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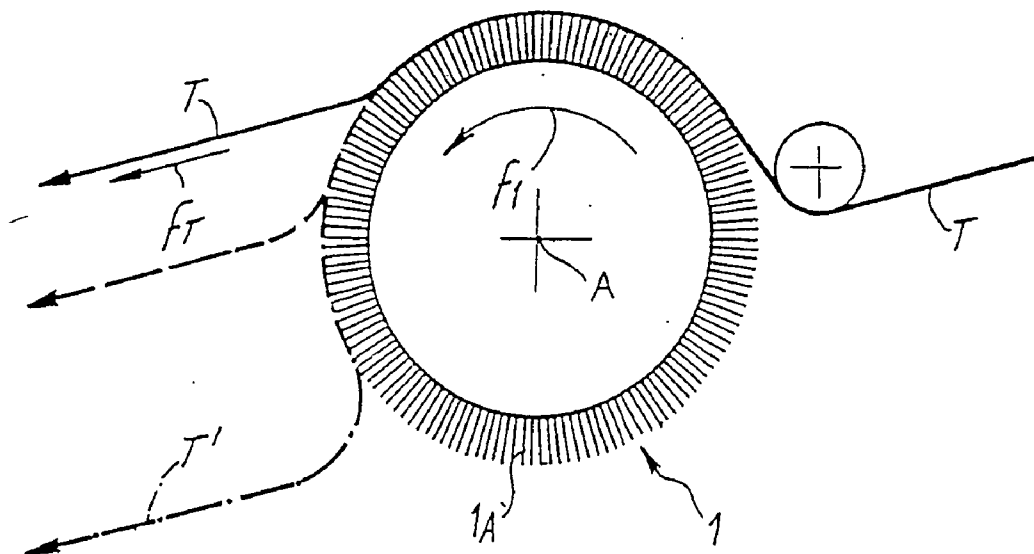
(43) **Pub. Date:****Jan. 20, 2005**(54) **MACHINE AND METHOD FOR
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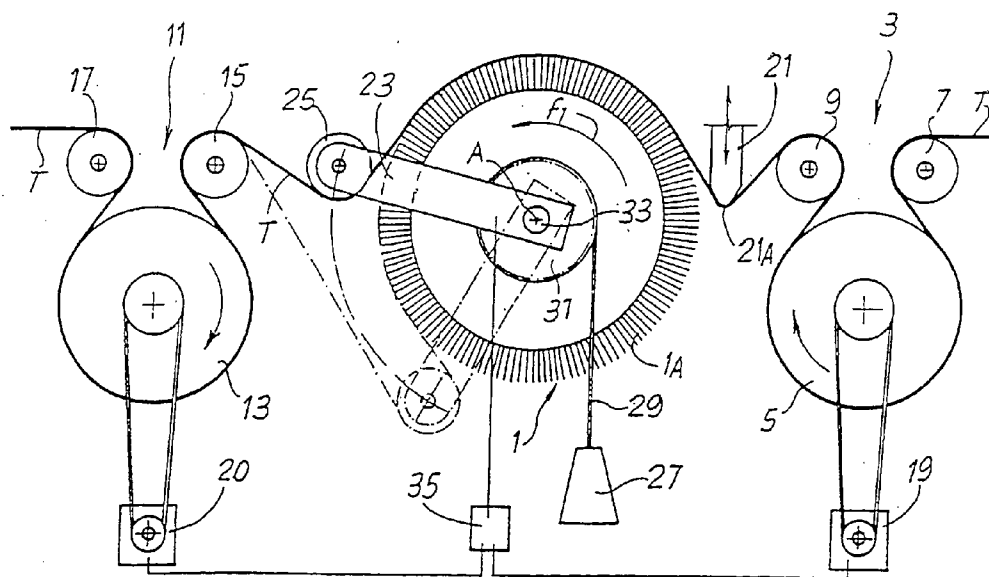
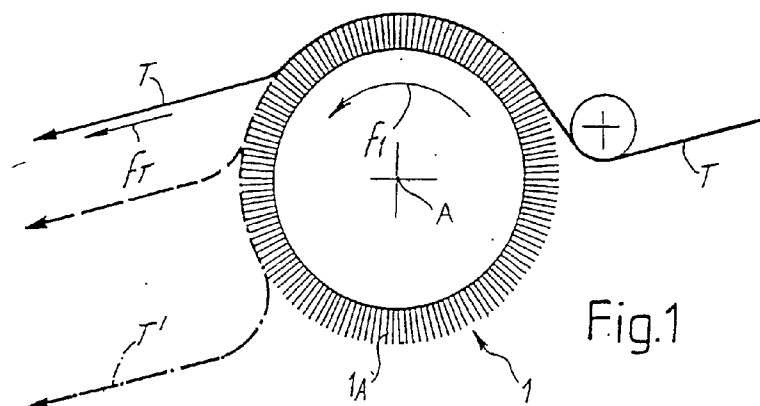
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SCARBOROUGH, NY 10510-0827 (US)**(57) **ABSTRACT**(21) Appl. No.: **10/498,621**(22) PCT Filed: **Dec. 9, 2002**(86) PCT No.: **PCT/IT02/00770**(30) **Foreign Application Priority Data**

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The machine comprises: an advancement path of said web (T); at least one abrasive member, essentially cylindrical, rotating and abrasive (1) the advancement path on which the material is guided; a means (3) for feeding said web material to said cylindrical member; and a means for distancing (11) said web material from said cylindrical member. The cylindrical member is associated a mobile guiding element (23, 25) on which the web material is guided, whose position varies with the variation of the contact arch between the web material and the cylindrical member. The speed of at least one of said feeding and distancing means is controlled according to the position of said mobile guide element.





