

United States Patent Office.

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Letters Patent No. 95,576, dated October 5, 1869.

IMPROVED FABRIC FOR ROOFING AND FOR OTHER PURPOSES.

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, BENJAMIN F. FIELD, of Beloit, in the county of Rock, and State of Wisconsin, and ROBERT D. O. SMITH, of the city of Washington, and District of Columbia, have invented a new and useful Improvement in Compositions for Covering the Roofs of Buildings, and for other purposes, and that the following is a full and exact description thereof.

Bituminous compounds have been very extensively employed for the above-named purposes, on account of cheapness and general excellence, gas or coal-tar being generally the available source of supply.

The modes of application have been various. Sometimes the application has been in the form of a mass or sheet, applied while hot to the entire surface to be protected. One or more coats, mixed with gravel, sand, or other granulated mineral substance, have been used, and paper or felt saturated with the bituminous compound has been employed.

When paper has been used without subsequent application of the hot bituminous matter, as when it is used beneath an outer covering of boards or shingles, it is made very thick, like strong pasteboard, and is commonly made of straw.

In none of these compounds or methods of application is the inflammable quality of the material destroyed or materially reduced.

This is the great desideratum, because the use of these materials on or about a wooden structure is deemed unsafe, and insurance rates are therefore enhanced.

Our invention consists in the admixture, with bituminous matters, of a portion of dissolved silica, (silicate of potash, silicate of lime, or silicate of soda being easily available,) and the preferred admixture being made with about equal parts of the bituminous matter

and silicate, though the exact proportions are not material.

Though it is probably impossible to prevent absolutely the combustion of bituminous matters under all circumstances, it is not impossible to so far reduce its combustibility as to render it on a par with other combustible materials used in building, such as the ordinary woods so employed.

The mixture of bituminous matter and silicate, above described, may be heated and spread upon the roof previously covered with paper, felt, straw-board, or other fabric, or it may be caused to saturate the ordinary felt, paper, or straw-board in the course of manufacture.

The solutions of silica, above named, will not in any manner detract from the imperviousness of the bituminous matter to the action of water, as the silica, upon becoming dry and solid, is again insoluble in water, and is probably many fold less liable to be influenced by aqueous or atmospheric causes than bitumen itself.

When hardened by exposure, this compound will not creep or run to the edges of the roof, as is the case with ordinary bituminous compounds, nor will it be so liable to fracture by frost.

Having now described our invention,

What we claim as new, is—

A fabric, suitable for roofing, sheathing, and other purposes, saturated with a compound of bituminous matter and solution of silica, substantially as described.

B. F. FIELD.
R. D. O. SMITH.

Witnesses:

C. A. HARKNESS,
D. J. BROWN.