

A DEVICE TO AID IN CENTRING A CRYSTAL ON THE GANDOLFI CAMERA

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The precision and speed of aligning a single crystal on the original (Officina Elettrotecnica di Tenno) Gandolfi camera can be improved with a device (Fig. 1) easily constructed in a workshop. It uses the alignment principle employed on Debye-Scherrer cameras, thereby replacing the tiresome manual adjustment of the ball-bearing joint with a mechanical process.

The device consists of a frame fitted with a centring screw and a housing which takes a removable plunger and on which can be clamped the camera's telescope. When the plunger is in place and the pip inserted, the tip of the centring screw is opposite that part of the pip "above" the ball-bearing joint. The telescope is positioned to view the crystal in a vertical direction with the eyepiece scale directly over the crystal. The crystal can now be adjusted to rotate precisely about the axis of the pip (A" of Gandolfi 1967) with the aid of the centring screw, following exactly the procedure used in Debye-Scherrer cameras. After this is accomplished, the telescope and pip are transferred to the Gandolfi camera and the "height" of the crystal adjusted by translating the pip in its slot until the crystal remains at a point when the principal axis of the camera (A' of Gandolfi 1967) is rotated. The crystal is then centred. The centre of our camera corresponds to 4.1 on the eyepiece scale. The entire operation requires less than 5 minutes and the result is a precise alignment of the crystal.

The drawing was prepared by Mr. W. M. Jurgeneit of the Department of Geology.

REFERENCES

- GANDOLFI, G. (1967): Discussion upon methods to obtain x-ray "powder patterns" from a single crystal. *Miner. Petrogr. Acta* 13, 67-74.

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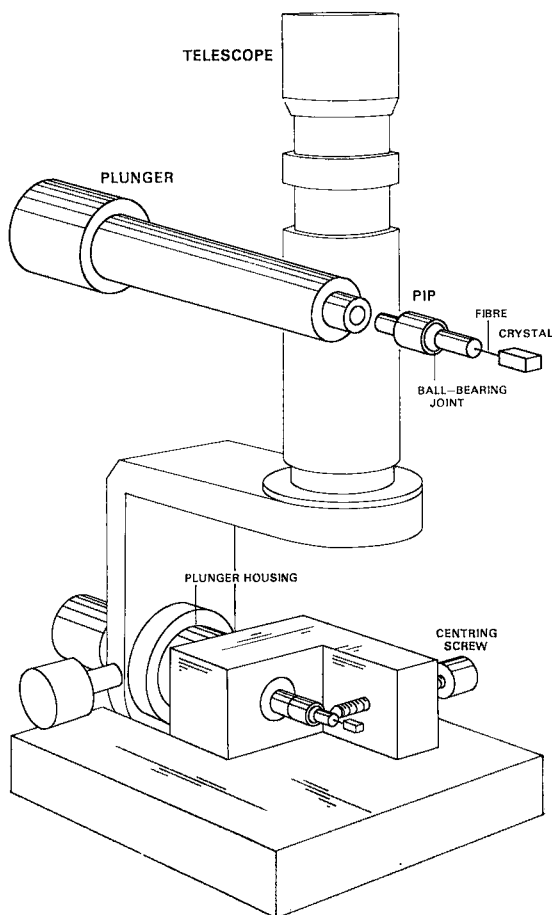


FIG. 1. Centring device with telescope in place. The figure includes an enlarged and exploded view of the plunger and pip, removed from its housing.