heat is developed, I presume, from the rapid conversion of the liquid mercury into a solid, the latent force of the fluid mercury being transformed into sensible heat.

This amalgam is almost certain to destroy the nerves in all teeth filled with it, turning the tooth yellow and staining all the balance at the line of the gum the same color. This yellow stain is the result of a yellow soluble oxide, the fillings remaining white owing to the solubility of the oxide.

The specimen'lost one grain after several days drying. On melting on charcoal it does not evaporize or loose in weight, and melts at a very low heat, and remains fluid a long time and retains the white color.

After being melted it is very tough and may be hammered or rolled into a plate, and cuts easily with a knife. This amalgam may be found valuable for some purposes out of the month.

There are some dentists still using this amalgam to my knowledge for filling teeth. It should never be used in the mouth under any circumstances.

By heating cadmium sufficiently hot, yellow vapors of the oxide of the metal are formed. Mercury unit is readily and hardens with this metal, but does not harden to any extent when united with any of the other simple metals experimented with. Why this is so, I am unable to say, unless it is from the fact that mercury and cadmium are the only two metals whose combining volumns of vapor are double that of any other elementary bodies. All good amalgams must be composed of at least two metals besides mercury. None of the above metals decompose water to any extent under ordinary circumstances.

I experimented with platinum and mercury, also aluminum and mercury, but found that neither of them formed metallic amalgams with mercury, only oxides of which I shall have occasion to speak sometime, under another head, more especially that of aluminum. This metal is one of the most selfish and unfriendly of all known metals, refusing to unite or form any metallic alliance with any other metal. This is a great and wise provision in natures economy, this metal forming as it does the basis of most soils; the earth would be but a barren waste if this metal held strong affinities for other metals; when the earth was in a melted state alloys would have been formed without end so as to have prevented its capacity for uniting with oxygen to form clays.

The metals suitable for amalgams are reduced down to three, silver, gold, and tin, mercury forming the amalgamating metal. Tin and silver make the best, silver and gold answer very well, gold and tin is too brittle and have for practical purposes it does not harden at all when