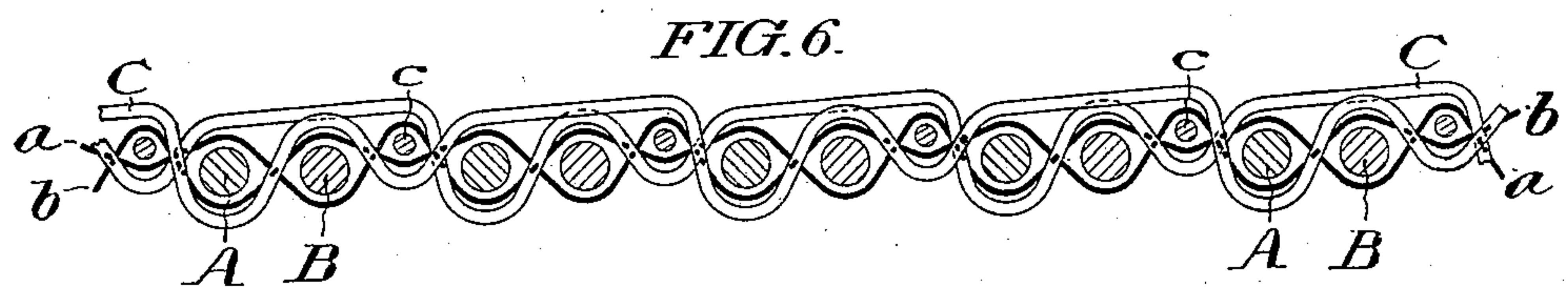
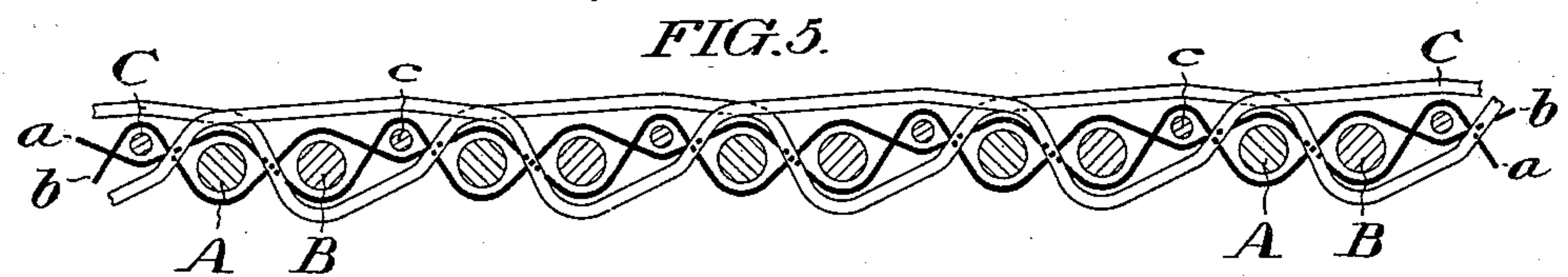
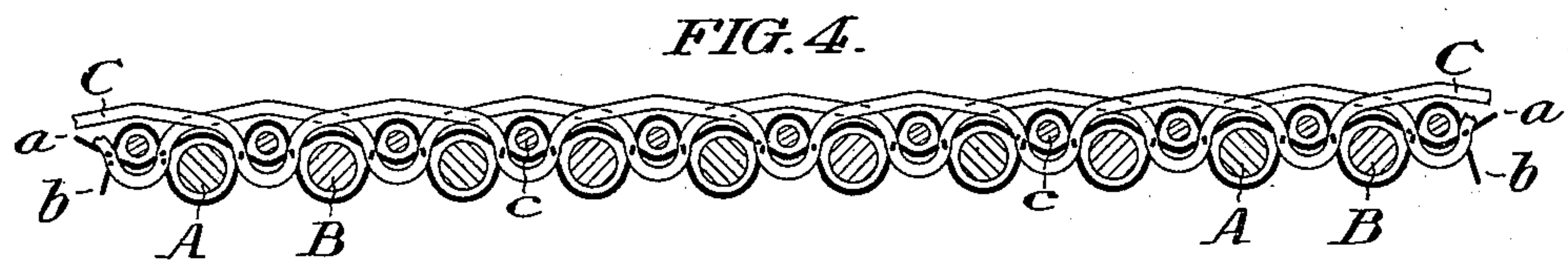
