May 27, 1952 C. P. BATISTA 2,597,850

ATTENUATING APPARATUS

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FIG. 1.

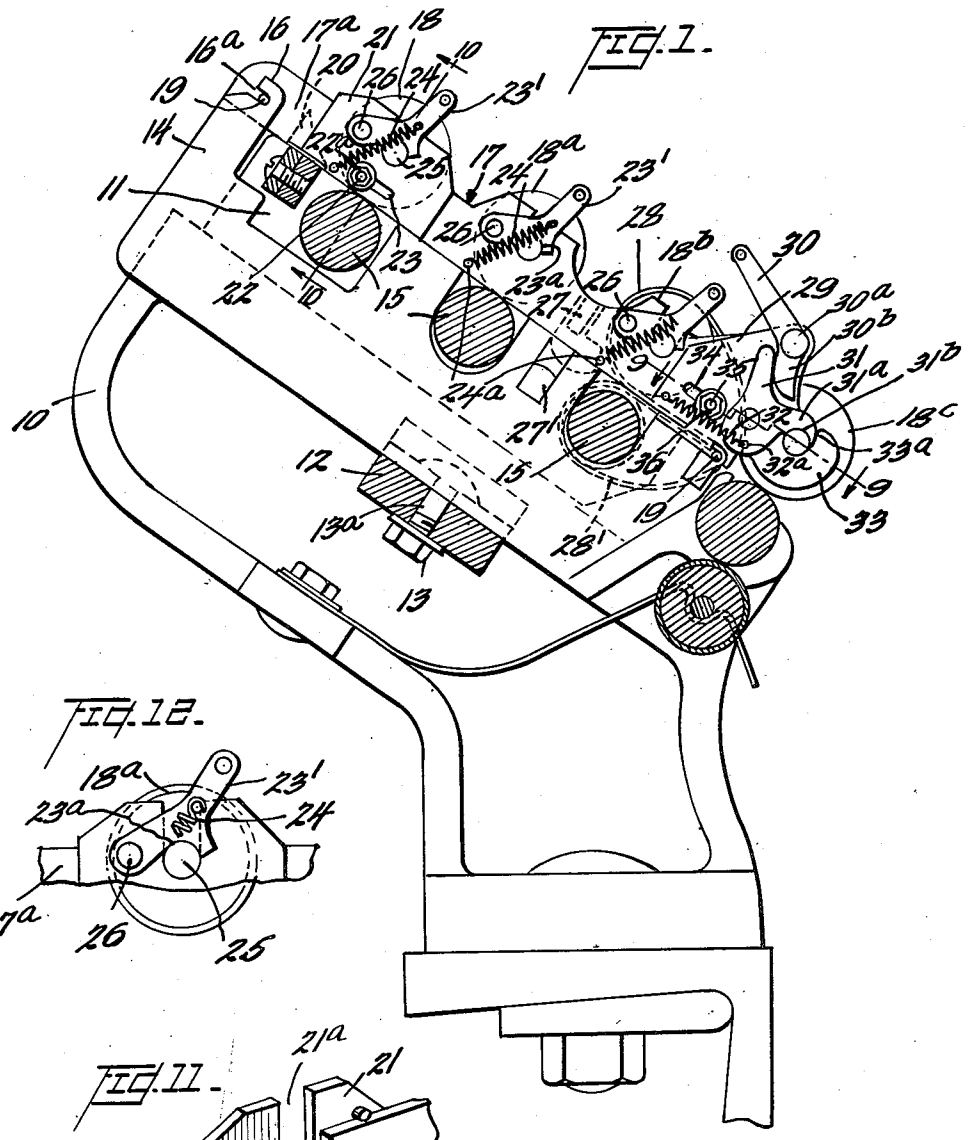
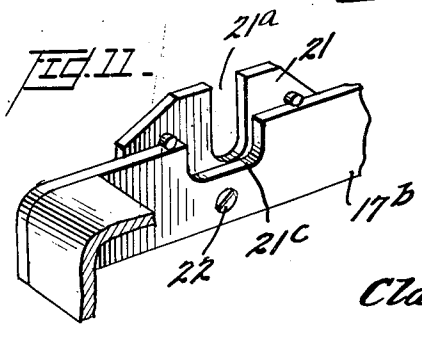


FIG. 12.

FIG. 11.



