R. S. TROGNER.

SELVAGE TRIMMER.

APPLICATION FILED JULY 3, 1918.

1,319,366.

Patented Oct. 21, 1919.

FIG. 1.

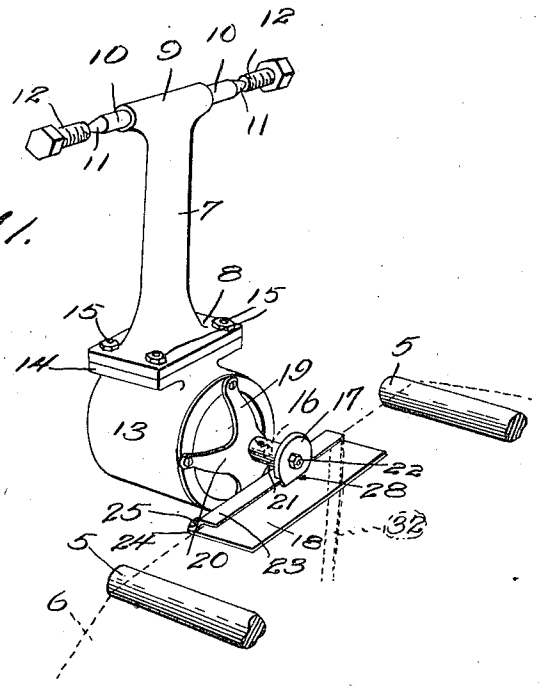


FIG. 2.

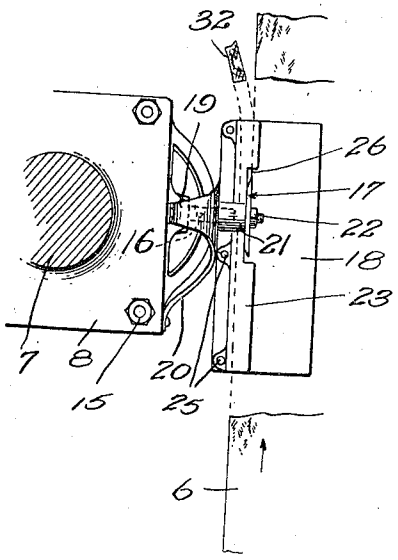


FIG. 3.

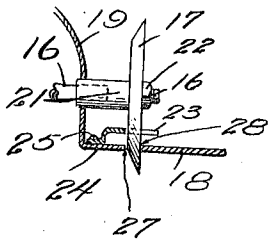
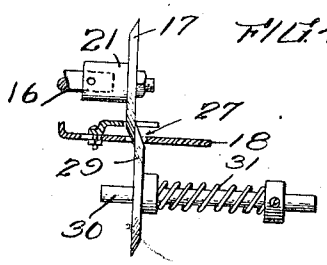


FIG. 4.



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UNITED STATES PATENT OFFICE.

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SELVAGE-TRIMMER.

1,319,366. Specification of Letters Patent. Patented Oct. 21, 1919.

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To all whom it may concern:

Be it known that I, ROLAND S. TROGNER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Selvage-Trimmers, of which the following is a specification.

My present invention relates to devices for trimming the selvage edges from a strip of moving fabric and more specifically relates to an apparatus comprising an oscillatably mounted knife with which there is associated a guide in contact with the selvage edge of the fabric to be trimmed.

As it is a matter of frequent occurrence that the fabric whose selvage is to be removed comes to hand in rolls of uneven winding it has been one of the principal objects of the invention to provide novel and improved means of an automatically variable nature which will respond readily to any variations in the meandering edge of the fabric.

It is a further object of the invention to provide a combination of knife and guide means which are fixed with relation to each other in such manner that a movement of the guide by contact of the variable selvage edge therewith will maintain the knife in such relation to said variable edge as to trim a uniform width of selvage therefrom.

It is a still further object to provide a simple selvage trimming mechanism consisting of a motor mounted for oscillation in a vertical plane and in a path at right angles to the selvage, and accompanied by a continuously driven knife and a guide which is coupled to the motor to control the position thereof in its plane of oscillation with respect to the selvage edge of the fabric to be trimmed.

It is a still further object of the invention to utilize the unitary mounting of motor, knife and guide in such manner that the weight of the motor, and its tendency to assume a plumb position, will maintain the guide in positive contact with the untrimmed selvage edge.

The above and additional objects of a similar nature, which will be hereinafter more specifically treated, are preferably accomplished by such means as are illustrated in the accompanying drawings, described in the following specification, and then more particularly pointed out in the claims which are appended hereto and form a part of this application.

With reference to the drawings, wherein there has been illustrated a preferred embodiment of the invention as it is reduced to practice, and throughout the several views of which, similar reference numbers designate corresponding parts:

Figure 1 is a view in perspective of the simple apparatus comprehended by this invention;

Fig. 2 is a broken plan view of the selvage trimming device;

Fig. 3 is a detail sectional view of a simple selvage knife; and Fig. 4 is a similar view of a pair of coacting cutter elements.

The apparatus consists simply of a motor carrying a direct-driven knife upon its armature shaft, a guide member secured to the motor, and means sensitively mounting the motor for oscillation in a vertical plane at right angles to the selvage edge of the moving fabric.

