

UNITED STATES PATENT OFFICE.

PAUL SOHÉGE, OF PARIS, FRANCE.

COMPOSITION FOR THE MANUFACTURE OF TILES, ROOFINGS, LININGS, OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 682,502, dated September 10, 1901.

Application filed July 23, 1900. Serial No. 24,589. (No specimens.)

To all whom it may concern:

Be it known that I, PAUL SOHÉGE, engineer, a citizen of the French Republic, residing at 22 Avenue du Bois de Boulogne, Paris, France, have invented certain new and useful Improvements in a Composition or Material More Especially Intended for Use in the Manufacture of Tiles, Roofings, Linings, or the Like, of which the following is a specification.

This invention relates to certain new and useful improvements in the manufacture of tiles, roofings, and the like from paper or other pulp.

According to the present invention tiles, roofings, linings, or the like manufactured from paper or other pulp are rendered indeformable and incapable of decomposition when exposed to atmospheric and other influences by the following treatment: The paper or other pulp has incorporated therein a suitable quantity of pumice-stone or fine sand—for example, twenty per cent. of sand or pumice-stone, by weight. After the sand or pumice-stone has been incorporated in the pulp and while the latter is in the form of a paste tannin or tannic acid is added thereto to insure the preservation thereof. The tannin may be introduced as tan waste directly taken from the tannin-pits without subsequent treatment—for example, sixty per cent., by weight, of the tan waste may be added to the pulp or the tannin may be incorporated in the pulp in the form of fresh bark—but in the tannin material used the proportion of tannic acid should be one per cent. To the material after the tannin or tannic acid is incorporated therein is added about fifteen per cent. of waste hemp to increase the consistency and solidity of the material. The waste hemp before added to the material is first macerated in tan liquor, and the object of such maceration is to produce a mordanting and swelling action on the hemp, so that when it is incorporated in the pulp the latter will obtain the felting properties of the hemp. It will be evident that owing to the mixing of the hemp with the pulp when it is desired to expel the water or other liquid therefrom by pressure such an operation will be facilitated, owing to the felted condition of the pulp. The pulp is further made impervious by an addition of eight-tenths per cent.,

by weight, of gelatin. This gelatin in the presence of the tannic acid contained in the pulp is precipitated into insoluble flake on the fiber in a form not liable to fermentation or to be injuriously affected by moisture. The rigidity of the material is also increased by the addition of three per cent., by weight, of resinous soap. The soap fixes itself on the fibers of the pulp and forms a binding connection between them, consequently increasing the rigidity of the material. The water or other liquid is expelled from the pulp by placing the same in a suitable press, which forms the mass into a sheet or sheets, as desired. The pressed material is then treated for a completion of its hardness, as well as its impermeability. Such treatment consists of subjecting the material to a bath of stearic acid and fine resin to a temperature of 100° centigrade, the composition of which is twelve-seventeenths per cent., by weight, of fine resin dissolved in three-seventeenths per cent., by weight, of stearic acid. After the pressed material has been treated for a completion of its hardness and impermeability it is then cut into tiles or other desired shapes.

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

1. The herein-described method for the manufacture of tiles, roofings, linings and the like from paper or other pulp, consisting first in incorporating fine sand or its equivalent to the pulp, second, adding a preservative thereto, third, increasing the solidity thereof, fourth, increasing the rigidity thereof, and fifth, rendering the same impervious.

2. The herein-described method for the manufacture of tiles, roofings, linings and the like from paper or other pulp, consisting first in incorporating tannin therein, second, increasing the solidity thereof by the addition of a fibrous material, third, increasing the rigidity of the material, and fourth, rendering the material impervious by submerging in a suitable bath.

3. The herein-described method for the manufacture of tiles, roofings, linings and the like from paper or other pulp, which consists in treating the pulp with tannin, adding thereto a fibrous material for increasing the solidity of the pulp, adding gelatinous substance

to the pulp, increasing the rigidity of the pulp by means of resinous soap, and then subjecting the pulp to the action of a bath of stearic acid and resin for rendering the pulp impervious.

4. As a new article of manufacture, tiles, roofings, linings and the like, consisting of pulp, a fibrous material and a preservative.

5. As a new article of manufacture, tiles, roofings, linings and the like, consisting of pulp, fibrous material, a preservative and rendered impervious.

6. As a new article of manufacture, tiles, roofings, linings and the like, consisting of pulp, sand, tannin, fibrous material, stearic acid and resin.

7. As a new article of manufacture, tiles, roofings, linings and the like, consisting of

pulp, tannin, waste hemp, stearic acid and resin.

8. As a new article of manufacture, tiles, roofings, linings and the like, consisting of pulp, sand, tannin, waste hemp, stearic acid and resin.

9. As a new article of manufacture, tiles, roofings, linings and the like, consisting of pulp, tannin, fibrous material and rendered impervious.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

PAUL SOHÉGE.

Witnesses:

EMILE KLOBE,

EDWARD P. MACLEAN.