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## DESCRIPTION

**[0001]** The present invention relates to a method for manufacturing tubular articles provided with a grip region on their reverse side, particularly for providing hold-up stockings, by way of circular hosiery knitting machines, and to a tubular article obtained with the method.

**[0002]** As is known, hold-up stockings are provided, proximate to their upper end, with a band that is intended to grip the upper region of the thigh of the user in order to perform a stocking hold-up effect, thus avoiding the use of suspenders.

**[0003]** In some cases, the grip of the stocking on the skin of the user is obtained simply by providing, at the upper end of the article, an elastic band which is knitted as a double welt and tightens around the thigh of the user. This solution has the drawback of achieving insufficient grip, since, owing to the conical shape of the thigh, with use the elastic band tends to slip downward and roll up along the article.

**[0004]** In other cases, an elastic band, generally made of lace, is applied to the upper end of the article and a strip or multiple strips of silicone arc spread on the inner side thereof, which have the effect of increasing the adhesion of such band to the skin of the user, thus contrasting the descent of the band along the thigh of the user.

**[0005]** This solution achieves a better hold-up effect than the previous solution, although often this effect is still insufficient to prevent the descent and roll-up of the article during use. Furthermore, the application of the elastic band spread with silicone significantly increases the production cost of these articles.

**[0006]** WO 03/008685 A1 describes a method for providing a stocking with self-supporting effect using bare elastomer yarns that are knitted with other yarns so as to partially protrude from the side of the stocking intended to come into contact with the skin of the user.

**[0007]** US 2012/324961 A1 describes a stocking with an anti-slip region made with high-friction elastic yarns that are intended to come into contact with the skin of the user.

**[0008]** US 2003/213269 A1 describes a medical stocking with an anti-slip region that uses bare elastomer yarns in direct contact with the skin of the user.

**[0009]** US 2 311 166 A describes a knitted garment that has anti-slip regions made with an elastic yarn incorporated in inelastic yarns.

**[0010]** The techniques described in these prior art documents also do not achieve a fully satisfactory self-supporting effect.

**[0011]** The aim of the present invention is to solve the problems described above, by devising

a method that makes it possible to manufacture tubular articles, in particular hold-up stockings, by way of circular hosiery knitting machines, by providing a grip region on the reverse side of the articles directly during the production of the article with the circular hosiery knitting machine.

**[0012]** Within this aim, an object of the invention is to propose a method that makes it possible to manufacture tubular articles, particularly hold-up stockings, which are provided with a greater grip effect than that obtainable with methods of known type, while also preventing the roll-up of the article along the thigh of the user.

**[0013]** A further object of the invention is to propose a method that makes it possible to manufacture articles, particularly hold-up stockings, with highly competitive production costs.

**[0014]** A still further object of the invention is to propose a method that can be carried out with circular hosiery knitting machines, preferably of the single-cylinder type, with electronic selection of known type without the need to perform structural modifications thereof but simply by performing software modifications that are simple to carry out.

**[0015]** Another object of the invention is to propose a method that makes it possible to manufacture comfortable articles.

**[0016]** This aim, as well as these and other objects that will become better apparent hereinafter, are achieved by a method according to claim 1.

**[0017]** The article obtained with the method according to the invention has a grip region on its reverse side and is characterized in that said grip region is defined by floating portions or bridles of bare elastomer yarn which protrude on the reverse side of the article and are knitted in with the other yarns that compose the article.

**[0018]** Further characteristics and advantages of the invention will become better apparent from the description of a preferred but not exclusive embodiment of the method according to the invention and of an article obtained with the method, which is illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a side view of an article obtained with the method according to the invention, as it is unloaded from the circular hosiery knitting machine used for its production;

Figure 2 is an enlarged-scale and partially cross-sectional view of a portion of the article obtained with the method according to the invention;

Figure 3 is an enlarged-scale view of a detail of the article turned inside out, relating to the grip region;

Figure 4 is a view of the same detail as Figure 3, tensioned at right angles to the axis of the article.

**[0019]** With reference to the figures, the method according to the invention, for providing a tubular article provided with a grip region on its reverse side, in particular a hold-up stocking of the type shown in the figures, comprises the use of a circular hosiery knitting machine that has at least two feeds or drops, of which at least one first feed is equipped to dispense a bare elastomer yarn to the needles of the machine that pass at this feed. The circular machine used to carry out the method according to the invention is provided with electronic needle selection devices of known type, which make it possible to select the needles of the machine that must be actuated to pick up the yarn or yarns dispensed at the feeds or drops of the machine while other needles are excluded from picking up this yarn or these yarns. Furthermore, such machine is provided, in a manner known per se, with needle actuation cams in order to move the needles to pick up the yarn or yarns dispensed by the feeds in a "tuck" position or in a "drop" position or in order to move the needles to a "miss" position in order to exclude them from picking up the yarn or yarns dispensed at the feeds.

**[0020]** It should be noted that in the present description the expression "reverse side" of the article is understood to mean the side of the article that is intended to be directed toward the skin of the user.

