

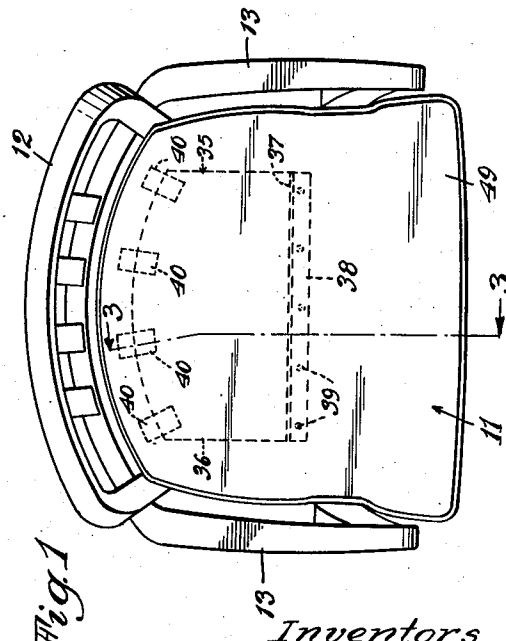
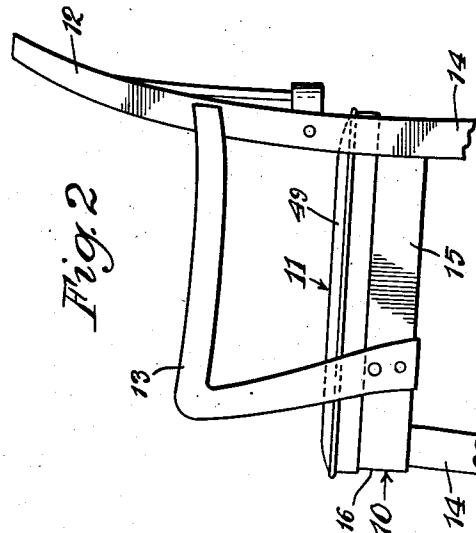
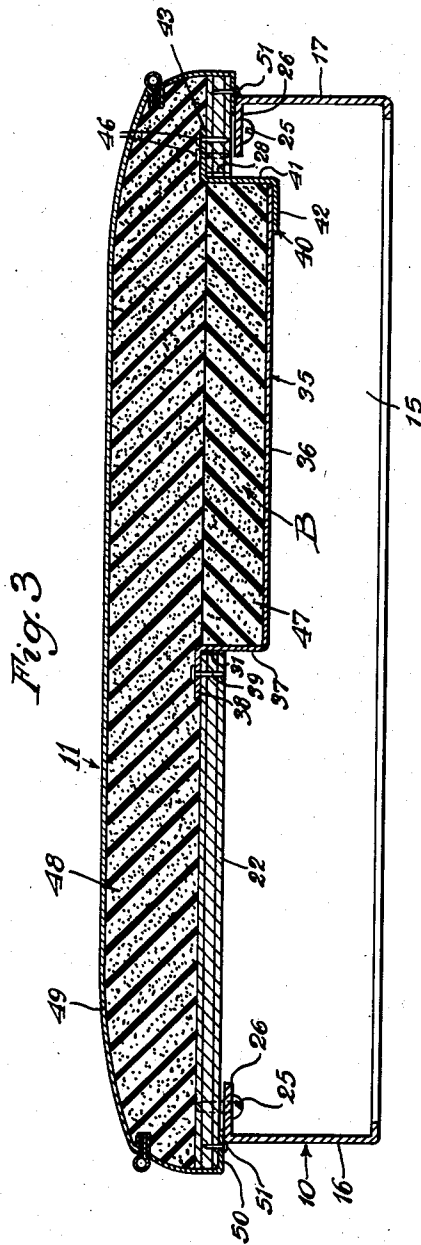
Feb. 16, 1954

