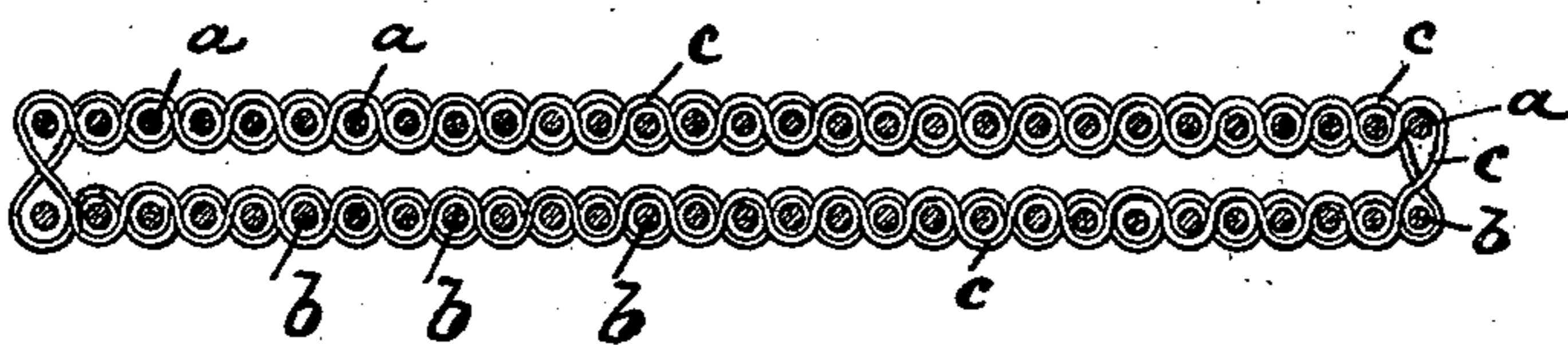


(Specimens.)

R. K. GIFFEN.  
SEAMLESS FIGURED FABRIC.

No. 512,694.

Patented Jan. 16, 1894.



WITNESSES:

*Wm. J. Bell.*  
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# UNITED STATES PATENT OFFICE.

ROBERT KNOX GIFFEN, OF PATERSON, NEW JERSEY.

## SEAMLESS FIGURED FABRIC.

SPECIFICATION forming part of Letters Patent No. 512,694, dated January 16, 1894.

Application filed November 2, 1892. Serial No. 450,721. (Specimens.)

*To all whom it may concern:*

Be it known that I, ROBERT KNOX GIFFEN, a citizen of the United States, residing in Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Seamless Figured Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which forms a part of this specification.

The object of my present invention is the manufacture of seamless figured fabric for wearing apparel, especially ladies' skirts, and consists in the improved seamless figured fabric, having the pattern or figure unbroken and continuous at the edges thereof, substantially as will be hereinafter more fully described and finally embodied in the claim.

The accompanying drawing represents an enlarged longitudinal sectional view of the seamless fabric, and in connection with the following description illustrates plainly the nature of my invention.

In said drawing *a* and *b* represent the upper and lower warp threads respectively. The weft thread *c* passes alternately over and under the warp threads *a*, say from right to left and then alternately under and over the warp thread *b*, from left to right as clearly illustrated in the drawing. After the weft thread has passed the last warp of the lower layer it passes under and over the warp threads of the upper layer, as will be manifest. As will be understood the weft thread or figure thread can pass over or under any number of warp threads at a time, according to the pattern to be woven and also, that a number of uniform or different colored threads can be operated at one time or alternately.

In weaving or operation I prefer to arrange the warp threads *a* and *b* on one beam, and tie the harness of the Jacquard machine to alternate hooks for each layer of warp threads.

The pattern cards are so cut, that the "faces" of the upper and lower portion of the seamless figured fabric are woven on the outside. The first cards (for the upper warps) are cut to raise such ends of the upper warp threads as are required to work or weave the figure face up. The second cards (for the lower warps) are cut to lift the first warp complete and such ends of the second warp (lower warp) as are required to work or weave the figure face down.

As can be seen from the drawing the joining of the upper and lower fabric will be seamless, as the weft threads are so continued that they pass alternately over and under the warps of the upper and lower fabric. The figure or pattern is unbroken and continuous at the edges of the fabric.

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

In a seamless figured fabric, the combination of two layers of warp threads arranged parallel to each other, with one weft thread passing alternately over and under the warp threads of the upper layer and then continued to the lower layer and passing alternately under and over the warp threads of the lower layer, and with figuring weft threads arranged over and under the warp threads of the upper layer and under and over the warp threads of the lower layer and between the continuation of the weft threads, said figuring weft threads being carried around under or over any number of the warp threads at the edges from one layer to the other, in accordance with the pattern to produce a continuous figure without interruption, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of October, 1892.

ROBERT KNOX GIFFEN.

Witnesses:

ALFRED GARTNER,  
WM. D. BELL.