

Aug. 17, 1965

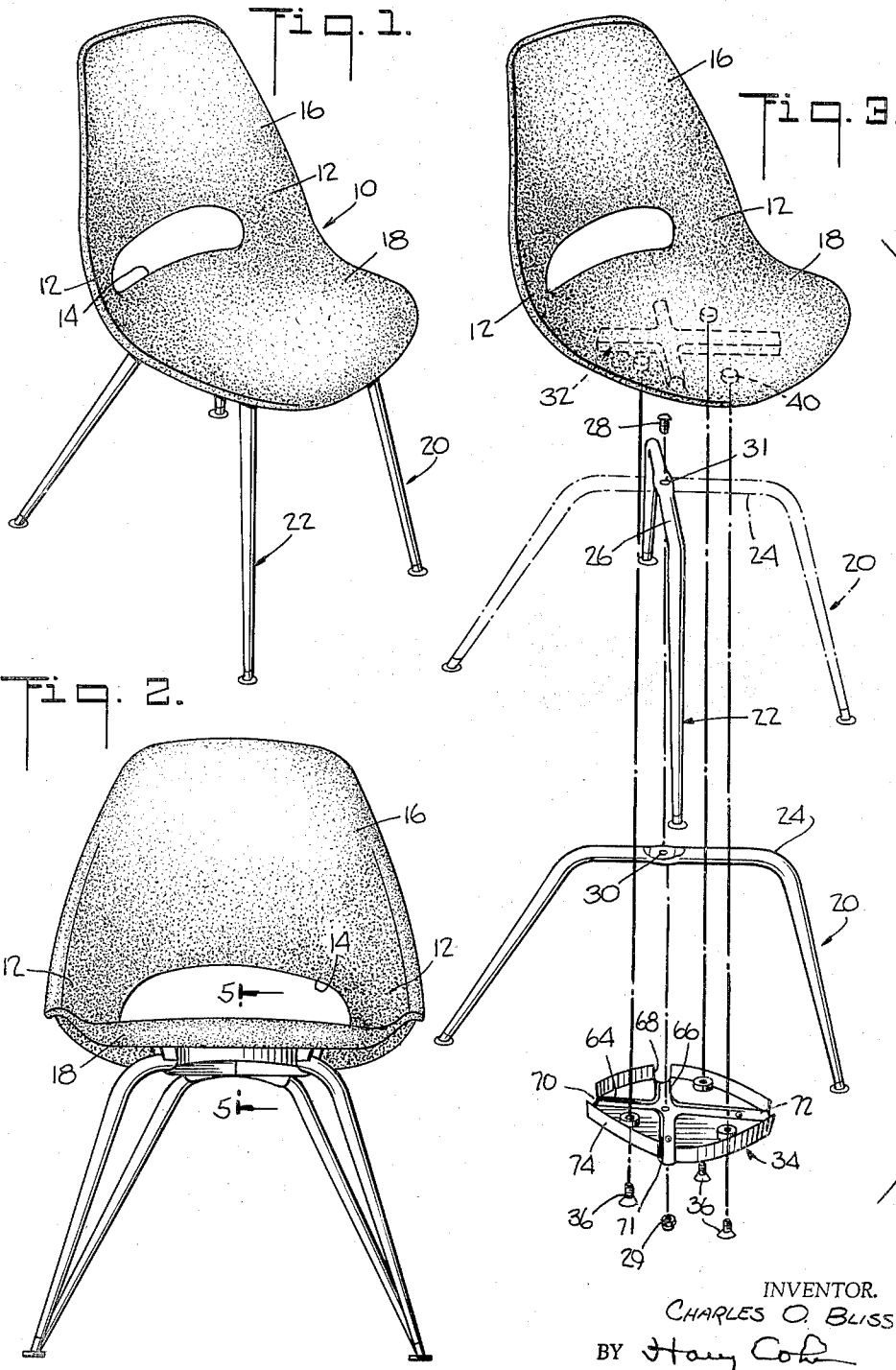
C. O. BLISS

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CHAIR CONSTRUCTION

Filed Aug. 9, 1963

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Fig. 4.

