April 24, 1934. C. FEIBEL 1,956,149

CLOTH TRANSPORTING DEVICE

Filed March 23, 1933

Fig. 1.

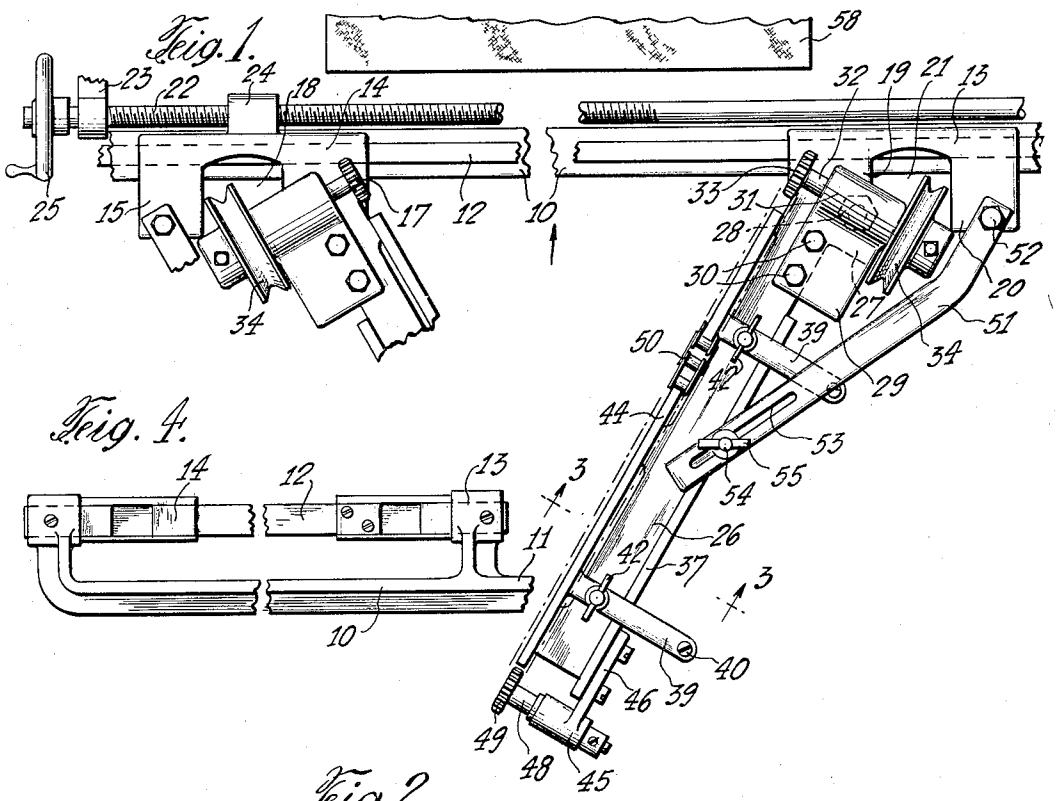


Fig. 4.

Fig. 2.

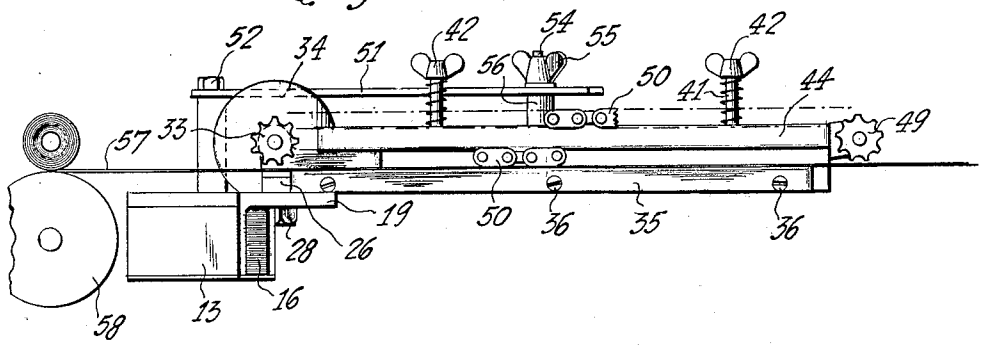
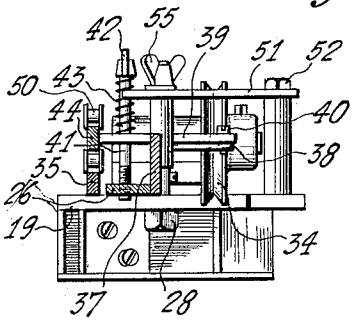


Fig. 3.



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CLOTH TRANSPORTING DEVICE

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Application March 23, 1933, Serial No. 662,218

2 Claims. (Cl. 271—2.1)

One object of this invention is the provision of a novel device adapted to be attached to or mounted on a machine for producing cloth such as knitted goods, whereby the finished cloth is guided to a drum upon which it is wound.

Another object of the invention is the provision of a device as above-mentioned which tautens the cloth both lengthwise and crosswise to prevent wrinkling or creasing of the cloth so that it will be wound evenly and smoothly on the winding drum.

Still another object of the invention is the provision of adjusting means on the device so that the crosswise tension on the cloth may be varied and so that the device may be adapted to cloths of different widths.

The above and other objects will become apparent in the description below, in which characters of reference refer to like-named parts in the drawing.

Referring briefly to the drawing, Figure 1 is a fragmentary plan view of the device.

Figure 2 is a side view of the same.

Figure 3 is a cross-sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary front elevational view of the device, illustrating its mounting on the knitting or other cloth-making machine.

