

Aug. 24, 1937.

W. H. PRICE

2,091,215

LACE AND METHOD OF PRODUCING THE SAME

Filed March 31, 1937

2 Sheets-Sheet 1

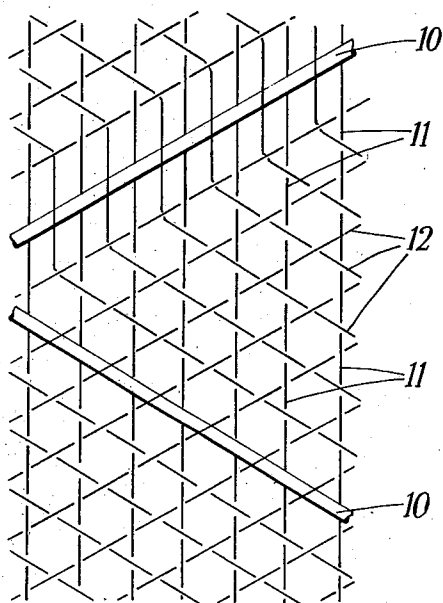


Fig. 1.

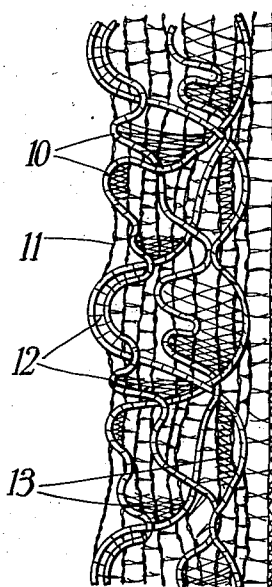


Fig. 2.

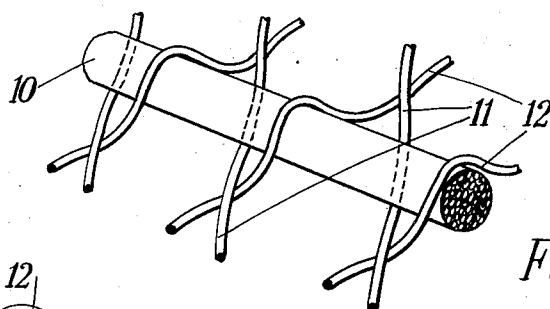


Fig. 3.

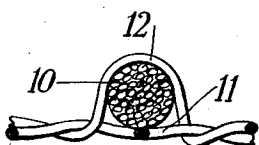


Fig. 4.

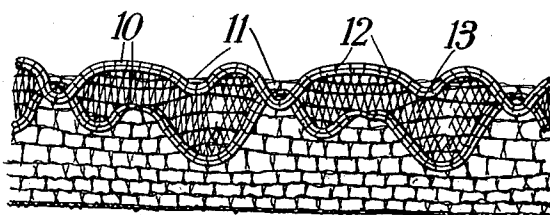


Fig. 5.

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2 Sheets-Sheet 2

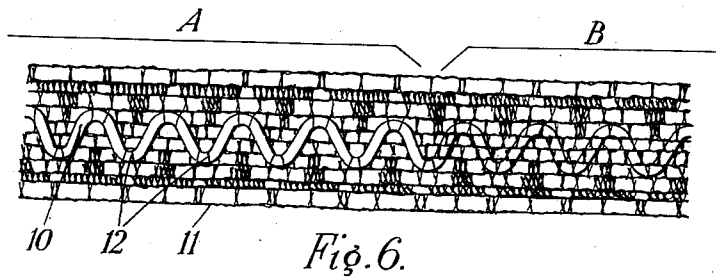


Fig. 6.

