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(54) **Telescopic armrest**

(57) The present invention relates to an armrest capable to be associated to a seating, of the type comprising a support portion (2) for a user's arm of said seating telescopically coupled with an engaging portion (3) of the armrest with the seating. The telescopic coupling between the support (2) and engaging portions (3) can be

manually operated and provides a plurality of intermediate stop points (9) between a least extended position (A) and a most extended position (B) of the armrest. Advantageously, the armrest comprises thrust means for moving the support portion towards the most extended position thereof.

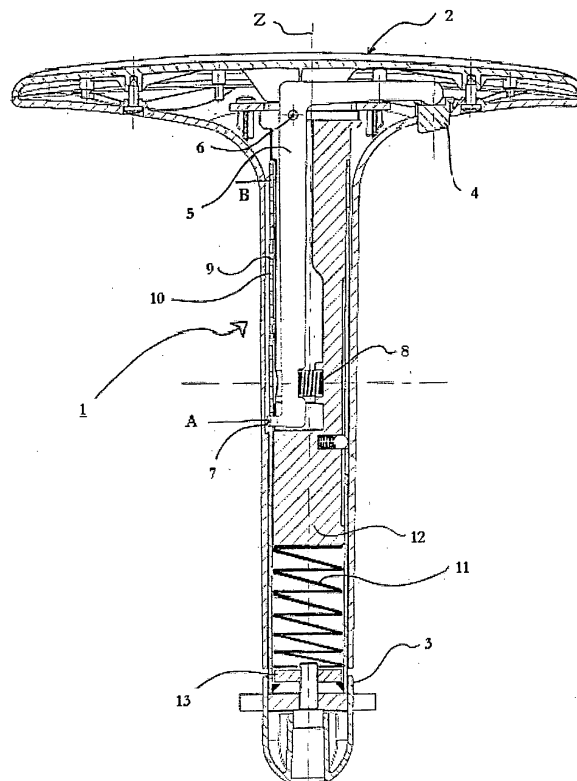


FIG. 1

EP 1 616 504 A2

Description

[0001] The present invention relates to a telescopic armrest, particularly a manual operating telescopic armrest for seating.

[0002] Different types of seating such as, for example, chairs, small armchairs, deckchairs, etc. are available on the market, provided with extensible armrests, i.e. which can be height adjusted. The extensible armrests are usually provided with a movable portion, having the function of holding the seating user's arm, telescopically coupled with an engaging portion integral to the seating, for example fastened to the frame thereof. The coupling can be manually operated by the user, either directly or through levers, buttons or devices equivalent thereto and generally allows the support portion to be moved between a least extended position, at which it is at the minimum height relative to the seating seat, and a most extended position, at which it is at the maximum height relative to the seat. There are generally provided several intermediate stop points between the minimum and most extended position, such that the user may adjust the armrest height according to his/her own requirements.

[0003] The extensible armrests have to be manually raised by the user until the desired position has been obtained. The seating user usually grips the support portion of the armrest and, after its respective coupling with the engaging portion has been released, pulls it upwards. After the support portion has been set at the desired height, the coupling can be locked.

[0004] Therefore, the height adjustment of the conventional extensible armrests provides that the user makes movements which are often uneasy or in any case impractical. Moreover, due to the uneasy use, the armrests are often subject to jamming when the support portion is moved with reference to the engaging portion.

[0005] The object of the present invention is to provide an armrest for seating, which is height adjustable and solves the drawbacks of the conventional armrests of the same type, thus being further easy to be manufactured and cost-effective.

[0006] It is also an object of the present invention to provide an extensible armrest for seating which provides a facilitated functioning as compared to what has been provided by the conventional armrests, particularly with regard to the movements that a user has to make in order to adjust the position thereof.

[0007] These and other objects are achieved by the present invention which relates to an armrest to be associated to a seating, of the type comprising a support portion for the arm of a user of said seating, wherein said support portion is telescopically coupled with an engaging portion of the armrest with said seating, the telescopic coupling between said support and engaging portions being capable of being manually operated and providing a plurality of intermediate stop points between a least extended position and a most extended position of the armrest, characterized in that it comprises means for

thrusting said support portion towards said most extended position.

[0008] According to an embodiment of the present invention, the thrust means comprise at least one resilient element interposed between the support portion and the engaging portion. Preferably the resilient element is a spring. The spring is compressed when said support portion is in the least extended position and, when the user operates the telescopic coupling, it stretches and thrusts the support portion in the expected direction for the extension thereof.

[0009] Advantageously, the resilient element, for example the spring, produces a thrust sufficient to raise the support portion of the armrest with no need for the user's external action. In this manner, after the coupling between the two support and engaging portions has been released by the user by means of the relative means, the support portion is induced to extend by the spring. When the same support portion has achieved the desired position, for example the height of the seating seat that the user desires, the same support portion can be locked.

