March 6, 1956 L. H. PUTMON 2,736,962

YARN STRIPPER

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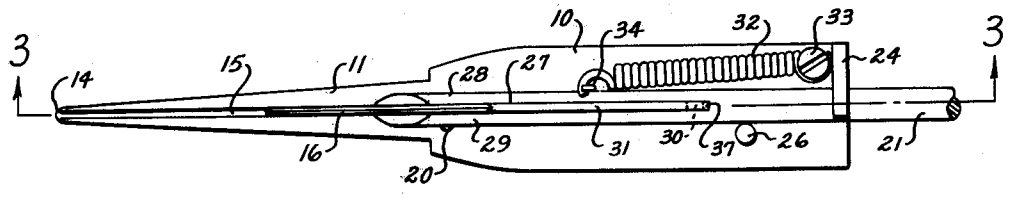


Fig-1

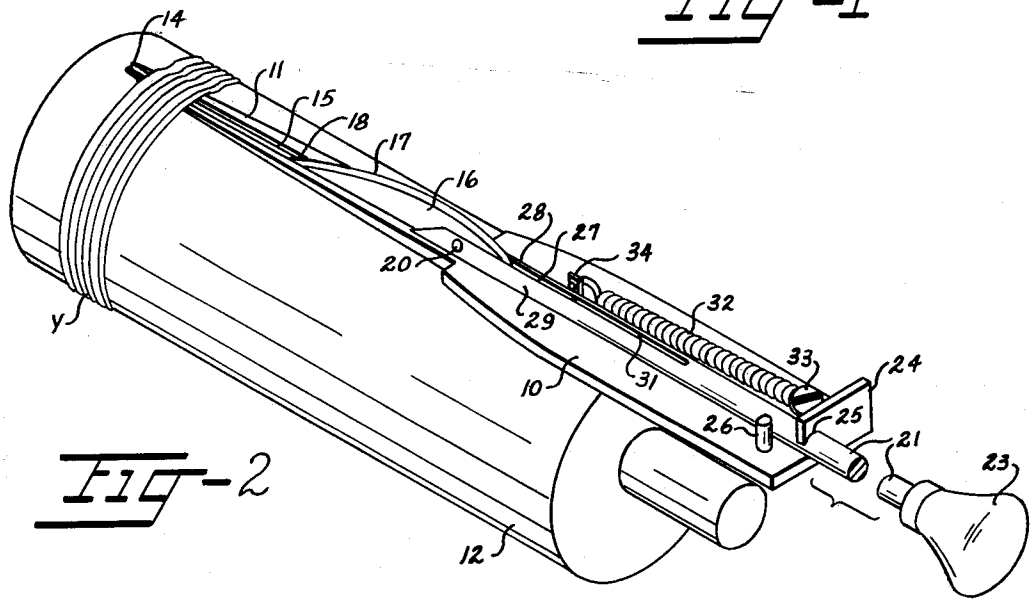
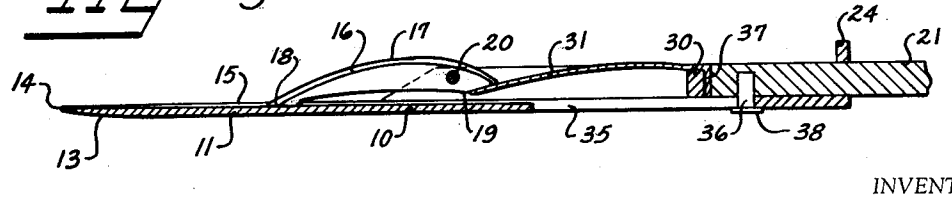


Fig-2

Fig-3



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YARN STRIPPER

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4 Claims. (Cl. 30—294)

This invention relates to a device for stripping lap-ups, wrap-arounds and convolutions of yarn roving, and the like from drafting rolls, drawing rolls, clearer rolls, bobbins and the like of the type commonly used in roving frames, spinning frames, twister rolls, twister frames, and the like.

