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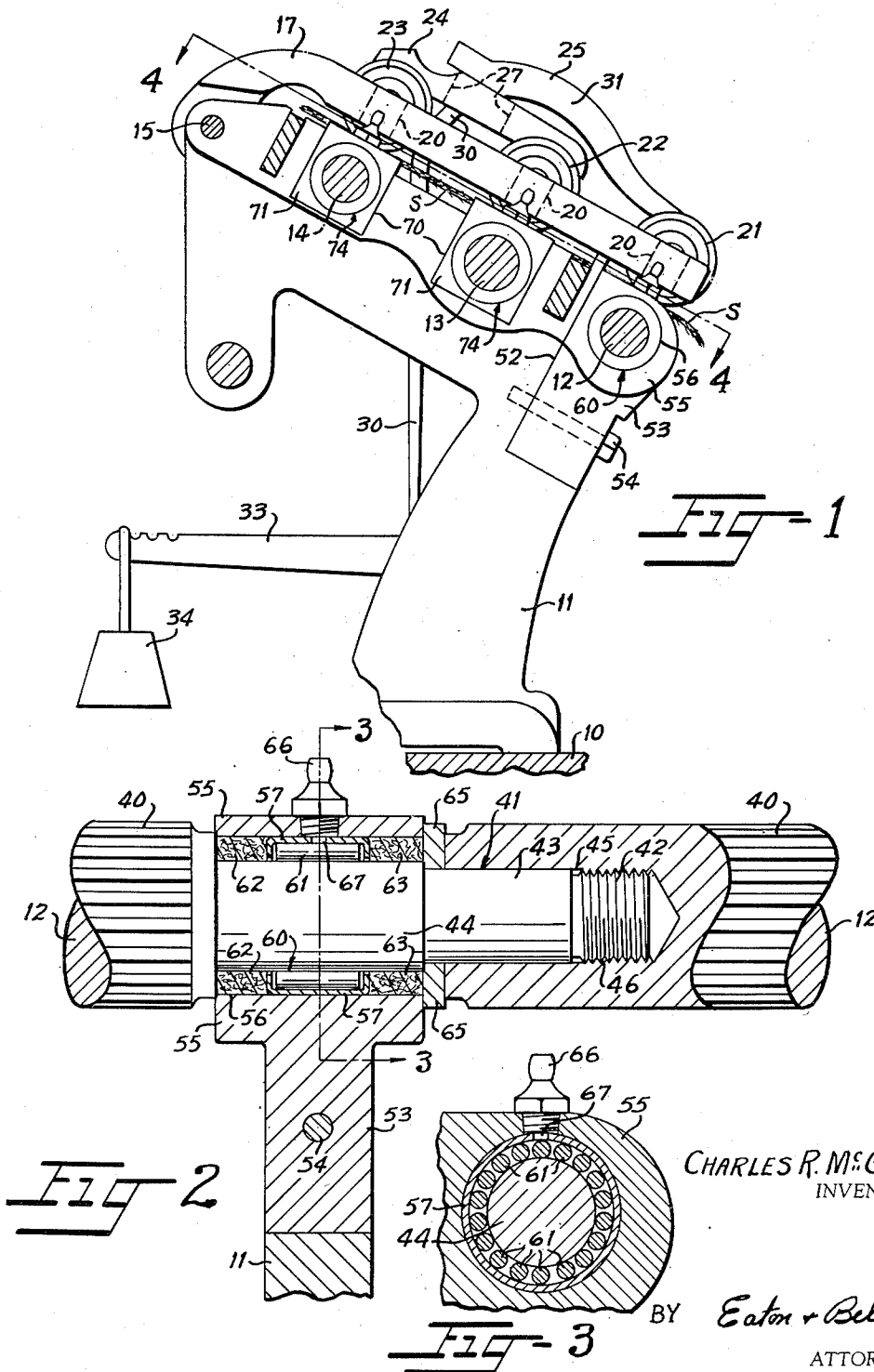
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MOUNTING FOR DRAWING ROLLS

