

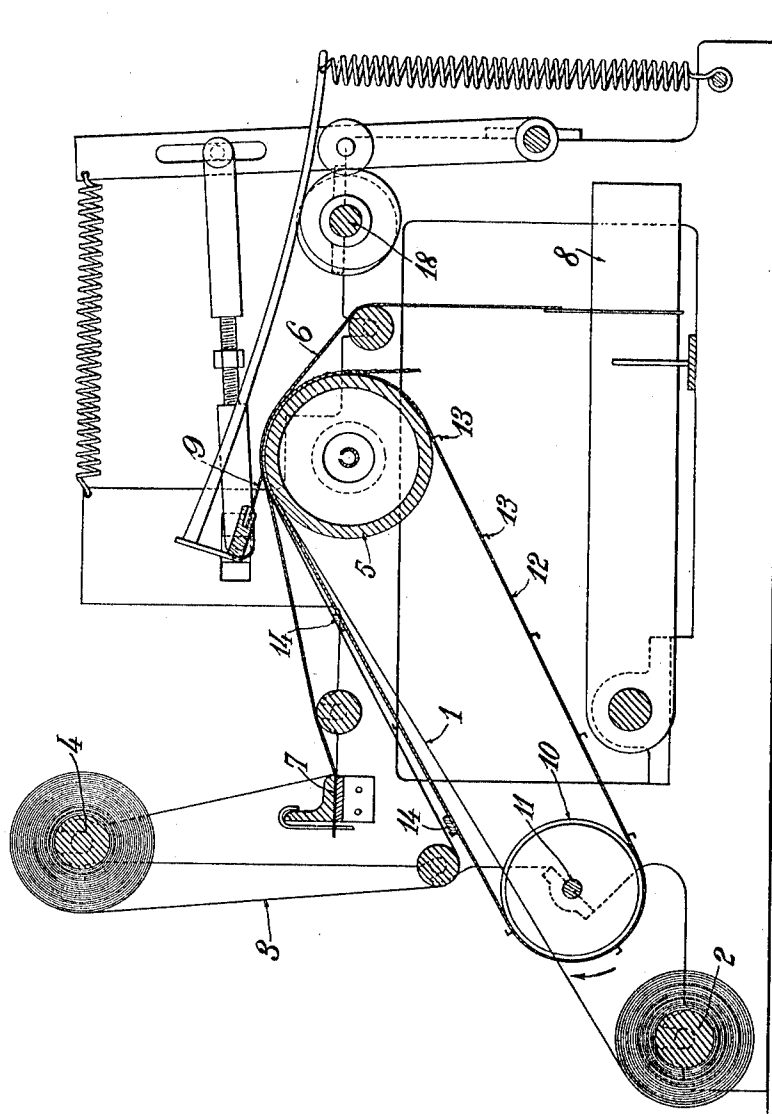
E. L. EZBELENT.  
PLAITING MACHINE FOR PRODUCING TEXTILE FABRICS RESEMBLING VELVET.  
APPLICATION FILED APR. 29, 1914.

1,107,771.

Patented Aug. 18, 1914.

3 SHEETS-SHEET 1.

FIG. 1-



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3 SHEETS-SHEET 2.

FIG. 2

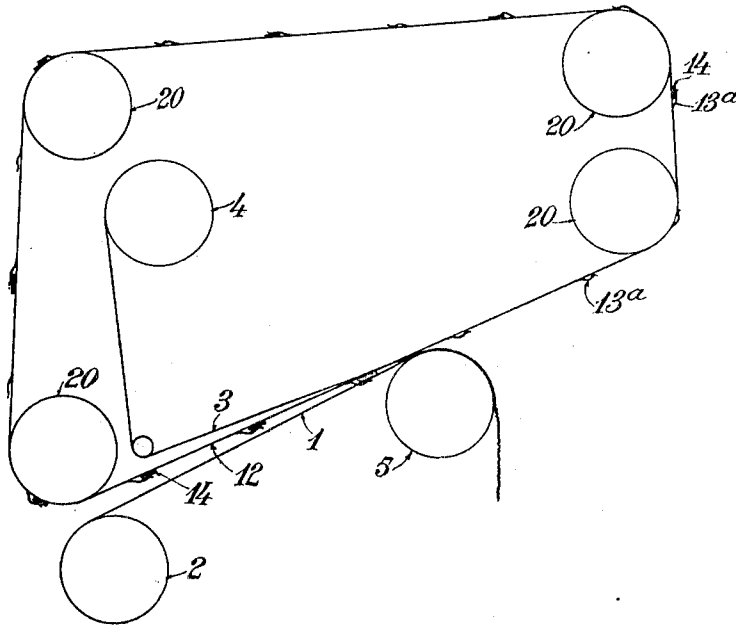
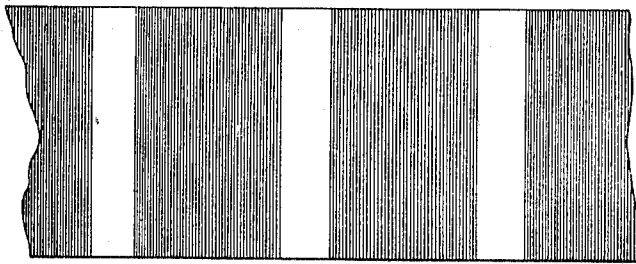


