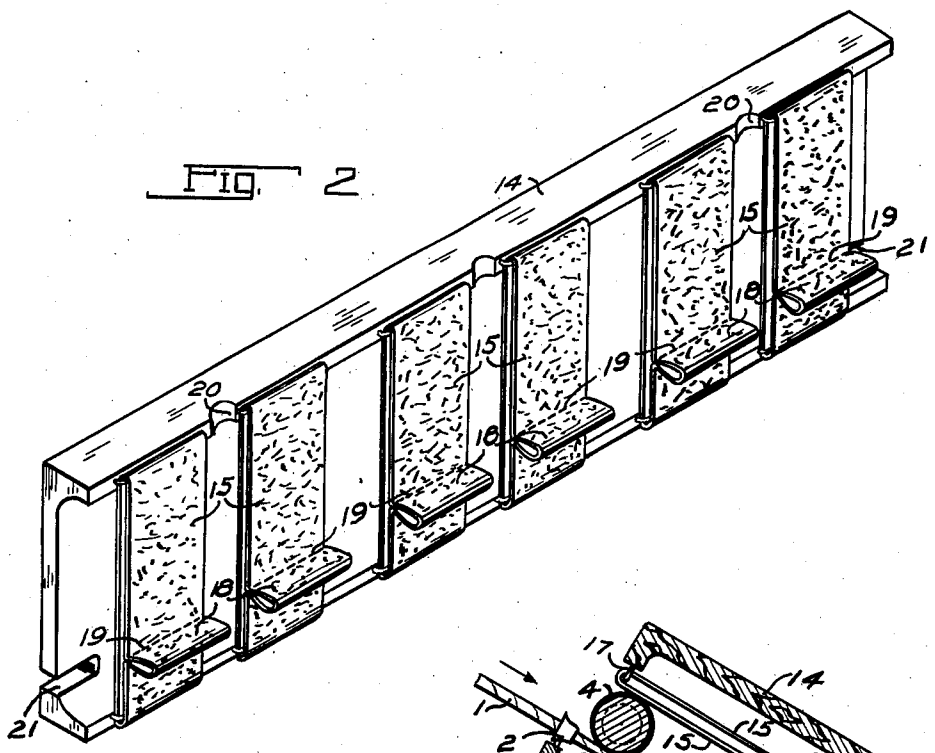
Oct. 7, 1941. E. M. PRESLEY 2,258,033

DRAWING ROLL CLEARER

Filed Nov. 1, 1939

Fig. 2



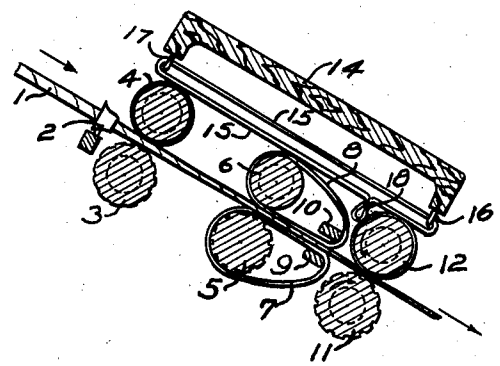


Fig. 1

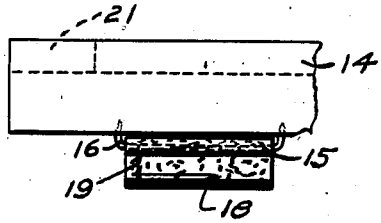


Fig. 3

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DRAWING ROLL CLEARER

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Application November 1, 1939, Serial No. 302,377

9 Claims. (Cl. 19—139)

This invention relates to top clearers and is illustrated as embodied in a long draft spinning frame.

Although this invention is adaptable to all existing drafting systems in use, it is designed especially to meet the conditions that have been brought about as a result of the introduction of long draft spinning systems.

This invention is also adapted for use in the long draft roving process, which is similar to the system in use on the spinning frame.