**[0021]** The circular hosiery knitting machine that can be used to carry out the method according to the invention is obviously provided, in a manner known per se, with other elements and devices, such as for example sinkers, yarn feeders, etc.

**[0022]** More particularly, in the preferred hypothesis of using a single-cylinder circular hosiery knitting machine and of manufacturing the article with the needles located in the needle cylinder which is arranged with its axis vertically, the picking-up of the yarn or yarns by needles in the "tuck" position is performed by lifting, by way of the corresponding actuation cams, the needles to a height level such that their tip or head is extracted upward by the sinkers, but to a height level that is not sufficient to allow the loop or loops of knitting which were formed previously to slide below the latch of the corresponding needle. In this manner, upon the subsequent descent, caused by the corresponding actuation cams, these needles will form a new loop of knitting without knocking over the loop or loops formed previously, which remain, together with the new loop, in the head or tip of the corresponding needle.

**[0023]** The picking-up of the yarn or yarns by needles in the "drop" position is performed by lifting, by way of the corresponding actuation cams, the needles to a height level such that their tip or head is extracted upward by the sinkers in order to pick up the yarn or yarns at a height level that is sufficient to allow the loop or loops of knitting which were formed previously to slide below the latch of the needle. In this manner, upon the subsequent descent, caused by the corresponding actuation cams, these needles will form a new loop of knitting, knocking over or dropping the loop or loops of knitting which were formed previously.

**[0024]** When the needles are in the "miss" position, their head or tip is located below the

knockover plane of the sinkers and holds the loop or loops of knitting which were formed previously. In this position, the needles cannot pick up the yarn or yarns dispensed at the corresponding feed and therefore cannot form knitting.

**[0025]** In the method according to the invention, at the first feed, at least one needle of at least one group of contiguous needles is moved to knit so that this at least one needle picks up the bare elastomer yarn while the other needles of the group of needles are held or moved to the "miss" position and therefore excluded from picking up the bare elastomer yarn. The needles of the group of needles are actuated at at least one subsequent feed so as to pick up the yarn or yarns dispensed at this subsequent feed and form knitting at least with those needles which, at the first feed, had been held or moved to the "miss" position.

**[0026]** According to the invention, at the first feed, the at least one needle, which is actuated to pick up the bare elastomer yarn, is actuated in order to pick up such yarn in the "drop" position.

**[0027]** At the at least one subsequent feed, the needle that picked up the bare elastomer yarn at the first feed is actuated in order to pick up the yarn or yarns, dispensed by the at least one subsequent feed, in the "tuck" position.

**[0028]** Conveniently, after the production of a preset number of rows of knitting by the other needles of the group of needles, i.e., by the needles that did not pick up the bare elastomer yarn at the first feed, the needle that picked up the bare elastomer yarn is actuated, at the at least one subsequent feed, so as to pick up the yarn or yarns dispensed by this feed in the "drop" position and so form a new loop of knitting, dropping the loops of knitting which were formed previously and held in its head.

**[0029]** Without altering the fact that it is possible to use machines with a different number of feeds or drops, the method according to the invention is preferably carried out by using a circular hosiery knitting machine with four feeds arranged in sequence around the axis of the needle cylinder of the machine along the direction of rotation of the needle cylinder with respect to the feeds or drops.

**[0030]** Preferably, if one wishes to provide a grip region that is extended circumferentially on the reverse side of the article, substantially all the needles of the machine are used, dividing them into multiple groups of needles, where the needles of each group are selected and actuated as explained above with reference to the at least one group of needles.

**[0031]** Each group of needles is preferably composed of from 7 to 16 contiguous needles and, at the first feed, where the bare elastomer yarn is dispensed, each group of needles is selected according to a first selection comprised between 1:6 and 1:15, i.e., a selection that causes the actuation of one needle to pick up the bare elastomer yarn in the "drop" position and the retention or passage of a number of contiguous or, rather, subsequent needles (which pass subsequently at the first feed) comprised between 6 and 15 in the "miss" position.

**[0032]** As an alternative, each group of needles can comprise from 8 to 17 contiguous needles and the selection of the needles at the first feed can be comprised between 2:6 and 2:15, i.e., a selection that causes the actuation of two contiguous needles to pick up the bare elastomer yarn in the Z "drop" position and the retention or passage of a number of contiguous or, rather, subsequent needles (which pass subsequently at the first feed) comprised between 6 and 15 in the "miss" position.

**[0033]** At the at least one subsequent feed, preferably at the second feed, each group of needles is selected according to a second selection chosen from among 1:1, with one needle actuated to pick up the yarn or yarns in the "tuck" position and one needle actuated to pick up the yarn or yarns in the "drop" position for every two contiguous needles of the group of needles, or 2:2, with two contiguous needles actuated to pick up the yarn or yarns in the "tuck" position and two contiguous needles actuated to pick up the yarn or yarns in the "drop" position for every four contiguous needles of the group of needles, or 2:1, with two contiguous needles actuated to pick up the yarn or yarns in the "tuck" position and one needle actuated to pick up the yarn or yarns in the "drop" position for every three contiguous needles of the group of needles, or 1:2, with one needle actuated to pick up the yarn or yarns in the "tuck" position and two contiguous needles actuated to pick up the yarn or yarns in the "drop" position for every three contiguous needles of the group of needles.