During the processing of yarn or roving it frequently occurs that the yarn or roving will become parted as it passes between rolls or from one stage in the process to another, thus resulting in lap-ups or wrap-arounds which accumulate on either the top or bottom drafting roll of a drawing frame or the like instead of passing between the next rolls in the process, or passing onto a bobbin and the like. It is necessary to remove the accumulation of yarn thus formed in order to allow a pair of rolls to again contact each other. To this end there is provided a simple and effective device for stripping yarn, rovings and the like from drafting rolls, clearer rolls, bobbins and the like of the type commonly used in roving frames, spinning frames, twister rolls and a twister frame.

It is an object of this invention to provide a device for stripping residual yarn and the like from clearer rolls and the like, which device may be employed for stripping without danger of cutting or otherwise damaging the rolls onto which the yarn has been wound.

It is another object of this invention to provide a device for stripping lap-ups and the like from rolls and bobbins, which device comprises means for protecting the surface of the object upon which the lap-ups or accumulations of yarn or roving have formed, said protective means being in combination with cutting means for severing the accumulated material, and said cutting means being operable to cut the material upon a single manual operation.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings in which—

Figure 1 is a top plan view of the yarn cutter;

Figure 2 is a somewhat schematic view of the yarn cutter shown in association with a portion of a twister roll having an end of yarn wrapped therearound;

Figure 3 is a vertical sectional view taken substantially along the line 3—3 in Figure 1.

Referring more specifically to the drawings, the numeral 10 indicates a flat substantially rectangular body portion of a cutting device having an elongated tapered blade guide 11 preferably formed integral therewith and extending outwardly therefrom in axial alinement thereto. The guide 11 is provided to permit the cutting device to be inserted between the surface of a roll 12 such as a twister roll and any end or ends of yarn which may be wrapped therearound, and to this end the lower outer end surface of the blade guide 11 is tapered or beveled upwardly as at 13 to form a point 14 on the outer free end thereof.

The upper surface of the blade guide 11 is provided with a longitudinally extending groove or trackway 15 for the reception of a cutting blade 16 having a sharpened arcuately-shaped cutting edge 17 on the upper surface

thereof and a downwardly projecting point 18 on the end nearest the point 14 on the blade guide 11, which end will hereinafter be referred to as the front end. The opposite end of the blade 16 is beveled as at 19 and is penetrated by a pivot pin 20, adjacent the beveled rear end 19 which pin is mounted in the front end of an operating rod 21. It is to be understood that, if desired, a fender or guard member may be positioned over the blade 16 while it is in retracted position to prevent injury while handling the device. The guard member may be secured to the body portion 10 and/or the blade guide 11 by any suitable means. The fender or guard member has been eliminated from the drawings for purposes of clarity.

The operating rod 21 is slidably mounted on the body portion 10 and extends outwardly from the end thereof remote from the blade guide 11 having a handle 23 on the outer free end thereof, which end will hereinafter be referred to as the rear end. The operating rod 21 is confined to axial sliding movement relative to the body portion 10 by means of an upturned flange 24 on the rear end of the body portion 10, said flange 24 having an arcuate cut-out 25 therein adapted to slidably receive the operating rod 21. The operating rod 21 is further restricted from lateral movement relative to the body portion 10 by means of a pin 26 extending upwardly from the upper surface of the body portion 10 adjacent the rear end thereof and in frictional contact with the rod 21.

The front end portion of the rod 21 is bifurcated as at 27 to define arms 28 and 29 on the front end portion of the rod 21. The blade 16 is pivotally secured between the arms 28 and 29 of the rod 21 adjacent the free ends thereof by the pivot pin 20 which extends through the arms 28 and 29 and the blade 16. The arms 28 and 29 have integral therewith a bridging portion 30 thus providing a slot into which a bent-down portion 37 of a leaf spring 31 is inserted to fixedly secure the leaf spring 31 between the arms 28 and 29 adjacent the closed ends thereof and the opposite end of the leaf spring 31 normally urges the beveled rear end 19 of the blade 16 upwardly to cause the pointed front end 18 to rotate downwardly about the pivot pin 20 and into the confines of the groove or trackway 14 in the blade guide 11. This insures that the upper arcuately-shaped sharpened cutting surface 17 of the blade 16 will at all times be maintained in proper cutting position.

