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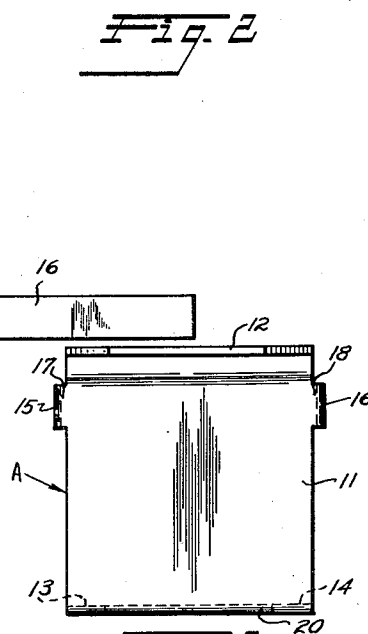
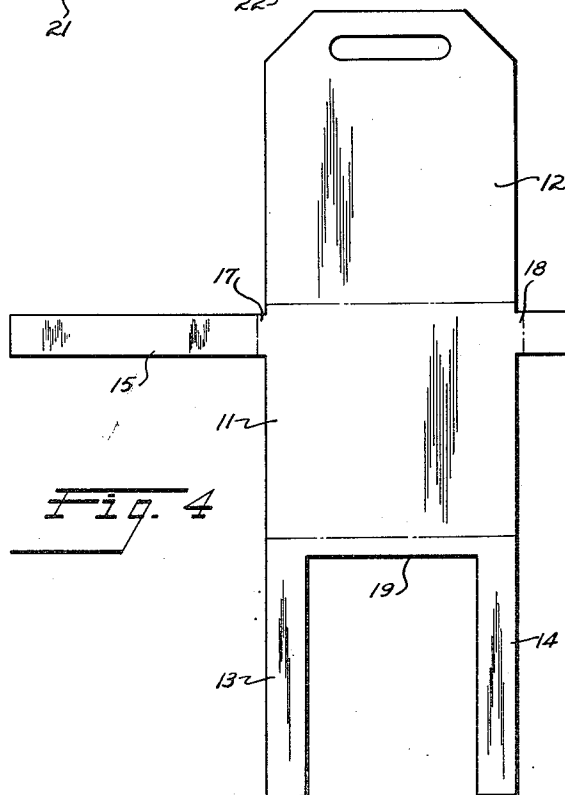
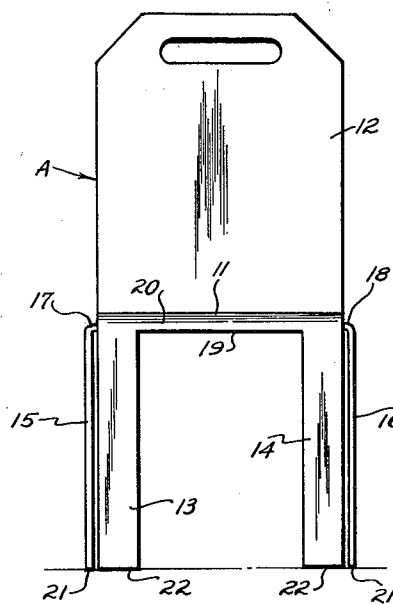
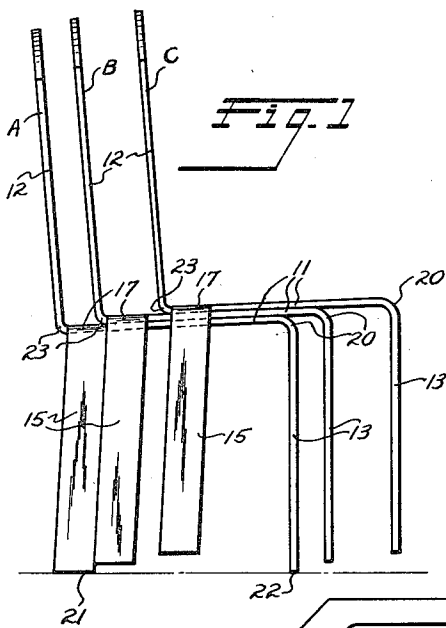
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2,677,413

