

(No Model.)

H. HARDWICK.
CUT PILE CARPET FABRIC.

No. 604,320.

Patented May 17, 1898.

FIG. 1.

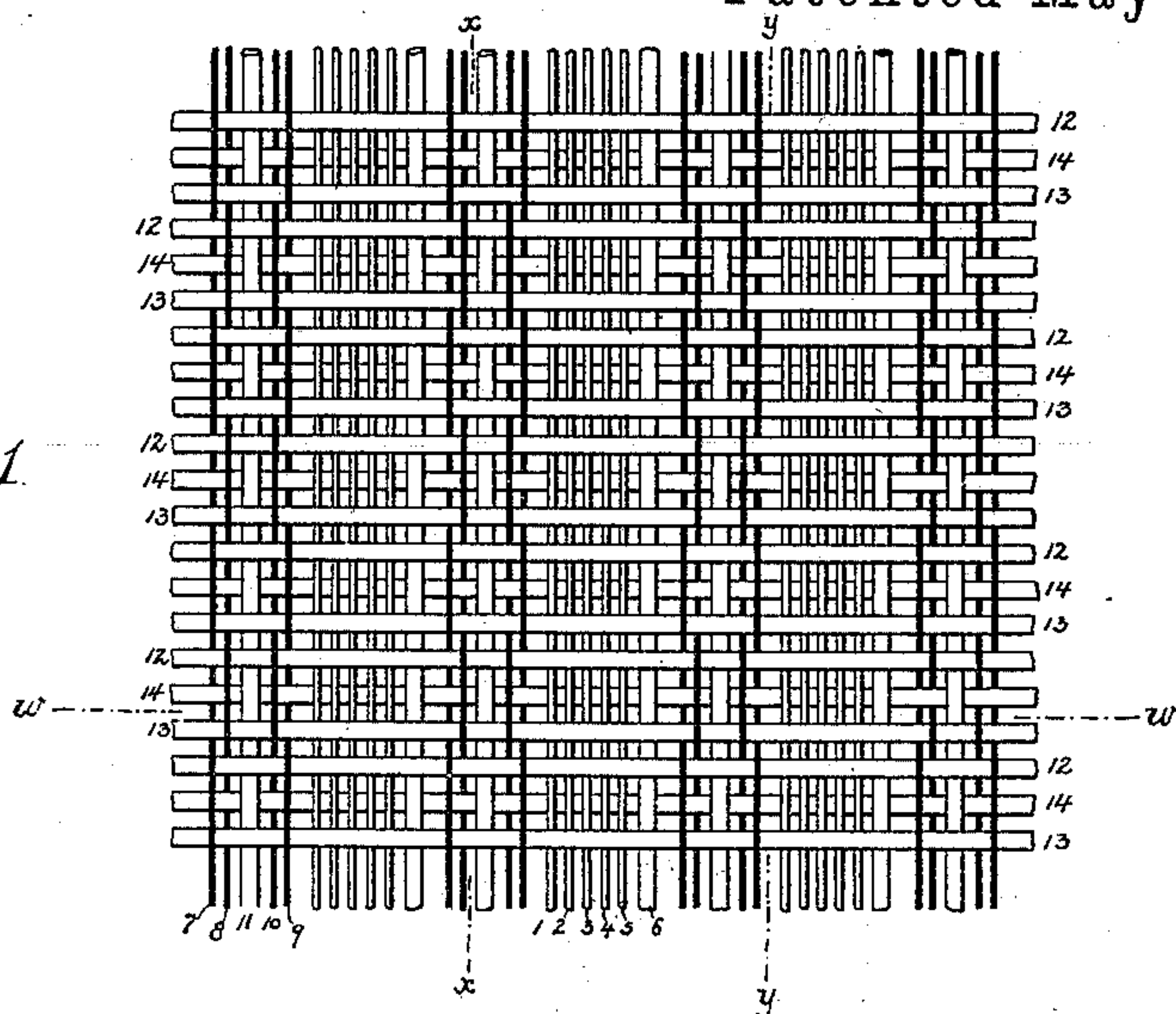


FIG. 2.

