Aug. 13, 1929. A. P. LEWIS 1,724,208

MEANS FOR TRIMMING SELVAGE EDGES OF RUBBERIZED FABRICS

Filed April 12, 1928 2 Sheets-Sheet 1

Fig. 1.

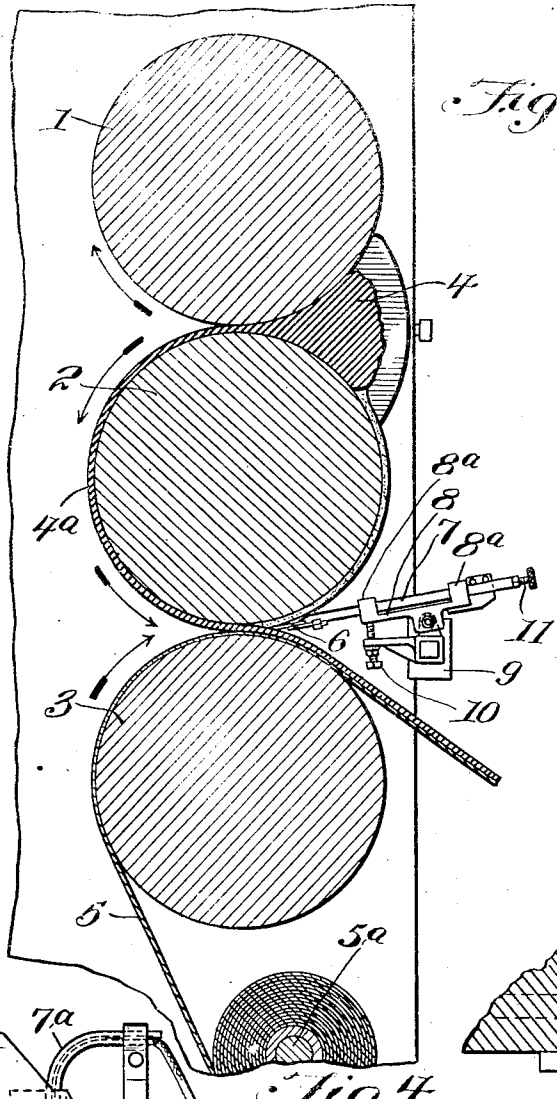


Fig. 5.

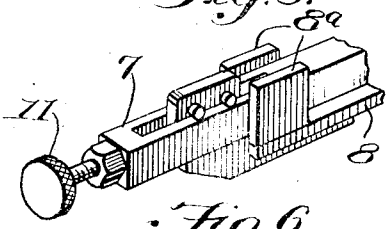


Fig. 6.

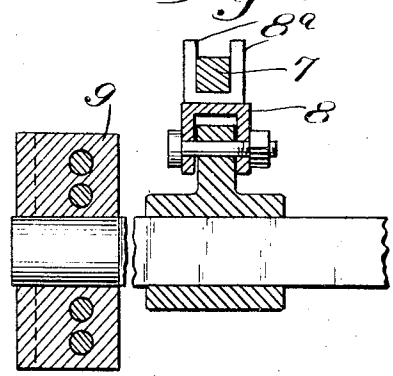
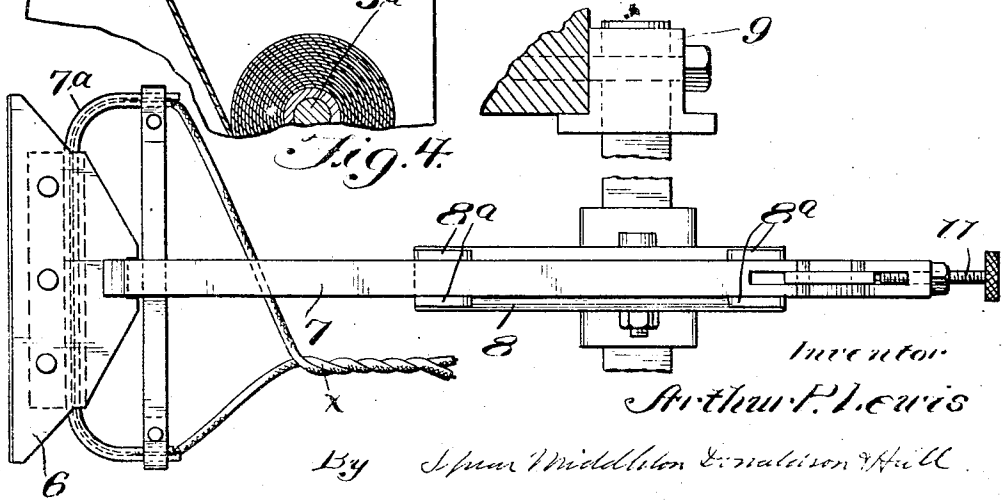


Fig. 4.