**[0034]** At this second feed, the needles that picked up the bare elastomer yarn at the first feed belong to the needles that are moved to knit to pick up the yarn or yarns in the "tuck" position.

**[0035]** It should be noted that, in an example not forming part of the invention, in the transition from the first feed to the second feed, the needles that picked up the bare elastomer yarn at the first feed in the "tuck" position are not lowered. This is achieved by deactivating the lowering cam of the needles at the first feed. Owing to the fact that these needles are not lowered, at the second feed they pick up the yarn or yarns dispensed by this feed in a position that is slightly higher than the "tuck" position and therefore drop the previously formed stitches on their stem.

**[0036]** At the second feed, the needles, after picking up the yarn or yarns, are lowered in order to form new loops of knitting.

**[0037]** At the third feed, the needles that picked up the bare elastomer yarn at the first feed are actuated again in the "tuck" position in order to pick up the yarn or yarns dispensed by this feed for a preset number of rotations of the needle cylinder, while the other needles of the group of needles are actuated in the "drop" position in order to pick up the yarn or yarns dispensed at this third feed and form knitting, knocking over the previously formed loops of knitting. After this preset number of turns, the needles that picked up the bare elastomer yarn at the first feed are actuated in order to pick up the yarn or yarns in the "drop" position so as to form new loops of knitting, dropping the loops of knitting which were formed previously and held in their head, and a needle that is contiguous to these is actuated in order to pick up the yarn or yarns in the "tuck" position. At the subsequent rotation of the needle cylinder, knitting

resumes as for the previous rotations. In particular, at this third feed, the needles that picked up the bare elastomer yarn at the first feed are actuated again in the "tuck" position for another preset number of rotations of the needle cylinder.

**[0038]** At the third feed, the needles, after picking up the yarn or yarns, are lowered in order to form new loops of knitting.

**[0039]** At the fourth feed, the needles of each group of needles are selected and actuated in a manner similar to what was done at the second feed.

**[0040]** At the fourth feed, the needles, after picking up the yarn or yarns, are lowered in order to form new loops of knitting.

**[0041]** It should be noted that, in the various rotations of the needle cylinder about its own axis in order to form knitting, during the formation of the grip region, the selection of the needles at the various feeds is not changed, apart from the different actuation, at the third feed, after a preset number of rotations, of the needles that picked up the bare elastomer yarn at the first feed, as described.

**[0042]** The preset number of rotations of the needle cylinder after which, at the third feed, the actuation in the "drop" position of the needles that picked up the bare elastomer yarn at the first feed intervenes, is comprised substantially between 4 and 9.

**[0043]** It should be noted, furthermore, that, at the second and fourth feeds, the needles that picked up the bare elastomer yarn at the first feed are actuated in the "tuck" position to pick up the yarn or yarns dispensed by these feeds.

**[0044]** The tubular knitted article that is obtained with the method according to the invention, which is designated generally by the reference numeral 1, has, on its reverse side, a grip region 2 which is defined by floating portions or bridles of bare elastomer yarn 3 which protrude on the reverse side of the article 1 and are knitted in with the other yarns that compose the article 1. The floating portions or bridles of yarn 3 are generated by the lack of pickup of the bare elastomer yarn by the needles of the various groups of needles that are moved to or held in the "miss" position at the first feed, as explained above.

**[0045]** The grip region 2 is preferably defined by one or more circumferential bands 4, each one composed of multiple turns or rows of these floating portions of bare elastomer yarn 3, which are mutually side-by-side along the axis 1a of the article 1.

**[0046]** In the embodiment shown in the figures, which relates to a hold-up stocking, the grip region 2 is composed of three circumferential bands 4, which are mutually spaced apart along the axis 1a of the article 1.

**[0047]** Figure 1 shows a hold-up stocking or, rather, a semifinished article for the production of

a hold-up stocking as it is unloaded from the circular hosiery knitting machine that produced it. Such semifinished article has both ends open. One of these two ends is intended to be closed by sewing or looping in order to provide the finished product.

**[0048]** The grip region 2 which is obtained with the method according to the invention is located proximate to the opposite end, i.e., the end that constitutes the upper end of the hold-up stocking.

**[0049]** The bare elastomer yarn that defines the grip region 2 is preferably made of silicone rubber.

**[0050]** Conveniently, at the grip region 2, the article 1 is provided with gathered portions 5 which are produced preferably by a pre-tensioning of the bare elastomer yarn 3 during its feeding to the needles of the machine in the production of the article 1.

