June 3, 1941. H. DILCHERT 2,244,290

APPARATUS FOR WINDING

Filed Nov. 23, 1938

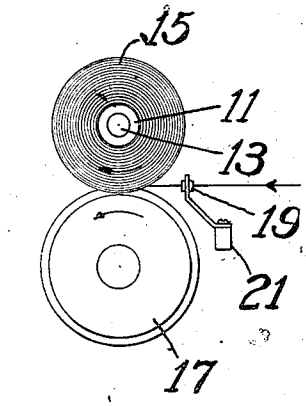


Fig. 2.

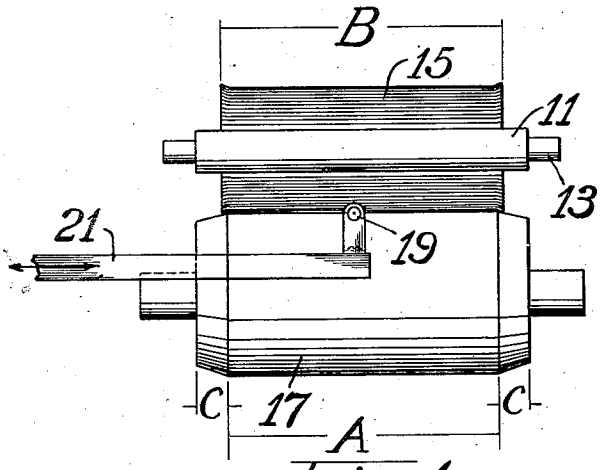


Fig. 1.

Heinrich Dilchert INVENTOR

BY Louis A. Wiebe

ATTORNEY

Patented June 3, 1941 2,244,290

UNITED STATES PATENT OFFICE

2,244,290

APPARATUS FOR WINDING

Heinrich Dilchert, Freiburg-in-Breisgau, Germany, assignor to Societe "Rhodiaceta," Paris, France, a corporation of France

Application November 23, 1938, Serial No. 241,887
In Germany November 27, 1937

1 Claim. (Cl. 242—43)

This invention relates to improvements in the process and apparatus for the winding of straight-sided yarn packages. More particularly, the invention relates to improvement in winding apparatus of the type in which the yarn is wound on a support which is turned by peripheral contact of the support or yarn layers with a surface drive roll.

The winding of straight-sided yarn packages has a particular advantage in that very simple forms of yarn traversing mechanism can be employed. Heretofore, the winding of such straight-sided yarn packages on apparatus employing surface drive rolls for the rotation of the yarn packages has involved certain difficulties. For example, as the yarn was traversed back and forth across the package considerable variation resulted in the arrangement and position of the sections of yarn at the sides of the package. At the points where the reciprocating traverse guide changed direction, the yarn was sometimes overthrown to project as a loop from the end of the package, and at other times the yarn was drawn back from the end of the package. By this procedure great irregularity, and projecting or fallen yarns, at the sides of the package were found to be present in wound yarn packages.

It is, therefore, an object of the present invention to provide an improved method and apparatus for the winding of yarn comprising a surface drive roll for rotating a yarn package, which apparatus is adapted to wind a straight-sided yarn package in which the sides are substantially even and regular.

Other objects of the invention will appear hereinafter.

The details of the invention will be more clearly apparent by reference to the following description taken in connection with the accompanying illustrations, in which:

Figure 1 is a front elevational view of one form of apparatus suitable for use in accordance with the present invention.

Figure 2 is a side elevational view of the apparatus shown in Figure 1.

Referring to the drawing, reference numeral 11 designates a yarn supporting member such as a bobbin or the like. The yarn supporting member is positioned on a spindle 13 which may be positioned in grooves of a supporting frame in such a manner that the spindle is free to rotate. The yarn package 15 is rotated by contact with a surface drive roller 17. The surface drive roller is positively driven in any desired manner.

The surface drive roller comprises a cylindrical section defined by A and beveled ends C, C. The yarn is wound on to the yarn package 15 by reciprocating the same backwardly and forwardly across the yarn package. This is accomplished by means of yarn guide 19 which is positioned on traverse bar 21. The traverse bar 21 is reciprocated by means of a rotating cam and follower or in any other desired manner. The length of the traverse stroke of the yarn guide will be from a point slightly beyond one end of the cylindrical section of the drive roll to a point slightly beyond the other end of the cylindrical section of the drive roll.

In this manner the yarn will be held between the yarn supporting member 11 and the slight shoulder defined by the juncture of the cylindrical section of the drive roll and the beveled ends thereof. It has been found that a straight-sided yarn package can be produced in this manner without objectionable overthrown ends, loops, fallen yarns or yarns drawn inwardly from the ends. The yarn is held on the beveled ends of the drive roll when the thread guide changes its direction at the end of its traverse. At the extreme ends of the yarn package, therefore, the yarn is wound with a slight flare. This slight flare or enlargement at the extreme ends of the yarn package will prevent any thread from shirring or falling from the end of the package.

If desired use may be made of any one of various known means for varying the traverse speed of the yarn guide or for varying the linear speed of the thread, so as to prevent "ribbon winding" of the yarn.

In accordance with the present invention, straight-sided yarn packages can be wound on winding apparatus comprising surface drive rolls for rotation of the yarn package. The yarn will be wound without substantial degradation such as is caused by groove or roughened surface drive rolls. The yarn may be unwound from the yarn packages produced in the present invention without catching, or degradation of the yarn, due to unevenness or projecting yarns at the side of the package.

Since it is obvious that numerous changes can be made in the details of the invention as specifically described and illustrated without departing from the nature and spirit of the invention, it is to be understood that the invention is not to be limited except as set forth in the appended claim.

I claim:

In a yarn winding apparatus a positively driven surface drive roll constructed with a cylindrical center surface and beveled ends, a freely rotatable yarn support mounted to press against said roll, and a reciprocating yarn guide positioned to guide yarn on to said support on substantially the line of contact between said support and said roll, and to reciprocate along a line extending slightly beyond each end of the cylindrical section of said drive roll.

HEINRICH DILCHERT.