

F. A. CALLEY.  
Knit-Fabric.

No. 164,362.

Patented June 15, 1875.

Fig. 1

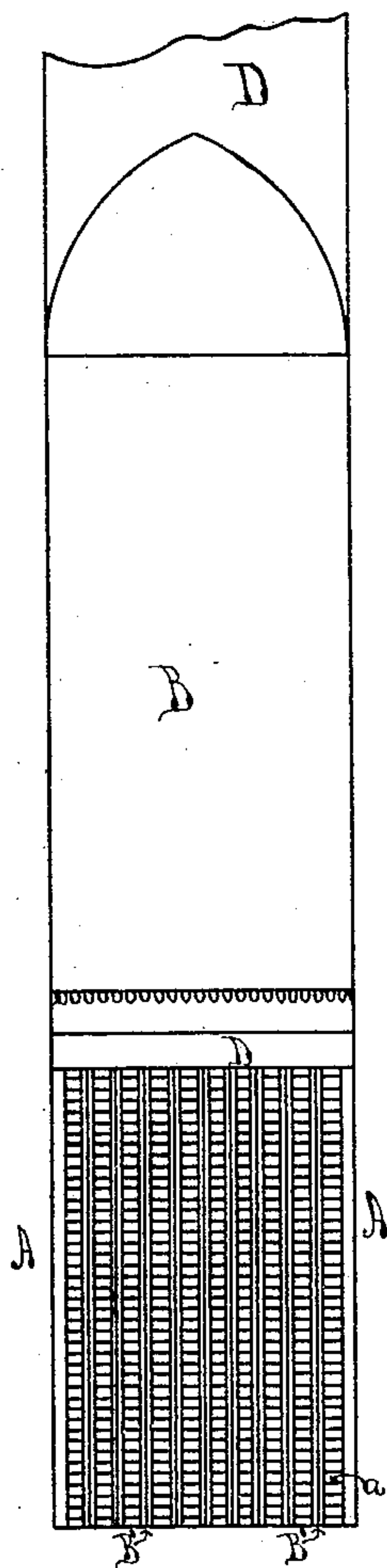
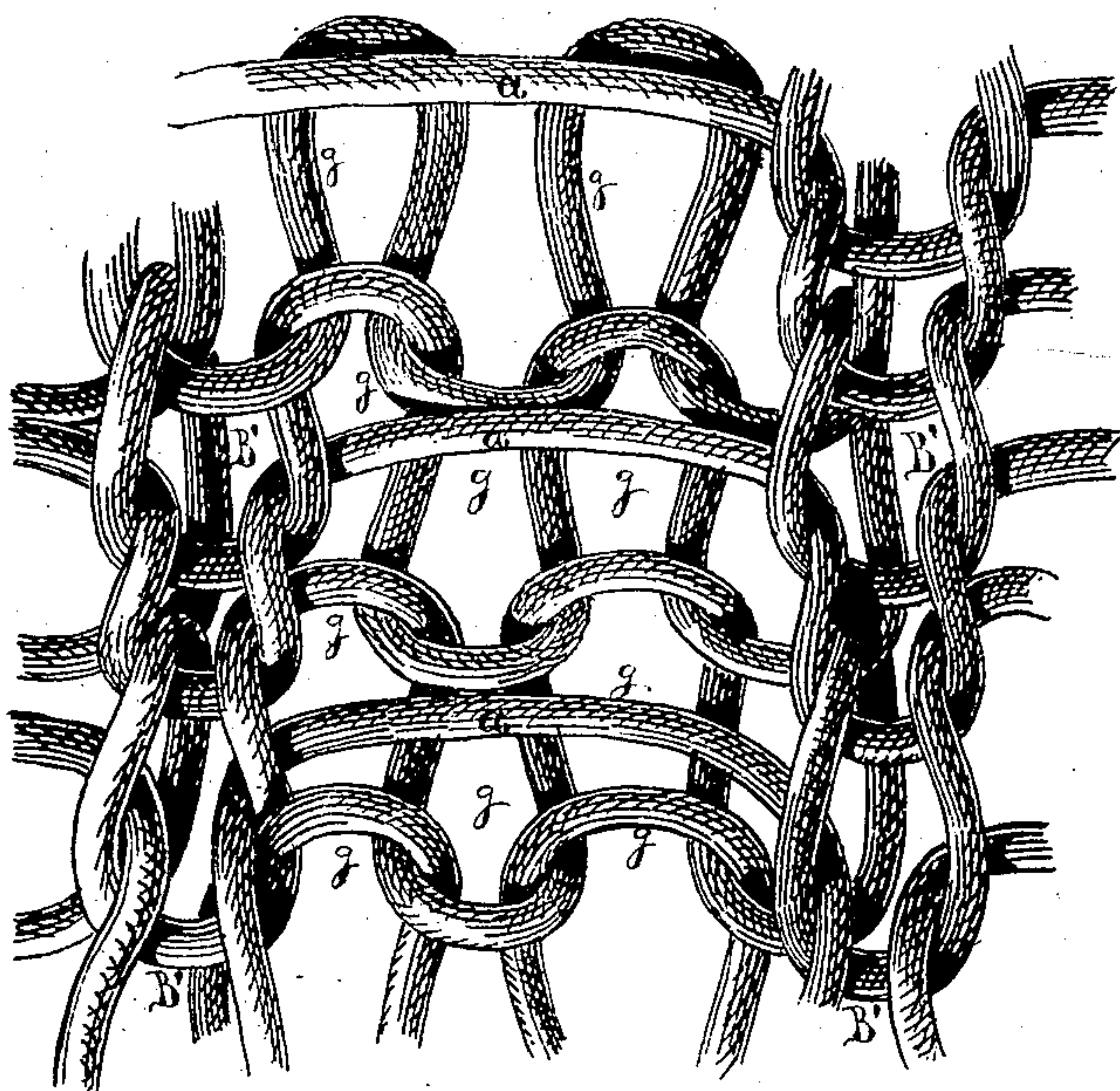


