The indices of refraction are higher, the size of 2V is larger, and the double refraction is lower than some published values. Various published data are not in agreement and this is perhaps due to the difficulty of working with the usually very small crystals. The large variation in the size of 2V is probably due to uneven strain on inversion from the higher temperature hexagonal form. It is believed that the data given here are unusually good in view of the greater ease of handling and certainty of determination of the larger crystals from this locality.

A MOUNT FOR THE UNIVERSAL STAGE STUDY OF FRAGILE MATERIALS

R. J. Dimler and M. A. Stahmann,
University of Wisconsin, Madison, Wisconsin.

The accessory here described is intended for use in the immersion method of grain study on the universal stage. It serves two purposes: (1) to minimize strains sometimes introduced in grains by the pressure from a hemisphere, which strains might cause changes in the optical properties or result in the shattering of fragile grains (e.g., organic crystal fragments), and (2) to facilitate the controlled movement of a grain (e.g., centering) after a mount is made and is ready for study. The accessory is a metal slide which acts as a retaining cell for the mount. A single grain or crystal is mounted in the immersion liquid between two cover glasses which are held in this retaining cell. The metal slide supports the weight of the hemisphere and its extension permits movement of the entire unit for the centering of the grain.

Slide: The metal slide, whose details are shown in Fig. 1, is turned out of sheet brass on a lathe. The central opening is slightly larger than the diameter of the cover glasses (clearance not over 0.15 mm.). The cover glasses must neither bind in the opening nor shift to a large extent when the stage is tilted. The shoulder encircling the central opening is divided into concentric rings to improve the retention of the immersion liquid.

The thickness of the slide at the shoulder will depend upon the average size and uniformity of the grains studied. The surface of the upper cover glass must be even with, or slightly below, the top of the brass slide. In this way the grain is held in place by the weight of the cover glass augmented by little or no pressure from the hemisphere. The dimensions shown in Fig. 1 have proven generally satisfactory. If applicability to greater variation in grain size is desired, the thickness may be that of three No. 2 cover glasses and the grains accommodated by appropriate combinations of No. 1 and No. 2 cover glasses.

