torsional effect for the spring starting from the initial state thereof with a rotary angle of 0° therefore a return force is already exerted on the two specified segments in the direction of the return movement to the initial state.

The material of the spring element 30 has an elongation at break of at least 150% in accordance with DIN 53455, here for example 400% or 600%. It will appreciated that the elongation at break is adapted to the number of revolutions of the spring upon torsional stressing thereof.

The second segment 22 and/or a or the further segments 23 which are possibly arranged between the first and second segments can respectively have a bearing region 22d, 23d which can be introduced into a receiving means (not shown) of an adjacent segment with a coaxial arrangement of the two adjacent segments relative to each other, wherein the bearing region permits rotation of the two adjacent segments relative to each other. The bearing region can be for example a cylindrical end portion (not shown) of the segment 22, 23, which engages into a receiving means (not shown) of the adjacent segment. Alternatively or additionally as shown in Figure 1 the segments 21, 22, 23 can be arranged on a structural axis 27 rotatably relative to each other and rotatably relative to the structural axis 27, the latter as far as preferably one of the segments, for example the first segment 21, wherein the structural axis 27 can at least substantially determine the stability of the spring main body 15 and at the same time can serve as a bearing means for the segments upon rotation of the segments 22, 23 relative to each other. The segments 22, 23 which are rotatable relative to the axis 27 are arranged here in play-free relationship in a direction transverse to the axis, at the axis 27. In this case the segments 21, 22, 23 can bear against each other with their end faces 21f, 23f (Figure 5e).

The torsion spring 10 comprises at least substantially or completely an organic polymer material, wherein the respective polymer material of the individual components of the spring contains fillers. The spring main body 15, more specifically the segments 21, 22, 23 thereof, which here are at least substantially rigid or are rigid, in this case comprise a plastic material, being

CLAIMS

1. A torsion spring, characterised in that the torsion spring has an elongate main body having a longitudinal axis and at least one elastically stretchable spring element being in the form of an elongate element in its non-elastically deformed state which is extending in the direction of the longitudinal axis, wherein the main body includes at least a first and a second segment which are rotatable relative to each other about the main body longitudinal axis, wherein the first and second segments are arranged along the longitudinal direction of the longitudinal axis, wherein the first and second segments are provided with coupling regions, wherein the at least one elastically stretchable spring element couples to the coupling regions of both segments from the group of first and second segments, and wherein upon rotation of the two segments relative to each other about the longitudinal axis of the main body the elastically stretchable spring element experiences a reversible change in length.

2. A torsion spring according to claim 1 characterised in that the elastically stretchable spring element is in the form of an elongate element in its non-elastically deformed state.

3. A torsion spring according to claim 1 or 2, characterised in that the main body includes at least one further segment arranged in the longitudinal direction of the main body between the first and second segments and the at least one further segment is rotatable about the main body longitudinal axis relative to the first and the second segments and that the at least one spring element couples at least to one of the further segments.

4. A torsion spring according to one of claims 1 to 3, characterised in that

(i) the at least one spring element is coupled radially spaced from the spring longitudinal axis to the first and/or second segment,

or

(ii) the at least one spring element couples radially spaced from the spring longitudinal axis to the first and/or second segment and at least one further segment arranged between the first and second segments.

5. A torsion spring according to claim 4, characterised in that

(i) the at least one spring element is arranged in the region of the outer periphery of the first and/or the second segment,

or

(ii) the at least one spring element is arranged in the region of the outer periphery of the first and/or the second segment and at least one further segment arranged between the first and second segments.

6. A torsion spring according to one of claims 3 to 5, characterised in that the at least one further segment arranged between the first and second segments in the longitudinal direction of the main body longitudinal axis has a holding region for the at least one spring element and the spring element is held variably in length in the holding region upon rotation of adjacent segments relative to each other.

7. A torsion spring according to one of claims 1 to 6, characterised in that the respective segment has a holding region of groove-shaped configuration for the spring element, in which the spring element is arranged with a region thereof.

8. A torsion spring according to one of claims 1 to 7, characterised in that a plurality of spring elements are arranged on the main body distributed in the peripheral direction of the main body.

9. A torsion spring according to one of claims 1 to 8, characterised in that with elastic stretching of the spring element the first and the second

segments are rotatable relative to each other by $\geq$ 1 revolution about the longitudinal axis of the main body.

10. A torsion spring according to one of claims 1 to 9 characterised in that the material of the spring element has an elongation at break of at least 150%.

11. A torsion spring according to one of claims 1 to 10, characterised in that the torsion spring at least substantially or completely comprises organic plastic material and/or organic elastomer.

12. A torsion spring according to one of claims 1 to 11 characterised in that the segments of the torsion spring are arranged on a structural axis rotably relative to each other and rotatably relative to the structural axis.

13. A torsion spring according to one of claims 1 to 12 characterised in that the second segment and/or a or the further segments which are optionally arranged between the first and second segments are provivided respectively with a bearing region which can be introduced into a receiving means of an adjacent segment with a coaxial arrangement of the two adjacent segments relative to each other, wherein the bearing region permits rotation of the two adjacent segments relative to each other.

14. A torsion spring according to one of claims 1 to 13 characterised in that the torsion spring is in the form of an elastically twistable bar or group of bars.

15. A winding drum in combination with a holder to hold the winding drum wherein the winding drum is mounted on the holder, the winding drum is configured to wind on and to wind up a line and/or for a line guide device which is adapted to receive and guide at least one line, wherein the drum is rotatable about the longitudinal axis thereof, wherein a first end region of

the line and/or line guide device is or can be fixed to the drum and by rotation of the winding drum in a winding-on and an unwinding direction about the drum longitudinal axis the line and/or line guide device can be wound on to and unwound from the drum, wherein there is provided a drive device engaging the winding drum in order upon rotation of the drum in the unwinding direction thereof to exert a return force on the drum for rotation thereof in the winding-on direction, characterised in that the drive device is in the form of a torsion spring according to any of claims 1 to 14, wherein the torsion spring comprises a first end region coupled to the winding drum and a second end region coupled to the holder, wherein the first send region of the torsion spring is a first segment and wherein the second end region of the torsion spring is a second segment.

16. A winding drum according to claim 15, characterised in that the torsion spring has a longitudinal axis about which the torsion spring is twistingly rotated upon rotation of the drum in the winding-on direction and the torsion spring longitudinal axis is arranged parallel or coaxially to the drum longitudinal axis.

17. A winding drum according to claim 15 or claim 16, characterised in that the torsion spring is coupled with an end region to the winding drum in directly torque-transmitting relationship.

18. A winding drum according to one of claims 15 to 17, characterised in that the line and/or the line guide device has a second end region which is provided with fixing means for coupling to an entrainment member of an apparatus, the entrainment member being moveable relative to the drum, or wherein the fixing means of the second end region of the line and/or the line guide device couple to an entrainment member of an apparatus, that is moveable relative to the drum.

19. A winding drum according to one of claims 15 to 18, characterised in that the torsion spring at least substantially or completely comprises organic plastic material and/or organic elastomer.

20. A winding drum according to one of claims 15 to 19 characterised in that the winding drum is rotatable about its longitudinal axis by $\geq$ 1 revolution with torsional stressing of the torsion spring.

21. A winding drum according to one of claims 15 to 20, characterised in that the torsion spring is arranged in the body of the winding drum.

22. Apparatus comprising a torsion spring according to any of claims 1 to 14 or a comprising a winding drum according to one of claims 15 to 20.