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P. OSTENDORF

2,199,321

PRODUCTION OF PLATED SHEETS, ETC

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Fig. 1

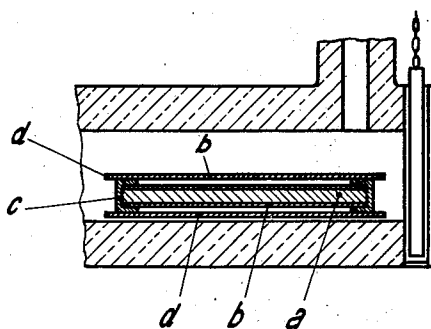


Fig. 2

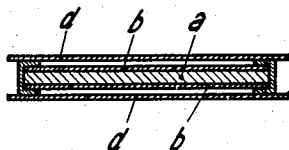
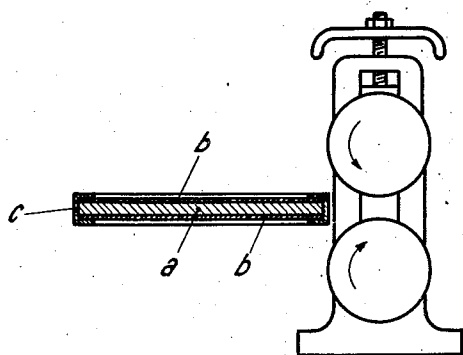


Fig. 3



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PRODUCTION OF PLATED SHEETS, ETC.

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Application August 16, 1937, Serial No. 159,443
In Germany August 17, 1936

2 Claims. (Cl. 29—189)

This invention relates to a method of producing plated sheets, etc.

According to the known methods, a metal sheet to be plated and its plating sheet are tightly kept with their edges in a frame of U-shaped cross section such as that disclosed in applicant's prior Patent No. 2,064,684. To prevent loss in temperature of the packet thus formed during handling, particularly during the travel from the furnace to the mill, it has been proposed to clamp between the U-shaped frame and the edge of the plating sheet heat insulating means which during the passage of the packet through the mill are rolled in with the plating sheet. In this way the plating sheet was firmly united with the core sheet, but this method is open to the objection that the heat insulating means is also combined with the plating sheet and must be subsequently removed by pickling, planing, etc., so as to impart to the covering material its natural appearance. Furthermore, these subsequent operations require much time, destroy the heat insulating medium and make it necessary to employ quite a thick layer of covering material, since the heat insulating medium is rolled relatively deeply into the plating sheet. A considerable loss in material is therefore unavoidable in this known process.

The invention eliminates these drawbacks and prevents, or reduces to a minimum, the loss in temperature during handling of the package by placing the heat insulating means consisting of heat resisting steel, asbestos, etc., on the packet before it enters, or immediately after it leaves, the furnace and removing the heat insulating means prior to the passage of the package through the mill.

In the drawing—

Fig. 1 is a fragmentary vertical section of a furnace showing a packet of the invention therein in vertical section;

Fig. 2 is a vertical section of the packet of the invention with two insulating sheets applied thereto; and

Fig. 3 is a diagrammatic end elevation of a rolling mill showing a packet of the invention about to enter the same, said packet being shown in vertical section.

In the drawing wherein like reference characters have been used throughout to designate like parts, the reference character *a* designates a metal core sheet and *b* metal plating sheets applied to the flat faces of the core sheet *a*. A continuous frame *c* which is U-shaped in cross section is applied to marginal portions of the as-

sembled core and plating sheets to clamp the same together and form a packet. The frame *c* shown may be the same as that disclosed in my prior Patent No. 2,064,684 of Dec. 15, 1936, or may be any other suitable frame. Insulating sheets *d, d* are applied to the packet to prevent heat loss after the packet is removed from the furnace.

Oxidation gases can be prevented from entering between the plating sheet and the core sheet by constructing for instance the edges of the heat insulating means in such manner that they fully cover the sides of the packet. If the latter is fitted with a U-shaped frame, the insulating means will rest on the latter without, however, being held thereto to permit the development of an air cushion between the insulating means and the plating sheet, which will prevent them from being welded together and make possible also easy removal of the insulating means for further use.

Another advantage afforded by the detachable arrangement of the heat insulating means on the plating sheet or frame is that the plating sheet may be quite thin, since the insulating means does not pass through the mill. In the drawing, the insulating sheets are shown applied to packet while the same is in the furnace. However, it is obvious that they can be applied, as aforesaid, immediately after the packet has been removed from the furnace.

I claim:

1. A method of producing plated metal sheets, comprising covering at least one flat surface of a core sheet with a sheet of plating material, binding said sheets together with a marginal frame to form a packet and exclude the entry of oxidizing gases between said sheets, heating said packet in a furnace to a welding temperature, removing said packet from said furnace, laying a sheet of insulating material over at least said plating sheet to prevent cooling of said packet, removing said insulating sheet prior to the entry of said packet into a rolling mill, and welding said plating and core sheets together by passing said packet through a rolling mill and rolling the same.

2. A method of producing plated metal sheets, comprising covering at least one flat surface of a core sheet with a sheet of plating material, binding said sheets together with a marginal frame to form a packet, providing an uninterrupted marginal bead around said packet and excluding the entry of oxidizing gases between said sheets, heating said packet in a furnace to a welding

temperature, removing said packet from said furnace, forming an air cushion over at least said plating sheet by laying an insulating sheet upon said bead immediately after removing said packet from said furnace to prevent cooling of said packet, removing said insulating sheet prior to

the entry of said packet into a rolling mill, and welding said plating and core sheets together by passing said packet through a rolling mill and rolling the same.

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