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(54) Packing for netwrap rolls for roundbalers and corresponding packed roll

Verpackung für Netzbinderrollen für Ballenpressen und entsprechende gepackte Rolle

Emballage pour rouleaux de filet d'emballage de presses à balles rondes et rouleau emballé correspondant

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Description

Technical Field

[0001] The present invention relates in general to the sector of packing of articles used in agriculture, and in particular it relates to a new and useful packing for rolls of a netwrap intended to be used on an agricultural packing machine, called roundbaler, for forming round bales, in particular of hay, straw or any other crop.

[0002] The present invention relates also to a practical and advantageous process for the packing of netwrap rolls intended to be used in a roundbaler for forming bales, rolled and pressed, in particular of hay, straw or any other crop.

Background Art

[0003] Roundbalers are machines widely used in agriculture to form and pack round bales, for instance of hay, and in general of any grass and forage or other crops to be processed by these machines.

[0004] In particular, these roundbalers are equipped with specific mechanisms adapted to collect from the ground a certain quantity of hay or other crop and for wrapping around it, after it has been compressed, a netwrap, so as to form a bale, generally cylindrical, in which the hay is pressed and held together by the netwrap that is wrapped around the outer cylindrical surface of the bale.

[0005] This netwrap is in turn constituted by a product in HDPE (polyethylene) extruded and then woven so as to form a netwrap, wound in a roll, which is arranged in the round baler, in order to be wrapped on the bale of hay, straw, or other forage or corn stalks collected from the ground.

[0006] In the known art currently in use, these rolls, consisting of the rolled netwrap and provided to be positioned in the roundbaler, where, as before illustrated, they will be used to wrap the final bale at the end of the pressing operation, are packed by using a tubular film of polyethylene or cardboard boxes.

[0007] In this respect, Figure 4 shows in a schematic way one of these rolls, indicated in the whole with ROT and containing in a wound form a netwrap R for use in a roundbaler, which netwrap roll is packed in accordance with the conventional technique.

[0008] In particular, in this conventional packing, the roll ROT is inserted into a tubular bag S, of polyethylene, with the ends in excess of this tubular bag S of polyethylene that are folded and inserted inside the tube or core of cardboard, on which the netwrap R is wound, and that are fixed on the ends of this tube by using for example caps T of plastic material, or by other means.

[0009] In some embodiments, designed to respond to commercial needs, the netwrap roll ROT may be provided externally with real handles M, also of plastic material, which are applied externally to the tubular bag S of polyethylene, in order to facilitate the handling of the same roll ROT.

yethylene, in order to facilitate the handling of the same roll ROT.

[0010] Another prior art packing, which corresponds to the preamble of appended claims 1 and 4, is disclosed in US 4 003 469.

[0011] Now it is observed how this type of packing, at present widely adopted, often does not guarantee the sealing of the roll.

[0012] In fact, this packing, whereas the roll ROT is stored in an external environment, can be at the origin of serious problems and drawbacks, particularly related to the penetration of water or in any case of moisture, that can compromise the use of the same roll, and for example of problems related to the deformation of the tube of cardboard on which the netwrap R is wound, also due to the poor water resistance of the cardboard tube.

[0013] Moreover, at the moment of the effective use of the roll, the user must remove the handles M, the caps T and the bag S before being able to place the roll ROT in the roundbaler, and this involves operations that are not always easy, on account of the characteristics of the construction of the handles and also of the fact that the tubular bag S of polyethylene must be pulled from the roll.

Summary of Invention

[0014] Therefore a primary object the present invention is to provide a new and useful packing, for rolls of netwrap provided to be used on an agricultural machine of the type of a roundbaler, which packing exhibits significant improvements with respect to the packing that are already known and presently adopted in this field, and in particular involves an easy, quick and easy removal of it in the phase of the unpacking of the roll, and also it is such as to ensure effective protection of the roll over time from atmospheric agents, such as humidity.

[0015] A further object of the present invention is to provide a process, for packing netwrap rolls for round balers, which is associated with tangible advantages, in particular by making more practical and faster the stage of the unpacking of the roll, by giving an effective protection over time of the same roll from pollution and environmental factors, and by producing a single waste item, so as to limit the dispersion of wastes into the environment.

[0016] The above objects can be considered as fully achieved by the packing for netwrap rolls for roundbalers having the characteristics defined by the independent claims 1 or 4, and by the corresponding method of packing netwrap rolls for roundbalers having the characteristics defined by the independent claims 8 or 9 .

[0017] Particular embodiments of the new packing for netwrap rolls for a roundbaler are also defined by the dependent claims.

