

### III. Relation between Thickness of Salt Layer and Activity.

Some additional measurements were made to ascertain the relation of the activity of a number of the salts to the thickness of the layer of salt exposed. In making these measurements the salts were ground to a fine powder and then sifted as uniformly as possible on the bottom of a shallow tray which had a surface area of 228 sq. cms. This tray was then placed in the ionizing chamber, and the saturation currents measured for each layer as before.

The results obtained with potassium sulphate are recorded in Table II., and a curve representing them is shown in fig. 3. From these it will be seen that the saturation currents steadily increased with the thickness of the layer of salt exposed until a thickness of 2.5 cm. was reached, when the current assumed a steady value and remained the same for greater thicknesses.

Additional observations were made with the halogen salts of potassium, and still others with two samples of potassium cyanide, one with a sample of potassium hydroxide, and one with a second specimen of chloride of potassium. The results of these measurements are given in Tables III. and IV., and curves representing them in figs. 4 and 5. From all the results recorded it will be seen that layers of the different salts between 2 and 3 mms. were amply sufficient to give the maximum saturation currents.

TABLE II.

#### Activity of Potassium Sulphate.

Thickness of salt layer (mm.).	Activity of salt. Saturation current (Arbitrary scale).
0.188	32
0.43	61
0.625	86
1.09	112
1.56	128
2.03	134
2.50	142
3.75	142
5.00	142

