

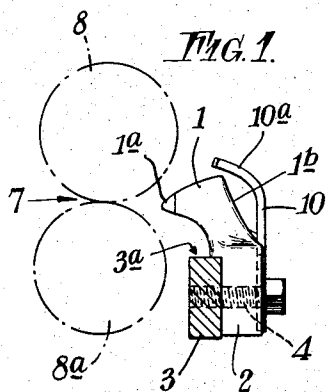
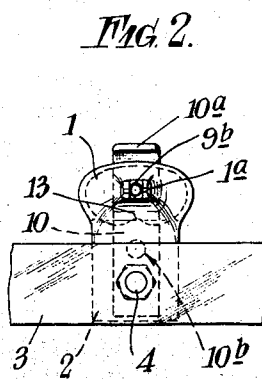
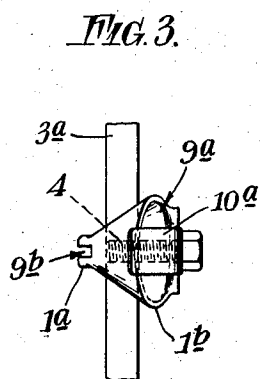
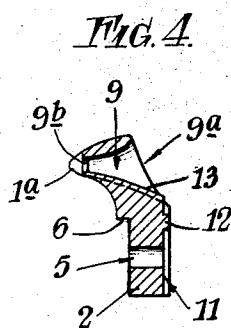
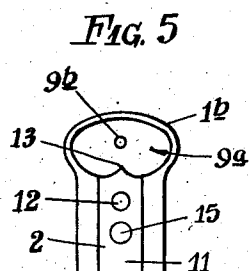
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ROVING GUIDES FOR TEXTILE FIBRE DRAFTING MECHANISMS

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ROVING GUIDES FOR TEXTILE FIBRE DRAFTING MECHANISMS

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This invention relates to roving guides for textile fibre drafting mechanisms.

It is common practice to utilise roving guides in drafting mechanisms for the purpose of directing single or double rovings into the nip between a following pair of drawing rollers. These roving guides may conveniently take the form of a small wedge-shaped or like body having a single funnel-like aperture extending therethrough from an inlet in a rear face of the wedge body to a considerably reduced outlet in the narrowed edge of the wedge or, in some cases, two such funnel-like apertures are formed side-by-side through the wedge body. Both these known forms of guides, however, have disadvantages when dealing with double rovings. In the case of the single aperture, the disadvantage arises from the fact that the rovings within the guide are permitted to ride over one another and frequently become crossed thus affecting the degree of inter-fibre cohesion during the subsequent drafting. This is avoided by the use of separate apertures but again there is a disadvantage in that the relatively large aperture inlets must of necessity be set too close together, with the result that the two rovings steal from each other at the guide entry and build up fibre accumulations at this entry causing stoppages, whilst the rovings delivered through the two aperture outlets are invariably too widely spaced for ideal drafting conditions.

A main object of the present invention is to overcome the foregoing disadvantages by the provision of a generally improved roving guide which can deal with both single and double rovings with equal efficiency whilst permitting relatively easy threading of the rovings.

According to the invention, there is provided a roving guide including a wedge-like body having a single funnel-like aperture extending therethrough from a large inlet in the rear face of the body to a considerably reduced outlet in the forward narrowed end of the body, and a separator finger located approximately centrally in the rear of, and spaced from, the body inlet whereby a roving entering the guide aperture is directed to, and maintained on, one side or the other of the said aperture. When this roving guide is dealing only with a single roving, such roving can be caused to pass on either side of the separator finger before entering the guide aperture as a matter of convenience, whilst, when dealing with double rovings, these will be passed into the guide aperture from opposite sides of the finger and will thereby be held separated during the initial part of their passage through the guide. In this way the two rovings will be prevented from becoming crossed inside the guide. At the same time the issuance of the two rovings through a single outlet will ensure their delivery to the following drawing rollers in the required close proximity.

In order that the invention may be clearly understood and readily carried into effect, one embodiment thereof will now be described in detail with reference to the accompanying drawings in which:

Figure 1 is a side elevation showing one form of roving

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guide constructed in accordance with the invention, the guide being mounted on part of a traverse bar behind a following pair of drawing rollers indicated in chain-dotted lines.

Figure 2 is a front elevation of the roving guide and part of the traverse bar as shown in Figure 1,

Figure 3 is a plan view of Figure 2,

Figure 4 is a transverse section of the roving guide body shown in Figures 1 to 3, and

Figure 5 is a rear elevational view of the roving guide body as shown in Figure 4.

Referring now to the drawings, the roving guide has a wedge-like body part 1, and a dependent substantially rectangular shank part 2. The front face of the guide shank part 2 is adapted for attachment to the rear face of a traverse bar 3 by means of a screw 4 extending through a pre-formed aperture 5 in the shank part and engaging in a tapped aperture in the traverse bar 3. To facilitate location of the roving guide on the traverse bar 3, a shoulder 6 is formed across the top of the front face of the shank part 2, this shoulder 6 being arranged to engage over, and bear on, the upper edge 3a of the traverse bar. In the mounted position of the guide as illustrated, the narrowed edge 1a of the wedge part 1 lies close to the nip 7 between a following pair of drafting rollers 8, 8a whilst the substantially flat rear face 1b of the wedge part 1 has a slight forward inclination towards the rollers 8, 8a.

Extending through the wedge-like body part 1 is a funnel-like aperture 9, which progressively narrows from an inlet 9a covering the greater part of the aforesaid rear face 1b to a very much reduced outlet 9b in the narrowed edge 1a of the wedge.

