

(No Model.)

J. REIXACH.  
WOVEN PILE FABRIC.

No. 442,749.

Patented Dec. 16, 1890.

Fig. 1.

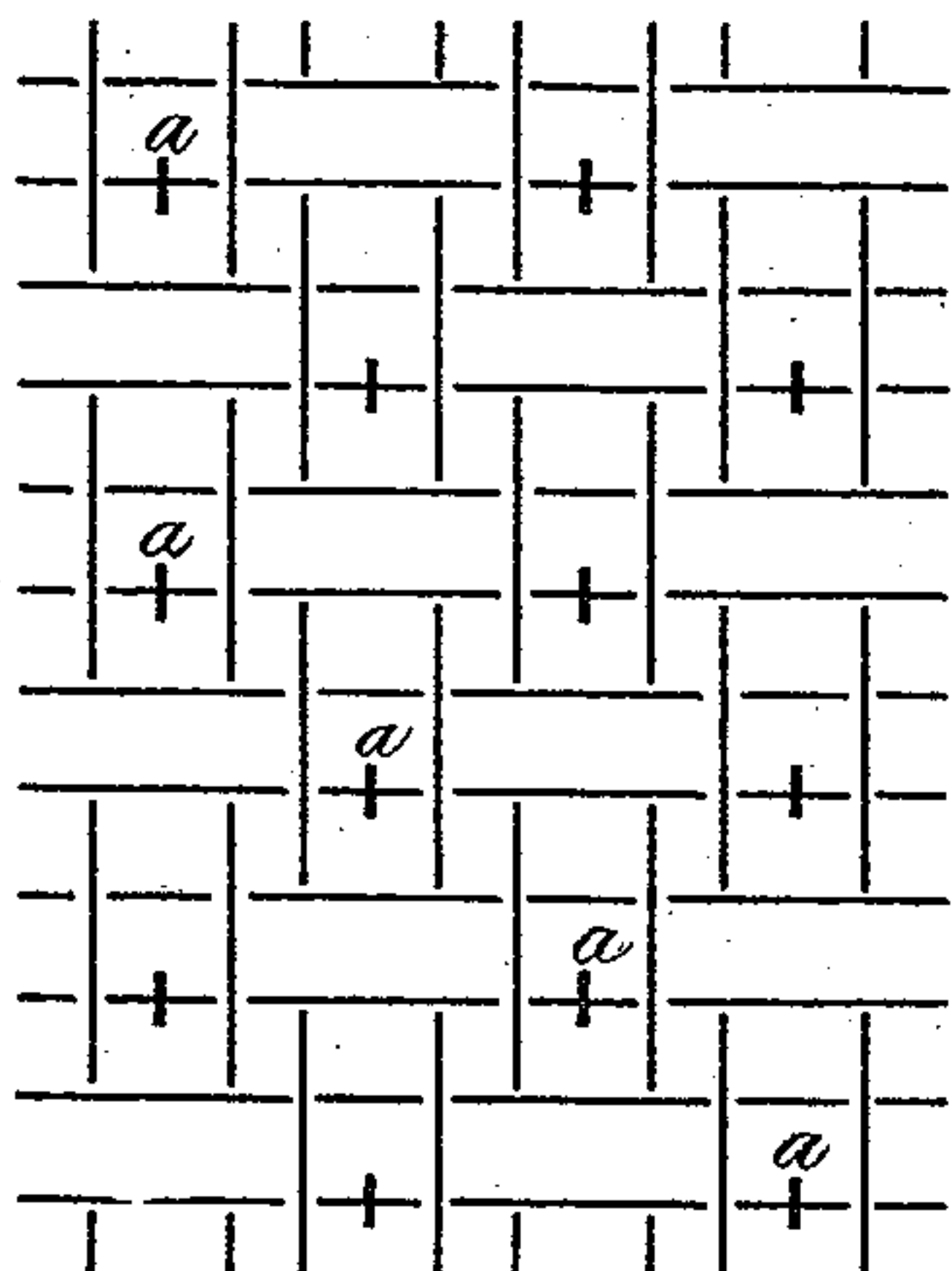


Fig. 2.

