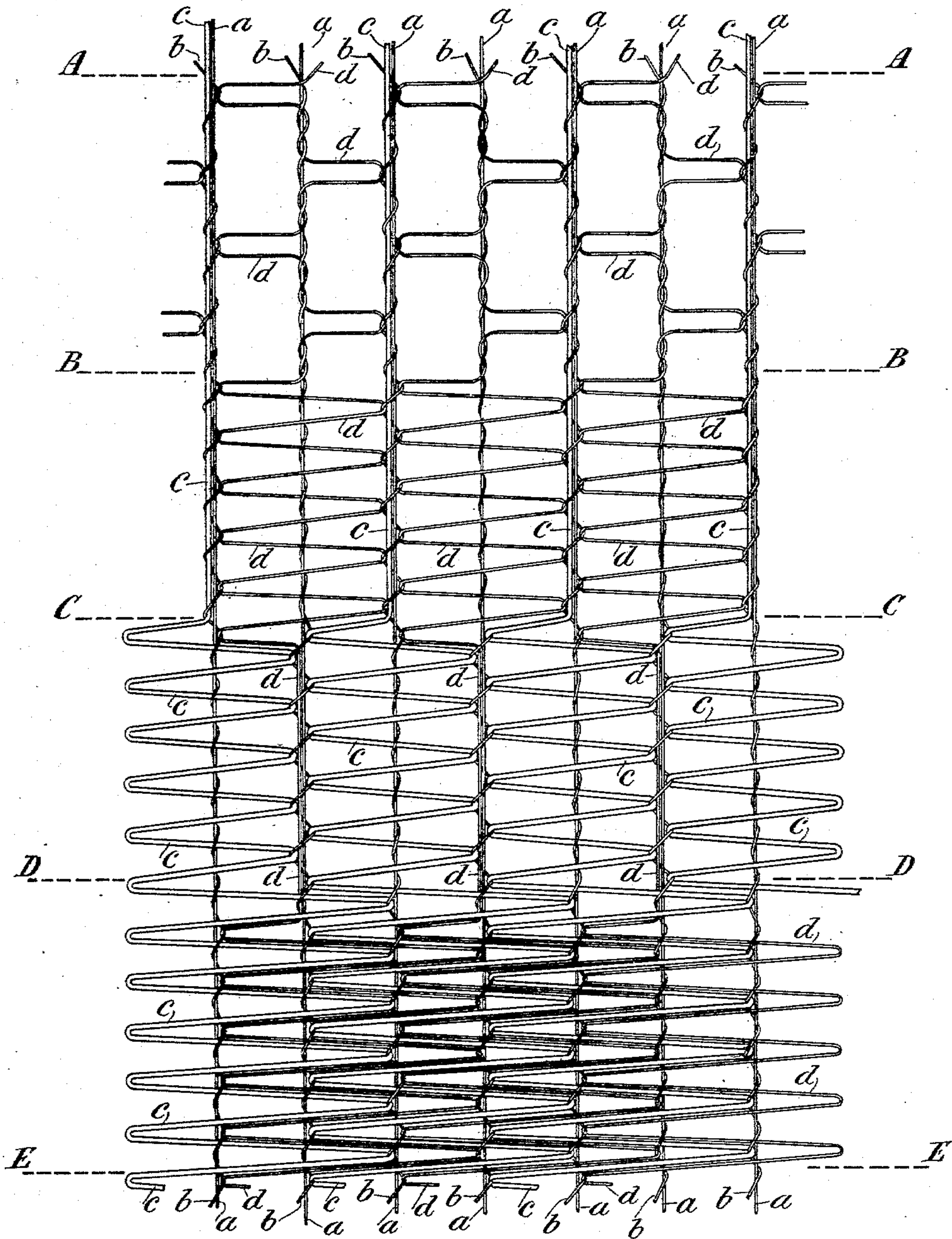


(No Model.)