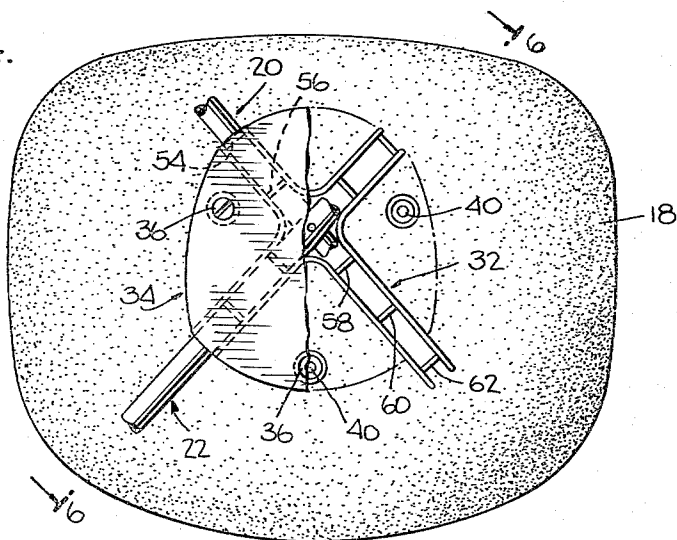


Fig. 5.

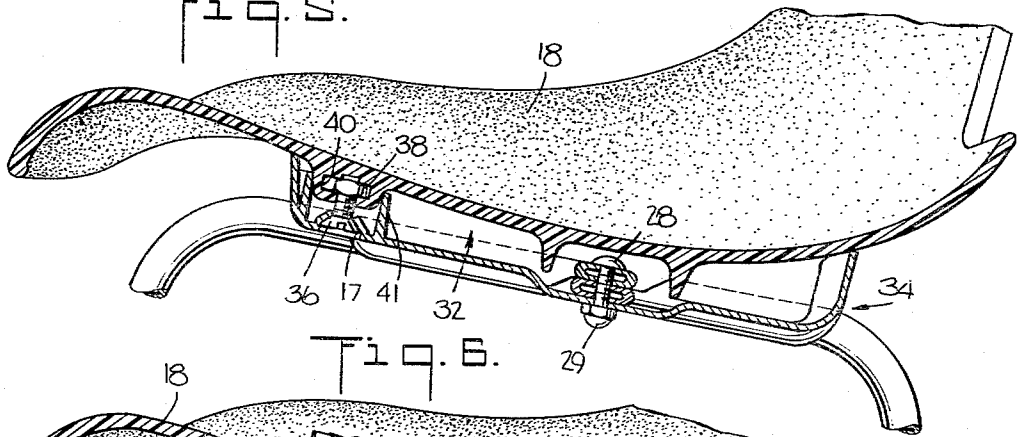


Fig. 6.

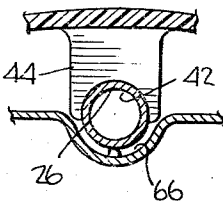
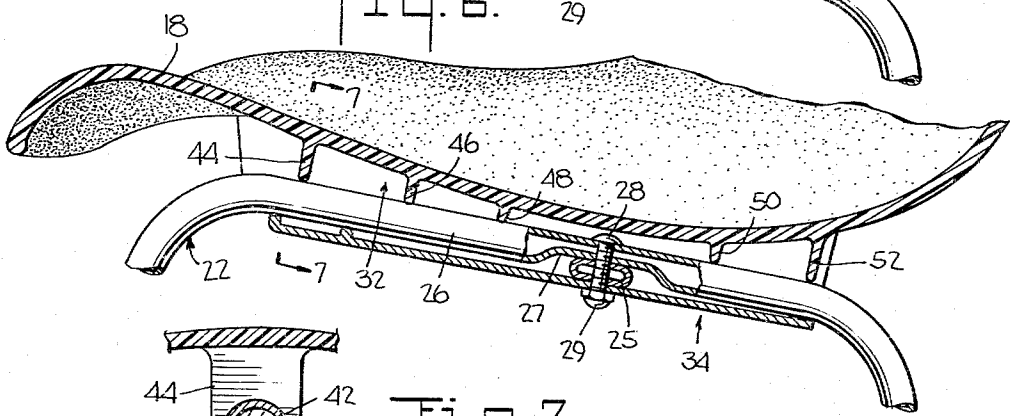


Fig. 7.

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CHAIR CONSTRUCTION

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4 Claims. (Cl. 297-445)

This invention relates to chairs and more particularly to chairs having a molded plastic seat and back.

One of the objects of the invention is provision of a chair having a one piece molded seat and back of a construction which renders the chair comfortable, especially but without limitation in respect to the resilient but firm connection between seat and back and the curvature and the contour of the seat and back.

Another object of the invention is to provide means for securing the seat to the legs of the chair, said means being such as to enable the seat of the chair to be quickly and securely attached to the legs of the chair.

A further object of the invention is generally to provide a chair of improved construction.

