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(54) **Support for winding a textile material in the form of roving or the like and tool for its use**

Träger zum Aufwickeln von Textilmaterialien in Form von Lunten oder dgl. sowie Werkzeug für dessen Verwendung

Support pour enroulement de matières textiles en forme de mèches ou similaires et outil pour son utilisation

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Description

Technical Field

[0001] The present invention relates to the field of yarn manufacturing. More in particular, the present invention relates to improvements to winding supports or tubes for manufacturing reels of semi-finished textile material, such as a combed top or sliver, a roving, a yarn or the like.

Background Art

[0002] In the textile industry it is known to produce yarns through a series of steps with which, starting from single fibers, the finished product is obtained. In the various steps of the spinning process, it is necessary to produce reels of a semi-finished textile article of indefinite length, for example a roving, a top or the like, i.e. a semi-finished product of indefinite length formed by more or less parallelized fibers which are joined to one another, wherefrom, the yarn is obtained through subsequent steps. The textile material is wound to form a package, such as a reel, a cop or the like. In the following, generic reference will be made to "reels", it being understood that in the present context this term is intended as any package formed by a winding support and by a textile product wound in turns around the support.

[0003] Yarn products, i.e. obtained from the spinning of fibers or from the extrusion of a polymer in multifilament form of indefinite length, can be wound on winding tubes provided with a thin annular slit for initial anchoring of the yarn. Examples of tubes of this type are disclosed in US patents 6,073,868 and 4,901,941. The surface of the tube is provided with a very narrow notch, with converging walls forming an approximately V-shaped cross section or in any case with a V-shaped starting area. At the start of winding of the first turns, the yarn is wedged in the annular slit. These tubes cannot be used to wind rovings, or tops, due to the nature of these products. In fact, they have an unspun structure, with a large cross section and cannot be anchored in an annular slit of the type described in the two US patents mentioned above.

[0004] Winding supports in the form of cylindrical tubes for textile materials are known, provided with an annular band made of adhesive material, such as "Velcro ", to anchor the initial end of a roving or other similar textile product, with large cross section, and start winding. The adhesive band is made so that in the subsequent processing steps, the roving or other semi-finished textile material can be detached from the winding support at the end of the winding operation. US patent 3967795 discloses a support of this type, wherein hooks for anchoring the textile material are provided in an annular cavity formed in the reel winding tube.

[0005] Italian patent 1176156 discloses a process for forming an area for retaining the end of a roving on a winding tube. The process provides for the production of a rough area by machining with a tool directly on the plastic material, the tube is made of. The process is particularly long and complex. Moreover, due to the nature of the material and the type of machining performed, the effectiveness of the tube thus obtained is poor in terms of yarn or roving anchoring. Moreover, the rough area is subject to wear and, consequently, rapidly loses its limited anchoring effect.

[0006] In more recent times, tubular or cylindrical winding cores have been developed, wherein the annular band for anchoring the textile material is formed by a "Velcro" strip, which is wound around the support so as to position with mutually abutting ends, and welded to the outer surface of the tubular winding support. An example of a winding tube or support of this type is disclosed in US patent 6079650.

[0007] The drawback of these winding supports consists in the fact that the anchoring strip is subject to rapid deterioration and must be replaced. Replacement requires complex operations for detaching the strip and removing the welding residues, in order to apply on the support a new anchoring strip through a subsequent ultrasonic welding operation. In other embodiments anchoring takes place by gluing, with similar problems.

[0008] The deterioration of these anchoring strips is also at least partly due to the fact that, in practical use, the textile material wound on the support is almost never completely eliminated during unwinding of the reel. On the contrary, residues of fibers remain wound on the support and adhere to the "Velcro" strip. These residues are usually removed with the aid of cutting tools, such as a cutter or the like. When performing the operation of cleaning the winding support, the operator often accidentally cuts the anchoring strip or band, so that this latter tends to detach during subsequent use and must therefore be removed and replaced.

Summary of the invention

[0009] According to one aspect, the object of the invention is to produce a winding support of the type described above that entirely or partly overcomes the problems of prior art supports.

