June 22, 1937. M. BREUER 2,084,310

FRAME FOR SPRING SEATS

Filed Dec. 2, 1933

Fig.1

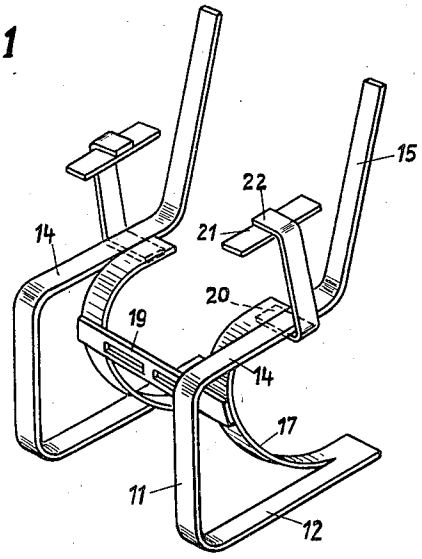


Fig.2

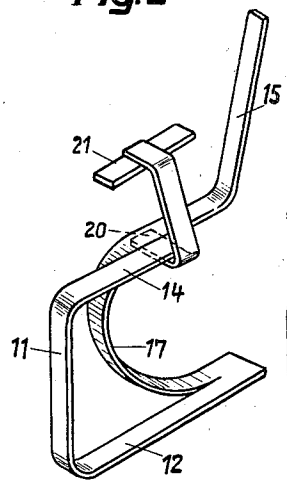


Fig.3

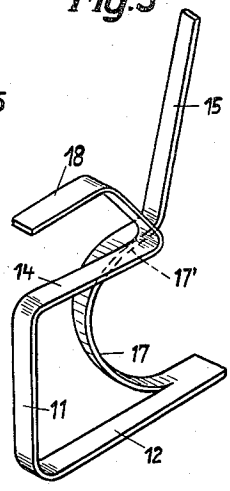
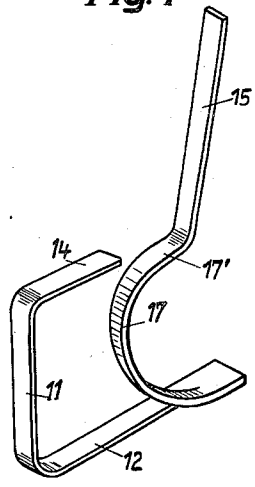


Fig.4



Inventor
Marcel Breuer
by B. Singer
his Attorney

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FRAME FOR SPRING SEATS

Marcel Breuer, Zurich, Switzerland

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8 Claims. (Cl. 155—50)

The invention relates to chairs, spring seats, easy chairs, and so on and more particularly to the frame of such seats.

The known spring seats are provided with a spring underframe, mostly constructed from steel tubing, consisting of a pair of front supports which at the bottom are continued as horizontal supporting bars, at the level of the seat are bent to form seat bars and backs and also into arms. The actual supporting members of these spring frames are thus the front supports which by reason of the strain directed eccentrically thereto by the weight of the person using the seat, are not only subjected to pressure but also to bending, and this to a considerable degree, as a result of which the under-frame as a whole must be constructed of strong highly resilient material so that these strains can be taken up without a permanent deformation and liability to breaking. The production of these spring seats is preferably carried out with very thick-walled steel tubes of considerable diameter.

It has also been suggested previously in order to enable weaker steel tubes to be used in connection with spring seats having a steel tube under-frame, to provide auxiliary supports which are rotatably secured, between the rear cross-bar of the actual seat and bottom supporting bars, at their ends about vertical pivots and hingedly connected together at the middle. This method of relieving the load from the front main supports of the spring under-frame, is, however, technically complicated by reason of the requirement for free movement of each of these supports about a vertical axis and particularly renders it necessary for the supporting points of these auxiliary supports to be located vertically above the supporting points of these auxiliary supports on the bottom bars so that the degree of relieving the main supports by reason of the auxiliary supports cannot be influenced by a free selection of the supporting points relatively to the seat and supporting bars. Moreover this method of supporting also can only be employed in connection with spring under-frames formed of bent steel tubing, but not to wood frames, for example, which are not springy per se.

In order to provide spring auxiliary supports in spring under-frames for seats of all types for relieving the front supports, these supports, according to the invention, being formed as spring rear supports extending substantially in the lateral planes of the seats or parallel thereto, which at one end are united with the supporting bars of the under-frame at the bottom, and at the other end to the seat supporting portion of the supporting bars, these connecting points not lying vertically one above the other, or need not be so located, and may even be displaced relatively to one another so that the degree of the auxiliary support by these spring arcs does not only depend on the shaping of these spring arcs and their natural resiliency, but also on the position of their upper and lower connecting points in the under-frame.

In the drawing:

Fig. 1 is a perspective view of a chair frame made in accordance with the present invention,

Fig. 2 illustrates a modified construction of a side member of the chair frame, and the

Figs. 3 and 4 show further modifications of a side member of the chair frame.

