

(Specimens.)

W. & R. N. WRIGHTSON.

KNITTED FABRIC.

No. 393,734.

Patented Nov. 27, 1888.

FIG. 1.

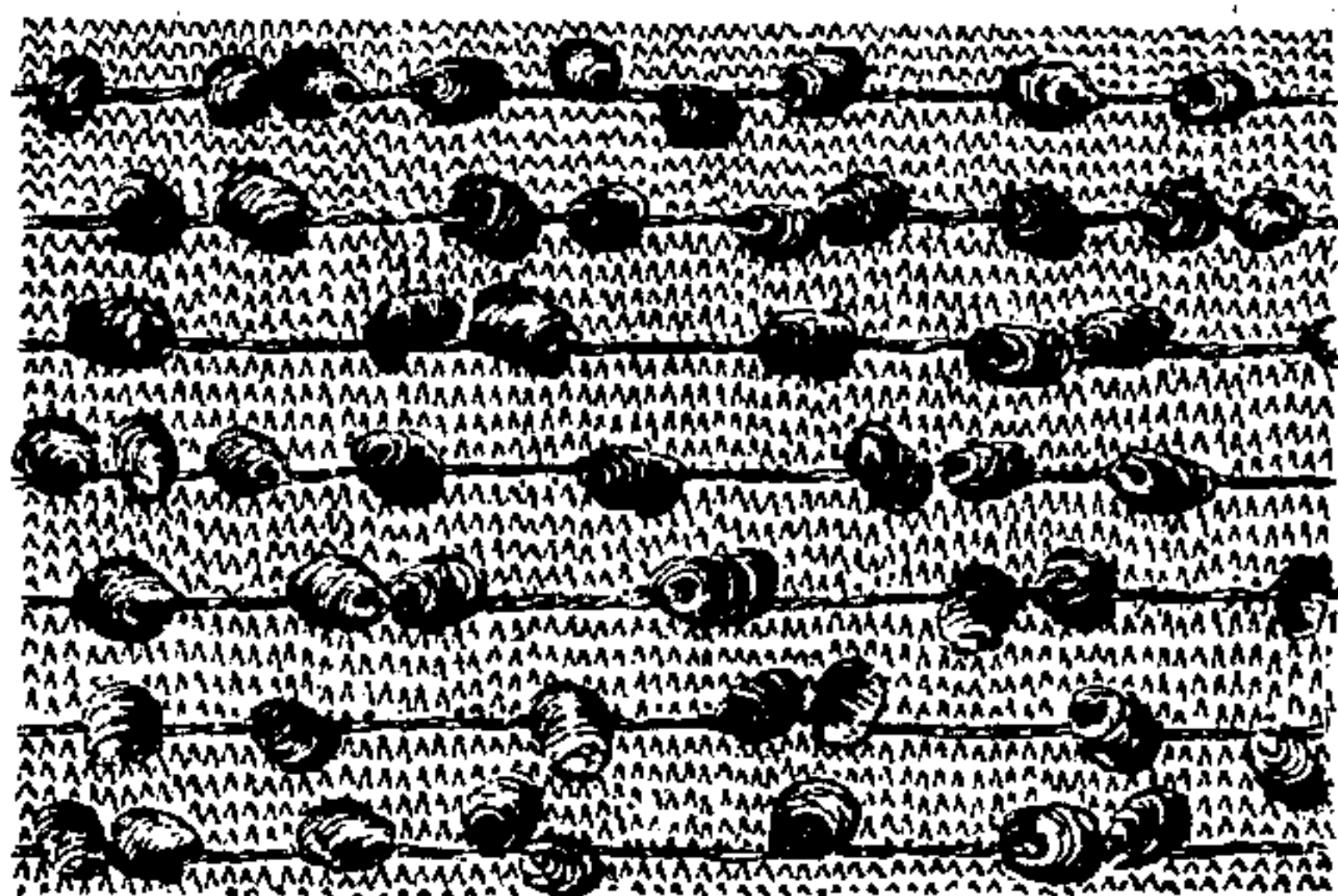


FIG. 3.