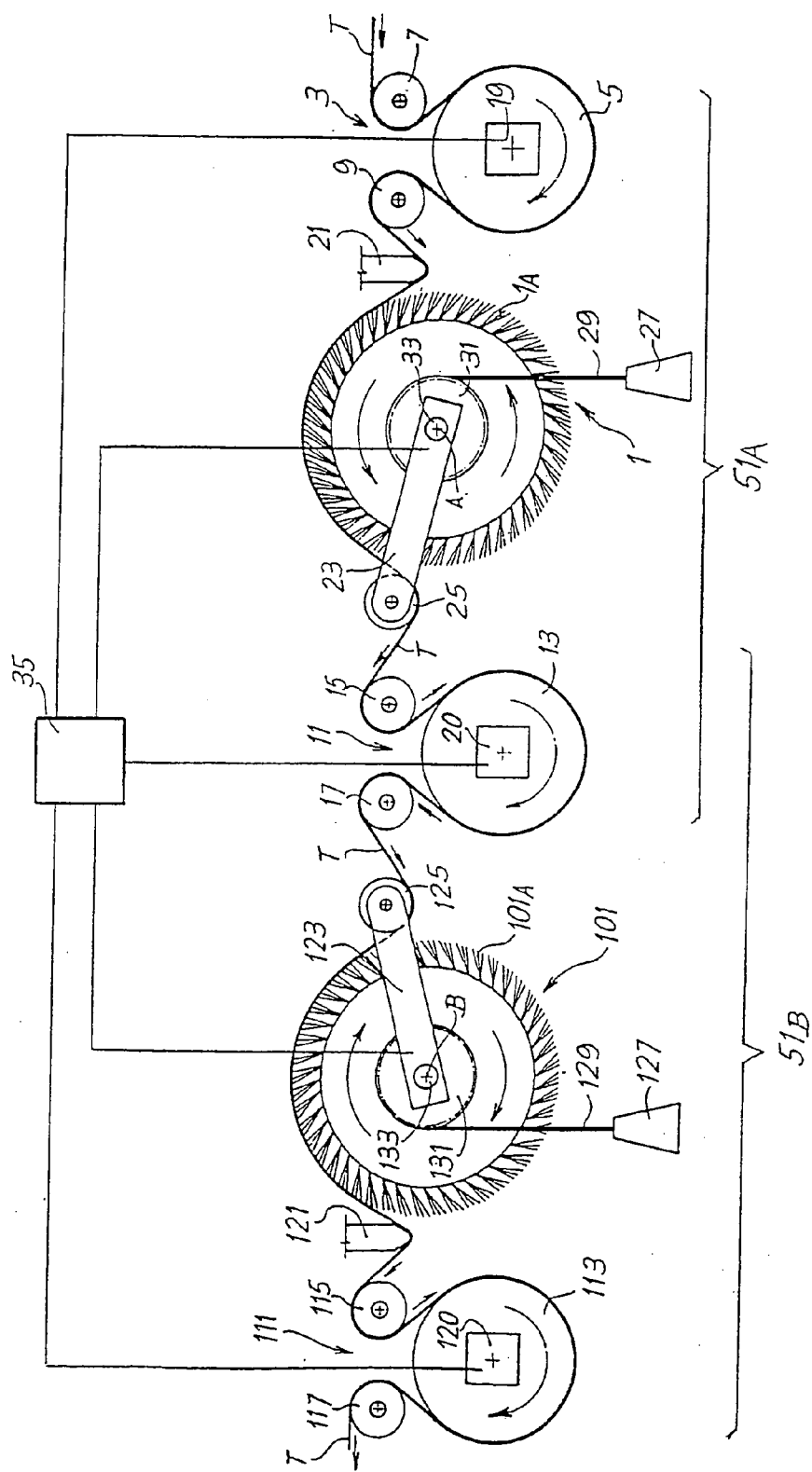


Fig.3

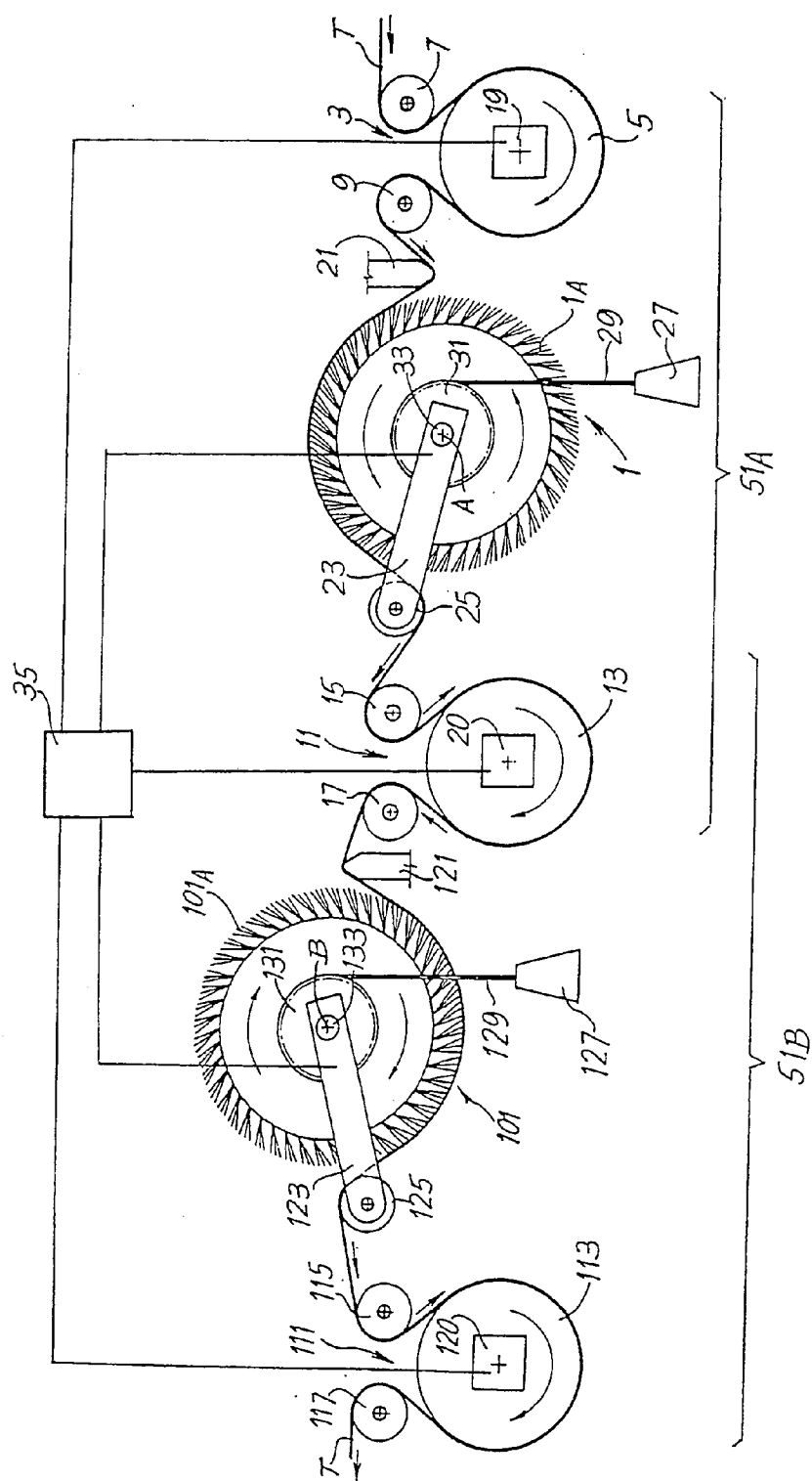


Fig. 4

MACHINE AND METHOD FOR PROCESSING TEXTILE FABRICS

TECHNICAL FIELD

[0001] The present invention relates to a machine for processing textile fabrics and more in general for processing web material.

[0002] Specifically, the invention relates to a machine for processing web material comprising an advancement path of the web and an essentially cylindrical rotating abrasive member which acts on the web, which is entrained around the member itself.

STATE OF THE ART

[0003] Machines in which continuously fed textile fabric is subjected to finishing and aging processes by means of abrasive material applied onto a rotating cylinder, around which the textile material is entrained, are employed in the fabric processing. The surface of the textile fabric is mechanically processed by exploiting the different speeds of the abrasive surface of the cylinder and of the textile fabric.

[0004] U.S. Pat. No. 3,615,990 describes a machine for processing textile fabric or non-wovens by means of rotating cylindrical brushes. The web is tensioned and passed under the brushing member. U.S. Pat. No. 5,197,305 describes a machine for processing textile fabrics by means of rotating brushes with the addition of abrasive powders. Also in this case, the textile fabric is tensioned and passed underneath the rotating members which act on the material.

[0005] EP-A-0020109 describes a process and a method for artificially aging textile fabrics. The textile fabric is passed between an abrasive roller and a pressure roller.

[0006] U.S. Pat. No. 3,872,557 describes a machine for the superficial abrasion of previously dyed textile fabrics to alter the hues of color. The textile fabric is suitably tensioned and passed underneath a turning abrasive roller.

[0007] EP-A-0532479 describes a method and a machine for the artificial aging surface treatment of continuous textile fabric. The textile fabric is tensioned and passed underneath an abrasive member in the form of a rotating cylinder or pivoting bar of abrasive material.

