

(No Model.)

W. JANSSEN.
KNITTED FABRIC.

No. 473,580.

Patented Apr. 26, 1892.

Fig. 1.

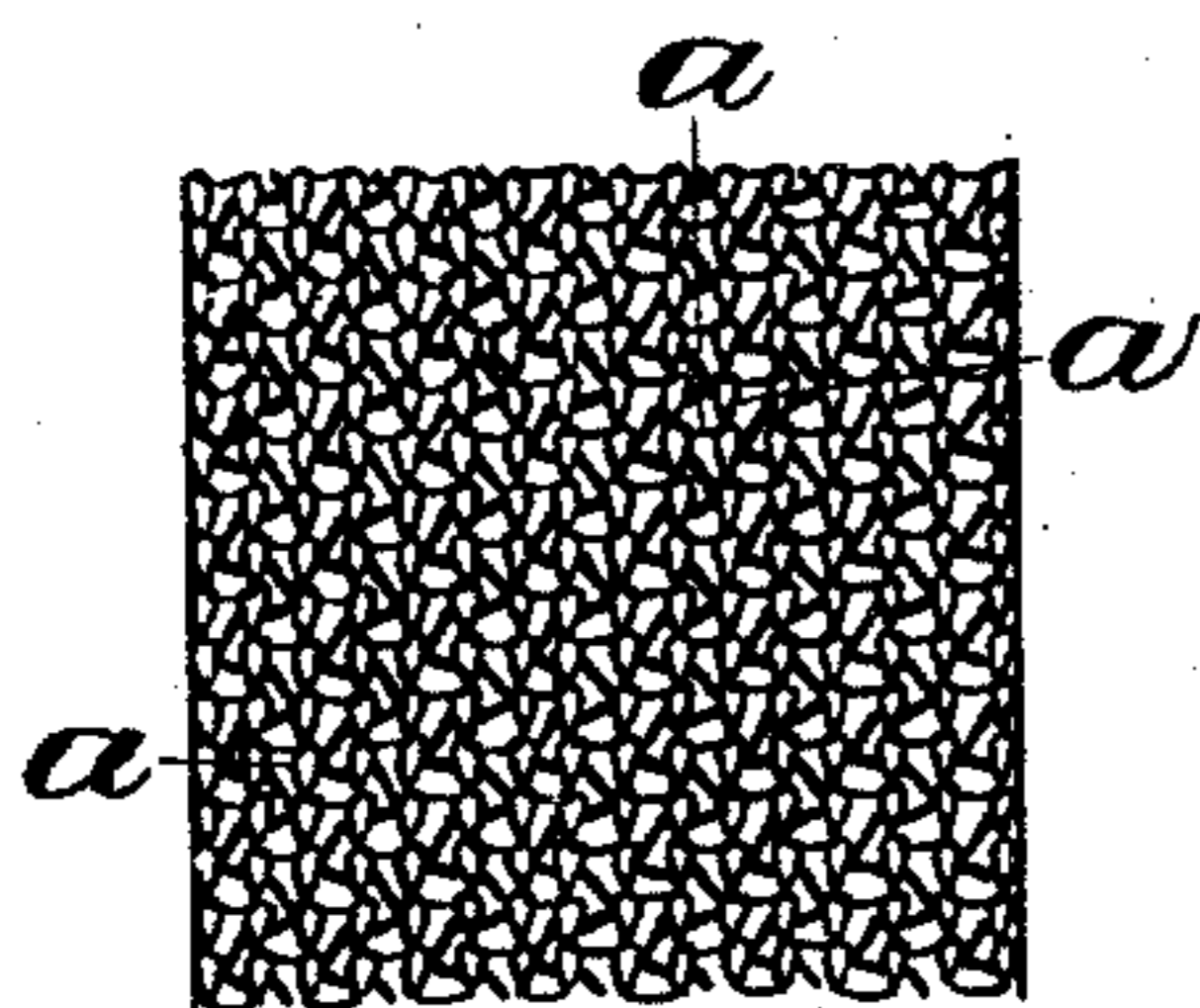


Fig. 2.