R. F. CAREY.
TWIST LACE.

No. 563,708.

Patented July 7, 1896.



Witnesses.
E. A. Balloch.
B. W. Meller.

Inventor.
Robert Frederick Carey.
By his Attorneys,
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UNITED STATES PATENT OFFICE.

ROBERT FREDERICK CAREY, OF NOTTINGHAM, ENGLAND, ASSIGNOR TO
CAREY & SONS, LIMITED, OF SAME PLACE.

TWIST-LACE.

SPECIFICATION forming part of Letters Patent No. 563,708, dated July 7, 1896.

Application filed December 9, 1895. Serial No. 571,519. (No specimens.)

To all whom it may concern:

Be it known that I, ROBERT FREDERICK CAREY, managing director of the firm of Carey & Sons, Limited, lace manufacturers, a subject of the Queen of Great Britain, and a resident of Stoney Street, Nottingham, England, have invented certain new and useful Improvements in the Manufacture of Twist-Lace, of which the following is a specification.

Heretofore what is termed "bar-ground" or "V-net" has always had the objection that it was impossible to insert bright effects or fancy grounds without using combination appliances.

By this invention the objection is overcome, the desired effects being produced on a machine having one set of carriages, one warp-bar, and one spool-bar. This is done by having every other spool-thread a fine thread and by causing the other thicker spool-threads always to twist in the pillars while the net is being made, the pillars being connected by the fine threads which traverse to and fro on each side of their pillars instead of on one side only, as is usual.

The difference in thickness of the pillars is scarcely perceptible, but it can be avoided by having every other warp thicker than the remainder, the thick warps twisting with the thin spool-threads and the thin warps with the thick spool-threads. Clothing can be formed by the thick and the thin spool-threads together. It will be understood that in drafting I can put the ground just where I please, and that where the ground is omitted any kind of open-work or fancy effects can be inserted at pleasure. Moreover, by varying the closeness of the holes any kind of clothing can be produced by the thin cotton.

The drawing is a diagram showing to a greatly-magnified scale a piece of lace made according to this invention.

a a are the warp-threads; *b b*, the bobbin-threads; *c c*, the thick spool-threads, and *d d* the thin spool-threads.

The portion of the fabric between A and B is bar-ground or V-net, the portion between B and C is clothing produced by the thin spool-threads, the portion between C and D clothing produced by the thick spool-threads,

and the portion between D and E clothing produced by both spool-threads.

As will be seen, the ground shown between A and B is produced by the thin spool-threads being first shogged one gait to the left and back again, and then one gait to the right and back again, and so on, the thick spool-threads remaining all the time in their pillars. Other movements may, however, be adopted. Thus a closer mesh may be produced by shogging the thin spool-threads one gait, then another gait in the same direction, and then back two gaits.

The clothing between B and C and between C and D is produced by shogging the thin and thick spool-threads, respectively, first one gait to the left, then backward and forward two gaits to the right and left, and so on, the thick and thin spool-threads, respectively, remaining in their pillars.

The clothing between D and E is produced by shogging both threads backward and forward through three gaits, first shogging them one gait to the left.

The number of gaits through which the threads are shogged when making clothwork may, however, be varied in all three cases.

What I claim is—

1. A twist-lace fabric, in which each pillar consists of one warp-thread, one spool-thread and one bobbin-thread, every other spool-thread being thinner than the remaining spool-threads.

2. A twist-lace net in which every other spool-thread is thinner than the remaining spool-threads, the pillars being connected by the thin threads which pass from their pillars to the adjacent pillars on each side while the thick threads remain in the pillars.

3. A twist-lace net in which every other spool-thread is thinner than the remaining spool-threads, the pillars being connected by the thin threads while the thick threads remain in the pillars and ornamented by patches of clothwork produced by the thin spool-threads by the thick spool-threads and by both spool-threads.

ROBERT FREDERICK CAREY.

Witnesses:

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