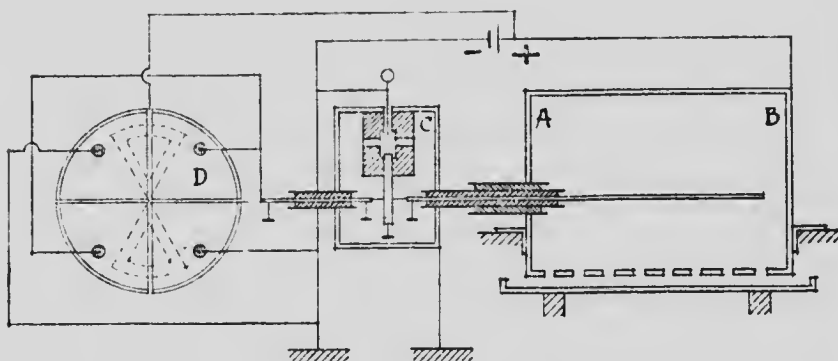


no means warrantable; and from the results of additional measurements it has been found necessary to modify the conclusions mentioned in the earlier notices.

In measuring and comparing the activities of the different salts, these were each spread out in turn in uniform layers on a shallow tray which was placed on the bottom of the ionizing chamber shown in fig. 1, which was 40 cm. long,

Fig. 1.



26 cm. wide, and 28 cms. deep. The saturation currents through the air in the chamber were measured with a sensitive quadrant electrometer, and were taken as measures of the activities of the different salts.

II. Relation of Activity to Area of Salt exposed.

Before proceeding with the examination of the different salts some preliminary measurements were made on the activity of potassium sulphate when different areas of a layer of this salt were exposed to the air in the chamber. A layer of the salt some 6 mm. in thickness was placed in the tray mentioned above, which was 35 cms. long and 18 cms. wide, and then covered with a thick plate of metal divided into sections 18 cms. long, and 5 cms. wide. These sections were, one after another, removed from the tray, so that larger and larger areas of the salt were left exposed to the air in the chamber. The saturation current corresponding to each area was measured, and the values which are given in Table I. and plotted in fig. 2, show that the saturation currents were