

a tooth there is no question that it would be tight. No. 2 is gold platina alloy; this is the same as No. 1, the liquid has not penetrated in the least. This amalgam was made and on the market in 1874; No. 3 is Flagg's two samples, one marked No. 1 was worked rather dry, that marked 2 rather soft. You will see upon examination, the bottle marked two on the stopper, the filling shows in spots a leakage. I claim this is in faulty packing, and I think you will agree.

The alloys of silver and tin, and other dental alloys, are extremely hard to mix, and it cannot be done by any novice, and the question is this, Is an alloy of silver and tin a chemical or a mechanical mixture?

Pure tin amalgamated does not harden, the same with pure silver; alloy them together half and half and they harden very hard. The hardening process begins at once. Pure silver and pure tin filled up separately and mixed half and half also harden; now, what makes them harden? It would seem that the cause was oxidization of the metals, and yet mercury seems to oxidize pure silver, but why doesn't it harden if the cause is oxidization.

On the bottle marked No. 6, you will find a filling made from gold and platina alloy; compare this with No. 2, it is made from the same bar, filed at the same time. You will see No. 2 is very hard, No. 6 has not hardened. Now, the difference is the No. 6 was oxidized before it was amalgamated, and therefore it does not harden. This seems to be positive proof, yet Dr. Black says, page 969, *Cosmos*, December, 1896, "oxidization has nothing to do with it; it is a chemical agent acting upon the alloy from without.

I took this same alloy, silver 55 and tin 45, marked No. 4, I packed two of these tubes myself, and had quite a number of dentists do the same, and it was surprising to see the results; as Dr. Black says, some of them shrunk and some of them did not, but a large majority did not; in fact, those that were apparently packed the best were the ones that shrunk the most; now, what does this show? simply that everyone works differently.

Give twelve different dentists as many lots of alloy to mix, when they are through it is safe to say you have as many different alloys; that is to say, one man mixes five grains of mercury with his, another six, another seven, etc. Now, what do you get? why, altogether a different alloy, just the same as if you had as many different alloys to start with, and of course different hardness as to the amount of mercury used; the alloy is changed in addition of mercury more or less, just the same as the alloy in the first place of silver and tin. When you can get dentists to