

Now, our object is to choose a material possessing at least the more important of these qualifications. We may run over a few, such as zinc chloride, gutta percha, chlora percha, gold, lead cones, saturated cotton, tin-foil, etc.

At present there seems to be a race between zinc chloride and gutta percha. Gutta percha is used extensively, and by good practitioners ; but, after all, there are serious objections to it for this purpose. It is somewhat absorbent, is to a certain extent porous, and is not an antiseptic. No doubt, one great reason why it is so extensively used is that, when made into a solution with chloroform, it is easily pumped or pressed into the canals. For my own part, I have used zinc chloride, either partly or entirely, in almost all cases with very good satisfaction. From its affinity for moisture, it will penetrate deeply and persistently into the tubuli, and, being a permanent antiseptic, will act on whatever tissue may be in with them, and render it non-decomposable. When mixed to a creamy paste, it can with facility be worked into the smaller canals by means of a fine broach. A good method in the case of inferior roots is to drop the liquid in first, and after this is worked into the canals, follow with the powder, which will be readily taken up by the liquid. But here comes the objection ; it is an irritating material, and if any, by accident, should pass through the apex, the tissue will decidedly object. Especially is this to be feared in the case of lower roots, where gravitation lends its aid. Now, what we want is something with which we can first hermetically seal this opening. Here gutta percha might be used to advantage, but in the smaller canals operators have found difficulty in reaching the end of the canal with this substance, and, besides, its porous and absorbent qualities are against its use. Gold is a good material for this purpose, but to get it there necessitates excessive canal drilling, which I consider a dangerous practice to the safety of the tooth. I find that a few shreds of cotton, saturated in oil of cloves or campho-phenique, can be carried with a fine smooth broach even into the smaller canals. If properly packed, it is practically impervious, and hermetically seals the opening, and, if necessary, can be removed more readily than any other material. Statistics given by practitioners go to show that almost universal satisfaction has been given by sealing the apical opening in this manner. Now follow, as before stated, with the thin paste of chloride of