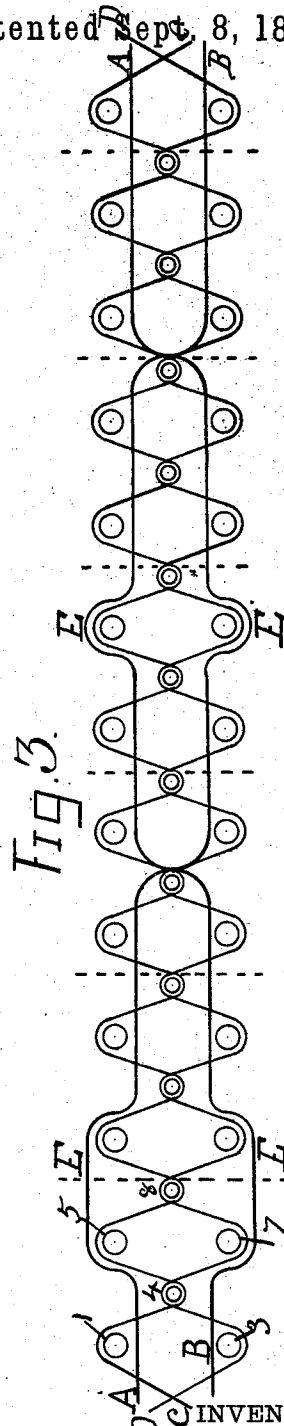
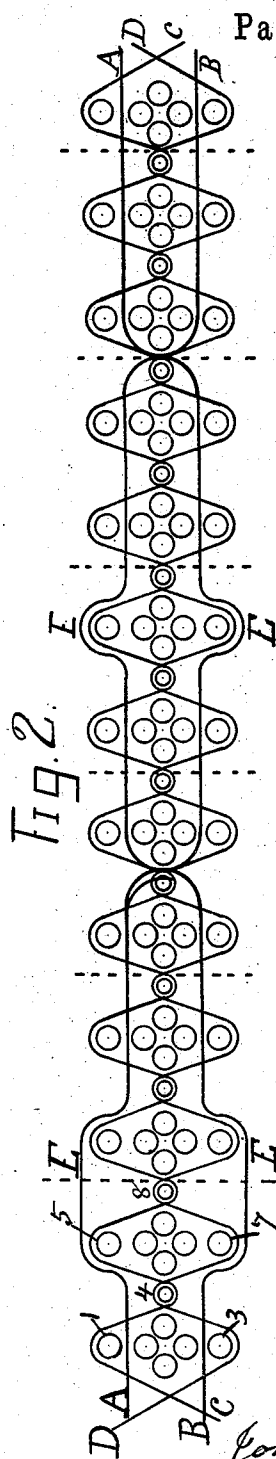
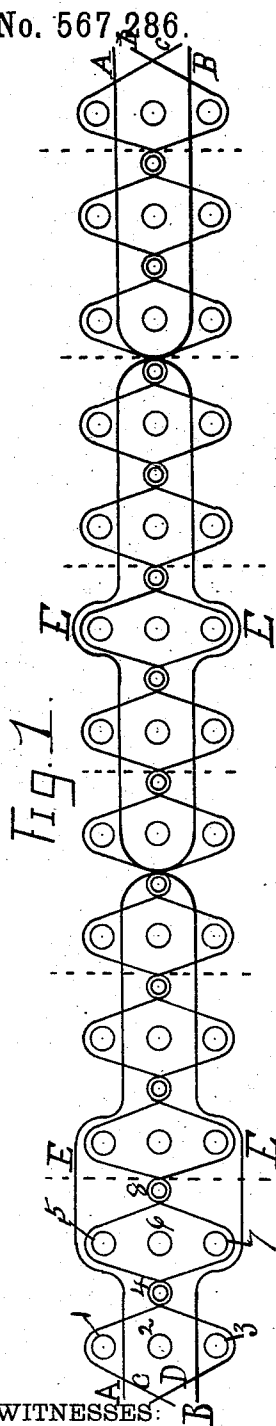


(Specimens.)

J. ZIMERMANN.
WOVEN FIGURED FABRIC.

No. 567,286.

Patented Sept. 8, 1896.



