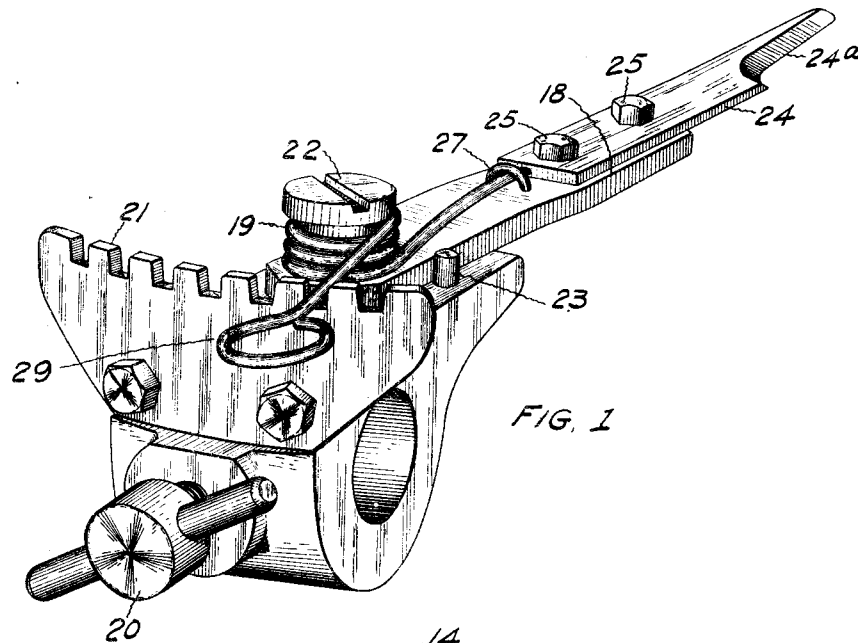
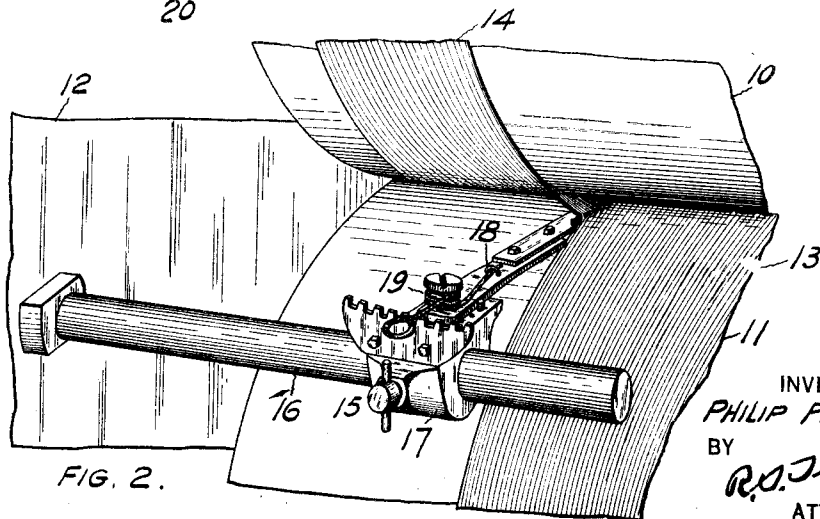


Dec. 6, 1927.

P. PAPPANO
SELVAGE TRIMMER
Filed Nov. 4, 1922

1,652,149



INVENTOR
PHILIP PAPPANO
BY
R. D. Ingram
ATTORNEY

UNITED STATES PATENT OFFICE.

PHILIP PAPPANO, OF AKRON, OHIO, ASSIGNOR TO THE GOODYEAR TIRE & RUBBER COMPANY, OF AKRON, OHIO, A CORPORATION OF OHIO.

SELVAGE TRIMMER.

Application filed November 4, 1922. Serial No. 599,127.

My invention relates to gum selvage trimmers and it particularly relates to trimmers for use with machines for calendering rubber onto fabric.

5 In the manufacture of rubberized fabric for various industrial uses, the fabric is passed between heated rollers which impress a coating of rubber gum into the surface of the fabric. Considerable quantity of rubber
10 gum extends beyond the edge of the fabric in passing thru the rollers, and it is necessary to trim this material as closely to the edge of the fabric as can consistently be accomplished without removing any of the gum
15 from the surface of the fabric adjacent the edge and without wasting gum by leaving a margin beyond the edge of the fabric.

It has been previously proposed to remove this gum selvage by means of various
20 elaborate machines that were caused to follow the edge of the fabric by pilot motors or other delicate machines. These machines have never proved reliable although very expensive and delicate mechanisms have been
25 tried out.

