

No. 768,387.

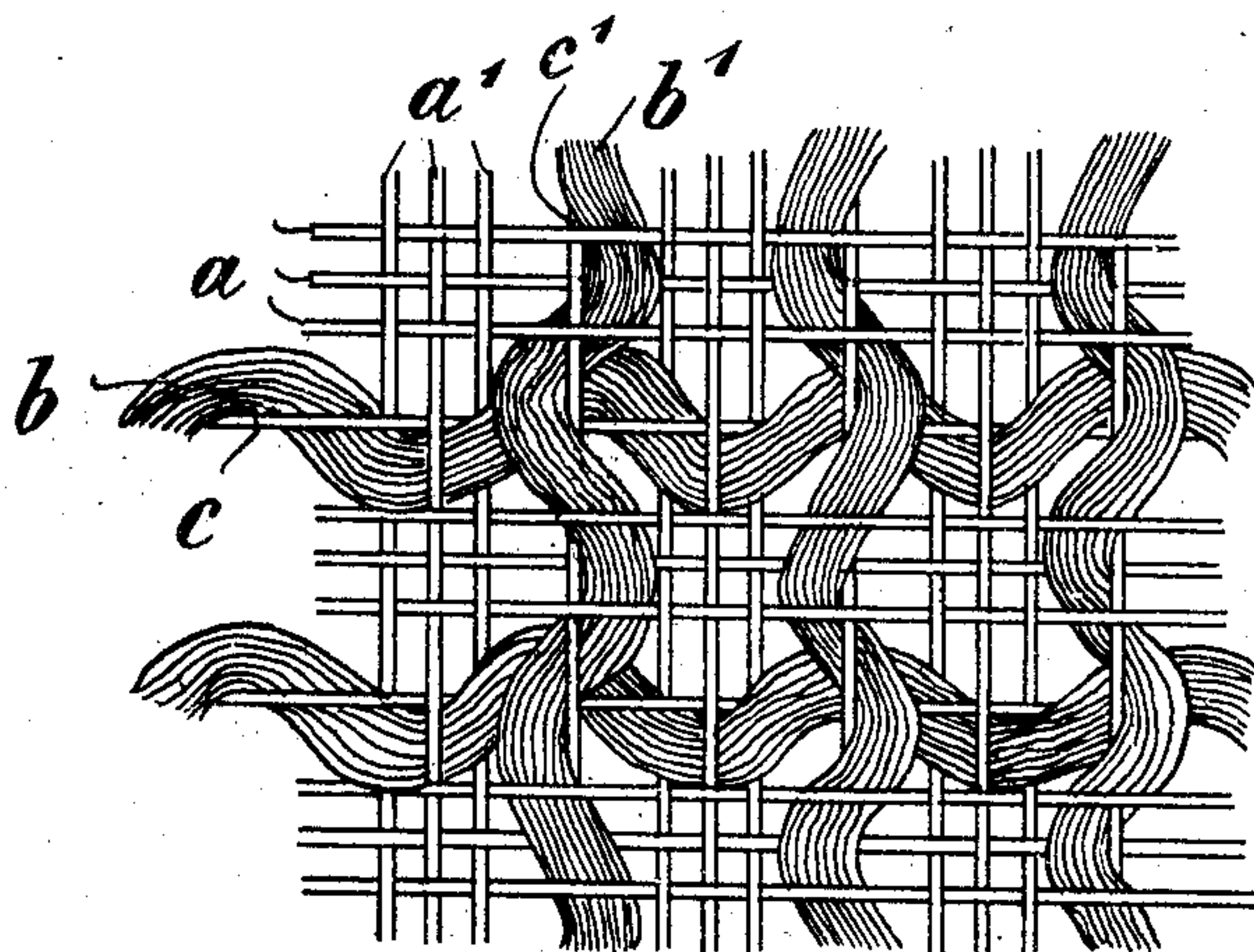
PATENTED AUG. 23, 1904.

F. LOTS & L. SIMONS.

WOVEN FABRIC FOR UNDERCLOTHING, &c.

APPLICATION FILED JAN. 18, 1904.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRITZ LOTS, OF FRIEDRICHSRODA, AND LUDWIG SIMONS, OF
NEUMÜNSTER, GERMANY.

WOVEN FABRIC FOR UNDERCLOTHING, &c.

SPECIFICATION forming part of Letters Patent No. 768,387, dated August 23, 1904.

Application filed January 18, 1904. Serial No. 189,649. (No specimens.)

To all whom it may concern:

Be it known that we, FRITZ LOTS, residing at Friedrichsroda, Thuringia, and LUDWIG SIMONS, residing at Neumünster, Holstein, in the Empire of Germany, citizens of the Empire of Germany, have invented a new and useful Woven Fabric for Underclothing and the Like, of which the following is a specification.

