Oct. 23, 1951 E. C. BOOTH 2,572,591

METAL CHAIR

Filed July 26, 1948 2 SHEETS—SHEET 1

Fig. 1.

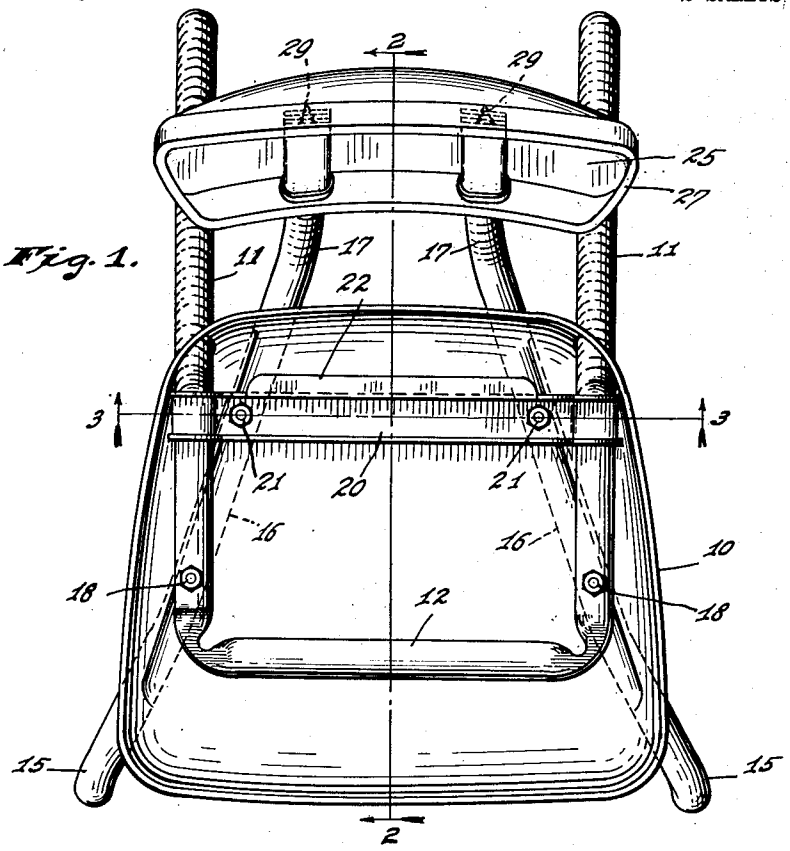
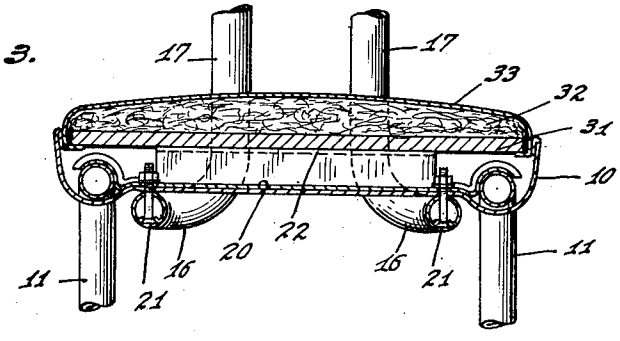


Fig. 3.



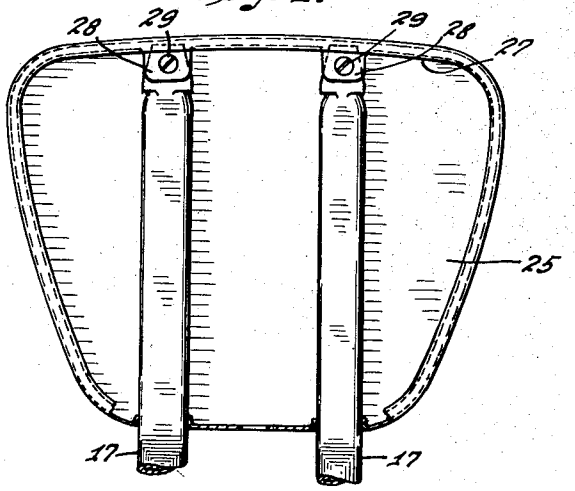
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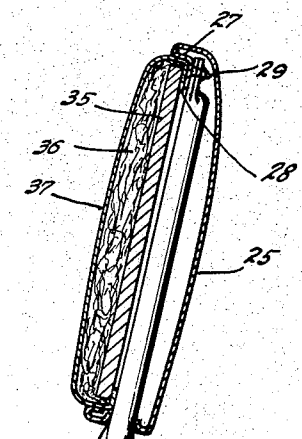
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METAL CHAIR

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Fig. 4.





