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PROCESS OF SOLDERING ORNAMENTAL AND OTHER CHAINS AND CHAIN MAIL OF WIRE OF SOLID CROSS SECTION

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This invention relates to a process of soldering ornamental—or other chains and chain-mail of wire of solid cross section. The invention has for its object to simplify considerably the manufacturing of chains and chain mail soldered mechanically in continuous operation.

Chains or chain mail are produced at present in such a manner that a so called solder wire, i. e. a wire having a core of solder is heated, or that onto the ring blanks made from wire of solid cross section in galvanic baths by means of electric current a coating of one or several metals is deposited said coating being subsequently made liquid by heating.

In the process according to the invention ring blanks of wire of solid cross section are used. The process is as follows:—

The ring blanks of wire of solid cross section are thoroughly freed from fat by means of chromic acid in combination with sulphuric acid and water (40 grs. chromic acid and 40 grs. sulphuric acid in 1 liter of water) and cleaned whereupon they are dipped for a short time into the solution of a simple or complex salt of a metal which is electronegative to a higher degree than the metal of which the chain or chain mail is made. A portion of chain or chain mail is boiled with so much distilled water that the chain or chain mail is covered by the water, whereupon for each kilogram of chain or chain mail 20 grs. of cyanide silver alkaline and for each liter of water 20 grs. potassium cyanide are added.

The chain or the chain mail is coated during the dipping with a very thin layer of the dissolved metal said layer being much thinner as if it were produced by depositing by means of the electric current. This thin layer is quite sufficient to perfectly solder the joints of the ring blanks at subsequent heating. Experiments have proved that the dipping process according to the invention is superior to the galvanic process.

For the dipping process according to the invention the metal which causes the depositing must be less precious than the metal to be deposited.

As examples may be mentioned: Onto iron as base metal copper is deposited. Onto copper as base metal silver is deposited. Onto silver as base metal gold is deposited.

The coating produced by the dipping is very thin and much below 1%. Part of the invention consists in the knowledge that the little quantity of metal which is deposited by the dipping process is quite sufficient for the soldering.

I claim:—

1. A process of soldering ornamental or similar chains and chain mail of wire of solid cross section, consisting in thoroughly freeing from fat with the aid of chromic acid in combination with sulphuric acid and water the ring blanks hooked the one in the other, in cleaning the ring blanks thus treated, in dipping the same for a short time into the solution of a simple salt of such a metal which is more electronegative than the metal of which the chain or chain mail is made, and in heating the chain or chain mail thus coated to fuse the coating metal to bring about alloying of the two metals and soldering of the link joints.

2. A process of soldering ornamental—or similar chains and chain mail of wire of solid cross section, consisting in thoroughly freeing from fat with the aid of chromic acid in combination with sulphuric acid and water the ring blanks hooked the one in the other, in cleaning the ring blanks thus treated, in dipping the same for a short time into the solution of a complex salt of such a metal which is more electronegative than the metal of which the chain or chain mail is made, and in heating the chain or chain mail thus coated to fuse the coating metal to bring about alloying of the two metals and soldering of the link joints.

In testimony whereof I affix my signature.

ANDR. MEYLEIN.