In accordance with my invention, I provide an arm that swings in the plane of the fabric that is being calendered and that is urged to close cooperation with the strip of
30 fabric by means of a spring that forces the cutting edge of my selvage trimmer laterally against the edge of the fabric from which the gum selvage is being trimmed.

The object of my invention is to provide a
35 selvage trimmer that will leave a smooth and clean line of separation between the edge of the fabric and the gum strip that is removed from the fabric.

Another object of my invention is to provide a selvage trimmer that can be adjusted
40 laterally for any width of fabric that can be treated by the calender rolls and which will positively follow all variations in the edge of the fabric.

45 An additional object of my invention is to devise a simple machine which is inexpensive to manufacture, which requires little or no attention after it is once adjusted, and which may readily be installed for operation on
50 any calendering machine.

Fig. 1 of the accompanying drawings is a detailed view in perspective of a gum selvage

trimmer constructed in accordance with my invention; and

Fig. 2 shows the gum selvage trimmer of 55 Fig. 1 attached to a calender and engaged in removing the selvage gum from the edge of the fabric.

Referring particularly to the figures of the drawing, heated calender rolls 10 and 11, 60 portions of which are broken away, are supported in a stationary frame 12 in accordance with customary practice. A sheet of fabric 13 that is being surfaced with gum is shown as passing thru the rolls and a strip of gum
65 selvage 14 is shown as being severed from the strip of fabric 13 by means of the selvage trimmer 15.

The selvage trimmer 15 is mounted on a bracket 16 that is secured to the frame 12. 70 A carriage 17, that may be adjusted longitudinally of the bracket 16, has an arm 18 swingably attached thereto for movement in a plane tangential to the surface of the calender roller 11. A helical spring 19 is
75 mounted on the carriage 17 and is attached to the arm 18 to urge the arm 18 toward the edge of the fabric 13.

A more detailed inspection of the apparatus shows that the carriage 17 is equipped 80 with an adjustment screw 20 that secures the carriage 17 in its various positions on the bracket 16. The carriage 17 also has a rack 21 mounted thereon for use in the adjustment of the spring tension that is imposed 85 on the knife arm 18. A pivot pin 22, which has an enlarged barrel portion that is adapted to support the helical portion of the spring 19 serves to swingably attach the arm 18 to the carriage 17. A pin 23, which may 90 or may not be necessary according to the installation, is mounted on the carriage and adapted to limit the movement of the arm 18 to a predetermined innermost position. The extremity of the arm 18 has a knife 24 that 95 has an angular cutting edge 24^a formed on its extremity. The edge is sufficiently sharp to sever the strip of excess gum from the edge of the fabric and leave a clean edge. In some instances it may be desirable to ad- 100 just the tip of the blade 24 to bear against the surface of the calender roll and in other instances the end of the blade can be lifted from the roll a sufficient degree to provide a

clearance between the calender roll and the blade.

The knife 24 is made removable from the arm 18 in order that it may be readily replaced or resharpened when it becomes dull. The lugs 25 serve to rigidly connect the blade to the supporting arm 18.

The L-shaped cutting edge 24^a of the tool lies in the plane of the underneath surface of the blade 24, which plane is also substantially tangential to the calender rolls at their point of contact. The cutting edge is formed at a rather blunt angle by grinding the tool laterally and by leaving a sharp edge on the lower-most face of the blade.

The adjustable carriage 17 that pivotally supports the blade 24 is so supported relative to the calender roll that the body of the blade lies in the above described tangential plane and the blade is swung in this plane about the pivot 22, thereby maintaining the plane of the cutting edge at all times during the operation of the tool substantially tangential to the calender rolls at their line of contact.

One end of the spring 19 extends under the U-member 27 that secures the end of the spring in operative relation with the swingable arm 18. The other end of the spring 19 is formed into a loop 29 by means of which the spring may be latched into a series of teeth that are formed in the upper edge of the rack 21 to adjust the spring tension.

A selvage trimmer of the type described may readily be installed on a calender machine by mounting the bracket 16 on the support for the calender rolls. The selvage trimmer 15 may then be mounted on this arm 16 and positioned longitudinally thereof to any convenient point that is substantially in the direction of movement of the fabric at the point where it is desired to sever the strip of rubber gum from the edge of the fabric.

The tension that is imposed on the arm 18 may then be adjusted by altering the position of the arm 29 of the helical spring until a clean edge is obtained between the fabric and the gum strip.

The stop 23 is not essential to the successful operation of my machine since I have operated many trimmers of this type without a stop of any kind, but in some instances this stop may be desirable to limit the inward movement of the knife edge. Although I have described only a single modification of my invention, it is obviously not so limited in scope and I desire, therefore, that only such limitations shall be imposed as are indicated in the accompanying claims.

