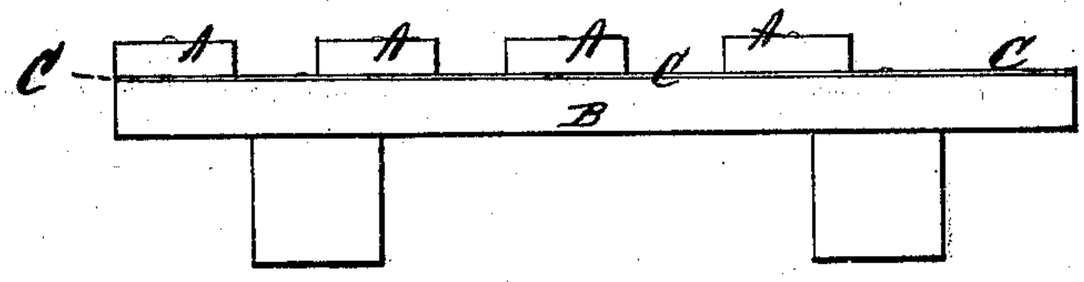
J. Cifferly,

Mastic Roofing.

No. 113,628. Patented Apr. 11. 1871.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN CIPPERLEY, OF GALESVILLE, NEW YORK.

IMPROVEMENT IN MASTIC ROOFING.

Specification forming part of Letters Patent No. **113,628**, dated April 11, 1871.

To all whom it may concern:

Be it known that I, JOHN CIPPERLEY, of Galesville, in the county of Washington, and in the State of New York, have invented certain new and useful Improvements in Mastic Roofing; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in a composition for mastic roofing, and in an improved mode of applying the same, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which shows how the roof is prepared before putting on the mastic.

My mastic is simply coal-tar and clean, moist sand—moist enough to hold its form when pressed by shutting the hand firmly upon it, or about as it ordinarily comes from the sand-bank—sand or its equivalent in a moist state. This state is essential to success, as dry sand does not form with coal-tar a mastic that may be kept on any but a flat surface, and it lacks the strength to resist rain in the fresh state and it does not set quickly. The proportions are about as follows: coal-tar, one part; moist sand, two parts or less.

The foundation is prepared by firmly nailing ordinary building-laths, A A (throwing out knotty and defective,) across the sheathing-boards B B, a paper, C, or similar substance intervening, which may or may not receive a coat of mastic before the laths are nailed upon it. The laths are nailed so as not to admit of any movement on the boards—say about two or three inches between nails—and are separate from each other one-half to three-quarters of an inch at the ends, as well as the sides. This is to allow the mastic to fall between them, so that their subsequent shrinkage shall not give rise to leaking. When all nailed, the mastic is spread on so as to cover the laths to the sixteenth of an inch and fill the spaces. As soon as the laths have shrunk or contracted, the surface is recoated, and this is followed or repeated till all contraction has ceased and a hard and perfect surface is obtained.

The advantages of my mixture and mode of preparing the foundation are briefly set forth, as follows:

I am aware that tar and dry sand have been used for roofing, but the essential condition of my mixture is moisture with the sand. Without this no such mastic can be made of tar and sand. This can be readily demonstrated. The mixture is perfect, and when spread out in a thin layer it sets rapidly, and will not run from any surface from perpendicular to horizontal. Very fine sand makes a mastic with coal-tar, but in the same proportion would run from an angle of forty-five degrees surface, and would not stay on a perpendicular surface except in a very thin layer. Coarse dry sand cannot be made into a mastic with tar that would resist the action of rain soon after spreading, and in the foregoing proportions would run from anything not perfectly flat, and sets or dries slowly. My simple mixture of moist sand with coal-tar makes a practicable mastic with ordinary sand, and of every grade of fineness from gravel down. The water which is mixed into it in this way evaporates, and facilitates the evaporation of the volatile portions of the tar, so it sets rapidly. The sand is always readily obtained, and, without artificial preparation, ready for use. As to the foundation, the question of extreme practicability again comes in. The laths are of course readily obtainable everywhere that houses are built. The ordinary sheathing is put upon the rafters; the paper is laid under the laths to prevent an opening where the boards contract, as well as to cover interspaces. The lathing upon the boards strengthens the roof immensely, and the spaces form subsequent receptacles for tar, by which the surface under the laths is fed or supplied with the water-proof material till the roof is absolutely perfect. It admits of the use of more tar than any other plan, which is a desideratum.

All that this plan of roofing requires different from the materials at hand, wherever building is going on, is simply coal-tar. These considerations make it cheaper and more practicable than any other method that would give

as heavy and as strong and perfect a roof. This makes a solid and durable roof. The mastic, being clinched between the laths, is not so easily detached, and the laths may be put on wet, just as they are found, without any previous preparation. The whole aim and intention of this plan is to get something eminently practicable.

Another merit of this roof, which may also be mentioned: It is often, and almost always on a new roof, desirable to work over it, more or less, as soon as possible. This may be done immediately with this, as the most of the mastic is down between the laths, and boards may be laid on for walking over without injury to the roof; or by sanding, the same result may be obtained.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The within-described composition for mastic roofing, consisting of a mixture of coal-tar and moist sand, applied substantially in the manner herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 17th day of October, 1870.

JOHN CIPPERLEY.

Witnesses:
C. L. EVERT,
WM. L. ROBINSON.