[0008] Frequently, the abrasive effect is obtained by means of cylindrical rotating brushes formed by filaments of synthetic material, specifically nylon®, charged with abrasive particles or granules, such as silica carbide or aluminum oxide. A machine for processing textile fabrics employing brushes of this type is described, for example, in patent EP-A-0417659. The bristles of these brushes are made, for example, of a synthetic product marketed by DUPONT® under the brand name TYNEX®. FR-A-2622217 describes a machine which employs cylindrical brushes made by these filaments for processing textile fabrics, specifically denim.

[0009] U.S. Pat. No. 3,553,801 describes a machine for the abrasive treatment of textile fabrics comprising a plurality of abrasive cylinders equipped with projecting helical ribbing which act on suitably tensioned spans of textile fabric guided on a complex trajectory which is tangent to a plurality of these cylinders.

[0010] U.S. Pat. No. 3,204,271 describes a brushing machine for textile fabrics in which the fabric to be processed is passed between a pair of counter-rotating brushes.

[0011] FR-A-2525644 describes an abrasive member made of a body of abrasive pumice stone.

[0012] EP-B-0757728 describes a machine for the continuous processing of textile fabric by means of a brush made of synthetic filaments charged with aluminum or carbon, of which an hypothetical abrasive capacity is claimed.

[0013] In all known devices in which a continuous web of textile fabric is processed, the textile fabric is subjected to the abrasive action of the rotating member—which may be a brush, a cylinder covered with abrasive paper or abrasive cloth, a body integrally made of abrasive material or the like—by tensioning the fabric and putting it into contact with the rotating abrasive member. Tensioning the material causes a number of problems, particularly due to the formation of folds or creases in the longitudinal direction which leads to the fabric being processed in different ways along its transversal development. The tension induced in the fabric may also alter the structure of the warp and weft yarns with consequent processing irregularities. Some yarns are subjected to more abrasion than others causing the formation of irregularly distributed lines on the finished product, in correspondence to where the fabric was excessively consumed by the abrasive member and appears to have lost essentially all its color. The loose or taut selvages subjected to tension by traditional grinding machines cause problems related to variable degree of abrasion which affects processing quality;

[0014] When the textile fabric, the non-woven or other web material is turned on a rotating abrasive cylinder without being adequately tensioned, the friction between the web material and the surface of the rotating cylindrical member tends to make the web material wind around the cylindrical member itself. The web material must be kept taut, which causes the aforesaid problems, to avoid jamming the machine.

OBJEC AND SUMMARY OF THE INVENTION

[0015] Object of the present invention is the realization of a new method and machine to overcome the aforesaid problems. More in particular, object of the invention is the realization of a machine for processing—specifically abrasion processing—textile materials or other continuous web material without inducing tensions in the web material which may negatively affect the final processing result.

[0016] These and other objects and advantages, which will be clear to experts of the field in the text that follows, are obtained in practice by a machine comprising in combination:

[0017] an advancement path of the web material,

[0018] at least one rotating substantially cylindrical abrasive member along the advancement path around which the web material is guided;

[0019] a mean for feeding web to the cylindrical member; and

[0020] a mean for distancing web from the cylindrical member;

[0021] and characterized in that: the cylindrical member is associated to a mobile guiding element on which the web

material is guided, whose position varies with the contact arch between the web material and the cylindrical member; and in that the speed of at least one of said feeding and distancing means is controlled according to the position of said mobile guiding element.

[0022] In this way, the contact angle or arch between the fabric or other continuous web material around the rotating cylindrical member can be controlled without excessively tensioning the web material or even practically without tensioning the web material at all. This avoids the formation of creases or longitudinal folds and provides uniform processing on the entire width of the material being processed.

[0023] Even if the speed of the periphery of the cylindrical member and the web material are different, the friction which the cylindrical member exerts on the fabric does not cause an excessive increase of the reciprocal contact arch between the fabric and the cylindrical member thanks to the control provided by the guiding element.

[0024] In this way, the tension on the web material in contact with the rotating cylindrical member is minimized.

[0025] Essentially, the invention is based on the idea of exploiting the attitude that the web material would assume if it were fed freely into contact with the rotating cylindrical member. This variable attitude is caused by the abrasive surface of the rotating member which in contact with the web material tends to withhold it on its surface and drag it making it turn. By applying the guiding element, the point in which the web material is detached from the rotating cylindrical member is stabilized so to keep the attitude (i.e., in substance, the reciprocal contact arch) of the fabric with respect to the rotating cylindrical member constant.

[0026] This attitude varies according to:

[0027] the rotation speed of the rotating cylindrical member,

[0028] the abrasive power of the surface of the member,

[0029] the surface characteristics of the web material, and

[0030] the relative speed between the web material and the periphery of the rotating cylindrical member.

[0031] The effect of the treatment can be varied without inducing critical tension in the web material by maintaining the characteristics of the rotating member and the web material and changing the speed of the rotating member and the feeding speed and/or the distancing speed of said web material to or from said rotating member.

[0032] In practice, it can be provided that an encoder or potentiometer or other suitable detecting means associated to the mobile guiding element generates a signal for modifying the feeding speed or the pulling speed of the web material to or from the rotating cylindrical member. After setting the required position of the guiding element (and consequently setting the contact arch between the web material and the rotating cylindrical member) this attitude, which corresponds to a certain abrasive effect, can be maintained by means of a feedback signal generated by the encoder or potentiometer.

