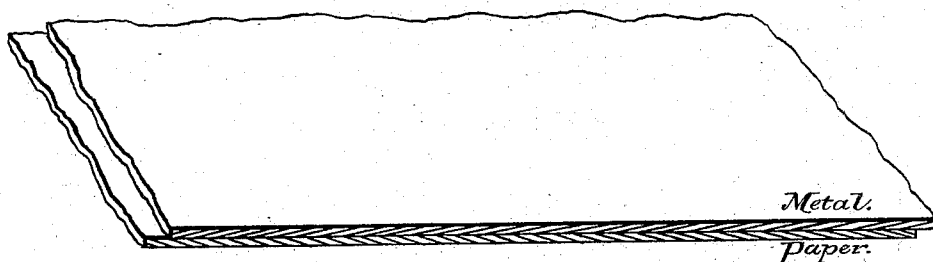


D. McDANIEL.
Roofing-Material.

No. 164,749.

Patented June 22, 1875.



WITNESSES

Robert Everett
Geo. C. Upman

INVENTOR

Delaplaine M. Daniel,
Chipman & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DELAPLAINE McDANIEL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ROOFING MATERIALS.

Specification forming part of Letters Patent No. **164,749**, dated June 22, 1875; application filed April 10, 1875.

To all whom it may concern:

Be it known that I, DELAPLAINE McDANIEL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Roofing; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my roofing material.

This invention has relation to means for preventing the sweating and leaking of metallic roofing; and it consists in providing the metal sheeting with a lining of paper or other fibrous material permanently attached thereto and compressed, forming a substantial roofing material capable of being transported and handled in the improved form, as herein-after fully shown and described.

The object of this invention is mainly to obviate some material objections to the use of galvanized iron, common black sheet-iron, and other metallic substances for roofing purposes. It is found, when such articles are employed without sheathing-boards, that when the atmosphere is at a higher temperature within the building than without, condensation will occur, and the moisture, collecting on the under side of the sheeting, will drip down within the house, wetting whatever it comes in contact with. Moreover, when the jointing of the sheets is made by plain lapping these joints are not tight, and permit leakage.

In carrying out the manufacture of my roofing material, I provide a roll of paper or other fibrous material, preferably what is known as vulcanized paper prepared by the Vulcanized Fiber Company, of Delaware. Paper is an economical material, and when prepared in a proper manner answers the purpose well.

The roll of paper is swung above the table or platform on which the sheet metal is laid. The latter is then coated with egg-albumen, white lead, or other suitable adhesive material, which will take hold of the metal, and enough of the paper is unrolled to cover the metallic sheet on one side. Then the metal and paper are firmly pressed together to force out all air-blisters and insure a thorough union, by passing a roller over them, or by passing the united sheets between pressing-rollers, or laying them under the follower of a reciprocating-press.

This improvement is especially adapted for corrugated sheet-metal roofing, which is more open to the objections referred to than plain roofing, on account of the greater surface and the depending ribs from which the moisture is liable to drip upon the ceiling where it is comparatively unsupported.

The metal and lining sheets having been united and compressed together, are laid away in a position for the adhesive material to harden sufficiently to allow the combined sheet to be corrugated, if the material is desired in this form. When dried, the sheets, whether corrugated or plain, are treated in building in the same manner as the ordinary metallic sheets.

What I claim as new, and desire to secure by Letter Patent, is—

As a new article of manufacture, the roofing material consisting of the metallic sheet and fibrous lining sheet united by suitable adhesive material under compression, substantially as specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

DELAPLAINE McDANIEL.

Witnesses:

ALLEN H. GANGEWER,
J. P. STIDHAM.