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APPARATUS FOR DRAWING TEXTILE ROVING

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APPARATUS FOR DRAWING TEXTILE ROVING

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This invention relates to an apparatus for drawing textile roving.

The objects of my invention will be apparent from the following description.

In order that the present invention may be fully understood, two illustrative embodiments thereof are described in detail, merely by way of example, and shown in the accompanying drawing forming a part hereof and wherein:

Fig. 1 is a longitudinal section of one form of the apparatus of the invention; and

Fig. 2 is a longitudinal section of another form of apparatus embodying features of my invention.

Referring to the drawing, and initially to Fig. 1, there is a machine frame A which supports roving feed and guide means generally designated B. The roving C leaving the feed and guide means B is received by an endless conveyer belt 2 which is trained around supporting rolls 4 and 6, at least one of these rolls being driven. The belt travels in the direction of the arrow indicated. The path of the conveyer belt from the roll 4 to the roll 6 is the transporting lap, whereas the path from the roll 6 back to the roll 4 is the return lap. Between the rolls 4 and 6, there is another supporting roll which is identified by 8. The provision of the rolls 4, 8, and 6 ensures a plane transporting lap. The return lap is guided by the roller 10.

Opposite to the rolls 4, 8, and 6 are pressure rolls 16, 14, and 12. There are three pairs of cooperating rolls, each pair including a pressure and a supporting roll. The pressure rolls are driven and rotate in a direction opposite to that of the supporting rolls. The axes of the supporting and pressure rolls are parallel.

The roving is transported to a porcupine roller D immediately in front of the forward end of the conveyer belt 2. Upon being worked by the porcupine, the roving passes between the rollers E and the endless conveyer bands F and G. With respect to one another, both the two rollers E and the bands F and G rotate in opposite directions.

Having now reference to Fig. 2, upon being fed and guided by the feed and guide means B' to the apparatus, the roving C' reaches the conveyer belt 2' and is transported to a gill box designated D' and arranged immediately in front of the forward end of the belt 2'. The belt 2' is supported by rolls 4' and 6', the cooperating pressure rolls being designated 16' and 12'. The gill bars in the gill box D' are caused to traverse to the front and, upon reaching the forward end, to return to the back of the box. From the gill box, the roving C' passes between the rollers E' and the endless bands F' and G'.

It is believed that the construction of the apparatus according to my invention, as well as the advantages therefrom, will be understood from the foregoing detailed description of two forms for practicing the invention. Some of the advantages are reviewed hereinafter.

The roving is transported by an endless belt closely to the drawing mechanism proper. This makes the provision of delivery rolls unnecessary and ensures proper guidance through the whole drawing operation. The winding of roving around pulleys is prevented. The conventional operational speed can be increased without increasing the risk that fibres break. The fibres are prevented from falling off the transporting means and from becoming disarranged. They are kept instead in a perfect parallel condition. Due to a material reduction in fibre breakage, the formation of knots is prevented resulting in a decrease of waste and an increase in output. There is no need for putting the roving while traveling through the apparatus under tension, which avoids unnecessary weakening thereof. Thus, there is a qualitative and quantitative improvement in the resulting roving. Due to the improved working conditions, my apparatus makes it possible to save parages through the drawing apparatus, which amounts to considerable savings in manufacturing costs. My apparatus makes it possible to increase the count of yarn normally attainable.

It will be apparent that while I have shown and described my invention in two forms only, many changes and modifications may be made without departing from the spirit of the invention defined in the following claims.

I claim:

1. Apparatus for drawing textile roving, comprising the drawing mechanism proper, an endless belt, supporting rolls, and pressure rolls, said belt being arranged immediately in front of the drawing mechanism, requiring no interposed delivery rolls, and being trained around said supporting and driving rolls to receive the material to be handled and to feed said said drawing mechanism, the endless belt including a transporting lap and a return lap, at least one of said supporting rolls being arranged to support the transporting lap intermediate its ends, said supporting rolls being arranged so as to provide a plane transporting lap, at least one of the pressure rolls being arranged to cooperate with said intermediate supporting roll.

2. In the apparatus according to claim 1, a supporting roll each at the entrance into, and the exit from, the transporting lap, at least one of said two supporting end rolls being driven, and two pressure rolls, each of said two pressure rolls cooperating with one of said supporting end rolls.

3. In the apparatus according to claim 2, both of said supporting end rolls being driven.

4. In the apparatus according to claim 1, a supporting roll each at the entrance into, and the exit from, the transporting lap, at least one of said two supporting end rolls being driven, and two pressure rolls, each of said two pressure rolls cooperating with one of said supporting end rolls, the pressure rolls being arranged with their axes parallel to those of the supporting end rolls, and being driven in a direction opposite to the rotation of the supporting end rolls.

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