FUSED INLAYS, USING PLATINATED GOLD*

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By the following process of platinizing shredded pure gold, its melting point may be raised so that pure gold may be melted into a mass of it without melting or changing its form.

Pour over any form of pure gold fibre, wool, moss, pellets or foil (a shredded pure gold is preferable) a 5 to 10 per cent solution of platinum-chloride sufficient to dampen or wet all surfaces and pour or squeeze off the excess. The platinum chloride can be made by dissolving platinum in aquoregia (which is ¼ hydro-chloric and ¾ nitric acid mixed) and driving out the nitric acid by heat, redissolving in hydro-chloric acid and diluting with water. Next pour over it a solution of ammonium chlorid and flow it through the mass a time or two to precipitate the platinum-chloride as platinum ammonium chlorid, which forms a yellow precipitate over the surfaces of the gold. Take the water out of the mass by slowly heating or, preferably, by washing with alcohol. Then heat to a dull red, which changes the yellow platinum-ammonium chlorid on the surfaces of the gold to amorphous spongy pure platinum, which combines with the gold when heated to a red heat, forming a gold and platinum compound.

The advantages of a shredded gold over a foil or pellets is that the former will not curl and warp away from the margins by the gold flowing on its surfaces, which the foil and pellets, when used in this way, will go. The platinized, shredded gold draws the pure gold into its mass around all sides of each fibre, thus preventing the curling. The platinized gold is packed into the cavities in artificial stone models and bar gold fused into it. The advantages are that there is less error from shrinkage and that we have the flow that we have in pure gold fillings for finishing and more strength because of the added platinum, and all in half the time required for casting.

*Given as a Clinic at Ohio State Dental Society.