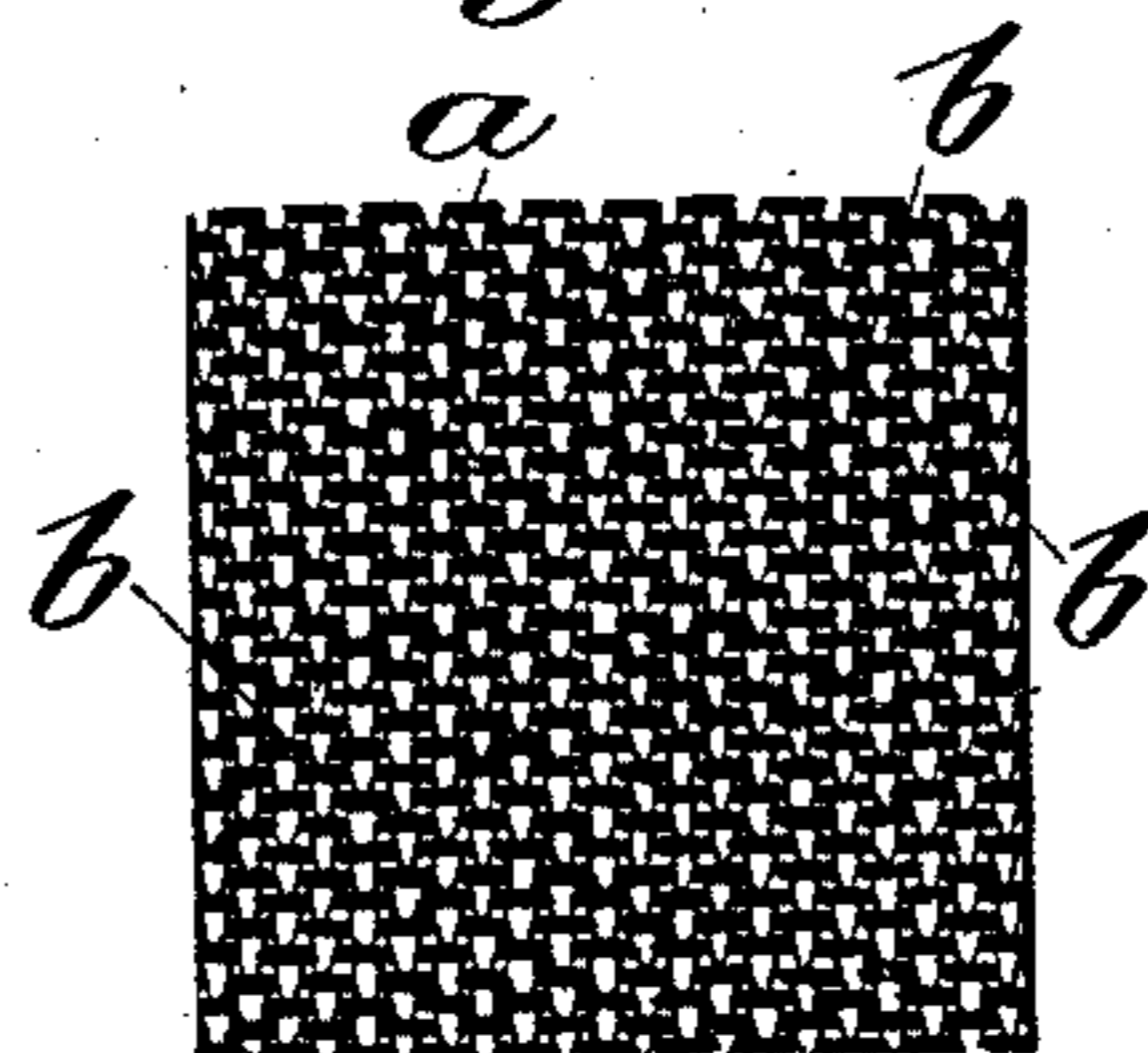


Fig. 3.

