

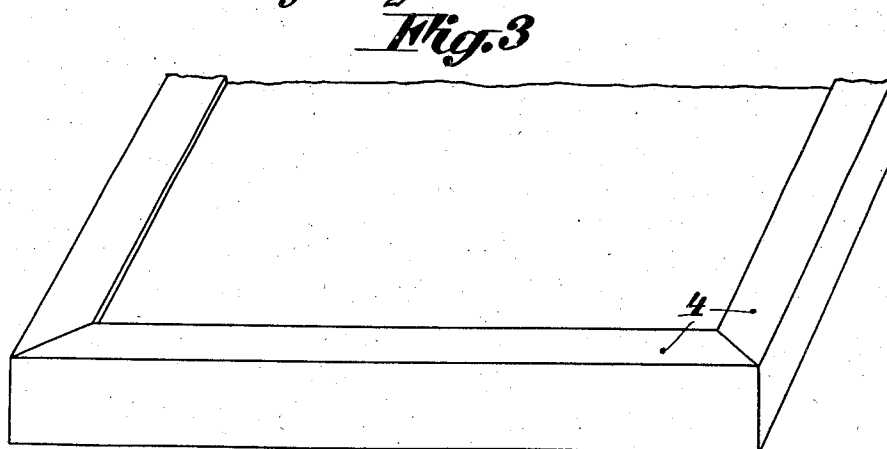
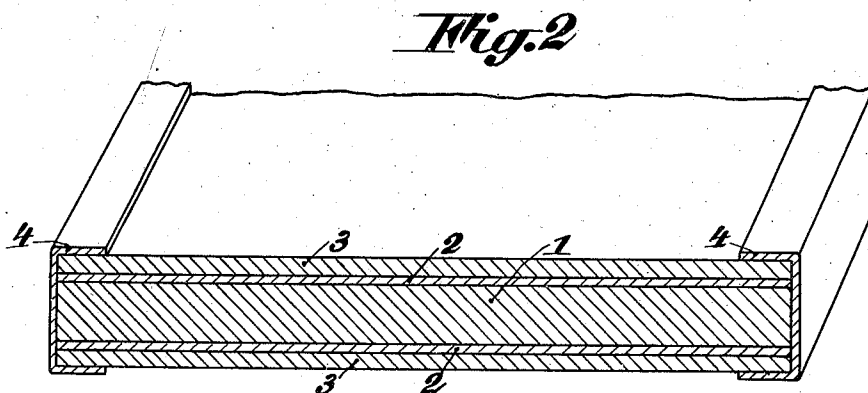
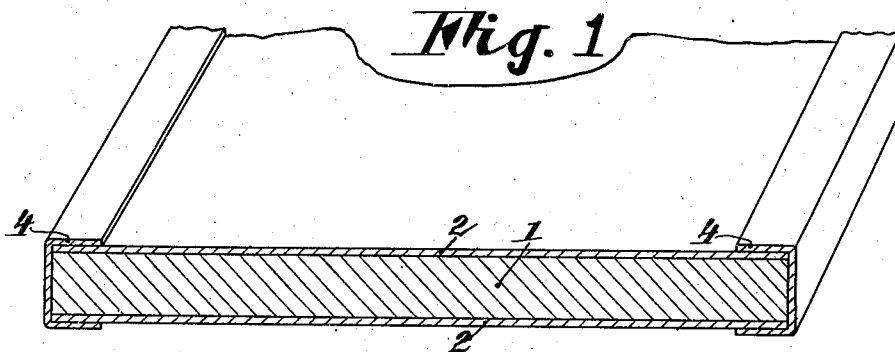
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METHOD OF WELDING

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METHOD OF WELDING

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5 Claims. (Cl. 78—93)

Heretofore sheet metal, plates and the like have been plated in such a manner, that the basic material and the plating sheet are wrapped in thin protecting sheet for preventing the admission of air, and subsequently this combination is heated and finally united by pressure and shaped for instance by rolling, drawing, pressing or the like. In the event of a thin plating sheet it is in this known process practically impossible to prevent the heat from radiating quicker from the said plating sheet than from the basic material which, of course, is the cause of considerable trouble. In this known process, after the rolling and shaping processes have been performed, the rolled protecting sheet wrapper has to be burned off. This final treatment is troublesome and uneconomic particularly because the protecting sheet is lost. The air-tight wrapping becomes more difficult and finally impossible in the case of large plating materials.

