

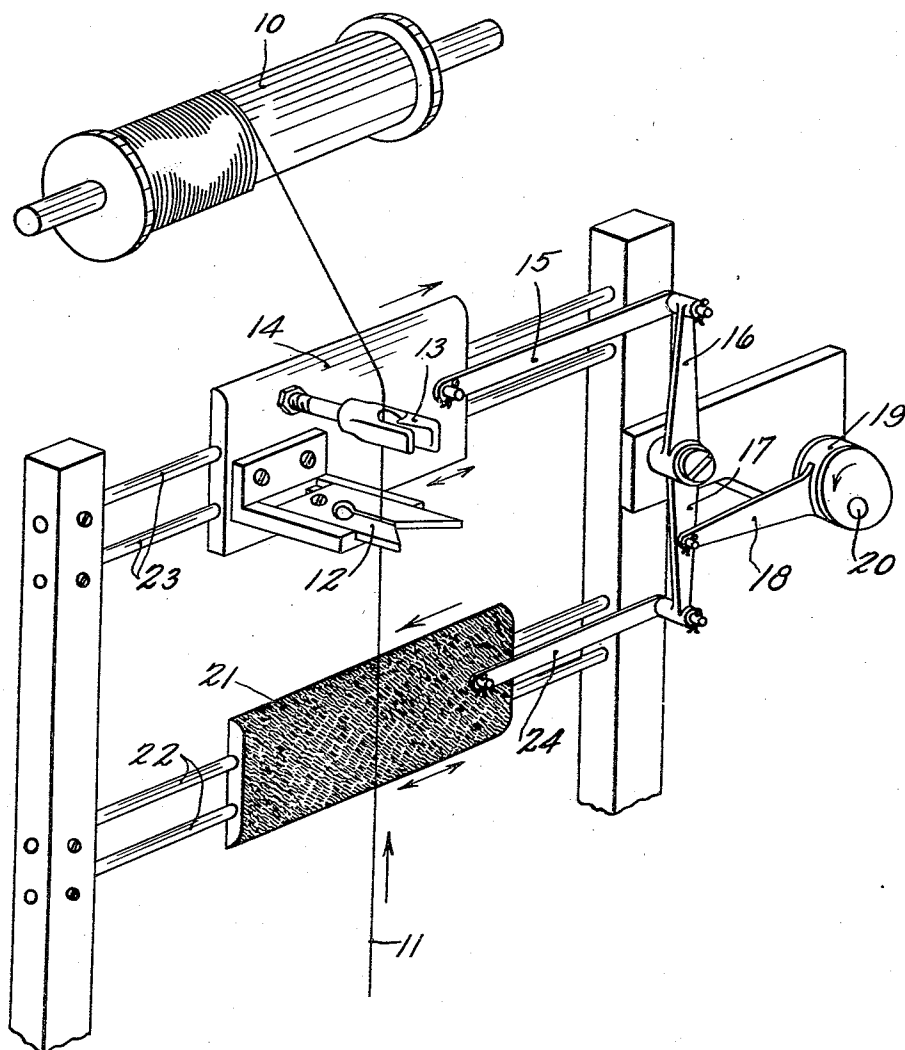
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THREAD CLEANER

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THREAD CLEANER

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3 Claims. (Cl. 28—65)

This invention relates to a thread cleaning device such as are used on silk winding machines. It has long been customary to run the silk thread, while it is being wound, through a narrow slotted guide which would retain fibers which were loosely tangled around the thread. These guides have proved themselves satisfactory for the removal of the larger filaments; but small filaments, such as those only an inch or so in length, may pass through and become a later source of trouble in the use of the thread.

It is the object of this invention to provide a practicable apparatus for treating silk thread during winding by which loose filaments or lint of all lengths may be removed with certainty.

This is accomplished by a novel procedure in that the thread in its travel toward the winding station is subjected to a lateral rolling action by a member having a natural affinity for lint, such as a plush covered board. This lateral rolling action causes the loosely held filaments to unwind themselves from the thread, and once unwound they are retained by the plush and can be picked off readily.

The drawing shows a single winding station with a cleaning device in position, it being understood that in practice a large number of winding stations will be arranged side by side in a long frame and the plush board referred to may conveniently extend throughout and be common to all of these stations.

In the diagrammatic form shown in the drawing the winding bobbin is shown at 10, the thread 11 coming from any suitable reel or other source. On its way to the bobbin 10 the thread passes through a slotted cleaning member 12 and through a porcelain eye 13, these being of usual form and mounted upon a reciprocating carrier 14. In the case shown, this carrier is connected by a link 15 to one arm 16 of a rocker, the other arm 17 of which is connected to an arm 18 extending from the strap 19 of an eccentric on a constantly rotating shaft 20.

As the thread approaches the slotted plate 12 it passes over a plush covered board 21 mounted on rails 22 similar to the rails 23 on which the first carrier 14 is mounted, and connected by a link 24 with the second arm 17 of the rocker. By this means the board 21 is given a reciprocating movement back and forth in a direction opposite to the carrier 14.

The carrier 14 is moved back and forth pri-

marily to give the thread a winding traverse along the bobbin. The purpose of the reciprocation of the board 21, however, is to cause it to move in opposition to the guides 12 and 13 at all times and therefore to rub back and forth underneath the thread. The motion of the thread across the board is therefore compound, the thread passing across the board along the line of its own length and being rolled sidewise by the passage of the board relative to it. This rolling action is increased by the fact that both the guide and the board are moved simultaneously in opposite directions. Any lint which may be present on the thread in the form of fibers wound around it will become unrolled by this operation and will adhere to the pile of the plush fabric. It is preferable to use plush of a color contrasting to the thread being wound so that the fibers collected will be apparent and can be removed readily.

It will be found in practice that while some of the longer fibers may have a sufficient grip on the thread to be moved past the plush covered board 21, these will be invariably retained on the cleaner 12, whereas those which would be too short to be retained upon the cleaner 12 will invariably be caught upon the board 21.

I claim:

1. A thread cleaning device including means causing travel of the thread along its own length, a member having a pile surface in contact with the thread, and means for moving said member back and forth across the thread in a direction at right angles to the motion of the latter.

2. A thread cleaning device comprising a winding bobbin, a thread guide, means for moving the thread guide back and forth parallel to the axis of the bobbin, a member having a pile surface in contact with the thread prior to its entry into the guide, and means for reciprocating said member in a direction opposite to the reciprocation of the thread guide.

3. A thread cleaner comprising a winding bobbin, a thread guide reciprocable parallel to the axis of the bobbin and including a slotted lint retaining plate, a member having a pile surface in contact with the thread prior to its entry into said slotted member, and means for reciprocating said member oppositely to the reciprocation of the thread guide.

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