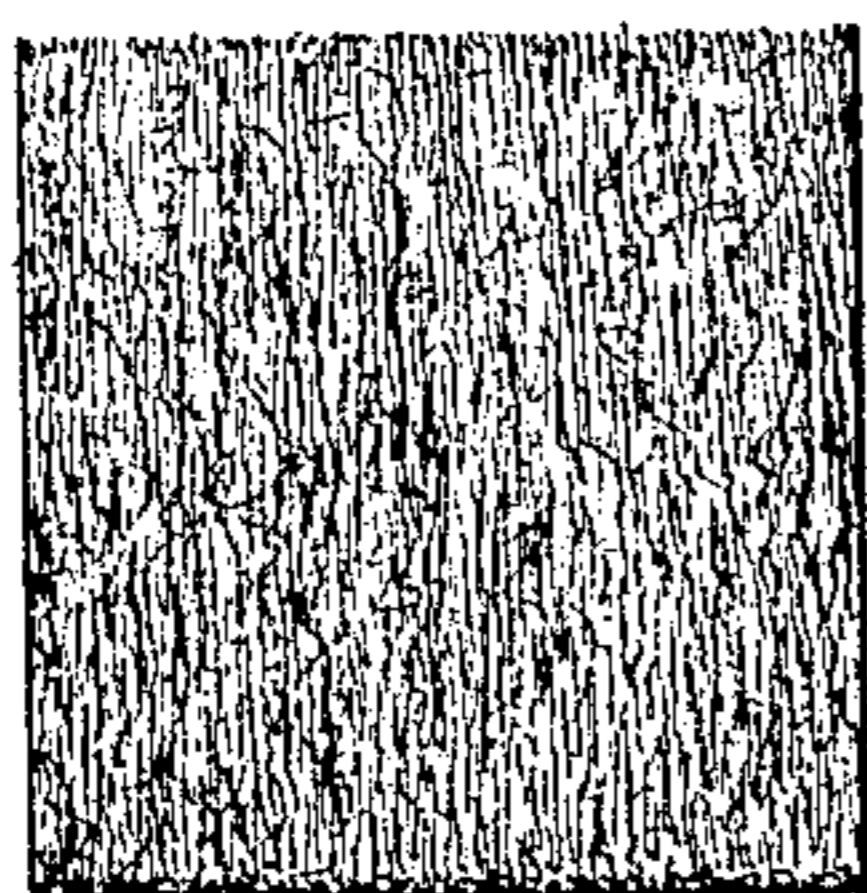


Fig. 4.