Advantages of Invention

[0018] As will appear better in the following description,

the new packing, in accordance with the present invention, for netwrap rolls for a roundbaler, is associated with numerous and important advantages, at least in part already implicitly previously announced, among which there are cited purely by way of the following :

- a fast and easy unpacking of the netwrap roll at the time of its actual use, i.e. when the netwrap roll has to be installed and located in the roundbaler;
- capability of effectively protecting over time, even in the case of storage in external and critical environments, the roll of netwrap from pollution and environmental factors, such as moisture;
- a manufacturing cost of the packing which is reduced and however remains competitive as compared to conventional packing;
- the new packing, since being constituted by a single object, composed of several elements which remain joined together even after unpacking, implies also relevant advantages in connection with the management of the waste produced by the packing itself. In fact, this new packing avoids the dispersion in the environment of view of individual objects and components, like occurring in the traditional packing, and also reduces the overall volume of the waste that is generated. Moreover these results are obtained while maintaining the functionality, assured by the presence of the handles, of the packing for handling the roll.

Brief Description of Drawings

[0019] These and other objects, features and advantages of the present invention will result clear and evident from the following description of some preferred embodiments thereof, given purely by way of non-limiting examples with reference to the accompanying drawings, wherein:

Fig. 1 is a schematic perspective view of a netwrap roll for roundbalers, which exhibits a packing, according to the present invention, in a first preferred embodiment;

Fig. 2 is a schematic perspective view of a net wrap roll for roundbalers, which exhibits a packing, in accordance with the present invention, in a second preferred embodiment;

Fig. 3 is a photographic view of bales of hay formed by a roundbaler using the netwrap roll of Fig. 1 or Fig. 2;

Fig. 4 is a schematic perspective view of a netwrap roll for roundbalers that has a packing of conventional type.

[0020] First preferred embodiment of the packing, object of the invention, for netwrap rolls for roundbalers

[0021] Figure 1 shows schematically a roll, indicated as a whole with 10, which has a packing according to a

first embodiment of the present invention.

[0022] In particular, the roll 10 is formed by a net or netwrap R that is intended to be used by an agricultural packing machine, consisting of a roundbaler, for the formation of bales B, for example of hay, such as shown in Fig 3, rolled and pressed, whereby this roll 10 is briefly also called in the following netwrap roll for roundbalers.

[0023] The netwrap R in turn is formed, preferably, by HDPE (High Density PolyEthylene), extruded and then knitted, to form a net consisting of a series of threads F having appropriate characteristics of strength and elasticity.

[0024] In practice, the bales B are formed and packed, by means of the roundbaler, picking up from the ground a certain mass of hay, or in general any other grass cut and dried, rolling up this mass to form a round bale, and finally wrapping on the cylindrical outer surface of the bale thus obtained the netwrap R, in turn picked up and unwound by a respective roll positioned and arranged in the same roundbaler.

[0025] Therefore, the final bale B, thus formed by the roundbaler, presents a good firmness and stability, since the mass of hay, in addition to be suitably pressed in the bale B, is also held together by the netwrap R wrapped on the outside of the same bale B.

[0026] Now, according to the present invention, the netwrap roll 10 for roundbalers is packed using a film 12 preferably of polyethylene, which is wrapped on the outside of a roll containing, in wound or rolled form, the netwrap R which will be subsequently unwound out and used, in the roundbaler, to form the bale B, as before explained.

[0027] In this way the polyethylene film 12 forms a wrapper or envelope or bag, indicated with 11, which surrounds the roll formed by the netwrap R.

[0028] At this point, a film of adhesive or glue 13 preferably of the type adapted to melt when hot, usually called with the expression "hot melt", is applied, using a suitable applicator, on one or both flaps or edges 14 of the polyethylene film 12, so as to close and seal the wrapper or envelope 11 on the cylindrical surface of the roll formed by the netwrap R, preferably while leaving the excess or surplus of film, in the form of a strip, that is necessary to facilitate the removal of the packing by grasping and pulling out such strip.

[0029] Preferably the edge 14 of the polyethylene film 12, on which it is applied the film of glue 13, extends linearly along the outer surface of the roll, parallel to the axis of the latter.

[0030] Such a mode of closure, with a gluing or bonding along the edge 14 of the polyethylene film 12, has the considerable advantage of making the opening of the wrapper 11 extremely easy, at the time of the unpacking of the roll 10.

[0031] Furthermore, the surplus lateral portions, indicated with 12', of the polyethylene film 12, folded on the sides of the roll 10, are in turn welded to obtain a complete sealing of the same roll 10.

[0032] Preferably, for reasons of aesthetic nature, these exceeding extremities 12' of the polyethylene film 12 may be thermo-retracted or inserted at the inside of the cardboard so as to line up and make them fully adhering to the sides of the roll 10.

[0033] Therefore, as a result of these operations, the netwrap roll 10, packed, for roundbalers is completely sealed and protected from the environment.

[0034] Finally, always during the packing phase, two bands or straps 16, preferably of polypropylene, which serve as handles, are suitably welded or fixed transversely to the roll 10, thereby each forming a ring about it, and placed in a suitable manner to the cylindrical surface of the wrapper 11 so as to ensure their proper placement.

[0035] Even the removal of these handles 16 is very easy when unpacking the roll 10, since the type of welding used for their formation is specifically optimized in order to allow such a subsequent easy removal, possibly with the aid of a surplus, that is left over, of such band or strap 16.

