

PUBLISHED

MAY 11, 1943.

BY A. P. O.

F. LUTZ

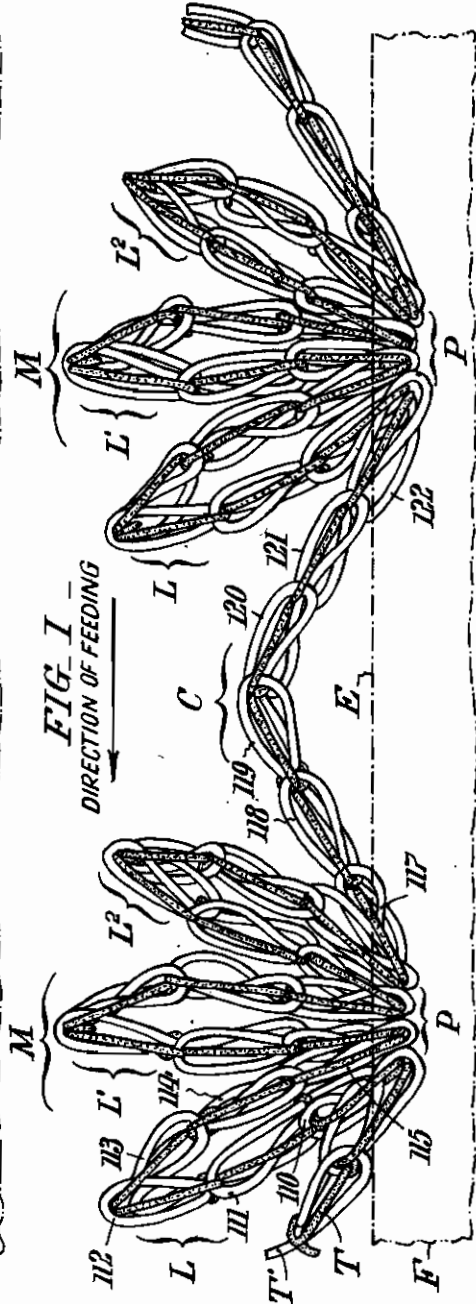
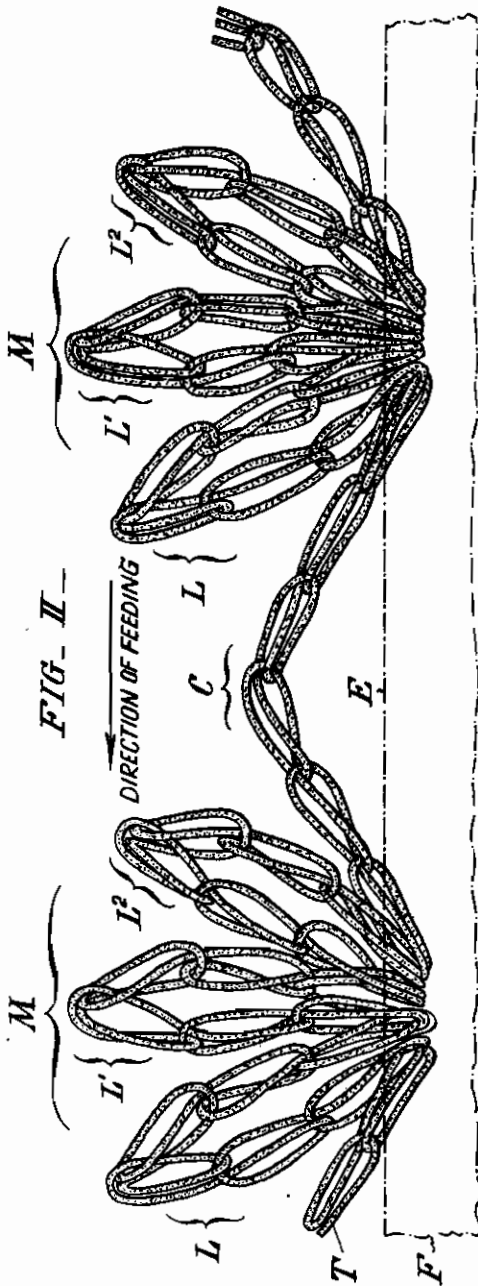
EDGE ORNAMENTATION FOR FABRICS

Filed May 6, 1940

Serial No.