[0010] In substance, according to the invention a winding support for a textile material to form reels or the like is provided, comprising an annular band for anchoring the textile material, wherein the support comprises at least two portions, that can be axially coupled together in a reversible manner and uncoupled. Moreover, the annular band is housed in a seat, preferably annular in shape, formed by coupling said two support portions. The annular band advantageously comprises hooks fixed to a base body. The hooks can, for example, be those of a "Velcro" strip. The hooks can be applied to a supporting strip or substrate. This can be glued to the base body, advantageously made of a plastic material. In other embodiments, anchoring between the base body and the supporting substrate of the hooks can be obtained by co-molding, all as better specified below.

[0011] The two portions of the support can be coupled to each other in any manner, provided that coupling is reversible and sufficiently stable to enable the support to be used in the spinning operations. Preferably, according to an advantageous embodiment, the two portions can be coupled together by interlocking, for example with bore-shaft coupling with interference. The bore is formed as axial cavity of one of the two portions and the shaft is formed by an axial extension of the other portion.

[0012] In advantageous embodiments, the annular band comprises a base made of a molded plastic material, to which anchoring hooks for textile fibers are fixed. The hooks can be anchored to the annular band through a molding process. For example, the hooks can be carried by a substrate, for example a textile substrate, which is inserted in a mold in which the annular band is then formed, so that the hooks remain stably constrained to the annular base. While gluing between a strip of textile material carrying the hooks and the body or base of the band can give rise to phenomena of accidental detachment, also caused by cuts to which the strip may be subjected, the construction through co-molding results in a more reliable and durable product. In any case, when the hooks have deteriorated, the annular band that carries them can be easily replaced.

[0013] Further embodiments and advantageous features of supports according to the invention are indicated in the appended claims, which form an integral part of the present description.

[0014] The hooks of the Velcro applied to the interchangeable annular band in substance cover a substantially cylindrical surface of a height preferably equal to the height of the annular band and radially facing the outside of the support. The height tops or rovings of textile material, constituting intermediate semi-finished products, destined for subsequent spinning operations to obtain the final yarn.

[0015] According to a further aspect, the invention relates to a tool for assembling together and disassembling the portions of a support as described above. The tool can advantageously comprise a head and a rod, the dimensions of the rod being such that, inserting the rod in the support, the rod end cooperates with an annular collar of one of said two portions, whilst the tool head remains outside the support without abutting against it.

[0016] Features and embodiments are described below and further defined in the appended claims.

[0017] The brief description provided above identifies features of the various embodiments of the present invention so that the following detailed description can be better understood and so that the contributions to the art can be better appreciated. Naturally, there are other features of the invention, which will be described below and which will be set forth in the appended claims. It must be understood that the various embodiments of the invention are not limited in their application to the constructional details and to the arrangements of components described in the description below or illustrated in the drawings. The invention can be implemented in other embodiments and put into practice in various ways. Moreover, it must be understood that the phraseology and terminology used herein are purely for descriptive purposes and must not be considered limiting.

Brief description of the drawings

[0018] The invention will be better understood by following the description and accompanying drawing, which shows a practical embodiment of the device according to the invention. More in particular, in the drawing:

Fig. 1 shows a side view of a tubular or cylindrical winding support, in the assembled configuration;
Fig. 2 shows an exploded side view of the end part of the support of Fig. 1;
Fig. 3 shows a side view and partial longitudinal section of the support in the assembled configuration; and
Fig.4 shows a schematic side view of a tool for assembling and disassembling the winding support.

Detailed description of an embodiment

[0019] The detailed description below of exemplary embodiments of the invention refers to the accompanying drawings. The same reference numbers in different drawings identify the same or similar elements. Moreover, the drawings are not necessarily to scale. The detailed description below does not limit the invention. Instead, the scope of the invention is defined by the appended claims.

[0020] Reference in the description to "an embodiment" or "the embodiment" or "some embodiments" means that a particular feature, structure or element described in relation to an embodiment is comprised in at least one embodiment of the object described. Therefore, the phrase "in an embodiment" or "in the embodiment" or "in some embodiments" in various points throughout the description does not necessarily refer to the same embodiment or embodiments. Moreover, the particular features, structures or elements can be combined in any suitable way in one or more embodiments.

[0021] In this embodiment, the support, indicated as a whole with 1, comprises a base 3 and a distal end 5. Between the base 3 and the distal end 5 a substantially cylindrical intermediate body 7 extends, around which the reel of textile material is wound. The outer cylindrical surface of the body 7 can have thin grooves 7A (Figs. 2 and 3). The end area, indicated with 9, of the support 1 can have a surface with more pronounced annular grooves 9A, all as already known from the prior art.