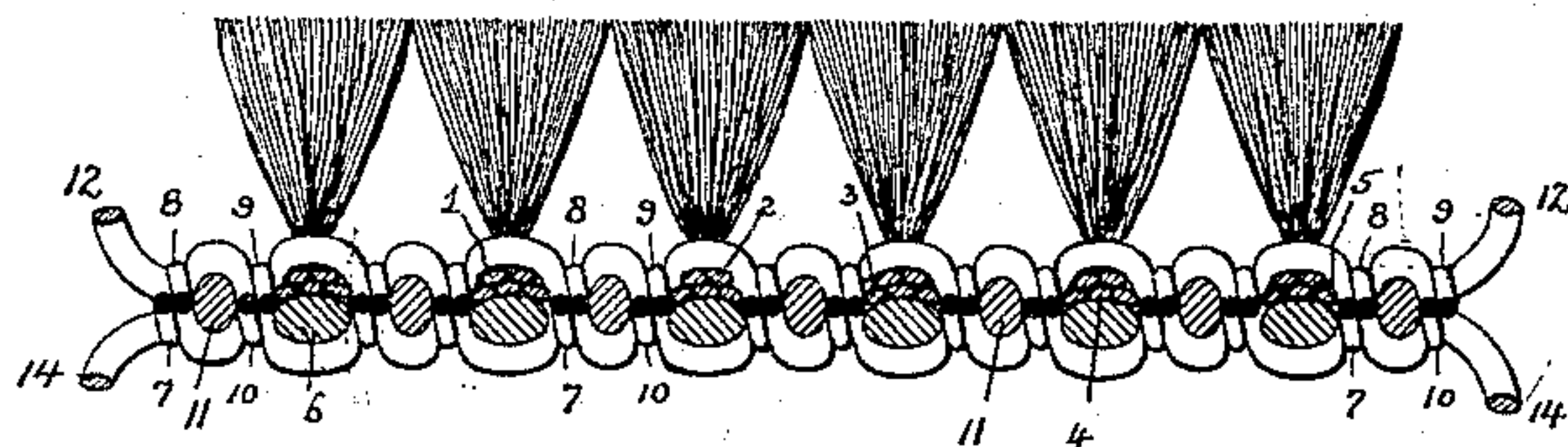


FIG. 3.

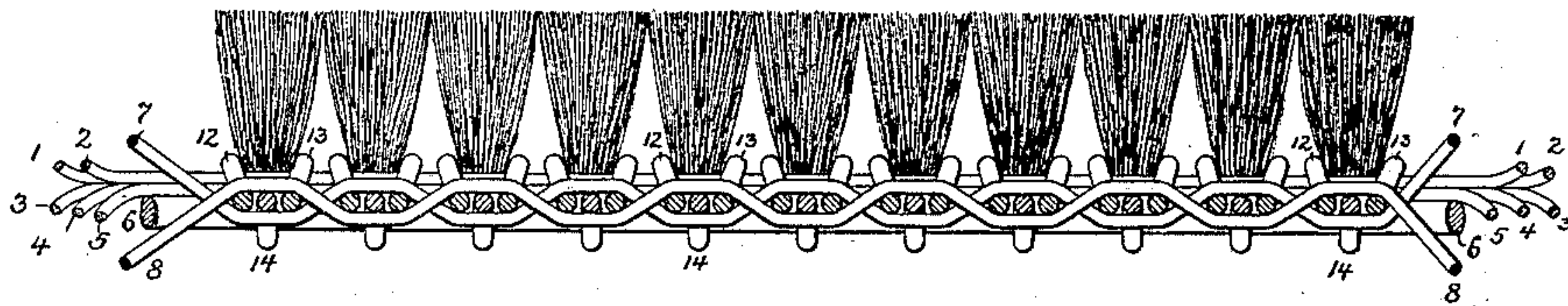
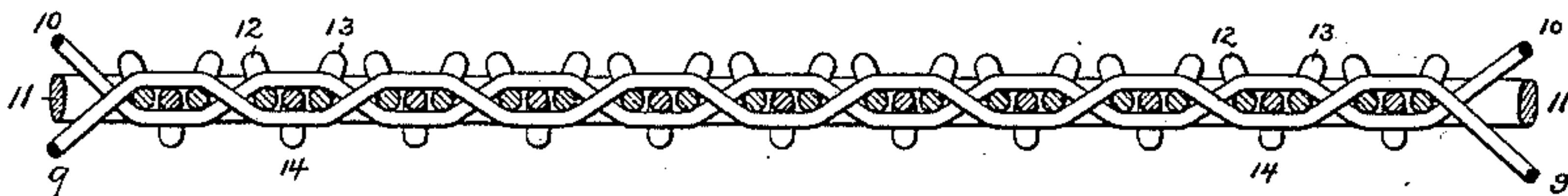


FIG. 4.



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HARRY HARDWICK, OF PHILADELPHIA, PENNSYLVANIA.

CUT-PILE CARPET FABRIC.

SPECIFICATION forming part of Letters Patent No. 604,320, dated May 17, 1898.

Application filed September 22, 1897. Serial No. 652,552. (No model.)

To all whom it may concern:

Be it known that I, HARRY HARDWICK, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented a certain Improved Cut-Pile Carpet Fabric, of which the following is a specification.

