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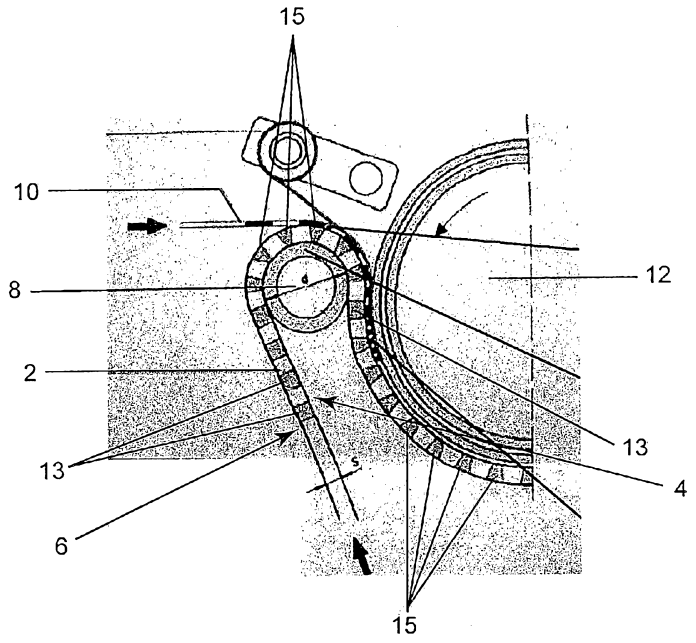

(57) Abstract: A multi-base needled belt having an elastic surface comprising a conventional base layer (14), an elastic base layer (16) and at least two batt layers (18, 20) needled into both base layers in order to join the base layers to each other, wherein the belt's elasticity derives from elastic fibers that are used to construct the elastic layer.

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Editorial Note

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A NEEDLED BELT WITH HIGH THICKNESS AND ELASTICITY

Field of the Invention

The present disclosure relates generally to the production of textiles. More specifically, the present disclosure relates to a textile machine belt that is used to finish or compact knitted fabrics.

Background of the Invention

Generally, machine fabrics or belts of this type are used in the manufacturing of textiles. More specifically, textile machine belts of a type similar to that of the present disclosure are used as so-called compacting belts. Compacting belts are used on special machines (compacting machines) to render materials, such as knitted fabrics, shrink proof. Materials that have been processed by a compacting machine remain de facto shrink proof during the first wash. This process is commonly used in the production of clothing.

A standard belt used on a textile compacting machine is usually relatively thick, ranging from between 16 mm and 22 mm in thickness. Compacting machine belts are typically manufactured using polyamide, polyester and aramid fibres. When used on such machines, the belt must undergo several looping processes, wrapping around several rolls or cylinders often having different diameters. As the belt travels through the machine, its internal and external surfaces reverse from roll to roll.

Depicted in FIG. 1 is a typical textile compacting machine. A compacting belt 2, having an internal machine surface 4 and an external product surface 6 and travelling in the direction of the arrows in the figure, first wraps around a driving roll 8. At the point of the driving roll 8, the textile or cloth 10 to be compacted is introduced into the compacting machine and placed in contact with the external surface 6 of the compacting belt 2. The cloth 10 now carried by the compacting belt 2, becomes sandwiched 11 between the compacting belt 2 and a steam heated cylinder 12. The combined effect of compressing the cloth 10 between the compacting belt 2 and the

steam heated cylinder 12 and heating the cloth with steam, results in, for example, a knitted fabric material cloth that is dimensionally stabilised and resistant to shrinkage.

The compacting belt's thickness, however, is problematic. When the belt 2 wraps around the driving roll 8, its internal machine side 4 becomes compressed and shortens while its external product side 8 becomes stretched and elongated. When the curvature of the belt 2 is reversed at the steam heated cylinder 12, the external product side 6 now becomes compressed and shortens while the internal machine side 4 becomes stretched and elongated. This alternating compressing and stretching of the belt's opposing surfaces is depicted by the boxes 13 and the trapezoidal shapes 15 in FIG. 1.

Due to the stretching and compressing of the belt 2, the external product side surface 6 can lose its consistency or smoothness. As a result, the external product side surface 6 becomes irregular, leading to marking problems on the processed cloth's surface. In addition, cracks can occur in the belt, limiting the serviceable life of the belt. It has also been demonstrated that the serviceable life is not only reduced by the movements of the compacting belt around the cylinders or rolls, but also by other influences on the belt, such as residue from acid dyes or bleaching agents that are introduced into the belt from the materials being processed.

Attempts have been made to solve the above-described problems associated with prior belts. For example, U.S. Patent No. 6,479,414 ("the '414 patent") discloses a textile machine belt consisting of a ground textile, a belt layer, an elastic knit fabric and an uppermost layer. As disclosed, the elastic knit fabric is a warp or circular knitted article in the form of a knitted sleeve. Elasticity of the machine belt comes from the physical structure of the elastic fabric being a knit because an inherent characteristic of certain knitted articles is their elasticity. That is, a knitted article's structure allows it to expand and contract (stretch and compress) without affecting the article's integrity.

The present disclosure differs from that of the '414 patent in that the elastic base layer of the present disclosure is flat woven with elastic fibres and not knitted with in-elastic fibres. Therefore, the elasticity of the present disclosure derives from the use of elastic fibres in the flat woven elastic base layer. Hence, the present disclosure can be

produced using a variety of textile methods and is not, as is the case with the '414 patent, limited to only warp knitting or circular knitting techniques. Furthermore, the structure of the present disclosure differs over that of the '414 belt in that the external product side and the internal machine side of the instant belt consist of batt fibres that have been needled into the base layers. The belt of the '414 patent speaks of a "stitched" felt layer 2 and fibrous layer 4 between which a knitted layer 3 is disposed. But again, the elasticity is due to the structure, i.e., the knit rather than due to the elastic material itself.