[0033] According to a preferred embodiment of the invention, the position of the guiding element is used to control the speed of the distancing mean of the web material instead of the feeding mean. In other words, the speed of the web material is controlled at the rotating cylindrical member output. A more accurate control is obtained in this way.

[0034] The peripheral speed of the rotating cylindrical member can differ from the feeding speed of the web material around it according to modulus and/or direction. For example, the cylindrical member may turn at a peripheral speed which in the same direction as the advancement of the web material. In this case, the difference in speed is obtained by adopting a peripheral speed of the rotating member whose modulus is different (preferably higher) than the feeding speed of the web material. In this case, the guiding element can advantageously be arranged upstream to said rotating cylindrical member with respect to the direction of advancement of the web material on said advancement path.

[0035] Alternatively, the cylindrical member can turn at a peripheral speed whose direction is opposite to that of the direction of advancement of the web material around it. Also in this case, the member can advantageously turn at a peripheral speed whose modulus exceeds the speed of advancement of the web material to increase the difference in speed between the material to be processed and the periphery of the cylindrical member. In this case, the guiding element is advantageously arranged upstream to the cylindrical member.

[0036] In general, the guiding element is on the side of the cylindrical member towards which the cylindrical member tends to drag the web material by effect of the friction between the cylinder and the textile fabric.

[0037] To obtain particular effective processing, two or more rotating cylindrical members can be arranged along the path of advancement of the web material. In this case, a guiding element and respective means for feeding and distancing the material are advantageously associated to each cylindrical member. It is understood that the distancing means of the web material from a cylindrical member can be formed by the (or part of the) means used for feeding the web material to the following cylindrical member.

[0038] When two or more rotating cylindrical members are arranged along the advancement path of the textile fabric, it is preferred that one turns in the same direction as the direction of advancement of the web material and the other turns in the opposite direction with the consequently symmetric arrangement of the guiding elements.

[0039] In a multiple cylindrical member configuration, it is suitable to provide that the control priority of the distancing means associated to most downstream cylindrical member is higher than that of the other distancing means of the upstream members, which are subjected to the control of the means which are more downstream. Essentially, a master-slave type control is implemented, where the master is the most downstream cylindrical member. In the case of more than two rotating cylindrical members, the master-slave arrangement is repeated in each consecutive cylindrical member pair.

[0040] According to a practical embodiment of the invention, the guiding element (or each guiding element, in the

case of multiple arrangement) can consist of a dancer cylinder movable e.g. along a straight trajectory, and suitably guided. However, according to a practical and particularly advantageous embodiment of the invention, the guiding element is supported by an articulated pivoting arm on the axis of rotation of said rotating cylindrical member.

[0041] In order to reduce the tension on the web material as much as possible, the pivoting arm may be counterweighted, e.g. with a suitable counterweight carried by a flexible member, such as chain or the like, entrained around a wheel which is integral with the pivoting arm. Alternatively, a high velocity cylinder-piston system may be used to rapidly change the counterweight value. The guiding element does not apply a high tension on the web material by applying a counterweight to the pivoting arm. The term "high tension" is used to indicate a tension which may cause an alteration in the processing effect of the fabric, e.g. due to the formation of creases or folds in the fabric and/or due to the alteration, which may also be only temporary, of the warp and weft of the fabric.

[0042] The guiding element may be suitably associated to position detecting sensor members which detect the position thereof. The speed of the distancing means is therefore controlled by a suitable control unit in such a way as to avoid applying high tension to the web material.

[0043] According to an advantageous embodiment, the mean for distancing the web material from the cylindrical member is controlled by the position of said guiding element so that the contact angle between the web material and the cylindrical member does not exceed a pre-settable value.

[0044] Generally, the rotating cylindrical member can be any type of member, for performing any operation on the web material. The invention can be used to obtain particular advantages when the rotating cylindrical member is an abrasive member, specifically a cylindrical brush with abrasive bristles.

[0045] Advantageously, the abrasive bristles can consist of synthetic material filaments charged with granules of abrasive material.

[0046] The invention also concerns a method for the continuous processing of web material, specifically textile fabric, comprising the following phases: feeding the web material along a feeding path and around a rotating essentially cylindrical member which processes said web material; distancing the web material from said cylindrical member. According to the invention, the method is characterized in that the speed at which the web material is fed and/or distanced from the cylindrical member is controlled according to the contact arch between the cylindrical member and the web material.

[0047] According to a practical embodiment the method according to the invention provides for: arranging a mobile guiding element for the web material along the feeding path next to the cylindrical member; detecting the position of the mobile guiding element with respect to the cylindrical member; and controlling the speed at which said web material is distanced and/or fed to the cylindrical member according to the position of the mobile guiding element.

