Dec. 5, 1939. W. CHERCASS 2,182,424

BELT REVERSING DEVICE

Filed June 11, 1938

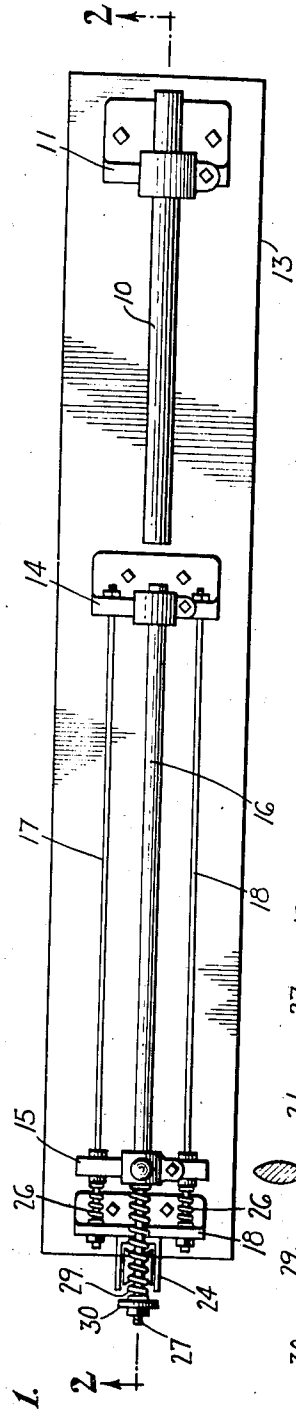


Fig. 1.

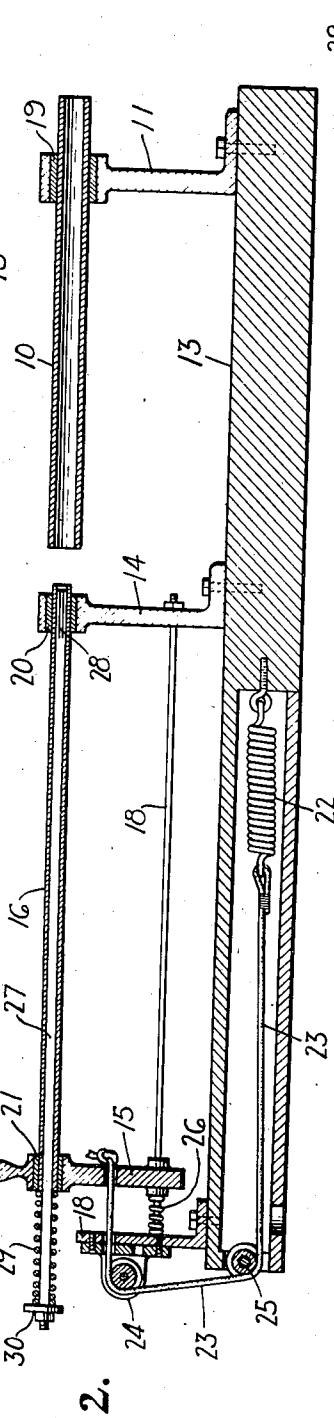


Fig. 2.

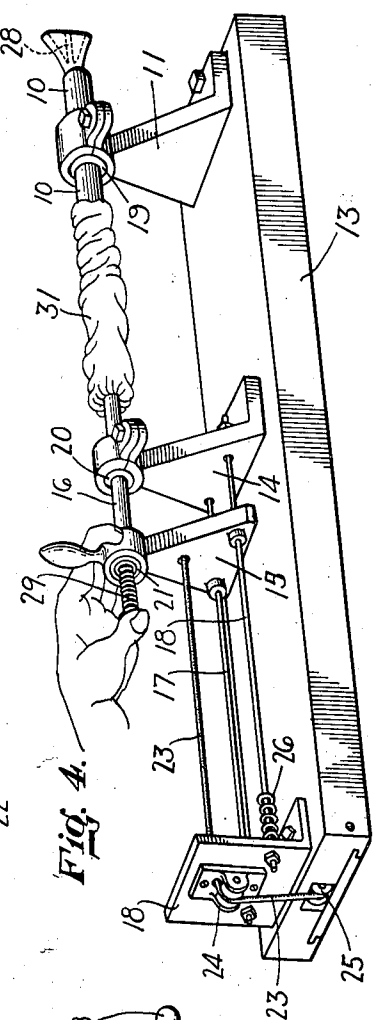


Fig. 4.

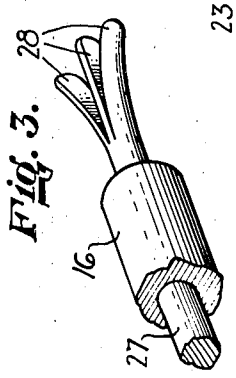


Fig. 3.

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BELT REVERSING DEVICE

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4 Claims. (Cl. 223—40)

This invention relates to a turning or reversing mechanism and more particularly to a device for turning or reversing belts, neckties and other tubular garments and the like in the process of their manufacture.

In the formation of tubular articles, such as belts and neckties, the cloth is usually folded upon itself lengthwise and stitched along one edge leaving the raw stitched edge or seam exposed to view. The belt is thereupon reversed so as to conceal the stitching and seam, thus assuring a neat and attractive article. In other words, the belt is stitched wrong side out and then turned to expose the right side.

Heretofore, the turning process has usually been performed by pulling the belt or similar garment over a rod or stick; or by fastening a safetypin to one end of the tubular body and threading it through the tubular belting so as to turn the right side out. These make-shift methods, however, are tedious and quite often difficult. Furthermore, the closed end of the belt usually remains unturned and has to be subjected to considerable manipulation, particularly if the belt is provided with square corners.

