

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN FLOOR-COVERINGS, ROOFS, &c.

Specification forming part of Letters Patent No. 116,128, dated June 20, 1871; antedated June 6, 1871.

*To all whom it may concern:*

Be it known that I, DAVID LUDWIG WOLFF, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Felt for Covering Roofs, Vessels, &c., of which the following is a specification, reference being had to the accompanying drawing.

The object of my invention is to produce felt suitable for covering roofs, vessels, &c., and for floor-covering in place of carpet.

In preparing my floor-covering I first make felt of from one-eighth to three-eighths of an inch in thickness, composed of two parts of wool and one part of hair. As soon after being fabricated as the felt becomes dry I apply to one or both surfaces a coating of thick paste made of wheat flour, starch, and water. After the paste is dry I smooth the surface by means of a hot iron passed over it by hand or by means of suitable machinery. I then apply a coat or film of gutta-percha by any suitable means. Over this gutta-percha I apply a coat of oil-paint, and after this latter becomes dry I smooth or polish the side which is to be uppermost by pumice-stone or its equivalent. This polished surface I then ornament by painting, printing, or otherwise applying thereto fanciful figures or designs, and I then cover and protect this ornamentation with a coat of varnish.

The floor-covering thus produced is soft and noiseless to the tread, and is water-proof, so that it can be washed and cleaned at will. As the fabric may receive precisely the same figure as a carpet, and as it is soft and pliable so that the figures will not wear away as on hard oil-cloth, it will be seen that it combines all the advantages of both carpet and oil-cloth without the objectionable features of either.

The sheets or lengths of my covering may be applied to the floor edge to edge and fastened by tacks, or the two edges may be cemented firmly by placing small strips or ribbons of gutta-percha between them and passing a heated iron over the same. The gutta-percha for this purpose, as also that for coating the surface, should be taken in a raw condition and boiled several hours and then cast into any convenient form. When required for use it is softened by heat, and then applied in any desired manner and by any suitable means.

In preparing the roofing-felt I take a somewhat lighter or thinner felt and apply the paste, gutta-percha, and first coat of paint in the same manner as for the roofing material, but do not polish the coat of paint. After applying the first coat of paint and allowing it to dry I apply a second coat, and while it is still wet I sprinkle onto it all the ground glass and sand that will adhere. After this becomes dry I apply, as the finishing operation, a coat of silicate of soda, or, as it is commonly known, liquid or water-glass. When this has become dry the felt will be found both fire and water-proof.

It may be applied to the roofs and walls of buildings, to the decks and hulls of vessels, and to numerous other places. Owing to its flexibility and elasticity it is affected by neither heat nor cold, and consequently makes a very lasting and durable roof.

The felt may be nailed or tacked fast or fastened by cement, the edges of the sheets being in either case lapped past each other.

A very useful cement, which will fasten the felt firmly to wood, stone, iron, and glass, may be made by boiling together the following ingredients: White lead, ground in oil, one pound; white lead, dry, eight ounces; silver litharge, one and one-half ounce; red lead, eight ounces; linseed-oil, one-half pint; the whole, after being thoroughly boiled and mixed, to be cast into sticks or other convenient form. When required for use it is softened by applying heat.

The roofing-felt may also be applied for the purpose of stopping or closing leaky places in the hulls of vessels. When used for this purpose it is best secured by a compound of the above-described cement and gutta-percha taken in equal parts.

Having thus described my invention, what I claim is—

As a new article of manufacture, the roofing or flooring felt, prepared substantially as herein described.

DAVID LUDWIG WOLFF.

Witnesses:

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