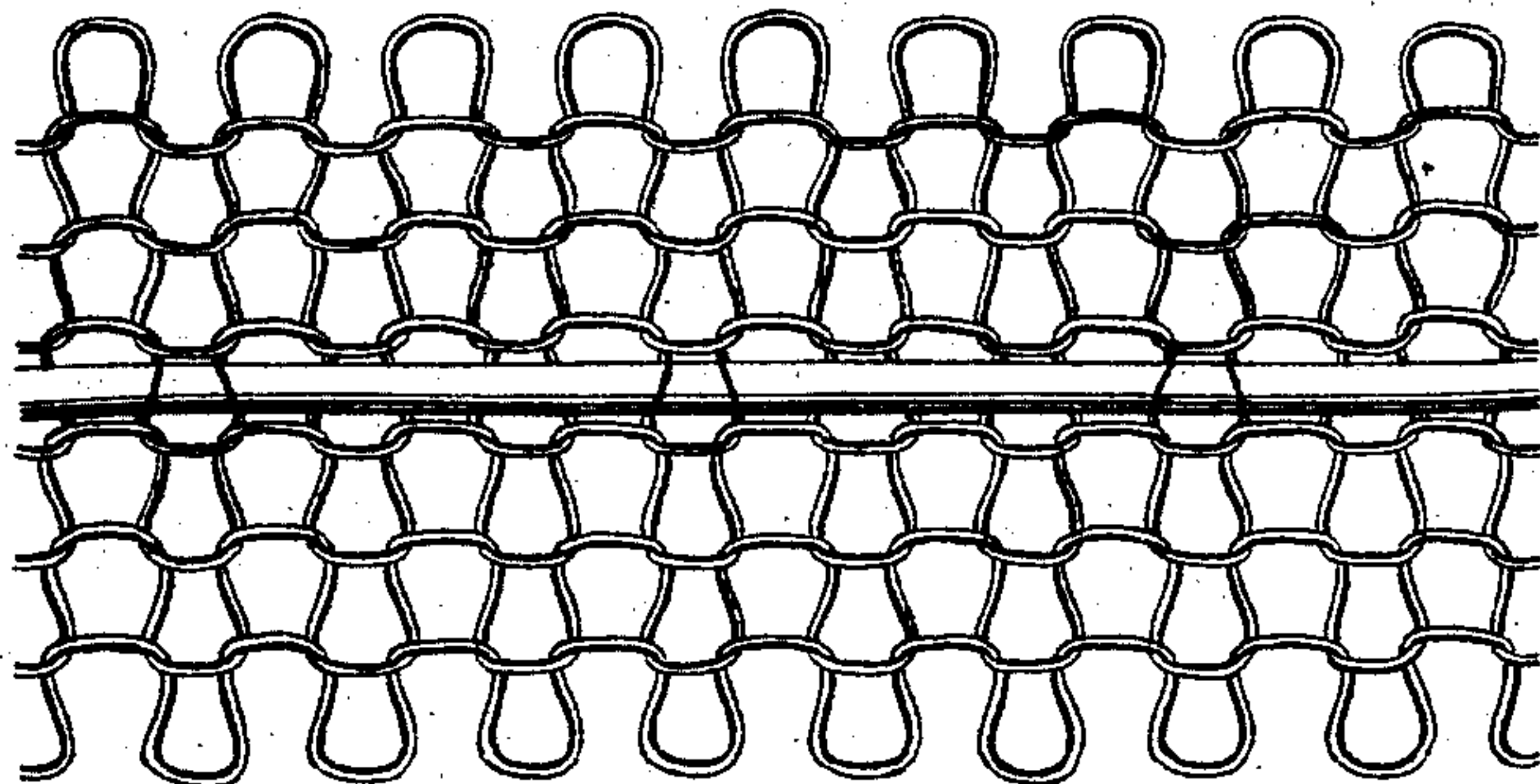