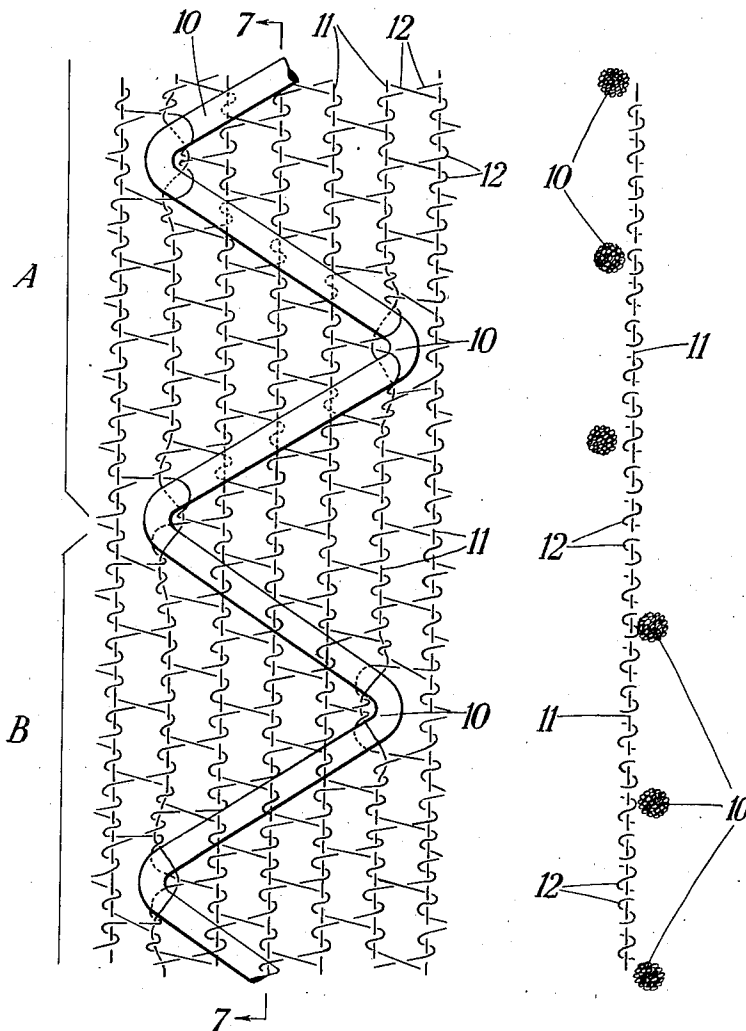


Fig. 7.

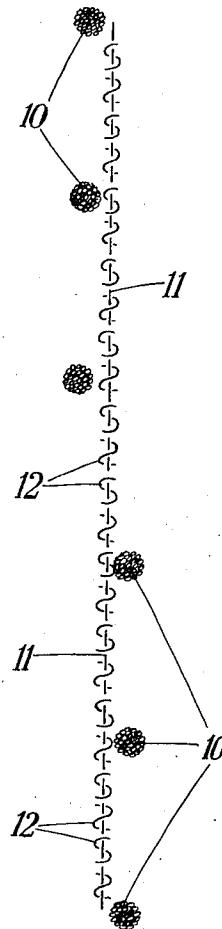


Fig. 8.

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## UNITED STATES PATENT OFFICE

2,091,215

LACE AND METHOD OF PRODUCING THE  
SAME

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Application March 31, 1937, Serial No. 134,139  
In Germany August 28, 1935

15 Claims. (Cl. 96—24)

This invention relates to a method of producing lace with fancy thread on lace braiding machines particularly, but not exclusively, of the type known as one-thread lace braiding machines.

5 Primarily the invention comprises a method of producing lace with a fancy thread on a lace braiding machine, wherein the threads or bobbins of the ground work and the fancy thread are so controlled or influenced by tensioning and/or guiding same that the fancy thread is caused to stand up from the surface of the fabric. That is to say the fancy thread has, in relation to the remainder of the fabric, a superimposed character. The threads may be controlled to form a fancy ground (for example net or linen ground) enclosed or outlined by fancy threads and in the main supported by the remaining ground, the fancy thread being merely tied in by the ground threads as far as is necessary to secure it in position, and to form a margin or outline for certain parts of the ground work. A plurality of fancy threads may be employed, arranged parallel to each other in the resultant fabric.

