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CUFF PRESSING AND SHAPING MACHINE

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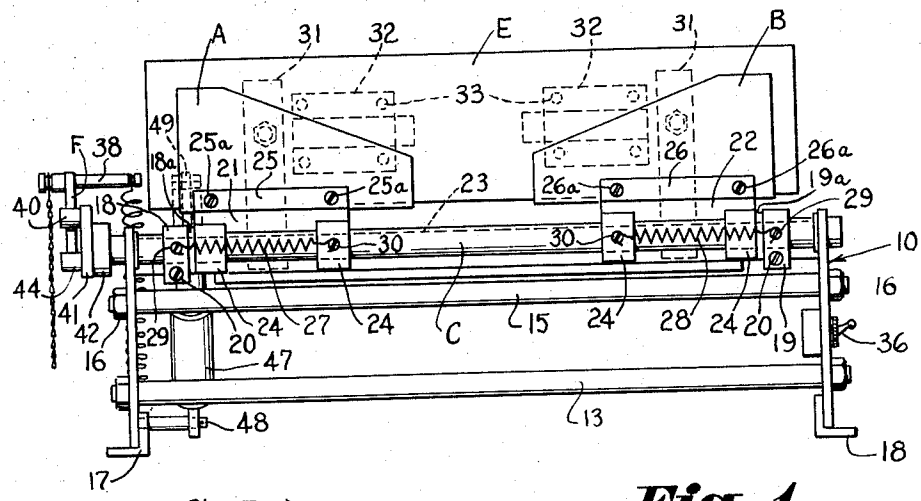


Fig. 1.

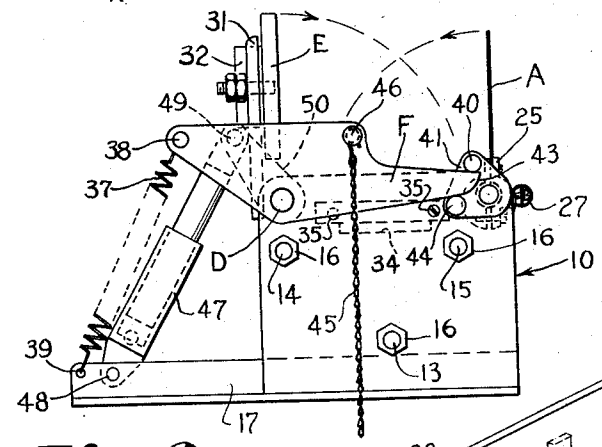


Fig. 2.

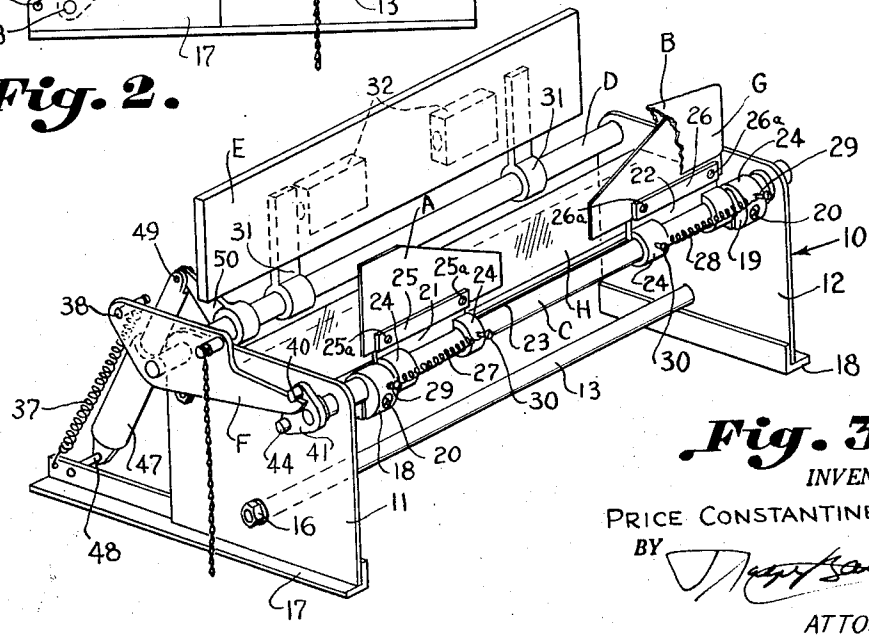


Fig. 3.

