

No. 795,354.

PATENTED JULY 25, 1905.

J. LOWRIE.
LOOPED AND CUT PILE FABRIC.
APPLICATION FILED APR. 16, 1903.

Fig. 1.

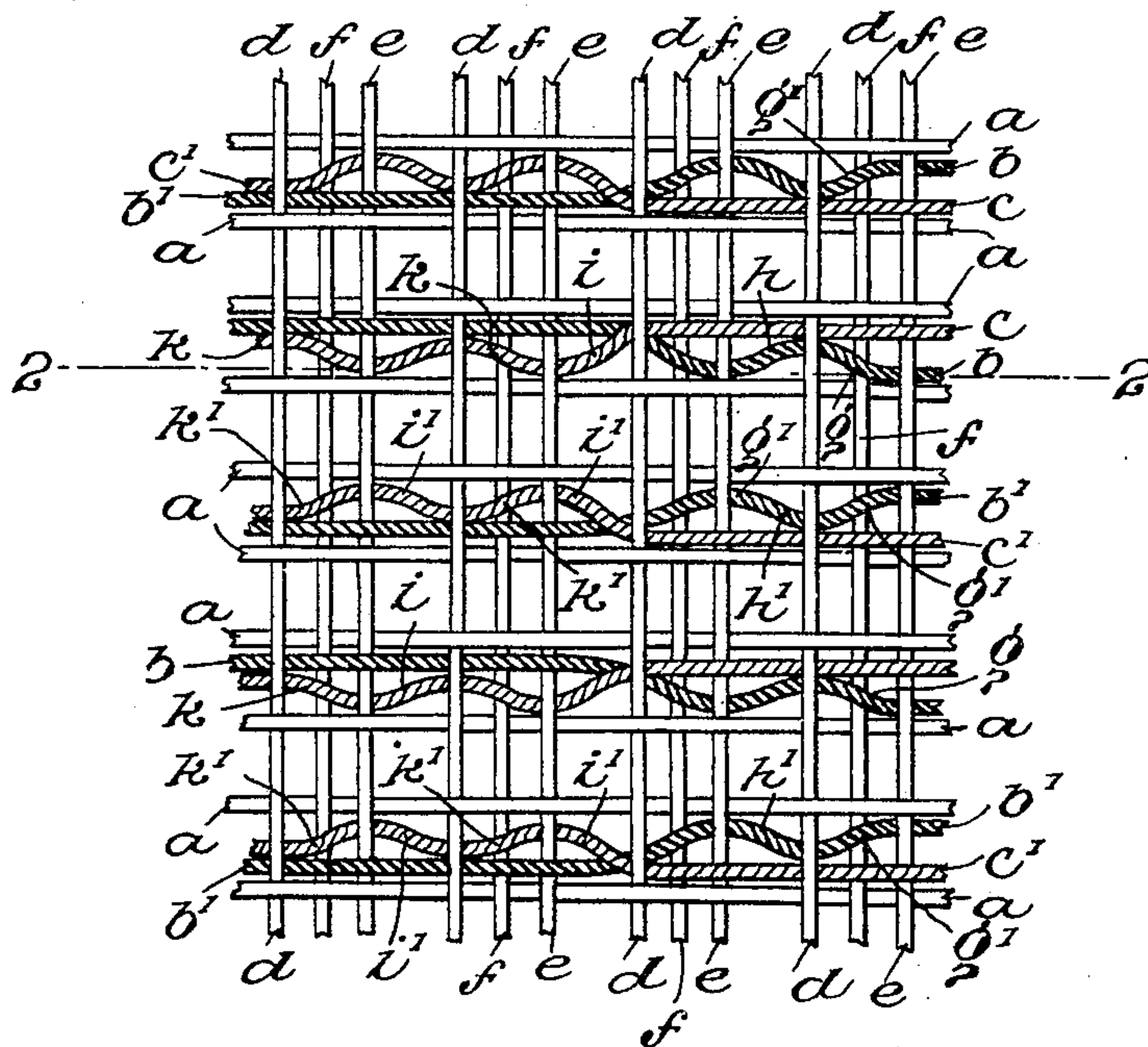
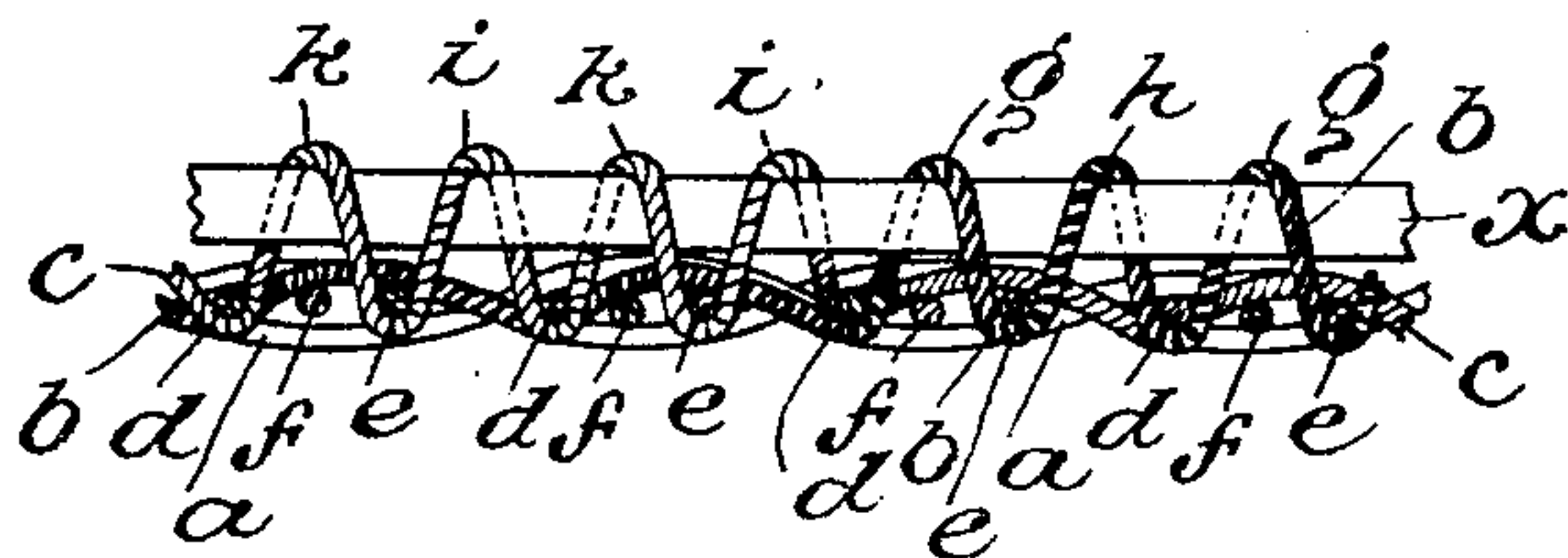


