Sept. 8, 1936. R. BLOCH 2,053,761

STOCKING

Filed Sept. 21, 1935

Fig. 1.

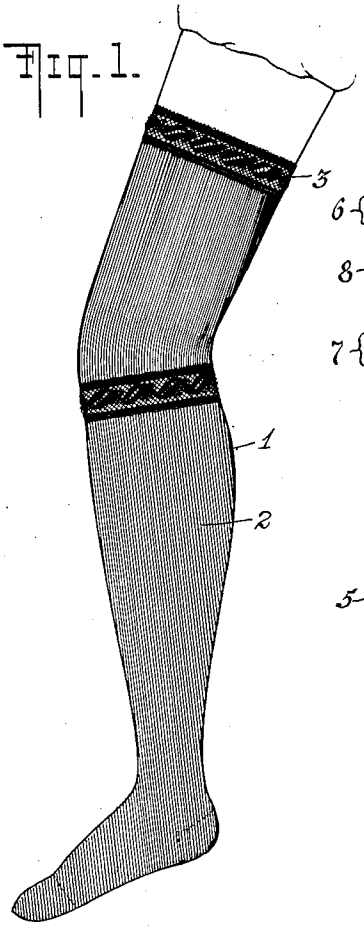


Fig. 2.

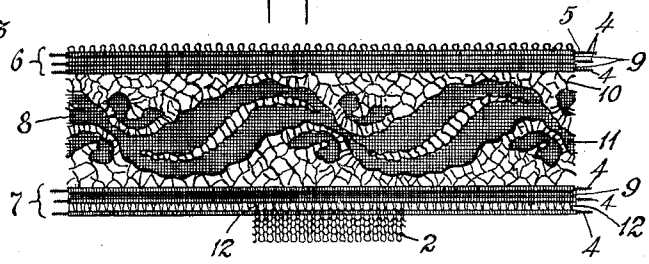


Fig. 3.

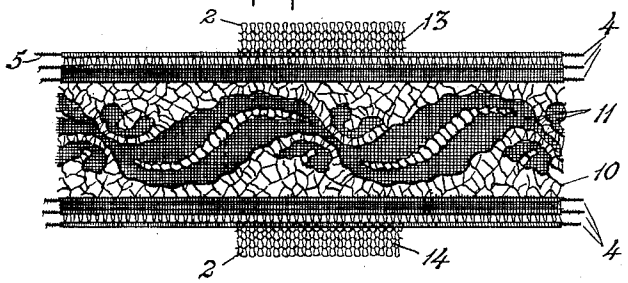
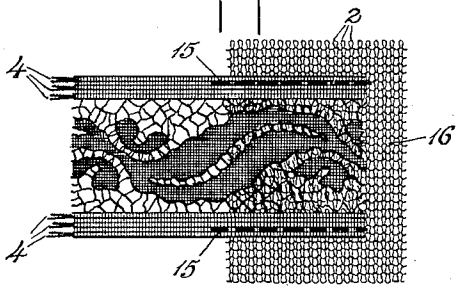


Fig. 4.



WITNESS

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STOCKING

Richard Bloch, Pelham Manor, N. Y.

Application September 21, 1935, Serial No. 41,544

1 Claim. (Cl. 66—172)

The object of this invention is to provide women's wearing apparel, such as stockings, gloves and head coverings for the hair, wherein is embodied elastic lace in the form of a unitary band or strip. The elastic lace, as embodied in such women's wearing apparel, serves as a protective edging, a means to secure the article of wearing apparel in place, and as a decorative feature.

In the drawing, Fig. 1 illustrates a woman's stocking; Fig. 2, a partial representation, in substantially actual size, of the upper portion of the woman's stocking of Fig. 1; Fig. 3, a partial representation, in substantially actual size, of the intermediate portion of a woman's stocking, as shown in Fig. 1, immediately below the knee, and Fig. 4 represents a modification of the structure of Fig. 3.