SHEET METAL CHAIR

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2 Sheets-Sheet 1



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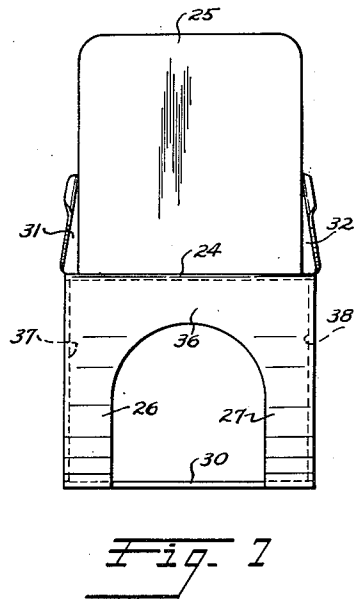
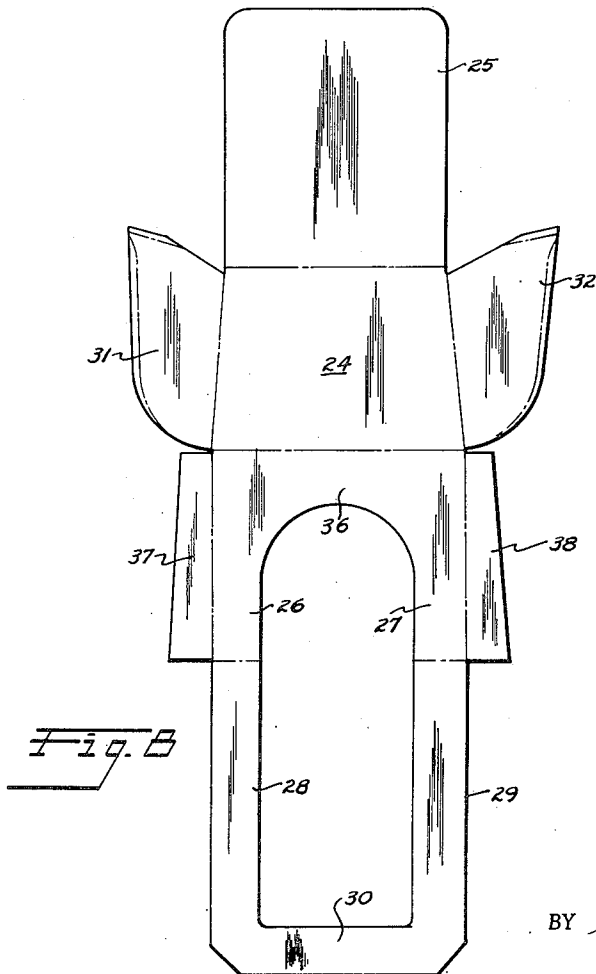
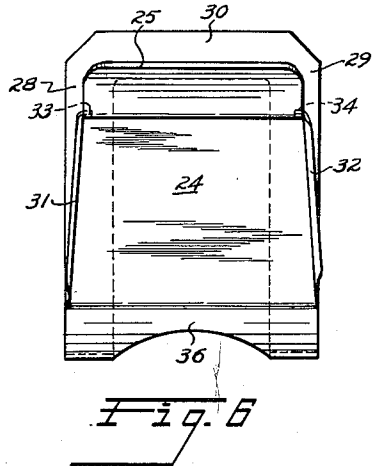
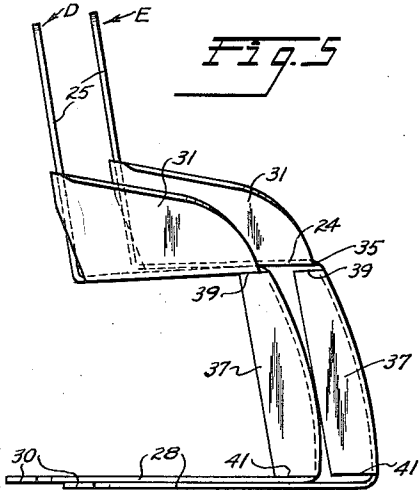
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SHEET METAL CHAIR

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,677,413

SHEET METAL CHAIR

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Application January 26, 1951, Serial No. 208,009

3 Claims. (Cl. 155—194)

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This invention relates to chairs and particularly to light weight inexpensive easy to handle chairs for use in resorts, hotels, auditoriums, schools, churches and the like that often have to be moved and stored to provide clear floor space.

