IN THE LABORATORY

A Method for Making Lantern Slides

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Professional workers often have the problem of preparing illustrations for a lecture to a lay or technical audience. The decision regarding the number of lantern slides to be used rests frequently upon three factors: (a) the available funds, a consideration rarely negligible at academic institutions, particularly when slides are to be shown on a single occasion; (b) facilities for preparation of reproducible drawings; (c) the availability of prompt photographic service (capable of filling last-minute orders). The end result is often a great dearth of illustrations and a crowding of information on a few slides. This latter usually leads to illegibly small print of letters or numbers.

The effective lecture appeals to the visual rather than the auditory comprehension of an audience. Particularly, the merely oral mention of numerical values or the description of conditions, arrangements, trends, etc., generally leave too much to the imagination of the listeners and tax their retentive capacity to such an extent that they find it difficult to follow subsequent statements or reasoning. Therefore, the generous employment of lantern slides is highly desirable. In most cases, it is not necessary to exhibit masterpieces of draftsmanship. Legibly printed words or numbers, schematic sketches of diagrams, and even cartoons serve in good stead.

The author happened upon a direct method of making slides which eliminates the expensive photographic process and may be useful to others.

Typing on cellophane, with an inverted sheet of carbon paper on the back side for increased density of the print, is probably a well-known expedient. The results of this method are, however, often disappointing because of unwanted carbon adhering to the cellophane or because of smudges from the typewriter ribbon. Also, cellophane does not offer a good drawing surface.

A more versatile and convenient material for making slides is available in "Permafilm (dull),"[1] a cellulose acetate with a dull finish on one side and an adhesive on the other. When this film is smoothly applied to a slide cover glass, it exhibits a high transparency and facilitates the writing, drawing, or copying of diagrams onto the slide.

While India ink is the most efficient medium for writing and drawing, ordinary pen and ink, soft pencil, or carbon pencil will also give very satisfactory results. All of these media can easily be erased or wiped off with a piece of moist tissue paper. After the desired information has been put on the slide, a mask and another cover glass is placed on top and binding tape applied as usual. Heat from the projector lamp apparently does not affect the film even during prolonged exposure.

[1] Formerly "Dulseal," by Denoyer-Geppert Company, Chicago, Illinois.

Glass Trough for Filter Paper Partition Chromatography

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With the increasing use of filter paper in partition chromatography (*1–4*) has come a need for a trough to serve as a reservoir into which the filter paper dips. The solvents used and the necessity for the avoidance of impurities practically demand glass as a material for the trough.

Using the tools available in most laboratories, a suitable glass trough (Fig. 1) may be constructed in accordance with the following variation in the method described by Consden, Gordon, and Martin (*1*).

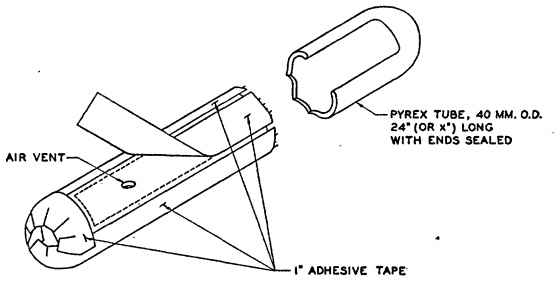

FIG. 1. Diagram of glass trough. *Left:* before cutting; *right:* completed channel.

Seal off the ends of a 40-mm O.D. pyrex tube of desired length, providing a small vent on the side of the tube to equalize air pressure while sealing the second end. Affix to the tube a 1″-wide strip of adhesive tape the length of the trough opening, covering the vent. Affix 4 more strips of tape adjacent to each side and each end of the first strip, but ⅛″ distant from it, to form a path on the glass for the cutter and a reinforcement for the tube during cutting. Lay the glass tube on a sponge-rubber mat on a flat sink drainboard, and cut the glass with a carborundum disc, 2″ or smaller in diameter, mounted on a flexible-shaft power take-off, a moto-tool, or a dental engine arm; play a stream of water on the disc and glass while cutting. When the panel of glass has been cut around, it will probably fall off intact. Smooth the