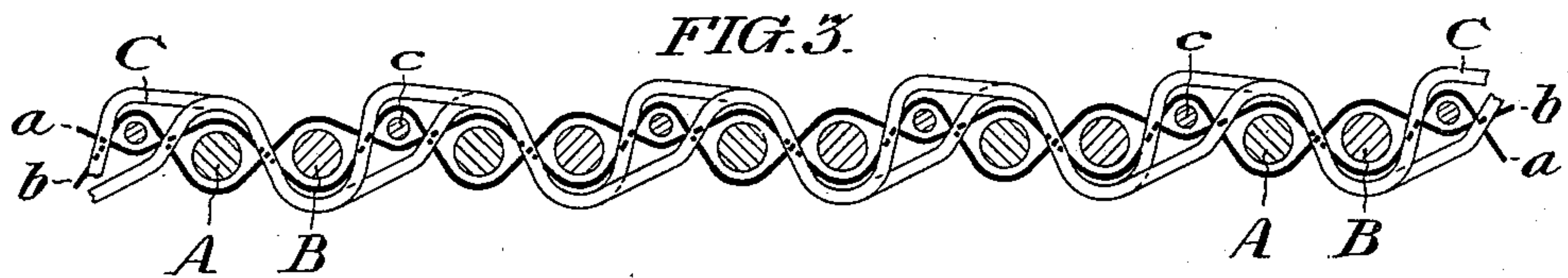
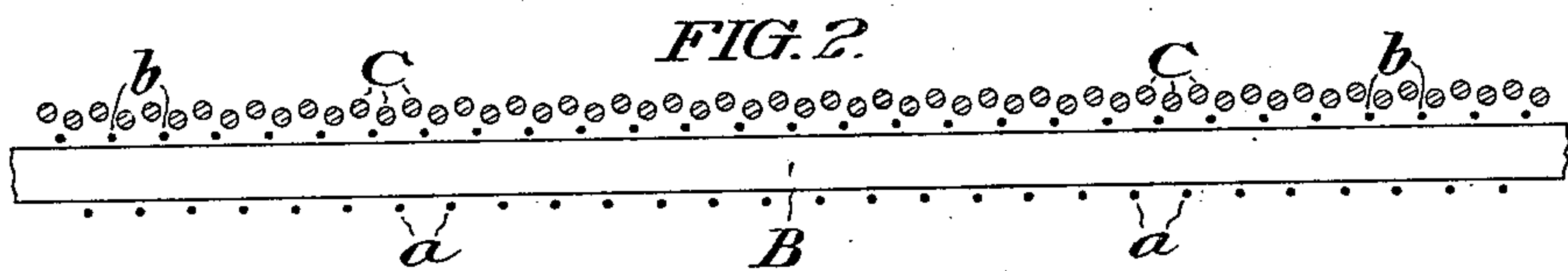
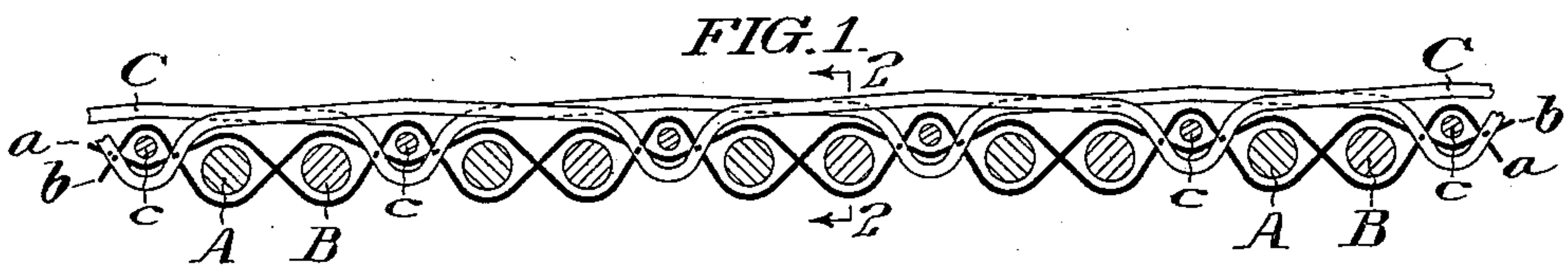


