June 12, 1934. F. A. SCHMIDT ET AL 1,962,878

PANTS TURNER

Filed June 12, 1933

FIG. 1

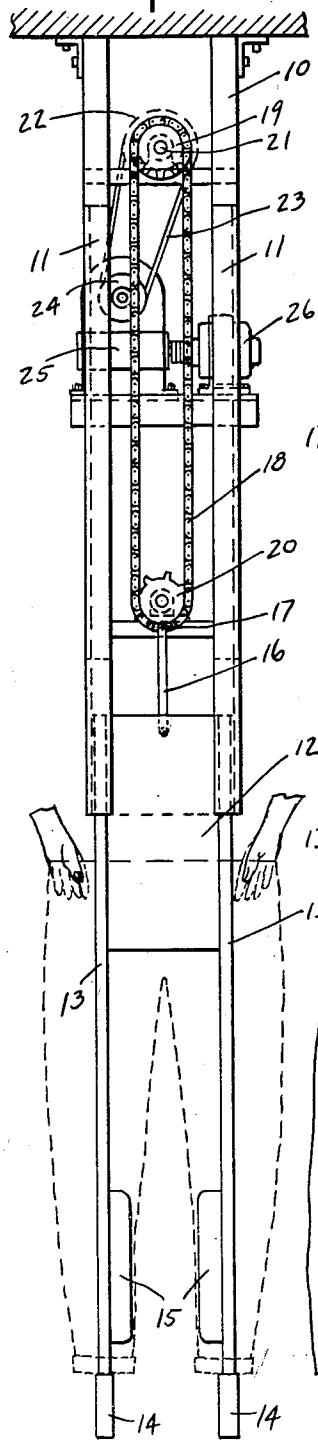


FIG. 2

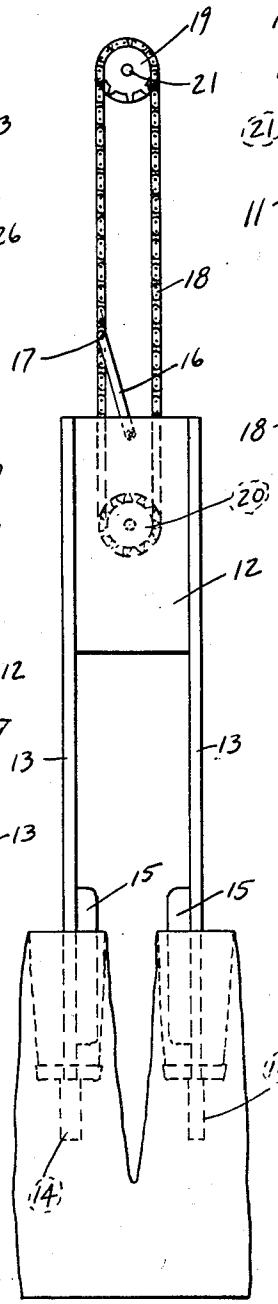


FIG. 3

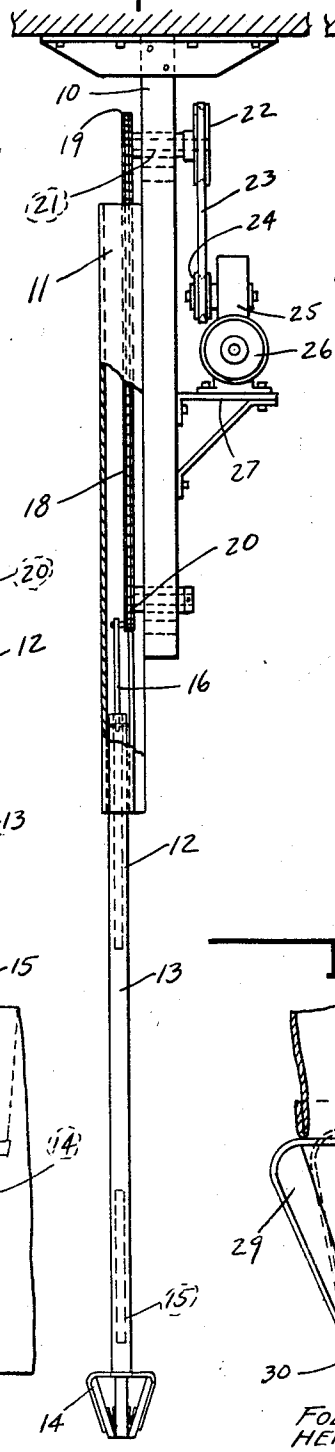


FIG. 4

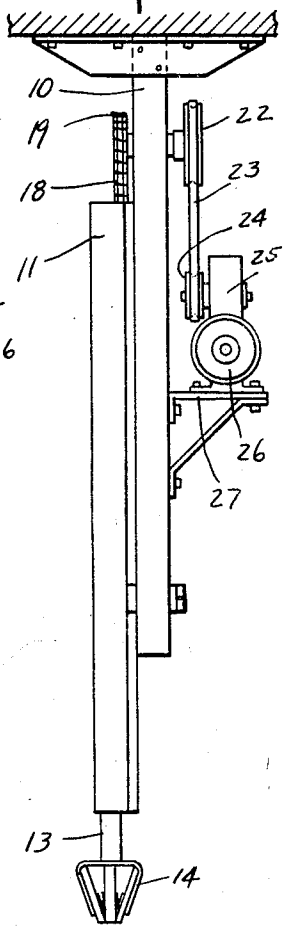
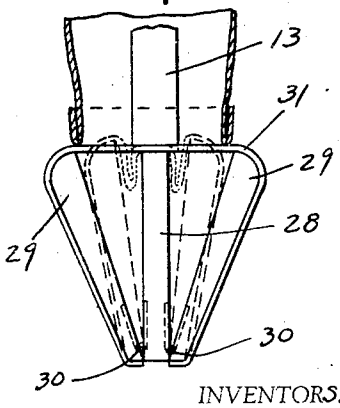


FIG. 5



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Patented June 12, 1934 1,962,878

UNITED STATES PATENT OFFICE

1,962,878

PANTS TURNER

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Application June 12, 1933, Serial No. 675,373

4 Claims. (Cl. 223—20)

This invention relates to a semi-automatic device for assisting in the turning of pants or trouser legs, particularly adapted for use in production manufacture of such garments.

In the production of pants or trousers it is well understood that the manufacturing process, such as sewing seams, pockets and the like, is conducted while they are reversed or wrong side out. After completion of the sewing process and just prior to their being pressed to be placed in stock, it is necessary that they be turned right side out. In quantity production, several operators are necessary for this operation, which is strenuous and wearing, one leg only being turned at a time.

It is the object of this invention to provide a device which will assist in the operation, whereby both legs of the trousers may be turned simultaneously. This is accomplished by providing a pair of vertically reciprocating shafts or legs which in their downward movement will pass through the trouser legs while the trousers are manually held in position by the operator, and on their return or upward movement will engage the bottom of the leg and draw it upwardly within the trousers while the operator meets the movement by pulling the top of the trousers downwardly, whereby both legs are simultaneously reversed so as to be turned right side out.

The full nature of the invention will be understood from the accompanying drawing and the following description and claims:

In the drawing, Fig. 1 is a front elevation showing the arms in extended position. Fig. 2 is the same as Fig. 1 with parts removed showing the arms in a partially retracted position. Fig. 3 is a side elevation with the arms extended. Fig. 4 is the same as Fig. 3 with the arms retracted. Fig. 5 is an enlarged side elevation of the engaging foot showing it in collapsed position by dotted lines.

In the drawing there is illustrated a pants turner having a frame 10 adapted to be suspended from a suitable support which may be a ceiling or some part thereof, whereby it extends vertically downward to a point slightly above the head of an operator. Said frame comprises a pair of guide members 11 on each side thereof in which there is slidably mounted a reciprocating head 12 having downwardly projecting legs 13. At the lower end of each leg there is provided a collapsible foot 14. Immediately above the foot 14 on the inner side of the leg there is an inwardly extending fin 15 which acts to spread the trouser leg transversely to insure engagement of the lower end thereof by the foot.

