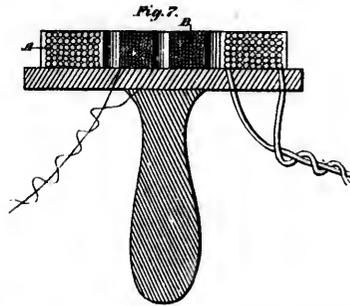


Original Experiments.

In the theoretical arrangement recommended by Profs. Trowbridge and Rowland (Fig. 6) the primary coil A was of smaller diameter than the secondary B. This had given us no better effects than the ordinary form of Hughes' balance, (see Fig. 2,) in which the two coils A B were of equal diameter. We then tried the effect of making the primary coil A of greater diameter than the secondary B, (see Fig. 7,) and in this case we appeared to obtain an increase of hearing distance.



Five centimetres (2 inches) was, however, the utmost limit reached, when, on the 19th of July, Mr. J. Stanley Brown and Dr. Woodward visited my laboratory and witnessed some experiments. No difficulty was experienced in detecting a bullet held in the mouth by passing the exploring coil over the cheek; and the presence of a flattened bullet held in the clenched hand was also readily determined. Dr. Bliss, Dr. Reyburn, and Surgeon-General Barnes visited the laboratory next day and expressed themselves as very hopefully impressed by the experiments. These were subsequently repeated in the surgeon's room at the Executive Mansion for the information of Dr. Frank Hamilton and Dr. Agnew, who also seemed favorably impressed.

Such opinions from the surgeons in attendance upon the President, and the continued interest shown by Prof. Newcomb, encouraged me to proceed with the experiments.¹

It was now determined to test the effect of each convolution of the primary coil, so as to arrive empirically at some idea of

¹ I desire specially to express my gratitude to Dr. Frank Hamilton for words of encouragement spoken at a later date when sympathy and encouragement were greatly needed.