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Feische

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[54] **RELATING TO A NET FOR UPHOLSTERED FURNITURE**

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[51] **Int. Cl.** **A45f 1/00**

[58] **Field of Search** **5/114, 186 RB, 190, 193,
5/11, 110**

[56] **References Cited**

UNITED STATES PATENTS

32,683 7/1861 Converse 5/190 X

57,770	9/1866	Rison	5/190 X
1,184,763	5/1916	Mangan	5/192 X
1,261,258	4/1918	Meadoff	5/192
1,492,413	4/1924	Bamberger	5/192 X
2,680,253	6/1954	Gleason	5/259 X
2,709,819	6/1955	Wise	5/260

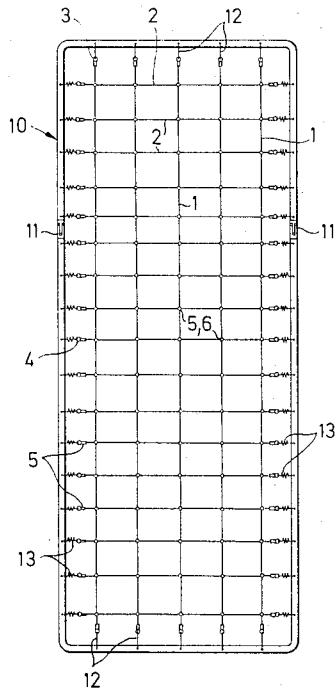
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[57]

ABSTRACT

The cords of a string net for the frame of upholstered furniture at the points where they intersect one another are fastened to one another by means of rings or clamps. The cords consist of plastics and are arranged perpendicular to the frame. The cords which are crosswise arranged to the sides of the frame are strung more tightly than the cords which are strung lengthwise to the frame sides.