One end of a tension spring 32 is secured to the flange 24 as at 33 and the other end of the spring 32 is secured to the medial portion of the rod 21 as at 34 to normally urge the rod 21 and the blade 16 rearwardly or to the right as shown in the drawings. The body portion 10 has a slot or cut-out 35 in the medial portion thereof extending from the blade guide 11 rearwardly to a point spaced from the rear end of the body portion 10, said cutout or slot 35 being provided for the reception of a pin 36, one end of which is fixedly secured to the lower surface of the rod 21 adjacent the bifurcation 27 and the other end of which has a head 38 thereon to prevent the pin 36 from passing upwardly through the slot 35. The pin 36 and the slot 35 serve as limiting means to prevent the rod 21 from passing beyond predetermined points relative to the body portion 10.

Referring now to Figure 2, it will be observed that when it is desired to remove a plurality of turns or convolutions of yarn Y which have accumulated on the drafting roll 12, the blade guide 11 of the yarn cutter may be inserted between the surface of the roll 12 and the yarn Y and then the rod 21 is actuated to move the blade 16 forwardly within the trackway 14 to sever the yarn Y, at which time the tension spring 32 will cause the rod 21 and the blade 16 attached thereto to return to its normal position as shown in the drawings. The yarn cutter may

then be removed from the roll by simply lifting it therefrom.

It is thus seen that there is provided an efficient and simple mechanism for cutting loose ends of yarns, rovings or the like from drafting rolls, which device is so constructed as to prevent any injury to the surface of the roll through action of the cutting blade. It will be observed that the blade 16 may be removed from the cutting device by simply removing the pivot pin 20 when it is desired to sharpen or replace the blade.

In the drawings and specification there has been set forth a preferred embodiment of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. A device for stripping convolutions of material, said device comprising a body portion, an elongated rod slidably mounted on said body portion and extending outwardly therefrom, said rod having a longitudinally extending slot extending from the inner end thereof toward the outer end thereof and the closed end of said slot being spaced from the outer end of said rod, an arcuately shaped cutting blade pivotally secured in the open end of said slot in said rod, said blade extending from said rod in substantial axial alinement therewith, an elongated pointed blade guide extending from the opposite end of said body portion remote from said rod, said blade guide having a groove in the upper surface thereof for the reception of said cutting blade, a leaf spring disposed in said slot and normally urging the free end of said blade downwardly within said groove in said blade guide, and means for limiting movement of said rod and said blade relative to said body portion.

2. A device for cutting convolutions of material which have been previously wound about a surface, said device comprising a body portion, an elongated blade guide extending outwardly beyond one end of said body portion, the outer free end of said blade guide terminating in a tapered point and said blade guide having a groove therein, a rod slidably mounted on said body portion and extending from the end thereof remote from said blade guide, a blade secured to the end of said rod adjacent said blade guide and slidably mounted in said groove in the blade guide, and said blade guide being insertable between said surface and the material wound thereon to isolate the blade from the surface while guiding it into contact with the material.

3. A device for cutting convolutions of material from a surface, said device comprising a body portion, an elongated blade guide extending from said body portion, the outer free end of said blade guide terminating in a tapered point and the upper surface of said blade guide having a groove or trackway therein, a rod slidably mounted on said body portion and extending from the end thereof remote from said blade guide in axial alinement therewith, a blade pivotally connected adjacent a first of its ends to the end portion of said rod adjacent said blade guide, said blade being slidably mounted in said groove in the blade guide, and resilient means carried by the rod in engagement with the first end of said blade for forcing the other end of the blade into said groove.

4. A device for cutting convolutions of material from a surface, said device comprising a body portion, an elongated blade guide extending outwardly from one end of said body portion, said blade guide having a groove therein, a rod slidably mounted on said body portion and extending from the end thereof remote from said blade guide in axial alinement with said blade guide, a blade connected to the end of said rod adjacent said blade guide, said blade being slidably mounted in the groove in the blade guide, said blade guide being insertable between said surface and the material wound thereon to isolate the blade from the surface while guiding it into cutting engagement with the material, and means for limiting movement of said rod and said blade relative to said body portion.

References Cited in the file of this patent

UNITED STATES PATENTS

390,759	De Lamarre	Oct. 9, 1888
1,813,723	Beaver	July 7, 1931
2,262,101	Harris	Nov. 11, 1941
2,607,987	Bettenhausen	Aug. 26, 1952

FOREIGN PATENTS

329,592	Great Britain	Aug. 30, 1929