

UNITED STATES PATENT OFFICE.

WILLIAM S. MILLS, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO D. P. MILLS, OF NAUGATUCK, CONNECTICUT.

LUMP OR SLUB CATCHER FOR YARN-WINDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 793,084, dated June 27, 1905.

Application filed December 1, 1904. Serial No. 235,048.

To all whom it may concern:

Be it known that I, WILLIAM S. MILLS, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Lump or Slub Catchers for Yarn-Winding Machines, of which the following is a specification.

My invention relates to improvements in lump or slub catchers for yarn-winding machines; and the main object of my improvement is efficiency in operation, especially with reference to the certainty of catching all imperfections in the yarn.

In the accompanying drawings, Figure 1 is a side elevation of my slub-catcher. Fig. 2 is a plan view of the same. Fig. 3 is a plan view of the same with the card-clothing plate turned back, so as to be out of action. Fig. 4 is a transverse section of the guiding-plate on the line *x x* of Fig. 3 with an elevation of the parts lying beyond the said line.

A designates the guiding-plate, that forms the base of my slub-catcher. It is provided with ears 5, by means of which and proper screws or rivets it may be attached to the guide-bar of any ordinary yarn-winding machine and in a position to have the yarn or thread drawn tautly over the smooth or polished face 6 of the said plate A. This polished face of the said plate has a flat middle portion with a rounded portion at each edge thereof.

At one end of the guiding-plate A there is a pair of bracket-ears 7, within which I pivot the lever 8 on the pin 15. A card-clothing plate 9 is pivoted to the middle portion of the said lever 8 by means of pintle 16 and lugs 10, that project upwardly from the said plate 9 near one end. The opposite end of the card-clothing plate 9 is provided with an adjusting-screw 11 and set-nut 12. A like adjusting-screw 13 and set-nut 14 are arranged in that end of the lever 8 which is farthest from the bracket-ears 7. The end of the adjusting-screw 13 bears on the top of the card-clothing plate 9, as shown in Fig. 1, whereby the said card-clothing plate may be adjusted to the desired distance from the top face 6 of the guiding-plate and also so adjusted as to be parallel

to the said plate with reference to the length 50 of the said parts. A piece of sharp-pointed card-clothing 17 or an equivalent series of sharp-pointed teeth is secured to the under face of the card-clothing plate, as shown.

To use the slub-catcher, it is secured to the guide-bar or other part of a winding-machine, so that the thread or yarn may be drawn tautly over the top face of the guiding-plate A as it passes to the spool or bobbin on which it is wound. By means of the adjusting-screws 11 60 and 13 the card-clothing is adjusted to bring the plane of its points or teeth at a given distance from the face 6 of the plate A when the parts are in the position shown in Figs. 1 and 2. This distance will be greater or less, according to the size or thickness of the yarn to be wound. A gage in the form of a flat plate and of the same thickness as the yarn to be wound may be used in adjusting the card-clothing to the guiding-plate, the said gage 70 being placed on the guiding-plate to adjust the points and removed after adjustment. The screws 11 and 13 serve as stops to limit the downward movement of the outer ends of the card-clothing plate 9 and lever 8. When the 75 gage-plate is to be used, the screws should be turned back far enough to be out of the way. After bringing the card-clothing plate 9 down level on the top of the gage-plate the screws can be turned down until they come to their 80 bearings and the set-nuts tightened up. The gage-plate may now be removed, and the device is ready for use. Turning down the screw 11 will raise the outer ends of the card-clothing plate 9 and the lever 8. Then turn- 85 ing down the screw 13 will raise the outer end of the lever 18 and lower the pivoted end of the card-clothing plate 9. With the parts thus placed and adjusted, as shown in Fig. 1, the yarn passes along between the guiding- 90 plate and points of the card-clothing without obstruction so long as it is even and free from lumps or slubs. When, however, a lump or slub thicker than the regular size of yarn reaches the guiding-plate, it is caught by the 95 card-clothing. The operator then turns the lever 8 and attached parts over into the position shown in Figs. 3 and 4, pulls off the yarn,

and breaks out the bad place. When the yarn is again readjusted for winding, the lever and connecting parts are turned back again into the position shown in Figs. 1 and 2.

5 The main advantage of this construction is the certainty of catching all the lumps or slubs, thereby insuring a clean yarn. All danger of breaking needles and such other trouble as results from the yarn not being freed from
10 lumps and slubs is avoided by the employment of my catcher.

I claim as my invention—

1. The combination of a guiding-plate with a lever pivotally mounted on the said guiding-
15 plate, and a card-clothing plate pivotally connected to the said lever, and means for ad-

justing the said card-clothing plate and lever on their pivots, substantially as described.

2. The combination of the guiding-plate with the lever pivotally connected by one end 20 with the said guide-plate, a card-clothing plate pivotally connected to the said lever and the two adjusting-screws mounted near the respective ends of the said lever and card-clothing plate, the screw in the card-clothing plate 25 being resisted by the guiding-plate and the screw in the lever being resisted by the card-clothing plate.

WILLIAM S. MILLS.

Witnesses:

T. I. FERGUSON,

A. H. MACLELLAN.