[0036] Furthermore, as already mentioned, at the time of the unpacking of the roll 10, for example when it has to be positioned and set up in a roundbaler, even the removal of the wrapper or bag 11 is greatly facilitated by the closure made preferably by glue "hot melt".

[0037] Again, advantageously, it is possible, according to the requirements, to control and optimize the resistance of gluing preferably "hot melt", by suitably varying the type of the adhesive used, in order to facilitate the separation of the two flaps.

Second preferred embodiment of the packing, object of the present invention, for netwrap rolls for roundbalers

[0038] Figure 2 shows in a schematic way a roll, indicated as a whole with 20, which has a packing in accordance with a second embodiment of the present invention.

[0039] The roll 20, packed, differs from the roll 10 of the first embodiment in that it has, in place and as an alternative to the bonding preferably of the type "hot melt", a continuous welding line 22, which is realized in a known manner by a welding operation on the polyethylene film 12 that surrounds the outer surface of the roll formed by the netwrap R, so as to close the wrapper or bag 21 on this roll.

[0040] Also, in this second embodiment of the packing, there are provided welding areas on the surplus lateral portions 12', of the polyethylene film 12, folded on the sides of the roll 20, so as to ensure a complete seal of the same roll from the external environment.

[0041] Furthermore, there is provided a pre-cut line, indicated with 23, extended longitudinally along the cylindrical surface of the roll 20 and also possibly along the respective sides, which has the function of favoring the cutting and opening of the wrapper 21 at the time of unpacking the roll 20.

[0042] It is therefore clear from the description of the above embodiments that the present invention fully

achieves the purposes it had set, and in particular provides a new and useful packing for netwrap rolls for roundbalers which, in addition to imply an easy and rapid removal of the same packing at the time of the actual usage of the netwrap roll, also ensures a complete sealing and effective protection over time of the netwrap roll for roundbalers from any pollution and environmental factor.

Claims

1. Packing for rolls of netwrap for roundbalers, or for a roll (10) formed by a netwrap (R) intended to be used in an agricultural machine, namely a roundbaler, for forming bales (B), as for instance of hay, rolled and pressed, the packing comprising:

- an outer wrapper (11), consisting of a film (12) of plastic material, in particular polyethylene, which is wrapped around the outer surface of said roll (10) of netwrap for roundbalers;

characterised in that

said wrapper (11) of plastic material in turn exhibits:

- a bonding, substantially continuous, that is made with a film of glue (13) applied along at least one of the two flaps of the film (12) of plastic material wrapped around the roll, so as to close the wrapper (11) on the outer cylindrical surface of the roll (10); and
- one or more welding or gluing areas that are carried out on the exceeding portions and lateral ends (12'), folded on the two sides of the roll, of the film of plastic material, so as to ensure a complete sealing of the roll (10) from the external environment.

2. Packing for netwrap rolls for roundbalers according to claim 1, wherein said bonding is made, along said flap (14) of the film (12) of plastic material, with a film of glue (13) preferably of the type "hot melt" .

3. Packing for netwrap rolls for roundbalers according to claim 1 or 2, wherein the flap (14) of the film of plastic material, along which said bonding (13) is made, preferably extends linearly parallel to the axis of the netwrap roll (10).

4. Packing for netwrap rolls (20) for roundbalers comprising:

- an outer wrapper (21), consisting of a film (12) of plastic material, in particular polyethylene, which is wrapped around the outer surface of a roll (20) of netwrap for roundbalers;

wherein said wrapper (21) exhibits:

- a welding (22), that is preferably extended longitudinally along the cylindrical surface of the roll (20),

characterised in that said wrapper further exhibits:

- a pre-cut line (23), that is preferably extended in the longitudinal direction along the roll (20) and is designed to aid the cutting and opening of the wrapper (21) of plastic material at the time of the unpacking of the roll (20), and
- one or more welding or gluing areas that are carried out on the exceeding portions and lateral ends (12'), folded on the two sides of the roll, of the film of plastic material, so as to ensure a complete sealing of the roll (20) from the external environment.

5. Packing for netwrap rolls (10; 20) for roundbalers according to any one of the preceding claims, further comprising one or more handles (16), consisting of bands or straps preferably of polypropylene, which are suitably fixed on the outside of said wrapper in order to facilitate the handling of the roll.
6. Packing for netwrap rolls (10; 20) for roundbalers according to any one of the preceding claims, wherein said surplus portions and lateral ends (12') of the film of plastic material are heat-retracted or inserted within a carton core so as to adhere to the sides of the roll (10).
7. Netwrap roll (10; 20) for roundbalers **characterized in that** comprises a packing according to any one of the preceding claims.
8. A method for packing rolls of netwrap for roundbalers, comprising the following steps:

- providing a film (12) of plastic material, in particular polyethylene;
- wrapping said film (12) of plastic material around a roll (10) formed by a netwrap (R) intended to be used in an agricultural machine or roundbaler, for the formation of bales (B), for example of hay, rolled and pressed, thereby forming an outer wrapper (11) wrapping said roll;
- applying a film of glue (13) on a flap of the film (12) of plastic material wrapped around the roll (10), so as to close and seal said wrapper (11) on the outer cylindrical surface of the roll (10); and
- welding the surplus portions and side (12') of the film (12) of plastic material in the area of the sides of the roll, so as to ensure a complete sealing of the roll (10) from the external environment.