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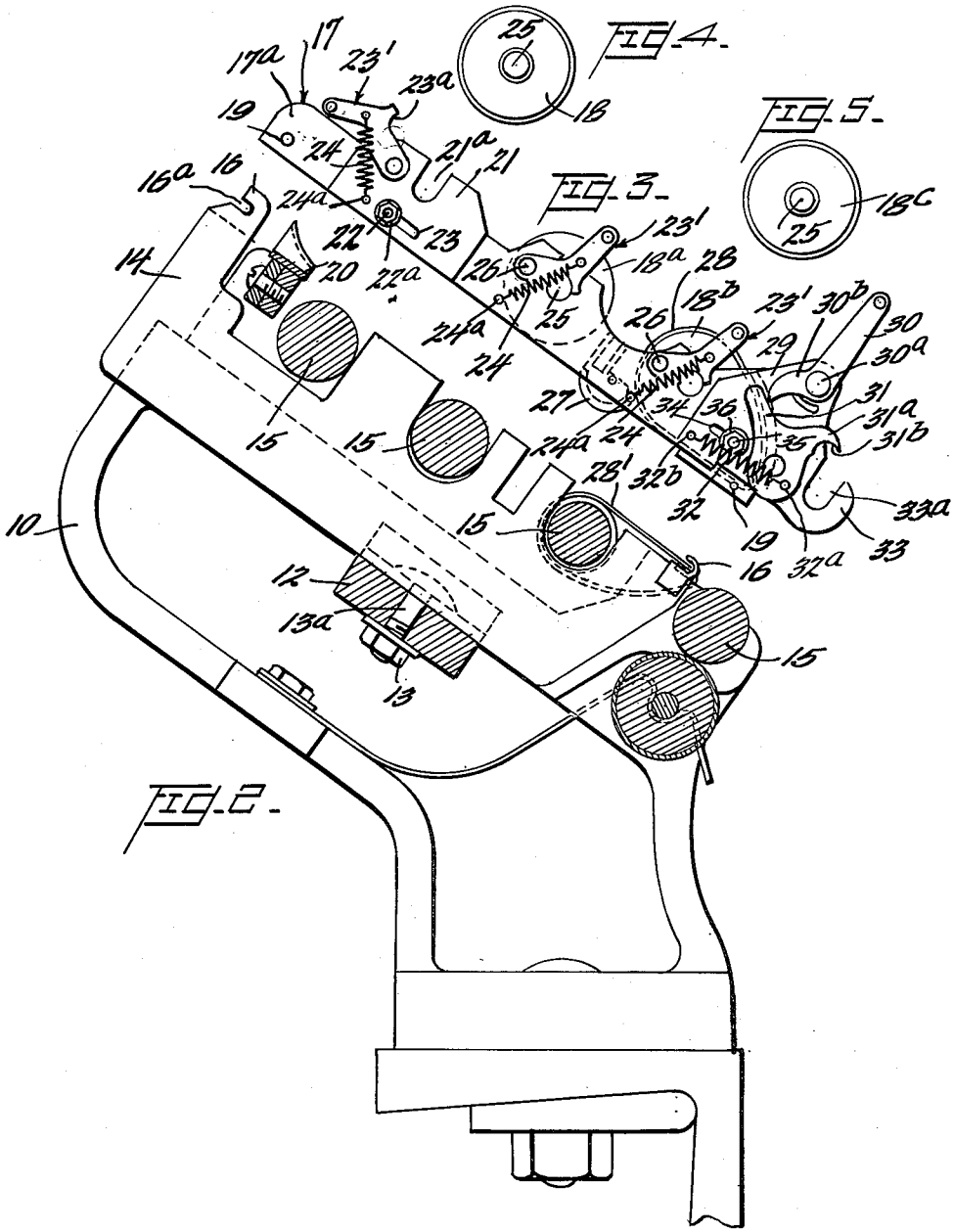
BY Isaac P. Jacobs

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May 27, 1952 C. P. BATISTA 2,597,850

ATTENUATING APPARATUS

Filed May 16, 1950 4 Sheets-Sheet 2



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ATTENUATING APPARATUS

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FIG. 6.