Referring in detail to the drawing, the numeral 10 represents a widened U-shaped bracket having an extension 11 which is rigid with the knitting machine, or which may be mounted thereon in any desirable manner. A rectangular guide bar 12 is supported in opposite ends of the bracket 10, and is rigid therewith. A sleeve 14 is slidably mounted on the bar 12 by having the latter extend through the rectangular opening 16 in the sleeve. This sleeve 14 has rigid therewith a pair of parallel supports 15 and 17 separated from each other by a space or opening 18. A member 13, similar in all respects to the sleeve 14 with the exception that it is rigidly mounted on the extension of the bracket 10, and adjacent to the machine, has similar rigid supports 19 and 20 separated from each other by the opening 21.

An elongated screw shaft 22 extends parallel with the guide bar 10, having one end rotatably supported by a journal 23 mounted on the bracket 10, and the other end rotatably supported on the machine, not shown. This shaft threadably engages a sleeve 24 rigid on the sleeve 14, and at its far end is provided with a hand wheel 25. It is obvious that rotation of the hand wheel causes the sleeve 14 to ride upon the bar 12 in either direction.

A flat arm 26 provided with an L-shaped end 27 is rotatably mounted by means of a bolt 28 on one corner of the support 19 extending from the rigid sleeve 13. A plate 29 is attached by means of screw bolts 30 on the arm 26 near the end 27, and one end of this plate is rolled into a journal housing 31. A shaft 32 is rotatably mounted in the housing 31, having rigid on one end thereof a sprocket 33 and on the other end thereof a pulley 34. Adjacent one edge of the flat bar 26 a rail 35 is mounted by means of screws 36. Along the opposite edge of the bar 26 a rigid raised wall 37 extends. In spaced-apart relation to each other, arms 38 extend horizontally outward and integrally from the wall 37. Rotatably attached by means of screw pins 40 to the ends of the arms 38, are longer arms 39 which double back over the arms 38 and extend over the flat arm 26. Screw stems 41 are rotatably mounted in the flat arm 26 and have wing-heads 42 rigid thereon. Coiled springs 43 surround these screw stems between the heads 42 and the arms 39, through which the stems 41 loosely pass. A second rail 44 is rigidly supported on the ends of the arms 39 directly above and parallel with the rail 35. Both these rails are preferably formed of stainless steel. A journal housing 45 is attached by means of a bracket 46 to the end of the wall 37 and supports a shaft 48 having a second sprocket 49 rigid thereon. A sprocket chain 50 is trained about the sprockets 33 and 49 and about the rail 44, the lower loop of the chain lying directly between the two rails. It is obvious that the springs 43 normally urge the upper rail 44 downward against the lower loop of the chain, and they urge the latter downward against the lower rail 35. The pressure of these members downward may be varied by varying the tension of the springs 43 upon rotation of the heads 42.

A bent arm 51 is rotatably mounted at one end on the support 20 of the sleeve 13 by a bolt 52. The other end of this arm is slotted at 53. A pin 56 integral with the wall 37 extends therefrom and has a reduced screw 54 extending from its upper end. This screw 54 passes through the slot 53. A wing nut 55 engages the screw 54, and by means of this nut the arm 51 may be locked against the wall 37. As the flat arm 26 is rotatably mounted on the support 19, it is obvious that it may be locked in any position about its pivot by means of the nut 55.

The finished cloth shown at 57 in Figure 2 travels into the device described in the direction indicated by the arrow in Figure 1 toward the

winding drum 58, passing between the lower loop of the chain 50 and the lower rail 35. The chain is driven by a belt, not shown, which is trained about the pulley 34, the chain traveling at a low speed in a clockwise direction (Figure 2). The pressure of the chain against the lower rail, or, in other words, of the chain against the travelling cloth, may be readily varied as above-described by means of the wing heads 42. It is apparent that, as the cloth travels toward the drum 58, the travelling chain will tend to draw the cloth away from the center line of travel.

A second member such as just described is mounted upon the slidable sleeve 14, and is exactly the same in structure with the exception that the parts are reversed in position as if seen in a mirror. For this reason all identical parts of the two members have been given the same reference numerals.

In operation, the sleeve 14 is first moved by means of the hand wheel 25 into proper position to accommodate the width of the cloth being operated upon. Then the angle of the two members with respect to the bracket 10 is adjusted in the manner above-described. With the cloth being thus led through the device, it is obvious that the pair of opposite chains tend to draw the material away from the center line of travel of the cloth, thus causing the cloth to reach the drum 58 in a tautened condition so that it will be wound thereon free of folds or wrinkles. This is especially desirable in the case of thin knitted materials, as the elasticity of the threads composing the materials tends to crumple the finished material and cause considerable wrinkling and creasing of the wound material.

Obviously modifications in form and structure may be made without departing from the spirit and scope of the invention; for instance, a belt of leather or wire might be used instead of the sprocket chain.

I claim:

1. A device adapted to be mounted between a cloth making machine and a drum upon which the finished cloth is adapted to be wound, comprising a pair of oppositely-disposed members inclined toward each other, a rail on each of said members, a rotating chain on each of said members traveling adjacent said rail, said cloth being led along said members between said chain and rail, means for adjustably urging said chain against said rail to vary the pressure on the cloth therebetween, said cloth during its travel being stretched by said pressure.

2. A device adapted to be mounted between a cloth making machine and a drum upon which the finished cloth is adapted to be wound, comprising a pair of oppositely-disposed arms at an angle to each other, said arms being rotatably mounted on said device, means for releasably locking said arms in fixed position, a rail on each of said arms, a rotating chain on each of said arms traveling adjacent said rail, means for adjustably urging said chain against said rail to vary the pressure on the cloth therebetween, said cloth during its travel being stretched by said pressure, and means for varying the distance between said arms.

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