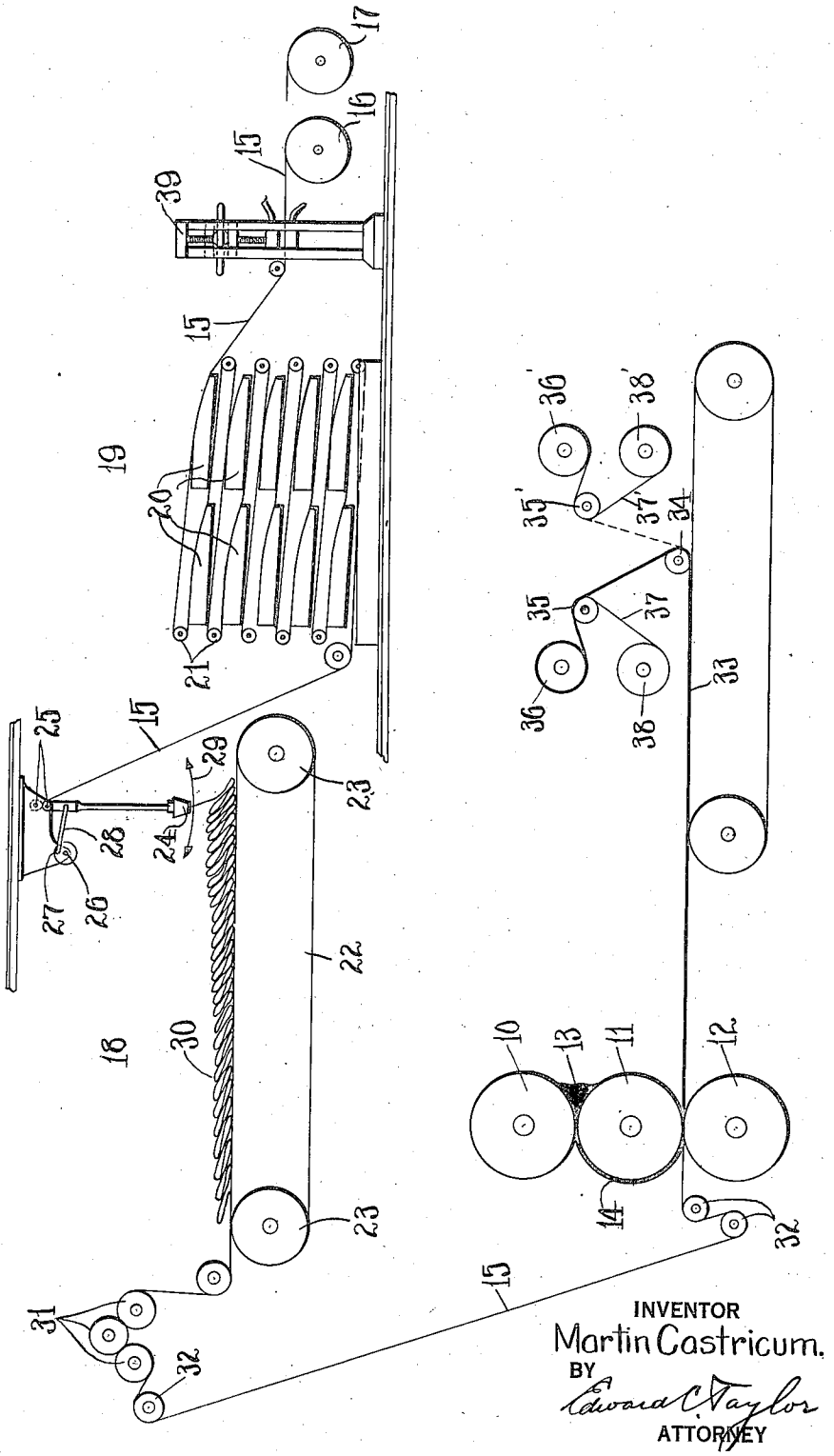
M. CASTRICUM.

CONTINUOUS FABRIC FEED.

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1,415,312. Patented May 9, 1922.



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CONTINUOUS FABRIC FEED.

1,415,312. Specification of Letters Patent. Patented May 9, 1922.

