tubing extends rearwardly in a horizontal plane to form a pair of seat supporting rails 13 which are positioned above the side members of the floor engaging frame 11, and from the rear ends of the rails 13, the tubing extends upward to form a pair of substantially parallel back supporting members 14.

A chair back 15 which may be of any desired construction, for instance, wood, plastics or metal, either plain or upholstered, is detachably mounted on the upper portions of the upright members 14. The chair seat 16 is preferably formed in a single piece from plastic material or the like molded to proper size and shape, and provided on its side edges with depending flanges 17, and on its front edge with a depending apron 18.

Where the seat is molded from plastic material or the like, the same is reinforced by means of crossed ribs 19 which are formed on the under-side of the central portion of the seat.

Embedded in the seat adjacent its front and rear edges are transversely disposed bars or straps of metal 20, the end portions of which are curved downwardly as designated by 21 to conform with the curvature of the depending flanges 17, and projecting inwardly from the lower portions of said curved ends are horizontally disposed pins or studs 22. For the accommodation of these pins or studs, the seat supporting rails 13 of the tubular frame of the chair are provided in their outer portions with horizontally disposed apertures 23.

It will be understood that the chair frame being formed of metal tubing is resilient to a considerable degree, and in the assembly of the parts of the chair, before the seat back 15 is applied, the seat supporting rails 13 are pressed toward each other a sufficient distance to enable the pins 22 to enter the apertures 23 in said rails, and when the pressure on said rails is relieved, the same will flex outwardly to lie against the inner and underfaces of the flanges 17 as illustrated in Fig. 4 with the pins 22 positioned in the aper-

ture 23, thus very firmly connecting the seat to the chair frame.

The seat back 15 is now applied to the uprights 14, and under such conditions, it will be impossible to move the seat supporting rails 13 toward each other a sufficient distance to disengage the pins 22 from the apertures 23, and thus, the three parts of the chair are maintained in assembled relation without the use of screws, bolts or other extraneous fastening means.

In the modified construction illustrated in Figs. 5, 6 and 8, the seat 16\* is devoid of the depending side flanges 17 and embedded in the underside of the seat bodies are transversely disposed bars or rails 25, the lower edges of which are flush with the under-face of said seat body. Formed on the under-side of the seat a short distance inwardly from the side edges thereof are concave shoulders 26 for the accommodation of the rails 13 of the chair frame, and projecting outwardly from the lower portions of the ends of the bars 25 just below the shoulder 26 are pins or studs 27 which are adapted to enter the apertures 23 in the rails 13. Projecting outwardly from the upper portions of the reinforcing bars 25 into the seat body just above the shoulder 26 are pins or studs 28.

When this form of seat is applied to the chair frame, the seat supporting rails 13 are spread apart a sufficient distance to enable the pins 27 to enter the apertures 23 in the rails 13 and the resiliency in the metal forming the chair frame will flex the rails 13 inwardly after having been spread apart so that the pins 27 will enter the apertures 23 and the rails 17 will bear against the shoulders 26, thus providing a very firm and substantial connection between the seat and the chair frame.

The metal rails or bars 20 or 25, in addition to reinforcing the seat 20, provide a very strong and substantial connection between the side portions of one piece of the chair frame, and, particularly, the seat supporting members 13 thereof.

Thus, it will be seen that I have provide a chair which is simple in construction, inexpensive of manufacture and very effective in performing the functions for which it is intended. The particular advantages of my improved construction are the saving of time, labor and consequent expense in assembling or dis-assembling the parts of the chair, the elimination of fastening devices, such as screws, bolts and the like, and the knock-down structure which is especially advantageous in the crating, storage and shipment of the chairs.

It will be understood that minor changes in the size, form and construction of the various parts of my improved chair may be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In a chair, a resilient frame having a pair of seat supporting rails which yieldingly resist movement toward each other provided with apertures, a seat, transverse rails on the under-side of said seat and studs projecting from the ends of said rails which studs are adapted to be received by the apertures in the rails of said frame.

2. In a chair, a frame formed in a single piece resilient from metal tubing, said frame having a pair of horizontally disposed seat supporting rails in which are formed apertures, a seat, reinforcing rails on the under-side of said seat and studs projecting from the ends of said reinforcing rails and adapted to be received by the apertures in the seat supporting rails of the chair frame.

3. A seat as set forth in claim 2 and with reinforcing ribs formed on the under-side of said seat.

4. In a chair, a resilient frame having a pair of horizontally disposed seat supporting rails which yieldingly resist movement toward each other and are provided with apertures, a seat, reinforcing rails on the under-side of said seat, studs on the ends of said reinforcing rails which studs are adapted to enter the apertures in the seat supporting rails of the frame and there being shoulders formed on the under-side of the seat for engagement with said seat supporting rails.

5. In a chair, the combination with a resilient frame having chair supporting rails which are adapted to flex toward and away from each other, of a seat adapted to rest on said rails, reinforcing means on the underside of said seat and means including studs on the ends of said reinforcing means and apertures in said rails providing inter-engagement between said reinforcing means and said seat supporting rails.

6. A chair as set forth in claim 5 and with rail engaging shoulders on the underside of said seat.

7. As a new article of manufacture, a chair comprising a one piece resilient frame having seat rails in which are formed apertures, a seat composed of plastic material, reinforcing means embedded in said seat and studs on the ends of said reinforcing means for engaging in the apertures in said seat rails.

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