The above and other objects features and advantages of this invention will be fully understood from the following description considered in connection with the accompanying drawings which are illustrative of the presently preferred embodiment of the invention.

In the drawings:

FIG. 1 is a prospective view of a chair embodying the invention;

FIG. 2 is a front view of the chair;

FIG. 3 is an exploded prospective view of the parts of the chair;

FIG. 4 is a bottom view of the chair seat and the parts of the means for securing the seat to the legs of the chair;

FIG. 5 is a sectional view on the line 5-5 of FIG. 2;

FIG. 6 is a sectional view on the line 6-6 of FIG. 4; and

FIG. 7 is a detailed sectional view on a larger scale on the line 7-7 of FIG. 6.

Referring now to the drawings in detail the chair of the present invention comprises a molded seat and back 10 which is stiff and non-yieldable except at the portions 12 at the opposite ends of the opening 14 at the base of the back 16 adjacent the rear of the seat 18. The provision of the opening 14 resulting in the relatively narrow connecting portions 12 between the back 16 and the seat 18 imparts a degree of a springiness to the back of the chair in relation to the seat 18 of the chair so that the back 16 has a somewhat yielding connection to the seat 18, at said portions 12, whereby the back can yield for comfort to the sitter in response to the pressure of the sitter's back against the back of the chair. It will be understood that the seat and back 10 may be molded from any suitable plastic.

As here shown the chair has four legs provided by the inverted U-shaped tubular metal members 20 and 22 which have horizontal parts 24 and 26, respectively, arranged at right angles to each other and, secured together in any suitable way as by bolt and nut 28, 29, threaded into taped holes 30 and 31 the flattened portions 25 and 27 of said leg members 20 and 22, respectively.

The connected horizontal parts 24 and 26 of the leg members are received by and fit in an integral molded X-shaped socket device 32 on the undersurface of seat 18 and are releasably held securely in said socket by a flanged metal retaining plate 34. Said retaining plate 34 is secured to the undersurface of the seat around the socket device 32 by a plurality of bolts 36 which pass through passageways 17 in the plate and are threaded into nuts 38 held in the molded recessed portions or bosses 40 at the undersurface of the chair. Each of these passageways is coaxial with a tubular element 41 which encircles

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the respective boss. A plurality of ribs molded integrally with the seat 18 at its undersurface in the socket 32 are provided with arcuate lower ends as indicated at 42 in FIG. 7 to engage the rounded upper parts 24 and 26 of leg members 20 and 22, respectively. Said ribs are indicated at 44, 46, 48, 50 and 52 in FIG. 6 and at 54, 56, 58, 60 and 62 in FIG. 4. Plate 34 is provided with intersecting grooves 64 and 66 in which the leg parts 24 and 26 are received. Said grooves extend to openings 68, 70, and 71, 72 in the flange 74 of the plate 34 for the projection of said leg parts from the interior to the exterior of said plate.

While I have shown and described the preferred embodiment of my invention, it will be understood that the invention may be embodied otherwise than as herein specifically illustrated or described, and that certain changes in the form and arrangement of parts and in the specific manner of practicing the invention may be made without departing from the underlying idea or principles of this invention within the scope of the appended claims.

What is claimed is:

1. A chair assembly comprising: a leg sub-assembly including two substantially tubular U-shaped members, each having two distal leg portions and a substantially rectilinear medial cross-portion, said members being fixedly interfitted so that said medial cross-portions intersect each other and said leg portions are cotextensive; a seat having a convex-upward undersurface and a socket portion extending downwardly from said undersurface, said socket portion including a plurality of pairs of downwardly extending longitudinal walls, each of said pairs of longitudinal walls being spaced apart by a distance substantially equal to the outer diameter of said medial cross-portions of said leg sub-assembly and adapted to receive a sub-portion of one of said leg medial cross-portions therebetween, and a plurality of downwardly extending transverse walls disposed between and extending from each of said pairs of longitudinal walls and each having a concave-upward lower surface adapted to mate with an upper surface of the sub-portion of said leg medial cross-portion disposed between the adjacent pair of longitudinal walls; and a retaining plate disposed below said seat socket portion having concave-downward grooves therein which are complementary to said socket portion pairs of longitudinal walls, said grooves being substantially equal in width to the outer diameter of said medial cross-portions of said leg sub-assembly and adapted to receive a sub-portion of one of said leg medial cross-portions therein; said retaining plate being fixed to said seat socket portion, with said leg medial cross-portions being captured therebetween, partially in said grooves of said retaining plate and partially in said concave-upward lower surfaces of said socket transverse walls, said retaining plate also having an upwardly extending peripheral flange portion, enclosing said socket portion, and having apertures therein for the passage therethrough of said leg members.