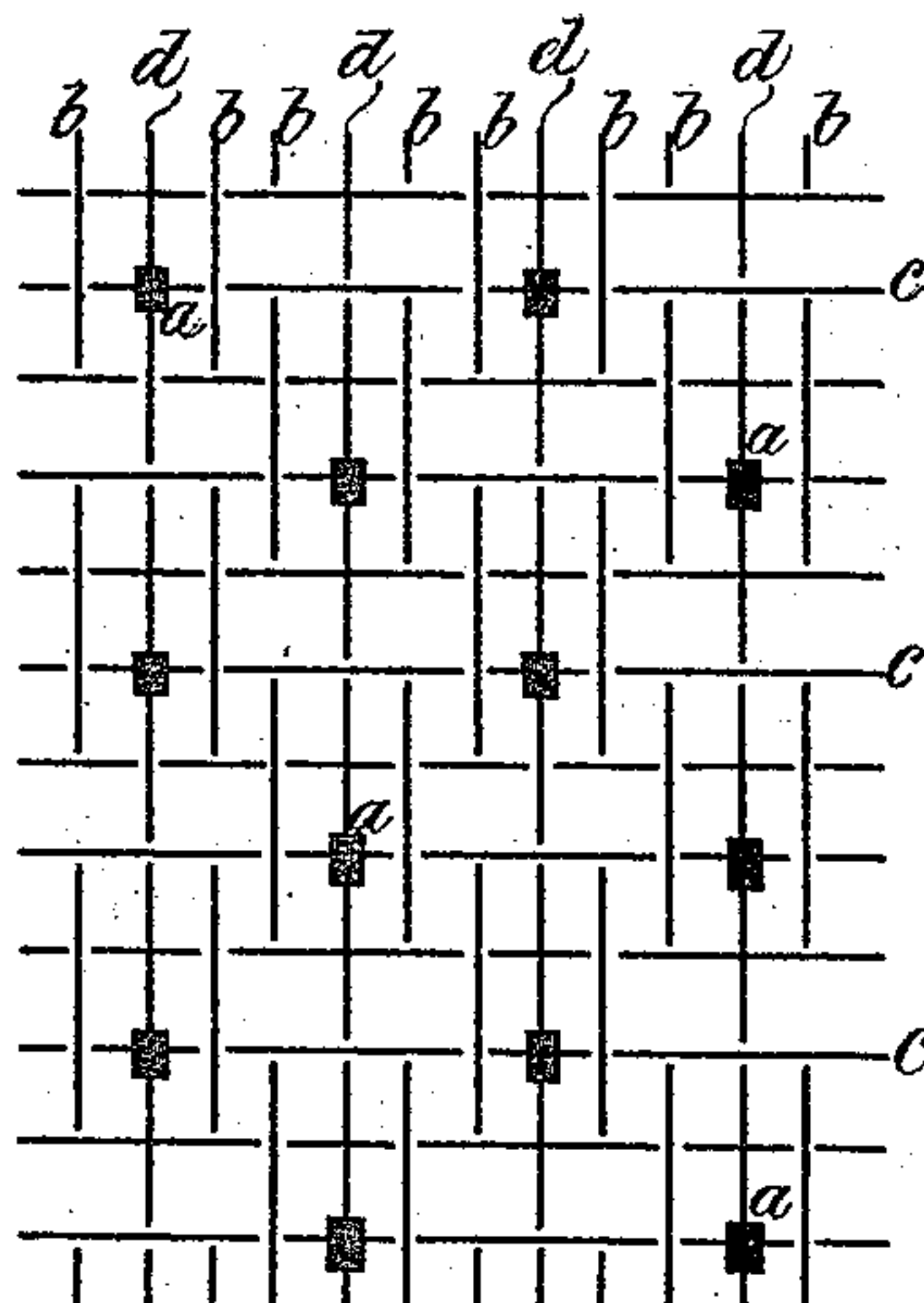


Fig. 4.

