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MANUFACTURE OF TEXTILE YARNS OR THREADS

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Fig. 1

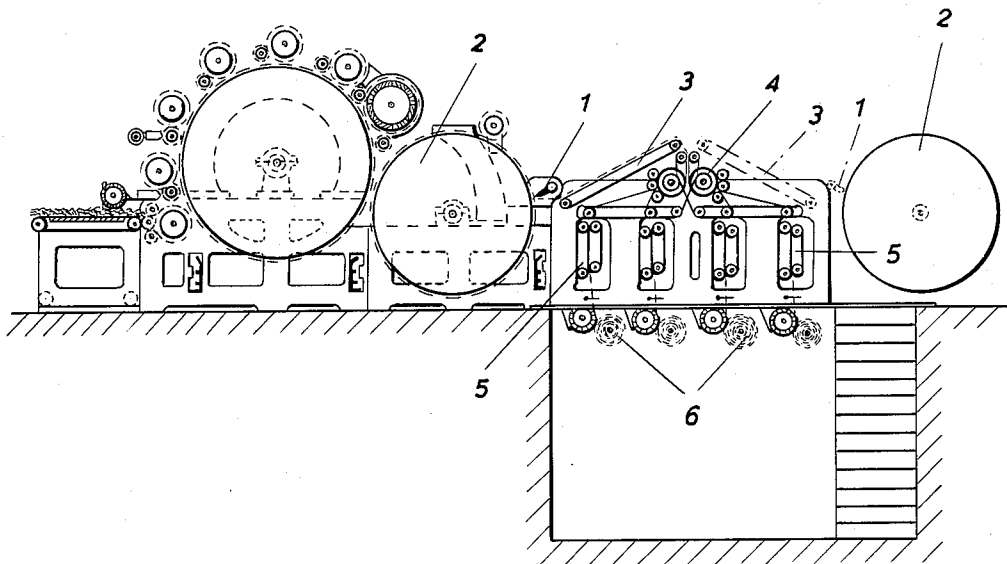
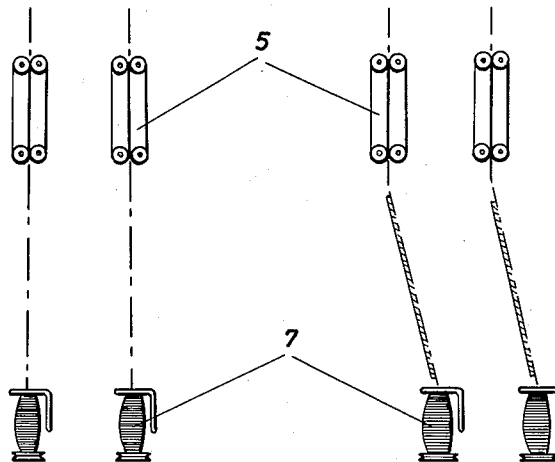


Fig. 2



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MANUFACTURE OF TEXTILE YARNS OR THREADS

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9 Claims. (Cl. 57—34)

The present invention relates to improvements in the manufacture of textile yarns or threads.

An object of the invention is to avoid any strain on the fleece or web doffed from the carding cylinder during its passage to and through condenser rubbers and thence to spinning devices, as occurs whenever such fleece or web is conveyed or guided otherwise than vertically downwards, as by the present invention.

According to the present invention, the carded fleece is guided to run vertically into the web or fleece divider and into the condenser rubbers, and further, the slivers are guided vertically, or substantially vertically, to the condenser bobbins. Further, the condenser web or fleece and all of the fleece or web slivers divided from it are guided in the same direction as the slivers, so that no differences of density occur on the condenser bobbins.

The undesirable results following upon the breakage of the condenser yarn or sliver are avoided, as these latter, should they break, again fall back to their feed point, due to their vertical guiding by their own weight automatically, and thus no entanglement of a broken yarn with other yarns or with the condenser parts can take place. The outside slivers are guided by their own weight into containers disposed below their delivery point.

A multi-coloured or otherwise mixed yarn can be obtained by the novel carding engine of the present invention in a very simple manner, in that several variously coloured slivers can run into a web divider, so that the spun sliver is already multi-coloured or consists of differing yarns, which renders unnecessary the usual twisting together of such yarns.

Attempts have already been made to effect this in machines in which the carded web runs horizontally, but such attempts give rise to the difficulty of feeding two horizontally running carded webs from two carding cylinders in an undisturbed condition to the web divider. This difficulty is completely avoided where the carded web is guided vertically.

A further advantage of the novel carding engine is that it is now possible to pass the slivers directly to a spinning machine without necessitating their being wound up on condenser bobbins.

Attempts have indeed been made to combine a carding engine directly with a spinning machine to spin the sliver passing from the web divider and the condenser rubbers. These attempts have not met with success due to the complicated construction of carding engine. With the novel carding engine of the present invention, however, no difficulties arise in guiding the slivers passing in a vertical direction from the rubbing leathers of the carding engine to the spinning spindles of a spinning machine disposed below the carding engine.

