

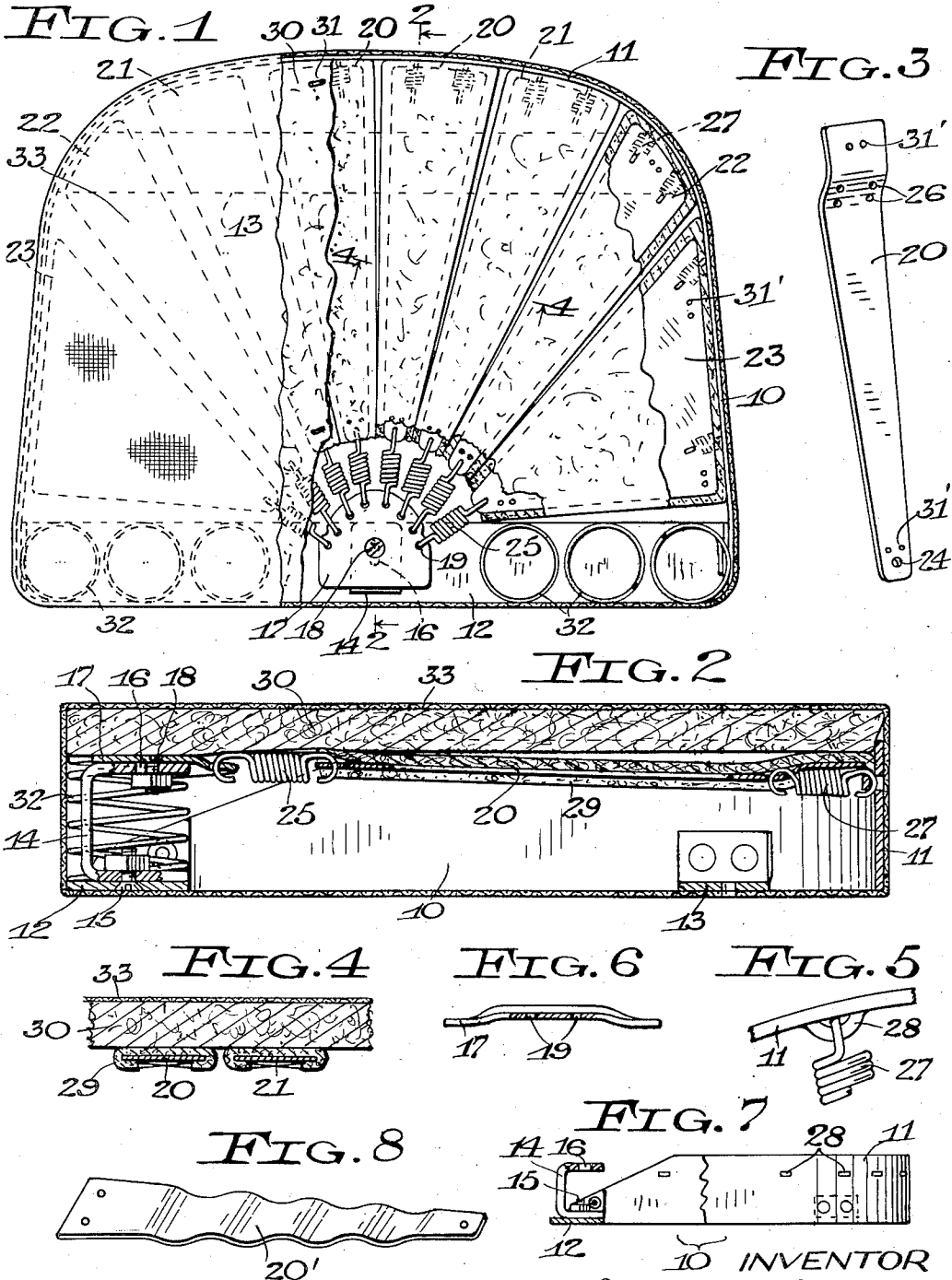
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2,008,379

SEAT

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WITNESSES
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FIG. 7
14 16
15
12
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SEAT

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11 Claims. (Cl. 155—179)

The invention relates to seats, and has for an object to provide a resilient seat comprising a frame in which are mounted a plurality of resilient supports radiating from the front central portion of the seat, the supports having a graduated spring action to obtain comfortable seating.

Another object of the invention is to form the supports by flexible metal strips which are anchored in place under spring tension.

A further object of the invention is to provide a resilient seat which is free from sagging or wrinkling when unoccupied.

The invention further consists in the several features hereinafter described and claimed.

In the accompanying drawing,

Fig. 1 is a top plan view of a seat embodying the invention, parts being broken away and parts being shown in section;

Fig. 2 is a sectional view of the seat taken along the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of one of the supporting plates or strips in the seat;

Fig. 4 is a sectional view taken along the line 4—4 of Fig. 1;

Fig. 5 is a detail view of a spring anchorage on the seat frame;

Fig. 6 is a rear edge view of an anchor plate for the supporting strips, parts being shown in section;

Fig. 7 is a side view of the seat frame, parts being shown in section, and

Fig. 8 is a perspective view of a modified form of supporting plate.

In the drawing, 10 designates a seat frame comprising a rigid U-shaped metal band 11 connected at its ends by a front bar 12 and near its rear by a cross bar 13. The bars 12 and 13 are formed of flat metal stock and have upturned end flanges secured to the inner face of the band 11 adjacent its lower edge in any suitable manner, as by bolts, rivets, or welding. The front ends of the band 11 are cut diagonally, as seen in Fig. 7. The bars 12 and 13 are suitably apertured for fastening the seat frame to a chair frame, not shown.