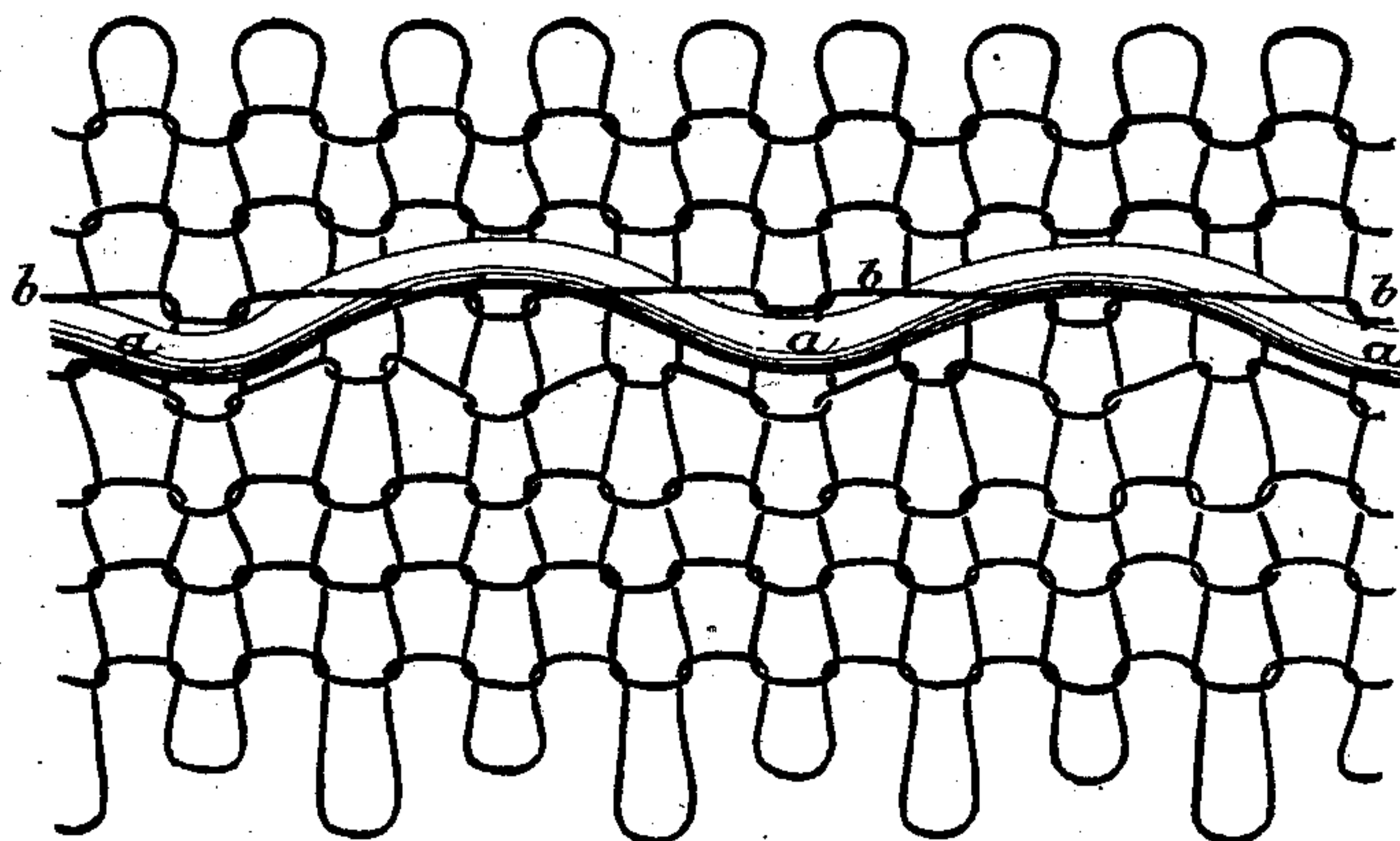


