

UNITED STATES PATENT OFFICE.

GARDNER HOWLAND, OF BRUNSWICK, NEW YORK.

IMPROVEMENT IN WATER-PROOF PLASTIC CEMENTS FOR ROOFING.

Specification forming part of Letters Patent No. 138,159, dated April 22, 1873; application filed December 16, 1872.

To all whom it may concern:

Be it known that I, GARDNER HOWLAND, of Brunswick, in the county of Rensselaer, New York, have invented a certain Water-Proof Plastic Composition for Roofing and other purposes, of which the following is a specification:

Nature and Objects of the Invention.

This invention relates to the manufacture and use of a cheap and readily-obtainable water-proof material for covering roofs and other surfaces, and for the fabrication of various useful articles. The material consists of paper-pulp, linseed-oil, and white lead or mineral paint, thoroughly mixed.

It is applied or used in plastic condition, and on exposure becomes hard, yet to some degree flexible and elastic, so as to be peculiarly free from liability to crack or to be otherwise impaired by heat or cold, and as a coating it is securely attached by its own adhesive qualities.

General Description.

In carrying out this invention a plastic mass or putty is manufactured by thoroughly mixing paper-pulp, (say, two parts;) linseed-oil, boiled or unboiled, (one part;) and white lead or mineral paint, to give body and color. The paper-pulp may be of any preferred kind, but the stronger and finer the fiber the better. This material is employed on account of its tenacious adhesiveness, and elasticity or pliability when dry, combined with superior cheapness, lightness, durability, and abundance. Linseed-oil is preferred on account of its gumminess and adhesiveness. The cheap skins and sediment are equally as good for the purpose as more expensive material.

The preferred mode of manufacture is as follows: Take a common paper-maker's "beating-engine," about two-thirds full of pulp, well beaten, with as little water as possible, and free to rotate in the tub. Then fill up the tub with the oil and start the engine. When the oil is well incorporated with the pulp add the white lead or mineral paint until the mixture is of the desired stiffness. When the mass or putty is thoroughly beaten it is ready for use.

The proportions may be varied, according to the nature of the use for which any particular quantity may be intended, or other ingredients may be added so long as those specified form the principal part of the composition.

The preferred mode of making a roof is to employ a foundation of rough boards, of hemlock or other wood, the rougher the better, but with square edges, laid about a quarter of an inch apart and firmly nailed. On the surface thus formed the "roofing-putty" is plastered by means of trowels to a thickness of about a quarter of an inch, the cracks being well filled so that the putty may take a good clinch. The surface is now smoothed with the trowel or other means, when it is left to harden in the sun. The putty is so elastic that it will not crack by the shrinking or swelling of the boards, but hardens down to a firm, durable, and perfectly water-proof roof, requiring no other fastening than its own adhesive quality.

The putty may in like manner be used for forming external walls of buildings, or the building may be lathed on the outside and the putty plastered on the surface thus formed. It may also be used for inside partitions, or for ceilings where water-proof ceilings are desired, or for making floors water-tight, or for deafening floors.

In applying the material to floors it may be diluted with water and swept into the cracks with a brush before the floors are painted. The putty, as prepared, readily mixes with water; but where economy is not considered the putty should be thinned with linseed-oil. It may also be used for stopping cracks or leaks in roofs or water-tanks or boats.

Claim.

The following is claimed as new, namely:

The combination of paper-pulp, linseed-oil, and white lead or mineral paint, in about the proportions herein specified, to form a water-proof, adhesive, and flexible coating or body.

GARDNER HOWLAND.

Witnesses:

WILLIAM A. PETERS,
EDGAR O. HOWLAND.