[0048] Additional advantageous characteristics and embodiment of the invention are recited in the dependent annexed claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0049] The invention will be better understood following the description and the accompanying drawing, which shows a practical non-limitative example of the invention. In the drawing:

[0050] **FIG. 1** schematically shows an abrasive rotating cylindrical member working on a fabric which is not tensioned, without the use of the measures provided by present invention;

[0051] **FIG. 2** schematically shows the structure of a machine according to the invention with a single rotating cylindrical member;

[0052] **FIG. 3** schematically shows a machine according to the invention with two rotating cylindrical members turning in opposite directions; and

[0053] **FIG. 4** schematically shows a machine similar to that illustrated in **FIG. 3**, with two abrasive rotating cylindrical members, but in a configuration suitable for processing both sides of the web material.

DETAILED DESCRIPTION OF THE INVENTION

[0054] Reference numeral **1** in **FIG. 1** very schematically indicates an abrasive rotating cylindrical member, specifically an abrasive cylindrical brush in this example. The cylindrical member turns on an axis **A** in the direction indicated by the arrow **f1**. Reference **1A** indicates a clothing, for example, made of filaments of synthetic material charged with abrasive particles, e.g. TYNEX® filaments.

[0055] A textile fabric **T** advancing the arrow **fT** is guided around the rotating cylindrical member **1**. As shown in **FIG. 1**, the trajectory of the fabric **T** can vary according to the contact arch on the cylindrical member **1**. By reducing the tension on the textile fabric **T**, the latter is dragged downwards by the cylindrical member **1**, whose peripheral speed is higher than the speed of advancement of the fabric itself. Excessively low stress on the textile fabric **T** makes the fabric tend to wind around the rotating cylindrical member **1**, as shown by the fabric in the attitude indicated by reference **T'**.

[0056] This problem is solved by the machine whose configuration is schematically shown in **FIG. 2**, without inducing tension in the textile fabric which could cause problems in terms of the process result.

[0057] In **FIG. 2**, reference numeral **1** again indicates a rotating cylindrical member turning on an axis **A**. Also in this case, the rotating cylindrical member **1**, for example, is made of a cylindrical brush equipped with a clothing of filaments **1A** of synthetic material charged with abrasive granules. The textile fabric **T** is fed along an advancement path by a feeding mean, generically indicated by reference numeral **3** and consisting in this example of a driven cylinder **5** on which the fabric **T** is advanced by guiding it on two guiding rollers **7** and **9**.

[0058] A distancing mean **11** consisting of driven rotating cylinder **13** on which the fabric **T** is guided and a pair of guiding rollers **15** and **17** (similarly as the feeding mean **3**) is arranged downstream with respect to the rotating cylindrical member **1**. Reference numerals **19** and **20** schemati-

cally indicate two independent motors for operating the driven cylinders **5** and **13** whose rotation speed may be reciprocally different. The rotating cylindrical member **1** is operated by a separate motor (not shown). A different configuration of the various motors may be used.

[0059] A baffle **21** presenting a rounded edge **21A** whose curvature radius is relatively small to deviate the trajectory of the fabric to the cylindrical surface of the rotating cylindrical member **1** is arranged between the feeding means **3** and the rotating cylindrical member **1**.

[0060] A pair of arms **23**, which carry a mobile guiding element (a roller **25** idly carried by the two pivoting arms **23** in the example shown) pivot on the axis A of rotation of the rotating cylindrical member **1**. The fabric T is guided on the mobile roller **25** and forms therefore a curve in the section comprised between the point of detachment between the rotating cylindrical member **1** and the guiding roller **15** of the distancing means **11**.

[0061] The assembly consisting of the pivoting arms **23** and the guiding roller **25** is suitably balanced by a counterweight **27** fastened to the lower free end of a chain **29** whose second end is fastened to chain wheel **31** integrally fastened to the arms **23** and consequently rotating on the axis A. In practice, two counterweights **27**, two chains **29** and two chain wheels **31** fastened to the two counterpoised arms **23** can be provided. The pivoting movement of the arms **23** causes more or less winding of the chain **29** on the respective chain wheel **31**. The counterweight **27** nearly entirely eliminates the tension due to the weight applied by the guiding roller **25** on the fabric T.

[0062] The pivoting movement of the arms **23** and the guiding roller **25** modifies the path of the fabric T as shown in the two positions of the unit **23, 25** shown by the solid and dotted line in FIG. 2. When the fabric T tends to wind by a larger arch around the rotating cylindrical member **1**, the pair of pivoting arms **23** and the guiding roller **25** pivot downwards counterclockwise.

[0063] In order to prevent the textile fabric T from wrapping around the rotating cylindrical member **1** forming an excessive arch which tends to integrally encompass the rotating cylindrical member **1**, a position sensor, e.g. an encoder or potentiometer, schematically indicated by reference numeral **33** in FIG. 2, is associated to the assembly formed by the pivoting arms **23** and the guiding roller **25**. The encoder **33** interfaces with a control unit **35**, which in turn interfaces at least with the motor **20** and possibly with the motor **19**. In this way, by suitably programming the control unit **35**, the angular position of the pivoting arms **23** and the guiding roller **25** (and consequently the contact arch between the fabric T and the rotating cylindrical member **1**) can be corrected by varying the speed with which the driven cylinder **13** pulls the fabric from the cylindrical member **1**.