FIG. 3



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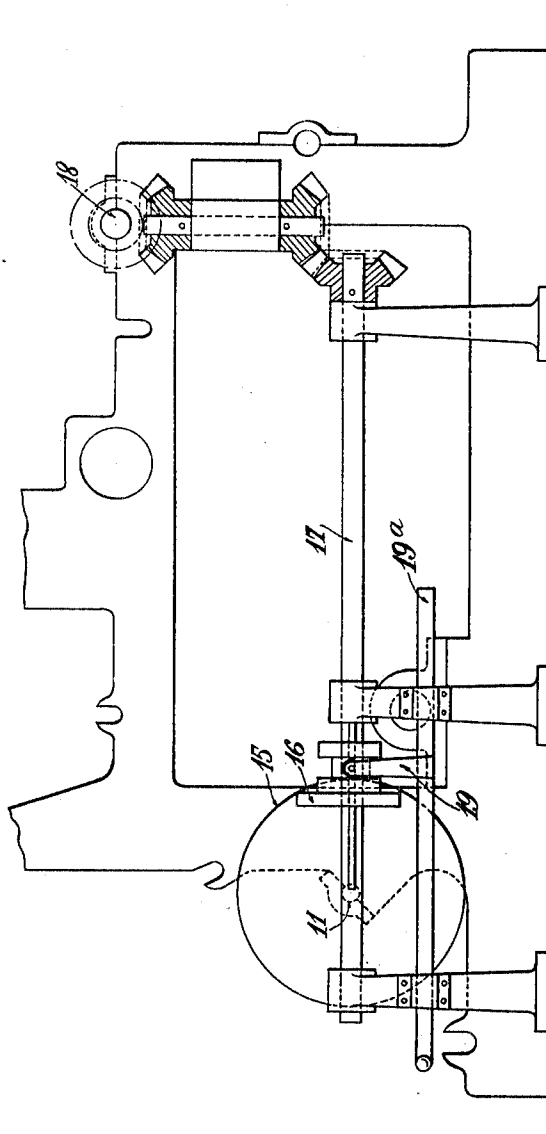
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3 SHEETS-SHEET 3.

FIG. 4-



Witnesses,

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# UNITED STATES PATENT OFFICE.

EUGÈNE LOUIS EZBELENT, OF PARIS, FRANCE.

PLAITING-MACHINE FOR PRODUCING TEXTILE FABRICS RESEMBLING VELVET.

1,107,771.

Specification of Letters Patent.

Patented Aug. 18, 1914.

Application filed April 29, 1914. Serial No. 835,210.

*To all whom it may concern:*

Be it known that I, EUGÈNE LOUIS EZBELENT, citizen of the Republic of France, residing at 80 Rue de Belleville, Paris, in the  
5 Republic of France, have invented new and useful Improvements in Plaiting-Machines for Producing Textile Fabrics Resembling Velvet, of which the following is a specification.

10 This invention relates to apparatus for the production, on ribbed materials of the kind known in France as "velours cristal", of smooth strips of suitable width, means being preferably provided for varying the spacing of said strips. Ribbed fabrics of this  
15 kind are, as is known, produced by compressing the fabric in a moist state on a heated cylinder by means of wires or plates held pressed against the outer surface of the paper covering the fabric and causing the  
20 fabric to pass around the cylinder by means of a comb receiving a reciprocating movement, the teeth of this comb entering spaces formed in the plates or the spaces left between the wires and forming ribs on the  
25 fabric by small successive amounts as they feed it forward.

According to the present invention, there are interposed between the fabric and the  
30 comb thin pieces of pasteboard or other material which are gripped and consequently carried forward between the fabric and the paper and which when they reach the comb prevent the formation of ribs in the fabric  
35 by the said comb. This comb thus only has for its object to move with it at the same time the pasteboard strip and the fabric in such manner that the fabric at the place where the said strip contacts therewith is  
40 formed with a smooth part of the same length as the strip of the pasteboard.

In the annexed drawings given by way of example: Figure 1 is a cross vertical section of a plaiting machine provided with  
45 the above improvements. Fig. 2 is a diagrammatical view of a modification in which the pasteboard strips are inserted from the rear of the machine. Fig. 3 is a plan view showing diagrammatically the appearance  
50 of the crimped or plaited fabric obtained.

