UNITED STATES PATENT OFFICE.

AARON B. BROWN AND WENDELL P. BROWN, OF WORCESTER, MASS.

IMPROVEMENT IN COMPOSITIONS FOR COATING METALS.

Specification forming part of Letters Patent No. **221,028**, dated October 28, 1879; application filed July 16, 1879.

To all whom it may concern:

Be it known that we, AARON B. BROWN and WENDELL P. BROWN, both of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Coating for Metals to Prevent Rust and Corrosion, of which the following is a full, clear, and exact description.

This invention relates to a coating for metals for preventing their rust or corrosion from exposure to air and moisture; and it is more especially designed for the coating of metals which have been manufactured into machinery and other useful contrivances, &c., to prevent rust or corrosion of such manufactured metals in transportation or otherwise exposed to air and moisture.

Experience and experiments show that a coating for this purpose to be practicable and efficient must have certain characteristics or features, such as the following: It must be impervious to air and moisture and must have consistency and body enough to completely cover the surface to be protected. It must be pliant and elastic, so as to expand and contract with the metal, and without breaking, cracking, or checking. It must be adhesive and of such an adhesive nature that its expansion and contraction will not affect the same to separate it from contact with and adhesion to the metal surface. It must be soft and pliable, and capable of drying readily, and of easy removal when so desired.

This improved coating has the above-named features, and it is composed of ingredients as follows, to wit: one-fourth (¼) pound india-rubber, one-eighth (⅛) pound gum-kauri, one-fourth (¼) pound gum-dammar, and three-fourths (¾) pound wax.

These several ingredients are dissolved in benzole, or any other suitable solvent, and for such purpose one (1) gallon of benzole is sufficient, and in practice they are dissolved separately, and then mixed together, the whole making a liquid varnish suitable to be applied by a brush or a cloth to the metal surface.

The india-rubber is impervious to air and moisture, gives pliability and elasticity, and renders the varnish, when applied as stated, capable of expanding and contracting with the metal.

The gum-kauri and the dammar give adhesiveness and body and thickness to the varnish, and the latter gum makes it dry readily; but if either of these two gums were used in sufficient quantity to give the body and thickness desired, the varnish, when dry, would be hard and brittle; and therefore to obviate this wax is used, which gives all the body and thickness desired, and maintains the proper pliability and elasticity of the varnish when dry. It is preferable to use Japanese wax.

The varnish or coating above described applied to metal surfaces protects them against rust or corrosion, and as it is constituted has elasticity, pliability and imperviousness to air and moisture, adhesiveness and body or thickness, and possesses the same in such a degree that it completely covers and adheres to the surface, does not crack, break, or separate therefrom on exposure, preserves the surface against rust or corrosion from the atmosphere and moisture, and is readily removed by simply washing it with spirits of naphtha or spirits of turpentine.

In using this coating it is desirable to first wash the metal surface which is to be coated with an alkaline or other wash which is capable of removing and checking the tendency of the surface to rust and corrode.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

A coating for metal to prevent rust and corrosion from exposure to air and moisture, the same being composed of india-rubber, gum-kauri, gum-dammar, and wax, the whole dissolved in benzole, substantially in the proportions specified.

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Witnesses:
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