No. 698,743.

Patented Apr. 29, 1902.

W. SCHOLLES.
WOVEN FIGURED FABRIC.
(Application filed Oct. 3, 1901.)

(No Model.)



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WOVEN FIGURED FABRIC.

SPECIFICATION forming part of Letters Patent No. 698,743, dated April 29, 1902.

Application filed October 3, 1901. Serial No. 77,368. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM SCHOLES, a citizen of the United States, residing at Front street and Tabor road, in the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Woven Figured Fabrics, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to one-ply woven figured fabrics having a fine binder-warp which binds the filling every shot and a coarse figuring-warp which produces a figure on the face or back of the fabric at the will of a jacquard-machine and of which the weft-threads consist of coarse figuring-wefts which unite with the figuring-warps to form the pattern and fine binder weft-threads inserted every few picks between the figuring-wefts. By the words "binder-warp" and "binder-weft" I mean a warp or weft thread which is so fine that even when it appears upon the surface of the fabric it is substantially without effect upon the pattern. In this way I produce a single-ply fabric having elaborate color effects, due to the use of both warp and weft in the formation of the pattern, in combination with a solid ground produced by the figuring-warp and the binder-weft.

To weave my improved fabric, I employ a loom provided with a jacquard and two operating-journals, a shuttle-box motion that will operate two or more shuttles pick and pick, a jacquard mechanism which controls the figuring-warp every pick, a warp-yarn beam for the binder warp-threads, and a warp-yarn beam for the figuring warp-threads. I prefer to use a reed having sixteen splits to the inch and with one binder-warp and two figuring-warps drawn in each split. Both figuring-warps may be drawn in one heddle. The figuring warp-threads are drawn in tail-cords solely operated by the jacquard, while the binder warp-threads are drawn in tail-cords solely operated by the two journals, one journal up and one journal down alternately each shot of weft.

In the drawings, Figures 1, 3, 4, 5, and 6 are diagrammatic sections of fabrics embodying my invention, the sections being taken

in the direction of the warp, while Fig. 2 is a section of the fabric shown in Fig. 1, taken in the direction of the weft along the line 2 2, Fig. 1.

I will first describe my invention as applied to the production of a fabric having two coarse figuring weft-threads of different colors thrown in regular alternation and succeeded every third shot by a fine binder-weft.

Figs. 1, 3, 5, and 6 are diagrammatic sections of such a fabric, taken in the direction of the warp and showing different effects which may be produced thereby, according to the manipulation of the figuring warp-threads.

In Fig. 2 a weft-section is shown, taken along the line 2 2, Fig. 1, where all the figuring-warps are thrown to the surface. In this example the figuring warp-threads may be supposed to be red and the figuring weft-threads alternately green and white. The fine binder-wefts preferably correspond in color to the figuring-warp and are supposed to be red. The binder-warps may be any inconspicuous color. The figuring weft-threads may be any ordinary cotton, wool, jute, or paper filling of the usual coarse size.

My fabric differs from all other one-ply weaves in that by means of the binder-weft I am able to throw the figuring-warp to the surface or back in such a way as to produce large solid-color grounds or effects, while at other times by variously manipulating the combinations of the figuring-warps with the figuring-wefts a large number of intermediate or mixed shades may be produced. The solid-color effects are produced by tying the figuring-warps upon the surface by the fine binder-weft alone.

Referring to Figs. 1 and 2, A and B are the alternating figuring wefts or filling, of which A is supposed to be green and B white. *c* is a fine red binder-weft, which is thrown every third shot. *a b* are the binder-warps, which are quite fine, neutral in color, and which bind the filling A B *c* every third shot. C represents the red figuring warp-threads, which alternate with the binder-warps, but are independent of them in their motions and by the manipulation of which the pattern is produced.

In Fig. 1 the position of the figuring-warps for the production of the solid-red color effect is seen. It will be observed that they float upon the surface, being at all times above the figuring weft-threads, and each is tied to the fabric by the binder-weft every sixth shot, alternate threads being bound by the alternating third shot. By inverting Fig. 1 the pattern will show only the green and white filling alternating.

In Fig. 3 the figuring-warp is always thrown to the surface over the green filling and thrown to the back under the white filling, thereby producing red and white alternating on the surface. In a similar way the figuring-warp may be thrown to the surface to cover the white thread, but thrown beneath the green thread, thereby producing green and red alternating on the surface.

In Fig. 5 a different effect from Fig. 3 is produced in that although, as in Fig. 3, the figuring-warp always covers the green filling the warps are caused to so alternate as to go to the surface four picks and then to the back two picks and by the alternate motion of the figuring-warps a solid red with white dots is produced. In like manner Fig. 6 is the converse of Fig. 5, producing solid red with green dots.

It is evident that other combinations may be effected, as desired, according to the number of intermediate shots required.

Thus far I have described my invention as applied to a fabric in which the binder-weft is thrown every third shot; but very much

the same effect can be produced if the binder-weft is thrown every alternate shot. This fabric I have illustrated in Fig. 4 of the drawings. Here the figuring-warps are each tied to the fabric every fourth shot, alternate threads being bound by the alternating second shot.

It will be noticed that in all the variations of my invention this marked characteristic is always retained—namely, that by throwing the figuring warp-threads to the surface and tying them to the fabric by the binder weft-threads alone large solid-color effects may be produced.

Having thus described my invention, I claim—

A woven figured fabric, consisting of the combination in a single-ply fabric, of coarse figuring warp-threads, fine binder warp-threads, coarse figuring weft-threads and fine binder weft-threads; the latter threads being inserted alternately after one or more figuring-wefts; the binder-warps always binding a single weft-thread (either figuring or binder) every shed; and the figuring-warps passing from the face to the back of the fabric, and vice versa, according to the requirements of the design, or being tied to the surface of the fabric by the binder weft-threads alone for the production of solid ground, substantially as described.

WILLIAM SCHOLES.

Witnesses:

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