FIG. 2.



Witnesses:
Alex. Barkoff.
Hamilton H. Turner.

Inventors.
William Wrightson &
Robert N. Wrightson.
by their Attorneys
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UNITED STATES PATENT OFFICE.

WILLIAM WRIGHTSON AND ROBERT N. WRIGHTSON, OF LINWOOD, PENNSYLVANIA.

KNITTED FABRIC.

SPECIFICATION forming part of Letters Patent No. 393,734, dated November 27, 1888.

Application filed January 5, 1887. Serial No. 223,421. (Specimens.)

To all whom it may concern:

Be it known that we, WILLIAM WRIGHTSON and ROBERT N. WRIGHTSON, both citizens of the United States, residing in Linwood, Delaware county, Pennsylvania, have invented certain Improvements in Knitted Fabrics, of which the following is a specification.

Our invention relates to the manufacture of that class of knitted fabrics which have a surface-thread bound to the body at intervals, and especially to the manufacture of such fabrics of this class as are known as "boucle" or "astrachan" fabrics, in which the surface-thread forms curls or rings, the objects of our invention being to expedite the manufacture and improve the appearance of fabrics of the character set forth.

In the accompanying drawings, Figure 1 is a view of a piece of boucle fabric made in accordance with our invention. Fig. 2 is an exaggerated diagram of a piece of the fabric, showing the character of the body fabric to which the surface thread is secured; and Fig. 3 is a similar diagram illustrating a method which has been heretofore adopted in making fabrics of the class to which our invention relates.

So far as we are aware boucle or astrachan fabrics have, prior to our invention, been made on ordinary stockinette-machines—such, for instance, as that shown in the patent of Kent and Leeson, No. 160,685, March 9, 1875. In this case the thread forming the body fabric is composed of two strands and the face-thread passes between the two strands in certain of the loops, so as to be bound to the body fabric, as shown in Fig. 3. This face-thread in a boucle fabric is of such character that it has an inherent tendency to form curls or rings when sufficient slack is provided for the purpose, and the threads are such that when the fabric is subjected to the finishing operation there is a difference in the degree of shrinkage of the face-thread and body-threads, so as to form more or less slack in said face-thread. In the usual fabric, however, the face-thread is laid in straight and is bound in tightly to the body fabric, so that there is not sufficient slack to form the desired curls or rings of said face-thread. Hence it has become customary

to employ dividing-wheels for acting upon the face-thread, forming slack portions or loops therein at proper intervals during the knitting of the fabric. One objection to this method of manufacture is that the speed of a machine of this class is limited, a further objection being that the loops must necessarily be disposed on the face of the fabric in accordance with a regular system or pattern.

In making our improved fabric we confine the surface-thread *a* by means of a thread, *b*, forming part of the body fabric, but drawn into stitches only by alternate needles, and thus forming stitches only in alternate wales of the fabric. For instance, as shown in Fig. 2, the course of thread *b*, which serves to bind the face-thread *a*, forms a stitch only in every other wale of the fabric and floats across the intervening wales, these floating portions serving to bind the face-thread. The thread *b* may, however, form stitches in every third, fourth, or other alternate wale, as may be desired.

When the face-thread is confined by a binding-thread which forms stitches on alternate needles only, as described, said face-thread is held so loosely that its inherent tendency to form rings or curls is not materially affected by the stricture of the binding-thread, so that when the fabric is finished the slack in the face-thread is readily taken up in the formation of such rings or curls. The rings thus formed are, of course, disposed at haphazard over the surface of the fabric, instead of being disposed in accordance with a regular system, and in this particular our fabric is of more attractive character than such fabrics as heretofore made.

Our invention may also be adopted in the manufacture of plush-faced fabrics, in which the surface-thread does not form rings or curls, the tying of the surface-threads by a body-thread forming a stitch only in alternate wales of the fabric, in this case insuring fullness of the surface-threads and permitting the ready formation of the plush face by gigging said threads.

As an instance of a machine on which our improved fabric can be made, we may refer to our patent, No. 353,525, dated November 30, 1886. In making the improved fabric on this

machine the needles to which the binding-thread is supplied should be depressed to the full extent, so as to cast their stitches and form new loops of the binding-thread when the face-thread is cast off. As shown in Fig. 2, there are four plain courses of stitches between successive binding courses, and this number may be varied, as desired, by varying the arrangement of the cams in the machine, there being
10 a plain course of stitches for each time that all of the needles rise to receive the knitting-thread. In producing the fabric shown in Fig. 2, therefore, after alternate needles have been raised to receive the binding-thread, there will
15 be four rises of all the needles to receive the knitting thread before there is another rise of alternate needles for the binding-thread.

We claim as our invention—

1. A knitted fabric having courses forming
20 stitches in every wale of the fabric, interposed

courses forming stitches in alternate wales, and a surface-thread bound to the body of the fabric by these latter courses, all substantially as specified.

2. A knitted fabric consisting of a body and
25 a surface-thread having rings or curls irregularly disposed over the surface of the fabric, said surface-thread being bound to the body fabric by a course of stitches which is part of said body fabric, but forms stitches only in
30 alternate wales of the fabric, all substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM WRIGHTSON.

ROBERT N. WRIGHTSON.

Witnesses:

WILLIAM D. CONNER,
HARRY SMITH.