United States Patent Office.

FREDERICK O. ROGERS, OF NILES, MICHIGAN.

Letters Patent No. 63,429, *dated April* 2, 1867.

IMPROVED 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, FREDERICK O. ROGERS, of Niles, in the county of Berrien, and State of Michigan, have invented a new and useful improvement in Covering Roofs; and I do hereby declare that the following is a full and exact description thereof:

The roof having been sheathed or covered with boards in the usual manner, I first lay on saturated or tarred "felt," or equivalent substance, making the edges of the sheets thereof lap one over another like shingles, and pitch or stick the joints together with melted "roofing composition," "wax," or pitch, such as commonly used for gravel roofs, laying on the pitch or composition with a swab or mop, first at the eaves, and thence working upward to the ridge or top of the roof. The joints are also tacked down with wool twine, or equivalent stuff, to bind the sheets together. I then cover the entire surface of the felt with the melted "roofing composition," "wax," or pitch, using the same or a larger swab or mop. Then I cover the "roofing composition," "wax," or pitch with a composition which I term "tar mortar," composed essentially as follows, and in proportions here given, or thereabout:

Sifted or ground sand, nine bushels; common salt, one bushel; hydraulic lime, three bushels; coal tar, enough to make the composition of the consistency of mortar when heated to blood heat. The sand and salt are first well mixed, then the hydraulic lime is mixed in, and finally the coal tar is added at the proper temperature. The mortar is applied while warm by means of a trowel like common mortar, spreading it over the whole surface of the pitch or "roofing composition" after it hardens, which it does as fast as put on, except in hot summer days. In such weather the mortar should be applied in the morning, first being warmed slightly, or so that it will spread readily. Instead of the tar mortar composition, as above described, I sometimes make the mortar of ground slate mixed with coal tar in the same manner as with the above-named ingredients, and apply it in the same way.

The advantages of this method of covering roofs are mainly as follows: The felt beneath, and the pitch or "roofing composition," are the same as for gravel roofing, and fulfill the same purpose in a better manner, for the tar mortar not only keeps them from the direct heat of the sun and from rain, making a tight shield therefor, so that the pitch is preserved from melting and running down the roof, but the mortar does not settle down into and through the pitch as does the gravel, but forms a firm, hard, tough covering for the pitch, which, in turn, keeps the mortar from cracking. Around the particles of gravel the pitch melts away, or cracks in cold weather, leaving the felt all bare, so that it soon rots away and leaks; but no such result can happen with my tar mortar over a comparatively soft pitch which furnishes a yielding bed for the mortar, and also retains the oil in the tar mortar, preventing its being absorbed into the felt and wood below, thus rendering the covering more durable. The tar mortar, as above described is also a very cheap roof covering. In mixing this mortar the sand and salt are first mixed in order that the salt (which rapidly gathers moisture) may form a damp and somewhat sticky coating to each particle of sand if allowed to stand a little while, and then, the lime being added, adheres to the surfaces thereof. Thus together they make a hard, stone-like substance, very durable and effective. The coal pitch makes a tough, water-proof cement for the whole, and prevents its cracking.

In covering over a leaky tin roof with this tar mortar no pitch or "roofing composition" need be used, for the tar mortar will adhere best to the tin, and the oil of the tar cannot be absorbed thereby.

What I claim as my invention, and desire to secure by Letters Patent, is—

A roof covered first with "felt," or equivalent fibrous substance, then with "roofing composition" or pitch, and finally with the "tar mortar," substantially as herein specified.

The above specification of my improvement in covering roofs signed by me this 31st day of January, 1867.

FREDERICK O. ROGERS.

Witnesses:

J. N. CHIPMAN,

H. A. CHAPIN.