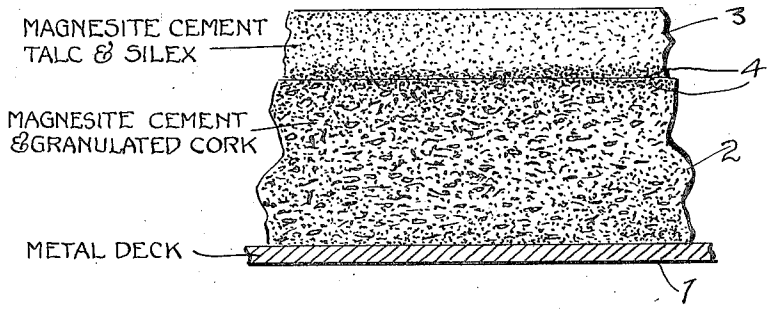
June 29 , 1926. 1,590,649

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FLOORING MATERIAL

Filed May 13 , 1920



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UNITED STATES PATENT OFFICE.

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FLOORING MATERIAL.

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The invention relates generally to flooring material and more particularly to a composition of a cement-like nature adapted to be applied to the steel decks of ships.

It has heretofore been found exceedingly difficult to provide a flooring composition that can be applied in a plastic condition to the metallic surface of a steel ship deck and which can be retained in place when hardened and subjected to the constant buckling and distortion arising from the straining and bending of the supporting deck. The result has been that the covering material employed has quickly cracked and otherwise deterioriated in practice so that frequent repairs and renewals were necessary.

It is the object of the present invention to provide a flooring material that will be free from the objections referred to and which will resist cracking and disintegration under the bending action of the deck.

I have discovered that a cushioning or resilient foundation for a wear resistant layer of material can be formed of granulated cork bound together into a homogeneous mass by means of a binder formed of calcined magnesite and magnesium chloride, the same chemically active ingredients which are used in forming the cement-like wear-resistant layer referred to. I find that a foundation layer of material of the nature described is particularly well adapted for the purpose in that a sufficient degree of cushioning is achieved to dissipate and wholly neutralize the shocks and strains imparted to the deck by the vibration of the ship's machinery and the pitching and tossing of the vessel by the action of the waves. At the same time, there is a sufficient degree of rigidity inherent in the mass because of the cement-like character of the binder to prevent an undue yielding of the foundation material under weight or pressure on the wear-receiving surface of the superimposed layer, so that there can be no such yielding or bending of the upper layer as would tend to produce cracks or fissures therein. It will be seen therefore that the foundation layer achieves the two-fold purpose of absorbing and of cushioning blows and shocks from the deck beneath and of resisting destructive bending of the relatively hard and dense layer of wear-resisting material above.

In the drawing, there is illustrated in a section view a portion of a steel deck protected by means of the improved flooring composition embodying my invention.

A steel deck plate is shown at 1 and in immediate contact therewith is a comparatively thick coating layer 2 of cushioning material of the type described. While considerable latitude may be had in the way of varying the precise proportions employed, I have found that a proportion by volume of three parts granulated cork to one part calcined magnesite gives satisfactory results. The two ingredients named are thoroughly mixed in dry condition and reduced to a suitable state of plasticity by incorporating therewith a sufficient amount of magnesium chloride to produce the desired results.

This mixture is applied to the surface of the deck in a moist and plastic condition and when it has had time to set presents a sufficient degree of resiliency, due to the relatively large content of cork, to absorb mechanical vibrations from the deck plates, while at the same time offering a sufficiently rigid support to the covering layer of material 3 to prevent flexing of the layer to an extent sufficient to crack or otherwise injure the same.

The finishing and wear-receiving layer of material 3 is preferably made up of fifty-five parts by weight of calcined magnesite, twenty parts of white talc, twenty parts of silex, six parts of wood pulp, and ten parts of coloring material. As in the case of the cushioning material, all the ingredients except the magnesium chloride are first mixed together in dry condition and the magnesium chloride is then added to produce the required consistency for application to the surface of the cushioning coat 2.

The wear-resisting layer 3 has a relatively dense and cement-like characteristic having, however, sufficient pliancy to bend to the limited extent permitted by the relatively rigid foundation layer 2 without cracking or breaking.

I find that the use as a binding medium for the cushioning layer of the same active ingredients that are employed in the finishing

layer produces an exceedingly effective union between the two layers and a desirable merging of one layer into the other is achieved as is indicated at 4 in the drawing.

What I claim is:

A flooring material containing cementitious material in the form of calcined magnesite and magnesium chloride, said flooring material being formed in two layers, in one of which granulated cork is mixed with the cementitious material and the other layer having talc and silex mixed with the cementitious material.

Signed at New York, in the county and State of New York, this 24th day of April, 1920.

CHARLES SCHACK.