

made. To test whether the battery exerted any material influence upon the hearing distance, a further series of experiments was made with the same battery.

It will be seen by reference to the tabulated statement shown above that the maximum hearing distance B C had been obtained with a primary ring 11.3 cm. in diameter when the distance A B between the primary and secondary coils was one centimetre. This arrangement of the apparatus was therefore adopted throughout the following experiments:

	Hearing distance
1. Apparatus tried with 1 cell, (bichromate battery)...(B C, Fig. 8) = 9 mm.	
2. Six cells in series.....(B C, Fig. 8) = 16 mm.	
3. Six cells in multiple arc.....(B C, Fig. 8) = 9 mm.	
4. Six cell in two series of 3 each.....(B C, Fig. 8) = 15 mm.	
5. Same experiment repeated.....(B C, Fig. 8) = 13.5 mm.	
6. Same experiment repeated by Mr. Tainter.....(B C, Fig. 8) = 12.5 mm.	

These experiments proved that battery power *did* exert an influence upon hearing distance, and also that the battery in use was gradually deteriorating.

I concluded, therefore, that if the battery power had remained constant, the hearing distance might not only have been proportional to the diameter of the primary ring, but, in order to attain the maximum effect, the projection of the secondary coil beyond the plane of the primary might also have been found to increase in like proportion.

This led me to try the effect of a conical primary coil A with the secondary B at its apex, as shown in Fig. 9, but the hearing distance for a bullet was only 3.5 cm.