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To all whom it may concern:

Be it known that I, MARTIN CASTRICUM, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Continuous Fabric Feed, of which the following is a specification.

My invention relates to a method and an apparatus for supplying fabric continuously to calenders. It has for its object a method and an apparatus which will permit a calender being run continuously although supplied from successive sources each containing a less length of fabric than the desired continuous run of the calender. It has for a further object a method and an apparatus which will permit a calender being run continuously while using fabric supplied in the usual manner on rolls. It has various other and further objects which will appear from the ensuing description and the appended claims.

My invention will now be described in connection with the accompanying drawing, which is a diagrammatic view showing the general construction and arrangement of the apparatus.

The calender to which the fabric is to be fed for coating with rubber or other substance is shown as constructed in the usual form, with rolls 10, 11, and 12 suitably driven. A bank of rubber 13 is placed between rolls 10 and 11 and is thereby worked into a thin sheet 14 which is applied to the fabric 15 between rolls 11 and 12. The fabric is supplied from successive sources of supply indicated in the drawing as rolls of fabric 16 and 17, suitably supported in any desired way. In order to run the calender continuously it is necessary to unite the inner end of roll 16 with the outer end of roll 17 without interrupting the supply of fabric to the calender. Obviously this cannot be done until the roll 16 is exhausted. It is therefore necessary to provide some means by which the inner end of the exhausted roll may be held stationary for uniting with the outer end of the succeeding full roll without interfering with the continuous operation of the calender.

I have indicated the mechanism for producing the reserve of fabric necessary for this purpose at 18. By preference I place between the fabric supply and this mechanism a device 19 serving to heat and dry the fabric. This device may be in any of the usual forms for such apparatus, and, as shown, consists generally in a plurality of heated plates 20 over which the fabric is directed by guide rolls 21.

The reserve-producing mechanism comprises in its preferred form a moving surface and a device for laying the fabric in folds on that surface. The moving surface consists for convenience of a belt 22 of the width of the fabric, and driven at the desired speed through pulleys 23. Arranged to cooperate with the belt is a guide 24, to which the fabric is led by rolls 25, and which is arranged to be oscillated above the belt by a shaft 26, a crank carried by the shaft, and a connecting rod 28 pivoted to the body portion of the guide. Rotation of shaft 26 will cause the end of the guide to travel in an arc indicated by the double arrow 29, laying the fabric upon the belt below in a plurality of overlapping folds 30.

After leaving the belt the fabric passes through tension rolls 31, and over guide rolls 32 which direct the fabric into the calender to be coated as above described. The coated fabric may be delivered to other coating mechanism or wound up on spools. A suitable device for winding the fabric without disturbing the continuous operation of the calender is shown in the drawing. This comprises a supporting belt 33, preferably driven at the same linear speed as the calender, above which is a guide roll 34. The fabric is shown in full lines as passing around this roll over a guide roll 35, and as being wound on a roll 36 with a liner 37 fed from a roll 38. In dotted lines the fabric is shown as being wound on a spool 36′, with which are associated elements similar to those described, and identified with primed numerals.

In operation, during the drawing of fabric from roll 16, guide 24 cooperates with the belt 22 to lay the fabric in a plurality of folds 30 which form a reserve. When roll 16 is exhausted the feed of fabric through the heater and the guide 24 is stopped and the end of the fabric unwound from roll 16 united by stitching or splicing with the leading end of roll 17. I have shown as suitable for this purpose a press 39 by means of which a vulcanized splice may be made, although suitable sewing mechanism

may be used if desired. During the splicing operation the calender continues in operation, drawing its supply from the folds of fabric on belt 22, which may be moving or stationary during this period. The successive operations may be repeated as often as desired, maintaining the calender in operation continuously.

I claim:

In combination with a calender, a source of fabric supply, means for joining the end of one fabric web with the leading end of another fabric web, a belt interposed between the said joining means and the calender and presenting a supporting surface for the fabric web, said belt being driven at a surface speed materially slower than the speed of the fabric web through the calender, and means for laying the fabric web upon the belt in a plurality of substantially even overlying folds.

MARTIN CASTRICUM.