J. S. BURDICK ET AL
CHAIR SEAT CUSHION STRUCTURE

2,669,294

Filed May 28, 1952

2 Sheets-Sheet 1



Inventors
John S. Burdick
Andrew B. Nevins
Jack C. King

by Parker & Carter
Attorneys

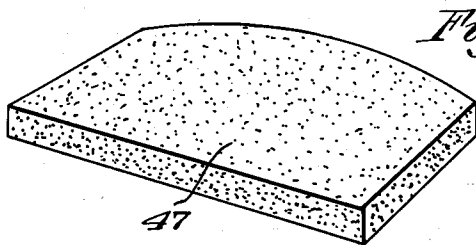
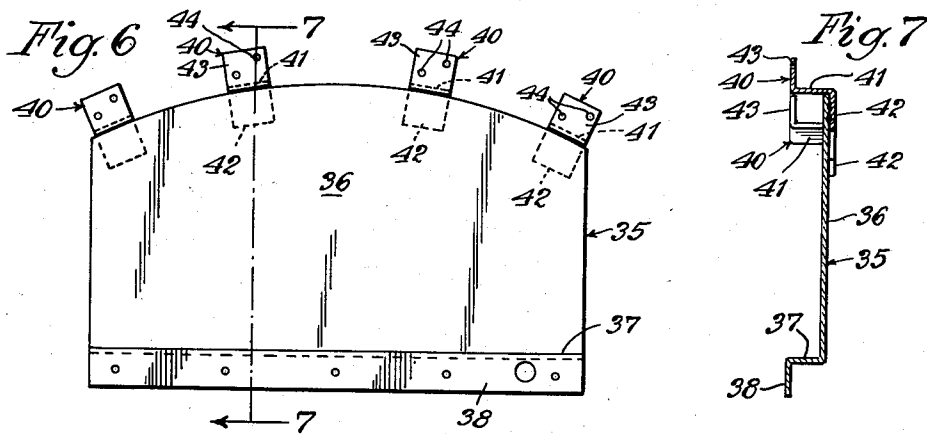
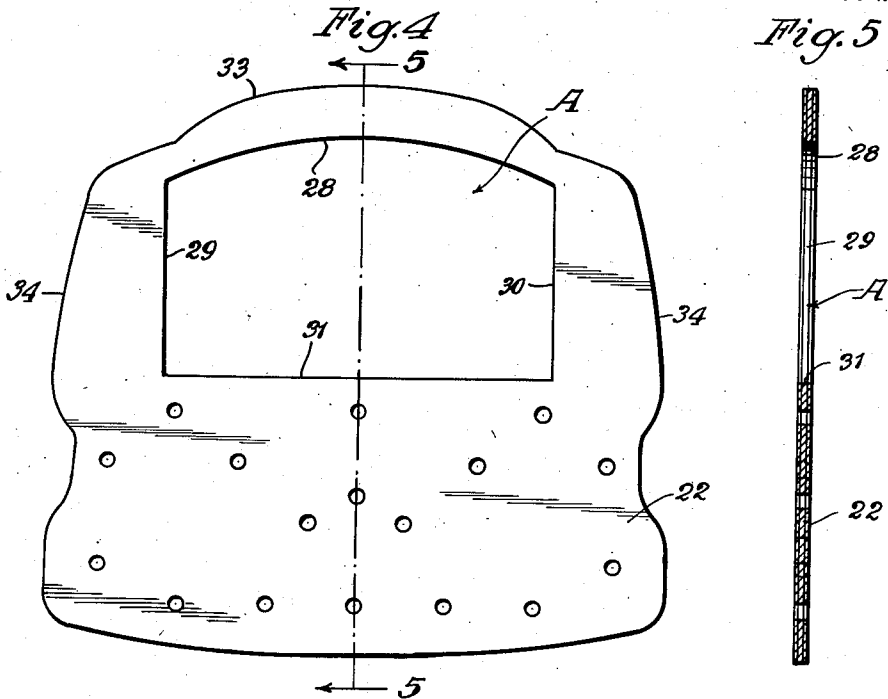
Feb. 16, 1954

J. S. BURDICK ET AL
CHAIR SEAT CUSHION STRUCTURE

2,669,294

Filed May 28, 1952

2 Sheets-Sheet 2



Inventors
John S. Burdick
Andrew B. Nevins
Jack C. King

by Parker & Carter
Attorneys

UNITED STATES PATENT OFFICE

2,669,294

CHAIR SEAT CUSHION STRUCTURE

John S. Burdick, North Muskegon, Andrew B. Nevins, Muskegon, and Jack C. King, North Muskegon, Mich., assignors to The Shaw-Walker Company, Muskegon, Mich., a corporation of Michigan

