

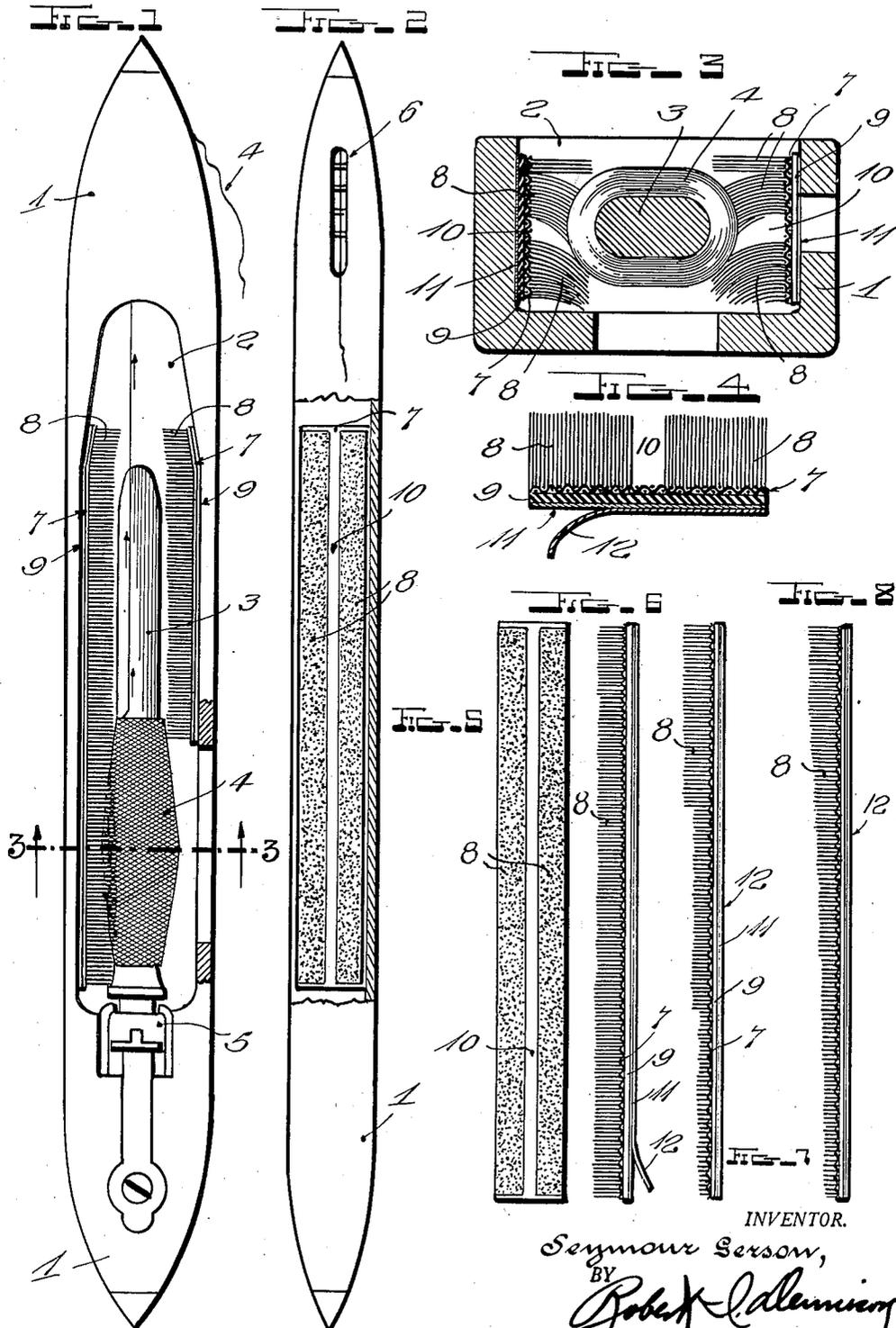
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LINING FOR TEXTILE SHUTTLES

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LINING FOR TEXTILE SHUTTLES

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The present invention relates to improvements in shuttles for looms and has reference more particularly to an improved tensioning device for maintaining the yarn or filling on the bobbin under proper tension as it leaves the shuttle and this, without any danger of the yarn or filling breaking.

One of the important objects of the invention is to provide a lining for the bobbin chamber of a shuttle that can be readily and easily installed and removed for replacement whenever necessary.

A further object is to provide a lining of the above mentioned character that comprises a pile fabric, a groove being formed in the central portion of the pile so that when the lining is in place in the bobbin chamber, the groove will eliminate too much bulkiness and the application of too much tension against the yarn or filling.

A still further object of the invention is to provide a lining for textile shuttles wherein the relatively thin fabric base of the pile fabric has a tacky adhesive coating applied to its rear face, whereby the lining may be secured in place against the side walls of the bobbin chamber, a removable protective covering being associated with the tacky adhesive coating to permit handling of the lining prior to its use in the shuttle.

A further object is to provide a lining of the above mentioned character that may be manufactured in strip form of indeterminate length and wound on spools, so that any length of the strip lining may be unwound from the spool and cut to the desired size of the bobbin chamber.

Other objects and advantages will become apparent from the following description when taken in connection with the accompanying drawing.

In the accompanying drawing forming a part of this specification and wherein like reference characters designate corresponding parts throughout the several views:

Figure 1 is a plan view of a shuttle of the standard type embodying my improved lining;

Figure 2 is a side elevation of the shuttle with one side broken away to show the grooved lining in place in the bobbin chamber;

Figure 3 is a transverse section on an enlarged scale taken approximately on the line 3—3 of Figure 1;

Figure 4 is a cross sectional view through the lining strip, showing the protective covering for the tacky adhesive coating partially removed;

Figure 5 is a top plan of the grooved lining;

Figure 6 is a side elevation of the lining strip, and

Figures 7 and 8 show different modifications of the lining.

