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A. E. RICHEY

CUTTING DEVICE FOR CALENDERS

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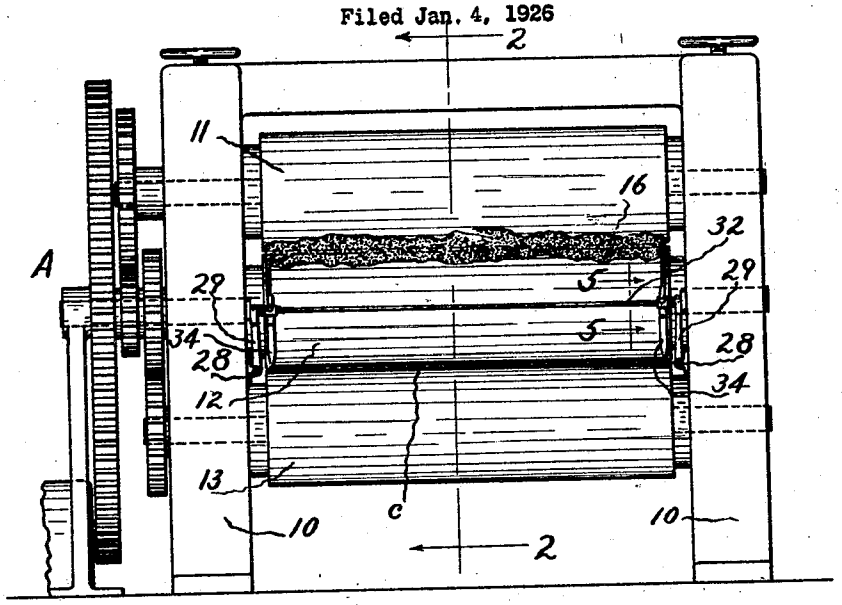


Fig. 1.

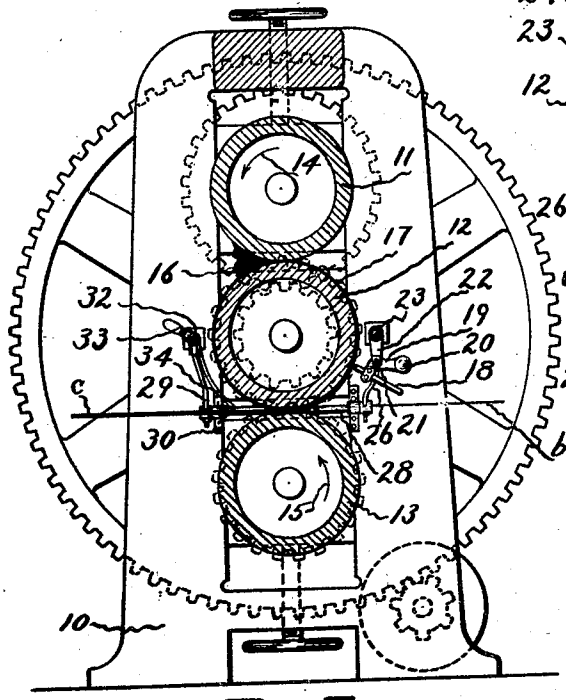


Fig. 2.

Fig. 3.

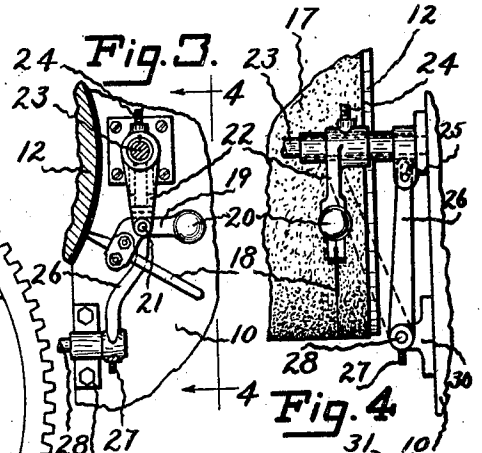


Fig. 4.

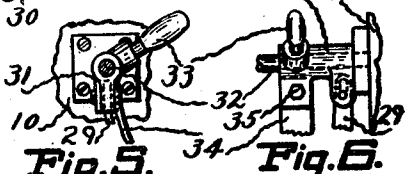


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

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CUTTING DEVICE FOR CALENDERS.

