If the crystal is very badly out of setting the procedure must be repeated a few times because the adjustments found are only approximate, though they generally converge very rapidly towards the correct positions of the arcs.

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Note on Stadler's double-slit Weissenberg technique.

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Stadler (1950) has described a new method of recording the *n*th and zero layers of the reciprocal lattice simultaneously by means of a Weissenberg goniometer with two screen slits.

We have found that the Unicam double-crystal Weissenberg goniometer requires only a minor transformation in order to make it suitable for that method. The layer-line screen of this instrument (Fig. 1 (*a*)) has the form of four half-cylinders B^1, B^2 and T^1, T^2. These are fixed on the two brass rings R^1, R^2 which can be moved along the rotation axis on the two brass cylinders C^1, C^2 to allow the positioning of the layer-line slit. The brass rings have on one end a rim r against which, normally, both half-cylinders are pushed. If the top half of the rim of R^1 is removed by milling and the key-hole-type slot of the top half of the layer-line screen T^1 is prolonged in the opposite direction, it becomes possible to position both screen halves T^1 and B^1 independently from one another (Fig. 1 (*b*)). In this way a setting may be obtained where the *n*th layer of the reciprocal lattice is recorded on the bottom half and the zero layer on the top half of the film, or vice versa. Or, if two crystals are used, the zero layers of the standard crystal and the unknown crystal may be recorded simultaneously on the top half of the film, whereas the *n*th layer of the unknown crystal is recorded alone on the bottom half of the film.

Besides the mechanical simplicity of its realization, the method has the advantage that the background fogging is not augmented because both slit halves act as one full slit only.

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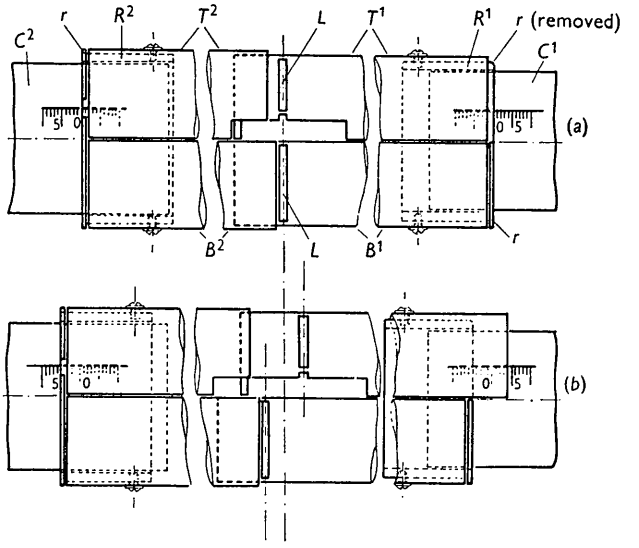

Fig. 1. (*a*) Normal arrangement of screens. (*b*) Arrangement of screens for simultaneously recording two layer lines.

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The space group and optical constants of glucuronolactone.

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Interest in glucuronolactone has developed recently because of its experimental application in the treatment of arthritis (Smith & Staveley, 1950). It may be obtained by the slow evaporation of an aqueous solution of glucuronic acid. The latter substance is rather widely distributed in conjugated forms in many animal and plant products.

Pryde & Williams (1931) showed that glucuronic acid has a typical pyranoid ring, and later reported a double-ring structure for the lactone (Pryde & Williams, 1933). It was first believed that the lactone contained a six-membered pyranose and a five-membered lactone ring (*a*), but later work by Reeves (1940) and Smith (1944) on trimethyl-glucurono-lactone indicated that the structure consisted of two five-membered rings (*b*). A study of anhydro sugars by Haworth, Owen & Smith (1941) has shown that structures with two five-membered rings in

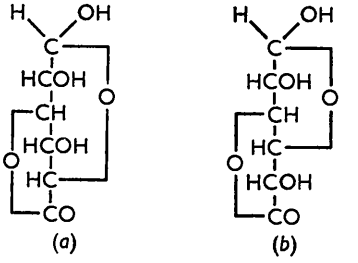

Fig. 1.