25 When a plurality of fancy threads is employed, they may themselves be braided together to form cords. According to a feature of the invention a fancy thread, upon crossing with a strongly tensioned ground thread, is always guided at the same side (preferably the inside) of the plate or is guided always to the same side of the tensioned threads. According to a subsidiary feature of the invention, however, the fancy thread on certain sections of the lace may be guided to the reverse side. This may be effected by any convenient means such as, for example, the employment of empty bobbins. It is preferred that on the section and at the place whereat the fancy thread is guided to the reverse side, the lace is made wholly or in part sufficiently compact that when viewed from the front the fancy thread is concealed.

45 According to a further subsidiary feature of the invention, the fancy thread is guided at an edge of the lace to provide in the fabric the impression of scallops.

50 According to the present invention a lace fabric having the appearance and many of the characteristic features of point appliqué, but being an integral fabric completed in the act or process of making the same, may be produced with characteristic and improved features, as will be hereinafter pointed out.

55 In order that the invention may be better un-

derstood reference will now be made to the accompanying drawings, in which

Figure 1 is a draft of a simple form of lace according to this invention.

Figure 2 is a top face view of a strip of lace of more complicated structure according to this invention.

Figures 3 and 4 are enlarged views showing the disposition of the fancy thread.

Figure 5 is a top face view of a strip of lace of modified structure according to this invention.

Figure 6 is a view of an insertion lace according to this invention.

Figure 7 is a draft of the type of lace shown in Figure 6, while

Figure 8 is a diagrammatic section taken on the line 8—8 in Figure 7.

Referring to the drawings, the fancy threads are distinguished by the reference numeral 10 and it will be observed that they are shown (as is preferred) as being substantially thicker than the threads 11, 12 forming the ground of the fabric. It will be noted that the fancy thread always extends over the longitudinal threads 11 of the ground but under such of the transverse threads 12 as serve to tie it into the fabric. In order to make the fancy threads 10 project or stand out beyond the face of the ground work of the fabric, their tension is preferably greater than the tension of the transverse threads 12, but less than the tension of the longitudinal threads 11. Therefore, the latter force the fancy threads to the face of the fabric as is clearly shown in Figures 3 and 4.

Conveniently the fancy threads 10 enclose or outline areas such as 13, the ground fabric of which may be of denser structure than the ground fabric of the surrounding areas. It will be further noted that the threads near one edge of the lace wander to and fro and impart to the lace the similitude of a scalloped edge, without the assistance of special binding threads, such as are employed in appliqué work.

A plurality of fancy threads may if desired be caused to be in close proximity and parallel to each other and a lace in accordance with this invention and embodying a plurality of such threads is illustrated by way of example in Figure 5.

In Figures 6 to 8 a modification of the invention is illustrated, the lace having two sections lettered "A" and "B". In the section lettered "A" the fancy thread 10 lies upon the surface of the lace, while at the juncture between these two sections the thread passes through to the

rear face, and advantageously the fabric of the section "B" is so dense that the fancy thread at the rear does not show through. As will be seen from Figure 7 in either section the fancy thread extends always the one side of the longitudinal threads 11 and is bound to the face of the fabric by certain of the transverse threads 12. Any known or approved means for causing the fancy thread to pass from the front to the rear of the fabric may be employed and by way of example only it may be said that the result may be produced by the employment of empty bobbins.

As will readily be appreciated, in certain cases the fancy thread at the reverse side may be cut away. Moreover the fancy threads may be either floated at the reverse side or tied in at spaced intervals. If desired they may be employed at the reverse side to form certain pattern effects, and in the modification, and in the arrangement illustrated in Figures 1 to 5, fancy threads of different colours or of different thickness, or differing in other ways, may be employed.

In manufacture the lace to be provided with fancy thread according to this invention is preferably taken up by an open braiding-iron, without a mandrel.