9. A method for packing rolls of netwrap for roundbalers comprising the following steps:

- providing a film (12) of plastic material, in particular polyethylene;
- wrapping said film (12) of plastic material around a roll (20) formed by a netwrap (R) intended to be used in an agricultural machine or roundbaler, for the formation of bales (B), for example of hay, rolled and pressed, thereby forming an outer wrapper (21) wrapping said roll;
- carrying out on the film (12) of plastic material, wrapped on said roll (20), a welding (22) extended longitudinally along the roll, so as to close and seal the wrapper (21) on the outer cylindrical surface of the roll;
- carrying out on said film (12) of plastic material, wrapped on the roll, a pre-cut line (23), extended in the longitudinal direction, designed to aid the cutting and removal of the film of plastic material at the time of the unpacking of the roll; and
- welding the surplus portions and side (12') of the film (12) of plastic material in the area of the sides of the roll, so as to ensure a complete sealing of the roll (20) from the external environment.

10. The method for packing netwrap rolls for roundbalers according to claim 8 or 9, further comprising the following step:

- fixing on said film (12) of plastic material, wrapped on the roll (10; 20), one or more handles (16), consisting of bands or straps preferably of polypropylene, suitable to aid the handling of the roll.

11. The use of the packing according to any one of the claims from 1 to 7 for packing a netwrap roll intended to be used in an agricultural machine, in particular of the type of a roundbaler, for wrapping round bales.

Patentansprüche

1. Verpackung für Netzumhüllungsrollen für Rundballenmaschinen, oder für eine von einer Netzumhüllung (R) gebildete Rolle (10), die in einer landwirtschaftlichen Maschine, nämlich einer Rundballenmaschine, verwendet werden soll, um Ballen (B) zu bilden, wie zum Beispiel aus Heu, das gerollt und gepresst wird, wobei die Verpackung umfasst:

- eine äußere Hülle (11), bestehend aus einer Folie (12) aus Kunststoffmaterial, insbesondere Polyethylen, die um die äußere Oberfläche der Netzumhüllungsrolle (10) für Rundballenmaschinen herumgewickelt ist, **dadurch gekennzeichnet, dass** die Hülle (11)

aus Kunststoffmaterial wiederum aufweist:

- eine im Wesentlichen durchgehende Verbindung, die mit einem Kleberfilm (13) hergestellt ist, der entlang von mindestens einer von den zwei Klappen der um die Rolle herumgewickelten Folie (12) aus Kunststoffmaterial aufgebracht ist, so dass die Hülle (11) auf der äußeren zylindrischen Oberfläche der Rolle (10) verschlossen ist; und
 - ein oder mehrere Verschweißungs- oder Verklebungsbereiche, die auf den auf die beiden Seiten der Rolle (10) gefalteten überstehenden Teilen und seitlichen Enden (12') der Folie (12) aus Kunststoffmaterial ausgeführt sind, so dass eine vollständige Abdichtung der Rolle (10) vor der äußeren Umgebung sichergestellt ist.
2. Verpackung für Netzhüllungsrollen für Rundballenmaschinen nach Anspruch 1, wobei die Verbindung entlang der Klappe (14) der Folie (12) aus Kunststoffmaterial mit einem Kleberfilm (13), vorzugsweise vom Typ "Heißschmelzkleber", hergestellt ist.
3. Verpackung für Netzhüllungsrollen für Rundballenmaschinen nach Anspruch 1 oder 2, wobei sich die Klappe (14) der Folie (12) aus Kunststoffmaterial, entlang von der die Verbindung (13) hergestellt ist, vorzugsweise geradlinig parallel zur Achse der Netzhüllungsrolle (10) erstreckt.
4. Verpackung für Netzhüllungsrollen (20) für Rundballenmaschinen, umfassend:
- eine äußere Hülle (21), bestehend aus einer Folie (12) aus Kunststoffmaterial, insbesondere Polyethylen, die um die äußere Oberfläche einer Netzhüllungsrolle (20) für Rundballenmaschinen herumgewickelt ist,
- wobei die Hülle (21) aufweist:
- eine Verschweißung (22), die sich vorzugsweise in Längsrichtung entlang der zylindrischen Oberfläche der Rolle (20) erstreckt,
- dadurch gekennzeichnet, dass** die Hülle weiter aufweist:
- eine vorgeschchnittene Linie (23), die sich vorzugsweise in der Längsrichtung entlang der Rolle (20) erstreckt und dazu bestimmt ist, das Schneiden und Öffnen der Hülle (21) aus Kunststoffmaterial im Zeitpunkt des Auspackens der Rolle (20) zu unterstützen, und

- ein oder mehrere Verschweißungs- oder Verklebungsbereiche, die auf den auf die beiden Seiten der Rolle gefalteten überstehenden Teilen und seitlichen Enden (12') der Folie aus Kunststoffmaterial ausgeführt sind, so dass eine vollständige Abdichtung der Rolle (20) vor der äußeren Umgebung sichergestellt ist.

