

UNITED STATES PATENT OFFICE.

EDWARD SCHEPPERS AND EMILE SCHEPPERS, OF PHILADELPHIA, PA.

ART OF MAKING FABRICS FROM COARSE LONG-STAPLE WOOL OR HAIR.

SPECIFICATION forming part of Letters Patent No. 362,317, dated May 3, 1887.

Application filed May 5, 1884. Serial No. 130,452. (No specimens.) Patented in England October 7, 1884, No. 12,274; in France October 7, 1884, No. 164,648, and in Belgium October 7, 1884, No. 66,523.

To all whom it may concern:

Be it known that we, EDWARD SCHEPPERS and EMILE SCHEPPERS, subjects of the King of Belgium, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in the Art of Making Fabrics from Coarse Long-Staple Wool or Hair, (for which we have obtained British Patent No. 13,274, French Patent No. 164,648, and Belgian Patent No. 66,523, all dated October 7, 1884,) of which the following is a specification.

The object of our invention is to produce a fine fabric from coarse long-staple wool or hair, and this object we attain in the manner fully described and claimed hereinafter.

Hitherto it has been considered impracticable to use for the warp in the manufacture of fine fabrics coarse long-fiber or long-staple combed wool—such, for instance, as that known as “English blood”—the same objection applying to long-staple goat-hair, alpaca, camel-hair, &c. What we mean by long-staple wool or hair is a fiber long enough to be combed. The reason why such wool or hair is unavailable for the production of fine goods is that the fibers will not lie closely when they are spun, but project from the surface of the strand and catch against the bars of the reed when the strands are used as warp-threads in a loom, thus subjecting the strands to excessive strain and weakening them by abrasion; hence, if the wool or hair is spun as fine as it can be, it will not possess strength enough to stand the strain to which the warp in a loom is subjected, and it has been the practice to spin it coarse, or to double the threads if spun fine, in both of which cases the fabric produced was coarse and heavy.

In carrying out our invention we take the fine spun threads of wool or hair and twist them with threads of cotton or other vegetable fiber; and then use these compound threads in the production of a worsted fabric by weaving, using for both warp and filling, or for warp alone with an all-worsted filling, as the strength is mainly desired in the warp. The fabric is then subjected to a chemical treatment, whereby the vegetable fiber is destroyed.

For instance, the fabric may be subjected to the action of sulphuric acid, which will attack and destroy the vegetable fiber without affecting the wool, thus leaving a fabric composed wholly of the fine worsted threads. The cotton strand serves not only to add strength to the fine wool strand, but it also performs the important duty of confining at their bases the fibers which project from said wool strand, and thus prevents said fibers from being loosened and torn from the strand when they are caught by the bars of the reed, the rapid abrasion and weakening of the said wool strand, such as usually results from the catching of these projecting fibers, being effectually overcome.

We are aware that the use of combined cotton and wool threads has long been known in the production of mixed fabrics, and that the use of sulphuric acid for the purpose of recovering wool from waste containing both wool and cotton is also old; hence we claim neither of these things separately considered, but only as steps in the carrying out of the complete process forming the subject of our invention.

It has also been proposed to spin together cotton and short-staple wool to form a mixed strand, from which the cotton was eliminated after the strand had been woven into a fabric; but the long-staple wool or hair which we use is not susceptible of being spun with cotton, but must first be spun into a strand and then doubled with a strand of cotton. Moreover, cotton combined with short-staple wool does not perform an important function of the cotton thread in our compound strand—namely, the confining of the bases of the projecting fibers of the wool strand, so as to overcome the objection which has hitherto prevented the use in weaving of fine strands made from coarse long-staple wool or its equivalent, as hereinbefore set forth.

We therefore claim as our invention—

The mode herein described of producing fine fabrics from coarse long-staple wool or hair, said mode consisting in first spinning a fine strand of such wool or hair, then doubling and

twisting it with a strand of cotton or other vegetable fiber, then producing a fabric containing such compound thread, and finally subjecting said fabric to the action of an agent
5 which will destroy the vegetable fiber, leaving the animal fiber intact, all substantially as specified.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

EDWARD SCHEPPERS.
EMILE SCHEPPERS.

Witnesses:

JOHN M. CLAYTON,
HARRY SMITH.