

UNITED STATES PATENT OFFICE.

FRANZ FLOR AND ERNST MURMANN, OF VIENNA, AUSTRIA-HUNGARY.

WRAPPING MATERIAL FOR PREVENTING TARNISHING OF METAL ARTICLES.

SPECIFICATION forming part of Letters Patent No. 721,171, dated February 24, 1903.

Application filed June 16, 1902. Serial No. 111,994. (No model.)

To all whom it may concern:

Be it known that we, FRANZ FLOR and ERNST MURMANN, subjects of the Emperor of Austria-Hungary, residing at Vienna, in the Province
5 of Lower Austria and Empire of Austria-Hungary, have invented new and useful Improvements in Wrapping Material to Prevent Tarnishing of Metal Articles, of which the following is a specification.

10 Our invention relates to the materials into which metal articles, more especially wires, yarns, braids, embroideries, and fabrics, are wrapped or packed, consequently to fabrics, papers, boxes, and chests.

15 The invention has for its object to prevent the sulfid of hydrogen, traces of which are generated by the rot of the wrapping material or may exist in foul air, as well as the traces of sulfurous or sulfuric acid deriving
20 from the burning of gas or mineral oils and other volatile acids, from getting to the metal and dimming or even blackening it. According to our invention the said packing and wrapping materials are impregnated with a
25 substance which absorbs and neutralizes the said acids with certainty.

By a series of experiments we have found out that of all substances which can be taken into consideration from a technical point of
30 view and which are sufficiently keeping ammoniated cupric hydroxid is most effective against sulfid of hydrogen. For preparing

the ammoniated cupric hydroxid the hydroxid or carbonate of copper is dissolved in an aqueous solution of ammonia, and the solution is
35 afterward conveniently diluted, or chlorid of copper or another copper salt may be dissolved and ammonia added to the solution until the well-known dark-blue tint appears. In all cases there should be but a small ex-
40 cess of ammonia, owing to which the solution is only weakly caustic and admits of thin silk paper being imbibed therewith without injury. The aforesaid wrapping or packing materials—such as fabrics, papers, boxes, and
45 chests—are impregnated with this solution and afterward allowed to dry. In the case of packing-paper the solution of ammoniated cupric hydroxid may be added to the paper-
50 pulp.

What we claim as our invention, and desire to secure by Letters Patent, is—

A means for protecting metal articles against dimming, the said means consisting in packing or wrapping material which is impregnated
55 with ammoniated cupric hydroxid.

In witness whereof we have signed this specification in presence of two witnesses.

FRANZ FLOR.
ERNST MURMANN.

Witnesses:

ALVESTO S. HOGUE,
A. FUNK.