5. Verpackung für Netzhüllungsrollen (10; 20) für Rundballenmaschinen nach einem der vorangehenden Ansprüche, weiter umfassend einen oder mehr Griffe (16), die aus Bändern oder Riemen, vorzugsweise aus Polypropylen, bestehen, welche in geeigneter Weise auf der Außenseite der Hülle befestigt sind, um die Handhabung der Rolle zu erleichtern.
6. Verpackung für Netzhüllungsrollen (10; 20) für Rundballenmaschinen nach einem der vorangehenden Ansprüche, wobei die überstehenden Teile und seitlichen Enden (12') der Folie aus Kunststoffmaterial wärmegeschrumpft oder in einen Kartorkern eingeführt sind, so dass sie an den Seiten der Rolle (10) haften.
7. Netzhüllungsrolle (10; 20) für Rundballenmaschinen, **dadurch gekennzeichnet, dass** sie eine Verpackung nach einem der vorangehenden Ansprüche umfasst.
8. Verfahren zum Verpacken von Netzhüllungsrollen für Rundballenmaschinen, umfassend die folgenden Schritte:
- Bereitstellen einer Folie (12) aus Kunststoffmaterial, insbesondere Polyethylen;
 - Herumwickeln der Folie (12) aus Kunststoffmaterial um eine von einer Netzhüllung (R) gebildete Rolle (10), die in einer landwirtschaftlichen Maschine oder Rundballenmaschine zur Bildung von Ballen (B), zum Beispiel aus Heu, das gerollt und gepresst wird, verwendet werden soll, wodurch eine äußere Hülle (11) gebildet wird, welche die Rolle umhüllt;
 - Aufbringen eines Kleberfilms (13) auf eine Klappe der um die Rolle (10) herumgewickelten Folie (12) aus Kunststoffmaterial, so dass die Hülle (11) auf der äußeren zylindrischen Oberfläche der Rolle (10) verschlossen und abgedichtet wird; und
 - Verschweißen der überstehenden Teile und Seite (12') der Folie (12) aus Kunststoffmaterial im Bereich der Seiten der Rolle, so dass eine vollständige Abdichtung der Rolle (10) vor der äußeren Umgebung sichergestellt wird.
9. Verfahren zum Verpacken von Netzhüllungsrollen für Rundballenmaschinen, umfassend die folgenden Schritte:

- Bereitstellen einer Folie (12) aus Kunststoffmaterial, insbesondere Polyethylen;
 - Herumwickeln der Folie (12) aus Kunststoffmaterial um eine von einer Netzhüllung (R) gebildete Rolle (20), die in einer landwirtschaftlichen Maschine oder Rundballenmaschine zur Bildung von Ballen (B), zum Beispiel aus Heu, das gerollt und gepresst wird, verwendet werden soll, wodurch eine äußere Hülle (21) gebildet wird, welche die Rolle umhüllt;
 - Ausführen einer sich in Längsrichtung entlang der Rolle erstreckenden Verschweißung (22) auf der auf die Rolle (20) gewickelten Folie (12) aus Kunststoffmaterial, so dass die Hülle (21) auf der äußeren zylindrischen Oberfläche der Rolle (10) verschlossen und abgedichtet wird;
 - Ausführen einer sich in der Längsrichtung erstreckenden vorgeschrittenen Linie (23) auf der auf die Rolle (20) gewickelten Folie (12) aus Kunststoffmaterial, die ausgebildet ist, um das Schneiden und Entfernen der Folie aus Kunststoffmaterial im Zeitpunkt des Auspackens der Rolle zu unterstützen; und
 - Verschweißen der überstehenden Teile und Seite (12') der Folie (12) aus Kunststoffmaterial im Bereich der Seiten der Rolle, so dass eine vollständige Abdichtung der Rolle (20) vor der äußeren Umgebung sichergestellt wird.
10. Verfahren zum Verpacken von Netzhüllungsrollen für Rundballenmaschinen nach Anspruch 8 oder 9, weiter umfassend den folgenden Schritt:
- Befestigen von einem oder mehr Griffen (16), bestehend aus Bändern oder Riemen, vorzugsweise aus Polypropylen, die geeignet sind, um die Handhabung der Rolle zu erleichtern, auf der auf die Rolle (10; 20) gewickelten Folie (12) aus Kunststoffmaterial.
11. Verwendung der Verpackung nach einem der Ansprüche von 1 bis 7 zum Verpacken einer Netzhüllungsrolle, die in einer landwirtschaftlichen Maschine, insbesondere von der Art einer Rundballenmaschine, verwendet werden soll, um Rundballen zu umhüllen.