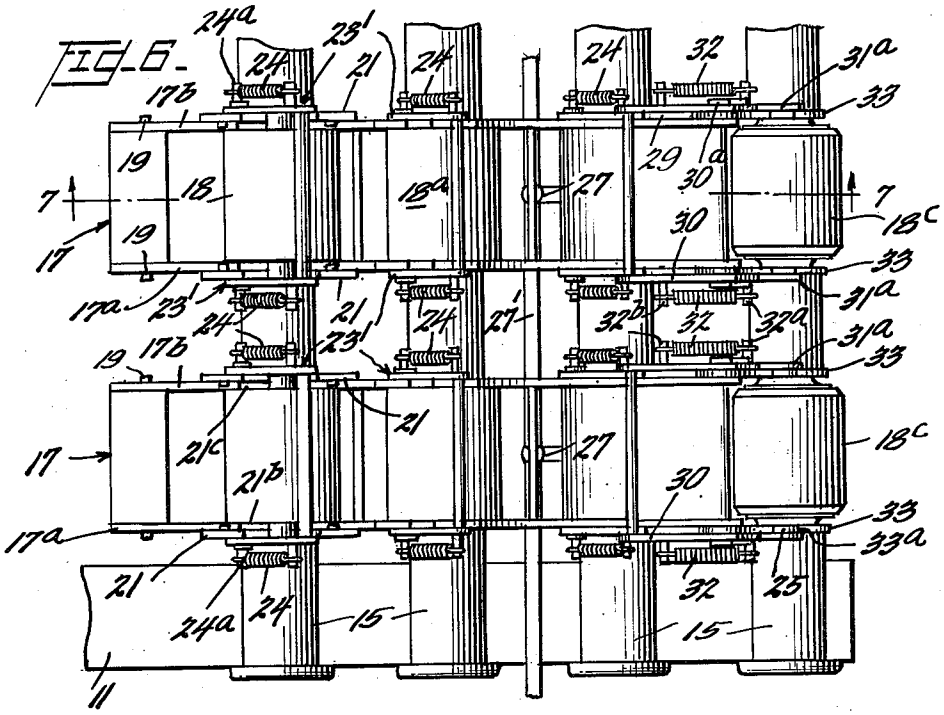
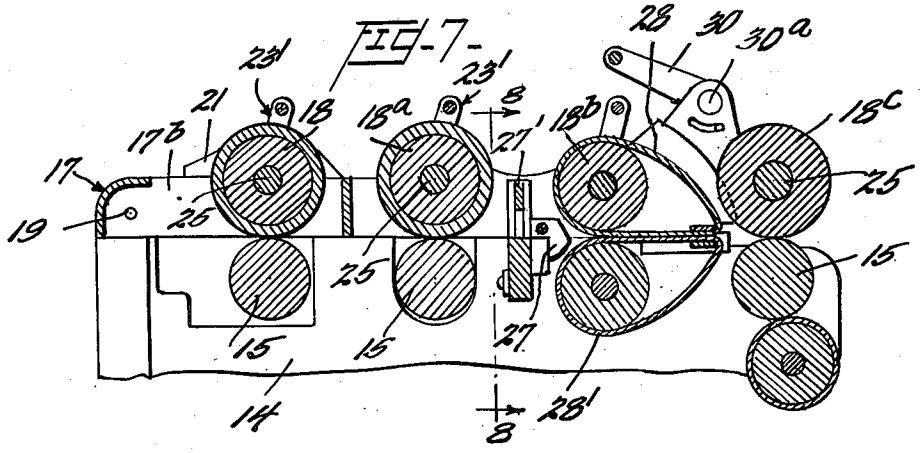


FIG. 7.



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FIG. 8.

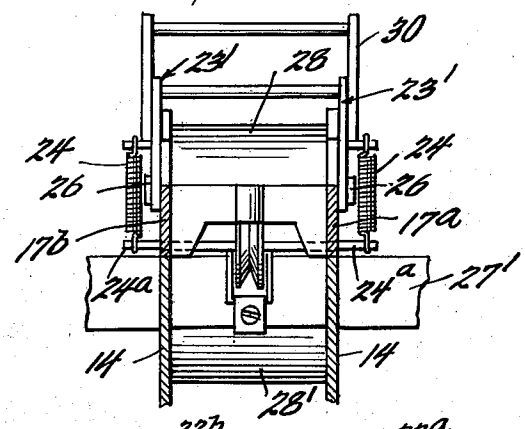


FIG. 9.