Accordingly, a need exists for a belt that is capable of being subjected to alternating and repetitive stretching and compressing of its surfaces so that its external machine side surface does not become irregular, resulting in marking of a textile cloth processed thereon. Furthermore, a need exists for a belt that is capable of being manufactured using a variety of textile methods.

The above references to the background art do not constitute an admission that the art forms a part of the common general knowledge of a person of ordinary skill in the art. The above references are also not intended to limit the application of the textile belt as disclosed herein.

SUMMARY OF THE INVENTION

At least some embodiments may provide a belt that is capable of repetitive and alternating stretching and compressing without adversely affecting the belt's desired properties.

At least some embodiments may provide a belt where the belt's elasticity may allow both surfaces of the belt to stretch and elongate as well as to compress and shorten based on the belt's orientation when wrapped around various rolls or cylinders.

At least some embodiments may provide a multi-base belt wherein at least one of the base layers may be elastic.

At least some embodiments may provide an elastic belt that may have an elastic base layer, wherein the belt's elasticity is derived from elastic fibres used to construct the elastic base layer.

At least some embodiments may provide an elastic belt that may have needled batt layers for both its internal machine side and external product side surfaces.

At least some embodiments may provide an elastic belt that may be produced using a variety of textile methods.

At least some embodiments may provide a belt that may be more durable, resulting in an increased service life.

At least some embodiments may provide a machine belt that may be used in the manufacturing of textiles.

In a first aspect, a multi-base textile belt is disclosed. The belt comprises:

a synthetic polymeric resin base layer adjacent to a machine-side of said belt;

an elastic base layer woven from elastic yarns, wherein said elastic yarns are composite yarns comprising a core of at least one elastic yarn and at least a first protective layer of fiber disposed on said core, or said elastic yarns are sheath-core yarns comprising a core of at least one elastic yarn;

a first batt layer on the machine side of said belt, wherein said first batt layer is attached to said synthetic polymeric base layer and said elastic base layer, said first batt layer providing a machine side contact surface; and

a second batt layer on the product forming side of said belt, wherein said second batt layer is attached to said synthetic polymeric base layer and said elastic base layer, said second batt layer providing a product side contact surface.

In a second aspect, a multi-base textile belt is disclosed comprising:

a woven or knitted first base layer comprised of synthetic polymeric resin yarns adjacent to a machine-side of said belt;

a woven second base layer comprised of elastic yarns, wherein said elastic yarns are composite yarns comprising a core of at least one elastic yarn and at least a first protective layer of fiber disposed on said core, or said elastic yarns are sheath-core yarns comprising a core of at least one elastic yarn;

a first batt layer on the machine side of said belt, wherein said first batt layer is attached to said woven or knitted first base layer and said woven second base layer, said first batt layer providing a machine side contact surface; and

a second batt layer on the product forming side of said belt, wherein said second batt layer is attached to said woven or knitted first base layer and said woven second base layer, said second batt layer providing a product side contact surface.

In a third aspect, a multi-base textile belt is disclosed comprising:

a woven or knitted first base layer comprised of synthetic polymeric resin yarns adjacent to a machine-side of said belt;

a woven second base layer comprised of elastic yarns, wherein said elastic yarns are composite yarns comprising a core of at least one elastic yarn and at least a first protective layer of fiber disposed on said core, or said elastic yarns are sheath-core yarns comprising a core of at least one elastic yarn;

a first batt layer disposed between said woven or knitted first base layer and said woven second base layer;

a second batt layer on the machine side of said belt, wherein said second batt layer is attached to said woven or knitted first base layer, said first batt layer and said woven second base layer, said second batt layer providing a machine side contact surface; and

a third batt layer on the product forming side of said belt, wherein said third batt layer is attached to said woven or knitted first base layer, said first batt layer and said woven second base layer, said third batt layer providing a product side contact surface.

In one form, a multi-base textile belt is disclosed wherein said synthetic polymeric base layer is woven or knitted from synthetic polymeric resin yarns.

In one form, a multi-base textile belt is disclosed wherein said synthetic polymeric yarns are monofilament, plied monofilament, multifilament or plied multifilament yarns.

In one form, a multi-base textile belt is disclosed wherein said synthetic polymeric resin is a polyamide or polyester resin.

In one form, a multi-base textile belt is disclosed wherein said elastic yarns are selected from the group consisting of natural rubber, nitrile rubber or silicone rubber or from a block copolymer of polyurethane and polyethylene glycol. In addition, synthetic materials, such as but not limited to, LYCRA and ELASTAN® may be used to construct the elastic base layer.

In one form, a multi-base textile belt is disclosed wherein said composite yarns or said sheath-core yarns include a protective polymeric coating layer.

In one form, a multi-base textile belt is disclosed wherein said protective polymeric coating layer is a silicone coating.

In one form, a multi-base textile belt is disclosed wherein said protective polymeric coating layer is a polyurethane.

In order to protect the elastic fibres from significant damage during the batt needling process, the elastic fibres may be coated with a polymeric resin such as polyurethane or silicone.

In one form, a multi-base textile belt is disclosed wherein said protective layer is sprayed or dip-coated onto the elastic yarns or a sheath that is melt bonded to the elastic yarns.