This invention relates to a loose fabric so interwoven with coarse spiral wool warps and wefts that it is specially suitable for underclothing worn on the skin and is capable of automatically rubbing the skin, while at the same time allowing the air to get at the skin. This effect of the fabric is conducive to health.

The fabric is also suitable for chafing-clothes, bath-towels, flesh-gloves, rubbers, &c.

The fabrics hitherto used for underclothing are not capable of automatically rubbing the skin while being worn. More particularly, jersey cloth or flannel and tricot or hosiery are far too soft and too elastic, so that their several yarns or loops resting on or bearing against the skin simply yield and are incapable of exerting any action upon the skin. The numerous pores or spaces between the yarns or loops are apt to close, owing to the elasticity of the fabric, and do not admit air freely to the skin. When the underclothing made of such fabrics is worn on the skin, the air will therefore be prevented from getting at the skin, the more so when the underclothing is stretched in any manner and in any direction—for instance, by the waist-belt or otherwise.

The new automatically-rubbing fabric according to our invention is illustrated in a mode of execution in the accompanying drawing, where it is shown magnified.

The fabric comprises a plurality of straight warps *a* and wefts *a'*, woven loosely, and a plurality of coarse spiral warps *b* and wefts *b'*, preferably of wool, which are so loosely interwoven that they attain a spiral-like or frizzly shape, as illustrated. We have shown the straight warps *a* and wefts *a'* as divided into groups of three yarns in each and the

coarse spiral or frizzly warps *b* and wefts *b'* as placed severally between these groups, respectively. However, the number of straight warps or wefts in each group may be increased or decreased at pleasure. Also groups comprising few yarns may alternate with groups of more yarns. The coarse spiral or frizzly warps *b* not only divide the groups of straight warps *a*, while leaving ample spaces between all the yarns, but also project on both faces from the plane of the straight warps. The same is true of the coarse spiral or frizzly wefts *b'* with reference to the straight wefts *a'*. The spiral or frizzly warps *b* and wefts *b'* may be doubled with yarns *c* and *c'*, respectively, as shown, so that the latter form themselves straight warps and wefts, respectively, or the spiral or frizzly warps *b* and wefts *b'* may be left undoubled. In general, however, it is preferable to employ doubled coarse spiral or frizzly yarns *b* and *b'*, since these are retained in their spiral-like shape by the straight yarns *c* and *c'*, respectively.

The fabric so produced presents on both faces projections which render it rough. It cannot be stretched to such an extent as jersey cloth or flannel, tricot, or hosiery, since the straight warps *a* and wefts *a'* prevent it from stretching. The coarse spiral or frizzly warps *b* and wefts *b'* prevent the straight warps *a* and wefts *a'* from shifting, and they also prevent the spaces between all the yarns from closing. The projections of the fabric facing the skin automatically rub the latter while the underclothing made of this fabric is being worn. At the same time the fabric permanently leaves ample spaces for the admittance of the air to the skin.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. As a new article of manufacture a loose automatically-rubbing fabric for underclothing and the like which comprises a plurality of straight warps divided into groups, a plurality of coarse spiral or frizzly warps alternating with the groups of straight warps, a plurality of straight wefts divided into groups, and a plurality of coarse spiral or frizzly wefts alternating with the groups of straight wefts.

2. As a new article of manufacture a loose automatically-rubbing fabric for underclothing and the like, which comprises a plurality of straight warps divided into groups, a plurality of coarse spiral or frizzly warps doubled with straight yarns and alternating with the groups of straight warps, a plurality of straight wefts divided into groups, and a plurality of coarse spiral or frizzly wefts doubled with straight yarns and alternating with the groups of straight wefts.

3. A loose automatically-rubbing fabric for underclothing and the like consisting of a plurality of straight warps divided into groups, a plurality of coarse spiral or frizzly warps of wool alternating with the groups of straight warps, a plurality of straight wefts divided into groups, and a plurality of coarse spiral or frizzly wefts of wool alternating with the groups of straight wefts.

4. A loose automatically-rubbing fabric for

underclothing and the like consisting of a plurality of straight warps divided into groups, a plurality of coarse spiral or frizzly warps of wool doubled with straight yarns and alternating with the groups of straight warps, a plurality of straight wefts divided into groups, and a plurality of coarse spiral or frizzly wefts of wool doubled with straight yarns and alternating with the groups of straight wefts.

In testimony whereof we have each signed our names to this specification in the presence of two subscribing witnesses.

FRITZ LOTS.

LUDWIG SIMONS.

Witnesses as to the signature of Fritz Lots:

FRANZ KÖLLNER,

BR. QUENDTL.

Witnesses as to the signature of Ludwig Simons:

PELL,

ASBAHR.