Application May 28, 1952, Serial No. 290,498

2 Claims. (Cl. 155—179)

1

This invention relates to improvements in chair seat cushion units and has for its principal object to provide a unitary chair seat cushion structure constituting an economical, light-weight combination of materials affording extra cushioning depth in that localized area which supports the ischia, or pelvic bones of an adult occupant of the chair, when seated.

A further object of the invention is to provide a structure including a localized area of extra cushioning depth which is so placed in relation to the chair back that the occupant is unconsciously influenced to assume the correct seating posture for support of the lumbar and sacroiliac regions of the occupant's back.

A further object of the invention is to provide a unitary chair seat cushion structure of the character above described including a plywood base panel and a sheet metal pan fitted in the aforesaid localized area of the base panel so as to provide a well or recess for extra cushioning depth within said localized area, and also to serve as a reinforcement or stiffening for the plywood base panel.

Other objects of the invention will appear from time to time as the following description proceeds.

The invention may best be understood by reference to the accompanying drawings, in which:

Figure 1 is a plan view of a chair having a seat cushion constructed in accordance with the invention;

Figure 2 is a fragmentary side view of the chair shown in Figure 1;

Figure 3 is an enlarged detail sectional view of the seat cushion taken generally on line 3—3 of Figure 2;

Figure 4 is an enlarged detail plan view of the base member forming a part of the seat cushion;

Figure 5 is a section taken on line 5—5 of Figure 4;

Figure 6 is a detail plan view of the metal pan forming a part of the seat cushion;

Figure 7 is a section taken on line 7—7 of Figure 6;

Figure 8 is a perspective view of a sponge rubber pad adapted for use with the seat cushion.

Referring now to details of the embodiment of our invention as illustrated in the drawings, the chair consists of a seat frame indicated generally at 10, a seat cushion unit indicated at 11, a back indicated at 12, arm rests 13, and legs 14. In the preferred form shown, the seat frame consists of continuous flanged side channel members 15, 15, front channel member 16 and rear

2

channel member 17. These channel members may be made in a simple metal casting, with the legs 14 connected at the corners of the frame in any suitable manner. The back 12 may have a conventional back splat assembly or other back rest means, as usual.

The novel features of the present invention relate primarily to the seat cushion unit adapted to be mounted on the open frame of the seat body formed by the channel frame members, as above described. Said seat unit consists of a flat base 22 formed of relatively light-weight material, preferably plywood, having its margins shaped to conform substantially with, and resting on, the channel seat frame 10. The base 22 is designed to have sufficient strength and rigidity to support the weight of an adult occupant. It is held in position on the frame by suitable means such as screws 25, 25 passing upwardly through the upper flanges 26 of said channel members (see Figure 3).

A portion of the flat base 22 is cut out along lines 28, 29, 30 and 31 to form a limited open area indicated at A near the rear of said base, as seen in Figure 4. This limited open area is generally rectangular in shape, although it may be slightly curved along its rear edge 28 to conform generally with, but spaced forwardly from, the curved rear margin 33 of the base. Said edges 29 and 30 of this open area extend forwardly to the front edge 31 of the open area in equispaced relation to the side margins 34 of the base. The front edge 31 of the open area extends transversely of the latter and is disposed approximately halfway between the front and rear of the cushion unit as a whole.

A sheet metal pan 35 having a depressed bottom wall 36 is shaped to conform substantially with the open area A. In the form shown, the front end of said pan has a continuous upright front wall 37 with a flange 38 along its upper edge adapted to overhang and rest upon the adjacent top surface of the front edge 31 of the open area. The flange 38 is held in place relative to the base by suitable means, such as nails 39.

