UNITED STATES PATENT OFFICE.

HENRY J. BIRD, OF BROOKLYN, NEW YORK.

WATERPROOFING COMPOSITION FOR PAPER.

SPECIFICATION forming part of Letters Patent No. 426,633, dated April 29, 1890.

Application filed September 5, 1889. Serial No. 323,085. (No specimens.)

To all whom it may concern:

Be it known that I, HENRY J. BIRD, a subject of the Queen of Great Britain, residing in Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Waterproofing Compositions for Paper, &c., of which the following is a specification.

The object of this invention is to render manila and other paper water-proof without the disagreeable odor usually accompanying the use of tar and pitch, and at the same time the paper is rendered an inferior conductor of heat, so as to be adapted to the lining of refrigerators.

I make use of pitch and petroleum residuum or tailings together with asphalt for the material applied to the surface of the paper. The pitchy material from the distillation of petroleum is sometimes comparatively hard and the residuum or tailings that pass off before the pitchy material is left in the still varies in its consistency and is usually of a brownish or red color and sometimes comparatively hard and at other times in a semi-liquid condition. These two materials are mixed together, according to their condition, in proportions varying from fifty to sixty per cent. of pitch and twenty to thirty-five per cent. of petroleum residuum and the asphalt, preferably the refined Trinidad asphalt, is made use of in from ten to fifteen per cent. These are all thoroughly incorporated while in a melted condition, and a small proportion of carnauba is added to render the mixture more intimate and to act as a drier to prevent the material remaining sticky when applied to the paper.

The aforesaid compound, after being melted and thoroughly mixed until it assimilates, is applied while hot to one or both surfaces of the paper, preferably by means of rolls that press such material upon the paper and spread it over evenly, and such hot bituminous material is incorporated into the paper and may be used to cause two or more thicknesses of paper to adhere together. This paper, coated on one side or made of two sheets with the bituminous material between them, is well adapted to wrapping purposes and for buildings, and for lining of refrigerators it is preferable to use paper with both surfaces coated with the aforesaid material.

In cases where creosote and vegetable tar have been combined with asphalt the odor arising is very objectionable. In addition to this the composition becomes brittle by the lapse of time, which is especially disadvantageous in a coating for paper, as the same is liable to crack and tear.

The petroleum residuum employed by me having been exposed in distillation to a high degree of heat, the volatile matters have been driven off; hence there is but little odor and the toughness and elasticity of the composition are but little impaired by the lapse of time, and hence my composition is superior for rendering paper and fabrics water-proof.

I claim as my invention—

The water-proof composition for the surface of paper and other material, consisting of petroleum residuum known as "tailings," the pitch from the distillation of petroleum, and asphalt, in about the proportions herein specified and thoroughly mixed while in a heated condition, substantially as set forth.

Signed by me this 3d day of September, 1889.

HENRY J. BIRD.

Witnesses:
HAROLD SERRELL,
WILLIAM G. MOTT.