March 5, 1935. H. H. GOLDBERG 1,993,601

FURNITURE

Filed Nov. 6, 1934 2 Sheets-Sheet 1

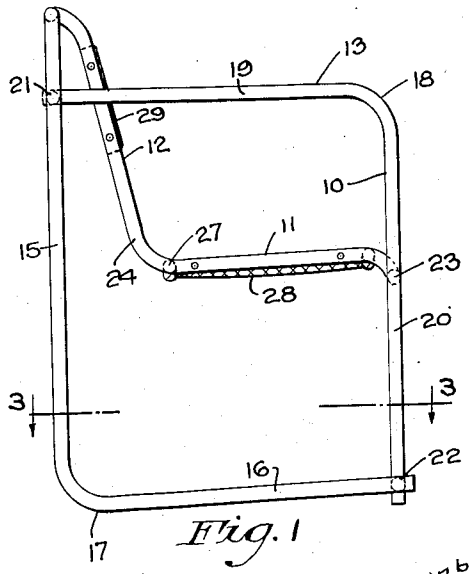


Fig. 1

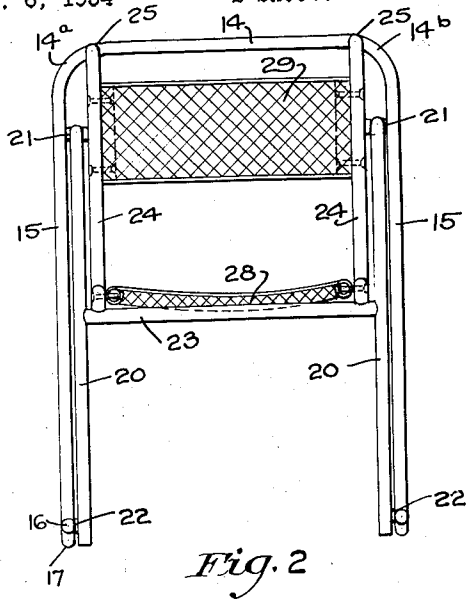


Fig. 2

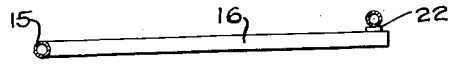


Fig. 3

Fig. 4

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FURNITURE

Filed Nov. 6, 1934 2 Sheets-Sheet 2

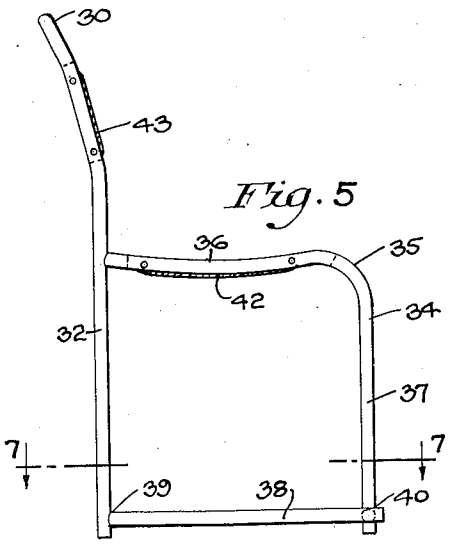


Fig. 5

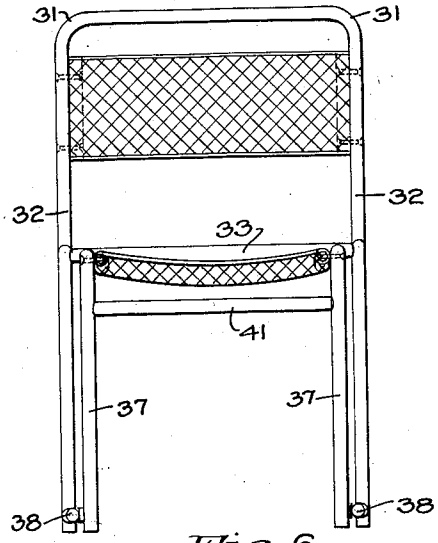


Fig. 6

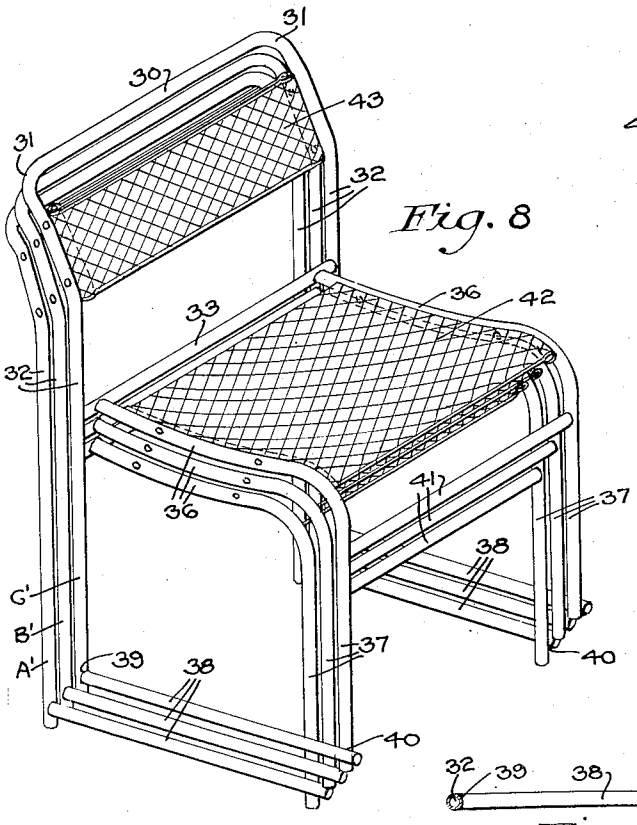


Fig. 8

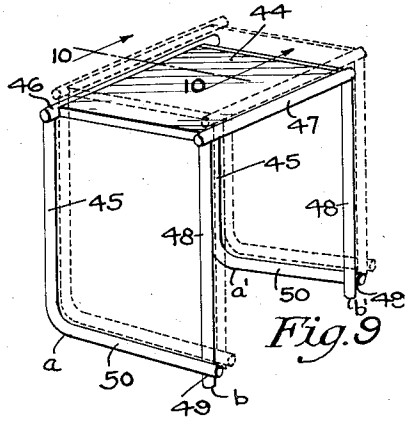


Fig. 9

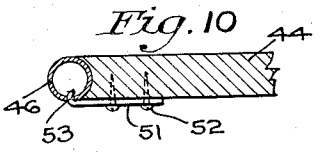


Fig. 10

Fig. 7

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Patented Mar. 5, 1935 1,993,601

UNITED STATES PATENT OFFICE

1,993,601

FURNITURE

Harry H. Goldberg, Philadelphia, Pa., assignor to Bunting Glider Company, Philadelphia, Pa., a corporation of Pennsylvania

Application November 6, 1934, Serial No. 751,683

2 Claims. (Cl. 155—2)

This invention relates to improvements in the construction of articles of furniture, such as chairs, benches, tables and the like.

Among the principal objects of the present invention is to provide an article of furniture of such design and construction as to adapt a plurality of identical pieces to be nested or stacked one upon the other whereby a minimum of floor space is employed for storage purposes.

Heretofore and prior to this invention various expedients have been resorted to in attempts to provide for the stacking of chairs, tables and the like when the same are not in use, the most common of these expedients being the provision of collapsible units. These latter units, because of their collapsible nature, were necessary not as sturdy and rigid in their set-up condition as might be desired and moreover, even when a plurality of such collapsed units were arranged in stacked relation, they occupied a far greater floor area than was often conveniently available.