Fig. 2.



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LOOPED AND CUT PILE FABRIC.

No. 795,354.

Specification of Letters Patent.

Patented July 25, 1905.

Original application filed October 24, 1902, Serial No. 128,635. Divided and this application filed April 16, 1903. Serial No. 152,962.

To all whom it may concern:

Be it known that I, JOHN LOWRIE, powerloom tuner, a subject of the King of Great Britain and Ireland, residing at 24 Victoria road, Bridgnorth, in the county of Salop, England, have invented certain new and useful Improvements in Looped and Cut Pile Fabrics, of which the following is a specification.

This invention consists of improvements in looped and cut pile fabrics and constitutes the subject for a division of the pending application for a United States Patent, Serial No. 128,635, filed on or about the 24th day of October, 1902.

In looped fabrics—such, for example, as Brussels carpets—as heretofore made the loops constituting pile are formed side by side, so as to give the appearance of ribs on the surface of the fabric extending from one edge to the opposite edge or selvages of the fabric—that is, in the direction of the weft-threads. According to this invention the loops are made so as to produce the appearance of ribs on the surface of the fabric in the direction of length of the fabric—that is, in the direction of the warp-threads—and portions of the pile-yarn which in the ordinary manufacture of pile fabrics are buried in the ground of the fabric are by this invention saved.

Figure 1 of the accompanying drawings represents diagrammatically in plan, drawn to an exaggerated scale, a portion of a fabric made according to this invention; and Fig. 2 is a longitudinal section on the line 2 2, Fig. 1.

