UNITED STATES PATENT OFFICE.

CASPER S. FRANCIS, OF SPRING CITY, PENNSYLVANIA.

IMPROVEMENT IN WATER-PROOF FABRICS.

Specification forming part of Letters Patent No. **217,604**, dated July 15, 1879; application filed December 30, 1878.

To all whom it may concern:

Be it known that I, CASPER S. FRANCIS, of Spring City, Chester county, Pennsylvania, have invented a new and useful Improvement in Water-Proof Fabrics, of which the following is a specification.

The object of my invention is to render fabrics perfectly water-proof, and at the same time light, flexible, pliable, and not liable to crack.

Fabrics which are varnished and treated with boiled or drying oil to render them water-proof soon become stiff, and when bent quickly crack, so that their water-proof qualities are impaired. In order to render the fabrics quite flexible, light, and not liable to crack when bent, I treat them with raw linseed-oil in the following manner:

I first thoroughly saturate the fabric with ordinary linseed-oil—that is, oil which has not been rendered thick by the usual boiling process, for the use of boiled linseed-oil would, in a great measure, frustrate the end aimed at. After saturating the fabric I suspend it in an oven, where it is subjected to a heat of about 130° Fahrenheit, the exposure of the fabric to heat being continued until the oil is thoroughly dried.

The fabric thus treated, which may be ordinary cotton or other cloth, while thoroughly water-proof, is light, pliable, and flexible, and can be readily sewed on an ordinary sewing-machine, in being made up into various articles of apparel, and can be bent and folded without cracking or in any way injuring its water-proof qualities.

The stiffness and weight, which are such objections to fabrics painted or varnished or treated with boiled oil, are entirely absent from my improved fabric.

If desired, two or more coats of oil may be applied to the fabric; but one coat will generally be found to be sufficient.

In some cases coloring-matter may be added to the oil, in order to impart a color to the fabric which is being treated.

I claim as my invention—

As a new article of manufacture, the within-described oil-treated water-proof fabric, light, flexible, and free from liability to crack, all as herein set forth.

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

CASPER S. FRANCIS.

Witnesses:

HENRY POLSZ,

WM. J. COOPER.