Aug. 9, 1938. N. O. PETREA 2,126,500

BOTTOM ROLL CLEARER FOR TEXTILE MACHINES

Filed Aug. 2, 1937

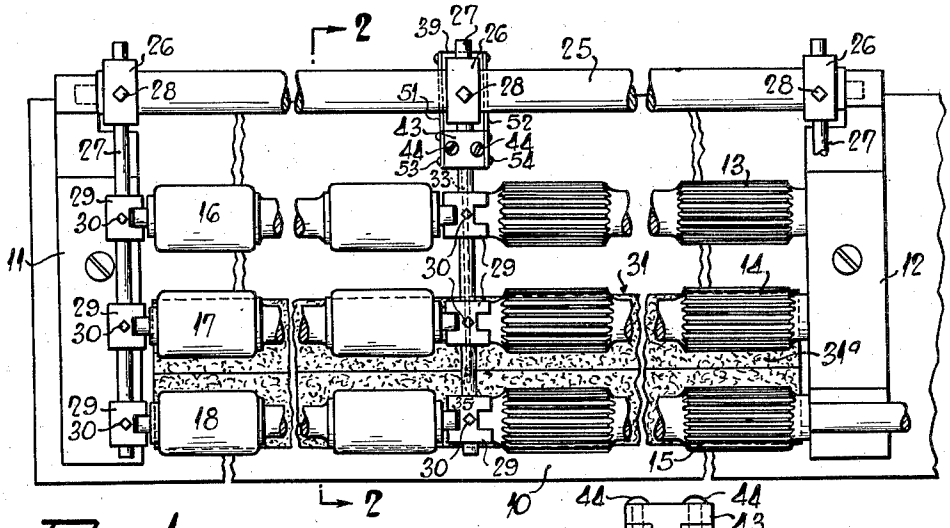

Fig. 1

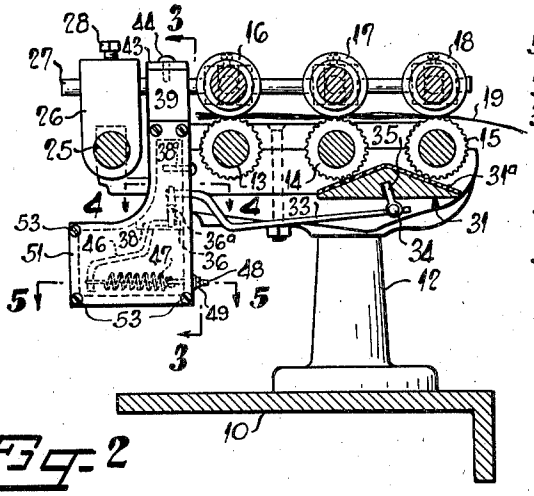

Fig. 2

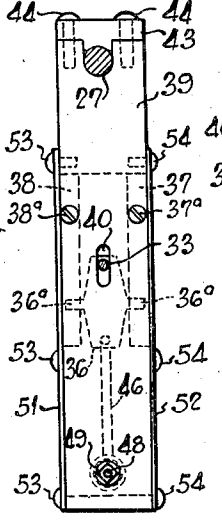

Fig. 3

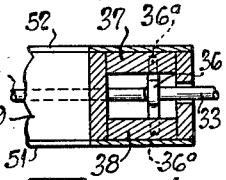

Fig. 4

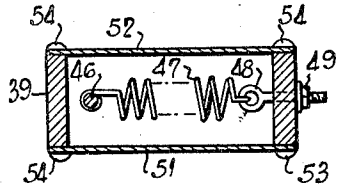

Fig. 5

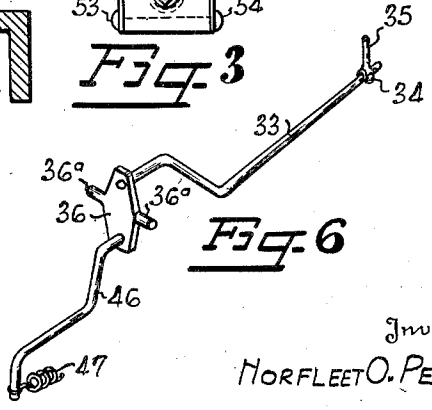

Fig. 6

Inventor:
NORFLEET O. PETREA

By

Attorney

Patented Aug. 9, 1938

2,126,500

UNITED STATES PATENT OFFICE

2,126,500

BOTTOM ROLL CLEARER FOR TEXTILE MACHINES

Norfleet O. Petrea, Mount Pleasant, N. C.

Application August 2, 1937, Serial No. 156,986

1 Claim. (Cl. 19—139)

This invention relates to a clearing mechanism for textile machines such as drawing frames, spinning frames and the like, and more especially to a supporting means whereby a clearer is resiliently held in contact with the bottom rolls of the drawing mechanism. Heretofore, various methods have been employed for holding the clearer against the bottom portion of the bottom rolls so that the lint which accumulated on the periphery thereof would be removed and deposited upon the clearer. In most instances, the clearers have been held in contact with the bottom of the rollers by a direct upward pull from the top of the clearer, by a string secured to the clearer with a weight on the end thereof, said string being adapted to partially encircle a low portion of the rolls. This method of supporting the clearer has, to a certain extent, proven unsatisfactory, not only because the string would soon become worn, but also, because the clearer could not be easily detached from the bottom rolls without removing the weight from the end of the string. Also, great difficulty has been experienced in adjusting the amount of pressure exerted by the clearer upon the periphery of the bottom rolls.