333,562

2 Sheets-Sheet 1



WITNESSES:  
*Hubert Fuchs*  
*William Bell, Jr.*

INVENTOR:  
*Frederick Lutz,*  
 BY *Paul Paul*  
 ATTORNEYS.

PUBLISHED

MAY 11, 1943.

BY A. P. C.

F. LUTZ

EDGE ORNAMENTATION FOR FABRICS

Filed May 6, 1940

Serial No.

333,562

2 Sheets-Sheet 2

FIG. III

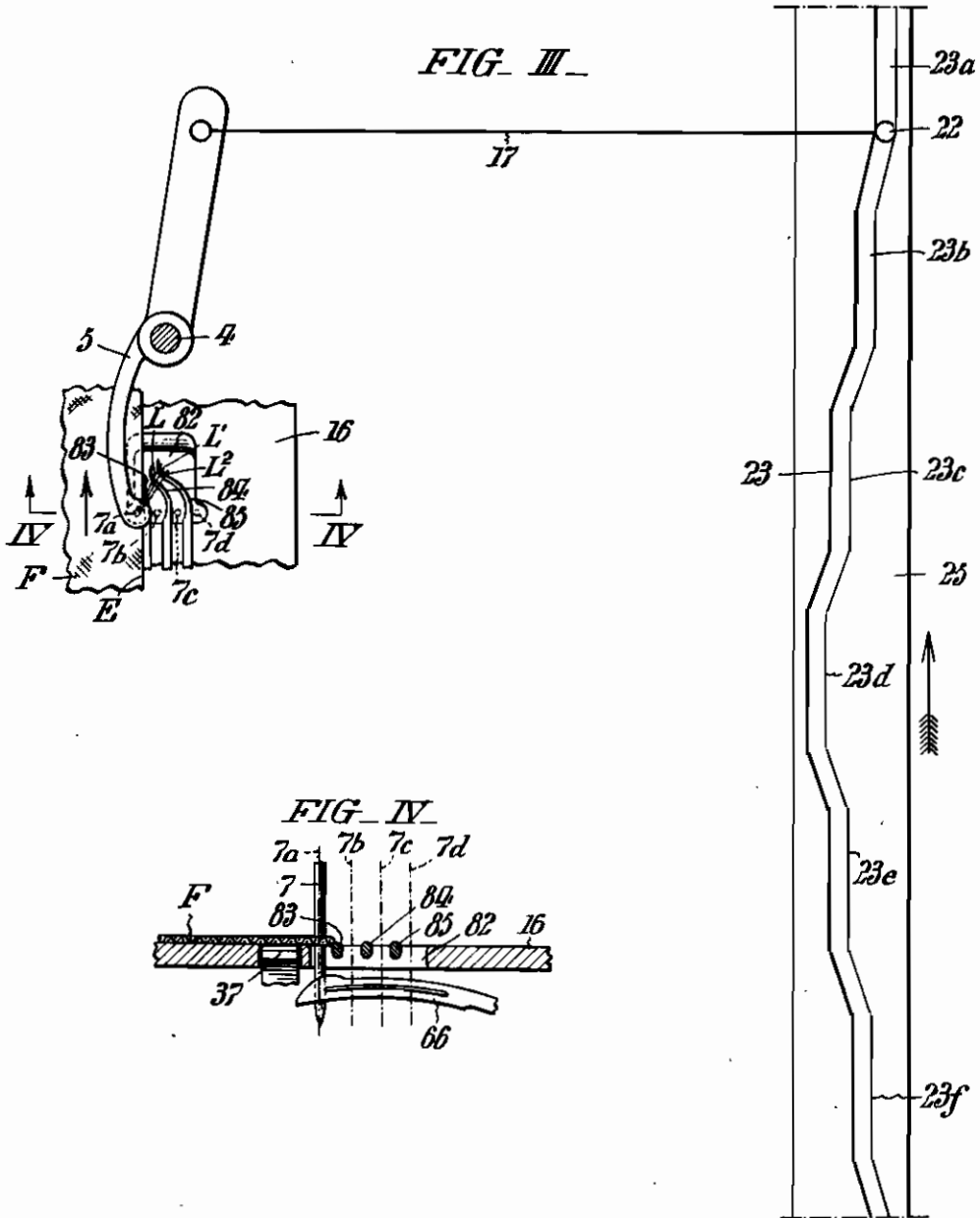


FIG. IV

WITNESSES:  
*Hubert Fuchs*  
*William Bell, Jr.*

INVENTOR:  
*Frederick Lutz,*  
 BY *Paul Paul*  
 ATTORNEYS.

