Very few dentists will ever use small dynamos to charge their storage cells with, as the first outlay for such an equipment is quite expensive and requires a good deal of attention.

To charge accumulators from primary cells, where no commercial current is available, is perhaps one of the simplest and also cheapest ways of doing. Only primary cells, which will be able to deliver a steady, continuous current for any length of time can be used for this purpose, and among them the so-called gravity cell in its different forms is the best. This cell will deliver a very steady current of a low intensity as long as the chemical action is kept going, and therefore it can be left connected permanently to the storage battery. All the attention needed is the replacing of the absorbed copper sulphate about once a month and of the zincs about every six or eight months, according to the type of cell used. When white salts begin to creep out on top of the cells, this is a sign that the solution is oversaturated with zinc sulphate and part of it should be taken out from the top of the cell, without disturbing the solution too much, and be replaced by clean water. If these points are carefully observed the primary battery will furnish a very satisfactory charging medium, which renders the dentist absolutely independent from the exactions of electric companies, especially in small towns.

The gravity cells deliver a current of about three-eighths ampere, and when connected permanently to the storage battery will charge about nine ampere hours in twenty-four hours' time. If this should not be sufficient for the work to be done, another series of primary cells of the required voltage can be added, which will double the amount of current charged.

The use of thermo-generators in connection with the storage battery is comparatively new in this country, although they have been used quite successfully in Europe for this purpose for the last ten or twelve years. As the name indicates, in such apparatus the current is generated by heat, the instrument consisting of a large number of thermo-electrical pairs (strips of two metals of different coefficient of expansion and electric affinity), connected together in series in such a way as to expose the inside or half of all the joints to heat, while the other half or outside is kept cool. Thus by the difference of temperature between the two joints of each pair a small electro-motive force is generated, which will increase with the number of pairs or elements connected together. Owing to the very small E. M. F. generated at each joint and the high internal resistance, quite a large number of pairs will be required to produce pressure sufficiently strong to charge three or four storage cells. Naturally the cost of such thermo-generators will be high and their use limited to small