A C-shaped bracket 14 has its base secured to the upper face of the central portion of the front bar 12 by a bolt 15, and has a slot 16 in its upper portion. An anchor plate 17 is adjustably secured to the upper face of the bracket 14 by a bolt 18 passing through the slot 16. The plate has a rounded rear edge and has a series of openings 19 therein adjacent this edge.

A series of flexible metal plates 20, 21, 22, and 23, preferably of triangular form, are arranged

between the anchor plate 17 and the U-shaped band 11 and radiate from the plate, there being a set of the flexible plates on each side of the front-to-rear center line of the seat. The converging inner ends of the flexible plates are formed with openings 24 receiving the hooked ends of coiled springs 25, the other hooked ends of which pass through the openings 19 in the anchor plate. The outer end of each flexible plate is offset upwardly and at the bent portion is provided with spaced pairs of openings 26 receiving the hooked ends of a pair of coiled springs 27, the other hooked ends of which are engaged in hooks or loops 28 struck from the band 11. The flexible plates are thus held under tension and preferably the tension on the plates is graduated, the tension on the plates 20 being the greatest, and that on the plates 23 being the least. Preferably, each plate has a covering 29 of felt or other suitable material for silencing and for cushioning effect. The tension on the plates may be adjusted by shifting the anchor plate 17 in and out.

The plates support thereon a thick felt pad 30 which is secured to the plates by ties 31 passing through openings 31' near opposite ends of the plates, thus keeping the pad taut and flat. Along its front edge the pad 29 is supported by the anchor plate 17, and by a series of coiled springs 32 resting on and secured to the front bar 12 of the seat frame. The coiled springs 32 are preferably more yielding than the plates 23. If desired, the inner ends of the plates 22 and 23 may be slightly lower than the inner ends of the other plates. The seat is enclosed by a slip cover 33 which is kept taut by the spring-pressed pad 30, the upper surface of the pad being flat.

The offset outer ends of the flexible supporting plates guard the felt from the wearing action of the springs 27, and prevent pinching of the felt when the seat is in use, as well as avoiding sagging of the felt into the spaces between the springs.

In some cases, the springs 25 and 27 may be omitted, and the pad-supporting plates replaced by resilient transversely corrugated plates 20', as shown in Fig. 8.

The plates 20 and 21, which support the region of the lower end of the spinal column of an occupant of the seat, are under greater spring tension than the other plates, while the plates 23 and coiled springs 32, which support the fleshy parts of the legs, are more yieldable than the other plates, so as to insure comfortable seating and prevent crowding and cramping. The seat forms a spring saddle for the occupant.

What I claim as new and desire to secure by Letters Patent is:

1. A seat comprising a seat frame having front and rear portions and opposite side portions, and spring-tensioned supporting members secured to said frame and radiating from the front portion of the frame toward said rear portion and opposite side portions, the members extending adjacent the front-to-rear axis of said frame having a greater spring tension than those extending toward said opposite side portions.

2. A seat comprising a seat frame having a U-shaped member forming the rear and sides of the frame and having a front bar connecting the sides, and spring-tensioned supporting members secured at their outer ends to said U-shaped member and at their inner ends to said front bar, said supporting members radiating from the central portion of said front bar.

3. A seat comprising a seat frame having an anchor member at its front central portion, resiliently mounted supporting members secured to said frame and radiating from said anchor member, a pad on said supporting members and having a front edge portion projecting forwardly of said supporting members, and coiled springs supported on the front portion of said frame at opposite sides of said anchor member for supporting the front edge portion of said pad.

4. A seat comprising a seat frame, spring-tensioned supporting members secured to said frame and radiating from the front portion of the frame, and a pad on said supporting members secured adjacent its edges to opposite end portions of said members to hold the pad taut and substantially flat when the seat is unoccupied.

5. A seat comprising a seat frame having front and rear portions and opposite side portions, and spring tensioned supporting members secured to said frame and radiating from the front portion of the frame toward said rear portion and opposite side portions, said members having a graduated tension, those members toward the side portions of the frame having less tension than those extending toward said rear portion.

6. A seat comprising a seat frame, spring ten-

sioned supporting members secured to said seat frame in radiating relation, a pad on said members held taut and flat thereby, and a flexible cover for said frame having a top resting on said pad and held taut and flat by said pad.

7. A seat comprising a seat frame having opposite side portions, and resiliently mounted supporting members secured to said frame the members adjacent the front-to-rear axis of the frame being less yielding than those adjacent said opposite side portions.

8. In combination, a frame, flexible body-supporting plates, and tensioning means for securing the opposite end portions of each plate to said frame, each plate having an upwardly offset end portion, said means including a tensioned coiled spring attached at one end to said frame and at the other end to the plate adjacent said offset portion, said offset portion of the plate overlying said spring, and said spring being substantially aligned with the intermediate portion of said plate.

9. A seat comprising a seat frame having a front cross bar, and spring-tensioned supporting members secured at their outer ends to said frame and at their inner ends to said front cross bar and radiating from the central portion of the front cross bar.

10. A seat comprising a frame having a front cross portion and having a rear portion and opposite side portions, and spring-tensioned supporting members secured at their outer ends to said rear portions and opposite side portions and secured at their inner ends to the said front cross portion and radiating from the central region of said front cross portion.

11. A seat comprising a frame, spring-tensioned body-supporting members secured to said frame and radiating from the front portion of said frame, a pad on said members and having a front edge portion projecting forwardly of said members, and coiled compression springs carried by the front portion of said frame for supporting the front edge portion of said pad.

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