Application filed January 4, 1926. Serial No. 79,173.

This invention relates to improvements in cutting apparatus for calenders. While capable of general applications, its preferred use is found in the making of tires where large sheets of cord or fabric are coated with rubber by the use of calenders and where it is necessary to trim surplus rubber from the edge of the web of cord or fabric.

One object of this invention is to have the controllable means of adjusting the knife against the calender on the side of the calender most convenient to the operator. Another object is to have a means, by use of indicators, of knowing where to set the control handle. Other objects and advantages will appear in the following description and be pointed out in the appended claims.

Referring to the drawings,

Fig. 1 is a front view of a calender showing the knife control in position;

Fig. 2 is a view taken on line 2—2 of Fig. 1;

Fig. 3 is an enlarged view of the knife mechanism shown in Fig. 2;

Fig. 4 is a view taken on line 4—4 of Fig. 3;

Fig. 5 is a view taken on line 5—5 of Fig. 1; and

Fig. 6 is a front elevation of the parts shown in Fig. 5.

My invention has been illustrated as applied to a roll calender of an ordinary type, although it is adaptable to many other types. The calender has side frames 10 and rolls 11, 12 and 13, journaled in said frames and geared at A to rotate as shown by arrows 14 and 15.

The stock is sheeted between rolls 11 and 12 from a feed 16 into a wide strip 17 and trimmed on roll 12 by knives 18. Cord or fabric material *b* may be fed in between rolls 12 and 13, this material becoming coated with the sheet of rubber 17 to form a final composite sheet *c*. Knife 18 is secured in a pivoted arm 19, said arm having a weight in some convenient form, such as a ball 20 as shown, so as to hold the knife 18 against the calender roll 12 yieldingly.

The knife arm 19 is pivoted by pin 21 to a sleeved holder 22, said holder being keyed to a rod 23 and held in place by a set-screw 24. The sleeved holder 22 is loosely pinned at 25 to a lever 26, this lever being fixed by means of a pin or set-screw 27 to one end of a rod 28. A lever 29, similar to lever 26, is fixed at the other end of the rod 28, said rod being revolvingly held by means of brackets 30 to the side frame 10 of the calender, as shown in Fig. 2. Lever 29 is loosely pinned to a sleeved holder 31, this holder being free to slide on a rod 32 unless fastened in a desired position by a control handle 33, said handle being threaded through a boss on the holder 31 and adapted to act as a set-screw against the rod 32. When the control handle 33 is loosened and moved either one way or the other the knife 18, on the opposite side of the calender roll, will move correspondingly because of the similar levers 26 and 29.

An indicator 34, bent so as to be in line with the knife though on the opposite side of the calender roll, is fastened by means of a screw 35 to the holder 31, the indicator point coming in line with and close to the edge of the finished sheet of material. Although the cutting apparatus may be used without the aid of the indicator, in practice the use of said indicator is much preferred.

Having thus described my invention, I claim:

1. An apparatus used on roll calenders for cutting or trimming sheets of material, comprising means for holding a knife in a cutting position against one calender roll, a control handle held by adjustable means on the opposite side of said calender roll, and connecting means by which said control handle may regulate said knife.

2. An apparatus used on roll calenders for cutting or trimming sheets of material, comprising a knife held against a calender roll in a holder slidably mounted axially of said roll, a control handle mounted on a rod on the opposite side of the calender roll so as to slide axially of the roll, and a system of levers by which the knife may be regulated by said control handle.

3. An apparatus used on roll calenders for cutting or trimming sheets of material, comprising a knife mounted in an arm, said arm being pivoted to a sleeved holder and acted upon by gravity to hold said knife in a cutting position, two similar levers on opposite sides of said calender fixed at the extremities of a rotatable rod, one lever being loosely pinned to said sleeved holder, and the other

of said levers being loosely pinned to a sleeve, a rod on which said sleeve slides, and a control handle threaded through said sleeve and adapted to be used as a set-screw.

4. An apparatus used on roll calenders for cutting or trimming sheets of material, comprising a knife, a control handle slidingly mounted on a rod on the opposite side of the calender from said knife, connecting means by which the knife may be regulated by said control handle, and an indicator connected to the control handle and showing the cutting position of said knife.

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