

years demonstrated that it was a comparatively easy thing to do; that it needed but little in the way of apparatus and appliances, and have had the satisfaction of thus far helping many a student to such practical knowledge of that department of dentistry.

My experience of these many years has taught me, as I have taught, that several kinds of amalgam are essential to the proper utilization of that material; that, of all these, that line which has been called in "New Departure" nomenclature "sub-marines," and in laboratory parlance "bronze alloys," from the fact that alloys of copper and tin are utilized for the facile incorporation of the copper, are the most positively *useful*, because they had been proven capable of saving a class of teeth which *no other material has saved*, and that this *saving* seemed almost limitless, as dreadfully decayed and miserably structured teeth had been saved by the thousands for periods varying from ten to thirty, and even forty, years.

No one can say that no other amalgam can do this; but no other amalgams have done it.

The *peculiar attribute* of all "sub-marine" amalgams is their property of *sulfiding* when exigencies demand it, and apparently of doing this *in proportion* as this demand is made upon them; so that while in some dentures a given demand causes a brown discoloration of greater or less intensity, in others a greater demand causes an almost immediate discoloration to the blackness of jet.

These results are due to combinations of silver and copper; in most cases more or less controlled by tin, but in cases of absolute necessity of either copper alone or of silver and copper only. This leaves *copper* as the *distinctive* metal for "sub-marine" amalgam alloys, as *all* dental amalgam alloys contain silver.

A very gradual increase of copper now gives the formula for "sub-marine" alloy as silver, 60; tin, 33; copper, 7.

The next class of amalgam is "contour," or "usual," the alloys for which I compose of silver, tin, *gold* as their *distinctive* metal, and zinc, in the varying proportions of from 60 to 70 silver, from 25 to 35 tin, from 1 to 3 gold, and from 1 to 3 zinc.

This kind of amalgam has done most acceptable service for twenty-five years; its formulæ were "accepted" with much deliberation, and only after years of clinical trial of each modification. Its grain is good; it mixes easily with its mercury; it gives ample time for comfortable manipulation, and by "wafering" it is made to set with satisfactory celerity. Its maintenance of color is good when left with that "mat" finish which nearly approximates the color of a tooth, and if it discolors it is usually permanently restored by pumicing and burnishing. But its