W. G. MAXWELL & E. J. C. CHRISTIE.

MANUFACTURE OF TEXTILE BELTING.

APPLICATION FILED FEB. 12, 1912.

1,041,130. Patented Oct. 15, 1912.

Fig. 1.

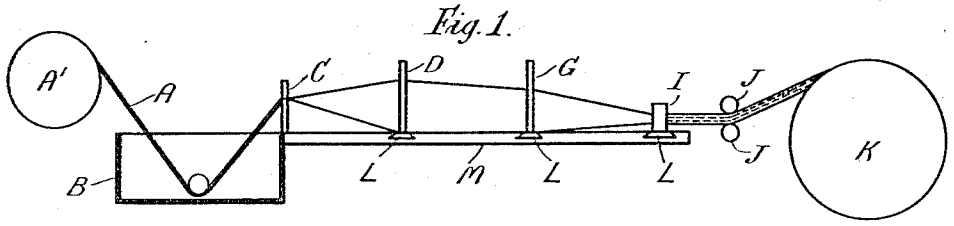


Fig. 2.

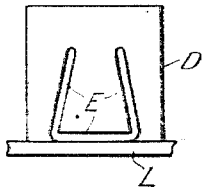


Fig. 3.

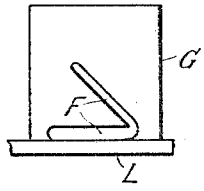


Fig. 4.

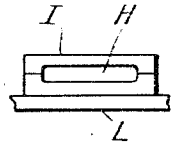


Fig. 5.

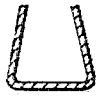


Fig. 6.

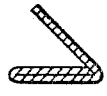
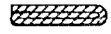


Fig. 7.



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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF TEXTILE BELTING.

1,041,130. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed February 12, 1912. Serial No. 677,209.

To all whom it may concern:

Be it known that we, WILLIAM GILMOUR MAXWELL and EDWARD JAMES CRAIG CHRISTIE, subjects of the King of the United Kingdom of Great Britain and Ireland, and residing at Edinburgh, Scotland, and Leith, Scotland, respectively, have invented a certain new and useful Improvement in the Manufacture of Textile Belting, of which the following is a specification.

This invention relates to improvements in the art of manufacturing multiple-ply machine belting from textile fabrics by treating such fabrics with cementing composition, then drawing such fabrics through a number of folding dies of different form and pressing the folds together between rollers or the like.

According to the present invention, the coated or saturated fabric is drawn through a series of consecutively graded dies arranged immediately one behind the other with no intervening rollers or the like, the fabric emerging from the last die of the series as a complete belt, as hereinafter particularly described.

In the accompanying drawings Figure 1 is a part elevation part longitudinal vertical section showing diagrammatically, by way of example, apparatus for manufacturing a three-ply belt; Figs. 2, 3 and 4 are detail views of die plates or folders employed in manufacturing the belt; and Figs. 5, 6 and 7 are cross sections of the belt as it passes through the die plates or folders shown in Figs. 2, 3 and 4, respectively.

Referring to the drawings, a suitable width of fabric A, such as canvas webbing, is used to produce, when folded, a belt of the desired width, the flat web being run or drawn from a roll A^1 through a bath B containing hot fluid or viscous composition made up of glue, raw linseed oil, yellow soap and sulfate of copper dissolved in or mixed with water. By preference, the composition is made up of 1 cwt. of glue, ½ cwt. of raw linseed oil, 8 lbs. of yellow soap, 4 lbs. of sulfate of copper and 1 cwt. of water.

On emerging from the bath B the saturated or coated web passes between scrapers C (Fig. 1) which remove superfluous composition and thence it is carried through an upright die plate or folder D (Figs. 1 and 2) having in it a slot E of channel shape which serves to fold in flange-like fashion the two upright edges of the web, as shown in Fig. 5. The web thus partially folded then enters and passes through a V-like slot F in a second die plate or folder G (Figs. 1 and 3) whereby one of the flange-like edges is folded close against the central part of the width of the web while the other flange-like edge is left at an acute angle to the doubled part, as shown in Fig. 6. The fabric thence passes through a horizontal slot H of a third die plate or folder I (Figs. 1 and 4) which serves to lay down the inclined part or last fold of the fabric which thence passes as a complete belt, (Figs. 1 and 7) preferably between a pair of drawing rolls J and around a drum K.

To improve the cementing composition, increase its waterproof qualities and render it practically heat proof, the completed belt is immersed for a short time in a bath containing formaldehyde and water or subjected to the action of formalin vapor and then it may be run through a bath containing soap and water and a solution of sulfate of copper to improve its appearance.

The die plates or folders are preferably carried on a laterally movable slide L on a platform or table M to permit of ready self alinement.

What we claim is:—

The herein described process of manufacturing, at a single continuous operation, a laminated belt composed of three plies or layers of substantially equal width, said process consisting in applying an adhesive cementing liquid to a strip of textile fabric, then immediately drawing said strip

through a number of consecutively graded and suitably formed apertures so as to fold one side of approximately one third of the width of said strip over upon the central portion thereof, and thereafter to fold the opposite side of approximately one third of the width of said strip over upon the first-named side, and finally pressing the folded plies together.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM GILMOUR MAXWELL.
EDWARD JAMES CRAIG CHRISTIE.

Witnesses:
WALLACE CRANSTON FAIRWEATHER,
JOHN MCCLEARY.