Jan. 19, 1932. E. J. BERGER 1,841,701

KNITTED FABRIC

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FIG. III.

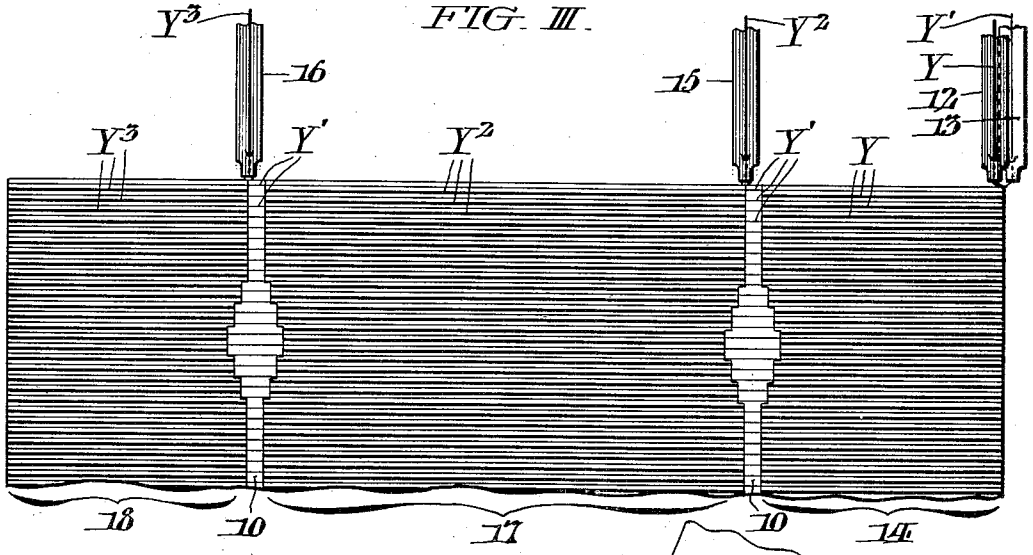


FIG. I.

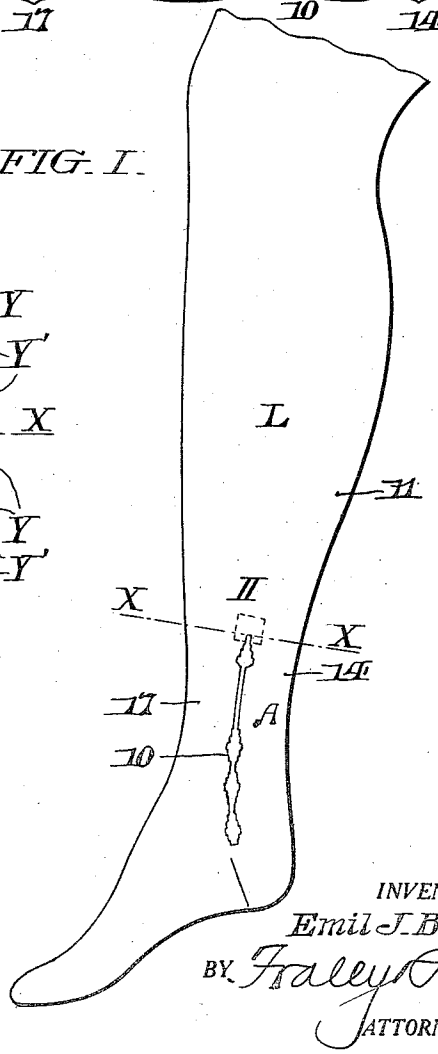
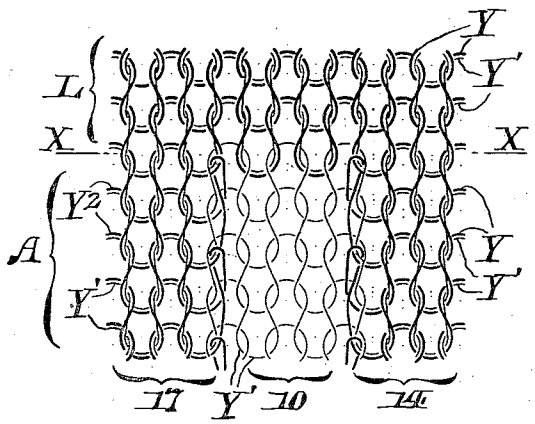


FIG. II.



WITNESSES

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FIG. V.