5 Claims, 5 Drawing Figures

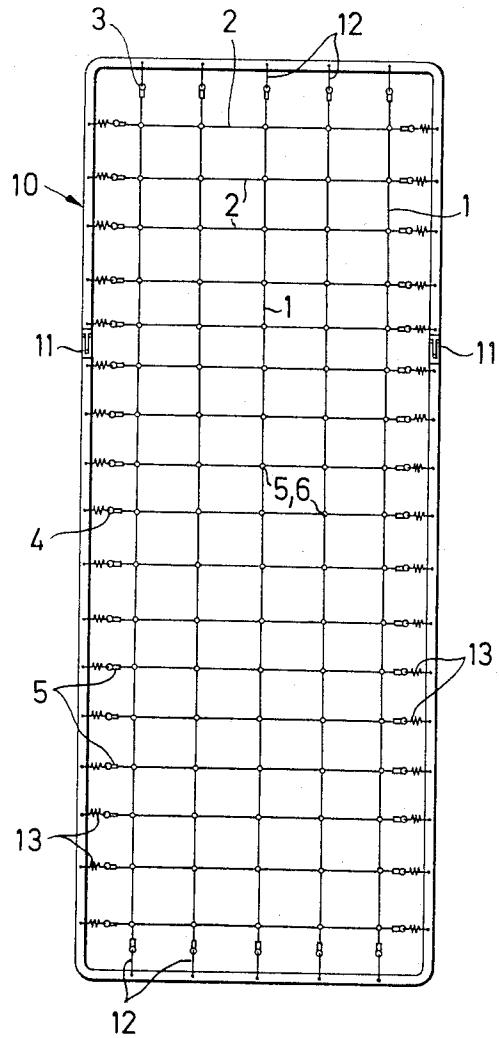


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Fig.1



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Fig.2

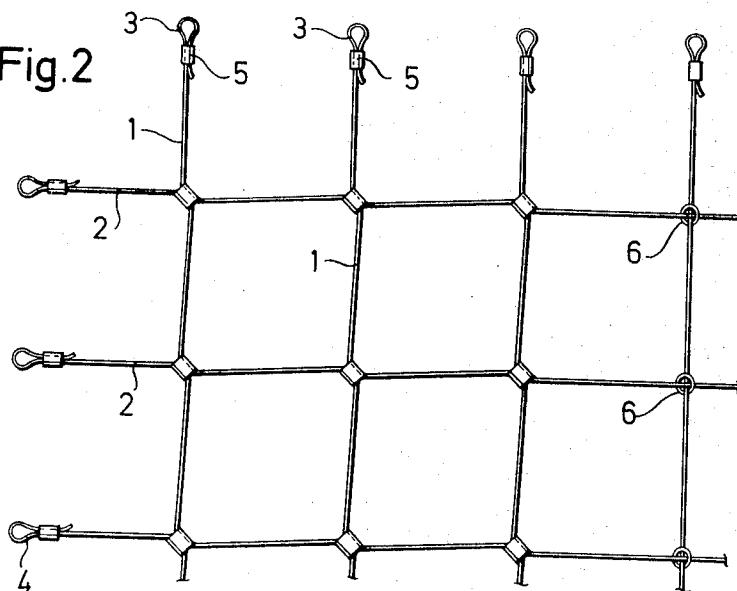


Fig.3

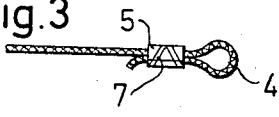
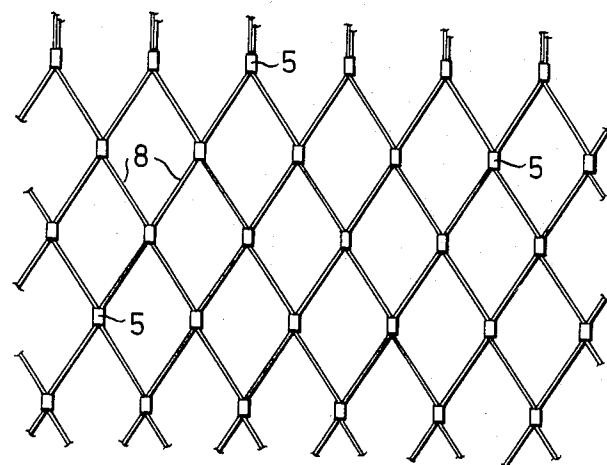


Fig.4



Fig.5



RELATING TO A NET FOR UPHOLSTERED FURNITURE

DESCRIPTION

The invention relates to a net for upholstered furniture as e.g. a netting for chairs, beds, cots, etc.

Mattresses often comprise flat strips of steel spring which are strung across the width of a frame. In lengthwise direction these strips are connected to one another by means of hooks and chains. Chains are especially employed for the hinges of collapsible camping cots. In the case of spring unites for mattresses, the flat strips of spring steel are supported by conical springs. The strips of spring steel are attached to the conical springs by means of hooks. The assembly of such units is very time consuming and, therefore, entails high labor costs. The chains used for the hinges of camping cots represent an additional technical effort and make the use of such arrangements more expensive. Support arrangements consisting of elements aligned so as to constitute rectangular shapes are also often used both for mattress supports and for camping cots. Such arrangements consist of stiff wires 2 to 3 mm thick which are connected to one another at their ends which are bent such as to form eyes. Such arrangements are then conventionally fixed to the sides of the frame by means of hooks and springs. Because of the eyes on the ends of the wires an the interconnection of the latter at the junction points, such arrangements require considerable technical effort and are not easy to manufacture.

Upholstered furniture, e.g., chairs, beds and cots are often equipped with corrugated springs spanning the width of the frame. The corrugated springs are provided with hokks on their ends for attachment to the frame. Currgated springs are expensive, and, as a result, only a limited number of springs is used, and, also the individual springs are not connected to one another by any elements arranged perpendicularly to the latter so that it is not possible to achieve the dense support arrangement which is generally sought and which ensures comfortable sitting or lying.

It is a primary object the present invention to provide a considerably simpler net arrangement which is as dense as possible and which covers the whole of the area enclosed by the frame. In accordance with the present invention, plastic cords are strung both lengthwise and crosswise across the frame and are connected to one another by means of either rings or fasteners. The cords are not arranged diagonally, but rather they are perpendicular to the sides of the frame to which they are respectively attached. The cords strung crosswise can be fastened to the frame by means of springs, and the cords strung lengthwise can be fastened to the frame by means of hooks.

According to another feature of the invention, the cords which are strung crosswise can be strung tighter than those strung lengthwise, for only the cords which are strung crosswise are intended to bear the load, whereas the cords which are strung lengthwise only have a connective function in the formation of the net. Thus, such net arrangements are especially well-suited for use in the manufacture of folding chairs, beds or cots. In the case of chairs, beds or cots which are not collapsible, the net can consist of pairs of cords strung such that each of the two cords in each of the various pairs is attached by means of fasteners at regularly

spaced intervals to one of the cords from the two adjoining pairs whereby to form a net with rectangular spaces defined by the cords. The ends of the cords are securely fastened to the cords by means of fasteners.

