H. B. DAVIS.

CHAIR.

APPLICATION FILED OCT. 6, 1911.

1,127,413.

Patented Feb. 9, 1915.

2 SHEETS—SHEET 1.

Fig. 3.

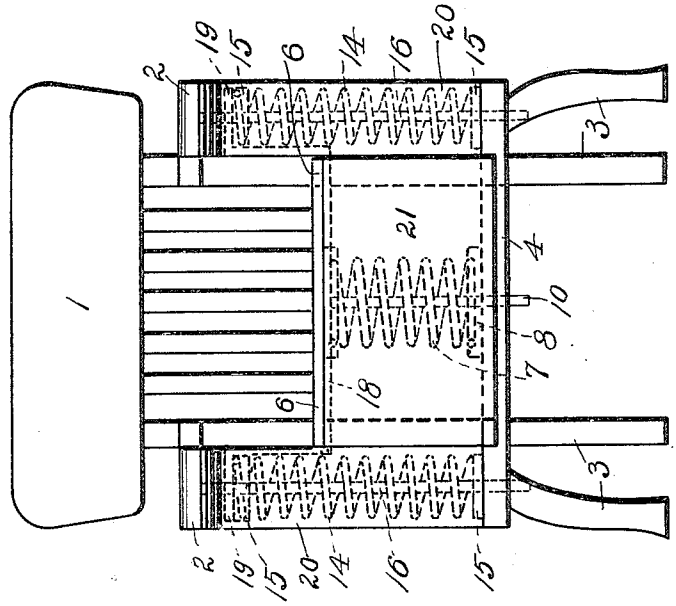
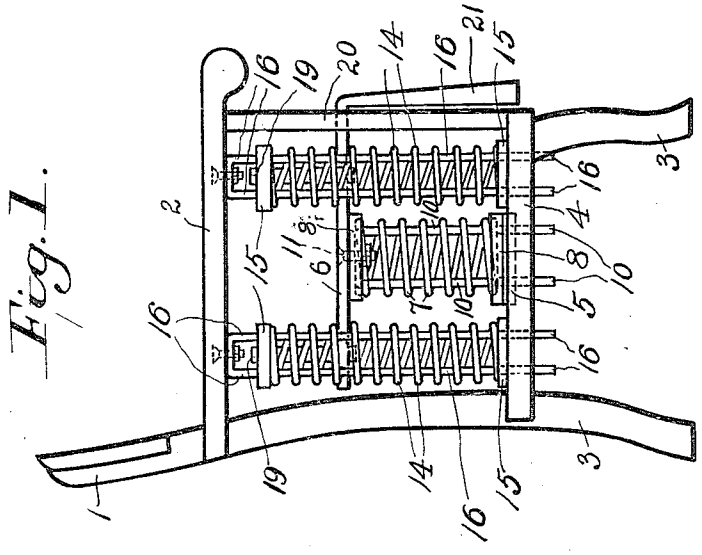


Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

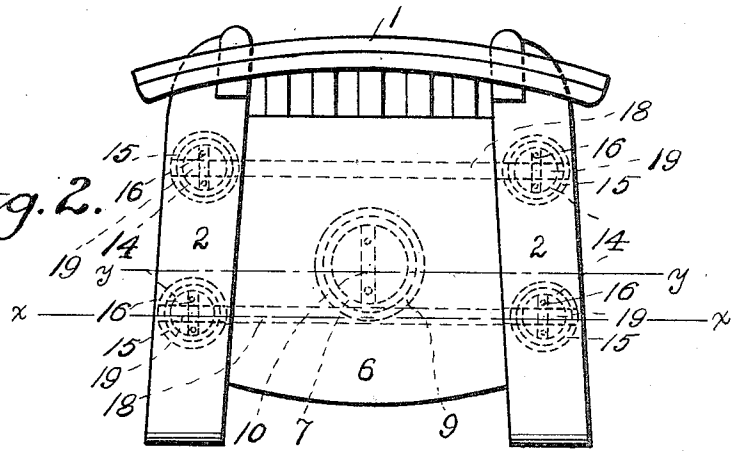


Fig. 4.

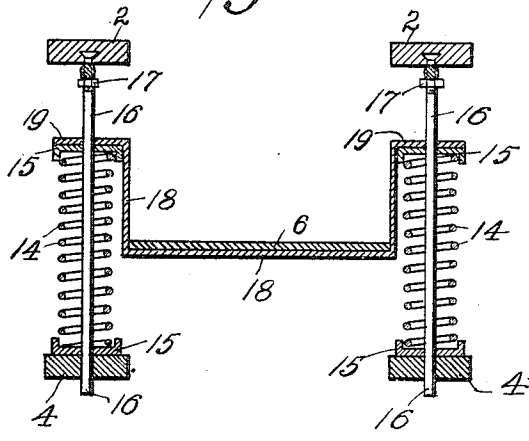
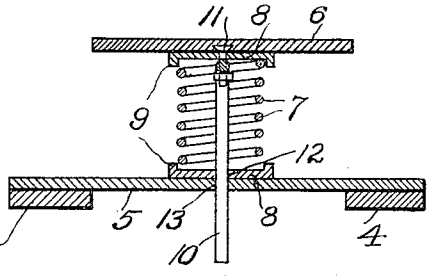


Fig. 5.



