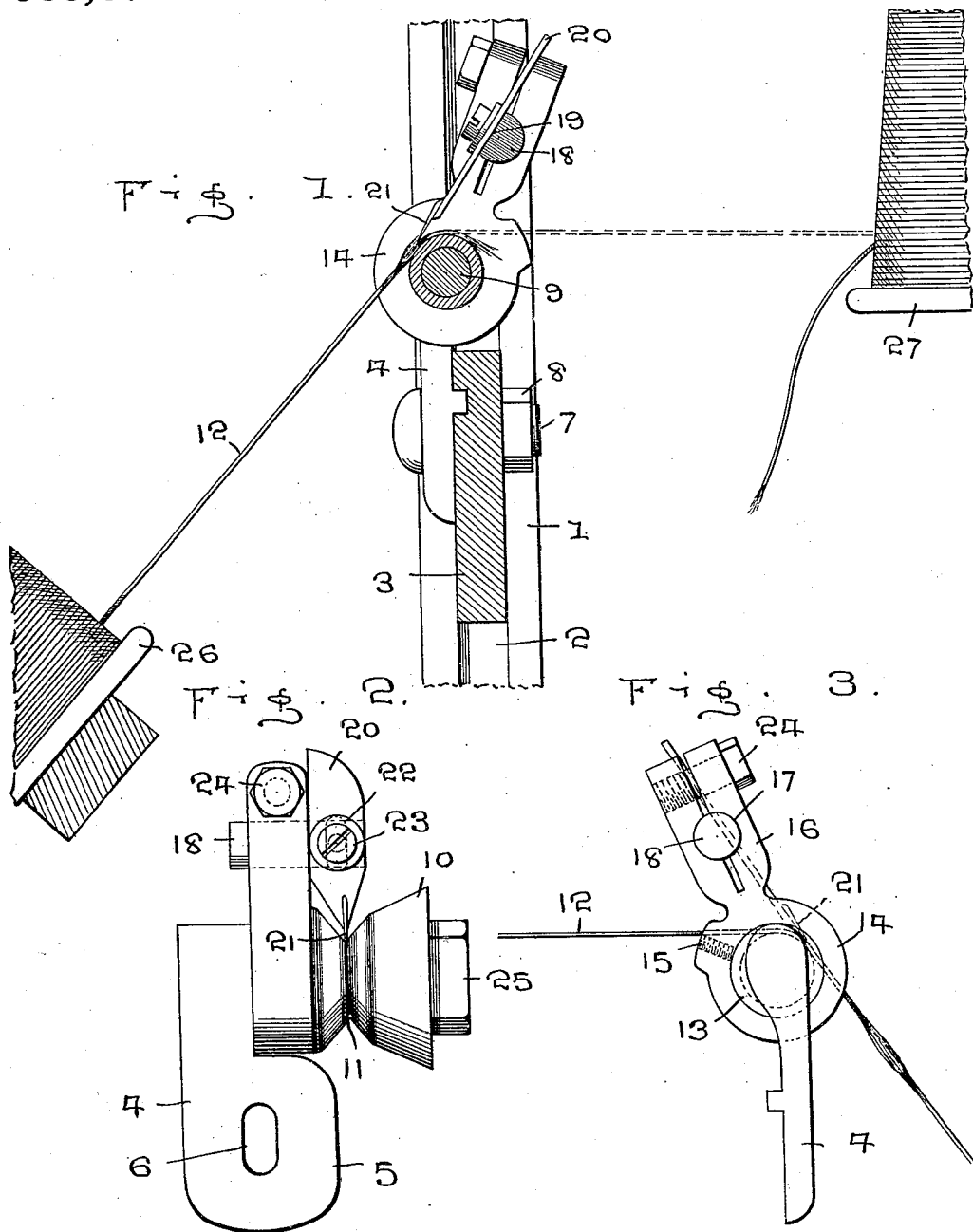


W. E. MORTON.
SLUB DETECTING AND REMOVING MECHANISM.
APPLICATION FILED APR. 5, 1909.

935,676.

Patented Oct. 5, 1909.



WITNESSES:

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WORTHINGTON E. MORTON, OF SHELBY, NORTH CAROLINA.

SLUB DETECTING AND REMOVING MECHANISM.

935,676.

Specification of Letters Patent.

Patented Oct. 5, 1909.

