July 3, 1928.

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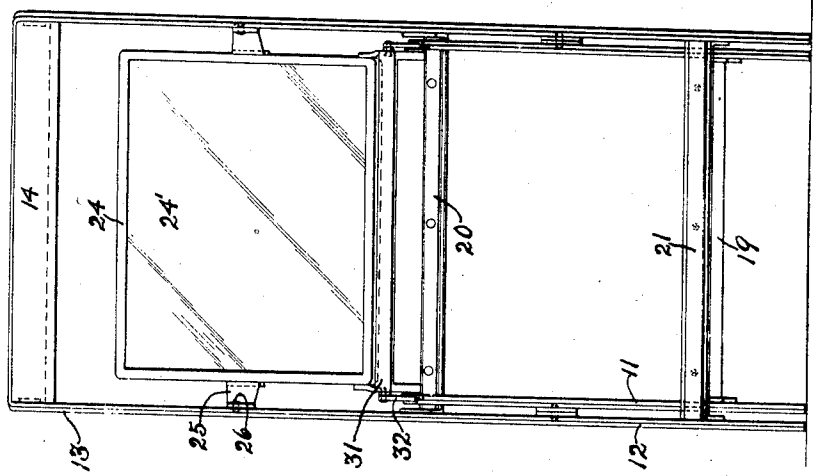
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FOLDING CHAIR

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3 Sheets-Sheet 1

Fig. 2



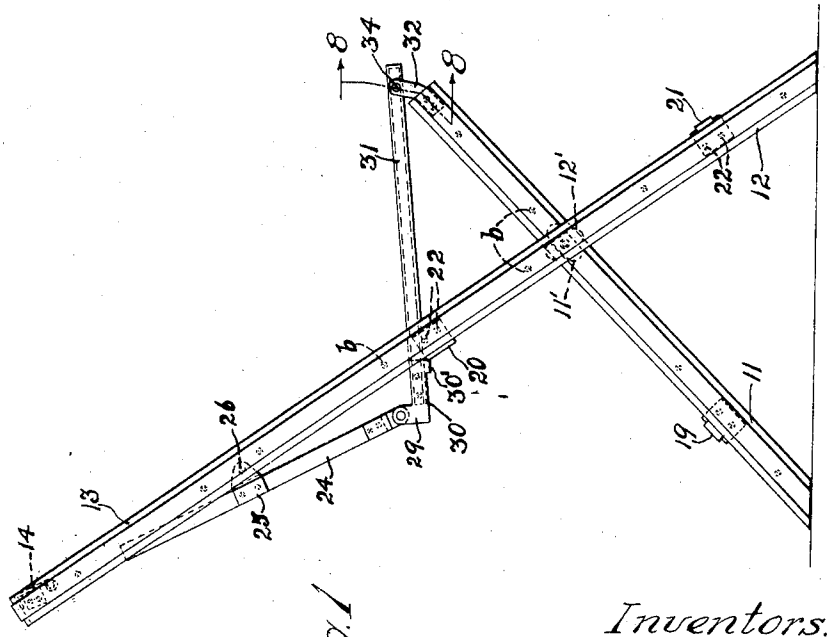


Fig. 1

Inventors.
Aaron E. Rosenthal
Werner E. Clarin
by J. Daniel Stowe
Attorney.