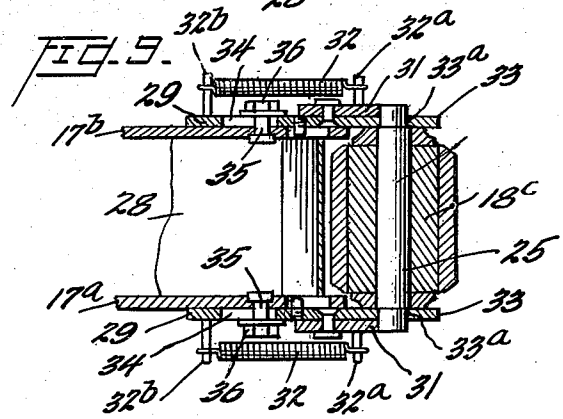
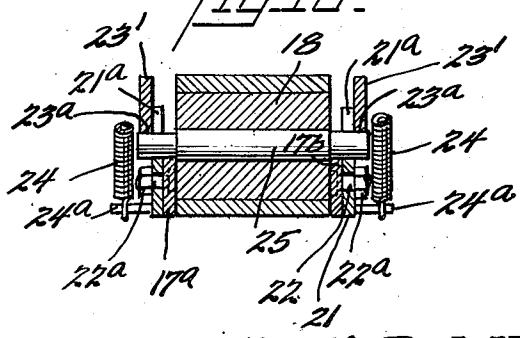


FIG. 10.



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Patented May 27, 1952 2,597,850

UNITED STATES PATENT OFFICE

2,597,850

ATTENUATING APPARATUS

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Application May 16, 1950, Serial No. 162,206
In Mexico May 26, 1949

17 Claims. (Cl. 19—130)

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The present invention relates generally speaking to the textile spinning industry and especially to devices for better attenuation, that is, high drafting, such as used in connection with roving and spinning frames. More particularly, the invention relates to a new and useful device for improved attenuation and individual weighting by means of springs at each end of each of the top drafting rolls and at their journals or spindles, thereby providing valuable advantages over hitherto used devices. These advantages are apparent in view of the following.

The device of the present invention is extremely simple and may be installed individually, that is, one for each delivery unit on a roving or spinning frame, resulting in most cases in the production of high quality yarns from the very beginning or initiation of full speed operations, as well as in the easy manufacture of the following cottons and their corresponding attenuations:

Cotton from 22–25 mm., attenuation of app. 30–45
Cotton from 26–32 mm., attenuation of app. 45–75
Cotton from 32–38 mm., attenuation of app. 75–95

The principal advantages of the herein disclosed improved method of drafting and the improved drafting, that is, attenuating apparatus of the present invention are now briefly set forth.

In accordance with the present invention, individual pressure is maintained on each top drafting roll and on the roll bearing journals. It is also possible to remove one top roll from operation while the other rolls continue to function normally. This is in contrast to the high drafting systems hitherto known and used where, whenever it becomes necessary to stop a top roll for any reason whatsoever, the disturbance of the weighting devices used in connection with the device also makes it necessary to stop the other rolls in the unit.

In view of the fact that individual pressure is applied to each individual roll, when one of the rolls is stopped, the other rolls nevertheless go on functioning as above stated and, as a result, strands of fibers or roving continues its passage without becoming entangled in or falling between the remaining drafting rolls as so often occurs in the course of operation utilizing hitherto known drafting and attenuating machines.

In accordance with the present invention as herein described, no cams such as are present in prior art machines are used. This in turn makes it possible to leave the necks or journals of the drafting rolls open on their bearings, thereby

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permitting the drafting rolls to be lubricated and cleaned at any desired time. In this manner, breakdowns are avoided, the repairs of which may entail considerable expense. This contrasts with the delay caused by a breakdown when using prior known machines.

The present system as herein described does not entail the use of saddles, hooks, stirrups, levers, and weights for the underside of the roller beam, nor automatic levers as will be indicated in the following detailed description of the device of the present invention. It is possible because of the simplicity of the present device to easily maintain the device in an absolutely clean condition.