Filed Nov. 6, 1950

3 Sheets-Sheet 1



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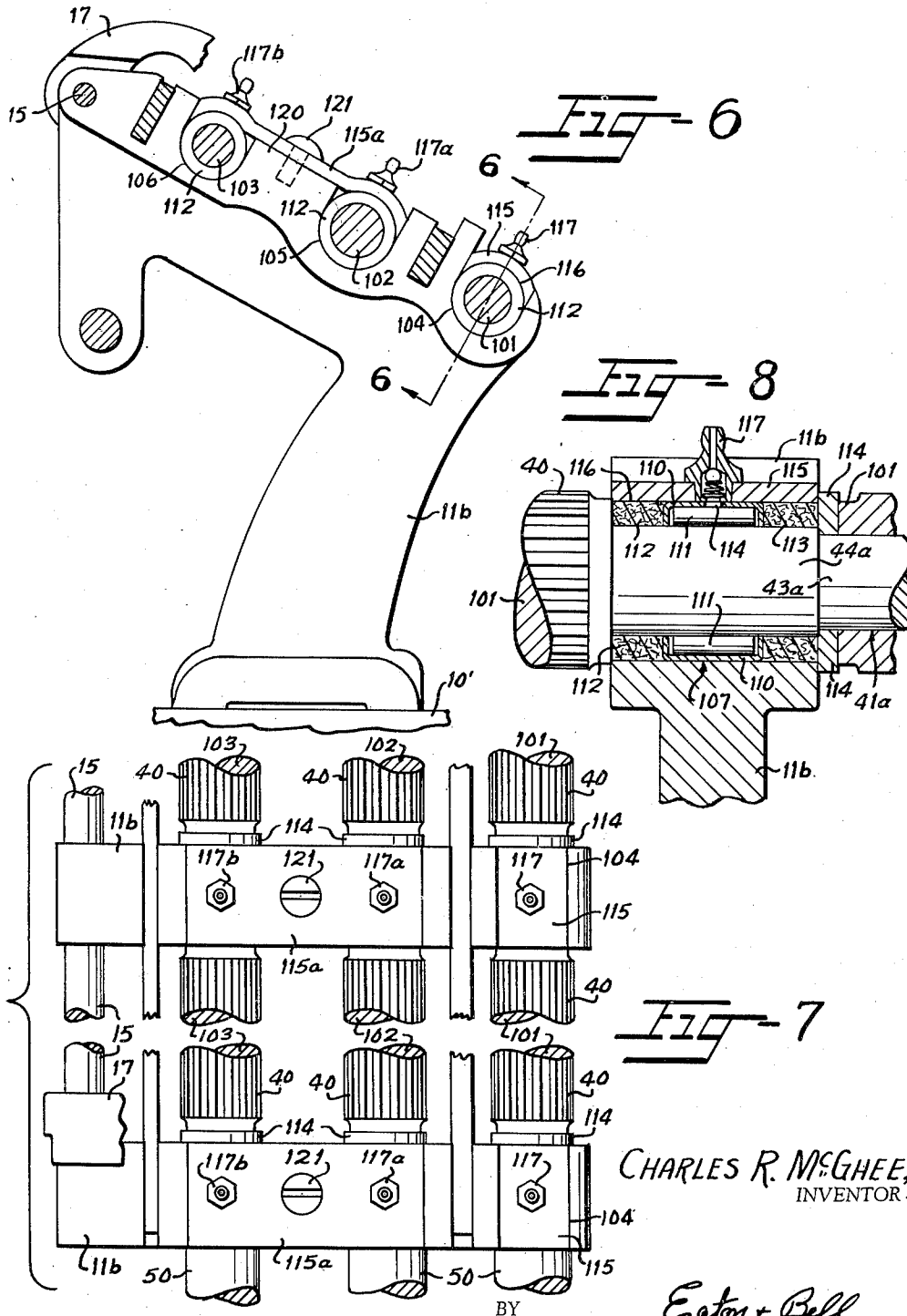
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MOUNTING FOR DRAWING ROLLS

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1

This invention relates to textile machinery and more especially to an improved mounting for the drawing rolls of spinning frames, roving frames and the like.

It is well known, to those familiar with the art, that the bottom rolls of spinning frames and the like have been made in sections including a plurality of bosses in each section and which sections have been joined together by so-called roller necks which, heretofore, have been supported for rotation in substantially U-shaped grooves of roll stands or brackets.

Proper lubrication of the roller necks in the roll stands has been difficult and frequently the lubricant used in lubricating the roller necks adheres to the fibers being processed, resulting in an inferior roving being formed on the machine on which the rolls are employed. Also, heretofore frequent lubrication has been necessary due to the relatively small quantity of lubricant that could be applied to the roll stands or the roller necks therein and in some instances there has been no lubrication at all with the result that the roller necks or stands or both would become worn in a relatively short period requiring replacement or repair to insure the proper fit of the roller necks in the U-shaped grooves in the roll stands and to eliminate vibration of the bottom rolls.