In Fig. 1 is shown a frame for a chair consisting of two side members, each made of a flat bar of steel slit longitudinally to provide two parallel strips remaining united at one end. One of said strips is bent in such manner that it forms a horizontally and forwardly extending supporting bar 12 which rests upon the floor, an upwardly extending leg 11, a rearwardly and substantially horizontally extending seat bar 14 and an upwardly extending back bar 15. The other strip serves as a resilient rear support 17 and is curved forwardly, upwardly and rearwardly and its free end is located adjacent the seat bar 14 and is rigidly connected to the latter by a member 20. This member 20 extends across the adjacent parallel parts of said strips and may be extended and bent upwardly. A bar 21 serving as an arm rest is secured to the upper and laterally inwardly bent portion 22 of the member 20. The two side members are preferably connected together by a cross bar 19.

Fig. 2 illustrates a somewhat modified construction of a side member adapted to be used for making the frame of the chair. In this case the strip forming the resilient rear support 17 is extended rearwardly and terminates in the upwardly directed back bar 15, while the other strip forming the front support 12, the leg 11 and the seat bar 14 terminates at the point where the member 20 is attached.

The Figs. 3 and 4 illustrate further modifications of the side member. It will be noted that the seat bar 14 is not connected by a separate member to the horizontally extending portion 17' of the resilient rear supporting strip 17 as both of these strip portions 14 and 17' respectively are adapted to be connected to the seat and thus become in effect rigidly connected with each other.

In Fig. 3, the seat bar 14 may be extended rearwardly and then bent upwardly and horizontally forward to form an arm rest 18.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A frame for a chair, comprising a pair of side members, means connecting the same together, each side member being formed of a bar

of metal slit longitudinally to provide two strips remaining united at one end, one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat, the other one of said strips being curved upwardly, forwardly and rearwardly to form a resilient rear support for a seat, one of said strips being continued beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of the chair is adapted to be secured.

2. A frame for a chair, comprising a pair of side members, means connecting the same together, each side member being formed of a bar of metal slit longitudinally to provide two strips remaining united at one end, one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat, the other one of said strips being curved upwardly, forwardly and rearwardly to form a resilient rear support for a seat, and means for rigidly connecting the adjacent parts of the seat supporting portions of said strips with each other, one of said strips being continued beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of the chair is adapted to be secured.

3. A frame for a chair, comprising a pair of side members, means connecting the same together, each side member being formed of a bar of metal slit longitudinally to provide two strips remaining united at one end, one of said strips being curved upwardly, forwardly and rearwardly to form a resilient rear support for a seat, the other one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat and to lie parallel to and adjacent to the seat supporting portion of said first mentioned strip, and means for rigidly connecting the adjacent parallel parts of the seat supporting portions of said strips with each other, said means comprising a member extending across said adjacent parallel parts and extending upwardly and being provided with means forming an arm rest of the chair, one of said strips being continued beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of the chair is adapted to be secured.

4. A frame for a chair, comprising a pair of side members, means connecting the same together, each side member being formed of a bar of metal slit longitudinally to provide two strips remaining united at one end, one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat, the other one of said strips being curved upwardly, forwardly and rearwardly to form a resilient rear support for a seat, one of said strips being continued beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of the chair is adapted to be secured, the other one of said strips being also continued beyond its seat supporting portion and being bent upwardly and then forwardly to form an arm rest.

5. A side member for a chair frame, comprising a bar of metal slit longitudinally to provide two parallel strips remaining united at one end, one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat, the other one of said strips being curved forwardly, upwardly and rearwardly to form a resilient rear support for a seat, one of said strips being continued beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of a chair is adapted to be secured.

6. A side member for a chair frame, comprising a bar of metal slit longitudinally to provide two parallel strips remaining united at one end, one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat, the other one of said strips being curved forwardly, upwardly and rearwardly to form a resilient rear support for a seat, and means for rigidly connecting the adjacent parts of the seat supporting portions of said strips with each other, one of said strips being continued beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of a chair is adapted to be secured.

7. A side member for a chair frame, comprising a bar of metal slit longitudinally to provide two parallel strips remaining united at one end, one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat, the other one of said strips being curved forwardly, upwardly and rearwardly to form a resilient rear support for a seat, and means for rigidly connecting the adjacent parts of the seat supporting portions of said strips with each other, said means comprising a member extending across said adjacent parallel parts and extending upwardly and being provided with means forming an arm rest of the chair, one of said strips being continued rearwardly beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of a chair is adapted to be secured.

8. A side member for a chair frame, comprising a bar of metal slit longitudinally to provide two parallel strips remaining united at one end, one of said strips extending horizontally forwardly and adapted to rest upon the floor, then extending upwardly to form a front leg and then extending substantially horizontally backward to form a support for a seat, the other one of said strips being curved forwardly, upwardly and rearwardly to form a resilient rear support for a seat, one of said strips being continued rearwardly beyond its seat supporting portion to extend upwardly and thus form a support on which a back rest of a chair is adapted to be secured, the other one of said strips being also continued rearwardly beyond its seat supporting portion and being bent upwardly and then forwardly to form an arm rest.

MARCEL BREUER.