

A. HENKELS.
LACE WITH GAUZELIKE FOUNDATION.
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1,135,582.

Patented Apr. 13, 1915.

Fig. 1

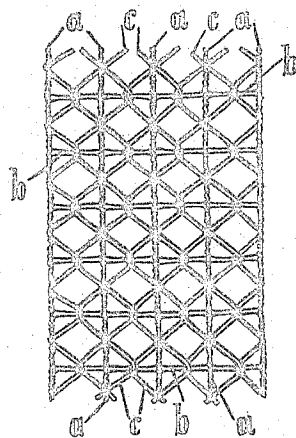
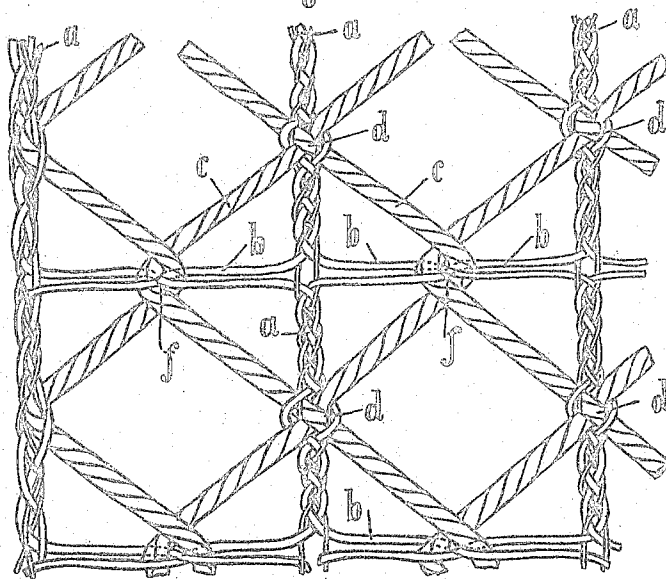


Fig. 2



Witnesses:

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Robert Meyer

Inventor:

A. Henkels

UNITED STATES PATENT OFFICE.

ALBERT HENKELS, OF LANGERFELD, NEAR BARMEN, GERMANY.

LACE WITH GAUZELIKE FOUNDATION.

1,135,582.

Specification of Letters Patent.

Patented Apr. 13, 1915.

Application filed September 3, 1914. Serial No. 859,980.

To all whom it may concern:

Be it known that I, ALBERT HENKELS, manufacturer, a subject of the German Emperor, residing at Langerfeld, near Barmen, Prussia, Germany, have invented certain new and useful Improvements in Lace with Gauzelike Foundation, of which the following is a specification.

The present invention relates to a modification of the invention described and claimed in the specification of my pending application Serial No. 777105. In said specification there is described a method for the manufacture, on braiding machines having one bobbin to each plate, of braid or lace having a gauze-like or net-like foundation in which the bobbin threads are plaited in groups to form narrow strips running in the longitudinal direction and forming the warps said strips being then connected together at intervals for the purpose of forming the weft by the interchange of the marginal threads of each of two adjacent longitudinal strips.

The present modification consists in that special longitudinal threads are worked, in zig-zag form, into the gauze foundation, so that they intersect in pairs in the middle of the longitudinal strips of the separate squares of the gauze foundation, while, by a reversal of their direction of motion, they are intertwisted in the middle of the separate weft strips of the gauze foundation, and being temporarily adjacent, embrace also the points of intersection of the transverse threads. The zig-zag threads thus form squares which are inscribed in the square of the gauze foundation, and all the corners of the said inscribed squares are securely plaited into the foundation. In this manner a new foundation for lace produced on a braiding machine is obtained, and is very similar to that known under the name "Filet-antique", which could heretofore only be produced by hand.

The accompanying drawings illustrate lace produced in accordance with this invention wherein:—

Figure 1 shows a piece of the lace foundation, and Fig. 2 shows a portion thereof on a greater scale.

