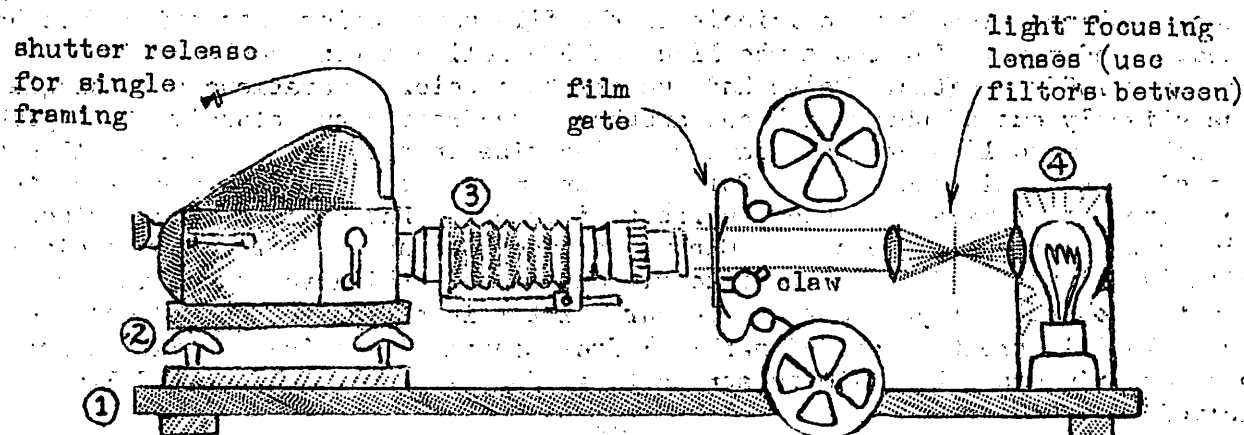


Canyon Cinema Research and Development Division: OPTICAL PRINTING STAND

Ours has been in operation now for 4 months. That particular design and tips for building your own are presented here. Single power (1:1 reproduction) magnification can be had by extending any lens to the appropriate film-lens distance and placing the object at the focal point these measurements determined. A reflex camera is required for accurate focusing and framing, and with the extended lens, no other optics is needed. A mount for the camera is needed. To hold the original film, use an old projector with low wattage bulb; disconnect motor and rig some way of cranking film through frame by frame. Or, shuck out everything but the gate and rig more versatile lamp housing, as we have done. Here's how ours looks:



- ① -Base board has length-wise groove for camera mount to slide for focusing and changing magnification. Another, cross-wise, for projector horizontal alignment.
- ② -Camera mount raises and lowers camera by thumbscrew adjustment on threaded shafts, stilt-like, stuck into slide base.
- ③ -Extension bellows allows magnification range from 1:1 up to 1:2, or 16mm to 8mm up to 16mm. We use 75mm C-mount lens.
- ④ -Currently using GE 250 watt photoflood with screw base as light source, a light gathering lens and a collimating lens to direct light beam onto film.

Many variations on this design are possible and some are simpler. We tried some of these and finally decided the more flexible printer was not that much more difficult to build. This is an evolved design from what was cheaply available and seemed reasonable. Trial and error is the only answer for building your own version. In use we've found the 75mm lens (which requires 75mm extension for 1:1) gives more working room between lens and projector gate (again about 75mm). For other lenses these same ratios apply. Bolex makes a C-mounting extension bellows, though we use a 35mm bellows with C to 35 converter mounting to the camera, and a 35 to C conversion at the other end for the lens, because this equipment was available to us. Our camera is a Pathe 16 with reflex viewing, variable shutter and film rewind. Bolex, Pathe, etc., make extension tubes which are cheaper but give fixed magnif.

