

No. 849,877.

PATENTED APR. 9, 1907.

G. ZIMERMANN.
WOVEN PILE FABRIC.
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Fig. 1.

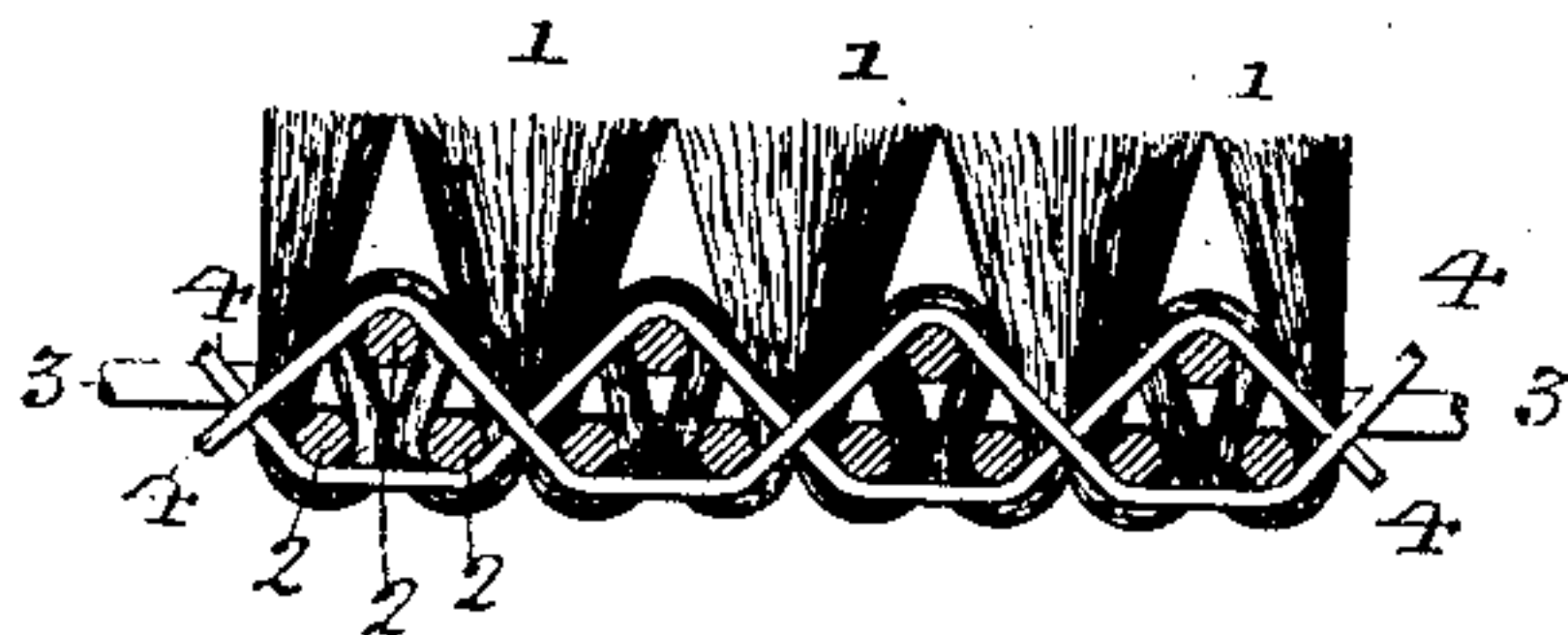


Fig. 2.