The latter is a costly and time consuming operation and it is therefore the primary object of this invention to provide an improved mounting for supporting the bottom rolls for rotation in spinning frames and the like which comprises an anti-friction bearing, preferably of the roller type, which is of substantially less length than the length of the exposed portion of the associated roller neck between adjacent sets of bottom rolls and which is adapted to fit into the semicircular groove in which each roller neck is usually supported, and over which roller neck a suitable cap, provided with a lubricant introducing fitting, is fixed for introducing lubricant to the anti-friction bearing.

A suitable fibrous washer also surrounds each roller neck between adjacent sets of rolls, opposed ends of these fibrous washers relative to each other being disposed substantially flush with opposed edges of the bearing or roll stand or bracket and the bearing cap also being of such length as to cover the fibrous washers. The fibrous washers prevent the lubricant admitted to the anti-friction bearings from seeping out of the bearings and thus adhering to the drafting or drawing rolls or to the fibers being processed thereby.

2

In order to facilitate the mounting of an anti-friction bearing of the type described and the associated fibrous washers, various modifications may be required in the roll stands or brackets such as increasing the size of the groove in which the roller necks are normally supported or cutting away a portion of the roll stand and securing additional bearing blocks or housings to the roll stand or bracket.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings in which:

Figure 1 is a vertical sectional view through a set of top and bottom rolls of a spinning frame or the like and showing the same in association with the usual weight member and saddle and one of the roll stands and taken substantially along the line 1—1 in Figure 4;

Figure 2 is an enlarged vertical sectional view taken substantially along the line 2—2 in Figure 4, showing the manner in which the roller necks for front rolls may be supported by the roll stand;

Figure 3 is a fragmentary vertical sectional view taken substantially along the line 3—3 in Figure 2;

Figure 4 is a fragmentary top plan view with parts broken away taken substantially along the line 4—4 in Figure 1 with parts in section and showing the manner in which opposed ends of a plurality of sections of bottom rolls are supported on the spinning frame or the like and also showing the manner in which the medial portions thereof are mounted.

Figure 5 is an enlarged vertical sectional view taken substantially along the line 5—5 in Figure 4 and showing the manner in which the roller neck at one end of a spinning frame and the like is mounted for rotation in the roll stand;

Figure 6 is a view similar to Figure 1 but showing a modified means for holding the anti-friction bearings in the roll stands with some of the parts being omitted for purposes of clarity;

Figure 7 is a fragmentary top plan view with parts broken away showing the manner in which adjacent roll sections are supported in the roll stands and embodying the modifications shown in Figure 6;

Figure 8 is an enlarged vertical sectional view taken substantially along the line 8—8 in Figure 6.

Referring more specifically to the drawings, the numeral 10 indicates a roll stand board, only a portion of which is shown in cross-section in Figure 1, on which a plurality of roll stands 11 are mounted, there being only one of these roll stands

3

shown in Figure 1. The roll stands 11 have the roller necks of front, middle and back bottom corrugated rolls 12, 13 and 14, respectively, mounted for rotation therein, the particular manner in which these bottom rolls are mounted being peculiar to the present invention. The roll stands 11 are usually spaced substantially apart from each other and have fixedly secured therebetween a conventional rod 15 on which are pivotally mounted a plurality of top roll supporting members 17, only two of which are shown in Figures 1 and 4. Only fragmentary portions of the top roll supporting members 17 are shown in Figure 4, the corresponding top rolls also being omitted from Figure 4.

The top roll supporting members 17 are usually provided with suitable cavities 20 (Figure 1) on opposed sides thereof in which the ends of front, middle and back top rolls 21, 22 and 23, respectively are mounted for rotation. The top rolls are urged into engagement with coinciding bottom rolls by the usual or other means such as a first saddle and a second saddle 24 and 25, respectively, the saddle 24 engaging the back and middle rolls 23 and 22 and the second saddle 25 engaging the roller neck of the front roll 21. The rolls 21, 22 and 23 are provided for the conventional purpose of holding a sliver S downwardly in contact with the upper surfaces of the respective bottom rolls 12, 13 and 14 as the sliver or slivers S travel from the back rolls 23 and 14 to the front rolls 12 and 21.