The present invention overcomes these objections by the provision of rigidly constructed units which are not collapsible but which nevertheless are adapted to be so stacked or nested relatively to each other that a large number of them occupies no more floor space than does a single unit. And this is characteristic not only of chairs, benches and the like, but also of tables and indeed all other articles of furniture which are provided with the usual symmetrically arranged four supporting legs. Furthermore, as will appear from the detailed description of the invention which follows, the units which are so adapted to be stacked or nested may be constructed of metal or of wood or of any other rigid material, each such unit being complete in and of itself and always ready for immediate use without entailing the bother of setting them up as in the case of the collapsible type of unit.

Other objects of the invention will appear more fully hereinafter, as will also the advantages and benefits resulting from the use of units constructed in accordance with and embodying the principles of the invention.

The invention consists substantially in the combination, construction, location and relative arrangement of parts, all as will be apparent more fully hereinafter, as shown in the accompanying drawings, and as finally pointed out in the appended claims. In the accompanying drawings, which are merely illustrative of and exemplify certain types of units in which the present invention may be embodied:

Figure 1 is a side elevational view of one type of chair embodying the present invention;

Figure 2 is a frontal elevational view thereof;

Figure 3 is a horizontal sectional view through one side of the chair as taken along the line 3—3 of Figure 1;

Figure 4 is a perspective view showing in stacked relation a plurality of chairs of the type shown in Figure 1;

Figure 5 is a side elevational view of another form of chair embodying the present invention;

Figure 6 is a frontal elevational view thereof;

Figure 7 is a horizontal sectional view taken on the line 7—7 of Figure 5;

Figure 8 is a perspective view showing in stacked relation a plurality of chairs of the type shown in Figure 5;

Figure 9 is a perspective view of a table embodying the present invention and adapted to be stacked; and

Figure 10 is a vertical sectional view of a detail of construction as taken along the line 10—10 of Figure 9.

