W. H. WELSH.

CASE FOR MATRIX CARRIERS.

APPLICATION FILED JAN. 9, 1920.

1,350,758. Patented Aug. 24, 1920.

Fig. 1.

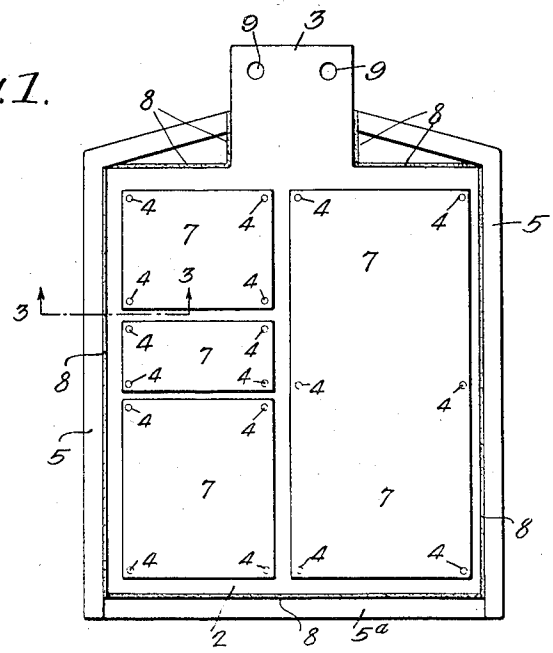


Fig. 2.

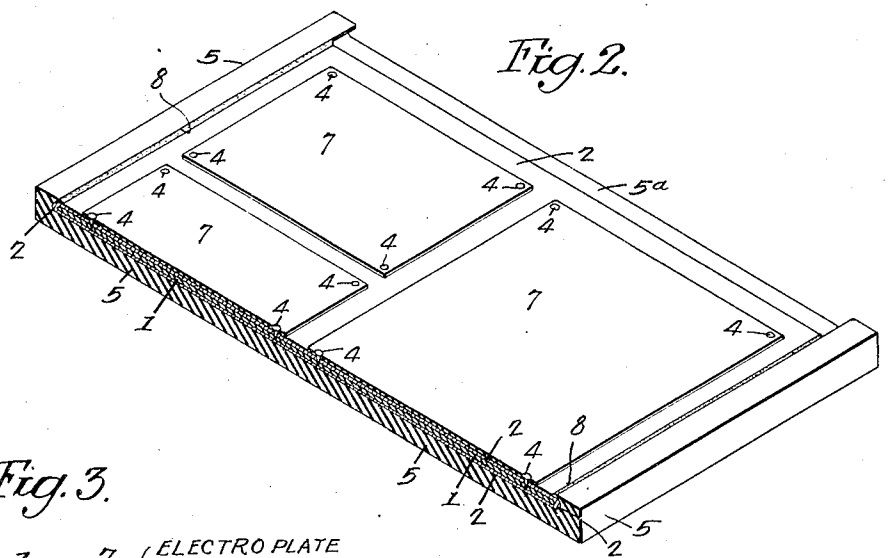
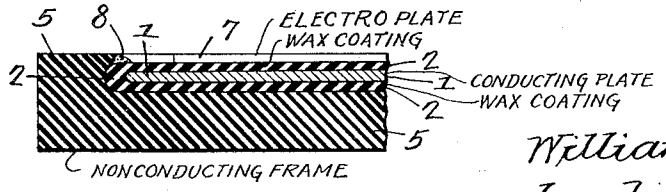


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. WELSH, OF COLLINGSWOOD, NEW JERSEY.

CASE FOR MATRIX-CARRIERS.

1,350,758. Specification of Letters Patent. Patented Aug. 24, 1920.

Application filed January 9, 1920. Serial No. 350,427.

To all whom it may concern:

Be it known that I, WILLIAM H. WELSH, a citizen of the United States, residing in Collingswood, New Jersey, have invented Cases for Matrix-Carriers, of which the following is a specification.