The first saddle 24 is slotted in the usual manner, as at 27, this slot being loosely penetrated by a link member 30 which projects upwardly and curves forwardly and is pivotally connected, as at 31, to the front or second saddle 25. The link member 30 extends downwardly from the saddles 24 and 25, between the back and middle top and bottom rolls and its lower end has a suitable weight lever 33 connected thereto which extends rearwardly and has a suitable weight 34 on the rear end thereof for applying pressure to the saddles 24 and 25 and to the top rolls 21, 22 and 23 to press the same toward the respective bottom rolls 12, 13 and 14.

In Figure 4 the intermediate roll stand is indicated at 11, this being the roll stand which is shown in Figure 1, and the end roll stands are indicated at 11a, these roll stands being identical.

Now, the bottom rolls 12, 13 and 14 are each made in sections providing a plurality of fluted bosses 40 connected to each other by roller necks 41 which are integral with one of the sections and are suitably connected to the other of the sections as by a tapered fit or, as shown in Figure 2, by threading one end of the roller neck as at 42. In order to accommodate the improved means for supporting the bottom rolls, the roller neck has, in addition to the threaded end portion 42 a pair of stepped portions 43 and 44 the portion 44 being of substantially larger diameter than the portion 43 and the portion 43 being of substantially larger diameter than the threaded portion 42.

It will be noted that the end of each of the roll sections, such as the front bottom roll sections 12, is provided with a bore 45 for slidably receiving the portion 43 of the roller neck 42 and the inner end of this bore 45 is threaded as at 46 for reception of the threaded end 42 of the roller neck 41. The portion of the bottom drawing roll 13 shown in Figure 5 is representative of the end-most middle bottom roll on a spinning frame or the like and is shown in association with a drive

4

shaft 50, there being one of these drive shafts 50 associated with each of the said front rolls, middle rolls and back rolls 12, 13 and 14, respectively, all of these drive shafts 50 being identical. Since the drive shafts 50 are connected to the corresponding roll sections in the identical manner in which adjacent roll sections are connected as shown in Figure 4, the roller neck and associated parts in Figure 5 bear the same reference characters as the roller neck 41 in Figure 2 with the prime notation added.

A feature which is common to all of the structures shown in Figures 2, 5 and 8 is that of an anti-friction bearing which surrounds the medial portion of the portion 44 of the roller neck between adjacent sections of rolls and against the remote ends of which are provided flexible or fibrous washers. The cap or housing of the member in which the anti-friction bearing is mounted has a suitable lubricant introducing fitting mounted therein and a passageway is provided in the housing or cap for directing the lubricant to the rollers of the anti-friction bearing, the fibrous washers serving to prevent the lubricant from leaking from the anti-friction bearing onto the adjacent portions of the rolls and thus preventing the lubricant from damaging the silvers S.

There are various ways in which the anti-friction bearings, the fibrous washers and the means for directing lubricant to the anti-friction bearings may be mounted, a few of these being illustrated in Figures 2, 5 and 8. The preferred manner of mounting the anti-friction bearing in the roll stand 11 is illustrated in Figures 2 and 5, Figure 2 illustrating the preferred manner in which the front bottom rolls 12 are mounted and the showing in Figure 5 illustrating the manner in which the middle and back rolls 13 and 14 are mounted in the roll stand.

Referring to Figure 1, it will be observed that the roll stand 11 has a notch or groove 52 cut in the front upper portion thereof and in which a front bottom roll bearing block 53 is adapted to fit, this front roll bearing block being secured in the notch 52 by any suitable means, such as a screw 54. The front bottom roll bearing block 53 has an enlarged upper portion 55 which is of slightly less thickness than the length of the portion 44 of the roller neck 41 for the purposes to be presently described. The enlarged or second portion 55 of the front bottom roll bearing block 53 has a bore 56 therethrough which is preferably of slightly smaller diameter than the adjacent end of the bottom roll 12 and in which the outer race 57 of an anti-friction bearing, broadly designated at 60 and preferably a roller bearing, is secured as by a snug fit. This anti-friction bearing 60 has a plurality of circularly arranged rollers 61 which are confined in the flanges of outer race 57.