In the method and apparatus of the present invention, the pressure on the top roll and consequently on the bottom roll is exerted by means of springs cooperating with each journal of each of the top rolls. In other words, the top rolls each have journals at its ends fitting into guide bar members as more completely hereinafter disclosed. As a result a completely uniform and level pressure is maintained on the strands of fibers or roving, as the roving guide of the drafting machine shifts the fibers or roving between the surfaces of the top and bottom drafting rolls, that is, the roving guide shifts the roving from one end of the cooperating top and bottom roll to the other end of the same cooperating top and bottom drafting roll. The fiber strands of the roving receive this identical pressure no matter what position they may occupy intermediate the ends of each top roll, and the point of application of the pressure to the top roll by the spring members. It is desired to point out that this effect is not achieved by any of the other known systems wherein the pressure is obtained from a central point usually by a saddle bearing upon the arbor. In the prior art drafting machines, whenever the fiber strand is conducted to a point near the outer end of the top roll, the fiber strand receives less pressure than when it is near the central portion of the top roll. As a result, the pressure to which the roving is subjected varies constantly as the roving traverses away from and towards the central point or axis of the top roll. Generally two strands are drafted simultaneously in the prior art under one top roll, these strands being on opposite sides of the central pressure point of the top roll, yet being guided in the same direction by the roving traverse system. As a result, the yarn which is produced at the moment when the strand or roving happens to be distant from the central pressure point will

not show the same properties as the strand or roving which is produced at the same moment on the other side of the central pressure point, because it is nearer the central pressure point. The top rolls of the present invention exert uniform pressure on the strand or roving for the precise purpose of applying uniform and identical pressure and drafting action at all times to the respective surfaces of the roving when the latter is in any position. No errors or adverse effect on the roving produced in accordance with the present invention is caused by a variation in diameter of the top rolls of the present invention. In previous machines it was necessary to exercise the utmost care in the selection of the double rolls or double bosses due to the fact that it was absolutely necessary to insure identity of the diameter of the rolls; otherwise, even small variations in the diameter of the rolls was usually instrumental in producing disastrous results.

The above advantages and other advantages, characteristic features of the method and apparatus constituted in the present invention and the differences between the prior art and the present invention with respect to high drafting properties will be clearly set forth in connection with the accompanying drawings which are to be considered illustrative and not by way of limitation, the inventor being entitled to broadly claim the method and apparatus of the present invention.

In the accompanying drawing,

Fig. 1 is a lateral view of a high drafting machine for roving or spinning frame, the lower rolls being shown in section;

Fig. 2 is a view similar to Fig. 1 showing only the main frame which carries the bottom rolls;

Fig. 3 is a lateral view of the top guide bar member carrying the top drafting rolls;

Fig. 4 is an end view of one of the drafting rolls which has been removed from the guide bar member;

Fig. 5 is a similar view of another one of the rolls;

Fig. 6 is a top plan view of two of the adjacent top roll guide bar members with their associated rolls and also showing a portion of the lower or main frame of the machine;

Fig. 7 is a sectional view on line 7—7 of Fig. 6;

Fig. 8 is a sectional view taken on line 8—8 of Fig. 7;

Fig. 9 is a sectional view taken on line 9—9 of Fig. 1;

Fig. 10 is a sectional view taken on line 10—10 of Fig. 1;

Fig. 11 is a perspective view of the upper end of one of the side members of the top guide bar; and

Fig. 12 is a side elevation of a pressure pawl or rocking latch.

Before setting forth a detailed description of the high drafting system constituting the present invention, it is desired to stress the fact which should be clearly understood, that the attached drawing merely serves the purpose of showing one practical form of the invention. In other words, the invention in its broadest aspects is not limited to the specific form of the mechanism herein set forth.

As illustrated in the accompanying drawing, the drafting machine of the present invention comprises a roll stand 10, which is sometimes also known in the art, as a roller stand, the latter being substantially identical with the roll stands used in prior art drafting machines. The roll stand 10 supports the bottom roll bearing 11.

By means of a bolt which is provided on this bearing, there is fastened the bar 12 which supports the lower bearing block 14. As a result, whenever it becomes necessary to change the "spacing" between the front and second rolls, this being rarely necessary, the change can be easily and conveniently accomplished.

On the support bar 12 there fits and rests the lower bearing block 14 which in turn supports the bottom drafting rolls 15. The lower bearing block 14 is held in place by means of a threaded bolt or screw 13a, the latter being provided with a nut 13. The lower bearing block 14 is provided at its front and rear ends with oppositely disposed lugs 16 provided with bearing slots 16a, said slots being adapted to receive oppositely disposed pins 19 which project from each side member 17a and 17b of the top guide bar.

The lower bearing block 14 which carries the bottom rolls is provided at approximately its rear end with a roving guide 20 by means of which the roving or strand of fibers is guided and conducted as it is drafted by means of the rolls 15 journaled in the lower bearing block and the top rolls 18, 18a, 18b, and 18c journaled in the top roll guide bar member.