In the drawing, the numeral 1 designates a shuttle of the standard type, the same being provided with the usual bobbin chamber 2 in which the bobbin 3 of yarn 4 is carried by the customary holder 5 in the rear end of the bobbin chamber. The eye in the forward end of the shuttle through which the thread passes is indicated at 6.

My improved lining comprises a pile fabric having a relatively thin, closely woven fabric base 7. A pile 8, formed preferably of mohair fibers extends from the upper or front face of the base 7.

After the pile has been woven onto the fabric base the material undergoes a special treatment for cleaning the fibers of the pile and removing the oil therefrom. To this end, the pile fabric is placed in a fur cleaning machine or fur drum, together with a quantity of finely ground vegetable fibers and the latter will remove practically all of the oils in the fibers of the pile fabric.

In this manner, the pile fabric will be rendered as soft as possible and made more resilient, thus improving its qualities for use in the shuttle. The pile fabric which I use will simulate in density, bulk and softness, natural fur.

For the purpose of preventing unraveling, the rear or back face of the cloth base is coated with rubber latex. This latex covering is denoted by the numeral 9. The latex coating will also secure the pile fibers in the base 7.

One of the salient features of the instant invention is the provision of the longitudinal groove or recess 10 that extends through the center of the pile fabric for the full length of the lining strip. As is clearly shown in Figures 3 and 4, this groove extends from the outer face of the pile 8 to the base 7. In the preferred form, the groove is of uniform width, although it is to be understood that the cross sectional shape of the groove may vary. Further, the groove may vary in width and depth depending upon the amount of tension that may be required.

The groove may be formed by cutting through the central portion of the pile 8 with any suitable instrument or machine, or in the process of weaving the pile fabric on the base. This groove is formed in the pile for the purpose of eliminating too much bulkiness in the bobbin chamber and at the same time will control the amount of tension applied against the yarn or filling on the bobbin.

A tacky adhesive coating 11 is applied to the

rubber coated base 7 for the purpose of affixing the lining strip in place against the sides of the bobbin chamber. A protective covering of cloth or cellulose 12 is removably secured over the outer face of this adhesive coating 11 to permit handling of the lining.

The lining constituting my invention is manufactured on strips of indeterminate length and is adapted to be wound on a spool. When it is desired to line a shuttle, the strip is unwound from the spool and cut to the desired length.

The protective covering 12 is removed from the adhesive coating and the lining is inserted in the bobbin chamber and the adhesive coating is pressed against the side wall of the bobbin chamber on each side, thereby affixing the lining strips on the inner opposed faces of the side walls of the bobbin chamber.

It is, of course, understood that the lining strips are positioned in the bobbin chamber before the bobbin and the yarn thereon are disposed longitudinally within the chamber.

While I have disclosed the lining as having a tacky adhesive applied to the back face of the base, it is to be understood that this adhesive coating may be left off and the lining secured in the bobbin chamber in any suitable manner.

When the filled bobbin is in its proper position in the chamber 2, the yarn 4 will press against the pile 8 in the manner as illustrated in Figure 3, forcing the fibers of the pile down toward the base 7, thus the groove 10 will function to prevent bulkiness, such as would occur if no groove was present.

My improved lining may extend for the full length of the bobbin to prevent the yarn from "ballooning" and at the same time create a friction serving as a tension for the yarn as it is removed off of the bobbin.

In Figures 7 and 8, modifications of the lining are shown, wherein the pile varies in height from one end of the strip to the other. In Figure 7 the pile fabric has the fibers of its rear or lower end portion of one length, the intermediate group of fibers being longer and the top or forward group of fibers still longer. In Figure 8, the fibers increase gradually in length from the rear toward the forward end of the strip.

A lining of the above mentioned character can be manufactured and sold at a very low cost and due to its simplicity can be readily and easily installed and removed and replaced.

While I have shown the preferred embodiment of my invention, it is to be understood that various changes in size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described the invention, what I claim is:

1. In combination with a shuttle having a bobbin chamber and a bobbin carrying yarn mounted therein; a lining for the chamber comprising a fabric base secured to each of the side walls of the bobbin chamber, and a pile carried by the base for contact with the yarn on the bobbin, said pile being provided with a central longitudinally extending groove to prevent bulkiness when the pile is in contact with the yarn.

2. In combination with a shuttle having a bobbin chamber and a bobbin carrying yarn mounted therein; a lining for the chamber comprising a fabric base, a pile carried by the front face of the base for contact with the yarn on the bobbin, a rubber coating applied to the rear face of the base, a tacky adhesive coating on the rear face of the rubber coated base for securing the lining to each of the side walls of the bobbin chamber, said pile fabric being provided with a central longitudinally extending groove that extends inwardly from the front side thereof, to prevent bulkiness when the pile is in engagement with the yarn on the bobbin.

3. In combination with a shuttle having a bobbin chamber and a bobbin carrying yarn mounted therein; a lining for the chamber comprising a fabric base secured to each of the side walls of the bobbin chamber, and a pile carried by the base for contact with the yarn on the bobbin, said pile being provided with a central recess that extends inwardly from the outer face thereof to the base for the full length of the lining to prevent bulkiness when the pile is in engagement with the yarn on the bobbin.

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