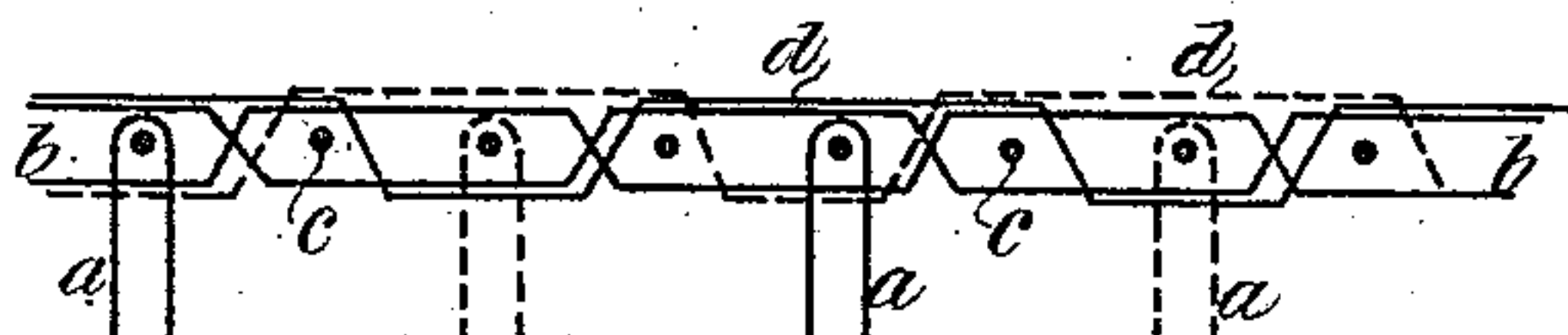
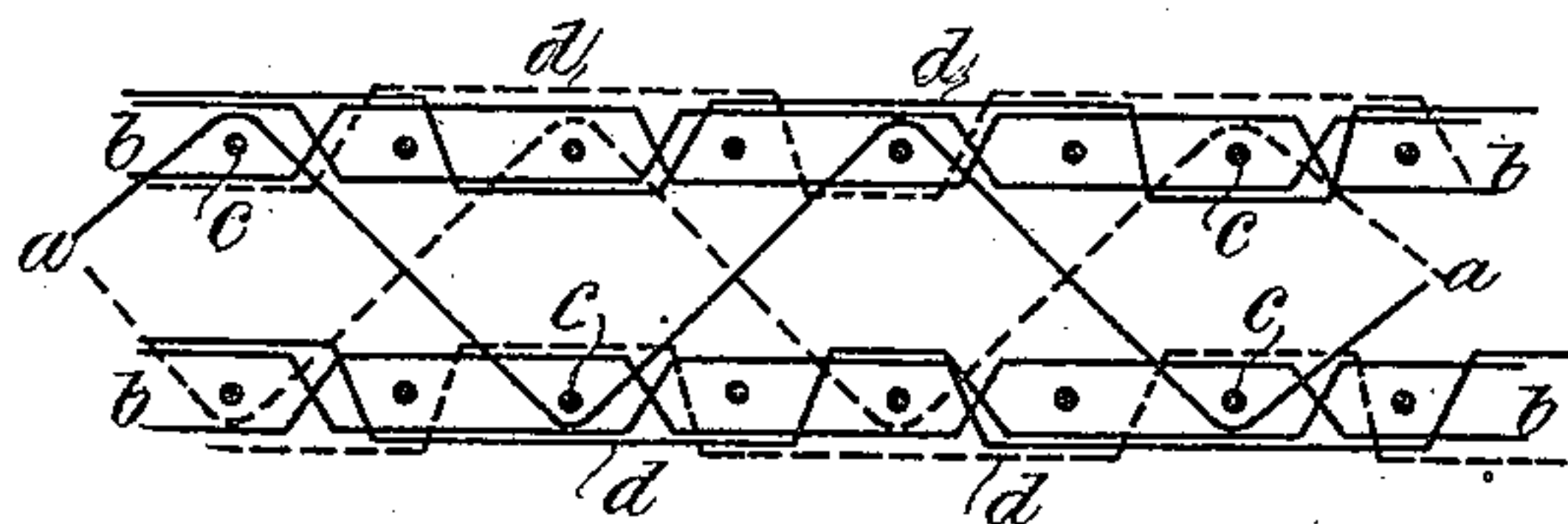


Fig. 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSÉ REIXACH, OF BRADFORD, ENGLAND, ASSIGNOR TO LISTER & CO.,  
LIMITED, OF SAME PLACE.

## WOVEN PILE FABRIC.

SPECIFICATION forming part of Letters Patent No. 442,749, dated December 16, 1890.

Application filed December 12, 1889. Serial No. 333,404. (No model.)