# ALIEN PROPERTY CUSTODIAN

## EDGE ORNAMENTATION FOR FABRICS

Frederick Lutz, Stuttgart -W., Wuerttemberg,  
Germany; vested in the Alien Property Custodian

Application filed May 6, 1940

This invention relates to edge ornamentation for fabrics and also to methods of producing such ornamentation, the present application being a division of a copending patent application Serial No. 293,903, filed by me on September 8, 1939.

My present invention has for its aims the provision of an ornamental edging in which spaced projecting figures simulative of sunbursts with radiating digits, are formed by a continuous succession of chain stitches; and to evolve a simple method whereby such ornamentation can be produced.

In the drawings, Fig. I is a view showing one type of my improved fabric edge ornamentation on an enlarged scale.

Fig. II is a view similar to Fig. I, showing a modification.

Fig. III is a fragmentary diagrammatic view in plan of the sewing machine with the aid of which the ornamentation can be produced; and

Fig. IV is a fragmentary view in section taken as indicated by the angled arrows IV—IV in Fig. III.

Referring first to Fig. I of these illustrations, the ornamental edging of my invention there shown, is characterized by spaced serially-connected figures M each simulating a sunburst or palm leaf with radially-extending digits L, L' and L<sup>2</sup> anchored at a common point P immediately inward of the edge E of the fabric designated F. Each digit is in the form of a flat, substantially-closed loop composed of a succession of chain stitches 110, 111, 112, 113, 114, and 115, the ornamentation being formed, in this instance, from two threads T and T' whereof one is stippled for convenience of distinction from the other. It is to be particularly noted that the two threads are continuous, and that the first and last loops 110 and 115 respectively of each digit penetrate the fabric F at the common point P to which reference was made above. The connections C between the sunburst figures M are likewise composed of a succession of chain loops 117, 118, 119, 120, 121 and 122, and are of a length in excess of the spacing of said figures, and take on the appearance of obtuse angle projections beyond the fabric edge E, the component segments or arms of each such angle projection radiating, like the digits from the free or center points P of contiguous figures. In the example shown, each figure M has three digits; and each digit L, L' and L<sup>2</sup> and each connecting portion C is composed of the same number of chain stitches. This uniformity is, however, not neces-

sarily essential to my invention since variations are possible within the scope of the appended claims both with regard to the number of stitches in individual digits and in the connections, as well as with regard to the number of digits in each figure.

In forming the edging, the initial stitch 110 of the first digit L of a figure M is formed through the fabric at the point P, whereupon the succeeding free chain stitches 111, 112, 113 and 114 are made beyond the fabric edge E, and a final stitch 115 formed through the same point P in the fabric, with resultant completion of said first digit. The second and third digits L' and L<sup>2</sup> are formed in precisely the same way, whereupon the initial stitch 117 for a connecting portion C is formed through the point P and succeeded by four free stitches 118, 119, 120 and 121 beyond the fabric edge E. The final stitch 122 of the connecting portion C, instead of being run through the point P, however, is passed through a point P further along the fabric edge for the start of a succeeding design figure. Repetitions of this cycle obviously result in the formation of the edging along the entire edge of the fabric.