The stocking illustrated in Fig. 1 consists of the usual body portion 1, formed of knitting loops 2 on a stocking knitting machine which is adapted to knit the stocking to stocking formation. The elastic lace 3 consists of a plurality of rubber threads 4 having spirally wound thereon a thread covering 5 of cotton or like material. The thread 5 is wound upon the elastic thread 4 primarily for the purpose of limiting the stretchability of the elastic and to offer resistance to any pull applied to the threads during stretching thereof, particularly while the stocking is being put on. The covered elastic threads are arranged in opposite parallel groups 6, 7 at the top and bottom edges of the lace in parallel relation, each individual thread in each group being slightly spaced from the immediate adjoining threads. The covered elastic threads 4 are of substantial strength and offer considerable resistance to stretching, and constitute the foundation upon which the material is built. The elastic threads 4 are joined together by lacework, preferably done on a lace machine. The lacework 8 consists of twisting, by the usual lacing operations, of threads, to provide a fabric delicate in structure and having little resistance. The entire material, other than the elastic threads and their cotton covering, is formed upon a lace machine, for instance of the Levers type, Net or Tuell machines, Rachel machine, braid machines or shuttle embroidering machine and the like. The lacework 8 runs entirely across the elastic threads and comprises substantially closely related border twists 9, joining together the parallel elastic threads 4, open twists 10 forming a netting, and closely arranged twists 11 within the confines of the netting, laid out during manufacture in the lace machine in a predetermined design. The lowermost elastic threads 4 are preferably united by the fairly widely spaced twists 12, to provide openings for attachment of the initial row of loops 2 of the stocking. The closely related twists 9 and the widely spaced twists 12, tend to offer additional resistance to the stretchability of the elastic threads 4 and to strengthen the edges of the material.

The lacework is preferably done in the lace machine with the elastic threads under tension and the lacework, as it is finished in the machine, is in a stretched condition substantially as shown in the drawing. The tightness of the covering 5 upon the elastic threads 4 and the tension under which the threads 4 and covering 5 are put, while in the lace machine, are of such a nature as to permit but a slight additional stretch to the finished material. It will thus appear that the elastic covered threads 4 in the lace machine are placed under tension to stretch them just short of their maximum elasticity and the lacework is done so that the design produced by the lace is in a flat, regular condition. The material, when the tension on the elastic threads is released, is caused to contract, pucker and gather under the influence of the contracting elastic threads, causing distortion of the lace design, but subject to restoration of its flat and regular condition by stretching the elastic threads just short of their limit of elasticity.

The material is made in the lace machine in considerable lengths and then cut up into desired lengths, depending upon the use to which it is to be put. Thus, for instance, a suitable length of the elastic lace may be inserted in a stocking knitting machine and the stocking knitted thereto in the form of the usual loops 2, the upper line of loops being anchored around the lowermost elastic thread of the group 7, each loop 2 encompassing one of the twists 12. It is preferred to provide stockings with two sections of the elastic lace, one section located at the upper edge of the stocking and the other section just beneath the knee. Fig. 1 shows such an arrangement, the details of the upper section of elastic lace being illustrated in Fig. 2 and the details of the section beneath the knee being illustrated in Fig. 3, the latter showing the knitted stocking body above the knee, consisting of a series of loops 13, and the portion below the knee toward the heel consisting of a series of loops 14, and in both of which figures the loops of the stocking body commence at the edges of the elastic lace. In Fig. 4, a modification of the portion of the

elastic lace beneath the knee section is shown and in this instance, the elastic lace below the knee portion is sewn by a series of stitches 15 over the fabric 16 of the stocking. If desired, the entire stocking may be first knitted and the elastic lace then sewn to the stocking, one section at the upper edge and a second section below the knee portion, in the manner illustrated in Fig. 4. A stocking made according to all of the details of this invention comprises a section running from the toe to the knee with the lace elastic material secured just below the knee section and a second section running from the knee upwardly to full stocking length and provided at the upper edge with elastic lace. The elastic lace bands tend to avoid runs in stockings and when a run occurs between the knee and the upper edge of the stocking, the upper section containing the run may be cut from the stocking and the lower section used as a sock. In some instances, the full length stocking may be shortened by removing the upper section just above the lowermost elastic lace, to provide a sock.

