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UNWINDING OF BOBBINS OR PACKAGES OF THREAD IN TEXTILE MACHINES

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2,673,576

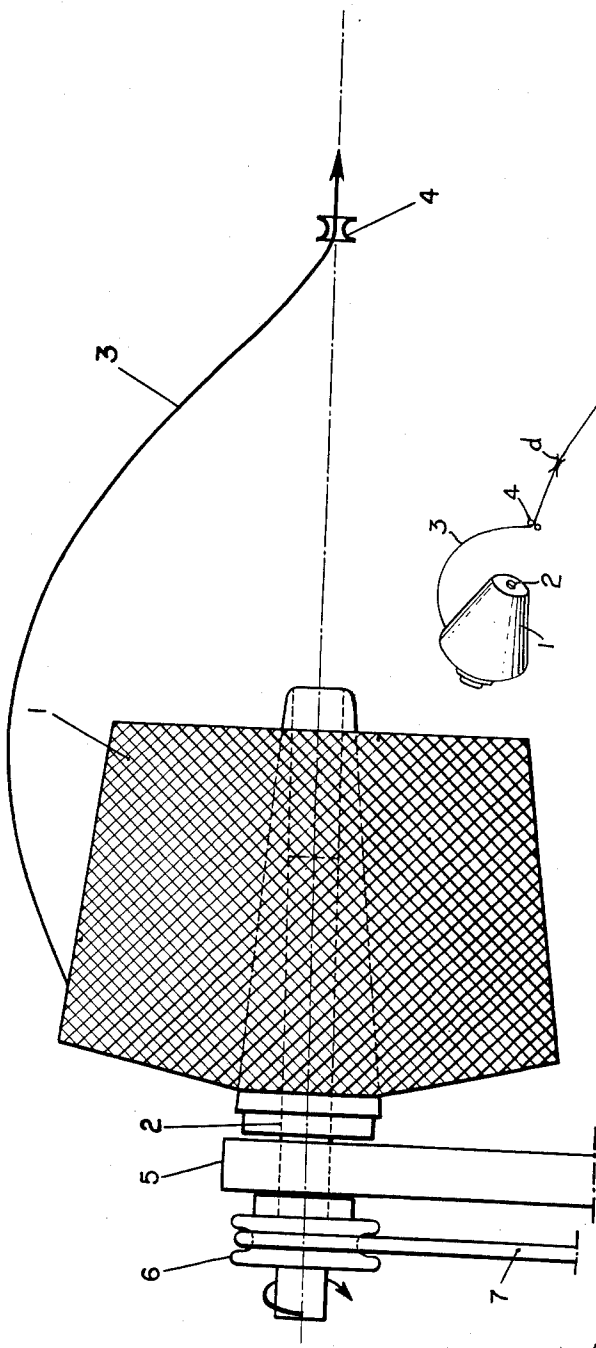


FIG. 1.

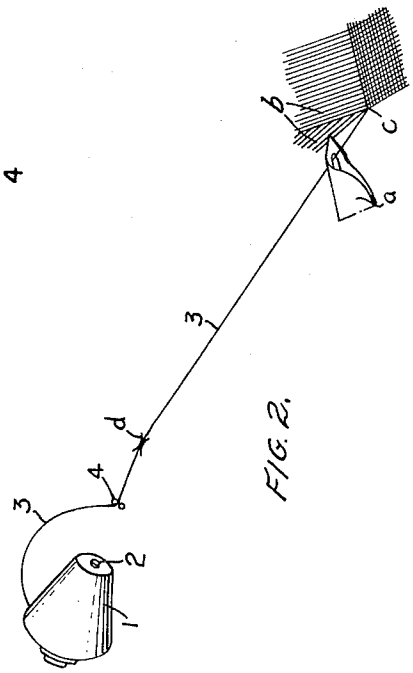


FIG. 2.

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UNWINDING OF BOBBINS OR PACKAGES OF THREAD IN TEXTILE MACHINES

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1 Claim. (Cl. 139—122)

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The invention relates to the unwinding of bobbins or packages of threads which is effected "over the end," i. e. axially, in various textile machines such as winding machines, cop winding machines, warping machines, knitting frames, etc.

It has been found in practice that during the unwinding of the bobbins, chiefly when the draw of the thread is discontinuous as is the case, for example, in certain knitting frames and in weaving looms in which the weft supply is effected continuously by means of large stationary bobbins, kinks may occur in the thread, in particular when same is highly twisted, such kinks causing the thread to break or producing defects in the fabrics.

Numerous means have been proposed, either for preventing the occurrence of kinks, or for undoing it, but they have drawbacks such, for example, as hindering the unwinding of the thread having inertia, having braking actions, etc.

The purpose of the invention is to prevent the occurrence of kinks by a simple means without involving the drawbacks referred to, and for this purpose, the invention has for its object to provide improvements in the unwinding of bobbins over the end, said improvements consisting, in principle, imparting a rotary movement to the bobbin or package which is being unwound.

Said rotary movement, the speed of which varies according to the case and which may, for example, be about five hundred revolutions per minute, causes a balloon to form between the bobbin and the thread-guide and thereby prevents kinks.

This makes it possible, when the thread has to pass through a tensioning device, to give it the minimum tension, thereby procuring the additional advantage of reducing the number of breakages.

Furthermore, the unwinding of the thread is considerably improved.

It has already been proposed to rotate packages of yarn while they are being unwound. However, the purpose of this rotation is not to prevent kinking but definitely to obtain certain effects which have no connection with the purpose of the present invention.

In order to enable the invention to be understood more clearly, an embodiment thereof is described hereinafter and diagrammatically illustrated in the accompanying drawing.

In the drawing:

Figure 1 is a diagram illustrating the formation of a balloon;

Figure 2 is a diagram illustrating the drawing of the thread to the shed.

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In Figure 1, 1 is a bobbin which is mounted on a spindle 2 and the thread 3 of which unwinds over the end and passes through a thread-guide 4.

According to the invention, the spindle 2 on which the bobbin is mounted is given a rotary movement. For this purpose, it is extended beyond the support 5 so as to enable a pulley 6, driven by a belt 7, to be mounted thereon. Owing to the rotary movement thus imparted to the bobbin 1, the portion of the thread 3 located between said bobbin and the thread-guide 4 forms a balloon which prevents the forming of kinks.

Figure 2 illustrates a weft carrier *a* about to enter the shed *b* and pulling the thread 3 which extends between the fill of the cloth *c* and a tensioning device *d*. These devices do not constitute a part of the present invention and are described in greater detail in applicant's U. S. Patents Nos. 2,069,726 and 2,072,160.

It is, of course, to be understood that the invention is in no way restricted to this embodiment which is merely given by way of example, and that modifications and improvements of detail may be devised without thereby exceeding the scope of the invention.

I claim:

A device for avoiding the formation of kinks in a weaving loom having a weft carrier, a shed being formed in said loom, said device comprising in combination with a bobbin, and a spindle carrying said bobbin, a fixed thread guide positioned in line with the spindle and substantially in line with the point from which starts the weft carrier when entering the shed, means unwinding the bobbin over the end, and means continuously rotating said spindle to maintain a continuously absorbing and compensating balloon in the portion of the thread extending between the bobbin and said fixed thread guide.

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