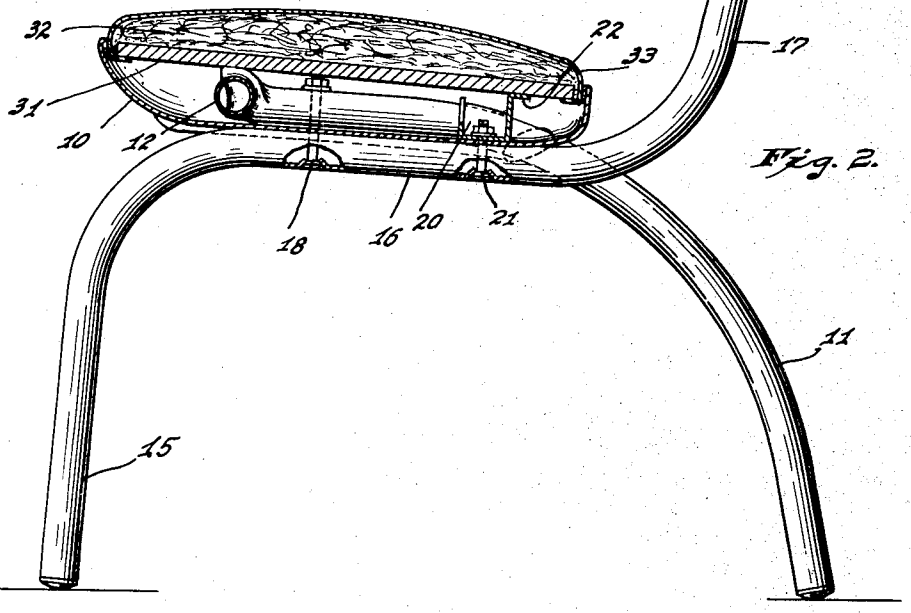


Fig. 2.

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METAL CHAIR

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6 Claims. (Cl. 155—194)

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My invention relates to a chair and has for an object the provision of a chair which will be of attractive appearance and which can be simply and economically manufactured of metal parts. A further object of the invention is to produce a chair which can be shipped and stored in knocked-down condition and readily assembled when its use is desired.

In carrying out the invention, I employ a dished sheet-metal seat-pan having near its rear corners a pair of openings adapted to receive the parallel side portions of a length of metal tubing bent into a U-shape. Such side portions of the U-shaped tubing constitute the rear legs of the chair and extend rearwardly and downwardly from the seat-pan, while the intermediate portion of the U-shaped tube lies within the seat-pan. The front legs of the chair are desirably formed as independent pieces of metal tubing and include generally horizontally extending intermediate portions, upon which the seat-pan rests, and upwardly extending back-supporting portions to the upper ends of which a sheet-metal back-pan is secured. The back-pan, like the seat-pan, is desirably a dished sheet-metal stamping having at its bottom openings for receiving the back-supporting portions of the front legs, such leg-portions extending upwardly into the back-pan and being secured thereto. Means, including bolts extending through the legs and seat-pan, are employed for holding the elements of the chair together; and a padded seat and a padded back are received respectively in the seat-pan and back-pan.

The accompanying drawings illustrate my invention:

Fig. 1 is a plan view of the chair with the seat and back removed; Fig. 2 is a vertical section on the line 2—2 of Fig. 1 illustrating the chair with the seat and back in place; Fig. 3 is a transverse section on the line 3—3 of Fig. 1; and Fig. 4 is a fragmental front elevation of the chair-back with a portion of the back-pan broken away.

The chair shown in the drawings comprises a seat-pan in the form of a dished sheet-metal stamping 10 of any desired shape in plan. The edges of the metal forming the seat-pan 10 are turned inwardly, as will be clear from Figs. 2 and 3, both to provide a finished appearance and to stiffen the seat-pan.

The rear legs of the chair are constituted by the side portions 11 of a length of sheet-metal tubing bent so that the legs 11 extend in parallel relationship from opposite ends of an intermediate tube-portion 12. The seat-pan 10 is provided adjacent its rear corners with openings through which the rear legs 11 extend to leave the intermediate portion within the seat-pan 10. In side elevation, the legs 11 are shaped at their front ends to lie against the inner face of the bottom of the seat-pan 10 for a considerable distance; and in rear of the seat-pan the legs 11 curve downwardly for engagement with the floor, as shown in Fig. 2. For a purpose which will hereinafter become apparent, the intermediate portion 12 of the tubing from which the rear legs are formed lies well forward of the middle of the seat-pan 10.

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Each of the front legs 15 is constituted by the front portion of a length of metal tubing bent to provide, in addition to the leg 15, a generally horizontal intermediate portion 16, and an upwardly extending rear portion 17. In plan (see Fig. 1), the tubes 15—16—17 are shaped to cross the rear legs 11 near the front ends thereof and to converge rearwardly to permit their rear portions 17 to pass upwardly between the rear legs 11 rearwardly of the seat-pan. At the point where such tubes cross the rear legs 11 they, the rear legs, and the bottom of the seat-pan 10 are provided with aligned openings for the reception of bolts 18.

In rear of the intermediate tubing-portion 12, I provide within the seat-pan 10 a transversely extending brace 20 having upwardly offset end portions overlying the rear legs 11. The brace 20, the seat-pan, and the tube-portions 16 are provided with aligned openings for the reception of bolts 21 which clamp them together. For a purpose which will become apparent hereinafter, the brace 20 is desirably of channel cross-section and is provided at the upper edge of its rear flange with a rearwardly extending lip 22.