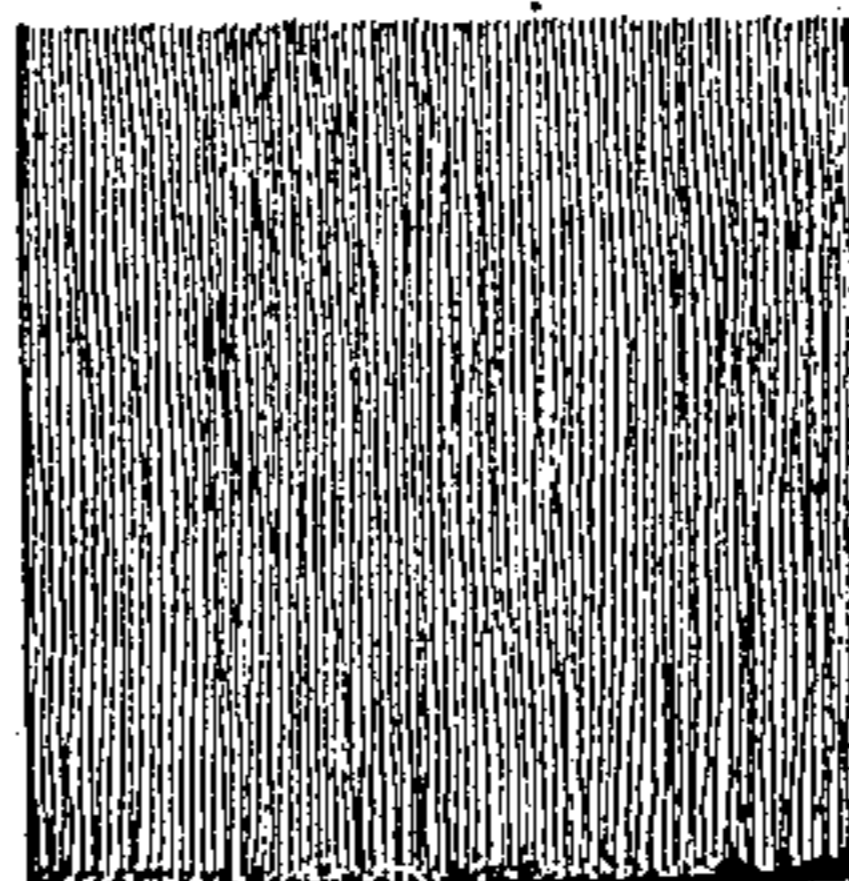
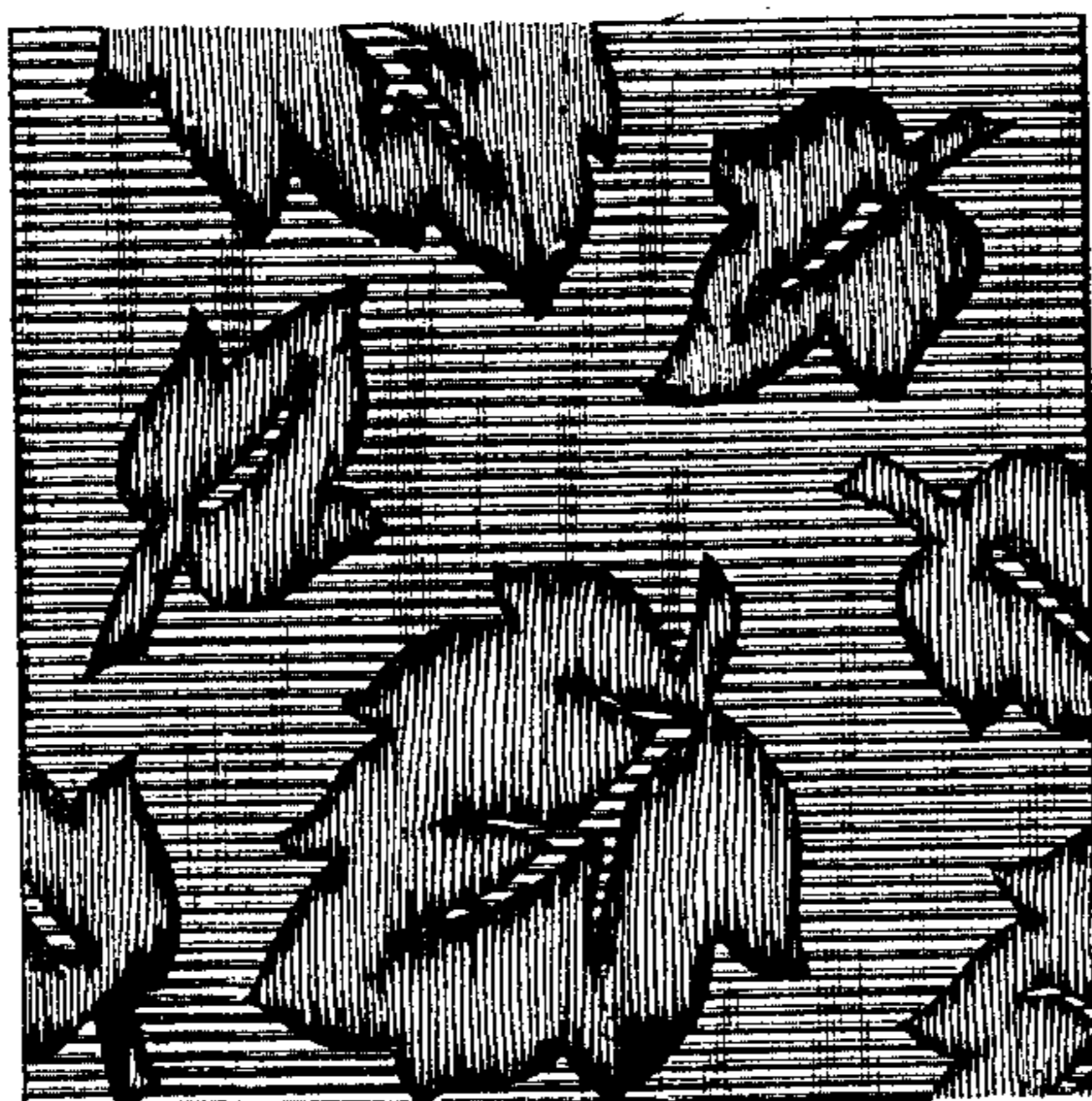


Fig. 5.



Witnesses:-
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UNITED STATES PATENT OFFICE.

WILLIAM JANSSEN, OF CHEMNITZ, GERMANY.

KNITTED FABRIC.

SPECIFICATION forming part of Letters Patent No. 473,580, dated April 26, 1892.

Application filed February 18, 1892. Serial No. 421,979. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JANSSEN, manufacturer, residing at Chemnitz, in the Kingdom of Saxony, in the German Empire, have invented certain new and useful Improvements in and Relating to Ornamented Knit Fabric, of which the following is a specification, reference being had to the accompanying drawings.

This present invention includes a new kind of knitted fabric having an embossed figured surface and the process of making the said fabric. The fabric is intended as an imitation of or a substitute for figured or brocaded silks and plushes for wearing-apparel, upholstery, and decorative purposes and can be produced at very much less cost than such figured goods.

