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(54) **Package for coiled hoses or cables**

(57) The present invention relates to a system for packaging flexible hoses or wires wound in skeins (M) whereby each such skein is wrapped internally, from one part to the other, with successive windings of extensible ribbon (N), each whereof lies on a plane intersecting the skein itself that is offset by a few degrees with respect to the plane of the previous winding.

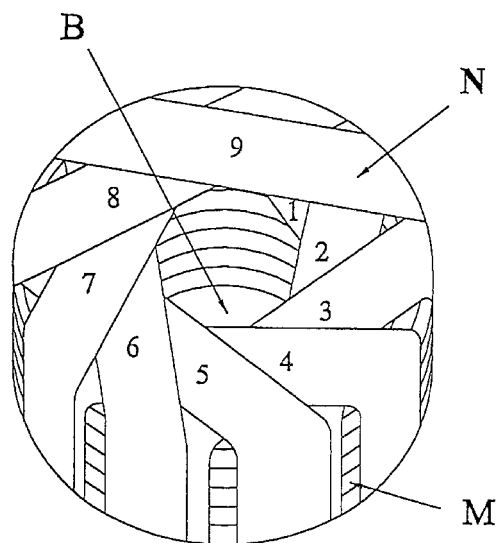


FIG. 1

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Description

[0001] The present patent application for industrial invention relates to a system for packaging flexible hoses or cables wound in skeins.

[0002] As is well known the packaging of flexible hoses or skeins is accomplished thanks to reels which allow to form skeins of cylindrical shape provided with a central hole.

[0003] Once such a skein has been formed, it is to be enveloped with a heat shrinking, extensible, or similar sheath which encompasses and holds the outer turns of the flexible hose (or of the cable) that forms the skein itself.

[0004] This traditional technology provides for packaging to be completed by the application of a series of straps, arranged radially, which encompass the section of the skein in three or four equidistant points and which are effectively able to keep compact all turns of the skein itself.

[0005] This type of packaging is extremely reliable as long as all that is required is to transport or store the aforesaid skeins.

[0006] Vice versa, it is not found quite as satisfactory when segments of hose or cable need to be extracted and cut from one such skein.

[0007] In this event, it is inevitably necessary to cut the aforesaid series of straps; this entails that the skein itself is then held only by the aforesaid peripheral sheath, which alone cannot hold the outer turns of the skein.

[0008] All other turns, instead, we no longer held in any way and hence inevitably become disarranged in a wholly uncontrolled manner with a series of easily imagined drawbacks, which severely penalise any subsequent storage, transportation, and further uncoiling operations.

[0009] The aim of the aforesaid invention is to realise a system for packaging skeins of flexible hoses or cables which is able exactly to hold and contain all the turns of the skein - not just the outer ones, but also those positioned progressively more internally - until completely unwound.

[0010] In this way it is possible to prevent the aforesaid deleterious uncontrolled disarrangement which, as noted above, constitutes a drawback felt deeply by the operators in the industry.

[0011] For the sake of greater clarity, the description of the invention continues with reference to the accompanying drawing plates, provided by way of non limiting illustration, in which:

- Figure 1 is an axonometric view showing the skein complete with the subject sheath, in the version wherein said container must not occlude the inlet of the central hole of the skein itself;
- Figure 2 is similar to the previous one, but illustrates the case wherein the aforesaid packaging container

occludes the inlet of the central hole of the related skein.

[0012] With reference to said figures, the idea at the basis of the present invention has been to wrap a skein of flexible hoses or cables (M) with an extensible ribbon (N) which repeatedly envelopes the entire body of the skein itself, from one part to the other, according to successive closed trajectories, each lying on the planes intersecting the skein, whose orientation varies by a few degrees at each successive winding.

[0013] The application of the extensible ribbon according to the aforesaid procedures allows the formation of a veritable cladding that completely and exactly coats the skein, both in correspondence with the two opposite lateral faces, and in correspondence with its peripheral shoulder; in particular the coating of each of the lateral faces of the skein is a sort of dial comprising the aforesaid successive segments of extensible ribbon.