In one form, a multi-base textile belt is disclosed wherein at least one or both of said batt layers are attached by needling.

In one form, a multi-base textile belt is disclosed wherein the core or central portion of the yarn is wrapped with an outer layer of fibre such as polyester.

In one form a multi-base textile belt is disclosed wherein at least one protective layer of fibre is wrapped onto said core in a twisted or spiralled manner, or may be of all multifilament construction.

In one form, a multi-base textile belt is disclosed wherein said composite yarns further comprise a second protective layer of fibre.

In one form, a multi-base textile belt is disclosed wherein said first protective layer of fibre is wrapped onto said core in a first direction and said second protective layer of fibre is wrapped onto said first protective layer of fibre in a second direction that is opposite to the first direction.

In one form, a multi-base textile belt is disclosed wherein said first protective layer of fibre further includes a polymeric coating.

In one form, a multi-base textile belt is disclosed wherein said first protective layer of fibre and a second protective layer of fibre further include a polymeric coating.

In one form, in order to further protect the composite elastic yarns from significant needling damage, the composite yarns may also be coated with a polymeric resin such as polyurethane or silicone.

The various features are defined in the claims annexed hereto and forming a part of this disclosure. For a better understanding of the disclosure and its operating advantages, reference is made to the accompanying descriptive matter in which embodiments of the disclosure are illustrated in the accompanying drawings in which corresponding components are identified by the same reference numerals.

BRIEF DESCRIPTION OF THE DRAWINGS

The following detailed description, given by way of example and not intended to limit the present disclosure solely thereto, will best be appreciated in conjunction with the accompanying drawings, wherein like reference numerals denote like elements and parts, in which:

FIG. 1 is a cross-sectional view of a textile compacting machine;

FIG. 2 is a cross-sectional view of a multi-base needled belt, according to one embodiment of the present disclosure;

FIG. 3 is a cross-sectional view of a multi-base needled belt, according to one embodiment of the present disclosure;

FIG. 4 is a cross-sectional view of the multi-base needled belt that was manufactured according to the embodiment of FIG. 3; and

FIG. 5 is a side view of a composite yarn in the expanded state showing the double fibre layer of the outer protective layer, according to one embodiment of the present disclosure.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present disclosure relates to a multi-base needled belt for use in textile manufacturing. As previously discussed, prior art belts are problematic because their inelasticity causes the surface of the belts to become cracked and irregular, resulting in marking on a textile cloth being processed. In addition, the problems associated with the prior art belts result in less durable belts that have shorter service lives.

The present disclosure provides a belt that may be more elastic and more durable than prior belts. FIG. 2 depicts the configuration of a multi-base needled belt constructed according to one embodiment of the present disclosure. As depicted, a conventional base layer 14 is located adjacent to the internal machine side 4 of the belt 2 and an elastic base layer 16 is located adjacent to the external product side 6 of the

belt 2. In order to attach the conventional base layer 14 and the elastic base layer 16 to one another, a top or external batt layer 18 and a bottom or internal batt layer 20 are needled from an exterior surface of each base layer into both base layers, 14 and 16. Therefore, the needled batt fibres 22 physically join the two layers to each other. The batt layers, 18 and 20, also provide a product side and a machine side contact surface.

FIG. 3 depicts a multi-base needled belt constructed according to another embodiment of the present disclosure. As depicted, a conventional base layer 14 is located adjacent to the internal machine side 4 of the belt 2 and an elastic base layer 16 is located adjacent to the external product side 6 of the belt 2. In this embodiment, however, the conventional base layer 14 and the elastic base layer 16 are separated by an additional batt layer 24. By adding this additional batt layer 24 to the belt 2, the elastic base layer 16 is positioned closer to the external product side surface 6 of the belt 2. In order to attach the conventional base layer 14, the additional batt layer 24 and the elastic base layer 16 to each another, a top or external batt layer 18 and a bottom or internal batt layer 20 are needled from an exterior surface of each base layer into the additional batt layer 24 and both base layers, 14 and 16. Therefore, the needled batt fibres 22 physically join the three layers to each other. The batt layers, 18 and 20, also provide a product side and a machine side contact surface. FIG. 4 is a photograph of a cross-section taken through a belt constructed according to this embodiment of the present disclosure.

As a result of positioning the elastic base layer 16 closer to the external product side surface 6 of the belt 2 in both of the disclosed embodiments, the belt becomes more flexible. Therefore, the increased flexibility of the belt 2 reduces the formation of inconsistencies or irregularities in the external batt layer 18, thereby reducing marking of the textile cloth being processed. As is readily apparent to one skilled in the art, it is also possible to include an elastic base layer 16 adjacent to the internal machine side 4 of the belt 2. This results in a belt that has increased flexibility on its internal machine side 4 as well.

The conventional base layer 14 can be woven or knitted from monofilament, plied monofilament, multifilament or plied multifilament yams or fibres. The yarns are

typically extruded from any one of the synthetic polymeric resins, such as polyamide and polyester resins, used for this purpose by those of ordinary skill in the art.

The elastic base layer 16 is preferably flat woven. Standard elastic fibres, however, cannot be used for the elastic base layer 16 because standard elastic fibres are not suitable for the needling process as needling can damage the fibres. Therefore, the elastic fibres must be further processed to include a protective layer that may either be a physical or chemical treatment. Elastic fibres suitable for use in the elastic layer 16, include but are not limited to natural, nitrile or silicone rubber, LYCRA® and ELASTAN®. One way of protecting the elastic fibres is to process the fibres into a composite yarn such that the elastic fibres are primarily in the core or central portion of the yarn and wrapped with an outer protective layer of fibre such as, but not limited to, polyamide or polyester. This outer protective layer can be a multifilament yarn which is twisted or spiralled around the elastic core, or it may be of all multifilament construction.

