It has been found that most samples glycolate satisfactorily within one hour over a bath at 60° C. For routine work an aluminum dessicator partially filled with ethylene glycol, to below the sample holder, has proved satisfactory as a glycolation vessel. A partially filled beaker containing an inverted petri dish, or some other arrangement to hold the sample above the glycol, and covered with an inverted watch glass serves equally as well. Figure one illustrates the effect of glycolation on the x-ray spectrometer traces at 60° C. of four dry oriented montmorillonite samples. The Wyoming bentonite sample was glycolated for $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, and one hour to show the progressive shifts in the (00l) reflections. The other three samples were glycolated for one hour.

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A POINT COUNTER BASED ON THE LEITZ MECHANICAL STAGE

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A point counter based on the stock model of the Leitz mechanical stage, which can be fitted to any Leitz petrographic microscope without retapping the table, may be of interest to many readers of this journal. The instrument was designed and built by the Baltimore Instrument Company[1] at my suggestion.

The rebuilt stage is shown in Fig. 1; numbers in parentheses in the following paragraph refer to the illustration. The stop mechanism consists of a large knob (1) in which 24 holes have been recessed from below. The stop pin (2) which engages these holes is pressed upward by a spring housed in the pin holder (3) which is fastened to the base of the stage. Rotation of the knob (1) brings successive holes into register over the pin. The stop mechanism functions admirably; point locations are firm and sure and, except at the highest magnification, the passage from point to point is accomplished without perceptible loss of focus. When the instrument is in use as a point counter the lock screws (4) are left loose. If it is to be used as a conventional mechanical stage the lock screws are pushed

[1] Interested readers should address inquiries to the Baltimore Instrument Company, 716–718 West Redwood Street, Baltimore 1, Md. The company is prepared to rebuild new stages, which it carries in stock. At the time of this writing it was also willing to adapt used stages, providing they are in good condition.

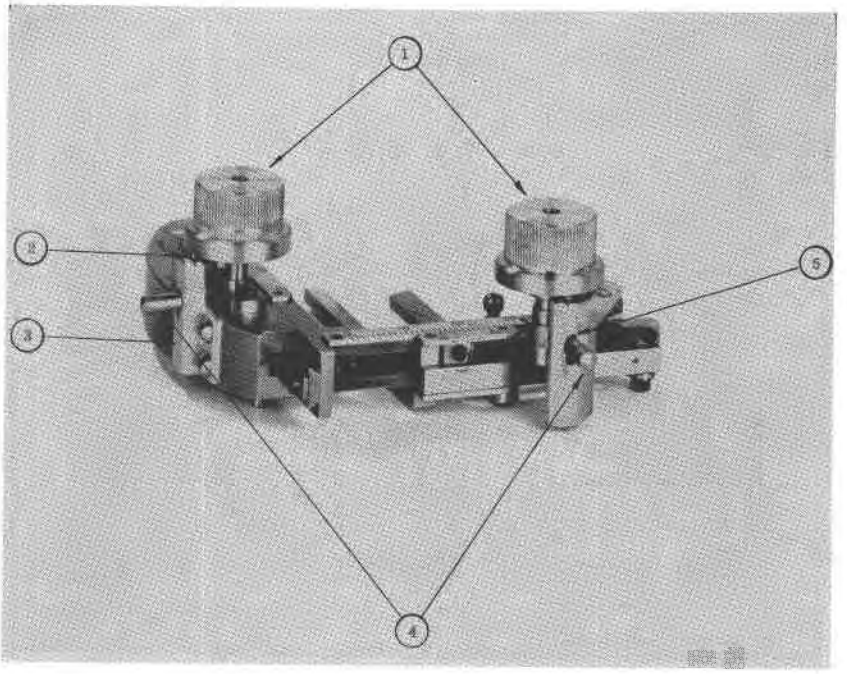

FIG. 1. Leitz mechanical stage adapted for point counter.

to the bottoms of the elongate slots (5) in which they ride and are hand tightened. This disengages the stop pins from the control knobs and restores the normal function of the stage.

The stage shown in Fig. 1 is an old and thoroughly used one. Tension on the slide proved unsatisfactory, the thin section every now and then sitting still while the stage was in motion; the same difficulty has been reported to me by other users of the Leitz stage. It is easily remedied by fastening thin strips of cellophane tape along the faces of the metal runners which hold the slide. The cellophane seems to hold the slide in position much more firmly than the polished metal.

The travel of the Leitz mechanical stage is only 25 mm. along either direction, and for some purposes this is inadequate. With a strip of rack obtained from the company we have been able to extend the travel on our instrument so that full traversing of the area underlying a 24×40 mm. coverslip can be accomplished as a matter of routine.

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