[0022] Characteristically, the support 1 is formed by two portions 11 and 13 which are coupled together in a reversible manner, for example through coupling with interference, i.e. interlocked. The retaining force between the two portions 11, 13 is sufficient to maintain the stability of the connection between the two portions during normal

use of the support 1 in spinning. In other embodiments, not shown, coupling together can take place, for example, with a bayonet coupling, with a screw system or the like. Moreover, friction coupling by interference fit is particularly advantageous, as it is simple to obtain and stable during normal spinning operations.

[0023] In the embodiment illustrated, connection of the two parts 11 and 13 of the support takes place through the presence of an axial inner cavity 13A, provided in the portion 13 of the support 1 and inside which an axial end 11A of the support portion 11 is inserted with sufficient interference. In Fig. 3 the two portions 11 and 13 are shown in the coupled configuration, with the axial end 11A of portion 11 inserted and blocked by interference in the axial cavity 13A of portion 13.

[0024] The difference between the outer diameter of the axial end 11A and the inner diameter of the axial cavity 13A is such as to enable both coupling together and uncoupling of the two portions 11, 13, for example with the simple use of a tool, such as a mallet or a hammer.

[0025] According to a further aspect of the invention, there is also provided a tool to facilitate coupling and uncoupling of the two portions 11, 13 of the support 1. Fig. 4 schematically illustrates a side view of a possible embodiment of a tool that can be provided for this purpose. The tool, indicated as a whole with 20, comprises a head 21 from which a rod 23 extends which has an end portion 25 of smaller diameter. The dimension of the diameters D and d of the rod 25 are such as to enable insertion into the support 1, the inside of which, as indicated in particular in Fig. 3, is completely hollow. The diameter d of the end portion of smaller diameter of the rod 25 of the tool 20 is such as to enable insertion through the portion 13 of the support 1, without exiting through the head bore 13F provided on the portion 13, but abutting against a collar 13C surrounding the bore 13F. In this way, by inserting the rod 23 inside the support 1, and as the length L of the rod 25 is sufficient to reach the collar 13C, by knocking the head 21 of the tool 20 on a surface, such as the floor, it is possible to remove the portion 13 from the portion 11 overcoming the friction generated by the interference between the two portions 11 and 13. The same tool 20 can be used in the fashion of a mallet or hammer, gripping the rod 23 and using the head 21 to knock on the portion 13, inserting therein the end 11A of the portion 11.

[0026] In the embodiment illustrated in the drawing, the portion 13 has an outer cylindrical recessed area, indicated with 13R. Vice versa, the portion 11 has an annular projection or shoulder 11R, which can form an abutment for the end edge 13T of portion 13 when the two portions 11 and 13 are assembled together (Fig. 3). When the two portions 11 and 13 are coupled as in Fig. 3, the recessed area 13R and the annular projection 11R form an annular seat S, wherein an annular band 27 is housed. Advantageously, the annular band 27 can be retained in the annular seat S due to the abutments formed by the annular shoulder 11R on the portion 11 and by an annular projection 13S on the portion 13 of the support 1. Advantageously, the inner diameter of the annular band 27 and the outer diameter of the recessed area 13R can be such that the annular band 27 is inserted with clearance or with sufficiently limited interference to allow easy removal by hand, even without the aid of tools.

[0027] The annular band 27 can have a body 27A made of a molded plastic material with diametrical and axial dimensions such as to remain housed inside the annular seat S or optionally project slightly from said seat.

[0028] The outer surface of the annular band 27 is covered with anchoring elements for the textile fibers that form the textile material destined to be wound around the support 1. In one embodiment, these elements, indicated with U, can be constituted by hooks such as those of "Velcro". The hooks U can advantageously be carried by a substrate 29 of textile material, normally used to produce "Velcro" strips. These strips of textile material can be anchored to and/or partly buried in the mass of the plastic material forming the annular body 27A of annular band 27. For this purpose, the substrate 29 can, for example, be co-molded with the body 27A of the annular band 27. By co-molded is intended that the substrate 29, with the hooks U projecting therefrom, is inserted in the mold before injection of the plastic material forming the body 27A. In this way an annular band 27 is obtained, on which the hooks or other textile material anchoring elements are firmly constrained.

