UNITED STATES PATENT OFFICE.

WILLIAM H. RANKIN, OF ELIZABETH, NEW JERSEY.

IMPROVEMENT IN SATURATED SHEATHINGS FOR ROOFING.

Specification forming part of Letters Patent No. **205,135**, dated June 18, 1878; application filed May 16, 1878.

To all whom it may concern:

Be it known that I, WILLIAM H. RANKIN, of Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Saturated Sheathings for Roofing and other Purposes; and it consists in a new article of manufacture composed of paper of the class known as "roofing paper or felt" saturated with a composition of matter consisting of the ingredients herein specified in substantially the proportions set forth—that is to say, of rosin, one hundred pounds; of dead-oil, (also called "heavy oil",) eighteen gallons; sugar of lead, three pounds; sulphuric acid, (liquid,) two ounces; mineral substance, such as Lehigh metallic or Prince's metallic paint, pulverized, one hundred and fifty pounds and upward.

The dead-oil or heavy oil, above mentioned, consists of the various chemical substances that pass over and are condensed during the process of distilling coal-tar in the usual way down to a point at which the residuum left in the still is the thick black mass known in the market as "coal-tar pitch." The coal-tar so distilled is also known as "gas-tar," and is produced at the gas-works in large quantities during the manufacture of the illuminating-gas commonly used in lighting cities.

Roofing paper, felt, &c., have for many years been saturated with this coal-tar, and so saturated they have been extensively used for roofing purposes, for sheathings, for protecting merchandise from moisture during transportation or storage, and for divers other purposes; but their unpleasant odor, dirty black color, and tarry surfaces have always been objectionable features, and have prevented their use for many purposes for which their waterproof and durable qualities would otherwise have recommended them.

My new material is free from all of these objections, and for any purpose is fully as desirable as the coal-tar-saturated materials, while it is also well adapted to many uses to which the old materials cannot be put. Besides, my new material can be painted with any of the ordinary colors in use at any time, and the paint will not be in any way affected by the saturating material, whereas, until the coal-tar-saturated paper has become weather-worn, old, and practically worthless, any of the ordinary paints, if put upon its surface, will speedily be discolored by reason of the coal-tar or some of its constituents "striking through."

To make my new composition, I heat the rosin in a suitable kettle until it becomes liquid, then add the dead-oil, the acid, the sugar of lead, and the mineral.

The sugar of lead performs the office of a drier, and the acid tends to effect a closer union of the rosin and oil.

A convenient method of using the mixture as a saturating material is to provide the vessel in which it is heated with suitable guiding rods or rollers, over or around which continuous sheets of the paper to be saturated may be conducted through the mixture, and then, by passing the paper between a pair of revolving horizontal compression-rollers placed over or near the caldron, squeeze out the surplus material.

My mixture also makes a very good, durable, and cheap paint for use on any character of roofing, or on rough wood or iron work, and for such purposes the proportion of mineral may be somewhat increased, and it is also well to increase the proportion of the drier. In such uses it need not be heated after the mixing is completed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As a new article of manufacture, roofing paper or felt saturated with a composition consisting of dead-oil, rosin, an acid, a drier, and mineral substance, combined in substantially the proportions above set forth.

2. The above-described composition of matter, consisting of rosin, dead-oil, sugar of lead, sulphuric acid, and mineral substance, united in substantially the proportions above stated.

W. H. RANKIN.

Witnesses:
JOS. S. MICHAEL,
H. M. WHITBECK.