It will be noted that the anti-friction bearing 60 is of less length axially than the thickness of the enlarged or second portion 55 of the bearing block 53 thus providing a space at opposed ends thereof in which fibrous washers or annular seals 62 and 63 are mounted and which are adapted to frictionally engage the walls of the bore 56. The portion 44 of the roller neck 41 is surrounded by the anti-friction bearing 60 and the fibrous washers 62 and 63, and the fibrous washer 62 is confined in the bore 56 of the bearing block 55 by the shoulder formed in the roll 12 at its juncture with the roller neck 41. The fibrous washer 63 is confined in the bore 56 by a suit-

5

able metallic or plastic retaining washer 65 which is slidably mounted on the portion 43 of the roller neck 41 and which bears against the shoulder formed at the juncture of the stepped portions 43 and 44 when the threaded end 42 of the roller neck 41 is tight in the threaded bore 46 of the adjacent roll 12.

Now, since the portion 44 of the roller neck 41 is slightly longer than the thickness of the portion 55 of the bearing block 53, although the washer 65 fits snugly against the shoulder at the juncture of the stepped portions 43 and 44, the adjacent roll section 12 may rotate freely with the roller neck 41. It is evident that there should be only a few thousandths of an inch clearance between the end of the left-hand roll 12 in Figure 2 and the second portion 55 of the bearing block 53 and between the washer 65 and the second portion 55 of the bearing block 53. Now, the upper wall of the second portion 55 of the bearing block 53 has a suitable lubricant fitting 66, either threadably or fixedly secured therein, which penetrates the upper wall of the second portion 55. The outer race 57 of the anti-friction bearing 60 has a hole 67 therein which coincides with the lubricant fitting 66 (Figure 2) whereby upon admitting lubricant to the fitting 66, the lubricant will enter the area in which the rollers 61 are disposed for lubricating the same and the adjacent surface of the roller neck 41.

It is thus seen that the fibrous washers 62 and 63 will prevent the lubricant, thus admitted to the rollers 61, from seeping or leaking from the anti-friction bearing 60 outwardly at opposed ends of the portion 44 of the roller neck 41 to thus insure that the lubricant will not leak onto the roll 12 or the sliver S.

The structure shown in Figure 5 is identical to that shown in Figure 2, with the exception that the end bearing block shown in Figure 5 and the end bearing blocks for the back rolls 14 differ in shape from the bearing block 53 for the front rolls 12.

Referring again to Figure 1, it will be observed that the roll stand 11 has a pair of substantially rectangular grooves 70 therein each of which a substantially rectangular block 71 is secured by any suitable means, such as a pressed fit.

Referring to Figure 5, it will be observed that the bearing block 71 has a bore 72 therethrough which is loosely penetrated by the portion 44' of the roller or shaft neck 41' and this portion 44' is surrounded by the rollers 73 of an anti-friction bearing 74 having an outer race 75 which is suitably secured in the bore 72, as by a pressed fit. The outer race 75 has downturned flanges at opposed sides thereof to confine the rollers 73 therebetween. The anti-friction bearing 74 is of substantially less length than the corresponding bearing block 71 thus providing a space at opposed ends thereof for the insertion of annular seals or fibrous washers 76 and 77 in the bore 72 which surround the portion 44' in the roller neck 41'.

A suitable lubricant introducing fitting, commonly termed a grease fitting 80, is threadably or otherwise secured in the upper wall of the bearing block 71 and penetrates the same and the outer race 75 of the anti-friction bearing 74 is provided with a passageway or hole 91 which coincides with the lubricant fitting 80 for directing lubricant therefrom to the rollers 73. As in the original form of the invention shown in Figure 2, the bore 72 in the bearing block 71 is slightly smaller in diameter than the diameter of adjacent rolls, which, in this instance, are the

6

rolls 12, and is smaller in diameter than the adjacent shaft 50 and the seal 76 is confined in the bore 72 against the left-hand surface (Figure 5) of the anti-friction bearing 74 by the shoulder formed at the juncture of the shaft 50 with the roller neck 41'.

A washer, preferably a metallic or plastic washer 92 is slidably mounted on the portion 43' of the roller neck or shaft neck 41' and upon the threaded end 42' of the drive shaft 50 being tightened in the threaded portion 46' of the adjacent roll 13, the washer 92 is tightened against the shoulder at the juncture of the portions 43' and 44' of the roller neck 41' to thus confine the seal 77 against the right-hand surface of the anti-friction bearing 74. It is evident that the portion 44' of the shaft roller neck 41' should be a few thousandths of an inch greater in length than the length of the bearing block 71 so as to prevent the shaft 50 and the washer 92 from being tightened against opposed sides of the bearing block 71 as the threaded portion 42' is tightened in the threaded bore 46' of the adjacent roll 13. The fibrous washers or seals 76 and 77 of course, prevent the lubricant introduced to the rollers 73 of the anti-friction bearing 74 through the fitting 80 from leaking onto the roll 13 where it would damage the fibers being processed.