[0064] Essentially, when the pivoting arms **23** and the guiding roller **25** tend to be excessively low, the speed of the driven cylinder **13** is temporarily increased to pull the fabric T and consequently reduce the loop formed between the rotating cylindrical member **1** and the guiding roller **15**. An opposite correction can be applied when the contact angle between the fabric T and the surface of the rotating cylindrical member **1** is excessively small, i.e. when the position of the pivoting arms **23** is excessively high. In practice, two

limit angular positions can be defined in correspondence with which the correction by temporary acceleration of the motor **20** is either started or stopped. The encoder **33** may be replaced by two limit switches which start and stop the acceleration control. Alternatively, a plurality of micro switches or proximity sensors arranged along the trajectory of the pivoting arms **23**, e.g. a plurality of capacitance, magnetic or linear sensors, to detect the passage of one of the two pivoting arms **23** and consequently control the acceleration or deceleration of the motor **20** associated to the driven cylinder **13**.

[0065] FIG. 3 shows a form of embodiment of the machine according to the invention with two rotating cylindrical members, consisting of abrasive cylindrical brushes also in this case. Equal numbers indicate parts which are either equal or corresponding to those illustrated in the previous form of embodiment. The machine comprises two consecutive sections, indicated by references **51A** and **51B**. Section **51A** is essentially equal to the machine in FIG. 2. It presents a brush **1** with bristles **1A**, means **3** for feeding the textile fabric T, distancing means **11**, a guiding element consisting of the roller **25** and the respective supporting pivoting arm **23**. Each of the feeding and distancing means are equipped with respective motors **19** and **20**, in this case shown in axis with the corresponding driven cylinders **5** and **13**.

[0066] Unlike the previous solution, the bristles **1A** of the cylindrical brush **1** are slanted with respect to the radial direction and more exactly are slanted backwards with respect to the feeding direction of the fabric T and to the direction of the rotation of the brush. This ensures the best abrasive results because the granules incorporated in the synthetic resin which forms the bristles projects from the edges of the bristles.

[0067] Section **51B** has in common with section **51A** the arrangement of the means **11** forming the feeding means of the fabric T to a second rotating cylindrical member, indicated by reference numeral **101**, and consisting of a cylindrical brush with bristles **101A**. Members equivalent to the members in the upstream section are associated to the brush **101**, namely a guiding roller **125** supported by a pair of arms **123** hinged on axis B of rotation of the brush **101**. An encoder or potentiometer **133** provides a signal indicating the angular position of the arms **123** and consequently the contact arch of the fabric T with the brush **101**. Reference **121** indicates a baffle of the fabric and references **111, 113, 115, 117, 120** indicate the members forming the means for distancing the web from the second brush **101**, equivalent to the means **11, 15, 17, 20**.

[0068] The arms **123** and the guiding roller **125** are balanced by a counterweight **127** supported by a flexible member **129** similar to the flexible member **29**, turning around a wheel **131** which is integral with the arms **123** and coaxial to the axis B. The angular position of the arms **123** is detected by an encoder **133**.

[0069] The arrangement of the section **51B** differs with respect to the arrangement of the section **51A**, in that the brush **101** turns in the direction opposite to that of the brush **1**. Consequently, the direction of the peripheral speed of the brush is opposite to the speed of advancement of the fabric in the contact area between the fabric T and the brush **101**. Consequently, the direction in which the bristles **101A** are

slanted is also reversed. The guiding roller **125** is arranged upstream to the brush **101** with respect to the direction of advancement of the fabric T.

[0070] The motors **19**, **20**, **120** and the encoders **33**, **133** interface with a programmable central control unit **35** which is similar to the unit **35** in the previous example of embodiment. The operation is illustrated below. When the machine is started, the arms **123**, **23** are in an intermediate position, in an acceptable angular range. If the fabric T tends to wrap excessively around the brush **101A** on input side (i.e. towards the feeding means **11** to section **51B**) by effect of the dragging exerted by the abrasive bristles **101A**, the distancing means **111** are consequently accelerated to pull the fabric. Section **51A** works in the way already described with reference to the machine in **FIG. 1**, with the difference that it is subordinated to the control of section **51B**. In other words, the distancing speed of the means **11** from section **51A** is corrected after correcting the speed of the means **111**, to return the arm **123** to the correct position.

[0071] **FIG. 4** shows a form of embodiment, which is similar to that shown in **FIG. 3**, but in a configuration in which the first abrasive rotating cylindrical member works on one side of the web material while the other abrasive rotating cylindrical member works on the second side of the material. This machine is consequently capable of processing the front and the back of the fabric at the same time. Equal numbers indicate parts which are the same as or equivalent to the embodiment in **FIG. 3**. In this case, the mobile guiding elements are always downstream to the corresponding rotating cylindrical member because the web embraces the upper arch in the first case and the lower arch of the respective rotating cylindrical member in the second case.

[0072] It is understood that the drawing only shows a possible embodiment of the invention, which may be varied in its forms and dispositions without however departing from the scope of the underlying concept of the invention.