One form of carding engine according to the present invention is illustrated by way of example diagrammatically in the accompanying drawings in which:

Fig. 1 is a diagrammatic side elevation of one form of construction,

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Fig. 2 is a diagrammatic view showing a modified arrangement.

The carded web 3, stripped from the carding cylinder 2 by the doffer 1, runs vertically, or in a substantially vertical direction, into the web divider 4 and from this to the condenser rubbers 5, the operative surfaces of which are disposed vertically, or substantially vertically. Furthermore, the condensed sliver runs vertically, or substantially vertically, on to the condenser bobbins 6. The carded web and the carded sliver have therefore throughout an equal and uniform free travel, which avoids irregularity in the manufacture of the thread and, moreover, the weight of the sliver itself guides it vertically downwards in its path to the condenser rollers.

Where fibres or slivers of differing colour or other characteristics are to be blended, an arrangement as indicated in chain dot lines at the right hand side of the diagram may be used, in which a single set of condenser and spinning devices are common to two carding engines. It will be obvious that the vertical guiding will allow of separate webs or laps from even more than two carding engines to feed a single set of spinning devices arranged below them.

In the combination of the described carding engine with a spinning machine the spinning devices of a spinning machine for example the spindles 7 are below the condenser rubbers as diagrammatically illustrated in Fig. 2. The slivers passing from the condenser rubbers may also be guided by inclined guiding devices to several spindles which are arranged side by side below the condenser rubbers.

I claim:

1. A method of manufacturing spun textile fibre including the steps of doffing a carded web from a carding engine, moving the said web in substantially downward direction, dividing said web during its downward movement, guiding all the web bands so formed through sliver forming devices while moving vertically downwards, and guiding the slivers to spinning devices arranged below the sliver forming devices.

2. A method of manufacturing spun textile fibre including the steps of doffing a number of separate carded webs from carding engines, dividing the separate doffed carded webs into groups of bands, blending a plurality of said groups of bands and guiding all the said groups of web bands so formed vertically downwards through sliver forming devices while blending said plurality of groups of bands in each sliver forming device.

3. A machine for the manufacture of spun textile fibre including in combination a carding engine, means to doff a carded web from said carding engine, and additional elements comprising vertically disposed condenser rubbers, and the said elements being arranged in such manner to permit movement of bands divided from said carded web in a vertical downward path through the said respective vertically disposed condenser rubbers.

4. A machine for the manufacture of spun textile fibre including in combination a carding engine, means to doff a carded web from said carding engine, and additional elements comprising vertically disposed web dividing means, vertically disposed condenser rubbers, and the said elements being arranged in such manner to permit movement of bands divided from said carded web in a vertical downward path through the respective vertically disposed web dividing means and respective condenser rubbers.

5. A machine for the manufacture of spun textile fibre, including in combination a carding engine, means to doff a carded web from said carding engine, and additional elements comprising vertically disposed web dividing means, vertically disposed condenser means below said dividing means, condenser bobbins, and the said

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elements being arranged in such manner to permit movement of bands divided from said carded web in a substantially vertical downward path through said respective vertically disposed dividing means, condenser means and therefrom to said condenser bobbins.

6. A machine for the manufacture of spun textile fibre, including a combination a number of separate carding engines, means to doff a carded web from each of said carding engines, additional elements comprising a vertically disposed web dividing means for each carding engine, 10 vertically disposed condenser rubbers common to a web dividing means of each carding engine, sliver spinning means disposed below each condenser, and said elements being arranged in such manner to permit movement of a blended sliver from each condenser to one of said 15 sliver spinning means.

7. In a method of forming a carded fleece into slivers, the steps of dividing said fleece into web bands and leading said web bands vertically downward to, vertically downward through, and vertically downward from rubbing 20 condensers which form said web bands into slivers.

8. In a textile fibre spinning method, the steps of simultaneously blending a number of divided carded fleeces, moving the latter vertically downward and converting the said fleeces to a mixed fibre sliver solely during the time 25

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when the fibre of the fleece is moving vertically downwards.

9. A method of manufacturing spun textile fibre including the steps of doffing a carded web from a carding engine, moving the said web in substantially downward direction, dividing said web during its downward movement, guiding the web bands so formed substantially vertically downward through sliver forming devices, and guiding the slivers to spinning devices arranged below the sliver forming devices.

References Cited in the file of this patent

UNITED STATES PATENTS

151,678	Bede	June 9, 1874
312,424	Bolette	Feb. 17, 1885
819,298	Martin	May 1, 1906
1,127,994	Hill et al.	Feb. 9, 1915
1,922,950	Harris	Aug. 15, 1933
2,226,137	Pool	Dec. 24, 1940

FOREIGN PATENTS

21,383	Germany	July 28, 1882
22,779	Germany	June 19, 1883
33,843	Germany	Dec. 2, 1885