(No Model.)

W. LAPWORTH.

ELASTIC OR CORDED FABRIC.

No. 360,449. Patented Apr. 5, 1887.

Fig: 1.

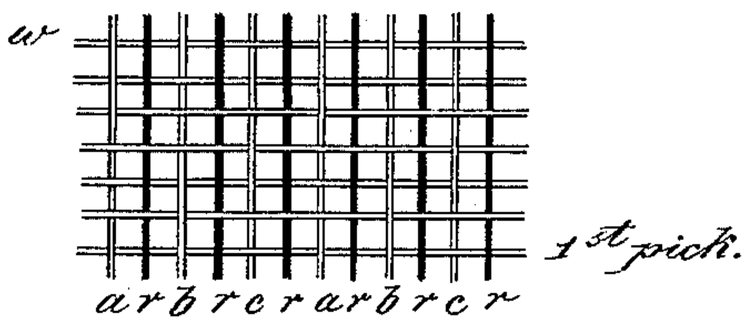


Fig: 2.

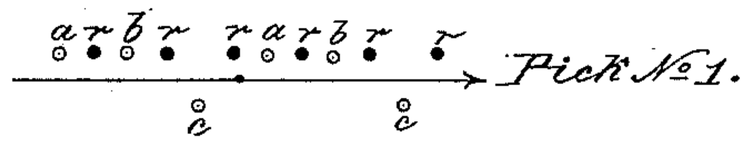


Fig: 3.

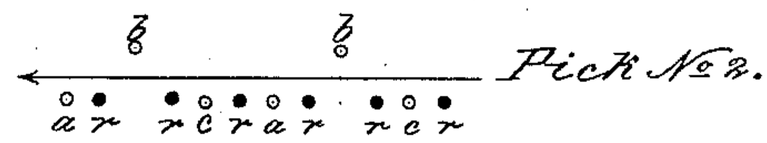


Fig: 4.

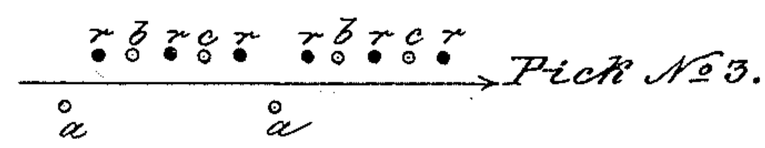


Fig: 5.

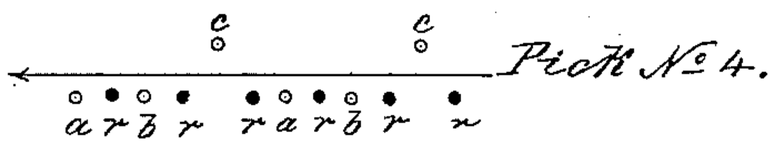


Fig: 6.

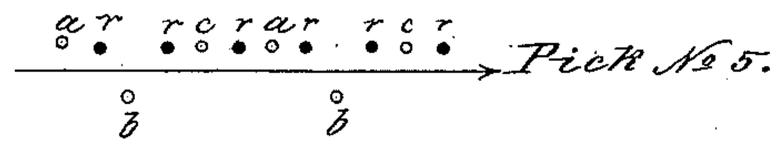


Fig: 7.

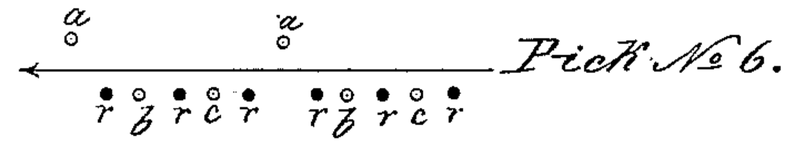
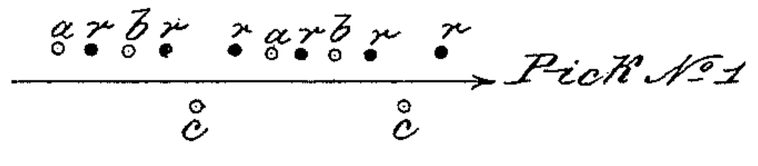


Fig: 8.



Witnesses.

Arthur Zipperlen.
John F. C. Printerbk

Inventor.

William Lapworth.
by Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

WILLIAM LAPWORTH, OF EAST HAMPTON, ASSIGNOR TO THE HOPEDALE ELASTIC FABRIC COMPANY, OF HOPEDALE, MASSACHUSETTS.

ELASTIC OR CORDED FABRIC.

SPECIFICATION forming part of Letters Patent No. 360,449, dated April 5, 1887.

Application filed December 3, 1885. Serial No. 184,557. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM LAPWORTH, of East Hampton, county of Hampshire, and State of Massachusetts, have invented an Improvement in Elastic or Corded Fabrics, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of an elastic fabric having a twilled face and back, the material showing at the back and face being the weft instead of the warp, which has so appeared in all elastic fabrics having a twilled face and back. By causing the weft to constitute the visible part of the face and back of the fabric it is possible to use cheaper threads for the warp, as the weft completely conceals it. Preferably the weft or filling will be introduced by one shuttle; but should two shuttles be employed with weft-threads of different colors, the back and face of the fabric would be of different colors, the color depending upon the color of the weft.

The fabric herein described is woven in what is called a "six-time motion," the warp-threads being up three and down three, the fibrous warps being carried by the heddles of three harness-frames, and the rubber or cord warp by the heddles of one harness-frame.

Figure 1 is a plan view of a portion of a fabric embodying my invention, the warp and weft threads being separated to exhibit their crossings. Fig. 2 is a cross-section of the fabric in the line or shed containing the first pick of the pattern. Figs. 3 to 7 show like views of the different picks, completing the pattern; and Fig. 8 shows the first pick of the repeat of the pattern, it being the same as that shown in Fig. 2. In Fig. 1 the warps are supposed to be contained in six spaces of the reed.

The warp-threads *a* are contained in the heddles of one harness-frame, those *b* in the heddles of a second harness-frame, those *c* in the heddles of a third harness-frame, and the rubber or cord warps *r* by the heddles of a fourth harness-frame.

The threads are drawn through the space between the dents of the usual reed, so that there will be a rubber warp, *r*, in every dent; but the threads *a*, *b*, and *c* will be in separate dents, thus making a fibrous and a rubber warp in each dent.

In the first shed or pick of the six-time motion, (represented in Fig. 2,) the warp-thread *a* is up; but it goes down at the second pick, and remains down for the third and fourth picks, and rises for the fifth and sixth picks, thus making that warp stand up for three and down for three.

In the first pick (see Fig. 2) the thread *b* is up, and it remains up for the second and third picks, and it is down for the fourth, fifth, and sixth picks.

The thread *c* in Fig. 2 (showing the first pick) is down, and it remains down at the second pick, and rises and remains up for the third, fourth, and fifth picks, going down on the sixth pick.

The rubber threads *r*, held up for one pick, are lowered for the next pick, and vice versa.

Separating the warps, as described, for the insertion of the weft enables the latter to appear upon both the face and back of the fabric as a full twill covering the warp.

I claim—

The herein-described fabric, composed of fibrous and rubber or cord warps and a weft, the fibrous warps thrown alternately to the face and back of the fabric for three picks, the rubber or cord warps being retained at the center of the fabric, and being substantially concealed by the weft, which crosses the rubber warp at opposite sides at alternate picks, whereby the weft is thrown up prominently to form a twilled face and back for the fabric, all substantially as described.

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

WILLIAM LAPWORTH.

Witnesses:
GEORGE M. JOHNSON,
ALBERT W. LOCKE.