

(Specimens.)

N. HIRSCH.
WOVEN STIFFENING FABRIC.

No. 585,626.

Patented June 29, 1897.

Fig. 1,

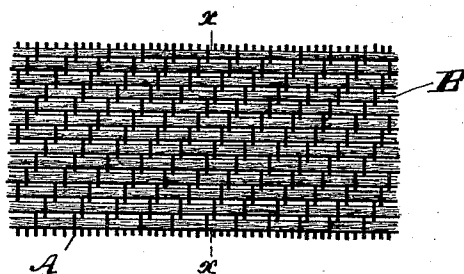
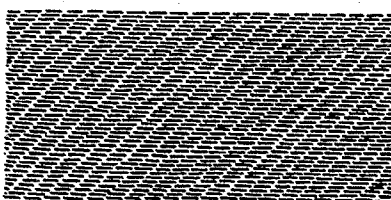


Fig. 2,



Fig. 3,



WITNESSES:

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WOVEN STIFFENING FABRIC.

SPECIFICATION forming part of Letters Patent No. 585,626, dated June 29, 1897.

Application filed November 24, 1896. Serial No. 613,335. (Specimens.)

To all whom it may concern:

Be it known that I, NATHAN HIRSCH, of the city, county, and State of New York, have invented a certain new and useful Improvement in Woven Stiffening Fabrics, of which the following is a specification.

The present invention relates to fabrics to be used for stiffening skirts, &c., and is especially designed for the purpose of providing a stiffening fabric which shall give all the necessary support to the dress-goods in conjunction with which it is used, and shall also possess such resilient elastic characteristics as to permit of its adapting itself to the different positions of the dress consequent upon different postures of the wearer. With this object in view I first weave a twill fabric, preferably a three-leaf twill, in which the filling or weft threads are loosely spun, while the warp-threads are tightly spun.

In the spinning of threads for use in the weaving of textile fabrics the tighter the thread is spun the greater will be the difficulty in extracting the oily matter therefrom in the subsequent treatment. This results from the fact that when the thread is spun very tightly the oily matter contained in the fibers of the cotton is driven to the outer surface and in the subsequent treatment resists, to a very great extent, the action of the treating fluids. When the threads are loosely spun, the oily matter does not exude to the outer surface, and at the same time the fibers of the strand are left open for the more perfect penetration of the fluids used to extract the same. In the case of ordinary fabrics it is not of primary importance that all the oil contained in the fibers should be entirely extracted, but in the case of my fabric it is essential, for the reason that in the subsequent sizing treatment it is necessary that the fabric should be impregnated with size to the very utmost extent. The twilled fabric having the filling or weft threads of the loosely-spun character and the

warp-threads of the tightly-spun character is shown in the accompanying drawings, in which—

Figure 1 is an enlarged view of a piece of my fabric. Fig. 2 is a cross-section along line X X of Fig. 1, and Fig. 3 is a view of the finished product.

In the drawings, A represents the warp-threads, and B the filling-threads.

I take a woven fabric of the character herein described and submit it to a treatment whereby the oils contained in the fibers of the cotton are extracted. After the fabric has passed through this oil-extracting process, it is subjected to a sizing process, which by reason of the extraction of all the oil from the fabrics thoroughly impregnates the strands of the fabric. Afterward the fabric is dyed a suitable color and is then subjected to a tenting action, whereby the stiff fabric is broken down to a resilient and pliable condition.

What is claimed as new is—

1. A twill woven stiffening fabric the fibers of which are free from oil, impregnated with sizing and free from adhesion, the weft-threads of the fabric being of loosely-spun fibers and the warp-threads of relatively tightly-spun fibers, substantially as described.

2. The process of making stiffening fabrics, which consists in subjecting a twill fabric to the action of an oil-extracting solution, then impregnating the same with size, drying, and then subjecting it to a treatment to separate the threads connected by the sizing, whereby the fabric is rendered resilient and pliable, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NATHAN HIRSCH.

Witnesses:

W. LAIRD GOLDSBOROUGH,
ERNEST HOPKINSON.