WITNESSES:

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WOVEN FIGURED FABRIC.

SPECIFICATION forming part of Letters Patent No. 567,286, dated September 8, 1896.

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To all whom it may concern:

Be it known that I, JOHN ZIMERMANN, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Two-Face Woven Figured Fabrics, of which the following is a specification.

My invention relates to woven figured fabrics having a similar figure on both sides of the fabric, and is adapted for furniture-covers, curtains, carpets, rugs, and for general upholstery purposes.

The essential features of my invention consist in the combination and arrangement of two figuring warp-threads, each alternate thread of a contrasting color, two fine binder warp-threads, one thread for each face, at least four figuring weft-threads, and two stuffer and binder weft-threads in a weave, the wefts divided and arranged in three weft-planes, as illustrated in the accompanying drawings, in which—

Figure 1 is a diagram showing two figuring warp-threads, two binder warp-threads, two stuffer weft-threads, and six figuring weft-threads in a set. Fig. 2 is a diagram showing four figuring weft-threads in the center between each two binder weft-threads. Fig. 3 is a diagram showing only four figuring weft-threads in a weave.

Similar reference letters or numerals indicate same thread in all figures.

A and B represent the figuring warp-threads. These threads I prefer to be of two-ply untwisted yarn. A is supposed to be white and B black in color. These figuring warp-threads are operated by a Jacquard machine.

C and D represent the binder warp-threads. These threads I prefer to be of fine yarn and of a color as will show but little when binding the figuring-wefts. These binder warp-threads may be operated by the jacquard or they may be drawn in two heddles and controlled by a harness-motion.

1, 2, 3, 5, 6, and 7 represent figuring weft-threads. These weft-threads may each be of a different color or two or more wefts in each weave of the same color.

4 and 8 represent the binder weft-threads.

These weft-threads may be each of same color or they may be in the "gray," as they do not show in any part of the figures on either side of the fabric, being buried in the center of the cloth.

The wefts are controlled by a shuttle-box motion as will operate pick and pick and control from six to fourteen shuttles. In diagram Fig. 2 fourteen shuttles may be used; in Fig. 3 six shuttles, working pick and pick.

The diagrams are each divided by dotted lines into a series of six weaves.

The order in which the weft-threads are shot into the cloth may be in such order as will best suit the operations of the Jacquard machine; but the figuring-wefts 1, 2, and 3 must be shot in before the binder-weft 4; then the other figuring-wefts 5, 6, and 7; then the binder-weft 8.

When a great variety of shading in the figure is called for, I use twelve or more figuring-wefts in a weave, as shown in Fig. 2, eight of these wefts being always buried in the center of the fabric.

When but little shading is required in the figure, four figuring-wefts only are used, as shown in Fig. 3.

The figuring warp-threads each being of a contrasting color may by the Jacquard machine be changed from either face of the cloth and shot over by the figuring-wefts. The two combined, if of one color, will produce a ground of one color. If the warp-thread and weft-thread be of a different color, the two mixed produce a shaded color. If desired, the figuring warp-threads may be woven on the faces of the fabric, as is shown at E.

One who is a weaver of ordinary skill and familiar with the operations of the Jacquard machine and pick-and-pick shuttle-box motions will know that by my improved weave I can weave and produce a like figure on both sides of the fabric, only different in color and shades, and which fabric may be highly ornamented in colors and shades of colors by this new weave, making a solid homogeneous fabric.

Any kind of yarn may be used, either of vegetable or animal fibers; also mineral ("bullion") may be used for ornamentation.

Having as above fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

5 A two-face woven figured fabric, consisting of the following warp and weft thread combinations; two figuring warp-threads, each thread of a contrasting color; a plurality of figuring weft-threads; (two appearing on each face;) two stuffer and binder
10 weft-threads; and two binder warp-threads in a set, the weft-threads arranged in three planes, and the binder warp-threads passing from every weft-thread of one face or plane,

to and around a stuffer weft-thread at the center plane, and then returning to the plane 15 from which they started, binding and holding the two faces together, the figuring warp-threads, and figuring weft-threads making similar woven figures on both sides of the fabric; different only in color, substantially 20 as shown and described.

JOHN ZIMERMANN.

Witnesses:

JOHN SHINN,
C. CAMERON.