

Telescopic arm for a PC table

Technical field

The present invention regards a rotatable telescopic column. The column has a general application, but is particularly suitable for use in furniture, and more specifically in the PC table.

Background

The applicant markets a PC table which includes a table top that can carry a computer, more specifically a laptop computer, often called a laptop. The PC table includes an arm that carries the table top itself. The arm is attached to a column that has adjustable height and is rotatable, and which in turn is attached to a piece of furniture. The arm must be swung in and out of the workspace of the user, so that it easily can be placed in the correct working position and can be swung away when not in use. The height adjustable column includes a clamp coupling that locks the column in the desired height and with an appropriate friction so that the arm can be rotated. The prior art column has a weakness in that the friction does not remain constant during use. Wear occurs in the clamp coupling, and it is easily loosened when the joint pivots back and forth.

It is therefore a need for an improved telescopic bar that is more stable in use, where the friction can be easily adjusted, respectively, that can be locked, and where the settings are retained over time.

Summary

Embodiments of the present invention intend to produce such a column.

According to a first aspect of the present invention, there is provided a rotating telescopic column, comprising: an outer sleeve, a telescopic sleeve located inside the outer sleeve, a lockable clamp mechanism that is attached to the outer sleeve and grips the telescopic sleeve and is designed to lock the telescopic sleeve to the outer sleeve when the telescopic sleeve is in a selected position relative to the outer sleeve, a shaft located inside the telescopic sleeve and which is rotatable in relation to this, characterized in that the outer sleeve has a number of internal cams, said telescopic sleeve has a corresponding number of outer slots, as the cams in the outer sleeve are designed to intervene in the slots in the telescopic sleeve and thereby prevent the telescopic sleeve from turning relative to the outer sleeve.

According to a second aspect of the present invention, there is provided a PC table comprising a table top and a fastening mechanism such as a clamp attachment, having a

rotatable telescopic column according to the first aspect is arranged between the table top and the fastening mechanism.

Preferably, the functions for length adjustment and turning of the column are separated and do not affect each other. The column may be more stable in use. The clamping mechanism may not loosen during use, while the turning feature may become very strong because of the continuous shaft.

Brief description of the drawings

An embodiment of the present invention will now be described in detail by reference to the enclosed figures, where:

5 Figure 1 is a drawing of a PC table,

Figure 2 is a perspective sketch of a telescopic column according to the invention,

Figure 3 shows a cross sectional view through the telescopic column.

Detailed description

10 Figure 1 shows a PC table including a table top 1. The table top is attached to a swivel joint 2, which in turn is attached to an upper arm 3. The upper arm is attached to a swivel arm or a telescopic column 4, which in turn is attached to a lower arm 5 and a clamp attachment 6. The telescopic column 4 may be varied in length, and can rotate around the vertical axis with appropriate friction.

15 The telescopic column 4 includes an outer sleeve 7 which is attached to the lower arm 5, and a swivel and clamping mechanism which is located inside the outer sleeve 7. The inner mechanism is illustrated in Figure 2, as an exploded view. The mechanism includes a shaft 10 which is attached to the upper arm 3, for example with threads. The shaft 10 runs in a telescopic sleeve 11. The shaft is rotatable relative to the sleeve and the friction between the shaft and the sleeve is determined by the spring washers 12, which located
20 between the screw head 13 on the shaft 10 and the end of the sleeve.

The telescopic sleeve 11 is in the form of a dual walled profile with an outer and an inner tube connected in the same hub and a number of longitudinal bridges. Furthermore the telescopic sleeve 11 is equipped with a number of longitudinal slots 15 that are designed to intervene in the corresponding cams inside the outer sleeve 7. The sleeves cannot
25 thereby turn relative to each other. This means that all the turning movement occurs between the shaft 10 and the telescopic sleeve 11, while the longitudinal telescopic movement occurs between the outer sleeve 7 and the telescopic sleeve 11.

The telescoping column also includes a locking sleeve 16 which is arranged to be fastened in the outer sleeve 7. The locking sleeve can, for this purpose, include a knob designed to intervene in a recess, slot or opening in the outer sleeve 7. The locking sleeve
30 16 has a number of cams 17 on the inside designed to intervene in the tracks 15 on the telescopic sleeve, and also include a threaded section 18 on the outside, and locking knobs 19. Furthermore, there is a locking ring 20 that is oriented to be turned on the

locking sleeve 16 and the clamp locking knobs 19 against the telescopic sleeve 11 when the telescopic column is locked in a particular length. The other details shown in the figure may include end caps 21, 22 which act as bearings for the rotary movement, as well as the bushings 23, 24, 25.

- 5 Figure 3 shows the mechanism in the mounted condition, ready to be put into the outer casing and locked to it.

In a simpler version of the PC table, it is conceivable that the telescopic column is arranged directly between the clamp attachment 6 and attached to the table top 1.

- 10 The telescopic column according to the invention has been described applied to a PC table. However, it may find other applications, such as in a rotating mechanism for the seat on a chair, or other general applications outside the furniture industry.

Claims:

1. Rotating telescopic column, comprising:

an outer sleeve,

a telescopic sleeve located inside the outer sleeve,

a lockable clamp mechanism that is attached to the outer sleeve and grips the telescopic sleeve and is designed to lock the telescopic sleeve to the outer sleeve when the telescopic sleeve is in a selected position relative to the outer sleeve,

a shaft located inside the telescopic sleeve and which is rotatable in relation to this, **characterized in that** the outer sleeve has a number of internal cams, said telescopic sleeve has a corresponding number of outer slots, as the cams in the outer sleeve are designed to intervene in the slots in the telescopic sleeve and thereby prevent the telescopic sleeve from turning relative to the outer sleeve.

2. Rotating telescopic column according to claim 1, where the lockable clamping mechanism includes a locking sleeve with a number of locking knobs, as the locking sleeve is attached to the outer sleeve, and a locking ring arranged to clamp the locking tabs against the telescopic sleeve.

3. Rotating telescopic column according to claim 1, as it further includes a number of spring washers arranged between a screw head on shaft and one end of the telescopic sleeve, and which serves to determine the friction between the shaft and telescopic sleeve.

4. Rotating telescopic column according to claim 1, as it further includes first and second end caps mounted on the ends of the telescopic sleeve and acts as bearings for the axle.

5. Rotating telescopic column according to claim 1, where the telescopic sleeve consists of an outer and an inner tube connected by a number of longitudinal bridges.

6. PC table comprising a table top and a fastening mechanism such as a clamp attachment, having a rotatable telescopic column according to one of claims 1 - 5 is arranged between the table top and the fastening mechanism.