

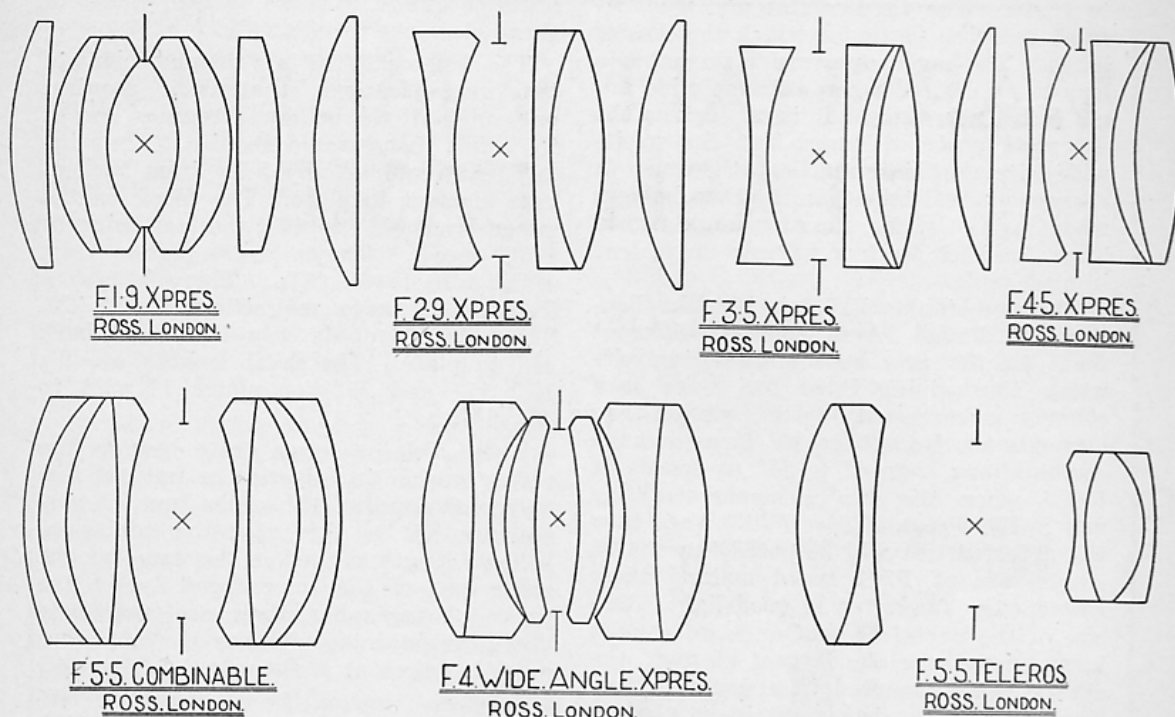
Lenses *—their whys— and wherefores!*

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FOR consideration in this issue another make of English lens is to be reviewed.

As you probably know, the English opticians are proud of the quality of their workmanship, and the products of the Ross factories have been well known for a hundred years and always esteemed as

among the best. These lenses are distributed in the United States by Geo. Murphy, Inc., of 57 E. Ninth St., New York City and are made by Ross, Ltd., Clapham Common, London, S.W. 4, England. The Xpres lenses are the fast type of this make and are made in four speeds. The



DIAGRAMS ILLUSTRATING MR. SHIPMAN'S ACCOMPANYING ARTICLE.

F/1.9, the fastest of these is made only in short focal lengths for motion picture work, for which purpose the F/2.9 and F/3.5 in short focal lengths are also very good. The F/2.9 is made in focal lengths from 1" to 10", covering plates $\frac{1}{2}$ " x $\frac{3}{4}$ " to $4\frac{3}{4}$ " x $6\frac{1}{2}$ " which is the English "half plate" size. This lens is suitable for reflex cameras for all work under adverse conditions of lighting. The definition, even at the large opening, is very good. Of course it is advisable to use a slower lens unless conditions indicate otherwise. Everyone should have a fast lens if all conditions must be met. The depth of field of the very rapid lenses is small but they often mean a picture that could not otherwise be had. In fact a lens of short focal length, at a reasonable distance, used at large opening will show as good depth as a long focus lens at the same distance with a much smaller opening. When the small picture is enlarged it retains its depth of field and will give a large picture superior to that of the large lens, which, under these conditions, could produce only a badly underexposed negative. In many places flash light is not allowed and the extremely fast lens is the only means of obtaining any result. The very fast lens used with the new ultra speed plates means successful pictures.