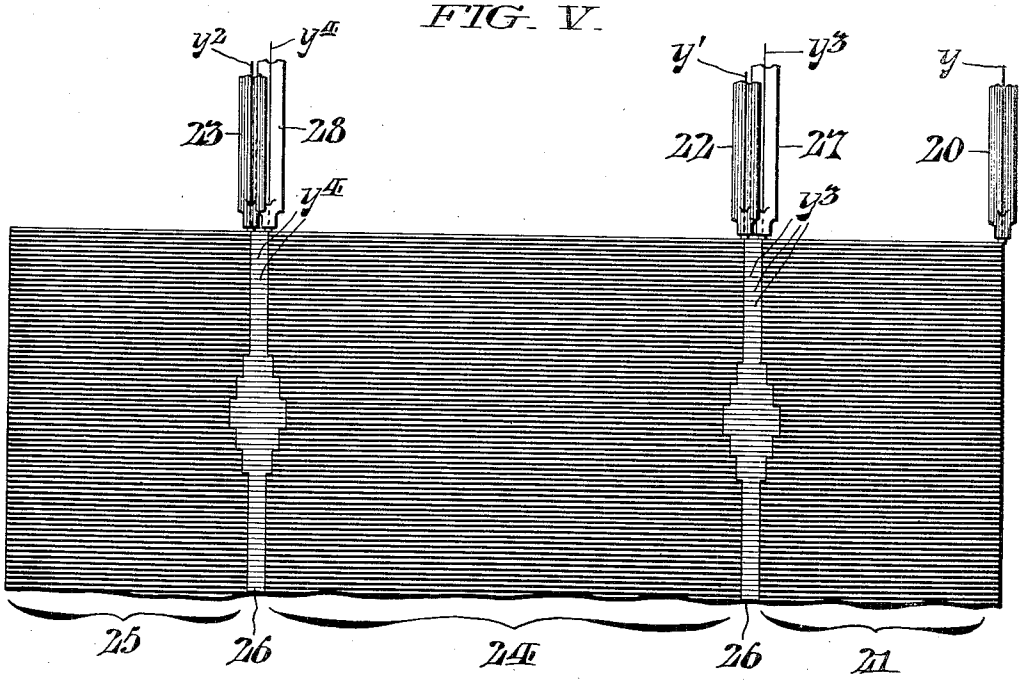
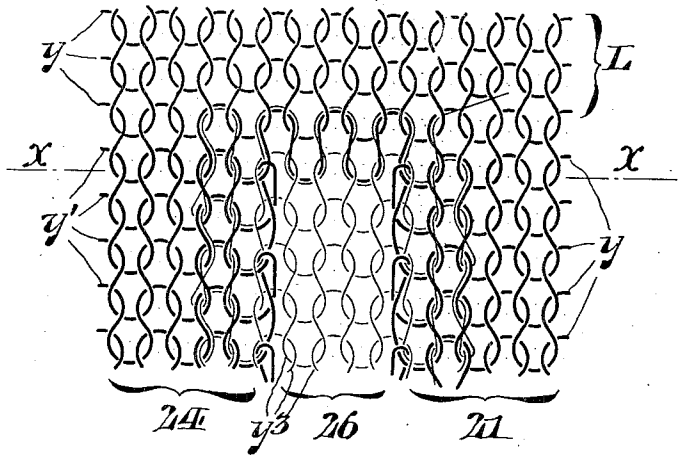


FIG. IV



WITNESSES

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UNITED STATES PATENT OFFICE

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KNITTED FABRIC

Application filed September 5, 1930. Serial No. 479,845.

This invention relates to knitted fabrics as well as to articles like stockings made from them; and it is concerned more particularly with the ornamentation of such fabrics.

The main object of my invention is to secure ornamental effects by contrast of thickness in different portions of a knitted fabric as distinguished from ornamentation obtainable through use of differently colored yarns incident to the knitting. More specifically, I aim to produce a knit fabric wherein the areas constituting the design figures or clocks are thinner, free of floats, and therefore more transparent than the body of the fabric. Transparent ornamentation is especially desirable in connection with ladies' stockings, since when the stockings are worn, it permits the skin to show through and emphasize the figures of the design.

Other objects and attendant advantages of this invention will be manifest from the following detailed description of the attached drawings; whereof, Fig. I is a fragmentary view of a ladies stocking embodying my invention.

Fig. II is a conventional illustration showing the texture of the fabric of the stocking at the region bounded by the dot-and-dash rectangle indicated at II in Fig. I.

Fig. III is a diagrammatic view showing the manner in which a leg blank fabric for the stocking may be produced on a flat knitting machine.