**[0051]** The knitting-in of the bare elastomer yarn 3 with the yarns that compose the remaining part of the article 1, as can be deduced from the description given above of the method for its production, is performed by way of tuck-stitch knitting and the knitting-in stitches, i.e., the stitches for joining the floating portions of bare elastomer yarn 3 to the remaining part of the article 1, are preferably mutually aligned parallel to the axis 1a of the article 1.

**[0052]** Preferably, each floating portion of bare elastomer yarn 3 extends for a number of rows of stitches that is substantially comprised between 6 and 15.

**[0053]** The yarns used to produce the article, which are different from the bare elastomer yarn, can be constituted at least partially by elastically extensible yarns.

**[0054]** The method according to the invention makes it possible to unload from a circular hosiery knitting machine an article 1 that is already provided with a grip region 2 on the reverse side which can be used to hold the article 1 to the skin of the user. In particular, if the article is constituted by a hold-up stocking, this grip region ensures optimum effectiveness in holding the upper end of the stocking to the thigh of the user, effectively contrasting its descent and its roll-up during use.

**[0055]** In particular, owing to the fact that, during the production of the grip region 2, the needles that picked up the bare elastomer yarn 3 at the first feed of the machine are moved to knit in the "tuck" position at the subsequent feeds, one achieves the effect of having rows of knitting (the ones formed by the needles that picked up the bare elastomer yarn 3) that are less elastically yielding than the other rows of knitting (produced by the needles that did not pick up the bare elastomer yarn 3). This particular method of execution of the grip region 2 achieves the effect of elastically loading this region toward the inside of the article i.e. toward the skin of the user, effectively contrasting the outward roll-up of the article.

**[0056]** The optional, preferred execution of the elastically extensible gathered portions 5 has

the effect of further reinforcing the resistance to roll-up of the article.

**[0057]** Merely by way of non-limiting example, below two examples are given for the production of a hold-up stocking.

**Example 1 (not forming part of the invention)**

**[0058]** A single-cylinder circular hosiery knitting machine provided with 400 needles and with four feeds or drops is used.

**[0059]** The needles of the machine are divided into groups of 12 needles.

**[0060]** The article 1 to be provided is a hold-up stocking of the type shown in the figures.

**[0061]** Production of the article 1 begins from the upper end of the article 1, i.e., the opposite end with respect to the toe of the stocking.

**[0062]** After a preset number of rotations of the needle cylinder, during which an initial portion of the stocking is provided in a manner known per se, the provision of the grip region 2 begins and occurs as follows.

**[0063]** At the first feed, the knockover cam is extracted, in the sense that it is rendered inactive so as to not actuate the needles.

**[0064]** At this first feed, the bare elastomer yarn 3 is dispensed and the needles of each group of needles are selected according to a 1:11 selection, so that one needle of the group is actuated in order to pick up the bare elastomer yarn 3 in the "tuck" position while the other 11 needles are moved to or held in the "miss" position. In view of the deactivation of the knockover cam, the needle of each group that picked up the bare elastomer yarn 3 passes to the second feed already in the "tuck" position or, more precisely, in a position in which it is raised only slightly more than the "tuck" position.

**[0065]** At the second feed, the needles of each group are selected according to a 1:1 selection so that, for every two contiguous needles, one needle is actuated to pick up the yarns dispensed by said feed, in the "tuck" position, while the other needle is actuated to pick up the yarns, dispensed by said feed, in the "drop" position. The needle that picked up the bare elastomer yarn 3 at the first feed is one of the needles which, at this second feed, pick up the yarns in the "tuck" position. At this second feed, the needles are fed with three yarns, of which two are 78/46 (with count = 78 decitex and 46 strands) and one is 44/34 (with count = 44 decitex and 34 strands). The supply of three yarns at the second feed has the function of strengthening the grip region 2, effectively preventing said region from rolling up with use.

**[0066]** After the pickup of the yarns dispensed by this second feed, the needles are lowered in

order to form new loops of knitting.

**[0067]** At the third feed, for each group of needles, a 1:11 selection of the needles is performed, with one needle being raised to pick up the yarns in the "tuck" position and 11 needles being raised in the "drop" position. The needle that is raised to the "tuck" position is the needle that picked up the bare elastomer yarn 3 at the first feed. This occurs for a preset number of rotations of the needle cylinder which is preferably equal to 4, then, at the fifth rotation and for only one rotation, this needle is raised to the "drop" position and a contiguous needle is raised to the "tuck" position. At this feed, the needles, both the ones that are raised to the "tuck" position and the ones that are raised to the "drop" position, are fed with two 78/46 yarns (with count = 78 decitex and 46 strands).

**[0068]** After the pickup of the yarns dispensed by this third feed, the needles are lowered in order to form new loops of knitting.

**[0069]** At the fourth feed, the needles of each group are selected, as at the second feed, according to a 1:1 selection so that for every two contiguous needles one needle is actuated to pick up the yarns dispensed by this feed in the "tuck" position, while the other needle is actuated to pick up the yarns dispensed by this feed in the "drop" position. The needle that picked up the bare elastomer yarn 3 at the first feed is one of the needles that, at this fourth feed, pick up the yarns in the "tuck" position. At this fourth feed, the needles are fed with three yarns, of which two are 78/46 (with count = 78 decitex and 46 strands) and one is 44/34 (with count = 44 decitex and 34 strands). In this case also, the provision of three yarns has the function of strengthening the grip region 2, effectively preventing such region from rolling up with use.

