

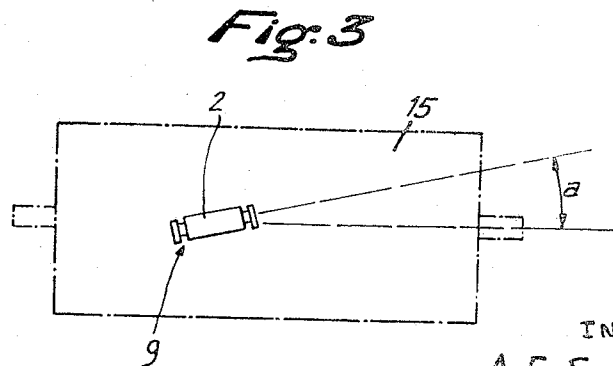
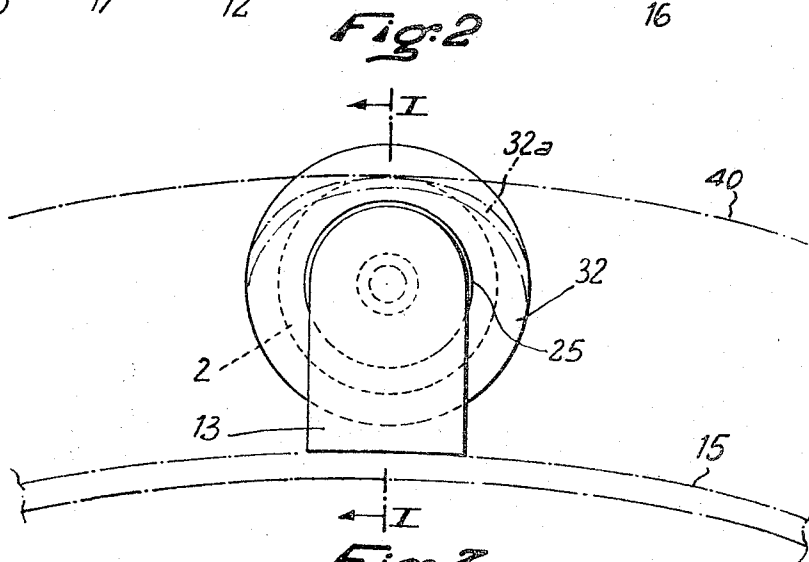
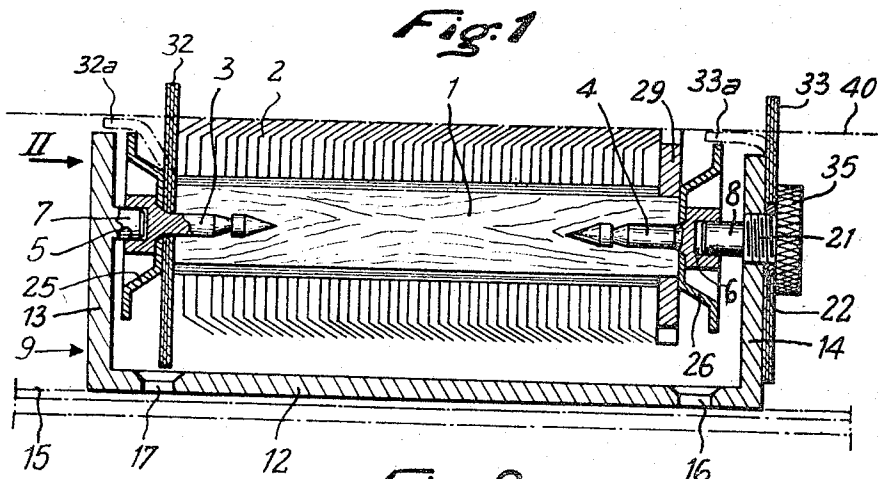
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METALLIC ROTARY TEAZLES FOR TEXTILE MACHINES

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**METALLIC ROTARY TEAZLES FOR
TEXTILE MACHINES**

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This invention relates to assemblies of rotary metallic teazles for textile machines, of the type constituted by a rotary body, the circumferential surface of which is covered with a metallic clothing, such as a card or loop clothing, while the ends thereof are each provided with a circular cheek and are mounted in such a way as to be able to rotate in the two ends of a support, this support comprising a part which is designed to be fixed to the cylindrical or polygonal surface of a rotary drum.

