

UNITED STATES PATENT OFFICE.

JONATHAN T. TROTTER AND ISAAC F. WILLIAMS, OF NEW YORK, N. Y.

IMPROVEMENT IN FINISHING THE SURFACE OF INDIA-RUBBER GOODS.

Specification forming part of Letters Patent No. **28,420**, dated May 22, 1860.

To all whom it may concern:

Be it known that we, JONATHAN T. TROTTER and ISAAC F. WILLIAMS, of the city, county, and State of New York, have invented or discovered a new and useful process or method of preparing the surfaces of water-proof cloths, cotton, silk, wool, or other materials for coating or napping the same with powdered flocks, ground cork, or other similar fibrous substances or materials, for the purpose of giving them a felt-like textile appearance; and we do hereby declare the following to be a full description of the same.

The method or process heretofore used in the manufacture of water-proof felt fabrics has been as follows: On a piece of cotton, silk, wool, or other fabric is spread a coating of india-rubber or other vulcanizable gum by means of heated rollers, or by the solutions of the said substances in the ordinary solvents thereof, by means of what is known in the manufacture of such goods as the "knife" or "gauge" machine. On the surface of the fabric thus coated is sifted powdered flock, ground cork, or other similar fibrous material, which, by means of pressure-rollers between which the cloth is made to pass, the flock or cork is made to adhere to the surface of the gum. But this method is not always attended with uniformly satisfactory results. The surface of the coating is often uneven, bare spots appear, and the flocked surface wears or brushes off with very little use. Our invention therefore relates to the obviating of this objection to the manufacture as well as use of this kind of goods. For this purpose we use and apply what we have designated a "finishing" or "fixing" process by the application of an additional operation, as follows: After the fabric has been prepared as before described we put it upon a sizing-machine composed of a sizing and pressure

rollers and two tightening or carrying rollers. Under the sizing-roller is a trough, into which we place either of the following solvents of india-rubber, gutta-percha, or other vulcanizable gums—to wit, camphene, naphtha, bisulphide of carbon, or other gum solvents—so that when the sizing-roller rotates as the cloth passes over it it will carry up a thin sheet of the gum solvents, which, penetrating and saturating the flocked surface of the fabric, softens the water-proof coating, and thus, by means of the pressure-roller on the upper surface of the fabric directly over the sizing-roller, causes the powdered flock, or ground cork, or similar fibrous substance that may be used to combine and incorporate themselves thoroughly with the rubber surface on the fabric, and at the same time preserve a perfect felt-like textile appearance.

We do not claim the use of solutions of india-rubber as an additional process for fixing the flock upon the waterproofed cloth, as that has been done previously by James Wansborough; but

What we do claim is—

The process or method of fixing or finishing the coating of flock, cork, or other fibrous material by the use of camphene, naphtha, bisulphide of carbon, or other solvents of any of the vulcanizable gums, when applied by means of the sizing roller or machine hereinbefore described, as a secondary or additional operation for fixing or finishing the surface of the previously-flocked goods, substantially as hereinbefore set forth.

JONATHAN T. TROTTER.
ISAAC F. WILLIAMS.

Witnesses:

E. F. BROWN,
E. KETCHUM, Jr.