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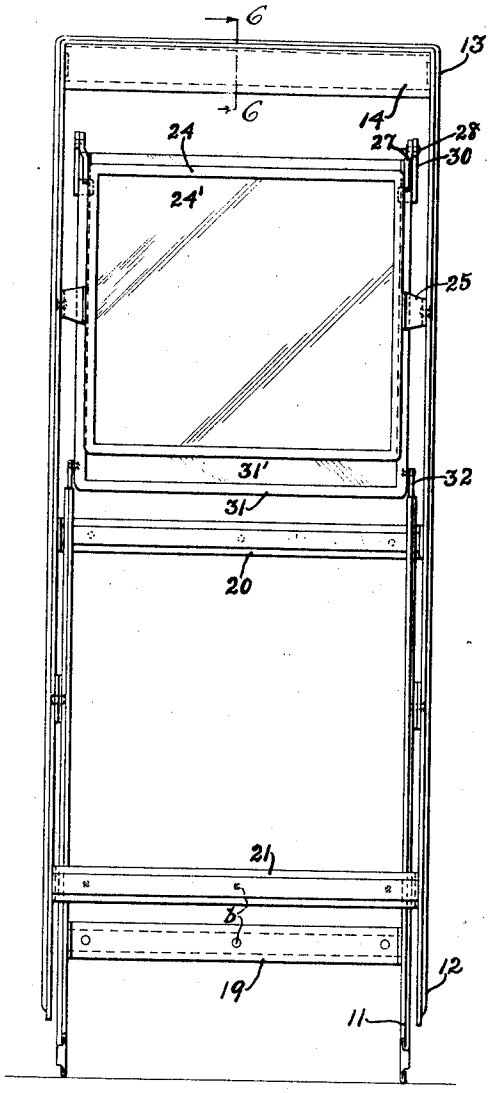


Fig. 3

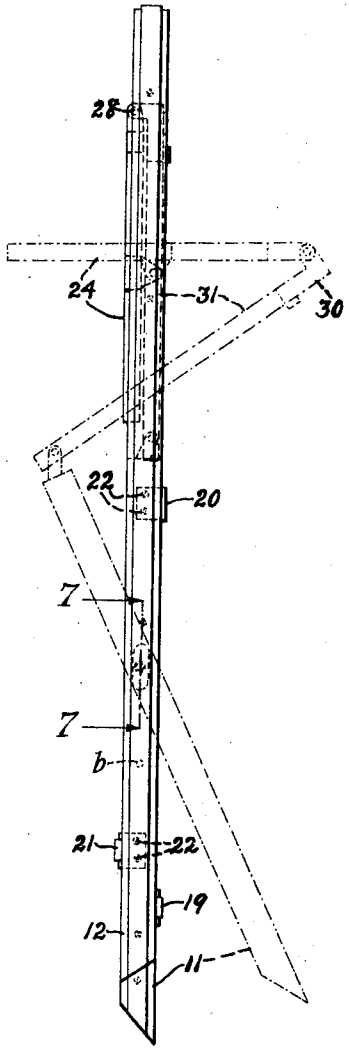


Fig. 4

Inventors:
Aaron E. Rosenthal
Werner E. Clarin
by J. Daniel Stowe
Attorney.

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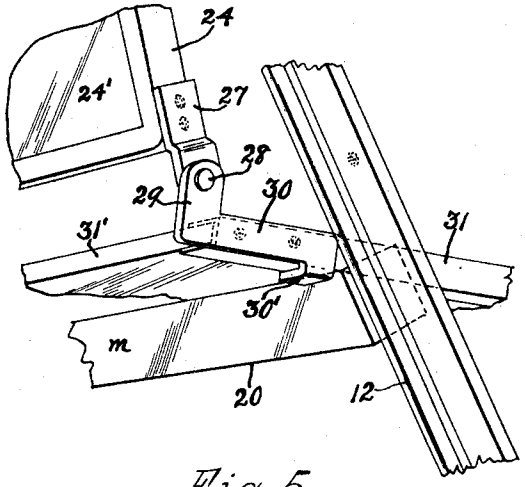