In general the idea of nesting or stacking chairs for the purpose is old. The present invention has for its major object a novel chair structure which facilitates the quick telescoped storage of a large number of the chairs in a relatively small space.

A further object of the invention is to provide a novel one-piece sheet metal chair formed from substantially a single blank bent to provide the legs, back and seat in an integral structure.

Further objects of the invention will appear as the description proceeds in connection with the appended claims and the annexed drawings wherein:

Figure 1 is a side elevation of a group of chairs of the invention illustrating the manner of storage;

Figure 2 is a front elevation of a chair of the invention;

Figure 3 is a top plan view of the chair of Figure 2; and

Figure 4 illustrates a blank from which the chair of Figures 1-3 is preferably formed.

Figure 5 is a side elevation of an assembly of a different form of chair;

Figure 6 is a top plan view of the chair of Figure 5;

Figure 7 is a front elevation of the chair of Figure 5; and

Figure 8 is a blank of the chair of Figures 5-7.

The chair of the invention shown in Figures 1-4 is made of uniform gauge sheet steel or other suitable metal of reasonable thickness so that it will maintain its given chair shape under the load of a seated person. A metal thickness of one-sixteenth to one-eighth inch is very satisfactory.

The chair comprises a flat seat portion 11, a back portion 12, front legs 13 and 14 and rear legs 15 and 16. As illustrated in Figure 1 rear legs 15 and 16 are vertical, flat and parallel to each other, and are connected at their upper ends to seat portion 11 by generally horizontal extensions 17 and 18 which locate the vertical legs 15 and 16 spaced apart slightly greater than the width of the seat portion 11. Abrupt but smoothly curved corners are provided at the junctions between the extensions and the rear legs so that no sharp projections or edges face upwardly.

Front legs 13 and 14 are substantially vertical, flat and parallel and disposed in a plane at right

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angles to the planes of the rear legs, being integral downward extensions from seat portion 11. As illustrated in Figure 1, the upper ends of legs 13 and 14 are integrally connected by a downturned reinforcing web 19 which is an integral front extension of seat portion 11, and legs 13 and 14 are in effect integral with opposite ends of web 19. An abrupt but smoothly curved corner 20 is provided between the front edge of seat portion 11 and the upper ends of the front legs and web 19 so that no sharp edges are exposed to the seated party.

As illustrated best in Figures 2 and 3, the front legs lie within the lateral confines of the seat portion, being spaced apart no greater than the width of seat portion 11. This facilitates assembly as will appear.

As also illustrated in Figures 1 and 2, the rear legs are slightly shorter than the front legs so that when the chair is placed on a floor, the seat portion 11 slopes slightly upwardly from back to front. This facilitates seating, and it facilitates assembly as will appear. Also, see Figure 1, each short rear leg 15 and 16 is preferably bent rearwardly slightly in its own vertical plane so that the bottom edge 21 is in full surface contact with the floor. Front legs 13 and 14 may also each be bent slightly at a very small angle to the vertical rearwardly to insure optimum surface contact of their lower edges 22 with the floor.

The back portion 12 is preferably inclined at a slight angle rearwardly with respect to a normal with seat portion 11, to facilitate seating and assembly for storage.

The invention therefore provides a novel chair of simple construction which is integral and therefore does not fold or come apart during handling. It is relatively light but sturdy enough to resist clashing and impact as it is stored in telescoped assembly with other chairs of the same type. The fact that the front legs are within the lateral confines of the seat width enables one chair to telescope easily and quickly upon another until the rear legs of the chairs come into edge abutment as illustrated in Figure 1. As one chair is telescoped with the other, the forward chair B may be merely slid across the floor and slightly tilted or lifted until the rear rounded corner 23 between the back and seat clears the front rounded edge of the seat of chair A, and then very little force is needed to move chair B into the full telescoped position of Figure 1 since it will slide rearwardly down the inclined seat of chair A. Chair C is shown in an intermediate position approaching chair B.

