

UNITED STATES PATENT OFFICE.

SAMUEL FAY, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN WEAVING DOUBLE CLOTH.

Specification forming part of Letters Patent No. **11,120**, dated June 20, 1854.

To all whom it may concern:

Be it known that I, SAMUEL FAY, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a new and useful Improvement in the Manufacture of Cloth; and I do declare that the same is fully and clearly set forth in the following specification.

My improvements relate to a class of fabrics which are suitable to be printed upon one side—such as carpets and upholstery-cloths, also cloth for shoes, in which only one side of the fabric is exposed to view when in use. Carpets, upholstery-cloths, and cloth for shoes require peculiar qualities, which are antagonistic with each other. The face of the cloth should be even, fine, and soft, and yet for the necessary wear the fabric is required to be strong and stiff enough to retain its place. My improvements are intended to accomplish these requisites, and are especially adapted to those goods which are to be printed in colors on a surface of wool. I use for weaving my improved fabric any ordinary loom which has four harnesses, and is capable of using two shuttles and two warp-beams. In one of the shuttles I use a filling-thread of cotton or linen and in the other a thread of woolen. Into two of the harnesses I draw cotton or linen warps and into the other two woolen warps. Nos. 1 and 2 contain woolen or worsted warps, Nos. 3 and 4 cotton or linen warps. First, I raise the first and third harness, depress the second and fourth, then throw in cotton or linen filling; second, raise the first and depress the second, third, and fourth, then throw in wool filling; third, raise the second and fourth, depress the first and third, then throw in cotton or linen filling; fourth, raise the second, depress the first, third, and fourth, then throw in

woolen filling—the same process and order of raising and depressing the harnesses to be repeated in the production of the cloth.

This operation produces a fabric like the samples attached to this specification, and which has a surface of wool upon one side and of cotton or linen upon the other side, which surfaces are interwoven into each other in the middle.

A fabric containing these qualities may be woven in a different manner; but this I consider to be the best. It differs from ordinary two-ply ingrain-carpets, inasmuch as in no place does the warp which is upon one side of the cloth extend into the surface of the other side, and also (which is the most important) that one side of the fabric is cotton or linen and the other side wool. The quality of firmness and stability is acquired by the cotton fabric, and the quality of softness and capability of receiving delicate and stable colors is acquired by the woolen fabric. I am aware that looped and cut-pile cloths have these qualities, and are used for the same purposes as I use my improved fabric; but those differ entirely from mine, as they have no filling-thread upon the face, and have only one kind of filling, which is ordinarily of cotton or linen.

I claim as of my invention—

The manufacture of a fabric which has one face of wool and the other of cotton or linen, substantially as described—that is to say, in no place does the warp which is upon one side of the cloth extend into the surface of the other side of the cloth.

SAML. FAY.

Witnesses:

MOSES A. JOHNSON,
A. A. BLANCHARD.