[0029] Due to this particular method of manufacturing, the annular band 27 is much more resistant to wear than the annular anchoring bands used in conventional supports, where this band is constituted simply by a "Velcro" strip, glued or welded to the outer surface of the winding support.

[0030] Moreover, when the annular band 27 requires replacement, due to normal wear during use of the winding support 1, it is sufficient to separate, for example with the tool 20, the two portions 11 and 13 and remove the worn annular band 27, replacing it with a new annular band 27. For this purpose the annular band 27 can be housed in its seat without interference or with limited interference, sufficient to prevent accidental rotation of the band during normal use of the support 1 in the spinning step, but such as to allow easy removal of the worn annular band 27.

[0031] According to less advantageous embodiments, the hooks U can be attached to the body of the removable annular band 27 by a different technique, such as welding annular band 27 is maintained.

[0032] As can be understood from the description above, the active surface of the annular band is advantageously represented by the whole cylindrical surface facing the outside of the support. The axial dimension is sufficient to provide an adequate anchoring of rovings or tops of large dimensions, which form a package wound on the support 1, to be subsequently subjected to spinning operations.

[0033] The embodiments described above and illustrated in the drawings have been discussed in detail as exemplary embodiments of the invention. Those skilled in the art will understand that many modifications, changes, additions and omissions are possible without departing from the present invention as defined in the appended claims. Therefore, the scope of the invention must be determined only based on the broadest interpretation of the appended claims, comprising therein these modifications, changes, additions and omissions. The terms "comprise" and derivatives thereof do not exclude the presence of further elements or steps besides those specifically indicated in a given claim. The term "a" or "an" preceding an element, means or feature of a claim does not exclude the presence of a plurality of these elements, means or features. When a device claim lists a plurality of "means", some or all of these "means" can be implemented by a single component, member or structure. The declaration of given elements, features or means in distinct dependent claims does not exclude the possibility of combining said elements, features or means with one another. When a method claim lists a sequence of steps, the sequence in which these steps are listed is not binding, and can be changed, if the particular sequence is not indicated as binding. The presence of any reference numbers in the appended claims has the purpose of facilitating reading of the claims with reference to the description and to the drawing, and does not limit the scope of protection represented by the claims.

Claims

1. A support (1) for winding a roving or top of textile material to form reels or the like, comprising an annular band (27) for anchoring the textile material and at least two support portions (11, 13) that can be axially coupled together in a reversible manner and uncoupled; wherein said annular band (27) is housed in a seat (S) formed by coupling said two support portions (11, 13); **characterized in that** said band comprises a body (27A) made of a molded plastic material, to which hooks (U) for anchoring textile fibers are fixed.

2. Support as claimed in claim 1, **characterized in that** said seat has a substantially annular shape.

3. Support as claimed in claim 1 or 2, **characterized in that** said two support portions (11, 13) can be coupled together by interlocking.

4. Support as claimed in claim 1 or 2 or 3, **characterized in that** said two portions (11, 13) are coupled by interference.

5. Support as claimed in claim 3 or 4, **characterized in that** one (13) of said portions of the support (1) has an axial cavity (13A), inside which an axial end (11A) of the other (11) of said two portions of the support interlocks with interference in a reversible manner.

6. Support as claimed in one or more of the previous claims, **characterized in that** said annular band (27) comprises a substrate (29), wherefrom said hooks (U) project, and **in that** said substrate is anchored by co-molding to said molded plastic material forming the body (27A) of the annular band.

7. Support as claimed in claim 6, **characterized in that** said substrate and said hooks are constituted by a Velcro strip.

8. Support as claimed in one or more of the previous claims, **characterized in that**: it comprises a base (3) and a distal end (5) opposite to said base; said annular band (27) is arranged near said distal end; and one (13) of said two portions (11, 13) of the support (1) forms an end area (9) and the distal end (5) of the support (1), whilst the other (11) of said two portions (11, 13) of the support (1) forms an intermediate area or body (7) and the base (3) of the support (1).