[0010] The elastic constant of the spring is such as to allow the seating user to bring the support portion back to the least extended position, i.e. the minimum height relative to the seat, by compressing the spring, without too much effort.

[0011] According to the preferred embodiment of the invention, the coupling between the support element and the engaging element comprises a toothed element, or provided with a plurality of holes, integral with the engaging portion, the teeth/holes of which each corresponds to an intermediate stop point, and a pawl movably fastened to the support portion and capable to be engaged with the above-mentioned teeth/holes.

[0012] The pawl can be operated, either directly or indirectly through gears, levers or similar devices, by means of a button provided at the support portion of the armrest.

[0013] Further characteristics and advantages of the present invention will be better understood from the following description, which is given by way of illustrative and non-limiting example with reference to the annexed Fig. 1 which shows a cross section of an armrest according to the invention.

[0014] Fig. 1 shows an armrest 1 according to the present invention, capable to be associated to a seating (not shown), comprising a support portion 2 for a user's arm and an engaging portion 3 with said seating. Armrest 1 is of an extensible type, i.e. height adjustable. In the case shown, support portion 2 is telescopically coupled with engaging portion 3 which is, in turn, fastened to the seating for example by means of screws, bolts, etc.. Particularly, portion 2 is can be moved with reference to portion 3 along Z-axis.

[0015] Armrest 1 is provided with manual operating means which allow support portion 2 to be locked/released relative to engaging portion 3. These means comprise a button 4 acting on a lever 5 being fastened to

portion 2 of armrest 1 by means of hinge 6. On lever 5 there is provided a pawl 7 suitable to engage corresponding holes, cavities, teeth, etc.. (generically indicated with numeral of reference 9), of an element 8 integral to engaging portion 3. Pawl 7 is usually held in an engaging position with element 10 due to the thrust generated by a spring 8. The pressure exerted by the armrest user on button 4 causes lever 5 to oscillate in a direction which is opposite to the direction of the thrust of spring 8 and therefore it causes pawl 7 to disengage from its corresponding hole, tooth, etc., 9, of element 10. Thereby, the support portion 2 can be disengaged from engaging portion 3. The release of button 4 causes spring 8 to thrust pawl 7 towards element 10 so as to engage a hole 9.

[0016] To each hole, tooth, hollow 9 of element 10 corresponds a different extension of portion 2 of armrest 1. In figure 1 the least extended position of support portion 2 has been indicated with letter A, whereas the most extended position has been indicated with letter B.

[0017] Advantageously, the armrest 1 is provided with a resilient element having the function of thrusting support portion 2 towards position B when pawl 7 does not engage the element 10.

[0018] In the case shown in Fig. 1, the resilient element 11 is a spring interposed between portions 2 and 3 of armrest 1, preferably between lower end 12 of support portion 2 and a suitable surface 13 of engaging portion 3.

[0019] The operation of armrest 1 is facilitated compared to what has been provided for conventional armrests. In fact, as spring 11 provides for the raising of portion 2 along Z-axis, the user is not obliged to make uneasy movements in order to adjust the height of the same portion 2. It is sufficient to push button 4 in order to disengage portion 2 and obtain the extension movement thereof. When the same portion 2 has achieved the desired height, the user locks the position thereof by releasing button 4. In order to reduce the height of support portion 2 the user has to overcome the force exerted by spring 11. For this reason the elastic constant of spring 11 is selected such that the movement which the user has to make in order to compress it requires a least effort and such that its stretching is gradual, i.e. with a moderate speed.

[0020] Armrest 1 according to the invention is particularly easy to be adjusted and cost-effective to be manufactured. Furthermore due to the fact that the moving of portion 2 is controlled by spring 11, its sliding inside engaging portion 3 is subject to least interferences in a transversal direction to Z-axis and this drastically reduces the jamming possibilities.

the armrest with said seating, the telescopic coupling between said support and engaging portions being capable of being manually operated and providing a plurality of intermediate stop points between a least extended position and a most extended position of the armrest, **characterized in that** it comprises means for thrusting said support portion towards said most extended position.