Rotary metallic teazles of this type are usually mounted between pointed tips, or else by means of cylindrical pivots forming either part of the rotary teazle or of its support, and engaging in corresponding recesses.

One of the greatest difficulties encountered in the satisfactory production of such teazles resides in the tendency of the long fibres to wind themselves around the pivots, whether the pivots are integral with the teazle and rotate with it, or whether the pivots are fixed to the support. Presently, in the textile industry, synthetic fibers are commonly used, which become charged with static electricity during the napping operations, so that the said fibres have a tendency to be attracted by the various elements that constitute the teazle assembly, and, in particular to assume a position more favourable to their winding about the pivots, which is obviously harmful to the satisfactory working of the teazle.

The object of the invention is to provide a rotary teazle assembly of a particular construction which aims at preventing the winding of the fibres around the pivots, and the consequent locking of the teazle.

With this end in view, according to the invention, the two ends of the teazle assembly are provided with movable protective elements, adapted, under the action of the pressure exerted by the cloth to be napped, against which the teazle is rolling, to cover the gap between each cheek and the corresponding end of the support on the side opposite to that part of the support that is designed to be fixed to the drum.

Due to this particular construction, the gap between the fixed and rotary parts of the assembly, into which fibres would have a tendency to move, is closed at the very moment when the teazle comes into contact with the cloth and at the precise place which is located in the neighbourhood of the said cloth, though the teazle is not subjected to any braking action that would hamper its rotary motion, since the said movable protective elements are liberated in those parts of the teazle which at any time are located away from the cloth, and when the teazle is located on a portion of the drum which is itself remote from the cloth in the course of the rotation of the said drum.

The invention likewise contemplates forms of construction comprising at least one of the following characteristic features:

(a) The movable protective element, at each end of the support, is constituted by a rotary diaphragm, flexible and resilient, co-axial with the teazle, and of a diameter greater than that of the teazle, and sufficiently great to enable the said diaphragm, in folding down, to cover the gap between the cheek and the corresponding end of the support.

(b) The teazle is designed to be mounted obliquely in relation to the generating lines of the drum and the two diaphragms are constituted by two washers, one of which is mounted loose on that end of the support which is designed to arrive first against the cloth to be treated, and the other, fixed to the teazle, against the corresponding cheek.

(c) The washer mounted on the support is arranged against the outer face of the latter.

(d) The washer fixed to the teazle is arranged against the inner face of the corresponding cheek.

(e) The part of each end of the support opposite to the part of the support designed to be fixed to the drum is in the form of an arc of a circle co-axial with the teazle, and of a radius less than that of the corresponding cheek.

(f) At least one end of the teazle, preferably the end that does not carry a washer, is provided with a toothed wheel for rotatably driving the said teazle of an external diameter substantially equal to that of the teazle including the clothing.

(g) The ends of the teazle are hollowed out, and are each engaged over one of two pivots, fixedly secured to the corresponding ends of the support.

The invention will be better understood from the following description and the appended drawings, which show, by way of example but not of limitation, one form of construction of a rotary metallic teazle assembly according to the invention.

In these drawings:

FIGURE 1 is a longitudinal section of the rotary teazle assembly, taken along the line I—I in FIGURE 2;

FIGURE 2 is an end view looking in the direction of the arrow II in FIGURE 1; and

FIGURE 3 shows diagrammatically the relative positions of the rotary teazle assembly and the drum designed to support it.

The rotary metallic teazle assembly for a textile machine illustrated in the drawings comprises a bobbin 1, consisting of a rotatable body, of wood, for example, or of any other suitable material, the circumferential surface of which is covered with a suitable card clothing 2.

In the two ends of the bobbin 1 are embedded two spikes 3 and 4, the cylindrically shaped external heads of which are provided with hollows 5 and 6, engaging over two stationary pivots or trunnions 7 and 8 respectively, which are fixed in a support, designated as a whole by reference numeral 9.

The support 9 comprises a base plate 12 and two end walls 13 and 14, perpendicular to the base-plate 12. The base-plate 12 is designed to be fixed to the cylindrical surface of a drum 15 (FIGURE 3), by means, for example, of screws introduced into holes 16 and 17 in the base-plate 12. The assembly is designed to be mounted upon the drum in such a way that the geometrical axis of the rotary teazle makes an angle a with the generating lines of the drum 15.