Referring now to the drawings and more particularly to Figures 1 to 4, inclusive, wherein is illustrated an arm chair constructed in accordance with and embodying the principles of the present invention, it will be seen that this chair, designated generally by the reference numeral 10, is provided with a relatively rigid frame the several parts of which are secured together in any suitable manner to provide a seat frame 11, a back-rest frame 12 and a pair of opposed arm rests 13—13. Preferably, the chair frame is constructed entirely of metal, the several parts composing the same being formed of metal tubing or bars, said parts being preferably welded together to form a rigid frame structure. Or, the frame structure may be constructed of wood or other sufficiently strong material without necessitating any departure from the principles of the present invention.

In the type of chair illustrated in Figures 1 to 4, it will be noted that the main back frame member 14 is bent, as at 14*a* and 14*b*, to provide a pair of opposed vertical sections 15—15 respectively terminating in forwardly extending sections 16—16, these latter sections being arranged in substantially parallel relation and each of them being forwardly and upwardly inclined with respect to the horizontal so that the rear of the chair rests upon the floor at the points 17 (see Figure 1). Provided at either side of the chair is the arm rest member 13 which is bent, as at 18, to provide a horizon-

tally extending section 19 and a vertically extending section 20, the rear extremities of the horizontal sections 19 being respectively secured to the vertical sections 15 of the main frame 14, as at 21, while the vertically extending sections 20 of the arm rest members are respectively secured to the forwardly extending section 16 of the frame member 14, as at 22. With the parts 13 and 14 secured together as just described, there is provided a skeleton frame for the chair in which the sections 20—20 constitute the front supporting legs thereof, it being observed in this connection that the frame members 13 are respectively secured to the inner sides of the opposed sections of the frame member 14. In other words, the frame members 13 are respectively disposed in vertical planes which are respectively offset inwardly from the vertical planes in which commonly lie the sections 15—16 of the frame member 14. This offset relation of the arm rest members 13 with respect to the opposed side sections of the frame 14 is best shown in Figures 2 and 3.

The frame structure of the chair is completed by the tubular bar or rod 23 extending horizontally between and secured at its opposite extremities to the vertical or upright sections 20 of the arm rest members, this member 23 serving as the forward support for the seat and back-rest frames 11 and 12 conjointly formed of a pair of suitably bent members 24—24 the opposite extremities of which are respectively secured, as at 25 and 26, to the horizontal top section of the frame 14 and to the said forwardly disposed horizontal member 23. If desired, an intermediate strengthening bar 27 may be employed to interconnect intermediate points of the members 24—24. A suitable seat material 28 is fastened to the seat frame in any desired manner, similar material being employed, as at 29, to constitute a back rest. The material employed for the seat 28 and the back rest 29 may be cloth or any other desired flexible or inflexible material.

Figure 4 illustrates the manner in which a plurality of the chairs constructed as above described may be nested one within the other so as to obtain a vertical stack thereof which occupies hardly any more floor space than is ordinarily occupied by a single chair. This compact stacking of the chairs is obtained by virtue of the offset relation provided between the arm-rest members 13 and the side sections of the chair frame, it being observed in this connection that when the chair B (see Figure 4) is properly stacked upon chair A, the arm rest members 13 of both chairs lie in the same vertical planes and similarly, the sections 15—16 of both chairs lie in a common vertical plane offset outwardly from that of the arm rests. Also, it will be observed that when the chairs are so stacked the vertical sections 15 and 20 of the second chair B are respectively arranged immediately in advance of the similar parts of the first chair A, at the same time that the horizontal sections 16 and 19 of the chair B are respectively arranged immediately above the corresponding horizontal parts of the chair A. It will be seen that chair C bears the same relation to chair B as does the latter to chair A and it will be obvious that as many as twelve or more chairs may be readily stacked in the manner described with a very material saving effected in floor space, each chair being very readily removed from its stack for immediate use as the occasion may require.