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To all whom it may concern:

Be it known that I, WORTHINGTON E. MORTON, a citizen of the United States, residing at Shelby, in the county of Cleveland and State of North Carolina, have invented certain new and useful Improvements in Slub Detecting and Removing Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in slub detecting and removing mechanism and my object is to provide means for detecting slubs or unevenly spun portions of a thread and a further object is to provide means for adjusting the detecting finger of the device to any desired angle and a still further object is to provide means for adjusting the various parts of the device.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings forming part of this application, Figure 1 is a detail sectional view through the slub detecting device applied to use. Fig. 2 is a front elevation of the device removed from its supporting frame, and, Fig. 3 is an end elevation thereof.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a standard, such as is commonly used in connection with machines of this class, there being a pair of the standards, each of which is provided with a channel 2 to form guides for the ends of a supporting bar 3, which bar extends preferably in a horizontal position. Adjustably attached to the bar 3 is a standard 4, the lower end of which terminates in a plate 5, through which extends a slot 6, said slot being adapted to receive a clamping bolt 7 extending through the slot and through the bar 13, and the standard is held rigid with the bar by means of a nut 8. The upper end of the standard 4 is provided with a laterally extending stem 9, upon which is mounted a thread guide 10, which guide is provided in its length with a circumferential groove 11, the walls of which are flared so that the thread 12 passing therethrough will be caused to travel at a

certain point on the guide, so that any slubs or other enlargement of the cord may be readily detected.

My improved detector may be used in any of various ways, as when passing a thread in winding from one form of package to another, whereby the thread will be graded as entirely free from slubs and other undesirable or uneven portions.

One end of the guide 10 is provided with a sleeve 13, upon which is mounted a collar 14, which is fixed to the sleeve in any preferred manner as by means of a set screw 15, thereby retaining the collar in a fixed position on the sleeve. Extending from the face of the collar 14 is a split shank 16, the two sections of the shank being slightly spaced apart and the facing walls thereof provided with semi-circular recesses 17, into which extends a shaft 18, one end of the shaft having a flattened face 19, to which is attached a plate 20, the lower end of the plate having a detector point 21 thereon which is adapted to enter the groove 11 and engage slubs on the cord as it passes over the guide 10. The plate 20 is provided with an oblong opening 22, which extends longitudinally of the plate, said opening being adapted to receive a binding bolt 23, the inner end of the bolt entering a threaded socket (not shown), in the flattened face portion of the shaft 18 and by arranging the detector point in this manner, it will be readily seen that said detector may be moved closer to or away from the path of the cord, thereby adapting the detector point for use in connection with threads of various diameters. The shaft 18 is also adjustably mounted between the sections of the shank 16 and is held in its adjusted position by extending a stud bolt 24 through the free end of one of the arms of the split shank and into a threaded opening in the free end of the opposite section of the shank, so that by turning the bolt 24 in one direction, the free ends of the sections of the split shank will be drawn toward each other and thus bind the sections of the split stem against the shaft 18 with sufficient pressure to prevent rotation or vertical movement of the shaft. It will further be seen that by providing the set screw 15, the collar 14 may be readily adjusted on the sleeve 13 to change the position of the split shank 16 and parts carried thereby and the guide is held in position on

the stem 9 by threading the outer end of the stem and engaging the same with a nut 25, said nut when properly turned onto the stem binding against one end of the guide and forcing the opposite end thereof into engagement with the standard 4 and thus holding the guide against rotation.

The prime object of my invention is to eliminate imperfect portions of the thread or cord and to this end, the thread is unwound from a large spindle or drum 26 and onto a small bobbin or spool 27, that portion of the thread between the drum and spool being passed through the groove 11 and below the detector point 21 and should any enlargements or slubs appear on the thread, the point will engage such enlarged portion and cause the thread to break. If the thread is broken by the detector point and the slub removed, the severed ends of the perfect portion of the thread are tied together, it being found in practice preferable to have the knot in the thread occasioned by tying the ends, than to have the slub or enlarged portion and in this connection, it will be fully understood that the detector point is so positioned that the perfect thread will readily pass thereunder without being engaged by the point. By this construction it will be readily seen that the cord wound upon the spool 27 will be of the proper grade and clear of all slubs and it will likewise be seen that the attachment can be very cheaply constructed and readily adjusted to operate upon the cord. It will further be seen that by extending the detector point 21 and the plate 20 to which it is attached, at a tangent to the axis of the guide 10, that the detector point will readily and positively

enter the slubs on the cord and cause the cord to break.

What I claim is:

1. In a device of the class described, the combination with a guide having a circumferential groove therearound and supporting means for said guide; of a collar adjustably attached to the guide and a detector point adjustably mounted upon the collar, said detector point extending at a tangent to the axis of the guide.

2. In a device of the class described, the combination with a guide having a groove therearound, supporting means for the guide and means to lock the guide against rotation; of a collar adjustably mounted on the guide, a shank on said collar, an adjustable shaft carried by the shank, a detector point, a supporting plate for the pointed means to adjustably attach the plate to said shaft.

3. A device of the class described, comprising the combination with a guide having a groove therein, a support for the guide and means to lock the guide upon the support; of a collar adjustably mounted on said guide, said collar having a split shank, a shaft adapted to extend between the sections of the shank, one portion of the shaft having a flat face, a detector point, a plate for said detector point and means to adjustably mount the flat face on the shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WORTHINGTON E. MORTON.

Witnesses:

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G. S. RAPSTER.