UNITED STATES PATENT OFFICE.

LOUIS GRONEWEG, JOSEPH H. PULTE, AND CHARLES T. JONES, OF CINCINNATI, OHIO.

IMPROVED ROOFING COMPOSITION.

Specification forming part of Letters Patent No. **51,309**, dated December 5, 1865.

To all whom it may concern:

Be it known that we, LOUIS GRONEWEG, JOSEPH H. PULTE, and CHARLES T. JONES, all of Cincinnati, Hamilton county, Ohio, have invented a new and useful Composition Roof; and we hereby declare the following to be a full, clear, and exact description thereof and of the mode of compounding the same.

Our roofing composition is compounded and applied either with or without the aid of artificial heat, and is composed of materials having such chemical affinities as in process of time to assume the impermeable and indestructible character and appearance of slate or stone, and is adapted for application either directly to the ordinary sheathing-boards or to canvas or paper or other material, while it may be of such degree of consistency or fluidity as convenience of application or consideration of purpose may require.

For a good, substantial roof we take of finely-pulverized dry clay, by weight, twelve (12) parts, and mix intimately therewith two (2) parts, by weight, of finely pulverized or reduced quicklime. To this mixture we add, by weight, eight (8) parts of coal-tar, and by stirring combine the whole in a homogeneous paste. The composition is then ready for use, and may be laid on of the thickness desired—usually from one-twentieth to one-tenth of an inch—by means of a plasterer's trowel or any implement adapted to spread it evenly and economically.

When it is desired to have at once a roof possessing all the good qualities of the natural slate, we sprinkle over the composition, immediately after it has been laid on and smoothed down, a solution of ten (10) parts of dextrine in thirty (30) parts of cold water, and then polish the surface by means of a trowel or heavy roller.

The ingredients and proportions designated we believe to be the best for obtaining a permanent and substantial roof; but the proportions may be varied according to circumstances and purposes; nor do we confine our operations to coal-tar, strictly so called, as either bitumen, or the residuum of the distillation of petroleum, or any other heavy hydrocarbon may be substituted for coal-tar; or by increasing the proportion of coal-tar or its equivalent the composition may be applied with a brush, like paint.

After induration by reason of long exposure, the plasticity of the lamination may be restored by one or more coats of the composition in its more fluid form.

Where dextrine is not accessible, a mucilage of flax-seed or of wheaten flour or other similar substance may be substituted with good results.

This composition, on exposure to the air, becomes an enduring artificial stone. The quicklime, by absorbing the moisture from the coal-tar or other hydrocarbon, is enabled to take up a portion of the silicious element of the clay, forming, in so doing, silicate of lime, which acts to bind the mass intimately and firmly together, yet without materially impairing its plasticity.

The coal-tar acts to impart to the entire mass a uniformly elastic and tenacious character, and perfectly protects the other ingredients from the disintegrating and decomposing influences of the atmosphere until, by the gradual evaporation of its volatile particles, the mass becomes hard.

We claim herein as new and of our invention—

The roofing composition composed and applied in the manner described, and the application of the mucilaginous mixture to harden and polish the same.

In testimony of which invention we hereunto set our hands.

L. GRONEWEG.
JOS. H. PULTE.
C. T. JONES.

Witnesses:
GEO. H. KNIGHT,
JAMES H. LAYMAN.