Fig. 5

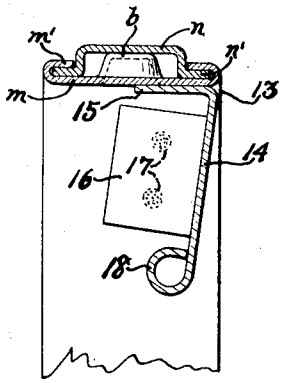


Fig. 6

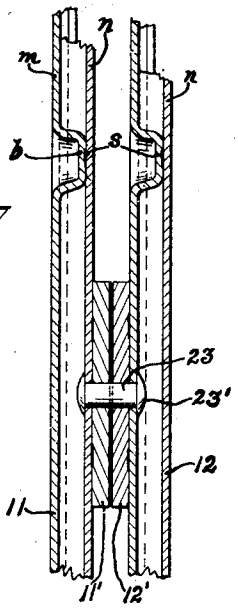


Fig. 7

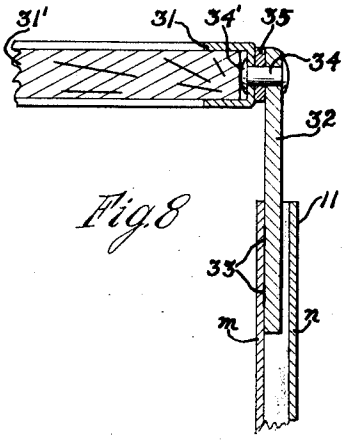


Fig. 8



Fig. 10

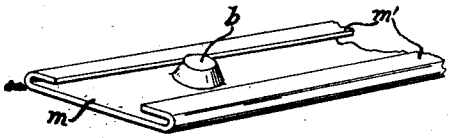


Fig. 9

Inventors.
Aaron E. Rosenthal
Werner E. Clarin
by J. Daniel Stowe
Attorney.

Patented July 3, 1928.

1,675,577

UNITED STATES PATENT OFFICE.

AARON E. ROSENTHAL AND WERNER E. CLARIN, OF CHICAGO, ILLINOIS, ASSIGNORS TO BEACON STEEL FURNITURE CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FOLDING CHAIR.

Application filed April 22, 1926. Serial No. 103,769.

Our invention pertains to folding chairs and has for its main object to provide a light and durable chair constructed from thin, light metal or similar suitable material, and which chair is so shaped and arranged as to provide a maximum of strength with a minimum of material. Another object is to make the supporting member of thin sheet metal bars or strips connected to provide a hollow construction which is substantially in the form of a hollow column, thus providing the greatest amount of resistance to bending and crushing, with a minimum amount of material. A further object is to provide and arrange the parts of the chair so that the pivot members which connect the parts will be chiefly hidden in the hollow construction of the supporting members, thereby to prevent tearing of garments on such pivot members and also to provide a neat and attractive appearance.

These and other objects and advantages are attained with our invention, as will become apparent from the following description and illustration, one form of which is shown in the accompanying drawings, in which;

Fig. 1 is a side view of our improved chair, open or unfolded;

Fig. 2 is a front view thereof;

Fig. 3 is a front view of the chair, closed or folded;

Fig. 4 is a side view thereof, and indicating in dot and dash lines the partly open position thereof;

Fig. 5 is an enlarged detail view;

Fig. 6 is an enlarged cross section on line 6—6 on Fig. 3;

Fig. 7 is an enlarged vertical section on line 7—7 on Fig. 4;

Fig. 8 is an enlarged vertical section on line 8—8 on Fig. 1; and

Figs. 9 and 10 are enlarged views of the parts or bars of metal used in forming the hollow or column-like construction of the main members of this chair.

In the drawings we have illustrated one form of construction embodying our invention, and this form comprises two pairs of supporting legs 11 and 12 pivotally connected together, the legs 12 being made continuous or integral with the upper frame member 13. An upper cross bar 14 is fastened in the upper frame member 13, preferably by having an upper flange 15 and end flanges 16 fastened to said member by spot welding, as indicated at 17 in Fig. 6, said member 14 being set at a slant and in line with the back rest, as shown in Fig. 1, its lower edge 18 being curled or rounded, for strength and smoothness. A brace bar or cross bar 19 connects legs 11; and similar cross bars 20 and 21 connect legs 12, preferably by end flanges fastened with spot welding, as shown at 22 in Figs. 1 and 4.

The legs and the frame member, and preferably also the cross bars, are of hollow construction or columnar in form, and are preferably made from a pair of bars or strips of sheet metal, as best shown in Figs. 6, 7, 9 and 10, the same including a bar m with its outer edges m' curved or turned inwardly, and a bar n which is channel shaped or substantially U-shaped, and has its outer edges n' turned outwardly and embraced or clamped within flanges m'. These bars or strips m and n are fastened together, preferably by forming dents or blisters b on bar m, and then spot welding said dents or blisters against the inner surface of bar n, as shown at s in Fig. 7; and these legs and members are placed on the chair or article so that bar m with the blisters b is on the inward side of the chair or article and bar n is outward, thus providing a strong and durable and also a neat construction. The legs are pivotally connected by a pivot pin 23 extending through the adjacent bars of said legs and through spacing plates 11′ and 12′ which are fastened to said bars, and said pins having the ends upset or swaged to form heads 23′ which are concealed in the hollow construction of the legs.

