

J. Downie.
Woven Fabric.

N^o 51,436.

Patented Dec. 12, 1865.

Fig. 1.

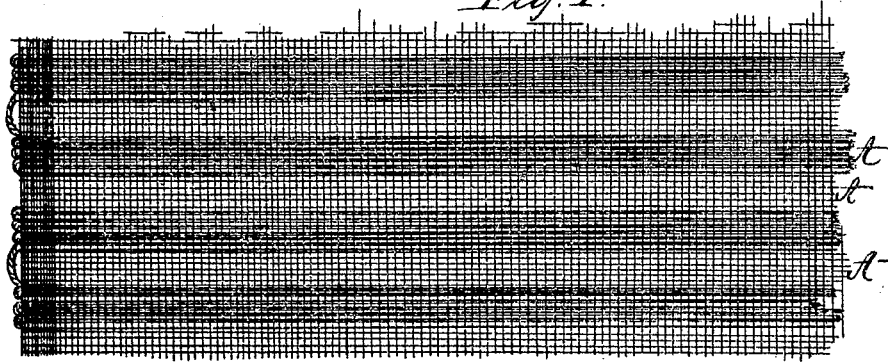


Fig. 2.

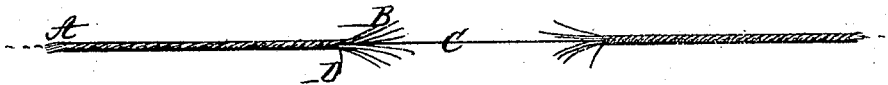
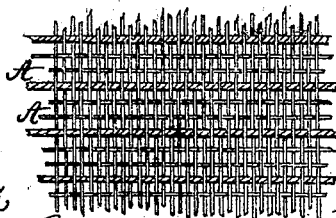


Fig. 3.



Witnesses,

Chas Edward How
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UNITED STATES PATENT OFFICE.

JAMES DOWNIE, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN CLOTH THE WEFT OF WHICH IS MADE OF HAIR, GRASS, &c.

Specification forming part of Letters Patent No. 51,436, dated December 12, 1865.

To all whom it may concern:

Be it known that I, JAMES DOWNIE, of Paterson, in the county of Passaic and State of New Jersey, have invented certain Improvements in Hair-Cloth and in Cloth made of Manila Grass and other Coarse Vegetable Fibers, of which the following is a specification.

In the manufacture of hair-cloth, as heretofore practiced, it has been necessary to make the width of the cloth correspond to the length of the hair used in its manufacture. The hair had to be drawn into the warp by hand—a slow and tedious process, and one that greatly augmented the cost of manufacture. The result was that the web was very narrow, and to make it of any available width only the longest part of the hair could be used, the greater part being either thrown away or sold for a much less sum than had been paid for it to those who manufactured curled hair for upholstering purposes. The edges of the web were without selvages, the ends of the hair projecting on each side of the web, necessitating the formation of large, stiff, ungainly seams when the cloth was used; and the same difficulties were also experienced in manufacturing grass-cloths.

My invention has for its object the avoidance of these difficulties; and it consists in so preparing the hair or grass wool that it can be inserted in the warp with a shuttle, the same as in ordinary weaving, and thus allow the cloth to be made with selvages and of any desired width.

In the drawings, Figure 1 is a top view of a sample of my improved cloth, showing one selvage and the manner in which the wool is inserted in one variety of cloth. Fig. 2 is a sample of the wool taken apart at the center to show the guiding or central thread (shown in red) and the arrangement of the hair, grass, or other fiber, (shown in black,) and the wrapping or winding thread. (Shown in blue.) Fig. 3 is a view of a sample of cloth enlarged, and showing the threads of hair or grass wool separated by two threads of ordinary wool.

The wool A is formed by arranging the hair, grass, or other fiber, B, about a central or guiding thread, C, and parallel therewith, in such a way that the thinner ends of each successive collection of fibers shall overlap the thicker ends of the preceding collection, the

whole being then wound spirally with the wrapping or winding thread D, as represented in Fig. 2. Said wool is designed in the manner and upon the machine described in Letters Patent No. 48,796, granted to James Downie, July 18, 1865, for a machine for preparing wool for the manufacture of hair and grass cloth. The prepared wool A is then wound upon bobbins and inserted in the warp with a shuttle, as in ordinary weaving.

The quality of the materials which form the wool A varies with the quality of the cloth to be manufactured. For some kinds of cloth silk is used for both the guiding or central thread, C, and the binding or wrapping thread D; but in all cases the wool is prepared in the same way. The taste of the manufacturer and the purposes for which the cloth is to be used may be consulted in the weaving.

For some purposes it may be best to make the cloth as represented in Fig. 1—that is to say, first weave a narrow strip of plain cloth with ordinary wool, then insert four, five, or six threads of prepared wool, then a strip of plain cloth, and so on continuously. Again, it may be advisable to weave the cloth as represented in Fig. 3—that is to say, one or two threads of ordinary wool, then one of prepared wool, then one or two of ordinary wool, and so on; or it may be woven entirely with prepared wool, no ordinary wool being used, all these constructions being immaterial so long as it is a hair or grass cloth with selvages and with a prepared wool formed by overlapping the fibers upon each other along or around a central or guiding thread, and wound, bound, or wrapped with a winding or wrapping thread, as herein described.

I claim—

A cloth formed with selvages and woven with a hair or grass wool made by overlapping the ends of the fibers of hair or grass upon each other along or around and parallel with a central or guiding thread, and wound, bound, or wrapped with a winding, binding, or wrapping thread, substantially as described, and to the effect set forth.

JAMES DOWNIE.

Witnesses:

THOS. P. HOW,
JAMES T. GRAHAM.