An object of this invention is to aid in overcoming cleaning problems that have arisen as a result of various synthetic materials being used for covering drafting rolls instead of the conventional calfskin and sheepskin that are in common use at the present time.

Another object of this invention is to facilitate the removal of waste that collects between the top front roll, the clearer cloth, and the apron which is usually driven by the middle top roll.

Still another object of this invention is to prevent the waste from being carried forward with the roving. This is especially true in regard to the long draft spinning systems where the waste collects in the wedge-shaped space between the leather apron, clearer cloth, and top front roll.

A further object of the invention is to reduce the breakage of ends between the delivery rolls and the traveler, which will result due to waste retarding the movement of the roving as it leaves the delivery rolls. The thorough cleaning given to the long draft system by this invention will decrease the amount of defective yarn caused by the waste passing forward with the roving to form slubs, gouts, and "eyebrows" on the yarn as it is spun.

This invention requires less cleaning or "picking" than the ordinary clearers in use at the present time. The invention greatly reduces this operation. The waste collects in the space between the top front roll and the downwardly extending portion of the clearer cloth and is easily removed when it is necessary to clean the top clearer or "pick" it as this operation is called by spinning frame attendants today. The downwardly extending portion of the top clearer invented by applicant prevents the waste from falling out on the floor or on the yarn that is being spun when the clearer is removed from its position over the top rolls for cleaning. The waste is firmly packed into the space against the tuck or downwardly extending portion of the clearer cloth. When removing the regular type of top clearer from the rolls for "picking" or cleaning, the wad of waste frequently falls out on the yarn that is being spun and, in many cases, breaks down one or two ends as it falls.

Other objects, advantages and novel features of the invention will be more apparent from the following description of the illustrative embodiment shown in the accompanying drawing, in which;

Fig. 1 is a partial sectional view showing the top clearer in position on a spinning frame;

Fig. 2 is a perspective view of the top clearer, and;

Fig. 3 is an enlarged plan view of a portion of the top clearer.

Fig. 1 shows a portion of a usual type of long draft spinning frame comprising back rolls **3** and **4**, middle rolls **5** and **6**, leather aprons **7** and **8**, cradles **9** and **10**, front rolls **11** and **12**, and the top clearer **14**. The leather aprons **7** and **8** pass around and are driven by the second rolls **5** and **6**. These leather bands also pass around the cradles **9** and **10**. The drawing rolls are positively driven through a train of gears on the driving end of the frame, not shown. The roving **1** passes from a bobbin set in the creel of the frame, not shown, to a trumpet **2** mounted on a support behind the back rolls **3** and **4**. After leaving rolls **3** and **4** the roving **1** passes between leather aprons **7** and **8** to the front rolls **11** and **12** which are revolving at a greater speed than rolls **5** and **6**. The leather aprons **7** and **8** receive motion from the middle rolls **5** and **6** and as the draft is inserted in the roving between the middle and front rolls, these aprons convey the fibers forward and prevent breakage due to their own weight. After the roving leaves the front rolls **11** and **12**, it is spun into yarn by a spindle and traveler in the usual manner, not shown.

The illustrated clearer has a napped cloth **15** secured to it by means of the broad staples **16** and **17**. This fabric is preferably constructed with a cotton warp and woolen filling. The downwardly extending portion **18** of the clearer cloth may, if desired, be made by forming a tuck in the cloth and sewing it together at the base. This tuck fits down in the space between the top front roll **12** and leather apron **8**. The upper and lower portions of the clearer cloth **15** consists of one piece of fabric folded around the staples **16** and **17** and, if not constructed circular, is sewed or otherwise fastened together, which gives two layers with a small space between the two.

The perspective view of the clearer shown in

Fig. 2 illustrates how the stitch 19 is inserted in the fabric. The tuck 18 is made in the cloth 15 and the stitch is inserted in the base of the tuck and in the same plane as the lower portion of the cloth 15. Cutouts 20 in the clearer board 14 are the usual type designed to fit over the usual roll saddles in spinning frames. The cutouts 21 in the clearer board 14 are of the usual type designed to hold the clearer in position on the frame.

