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CHAIR

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4 Claims. (Cl. 155—179)

This invention relates to improvements in chairs for general use. Among the objects are to provide in a chair, a skeleton frame made out of spring or rigid metal upon which are stretched a series of parallel and comparatively heavy elastic bands extending transversely and forming a resilient seat and back with no interfering members and without the use of any cushions; to permit the ready adjustment of the elastic bands whereby replacement of worn or mutilated bands can be easily made; to include arm rests coacting with the seat and back which permit ready replacement of the elastic bands forming the seat and back; to provide a curved seat and back which will readily fit and conform with the shape of the body of the user and which will readily regain normal condition when not in use, and to provide a seat or back or both made out of elastic bands which will not strain and become deformed after long continued use and which are sanitary, comfortable and cool.

In the accompanying drawing forming part of this specification, Fig. 1 is a perspective view of my improved chair; Fig. 2 is a cross section of a detail taken on line 2—2 of Fig. 1, showing a fragment of the seat and arm rest; Fig. 3 is a cross section taken approximately on the line 3—3 of Fig. 1, and Fig. 4 is a cross section in perspective of one of the elastic bands.

While I have illustrated my invention applied to a chair it will be understood that the novel features thereof are equally applicable to a stool, bed frame or any other article of furniture for household, porch, lawn, vehicle or any other use.

In the drawing, A represents the skeleton frame of a chair made out of spring or rigid metal tubing or structural metal of any suitable cross sectional shape. This frame as shown consists of a single piece of tubing bent semi-circularly midway between its ends into a stability base B. The forwardly extending parallel side members 10 and 11 of the base are bent upwardly to provide parallel upright supporting legs 12 and 13, which in turn are bent backwardly at the desired height to form parallel seat forming side bars 14 and 15, which slant slightly downwardly toward the rear. At the desired rearward end of the seat the ends of the tubing are bent upwardly in substantially parallel relation to produce back forming side bars 16 and 17, which terminate at the desired height and are held spaced apart by the rearwardly curved transverse stay 18 at their upper ends. The ends of this stay are joined to the upper ends of the back forming side bars by brazing or other suitable means. This structure is

resilient to provide a spring skeleton chair frame or it can be made substantially rigid when desired. The frame is reinforced by the transverse concave seat brace 20, the concavity thereof relieving said brace from interfering with the functioning of the seat. Suitable arm rests are provided at the sides above the seat by members 21 and 22, each member such as 22 being rigidly secured by brazing or other suitable means to the companion back side bar 17 and after extending forwardly being bent downwardly a sufficient distance above the companion side bar 15 of the seat (see Fig. 2) for purposes hereinafter described.

To form what I have chosen to term a "filler" for the seat C and back D of the chair, a series of endless resilient bands E, preferably made out of rubber or other resilient material are provided. As shown wide strips of rubber of sufficient bodily thickness are used. These bands are sprung around and thereafter grip the side bars after being threaded upwardly over the base B and seat C or downwardly over the back D. They are assembled transversely in parallel slightly spaced relation apart and normally grip the side bars. The elastic band is of proper length and thickness to be held taut on the side members of the chair, whereby all of the bands cooperate in permanently forming a uniform filler of the seat and back. The arm rests 22 and 23 terminate above and out of contact with members 14 and 15 so that the elastic bands can be readily adjusted below the arm rests and over the side members of the seat. A smooth tip 23 is placed in the lower end of each arm rest to prevent abrasion of the elastic bands. The surface of one side of substantially all of the bands of the back and seat lies in substantially a plane to produce a supporting surface between the sides of the seat and back. When subjected to sufficient weight of a body the front side of each band stretches and sags inwardly until the back side supplements its supporting strength. In this manner both sides function, the front side imparting first a soft cushioning effect and when supplemented by the back side increasing the support to prevent sagging.

Worn or damaged resilient bands can be easily replaced by removing old and adjusting new bands over the frame. In use the metal skeleton frame can be plated, enameled, painted or finished and the bands ornamented and colored as desired. Also the bands may be oblong, round, oval, square or any other suitable cross sectional shape desired.

The resilient bands provide a soft deep spring effect which promotes comfort and rest without

the use of cushions. They are sanitary, cool and attractive in appearance and are easily replaced when worn or damaged. The entire structure is also sturdy, durable and inexpensive and there
 5 is no tendency of the bands straining and sagging excessively after long continued use. The resilient bands of the seat and back also conform readily to the curvature of the body of the user and provide maximum resiliency.

10 In accordance with the patent statutes, I have described the principles of operation of my invention together with the construction thereof which I now consider to represent the best embodiment thereof, but I desire to have it understood that the structure illustrated is only illustrative and that the invention can be carried out
 15 by other means and applied to uses other than those above set forth within the scope of the following claims.

20 I claim:

1. A chair, comprising, a skeleton frame having side bars forming a seat and back, means for holding said side bars in spaced relation, and
 25 a filler for said seat and back composed of a series of transverse endless elastic bands adapted to grip the side bars, said bands having broad sides in a plane forming a resilient supporting surface, and arm rests rigidly secured to the portion of said side bars forming said back and having their
 30 free ends terminating away from the portions of the side bars forming said seat to permit adjusting the bands over the side bars.

2. A chair, comprising, a skeleton frame having side bars forming a seat and back, means
 35 for holding said side bars in spaced relation, a filler for said seat and back composed of a series of transverse endless elastic bands adapted to grip the side bars, said bands having broad sides in a plane forming a resilient supporting surface,

and an arm rest rigidly secured at one end to a portion of a side bar forming part of said back and having a free end terminating away from the remaining portion of said side bar forming part of said seat, to permit adjusting the bands
 5 over the side bars.

3. A chair, comprising, a skeleton frame having side bars forming a seat and back, means for holding said side bars in spaced relation, a
 10 filler for said seat and back composed of a series of transverse endless elastic bands adapted to grip the side bars and form a resilient supporting surface, and an arm rest rigidly secured at one end to and having a free end spaced from one of said side bars, to permit adjusting the
 15 bands over the side bars.

4. An article of furniture having longitudinal side bars held spaced apart and forming part of a seat and back, a filler between said bars comprising a plurality of adjacently arranged transverse
 20 endless elastic bands adapted for being sprung over the portions of said side bars forming the seat and back and thereafter to grip said bars, each band being relatively wide as related to its thickness and one side of all of the bands
 25 providing a substantially flat elastic supporting surface between said bars and the front side being superimposed and spaced from the companion back side of each band whereby the front side may stretch and sag into contact with the
 30 back side and the supporting strength of the front side be resiliently reinforced, and arm rests between the seat and back portions of each side bar, each rest being secured by one end to one of the seat or back portions of a bar with its free
 35 end spaced from the companion portion of said bar to permit adjusting said bands over the bars.

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