

His method of using it is to place a few shreds lengthwise on the forefinger of the left hand, place a perfectly smooth broach upon them, and then, wrapping the broach into the cotton by means of the thumb and forefinger, you securely matt the cotton around the broach. The cotton can now be carried to the extreme apex of the root canal. The broach is now partially withdrawn and the cotton packed into the canal. This is continued until all the cotton on the broach has been tightly packed into the canal. If the canal is not sufficiently filled the process is repeated until the canal is filled to the proper depth.

Frequently ordinary absorbent cotton is used instead of the raw cotton. It is inserted similarly to the raw cotton only we usually saturate it with some disinfectant fluid, generally one of the essential oils, before packing it into the canal. This is an ideal filling material for temporary work, as it can readily be withdrawn by means of a hook-broach. Still I would not advocate its general use as a permanent filling material, even though I happen to have a tooth in my mouth, the root of which has been filled with cotton and creosote for the last four years, and in all that time it has never given me any trouble, even though all the chances as regards my physical condition have been against the filling.

I now desire to draw your attention for a few minutes to the advantages and disadvantages of gutta-percha as a root canal filling material. In studying this substance as a canal filling we must consider it both in the plastic and fluid state. The fluid is termed chloro-percha, and is obtained by dissolving the ordinary pink gutta-percha in chloroform. If you desire to use gutt -percha in its plastic state you will secure more satisfactory results if you use the gutta-percha cones as supplied by the dealers. In filling a canal with these cones, first lubricate the walls of the canal with oil eucaliptus, then, having gently warmed a cone which approximates the canal as to size and shape, press it firmly into position. This method has one almost irredeemable fault: there is no certainty as to whether you reach the apex of the canal or not. In using chloro-percha, a small amount of the fluid is placed in the cavity and then pumped into the canals with a fine broach. This also is not very satisfactory, as chloro-percha shrinks during the hardening process, and the canals are therefore not perfectly full. This shrinkage, however, can be almost, if not wholly, overcome by packing cotton fibre into the chloro-percha before it has hardened, or a gutta-percha cone may be used instead of the cotton. By the combination of chloro-percha and gutta-percha, or chloro-percha and cotton, you obtain almost an ideal root canal filling.

There is another root canal filling material, which, if it is not superior to the chloro-percha combination, is at least its equal. This material is oxy-chloride of zinc. It has one fault, but this is