The top roll guide bar member 17 comprises side members 17a and 17b rigidly tied together. At the approximate extreme rearward portion of the members 17a and 17b, there is provided oppositely disposed lateral plates 21, each having oppositely disposed and upwardly opening slots 21a adapted to receive the oppositely disposed journals 25 of the top roll 18. Each plate 21 is provided with a groove or slot 23 disposed below the journal slot 21a. Each of the guide bars is provided with oppositely disposed and upwardly opening journal or bearing slots 21b and 21c. The spacing between the fourth and third rolls, that is, between top rolls 18 and 18a, may be adjusted or varied by sliding the respective plates 21 on a bolt 22 which, by means of the nut 22a, may rigidly hold the plates 21 in a predetermined position. This arrangement is clearly set forth in Figs. 1 and 3 of the drawing.

The side guide bar 17a and 17b are provided at the front ends thereof with oppositely disposed lateral plates 29, each having an oppositely disposed and laterally extending groove 34. Mounted in the groove 34 or slot is a bolt 35 associated with a nut 36. The distance between the front top roll 18c and the second top roll 18b may be varied or adjusted by this arrangement.

On each guide bar 17a and 17b adjacent each bearing slot is mounted a fulcrum shaft 26. On the shafts of each guide bar there is pivoted a pressure pawl or rocking latch 23' having a bearing portion 23a engaging over the journals 25 of each of the top rolls when the rolls are in latched position. Spring means are provided urging each latch 23' to effect downward pressure on each of said journals 25 upon engagement of each latch 23' with its respective journal. Each coiled tension spring 24 has one end anchored to pressure pawls 23' and its other end fixedly secured preferably below the pivoting latch fulcrum 26 to a stop shaft or pin 24a in a position to bias across the axis of said pivot as the latch or pressure lever or pawl 23' moves between journal-engaging and the other extremity of its movement. Due to this movement, the spring exerts upon the two axles or journal ends 25 of each of the rolls 18, 18a and 18b in such a manner that the pressure exercised on the aforementioned rolls is absolutely uniform and is identical with

the pressure being exerted upon the two ends of each of said rolls. The latching levers 23' are moved on their pivoting fulcrums 26 in such a manner that they can be moved backwards to remove pressure from each top or upper roll and when the roll is freed of such latching pressure, it can be removed. By the arrangement herein set forth, each roll is able to be removed from the top guide bar independently of any of the other rolls of the top guide bar unit.

The top roll guide bar member 17 is provided with a condenser 27 and its corresponding guide piece 27', as clearly shown in the drawing. Both the top roll 18b and its cooperating bottom roll 15 are equipped with band members 28 and 28', as shown in Fig. 1, which act as controllers for the fiber strands.

Each of the oppositely disposed plates 29 has at its front end a hook member 33 provided with oppositely disposed slots 33a which receive the axle ends or journals 25 of the front top roll 18c. Each of the oppositely disposed plates 29 has mounted thereon an operating lever arm 30 pivoted at 30a, said lever arm being provided with a cam 30b. Each of the oppositely disposed plates 29 has mounted thereon a second operating arm or pressure lever 31 provided at one end with a hook 31a having a bearing portion 31b engaging on the respective journal or axle end 25 of the front roll 18c. By means of this arrangement, suitable pressure is exerted on said axle end or journal 25 of the front roll 18c which is positioned directly and symmetrically over its cooperating bottom roll 15, as shown in Fig. 1.

Spring means 32 are provided urging the pressure lever 31, which is a locking member, to effect downward pressure on the journals 25 upon engagement of the pressure levers 31 with the journals 25. Each of the oppositely disposed coiled tension springs 32 have one end anchored as at 32a to the latching operating arm or pressure lever 31 and the other end fixedly secured to the shaft or pin 32b projecting from each of the oppositely disposed plates 29, each spring being in a position to urge each pressure lever 31 to exert downward pressure on each of the axle or journal ends 25 of the front roll 18c on operation of the operating pressure arm 30. The locked position of the pressure lever 31 is shown in Fig. 1 and the unlocked position is shown in Fig. 3.

The frontal roll 18c fits precisely at the ends, that is, in the slots 33a of each supporting piece or hook member 33.