In the drawing, the elastic lace is shown in each instance, in its stretched condition with the covered elastic threads 4 under tension, and the lace design in its flat and regular condition, but it will readily be understood that when the tension is released the lace will pucker or gather but will again be restored when the elastic threads are put under tension just short of the limit of their elasticity.

The elastic lace may also be made with elastic threads in the body portion of the lacework 8. Such elastic threads, embodied in the lacework 8, may constitute warp threads, the rest of the lacework comprising the ordinary non-stretchable threads or material such as is ordinarily used in lacework. In such instances where part of the lacework 8 consists of elastic threads made of stretchable material, such as rubber threads, the finished elastic lace will normally lie flat, when completed, rather than have the shirred or gathered appearance, but nevertheless, it will be stretchable and serve a like purpose as the elastic lace in which just the edges comprise elastic rubber threads.

Women's stockings and like articles, made according to this invention, are provided with a usual body portion, stretchable to a large degree circumferentially, and having less stretchability in a lengthwise direction, elastic lace bands acting as retaining members, a protective edging, and with a pleasing and highly decorative feature. The stresses and pull on the fabric are taken up by the covered elastic threads 4, the extension of which is limited by the spirally wound covering thread 5 and the closely related border twists 9. The elastic lace when applied to a stocking and when the stocking is not in a stretched condition, is contracted and gathered, but when placed upon the leg of a wearer, the elastic is stretched just short of its limit of elasticity, whereby the lace is extended to its flat and normal position, exhibiting the design of the lace in the form shown in the drawing. All strain and pull are taken up by the substantially strong border or edge portions of the material and the delicate or fragile intermediate lace portion is not placed under such tension as would tend to break the threads thereof. Should the covered and reinforced elastic threads be stretched to their limit of elasticity (without, however, breaking the threads) the delicate or fragile intermediate lace portion will accommodate itself to this additional stretch in a lengthwise direction with slight distortion of the design, without, however, breaking, and when such unusual tension is released, the intermediate lace portion will gather, more or less, depending upon the extent to which the elastic threads are permitted to contract. The netting portions 10 and the more closely twisted portions 11, when the stocking is worn, tend to grasp the flesh of the wearer and assist in holding the stocking in place and avoid sagging. In instances in which two sections of elastic lace are utilized in a stocking, as shown for instance in Fig. 1, the portion below the knee will be held in place by the band just above the calf of the wearer and the upper portion of the stocking will be held in place by the band around the thigh of the wearer.

I claim:

A woman's stocking or the like, comprising a knitted body, a pair of retaining members connected to the body, one of said retaining members being secured at the upper edge of the stocking and the second retaining member being secured below the knee portion of the stocking, each of said retaining members comprising a multiplicity of elastic threads having a spirally wound covering thereon tending to resist stretching of said elastic threads, said multiplicity of elastic threads being arranged in two groups with a plurality of threads in each group, said groups forming borders for said retaining members, in each of said groups said elastic threads being arranged in spaced relation and a plurality of the elastic threads in each group being united by threads in closely related, twisted position, to provide substantially heavy borders for said retaining members, said borders being united by a lace portion formed by threads twisted to provide a loose netting portion and a more closely formed portion, said closely formed portion having a predetermined design, which design is repeated in each retaining member, said elastic portion being adapted to extend, when stretched, and the lace portion intermediate said borders being adapted to correspondingly stretch with said threads, tending to expand the lace design but not to abnormally distort it.

RICHARD BLOCH.