In order to allow the elastic core fibres to maintain their elasticity when fibres such as polyamide and polyester are used for the outer protective layer, the outer protective layer may comprise two fibre layers that are wrapped in a spiral manner around the elastic core in opposite directions. That is, as depicted in Fig. 5, the first fibre layer 50 of the outer protective layer is wrapped or spiralled onto the elastic core 56 in one direction. Once the first fibre layer 50 is spiralled on, a second fibre layer 52 is wrapped or spiralled onto the first fibre layer 50 in a direction opposite to that of the first layer.

In this configuration, the spiralled outer protective layer remains "closed" when the elastic composite yarn is not under tension or relaxed. This results in an elastic core 56 that is fully covered by the outer protective layer, which prevents the elastic core 56 from being significantly damaged during the needling process. As depicted in Fig. 5, when the composite yarn 58 is placed under tension or stretched in the direction indicated in the figure, the spiralled first fibre 50 and second fibre 52 of the outer protective layer "open" into an "X" shape 54. This allows the elastic core 56 and hence the composite yarn 58 to stretch or expand in the direction indicated in the figure.

Alternatively, the elastic fibres can be protected with the application of a polymeric coating, such as but not limited to, polyurethane or silicone.

Treatment of the elastic fibres with these coatings prevents significant needling damage and assures good adhesion between the batt fibres and the elastic yarns. These coatings may also be applied to the composite yarns in order to provide further protection against significant needling damage and assure good adhesion between the batt fibres and the elastic yarns. The protective coatings further include coatings that are sprayed or dip-coated on the elastic yarns. Also, the coatings can be in the form of a sheath that is melt bonded to the yarn or so called sheath/core yarn produced, for example, during yarn extrusion or other methods known to those skilled in the art of yarn production. Additional methods to treat the yarn surface of the elastic yarns will be readily apparent to those skilled in the art.

Furthermore, because the elasticity of the instant belt derives from an elastic layer that is constructed with elastic yarns or fibres, the instant belt is not limited to flat weaves. Instead, additional textile forming techniques known to those skilled in the art may be used to construct the elastic layer of the present disclosure.

In addition, while needling is referred to as the means for attaching the layers of the laminated structure together, other ways will be apparent to those skilled in the art. For example, lamination or attachment by heat fusion might be utilised especially if components of certain layers contain a material with a lower melting point. In this regard, the batt layer(s) could include a "low melt" binder fibre, especially the situation where the batt has an interior batt layer. One might consider a combination of both needling and some heat fusion or other attachment mechanism suitable for the purpose. In this regard, such a combination will reduce the total amount of needling required to hold the structure together, positively impacting the desired result of minimising damage to the elastic yarns. In the case of fusion attachment, for example, the amount of fusion and the amount of "low melt" material and its location would have to be balanced against the need to have the belt perform in the desired manner as to both elongation and relaxation in the machine direction as well as the through thickness compression and rebound (resiliency). Too much "fusion" may affect the desired elastic behaviour so a proper balancing needs to occur.

Although an embodiment of the present disclosure and modifications thereof have been described in detail herein, it is to be understood that this disclosure is not limited to this precise embodiment and modifications, and that other modifications and variations may be effected by one skilled in the art without departing from the spirit and scope of the disclosure as defined by the appended claims. The use of the present belt in accordance with the disclosure is not limited to machines for rendering textiles shrink proof, in other words, the present belt can be used anywhere where the requirements mentioned above are placed on the quality and serviceable life of the belt.

In the claims which follow and in the preceding description, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence of addition of further features in various embodiments of the textile belt.

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WHAT IS CLAIMED IS:

1. A multi-base textile belt comprising:

a synthetic polymeric resin base layer adjacent to a machine-side of said belt;

an elastic base layer woven from elastic yarns, wherein said elastic yarns are composite yarns comprising a core of at least one elastic yarn and at least a first protective layer of fiber disposed on said core, or said elastic yarns are sheath-core yarns comprising a core of at least one elastic yarn;

a first batt layer on the machine side of said belt, wherein said first batt layer is attached to said synthetic polymeric base layer and said elastic base layer, said first batt layer providing a machine side contact surface; and

a second batt layer on the product forming side of said belt, wherein said second batt layer is attached to said synthetic polymeric base layer and said elastic base layer, said second batt layer providing a product side contact surface.

2. The multi-base textile belt as claimed in claim 1, wherein said synthetic polymeric base layer is woven or knitted from synthetic polymeric resin yarns.

3. The multi-base textile belt as claimed in claim 2, wherein said synthetic polymeric yarns are monofilament, plied monofilament, multifilament or plied multifilament yarns.

4. The multi-base textile belt as claimed in claim 1, wherein said synthetic polymeric resin is a polyamide or polyester resin.

5. The multi-base textile belt as claimed in claim 1, wherein said elastic yarns are selected from the group consisting of natural rubber, nitrile rubber, silicone rubber, or from a block copolymer of polyurethane and polyethylene glycol.

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6. The multi-base textile belt as claimed in claim 1, wherein said composite yarns or said sheath-core yarns include a protective polymeric coating layer.

7. The multi-base textile belt as claimed in claim 6, wherein said protective polymeric coating layer is a silicone coating.