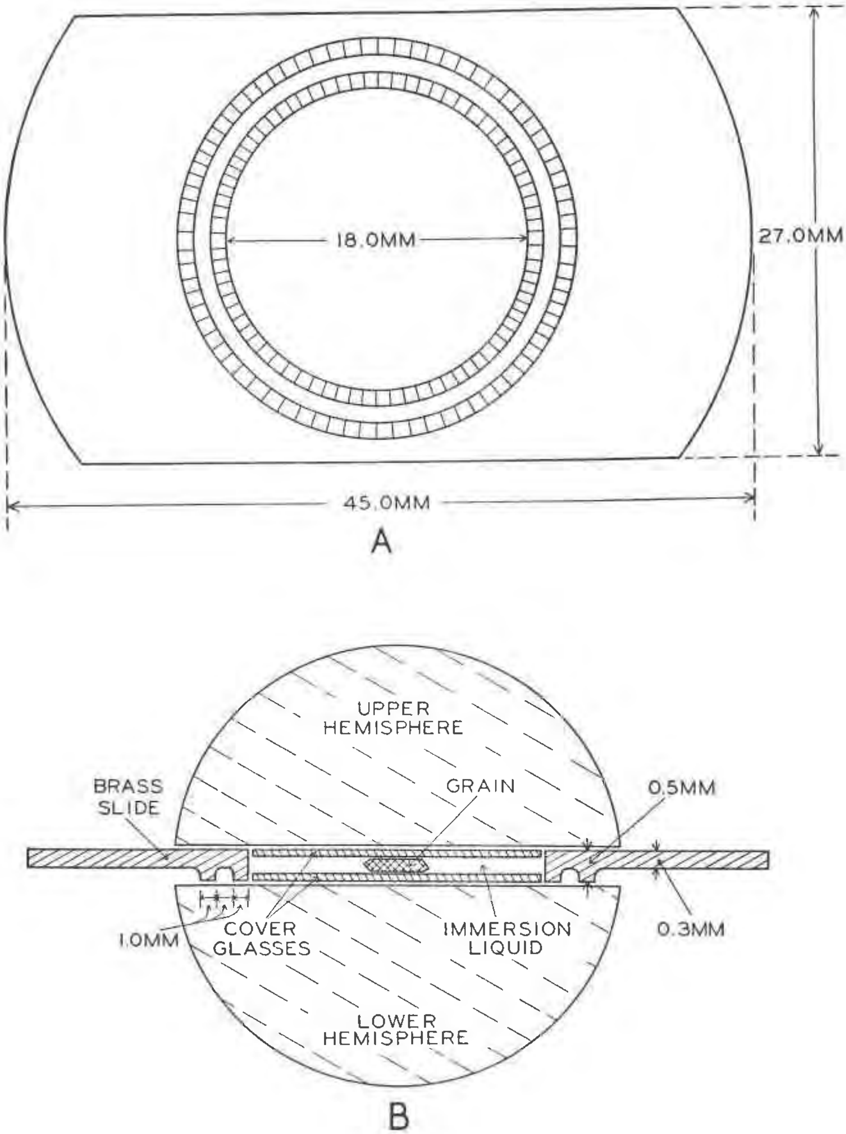

FIG. 1. A mount for fragile grains.

A. Brass slide, view of under side, showing retaining shoulder.

B. Slide and mount, cross section, showing the relative positions of hemisphere, cover glasses, grain and brass slide. The vertical scale has been increased four times to show detail

Preparation of Mount: The brass slide is placed on the stage with the first cover glass (in liquid contact with the lower hemisphere) in the central opening. A *single* small grain is introduced into a small drop of the immersion liquid on the cover glass. The second cover glass is placed on the mount. Any air space remaining between the cover glasses is filled by applying liquid at their edge, care being taken to avoid a large excess. For fragile material the top of the cover glass should be even with or slightly below the upper surface of the slide. With other material it may project slightly above, but must still be held by the edge of the opening.

With the grain centered, a drop or two of the immersion liquid is placed in the center of the cover glass and the upper hemisphere lowered onto the mount. To prevent the introduction of large bubbles, move the hemisphere steadily downward and keep it parallel to the slide, especially during the adjustment of the hemisphere fasteners. If the grain has moved from the center it is recentered by moving the entire unit by means of the projecting arms of the slide. The stage is then tilted in various directions to determine if the grain is held firmly in place. If it is not, a new mount must be made either with a larger grain, additional cover glass thickness, or a different slide.

This technique has been used for over a year in the mineral laboratory at the University of Wisconsin and is described here at the suggestion of those who have used and endorsed it.

NEW MINERAL NAMES

Lovozerite

V. I. Gerassimovsky, Lovozerite—a new mineral. *Compt. Rend. (Doklady) Acad. Sci. U.R.S.S.*, **25**, 753–756 (1939).

Name: From the locality, the Lovozero alkaline massif, Kola.

Chemical Properties: A hydrous zircono-silicate of calcium, manganese and sodium. $(H, Na, K)_2O \cdot (Ca, Mn, Mg)O \cdot (Zr, Ti)O_2 \cdot 6SiO_2 \cdot 3H_2O$. Analysis: SiO_2 52.12, TiO_2 1.02, ZrO_2 16.54, Th_2O_3 0.56, Al_2O_3 0.40, Fe_2O_3 0.72, MnO 3.46, MgO 0.76, CaO 3.34, SrO 0.06, Na_2O 3.74, K_2O 1.90, $H_2O+110°$ 8.62, $H_2O-110°$ 6.41; sum 99.65. Insoluble in acids.

B. B. Fuses easily to opaque white bead. With borax yields purple bead. With salt of phosphorus yields a greenish-yellow bead when hot, almost colorless when cold.

Physical and Optical Properties: Color dark brown to black. Streak brown. Luster resinous. Opaque. Fracture uneven to conchoidal. H. = 5. G. = 2.384.

Uniaxial, negative. $\omega = 1.561$, $\epsilon = 1.549$. Color light pink, pleochroism feeble. Polysynthetic twinning frequent.

Occurrence: Found in the Lovozero alkaline massif as one of the rock-forming or secondary minerals in certain porphyritic luyavrites, associated with murmanite, lamprophyllite, amphibole, nepheline, etc. Some of the lovozerite is considered as a primary mineral, some as secondary, derived from eudialyte.

W. F. Foshag