No. 610,051. Patented Aug. 30, 1898.

R. H. HEY.

WOVEN FABRIC.

(Application filed Mar. 26, 1897.)

(No Model.)

Fig. 1.

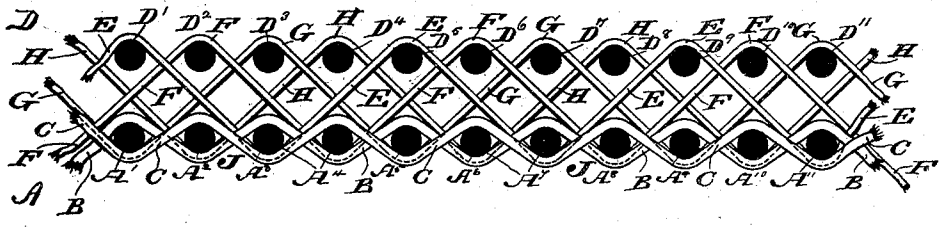


Fig. 2.

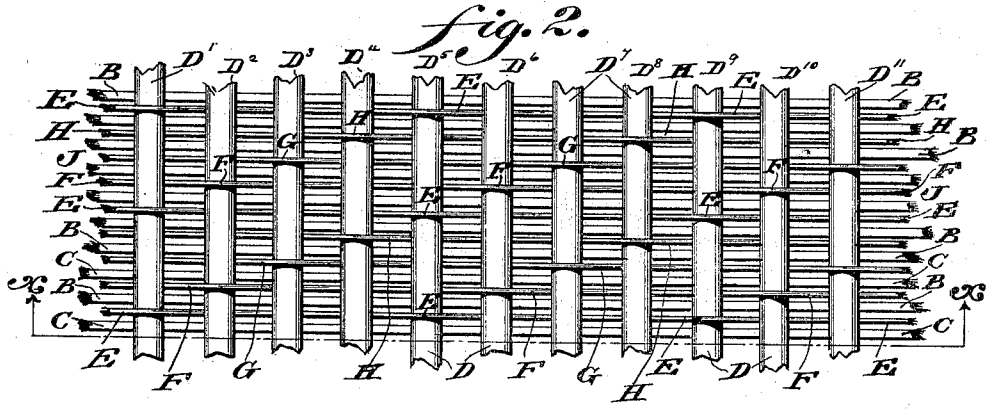
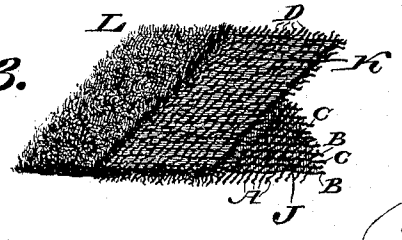


Fig. 3.



WITNESSES

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WOVEN FABRIC.

SPECIFICATION forming part of Letters Patent No. 610,051, dated August 30, 1898.

Application filed March 26, 1897. Serial No. 629,309. (No specimens.)

To all whom it may concern:

Be it known that I, ROBERT H. HEY, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Woven Fabrics, which improvement is fully described in the following specification and accompanying drawings.

My invention consists of a fabric composed of two layers of fillers, one layer having binding-warps independent of the other layer, the latter being bound to the former by four series of warps, as hereinafter described and claimed, said layers of fillers being respectively of different materials having no intervening floats therebetween and one of said materials having a napped surface.

Figure 1 represents a sectional view of a fabric embodying my invention, the section being on line *x x*, Fig. 1. Fig. 2 represents a plan view of the fabric shown in Fig. 1. Fig. 3 represents a perspective view of the fabric, the same being shown in various states of its manufacture.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a series of fillers having the warp-threads B and C interwoven therewith, said threads B and C respectively passing alternately over and under each successive filler-thread of the series A, which latter are of cotton-duck or other tightly-woven similar material.

D designates the upper fillers, of wool or other similar material, which are of equal number to those in the layer A and in the present instance directly over the same.

The layers A and D are bound together by the four series of woolen warps E, F, G, and H in the manner hereinafter described.

The threads of the series E of warps are passed over the upper woolen filler D′ of the series D, and then descending pass under the cotton filler A^3 of the series A, and thence upwardly and around the woolen filler A^5, and then downwardly and around the cotton filler A^7, thence upwardly over the woolen filler D^9, and so on, it being noticed that the woolen warps E after passing over a woolen filler are kept down during the next three picks of the woolen fillers. In like manner the threads of the series of warps F which are adjacent to the woolen warps E pass over the woolen filler D^2, which is adjacent to the filler D′, and then descending pass around the cotton filler A^4, thence upwardly around the woolen filler D^6, thence downward around the cotton filler A^8, then upwardly, and so on, as before.

The threads of the series G of warps which are adjacent to the warps F pass around the woolen filler D^3, which is adjacent to the woolen filler D^2, thence descending pass around the cotton filler A^5, thence upwardly around the woolen filler D^7, thence downwardly around the cotton filler A^9, thence upwardly, and so on. The threads of the series H of woolen warps which are adjacent to those of the series G pass around the woolen filler D^4, which is adjacent to the woolen filler D^3, thence descending pass around the cotton filler A^6, thence upwardly around the woolen filler D^8, thence downwardly around the cotton filler A^{10}, thence upwardly, and so on, it being noticed that the threads of each woolen warp after passing over an upper filler are kept down during three picks of the woolen fillers, thus exposing a large surface of the woolen fillers, so that the same can be readily worked up to form a nap. By having the woolen warp passing below the lower or cotton fillers, as described, there are no floats formed of the said warps either between the two layers or on the surface of the fabric, thus avoiding loose or projecting threads. The woolen face is napped in the ordinary way, so as to form a fluffy surface thereon.

I am aware that it is old to construct a fabric having faces composed of different material formed of separate layers of fillers connected by warps alternately passing around consecutive fillers. Such, so far as I am aware, are provided with extra warp-threads passing between the layers forming floats; but I am not aware that a fabric as herein described and claimed is old, said fabric having a napped woolen and a cotton face, each formed of an equal number of layers connected by four series of woolen warps, a warp of each series passing around the fourth consecutive filler of each layer, whereby the woolen fillers are freely exposed, so that the face thereof may be readily napped and none of said warps forming floats either between or outside of said layers.

Having thus described my invention, what I desire to secure by Letters Patent is—

A fabric consisting of two layers or faces, one of napped woolen material and the other of cotton, each layer having an equal number of fillers, the cotton layers having additional warps passing alternately above and below its fillers, and the fillers of the woolen layer being connected to the cotton fillers by four series of woolen warps, the adjacent threads of each series of woolen warps passing around the different fillers, and a thread of each of said four series passing around the fourth consecutive filler of each layer of fillers and all of said warp-threads serving as binders, said fillers having no floats therebetween.

ROBERT H. HEY.

Witnesses:
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