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(54) Springing device for seating.

(57) This invention relates to furniture and, more particularly, to apparatus for providing a resilient edge support in furniture having a support member and a load bearing seat portion.

According to the present invention there is provided apparatus (10) for providing a resilient edge support in furniture having a support member (25) and a load bearing seat portion (27) comprising a plurality of projections (13, 14 and 15) for spacing the seat portion (27) from the support member portion (24), a wire (22) for supporting material defining the said edge and a plurality of projections (16, 17 and 18) for locating the wire (22) in spaced relation above the projections (13, 14 and 15) thereby to provide resilient support for the wire (22).

The invention principally is used as a framework for covering furniture with upholstery fabric which is laid over the apparatus 10 to provide a resilient edge of a seat.

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DESCRIPTION

This invention relates to furniture and, more particularly, to apparatus for providing a resilient edge support in furniture having a support member and a load bearing seat portion.

In the furniture and upholstery industry, one method of providing a seat is to fabricate a support member and to locate on or in the support member a load bearing portion. Generally the load bearing portion is arranged to provide resilient support when sat upon but comfort is impaired, at least at a front edge of the seat, due to a rigid portion of the support member defining, or supporting material defining, the said edge.

Various proposals have been made to provide an edge support which is resilient. However, the proposals have included apparatus which is intended to be additional to seats comprising support members carrying load bearing portions in accordance with existing techniques.

A disadvantage of such proposed resilient edge supports is that, because they are each supported on a resilient load bearing portion, they will move when forces are applied to and released from the load

bearing portion causing stress in material supported by the resilient edge supports and eventual fracture of the material.

According to the present invention, there is provided apparatus for providing a resilient edge support in furniture having a support member and a load bearing seat portion, wherein the apparatus comprises:-

means adapted to be secured to a portion of the support member for spacing the seat portion from the support member portion,

means for supporting material defining the said edge, and

means for locating the support means in spaced relation above the spacing means

so that when a load is applied to the support means in a direction towards the spacing means, the locating means is resiliently deflected towards the spacing means.

The locating means may comprise a first series of members and the support means may comprise a first elongate member connecting the members of the first series.

The securing means may comprise a second series of members extending parallel one to another and each

adapted to engage a second elongate member extending at right angles to the parallel axes of the second series of members, the second elongate member extending parallel to the first elongate member.

The first and second elongate members may comprise opposite sides of a rectangular frame.

The members of the first series of members are integral with corresponding ones of members of the second series of members.

The members of the first and second series of members are of a single integral construction.

Alternatively, each member of the first series is integral with a corresponding member of the second series.

Each of the members of the first and second series comprises two spaced parallel portions of wire connected by a bridging portion.

Following is a description by way of example only and with reference to the accompanying drawings of one method of carrying the invention into effect.

In the drawings:-

FIGURE 1 is a perspective view of one embodiment of apparatus in accordance with the present invention, the apparatus being shown in association with a support member and a load bearing seat portion,

and

FIGURE 2 is a perspective view of another embodiment of part of the apparatus.

Referring now to FIGURE 1 of the drawings, the apparatus 10 comprises an elongate wire bent to form a series of parallel laterally spaced first projections 11 integral with an alternate series of parallel laterally spaced second projections 12. Each of the first projections 11 comprises a pair of members 13 and 14 extending parallel one to another and formed integrally with a bridging member 15. Each of the second projecting 12 comprises a pair of members 16 and 17 extending parallel one to another and formed integrally with a bridging member 18. The members 16 and 17 are contained in a plane inclined to a plane containing the members 13 and 14 so that the bridging members 18 extend in a plane above the bridging members 15 and each of the members 16, 17 is integral with an adjacent one of the members 13, 14 and an intermediate loop portion 19.

The loop portions 19 have extending therethrough one long side 20 of an elongate rectangular wire frame 21, the opposite long side 22 of which is connected to each of the bridging members 18 by means of clips 23.

The apparatus 10 is located adjacent a front

portion 24 of a rectangular support member 25 having a rear portion 26. The rear portion 26 has secured thereto in longitudinal spaced relation end portions of parallel strips of elastic webbing 27, the longitudinal axes of the strips 27 extending at right angles to the rear portion 26 towards the front portion 24 of the support member 25. Opposite end portions of the strips 27 are guided around the long side 20 of the frame 21 and secured to intermediate portions thereof as shown at 29. The apparatus 10 then is moved towards the front portion 24 of the support member 25, thereby extending the strips 27, and the bridging members 15 are secured to the front portion 24 by clips (not shown).

In this manner, the strips 27 are supported in tension across the support member 25 and provide a load bearing portion. The frame is covered with fabric which extends over the apparatus 10 and defines an edge adjacent the long side 22 of the wire frame 21. Preferably, the long side 22 of the wire frame 21 and the front portion 24 of the support member 25 are connected by strips of cord to provide initial tensioning of the members 16, 17 towards the members 13, 14.