**[0070]** After picking up the yarns dispensed by this fourth feed, the needles are lowered in order to form new loops of knitting.

**[0071]** With this technique, three circumferential bands 4 are provided with portions of bare elastomer yarn 3 that float on the reverse side of the article 1. The circumferential regions located between the circumferential bands 4 provided with bare elastomer yarn 3 can be provided in a manner known per se, or as described, but omitting to feed the bare elastomer yarn 3 to the needles.

**[0072]** Optionally, before beginning the provision of the grip region 2, it is possible to perform a few rotations of the needle cylinder (three rotations are performed in the example shown), during which some needles, preferably different from those which are actuated at the first feed during the provision of the grip region 2, are fed with the bare elastomer yarn 3 (optionally dispensed always at the first feed), while the other needles are excluded from picking up the bare elastomer yarn 3 so as to obtain a circumferential band 6 of reduced height, again with portions of bare elastomer yarn 3 that float on the reverse side of the article 1, optionally offset with respect to the floating portions of bare elastomer yarn 3 of the grip region 2.

**[0073]** After the provision of the grip region 2, the production of the article 1 continues in a manner known per se up to the provision of the toe of the article 1, after which the article 1 is unloaded from the machine.

**Example 2**

**[0074]** A single-cylinder circular hosiery knitting machine provided with 400 needles and with four feeds or drops is used.

**[0075]** The needles of the machine are divided into groups of 12 needles as in example 1.

**[0076]** In this example of practical embodiment of the method according to the invention, the same operations already described in example 1 are carried out, with the difference that, at the first feed of the machine, the needle of each group of needles that is actuated in order to pick up the bare elastomer yarn 3 is moved to knit in the "drop" position instead of in the "tuck" position.

**[0077]** In practice it has been found that the method according to the invention fully achieves the intended aim, since it makes it possible to manufacture articles provided with a grip region on their reverse side, particularly hold-up stockings, which is provided directly during the formation of the article with a hosiery knitting machine, without requiring the execution of a double welt and/or additional knitting in order to provide such grip region.

**[0078]** Another advantage of the method according to the invention is that it allows the provision of articles in which roll-up of the grip region during use does not occur.

**[0079]** The method thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the inventive concept; all the details may furthermore be replaced with other, technically equivalent elements. Thus, for example, the manufacture of the article can begin from one axial end thereof or from the opposite axial end, i.e., in hosiery, from the toe or from the top.

**[0080]** Although the invention has been conceived in particular for the production of hold-up stockings, it can also be used to manufacture other types of hosiery, such as for example knee-highs, or for other types of finished or semifinished tubular articles.

**[0081]** In practice, the materials used, unless otherwise specified above, as well as the dimensions, may be any according to the requirements and the state of the art.

**[0082]** The disclosures in Italian Patent Applications No. MI2014A001568 (102014902292281) and No. 102015000033270 from which this application claims priority are incorporated herein by reference.

[0083] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

## REFERENCES CITED IN THE DESCRIPTION

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- [IT102015000033270 \[0082\]](#)

## Patentkrav

- 5 1. Fremgangsmåde til fremstilling af rørformede artikler (1) forsynet med et gribeområde (2) på bagsiden, som er beregnet til at være rettet mod en brugers hud ved hjælp af rundstrikkemaskiner, som omfatter anvendelse af en rundstrikkemaskine til strømpevarer, der har mindst to tilførsler eller fald, hvoraf mindst en første tilførsel kan dosere et bart elastomergarn (3), indretninger til at udvælge pinde til at bevæge nogle af maskinens pinde for at opsamle garnet eller garnerne doseret ved tilførslerne, mens andre pinde udelukkes fra at opsamle garnet eller garnerne doseret ved tilførslerne, kamme til at aktivere pindene for at bevæge pindene, så de opsamler garnet eller garnerne doseret af tilførslerne til en "fang"-position eller til en "fald"-position eller for at bevæge pindene til en "spring over"-position for udeladelse fra at opsamle garnet eller garnerne doseret ved tilførslerne, idet fremgangsmåden omfatter, ved den første tilførsel, at mindst en pind af mindst en gruppe af sammenhængende pinde aktiveres for at opsamle det bare elastomergarn (3) i "fald"-positionen, mens de andre pinde af den mindst ene gruppe af pinde holdes i eller bevæges til "spring over"-positionen og derfor er udelukket fra at opsamle det bare elastomergarn (3), og pindene af den mindst ene gruppe af pinde aktiveres ved mindst en efterfølgende tilførsel for at opsamle garnet eller garnerne doseret ved den efterfølgende tilførsel og danner strik i det mindste med de pinde, der blev holdt i "spring over"-positionen ved den første tilførsel, hvor ved den mindst ene efterfølgende tilførsel den mindst ene pind, der har opsamlet det bare elastomergarn (3) ved den første tilførsel, aktiveres for at opsamle garnet eller garnerne doseret af den mindst ene efterfølgende tilførsel i "fang"-positionen, og hvor pindene af maskinens pindecylinder er sammensat af et forudindstillet antal af grupper af pinde, hver sammensat af et forudindstillet antal af sammenhængende pinde, som udvælges og aktiveres ved tilførslerne eller faldene af maskinen som den mindst ene gruppe af pinde.
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2. Fremgangsmåde ifølge krav 1, **kendetegnet ved, at** det bare elastomergarn (3) tilføres til den mindst ene pind i en forspændt tilstand.

