Dec. 12, 1967 W. C. CREMER 3,357,701

CLOTH STACKING DEVICE

Filed Oct. 11, 1966

Fig. 1.

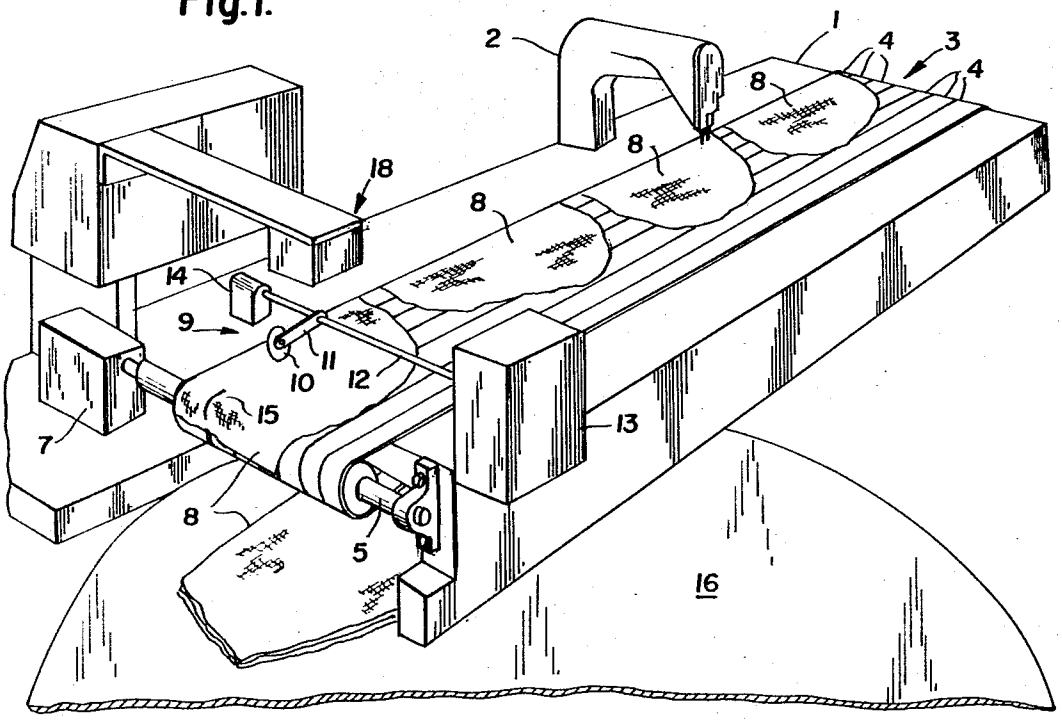



Fig. 2.

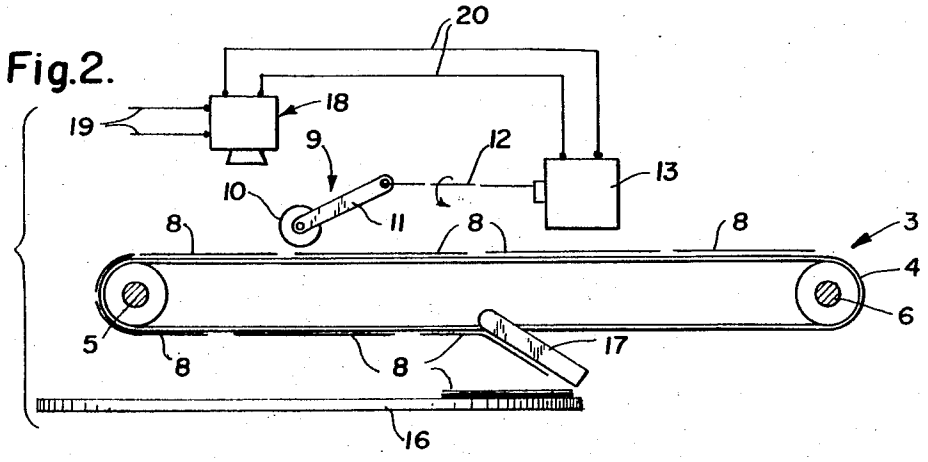
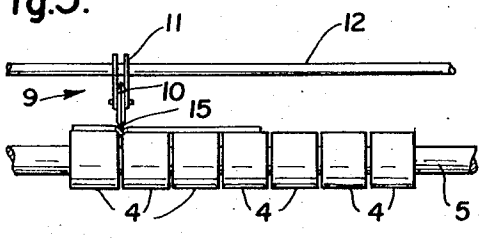



Fig. 3.




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# CLOTH STACKING DEVICE

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6 Claims. (Cl. 271—68)

This invention relates to a device for stacking garments, fabrics, or the like, after such materials are processed on a continuous processing line. More particularly, the invention relates to a cloth wedging and releasing device which is used to securely carry the cloth to a predetermined position where it is automatically released and stacked.

