

# United States Patent Office.

DRAKE W. DENTON, OF ITHACA, NEW YORK.

*Letters Patent No. 63,371, dated April 2, 1867.*

## IMPROVEMENT IN 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 I, DRAKE W. DENTON, of Ithaca, Tompkins county, New York, have invented certain Improvements in Coal-Tar Roofing; and I do hereby declare that the following is a full and exact description thereof.

My objects are, first, to make a durable roofing by the use of certain materials with coal tar; second, to make a yielding surface under the roofing, thus preventing the cracking of the material used by the shrinkage and swelling of the roof-board; third, to so make the roofing material that the changes of the weather shall not crack the material itself, nor cause it to flow or slide down on the roof after it has been applied.

These objects I accomplish as follows: First, by using sand, ground rock, gravel, plaster, and other material. These I mix either with cold or hot coal tar, or partially dried coal tar. The second object I accomplish by the use of any cushion or stuffing material spread in a thin yet sufficiently suitable sheet over the roof-boards, so that the prepared roofing material shall not rest on the boards, but on this yielding padding or matting, and thus the boards can swell or shrink and yet the roofing be unbroken. For this purpose I use oakum, cut hay or straw, flax or flax waste, or other articles, which by their nature are neither paper, cloth, nor felting, but are more elastic and pliable than any of these latter substances. And especially do I consider novel and useful the fibres of wood cut by machinery—that known as “excelsior wood matting,” for stuffing chairs, sofas, and other articles, being peculiarly suited to my purpose. This fibrous wood or material I first fasten by any convenient method to the roof, and then apply my roofing material over and upon it. The third object I accomplish by the use of the mixtures named in my patent dated January 19, 1864, whenever I wish to make a roofing that will be hard, comparatively odorless, and finished in a very short period of time. And when I wish a material that neither the heat of the sun nor fire will cause to flow, but will be longer in hardening, I mix common water lime with it in such proportions that in a few hours or days after its application it is hardened; or in such proportions that it will not flow at any time after its application to the roof has been made, though flexible and movable for awhile under the trowel. I have made it so that it will not flow except as it is spread by the trowel, even though the roof-boards be burned and the roofing be heated red hot. With most of the materials above named three-fourths of the material mixed with one-fourth of hydraulic lime is a good rule, although in hot weather I use more than in cold weather.

The use of my invention is apparent to those skilled in the art to which it appertains.

### *Claim.*

1. I claim the use of wood-fibre matting, or other cushioning, padding, or matting material, not woven, made into paper, nor felting, when used for the purpose of separating the roofing material from the roof-boards, and thus making the coal-tar roofing independent of the variations of the boards by swelling and shrinkage, as described.

2. I do not claim the mere use in roofing of hydraulic lime, but I do claim its use, substantially in the proportions herein described, for the purpose of so drying any convenient roofing material or mixture with coal tar, so that it shall prevent the flowing, settling, or sliding down of the coal-tar roofing, as described.

D. W. DENTON.

Witnesses:

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