For the sake of simplicity the drawings show what are known as "two-frame" pattern fabrics; but from one to six frame patterns can be similarly woven by providing the loom with creel-frames and needles accordingly. The loops in the pile-yarns are formed by passing the said yarns over from one side to the opposite side of fixed pile-wires arranged in line with the warp-threads, (as described in the specification of which this is a division,) the loops thus formed being bound in the fabric by shots of weft inserted in the sheds formed in the ground-warps on both sides of the loops and beaten up by the reed, an additional weft-shot *f* being inserted, if desired, to increase the body of the ground.

Referring to Figs. 1 and 2, *a* represents the ground warp-threads, *b* and *c* colored pile-yarns, and *d*, *e*, and *f* weft-threads.

In Fig. 2 a pile-wire *x* is shown for the pur-

pose of more clearly illustrating the manner in which the loops are formed, it being understood that this forms no part of the fabric.

g and *h* represent loops formed on the pile-yarns *b* on alternate sides of the pile-wires, and *i* *k* represent loops formed in the pile-yarns *c* on the same pile-wires. The loops *g* are formed on the pile-wires by passing the pile-yarns *b* over them from the front to the back thereof, and the said loops are bound by the weft-shot *d*, inserted in the shed of the ground-warps and beat up by the reed. The pile-yarn *b* is caused to dwell in its passage from front to back of the said pile-wires while a shot of weft *f* is being inserted in the shed to add substance to the ground of the fabric. The loops *g* having been formed and bound by the shot of weft *d*, the shed in the ground-warps is changed and then the pile-yarns *b* are returned over the said pile-wires to the front thereof to form the next series of loops *h* on the same pile-wires, and the shot of weft *e* is inserted in the shed of the ground-warps to bind the said loops. While pile-yarns *b* are being passed from front to back and from back to front of alternate pile-wires other pile-yarns *b'* are being passed over the other pile-wires from back to front and from front to back to form the loops *g'* *h'*, the said yarns *b'* being caused to dwell in their passage from back to front of the said pile-wires at the same time that the pile-yarns *b*, hereinbefore referred to, are dwelling in their passage from front to back of their pile-wires while the shots of weft *f* are being inserted. The pile-yarns *c'* are similarly operated to form the loops *i'* *k'* and *k'* *k'*, the sets of yarns *b* *b'* or *c* *c'* being brought into operation according to the pattern to be produced and which is governed by the pattern-cards, as described in the specification hereinbefore referred to. The loops thus formed and beat up are apparently at right angles to the longitudinal direction of the warp-threads; but the bows of the loops *g* *h'* *i'* *k* are inclined slightly from a right angle to the warp-threads in one direction, while the bows of the loops *g'* *h* *i* *k'* incline slightly from a right angle to the warp-threads in the reverse direction.

By forming the loops in the pile-yarns in the manner described with single-ply yarns an appearance is produced on the surface of the fabric similar to that produced with two-ply yarns in the usual manner. In like manner by employing two or three ply yarns the

effect produced will be similar to those produced in the ordinary manner by four and six ply yarns, respectively, and in each case the quantity of yarn buried in the ground of the fabric according to this invention is considerably less than the quantity buried in the ground in the ordinary weave of pile fabrics.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, I declare that what I claim is—

1. A pile fabric having a series of pile-loops arranged on the surface of the fabric in the longitudinal direction of the warp-threads, each series of pile-loops secured in the ground of the fabric by a plurality of wefts in each shed of the ground-warps, one loop of said series engaging a weft-thread in each of two of said sheds, the succeeding loop engaging another weft-thread in the same shed.

2. A pile fabric having a series of pile-loops arranged on the surface of the fabric in the longitudinal direction of the warp-threads, the pile thread or threads for said loops engaging a plurality of weft-threads in each successive shed of the ground-warps, said pile thread or threads thereby forming a se-

ries of loops secured in the ground of the fabric.

3. A pile fabric having a series of pile-loops arranged on the surface of the fabric in the longitudinal direction of the warp-threads, the pile thread or threads for said loops consisting of a single-ply yarn and engaging a plurality of weft-threads in each shed of the ground-warps thereby forming a pile-loop bound in each shed and an intermediate loop between two sheds resembling a two-ply surface.

4. A pile fabric having a series of pile-loops arranged on the surface of the fabric in the longitudinal direction of the warp-threads, each series of pile-loops secured in the ground of the fabric by three wefts in each shed of the ground-warps, one within the loop and one on each side of the loop, whereby the pile-loops are held fast in the body of the fabric.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN LOWRIE.

Witnesses:

ROBERT HENRY STEWART,
ARCHIBALD GEORGE BARLOW.