The enlarged plan view of a portion of the top clearer shown in Fig. 3 illustrates how the staples 16 and 17 hold the clearer cloth 15 on the clearer board 14. The cloth 15 is folded over and the ends, if the cloth is not woven circular, may be sewn together. The tuck 18 is formed and the stitch 19 is inserted at the base and in the same plane as the lower portion of the cloth 15. The staple 16 is placed in the end of the cloth next to the tuck and is driven into the board 14. The staple 17, not shown, is inserted in the continuous strip of cloth and driven into the opposite side of the board 14.

As the leather aprons 7 and 8, shown in Fig. 1, are driven by the rolls 5 and 6 and are in constant contact with the cotton, a considerable amount of waste is carried forward by them. The waste from the top leather apron 8 collects in the space between the clearer cloth 15, top leather apron 8, and the top front roll 12. As the top front roll 12 revolves at a high rate of speed, it has a tendency to carry this waste around with it to be deposited on the roving that is being spun into yarn at the delivery point. It will be noted that the tuck 18 in the clearer cloth 15 will prevent this waste from passing downward due to the movement of the top front roll 12 and also permit a good deal of waste to collect before it becomes necessary to "pick" the clearer. The prevention of this waste from passing downward accomplishes the results that are claimed for the invention.

Although only one illustrative embodiment of the invention has been shown and described, it is not intended that the scope of the invention be limited thereby, nor otherwise than by the terms of the appended claims.

What is claimed is:

1. In a textile machine having drawing rolls and aprons, a top clearer comprising a clearer board and a clearer cloth carried on the underneath side of said board and adapted to engage the upper rolls at the top thereof and a downwardly extending portion associated with said clearer cloth designed to fit behind the front top roll and in front of a top apron of said machine.

2. A top clearer comprising a clearer board and a clearer cloth carried on the underneath side of said board, said cloth having a tuck formed in it, said tuck being stitched at its base and forming a downwardly extending portion.

3. A top clearer comprising a clearer board, broad staples on the under side and at the front and rear of said board, a clearer cloth looped around said staples forming an upper and a lower plane, a tuck formed in the lower plane of said cloth, said tuck being stitched at its base and forming a downwardly extending portion.

4. In a textile machine having drawing rolls, a top clearer comprising a clearer board and a clearer cloth carried on the underneath side of said board, said cloth having a tuck formed in it, said tuck being stitched at its base and forming a downwardly extending portion designed to fit directly behind one of said rolls.

5. In a textile machine having drawing rolls, a top clearer comprising a clearer board, broad staples on the under side and at the front and rear of said board, a clearer cloth looped around said staples forming an upper and a lower plane, a tuck formed in the lower plane of said cloth, said tuck being stitched at its base and forming a downwardly extending portion designed to fit directly behind one of said rolls.

6. A top clearer comprising a clearer board and a clearer cloth carried on the underneath side of said board, said cloth having a tuck formed in it, said tuck forming a downwardly extending portion.

7. A top clearer comprising a clearer board, broad staples on the under side and at the front and rear of said board, a clearer cloth looped around said staples forming an upper and a lower plane, a tuck formed in the lower plane of said cloth, said tuck forming a downwardly extending portion.

8. In a textile machine having drawing rolls, a top clearer comprising a clearer board and a clearer cloth carried on the underneath side of said board, said cloth having a tuck formed in it, said tuck forming a downwardly extending portion designed to fit directly behind one of said rolls.

9. In a textile machine having drawing rolls, a top clearer comprising a clearer board, broad staples on the under side and at the front and rear of said board, a clearer cloth looped around said staples forming an upper and a lower plane, a tuck formed in the lower plane of said cloth, said tuck forming a downwardly extending portion designed to fit directly behind one of said rolls.

ESCAR M. PRESLEY.