Fig. 2



Witnesses

Wm. D. Brown  
Nathan Brown

Inventor

Freeman A. Calley  
By his Attorney  
John E. Crane

# UNITED STATES PATENT OFFICE.

FREEMAN A. CALLEY, OF GRANITEVILLE, MASSACHUSETTS, ASSIGNOR TO  
CHARLES G. SARGENT, OF SAME PLACE.

## IMPROVEMENT IN KNIT FABRICS.

Specification forming part of Letters Patent No. **164,362**, dated June 15, 1875; application filed  
January 18, 1875.

*To all whom it may concern :*

Be it known that I, FREEMAN A. CALLEY, of Graniteville, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Knit Fabric, of which the following is a specification:

The fabric consists of alternate single and double courses of loops, and of bars or runners looped into the inner ribs, and overlying the outer loops between the ribs. The fabric thus formed presents a two-ply body, tied together by the bars or runners in such manner that it can be stretched crosswise to a limited extent only, and is well adapted for stocking-heels, scarfs, jackets, and various other garments.

Figure 1 represents a partially-formed stocking and a heel-piece composed of my fabric, ready for attachment thereto. Fig. 2 represents a view of my fabric on an enlarged scale, showing clearly the course of the various threads therein.

The fabric is composed of alternate single and double course of loops, and of transverse bars or runner-threads, which are looped into the inner ribs, and carried across the outer loops between the ribs. *B'* represents the inner ribs; *g*, the outside loops between the ribs, and *a* the bars or runners overlying the loops *g*, and looped into the ribs *B'*, forming straight ties or connections between the ribs, and also forming a second thickness in the fabric.

It will be noticed that the fabric has on one side twice as many loops or courses of loops as on the other, every alternate course being omitted on the one side and their places filled by the threads carried straight across between the remaining ribs or loops to form the runners or bars.

The fabric is made on the well-known Lamb

knitting-machine, after first throwing out of action the right-hand front stop and every alternate front needle. When the parts are thus adjusted the rear needles will all be operated as the frame moves to the left, but permitted to stand still as it moves to the right, while the alternate front needles will be operated during both movements of the frame. As the rear needles miss the yarn during the right-hand movement of the frame or carriage, the thread which would otherwise have been formed into loops on said needles is caught by the front needles only and drawn into loops thereon, the portion between the loops extending across from rib to rib, and forming the bars or runners. The bars or runner-threads, after being laid in at the left-hand movement of the frame, are looped fast into the fabric at the right-hand movement of the frame, when the knitting process is carried on by both the front and the rear needles.

In knitting a heel on a stocking the body is made in the ordinary manner, and the loops at its lower end slipped upon the needles of the machine, and the latter then operated as usual.

It is obvious that the fabric may be applied to a variety of uses other than those mentioned.

Having thus described my fabric and the manner of producing the same, what I claim is—

As a new article of manufacture, the herein-described fabric, consisting of alternate single and double courses of loops and bars or runners *a*, looped into the inner ribs, and overlying the outer loops between the ribs, substantially as shown.

FREEMAN A. CALLEY.

Witnesses:

LUTHER PRESCOTT,  
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