In Figures 5 to 8, inclusive, is illustrated a second type of chair in which no arm rests are provided but which is nevertheless adapted for stacking exactly in the same manner described in connection with the chair of Figure 1. In this second type of chair a back frame member 30 is employed which is bent, as at 31—31, to provide a pair of opposed vertically extending sections 32—32 which are suitably interconnected and braced by a horizontally extending member 33. Secured to this horizontally extending member 33 are a pair of frame members 34 respectively bent, as at 35, to provide a rearwardly extending section 36 and a downwardly extending section 37, the downwardly extending sections 37 forming in effect the front legs of the chair, while the sections 32 of the U-shaped frame 30 constitute the rear legs of the chair. Interconnecting the lower extremities of each pair of front and rear legs is the member 38, it being particularly observed that the rear extremity of each member 38 is joined to the front face of the rear leg 32, as at 39, while the forward extremity of the member 38 is joined to the side face of the front leg 37, as at 40. There is thus obtained an offset relation between each member 35 and the adjoining side section of the chair frame which is similar in all respects to the offset relation heretofore described in connection with the chair of Figure 1 and by reason of which it becomes possible to stack the chairs as shown in Figure 8. Preferably, the chair frame is further reinforced by the provision of a horizontal strengthening bar 41, and the chair is further provided with a seat 42 and a back rest 43 formed of any suitable material and secured in place in any desired manner. As in the case of the arm type of chair, the chair of Figure 5 is adapted to be nested or stacked together in the manner shown most clearly in Figure 8, wherein chair A' supports chair B' and the latter supports chair C' and so on to provide a stack of twelve or more chairs, the height of the stack being progressively increased as each chair is added thereto by very little more than the cross-sectional dimension of the structural material of which the chair frame is formed. Thus, if the stock of which the chair frame is formed is only one inch in overall dimension, a stack of twelve chairs would mean that the seat of the uppermost chair in the stack would be elevated very little more than eleven inches above the seat of the lowermost chair in the stack. The width of the stack in the case of both types of chairs would in no event exceed the width of a single chair regardless of the number of chairs in the stack.

In Figure 9 there is shown a table constructed in accordance with the principles of this invention to adapt it for stacking. In this figure the dotted lines represent a second table stacked upon the first table shown in full lines. This table is constructed also by the use of frame elements preferably in the form of tubular rods, although it, too, may be constructed of wood bars should that be desired. The under structure of the table which serves to support the table top 44 comprises a pair of L-shaped members 45 the corresponding upper extremities of which are interconnected in secure manner by the horizontally extending cross bar 46. A similar cross bar 47 extends between and inter-

connects the upper extremities of a pair of vertical uprights 48—48, the lower extremities of which latter are respectively secured to the inner faces, as at 49, of the forwardly extending branches 50 of the L-shaped members. These forwardly extending branches 50 are forwardly and upwardly inclined with respect to the horizontal very much on the order of the sections 16 of the chair shown in Figure 1. The table is thus provided with an open frame which is adapted to rest upon the floor at the four points *a*—*a'*—*b*—*b'*. The table top 44 may be secured between the opposed cross bars 46 and 47 in any suitable manner. Preferably, this is effected by means of clamping devices 51 which are secured to the under surfaces of the table top in suitably spaced relation at the forward and rear edges thereof, as by the screws 52, each of these supporting devices being provided with a hook-shaped extremity 53 respectively adapted to engage apertures therefor suitably provided within the tubular bars 46 and 47. Of course, any other arrangement may be employed for securing the table top in position upon its supporting frame. Tables constructed as just described and as shown in Figure 9 are adapted to be nested one within the other to form stacks thereof exactly as in the case of the chairs hereinbefore described.

It will be understood, of course, that the invention is susceptible of various changes from time to time without departing from the real spirit or general principles thereof and it is accordingly intended to claim the same broadly, as well as specifically, as indicated in the appended claims.

What is claimed as new and useful is:—

1. An arm chair of the character described comprising a substantially vertically disposed rear frame of inverted U-shape, the opposed legs of which terminate in forwardly projecting substantially parallel floor-engaging members, a pair of angularly bent members respectively interconnecting the forward extremities of said floor-engaging members and the vertical legs of said U-frame, said connecting members being respectively offset inwardly from the vertical planes of said floor-engaging members and having corresponding branches thereof elevated a substantial distance above said floor-engaging members to provide opposed arm rests, a horizontally disposed bar interconnecting intermediate points of the vertical branches of said arm rest members, and a seat and back-rest frame supported between the cross-bar of said U-frame and the horizontal connecting bar last mentioned.

2. An arm chair of the character described comprising a pair of laterally spaced vertically disposed side frame sections, each side frame section being of substantially rectangular outline to provide a substantially horizontally extending bottom member for engaging the floor, a similarly extending top member elevated a substantial distance above said bottom member to constitute an arm rest, and vertically extending front and rear members respectively interconnecting the fore and rear ends of said bottom and top members, the front vertical member and the top member of each side frame section being commonly disposed in a vertical plane offset inwardly from the common vertical plane of the rear vertical member and the bottom member, a horizontally disposed cross-bar interconnecting the front vertical members of said side frame sections at points intermediate the upper and lower extremities thereof, a combination seat and back-rest frame disposed between said side frame sections, and means for securing said combination seat and back-rest frame in fixed position with the fore ends thereof supported by said horizontal cross-bar aforesaid.

HARRY H. GOLDBERG.