UNITED STATES PATENT OFFICE.

LOUIS CHAUX, OF PARIS, FRANCE.

ART OF MANUFACTURING WOOLEN FABRICS FROM SHORT-STAPLE FIBER.

SPECIFICATION forming part of Letters Patent No. 288,015, dated November 6, 1883.

Application filed June 13, 1883. (No specimens.) Patented in France May 11, 1883, No. 143,061; in Belgium May 15, 1883, No. 61,386, and in England May 18, 1883, No. 2,496.

To all whom it may concern:

Be it known that I, LOUIS CHAUX, a citizen of the French Republic, residing at Paris, France, have invented an Improvement in the Art of Manufacturing Woolen Fabrics from Short-Staple Fiber, of which the following is a specification.

Up to the present time, so far as I am aware, it has been deemed impracticable to utilize the commoner grades of wool in the manufacture of all-wool flannels, because certain of these wools cannot be spun fine enough when unmixed with cotton or other vegetable fiber. Experience has shown me that by the admixture with such wools of a vegetable fiber—as cotton, for example—they can be spun to the proper degree of fineness.

My process, then, is as follows: I spin the threads from cotton and wool mixed together in suitable proportions, and then weave these threads into a fabric in the usual way of weaving all-wool fabrics. After weaving, the fabric is put into a bath, which destroys the vegetable fiber without injuring the wool. This treatment yields a fabric which consists entirely of the wool, the cotton or other vegetable fiber having served only as a provisional assistant to sustain the woolen thread during the operation of spinning and weaving. When the cotton is removed, there is no appreciable change in the character of the fabric—that is to say, no spaces are left, and the texture is full and soft as in any all-wool fabric.

For mixing together for spinning, the wool and vegetable fiber may be taken in any condition whatever. For example, both may be in the raw or rough state and carded together; or it would be possible to first spin the cotton and then, by a second spinning, cover it with the wool. They may be mixed in various proportions, according to the quality of the wool; but only as much as may be necessary should be used. Experience will determine this.

The mixed thread composed of wool and vegetable fiber may be used for both warp and filling, or for either, the other being all of wool.

I will add that the employment of cotton in this manner as a temporary support for the wool produces, when the cotton is chemically removed, a fabric which has great suppleness and elasticity, the wool expands by its elasticity, and the fabric is in excellent condition for fulling.

In order that what I claim as my invention may be clearly distinguished from what is old and well known, I will say that the practice of mixing wool with other fibers, both animal and vegetable, for spinning and weaving into fabrics, has been well known for many years. This of course I do not claim. In all of these fabrics, however, the vegetable or other fiber remains, and is intended to remain.

The practice of treating woolen fabrics to a bath of some acid—as hydrochloric, for example—in order to incinerate or destroy any vegetable substance (as the débris of burrs, for example) that may be entangled with the wool, and remain after spinning and weaving, has also been in use for many years, and I do not of course claim this, although I employ it as a part of my method. My method consists in mixing cotton with a common, short-fiber wool, to serve as a provisional support, and enable the wool to be spun into fine yarn and woven, and then, after the weaving, removing the cotton entirely by means of any known incinerating bath—of hydrochloric acid, for example—whereby a fine all-wool fabric remains composed wholly of common wools.

Having thus described my invention, I claim—

The herein-described method of producing an all-wool fabric from common short-fiber wools, which consists in first mixing with the wool a sufficient amount of cotton to re-enforce it, and then spinning the mixture; second, weaving the yarns so formed into a fabric; and, third, removing the cotton from the fabric by any of the well-known means for incinerating vegetable fibers in wool, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

LOUIS CHAUX.

Witnesses:
ROBT. M. HOOPER,
AMAND RITTER.