ON ELECTRIC CHARGES

[M'LENNAN]

From the fact that no charging action was obtained in either of the experiments with the two forms of apparatus, it seems clear that the alphe : ad beta rays from the nitrate of uranium carried away with them from the salt equal amounts of positive and negative electricity.

In order to test the accuracy of this conclusion an additional set of experiments was made with uranium nitrate when using this second form of apparatus. The salt on each tray was covered with two layers



FIG. IV.

of aluminium leaf, each about .007 mms. in thickness. As this thickness was sufficient to cut off all the alpha rays,¹ but only a small proportion of the beta rays, it was evident that a charging action should occur, and some experiments were made to see at what pressure it could be observed.

As aluminium in the volta series is positive to brass, the charge acquired in this case through the annulling of the volta effect was a negative one. When the pressure was reduced it was found that the electro-

1 Phys. Zeit. 8, p. 773, Oct. 24, 1907.