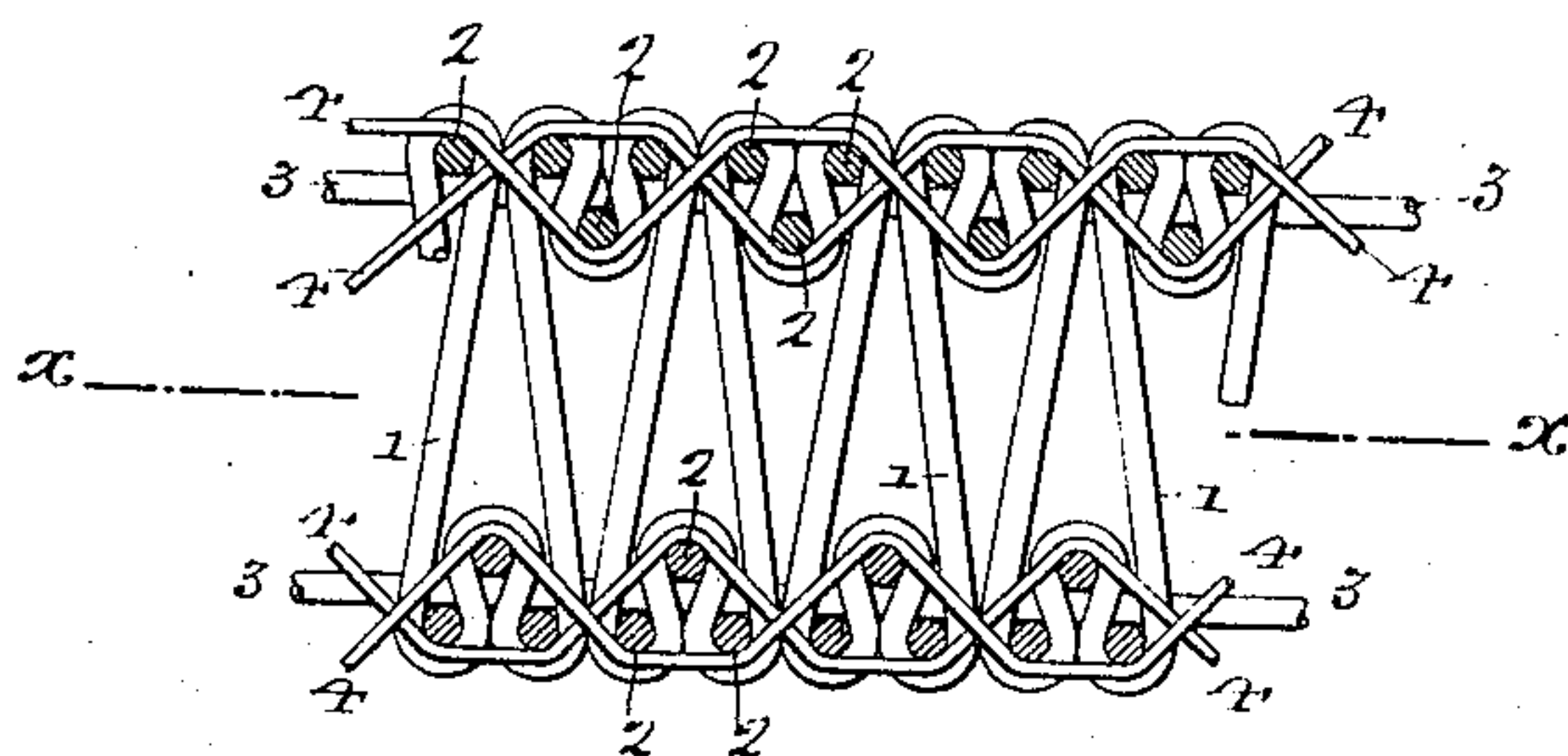
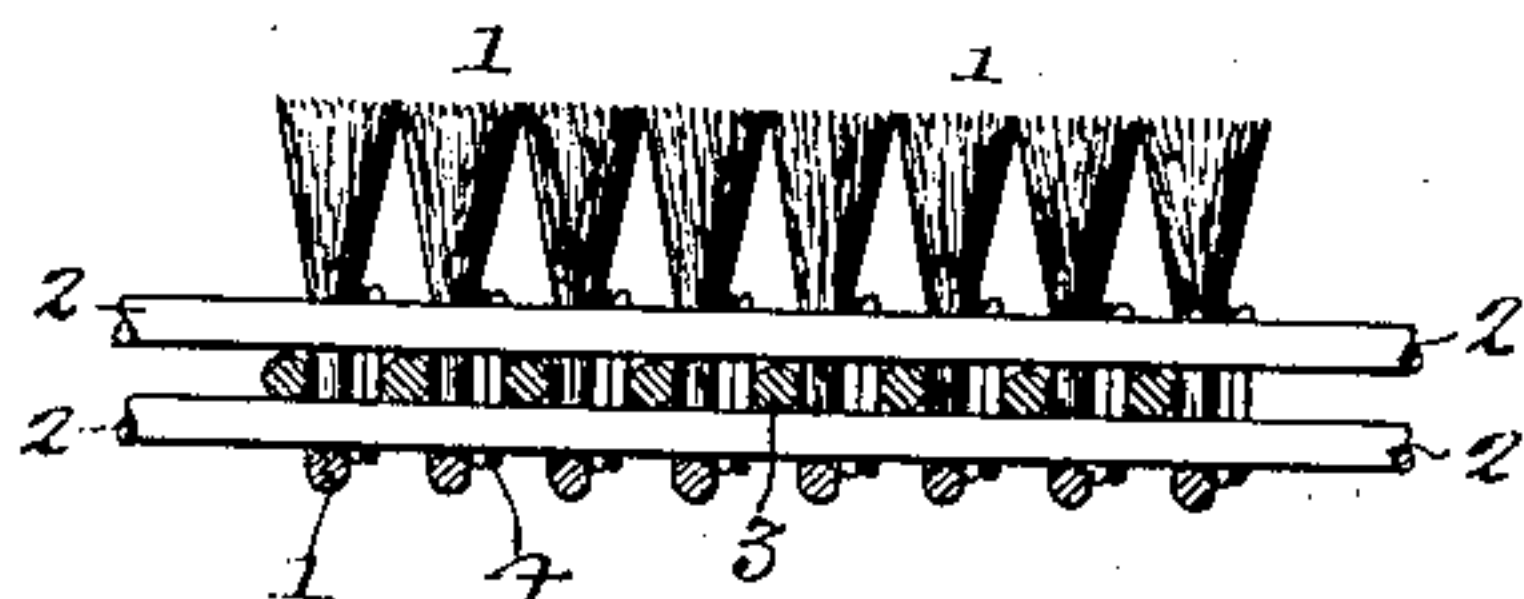