Fig. IV is a view, similar to Fig. II, showing a modification of my invention; and,

Fig. V is a diagrammatic view, similar to Fig. III, showing how the fabric of Fig. IV may be produced on a flat knitting machine.

The representation in Fig. I of these illustrations is that of a full-fashioned ladies stocking; and the ornamentation exemplified has the form of a longitudinal arrow-like stripe or clock 10, there being one such stripe at each side of the stocking ankle A. For the purposes of greater transparency, I knit the areas constituting the figures 10 considerably thinner than the body 11 of the stocking fabric, so that in use of the stocking the skin of the wearer may show through with attendant emphasis of the ornamentation.

One way in which a stocking having the described characteristics may readily be produced in practice is by predetermining a texture in accordance with Fig. II incident to the formation of the stocking leg blank on a flat full-fashioned knitting machine after the manner diagrammatically illustrated in Fig. III, that is to say: by knitting the upper leg portion L of the stocking down to the course x—x, marking the beginning of the ornamentation, as a double thickness fabric through serving of two yarns Y, Y′ simultaneously to the needles of the machine by separate carriers 12, 13, so that the heavier Y of the two yarns overlies the lighter one Y′ at the face of the fabric. During subsequent knitting of the ornamented ankle portion A of the stocking, the yarn Y′ is employed to knit the full width of the fabric, but the movement of the carrier 12 limited with attendant formation of a double thickness fabric section 14 from the yarn Y. At the same time, an additional pair of yarn carriers 15, 16 is employed to serve other yarns Y^2, Y^3, respectively, and the throw of such extra carriers 15, 16 limited so that double thickness fabric sections 17, 18 are formed with the pattern areas 10, knit solely from the lighter yarn Y′, respectively intervening the said sections 17 and 18, and the sections 17 and 14. The arrowheads and other embellishments of the clock ornamentations 10 may be produced by suitably varying the throw of the yarn carriers 12, 13, 15 and 16, at the time as the knitting proceeds in the manner readily understood by those familiar with the knitting arts.

By use of silk or rayon yarns Y, Y^2, Y^3 all of one color and all of one gage, for example three thread, in combination with a two thread yarn Y′ of like color or tint and predetermining the laying of the yarns as hereinbefore suggested, a marked contrast is obtained as a consequence of the difference in thickness between the double thickness sections 14, 17 and 18 and the ornamental areas 10, the latter being depressed relative to the face of the fabric and taking on the appearance of delicate gauze. The stocking made from the fabric is thus highly

attractive by reason of the transparency of the ornamental areas.

A variation in the effect may be had by employing a yarn Y′ of a different color than the others and by resorting to plating in knitting the double body sections of the fabric, also in a manner readily apparent to skilled knitters.

Another way of carrying out my invention is to predetermine a texture for the fabric in accordance with Fig. V by "split" knitting after the manner diagrammatically illustrated in Fig. IV. In this case, I employ a relatively heavy single yarn y to knit the portion L (Fig. IV) of the fabric down to the course x—x at which the ornamentation commences, and thereafter vary the throw of the carrier 20 (Fig. V) serving said yarn to produce only the fabric section 21. Here, as in the first described procedure, I utilize additional carriers 22 and 23 to serve body yarns y', y^2, of the same gage as the yarn y in knitting the other body sections 24, 25. The ornamental figures 26, on the other hand, I knit from fine gage yarns y^3, y^4, which are served respectively by independent carriers 27, 28 and relegated to the backside of the fabric as before, the throw of the last mentioned carriers, as well as that of the carriers 22, 23 being controlled and limited so that overlap junctures, such as are common to split knitting, are formed between the body sections 21, 24, 25 of the fabric and the ornamental areas 26—all as shown in Fig. IV.

Having thus described my invention, I claim:

1. As a new article of manufacture, a fabric having its body formed by interknitting a heavier yarn with a relatively finer yarn so that the heavier yarn is disposed at the face of the fabric and ornamented by depressed configured areas knit solely with the finer yarn.

2. As a new article of manufacture hosiery having the body formed by interknitting a heavy yarn with a relatively finer yarn so that the heavier yarn is disposed at the face of the fabric to define depressed ornamental areas knit solely with the finer yarn.

3. As a new article of manufacture a stocking having the body formed by interknitting a heavy yarn with a substantially finer yarn so that the heavy yarn is disposed at the face of the fabric and ornamented by depressed clock-stripes knit solely with the finer yarn.

In testimony whereof, I have hereunto signed my name at Lansdale, Pennsylvania, this 3d day of September, 1930.

EMIL J. BERGER.