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CUFF PRESSING AND SHAPING MACHINE

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9 Claims. (Cl. 223—2)

This invention relates to the manufacture of garments and more especially to a mechanical device for turning, shaping, and pressing cuffs prior to fabrication of the garment.

An object of this invention is to provide a mechanical device for efficiently and expeditiously turning, shaping, and pressing the cuff of a garment, prior to the fabrication of the garment.

Another object of this invention is to provide a mechanical device for spreading the cuff of a garment, holding the cuff edges parallel and for introducing the garment into operable relation to suitable pressing means.

Another object of this invention is the provision of spaced spring-biased mandrels which are adapted to spread the edges of a cuff and hold same in parallel relation for pressing in which the mandrels are in a position of ready access to the operator.

Still another object of this invention is to provide a mechanical device having means for holding the cuff of a garment in proper position to be pressed and providing means for pressing the garment in a single motion after the cuff has been manually placed on the machine.

The construction designed to carry out the invention will be hereinafter described, together with other features thereof.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings forming a part thereof, wherein an example of the invention is shown and wherein:

Figure 1 is a front elevation of a cuff shaping and pressing machine constructed in accordance with the present invention,

Figure 2 is a side elevation looking from the left-hand side in Figure 1, and

Figure 3 is a perspective view of the cuff shaping and pressing machine looking from the front left-hand end of Figure 1.

Referring more particularly to the drawing, the numeral 10 broadly designates the frame of the cuff pressing and shaping machine. A pair of spaced mandrels A and B are vertically positioned and slidably carried by a rocker shaft C which is horizontally disposed and oscillatably carried by the frame 10. A second rocker shaft D is positioned in parallel aligned relation to the first rocker shaft C and is also oscillatably carried by the frame. The second rocker shaft D carries a second or upper pressing plate E which is normally vertically disposed. An arm F which is fixedly mounted adjacent one end of the second rocker shaft D is turned, in operation, to cause the first rocker shaft C to turn counter-clockwise in Figures 2 and 3 to lower the mandrels A and B carrying a garment cuff G to a position in parallel relationship with or against the first or lower horizontal pressing plate H which is carried by the frame 10. Since the arm F is fixedly carried by the rocker shaft D, the rocker shaft D will oscillate in a clockwise direction in

Figures 2 and 3 so that the upper pressing plate E will rest in operable position on top of the mandrels A and B carrying the cuff G so as to carry out a pressing operation.

The frame of the machine 10 includes a pair of spaced aligned end plates 11 and 12 and a lower spacing bar 13. A pair of upper spacing bars 14 and 15 are also provided to hold the end members 11 and 12 in fixed spaced relationship. The spacing bars 13, 14, and 15 have suitable connection with the end members 11 and 12 and are provided with suitable fastening means in the form of nuts 16 adjacent each end thereof. The frame 10 which is thus formed is supported by suitable frame supporting members 17 and 18 which are provided in the form of angle irons which extend a suitable distance rearwardly of the frame.

The first rocker shaft C is provided with a pair of abutments 18 and 19 in the form of split rings which are fixed adjacent respective ends of the rocker shaft C as by clamp screws 20. The mandrels A and B are carried by plates 21 and 22, the lower edges of which are slidably positioned within a slot 23 running longitudinally of the rocker shaft C. The plates 21 and 22 are supported on the rocker shaft by suitable collars 24 which have connection with the plates 21 and 22 to form a slidable connection with said shaft for axial movement of mandrels A and B thereon and to prevent the mandrels from turning with respect to the rocker shaft C. The mandrels A and B are secured to the plates 21 and 22 respectively as by suitable strips 25 and 26 which are threadably secured to the plates 21 and 22 as by screws 25*a* and 26*a*, respectively, so as to confine the mandrels A and B therebetween.

It will be noted, therefore, that the mandrels A and B are removably and slidably positioned on the rocker shaft C and that the relative position of the abutments 18 and 19 may be adjusted on the rocker shaft C by loosening the clamp screws 20. Normally the mandrels A and B will be spring-biased outwardly toward the ends of the rocker shaft C by the coil springs 27 and 28. The coil springs 27 and 28 are each fixed on one end thereof to the abutments 18 and 19 respectively, as at 29 and on the other end to the respective collar 24 which is remote therefrom as at 30. Suitable buffers 18*a* and 19*a* are provided adjacent the inside surface of respective abutments 18 and 19.