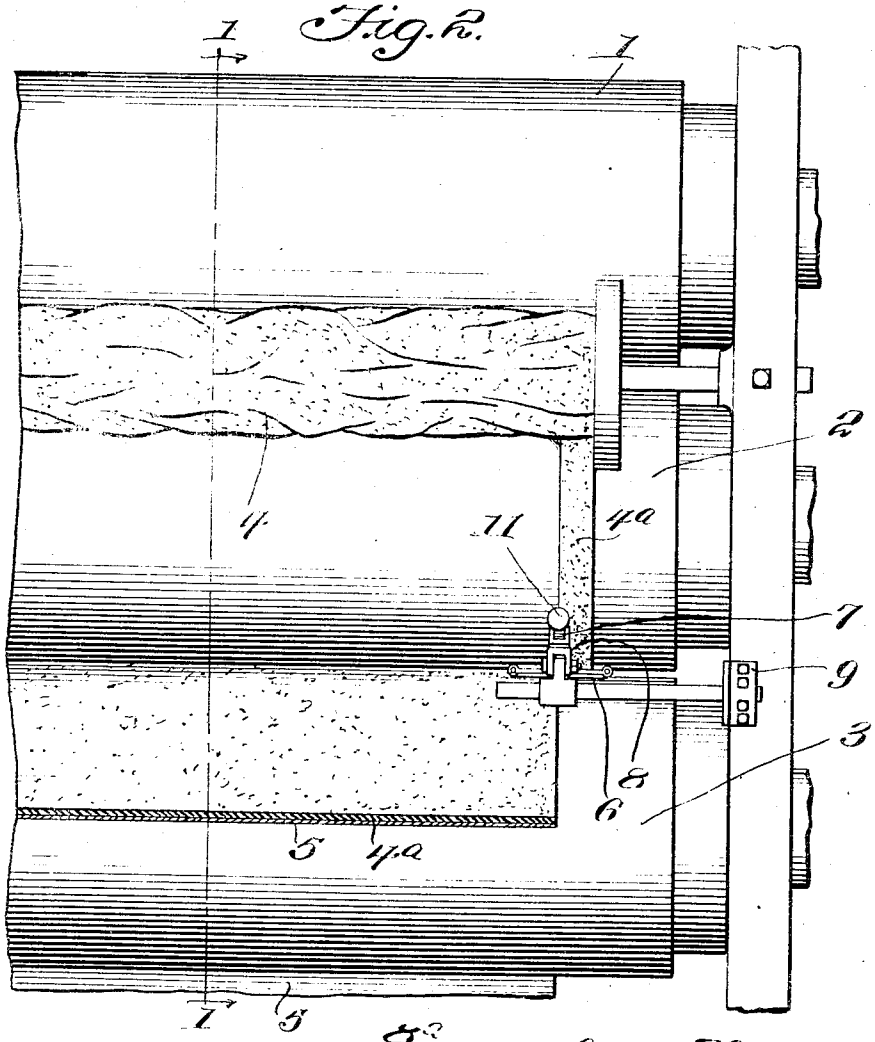
Inventor
Arthur P. Lewis
By Spear Middleton Donaldson & Hall
Attorneys

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MEANS FOR TRIMMING SELVAGE EDGES OF RUBBERIZED FABRICS

Filed April 12, 1928 2 Sheets-Sheet 2

Fig. 2.



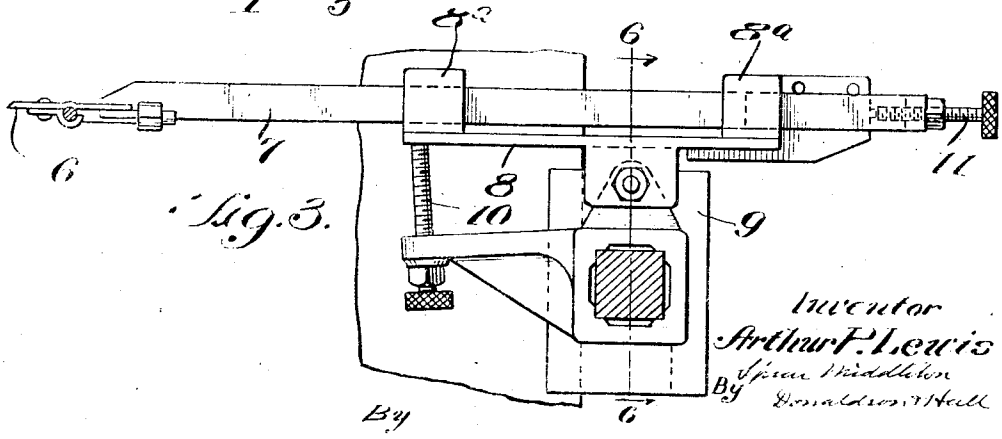


Fig. 3.

Inventor
Arthur P. Lewis
By Spear Middleton
Donaldson & Hall
Attorneys

By

Patented Aug. 13, 1929. 1,724,208

UNITED STATES PATENT OFFICE.

ARTHUR P. LEWIS, OF AKRON, OHIO, ASSIGNOR TO THE MILLER RUBBER COMPANY, OF AKRON, OHIO, A CORPORATION OF OHIO.

MEANS FOR TRIMMING SELVAGE EDGES OF RUBBERIZED FABRICS.

Application filed April 12, 1928. Serial No. 269,589.