*To all whom it may concern:*

Be it known that I, JOSÉ REIXACH, manager, a subject of the Queen of Great Britain, residing at Manningham Mills, Bradford, in the county of York, England, have invented certain new and useful Improvements in Woven Pile Fabrics, of which the following is a specification.

My invention relates to that class of pile fabrics woven face to face in which the pile is tied with one pick only, and its object is more effectually to hold the pile into the fabric. I do this by means of extra or additional warps in each ground or cloth of the double fabric, one for each pile warp used, and which, whenever a pile warp is tied in is made to float on the back of the cloth and ride over the back of the pile warp, and so to cover or fix the back of the pile-threads and prevent them from being rubbed at the back and drawn out backward, or from being pushed back by pressure applied to the face of the pile.

Velvets are now generally made with the pile tied with one pick only, thus using much less pile warp than when the pile warp has to go round three or four picks, as it used to do in the old pile fabrics, while at the same time a finer-faced cloth is obtained. When a stiff fiber, like mohair, wool, &c., is used for the pile warp, if pressure is put on the face of the pile, the loops of pile-thread are pressed through the cloth and form loops on the back, and these, when subjected to wear, get gradually drawn out entirely from the cloth and the fabric is spoiled.

By my improvements I prevent the pile from being so pressed back and drawn out, and thereby not only attain the advantages desired from tying in the pile by one pick only, but also by the employment of the extra or additional floating warp I make such fabrics as marketable and durable as the old-time fabrics.

The accompanying drawings show my improvements applied to a double pile fabric, woven, as described in the specification of British patent granted to me and to S. C. Lister, as No. 18,794, of 1888. In this fabric each loop of pile warp where it is held into one or the other of the cloths by a single pick of weft is held between two ground-warps above

the weft, and also between two ground-warps below the weft, so that the ends of the loop of pile are held erect.

In the accompanying drawings, Figure 1 is a diagram showing the back of one of the cloths of a double pile fabric, made as heretofore, and as described in the specification of the British patent above mentioned. Fig. 2 is a similar diagram of the corresponding parts of my improved fabric. Fig. 3 is a diagrammatic cross-section through my improved double pile fabric; and Fig. 4, a similar view of one-half of my improved fabric, showing the relation of its parts after the pile connecting the two cloths has been severed.

The pile warps *a* are shown as caught first into one cloth and then into the other. They are in two sets or divisions, so that one-half of them may be tied into each cloth by one weft-thread *c*. Then the other set or division tied in the same cloth by the third of these weft-threads, and none tied in by the fourth, and so on. One of the pile warps *a* is shown in full, the other in dotted lines.

The two sets of ground-warps *b* which form each cloth are shown as made to cross after every two picks thrown between them. The additional warps *d* (shown in dotted lines) are made to float over the backs of the pile-loops, and each additional warp is tied in at every fourth pick of weft put into the cloth, and is made to float at the back over three wefts—viz., the weft which ties the pile and the two wefts which come before and after this weft.

It will be observed that the loops of pile *a* are tied into the ground by a single pick of weft *c*, and are held between two ground-warps *b* above the weft and two similar warps *b* below the weft, as clearly shown in Figs. 3 and 4.

The different figures of the drawings, as above stated, are diagrammatic, showing the manner of weaving the several threads.

In Figs. 3 and 4 the lower warp-threads are shown as arranged below the inner ends of the pile-loops; but in the finished fabric the loops of pile are held between two ground-warps above the weft and two other ground-warps below the weft.

What I claim herein as new and as of my own invention is—



1. A double pile fabric in each of the two cloths of which the loops of pile are tied into the ground by a single pick of weft only, and in which the backs of the pile loops are covered by a ground-warp floated over them, substantially as described.

2. A double-pile fabric in each of the two cloths of which the loops of pile are tied into the ground by a single pick of weft, are held between two ground-warps above the weft and two other ground-warps below the weft, and the backs of the pile-loops are covered by a ground-warp floated over them, substantially as described.

3. A pile fabric in which the loops of pile are tied into the ground by a single pick of weft only, and in which the backs of the pile-loops are covered by a ground-warp floated over them, substantially as described.

JOSÉ REIXACH.

Witnesses:

JNO. SEE,  
*Secretary, Lister & Co., Limited.*

S. E. DEAN,  
*Clerk to Geo. E. Mumford, Solicitor and Notary Public, Bradford.*