8. The multi-base textile belt as claimed in claim 6, wherein said protective polymeric coating layer is a polyurethane.

9. The multi-base textile belt as claimed in claim 1, wherein at least one or both of said batt layers are attached by needling.

10. The multi-base textile belt as claimed in claim 1, wherein said first protective layer of fibre is wrapped onto said core in a twisted or spiralled manner.

11. The multi-base textile belt as claimed in claim 1, wherein said composite yarns further comprise a second protective layer of fibre.

12. The multi-base textile belt as claimed in claim 11, wherein said first protective layer of fibre is wrapped onto said core in a first direction and said second protective layer of fibre is wrapped onto said first protective layer of fibre in a second direction that is opposite to the first direction.

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13. The multi-base textile belt as claimed in claim 1, wherein said first protective layer of fibre further includes a polymeric coating.

14. The multi-base textile belt as claimed in claim 11, wherein said first protective layer of fibre and a second protective layer of fibre further include a polymeric coating.

15. A multi-base textile belt comprising:

a woven or knitted first base layer comprised of synthetic polymeric resin yarns adjacent to a machine-side of said belt;

a woven second base layer comprised of elastic yarns, wherein said elastic yarns are composite yarns comprising a core of at least one elastic yarn and at least a first protective layer of fiber disposed on said core, or said elastic yarns are sheath-core yarns comprising a core of at least one elastic yarn;

a first batt layer on the machine side of said belt, wherein said first batt layer is attached to said woven or knitted first base layer and said woven second base layer, said first batt layer providing a machine side contact surface; and

a second batt layer on the product forming side of said belt, wherein said second batt layer is attached to said woven or knitted first base layer and said woven second base layer, said second batt layer providing a product side contact surface.

16. The multi-base textile belt as claimed in claim 15, wherein said yarns in said woven or knitted first layer are monofilament, plied monofilament, multifilament or plied multifilament yarns.

17. The multi-base textile belt as claimed in claim 15, wherein said synthetic polymeric resin is a polyamide or polyester resin.

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18. The multi-base textile belt as claimed in claim 15, wherein said elastic yarns are selected from the group consisting of natural rubber, nitrile rubber, silicone rubber, or from a block copolymer of polyurethane and polyethylene glycol.

19. The multi-base textile belt as claimed in claim 15, wherein said composite yarns or said sheath-core yarns include a protective polymeric coating layer.

20. The multi-base textile belt as claimed in claim 19, wherein said protective polymeric coating layer is a silicone coating.

21. The multi-base textile belt as claimed in claim 19, wherein said protective polymeric coating layer is a polyurethane.

22. The multi-base textile belt as claimed in claim 15, wherein said protective polymeric coating layer is sprayed or dip-coated onto the elastic yarns or is a sheath that is melt bonded to the elastic yarns.

23. The multi-base textile belt as claimed in claim 15, wherein at least one or both of said batt layers are attached by needling.

24. The multi-base textile belt as claimed in claim 15, wherein said first protective layer of fibre is wrapped onto said core in a twisted or spiralled manner.

25. The multi-base textile belt as claimed in claim 15, wherein said composite yarns further comprise a second protective layer of fibre.

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26. The multi-base textile belt as claimed in claim 25, wherein said first protective layer of fibre is wrapped onto said core in a first direction and said second protective layer of fibre is wrapped onto said first protective layer of fibre in a second direction that is opposite to the first direction.

27. The multi-base textile belt as claimed in claim 15, wherein said first protective layer of fibre further includes a polymeric coating.

28. The multi-base textile belt as claimed in claim 25, wherein said first protective layer of fibre and a second protective layer of fibre further include a polymeric coating.

29. A multi -base textile belt comprising:

a woven or knitted first base layer comprised of synthetic polymeric resin yarns adjacent to a machine-side of said belt;

a woven second base layer comprised of elastic yarns, wherein said elastic yarns are composite yarns comprising a core of at least one elastic yarn and at least a first protective layer of fiber disposed on said core, or said elastic yarns are sheath-core yarns comprising a core of at least one elastic yarn;

a first batt layer disposed between said woven or knitted first base layer and said woven second base layer;

a second batt layer on the machine side of said belt, wherein said second batt layer is attached to said woven or knitted first base layer, said first batt layer and said woven second base layer, said second batt layer providing a machine side contact surface; and

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a third batt layer on the product forming side of said belt, wherein said third batt layer is attached to said woven or knitted first base layer, said first batt layer and said woven second base layer, said third batt layer providing a product side contact surface.

30. The multi-base textile belt as claimed in claim 29, wherein said yarns in said woven or knitted first layer are monofilament, plied monofilament, multifilament or plied multifilament yarns.

31. The multi-base textile belt as claimed in claim 29, wherein said synthetic polymeric resin is a polyamide or polyester resin.

32. The multi-base textile belt as claimed in claim 29, wherein said elastic yarns are selected from the group consisting of natural rubber, nitrile rubber, silicone rubber, or from a block copolymer of polyurethane and polyethylene glycol.

33. The multi-base textile belt as claimed in claim 29, wherein said composite yarns of said sheath-core yarns include a protective polymeric coating layer.

34. The multi-base textile belt as claimed in claim 33, wherein said protective polymeric coating layer is a silicone coating.

35. The multi-base textile belt as claimed in claim 33, wherein said protective polymeric coating layer is a polyurethane.

36. The multi-base textile belt as claimed in claim 33, wherein said protective polymeric coating layer is sprayed or dip-coated onto the elastic yarns or is a sheath that is melt bonded to the elastic yarns.

