

No. 763,864.

PATENTED JUNE 28, 1904.

W. H. DRURY.  
WOVEN FABRIC FORMED OF FIBROUS MATERIALS.  
APPLICATION FILED MAY 16, 1904.

NO MODEL.

*Fig. 1.*

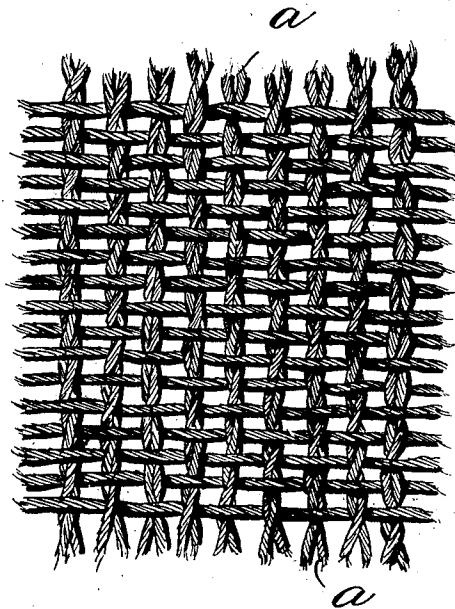


*Fig. 2.*



WITNESSES:

*W. F. Dye*  
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INVENTOR

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## UNITED STATES PATENT OFFICE.

WILLIAM HENRY DRURY, OF WALTHAM, MASSACHUSETTS, ASSIGNOR TO  
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## WOVEN FABRIC FORMED OF FIBROUS MATERIALS.

SPECIFICATION forming part of Letters Patent No. 763,864, dated June 28, 1904.

Application filed May 16, 1904. Serial No. 208,152. (No specimens.)

*To all whom it may concern:*

Be it known that I, WILLIAM HENRY DRURY, a citizen of the United States, residing in Waltham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Woven Fabric Formed of Fibrous Materials, of which the following is a specification.

The object of my invention is to produce a woven fabric exceptionally strong and durable, also warm, moisture-shedding, and quick-drying, and especially adapted to be used for textile articles of wear liable to be exposed to storm, wet, or dampness, such as rain-coats, reefers, leggings, robes, blankets, steamer-rugs, linings for waterproof boots and shoes, and others.

The invention consists in a woven fabric composed of spun yarn having a central core relatively strong to hold and bind the fibers enveloping it and to constitute much of the interior of the fabric and render the fabric strong and durable and also having material either wholly or principally of non-felting hair enveloping and spun upon such core to cover up and protect the interior of the fabric and to constitute the surface portion of the fabric and render the fabric warm, moisture-shedding, and quick-drying.

It is well known that textile articles of wear made of cloth composed of wool, felting-hair, and other felting materials or made of cloth of which these are the principal ingredients get out of shape and dry off slowly after becoming wet. It is also well known that non-felting hair, such as grows on the body of a cow or horse, naturally sheds moisture and after becoming wet dries quickly. Such fibers, however, are short and slippery and unsuitable for being spun into strong yarn to good advantage by ordinary methods without mixing therewith other fibers which tend to impair the moisture-shedding and quick-drying properties of the hair; but I have found it practicable to produce to good advantage strong woven fabrics whose surface portion and principal weight and bulk are pure cow-hair or horsehair, materials which are com-

paratively non-felting and whose interior portion covered up and protected by the hair holds and binds to itself the hair and renders the fabric strong and durable, and I have found that such fabrics not only are comparatively free from the faults above mentioned inherent in fabrics composed of felting materials, but also have properties which render them peculiarly well adapted for the uses above mentioned. For example, an outside coat or garment made of such fabric and worn in stormy weather will shed snow, sleet, or rain much better, will get much less out of shape, and will dry off much quicker and more easily than one made of felting materials. Also a boot or shoe lining made of such fabric after becoming wet or damp will dry out much quicker than a lining made of felt or a woven lining made of felting material. Indeed, it is entirely practicable to wash out or rinse out and quickly dry the inside of a waterproof boot or shoe lined with my improved fabric. Examples could be multiplied; but these sufficiently serve the purpose of illustration.

I do not confine myself to the use of pure non-felting hair for the surface portion of the fabric, since such hair can be mixed with other ingredients in such proportions that the moisture-shedding and quick-drying properties of the hair will predominate and a fabric produced therefrom would be within the principle of the invention. However, I prefer that the surface portion of the fabric shall be wholly of non-felting hair, or substantially so, or that if any mixture with other ingredients is used such surface portion shall be principally of non-felting hair.

The yarn composing the fabric may be made as set forth in my applications filed in the United States Patent Office December 13, 1902, Serial No. 135,157, and November 2, 1903, Serial No. 179,631, using strong twply cotton yarn for the core and the non-felting hair for the enveloping portion, which evenly surrounds and is spun upon said core. For each of the warp-threads of the fabric I prefer to use two strands of such composite

yarn twisted together, because such structure serves to hold and bind the hair very much as bristles are held and bound in a spirally-formed pipe-cleaner, and, besides, the doubling and twisting render the warp-threads stronger both for wear and for enduring the weaving process. For each of the weft-threads I prefer to use a single strand of said composite yarn without any doubling of strands, as the weaving serves to hold and bind sufficiently the hair enveloping the core of the weft; but, if preferred, each warp and weft thread, or either thereof, may be composed of a plurality of said strands twisted together, or each or either may consist of a single strand of said composite yarn.

It is not possible to represent my fabric exactly by drawings. Illustration thereof must necessarily be somewhat diagrammatic, and is so in the accompanying drawings, Figure 1 of which is an enlarged view, mainly diagrammatic, of a piece of fabric, showing the warp and weft widely spread apart. Of course in the actual fabric the weave for most purposes is close and compact, and the strands lie close together. Fig. 2 is a section, enlarged, showing the previously-spun core *x*, of relatively strong fibrous material, and the envelop *y*, composed, mainly or essentially,

of non-felting hair evenly surrounding and spun upon said core.

In Fig. 1, *a* represents the warp-threads. Each of the warp-threads is composed of two strands of the composite yarn, such as is illustrated in Fig. 2, twisted together, and each of the weft-threads is shown as a single strand of such composite yarn. The cloth may undergo any finishing process to suit the taste of dealer or user.

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

A woven fabric the warp and weft of which is composed of yarn having a central relatively strong and previously-spun core, to hold and bind the fibers enveloping it and to form the interior of the fabric, and an envelop consisting essentially of non-felting hair surrounding and spun upon said core to cover up and protect the interior, and to constitute the surface portion of the fabric, substantially as hereinbefore set forth.

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

WILLIAM HENRY DRURY.

Witnesses:

ARTHUR L. WOODS,  
E. LULA RICH.