What I claim is:

1. The combination with a calendering machine having a plurality of rolls for treating sheet material, of a trimming device

comprising a blade extending substantially oppositely to the direction in which the material to be trimmed is moved and having its cutting edge disposed substantially in a plane parallel to the axes of the rolls.

2. The combination with a calendering machine having a roll for treating sheet material, of a trimmer embodying a stationary bracket, a carriage mounted on the bracket, a trimming knife mounted on the carriage and adapted to swing laterally of said roll and extending substantially tangentially thereto, and means adapted to resiliently hold the edge of the knife against the edge of the material.

3. In a calendering machine for treating fabric, the combination with a calender roll, of a gum selvage trimmer comprising a bracket, a carriage adjustably mounted thereon, a knife pivotally mounted on said carriage to swing in a plane tangent to the roll, and resilient means urging the cutting edge of said knife against the edge of the fabric.

4. In a calendering machine for treating fabric, the combination with a calender roll, of a gum selvage trimmer comprising a bracket, a carriage slidably mounted thereon, means for positively locking said carriage to said bracket, an arm pivotally mounted on said carriage and adapted to swing in a plane tangential to the surface of the roll, a blade removably mounted on said arm, a helical spring mounted on the pivotal support for said arm and having one end secured to said arm and the other end extended to form an adjusting handle, and a rack adapted to provide various degrees of spring tension mounted on the carriage.

5. In a calendering machine for treating fabric, the combination with a calender roll, of a gum selvage trimmer comprising a bracket, a carriage slidably mounted thereon, means for positively locking said carriage to said bracket, an arm pivotally mounted on said carriage and adapted to swing in a plane tangential to the surface of the roll, a blade removably mounted on said arm, a helical spring mounted on the pivotal support for said arm and having one end secured to said arm and the other end extended to form an adjusting handle, a rack carried by the carriage adapted to provide various degrees of spring tension for the arm, and a stop adapted to limit the movement of the arm.

6. In a calendering machine for treating fabric, the combination with a calender roll, of a gum selvage trimmer comprising a bracket, a carriage slidably mounted thereon, means for locking said support in a plurality of operating positions, an arm swingably connected to said carriage, a spring adapted to urge the cutting edge of the knife against the edge of the fabric, and a rack

mounted on said carriage for adjusting the tension of said spring.

7. In a calendering machine for treating fabric, the combination with a calender roll, of a gum selvage trimmer comprising a bracket, a carriage adjustably mounted thereon, means for locking said carriage in a plurality of operating positions, a blade pivotally mounted on said carriage to swing in a plane tangential to said roll, resilient means adapted to maintain the cutting edge of the blade against the edge of the fabric, and means for adjusting the pressure imposed by the resilient means.

8. In a calendering machine for treating fabric movable therethrough, the combination with a calender roll, of a gum selvage trimmer comprising a bracket, a carriage adjustably mounted thereon, a blade pivotally mounted on said carriage to swing in a plane tangential to said roll, resilient means for urging the cutting edge of the blade in a direction transversely to the direction of movement of the fabric, and means for adjusting the tension of said resilient means.

9. The combination with a calender machine that is adapted to treat sheet material, of a gum selvage trimmer comprising a blade pivotally mounted to swing in a plane tangent to the material at the point of contact of the blade with the material, and resilient means adapted to urge the cutting edge of the blade laterally against the edge of the material.

10. In a calendering machine, the combination

with a calender roll of a selvage trimmer having a cutting tool pivotally mounted to swing in a plane tangential to the surface of the roll, the cutting edge being formed on one side of the tool, and means adapted to resiliently urge the cutting tool laterally against the edge of the fabric.

11. In a calendering machine, the combination with a calender roll, of a selvage trimmer having a cutting tool pivotally mounted to swing in a plane tangential to the surface of the roll, a cutting edge formed on one side of the tool, means adapted to resiliently urge the cutting tool laterally against the edge of the fabric, and means for adjusting the tension of said resilient means.

12. In a calendering machine, the combination with a calender roll of a gum selvage trimmer comprising a stationary supporting bracket, a carriage adjustably mounted on said bracket, a knife pivotally supported on the carriage for movement in a plane substantially parallel to the axial direction of the roll and a spring adapted to urge the blade laterally into contact with the edge of the fabric.

13. In a calendering machine the combination with a calender roll of a gum selvage trimmer having a cutting edge lying in and mounted to swing in a plane that is tangential to the surface of said roll.

In witness whereof, I have hereunto signed my name.

PHILIP PAPPANO.