The Xpres F/3.5 is made in focal lengths from $1\frac{1}{2}$ " to 10", covering plates

from $\frac{3}{4}$ " x 1" to $4\frac{3}{4}$ " x $6\frac{1}{2}$ ". This is a fine portrait lens for use on small plates in home portrait work and child photography. The Xpres lenses are very free from flare and give clean negatives, thus being suitable for press, athletics, indoor and other forms of photography requiring speed. The F/4.5 is made to cover plates $1\frac{3}{4}$ " x $2\frac{1}{2}$ " to 10x12 with focal lengths from 3" to 21". This of course is the better all around lens for speed work under ordinary good conditions, and is the speed that would be chosen for use on reflex cameras, hand cameras, sport cameras and for portraiture in the home and studio where the lighting is satisfactory. The large opening gives better roundness and the short exposure avoids risk of motion of the subject. Note that the F/2.9 is constructed with a separated front element and cemented rear, like the Tessar. The F/3.5 and F/4.5 have the same general style of construction except that the cemented rear element is made of three sections, one negative and two positive. The F/1.9 is symmetrical, both elements being separated, with one section of a cemented negative and positive. None of these lenses can be used except as complete lenses.

The Xpres Wide Angle F/4 is extremely fast for a lens covering 80° and is very fine for interiors as the F/4 speed allows easy focus in the dim light. The focal lengths are from 5" to 20" for plates 4x5

to 18x22. The field is flat and well defined over the plate for which the lens is listed. The large aperture makes this a lens to be desired when extreme wide angle is not necessary. It is as fast as the old style portrait lenses, but due to its wide circle of illumination there is a chance of reflection from the bellows when using it for narrow angle work. Thus for such work a narrow angle lens is preferable.

The Combinable F/5.5 is like the Protars Ser. 7 and 7A of Zeiss as different focal lengths may be combined, two elements thus giving three foci since each element is corrected for use alone. The elements are from 7" to 36" focus and the combinations from 4" to 21" at speeds of F/5.5 when the two elements are alike and F/5.7, F/5.9, F/6 or F/6.3 when they are different. It will be noted that these, single, are of F/11 speed making them fast enough for snaps in good light. The size of the barrel or shutter is, of course, large enough for the largest element, the others being mounted in reducing rings. The longer focus is always to be used in front and a single element always back of the barrel or shutter when used alone. The single lenses give brilliant negatives, and, as they are usually used over only a part of their light circle, are quite rectilinear. The combined lenses are of very good speed, and fine definition. Having only four glass to air surfaces the negatives are brilliant. The Combinable may be had in sets of four elements giving nine focal lengths in one set. Such a set will answer for about every purpose except high speed work. One such set covers $4\frac{3}{4} \times 6\frac{1}{2}$, the

other $6\frac{1}{2} \times 8\frac{1}{2}$. There is also a set of three elements for $3\frac{1}{4} \times 4\frac{1}{4}$.

The Teleros F/5.5 is a telephoto lens of two magnifications, that is it requires only one-half the bellows a regular lens of the same focus would require. Thus the 12" lens requires only $5\frac{7}{8}$ " from back of rear element to plate. The focal lengths range from $6\frac{1}{4}$ " to 40", the last being of F/8 speed. They cover plates from $1\frac{3}{4} \times 2\frac{5}{16}$ to $6\frac{1}{2} \times 8\frac{1}{2}$. There is also a Teleros of three magnifications, F/6.3. Thus the 13" needs only $4\frac{5}{8}$ " from back cell to plate. The focal lengths are 9", 13", 17" and 25" for plates $1\frac{3}{4} \times 2\frac{1}{2}$ to $4\frac{3}{4} \times 6\frac{1}{2}$.

These Teleros lenses are a boon to the reflex worker in athletics or natural history photography. They are fine for portraiture but in this case the additional bellows length needed is the same as for other lens of the same focus. For the press photographer they are extremely useful in obtaining pictures of events that must be taken at a distance.

Ross also makes the Homocentric lenses F/5.6, F/6.3, F/6.8 and F/8. These are general purpose lenses of excellent quality. There are also a Wide Angle F/16 and Expres Process lenses, regular and apochromatic of speeds F/9, F/10 and F/16. The apochromatic lens is especially made for three color work.

Ross also make a portrait lens F/3.5 of the Petzval Type. These are 8 $\frac{1}{4}$ ", 10", 12" and 16" focus and like any well-made Petzval, are fine portrait lenses giving fine central definition and roundness although the field is, of course, quite curved.