5 The fasteners can consist of pieces of wire which are spirally wound around the cords and then flattened, which procedure results in advantages in manufacturing. To prevent the fasteners from slipping and, additionally, to provide the end loops with adequate and 10 soft holding power, the fasteners can be pinched at right angles to the longitudinal axis of the fasteners. By rounding off the edges, wear caused to the cords by the fasteners can be avoided. A net with an especially high load-bearing capacity can be obtained by using cords 15 consisting of interwoven strands. Such cords can consist either of plastic strands or of suitable metal strands. A combination of plastic and metal strands is also possible.

A net arrangement in accordance with the present 20 invention has an extremely simple construction and can, therefore, be manufactured at low cost without any great investment. In contrast to methods presently known to the art, a dense net in accordance with the present invention does not appreciably increase its 25 cost.

The net is easy to assemble, and the attachment of chains at hinge points, for instance in the case of camping cots, is unnecessary. The use of high-strength woven plastic cords results in a considerable savings in weight. For flat surfaces without joints, crosswise elements are not necessary as all parts of the frame can be used to bear the load. In such cases, an adequate net would consist of pairs of cords strung such that each of the two cords in each of the various pairs is attached at regularly spaced intervals to one of the cords from each 30 of the two adjoining pairs whereby to form a net with rectangular spaces defined by the cords. Such nets are most easily manufactured by machine. The cords do not have to be looped or knotted with one another, and the full load-bearing capacity is retained. The shape of 35 the net is also retained during transport and before the final assembly operation whereby assembly is not hindered by tangled sections of netting.

In the accompanying drawings two embodiments of 40 the present invention are illustrated: drawing wherein

45 In the drawings:

FIG. 1 is a top plan view of a frame provided with a net and a hinged joint,

FIG. 2 a net consisting of cords strung at right angles to one another,

50 FIG. 3 is a large-scale illustration of a loop secured with a fastener made of a piece of soft metal wrapped around the cord and its end,

FIG. 4 a large-scale illustration of a loop secured with a piece of wire wrapped around the cord and its end, and

55 FIG. 5 a net with cords which do not cross one another. constitutes

In the embodiment illustrated in FIGS. 1 and 2, the netting on a frame 10 consists of cords 1 and 2 which 60 crossover one another and which are provided with loops 3 and 4 at their ends. The frame 10 is equipped with two schematically represented hinges 11. The cords 1 which are strung lengthwise are secured to the frame 10 by means of hooks 12, whereas the cords 2 which are strung crosswise are provided with springs 13 at their ends which in turn are secured to the frame 10. The cords are interconnected long means of clamps 5

or rings 6 at the points where the cords intersect one another. The loops 3 or 4 at the ends of the cords are also formed by means of the clamps 5.

As is shown in FIG. 3, the clamps 5 may for instance, consist of soft metal bands which are wrapped around the cords and then pinched, as is indicated by the pinch marks 7. In the embodiment of the present invention shown in used. As FIG. 5, the net consists of pairs of cords 8 strung such that each of the two cords in each of the various pairs is attached at regularly spaced intervals to one of the cords from each of the two adjoining pairs by means of clamps 5 whereby to form a net with rectangular spaces defined by the cords. The loops on the ends of the individual cords can also be easily manufactured by means of fastening elements 9 which consist of pieces of wire which are wound around the cord and then pinched together, as is shown in FIG. 4.

It is apparent that the examples shown above have been given solely by way of illustration and not by way of limitation and that they are subject to many variations and modifications within the scope of the present invention. All such variations and modifications are to be included within the scope of the present invention.

I claim:

1. A net for attachment to the frame of a chair, bed or cot, comprising cords extending generally longitudinally and transversely and adapted to meet the sides of the frame at right angles, the longitudinally extending cords being under lower tension than those which extend transversely, fastening members selected from the group consisting of rings and fasteners, said cords being fastened to one another at their points of intersection by means of said fastening members.

5 2. A net as claimed in claim 1, in which transversely extending cords have springs at oposite ends for attachment to the frame, and the longitudinally extending cords have hooks at opposite ends for attachment to the frame.

10 3. A net as claimed in claim 1, in which the cords are provided at opposite ends with loops which are formed by means of fasteners.

20 4. A net as claimed in claim 1, in which the fasteners consist of pieces of wire which are wound around the looped ends and then pinched together.

25 5. A net as claimed in claim 1, in which the fasteners comprise crimped metal bands wrapped around the cords and provided with pinch indentations extending substantially perpendicularly to the axes of the respective cords.

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