It is, therefore, an object of the present invention to provide a turning or reversing device which will facilitate and expedite the turning of a tubular garment.

Another object is to provide a device of this character which will spread the closed end of the garment and strainghten the corners so that further manipulation or picking will be unnecessary.

A further object is to provide a turner or reverser which is simple in construction, cheap in manufacture and easy of operation.

Other objects and advantages inherent in the invention will become apparent from the following specification taken in conjunction with the accompanying drawing which illustrates a preferred embodiment of the invention.

In the drawing:

Figure 1 is a top plan view of a turning or reversing mechanism according to the invention.

Figure 2 is a section along the line 2—2 of Figure 1.

Figure 3 is a fractional view and perspective showing the spring fingers for spreading the closed end of the garment.

Figure 4 is a perspective view of the device in operation.

Referring in more detail to the drawing, the reference numeral 10 indicates a hollow tube which is mounted in a bracket 11 on the base 13. Another set of brackets 14 and 15 support a reciprocable rod 16 which is adapted to pass through the hollow stationary tube 10. This rod 16 is also hollow for the purpose which will hereinafter be described.

The bracket 14 is bolted to the base 13, but the bracket 15 is slidably mounted on a pair of horizontal rails 17 and 18 which in turn are supported in the bracket 14 and bracket 18, the latter bracket is also bolted or otherwise firmly attached to the base 10.

It will be understood that the tube 16 is slidable in the bushing 20 but is firmly connected to the bracket 15 by the bushing 21.

The tubes 10 and 16 are both interchangeably mounted in their respective brackets by means of bushings 19, 20 and 21, whereby tubes of various diameters may be substituted for turning belts of different sizes. The outside diameter of these bushings is the same to fit the corresponding openings in the brackets, but the interior diameter thereof will vary in accordance with the diameter of the tubes to be used.

The rod 16 is pushed along the rails 17 and 18 against the tension of the spring 22 which is connected to the bracket 15 by means of the belt 23 and pulleys 24 and 25.

Buffer springs 26 may be provided between the bracket 18 and the bracket 15 in its normal position to provide a resilient contact therebetween.

The hollow push rod 16 accommodates a thrust rod 27 which, at the end facing the tube 10, is provided with spring fingers 28 which normally are held compressed within the push rod 16. It will be understood that these spring rods will expand automatically as soon as they are freed from the center of the push rod 16.

The push rod 27 extends beyond the bracket 15 and is reciprocable therein against the tension of the spring 29 which is interposed between the bracket 15 and the knob or bolt 30.

The tension of the springs 29 and 22 is so arranged that the bracket 15 together with the push rod 16 will slide along the rails 17 and 18 when pressure is applied to the knob 30. Thus the spring fingers 28 will be compressed within the rod 16 when the latter enters the hollow tube 10. The increased resistance resulting from engagement with the garment, however, will tend to force the thrust rod 27 out of the push rod 16, but the tube 10 will prevent the spring fingers from spreading. The spreading will first take place upon the exit of the push rod through the opposite end of the hollow tube.

In operation, the tubular fabric belt 31 is

passed over the outer end of the tube 10 until the closed end of the belt abuts the end of the tube. The bracket 15 is moved along the rails 16 and 17 by pushing on the thrust rod 27 to engage the closed end of the belt and carry the belt in a reversed condition through the tube and partially eject the same through the opposite end where the closed end is spread by the spring fingers 28. The belt may then be pulled out by hand.

After the belt has been removed, the spring 27 will draw the spring fingers 28 into the push rod 16 which latter will be automatically returned to its original position by the spring 22.

It will be understood that after the belt has been removed from the machine, the open end thereof is stitched in the usual manner.

Although only a specific embodiment of the invention has been described and illustrated, modifications may be made within the following claims.

What is claimed is:

1. An apparatus for turning tubular garments closed at one end, such as belts, neckties and the like, comprising a tubular stationary member open at both ends for supporting the garment, a tubular, reciprocable member adapted to pass through said tubular member, and expansible, projectible means within said tubular, reciprocable member for spreading the closed end of the garment after having been pushed through said tubular, stationary member.

2. An apparatus for turning tubular garments closed at one end, such as belts, neckties and the like, comprising a base, a tubular push rod resiliently slidable along said base adapted to pass through said stationary, tubular member, a thrust rod resiliently reciprocable within said push rod, the end of such push rod facing said hollow tubular member being provided with spring fingers normally compressed within said push rod for spreading the closed end of the garment after having passed through said tubular member.

3. An apparatus for turning tubular garments closed at one end, such as belts, neckties and the like, comprising a tubular, stationary member open at both ends for supporting the garment, a tubular, reciprocable member adapted to pass through said tubular member, expansible, projectible means within said tubular, reciprocable member for spreading the closed end of the garment after having been pushed through said tubular, stationary member, resilient means connected with said reciprocable member for returning it to its original position and separate resilient means connected to said reciprocable member for returning said projectible means to its original position, the tension of said resilient means being so arranged that said projectible means will be retracted within said tubular, reciprocable member during the reciprocatory movement thereof.

4. An apparatus for turning tubular garments closed at one end, such as belts, neckties and the like, comprising a tubular member and a member adapted to pass through said tubular member, one of said members being stationary, the other one being reciprocable with respect to the stationary member, and expansible, projectible means carried by the member adapted to pass through the tubular member for spreading the closed end of the garment after having been pushed through said tubular member.

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