UNITED STATES PATENT OFFICE.

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COMPOSITION FOR TREATING PAPER.

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To all whom it may concern:

Be it known that I, ALEXANDER W. HARRINGTON, a citizen of the United States, and a resident of Brooklyn, Kings county, New York, have invented new and useful Improvements in Composition for Treating Paper; and in order that those skilled in the art may understand and practice my invention I give the following specification.

My invention relates to the treatment of paper with a view to producing a product possessing the properties and characteristics of parchment, the object of my invention being to produce in a simple, practical and economical way a so-called parchment paper which is impervious and resistant to water, grease and other fluids, and which possesses a much greater degree of toughness and strength than ordinary paper.

My invention further consists in the composition of and the process employed for obtaining the results mentioned.

In carrying out my invention I prepare a composition of the following ingredients, or their equivalents, viz: waxy material, preferably white leaf wax, 200 lbs.; oil, preferably Russian oil, 1 gal.; cloves, 1 lb.; glue, 60 lbs.; formaldehyde, 1 oz.; glycerin, 1 oz.; amylaceous material, preferably cassava, 40 lbs.

The proportions specified above are given merely as illustrative and to serve as a guide it being understood that the amounts of the various materials may be changed according to circumstances in the judgment of the skilled operator. The ingredients above mentioned I have found to give satisfactory results but it will be understood that equivalents may be substituted without departing from the invention.

In order to prepare the composition, I proceed as follows: About six parts of water are added to the cassava, and the mixture boiled. After boiling the mass is cooled and the glue is then added and the mass then raised to a temperature of about 180° F. To the mass is then added the white leaf wax, the Rusian oil and the cloves. The Russian oil referred to is a refined petroleum product having a specific gravity of about .823. The cloves are incorporated in the mixture by placing the same in a bag and allowing it to remain in the composition until the latter is cooled. The mass is now cooled and the formaldehyde and glycerin are then added. During the preparation of the composition, the ingredients are carefully mixed to produce a uniform product.

The composition may be applied to the paper in any desired manner. The nature of the composition is such that it may be applied to paper at any stage of its manufacture so that the paper may be treated with the composition while on the paper making machine by leading the paper through the composition, or otherwise applying it thereto at a point intermediate the press rolls and the delivery end of the machine. If desired, the composition may be mixed with the pulp before the formation into paper or sprayed on the paper while it is on the mold or wire. Paper treated according to my invention, in any of the ways specified, is materially strengthened, its texture improved, and is rendered impervious and resistant to water, oils and grease of all kinds, and resembles, in all respects, good parchment, and may be employed for any purposes for which parchment or parchment paper is ordinarily used.

Whereas in setting forth the ingredients of my composition, I have specified waxy material and oil, the best results are secured by the use of the specific ingredients white leaf wax and Russian oil in the composition, the product obtained by the use of these ingredients being superior to that obtained when substitutes for these ingredients are employed.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The herein described composition, consisting of waxy material, oil, cloves, glue, formaldehyde, glycerin and amylaceous material.

2. The herein described composition, consisting of white leaf wax, Russian oil, cloves, glue, formaldehyde, glycerin, and cassava.

3. The herein described composition in substantially the following proportions, viz: white leaf wax, 200 lbs., Russian oil, 1 gal.,

cloves, 1 lb., glue, 60 lbs., formaldehyde, 1 oz., glycerin, 1 oz., and cassava, 40 lbs.

4. The herein described process, which consists in heating amylaceous material in water to boiling, cooling, adding glue to the mass, and heating to a temperature of about 180° F., adding to the heated mixture a waxy material, oil and cloves, cooling and adding to the mixture formaldehyde and glycerin.

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Witnesses:
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