

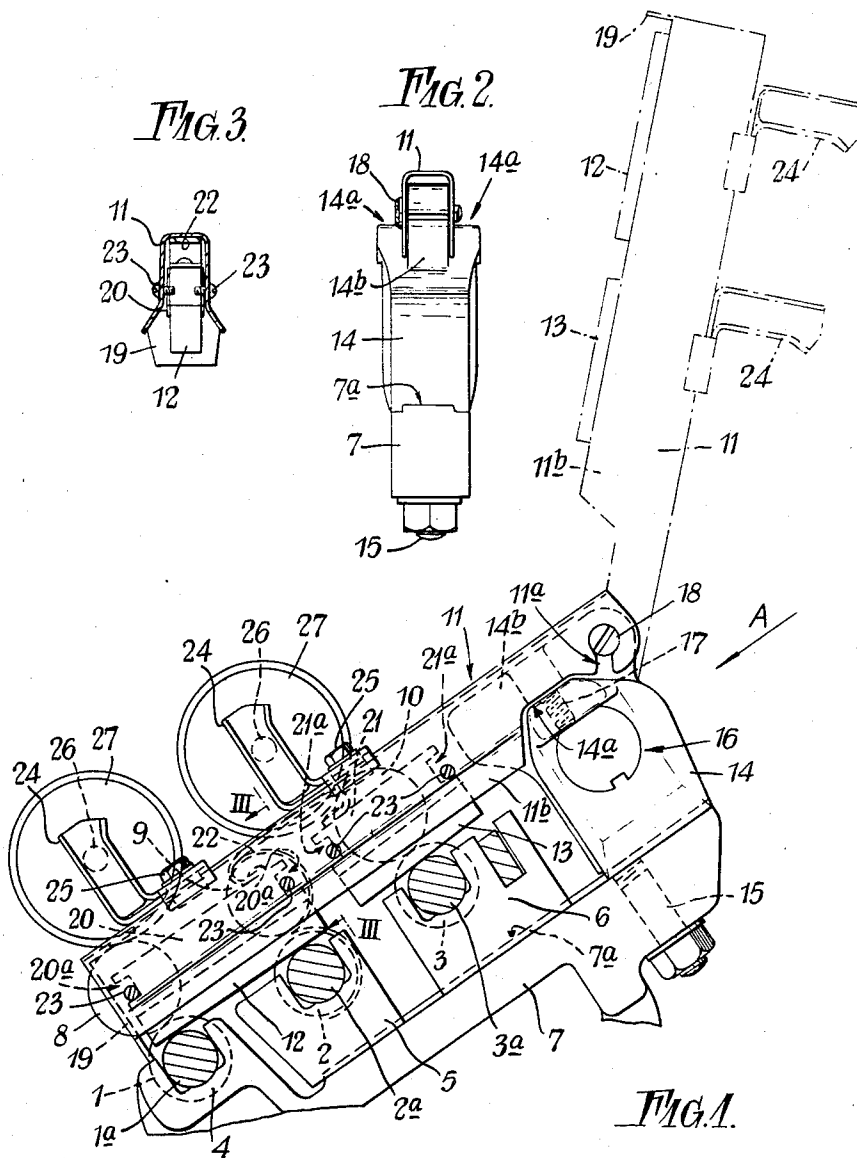
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TEXTILE FIBER DRAFTING MECHANISMS

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TEXTILE FIBER DRAFTING MECHANISMS

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This invention relates to textile fibre drafting mechanisms of the type employing consecutive bottom rollers having necks supported by bearings in roller stands and co-operating dual-boss top rollers which are centrally supported by top arms overhanging the drafting field. A main object of the invention is to provide for the effective lubrication and protection of the stand bearings and bottom roller necks in such mechanisms in order to maintain these parts in efficient operational order for long running periods.

Accordingly the invention provides, in a textile fibre drafting mechanism of the type specified, a roller stand cover supported on a mounting at the rear of the mechanism and arranged to overhang and form a protective shield over the stand bearings and bottom roller necks, when engaged in said bearings, said cover incorporating one or more lubricant absorbent pads arranged to make light contact with the roller necks so as to be capable of transferring lubricant to said necks and also performing a scavenging action thereon whilst the necks are rotating in their bearings.