5 3. Fremgangsmåde ifølge et eller flere af de foregående krav, **kendetegnet ved, at**, efter produktionen af et forudindstillet antal rækker af strik med de andre pinde af den mindst ene gruppe af pinde, ved den mindst ene efterfølgende tilførsel, aktiveres den mindst ene pind for at opsamle garnet eller garnerne i "fald"-positionen for at danne nye strikkeløkker, hvorved de tidligere dannede strikkeløkker, som holdes i hovedet af den mindst ene pind, bliver slået af.

10 4. Fremgangsmåde ifølge et eller flere af de foregående krav, **kendetegnet ved, at** den anvender en rundstrikkemaskine til strømpevarer med fire tilførsler eller fald arrangeret i en sekvens omkring akslen af maskinens pindecylinder langs rotationsretningen af pindecylinderen i forhold til tilførslerne eller faldene, og for hver af den mindste ene gruppe af pinde ved, at:

15 - ved den første tilførsel bevæges den mindst ene pind til at strikke for at opsamle det bare elastomergarn (3), der doseres af den første tilførsel, mens de andre pinde af den mindst ene gruppe af pinde bevæges til eller holdes i "spring over"-positionen og derfor udelukkes fra at opsamle det bare elastomergarn (3);

20 - ved den anden tilførsel aktiveres pindene af den mindst ene gruppe af pinde for at opsamle garnet eller garnerne doseret ved den anden tilførsel og danner strik i det mindste med de pinde, der tidligere blev holdt i "spring over"-positionen ved den første tilførsel, idet de pinde, der har opsamlet det bare elastomergarn (3) ved den første tilførsel bevæges til at strikke ved den anden tilførsel i "fang"-positionen;

25 - ved den tredje tilførsel bevæges den mindst ene pind til at strikke i "fang"-positionen, til et forudindstillet antal omdrejninger af pindecylinderen omkring dens egen akse, for at opsamle garnet eller garnerne doseret ved den tredje tilførsel, mens de andre pinde i den mindst ene gruppe af pinde bevæges til at strikke i "fald"-positionen for at opsamle garnet eller garnerne doseret af den

30 tredje tilførsel;

- ved den fjerde tilførsel aktiveres pindene af den mindst ene gruppe af pinde for at opsamle garnet eller garnerne doseret ved den fjerde tilførsel, idet de pinde, der har opsamlet det bare elastomergarn (3) ved den første tilførsel bevæges til at strikke ved den fjerde tilførsel i "fang"-positionen;

5. Fremgangsmåde ifølge krav 4, **kendetegnet ved, at** det forudindstillede antal omdrejninger af pindecylinderen omkring sin egen akse ligger mellem 4 og 9.

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6. Fremgangsmåde ifølge krav 4, hvor den mindst ene pind, efter det forudindstillede antal omdrejninger af pindecylinderen omkring sin egen akse, aktiveres ved den tredje tilførsel for at opsamle garnet eller garnerne i "fald"-positionen for at danne nye strikkeløkker, hvorved de tidligere dannede strikkeløkker, som holdes i hovedet for den mindst ene pind, bliver slået af.

