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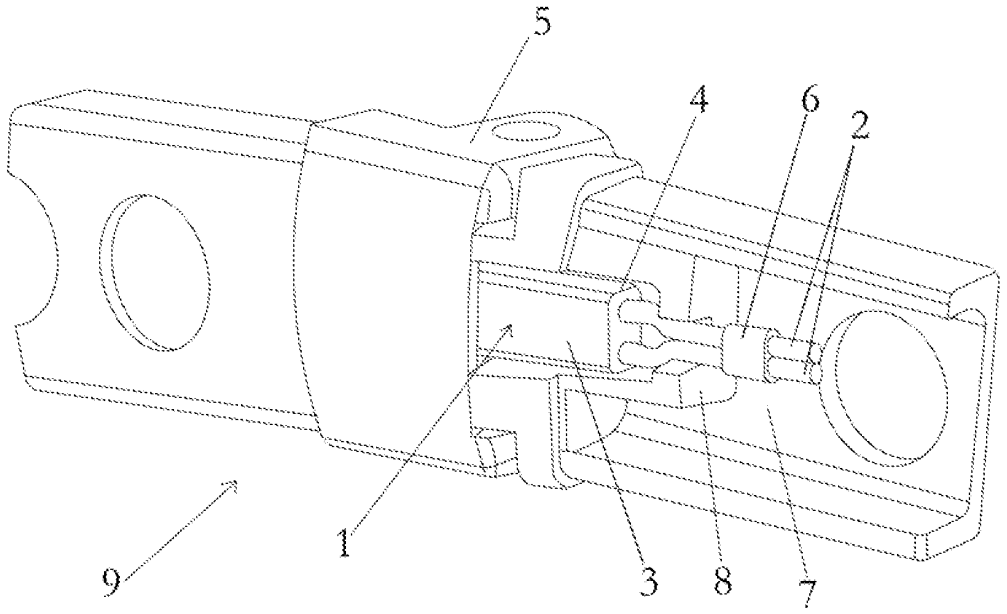
(54) Traction element for articulated arms

(57) Traction element (1) for the articulated arms (9) of awnings and the like, which comprises a plurality of traction cables (2), characterised in that the traction cables (2) are housed, in one or more sections of said cables, in a single flexible element (3) in each section so that a traction element for articulated arms with greater resistance to compression at the articulation is provided.

Fig. 2



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Description

[0001] The present invention relates to a traction element for the articulated arms of awnings and the like, which element comprises a plurality of traction cables.

BACKGROUND OF THE INVENTION

[0002] Known in the art are traction elements for the articulated arms of foldable awnings, whose purpose is to resist a traction force that tends to oppose the bending of the articulated arm at the site of the articulation.

[0003] Said traction elements link under traction, through the external perimeter of the axial articulation, with two anchorages on both articulated arms. One of the ends is anchored onto one of the arms by means of retaining means, while the other end is anchored through a spring that also works under traction, in such a way that when the articulated arm bends at the articulation, the spring is extended or stretched, thereby increasing its traction force and tending as a result to re-establish the aligned position of the two articulated arms.

[0004] The user thus unfolds the awning assisted by the tension provided by said traction elements.

[0005] Said traction elements usually consist in braided steel cables, ring chains, roller chains or other means capable of withstanding high traction forces, of the order of 500 kg; they are housed in the interior of the arms, which are usually hollow prismatic profiles, preferably made of aluminium.

[0006] Depending on the angle formed by the two sections of the articulated, the traction elements for the articulated arms are subjected to very high tensions, which ends up causing the deterioration of both the traction element and the external supporting surface on the articulation itself.

[0007] Furthermore, it is increasingly usual for care to be taken over the visual details of household accessories to ensure that they offer an appearance that detracts only minimally from the visual surroundings. In this respect, the above-mentioned traction elements often have an aesthetic appearance that is not pleasing to the user, since they are mechanical and functional elements that are moreover under tension and may also contain lubricating oils, greases or the like. This is all the more the case at the site of the articulations, where it is more difficult still to conceal the traction element.

[0008] Initially, in order to solve these problems, the cables were sheathed individually to prevent direct contact between the two surfaces.

[0009] The plastic sheaths present the disadvantage of providing a point of support of minimal surface area at the site of the articulation, thereby leading to rapid degradation of the plastic sheath at the site of the articulation and, although they do conceal the cable, they still reveal its nature as a traction element.

[0010] One solution to this degradation has been to provide more cables sheathed individually in order to reduce the degradation, though the surface area subjected to compression remains minimal in relation with the working tensions. Furthermore, the aesthetic problems remain present.

[0011] One solution that has proved successful has been to use high-strength textile tapes or a union of microcables in the form of a rectangular-section band.

[0012] These last two solutions do have limitations, however: the tape may not attain the strength performance necessary to withstand such high tensions, while the utilisation of microcables involves additional assembly phases, such as welding, that make the product more expensive due both to the operation in itself and to quality control of the weld. Moreover, it is difficult with this arrangement of cables to make ties for anchoring them onto the arms.

[0013] There is clearly a need, therefore, for having a traction element that avoids the disadvantages mentioned, that is, one that offers sufficient strength and an acceptable appearance.

DESCRIPTION OF THE INVENTION

[0014] The traction element of the invention resolves the aforesaid disadvantages, while presenting other advantages which will be described below.