The fabric of Fig. I can be produced with a sewing machine having, as shown in Figs. III and IV, a needle 7 which is operated from above a work support 16 and carries the thread T, and a looper 66 which cooperates with the needle below the work support in forming the chain stitches and carries the thread T'. The needle 7 is guided for up and down movement in an arm 5 which is fulcrumed to swing horizontally about a fulcrum 4. By means of a connection conventionally indicated at 17 including a roller 22, the arm 5 is controlled from a drum 25 whereof the circumferential surface is shown as developed in a flat plane in Fig. III, said cam making a complete rotation during the formation of each figure M and each connection C of the ornamentation. The meandering groove 23 of the cam 25 is stepped as at 23a, 23b, 23c, 23d, 23e, and 23f to move the arm 5 back and forth with determination of dwells for the needle 7 in successive positions 7a, 7b, 7c, 7d, 7e, 7f during the formation of each figure M and each connection C. Within the hold 82 in the work support 16 through which the needle 7 passes, are curved tongues 83, 84 and 85 which extend in the direction of feeding (indicated by the arrow) and over which the digit loops L, L' and L<sup>2</sup> are formed as conventionally shown in Fig. III. The feed dog of the machine indicated at 37 in Fig. IV operates to advance the fabric F on the work support by

a distance corresponding to the spacing of the figures M between the points P of Fig. I.

The formation of the ornamentation by the machine is as follows:

Assuming the fabric F to be stationary and the needle 7 in the position 7a in Fig. III which is determined by the step 23a of the cam 25, see Fig. III. In making its first reciprocation, the needle 7 passes through the fabric F immediately inward of the edge E, and, as a consequence of its coaction with the looper 66, the stitch 110 is formed. As the cam 25 rotates in the direction of the arrow in Fig. III, the needle is moved laterally to the position 7b by the step 23b of said cam, and in making its succeeding reciprocation passes down through the interval between the fingers 83, 84 beyond the edge of the fabric, with the result that the stitch 110 is completed over the finger 83 and a new stitch 111 is formed. As the cam 25 rotates further, the needle is brought to the position 7c by the step 23c and reciprocated in the interval between the fingers 84, 85 with completion of the stitch 111 over the finger 84 and the formation of another new stitch 112. Upon further movement of the cam 25, the needle is brought to the position 7d by the step 23d and is reciprocated beyond the finger 85 with attendant completion of the stitch 112 over said finger and the formation of another new stitch 113. During the completion of the instant rotation of the cam 25, the direction of lateral needle shifting is reversed as the roller 22 successively passes through the step 23e (which corresponds to step 23c) and the step 23f (which corresponds to step 23b) and finally re-enters the step 23a, with attendant positioning of the needle successively in the positions 7c, 7b and 7a and formation of the stitches 113, 114 and 115 over the fingers 85, 84 and 83. In this excursion of the needle, the first loop L of six chain stitches is formed whereof the initial and last stitches 110 and 115 pass through the fabric at the same point P. By two more needle excursions in precisely the same manner, with the fabric F still

stationary, the second and third loops L' and L<sup>2</sup> are formed, with the initial and last stitches of each likewise passing through the fabric at the same point as the first and last stitches of the first loop L. Due to the complemental curving of the stitch fingers 83—85 and taking up on the needle and looper threads T, T' incident to stitch formation, the chain stitch loops L, L' and L<sup>2</sup> are caused to shift toward the edge of the fabric as shown in Fig. III, but are detained by the reversely curved ends of the fingers 84, 85. As a consequence of this control, it will be seen that the individuality of the loops L—L<sup>2</sup> is maintained. During the next rotation of the cam 25 after completion of the three loops L—L<sup>2</sup>, a chain C of six stitches 117, 118, 116, 120, 121 and 122 is produced. However, just before the formation of the last stitch 122 of this chain C, the fabric F is shifted by the feed dog 37, so that the said last stitch 122 is caused to penetrate the fabric at a point further along the edge of the latter, with the intermediate loops of the chain entirely free of the fabric edge. By the shift of the fabric F as just explained, the loops L—L<sup>2</sup> are pulled off and away from the stitch fingers 83—85. Upon release, the flat loops L—L<sup>2</sup> constituting the unit figure M of the ornamentation take radial positions relative to the point P at which the fabric is penetrated by the needle, and thus create the sunburst effect.

The throw of the feed dog 37 is preferably so adjusted as to determine breaking of each chain C at the middle with its two segments extending radially to the centers of the two adjacent figures M which it connects.

The modified type of my improved edge ornamentation shown in Fig. II is like the first described, except for being formed from a single thread. The modified edging can be produced with the machine above described by use of a spreader instead of a looper in connection with means in a manner which will be readily understood by those skilled in the sewing art.

FREDERICK LUTZ.