37. The multi-base textile belt as claimed in claim 29, wherein at least one or more batt layers are attached by needling.

38. The multi-base textile belt as claimed in claim 29, wherein said first protective layer of fibre is wrapped onto said core in a twisted or spiralled manner.

39. The multi-base textile belt as claimed in claim 29, wherein said composite yarns further comprise a second protective layer of fibre.

40. The multi-base textile belt as claimed in claim 39, wherein said first protective layer of fibre is wrapped onto said core in a first direction and said second protective layer of fibre is wrapped onto said first protective layer of fibre in a second direction that is opposite to the first direction.

41. The multi-base textile belt as claimed in claim 29, wherein said first protective layer of fibre further includes a polymeric coating.

42. The multi-base textile belt as claimed in claim 39, wherein said first protective layer of fibre and a second protective layer of fibre further include a polymeric coating.

43. A multi-base textile belt substantially described herein with reference to the accompanying drawings.

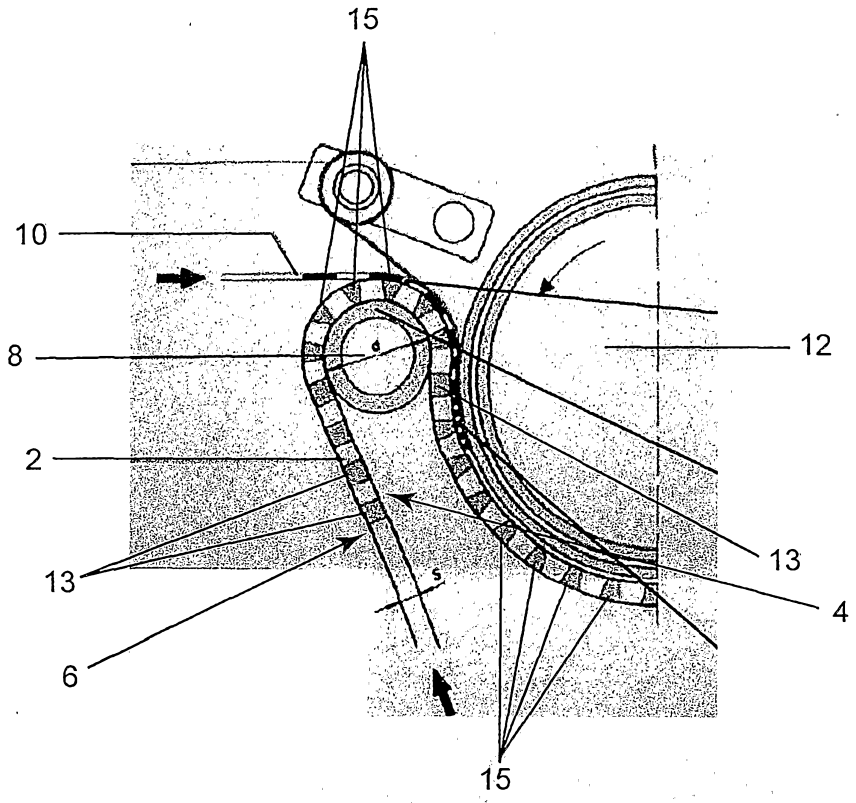

FIG. 1

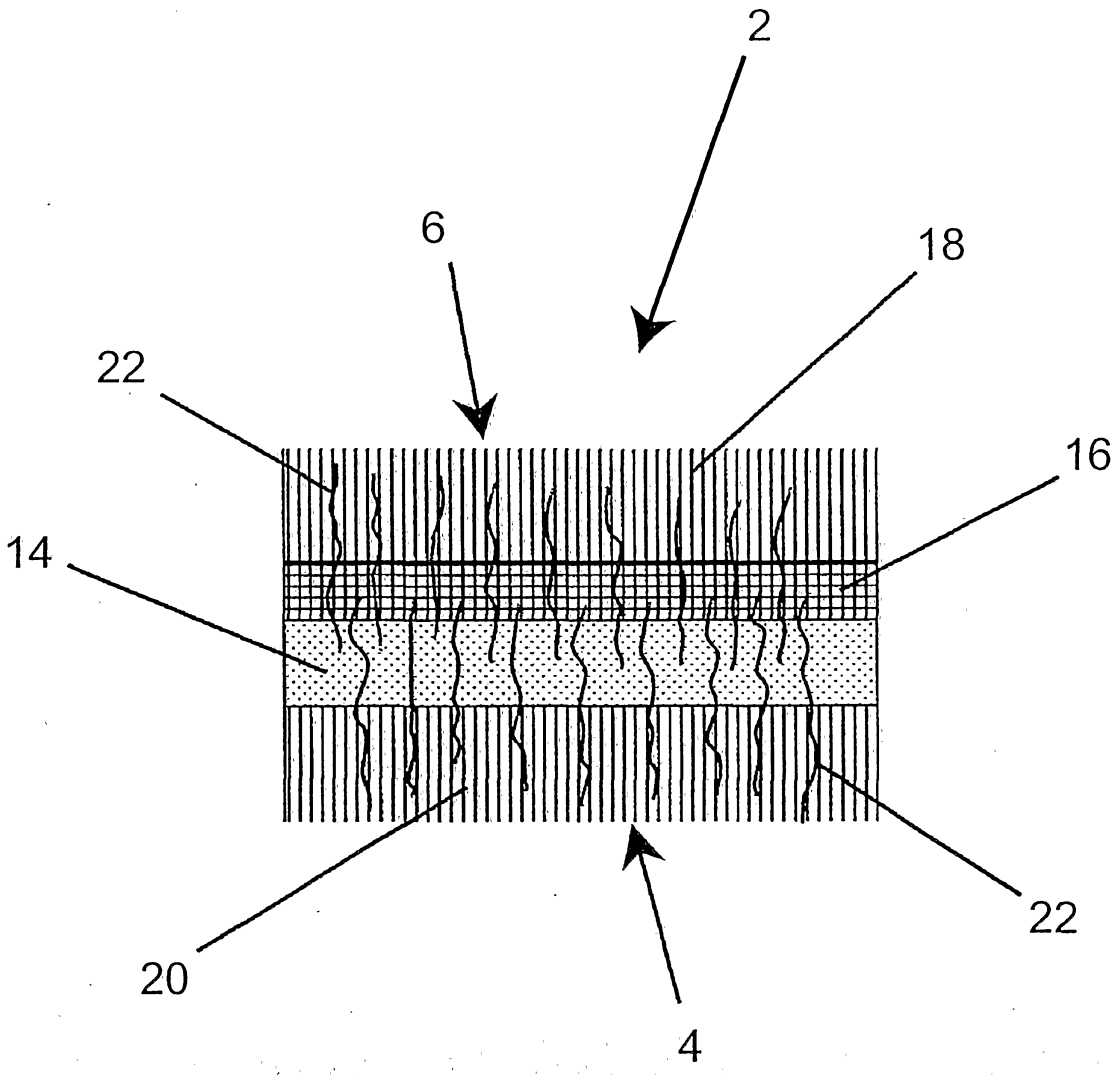

FIG. 2

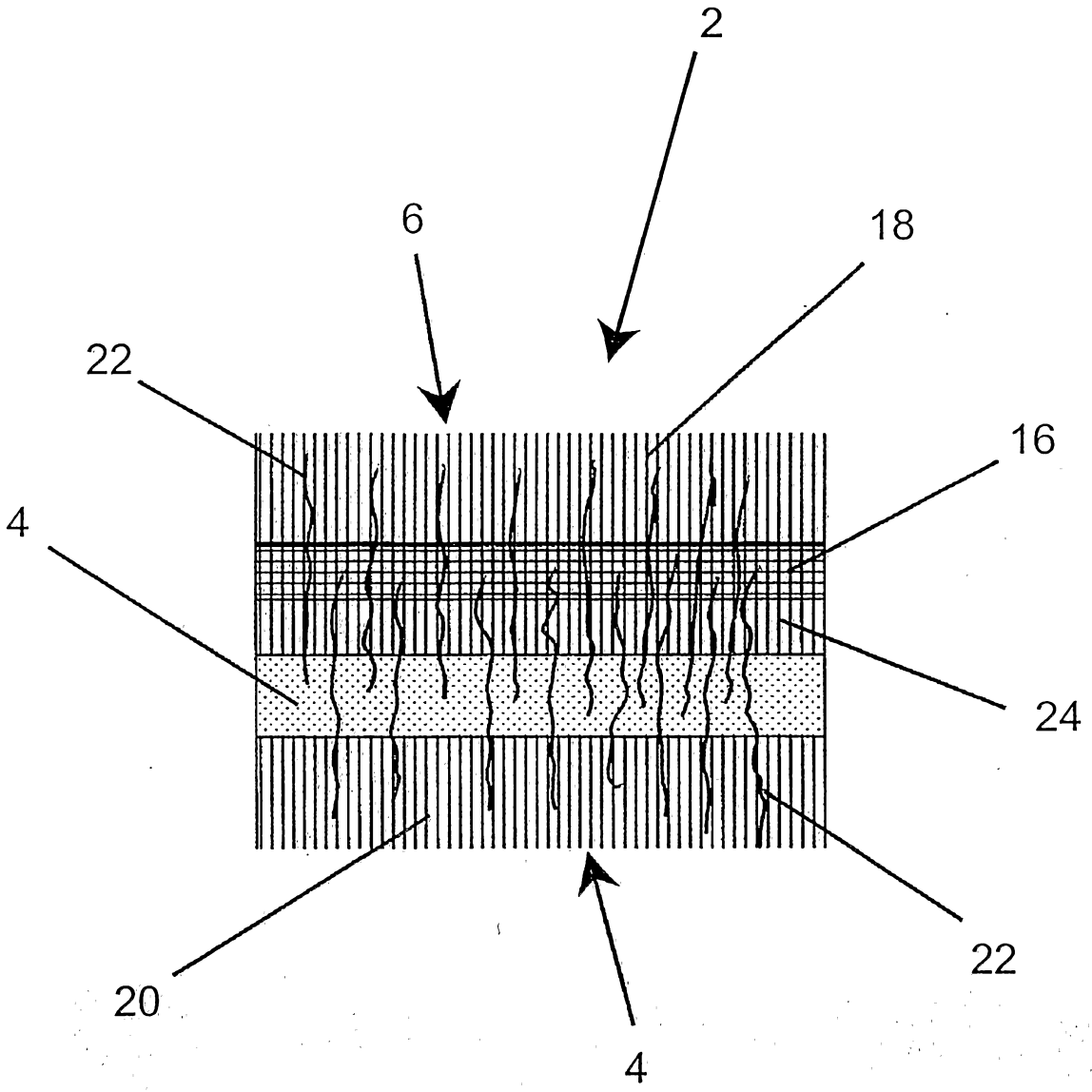

FIG. 3

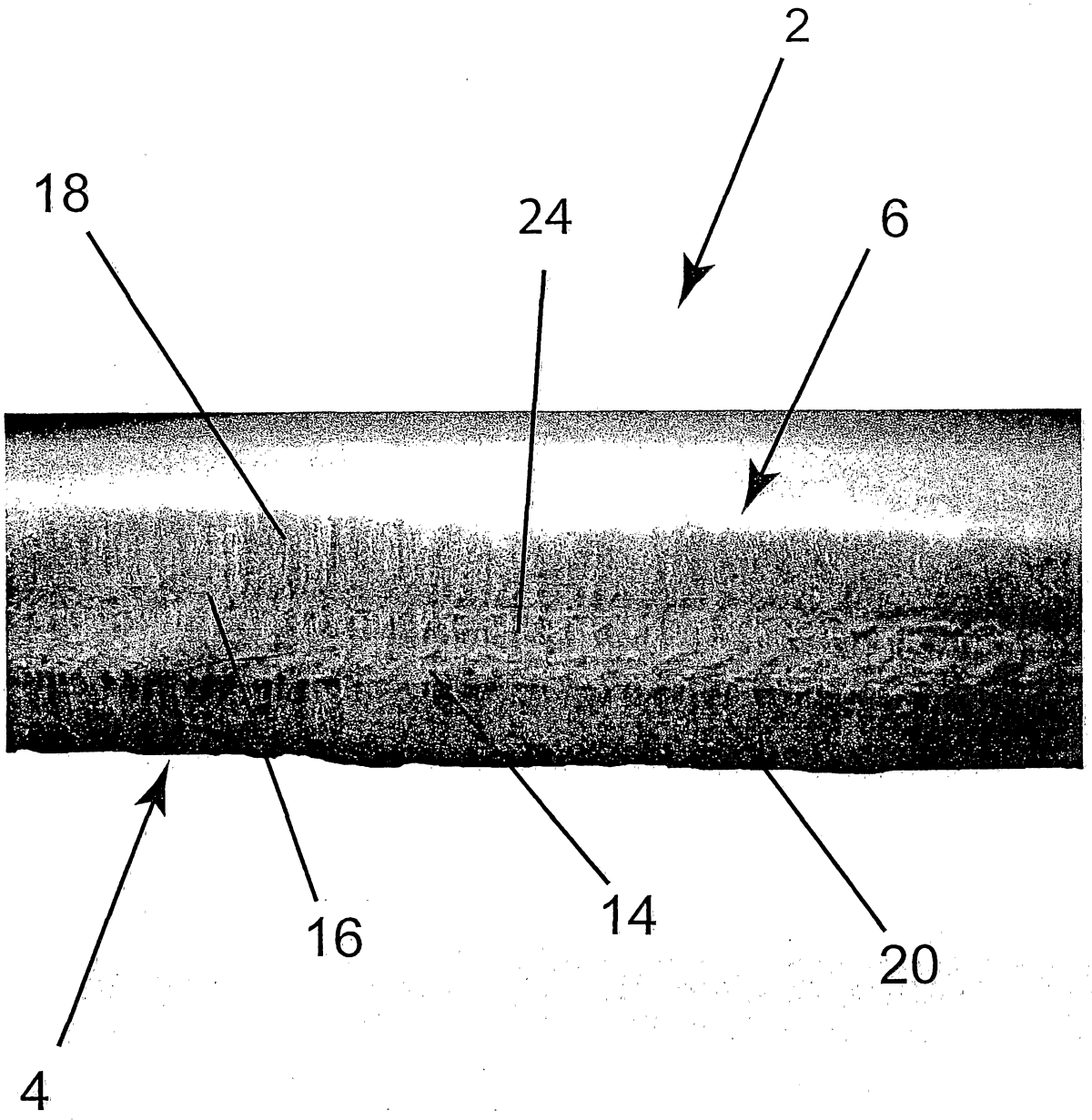

FIG. 4

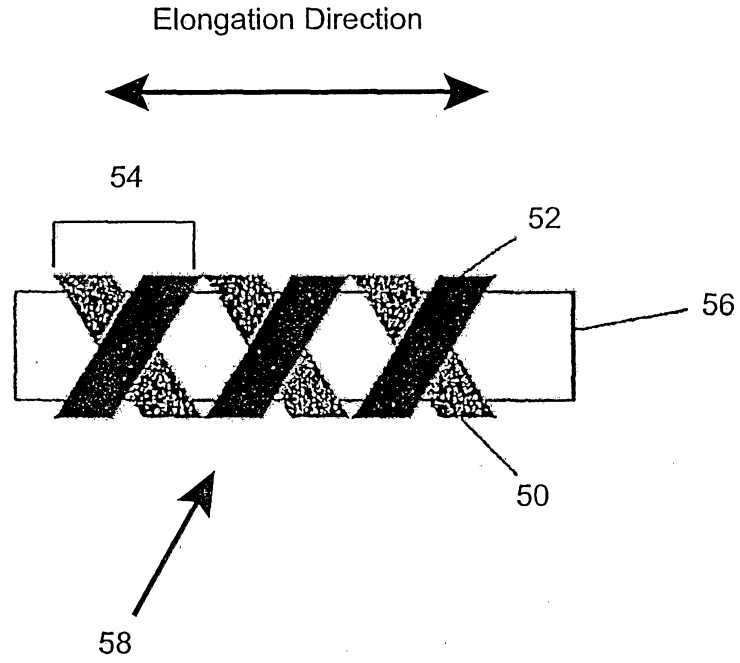

FIG. 5