A back-pan in the form of a dished sheet-metal stamping 25 is mounted on the upper ends of the tube-portions 17, the back-pan being provided near its lower corners with openings through which the tube-portions 17 extend. To reduce the depth of the back-pan, the tube-portions 17 may be partially flattened into a generally elliptical or oval shape, as will be clear from the drawings. Desirably, the edge of the metal of which the back-pan 25 is formed is turned inwardly of the pan to form a flange 27 provided adjacent the upper ends of the tube-portions 17 with downwardly projecting ears 28 which overlie the upper ends of the tube-portions 17 and are secured thereto as by screws 29.

The seat which is received in the seat-pan 10 comprises a rigid panel 31 provided with suit-

able padding 32 and covered with a sheet of suitable upholstery material 33 which extends over the edges of the panel 31 and is secured to the lower face thereof. The panel 31 is shaped to fit tightly within the rim of the seat-pan 10 and to rest on the lip 22 of the brace 20 and on the front portion of the tube 11—12. The back for the chair comprises a panel 35, padding 36, and a cover 37 of appropriate upholstery material, the latter being brought around the edges of the panel 35 and secured to the rear face thereof. The panel 35 is shaped to fit tightly within the flange 27 on the back-pan and against the tube-portions 17.

It will be obvious from the foregoing description that the parts of the chair are held together by the four bolts 18 and 21 and the two screws 29. As a result the chair can be manufactured, shipped, and stored in knocked-down condition, and readily assembled when desired. In the assembled chair, the seat-pan 10 sustains little if any of the weight of an occupant of the chair; for such weight is transmitted to the legs through the brace 20 and by direct engagement of the seat-panel 31 with the tube 11—12 near the front of the seat.

I claim as my invention:

1. In a chair, a generally U-shaped supporting member having a horizontal intermediate portion and side portions extending rearwardly and downwardly from the ends of the intermediate portion to form rear legs, a pair of side members each having a generally horizontal intermediate portion, an upwardly extending rear portion, and a downwardly extending front portion constituting a front leg for the chair, said side members being disposed with their intermediate portions converging rearwardly to cross the side portions of said supporting member adjacent the ends of the intermediate portion of such supporting member, means securing the side members and supporting member together at the points where the side members cross the side portions of the supporting member, a brace secured to said side members near the rear of their intermediate portions, said brace extending outwardly beyond each side member into load-transmitting relationship with the side portions of the supporting member, a seat supported on said brace and the intermediate portion of the supporting member, and a back supported on the rear portions of said side members.

2. In a chair, a generally U-shaped supporting member having a horizontal intermediate portion and side portions extending rearwardly and downwardly from the ends of the intermediate portion to form rear legs, a pair of side members each having a generally horizontal intermediate portion and a downwardly extending front portion constituting a front leg for the chair, said side members being disposed with their intermediate portions converging rearwardly to cross the side portions of said supporting member adjacent the ends of the intermediate portion of such supporting member, means securing the side members and supporting member together at the points where the side members cross the side portions of the supporting member, a brace secured to said side members near the rear of their intermediate portions, said brace extending outwardly beyond each side member into load-transmitting relationship with the side portions of the supporting member, and a seat supported on said brace and the intermediate portion of the supporting member.

3. A chair as set forth in claim 1 with the addition that the intermediate portions of the side members cross beneath the side portions of the supporting member, and a seat-pan having a bottom located between the side portions of the supporting member and the intermediate portions of the side members and also having an up-turned peripheral portion within which said seat is received, said seat-pan being provided with openings through which the side portions of the supporting member extend.

4. A chair as set forth in claim 2 with the addition that the intermediate portions of the side members cross beneath the side portions of the supporting member, and a seat-pan having a bottom located between the side portions of the supporting member and the intermediate portions of the side members and also having an up-turned peripheral portion within which said seat is received, said seat-pan being provided with openings through which the side portions of the supporting member extend.

5. In a chair, a pair of front legs, a pair of rear legs, each of said legs having a first portion extending generally horizontally and a second portion extending downwardly from the first portion, the horizontal portions of the front and rear legs being disposed in crossed overlapping relationship one above the other, means for securing the overlapping leg-portions together, and a seat supported from the legs.

6. A chair as set forth in claim 5 with the addition that the horizontal portions of the rear legs are disposed above the horizontal portions of the front legs, and a seat-pan having a bottom disposed and secured between the horizontal portions of the front legs on the one hand and the horizontal portions of the rear legs on the other hand, said pan also having an up-turned peripheral portion within which said seat is received, said peripheral portion having openings through which the rear legs extend.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
D. 123,353	Salomon	Oct. 29, 1940
253,921	Green	Feb. 21, 1882
1,075,964	Colling	Oct. 14, 1913
1,231,914	Kunkel	July 3, 1917
1,567,695	Angell	Dec. 29, 1925
1,865,313	Gourley et al.	June 28, 1932
2,104,818	Schjolin	Jan. 11, 1938
2,272,948	Johnson et al.	Feb. 10, 1942
2,306,878	Greitzer	Dec. 29, 1942
2,454,408	Roth	Nov. 23, 1948
2,454,699	Hirsch	Nov. 23, 1948