My said invention relates to means for trimming or cutting what is known as the rubber selvage edges of rubber coated fabric.

As is well known to those skilled in the art, when applying a coating of rubber to fabric webs by the use of the customary calender, the rubber is sheeted by the upper rolls from a bank of rubber in the bight of the rolls, which sheet adheres to the lower roll (for example) and is carried around therewith and superposed on the fabric which is passed through between said lower roll and an underlying roll. It is customary to use guides or dams on opposite sides of the bank of rubber to confine the spread thereof and these guides must be set further apart than the width of the fabric to insure the complete coating of the latter, due to the fact that the edges of the fabric do not travel always in a straight line, and means must be provided for trimming off the rubber which projects beyond the margins of the fabric. Attempts heretofore made to accomplish this have proved unsatisfactory, due to the difficulty of providing cutting means which would accurately follow the more or less sinuous or uneven edge of the fabric.

My means aims to accomplish this result in a simple, economical and efficient manner, the trimming being effected exactly at the edge of the fabric, irrespective of any and all variations therein.

The invention includes the novel means hereinafter described and defined by the appended claims.

In the accompanying drawings:

Figure 1 is a sectional view showing in a conventional manner a sufficient portion of an ordinary calender to illustrate the invention, and

Fig. 2 is a rear elevation of the same, showing however one side only, the other being a duplicate.

Fig. 3 is a detail view of the knife carrying means in side elevation with the supporting bar shown in section.

Fig. 4 is a plan view of the same partly broken away and showing a portion of the calender frame in section.

Fig. 5 is a perspective detail showing the means for effecting longitudinal adjustment of the knife holder, parts being broken away.

Fig. 6 is a section on line 6—6 of Fig. 3 also partly broken away.

Referring by reference characters to this drawing, 1, 2 and 3 designate respectively the upper, middle and lower rolls of a three roll calender selected as one convenient to illustrate. 4 designates the bank of rubber which, by the rotation of the rolls, is formed into a sheet 4^a which passes around the roll to the lower roll 3, where it is superposed on the fabric web 5, which is fed from a suitable supply drum (or other source) indicated conventionally at 5^a, and led between the rolls 2 and 3, to receive the rubber coating. 6 designates a thin bladed knife having a straight edge disposed in proximity to the bight of the rolls and parallel with and in close juxtaposition to the coated face of the fabric as it issues from the bight of the rolls, the fabric being led under the knife and to a suitable point where it may be wound on a drum with an interposed liner. Such winding means being common in the art, are not illustrated herein.

The blade is preferably disposed at an angle to the fabric and is carried by a knife holder 7 having heating means incorporated therein or associated therewith, the blade being heated by conduction.

A convenient manner of heating the knife is to make the part 7^a of the holder 7 in the form of a metal tube containing an insulated resistance element designed to be heated by the current from an ordinary lighting plant conducted thereto by a flexible cable x.

The knife blade is made of sufficient width as to always overlie the edge of the fabric. I have discovered that by so positioning a knife and leading the fabric beneath the same, the tendency of the rubber to cling to the roll 2 will cause it to be severed from the fabric exactly at the edge thereof and the line of severance will accurately follow the edge of the fabric, irrespective of the deviations thereof from a straight line.

The severed rubber is conducted back by the ascending side of the roll 2 directly to the bank of rubber and is merged therein, thereby avoiding any waste.

The holder 7 is supported by a pivoted carrier 8 articulated on a bracket 9 carried by the side frame of the calender and is provided with means for accurately adjusting its edge towards and from the rubber-coated face of the fabric, which means may take the form of adjusting screw 10 by which the forward portion of the carrier may be vertically adjusted.

The holder 7 is slidably supported by bracket 8 by means such as guides 8^a and means is provided for moving the holder 7 in a rectilinear path which may take the form of adjusting screw 11. Thereby the knife edge may be adjusted towards or from the bight of the rolls.

Having thus described my invention, what I claim is:

1. The combination with the rolls of a calender adapted for applying a coating of rubber to fabric, of a knife having a straight edge disposed in proximity to and in parallelism with the bight of the rolls and in juxtaposition and parallelism to the rubberized surface of the calender.

2. Apparatus according to claim 1 having means for heating the knife.

3. Apparatus according to claim 1 having means for electrically heating the knife.

4. Apparatus according to claim 1 having means for adjusting the edge of the knife in a rectilinear path and also in a plane perpendicular thereto.

5. The combination with the rolls of a calender adapted for applying a coating of rubber to fabric, of a bracket carried by the calender frame, a carrier pivotally supported thereby to pivot about an axis parallel to the axes of the rolls, means for adjusting said carrier about its pivotal axis, a knife holder supported by the carrier to move in a rectilinear path towards and from the bight of the rolls, means for adjusting the holder on the carrier, and a knife supported by said carrier and having a straight edge disposed in juxtaposition to and in parallelism with the coated face of the fabric also in parallelism with the bight of the rolls and overlying the edge of the fabric and projecting a material distance on each side thereof.

In testimony whereof I affix my signature.

ARTHUR P. LEWIS.