The object of my invention is to so construct a Wilton or like cut-pile carpet fabric that the pile-tufts will be permitted to spread more uniformly than in an ordinary fabric of this class, so that I can produce an effective imitation of an Axminster or chenille carpet or rug. This object I attain by laterally separating the successive sets of pile-warps to a greater extent than usual by the use of alternating sets of divider-warps, each of which sets may comprise simply a series of fine binding-warps, but by preference also includes a heavier or stiffer warp, as will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 represents in diagrammatic form and widely separated from each other the various warp and weft threads of which my improved fabric is composed. Fig. 2 is an exaggerated view showing a section of the fabric, taken in the direction of the weft or on the line *ww*, Fig. 1. Fig. 3 is a section of the fabric, taken in the direction of the warp or on the line *xx*, Fig. 1; and Fig. 4 is a section of the fabric on the line *yy*, Fig. 1.

In the present instance I have shown my invention as embodied in that form of carpet fabric known as a "five-frame Wilton"—that is to say, a fabric having five threads in each set of pile-forming warps, which threads I have in the drawings numbered 1, 2, 3, 4, and 5, respectively. With each set of pile-threads I have also in the present instance combined a heavy or stuffer warp thread 6; but the use of such stuffer-warp is not essential, and it may be dispensed with, if desired.

Between adjoining sets of pile-warp threads are sets of divider-warps, each set comprising two pairs of fine binding-warps and an interposed heavier warp, one pair of binder-warps being numbered 7 and 8 and the other pair being numbered 9 and 10, while the interposed warp-thread is numbered 11, and may be composed of a single strand or of any desired number of smaller strands shedded as a unit.

The various warp-threads are in the present instance combined with weft-threads disposed in sets of three, numbered, respectively, 12, 13, and 14, the pile-warps being bound down by the upper wefts 12 and 13 of the set and bound on the back by the lower thread 14, this forming the well-known three-shot binder. It should be understood, however, that my invention is not limited to a fabric having three binding-wefts disposed in this manner, as any desired form of weft-binder may be used, and stuffing-warps may be used in the backing in order to give increased body to the fabric without departing from the essential features of my invention.

In weaving the fabric the pile-warps are controlled by the jacquard machine, as usual, and each pair of fine binding-warps by a pair of heddles or journals, an additional heddle being employed for the control of the warp 11 when the latter is employed, for it should be understood that although I prefer to use this additional warp it is not essential to the proper carrying out of my invention, as the sets of divider-warps interposed between the sets of pile-warps may each consist of two or more sets of fine binding-warps, the object being to effect the lateral or transverse separation of the pile-tufts and the lateral as well as longitudinal compression of the bases of said tufts, so that each tuft will be at liberty to spread both laterally and longitudinally, whereby I am enabled to produce in an ordinary Brussels or Wilton loom a fabric having a surface closely resembling that of an Axminster carpet or a rug produced by the use of chenille, my improved method of production being much the cheaper of the two.

My invention also enables me to greatly increase the number of colors in the fabric without increasing the cost of the same as compared with an ordinary Wilton carpet having the same number of pile-warp threads. For instance, in weaving an ordinary five-frame Wilton carpet each reed-space accommodates a set of five pile-warp threads of different colors, all of the sets being alike and there being employed in the harness five mails for each reed-space.

In weaving my improved fabric, however, alternate reed-spaces are occupied by the divider-warps. Hence I can use for each of these

alternate reed-spaces mails carrying an extra set of three, four, or five pile-warps, which may pass through the same space of the reed as the adjoining set of pile-warps and which
5 thus provide for the addition of three, four, or five extra colors to the fabric without any increase of jacquard capacity, and while still within the limit of cost of an ordinary five-frame Wilton carpet, this use of additional
10 colors enabling me to more closely imitate the patterns of Axminster or chenille goods, which are marked by a greater diversity of color than can be obtained in Wilton or other cut-pile fabrics woven in the usual manner.

15 Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A cut-pile fabric having sets of pile-warp alternating with sets of divider-warp, the
20 whole being interwoven with binding-wefts, the pile being formed by upwardly-extending

tufts of warp-thread and the sets of divider-warp each containing two or more pairs of fine binder-warp, so separated as to laterally compress the bases of the tufts of pile-warp, 25 substantially as specified.

2. A cut-pile fabric having sets of pile-warp alternating with sets of divider-warp, the whole being interwoven with binding-wefts the pile being formed by upwardly-extending 30 tufts of warp-thread and each set of divider-warp comprising one or more pairs of fine binder-warp and one or more strands of stuffer-warp, substantially as specified.

In testimony whereof I have signed my 35 name to this specification in the presence of two subscribing witnesses.

HARRY HARDWICK.

Witnesses:

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JOS. H. KLEIN.