Exposure control is now done by intuition alone, including correcting up and down for over/underexposed originals. The first thing to do with your printer is exposure tests for the particular film stock you'll be using in the camera, for various focal lengths (extension length) and for incremental diaphragm openings from full open to full closed. These act as a reference for guessing when switching to new film stocks, or other magnifications. Neither light meters nor diaphragm markings on the lens apply when used in this manner. Our eye does all this now anyway; don't ask us how. I've found I can switch film speeds and just use std. exposure ratios to adjust exposure. If your tests are for ASA 10 and you switch to something with ASA 20, use one stop less light. We found color printing less touchy than B/W because the whites flash or overexpose readily while dark detail is just becoming visible. With color, saturation changes but lots can be done with correction filters. We use Kodak print stock #7397 since it's cheaper (3-1/2¢/ft.)

continued

and processing costs same as Kodachrome at Eastman. It has not been verified yet whether or not this stock is processed as K II. Someone should check on that. If you use an old projector to hold the original film, you'll probably find the original lamp too hot and too bright. Using the original housing off our old Keystone Moviegraph projector and some additional lenses to gather and focus its light on the film, we find a 100-watt house bulb gives sufficient light for normally-exposed original. And warmer flesh tones than 3200°K bulbs. Unfortunately, we had to go to one of these glaring things to get enough light to raise 1-stop under-exposures. If it helps, we found our light meter frequently low by 2 stops when reading about 1" away from film plane.

What can be done by this printer is limited only by the imagination. Dissolves of all lengths and multiple exposures, freeze frames intermixed with action, repeat scenes, masking, bi-packing originals in the film gate, color alteration that has no end...and more! For those who like, A&B&C& roll printing could be done, at least over 100ft lengths. We've had fun printing color separations of a single scene slightly out of phase with one another: re-framing and closely magnifying original: 8mm to 16mm or just leaving it 8mm size in the 16mm frame and all sizes and positions within the frame. Color filters made with Glass Stain on acetate also distort the image when used in front of camera. For millionaires, Nelson tells us the current issue of Am. Cinematographer has an article on commercially available printers and if you want to wig out on this thing you might get some more ideas from there. If you want to see our printer in action you should get the Free Be-In Film (rent = cost of mailing) from Canyon Cinema Co-op. But we need money for prints of this film to send out, so donations would be gratefully received by CCC.

The NY State Council on the Arts is offering grants, matched by the National Council on the Arts, to NY state schools, community organizations, film societies, and all non-profit orgs. concerned with film as an art form. The new program is described in a brochure entitled THE FILM, available from Peter Bradley, NY State Council on the Arts, 250 West 57th St., NY 10019. Or call JU 6-2040.

An interesting program of New Czechoslovak Cinema is being presented June 16-18 at Lincoln Center, sponsored by the film depts. of the Lincoln Center and the Museum of Modern Art: *WANDERING*, Jan Curik and Antonin Masa; *DAISIES*, Vera Chytilova; *WHEN THE CAT COMES*, Vojtech Jasný; *CLOSELY WATCHED TRAINS*, Jiri Menzel; *THE END OF AUGUST AT THE HOTEL OZONE*, Jan Schmidt; *HOTEL FOR STRANGERS*, Antonin Masa; *NOBODY LAUGHS LAST*, Hynek Bocan; *DIAMONDS OF THE NIGHT*, Jan Nemeč; *THE FIRST CRY*, Jaromil Jires; *COURAGE FOR EVERY DAY*, Evald Schorm; *LADY OF THE TROLLEY TRACKS*, Ladislav Ryhman; *THE FIFTH HORSEMAN IS FEAR*, Zbynek Brynych.

MUSEUM OF MODERN ART FILM SHOWINGS: (Check with Museum for showing times)

THE FRENCH SHORT FILM, 1947-1967. Part II, July 17-August 4, daily.

NEW ACQUISITIONS, June 16-July 1, daily.

A FESTIVAL OF NEW CZECHOSLOVAK CINEMA, June 16-28, daily.

FILMS FROM THE ARCHIVE, June 7 & 14. Also films every Wednesday at noon.

First issue of CINFASTE has appeared. A student-originated film-maker's magazine, though not limited to students for either readership or contributions. It contains several articles of criticism and reviews, and sections on new products and techniques. Published quarterly, \$2.00 per year. Address CINFASTE, c/o Gary Crowds (Editor), 333 West 18th St., NY 10011.

The Annenberg School of Communications, U. of Penn., Philadelphia, is offering a course of studies consisting of classes, seminars, colloquia, media and research laboratories, and independent projects - two years of study leading to the MA of Arts in Communications.

A course in New Media and Education: Problems of Meaning and Criteria of Choice, to be given by Martin S. Dworkin in July at Teachers College, Columbia University.