[0014] It is interesting to note, in any case, that at the end of a similar coating operation no turn of the skein is not contained within this sort of cladding or container.

[0015] The coating provided in correspondence with each of the lateral faces of the skein could be effected in such a way as to occlude completely, partly, or not at all, the inlet of the central hole obtained on the skein in question due to the presence of the reel: that hole, that is to say, through which the extraction of the flexible hose or of the cable must be conducted, when one or the other need to be used.

[0016] In the version in Figure 1 the windings of extensible ribbon (N) are numbered from (1) to (9) and lie on planes tangential to an imaginary central hole having a diameter roughly equal to that of the inlet (B) of the hole of the skein (M).

[0017] In the version in Figure 2, the windings of extensible ribbon (N) are numbered from (1) to (6) and lie on diametral planes.

[0018] In the case wherein the inlet of this central hole of the skein has not been occluded during the aforementioned coating operation - as shown in the aforesaid Figure 1 - the operation of unwinding the skein can be said to be immediately executable; in this hypothesis it can also be said that the dimensions of the central hole of the container, obtained in correspondence with the hole of the skein, could be determined at will, possibly as a function of the type of cable or hose wound in the skein itself.

[0019] On the other hand, in the case wherein the inlet of the central hole of the skein has been completely occluded by means of the aforesaid packaging coating - as shown in Figure 2 - it will be necessary first of all to realise on said coating a central access opening, in correspondence with a single side of the skein, to place the central hole of the skein itself in communication with the exterior and thereby start extracting the flexible hose or the cable.

[0020] In particular this access opening may easily be

obtained by widening some segments of the extensible ribbon (N) that wraps the skein itself.

[0021] In any case the most important aspect to stress is that the aforesaid container realised with the extensible ribbon is perfectly able to maintain - during the progressive unwinding of the related skein - its compactness and optimal capability to contain and hold all turns. 5

Claims

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1. System for packaging flexible hoses or cables wound in skeins, characterised in that it provides for each of said skeins to be wrapped entirely, from one part to the other, with successive windings of extensible ribbon (N), each whereof lies on a plane intersecting the skein itself offset by a few degrees with respect to the plane of the previous winding. 15
2. System for packaging flexible hoses or cables wound in skeins, according to claim 1, characterised in that the aforesaid windings of extensible ribbon (N) lie on planes tangential to an imaginary central hole whose diameter is approximately equal to that of the inlet (B) of the hole of the skein (M). 20 25
3. System for packaging flexible hoses or wires wound in skeins, according to claim 1, characterised in that the aforesaid windings of extensible ribbon (N) lie on diametral planes. 30

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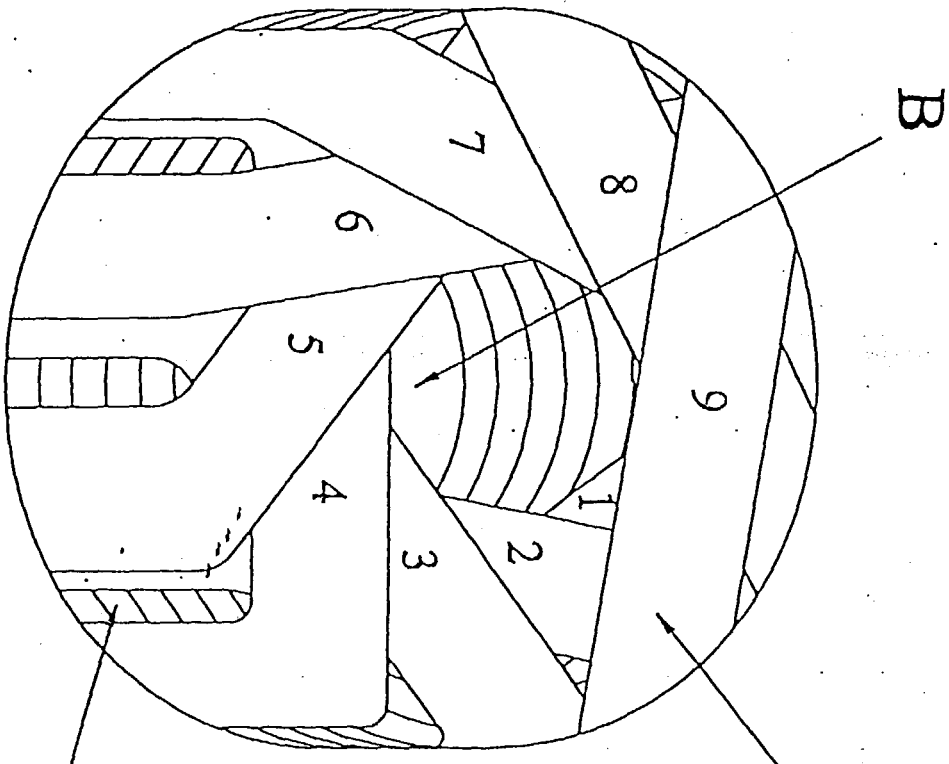


