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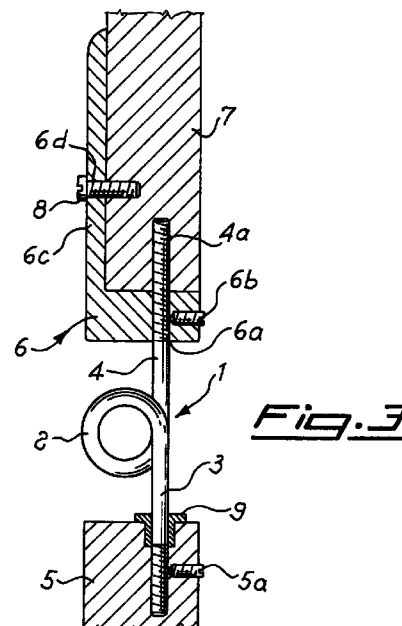
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(54) **Device for hingeably connecting backrests of chairs and the like to the associated frame, comprising at least one spring spiral with arms which are respectively fixed to said backrest and frame**

(57) Device for hingeably connecting backrests (7) of chairs and the like to the associated frame (5), comprising at least one spring spiral with opposite arms (4,3) which are respectively fixed to said backrest (7) and frame (5).



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Description

[0001] The present invention relates to a device for hingeably connecting backrests of seats and the like to the associated frame, comprising at least one spring spiral with opposite arms which are respectively fixed to said backrest and frame.

[0002] It is known in the technical sector relating to the production of chairs and the like that there exists the need to hingeably connect the backrest of said chairs to the frame so that the backrest is able to assume different inclinations in order to provide a more comfortable supporting action.

[0003] Some examples of hinging systems for backrests of chairs are known, which systems, although serving their purpose, have a complex and costly structure and an aesthetic appearance which does not blend in with the design of the chair.

[0004] The technical problem which is posed, therefore, is that of providing a hinging device for backrests of chairs which is structurally simple and reliable and consists of a small number of parts which can be easily assembled and applied to any type of chair, armchair and the like with or without arm-rests. Within the scope of this problem a further requirement is that the hinging system should have a certain degree of elasticity so as to provide the backrest with a slightly springy action.

[0005] These technical problems are solved according to the present invention by a device for hingeably connecting backrests of chairs and the like to the associated frame, comprising at least one spring spiral with opposite arms which are respectively fixed to said backrest and frame.

[0006] Further details may be obtained from the following description of a non-limiting example of embodiment of the invention provided with reference to the accompanying drawings, in which:

- Figure 1 shows a partially exploded, perspective view of the hinging device according to the invention;
- Figure 2 shows a perspective view of the device with the backrest mounted;
- Figure 3 shows a cross-section along a vertical plane of the mounted device.

[0007] As shown, the hinging device according to the invention comprises two pairs of wires 1 which are made of steel or similar material and each of which is twisted so as to form a spiral 2 of a spring with opposite arms 3 and 4 which are respectively fixed to the frame 5 of the chair and to an element 6 supporting the backrest 7 of the chair itself.

[0008] Each arm 4 fixed to the backrest 7 is provided with a threading 4a.

[0009] Said element 6 supporting the backrest 7 has a shape substantially in the form of an "L" with the horizontal short arm having a hole 6a for engagement with

the threading 4a of the arm 4 of the spring, being fixed thereon by known means such as a weld or a transverse grub screw 6b inserted into the short arm itself until it interacts with the threading 4a.

[0010] The vertical long arm 6c of the support element 6 has a hole 6d for receiving a screw 8 locking the support 6 of the backrest 7.

[0011] The arm 3 of the spring inserted into the frame 5 is in turn locked onto the latter by means of a transverse grub screw 5a. A guide bush 9 is also arranged in the region of the hole where the arm 3 enters into the frame 5.

[0012] Although described in a form which is functionally complete and structurally entirely reliable, preferably from an aesthetic point of view as well, the device could be reduced to a single spiral with arms 3 and 4 which are directly inserted into the frame 5 and into the backrest 7 without the need for intermediate elements.

Claims

1. Device for hingeably connecting with a springy action backrests (7) of chairs and the like to the associated frame (5), characterized in that it comprises at least one spring spiral (2) with opposite arms (3,4) which are respectively fixed to said backrest and frame.
2. Device according to Claim 1, characterized in that said spring spirals are preferably two in number and separate from one another.
3. Device according to Claim 1, characterized in that said spring spirals are two pairs which are all separate from one another.
4. Device according to Claim 1, characterized in that said opposite arms of the spring have threaded ends.
5. Device according to Claim 1, characterized in that it comprises an element (6) for supporting the backrest (7), which is connected to one of the two arms of the spiral.
6. Device according to Claim 1, characterized in that said support element has a shape in the form of an "L".
7. Device according to Claim 6, characterized in that said short arm of the "L" is provided with a threaded hole (6a) for engagement with the corresponding threading (4a) of the associated arm (4) of the spiral.
8. Device according to Claim 2, characterized in that said support element has through-holes on the short side of the "L" for receiving the respective

arms (4) of the pair of springs.

