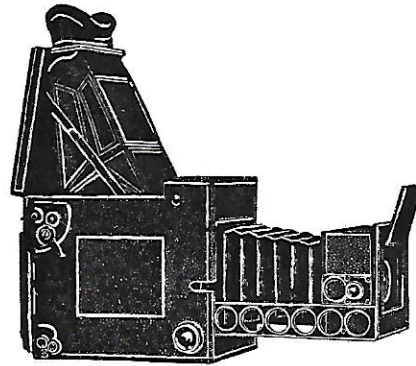


GRAFLEX HISTORIC QUARTERLY



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FEATURES

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Development, Dominance, Decline and Disappearance of the Large Press Camera - The 4x5 Graphic

Part 1

By T.T. Holden

Never underestimate the power of an interest in a hobby. Certainly, this was true of George Eastman's role in the development of photography. Similarly, in New York City, in the 1880s, such an interest must have prompted the manufacturer of Sterling bicycles and Crown gas fixtures to handle cameras on the side and send out "bargain lists" of cameras of all types, new and used.

By the 1890s, it appears that The Folmer & Schwing Mfg. Co. was manufacturing, as well as handling, a wide variety of cameras, as one of a multitude of camera manufacturers in New York City, Rochester, and elsewhere. These were made in a number of styles and sizes, all large and by today's standards, quite clumsy. The early Folmer & Schwing camera catalogs list cameras apparently made by other firms, and records were found indicating that the company made cameras for other firms, including Anthony and Scoville (the forerunner of Ansco).

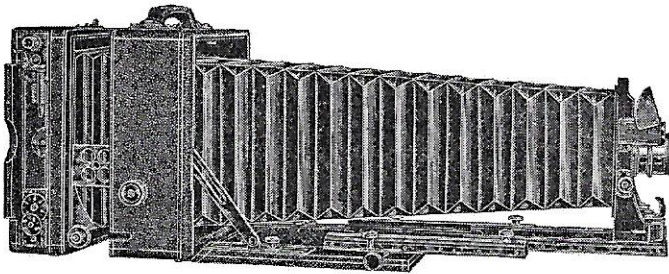
Among the cameras listed by Folmer & Schwing were some folding models quite common at the time, but their cameras bore the imaginative name of "Graphic." They were made in sizes from 4x5 to 8x10, all using glass plates, of course. A 3½x4¼ Cycle Graphic Sr. was listed in the 1898 catalog but was only one of two cameras in this smaller size. Although these cameras were intended to be used primarily on a tripod, they were considered suitable for hand-held use by virtue of a small brilliant viewfinder and a focusing scale mounted on the bed. Considering the speed of lenses and emulsions available, these cameras were limited to the photographing of more or less stationary subjects. According to W.F. Folmer, this limitation led to the development of the Graflex camera, announced in 1902. This camera had certain characteristics intended to appeal to those interested in action pictures. The reflex principle allowed the subject to be seen right-side up and full-size right up to the moment of actual exposure. This insured proper focus and composition and more important, the possible use of shutter speeds as fast as 1/1000 second; although one questions whether any exposures were actually made at that speed, because of the slow emulsions and slow lenses of the time.

In 1902 when the first eight-page "catalog" appeared with three Graflex camera models, including a stereo camera, there was also listed a "focal plane shutter assembly," which could be attached to the back of the many standard design shutter-less cameras. This was to be fitted to the camera body in front of the focusing screen assembly, and provision was made for inserting a plate holder for the exposure. The general catalog put out at that time by The Folmer & Schwing Mfg. Co. carried a complete line of everything the active photographer would need. It was a general catalog of a "stock house" selling everything photographic. As such, the separate focal plane shutter assembly was "lost in the shuffle."

However, in 1904 The Folmer & Schwing Mfg. Co. issued a catalog devoted solely to its make of cameras and major accessories, such as holders, stands, tripods, carrying cases and, of course, the focal plane shutter assembly. At that time, woodcuts were made to show how the cameras looked. Listed for some of the more versatile Cycle Graphic cameras was the focal plane shutter assembly. It was even shown as part of one of the cameras, and listed separately.

Reversible Back Cycle Graphic Special

Folmer's Patent, June 21, 1904



Note: The word "Cycle" referred to the idea that the camera was light enough and thin enough to allow its being carried in its carrying case on the cross bar of a bicycle, then a popular mode of personal transportation.

The Graflex was intended to be hand-held, and alone among the few reflex cameras of the time, required only the release of the mirror which then tripped the shutter, automatically, thence the name "Auto Graflex."

In 1907 the 5x7 Press Graflex was introduced. This had a special focal plane shutter with a top speed of 1/1500 second. It also had a special type of back which allowed use of the studio type "lock rib" holder which could be easily and quickly slipped into and out of the back of the camera. This was unlike the back on other Graflex cameras then available, which held the holder by means of a retaining strip at the bottom and a slide lock at the top, slowing down the changing of holders for the making of more than one quick exposure, an important consideration for news photographers.