One object of my invention is to provide a novel form of protective structure for the metallic backing plates or frames employed to support a matrix or other structure in an electroplating bath;—the invention more especially having to do with novel means for removably holding such matrix so that its insulating covering will be effectually prevented from injury which would expose its metallic surface to the action of the bath and cause an undesired and useless deposit of metal with a consequent waste of current.

A further object of my invention is to provide a protective insulating covering for certain portions of a metallic plate for supporting objects to be electroplated, which shall be of such a nature as will permit of the plate being quickly and easily placed within or removed from it and which shall especially prevent the abrasion of the insulating coating of the plate under operating conditions.

These objects and other advantageous ends I attain as hereinafter set forth; reference being had to the accompanying drawings, in which,

Figure 1 is a plan illustrating my invention as applied to a supporting back.

Fig. 2 is a sectional perspective view of the structure shown in Fig. 1; and

Fig. 3 is a fragmentary transverse section on a somewhat larger scale than Fig. 1 and taken on the line 3—3.

In the above drawings 1 represents a plate of electrically conducting material, such as lead, which under conditions of use is heavily coated on both faces and at its edges with suitable insulating material such as wax as indicated at 2. This plate is usually of substantially rectangular outline and has at one end a projecting terminal lug 3. The structures to be electro-plated or from which impressions, electrotypes, etc., are to be made, are placed with their backs against one face of the insulating coating of the matrix or plate 1 and are electrically connected with the latter as well as rigidly held to it by metallic tacks or pins 4 which pass through the wax and enter the plate.

In accordance with my invention I provide a protective structure for this coated plate with the structures carried thereby, in the form of a non-conducting frame 5 consisting of a flat body of material unaffected by the plating bath and incapable of conducting an electric current such as is used in this art. Such structure may consist of hard rubber, bakelite, glass, celluloid, or the like, preferably recessed on one face for the reception of the plate 1 with its insulating coatings.

For this purpose the opposite longitudinal edges of the plate-receiving recess are undercut and at one end the frame is cut away as indicated at 5^a to permit of the passage therethrough of the terminal lug 3. The opposite wall of the recess is preferably altogether omitted so as to permit of the coated backing or plate to be slid into place in the frame. After being thus positioned, a body of insulating wax 8 is placed around the edges of the backing plate to prevent the electrolyte or bath getting between it and the frame.

The terminal lug 3 has the usual holes or openings 9 for the reception of the hooks whereby it is suspended in the plating bath, and it is obvious that when protected with my frame as above described, there is no possibility of the protective insulating coverings of wax along its edges being scraped off or punctured by careless handling or the like. As a consequence of this protection, there is little or no deposit of bodies of metal as is invariably the case when some part of the frame 1 is in contact with the liquid of the bath and all of the current flowing in the circuit is usefully employed in depositing metal upon the plates 7 from whence it flows through the tacks 4 to the plate 1 and thence to the external circuit through the terminal lug 3.

It is obviously a simple and easily accomplished operation to remove a coated plate from the frame when this is desired for any reason and to replace it by another.

I claim:—

1. A protective frame for an electroplate backing consisting of a structure of insulating material formed to removably receive an insulated backing plate.

2. A protective frame for an electroplate backing consisting of a substantially flat body of insulating material having oppo-

sitely placed, undercut portions for holding such backing against relative lateral movement.

3. A frame for an electroplate backing consisting of a substantially flat body of insulating material having parallel, longitudinally extending undercut side portions with laterally extending portions at one end for holding it to a backing plate and open at the opposite end to permit of insertion of a plate.

4. The combination of a metallic backing plate having an insulating covering with a removable insulating frame extending over one face and on the opposite sides of said backing plate.

5. The combination of a metallic backing plate having an insulating covering; a removable insulating frame extending over one face and on the opposite sides of said backing plate; with plastic insulating material for preventing access of liquid between the frame and one face of the backing plate.

6. The combination of a frame of insulating material having parallel undercut projecting side portions; a metallic backing plate mounted on said frame between said side portions; with insulating material between the frame and said backing plate for preventing access of liquid to its rear face and edges.

WILLIAM H. WELSH.