

Lenses *—their whys— and wherefores!*

A Department Conducted by Charles H. Shipman, of Cleveland, Ohio.

DALLMEYER lenses have been made for about seventy years and have been considered as being among the best at all times. The firm of J. H. Dallmeyer is noted for many improvements in cameras and lenses. They introduced the Rapid Rectilinear over fifty years ago and have always been in the forefront of all lens improvements. This firm has made many special lenses for such institutions as the Lick and Yerkes Observatories and for exploring expeditions such as the late Mt. Everest Expedition. These lenses are distributed in the United States by Herbert & Huesgen, 18 E. 42nd Street, New York City.

Like most lens makers Dallmeyer produces very fast lenses for motion picture work both for the standard 35mm and also for the 16mm amateur size. The F/0.99 is the fastest of these. Note the very thick parts of the cemented front element, with its deep curves necessary to secure good corrections at such a large opening. The opening is a little greater than the focal length. The F/1.5 and F/1.8 are of the same general construction but with thinner glasses and more shallow curves. These lenses are used when it is necessary to work in poor light as in home interiors, theaters and such dimly lighted rooms and for dark days out of doors. Lenses of more moderate speed, F/3.5, should always be used when the light will permit. The Series 14 Projection lens is of the same general construction but with a longer mounting.

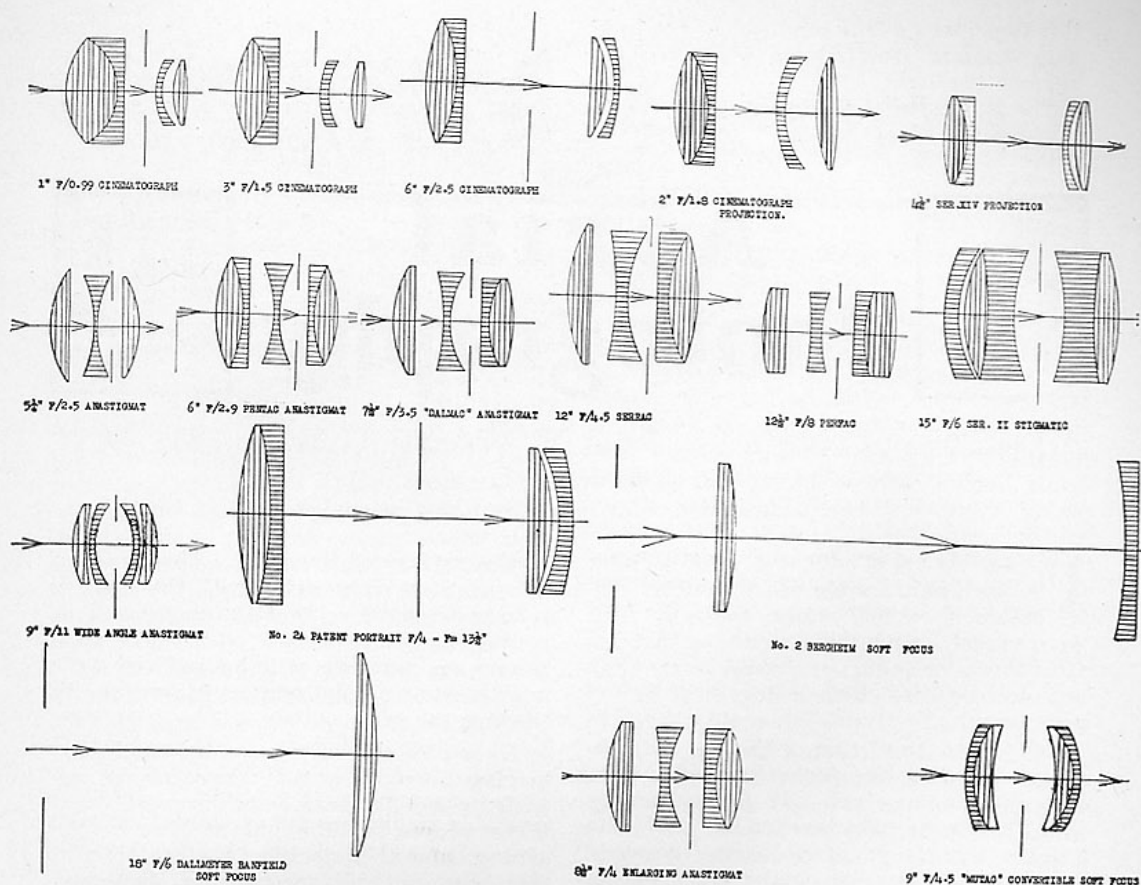
Among the regular photographic lenses the F/2.5 anastigmat, of three-lens construction, and the Pentac F/2.9, of three-section construction, (the outer sections are cemented doubles) are the extreme rapid members. These are not made in focal lengths over 12" for 5x7 plates. They give a very flat well defined field and cover an angle up to about 45° or 50°. The focal length is long for the plate covered, therefore the drawing is good as well as the roundness, making the longer foci good for portrait work with children, on small plates for enlarging. The fairly