The invention further provides, for use in a textile fibre drafting mechanism of the type specified, a roller stand cover adapted for pivotal mounting on a rear support on the mechanism and arranged to overhang and form a protective shield over the stand bearings and bottom roller necks, when engaged in said bearings, said cover incorporating at least one loosely carried lubricant absorbent pad arranged to make light contact with at least one underlying roller neck so as to transfer lubricant to the said neck and also perform a scavenging action thereon whilst the neck is rotating in its bearings.

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

Figure 1 is a sectional side elevation through a drafting mechanism and shows a roller stand incorporating a roller stand cover according to the invention, the stand being partially broken away and the stand cover being shown in the operative position in full lines and in a raised inoperative position in chain dotted lines.

Figure 2 is a view of the roller stand and cover shown in Figure 1, taken in the direction of arrow A, and

Figure 3 is a detail section taken on the line III—III of Figure 1.

Referring now to the drawings, the invention is illustrated in its application to a conventional roller drafting mechanism having three consecutive lines of top and bottom co-operating drafting rollers. The bottom drafting rollers 1, 2 and 3 are provided with necks 1a, 2a and 3a which are supported by bearings 4, 5 and 6 carried in a roller stand 7 in known manner. The top drafting rollers 8, 9 and 10, which can be seen in the background of Figure 1, are of the well-known dual-boss type and are carried from centre necks (not shown) by a top arm (also not shown) which overhangs the draft-

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ing field from a rear mounting. The manner of mounting the dual-boss top rollers is well known and forms no part of the present invention.

For the purpose of lubricating and protecting the stand bearings 4, 5 and 6 and supported bottom roller necks 1a, 2a and 3a, there is provided a roller stand cover 11 which incorporates lubricant absorbent pads 12 and 13. The cover 11 is in the form of an inverted open-ended channel member and is arranged to overhang the stand bearings and supported bottom roller necks in the fore and aft direction of the drafting field.

To mount the cover 11, a bracket 14 is arranged to upstand from a slideway 7a at the rear end of the stand and is located thereon by means of a bolt 15. The bracket 14 is also transversely apertured at 16 for keyed engagement with a bar (not shown) which extends along the rear of the mechanism with its axis substantially parallel to the axes of the drafting rollers. This bar may be provided with a flat at the top on which bear two set screws 17 which are passed through apertures in shoulders 14a provided one on each side of the bracket 14 just below the upper end 14b thereof. The upper end 14b of the bracket is shaped as shown to enter between the channel side walls at the rear end of the cover and is transversely tapped to receive a pivot screw 18. For the purpose of engaging this screw 18, each side wall of the cover 11 is provided with a downwardly opening slot 11a whereby the cover can be releasably hooked at the rear end on to the screw 18 and can be pivoted about the screw axis between a lowered operative position shown in full lines and a raised inoperative position shown in chain dots.

At the forward end, the cover is provided with an L-shaped closure plate 19 having one arm which underlies the top cover wall and a second arm which closes off the front of the cover and depends therebelow to abut the top front end of the stand bearing as shown.

The width of the cover 11 between the dependent side walls is somewhat less than the axial length of the supported roller necks and the free marginal edges 11b, of the cover side walls are outwardly flared to provide the necessary additional width for covering the aforesaid necks and underlying bearings.

Located between the cover walls so as to project below the outwardly flared edges of the latter are the two lubricating pads 12 and 13 which are approximately aligned one behind the other and arranged to contact the underlying roller necks as shown. Each of these pads 12 and 13 is of elongated substantially rectangular section and is conveniently made from a firm felt material capable of absorbing a quantity of lubricant, the pad 12, which bears on rollers necks 1a and 2a, being slightly longer than the pad 13 which bears only on the roller neck 3a. The pads could, of course, be made of any other material having similar absorbent properties, and more than two pads may be provided.

