

Nov. 13, 1934.

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1,980,608

FELT FOR PAPER MACHINES

Filed July 17, 1931

Fig. 1

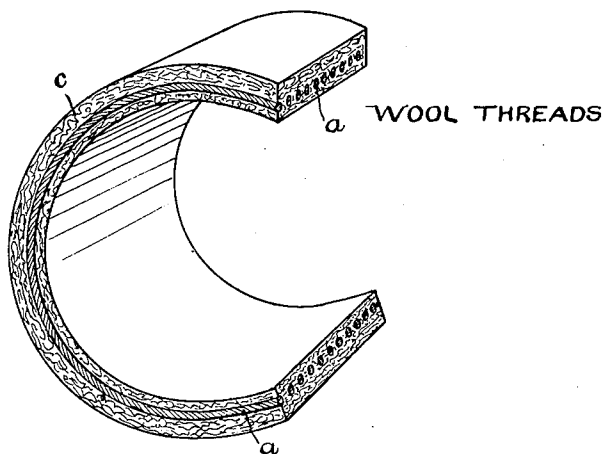


Fig. 2

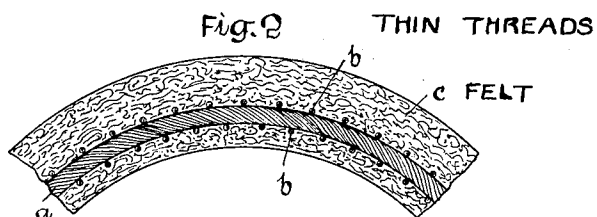
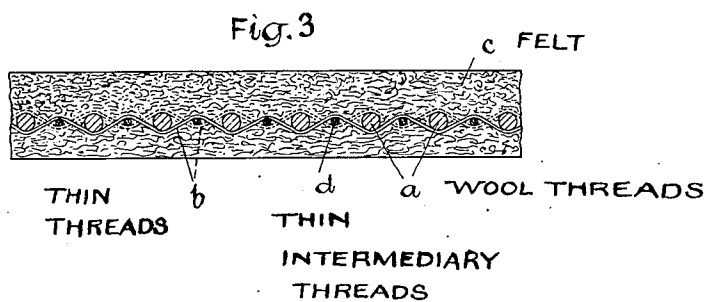


Fig. 3



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UNITED STATES PATENT OFFICE

1,980,608

FELT FOR PAPER MACHINES

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Application July 17, 1931, Serial No. 551,573
In Austria January 19, 1931

1 Claim. (Cl. 139—426)

The invention relates to felts with insertions of fabrics for paper machines, especially to the coverings of the pressure rolls such as the couch roll of paper machines. Cylinder coatings are known both of pure felt and of pure web. For these purposes also webs with a covering of felt and also felt with an inserted fabric of web have already been employed. Felts with thin closely woven fabrics as inlays are also known. In these known felts, the closely woven fabrics used as inlays have the disadvantage that they do not allow the two felt layers to be sufficiently combined through the narrow meshes of the fabric so that the finished felt does not form a compact mass. In order to avoid this drawback it has been proposed to use as inlay thin, wide meshed fabrics in order to enable the felt on both sides of the fabric to be joined together through the wide mesh. Such thin fabrics, however, have no influence on the tensile strength of the felt.

According to the present invention, threads in the longitudinal direction and threads in the transverse direction are combined to a unity in which the threads running in the direction of greater tensile stress consist of thick feltable threads such as wool and are bound by thin threads running in the other direction.

Such an inlay has the effect of becoming united with the felt during the felting process, the felt layer combining with the thick threads so that the whole of the thread becomes embedded in the felt and cannot become detached. The tensile strength of the felt is considerably improved by the thick threads.

A modification of the inlay is advantageous, in which, between each two thick threads one or more thin thread is arranged in order better to hold the thick threads at their proper distance.

A felt in tubular form for the roll covering of the couch rollers of paper machines is illustrated by way of example in the accompanying drawing.

Such a web in which at least the thick threads, that is the weft threads, consist of wool, has the effect that it combines with the felt to a unity, the layer of felt firmly felting around the thick weft threads lying at great distance from each other, whereby the whole thread becomes embedded in the felt and its coming off is securely prevented.

In the accompanying drawing the invention is illustrated by way of example in a diagrammatic manner.

Figure 1 is a perspective view, partially in section.

Fig. 2 is a fragmentary cross-section in a plane perpendicular to the axis; and

Fig. 3 is a fragmentary section of a slightly modified form in a plane along the axis.

In the drawing the felt has the form of a tube. The felt-inlay consists substantially of strong threads or cords *a* of a wool or another feltable material (i. e. a material which is capable of being felted) running in the direction of the greatest tensile stress, viz. in the circumferential direction, and of thin threads *b* by means of which the thick threads are held together and, at the same time, are kept at the right distance from one another.

The real felt *c* consists of a fullable material, such as slivers or the like for which the threads *a* and *b* form an inlay which, on fulling the felt *c*, felts together with the same. In the example of Figure 3 thin threads *d* are inserted between the thick threads or cords *a*.

Such a felt produced as manchon (cylinder coating) in which the weft threads run in the peripheral direction has an extraordinarily great strength, whereby, by means of the inlaying, an effective strengthening is attained which manifests itself advantageously also in that such a felt can contract very firmly on the cylinder and, thereby, can be pressed very strongly on to the cylinder.

What I claim is:

A tubular felt body for rolls of paper machines comprising an inner and an outer layer of felt of fullable material, an inlay between said layers composed of thick weft threads of extraordinarily great strength running in substantially circumferential direction of said body without undulation, a thin weft thread between each pair of said thick threads, and thin warp threads adapted to hold the weft threads together, said warp and weft threads being spaced sufficiently apart to provide open interstices to permit interlocking of the inner and outer felt layers, whereby a firm contraction of the felt body around the roll is attained.

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