Referring to Figures 6, 7 and 8, there is shown a modified form of the invention in which a roll stand 11b, similar to the roll stand 11, is supported on a roll stand board 10' in the usual manner. The roll stand 11b is identical to the roll stand 11 and it is to be understood that, in operation, the bottom rolls carried by the roll stand 11b would have the top rolls and corresponding weights associated therewith substantially in the manner in which the top rolls and weights are shown in Figure 1. However, the top rolls and weights and other parts not pertinent to the present invention have been omitted from the showing in Figures 6 and 7 for purposes of clarity.

The roll stand 11b in Figures 6 and 7 supports front, middle and back bottom rolls 101, 102 and 103, respectively, which are identical to the bottom rolls 12, 13 and 14 shown in Figure 1. In Figure 8, there are shown adjacent ends of roll sections such as the bottom roll sections 101 and it will be noted that they are connected by a roller neck 41a which is substantially the same as the roller necks 41 and 41' heretofore described, and therefore the portions of the roller neck 41a will bear the same reference characters as the roller neck 41 heretofore described with the letter "a" being affixed to each reference character. The form of the invention shown in Figures 6 and 7 and 8 is different from that shown in Figures 1 to 5, inclusive, in that a separate bearing is not employed in supporting the anti-friction bearings.

In the form of the invention shown in Figures 6, 7 and 8, the roll stands 11b, only one of which is shown, are provided with semi-circular grooves 104, 105 and 106 for respective rolls 101, 102 and 103. The front bottom roll is most clearly shown in Figure 8 and the roller neck 41a thereof is surrounded by an anti-friction bearing 107 in the form of a roller bearing having an outer race 110 and a plurality of circularly arranged rolls 111 which are confined in the outer race 107 by the intumed flanges thereof. The semi-circular cavity or groove 104 is of such diameter that the anti-friction bearing 107 will fit snugly therein. The anti-friction bearing 107 is of less

length than the width of the upper portion of the roll stand 115 thus providing a space at opposed ends thereof for mounting fibrous washers or annular seals 112 and 113 in the semi-circular groove 104. The annular seals 112 and 113 are confined by the adjacent end of the roll 101 and a washer 114, respectively, in a like manner to the original form of the invention.

In order to confine the roller bearing 107 and the annular seals 112 and 113 in the semi-circular groove 104, there is provided a bearing cap 115 having a concave lower surface 116 which surmounts the upper portions of the anti-friction bearing 107 and the seals 112 and 113. In order to prevent rotation of the bearing cap 115, it is preferably of such width as to slidably fit between the walls of the groove 104. The outer race 110 of the anti-friction bearing 107 has a hole or passageway 118 therein and the cap 115 is penetrated by the lower end of a lubricant introducing fitting 117 for introducing lubricant to the rollers 111 of the anti-friction bearing 107. In order to insure that the lubricant fitting 117 may be properly aligned with the corresponding passageway 114 in the outer race 110 of the anti-friction bearing 107, it is preferable that the bearing cap 115 be secured to the outer race 110 of the anti-friction bearing 107, as by a sweat fit, or by soldering the bearing cap 115 to the outer race 110 of the anti-friction bearing 107.

Referring again to Figure 6, a bearing cap 115a is employed in securing the anti-friction bearings in the corresponding grooves 105 and 106, the anti-friction bearings in the grooves 105 and 106 being identical to the anti-friction bearing 107 and, also, having seals in association therewith which are identical to the seals 112 and 113. The bearing cap 115a differs from the bearing cap 115 in that it extends over the necks of both of the rolls 102 and 103 and is suitably secured to a raised portion 120 of the roll stand 11b between the rolls 102 and 103 by any suitable means such as a screw 121. The bearing cap 115a is also provided with a pair of spaced lubricant introducing fittings 117a and 117b which are identical to the fitting 117 in Figure 8, and which are employed in an identical manner. It is also preferred that the anti-friction bearings associated with the rolls 102 and 103 be secured to the corresponding portions of the bearing cap 115a by any suitable means, such as soldering.

It is thus seen that I have provided an improved manner of mounting the bottom rolls on spinning frames and the like which includes an anti-friction bearing surrounding the roller necks at the juncture of adjacent roll sections to which lubricant may be directed and having suitable seals at opposed sides of the anti-friction bearings to prevent lubricant from leaking onto the rolls.