2. The armrest according to claim 1, **characterized in that** said means for thrusting comprise at least one resilient element interposed between said support portion and said engaging portion.
3. The armrest according to claim 2, **characterized in that** said at least one resilient element is a spring.
4. The armrest according to claim 3, **characterized in that** said spring is compressed when said support portion is in the said least extended position and, when operating said telescopic coupling, it thrusts, by stretching, said support portion in the expected direction for the extension thereof.
5. The armrest according to claim 4, **characterized in that** the elastic constant of said spring is such as to allow the user of said seating to bring said support portion back to said least extended position, by compressing said spring, without too much effort.
6. The armrest according to any preceding claim, **characterized in that** said coupling provides a toothed element, or it is provided with a plurality of holes integral with said engaging portion, the teeth/holes of said element being each corresponding to a intermediate stop point, and a pawl movably fastened to said support portion and capable to be engaged with said teeth/holes.
7. The armrest according to claim 6, **characterized in that** said pawl can be operated, either directly or indirectly through gears, levers or similar devices, by means of a button being provided on said support portion.

Claims

1. An armrest which can be associated to a seating, of the type comprising a support portion for a user's arm of said seating, wherein said support portion is telescopically coupled with an engaging portion of

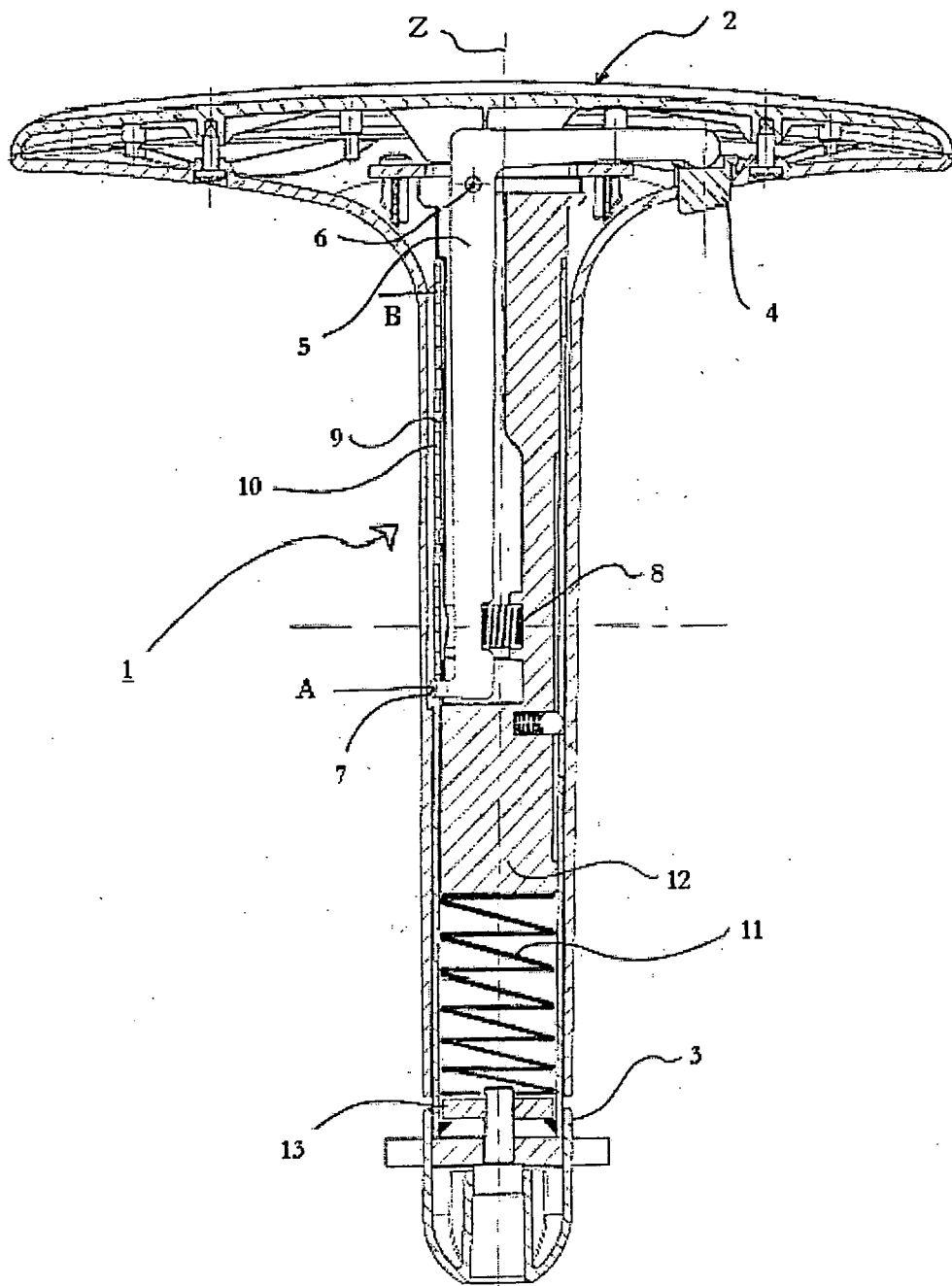


FIG. 1