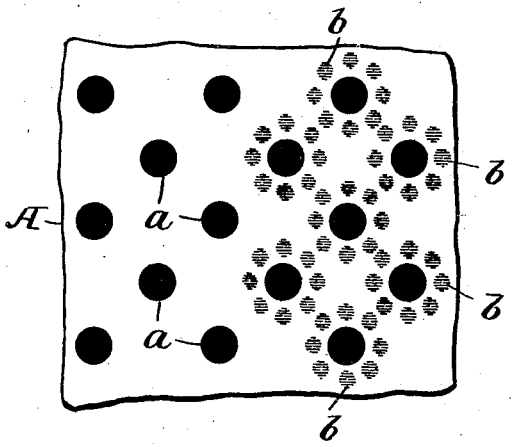
No. 676,657. Patented June 18, 1901.

J. MACADAM.

ORNAMENTAL FABRIC.

(Application filed Dec. 29, 1897.)

(No Model.)



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ORNAMENTAL FABRIC.

SPECIFICATION forming part of Letters Patent No. 676,657, dated June 18, 1901.

Application filed December 29, 1897. Serial No. 664,239. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN MACADAM, a subject of the Queen of Great Britain, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Ornamental Fabrics, of which the following is a specification.

In the manufacture of my improved fabrics I may make use either of a plain white fabric or of a printed or colored fabric, the same being illustrated in plan at A in the accompanying drawing.

Where it is desired to ornament or produce an added ornamental effect upon a fabric already partly treated or ornamented, as by dyeing or printing, I take such fabric—say a plain colored fabric or one having printed thereon any kind of figures, lines, dots, &c., as, for instance, the polka-dots *a*—and I print upon the same any other additional lines, dots, forms, or figures—as, for instance, the small dots *b*, surrounding the polka-dots—making use of a printing fluid which is of such a character as to deposit upon the fabric a film insoluble in water. I have found that fluids having celluloid as a basis are preferable to others and attended with advantages. Thus a solution of ten per cent. of celluloid in acetate of amyl makes an excellent printing fluid, or a saturated solution may be made and then diluted with alcohol, ethyl, methyl, &c.

While various different solutions and solvents may be employed, I have found that it is economical to make a saturated solution of celluloid in amyl acetate and that this strong solution can then be rendered diluted by coal-oil or liquid coal-oil products, as kerosene or naphtha, and that this can be effected without causing any turbidity or precipitation in the mixture. The kerosene or its equivalent is miscible with alcohol when acetate of amyl is present in the proportion of at least fifty per cent. The solution thus produced has the advantage of not being very inflammable. This fluid, which is practically transparent, may be used like any other fluid or "color" in printing, being applied to blocks, plates, or cylinders and transferred to the fabrics in the ordinary manner. Thus in the case of, say, black fabrics the printing fluid may be printed as water-lines upon the surface of the fabric, imparting to a cotton fabric the appearance of a watered silk, or a satin-like finish may be imparted by printing over the entire surface of the fabric. Where the fabric already has figures or forms produced by dyeing, printing, or otherwise, the fluid may be deposited in auxiliary forms, dots, waved lines, or upon the entire surface, producing in any case a lustrous effect not otherwise obtainable.

In some cases it is advantageous to impart greater body, opacity, or a color to the printing fluid, and this may be done by adding thereto a suitable color or pigment. Thus zinc-white (preferably ground up with alcohol, kerosene, or other liquid miscible without separation with the celluloid solution) may be added to the said solution, or for a yellow color I may add auramine G, for pink rhodamine 6 G, or for blue brilliant cyanine, blue; but other materials may be used. Where the fabric to be ornamented has not already been dyed or printed, the desired ornamentation may be effected by the use of the colored printing fluid, printing the same in lines, stripes, dots, or other forms, as required.

A fine effect, which is termed a "fish-scale" effect, may be secured by adding sufficient pigment to secure only a partially transparent or translucent mixture, so that the figures printed on the fabric, especially if already colored, are not so solid or coarse as they would be if printed from an absolutely opaque solution.

The goods are complete on the evaporation of the volatile part of the printing fluid; but I have found that if thereafter the goods are calendered I secure a high enamel-like finish and very lustrous effect, which is peculiar and most desirable in many classes of goods. The film thus applied to a fabric will secure a permanently ornamental effect, as it is not affected by moisture and improves by friction.

Animal and vegetable oils cannot be used as diluents or in any other way in connec-

tion with my process of ornamenting fabrics. On the contrary, such use would be injurious and render it impossible to produce the result in printing attained by the means employed as heretofore described. It is necessary, however, for some purposes that the material shall be of such a character that a lustrous effect will be imparted or increased by calendering, for which reason a celluloid film has special advantages.

It will be seen that the effects described are simply ornamental in their character, in no way altering the usual characteristics of the fabrics.

Without limiting myself to the specific materials and proportions named, I claim as my invention—

A textile fabric having a surface ornamentation formed by applying at intervals to such surface a film of translucent solution of celluloid free from animal or vegetable oil, the whole surface being calendered subsequent to such application, substantially as set forth.

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

JOHN MACADAM.

Witnesses:

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JOHN MACINTYRE.