Heretofore, where the roller necks have been supported for frictional rotation in the U-shaped or semi-circular cavities of the bearing stands, the friction load thus caused on the roller necks of the series of axially extending roll sections is so great as to cause a variable degree of twist in the rolls from the ends at which the power was directed to the rolls to the opposite ends of the rolls thus causing the rolls to produce an uneven twist in the yarn being processed. This would also cause friction at the roller necks to such a degree that it would cause the necks to crystallize and break making it necessary to stop the textile machine for repair.

The particular lubricant fitting shown in the

drawings are especially of a type for introducing lubricant of a relatively high viscosity to the anti-friction bearings and, in experiments conducted with this type of apparatus, it has been found that a machine employing this type of mounting will require but a small amount of lubricant about once every year. Although, the particular roller neck shown is a so-called screw neck type, it is evident that a tapered connection may be provided between the roller neck of one roll and the corresponding roll section. It is evident that by using the improved mounting for drawing rolls the source of wear on the bearing of the roll stands is eliminated while heretofore the roller neck would wear down where the bearing seats to such an extent as to cause the rolls to become improperly aligned resulting in excessive neck breakage and the necessity of repairing or replacing the roll stands.

In the drawings and specification, there has been set forth a preferred embodiment of the invention and although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. In a roving frame, spinning frame and the like having roll stands and also having bottom rolls therein connected together by roller necks, an improved mounting for supporting each of the roller necks connecting said bottom rolls comprising an anti-friction bearing mounted in the roll stands adjacent each of said roller necks and being of substantially less axial length than the axial length of the roller neck and surrounding the roller neck, annular lubricant seals positioned about the roller necks at opposed ends of the anti-friction bearing, means for introducing a lubricant to the anti-friction bearing, the diameter of the adjacent rolls being slightly greater than the diameters of the anti-friction bearing and the lubricant seals, the end of one of the adjacent rolls serving to hold one of said lubricant seals in position, a washer positioned about the roller neck and adapted to hold the other of said lubricant seals in position, whereby said roller necks may rotate freely in said anti-friction bearings and the lubricant seals will prevent lubricant from leaking onto the adjacent rolls.

2. In a roving frame, a spinning frame and the like having roll stands and also having bottom rolls therein connected together by roller necks, an improved mounting for supporting each of said roller necks connecting the rolls comprising an anti-friction bearing mounted in the roll stands adjacent each of said roller necks and being of substantially less axial length than the axial length of the roller neck and surrounding the roller neck, annular lubricant seals positioned about the roller neck at opposed ends of the anti-friction bearing, means for introducing a lubricant to the anti-friction bearing, one of said annular lubricant seals being held in position by the end of the adjacent roll and a washer positioned about the roller neck and adapted to hold the other of said annular lubricant seals in position to prevent lubricant from leaking onto the adjacent rolls, and that portion of the roller neck extending through the anti-friction bearing being of slightly greater axial length than the corresponding length of the roll stand to permit free rotation of the roller neck and rolls in the roll stand.

3. In a roving frame, spinning frame and the like having roll stands and also having bottom

rolls provided with roller necks supported for rotation in the roll stands, an improved mounting for each of said roller necks comprising a bearing block secured to each of the roll stands, each of said bearing blocks having a laterally extending bore therethrough of slightly smaller diameter than the diameter of the rolls and through which the corresponding roller neck extends, said roller neck being slightly longer than the width of the bearing block, an anti-friction bearing surrounding the roller neck and in which the roller neck has rotational movement, said anti-friction bearing having an outer race provided with at least one opening therein, said anti-friction bearing being mounted in the laterally extending bore in the bearing block and being of less axial length than the width of said bearing block, a flexible seal mounted in opposed ends of the bearing block and confining said anti-friction bearing, means for introducing a lubricant through the opening in the outer race of said anti-friction bearing, said roller neck having a reduced portion extending therefrom of less diameter than the portion extending through the bearing block, a rigid washer mounted on the reduced portion of the roller neck and engaging the shoulder formed at the juncture of the two portions of the roller neck, said washer serving to retain the flexible seal in one side of the bearing block and the roll at the other side of the bearing block serving to retain the flexible seal in the corresponding side of the bearing block whereby, upon a lubricant being admitted to the anti-friction bearing, the flexible seals will prevent the lubricant from leaking from the anti-friction bearing onto the adjacent rolls and fibers being processed thereby.