Referring to the drawing, *a* are the longitudinal strips which run at fixed distances apart and are each composed of four threads plaited together, and *b* are the weft-like transverse strips, formed by the interchange

of the marginal threads of each of two adjacent warp strips, which, in conjunction with the former form the gauze-like or net-like foundation of the lace. According to the present modification special longitudinal threads *c* are worked zig-zag into this lace foundation so that they intersect in pairs in the middle of the warp strips of every square of the lace foundation and are also securely interplaited with this portion of the warp strip, as may be seen in Fig. 2 at the points marked *d*. In the middle of the individual weft-like transverse strips *b* the direction of motion of the zig-zag threads is changed and angles are thereby formed by which means said threads are interlooped in pairs, as may be seen from the drawing at the points marked *f*, and pass between the two threads of the cross-strips *b* in such a way that they embrace their point of intersection between them. The squares formed by the zig-zag threads *b*, which are inscribed in those of the foundation, are in this manner securely plaited to the gauze foundation at all four corners and together with it form a new lace foundation which it has hitherto not been possible to manufacture on braiding machines, and which can then be figured in any known manner.

The thickness of the zig-zag threads *c* may advantageously be such that it is about as great as that of two of the interchangeable threads, which form the transverse weft strips *b*, taken together, or as that of the only slightly thicker longitudinal strips *a*, so that the complete lace foundation presents a uniformly even appearance.

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

1. Lace comprising groups of threads running lengthwise thereof, the threads of each group being plaited together, and threads running transversely thereof and connecting said longitudinal groups, these transverse threads being provided by the interchange of threads between adjacent longitudinal groups; and pairs of zig-zag threads interbraided both with the longitudinal and transverse threads, the threads of each pair crossing each other in the longitudinal groups, and each pair looping the next pair among the transverse threads.

2. Lace comprising groups of threads running lengthwise thereof, the threads of each group being plaited together, and threads running transversely thereof and connecting

said longitudinal groups, these transverse threads being provided by the interchange of threads between adjacent longitudinal groups, the longitudinal and transverse threads forming together a fabric with rectangular meshes; and pairs of zig-zag threads interbraided both with the longitudinal and transverse threads, the threads of each pair crossing each other in the longitudinal groups at places half way along the meshes, and each pair looping the next pair among the transverse threads, at places half way across the meshes.

3. Lace comprising groups running lengthwise thereof and each composed of four threads plaited together, whereof two are thicker than the other two, the thicker threads being diverted at intervals from one to the other of the longitudinal groups to form threads connecting said groups together transversely of the lace, while the thinner threads run continuously through the corresponding group; and pairs of zig-zag threads interbraided both with the longitudinal and transverse threads, the threads of each pair crossing each other in the longitudinal groups, and each pair looping the next pair among the transverse threads.

4. Lace comprising groups running lengthwise thereof and each composed of four threads plaited together, whereof two are thicker than the other two, the thicker threads being diverted at intervals from one to the other of the longitudinal groups to form threads connecting said groups together transversely of the lace, while the

thinner threads run continuously through the corresponding group; and pairs of zig-zag threads interbraided both with the longitudinal and transverse threads, the threads of each pair crossing each other in the longitudinal groups and being each substantially the size of one of said groups, and each pair looping the next pair among the transverse threads.

5. Lace comprising groups running lengthwise thereof and each composed of four threads plaited together, whereof two are thicker than the other two, the thicker threads being diverted at intervals from one to the other of the longitudinal groups to form threads connecting said groups together transversely of the lace, while the thinner threads run continuously through the corresponding group, and the transverse threads and longitudinal threads forming together a fabric with rectangular meshes; and pairs of zig-zag threads interbraided both with the longitudinal and transverse threads, the threads of each pair crossing each other in the longitudinal groups at places half way along the meshes, and each pair looping the next pair among the transverse threads at places half way across the meshes.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT HENKELS. [L. S.]

Witnesses:

HELEN NUFER,
ALBERT NUFER.