The latter is conducted over rolls 5 which may form a portion of a calendering machine for the fabric, if so desired; the fabric being indicated by the numeral 6. At any convenient point along the path of the moving fabric there is arranged a support arm 7 which has at its opposite extremities the base plate 8 and the T-head 9. Arranged in alinement, and projecting in opposite directions from the T head 9, are trunnions 10 which are provided with conical bearing extremities 11. These latter are receivable in axial bearing sockets provided in the extremities of adjusting bolts 12 which may be threadingly engaged with any suitable type of framework (not shown) for the support thereof at a proper position with regard to the fabric rolls 5.

The motor 13 is provided with a support plate 14 which is adapted to register with

the base plate 8 of the arm 7 and to be secured thereto by any desirable fastening means 15. The armature shaft of this motor, indicated by the numeral 16, carries a bearing member or sleeve 21, Figs. 1 and 2, against which the knife 17 may be adjustably held through the medium of the nut head 22, the latter being threaded over the extremity of the shaft 16 in the manner clearly illustrated.

The guide element provided by this invention preferably comprises a plate member 18, one edge of which is bent upward to provide the support arms 19 and 20 whereby the guide may be attached to the casing of the motor 13 in such manner that the guide plate 18 is projected into the path of the moving fabric 6 in parallelism to the motor shaft 16. The arm 19 of this guide plate is apertured to permit the projection of the motor shaft and sleeve therethrough.

The selvage guide of the device is formed by means of an angular member 23 which is supported in spaced parallel relation with the plate 18 through the medium of bent-down lugs 24 and fastening means 25 of the character shown. This guide member 23 is cut away in the manner denoted by the numeral 26, Fig. 2, to permit the projection of the knife 17 therethrough, while the base plate 18 of the guide member is slotted at 27 for a similar purpose, one edge of the slot 27 being formed as a cutting edge 28 to coact with the rotatable knife 17.

If desired, however, the modification disclosed in Fig. 4 may be resorted to, this modification consisting in the employment of a disk knife 29 to coact with the similar knife 17, such added knife projecting up through the slot 27 of the plate member 18 and being slidably mounted upon a shaft 30 and resiliently held by such means as a coil spring 31 in yieldable contact with the rotatable knife 17.

In mounting the device for operation care is taken to so place the adjustable bearing elements 12 with relation to the normal or average path of the fabric edge that with the guide member in contact with such edge the motor 13 is forced backward slightly out of a true vertical position. This arrangement assures a positive contact of the back of the guide member 23 with the selvage edge owing to the tendency of the motor arm in its sensitive mounting to resume its normal plumb position. After the fabric has once been threaded between the parallel members 18 and 23 of the guide it will be apparent that forward movement of the fabric, accompanied as it may be with lateral variations due to uneven winding on the fabric roll or sinuosities of the selvage edge itself, will result in corresponding lateral movement of the guide member and perforce of the motor and knife. In this manner the trimming mechanism will be shifted in accordance with the passage of the fabric in such manner as to trim a uniform width of selvage 32 from the fabric 6, irrespective of any irregularities of flow over the rolls 5.

It will be obvious that should the fabric to be trimmed have two selvage edges, a pair of the selvage trimming units which I have disclosed may be employed to work independently yet simultaneously upon the opposite fabric edges.

What I claim is:

1. In a selvage trimming mechanism, a trimming element; a motor for driving said element; a fabric guide supported from said motor; and means mounting said motor, guide and trimming element as a unitary group bearing an automatically retained relation to the edge of the fabric to be trimmed irrespective of the edge sinuosities of the latter.

2. In a selvage trimming mechanism, a trimming element; a fabric guide; a motor supporting the guide and driving the element and means suspending the motor for oscillation in such manner that said guide and trimming element are continuously engaged with the selvage of the fabric to be acted upon irrespective of the edge sinuosities of the fabric.

3. In a selvage trimming mechanism, a trimming element; a guide; a motor supporting the guide and driving the trimming element as a unitary group capable of oscillation at right angles to the path of the fabric to be trimmed, said suspension means acting to automatically maintain a positive contact between the guide and the fabric.

4. In a selvage trimming mechanism of the character described, a swingingly mounted supporting member; a motor attached to the free end of the supporting member; a trimming knife mounted on the motor shaft and driven thereby; a guide member adapted for contact with the edge of the fabric to be trimmed and supported from the motor, said swingingly mounted supporting member being in position to normally cause the motor to swing toward the edge of the fabric to be trimmed whereby the guide member is yieldably held in contact with the edge of the fabric.

5. A selvage trimmer of the character described, including a swingingly mounted supporting member, a motor mounted on the free end of the supporting member, a trimming knife mounted on and driven by the motor shaft, a guide member supported from the motor and arranged to engage with the edge of the fabric to be trimmed, said

guide comprising upper and lower plates adapted to receive between them the edge of the fabric, there being registering openings in the plate members whereby the trimming knife may pass through both of said members.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

ROLAND S. TROGNER.

Witnesses:
B. J. McDANEL,
E. C. LEADENHAM.