

induction of a coil brought near the body of the President, and that the locality of the bullet might thus be determined without danger to the patient and without pain; for it is well known that induction can be powerfully exerted through the human body without producing any sensation whatever.

Upon the balancing of Induction.

The influence that is exercised upon induction by metallic masses has formed the subject of numerous experiments by different investigators; and the principle of balancing the effects of induction on one portion of a circuit by equal and opposite effects produced upon another portion has been utilized in nearly all such investigations.

The earliest form of induction balance for this purpose appears to have been devised in Germany by Prof. Dove,¹ about the year 1841, and a good description of it in the English language may be found in De la Rive's "Treatise on Electricity," (1855 edition, vol. I, pp. 418-433)².

Another and superior arrangement for the same purpose is the well-known induction balance of Prof. D. E. Hughes³.

The Static Induction Balance of J. E. H. Gordon⁴ though primarily intended for experiments upon specific inductive capacity, might also, perhaps, be employed in the same class of investigations.

My own attention was directed to the balancing of induction a number of years ago by the disturbing noises produced in the telephone by the operation of telegraphic instruments upon lines running near the telephone conductor.

The difficulty was remedied by using two conductors instead of one, and by so arranging them with reference to the disturbing wires that the currents induced in one of the telephone conductors were exactly equal and opposite to those induced in

¹ Pogg. Ann. vol. liv, pp. 305-335.

² A similar apparatus was independently devised in America a number of years ago by Prof. Rowland, of Johns Hopkins University. It is to be regretted that his discovery of the fact that he had been anticipated by Dove prevented Prof. Rowland from completing and publishing his researches.

³ Phil. Mag., July, 1879, vol. ii, p. 50.

⁴ Phil. Trans. for 1879, p. 417.