Each pad is strengthened along each side by rigid plates 20, 21 which extend over the whole pad length and from the upper pad side edges over approximately two-thirds of the pad depth, so that the lower part of the pad is left unsupported for making light contact with the roller necks as aforesaid. The pad side plates 20 and 21 are conveniently riveted in position by rivets which pass transversely through the pads and are provided with U-shapes slots 20a, 21a which open through the plate end edges. The pads are cut away opposite the plate slots 20a and 21a and are connected together by a felt or like bridging piece 22, opposite ends of which are secured to the tops of the respective pads, the bridging piece 22 then forming a slack link between the adjoining pad ends.

For the purpose of locating the connected pads within

the cover, each side wall of the latter is provided, for each pad, with two inwardly projecting screws 23. The diameters of the screws are, however, considerably smaller than the width of the U-slots 20a, 21a in which the screws engage, so that the pads are free to float in the cover, the arrangement being such that the pads will normally rest on the roller necks under their own weight, the screws then being located in intermediate positions in the slots.

The stand cover 11 is conveniently also arranged to carry clearer supports 24 which are bolted at 25 to the top of the cover. To receive the bolt 25 for the front clearer support, the top of the cover is provided with a circular hole, the bolt being entered therethrough from the top and engaged with a nut within the cover. This bolt may also be arranged to secure the L-shaped front closure plate 19 in position. To receive the bolt for the second clearer support, which may require adjustment in the fore and aft direction of the drafting field, the top of the cover is preferably provided with an elongated slot to allow for such adjustment. A part of this slot will normally remain exposed when the second clearer support is in position so that additional lubricant can, if desired, be supplied therethrough to the pads without lifting the cover. The clearer supports 24 are, of course, designed to support end pivots 26 on clearers 27.

With the arrangement as described, the stand cover 11 will provide a shield over the stand bearings and supported roller necks to protect these parts against dirt and loose fibre. At the same time the roller necks can be maintained constantly and adequately lubricated for long running periods owing to the large lubricant reservoir created by the pads. The felt connection between the pads will also ensure that lubricant is supplied to all the roller necks until the whole supply runs out irrespective of whether one particular roller neck takes up more lubricant than the others. The additional scavenging action which the pads will perform on the roller necks clears away any fibres which might tend to accumulate despite the protective shield.

With the manner of pad mounting described, it is, of course, a very simple matter to remove a pad merely by lifting the cover and withdrawing the supporting screws at one end of the pad, whereupon the latter is free to fall away from the cover.

I claim:

1. For use in a textile fiber drafting mechanism having consecutive driven bottom rollers with neck parts supported by bearings on a roller stand, a roller stand cover

adapted for pivotal mounting on a rear support on the mechanism and arranged to overhang and form a protective shield over the stand bearings and bottom roller necks, when engaged in said bearings, said cover incorporating at least one loosely carried lubricant absorbent pad arranged to make light contact with at least one underlying roller neck so as to transfer lubricant to the said neck and also perform a scavenging action thereon while the neck is rotating in its bearings.

2. In a textile fibre drafting mechanism having consecutive driven bottom rollers with neck parts supported by bearings on a roller stand, the combination of an inverted channel-section stand cover which extends over said roller necks and stand bearings to form a protective shield therefor and at least one lubricant absorbent pad which is loosely located between the side walls of said channel cover and lightly rests under its own weight on said roller necks to lubricate and scavenge the latter during rotation.

3. The combination as claimed in claim 2 further including a rear pivot mounting on the stand and means at the rear end of the cover for detachably engaging said mounting.

4. The combination as claimed in claim 2 in which said channel section stand cover has outwardly flared free marginal edges to increase the coverage area.

5. The combination as claimed in claim 2 in which at least two lubricant absorbent pads serving different roller necks are provided one behind the other between the cover side walls and a lubricant absorbent bridging piece forms a slack connecting link between said pads.

6. The combination as claimed in claim 5 in which the pads are of substantially rectangular section and each has rigid strengthening side plates which are inset from the lower pad surfaces and are formed with U-slots opening through the plate end edges loosely to engage inwardly projecting pins on the channel cover side walls.

7. The combination as claimed in claim 2 further including clearer supports secured one behind the other to the top of said cover and a front cover closure plate which projects below the cover side walls to act as a stop against the forward end of the roller stand.

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