When the load bearing portion is sat upon, the thighs of the person sitting on the load bearing portion apply a load to the long side 22 of the frame 21 in

a downward direction causing the members 16, 17 resiliently to deflect towards the members 13, 14. However, when the load is released, the long side 22 of the frame 21 returns to its initial position due to the resilience of the members 16, 17.

Referring now to FIGURE 2 of the drawings, there is shown a single spring 30 having the members 13 to 18. In another embodiment of the apparatus according to the present invention, a plurality of springs 30 are used in association with the frame 21 instead of a length of wire formed integrally with the members 13 to 18.

CLAIMS

1. Apparatus for providing a resilient edge support in furniture having a support member and a load bearing seat portion wherein the apparatus comprises:-

means adapted to be secured to a portion of the support member for spacing the seat portion from the support member

means for supporting material defining said edge, and

means for locating the support means in spaced relation above the spacing means

so that when a load is applied to the support means in a direction towards the spacing means, the locating means is resiliently deflected towards the spacing means.

2. Apparatus as claimed in Claim 1 wherein the locating means comprises a first series of members and the support means comprises a first elongate member connecting the members of the first series.

3. Apparatus as claimed in Claim 2 wherein the spacing means comprises a second series of members extending parallel one to another and each adapted to engage a second elongate member extending at right angles to the parallel axes of the second series

of members, the second elongate member extending parallel to the first elongate member.

4. Apparatus as claimed in Claim 3 wherein the first and second elongate members comprise opposite sides of a rectangular frame.

5. Apparatus as claimed in any one of the preceding claims wherein the members of the first series of members are integral with corresponding ones of members of the second series of members.

6. Apparatus as claimed in any one of the preceding claims wherein the members of the first and second series of members are of a single integral construction.

7. Apparatus as claimed in any one of Claims 1 to 6 wherein each member of the first series is integral with a corresponding member of the second series.

8. Apparatus as claimed in any one of the preceding claims wherein each of the members of the first and second series comprises two spaced parallel portions of wire connected by a bridging portion.

9. Apparatus for providing a resilient edge support in furniture substantially as hereinbefore described and as illustrated in FIGURE 1 or FIGURE 2 of the accompanying drawings.