FIG. 1

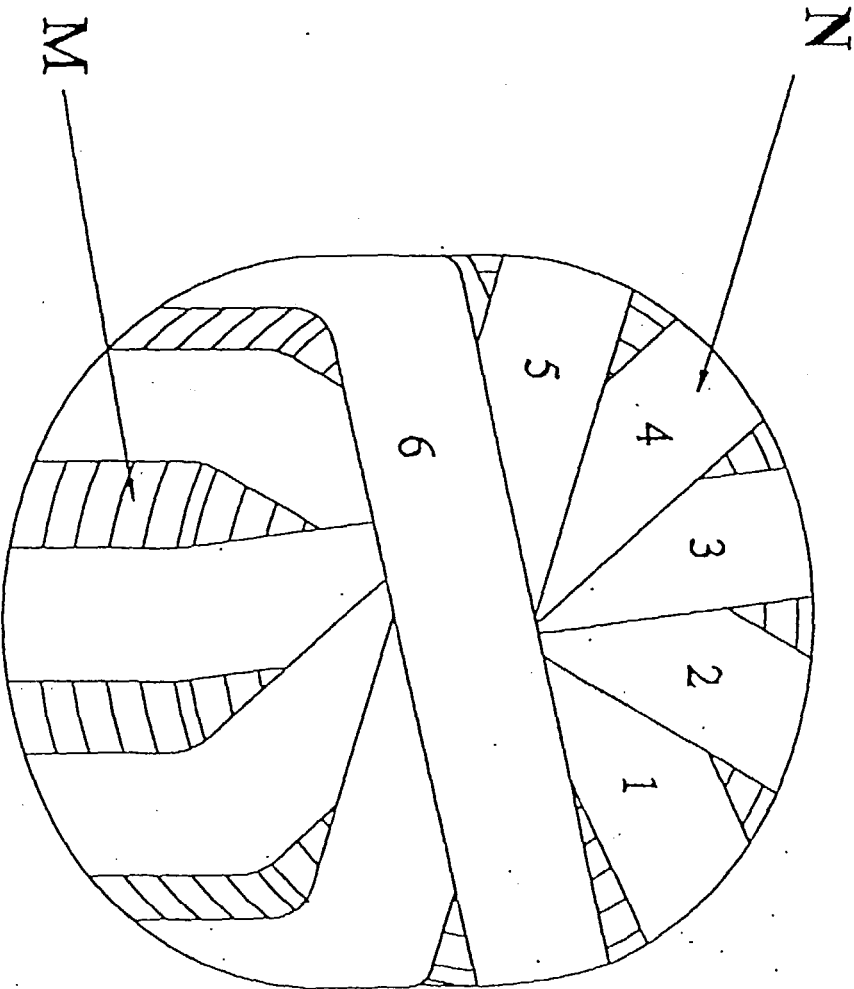


FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 99 83 0450

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	BE 442 984 A (PIETERS) * the whole document *	1-3	B65D85/04
X	GB 429 464 A (INTERNATIONAL HARVESTER) * page 2, line 99 - line 109; figures *	1-3	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 13 December 1999	Examiner Newell, P
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 99 83 0450

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The members are as contained in the European Patent Office EDP file on
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13-12-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
BE 442984	A	NONE	
GB 429464	A	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82