The second rocker shaft D carries a second or upper heating plate E which is normally disposed in vertical position and supported by the brackets 31 which are fixed to the rocker shaft D so that when in a horizontal position, the second pressing plate E will be in operable relation to the first or lower pressing plate H which is horizontally disposed and carried by the frame 10. The upper pressing plate E is provided with suitable heating elements 32 which are secured to the pressing plate E by suitable fastening means 33. Heating means 34 are also provided and have connection with the lower pressing plate H. The lower pressing plate H is suitably supported to allow for expansion and is fixed on one end by fastening means 35 to the frame 10. A toggle switch 36 is shown in Figure 1 for energizing a suitable circuit (not shown) for supplying electrical energy to the heating means 32 and 34.

As was pointed out above, the actuating arm F is fixedly carried adjacent the left-hand end of the second rocker shaft D. The rearwardly projecting end of the arm F is connected to a tension spring 37 which is secured to the arm F as at 38 at its upper end and to the rearward portion of the frame supporting member 17 as at 39 on the other end thereof. It is evident, therefore, that the front portion of the arm F is spring-biased

upwardly so as to engage a projection 40 which is carried by a plate 41 which is integral with a collar 42 which has fixed connection with the rocker shaft C. This results in the mandrels A and B as well as the upper pressing plate E being normally held in vertical position for ready access by the operator. It is also apparent, therefore, that a downward movement of the front portion of the arm F would result in engagement of the curved or cam surface 43 of the arm F with a second projection 44 carried by the plate 41 so as to produce the counterclockwise turning of the mandrels A and B as well as the clockwise lowering of the vertical second pressing plate E.

In operation, therefore, the forward portion of the arm F is lowered by any suitable means such as pulling downwardly on the chain 45 which is fixed as at 46 to the forward portion of the arm F. If desired, the chain 45 could be fixed to a suitable treadle (not shown) for operation by the foot of the operator. This movement of the arm F results in the overcoming of the tension of the spring 37 and causes the mandrels A and B to be lowered carrying the garment cuff G therewith to a position for pressing against the lower pressing plate H. The garment G is shown in Figure 3 being manually placed on the mandrels A and B; however, it will be evident that the mandrels A and B will be urged closer together, when the cuff G is fully positioned, so that the springs 27 and 28 will result in the garment G being pulled into a position with the edges of the garment G parallel and thus in a position for pressing. The upper pressing plate E follows the lowering of the mandrels A and B and upon the turning of the arm F to its ultimate downward position will place the upper or second pressing plate in a position to carry out a pressing operation. A suitable shock absorber 47 is shown pivotally secured to the frame supporting element 17 as at 48 and pivotally secured at its upper end as at 49 to a link 50 which has fixed connection with the second rocker shaft D. Thus the garment cuff which is in process of being fabricated into the completed garment may be readily manually placed on the mnadrels A and B which may be of any desired shape and a pressing and shaping operation carried out in a single movement.

The foregoing disclosure and description of the invention is illustrative and explanatory thereof, and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed is:

1. In a cuff pressing and shaping machine and the like having a frame and pressing means, the improvement including, a rocker shaft carried by said frame, a pair of mandrels slidably carried thereon in spaced aligned relation to each other, resilient means normally urging said mandrels axially away from each other so as to position a cuff and the like placed thereon, and means turning said rocker shaft in one direction causing the cuff carried by said mandrels to be operatively engaged by said pressing means and turning said rocker shaft in the other direction to remove the mandrels carrying the cuff and the like from the pressing means whereby, the mandrels are in position for convenient removal of the pressed cuff and the like and for placing of another cuff and the like thereon for pressing.

2. A cuff pressing and shaping machine and the like including, a frame, a rocker shaft carried by the frame, a pair of spaced aligned mandrels slidably carried by said shaft, resilient means normally urging said mandrels axially toward the ends of the shaft, a first pressing plate carried by the frame, a second movable pressing plate carried by the frame, and means turning said rocker shaft in one direction to move the mandrels and the cuff and the like placed thereon into engagement with the first pressing plate so that the second pressing plate may be placed thereon to carry out the pressing and shaping operation and turning said rocker shaft in the other direction when the second pressing plate is removed after the pressing operation so that the mandrels are in position for removing the pressed cuff and the like and for placing another cuff and the like thereon for pressing.

