

ENOCH WAITE.

Felted Fabrics.

No. 127,813.

Patented June 11, 1872.

Fig. 1.



Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

ENOCH WAITE, OF FRANKLIN, MASSACHUSETTS.

IMPROVEMENT IN FELTED FABRICS.

Specification forming part of Letters Patent No. 127,813, dated June 11, 1872.

To all persons to whom these presents may come:

Be it known that I, ENOCH WAITE, of Franklin, of the county of Norfolk and State of Massachusetts, have invented a new and useful invention having reference to Felt Fabrics; and do hereby declare the same to be fully described in the following specification:

The fabric or new or improved manufacture hereinafter described is intended specially for the reception of a covering or layer of India rubber, or a composition in which such may be a constituent.

With a felt fabric or cloth composed of wool alone manufacturers of rubber cloth find a difficulty in obtaining a suitable adhesion of the rubber to the face of the cloth.

My new fabric is designed to obviate this difficulty, as in making it I compose it of a layer or stratum or bat of animal fiber or wool and a layer or stratum of vegetable fiber—as cotton, for instance—the two being laid one upon the other, and in this condition run through and subjected to the action of a felting-machine, so as by it to be felted together. The vegetable fiber or bat constitutes the backing, against which the layer of rubber or rubber composition is to be cemented or fixed.

In the process of felting the two bats the wool will be thrown more or less through the cotton bat, so as to thoroughly fasten it in place. When the fabric so made is dyed the wool surface or layer will present a uniform color, but the opposite surface will have a mottled appearance, owing to the cotton not taking the dye.

The article so made has on its cotton face a much greater power of adhesion to the layer of rubber when applied to it than if all of wool. Furthermore, there is a saving of about thirty-three per cent. in the cost of producing the cloth over what a felt cloth of the same thickness formed entirely of wool would cost.

I am aware that wool and cotton have been mixed together, and in such state run through a felting-machine so as to produce a felted fabric. To this, however, I make no claim, as in making my improved fabric I do not intermix the animal and vegetable fibers before felting them. I reduce them separably to bats,

and lay one on the other and felt them together, whereby part of the wool bat on one side only of it is forced into and through the cotton bat so as to bind the two together, thereby giving to the fabric made a clear facing of wool on one side and a facing of wool and cotton on the opposite side.

Of the drawing herewith presented, Figure 1 is a section of the bats laid together, Figure 2 being a section of the cloth or fabric.

In the drawing, *w* denotes the wool and *c* the cotton.

I am also aware that a felt fabric has been made of two bats or layers of a material capable of being felted and an intermediate layer of a non-felting fibrous material, in which case the non-felting fibrous material was held to the other layers by felting them together and through it, such intermediate layer being completely covered by the wool or feltable material. Such a fabric would no better answer for the purpose for which mine is intended than an "all-wool felt" would. In my fabric, composed of a layer or bat of wool or animal fiber, and another of cotton or vegetable fiber, the latter is completely on one side when the fabric is made, and consequently can be used as stated. Therefore in making my invention I have left out a material part of the composition covered by the United States patent No. 48,757, dated July 11, 1865, and granted to Charles T. Young, thus making a different fabric, or one capable of being utilized to much better advantage as a lining for India-rubber goods. I make no claim to the fabric of said Young; but

What I claim as my invention is—

My new or improved felt fabric, composed of a bat or layer of animal fibers or wool and a bat or layer of vegetable fibers or cotton laid and felted together, as set forth, so as to leave one surface of the mass of the vegetable layer uncovered by the animal fiber or wool, all being substantially as and for the purpose described.

ENOCH WAITE.

Witnesses:

R. H. EDDY,
S. N. PIPER.