Revendications

1. Emballage pour rouleaux de filet pour presses à balles rondes, ou pour un rouleau (10) constitué d'un filet (R) destiné à être utilisé dans une machine agricole, pour former des balles (B), par exemple de foin, roulées et pressées, l'emballage comprenant:
- une enveloppe extérieure (11), constitué d'un film (12) en matière plastique, notamment poly-

éthylène, qui enveloppe la surface extérieure dudit rouleau (10) de filet pour presses à balles rondes;

caractérisé en ce que ladite enveloppe (11) en matière plastique comporte à son tour:

- un collage sensiblement continu, réalisé par un film de colle (13) appliqué le long d'au moins un des deux rabats du film (12) en matière plastique enveloppé autour du rouleau, de manière à fermer l'enveloppe (11) sur la surface cylindrique extérieure du rouleau (10); et
- une ou plusieurs zones de soudage ou collage réalisées sur les parties en excès et les extrémités latérales (12'), repliées aux deux côtés du rouleau, du film en matière plastique, pour assurer un scellage complet du rouleau (10), l'isolant de l'environnement extérieur.

2. Emballage pour rouleaux de filet pour presses à balles rondes selon la revendication 1, dans lequel ledit collage est réalisé, le long dudit rabat (14) du film (12) en matière plastique, avec un film de colle (13) de préférence du type "hot melt".

3. Emballage pour rouleaux de filet pour presses à balles rondes selon la revendication 1 ou 2, dans lequel le rabat (14) du film en matière plastique le long duquel est réalisé ledit collage (13) s'étend de préférence de façon linéaire parallèlement à l'axe du rouleau de filet (10).

4. Emballage pour rouleaux de filet (20) pour presses à balles rondes, comprenant:

- une enveloppe extérieure (21), constitué d'un film (12) en matière plastique, notamment polyéthylène, qui enveloppe la surface extérieure d'un rouleau (20) de filet pour presses à balles rondes;

dans lequel ladite enveloppe (21) comporte:

- une soudure (22), qui s'étend de préférence longitudinalement le long de la surface cylindrique du rouleau (20), et

caractérisé en ce que ladite enveloppe comporte par ailleurs:

- une ligne prédécoupée (23), qui s'étend de préférence dans la direction longitudinale le long du rouleau (20) et est conçue pour assister la coupe et l'ouverture de l'enveloppe (21) en matière plastique au moment du déballage du rouleau (20), et
- une ou plusieurs zones de soudage ou collage

- réalisées sur les parties en excès et les extrémités latérales (12'), repliées aux deux côtés du rouleau, du film en matière plastique, pour assurer un scellage complet du rouleau (20) de l'environnement extérieur.
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5. Emballage pour rouleaux de filet (10; 20) pour presses à balles rondes selon n'importe laquelle des revendications précédentes, comprenant par ailleurs une ou plusieurs poignées (16), constituées de bandes ou courroies, de préférence en polypropylène, qui sont convenablement fixées à l'extérieur de l'enveloppe pour faciliter la manipulation du rouleau.
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6. Emballage pour rouleaux de filet (10; 20) pour presses à balles rondes selon l'importe laquelle des revendications précédentes, dans lequel lesdites parties en excès et les extrémités latérales (12') du film en matière plastique sont thermorétractées ou introduites dans un noyau de carton pour adhérer aux côtés du rouleau (10).
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7. Rouleau de filet (10; 20) pour presses à balles rondes, **caractérisé en ce qu'**il comprend un emballage selon n'importe laquelle des revendications précédentes.
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8. Procédé d'emballage de rouleaux de filet pour presses à balles rondes, comprenant les étapes suivantes:
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- mettre en place un film (12) en matière plastique, notamment polyéthylène;
 - envelopper ledit film (12) en matière plastique autour d'un rouleau (10) constitué d'un filet (R) destiné à être utilisé dans une machine agricole ou une presse à balles rondes, pour la formation de balles (B), par exemple de foin, roulées et pressées, de manière à former une enveloppe extérieure (11) enveloppant ledit rouleau;
 - appliquer un film de colle (13) sur un rabat du film (12) en matière plastique enveloppé autour du rouleau (10), de manière à fermer et sceller ladite enveloppe (11) sur la surface cylindrique extérieure du rouleau (10); et
 - souder les parties en excès et les côtés (12') du film (12) en matière plastique, dans la zone des côtés du rouleau, pour assurer un scellage complet du rouleau, l'isolant de l'environnement extérieur.
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9. Procédé d'emballage de rouleaux de filet pour presses à balles rondes, comprenant les étapes suivantes:
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- mettre en place un film (12) en matière plastique, notamment polyéthylène;
 - envelopper ledit film (12) en matière plastique
- autour d'un rouleau (20) constitué d'un filet (R) destiné à être utilisé dans une machine agricole ou une presse à balles rondes, pour la formation de balles (B), par exemple de foin, roulées et pressées, de manière à former une enveloppe extérieure (21) enveloppant ledit rouleau;
- réaliser sur le film (12) en matière plastique enveloppé sur ledit rouleau (10), une soudure (22) qui s'étend longitudinalement le long du rouleau, de manière à fermer et sceller l'enveloppe (21) sur la surface cylindrique extérieure du rouleau;
 - réaliser sur ledit film (12) en matière plastique enveloppé sur le rouleau, une ligne prédécoupée (23), qui s'étend dans la direction longitudinale, et est conçue pour assister la coupe et l'enlèvement du film en matière plastique au moment du déballage du rouleau; et
 - souder les parties en excès et les côtés (12') du film (12) en matière plastique, dans la zone des côtés du rouleau, pour assurer un scellage complet du rouleau (20), l'isolant de l'environnement extérieur.
10. Procédé pour l'emballage de rouleaux de filet pour presses à balles rondes selon la revendication 8 ou 9, comprenant par ailleurs l'étape suivante:
- fixer sur ledit film (12) en matière plastique, enveloppé sur le rouleau (10; 20), une ou plusieurs poignées (16) constituées de bandes ou courroies, de préférence en polypropylène, aptes à assister la manipulation du rouleau.
11. Emploi de l'emballage selon n'importe laquelle des revendications 1 à 7, pour emballer un rouleau de filet destiné à être utilisé dans une machine agricole, notamment du type presse à balles rondes, pour envelopper des balles rondes.