9. Device according to Claim 7 or 8, characterized in that said support element (6) is locked in position on the associated arm (4) by means of a transverse grub screw (6b). 5
10. Device according to Claim 1, characterized in that said arm (3) of the spring fixed to the frame (5) is locked in position by means of a transverse grub screw (5a). 10

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Fig.1

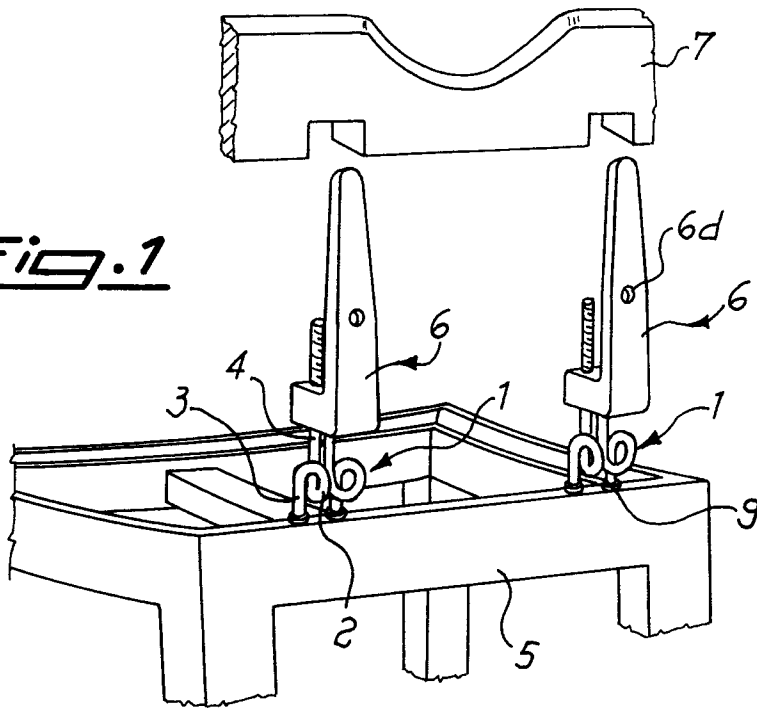


Fig.2

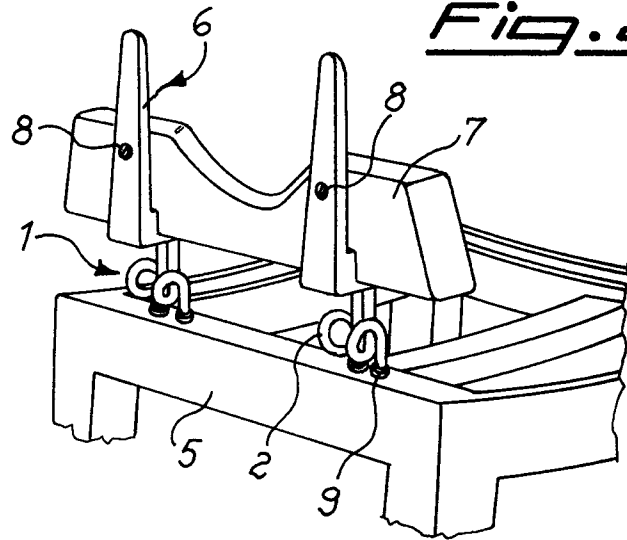
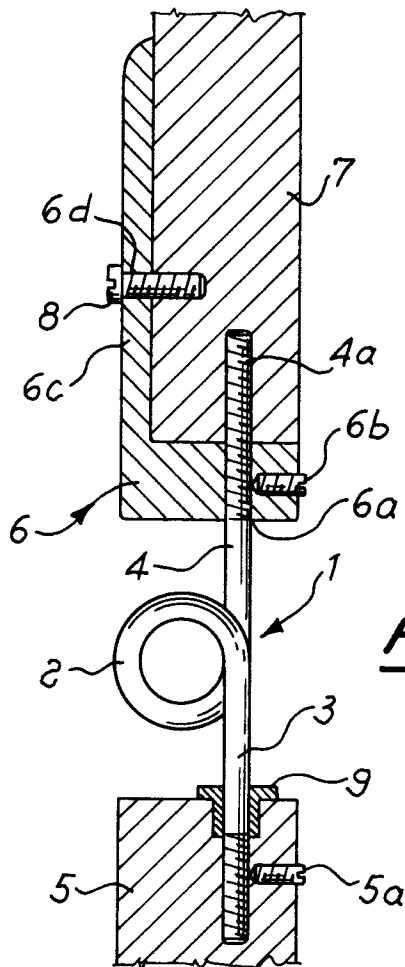


Fig.3





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EUROPEAN SEARCH REPORT

Application Number
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Place of search		Date of completion of the search	Examiner
THE HAGUE		5 February 1999	Jones, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 98 20 3548

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