Dec. 11, 1962 H. DEGEN 3,067,438

SUPPORTING FRAME STRUCTURES

Filed May 25, 1960

FIG. 1

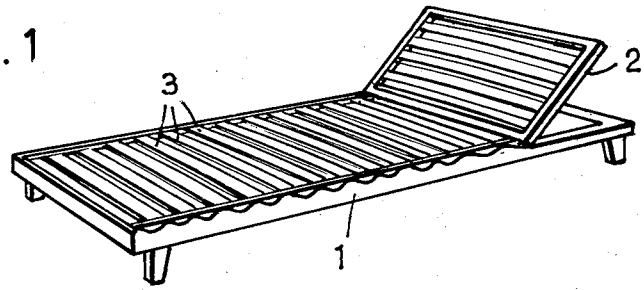
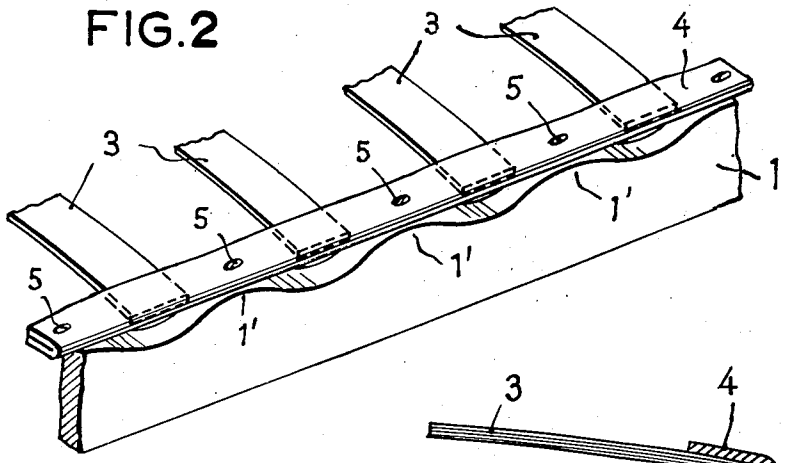


FIG. 2



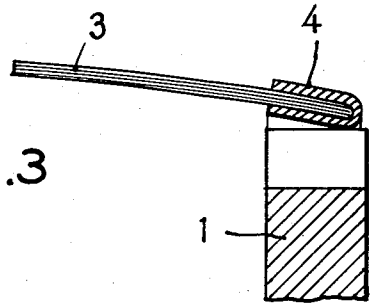
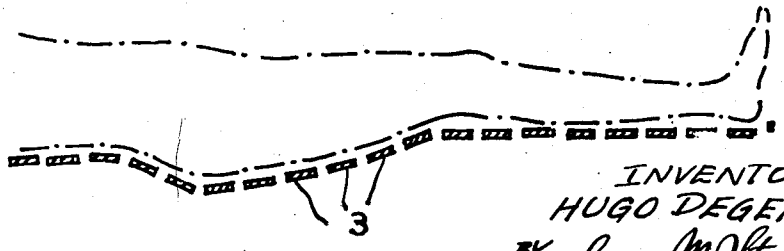


FIG. 3

FIG. 4



INVENTOR:
HUGO DEGEN
BY Leon M. Strauss
AGT

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SUPPORTING FRAME STRUCTURES

Hugo Degen, Oetlingerstrasse 152, Basel, Switzerland

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My present invention relates to improvements in frames for couches, cots, lounges, divans, settees, convertibles, chaise longues and similar places of rest. The improved frame disclosed by my invention comprises a batten grate or lath grate forming a place of rest, which grate comprises a plurality of flexible crosslaths consisting of glued wooden battens and being supported at their ends.

In couches of this type known so far, the crosslaths at their ends are supported in the vertical direction in a rigid and unyielding way and manner. In such known couches, hard building materials are superposed on each other, such as wood on wood or wood on metal, so that unpleasant sounds arise when the crosslaths are loaded and thus stretched.

In contradistinction to these known couch frames, the supporting means for said laths are made springy so that they resiliently yield both in the vertical and horizontal directions. In this way, the crosslaths form or define a surface of rest which is adaptable to the body contours of the recumbent person.

One form of my present invention is shown in the drawing, in which:

FIG. 1 shows the couch frame in perspective view;

FIG. 2 is a perspective view of a section of the frame in a larger scale;

FIG. 3 is a cross-section of FIG. 2 in a plane passing through a crosslath, and

FIG. 4 is a cross-section through the lath grate under load of the weight of a recumbent person.

The frame shown in FIG. 1 comprises a base **1** to which is hinged a headrest **2** which is lockable in various positions of inclination. Between the longitudinal sleepers of frame **1** are arranged crosslaths **3** made of laminated and glued wooden elements. These laths **3** together form a lath grate and are resiliently mounted at both their ends. To such end, the two longitudinal sleepers of base **1** are made wavy on top, and their wave crests form a series of points of support **1'** (FIG. 2) to which is secured a longitudinal elastic bearing and anchoring strip **4** of U-shaped cross-section which may be made of rubber for example. The crosslaths **3**, which are prestressed by being bent or deflected upwardly, have their ends engaged in the two rubber strips **4** intermediate of the points **1'** of the longitudinal base sleepers to which said strips are fixed by means of screws **5** for example. When the crosslaths **3** are loaded, the bearing strips **4** may be resiliently deflected downwardly or depressed at the points of bearing of the crosslath-ends between two wave-crests of the longitudinal base sleepers. The crosslaths themselves thus

are mounted resiliently both in the vertical and horizontal positions of support and thereby form a place of rest which is capable of adapting itself to the body of a recumbent person, as indicated in FIG. 4. Furthermore, bothersome creaking and squeaking is avoided such as is produced when wood contacts wood under load.

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

1. A couch frame comprising, in combination, a pair of substantially parallel relatively elongated and fixed side rails having relatively wide vertical surfaces and relatively narrow substantially horizontal upper and lower edges, the upper edge of each side rail undulating in a vertical direction throughout at least the major part of its length along a substantially regular curve having longitudinally spaced convexly curved crests alternating with concavely curved troughs, the respective crests and troughs of the two side rails being laterally aligned; a pair of relatively elongated substantially flat strips of elastic material each extending along the upper edge of a respective side rail, each strip normally lying in a substantially horizontal plane and being tangent to the crests of its associated side rail upper edge and secured to said crests; and a plurality of longitudinally spaced laterally extending cross-slats each connected at its opposite ends to said strips substantially midway between longitudinally adjacent points at which the strips are attached to the associated crests.

2. A couch frame, as claimed in claim 1, wherein each of said resilient strips comprises a longitudinally extending member folded about a longitudinally extending medial line around the ends of said cross-slats.

3. A couch frame, as claimed in claim 1, wherein said cross-slats are upwardly convex between their opposite ends.

4. A couch frame, as claimed in claim 1, wherein each cross-slat is a laminated wood structure prestressed to curve convexly upwardly between its opposite ends.

5. A couch frame, as claimed in claim 1, including a back rest hingedly connected to said side rails adjacent one end thereof and adjustably positionable between substantially horizontal and substantially vertical positions.

References Cited in the file of this patent

UNITED STATES PATENTS

95,945	Smith	Oct. 19, 1869
103,548	Blake	May 31, 1870
140,284	Leach	June 24, 1873
210,145	Pettit	Nov. 19, 1878
215,923	Heywood et al.	May 27, 1879
270,093	Miller	Jan. 2, 1883
564,621	Jones	July 8, 1896
1,455,239	Childress	May 15, 1923

FOREIGN PATENTS

64,192	Denmark	Dec. 10, 1945