The process according to the present invention makes no use of entirely wrapping the basic material provided with the plating sheet or of soldering the borders of the piece of work, but uses removable frames which enclose as tightly as possible and at all sides the borders of the piece of work only. In the case of plating sheets which owing to their small thickness give up their heat very quickly, provision is made according to the present invention for covering the plating sheets with heat insulating or heat accumulating protecting layers which together with the piece of work are enclosed by the air tight frame.

One mode of carrying out the present invention is illustrated by way of example on the accompanying sheet of drawing in which Fig. 1 shows partly in cross section the application of the frames. Fig. 2 is a like view with outer protecting sheets for plating the basic material being plated on both sides. Fig. 3 shows in perspective view a section of the piece of work provided with the frame.

After cleaning the surfaces facing each other, the plating sheet 2 is placed onto the basic material 1 and hereafter a frame 4 is applied to the piece of work so as to enclose tightly the borders of the latter, in order to prevent the admission of air between the parts 1 and 2. The frames 4 preferably are U-shaped in cross section and manufactured in any convenient manner, they enclose the borders of the piece of work from all sides and cover the surfaces for some distance. Now the piece of work is placed into the furnace and, after heating, the same is shaped;

thus at first it is rolled. During the rolling, the frames disengage themselves from the piece of work and can be used again at another time.

If the difference between the thickness of the basic material 1 and of the plating sheet 2 is small, so that the temperature of the latter drops quickly particularly on its way from the furnace to the rollers, an outer protecting cover 3 of heat insulating or heat accumulating material (Fig. 2) is applied after the application of the sheet 2 on the basic material 1. A metal plate of sufficient thickness may be employed as cover 3, care having to be taken that, by leaving the film of oxide of the contacting surfaces of the members 2 and 3 or by treating these surfaces for instance by the application of separating materials, the protecting cover is not welded to the plating sheet. The air-tight frames enclose also the protecting cover 3 (Fig. 2). In this case, during the rolling operation, the protecting cover and frames disengage themselves from the plated piece of work and can be used again. The process according to the present invention can be used for plating at one side or at both sides.

What I claim is—

1. Method of plating sheet metal, and the like with a plating sheet of metal which comprises covering said plating sheet with a heat insulating and heat accumulating protecting cover, and enclosing only the borders of the basic material and of the plating sheet as well as of the protecting cover in a tight, well fitting, but separable frame, in order to prevent the admission of air between the layers of the piece of work, subsequently heating and rolling the piece of work to secure a weld between the basic material and the plating sheet.

2. Method as claimed in claim 1 which consists in using the protecting cover with its film of oxide in order to prevent a permanent union between the said protecting cover and the said plating sheet.

3. Method as claimed in claim 1 which consists in arranging a separating agent between the protecting cover and the plating sheet in order to prevent a permanent union between the said protecting cover and the said plating sheet.

4. Method as claimed in claim 1 which consists in enclosing the borders of the basic material and of the plating sheet as well as of the protecting cover in the air-tight frame.

5. Method of plating a basic material of sheet metal, and the like with a plating sheet of metal, which comprises covering said basic material with said plating sheet, hereafter enclosing said

basic material and said plating sheet in a tightly fitting but separable frame covering only the side faces and a small part of the rims of the top and bottom of the piece of work formed by said basic material and said plating sheet in order to prevent the admission of air between the layers of the piece of work, and subsequently heating and rolling the piece of work to secure a weld between the basic material and the plating sheet.

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