9. Support as claimed in one or more of the previous claims, **characterized in that**: one (13) of said two support portions (11, 13) has an inner axial cavity (13A) and an outer cylindrical recessed area (13R); the other (11) of said two portions (11, 13) of the support (1) has an axial end (11A) which is inserted by interference in said inner axial cavity (13A) and defines an annular projection (11R) that, together with said outer cylindrical recessed area (13R), defines said seat (S) when the two portions (11, 13) of the support are coupled together.

10. Support as claimed in one or more of the previous claims, **characterized in that** one (13) of said two portions (11, 13) of the support comprises a collar (13C) for engaging a tool for assembling and disassembling the support.

11. Support as claimed in one or more of the previous claims, **characterized in that** the two portions (11, 13) form an annular shoulder (11R) and an annular projection (13S) defining abutments that retain the annular band (27) in the seat (S).

12. Support as claimed in one or more of the previous claims, **characterized in that** said hooks (U) are arranged on a substantially cylindrical outer surface of said annular band (27).

13. A system comprising a support according to one or more of the preceding claims and a tool for assem-

bling together and disassembling the portions (11, 13) of said support" said tool comprising a head (21) and a rod (25), the dimensions of the rod (25) being such that, inserting the rod in the support, the rod end cooperates with an annular collar of one of said two portions, whilst the tool head remains outside the support without abutting against it.

Patentansprüche

1. Träger (1) zum Aufwickeln einer Lunte oder des Oberteils von Textilmaterial zur Bildung von Spulen oder dergleichen, mit einem ringförmigen Band (27) zum Verankern des Textilmaterials und zumindest zwei Trägerteilen (11, 13), die axial miteinander in reversibler Weise gekoppelt und entkoppelt werden können, wobei das ringförmige Band (27) in einem Sitz (S) aufgenommen ist, der durch Koppeln der beiden Trägerteile (11, 13) gebildet wird, **dadurch gekennzeichnet, dass** das Band einen Körper (27A) aus gegossenem Kunststoffmaterial aufweist, an dem Haken (U) zum Verankern von Textilfibern fixiert sind.

2. Träger nach Anspruch 1, **dadurch gekennzeichnet, dass** der Sitz im Wesentlichen Ringform aufweist.

3. Träger nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** die beiden Trägerteile (11, 13) durch Ineinandergreifen gekoppelt werden können.

4. Träger nach Anspruch 1, 2 oder 3, **dadurch gekennzeichnet, dass** die beiden Trägerteile (11, 13) durch Anlagern miteinander gekoppelt werden können.

5. Träger nach Anspruch 3 oder 4, **dadurch gekennzeichnet, dass** einer (13) der Teile des Trägers (1) einen axialen Hohlraum (13A) aufweist, innerhalb dessen ein axiales Ende (11A) des anderen (11) der beiden Teile des Trägers mit Anlagerung in einer reversiblen Weise eingreift.

6. Träger nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** das ringförmige Band (27) ein Substrat (29) aufweist, von dem die Haken (U) vorstehen, und dass das Substrat durch Co-Gießen an das gegossene Kunststoffmaterial, das den Körper (27A) des ringförmigen Bandes bildet, verankert ist.

7. Träger nach Anspruch 6, **dadurch gekennzeichnet, dass** das Substrat und die Haken durch ein Klettband gebildet sind.

8. Träger nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass**: er eine Basis (3) und ein distales Ende (5) gegenüber der Basis aufweist, wobei das ringförmige Band (27) nahe des distalen Endes angeordnet ist und einer (13) der beiden Teile (11, 13) des Trägers (1) einen Endbereich (9) und das distale Ende (5) des Trägers (1) bildet, während der andere (11) der beiden Teile (11, 13) des Trägers (1) einen Zwischenbereich oder Körper (7) und die Basis (3) des Trägers (1) bildet.

9. Träger nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass**: einer (13) der beiden Trägerteile (11, 13) einen inneren axialen Hohlraum (13A) aufweist und einen äußeren zylindrischen ausgenommenen Bereich (13R), wobei der andere (11) der beiden Teile (11, 13) des Trägers (1) ein axiales Ende (11A) aufweist, das durch Anlagern in dem inneren axialen Hohlraum (13A) aufgenommen ist und einen ringförmigen Vorsprung (11R) definiert, der zusammen mit dem äußeren zylindrischen ausgenommenen Bereich (13R) den Sitz (S) definiert, wenn die beiden Teile (11, 13) des Trägers zusammengekoppelt sind.