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UNITED STATES PATENT OFFICE.

HIRAM B. DAVIS, OF DENVER, COLORADO.

CHAIR.

1,127,413. Specification of Letters Patent. Patented Feb. 9, 1915.

Application filed October 6, 1911. Serial No. 653,131.

To all whom it may concern:

Be it known that I, HIRAM B. DAVIS, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to chairs and my improvements are applicable to either straight or rocking chairs.

The object of the invention is to provide an improved construction of resilient or cushioned seat capable of adjusting itself automatically to the weight of the person occupying it.

Other objects are to simplify the construction, to reduce the cost of manufacture, and to provide a chair of the kind described which will be strong and durable.

The invention consists broadly in mounting the seat upon resilient means arranged below the arms of the chair, as well as below said seat, and in providing means for securing said resilient means and for guiding the same during the up and down movement of the seat.

The invention also consists in the features of construction and combinations of parts herein described, illustrated in the accompanying drawings, and specified in the appended claims.

In the accompanying drawings: Figure 1 is a side elevation of a chair constructed in accordance with my invention. Fig. 2 is a plan view thereof. Fig. 3 is a front elevation. Fig. 4 is a transverse vertical section on the line *x—x* of Fig. 2 but showing the seat in a lowered position and the springs partly compressed, and Fig. 5 is a transverse vertical section on the line *y—y* of Fig. 2, also showing the seat partially depressed.

Referring more particularly to the drawings, 1 designates the back and 2 the arms of the chair which are stationary and supported upon legs 3. An open horizontal frame 4 is arranged somewhat lower than the ordinary chair seat and is also stationary. A bar 5, preferably of metal and of suitable size, is secured across said frame about midway thereof.

The chair seat 6 is supported upon a helical spring 7 resting upon the cross bar 5. The coils of said spring are preferably eight inches in diameter and normally arranged with one and a half inch spaces between them. Each end of the spring is fitted in a socketed plate 8 having flanges 9 which serve to center the spring. Said spring is prevented from buckling by an inverted U-shaped rod 10 fitted within the spring, secured with the upper cap plate to the chair seat by means of a bolt 11, or the like, and having its lower ends extending through perforations 12 in the lower plate and registering perforations 13 in the cross bar 5. The vertical portions of said rod are adapted to work up and down in said perforations as the seat is depressed or allowed to rise. The chair seat is further cushioned and held in proper alinement for its vertical reciprocatory movement by other springs 14 arranged below the arms of the chair. Two of these springs are preferably arranged below each arm, one near the front and the other near the rear end thereof. The coils of these springs are preferably four inches in diameter and are arranged with spaces of one inch apart. They are also fitted with socketed plates 15, similar to those employed with the main seat spring 7 and are guided by inverted U-shaped rods 16. In the case of the auxiliary springs, however, the guiding rods extend through the upper cap plates 15 and are secured, as at 17, Fig. 4, to the under surfaces of the respective arms.

Two auxiliary cross pieces 18, preferably of metal, and bent into the form of hangers, are secured below the chair seat and have their angular upwardly extending ends engaging the top surfaces of the cap plates 15. It will be understood that the ends of the front auxiliary cross bar engage the respective auxiliary springs arranged near the front ends of the arms, while the ends of the rear cross bar engage the respective auxiliary springs arranged near the rear ends of said arms. The upper horizontal portions 19 of said hangers or auxiliary cross bars are arranged between the vertical portions of said inverted U-shaped guide rods 16 whereby the seat is maintained in proper vertical alinement during its movement up and down. The upright supports 20 for the front ends of the arms serve to shield the auxiliary springs. An apron 21 of leather

or other suitable material is fastened to the front edge of the seat and conceals the main springs.

I claim:

1. The combination, with a chair, including its frame, seat and arms, of centrally depressed transverse members adapted to receive said seat in their depressions, laterally arranged resilient members and U-shaped guide members having their upper ends connected to said arms and their lower ends guided in said frame, said guide-members being received within said lateral resilient members, said centrally depressed members being supported from said lateral resilient member and in vertical alinement with said arms.

2. The combination, with a chair, including its frame, seat and arms, of a central resilient member, centrally depressed transverse members supporting said seat within their depressions, lateral resilient members, rod-members secured at their upper ends to said arms and said seat, respectively, and socketed plate-members applied to said rod-members and receiving the ends of said central and lateral resilient members, respectively.

3. In a chair of the character described, the combination, with a rigid frame and arms, of a seat, resilient means interposed between the bottom of said seat and said frame, auxiliary cushioning means arranged below the arms and also supported by said frame, and hangers secured to the seat and engaging the upper ends of said auxiliary cushioning means for the purpose specified.

In testimony whereof, I affix my signature, in presence of two witnesses.

HIRAM B. DAVIS.

Witnesses:
RALPH EDMUND JONES,
WILLIAM R. COOKE.