The invention enables a large number of these chairs to be stored in telescoped assembly with a minimum of effort and in a very short time without any special folding, stacking or other arrangements or precautions and without the exertion of lifting any of the chairs. If desired all of legs 13, 14, 15 and 16 may be curved slightly arcuately instead of plane and flat, to further increase their rigidity against bending.

Figures 5-8 illustrate a further embodiment of the invention wherein a different type of chair fabricated from a single sheet of metal is telescoped with a series of similar chairs.

Two chairs D and E are shown in telescoped relation. Each chair comprises a seat 24, a back 25, legs 26 and 27 and feet 28 and 29 connected at the rear by an integral bridge 30. Side portions 31 and 32 are bent integrally upward from seat 24 to provide arm rests, and may be bent as at 33 and 34 about the edges of back portion 25 to be secured, as by welding, to the rear of back portion 25.

Seat 24 is bent downwardly with a rounded corner at 35, and an integral apron 36 extends across this corner at the top of legs 26 and 27 as illustrated in Figure 7. Feet 28 and 29 are reversely bent integral extensions of legs 26 and 27 respectively.

In order to strengthen the chair against collapse when a person sits on seat 24, wings 37 and 38 are folded back integrally from the outer side edges of legs 26 and 27 respectively. As shown in Figure 1, the upper edge 39 of wing 37 underlies the bottom surface of seat 24 and the lower edge 41 of wing 37 overlies the upper surface of foot 28. Wing 38 similarly is disposed between seat 24 and foot 29, and these wings provide effective reinforcements to prevent undue bending of the chair at the joints between the feet and legs.

As illustrated in Figure 8, the entire chair may be speedily fabricated from a single sheet of metal, properly cut out and bent along the indicated lines.

A series of these chairs may be readily telescoped simply by sliding them toward each other so that the seats 24 and the feet are interfitted as in Figure 5, this being permitted by the springy corners at the tops and bottoms of legs 26 and 27. The rearward taper of seat 24 readily permits this telescoped relation of the parts as illustrated.

These chairs, like those of the first embodiment, are simple and easy to manufacture, and being light are very easy to stack or spread about. A minimum of room space is needed for storage.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the

appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

1. A non-folding chair of a size sufficient to support the weight of a person and formed from a single blank of sheet metal comprising a back, seat and front and rear legs depending from the seat, the front legs comprising downward integral extensions from the front edge of the seat, and the rear legs comprising downward integral extensions from the sides of said seat, said rear legs lying in substantially parallel planes substantially perpendicular to the plane of said front legs and being spaced apart farther than said front legs to facilitate telescoping assembly of one or more chairs.

2. An integral non-folding sheet metal chair of a size sufficient to support the weight of a person comprising a back, a seat joined by a smooth arcuate corner to the bottom of said back, substantially vertical front legs lying in a plane and joined by smooth arcuate corners to the front edge of said seat, oppositely projecting side extensions on said seat adjacent its junction with the back, rear legs shorter than the front legs lying in planes intersecting the plane of the front legs and joined to the respective extensions by smooth arcuate corners, and a smoothly downturned web at the front edge of said seat interconnecting the upper ends of said front legs, said rear legs being spaced apart a distance greater than the outer edges of said front legs to permit telescoping assembly of several chairs.

3. A non-folding sheet metal chair of a size sufficient to support the weight of a person comprising an integrally joined seat and back, sheet metal rear legs depending from the seat adjacent its juncture with the back and sheet metal front legs depending from the seat front corners, the planes of said rear legs being substantially parallel and perpendicular to a plane containing said front legs, and said rear legs being spaced apart horizontally a distance greater than the maximum horizontal distance between any parts of said front legs to facilitate telescoping engagement of two or more such chairs.

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