The rear end of the metal pan 35 is fixed to and suspended from the curved rear margin 28 of the open area A by a plurality of cleats 40, 40. As shown in Figures 3, 6 and 7, these cleats may each consist of an upright portion 41, a forwardly extended bottom flange 42 welded to the adjacent edge of the metal pan, and a rearwardly extending top flange 43 having holes 44 therethrough adapted for attachment in overhanging

relation to the adjacent rear edge of the base as by nails 46 (see Figure 3).

As will be seen from Figure 3, the cleats 40 support the pan 35 in a position substantially parallel with, but substantially below, the plane of the plywood base 22 so as to form a depressed well indicated at B of substantially uniform depth within the limited open area A at the rear of the base 22.

The well B is filled with suitable cushioning material, preferably a pad of sponge rubber 47, which may be precut to fit within the well, as shown in Figure 8. Additional cushioning material 48 is then applied to the unit to overlie the entire area of the base 22 including the area of the well B, as shown in Figure 3. Such cushioning material may also be of sponge rubber or similar padding material and may be held in place by a cover or envelope indicated at 49, made of fabric, leather or other material commonly used for this purpose. The extreme edges of the covering envelope may be secured to the outer edges of the base 22 by any suitable means, in the form shown herein said free edges being inturned at 50 and secured to the under face of the base as by nails 51.

From the above description, it will now be understood that a cushion unit constructed in accordance with our invention may be made up in completed form with the entire unit in assembled condition ready for mounting on the open frame of the chair body. The cushion unit includes a generally rectangular depressed area in its rear portion spaced from the rear and side margins of the base and with its front boundary disposed about one-half the distance from the front to the rear margins of the cushioning unit as a whole. The depressed area thus occupies a position which supports the ischia of an adult occupant seated in normal upright position in the chair. Since this limited area has an increased depth of cushioning material as compared with the remaining area of the cushioning unit, the occupant is afforded maximum comfort so long as he assumes a generally correct position of posture; that is to say, in an upright position in the chair wherein the chair back also provides the correct support for the lumbar and sacroiliac regions of the occupant's back. Accordingly, with a chair constructed in accordance with our invention, the occupant tends to be unconsciously influenced to assume the correct seating posture in the chair without slumping forwardly in the seat.

It will be understood further that, from a structural standpoint, the cushion unit constructed as above described may be made economically of light-weight materials with a maximum strength and rigidity consistent with normal requirements. In particular, the metal pan 35 with its flanged front wall 37 and cleats 40, 40 aid materially in reinforcing the plywood base 22 to resist bending

thereof, particularly in the area of greatest stress normally imposed thereon during the use of the chair.

Although we have shown and described a certain embodiment of our invention, it will be understood that we do not wish to be limited to the exact construction shown and described, but that various changes and modifications may be made without departing from the spirit and scope of the invention as defined in the appended claims.

We claim:

1. A chair seat cushion unit comprising a base of substantially flat rigid material, said base having a generally rectangular depressed area in its rear portion spaced from the rear and side margins, respectively, of said base and with its front boundary defined by an upright wall disposed substantially one-half the distance from the front to the rear margins of the latter, said area approximating that which supports the ischia of an adult occupant seated in normal upright position in the chair, and cushioning material filling said depressed area and also overlying said depressed area and surrounding portions of said base.

2. In a chair, an open seat frame and a back rest fixed thereto, a chair seat cushion unit comprising a base of substantially flat rigid material having its margins adapted for supporting engagement on said seat frame, said base having a generally rectangular depressed area in its rear portion spaced from the rear and side margins, respectively, of said base and with its front boundary defined by an upright wall forming a sharp shoulder disposed substantially one-half the distance from the front to the rear margins of the latter, said area approximating that which supports the ischia of an adult occupant seated in normal upright position with the back supported by said back rest in the lumbar and sacroiliac regions, and cushioning material filling said depressed area for substantially the full depth of said upright wall and other cushioning material overlying said depressed area and the surrounding portions of said base.

JOHN S. BURDICK.
ANDREW B. NEVINS.
JACK C. KING.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,047,616	Church	July 14, 1936
2,151,628	Van Derveer	Mar. 21, 1939
2,159,520	Chapman	May 23, 1939
2,527,635	Hoffman	Oct. 31, 1950

FOREIGN PATENTS

Number	Country	Date
841,400	France	May 17, 1939