

AN APPARATUS FOR HANDLING DELIQUESCENT
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When measuring deliquescent crystals one is often forced to work in an atmosphere free from moisture for a considerable length of time. The following is a description of a moisture free chamber which has been used successfully in this laboratory. It consists of a galvanized iron box, Fig. 1, 40 cm. long, 30 cm. wide, and 24 cm. deep with glass windows in the top and front. The cover C, Fig. 2, fits down into the groove B, in the bottom of which is a piece of rubber tubing and when forced down by the pressure of the clamps as shown in Fig. 1, it makes an airtight connection. In each end of the box are holes 12 cm. in diameter thru which the arms are inserted. Rubber sleeves 30 cm. in length and 8 cm. in diameter at the smaller end are here attached.

Calcium chloride or phosphorus pentoxide may be used to absorb the moisture in the chamber. Before using the chamber, the rubber sleeves are tied with a cord close up to the side of the chamber. Then thin rubber gloves are drawn over the hands which are then inserted into the free ends of the sleeves. After fastening the sleeves tightly about the wrists, the cords are removed and the hands and forearms are inserted into the chamber. To take care of the differential pressures that are developed when the hands are moved in and out of the chamber, a calcium chloride tube is attached at a small opening not shown in the figure.

Working in the chamber, the crystal to be measured is mounted in the apparatus manufactured by Fuess for use in this type of work. It consists of a glass container, Fig. 3, with plane glass windows (b) which rests upon a hard rubber hemisphere (c). Calcium chloride is placed in the depression (d). The small pedestal (a) upon which the crystal is mounted is movable and permits the preliminary adjustments of the crystal to be made from beneath and the finer adjustments are then made in the usual manner. After the crystal has been mounted in the glass container, the container is removed from the chamber and mounted upon the goniometer. Tutton¹ has not found the glass container entirely satisfactory but by remounting the crystal in the moisture free chamber we were able to measure four or five zones before the faces began to lose their brilliancy.

¹ Tutton, *Crystallography and Practical Crystal Measurement*, p. 497.

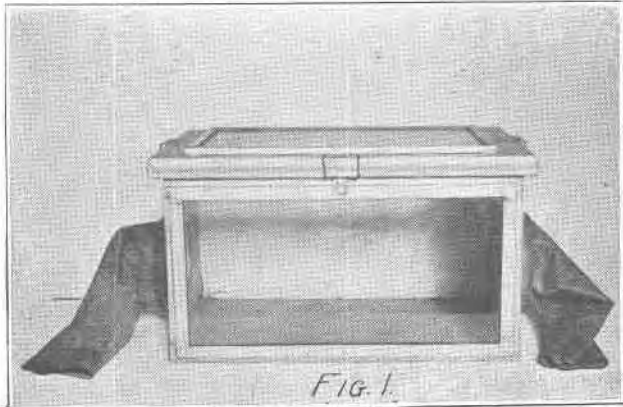


FIG. 1.

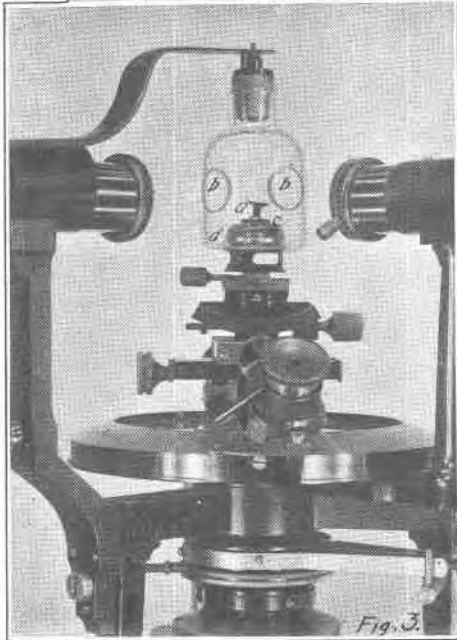


FIG. 3.

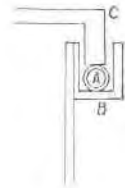


FIG. 2