The manner in which the machine of the present invention operates will be clear from the following:

The fiber strands or roving pass through the roving guide 20 and are advanced into the first drafting zone with the individual pressure upon the pressure roll 18 and upon their bushings or journals 25. The first drafting zone is located between the fourth and third pair of top rolls, that is, between rolls 18 and 18a, said rolls cooperating with the symmetrically disposed bottom rolls 15, as shown in Fig. 1 of the drawing. Between the third pair of rolls, that is, top and bottom rolls, and the second pair of rolls, the fiber strands or roving is controlled by the condenser 27 which combines the fibers in such a manner as to permit a final drafting with the aid of the fiber control bands or aprons 28 and 28'. The latter prevent short fibers from slipping through and will retain these fibers for a period of time until they are taken up by the frontal pair of rolls. This will result in yarn which shows great regularity, that is, uniformity and resistance superior to the strength of corresponding yarns obtained by means of other known high drafting systems.

In order to raise or ease the pressure on the rolls 18 or the rolls 18a or 18b, it is only necessary to position the corresponding pressure lever 23' backwards, thereby freeing the top rolls. In order to release the front roll 18c, the arm 30 is pulled upwardly and forwards in the direction of the arrow, as shown in Fig. 1, to the position shown in Fig. 3. This in turn actuates the lever 31 and frees each end of the axle or journal upon which the roll 18c is mounted. When the journal ends are free of latching pressure, the roll 18c may be easily removed.

In case the top roll guide bar member 17 is to be taken out and removed either for the purpose of passing fiber through or to clean the installation, it is only required to press gently against the rear of the aforementioned top roll guide bar member. As a result the pins 19 will be displaced from the slot 16a of the lug 16, thereby freeing the top roll guide bar member which may also be termed a top roll support.

The lower bearing block 14, as stated, sets above and fits on top of the guide supporting bar 12 and is fastened on both ends to the corresponding roll stand by means of the same bolt, not shown in the drawing, which fits on the bottom roll bearing 11.

In accordance with the present invention, there has been provided an improved device and machine for better attenuation, that is, high drafting, said device being characterized by means which exert individual pressure upon the top roll and upon the journals of the top roll and upon any roving which is passing between the pair of top and bottom rolls. Therefore, the rolls and each pair of rolls are stressed not only individually, but uniformly throughout. The lever arrangement which has been herein set forth distributes the pressure of the springs on both ends of each top roll, the lever arrangement being characterized by simplicity and ease of movement to free the journal ends of the top roll so that the top roll may be easily removed from the machine. Of course, in a given machine, there are a plurality of top roll units of the character herein set forth, each cooperating with a bottom roll which may be mounted on a bottom shaft which is fluted in the ordinary manner well known in the art, said carrying shaft for the bottom rolls being suitably driven by means which are of no consequence in the present invention and which are not shown in the drawing.

There has been provided in accordance with the present invention a high drafting machine comprising a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along the guide bars, top rolls each having journals at its end fitting into said slots, and rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal. Means are provided connecting the latches for each roll in a simultaneously moving pair. Spring means are provided for urging the latches to effect downward pressure on the journals upon engagement of the latches with the journals. More specifically, each latch has an operating arm projecting therefrom. Tension springs are provided, each having one end anchored to a

respective operating arm and its other end fixed to the guide bar in a position to cause the latch pivot to bias across the axis of the pivot as the latch moves between journal engaging and the other extremity of its movement.

What is claimed is:

1. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, and spring means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals.

2. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, an operating arm projecting from each latch, the latches for each roll forming an oppositely disposed pair, means connecting the operating arms of each pair of latches to cause simultaneous rocking movement of said pair, and spring means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals.

3. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, and tension springs each having one end anchored to a respective operating arm and its other end fixedly secured to a guide bar, said springs urging said latches to effect downward pressure on said journals as each latch moves between journal-engaging and the other extremity of its movement.

4. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, and tension springs each having one end anchored to a respective operating arm and its other end fixedly secured below the respective latch pivot in position to bias across the axis of said pivot as the latch moves between journal-engaging and the other extremity of its movement.

5. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, an operating arm projecting from each latch, the latches for each roll forming an oppositely disposed pair, means connecting the operating arms of each pair of latches to cause simultaneous rocking movement of said pair, and tension springs each having one end anchored to a respective operating arm and its other end fixedly secured to a guide bar, said springs urging said latches to effect downward pressure on said journals as each latch moves between journal-engaging and the other extremity of its movement.

6. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, an operating arm projecting from each latch, the latches for each roll forming an oppositely disposed pair, means connecting the operating arms of each pair of latches to cause simultaneous rocking movement of said pair, and tension springs each having one end anchored to a respective operating arm and its other end fixedly secured below the respective latch pivot in position to bias across the axis of said pivot as the latch moves between journal-engaging and the other extremity of its movement.

7. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, lateral supporting pieces mounted on said bars opposite each other and adjustable longitudinally of said bars, said pieces having upwardly opening bearing slots, means to secure said pieces in adjusted position, means connecting the latches for each roll in a simultaneously moving pair, and spring means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals.

8. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, lateral supporting pieces mounted on said bars opposite each other and adjustable longitudinally of said bars, said pieces having upwardly opening bearing slots, means to secure said pieces in adjusted position, an operating arm projecting from each latch, the latches for each roll forming an oppositely disposed pair, means connecting the operating arms of each pair of latches to cause simultaneous rocking movement of said pair, and spring means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals.

9. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide

bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, lateral supporting pieces mounted on said bars opposite each other and adjustable longitudinally of said bars, said pieces having upwardly opening bearing slots, means to secure said pieces in adjusted position, tension springs each having one end anchored to a respective operating arm and its other end fixedly secured to a guide bar, said springs urging said latches to effect downward pressure on said journals as each latch moves between journal-engaging and the other extremity of its movement.

10. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, spring means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals, a roving guide at one end of the support, and a roving condenser and guide at the other end portion of said support.

11. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, and connected cam means engaging and operating one pair of said latches.

12. In a device of the kind described, a top roll support having parallel guide bars provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bars, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, an operating arm projecting from each latch, the latches for each roll forming an oppositely disposed pair, means connecting the operating arms of each pair of latches to cause simultaneous rocking movement of said pair, and connected cam means engaging and operating one pair of said latches.

13. In a device of the kind described, a top roll support having parallel guide bar side members including a lateral support at the forward end of each of said side members, each of the latter being provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bar side members, top rolls including a frontal top roll having journals at its ends fitting into said slots, rocking latches pivoted to each side member adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, and means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals, said means including connected cams engaging in operating the pair of latches for the frontal top roll.

14. In a device of the kind described, a top roll support having parallel guide bar side members including a lateral support at the forward end of each of said side members and adjustable longitudinally thereof, said side members being provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bar side members, top rolls including a frontal top roll having journals at its ends fitting into said slots, rocking latches pivoted to each side member adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals, said means including connected cams engaging and operating the pair of latches for the frontal top roll.

15. In a device of the kind described, a top roll support having parallel guide bar side members including a lateral support at the forward end of each side member, the latter being provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bar side members, top rolls including a frontal, second and third top rolls, each having journals at its ends fitting in said slots, rocking latches pivoted to each side member adjacent each slot, said latches having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals, said means including connected cam means engaging and operating a pair of latches for the frontal top roll, a roving guide at the rear end of the support and a roving condenser and guide adjacent the front end of the support and between the second and third rolls.

16. In a device of the kind described, a top roll support having parallel guide bar side members including a lateral support at the forward end of each side member, the latter being provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide bar side members, top rolls including a frontal, second and third top rolls, each having journals at its ends fitting in said slots, bottom rolls cooperating with said top rolls, rocking latches pivoted to each side member adjacent each slot, said latches having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals, said means including connected cam means engaging and operating a pair of latches for the frontal top roll, a roving guide at the rear end of the support, a roving condenser and guide adjacent the front end of the support and between the second and third rolls, and controller bands on each of said second top and bottom rolls and extending to closely adjacent the frontal rolls.

17. In a device of the kind described, a lower bearing block provided at its rear and front ends with oppositely disposed lugs having slots, a top roll support having parallel side members, each side member being provided at its rear and front ends with pins disposed in said lug slots, each of said supporting side members for the top roll

being provided with oppositely disposed and upwardly opening bearing slots spaced longitudinally along said guide members, top rolls each having journals at its ends fitting in said slots, rocking latches pivoted to each bar adjacent each slot, said latches each having a bearing portion engaging over a respective journal, means connecting the latches for each roll in a simultaneously moving pair, and means urging said latches to effect downward pressure on said journals upon engagement of the latches with the journals.

CLAUDIO PORTELLA BATISTA.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,127,410	Knowles	Aug. 16, 1938
2,143,996	Orrell	Jan. 17, 1939

FOREIGN PATENTS

Number	Country	Date
509,163	Great Britain	July 12, 1939