Possibly it should be pointed out here that, unlike today's cameras using a strip or roll of film containing many exposures, early cameras used holders holding one plate (or sheet of film) in each side. When the holder was attached to the camera, the protective dark slide over the plate was withdrawn, allowing the plate to be exposed when the shutter was tripped. The dark slide was then replaced, and

if another exposure was to be made, the holder was removed from the camera, turned over, refitted and the whole procedure (slide, exposure, etc.) repeated. This did allow for the immediate development of a given exposure without waiting until a particular number of exposures had been made. Since most emulsions were orthochromatic, and very slow, visual examination of the negative was the common practice during development, until the widespread use of faster panchromatic film made this impractical. Even so, "push" development of only one exposure was easy to accomplish. It should be noted that magazines holding 12 exposures were available, and these also allowed individual processing of any given exposure.

The extended line of Graflex and Graphic cameras continued to be made, and around 1907 there was again offered a separate focal plane shutter assembly, like that built into the Graflex cameras, but designed to be attached to the back of the Graphic cameras, in front of the ground glass focusing assembly, which accepted the plate holders.

The 1912 Graflex catalog included a brand new type of camera. It was a combination of the standard Graphic camera and the focal plane shutter, all in one compact body, and "The Speed Graphic," as it was called, made its appearance. It was offered in the 4x5, 3¼x5½ and 5x7 sizes. These cameras were of rather lightweight construction and had a small 3¼"- or 3¾"- square lensboard accepting lenses in barrel mount, since the focal plane shutter was used to make all exposures. In 1915 a 3¼x4¼ size was introduced. This was a very compact camera with a different design of focal plane shutter with a top speed of only 1/500. It weighed one pound less than the 4x5 model. It was accepted largely by the amateur, but by 1925 its popularity had decreased to the point that it was discontinued.

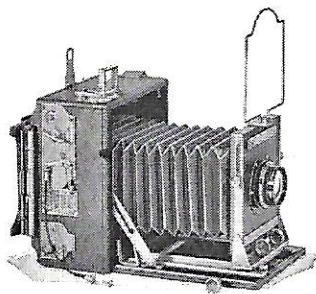
When the Speed Graphic first appeared, the smaller sizes were accepted rather slowly by the press photographers for a number of reasons, including the need to switch to a smaller negative size. Other reasons were the same as they are today, which cause slow acceptance of any new designs in today's professional camera market. Anything which requires a change in operating technique can be disastrous when photographing people at just the right instant, whether it is news, sports, children or wedding photography. However, because of the smaller size and easier handling, the 4x5 size soon became the standard for the working photographer, as well as many advanced amateurs. The 5x7 Press Graflex was discontinued in 1923.

It should be pointed out that during the 1920s and 1930s there were several national news services supplying pictures, and most cities had several

newspapers; and each had many photographers out looking for good pictures. Getting a "scoop," a story or picture ahead of the competition, was of prime importance. This meant that any advantage which a given photographer had in the way of equipment was of prime importance.

The popularity of the Speed Graphic for news photography was evident in a group shot of about 30 photographers covering the famous (or infamous) Lindberg baby trial in Flemington, New Jersey. Excepting newsreel photographers, every still photographer held his Speed Graphic equipped with a flash bulb synchronizer.

With such a crowd, not everyone had an unobstructed view of the subject, with those in back being blocked off. Someone discovered that quite satisfactory results could be obtained at a closer distance if a 135mm (5¼") Zeiss Tessar f/4.5 lens were used instead of the traditional 6" or 6 3/8" lens. The advantage was lost as soon as all cameras were fitted with the shorter lens, but the reputation of this lens was firmly established.



1930 4x5
Speed Graphic

Over the years, changes in design and construction of the Speed Graphics were made. One such change was made around 1930 when the camera body was made a little stockier, allowing the use of a heavier front standard accepting a 4x4 lensboard, which opened up the possibility of using a lens-in-shutter as well as the focal plane shutter for making the exposure. The 1930 catalog prices listing included a 6 3/8" Kodak Anastigmat f/4.5 lens in a Compound shutter, in addition to the same lens-in-barrel mount. This shutter had a top speed of 1/200 second. In the 1931 Graflex Catalog Supplement - Lenses, it was stated that: "The Speed Graphic is, as its name implies, a camera intended for speed work. The Speed Graphic is a favorite with news photographers generally, and is for use under most varying conditions. It satisfies the element of haste in picture taking. If desired it is equipped with a between-the-lens shutter as an auxiliary to the Graflex Focal Plane Shutter. Through this combination the twenty-four speeds of the Graflex Focal Plane Shutter are augmented by slower instantaneous shutter speeds up to a full second. Lenses of f3.5 and f4.5, depending upon

the need of the user, are normally used in connection therewith." Nine lenses were available in shutters.

