United States Patent Office.

WILLIAM M. STUART AND ALBERT J. CHAPMAN, OF ST. CLAIR, MICHIGAN.

Letters Patent No. 85,871, *dated January* 12, 1869.

IMPROVED CEMENT ROOFING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, WILLIAM M. STUART and ALBERT J. CHAPMAN, of St. Clair, in the county of St. Clair, in the State of Michigan, have invented a new and improved Mode of Constructing Fire, Water, and Weather-Proof Roofs for dwellings, stores, warehouses, and all other buildings, and for both flat and inclined roofs; and we do hereby declare that the following is a full and exact description thereof.

To enable others skilled in the art to make and use our invention, we will proceed to describe its mode of construction, composition, and operation.

We take one barrel of water-lime, eight quarts of plaster of Paris, three barrels of coarse, sifted sand, and mix them, with water, to the consistency of mortar, which will harden in a few hours after being spread, as hereinafter described, on the roof, and form a solid, hard, stone cement. We then put a sheeting, of ordinary or common lumber, on the building, as if preparing for shingling. We then lath the boards with common lathing, or, which is just as good, we drive shingle or lath-nails all over the roof, using one nail to every six square inches, letting them project from the boards about a quarter of an inch. We prepare the roof in this way before making or mixing the cement.

We put the aforesaid cement on this boarding and lathing, or nails, with masons' trowels, using one coat, or more, of the cement, as the occasion may require. We let this cement harden, and then take coal-tar, or tar from the refineries of kerosene-oil, heat this tar in kettles, and, when it is hot, and while yet in the kettles hot, add fire-proof or mineral paint, using five pounds of the paint to one gallon of the tar, and then spread this mixture, while hot, on the cement, with a large whitewash-brush.

We also use air-slaked quick-lime with the fire-proof paint or mineral paint, to mix with the tar, in the following proportions: two pounds of the lime, two pounds of the fire-proof or mineral paint, with the one gallon of tar aforesaid.

We then apply to this mixture of tar and paint, or tar, paint, and air-slaked quick-lime, at the same time that it is being spread on the cement, sand, salt, and alum, in the proportions of one barrel of coarse, sifted sand, eight quarts of common salt, and one pound of pulverized alum, throwing the mixture of sand, salt, and alum on the mixture of tar and paint, or tar, paint, and air-slaked quick-lime, with the hand; and we put on as much of the mixture of sand, salt, and alum as will adhere to the mixture of tar and paint, or tar, paint, and air-slaked lime.

We prepare the sand, salt, and alum by putting them together in a heap, and then mixing them thoroughly with a shovel, after which we sift them through a common sand-sieve.

This coating of tar and paint, or tar, paint, and air-slaked quick-lime, with the mixture of sand, salt, and alum, we repeat as often as occasion requires, although we do not deem it necessary to give it more than one coat.

The mixture of sand, salt, and alum, thrown into the mixture of tar and paint, or tar, paint, and air-slaked quick-lime, as above described, hardens, and forms a coating as hard and durable as stone, which is fire-proof, water-proof, and weather-proof.

We do not claim any of the ingredients used by us, in themselves, as we are well aware that they have been used before; but

What we claim as new, and desire to secure by Letters Patent, is—

The roofing-compound, consisting of two separate layers of different compounds, as herein described, laid between nails, and sprinkled with pulverized alum, salt, and sand, when applied in the manner substantially as herein described.

WM. M. STUART.
ALBERT J. CHAPMAN.

Witnesses:
J. H. WARNER,
E. T. SALIS.