2. A chair assembly comprising: a leg sub-assembly including two substantially tubular U-shaped members, each having two distal leg portions and a substantially rectilinear medial cross-portion, said members being fixedly interfitted so that said medial cross-portions intersect each other and said leg portions are coextensive; a seat having a convex-upward undersurface and a socket portion extending downwardly from said undersurface, said socket portion including a plurality of pairs of downwardly extending longitudinal walls, each of said pairs of longitudinal walls being spaced apart by a distance substantially equal to the outer diameter of said medial cross-portions of said leg sub-assembly and adapted to receive a sub-portion of one of said leg medial cross-

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portions therebetween, and a plurality of downwardly extending transverse walls disposed between and extending from each of said pairs of longitudinal walls and each having a concave-upward lower surface adapted to mate with an upper surface of the sub-portion of said leg medial cross-portion disposed between the adjacent pair of longitudinal walls; and a retaining plate disposed below said seat socket portion having concave-downward grooves therein which are complementary to said socket portion pairs of longitudinal walls, said grooves being substantially equal in width to the outer diameter of said medial cross-portions of said leg sub-assembly and adapted to receive a sub-portion of one of said leg medial cross-portions therein; said socket portion also including a plurality of internally threaded elements, each fixed with a boss extending downwardly from said seat undersurface and having access to the lower surface of said boss; said retaining plate also including a plurality of passageways therethrough complementary to said internally threaded elements, and a plurality of upwardly extending tubular portions complementary to said bosses, each tubular portion adapted to receive a boss at least partially therein; said complementary bosses and tubular portions serving to align said retaining plate to said socket portion; and a plurality of bolts, each disposed through a respective passageway into engagement with a respective internally threaded element, whereby said retaining plate is fixed to said socket portion, with said leg medial cross-portions being captured therebetween, partially in said grooves of said retaining plate and partially in said concave-upward lower surfaces of said socket transverse walls.

3. A chair assembly comprising: a leg sub-assembly including two substantially U-shaped members, each having a medial portion; a molded seat having a convex-upward undersurface and a socket portion molded integrally with and extending downwardly from said undersurface, said socket portion including a plurality of pairs of molded integrally, downwardly extending, longitudinal walls, each of said pairs of longitudinal walls receiving a part of one of said medial portions of said legs therebetween, and a plurality of molded integrally, downwardly extending, transverse walls disposed between and integrally extending from each of said pairs of longitudinal walls, and each having a concave-upward lower surface mating with an upper surface of said part of said medial portion of said legs disposed between the adjacent pair of longitudinal walls; and a retaining plate, disposed below said socket portion of said seat, having a plurality of concave-downward grooves therein which are complementary to said pairs of longitudinal walls of said socket portion, each of said grooves receiving a part of one of said medial portions of said legs therein; said retaining plate being fixed to said socket portion

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of said seat with said medial portions of said legs captured therebetween, partially in said grooves of said retaining plate and partially in said concave-upward lower surfaces of said transverse walls of said socket portion.

4. A chair assembly comprising: a leg sub-assembly including two substantially U-shaped members, each having a rectilinear medial cross-portion, said members being fixedly interfitted so that said medial cross-portions intersect each other; a molded seat having a convex-upward undersurface and a socket portion molded integrally with and extending downwardly from said undersurface, said socket portion including a plurality of pairs of molded integrally, downwardly extending, longitudinal walls, each of said pairs of longitudinal walls receiving a part of one of said medial cross-portions of said legs therebetween, a plurality of molded integrally, downwardly extending, transverse walls disposed between and integrally extending from each of said pairs of longitudinal walls and each having a concave-upward lower surface mating with an upper surface of said part of said rectilinear, medial cross-portion of said legs disposed between the adjacent pair of longitudinal walls, and a plurality of elements within said socket portion, each having an internally threaded bore which is accessible from the lower surface of said socket portion; a retaining plate, disposed below said socket portion of said seat, having a plurality of concave-downward grooves therein which are complementary to said pairs of longitudinal walls of said socket portion, each of said grooves receiving a part of one of said rectilinear medial cross-portions of said legs therein; and a plurality of externally threaded elements, each passing from said retaining plate into engagement with a respective one of said internally threaded elements; whereby said retaining plate is fixed to said socket portion of said seat with said medial cross-portions of said legs captured therebetween, partially in said grooves of said retaining plate and partially in said concave-upward lower surfaces of said transverse walls of said socket portion.

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