4. In a roving frame, spinning frame and the like having roll stands and also having bottom rolls provided with roller necks supported for rotation in the roll stands, an improved mounting for each of said roller necks comprising a bearing block secured to each of the roll stands, each of said bearing blocks having a laterally extending bore therein through which the corresponding roller neck extends, said roller neck being slightly longer than the lateral width of the bearing block, an anti-friction bearing surrounding the roller neck and in which the roller neck has rotational movement, said anti-friction bearing having an outer race fixed in said bearing block and provided with at least one opening therein, the anti-friction bearing being of less axial length than the lateral width of said bearing block, a flexible seal mounted in opposed ends of the bearing block and confining said anti-friction bearing, means for introducing a lubricant through the opening in the outer race of said anti-friction bearing, a washer mounted on the roller neck and serving to retain the flexible seal in one side of the bearing block bushing and the roll at the other side of the bearing block serving to retain the flexible seal in the corresponding side of the bearing block whereby, upon a lubricant being admitted to the anti-friction bearing, the flexible seals will prevent the lubricant from leaking from the anti-friction bearing onto the adjacent rolls and fibers being processed thereby.

5. In a roving frame and the like having a plurality of bottom drawing rolls connected by roller necks and also having a plurality of roll stands, improved means for supporting each of the roller necks of the bottom drawing rolls for rotation on the roll stands comprising said roller necks being of a slightly longer length than the

width of the roll stand, each of the roll stands having a groove therein, an anti-friction roller bearing surrounding the medial portion of the roller neck and having an outer race fitted into the corresponding groove in the roll stand, the axial length of the anti-friction bearing being substantially less than the axial length of the roller neck, a flexible seal surrounding the roller neck at each side of the anti-friction bearing, a bearing cap fixedly secured to the outer race of the anti-friction bearing for holding the same in the groove, means for introducing lubricant to the anti-friction bearing comprising a lubricant fitting penetrating the bearing cap and said outer race having a bore therethrough coinciding with the lubricant fitting, said seals serving to prevent the lubricant from escaping from the bearing onto the adjacent ends of the rolls and the length of the roller necks being such as to permit free rotation of the roller neck in said anti-friction bearing.

6. In a roving frame and the like having a plurality of bottom drawing rolls connected by roller necks and also having a plurality of roll stands, an improved means for supporting each of the roller necks of the bottom drawing rolls for rotation on the roll stands comprising a U-shaped groove in each of said roll stands, an anti-friction bearing mounted in each of said U-shaped grooves, each of said anti-friction bearings surrounding the medial portion of the corresponding roller neck, the axial length of each anti-friction bearing being substantially less than the axial length of the corresponding roller neck, a flexible seal positioned around each roller neck at each side of the anti-friction bearing, each of said anti-friction bearings having an outer race provided with at least one opening therein, a bearing cap suitably secured to the outer race of each of said anti-friction bearings and having a lubricant introducing fitting therein for introducing lubricant to the anti-friction bearings, the end of one adjacent bottom roll serving to hold one of said flexible seals in position, a washer positioned about each of said roller necks and serving to hold the other of said flexible seals in position, whereby lubricant will be prevented from escaping from said anti-friction bearings onto the adjacent rolls and the fibers being processed thereby.

7. In a roving frame and the like having a plurality of bottom drawing rolls connected by roller necks and also having a plurality of roll stands, an improved means for supporting each of the roller necks of the bottom drawing rolls for rotation on the roll stands comprising a U-shaped groove in each of said roll stands, an anti-friction bearing mounted in each of said U-shaped grooves, each of said anti-friction bearings surrounding the medial portion of the corresponding roller neck, the axial length of each anti-friction bearing being substantially less than the axial length of the corresponding roller neck, a flexible seal positioned around each roller neck at each side of the anti-friction bearing, each of said anti-friction bearings having an outer race provided with at least one opening therein, a bearing cap suitably secured to the outer race of each of said anti-friction bearings and having a lubricant introducing fitting therein for introducing lubricant to the anti-friction bearings, the end of one adjacent bottom roll serving to hold one of said flexible seals in position, a washer positioned about each of said roller necks and serving to hold the other of said flexible seals in

11

position, whereby lubricant will be prevented from escaping from said anti-friction bearings onto the adjacent rolls and the fibers being processed thereby, and the length of each of said roller necks being such as to permit rotation of the roller necks in the anti-friction bearings. 5

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