The lace produced in accordance with this invention may embody elastic thread or threads, preferably thread wrapped with cotton or the like, so as to render the fabric extensible. The superposed or upstanding fancy thread or threads may be elastic, and in the construction of fabric wherein the fancy thread or threads constitute outlining or marginal threads for pattern or other parts of the ground work, said outlining threads may be covered elastic.

I claim:—

1. A method of producing lace, with fancy threads, on a lace braiding machine wherein a fancy thread is applied so as to stand up from the surface of the fabric by tensioning different groups of the ground thread with different degrees of tension and by so guiding and tensioning the fancy thread as to cause only the lighter tensioned ground threads to cross over same and bind it to the ground threads on that side or face of the fabric from which the fancy thread projects.

2. A method of producing lace, with fancy threads, on a lace braiding machine wherein different groups of ground thread are introduced under different tension and a fancy thread is so guided and tensioned as to cause same to stand up from the fabric surface, and wherein ground threads are controlled to form a fancy or patterned ground, predetermined parts of said ground being outlined by the upstanding fancy thread anchored to the ground so far as is necessary to secure the outlining threads in position.

3. A method of producing lace, with fancy threads, on a lace braiding machine wherein different groups of ground thread are introduced under different tension and fancy threads are so guided and tensioned as to cause same to stand up from the fabric surface, and wherein a plurality of fancy threads are employed and arranged parallel to each other in the resultant fabric.

4. A method of producing lace, with fancy threads, on a lace braiding machine wherein different groups of ground thread are introduced under different tension and a fancy thread is so guided and tensioned as to cause same to

stand up from the fabric surface, and wherein the fancy thread when crossing with a strongly tensioned ground thread is always guided at the same side of a plate.

5. A method of producing lace, with fancy threads, on a lace braiding machine wherein different groups of ground thread are introduced under different tension and a fancy thread is so guided and tensioned as to cause same to stand up from the fabric surface, and wherein the fancy thread is always guided to the same side of the strongly tensioned ground threads.

6. A method according to claim 1 wherein the fancy thread is guided at an edge of the lace fabric to provide in the fabric a simulation of scallops.

7. A method of producing lace, with a fancy thread, on a lace braiding machine wherein different tension is applied to the fancy thread and to different groups of ground threads so as to cause the fancy thread to stand up from the surface of the fabric and wherein the fancy thread is, at predetermined parts or sections of the fabric, passed from one side or face to the reverse side or face of said fabric.

8. A method according to claim 7 wherein at the part or parts at which the fancy thread is guided at the reverse side, the lace is made so compact as to tend to conceal said fancy thread when the fabric is viewed from the front.

9. The production of fabric according to claim 2 wherein the upstanding outlining threads are constituted by elastic threads.

10. A lace fabric produced on a lace braiding machine having a ground work produced by interlaced ground threads and a fancy thread bound to said ground work by certain of the threads which constitute the ground work, but standing up from the plane or surface thereof.

11. A lace fabric according to claim 10 having the fancy thread bound to the ground work of the fabric by certain of the threads constituting the ground work, and standing up from the surface thereof and constituting outlining threads for pattern portions of the fabric ground.

12. In the production of a lace fabric wherein is incorporated a fancy thread for design effects, the method of operation which comprises interlacing threads to produce a ground work, applying to a face thereof a fancy thread and tying the same thereto by certain of the threads of the ground work as the latter is being produced, and without drawing the fancy thread into the body of the ground work, thus leaving it standing up from the plane of the surface thereof on which it rests.

13. In the production of a lace fabric wherein is incorporated a fancy thread for design effects, the method of operation which comprises interlacing threads to produce a ground work, applying to a face thereof a fancy thread and tying the same thereto by certain of the threads of the ground work, the tension of which tying threads is less than that of other threads of the ground work whereby the fancy thread is caused to stand up from the plane surface of the ground work.

14. In the production of lace according to claim 12, wherein certain of the threads employed in the production of the fabric are elastic to render the said fabric extensible.

15. In the production of lace according to claim 12, wherein the fancy thread is an elastic thread.