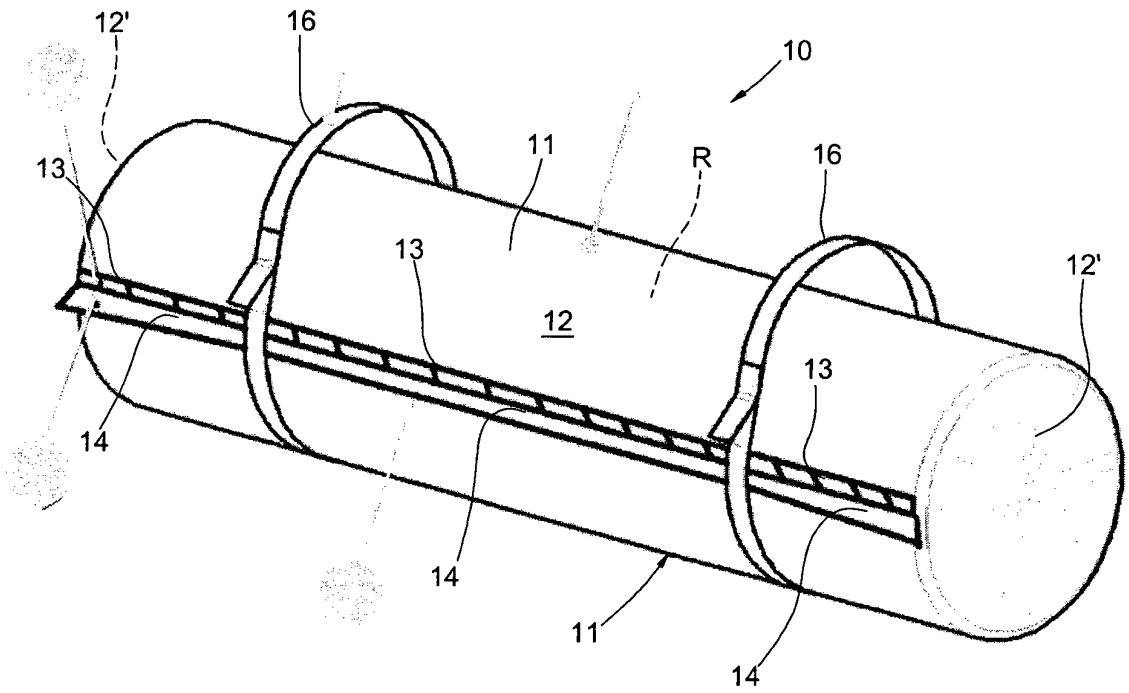


Fig. 1

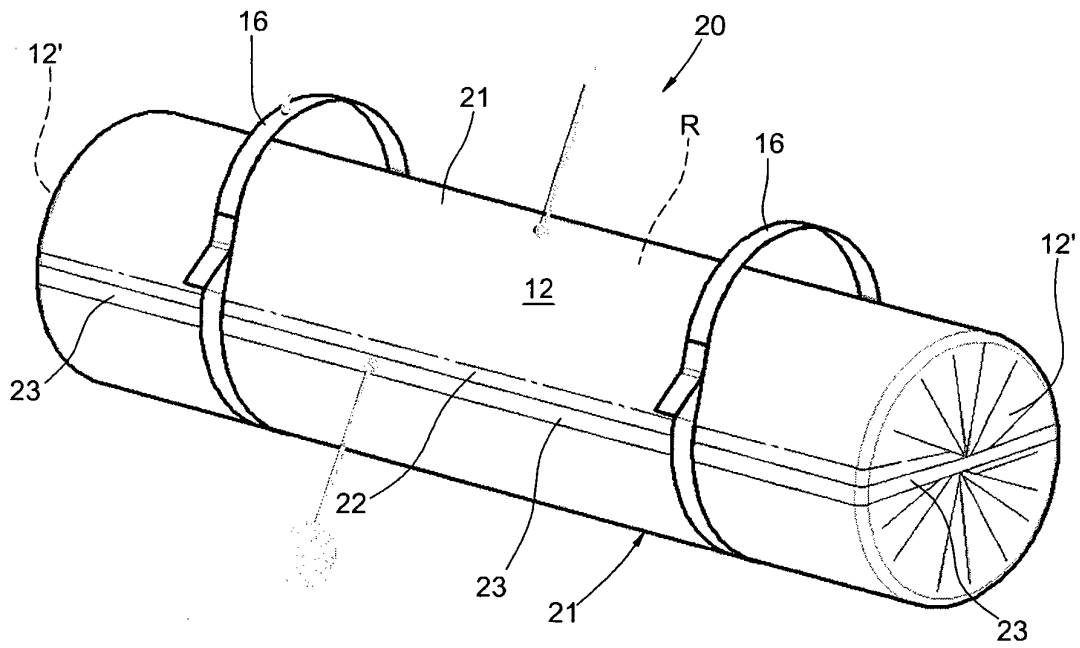


Fig. 2

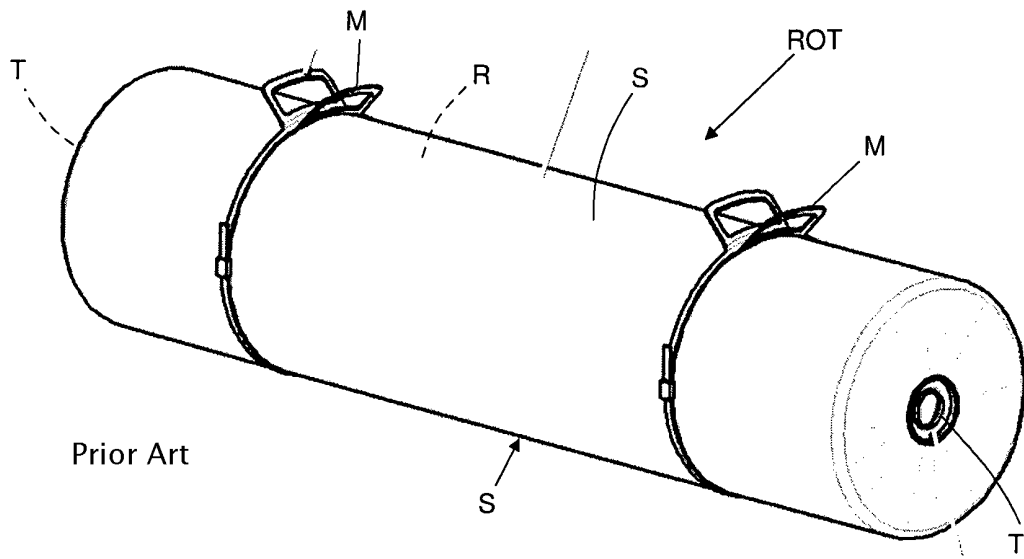


Fig. 4