[0015] More specifically, the traction element object of the invention takes advantage of the high strength of braided steel cable and its convenient handling qualities and versatility in fitting, together with high user acceptance of traction tapes or microcables welded by way of a band.

[0016] The traction element object of the invention, for the articulated arms of awnings and the like, which comprises a plurality of traction cables, is characterised in that said traction cables are housed, in one or more sections of said cables, in a single flexible element in each section.

[0017] This structure manages to provide a traction element for articulated arms with greater resistance to compression at the articulation.

[0018] Preferably, said flexible element is of approximately rectangular or flat section, such that the compression forces are distributed over an optimised contact surface.

[0019] Preferably, the flexible element is made of plastic.

[0020] Advantageously, said section coincides with the articulation of said articulated arms, which is the section of said element that is most exposed and most liable to undergo degradation due to mechanical tensions.

[0021] More advantageously, said sections coincide with the visible sections, thereby providing a traction system of rectangular appearance.

[0022] Preferably, said traction cables are attached to each other at one or more points by means of pressed grouping fitments, which permits stability to be lent to the sheathed sections in the flexible elements while providing

a means of anchorage onto the arms using a low-cost process.

[0023] Preferably, said articulated arms include housings for said pressed grouping fitments, while said housings include retaining means for said pressed grouping fitments, such as to provide optimal anchorages from the point of view of strength and ease of fitting.

[0024] Finally, said traction cables have an approximate diameter of 4 mm, thus permitting use of the cables employed in previous technologies.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] For a better understanding of the matters set out, some drawings are attached that show, schematically and solely by way of non-restrictive example, a practical case of embodiment.

[0026] Figure 1 is a plan view of the traction element object of the invention.

[0027] Figure 2 is a perspective view of the traction element when it is housed in an articulated arm, although the front cover has not been shown, in order to allow a better appreciation of the internal details of the arrangement of the traction element at the site of the articulation.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0028] As Figures 1 and 2 show, according to a preferred embodiment, the traction element (1) for the articulated arms (9) of awnings and the like, object of the invention, comprises a plurality of traction cables (2) and is characterised in that said traction cables (2) are housed, in one or more sections, in a single flexible element (3) in each section.

[0029] This flexible element (3) is of approximately rectangular (4) or flat section, preferably made of plastic, and said section coincides with the articulation (5) of said articulated arms (9).

[0030] According to another preferred embodiment, said sections coincide with the sections visible to the user.

[0031] According to another preferred embodiment, said traction cables (2) are attached to each other, at one or more points, by means of pressed grouping fitments (6).

[0032] Finally, according to another preferred embodiment, said articulated arms (9) include housings (7) for said pressed grouping fitments (6), with said housings (7) including retaining means (8) for said pressed grouping fitments (6).

Claims

1. Traction element (1) for the articulated arms (9) of awnings and the like, which comprises a plurality of traction cables (2), **characterised in that** said traction cables (2) are housed, in one or more sections of said cables, in a single flexible element (3) in each section.

2. Traction element according to claim 1, **characterised in that** said flexible element is of approximately rectangular (4) or flat section.

3. Traction element according to claim 1, **characterised in that** said flexible element (3) is made of plastic.

4. Traction element for articulated arms according to claim 1, **characterised in that** said section coincides with the articulation (5) of said articulated arms (9).

5. Traction element for articulated arms (1) according to claim 1, **characterised in that** said sections coincide with the sections visible to the user.

6. Traction element for articulated arms according to claim 1, **characterised in that** said traction cables (2) are attached to each other, at one or more points, by means of pressed grouping fitments (6).

7. Traction element according to claim 1, **characterised in that** said articulated arms (9) include housings (7) for said pressed grouping fitments (6), while said housings (7) include retaining means (8) for said pressed grouping fitments (6).

8. Traction element according to claim 1, **characterised in that** said traction cables (2) have an approximate diameter of 4 mm.

Fig. 1

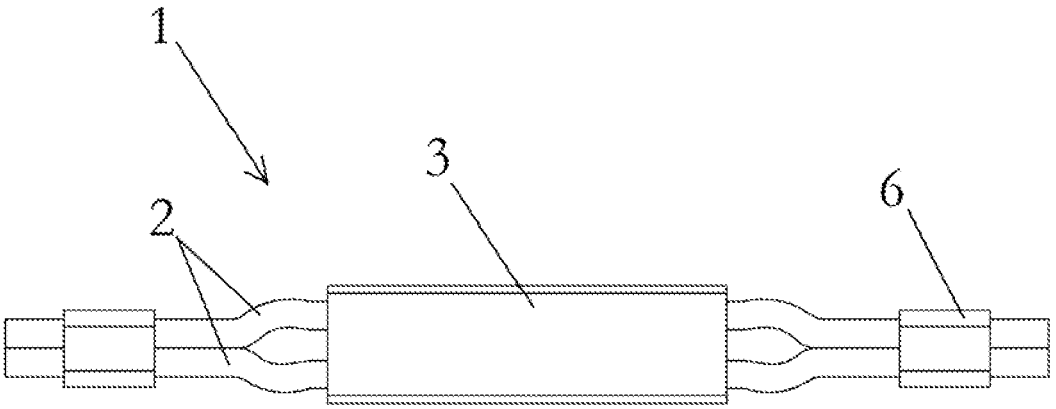

Fig. 2