

# UNITED STATES PATENT OFFICE.

CLAUDE A. O. ROSELL, OF NEW YORK, N. Y., ASSIGNOR TO JEREMIAH A. SCRIVEN, OF SAME PLACE.

## FABRIC.

SPECIFICATION forming part of Letters Patent No. 682,367, dated September 10, 1901.

Application filed March 24, 1900. Serial No. 10,072. (No specimens.)

*To all whom it may concern:*

Be it known that I, CLAUDE A. O. ROSELL, a citizen of the United States, residing in the city of New York, Manhattan borough, county and State of New York, have invented a new and useful Fabric, of which the following is a specification.

This invention relates to fabrics, and has especial reference to decreasing the hygroscopic character of cotton and linen fabrics, as will be more fully explained in the subjoined specification and claim.

As is well known, cellulose fibers are considerably more hygroscopic than woolen fibers, which feature makes them less valuable for use as underwear and for the purposes where they come in contact with the human body, because the evaporation of the hygroscopic moisture takes away latent heat from the surface of the body. To decrease the hygroscopic character of such fibers is one of the objects of this invention. To accomplish these results, I preferably proceed as follows: A solution of linseed-oil, preferably boiled, is first prepared of a strength of from two to eight per cent. of linseed-oil and a suitable solvent, gasoline or benzene being most available for the purpose. The fiber to be treated is immersed in the solution for a period of from one to twenty-four hours. The excess of the solution carried by the fiber is pressed out, and the fiber is allowed to dry. To carry this operation into effect, it will be found most convenient to use cloth in the piece, said cloth being unrolled or otherwise loosened, so as to give the solution an opportunity to thoroughly and evenly penetrate every portion thereof. The hygroscopic character of cotton and linen, already referred to, interferes seriously with the application of the solution, as the oxidized linseed-oil or linoxin is liable to be only superficially attached to the fiber in place of entering the cellular structure thereof, a feature which would make the treated fabric very unsubstantial to use, because the external coating of linoxin would readily peel off or be otherwise mechanically removed. To overcome this difficulty, the fabric before treatment is first thoroughly washed to eliminate all water-soluble constituents therefrom. The fabric is then dried

at ordinary temperature until the sensible moisture is eliminated, after which it is thoroughly dried at a temperature of from 100° to 150° Fahrenheit, whereby the hygroscopic moisture is eliminated from the surface and cellular structure of the fiber. After having been thus dried and before it has had time to take up fresh moisture from the atmosphere the fabric is immersed in the solution above referred to, and this is preferably done before the fabric has had time to cool down to ordinary temperature. After having been immersed the fabric is thoroughly squeezed and dried, as before indicated, the final drying being also preferably effected by means of the use of heated air. The result of this treatment is to oxidize the linseed-oil which has penetrated the fiber and to transform it into linoxin. It will be found that when the fabric has been thus treated the solution will thoroughly penetrate the cellular structure of the fiber, so as to permit of continuous bending while in use and of the various operations in the laundry. By this treatment the meshes of the fiber remain open, allowing free circulation of air. A good grade of linseed-oil should be used, so as to cause the fabric to receive a uniform tint. If a good grade of linseed-oil be used, the discoloration caused by the treatment of bleached cotton will only be very slight and unbleached cotton will show only a slightly-darker color than if it had not been treated by this process. The linoxin introduced into the cellular structure of the fiber being in exceedingly thin layers possesses flexibility of the highest order and will not therefore crumble and become eliminated from the fabric in the form of dust, as would be the case with most other agents that might be attempted to be used to accomplish the same result. The linoxin is also an excellent vehicle or carrier for medicinal agents which may be incorporated therein.

Although described more especially with reference to a treatment of cloth, it should be understood that this process applies equally well to a treatment of crude fiber and yarn. It is equally applicable to bleached or unbleached and dyed or undyed fibers. The proportions given are stated by way of example

and not meant in any way to limit the scope of the invention. It is also evident that the fibers may receive more than one treatment with the linseed-oil solution without departing from the spirit of the invention. It is also evident that to make the penetration of the solution into the fiber more quick a hydraulic or pneumatic pressure may be applied to the solution with the fabrics contained therein. To avoid streaks or uneven treatment of the fabric, the latter should be moved occasionally or continuously while in the solution and the excess of the solution should be pressed out uniformly, preferably by means of squeezing-rolls. It should also be noted that the greater the pressure applied after immersion in the solution the stronger should the solution used be made.

The linoxin with which the fiber is impregnated while decreasing the hygroscopic character of the fiber does not make the fiber irritating or in any other respect make it less desirable or sanitary than it would be without such treatment. By the decreasing of the hygroscopic character of the cotton, regard-

less of the fact whether medicinal agents have also been applied or not, the cotton fabric by this treatment is made to approach in qualities fabrics of wool.

Although this invention is devised more particularly for the purpose of producing fabric suitable for underwear, it is also applicable for other purposes, such as the manufacture of sheets, cotton horse-blankets, &c. It is also evident that this is a process available for applying medicinal agents to wool, yarn, or woolen fabrics, and this also constitutes a part of the invention.

What I claim is—

As a new and useful article of manufacture, a highly-flexible textile fabric whose constituent threads or yarns are cellularly impregnated with linoxin, the interstices between the threads being open so that the fabric remains pervious to air.

CLAUDE A. O. ROSELL.

Witnesses:

GEO. E. MORSE,  
MAURICE BLOCK.