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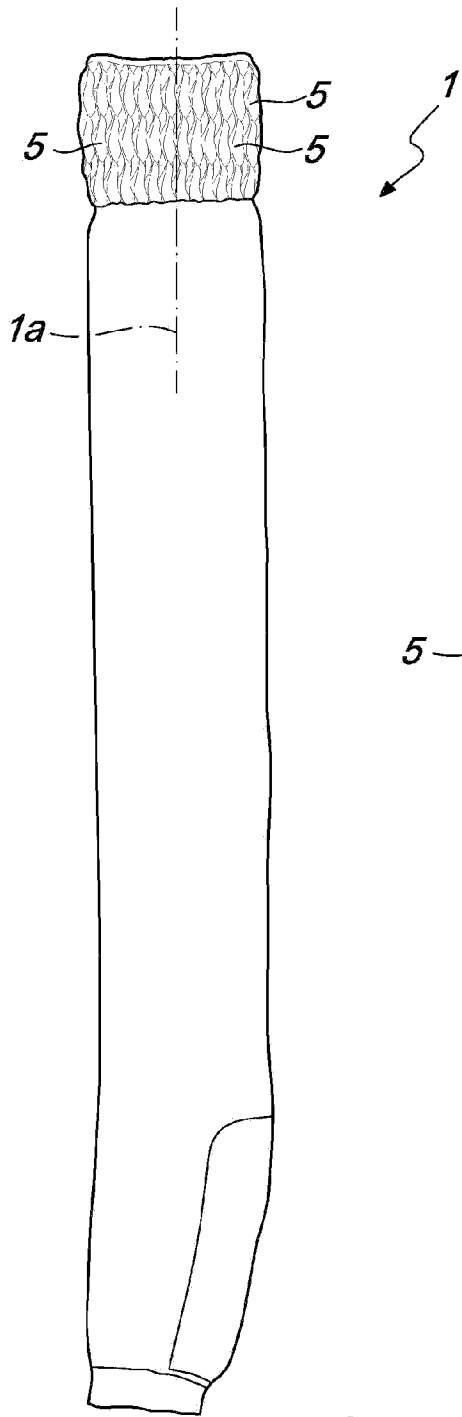
7. Fremgangsmåde ifølge et eller flere af de foregående krav, **kendetegnet ved, at**, ved den anden tilførsel og/eller den fjerde tilførsel, udvælges hver af grupperne af pinde i henhold til en anden udvælgelse udvalgt fra 1:1, med en pind aktiveret til at opsamle garnet eller garnerne i "fang"-positionen og en pind aktiveret til at opsamle garnet eller garnerne i "fald"-positionen for hver anden sammenhængende pind af gruppen af pinde, eller 2:2, med to sammenhængende pinde aktiveret til at opsamle garnet eller garnerne i "fang"-positionen for hver fjerde sammenhængende pind af gruppen af pinde, eller 2:1, med to sammenhængende pinde aktiveret til at opsamle garnet eller garnerne "fang"-positionen og en pind aktiveret til at opsamle garnet eller garnerne i "fald"-positionen for hver tredje sammenhængende pind af gruppen af pinde, eller 1:2, med en pind aktiveret til at opsamle garnet eller garnerne i "fang"-positionen og to sammenhængende pinde aktiveret til at opsamle garnet eller garnerne i "fald"-positionen for hver tredje sammenhængende pind af gruppen af pinde.

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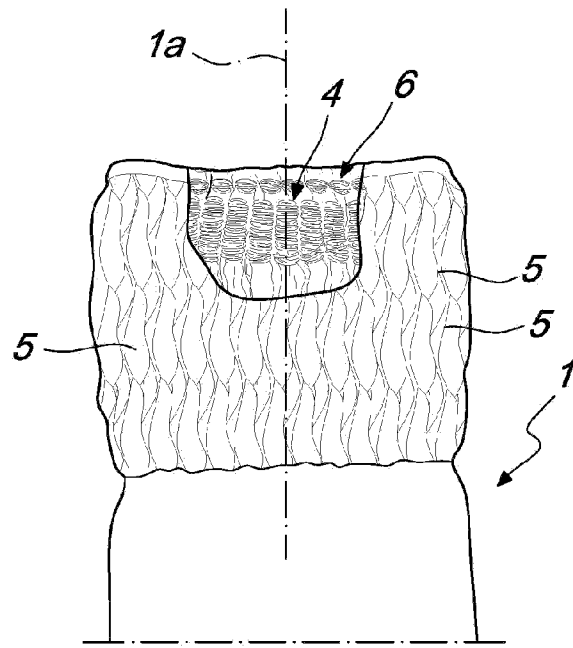
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DRAWINGS