It is therefore, an object of this invention to provide in combination with the drawing rolls of a drawing mechanism, a clearer board which is resiliently supported against the lower peripheries of said rolls by a detachable spring pressed arm which engages the lower central portion of the clearer. By making the arm detachable, the clearer may be entirely removed from the arm and also from engagement with the bottom of the rolls.

It is a further object of this invention to provide a supporting means for the bottom roll clearer of a drawing frame, comprising a spring pressed means for applying upward pressure upon said clearer and rolls, with means for varying the amount of pressure exerted by said spring. This feature enables the proper pressure adjustment to be effected, so that the clearer will operate in the most efficient manner.

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 drawing, in which:—

Figure 1 is a top plan view of a portion of a drawing mechanism showing the invention applied thereto;

Figure 2 is a transverse, vertical, sectional view taken along the line 2—2 in Figure 1;

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

Figure 4 is a sectional, detail, plan view taken along line 4—4 in Figure 2;

Figure 5 is a sectional, detail, plan view taken along line 5—5 in Figure 2;

Figure 6 is an isometric view of the spring actuated lever which supports the clearer against the bottom roll.

Referring more specifically to the drawing, the numeral 10 denotes a suitable roll stand support which has secured to the upper side thereof a plurality of spaced roll stands such as 11 and 12. Between these roll stands are rotatably mounted suitable fluted bottom drawing rolls 13, 14 and 15, upon which normally rest top rolls 16, 17 and 18, respectively. Between these rolls, a strand or sliver or yarn 19 is adapted to be passed during a drawing operation. The rear, upper corner of roll stands 11 and 12 (Figs. 1 and 2) have pivoted therebetween a longitudinally disposed shaft 25 upon which is secured upstanding brackets 26, said brackets having rods 27 adjustably secured therein by means of set screw 28. These rods also have bearings 29 adjustably secured thereon by means of set screws 30 and between alined pairs of these bearings, the ends of top rollers 16, 17 and 18 are adapted to be journaled.

The front lower rolls 14 and 15 have a wedge-shaped clearing board 31 normally resting against the lower side thereof for removing the fibres which have accumulated upon the peripheries of these rolls. This clearing board, of course, has a flannel or fibre covering 31a which is used as a contact medium between the board and the rolls. When this board has collected a certain amount of fibres or waste, it is the practice in the mills to remove the board and then cleanse the excess fibres therefrom, after which it is replaced in contact with the rolls as shown in the drawing.

The parts thus far described are conventional, but it is thought to be necessary to describe this much of the old structure in order to more clearly set forth the purpose of the present invention.

In order to properly support the clearing board 31 so that its upper side will engage the lower pehipheries of bottom rolls 14 and 15, I have provided suitable lever 33 which has pivoted thereto as at 34, an upwardly extending pin 35. This pin loosely penetrates a suitable hole in the lower side of the clearer board 31 and substantially midway its ends since the board is supported at one point only. The lever 33 has its other end fixedly secured in the upper end of the pivoted plate member 36, said plate member having its bearing ends

36a pivotally mounted in bearing blocks 37 and 38, which are disposed in the housing 39. The bearing blocks 37 and 38 are securely held within the housing 39 by means of screws 37a and 38a, respectively, (Fig. 3). A suitable slot 40 is provided in the housing 39 so that the lever 33 can penetrate the same and have pivotal movement about the ends 36a. This housing is L-shaped and has its upper end secured to an intermediate portion of rod 27. The securing means comprises a T-shaped cap bearing 43 which is clamped downwardly against the top of the bar 27 by means of suitable screws 44, said screws penetrating the bearing 43, and also being threadably secured in the housing 39. The lower portion of the pivoted plate 36 has another lever 46 extending laterally and downwardly therefrom, and to the lower end of this lever is secured one end of a suitable tension spring 47. The other end of the tension spring 47 is secured to an eye bolt 48 which penetrates the side wall of housing 39 and has a suitable nut 49 secured on the end thereof. When it is desired to adjust the amount of tension upon the spring 47 it is only necessary to adjust the nut 49 upon the threaded portion of eye bolt 48.

It is seen by observing Figure 2, that by virtue of the tension spring 47, the members 33, 36 and 46 will be rotated in a counter-clockwise manner about the pivot point 36a, to thereby cause bottom roll clearer 31 to be resiliently held against the bottom surfaces of rolls 14 and 15. When it is desired to remove the clearer 31 it is only necessary to grasp the lever 33 and push it downwardly until the pin 35 is removed from the board 31. After which, the board can be removed entirely from the machine and the necessary cleansing operations performed.

The housing 39 has suitable cover plates 51 and 52 secured on opposed sides thereof, by any suitable means such as screws 53 and 54, respectively. These covers may be removed for the purpose of gaining access to the parts disposed within the housing.

It is, therefore, seen that I have provided a simple inexpensive means for supporting bottom roll clearers, which make it easy for the operators to detach the clearer and remove the lint and which also has means for adjustment as to the amount of pressure between the clearer and the bottom rolls.

In the drawing 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 set forth in the appended claim.

I claim:

In a bottom roll clearer for drawing frames, a housing secured to the drawing frame, a lever pivoted intermediate its ends to the housing, one end of the lever projecting downwardly and rearwardly with relation to the travel of a sliver or yarn being processed, a tension spring connected to said end, the other end of the lever projecting forwardly beneath the bottom drawing rolls, a pin pivotally secured to the forward end of said lever and projecting upwardly, a clearer board for engagement with the bottom rolls and having a cavity in the lower side thereof for receiving the upper portion of said pin pivotally secured to said lever.

his
NORFLEET O. × PETREA.
mark