In the example, the teazle proper is removably mounted upon its support, and for this purpose, while one of the pivots, 7 for example, is solid with the corresponding end 13 of the support 9, the other pivot 8 is removable, and consists, for example, of a reduced cylindrical end of a screw 21, mounted in the other end 14 of the support, and provided with a large knurled head 35. The depth of the hollow 5 for the spike 3 is slightly shorter than the space between the other end of the assembly and the inner face of the wall 14 of the support, so that the assembly can easily be pulled out after the screw 21 has been unscrewed.

Between the ends of the bobbin 1 and the heads of the two spikes are confined the bottoms of two cups or cheeks 25 and 26, the margins of which are of a diameter nearly

the same as that of the teazle including the card clothing 2. The upper ends of the walls 13 and 14 of the support are arcs of circles co-axial with the teazle, and of a radius less than that of the margins of the cups 25 and 26.

On one end of the bobbin is also fixed a toothed wheel 29 for rotatably driving the teazle.

The two ends of the assembly are provided with movable protective elements, in the form of rotary diaphragms, flexible and resilient, consisting, for example, of two washers 32 and 33, of natural or synthetic rubber, for example, one mounted upon one end of the bobbin, and the other upon the opposite end of the support.

The washer 32 is gripped between the inner face of the cheek 25 and the corresponding end of the bobbin 1, while the other washer 33 is mounted loosely upon a washer 22, which is held against the outer face of the end wall 14 of the support 9, by the large knurled head 35 of the screw 21. The latter also axially retains the washer 33, the thickness of which is slightly less than that of the washer 22, so that the protective washer 33 is not blocked, but on the contrary can rotate freely.

The external diameter of the two protective washers 32 and 33 is greater than the diameter of the teazle including the card clothing 2, so that when the teazle comes into contact with the cloth 40 to be napped, the cloth folds down the corresponding portions of the said washers over the gaps between the cheeks and the corresponding ends of the support.

Thus, in view of the inclination of the teazle to the drum, the washer 33, which is the first to come into contact with the cloth 40, is folded back by the cloth, as indicated at 33a, against the upper part of the end wall 14 of the support and against the corresponding part of the cheek 26, the other parts of this washer remaining planar. The other washer, 32, in turn comes into contact with the cloth, and is folded back over the cheek 25 and against the upper part of the other end wall 13 of the support, as indicated at 32a, the other parts of this washer likewise remaining planar. A suitable diameter is given to the protective washers 32 and 33, such that the gap between each cheek and the corresponding upper end of the support will be temporarily closed, at the very moment when the fibres might have been able to slip in and reach the pivots, with the risk of ultimately locking the teazle against rotation. During the whole time when the teazle is away from the cloth, the two protective washers remain planar, and consequently do not rub against the side wall of the support, or against the

teazle. The rotary motion of the teazle can therefore proceed by the acquired momentum, so that the regularity of its operation is not disturbed by the protective washers.

The invention is not of course restricted to the form of construction described and illustrated, and modifications may be made therein without exceeding the scope of the invention.

Thus, for example, movable protective elements according to the invention might be adopted for a metallic teazle assembly, the pivots of which are rigidly secured to the bobbin, and turn in sockets in the support.

What is claimed is:

1. A cloth napping assembly for textile machines comprising: a support consisting of a base-plate mounted on a textile machine and two end walls up-standing from the base-plate, a bobbin rotatably mounted in the end walls of the support, metallic card clothing covering the circumferential surface of the bobbin, two circular cheeks, one at each end of the bobbin, each spaced slightly inwardly from the adjacent end wall of the support, and two resilient, radially extending protective elements, one at each end of the assembly, the radial extent of the protective members being greater than that of the bobbin and clothing thereon and adapted, when the cloth to be napped comes into contact with them, to bend over and cover the gap between the cheek and the adjacent end wall of the support on each side of the assembly remote from the base-plate.

2. A cloth napping assembly as claimed in claim 1, wherein each protective element comprises a flexible and resilient rotary diaphragm, co-axial with the bobbin.

3. A cloth napping assembly as claimed in claim 2, wherein each flexible protective element comprises a washer, one of said elements being mounted rotatably adjacent the external surface of the corresponding end wall and the other of said elements being fixed to the bobbin, being secured thereto by and resting against the corresponding cheek.

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