G. C. RASCH.

FIBROUS FABRIC.

APPLICATION FILED MAY 14, 1908.

970,950. Patented Sept. 20, 1910.

Fig. 1.

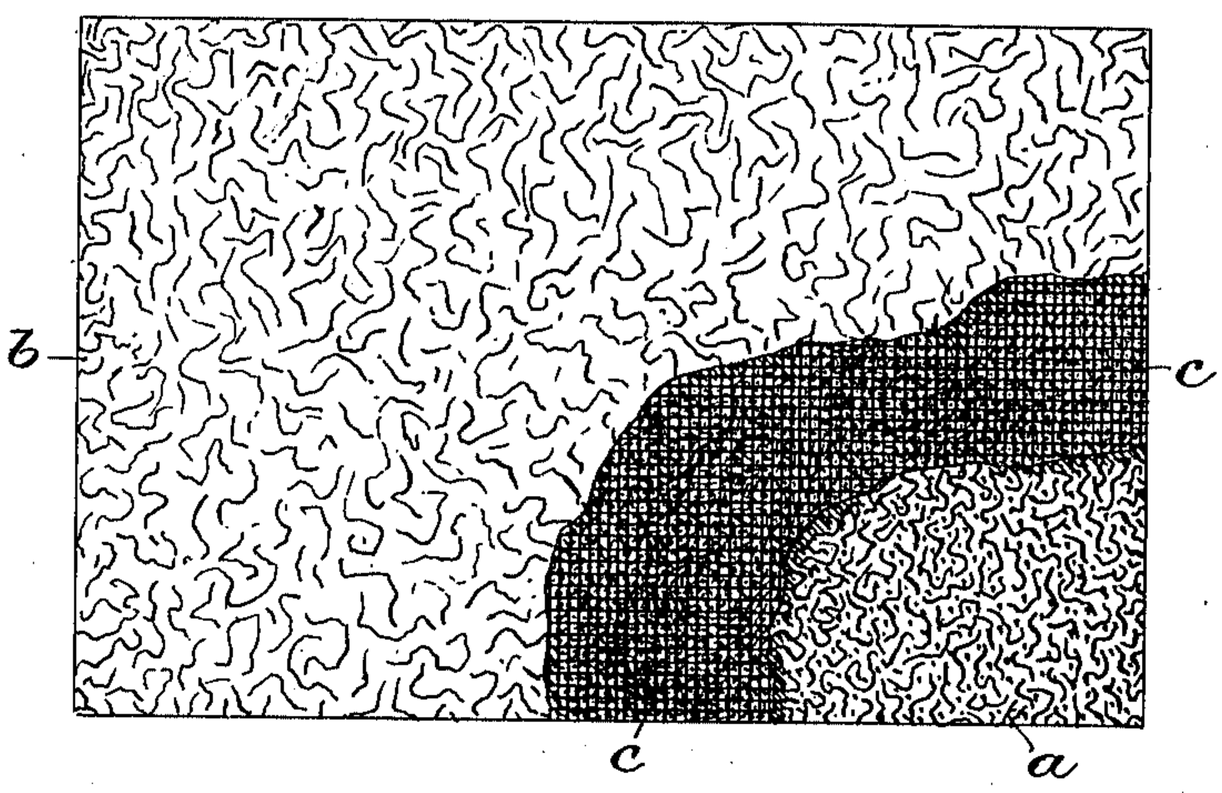


Fig. 2.

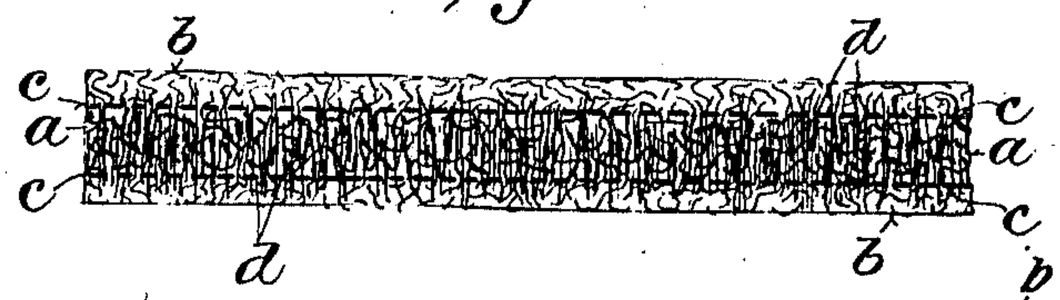


Fig. 5.

Fig. 3.

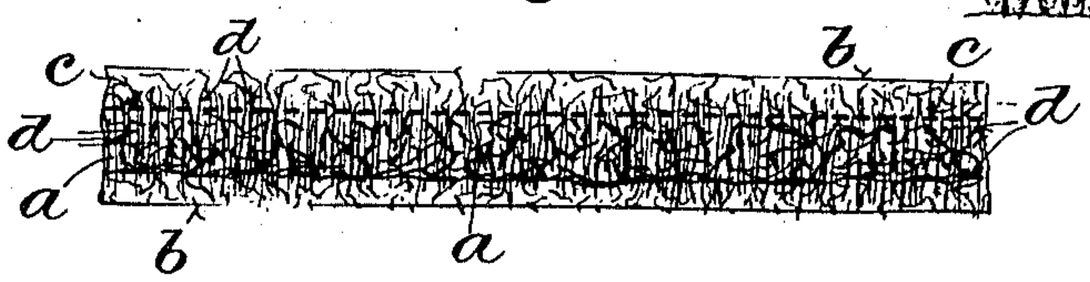
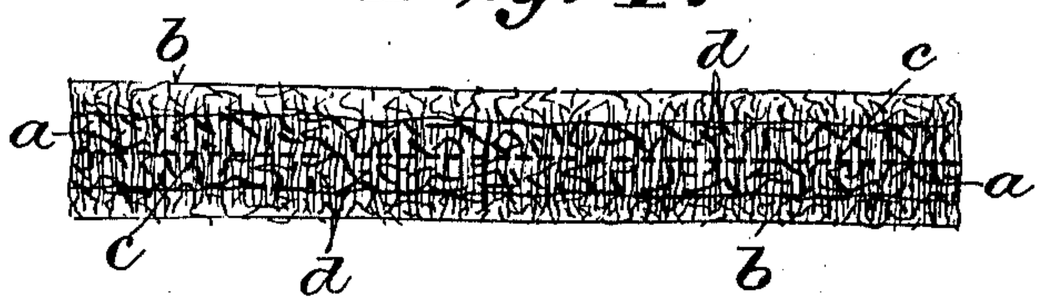