10. Träger nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** einer (13) der beiden Teile (11, 13) des Trägers einen Kragen (13C) zum Eingreifen eines Werkzeuges zum Zusammensetzen und Zerlegen des Trägers aufweist.

11. Träger nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** die beiden Teile (11, 13) eine ringförmige Schulter (11R) und einen ringförmigen Vorsprung (13S) bilden, die Anschläge definieren, die das ringförmige Band (27) in dem Sitz (S) halten.

12. Träger nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** die Haken (U) auf einer im Wesentlichen zylindrischen Außenfläche des ringförmigen Bandes (27) angeordnet sind.

13. System mit einem Träger nach einem oder mehreren der vorstehenden Ansprüche und einem Werkzeug zum Zusammenbauen und zum Zerlegen der Teile (11, 13) des Trägers, wobei das Werkzeug einen Kopf (21) und einen Stab (25) aufweist, wobei die Abmessungen des Stabes (25) derart sind, dass durch Einbringen des Stabes in den Träger das Stabende mit einem ringförmigen Kragen von einem der beiden Teile kooperiert, während der Werkzeugkopf außerhalb des Trägers verbleibt, ohne gegen ihn anzustoßen.

Revendications

1. Un support (1) pour l'enroulement d'une mèche ou de la partie supérieure d'un matériau textile ou similaire, comprenant une bande annulaire (27) pour ancrer le matériau textile et au moins deux parties de support (11, 13) qui peuvent être couplées axialement ensemble d'une manière réversible et découplées ; dans lequel ladite bande annulaire (27) est logée dans un logement (S) formé en couplant lesdits deux parties de support (11 ; 13) ; **caractérisé en ce que** ladite bande comprend un corps (27A) constitué d'un matériau plastique moulé, auquel des crochets (U) pour ancrer des fibres textiles sont fixés.

2. Support selon la revendication 1, **caractérisé en ce que** ledit logement a une forme sensiblement annulaire.

3. Support selon la revendication 1 ou 2, **caractérisé en ce que** lesdites deux parties de support (11, 13) peut être couplées ensemble par emboîtement.

4. Support selon la revendication 1 ou 2 ou 3, **caractérisé en ce que** lesdites deux parties (11, 13) sont couplées par interférence.

5. Support selon la revendication 3 ou 4, **caractérisé en ce que** l'une (13) desdites parties du support (1) comporte une cavité axiale (13A), à l'intérieur de laquelle une extrémité axiale (11A) de l'autre (11) desdites deux parties du support s'emboîte avec interférence d'une manière réversible.

6. Support selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ladite bande annulaire (27) comprend un substrat (29), par rapport auquel lesdits crochets (U) font saillie et **en ce que** ledit substrat est ancré par co-moulage avec ledit matériau plastique moulé formant le corps (27) de la bande annulaire.

7. Support selon la revendication 6, **caractérisé en ce que** ledit substrat et lesdits crochets sont constitués par une bande Velcro.

8. Support selon une ou plusieurs des revendications précédentes, **caractérisé en ce qu'**il comprend une base (3) et une extrémité distale (5) face à ladite base ; ladite bande annulaire (27) est agencée près de ladite extrémité distale ; et l'une (13) desdites deux parties (11, 13) du support (1) forme une zone d'extrémité (9) et l'extrémité distale (5) du support (1), tandis que l'autre (11) desdites deux parties (11, 13) du support (1) forme une zone intermédiaire ou un corps (7) et la base (3) du support (1).

9. Support selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** : l'une (13) desdits deux parties de support (11, 13) a une cavité axiale intérieure (13A) et une zone creuse cylindrique externe (13R) ; l'autre (11) desdites deux parties (11, 13) du support (1) a une extrémité axiale (11A) qui est insérée par interférence dans ladite cavité axiale intérieure (13A) et forme une saillie annulaire (11R) qui, ensemble avec la zone creuse cylindrique externe (13R), forme ledit logement (S) lorsque les deux parties (11, 13) du support sont couplées ensemble.

10. Support selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** l'une (13) desdites deux parties (11, 13) du support comprend un collier (13C) pour l'engagement d'un outil pour l'assemblage et le désassemblage du support.

