

April 6, 1954

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2,674,023

SELVAGE EDGE STRAIGHTENER

Filed Jan. 30, 1952

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FIG. 2.

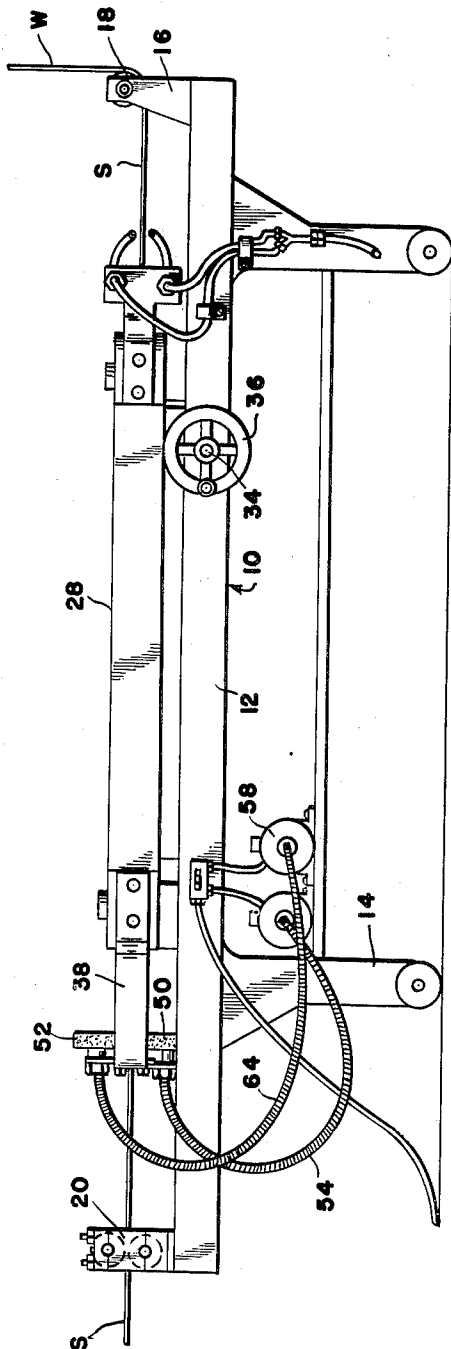


FIG. 5.

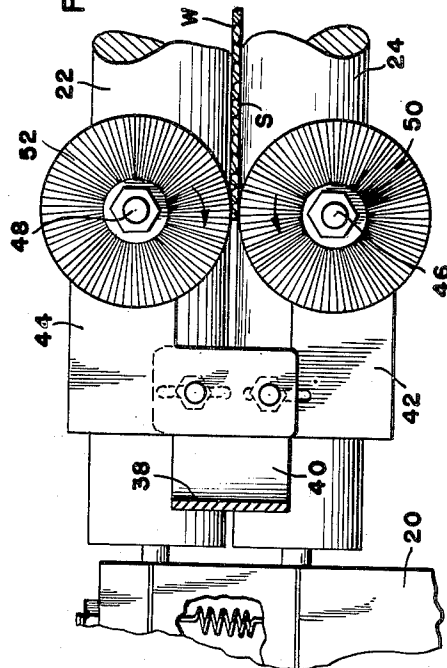
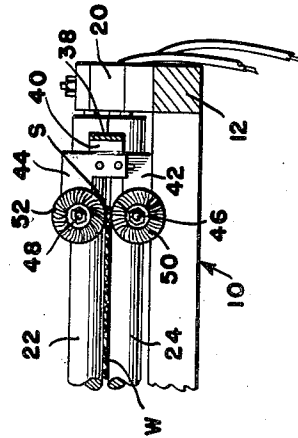


FIG. 4.



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2,674,023

SELVAGE EDGE STRAIGHTENER

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Application January 30, 1952, Serial No. 269,064

1 Claim. (Cl. 26—57)

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The present invention relates to a fabric finishing machine and more particularly to a finishing machine of the type in which a strip of fabric having selvages adjacent its longitudinal side edges moves lengthwise in a rectilinear path and selvage engaging and holding elements move in elongated closed paths adjacent the side edges for engaging the selvages and condensing the fabric laterally as it moves lengthwise.

The primary object of the present invention is to straighten the selvages immediately prior to their engagement by selvage engaging and holding elements and then subsequently to straighten the selvages after they pass beyond the selvage engaging and holding elements.

Another object of the present invention is to apply positive mechanical force on the selvages to straighten them prior to their engagement by the selvage engaging and holding means and to apply a yielding selvage straightening force on the selvages after their disengagement by the selvage engaging and holding means.

The above and other objects may be attained by employing this invention which embodies among its features while moving lengthwise a strip of fabric having selvages extending along opposite longitudinal side edges through a zone in which the fabric is subjected to lateral condensation, applying to the selvages immediately prior to their entrance into the zone positive mechanical effort to straighten them, and applying yielding effort to the selvages immediately after they leave the zone to straighten them.

Other features include rotary brushes mounted adjacent opposite side edges of the strip of fabric for rotation about axes which lie substantially parallel thereto which brushes engage opposite sides of the selvages, and means to rotate the brushes on opposite sides of the selvages in opposite directions.

Still other features include means mounted adjacent opposite side edges of the strip of fabric for directing air jets against opposite sides of the selvages.

In the drawings:

Figure 1 is a plan view of a fabric finishing machine embodying the features of this invention.

