

UNITED STATES PATENT OFFICE.

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COMPOUND FOR WATERPROOFING FABRICS.

SPECIFICATION forming part of Letters Patent No. 771,257, dated October 4, 1904.

Application filed November 28, 1903. Serial No. 183,023. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM MACDONALD MACKINTOSH, a subject of the King of England, and a resident of Anfield, Liverpool, in the county of Lancaster, England, have invented an Improved Manufacture of Compounds for Waterproofing Textile and other Fabrics, of which the following is a specification.

This invention has reference to proofing textile or other fabrics, strands, cords, string, ropes, and the like—that is, rendering them waterproof—the chief objects and effects being to provide such a proofing that the material will remain waterproof for a great length of time, even should it be folded for a long time or folded wet or have weighty things put on it or subjected to any harsh treatment, and a further object and effect has been to provide a proofing which is cheap, very elastic, and non-odorous and one which renders the proofing operation simple and inexpensive and quickly performed.

In the manufacture of the compound to serve as the proofing and with which the material to be proofed is impregnated or coated there is employed as the base material a wax—namely, paraffin-wax or an equivalent wax—which is a substance impervious to moisture or, in other words, waterproof, but which in itself furnishes little or no resistance against wear, rotting influences which waterproof fabrics are subjected to, and similar actions to which it would be generally subjected. With this wax a substance is used which furnishes lasting qualities and enables the proofed fabric to withstand harsh usage and, moreover, gives elasticity to the proofing, and it has been found that a certain gum known in Lancashire, England, as “almadina,” being a gum from a species of *Euphorbia* or *Tragia*, and sometimes as “alsadina,” provides these characteristics; but if this substance is not obtainable or obtainable only with difficulty gutta-percha may be used, but not with the same degree of advantage. As stated, this imparts lasting and resistant qualities to the proofing compound, as well as elasticity. Added to the above to impart to the compound an ingre-

dient which binds all the ingredients together resin-oil (refined) is employed, which, as time goes on, tends to increase in its binding action and effect, and so that there is no influence tending to dissolution of the ingredients, and this substance, moreover, does not interfere with the elasticity-promoting effect of the vegetable gum, but increases it and so assists in this respect also. To render the compound such that it will be a perfectly dry body—that is, a body without stickiness—the wax known as “carnauba-wax” is mixed with the other ingredients.

As above stated, one of the objects and effects of the invention has been to provide a compound which while possessing the characteristics just above referred to accomplishes the desideratum of enabling the fabric to be continuously proofed and on the completion of the proofing to be in such a condition that it can be handled, rolled up, stored, or used at once without further drying, thereby avoiding the requirement of a second or any further operation of drying or other treatment.

The most advantageous constitution of the composition and proportion of ingredients, particularly where the material is subjected to harsh wear, and one that will be found economical and generally effective are about as follows: paraffin-wax, sixty parts; almadina-gum, (or gutta-percha,) twenty parts; resin-oil, (refined,) ten parts; carnauba-wax, ten parts.

In the manufacture of this compound the following method is adopted: The paraffin-wax and almadina are heated to about 400° Fahrenheit, with the result that the almadina melts or dissolves in the wax, the materials being kept at this temperature until this takes place. Then to this is added ten parts of carnauba-wax and ten parts of resin-oil, (refined,) and the whole is kept at this temperature of about 400° Fahrenheit and mixed until the mixture is fully homogeneous. This is the proofing compound according to this invention, and it can be or is applied to the material to be proofed by impregnating or coating it with the compound while hot and in a molten state.