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FIBROUS FABRIC.

970,950. Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed May 14, 1908. Serial No. 432,853.

To all whom it may concern:

Be it known that I, GUSTAVE C. RASCH, a citizen of the United States, residing at Burlington, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Fibrous Fabrics, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates more particularly to elastic or soft fabrics suitable for horse collar pads, refrigerator linings, deadening and other purposes.

Its main objects are to produce a soft, pliable fabric, which will retain its shape, readily absorb and evaporate moisture and prevent transmission of heat or cold, and generally to improve the construction of fabrics of this class for the uses above enumerated and other purposes for which it may be adapted.

It consists in certain novel features of construction and in the peculiar arrangement and combinations of parts as hereinafter particularly described and defined in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is a plan view of a piece of fabric made in accordance with the present invention, parts of the upper facing layer and stay being broken away to more clearly illustrate the structure of the fabric; Figs. 2, 3 and 4 are edge views or sections of the fabric showing slight variations or modifications in its structure, and Fig. 5 a diagrammatic view illustrating the needled loops of fibers with relation to the stay fabric and the face layers.

The fabric is composed of a filling layer *a*, of loosely matted fibrous material such as hair, coarse wool or the like, forming an elastic pad or cushion, two outer or facing layers *b*, of soft moisture absorbing material, such as wool, and one or more stays *c*, of strong, pliable woven material, such as burlap or the like.

Fig. 2 shows the fabric as made with two woven stays, one on each side of the filling layer *a*, between it and the adjoining facing layer *b*; Fig. 3 shows a single stay interposed between one side of the filling layer and one of the facing layers; and Fig. 4 shows a single stay embedded in the filling layer.

In each of the several forms or structures of the fabric the fibers of the facing layers *b* are thrust or drawn, as shown at *d* in Figs. 2, 3 and 4, through or into the interposed filling layer *a*, thus binding the several layers with the woven stay or stays, firmly together and forming between the facing layers, a transverse wicklike connection, which acts by capillary attraction to rapidly convey the moisture deposited upon or absorbed by one facing, to the other, from which it evaporates, as when the fabric is used in sweat pads for horse collars.

In the construction of the fabric, one of the facing layers *b* is spread upon the filling layer *a*, with or without an intervening woven stay *c*, and the fibers of the facing are punched or thrust with barbed needles, through the filling. The other facing layer is then spread on the other side of the filling, with or without a stay, and the fibers are in like manner thrust by needles in the opposite direction through the filling. The fabric is then shrunk or fulled, and may be dyed any desired color. So constructed the fabric is firm and durable, and yet soft and pliable, the transverse connecting fibers of the facings serving not only to securely bind the several layers or parts together, but also to convey by their capillary attraction, moisture from one facing to the other.

In Fig. 5 of the drawing is illustrated diagrammatically the relation of the needled loops of fibers to the stay fabric and the face layers, the view selected representing the form in which two stay fabrics are employed. It will be observed that the fibers of one facing layer are punched or thrust, say with barbed needles, through both stay fabrics and the intervening filling layer, and that the fibers of the other facing layer are similarly thrust through both stay fabrics and intervening filling layer and also into the other facing layer.

While the fabric is pervious to air and moisture, it is a nonconductor or poor conductor of heat, and is therefore well suited for linings or coverings to prevent the transmission of heat or cold, and being pliable and soft or elastic, as well as firm and durable, it is admirably adapted to the requirements of pads for horse collars and the like.

I claim:

1. In a composite fabric, a face layer of loosely matted fibers, a similar backfacing layer, and a filling layer including a stay fabric for tensile strength, said composite fabric embodying in its structure loops of one face layer carried through the filling layer and the stay fabric, and loops of the other face layer carried through both the filling and stay fabric and into the other face layer.

2. In a composite fabric, a face layer of loosely matted fibers, a similar back facing layer, a filling layer, and a stay fabric for tensile strength interposed between the filling layer and each facing layer, said composite fabric embodying in its structure loops of one face layer carried through the filling layer and both stay fabrics and loops of the other face layer carried through the filling layer and stay fabrics and into the other face layer.

3. In a composite fabric a face layer of loosely matted fibers, a similar backfacing layer and a filling layer including a stay fabric for tensile strength, such composite fabric embodying in its structure loops of one face layer carried into the filling layer and through the stay fabric and loops of the other face layer carried into the filling layer.

4. In a composite fabric a face layer of loosely matted fibers, a similar backfacing layer, a filling layer, and a stay fabric for tensile strength interposed between the filling layer and each face layer, said composite fabric embodying in its structure loops of one face layer carried through one stay fabric into the filling layer and loops of the other face layer carried through the other stay fabric into the filling layer.

In witness whereof I hereto affix my signature in presence of two witnesses.

GUSTAVE C. RASCH.

Witnesses:

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