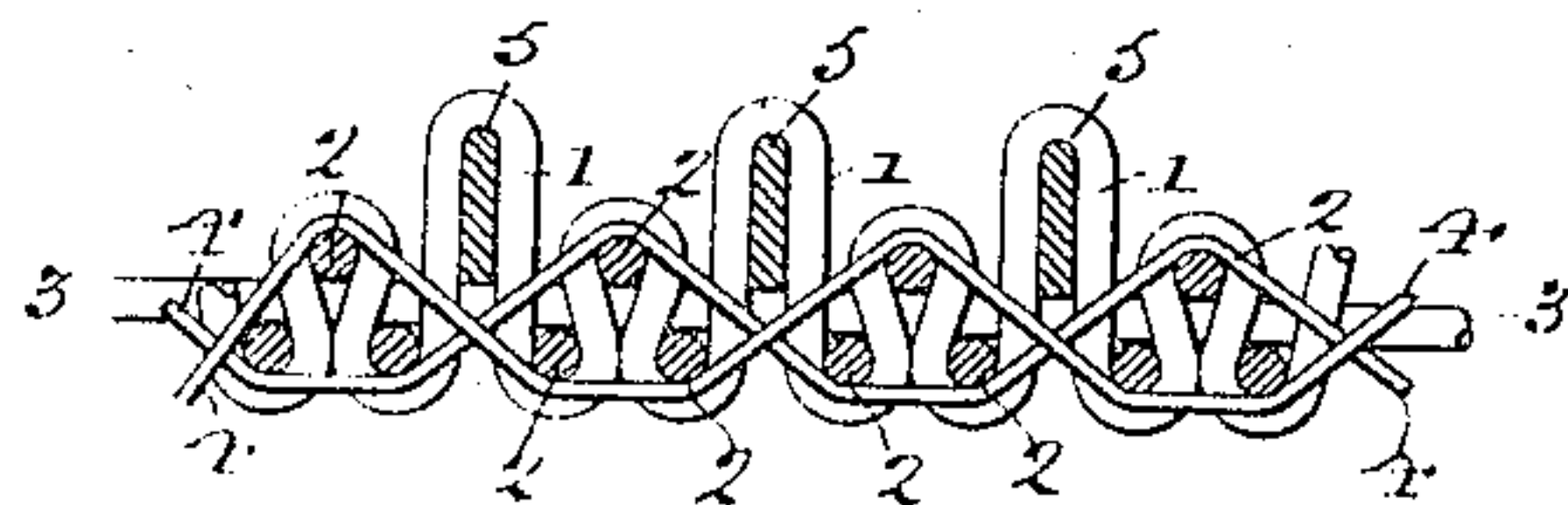


