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COATING CAST IRON WITH LEAD.

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There exist a number of processes applied in the art for homogeneously coating wrought iron with lead, but the production of a homogeneous lead coating upon cast iron presents such difficulty that it cannot be said that the problem involved has heretofore been solved. The main difficulty is due to the fact that cast iron, unlike malleable iron, cannot easily be tinned. It follows that those processes which depend upon a preliminary tinning of malleable iron cannot be applied to cast iron.

By the present invention cast iron can be homogeneously coated with lead in a remarkably smooth and easy manner by first treating the cast iron, which has been thoroughly cleaned by pickling or a like operation, with a solution of a metallic salt from which the metal is precipitated by cast iron. As a typical example the use of a copper salt may be mentioned. The previously cleaned surface is painted with a solution of a copper salt, whereby after a short time the cast iron becomes coated with a very adherent layer of copper. This layer easily can be coated with lead. The best procedure is to paint the coppered surface with a solution of a zinc halide and a tin salt such as, for example, protochloride of tin, and then to heat this prepared surface with a blow-pipe flame and to drop upon it a piece of lead in the usual manner. As soon as the surface is sufficiently hot the lead flows smoothly and yields a homogeneous coating of lead of a quality not hitherto achieved. It is simpler to combine the two preparing operations. For this purpose the cleaned cast-iron surface is painted with a solution which may contain, for example, copper sulphate, zinc chloride and a tin salt. By heating the surface and dropping lead upon it there is obtained a homogeneous coating of lead on the cast-iron, which is free from objection.

What I claim is,—

1. Process for homogeneously coating cast iron with lead, which comprises treating the cast iron with a copper salt, a tin salt, and a zinc halide, and melting lead on the surface so prepared.

2. Process for homogeneously coating cast iron with lead, which comprises treating the cast iron with copper sulfate and a mixture of protochloride of tin and zinc chloride, and melting lead on the surface so prepared.

3. A process for homogeneously coating cast-iron with lead in which the cast-iron is first treated simultaneously with a mixture of a copper salt, a tin salt and zinc halide and in which the lead is then melted on the surface so prepared.

4. A process for homogeneously coating cast-iron with lead in which the cast-iron is first treated simultaneously with a mixture of copper sulfate, protochloride of tin and zinc chloride and in which the lead is then melted on the surface so prepared.

In testimony whereof I affix my signature.

OSKAR SPENGLER.