1. A machine for processing a web material, in particular a textile fabric, comprising:

- an advancement path of said web material,
- at least one substantially cylindrical rotating member along said advancement path on which the web material is guided,
- a mean for feeding said web material to said cylindrical member, and
- a mean for distancing said web material from said cylindrical member,

wherein: said cylindrical member is associated to a mobile guiding element on which the web material is guided, whose position varies with the contact arch between the web material and the cylindrical member; and in that the speed of at least one of said feeding and distancing means is controlled according to the position of said mobile guiding element.

2. Machine according to claim 1, wherein the speed of the web material distancing mean is adjusted according to said position of the mobile guiding element.

3. Machine according to claim 1, wherein the guiding element is downstream to said rotating cylindrical member, with respect to the direction of advancement of the web

material along said advancement path, and the direction of the peripheral speed of the rotating cylindrical member is the same as the direction of advancement of the web material along said path.

4. Machine according to claim 2, wherein the guiding element is downstream to said rotating cylindrical member, with respect to the direction of advancement of the web material along said advancement path, and the direction of the peripheral speed of the rotating cylindrical member is the same as the direction of advancement of the web material along said path.

5. Machine according to claim 1, wherein the guiding element is arranged upstream to said rotating cylindrical member with respect to the direction of advancement of the web material on said advancement path; and the direction of the peripheral speed of the rotating cylindrical member is opposite to the direction of advancement of the web material along said path.

6. Machine according to claim 1, including two cylindrical members in opposite directions, each of said cylindrical members being associated to a respective mobile guiding element and respective web material feeding and distancing means.

7. Machine according to claim 2, including two cylindrical members rotating in opposite directions, each of said cylindrical members being associated to a respective mobile guiding element and respective web material feeding and distancing means.

8. Machine according to claim 3, including two cylindrical members rotating in opposite directions, each of said cylindrical members being associated to a respective mobile guiding element and respective web material feeding and distancing means.

9. Machine according to claim 4, including two cylindrical members rotating in opposite directions, each of said cylindrical members being associated to a respective mobile guiding element and respective web material feeding and distancing means.

10. Machine according to claim 5, including two cylindrical members rotating in opposite directions, each of said cylindrical members being associated to a respective mobile guiding element and respective web material feeding and distancing means.

11. Machine according to claim 6, wherein:

a first of said rotating cylindrical members turns in the direction of advancement of the web material and the respective guiding element is arranged downstream to said first cylindrical member with respect to the direction of advancement of the web material; and

the second of said rotating cylindrical members turns in the direction opposite to that of advancement of the web material and the respective guiding element is arranged upstream to said second cylindrical member with respect to the direction of advancement of the web.

12. Machine according to claim 11, wherein said two rotating cylindrical members are arranged to process two opposite sides of the web.

13. Machine according to claim 12, wherein a respective mobile guiding element is associated to each of said rotating cylindrical members, each mobile guiding element being arranged downstream to the respective rotating cylindrical member with respect to the direction of advancement of the web material.

14. Machine according to claim 1, wherein each guiding element is supported by a articulated pivoting arm on the rotating axis of said rotating cylindrical member.

15. Machine according to claim 11, wherein each guiding element is supported by a articulated pivoting arm on the rotating axis of said rotating cylindrical member.

16. Machine according to claim 14, wherein said pivoting arm is counterweighted.

17. Machine according to claim 1, wherein said guiding element does not apply high tension on said web material.

18. Machine according to claim 1, wherein the speed of said distancing means and/or said feeding mean is controlled to avoid applying a high tension on the web material.

19. Machine according to claim 1, wherein said distancing mean is controlled by the position of said guiding element so that the contact arch between the web material and the cylindrical member does not exceed a presettable value.

20. Machine according to claim 1, wherein said cylindrical member is an abrasive member.

21. Machine according to claim 11, wherein said cylindrical member is an abrasive member.

22. Machine according to claim 1, wherein said cylindrical member is a cylindrical brush.

23. Machine according to claim 22, wherein said cylindrical brush includes abrasive bristles.

24. Machine according to claim 23, wherein said abrasive bristles are made of filaments of synthetic material charged with granules of abrasive material.

25. Machine according to claim 22, wherein the bristles of said brush are slanted with respect to a radial direction, the bristles being slanted in the opposite direction with respect to the direction of rotation of said brush.

26. Machine according to claim 1, wherein a baffle is arranged along the advancement path of the web material, between either the feeding mean and the cylindrical member or the distancing mean and the cylindrical member to set the point of contact between the web material and the cylindrical member.

27. Machine according to claim 16, wherein said arm is integral with a wheel around which a flexible member carrying a counterweight is turned.

28. A method for the continuous processing of a web material, specifically textile fabric, comprising the following phases:

feeding said web material along an advancement path and around a rotating member which is essentially cylindrical and processes said web material;

distancing the web material from said cylindrical member, wherein the speed at which said web material is fed and/or distanced from the cylindrical member is controlled according to the contact arch between the cylindrical member and the web material.

29. Method according to claim 21, characterized by:

providing a mobile guiding element of the web material along the feeding path next to the cylindrical member;

detecting the position of the mobile guiding element with respect to the cylindrical member; and

controlling the speed at which said web material is either distanced and/or fed to the cylindrical member according to the position of the mobile guiding element is controlled.

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