As shown in Fig. 1, the fabric 1 is wound off a roller 2 and the sheet or strip of paper 3 is wound off a roller 4. The fabric covered with the sheet of paper is kept uniformly  
55 pressed throughout its whole surface against

a heated roller 5 in the usual manner by means of flexible metal plates 6 suitably secured at 7 and held continuously under tension by means of counterweights 8 acting on each of them separately. Into the openings  
60 or slots (not shown) formed in the plate 6, pass the teeth of a comb 9 to which is imparted in suitable manner a reciprocating movement so that the fabric is advanced and folded by small successive amounts. Near  
65 each edge of the fabric is laterally disposed a pulley 10. The two pulleys 10 are keyed on a shaft 11 which receives a slow rotary movement preferably at variable speed by any suitable means such as that hereinafter  
70 described. Around these pulleys 10, pass belts 12 these belts also passing around corresponding pulleys (not shown) of the same diameter as the heated cylinder 5 and being loosely mounted on the shaft and on either  
75 side of the said cylinder. The pulleys 10 are so located that the upper portions of the belts 12 will be situated in vertical projection between the sheet of paper and the fabric. These belts 12 are provided on their  
80 outer surfaces with hooks 13 for moving the thin strips 14 of pasteboard, metal or other material, which are placed into these hooks, over the upper face of the fabric. The belts in their movement in the direction of the  
85 arrow carry with them the strips of pasteboard which are finally gripped between the fabric and the sheet of paper and carried therewith in the more rapid movement of the same. When the strip reaches the comb, 90 the teeth of this latter cease to fold the fabric and act only to push forward the three superposed elements, *i. e.* the sheet of paper, the pasteboard and the fabric. As a result throughout the whole width of the  
95 strip of pasteboard the fabric will not be ribbed. The appearance of the fabric thus treated is shown in Fig. 3. It is thus possible to obtain materials in a single piece which while presenting a new aspect agree-  
100 able to the eye, have the advantage of using less fabric for the same area. In order to permit of increasing or decreasing, at will, the space between the consecutive unribbed intervals, it is only necessary for example to  
105 operate the shaft 11 carrying the pulleys 10 by a variable speed mechanism. Fig. 4 shows by way of example a driving arrangement for this purpose comprising a friction disk. Said friction disk 15 is keyed on the 110

shaft 11 and driven by a roller 16 adapted to rotate with a driving shaft 17 on which it is mounted, but capable of being moved along said shaft by means of a fork 19 operated by means of a sliding rod 19<sup>a</sup>. By displacement of the friction roller 16 relatively to the surface of the friction disk 15, the speed of this latter may be varied, that is to say, the rapidity with which the strips of pasteboard are gripped between the sheet of paper and the fabric and, consequently, the distance between the unribbed parts of the fabric.

It is obvious that interposition of thin strips between the fabric and the plaiting comb with the object of obtaining smooth parts in the ribbed fabric may be effected in many different ways, for instance the strips may be inserted at the rear of the machine instead of being inserted at the front as in the construction just described. In one embodiment of the latter arrangement shown diagrammatically in Fig. 2, the strips 14 are placed at the rear of the machine on the ascending portion of the belt 12 passing over the guide pulleys 20. The hooks are in this case formed by claws 13<sup>a</sup> sufficiently effective to prevent the strips of pasteboard falling during their descending movement at the front of the machine, but permitting, nevertheless of these strips being released when they are pressed between the fabric and the paper, in the same way as in the above construction.

In the foregoing description, it has been assumed that the strips of pasteboard are inserted by hand, but it is obvious that the machine may be provided with an automatic distributor of any known type.

The strips in lieu of being smooth and of pasteboard may be made of thin metal and may be formed on their lower surface in contact with the fabric, with designs in intaglio or in relief, permitting of the production of corresponding designs on the unribbed parts of the fabric. With satin material effects similar to those of figured satin may be obtained in this manner.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a plaiting machine, in combination: a heated roller, means for guiding fabric and a sheet of paper around said roller, plaiting means coöperating with said roller and means for inserting thin strips between

the fabric and the paper, substantially as described and for the purpose set forth.

2. In a plaiting machine, in combination, a heated roller, means for guiding fabric and a sheet of paper around said roller, plaiting means coöperating with said roller, endless transporting belts on both sides of the fabric and paper, means for displacing said belts at a slower speed than the fabric and paper, a portion of these belts being substantially on a line drawn from the line of contact of the fabric and paper and located inside the angle formed by the latter, and means on said endless transporting belts for holding thin strips of material, substantially as described and for the purpose set forth.

3. In a plaiting machine, in combination: a heated roller, means for guiding fabric and a sheet of paper around said roller, plaiting means coöperating with said roller, endless transporting belts on both sides of the fabric and paper, means for displacing said belts at a variable speed slower than the fabric and paper, a portion of these belts being substantially on a line drawn from the line of contact of the fabric and paper and located inside the angle formed by the latter, and means on said endless transporting belts for holding thin strips of material, substantially as described and for the purpose set forth.

4. In a plaiting machine, in combination: a heated roller, means for guiding fabric and a sheet of paper around said roller, plaiting means coöperating with said roller, endless transporting belts on both sides of the fabric and paper, guide rollers so arranged that a portion of the endless belts extends at the rear of the machine, means for displacing said belts at a slower speed than the fabric and paper, a portion of these belts being substantially on a line drawn from the line of contact of the fabric and paper and located inside the angle formed by the latter, and means on said endless transporting belts for holding thin strips of material, substantially as described and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EUGÈNE LOUIS EZBELENT.

Witnesses:

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