Pivotally connected to the head 12 there is a connecting rod 16 which in turn is pivotally connected with a bearing 17 secured to one of the links in an endless chain 18. The chain 18 passes about an upper driving sprocket wheel 19 and lower idler sprocket wheel 20. The sprocket 19 is keyed to a shaft 21 mounted in suitable bearings in the frame 10 to which is also keyed a driving pulley 22. Said pulley 22 is driven by a belt 23 from a pulley 24. Said pulley 24 is driven through a worm and gear mounted in a gear reduction housing 25 which in turn are driven by a motor 26, said motor and housing being supported upon a platform 27 secured to the frame. By means of this arrangement, continuous movement of the chain about its sprockets causes a reciprocating action of the legs 13.

The foot 14 comprises an extension 28 rigidly secured to the lower end of the leg 13 at the bottom end of which is hinged a pair of oppositely-disposed and upwardly-extending fingers 29, said fingers being hinged to the extension at 30. Extending about the outer surface of the fingers and connecting the upper free ends thereof, there is a flexible strap 31 which limits the outward swinging movement of the fingers while permitting them to collapse to the position illustrated by dotted lines in Fig. 5.

In operation, the motor will cause the chain 18 to be driven at a predetermined speed controlled by the reduction gears. As the link to which the pivotal connection of the rod 16 is made moves upwardly, it will raise the legs 13. When the particular link moves downwardly, the legs will be lowered. Thus, the legs 13 are given a vertical reciprocating movement at a predetermined speed and throughout a distance substantially the length of a pants leg. Referring to the collapsible foot, it is designed to pass downwardly through a pants leg in collapsed position and thereupon open up to engage the bottom thereof.

As illustrated in dotted lines, the pants are held at the waist by the operator while wrong side out in position to permit the legs 13 to descend through the pants legs until the foot 14 has emerged from the lower end thereof and has opened out. Thereupon the operator turns the waist band portion of the trousers right side out and pulls down on them while the legs 13 move upwardly, drawing the bottom of the pants up through the waist band held by the operator. After the trousers have thus been completely turned right side out, the foot 14 slips through the turned bottom of the pants, whereupon they

are entirely removed and another pair positioned for the next operation.

While only one means of reciprocating the legs 13 is illustrated herein, many arrangements may be employed for that purpose, which need form no part of this invention. Thus, the motor 26 may drive a rack and pinion for imparting the reciprocating action, or a reversible motor may be used, as well as reversible speed reduction gearing, all well known in the art. The timing, as will be readily understood in the art, may be arranged or adjusted to meet the requirements including a delayed action in the movement of the legs when at the upper position to give the operator time to place another pair of pants in position.

The invention claimed is:

1. A reversing device for garments, including a reciprocating member, means for slidably supporting said members, a source of power for reciprocating said member, and a collapsible foot on one end of said member adapted to pass through the garment while in collapsed position and open to normal position after having passed therethrough to engage a portion thereof for reversing it, said foot comprising a pair of pivoted fingers having their free ends connected by a flexible strap.

2. A reversing device for garments, including a supporting frame, a pair of legs connected with each other extending in parallel spaced relation, means for reciprocating said legs within said frame, a collapsible foot on the end of each of said legs normally in extended position for engaging a portion of the garment for reversing it, and inwardly-extending guide plates on each of said legs.

3. A reversing device for garments, including a reciprocating member, means for supporting said member, a source of power for reciprocating said member, a collapsible foot on one end of said member adapted to pass through the garment while in collapsed position and open to normal position after having passed therethrough to engage a portion thereof for reversing it, said foot comprising a pair of pivoted fingers normally lying in outwardly-extended position, and means for limiting their pivotal movement to outwardly extending position while permitting free movement to collapsed position.

4. A reversing device for garments, including a supporting frame, a pair of legs connected with each other extending in substantially parallel spaced relation, means for reciprocating said legs within said frame, a collapsible foot on the end of each of said legs normally in extended position for engaging a portion of the garment for reversing it, and means adjacent the lower end of each of said legs for spreading the garment in a plane at right angles to the plane through its respective foot when extended.

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