short construction adapts these lenses to reflex and hand camera work if a ground glass for focusing is available and the camera front will accommodate the larger flange. With them slow snaps may be made of a well lighted stage in the theater.

The Dalmac F/3.5 and Serrac F/4.5 are of construction in the class of the Tessar with separated glasses in the front element and cemented rear. Of course these as well as all the preceding lenses must be used complete. The Dalmac and Serrac are free from flare under all ordinary conditions and have a very flat field of good definition, the small circle of confusion, allowing a good degree of enlargement. They are lenses for reflex work and for portraiture under all ordinary conditions. They have a large light circle so that considerable rising front may be used, or the next larger plate if the lens is centered. The focal lengths run to 15" and 16" for plates 6½x8½ and 8x10. Due to the thin glasses and few glass-to-air surfaces the light-transmitting power is good, the loss by absorption and reflection being less than in thick lenses of many elements.

As general purpose lenses the Perfec F/6.3 and F/8 and the Stigmatic Series II F/6 are made in focal lengths to 18" and 15" respectively, covering plates 12x15 and 10x12. The Perfec is made up of elements much like the Serrac, but the Stigmatic Series II has a three-element construction in which the second single glass is replaced by a cemented pair. These lenses are not convertible nor does the Dallmeyer Company produce any such since they supply a large line of telephoto lenses which are better than the convertible elements used alone in speed, shortness of bellows and ease of operation. These lenses have great covering power and may be used on larger plates as medium wide angle lenses. For all ordinary commercial work, architectural, landscape, group and other subjects needing only medium speed they serve well due to their clear, well defined images.

Dallmeyer produce one wide-angle anastigmat F/11 of a four-glass, close-



DIAGRAMS ILLUSTRATING MR. SHIPMAN'S ACCOMPANYING ARTICLE.

mounted symmetrical construction. This is a rather wide-angle, there being no medium wide-angle as the two preceding lenses are used in that capacity. This wide angle is of the Gaussian type.

Dallmeyer portrait lenses are celebrated the world over. Known as the Patent Portrait they are to be found in hundreds of studios in this country. The construction is a modified Petzval. The aperture is F/4 in Series A, F/3 in Series B and F/6 in Series D. Maximum focal lengths are respectively 30", 17" and 37" covering plates to 16x20, 6 1/2 x 8 1/2 and 20x22. These are, of course, long and heavy as compared to anastigmats and cover a narrow angle due to the long mount, and the field is curved as with all Petzval lenses. They are nevertheless great favorites with the portrait photographer, especially for large heads since the definition is excellent and the roundness and drawing extremely good. The lens is well hooded by the mount and due to this and its narrow angle and flat curves it is free from flare. The Series B allows soft focus results by changing the separation.

Dallmeyer produces several soft-focus lenses. The Bergheim composed of two simple lenses is the oldest and one of the first soft-focus lenses made. The uncorrected chromatic and spherical aberrations produce the diffused focus. The front element is positive, the rear negative, thus it is a variable telephoto objective, the bellows being less than the focal length. It is made in three numbers 12 1/2" to 36" for number one, F/3.5 to F/20; for number two, 25" to 40" at F/8 to F/12 and for number three 35" to 55" at F/9 to F/15. The variable focal length combined with the relatively short bellows makes it a fine soft focus lens for pictorial workers.

The Banfield was designed at the request of A. C. Banfield, F.R.P.S., a noted English pictorialist. At F/6 the definition is of a pleasing softness. Focal lengths 18" to 30" for plates 6 1/2 x 8 1/2 to 12x15.

The Mutac F/4.5 is a convertible soft focus lens which is sharp at F/16. The visual and chemical foci are coincident which makes it easy to focus. A lens of

this type gives a true rendition of sun light with brilliant results even when working against the light.

The Enlarging Anastigmat F/4 is made in three focal lengths 6", 7" and 8½" and

the mount is fitted with an orange glass cap hinged to the mount. This lens is corrected for close work with artificial light, giving sharp results even at F/4, thus reducing exposure time.