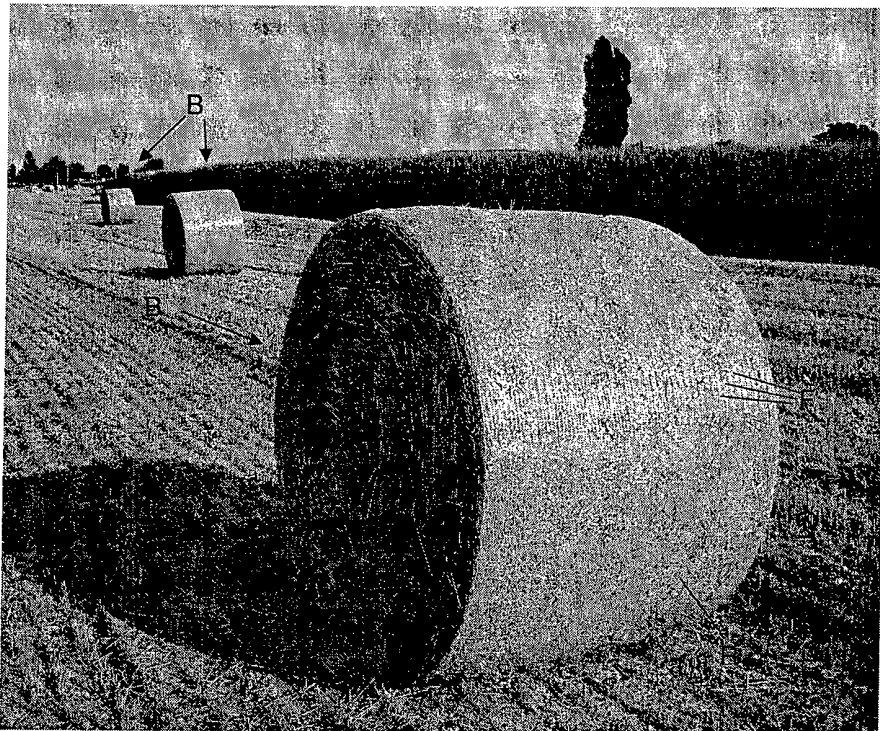


Fig. 3

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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