G. M. GERNSHYM.

Knitted Trimmings.

No. 163,985. Patented June 1, 1875.

Fig: 3.

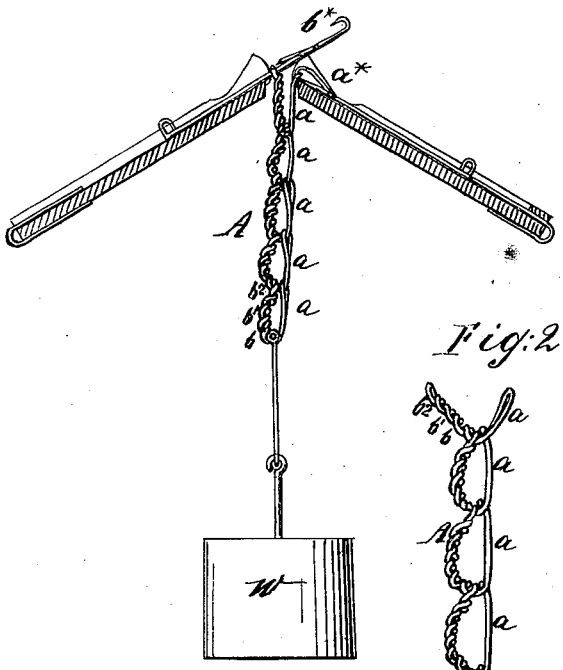


Fig: 1

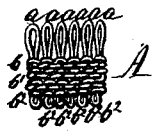


Fig: 2

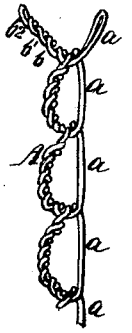
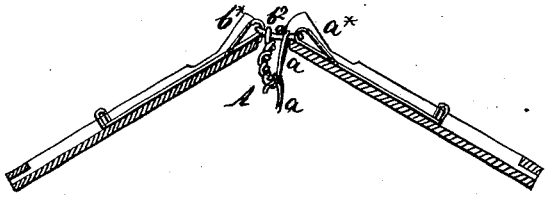


Fig: 4.



Witnesses:
Ernst Bilhuber.
Chas Wahlers

Inventor.
Gabriel M. Gernshym
per
Van Santvoord & Hauff
Attys

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

GABRIEL M. GERNSHYM, OF BROOKLYN, E. D., NEW YORK.

IMPROVEMENT IN KNITTED TRIMMINGS.

Specification forming part of Letters Patent No. **163,985**, dated June 1, 1875; application filed August 13, 1874.

To all whom it may concern:

Be it known that I, GABRIEL M. GERNSHYM, of Brooklyn, E. D., in the county of Kings and State of New York, have invented a certain new and useful Improvement in Knitted Trimming, of which the following is a specification:

This invention relates to an improvement in that class of knitted fabrics which are plain on the back and undulating on the face.

In my trimming the back is composed of single stitches, which lie close together, and each of which, during the operation of knitting, takes up a portion of the thread or yarn from the stitches composing the face in such a manner that, when the trimming is completed, its back presents a uniform, close, and flat surface of stitches of uniform but of much greater length than that of the front stitches, while the front of my trimming is undulating throughout its length, and composed of stitches which are very short and drawn up quite close.

In the drawing, the letter A designates my trimming, the back of which is plain and flat, and composed of the stitches *a a*, while the face or front of said trimming is undulating and composed of the stitches $b\ b^1\ b^2$.

For the purpose of producing my fluted trimmings, I use what is known as Lamb's knitting-machine, which has two sets of needles, $a^*\ b^*$, Figs. 3 and 4, each of which can be worked independent of the other, or both sets can be worked together. I begin to make the first course of loops *a* on the needles a^*; then I throw the needles a^* out of operation and make two or more courses of loops, $b\ b^1\ b^2$, on the needles b^*. During the time the plain courses $b\ b^1\ b^2$ are made, the loops *a*, which are originally of the same length as the loops $b\ b^1\ b^2$, are drawn out gradually, the thread or yarn being taken from the loops $b\ b^1\ b^2$, and at the same time these loops $b\ b^1\ b^2$ are drawn up tight, so that they produce a close web. When the required number of courses $b\ b^1\ b^2$ have been completed, the needles a^* are thrown into gear, and thereby the last course of loops b^2 is connected to the loops *a*. Both sets of needles may be worked together, so as to produce a few courses of ribbed knitting, or a second course of loops, *a*, may be formed on the needles a^* immediately, and then these needles are again thrown out of gear, and a new series of loops, $b\ b^1\ b^2$, is formed on the needles b^*.

By tightening up the courses $b\ b^1\ b^2$ of the face, while the loops *a* on the back are elongated in proportion to the number of courses $b\ b^1\ b^2$, a fabric is obtained which presents a uniform flat surface on the back and an undulating surface in front.

I am aware that attempts have been made to produce welts on knitted fabrics by the use of two sets of needles—such as described, for instance, in the English Patent of Campion, No. 3,190 of 1867, and in the United States Patent of Charles J. Appleton, No. 107,749, dated September 27, 1870.

In neither of these cases, however, the slack-loops formed on the machine-needles of Campion, or those formed on the ribbing-needles of Appleton, can be drawn out to correspond to the number of loops formed by the frame-needles. The plain loops formed on the frame-needles are not drawn tight, and the work produced has an entirely different appearance from my knitted trimming.

What I claim as new, and desire to secure by Letters Patent, is—

A knitted trimming, the back of which is composed of a series of plain stitches or loops, *a*, which lie close together, and each of which is longer than the stitches composing the face of the trimming, said face presenting a continuous undulated surface, each undulation being composed of a series of stitches, $b\ b^1\ b^2$, which are drawn tight, while the back stitches *a* are elongated to match, substantially as shown and described.

GABRIEL M. GERNSHYM.

Witnesses:

W. HAUFF,

HENRY GENTNER.