Figure 2 is a side view of the machine illustrated in Figure 1.

Figure 3 is a transverse sectional view taken substantially on the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view taken substantially on line 4—4 of Figure 1, and

Figure 5 is an enlarged fragmentary sectional view taken substantially on line 5—5 of Figure 1.

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Referring to the drawings in detail, an elongated rectangular frame 10 is supported on side bars 12 which have attached thereto longitudinally spaced legs 14. Mounted in upwardly extending pedestals 16 carried by the side bars 12 adjacent one end of the frame 10 for rotation about a transversely extending horizontal axis is a guide roller 18. Mounted on the side bars 12 adjacent the ends thereof remote from the guide roller 18 are pedestals 20, and rotatably mounted for rotation about vertically spaced horizontal axes are tension rollers 22 and 24. A fabric strip W having selvages S extending longitudinally along opposite side edges is threaded beneath the guide roller 18 and extends horizontally above the frame 10 and between the tension rollers 22 and 24.

Pivotally mounted as at 26 on the frame 10 for movement in horizontal arcuate paths adjacent the selvages S are elongated arms 28 carrying adjacent opposite ends guide sprockets (not shown) around which are trained endless chains 30 carrying outwardly extending selvage engaging and holding elements 32 which move with the chains 30 in closed paths and are adapted to engage and hold the selvages S to condense the filling of the fabric strip as it is moved in the rectilinear path between the rollers 18, 22 and 24. The arms 28 are held at selected angles to the selvages of the fabric strip by suitable adjusting screws 34 which are conventionally turned by hand wheels 36.

The structure so far described is conventional in cloth finishing machines and forms no part of this invention.

Experience has taught that in finishing fabric strips the selvage engaging and holding elements of the finishing machines will not operate satisfactorily unless the selvages are straight and smooth, and in order to straighten the selvages S of the strip W, I secure to the arms 28 adjacent one end of the frame 10 longitudinally extending brackets 38 carrying adjacent their ends remote from the arms 28 horizontal extensions 40 which extend inwardly toward the fabric strip W. Adjustably carried by the extensions 40 are downwardly and inwardly extending supports 42 and adjustably mounted on the extensions 40 are upwardly and inwardly extending supports 44. Stub shafts 46 and 48 are mounted in the supports 42 and 44 for rotation about vertically spaced horizontal axes which lie substantially parallel to the longitudinal axis of the fabric strip W and directly above and below the selvages S thereof. Circular brushes 50 and 52 are mounted on the respective shafts 46 and 48 for rota-

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tion therewith and engagement with the selvages S as will be readily understood upon reference to the drawing. The stub shafts 46 on opposite sides of the frame 10 are connected respectively by flexible shafts 54 and 56 to opposite ends of the drive shaft of a prime mover 58 and connecting the stub shafts 48 with opposite ends of a prime mover 60 are flexible shafts 62 and 64 respectively. It will thus be seen that the rotary brushes driven by their respective prime movers will rotate in opposite directions.

Carried by and extending longitudinally from the arms 28 adjacent the ends thereof remote from the brackets 38 are bracket arms 66 carrying intermediate their ends vertically spaced horizontally extending members 68 and 70 which project inwardly toward the strip W and above and below the selvages S. Horizontally extending vertically spaced pipes 72 are carried by the horizontally extending members 68 and the bracket arms 66 and similar pipes 74 are carried by the bracket arms 66 and horizontally extending members 70. These pipes extend substantially perpendicular to the strip W and are provided at their adjacent ends with return bends 76 and 78 respectively which form discharge nozzles 80 and 82 above and below the selvages S. The ends of the pipes 72 and 74 remote from the return bends 76 and 78 are connected through suitable flexible conduits 84 to any suitable source of fluid pressure.

In use it is evident that a strip W of fabric having selvages S extending along opposite longitudinal edges when moved lengthwise between the rollers 18, 22 and 24 will be engaged by the brushes 52 and with the brushes rotating as suggested by the arrows in Figures 4 and 5, the selvages S will be straightened and smoothed. The air jets issuing from the nozzles 80 will likewise act on the selvages S to straighten them. Hence

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both a mechanical and fluid straightening of the selvages S will be effected as the strip W is moved lengthwise through the machine and such straightening of the selvages contributes to the smooth operation of the selvage engaging and holding elements.

Changes in details and construction may be made without departing from the spirit of the invention.

What is claimed is:

The method of treating fabric while finishing it which includes while moving lengthwise a strip of fabric having selvages extending along opposite longitudinal side edges through a zone in which the filling of the fabric is subjected to condensation; the applying to the selvages immediately adjacent one end of the zone positive mechanical effort in a direction opposite that in which the condensation of the filling takes place, and the applying to the selvages adjacent the opposite end of the zone yielding effort in a direction opposite that in which the condensation of the filling takes place.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,902	Tillou	Dec. 14, 1840
308,081	Lodge	Nov. 18, 1884
562,831	Iles	June 30, 1896
1,385,746	Hogan	July 26, 1921
1,950,578	Stoica	Mar. 13, 1934
2,114,716	Kunzle	Apr. 19, 1938
2,434,111	Hawley, Jr. et al.	Jan. 6, 1948
2,489,275	Dungler	Nov. 29, 1949
2,581,821	Sutton	Jan. 8, 1952

FOREIGN PATENTS

Number	Country	Date
476,550	Great Britain	Dec. 10, 1937