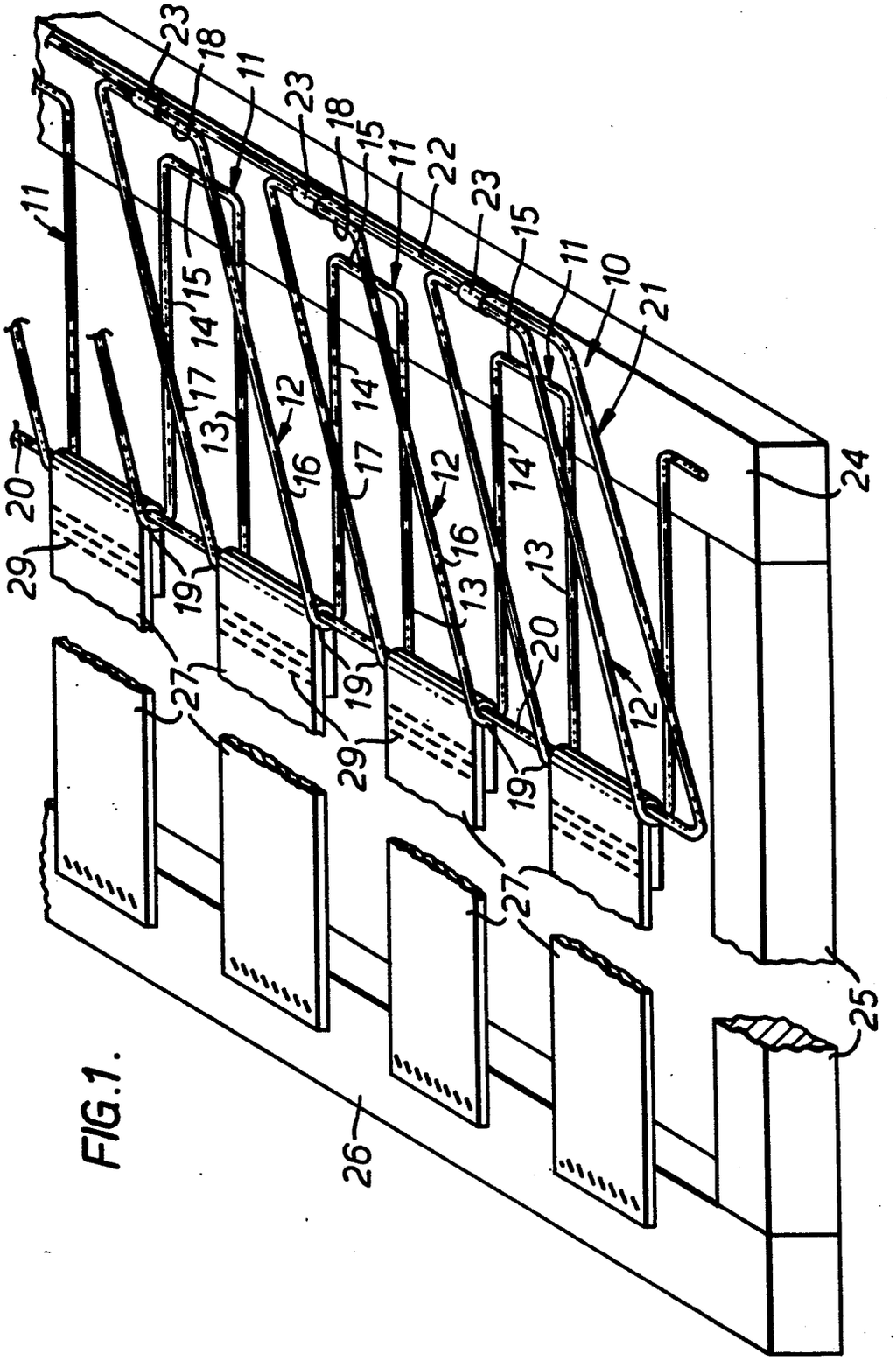

FIG.1.

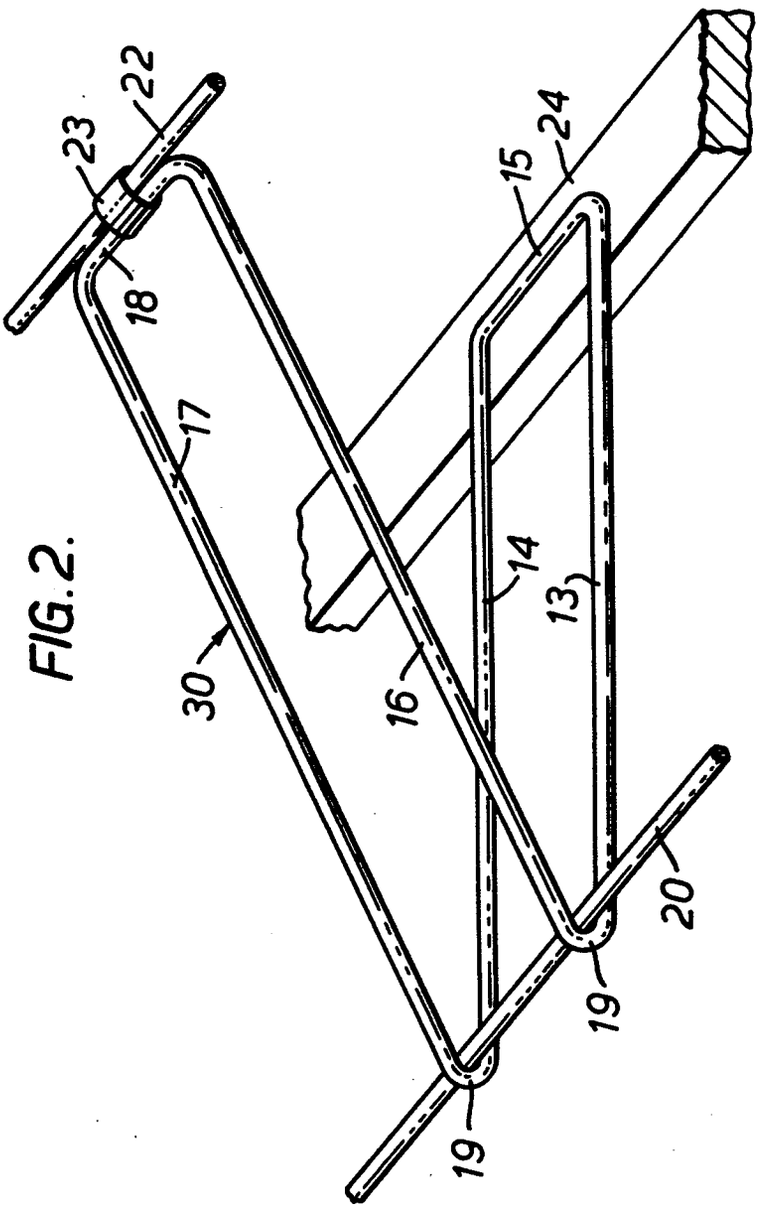

FIG.2.

European Patent Office

EUROPEAN SEARCH REPORT

Application number
0015331

EP 79 30 0309

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	FR - A - 1 139 158 (MILLION-GUIET-TUBAUTO) * Page 1, column 1, last paragraph - column 2, first paragraph; page 1, column 2, last paragraph - page 2, column 1, first paragraph; figures *	1-3,5, 7-9
X	US - A - 3 039 763 (STAPLES) * Column 2, line 37 - column 3, line 38; figures 1,2 *	1,2,5, 7,9

CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)

A 47 C 7/28
7/24

TECHNICAL FIELDS SEARCHED (Int.Cl. 3)

A 47 C

CATEGORY OF CITED DOCUMENTS

X: particularly relevant
A: technological background
O: non-written disclosure
P: intermediate document
T: theory or principle underlying the invention
E: conflicting application
D: document cited in the application
L: citation for other reasons

&: member of the same patent family, corresponding document

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	22-10-1979	VANDEVONDELE

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