

UNITED STATES PATENT OFFICE.

WILLIAM HOSKINS, OF CHICAGO, ILLINOIS.

WATER-RESISTANT PAPER AND PROCESS OF MAKING SAME.

No Drawing.

Application filed March 10, 1921. Serial No. 451,348.

To all whom it may concern:

Be it known that I, WILLIAM HOSKINS, a citizen of the United States, residing at 2009 Harris Trust Building, Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Water-Resistant Paper and Processes of Making Same, of which the following is a specification.

10 A water resistant or repellant paper may be prepared, in accordance with the present invention, by sprinkling or dusting uniformly over the surface of the paper an insoluble soap, such as calcium resinate or oleate, calcium or zinc stearate, or mixtures of the soaps and removing by brushing or wiping all except the minute proportion which adheres closely to the surface of the paper and within its pores. The resultant coating upon the surface of the paper is substantially invisible and appears to be discontinuous in character, being formed of minute adherent particles of the soap. The invention may suitably be carried out by passing a web of paper through a dust chamber, kept filled with a moving current of dust of the soap employed and then between suitable brushes or doctors to remove the excess soap dust. In general, when both sides of the paper are treated, the amount of soap required is substantially less than 0.1% of the weight of the paper except in the case of very thin, rough surfaced papers or tissues, when it may be greater. The treated paper is water resistant and water repellant, although not permanently waterproof, and may suitably be employed for wrapping purposes, for making drinking cups, etc.

A like discontinuous coating of adherent soap particles may be applied to paper by passing the paper through a suspension of fine particles of the soap in a liquid such as water. The soap, in powdered form, if not already wet, may be first wet with a small amount of alcohol and is then dispersed in water to form a thin suspension. A web of paper may be passed through this suspension, excess water drained off and the paper

dried in order to form a coating of the soap or soaps of the character described.

When desired, colored soaps may be employed; for example, soaps of nickel, chromium, copper, etc.

I claim:

1. The process of making paper water resistant which comprises applying to its surfaces a coating of discrete particles of adherent insoluble soap.

2. The process of making paper water resistant which comprises applying to its surfaces a coating of discrete particles of adherent insoluble calcium oleate.

3. The process of making paper water resistant which comprises applying to its surface a coating of adherent insoluble calcium soap, the amount of soap being less than 0.1% of the paper.

4. The process of making water resistant paper which comprises dusting or sprinkling insoluble soap on the surface of paper and brushing or wiping off all except the adherent soap particles.

5. The process of making water resistant paper which comprises dusting or sprinkling calcium stearate on the surface of paper and brushing or wiping off all except the adherent particles of the soap.

6. Water resistant paper consisting of paper having on its surface a discontinuous coating of adherent insoluble soap particles and substantially free from non-adherent particles thereof.

7. Water resistant paper consisting of paper having on its surface a discontinuous coating of adherent particles of calcium oleate, and substantially free from non-adherent particles thereof.

8. Water resistant paper consisting of paper having on its surface a discontinuous coating of adherent particles of calcium oleate, and substantially free from non-adherent particles thereof, the weight of said coating being less than 0.1% of the weight of the paper.

WILLIAM HOSKINS.