One of the problems inherent in processing fabric in an assembly line type operation is the handling of the cloth as it comes off the assembly line. Prior to this invention, no suitable means of stacking fabric pieces, generally under 10 inches, had been found with the exception of having an operator there to catch the pieces as they came off the assembly line and manually stack them. This, of course, was a costly solution. The present invention eliminates this unnecessary handling and provides for speedy, accurate, and automatic stacking of the cloth as it comes off the assembly line.

An object of the invention is to provide a novel device for stacking cloth from a processing line at a predetermined position.

A more specific object of the invention is to provide a means whereby the cloth is automatically wedged between a plurality of belts on the processing line and then released and stacked at a poistion where the belts are spread apart.

Other objects and advantages will become more apparent from a study of the following description taken with the accompanying drawings wherein:

FIG. 1 is a perspective view showing a part of a fabric processing line with the wedging element of the present invention at the end of the line;

FIG. 2 is a side elevational view with a schematic showing of the control circuit; and

FIG. 3 is an enlarged front elevational view of the wedging element in instantaneous contact with the cloth and conveyor belts.

Referring more particularly to the drawing, FIG. 1 shows a table 1 which supports a sewing machine 2 and a series of conveyor belts, generally denoted by numeral 3, which are driven by pulleys 5 and 6 which, in turn, are driven by motor 7. Pieces of cloth 8 are carried, by a plurality of belts 4, to the sewing machine 2 and then to a wedging element, generally denoted by numeral 9 embodying the present invention. Wedging wheel 10 is rotatably mounted on arm 11 which, in turn, is rigidly connected to shaft 12 which is supported by bearing 14 and driven by solenoid 13. As shown in FIG. 2, solenoid 13 is connected by a pair of conduits 20 to a photo-electric cell, trip switch or other common cloth sensing means powered through electric supply lines 19 by a source of electric potential. Also shown is a fragmentary view of table 16 which receives, on its peripheral portion, the cloth as it is released underneath the procsesing line.

The release bar 17, as shown in FIG. 2 is fixed between the belts 4 so as to separate them and to release cloth 8 which had been previously wedged by wheel 10.

FIGURE 3 shows wedging element 9 in disengaged position after instantaneously engaging the cloth between the belts 4 and causing the lead end of the cloth to be pinched at 15 between adjacent belts 4.



In the operation of the invention, the cloth 8 proceeds through sewing machine 2, or other processing stations, to the end of the processing line where control device 18 senses the presence of the cloth and actuates solenoid 13 which partially turns shaft 12 sufficiently so as to cause wedging element 9 to depress briefly and force cloth 8 between belts 4, as shown in FIG. 3. As the cloth passes by the control 18, solenoid 13 is deenergized and wedging element 9 is retracted upwardly out of engagement with the belts until the next cloth reaches control 18.

The pinched cloth, since firmly pinched at 15 between the belts, then proceeds around the pulley 5 and under the processing line. At a predetermined position, release bar 17 is inserted between the belts 4 so as to spread them apart and release the pinch hold on cloth 8, allowing it to fall and stack on the periphery of table 16 which is positioned under the conveyor to receive the cloth. The table may be partially rotated after a predetermined pile of cloths has been attained for further processing or disposition of the piles.

In a situation where a less expensive system is desired, the control device 18 may be omitted and the wedging element operated by gravity.

While I have illustrated and described several embodiments of my invention, it will be understood that these are by way of illustration, and that various changes and modifications may be made within the contemplation of my invention and within the scope of the following claims.

I claim:

1. In a fabric processing line having a continuous belt and pulley for moving cloth through various processes, means for stacking cloth comprising the combination of a plurality of said belts in closely adjacent, side-by-side relationship, a wedging arm to wedge said cloth between said belts, and a release bar for separating said belts when beyond said pulley to release and stack said cloth at a predetermined position.

2. In the processing line of claim 1, together with control means to actuate said wedging arm in response to the presence of said cloth.

3. In the processing line of claim 1, together with light sensitive means responsive to the presence of said cloth for actuating said wedging arm.

4. In the processing line of claim 1, wherein said wedging arm is rotatably mounted so as to pinch said cloth between said belts, and wherein said control means includes a solenoid which is actuated by the presence of said cloth to rotate said arm to the cloth-wedging position.

5. In the processing line of claim 1, wherein said release bar is positioned underneath said belt and pulley for separating said belts so as to disengage said cloth therefrom so as to allow said cloth to fall and stack on a predetermined position under said belt.

6. In the processing line of claim 1, together with a rotatable table positioned below said belt and pulley so as to receive said cloth on a peripheral portion thereof as it is disengaged by said release bar.

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