Fig. 3.

Fig. 4.



Witnesses:
Augustus B. Coppes
Titus H. Jones.

Inventor:
George Zimmermann.
By his Attorney:
Hosmer & Howard

UNITED STATES PATENT OFFICE.

GEORGE ZIMERMANN, OF PHILADELPHIA, PENNSYLVANIA.

WOVEN PILE FABRIC.

No. 849,877.

Specification of Letters Patent.

Patented April 9, 1907.

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To all whom it may concern:

Be it known that I, GEORGE ZIMERMANN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Woven Pile Fabrics, of which the following is a specification.

The object of my invention is to so weave a pile fabric as to insure the firm tying of the tufts of pile-yarn to the backing fabric.

In the accompanying drawings, Figure 1 shows an exaggerated section of a piece of pile fabric made in accordance with my invention, the section being taken in the direction of the warp-threads. Fig. 2 is a transverse section of the same or one taken in the direction of the weft-threads. Fig. 3 is a section taken in the direction of the warp-threads and showing the method of weaving the fabric, and Fig. 4 is a like section showing another method of weaving the same.

In Figs. 1 and 2 of the drawings, 1 represents successive tufts of pile-warp; 2, weft-threads interwoven therewith; 3, stuffer warp-threads, and 4 binding warp-threads.

The weft-threads 2 are disposed in successive sets of three each, and each tuft-forming pile warp-thread passes first down, under, and up around the first weft-thread of the set, then up, over, and around the second or intermediate weft-thread of the set, and then down, under, and up around the third weft-thread of the set. Hence its tendency is when subjected to strain to draw the three threads toward each other, and the harder the pull upon either of the upstanding tufts formed by said warp-thread the tighter will it be bound to the weft-threads of the backing fabric, and the dislodgment of any one of the tufts is difficult to accomplish.

The stuffer warp-threads 3 separate the weft-threads of each set, there being one of said weft-threads on top of the stuffer warp-thread and the other two beneath the same.

The entire set of three weft-threads 2 is contained within one and the same shed of binding warp-threads 4, said warp-threads being shedded only between successive sets of weft-threads. Hence each set of the latter constitutes a unit and is bound together by the fine warp-threads.

The fabric is usually woven double, as in-

dicated in Fig. 3, the double web being afterward severed on the line $x x$ at a point midway between the backing fabrics; but the pile-forming warp-threads can be woven over interposed pile-wires 5, if desired, as shown, for instance, in Fig. 4, the loops being cut either by the withdrawal of the pile-wires or subsequently.

In producing patterned fabrics in accordance with my invention by the use of pile warp-yarns of different colors disposed in sets the use of the special stuffer warp-thread 3 will not be necessary, as the pile warp yarn or yarns of each set not employed in the production of a pile-tuft will float between the weft-threads 2 and will thus serve the same purpose as the stuffer warp-threads.

I claim—

1. A pile fabric having weft-threads in sets of three, disposed one above and two beneath, and each set contained in one and the same shed of binder warp-threads, and pile-forming warp-threads which pass first down under and up around one of the outer weft-threads of the set, thence up over and down around the intermediate weft-thread of the set, and thence down under and up around the other outer weft-thread of the set.

2. A pile fabric having weft-threads in sets of three, disposed one above and two beneath an interposed separator warp thread or threads, and each set contained in one and the same shed of binder warp-threads, and pile-forming warp-threads which pass first down under and up around one of the outer weft-threads of the set, thence up over and down around the intermediate weft-thread of the set, and thence down under and up around the other outer weft-thread of the set.

3. A pile fabric having weft-threads in sets of three, disposed one above and two beneath an interposed stuffer warp-thread, independent of the pile-forming warp-threads, and each set contained in one and the same shed of binder warp-threads, and pile-forming warp-threads which pass first down under and up around one of the outer weft-threads of the set, thence up over and down around the intermediate weft-thread of the set, and thence down under and up around the other outer weft-thread of the set.

4. A pile fabric having weft-threads in
sets, the threads of each set disposed both
above and below interposed separator warp
threads or thread, and each set contained in
5 one and the same shed of binder warp-
threads, and pile-forming warp-threads
which engage each thread of the set of warp-
threads.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

GEORGE ZIMERMANN.

Witnesses:

WALTER CHISM,
JOS. H. KLEIN.