Figures 1 and 2 of the drawings represent opposite sides of a knitted fabric, such as is well known, but will be presently described, to which my process is applied to produce my new fabric. Figs. 3 and 4 represent the face of the fabric in different stages of the process. Fig. 5 is a face view of the new fabric.

In carrying out my invention I first take or produce the well-known knitted fabric known as "stockinet" or "tricot," composed of ordinary knitted meshes of a finer thread or yarn and coarser threads or yarns laid into the finer knitted meshes and bound by the finer thread thereof, the said fabric showing on the one side (represented in Fig. 1) a smooth surface composed of the ordinary knitted meshes *a* of the finer thread and showing on the other side (represented in Fig. 2) a rougher surface composed of the coarser threads *b*. From these coarser threads the embossed surface is to be produced. This fabric or web may be made on a straight or circular knitting machine.

For the purpose of my invention the finer knitted meshes or body of the fabric showing the smooth surface may be of cotton or any other cheap fiber, and the coarser threads from which the embossed surfaces are to be produced may be of cotton, wool, or other cheap material, or even of silk, though if silk be used it may be of waste silk only. Before treating this web or fabric to produce my new fabric it may be dyed in the piece; or if a white fabric is produced it may be bleached,

or the thread or yarn may be dyed before being introduced into the knitting-machine.

The process of manufacturing my new fabric from the stockinet or tricot fabric above described is as follows: The said web or fabric is subjected to a napping process, which may be performed by an ordinary napping-machine in order to convert the coarser threads on the one side of the web into a plush-like fleece. The napping should preferably be in a direction to lay the nap crosswise of the coarse threads from which it is produced. This is the condition represented in Fig. 3. This fleecy side is afterward smoothed down to bring the fibers of the fleece parallel with the grain of the web by means of brushes, and is then made glossy by means of hot ironing, pressing, or calendering. To this brushed and glossed surface of the fleece a cementing solution, preferably a solution of gelatine, is now applied to fix or fasten the fibers. The percentage of gelatine dissolved in water to form the cementing solution may vary according to the character of the product to be obtained, and it may be easily determined in practice. The solution may be applied to the surface by any suitable means, as sponges or brushes. In order to dry this means of fixation and in order to give at the same time brilliancy to the surface, the web is passed between hot plates or heated rollers, and in order to prevent any of the gelatinous matter sticking to the surface of the plates or rollers the web is covered on its prepared side with a fine cloth during the operation of drying by heat.

Fig. 4 shows the face of the fabric after brushing, cementing, drying, and glazing.

The thus-prepared side of the knitted web has next produced upon it in an embossing-machine of any suitable construction an embossed figure pattern or design, as shown in Fig. 5, and thus a highly-effective imitation of plush or silk or brocade with high-relief figure or design is obtained. This embossing completes my invention. The knitted web has of course a certain elasticity which is not destroyed in the finished product by the process just described by which said product is obtained. If, however, it is desired to make the product non-elastic, this may be accomplished by affixing or cementing plain cotton

cloth on the back or undecorated side before
subjecting the napped side or face of the
web to the embossing operation. The effect
of the embossed face may be heightened by
5 applying color or colors in any convenient
way, as by printing, either on the embossed
pattern or the ground within and around the
pattern on the same side.

What I claim as my invention, and desire
10 to secure by Letters Patent, is—

1. The within-described process of produc-
ing a fabric with embossed figure pattern or
design from a knitted fabric composed of a
knitted web of finer thread and coarser threads
15 laid into the meshes of said web and bound
to one side thereof by the finer threads there-
of, said process consisting in, first, napping
the said coarser threads into a fleece on one
side of the web; second, brushing the said
20 fleece parallel to bring its fibers straight and

parallel; third, coating the surface of the
straightened fleece with a cementing solution;
fourth, drying this cemented surface and
glazing the same, and, fifth, finally producing
a relief pattern or design on the so-prepared 25
side of the web by embossing, all as herein
set forth.

2. As a new manufacture, the ornamented
knit fabric herein described, having incorpo-
rated into its meshes a coarser thread with a 30
napped surface, on which is an embossed fig-
ure, pattern, or design.

In testimony that I claim the foregoing as
my invention I have signed my name in pres-
ence of two subscribing witnesses.

WILLIAM JANSSEN.

Witnesses:

GEORG RICHTER,
MARTIN KÖRNER.