3. A cuff pressing and shaping machine and the like including, a frame, a horizontally disposed rocker shaft carried by the frame, a pair of spaced aligned mandrels slidably carried by said shaft, resilient means normally urging said mandrels axially toward the ends of the shaft, a lower pressing plate carried by the frame, an upper pressing plate carried by the frame, and means turning said rocker shaft to lower the mandrels and the cuff and the like placed thereon into engagement with the lower pressing plate so that the upper pressing plate may be lowered thereon to carry out the pressing and shaping operation and turning said rocker shaft to raise the mandrels and the cuff and the like placed thereon to position for convenient removal of the pressed cuff and the like and for placing another cuff and the like thereon for pressing.

4. A cuff pressing and shaping machine including, a frame, a first rocker shaft carried by the frame, a pair of spaced aligned mandrels slidably carried by said first rocker shaft, resilient means normally urging said mandrels axially toward the ends of the first rocker shaft, a first pressing plate carried by the frame, a second rocker shaft carried by the frame disposed in parallel aligned relation to said first rocker shaft, a second pressing plate carried by said second rocker shaft, means turning said second rocker shaft, means turning said first rocker shaft simultaneously responsive to means turning said second rocker shaft whereby, said mandrels are first turned to a position adjacent the first pressing plate and then the second pressing plate turned to operative position.

5. A cuff pressing and shaping machine including, a frame, a first horizontally disposed rocker shaft carried by the frame, a pair of spaced aligned mandrels slidably carried by said first rocker shaft, resilient means normally urging said mandrels axially toward the ends of the first rocker shaft, a second horizontally disposed rocker shaft carried by the frame, a first pressing plate carried by the frame between said first and second rocker shaft, a second pressing plate carried by said second rocker shaft, means turning said second rocker shaft in one direction, and cam means simultaneously turning said first rocker shaft responsive to said means turning said second rocker shaft, whereby said mandrels are first turned to a position adjacent the first pressing plate and then the second pressing plate lowered to operative position, said means turning said second rocker shaft in one direction also being effective to turn said second rocker shaft in the other direction to cause said cam means to simultaneously turn said first rocker shaft carrying said mandrels to a position in which the mandrels are remote from said pressing means.

6. The structure set forth in claim 5, in which said means turned said second rocker shaft includes, a link having fixed connection intermediate its ends with said second rocker shaft, and resilient means normally urging one end of said link in one direction so as to normally maintain said first and second rocker shafts in such position that said mandrels and said second pressing plate are maintained out of contact with said first pressing plate and out of contact with each other.

7. The structure set forth in claim 6, in which said cam means includes, first and second cam surfaces carried by the free end of said link, and first and second cam followers carried by said first rocker shaft whereby, said first cam surface engages said first cam follower to turn said first rocker shaft so that the mandrels carried thereby are turned to a position adjacent the first pressing plate and whereby, said second cam surface engages

said second cam follower to turn said first rocker shaft sho that the mandrels carried thereby are turned to a position out of contact and remote from said first pressing plate.

8. In a cuff pressing and shaping machine and the like having a frame and pressing means, the improvement including, a shaft carried by said frame, a longitudinal slot within said shaft extending for a substantial length of the shaft, a pair of spaced aligned mandrels having slidable connection with said shaft for axial movement thereon, means having fixed connection with the mandrels slidably carried within said slot to prevent turning of the mandrels with respect to said shaft, and resilient means urging said mandrels away from each other whereby, a cuff and the like may be placed on said mandrels and said cuff and the like stretched because of the resilient means urging said mandrels away from each other preparatory to a pressing operation.

9. A cuff pressing and shaping machine and the like including, a frame, a first horizontally disposed shaft carried by the frame, mandrels holding the cuff and the like for pressing carried by said first shaft, a second horizontally disposed shaft carried by the frame, a lower pressing plate carried by the frame between said first and second rocker shafts, an upper pressing plate carried by said second shaft, a link having fixed connection

intermediate its ends with said second rocker shaft, resilient means urging one end of said link in one direction, first and second cam surfaces carried by the free end of said link, and first and second cam followers carried by said first rocker shaft whereby, when said link is turned in a direction opposed to said resilient means urging one end of said link, said first shaft is turned in one direction and said first cam surface engages said first follower to turn said first shaft so that the mandrel and cuff and the like carried is lowered to engagement with said lower pressing plate and simultaneously the upper pressing plate is lowered over the cuff and the like and mandrel preparatory to the pressing operation after which the resilient means turns said first shaft to raise the upper pressing plate and cause the second cam surface to engage said second cam follower to raise said mandrel to a position remote from the first and second pressing plates preparatory to placing a cuff and the like on the mandrel.

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