11. Support selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** les deux parties (11, 13) forment un épaulement annulaire (11R) et une saillie annulaire (13S) constituant des butées qui retiennent la bande annulaire (27) dans le logement (S).

12. Support selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** lesdits crochets (U) sont agencés sur une surface externe substantiellement cylindrique de ladite bande annulaire (27).

13. Un système comprenant un support selon une ou plusieurs des revendications précédentes et un outil pour assembler ensemble et désassembler les parties (11, 13) dudit support, ledit outil comprenant une tête (21) et une tige (25), les dimensions de la tige (25) étant telles que, en insérant la tige dans le support, l'extrémité de la tige coopère avec un collier annulaire de l'une desdites deux parties, tandis que la tête d'outil reste à l'extérieur du support sans être en butée contre lui.

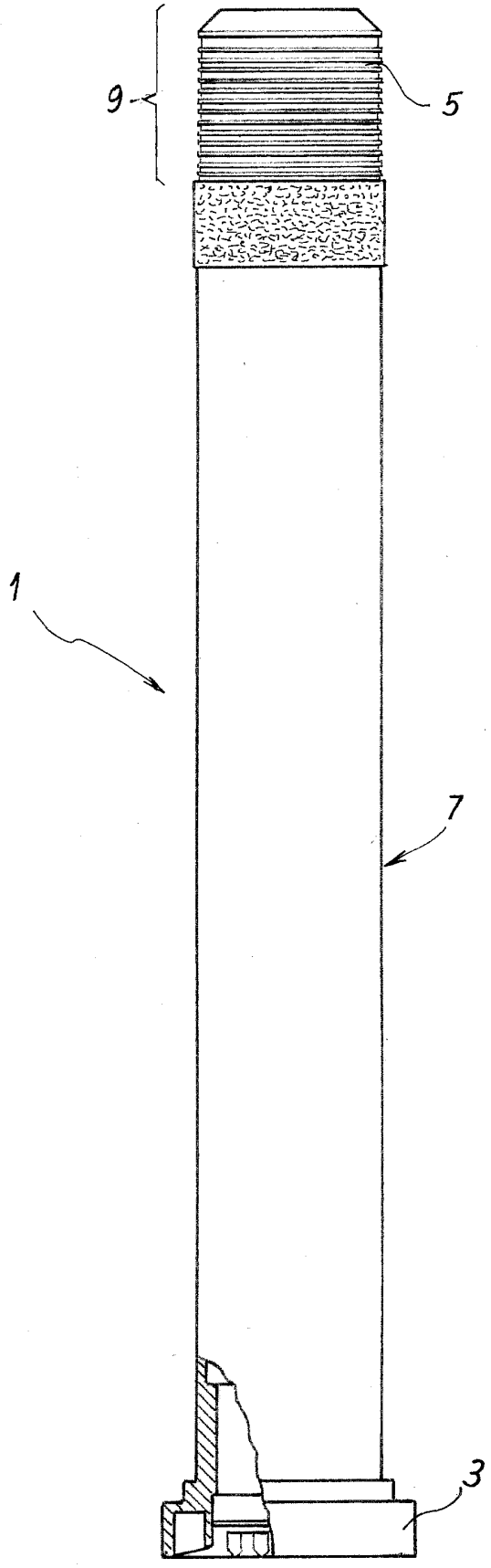


Fig. 1

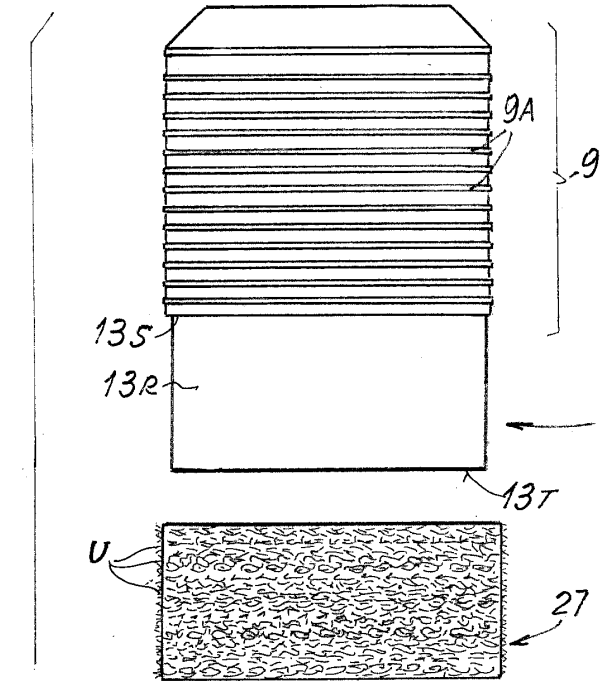


Fig.2

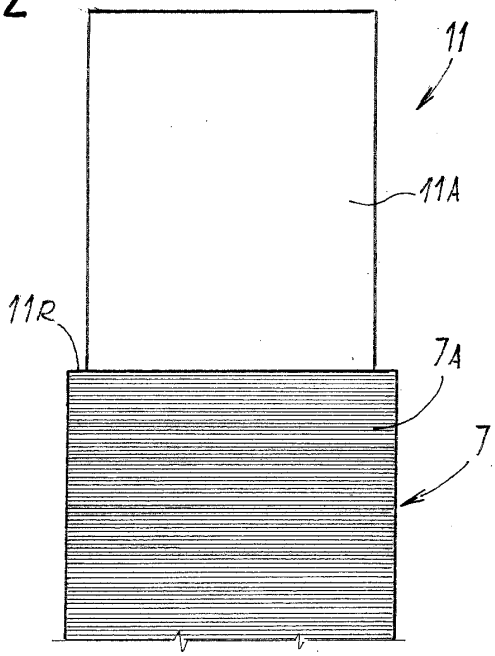
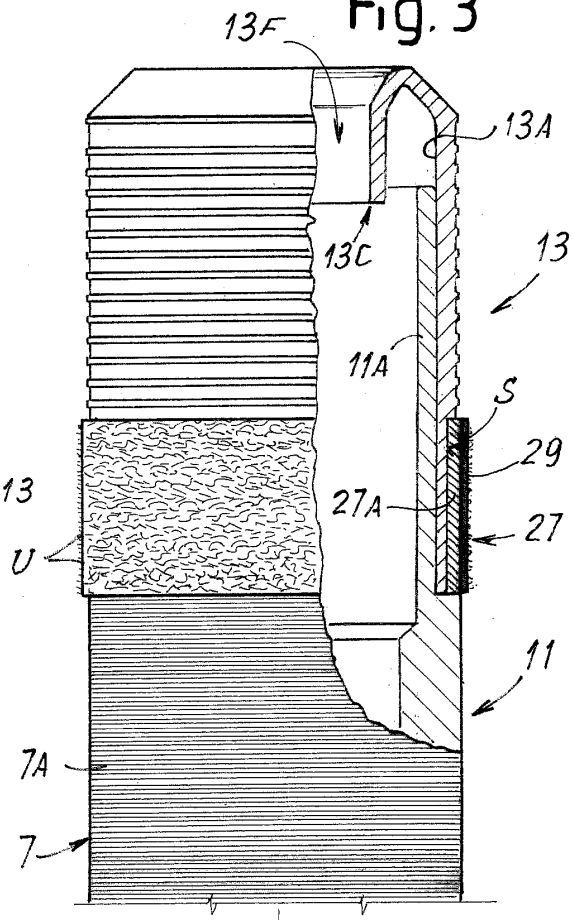


Fig.3



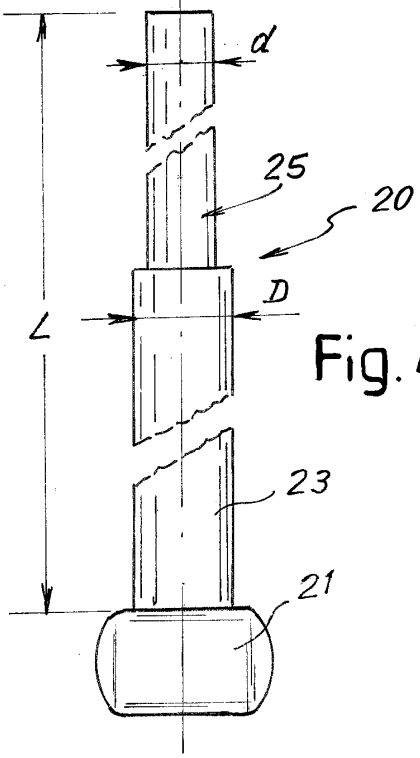


Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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