A back rest 24 is preferably arranged with an outer frame part or member of metal and a panel 24′ of wood or the like mounted therein, and said back rest is swingably mounted in frame member 13, by a pair of ears 25 fastened on the back rest and a pair of pivot pins 26 extending through said ears and having their outward ends upset and concealed within the hollow frame member. Plates 27 are fastened to the lower end of said back rest and are connected with pivot pins 28 to lugs 29 of brackets 30 which are fastened to the side of a metal frame part 31

of the seat, said seat including a panel 31′ of board or the like, which is removably but firmly mounted in part 31. An arm 32 has its lower part concealed and fastened within the upper end of leg 11, as by spot welding it to bar *m*, as indicated at 33 in Fig. 8, and is pivotally connected by a pin 34 to seat member 31, said pin extending through said arm and member and through a spacer 35, and having its outer end smoothly rounded or countersunk and its inner end 34′ concealed within said seat member. Lugs 30′ on bracket member 30 engage cross bar 20 to limit the seat in its forward movement and hold it in its unfolded or open position.

The various parts of the chair are arranged and connected so that the seat is closable by a rearward and slightly upward pressure on its front edge, and so that by merely dropping or pushing the chair forward, the resulting contact of the front edge of the seat with the floor causes the seat to fold rearward and upward into the frame, thereby automatically closing and folding the chair flat on the floor. This feature makes this chair of particular value where it becomes necessary to have rapid exit of large groups of people from crowded buildings as in case of fire or panic.

It is apparent from the disclosure that we have provided a light and durable chair which is readily foldable into a convenient form to carry about and to stack away in a minimum of space, as the elements of the chair are folded within the confines of the frame and legs; and furthermore that the metal on the frame part and legs and cross-bars has been so arranged and distributed by its hollow construction, as to provide a maximum of strength with a minimum amount of material, and also that the pivot pins 23 and 26, which connect the legs together and the back rest with the back frame, have their ends upset and concealed within the hollow construction, thereby avoiding the usual exposed ends of such pivot pins, and thus preventing tearing of clothes thereon and also providing a neat and attractive appearance.

What we claim and desire to secure by Letters Patent is:

1. A chair comprising legs each containing two bars welded together and having the edges curved and clamped together to provide a column-like hollow construction, and a pivot element swingably connecting certain of said legs and having its ends concealed within the interior of the hollow legs.

2. A chair comprising an upper frame member of two channel bars welded together and having curved edge flanges clamped together to provide a hollow construction, a back rest thereon, and pivot elements swingably mounting said back rest in said frame member and having a upset end concealed within said hollow frame member.

3. A chair comprising an upper frame member of connected bars providing a hollow construction, a back rest thereon, an ear on each side of said back rest, and pivot elements in said ears for swingably mounting said back rest in said frame member, said pivot elements having their ends concealed within said hollow frame member.

4. An article of furniture comprising parts which are movably connected, one of said parts including a member comprising two connected bars including a bar with inturned flanges and a channel bar having its edges clamped therein and providing a hollow column-like construction, and a pivot element connecting said parts and having an end upset against the inner side of one bar and concealed within said hollow member.

5. An article of furniture comprising pivotally connected members each consisting of two channel bars fastened together at their edges and providing a hollow construction, and a pivot element connecting said members and having upset ends both positioned and concealed within the interior of said hollow members.

6. A chair comprising legs and an upper frame part forming a continuous and integral member of hollow construction, a set of legs of similar construction, a back rest mounted in said frame part, and pivot elements connecting said set of legs and also said back rest to said continuous hollow member, said pivot elements having their outward ends concealed within the interior of said continuous hollow member.

In testimony whereof we have signed our names to this specification.

AARON E. ROSENTHAL.
WERNER E. CLARIN.