*Fig. 1*



*Fig. 2*

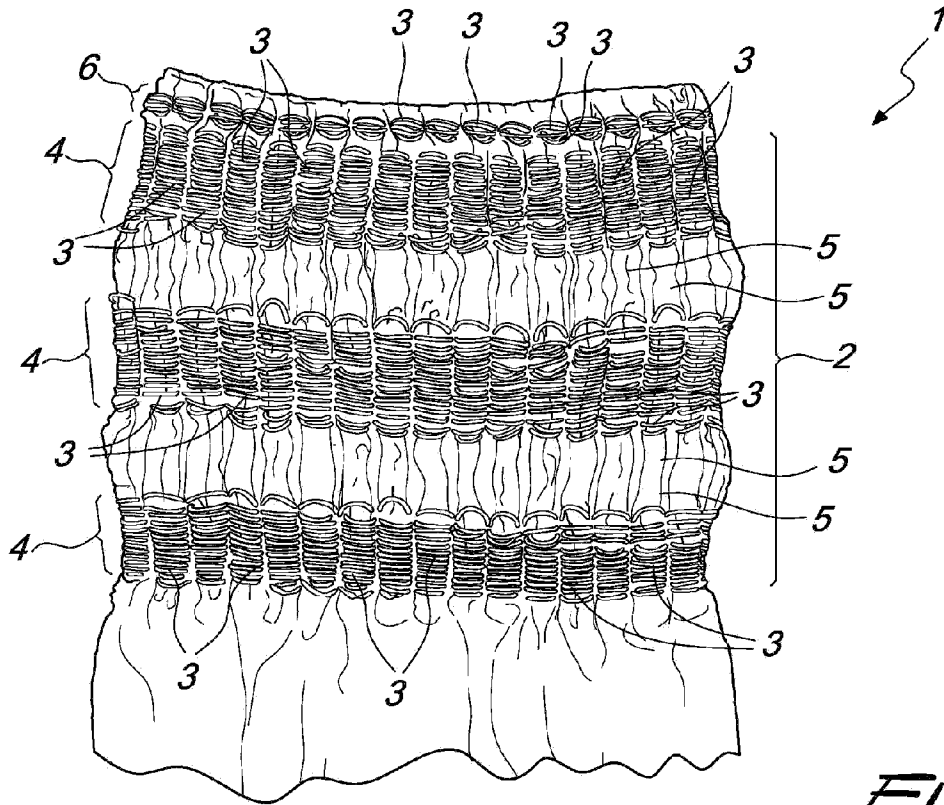


Fig. 3

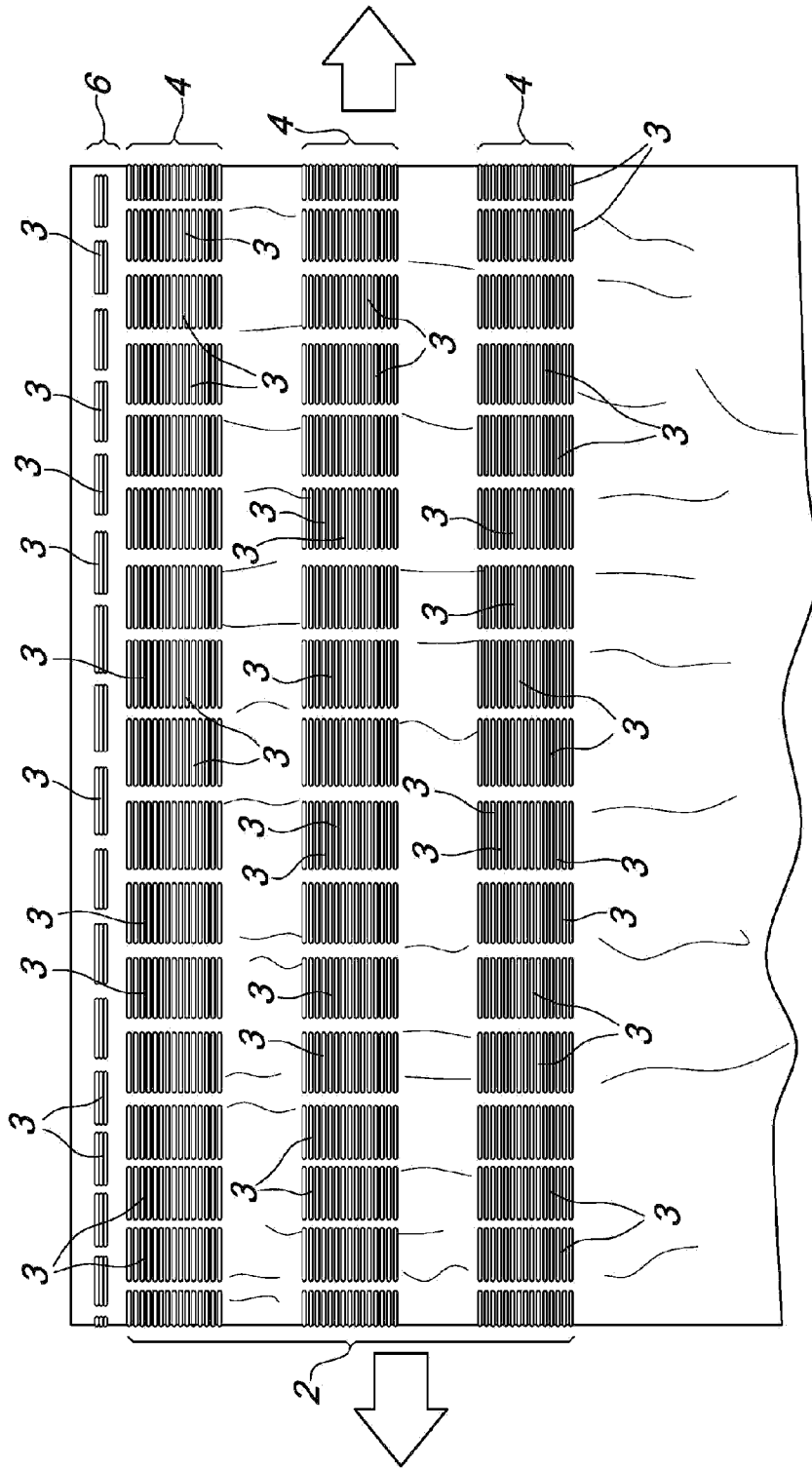


Fig. 4