Positioned behind and spaced from the guide body inlet 9a is a separator finger in the form of an upstanding elongated strip 10, the upper end 10a of which is bent over towards the guide body on a curve so that the extremity of the strip overlies the top of the body above its inclined rear face 1b whilst the aforesaid rear face inclines forwardly away from the upstanding part of the strip. The separator finger is positioned approximately centrally in front of the guide body inlet 9a and its width may approximate to one-half of the overall width of this inlet. The separator finger is conveniently attached to the roving guide by means of the same screw 4 which secures the guide shank 2 to the traverse bar 3, the screw 4 extending through a pre-formed aperture in the lower part of the separator finger which aperture registers with the aperture 5 in the body shanks. To locate the separator finger positively in relation to the roving guide, the rear face of the shank part 2 of the latter is conveniently provided with a longitudinal flat bottom channel 11 which forms a seating for the lower part of the separator finger. A dowel 12 projecting from the base of this channel 11 is also entered into an aperture 10b in the separator finger.

The base of the aperture 9 through the guide body is preferably formed with a shallow central dividing rib 13 which extends longitudinally through the aperture 9 from the inlet end 9a of the latter, and merges into the base of the aperture just short of the outlet 9b thereof.

With the arrangement described, it is possible to guide two rovings extremely efficiently, the rovings being entered into the funnel-like aperture 9 from opposite sides of the separator finger and being thereby prevented from becoming crossed or otherwise entangled within the funnel. The curved configuration of the finger furthermore ensures that a roving cannot cross accidentally to the wrong side of the funnel inlet 9a, even though such roving approaches the funnel at an extremely sharp inclination from above.

In cases where two rovings are passed in through the

roving guide and one becomes broken, it is a simple matter to re-thread the broken roving by marrying it to the other roving in front of the separator finger and then lifting the broken roving over the finger behind the join so that the rovings reassume their correct relative positions. Furthermore, the spacing of the separator finger from the guide inlet permits relatively easy threading of the rovings through the roving guide in the initial setting up operation.

It will be appreciated that the roving guide can deal with a single roving with equal efficiency, this roving being positioned on either side of the separator finger.

I claim:

1. Means for guiding rovings between the nip of cooperating drafting rollers in a textile fibre drafting mechanism comprising a wedge-like body adapted for operative mounting with the narrowed front body end close to the said nip, a funnel-like guideway formed through said body from a large inlet in the rear body face to a considerably reduced outlet in the narrowed body end, a shallow central rib which extends longitudinally along the base of said guideway from the inlet end of the latter and merges into said guideway base short of the guideway outlet, and an upwardly extending separator finger located approximately centrally in the rear of and spaced from said body inlet and having a width which is less than the overall width of said guideway inlet, the arrangement being such that a roving entering said guideway inlet can be directed to, and maintained on, either side of said guideway by said finger and rib.

2. Means as claimed in claim 1 in which said rear body face has a slight forward inclination in the upward direction away from the separator finger when said body is operatively mounted.

3. Means as claimed in claim 2 in which the upper end of said separator finger is curved to overlie the upper edge of said rear body face.

4. Means as claimed in claim 3 in which the width of said separator finger is approximately half the overall width of said guideway inlet.

5. For a roller drafting mechanism, a roving guide comprising a wedge-like body having a single progressively reduced aperture extending therethrough from a large inlet in the rear wider body end and an upwardly extending separator finger located approximately centrally in the rear of said body inlet, and having a width which is less than the overall width of said inlet whereby rovings entering said inlet from opposite sides of said finger are maintained by the finger on opposite sides of the body aperture during their passage therethrough, and a central shallow guide rib extending axially along the base of said aperture to aid the continued separation of said rovings.

6. A roving guide as claimed in claim 5 in which said body has a dependent shank part to the rear face of which the lower end of said separator finger is attached, said rear body face being shaped to incline forwardly in the upward direction away from said finger and the upper end of said finger being curved forwardly to overlie the upper edge of said rear inclined body face.

7. A device for guiding two separated rovings between the nip of cooperating drafting rollers in a textile fibre drafting mechanism comprising a guide member having a guideway therethrough for the rovings, means for mounting the guide member adjacent the nip, a separator member adapted for mounting on the drafting mechanism for delivering the two rovings in their separated condition to the guideway of the guide member, and means within the guideway for maintaining and delivering the two rovings to the nip in their separated condition.

8. A device for guiding separated rovings in a textile fibre drafting mechanism comprising a guide member for mounting on the drafting mechanism having a guideway therethrough for the rovings, said guide member having a rear wall provided with an inlet for the rovings, said rear wall being upwardly and forwardly inclined in the direction of travel of the rovings through the mechanism so that the plane of the inlet has an upward and forward inclination, whereby the rovings may pass through the inlet even though the rovings approach the inlet at an extremely sharp inclination from above the inlet, and a separator member adapted to be mounted on the drafting mechanism having a substantially vertically extending portion rearwardly of and adjacent to said inlet and having an upper portion curved towards the upper portion of the inlet for assuring that the rovings including those that approach the inlet at an extremely sharp inclination from above the inlet enter the inlet in their separated condition.

9. A device for guiding two rovings in spaced apart relation to one another between the nip of cooperating drafting rollers in a textile fibre drafting mechanism comprising a guide member for the rovings adapted to be mounted on the drafting mechanism, separator means for delivering the two rovings in spaced relation to one another to said guide member, and means within the guide member to maintain and deliver the two rovings to the nip in their spaced relation to one another.

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