The 1933 catalog stated, "The lens mounting is constructed to accommodate a between-the-lens shutter as an auxiliary to the recognized GRAFLEX focal plane shutter," and the Price List included a variety of lenses in the newer Compur shutter with a top speed of 1/400. The Compur shutter readily accepted the flash bulb synchronizers, which had appeared in order to allow use of the newly popular flash bulbs. This really revolutionized press photography since pictures now could be made indoors and at night, as well as during the daytime.

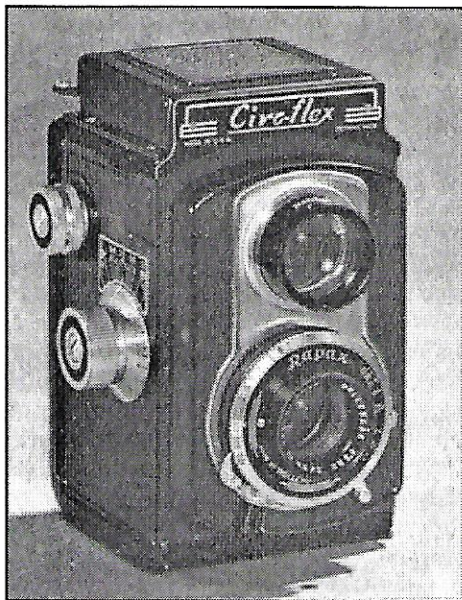
Unfortunately, the focal plane shutter slit opening traveling down across the large film area took too long to permit its use with flash bulbs, which had a very short duration of flash. Hence, these bulbs had to be used with the front shutter, which exposed the entire film area at the same time.

Some of the early synchronizers were rather crude and were assembled from whatever parts could be found. Indeed, the early Mendelsohn Speedgun battery cases had the name "Everready" stamped into the bottom cap. The widely available and most popular synchronizers were made by Mendelsohn and Kalart. Graflex did not include these useful new accessories in the price Supplement, although, in late 1936, the price Supplement did include a carrying case (Graflex-made, of course) designed "to accept the camera, a quantity of flash bulbs, and a synchronizer, which includes a battery case and reflector."

In 1935 Graflex reintroduced the 3¼x4¼, constructed like the 4x5, but a little smaller and fitted with a 3¼"-square lensboard, which would accept lenses in a Compur shutter. It was offered with a Leitz Fokos range finder as an accessory and attachable to the top of the camera body. Price of the rangefinder with mount - \$10. It was added to the listing for the 4x5 Speed Graphic at the end of 1936. While the 3¼x4¼ Speed Graphic was an immediate favorite for the advanced amateur, few newspapers adopted this size of film.

In February 1938, Graflex listed a "coupled rangefinder, installed - \$27.50." This was the Kalart rangefinder, which despite the appearance of a few other rangefinders, soon became the standard accessory for all Speed Graphics.

Note: The information contained here has been taken from early catalogs and documents supplemented by the writer's own personal knowledge, beginning in 1935.



Ciro-flex to Graflex "22"

By William E. Inman, Sr.

In 1951 Graflex acquired the Giro-flex 120 camera and the Giro 35mm camera from Giro Cameras Inc. of Delaware, Ohio. Graflex didn't buy the company, as many think. They just purchased the tools and dies and the right to manufacture the cameras.

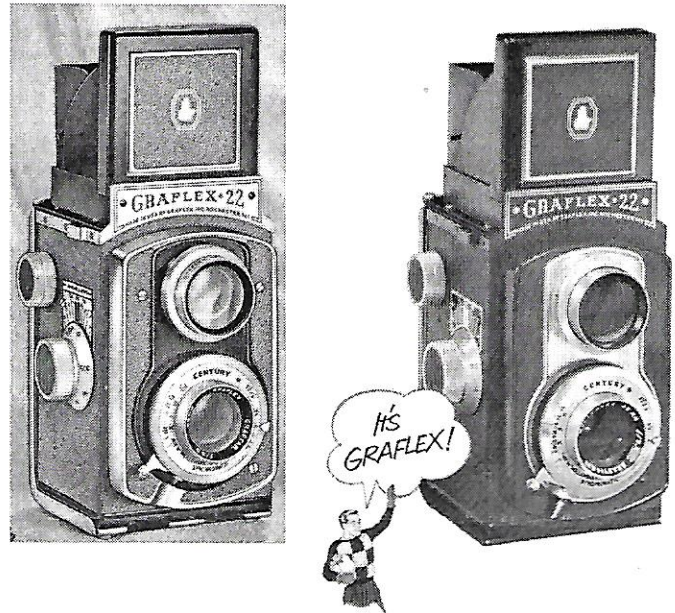
Patented in 1950 (no. 2495355), the Giro-flex was a 120 twin-lens reflex camera, with a 2¼" square image, and 12 exposures. The camera was a well-built, sturdy camera. One owner dropped his Giro-flex camera from an 8th-floor window without appreciable damage. Giro, like Graflex, felt quality and precision were a "must."

The Giro-flex contained nearly 150 parts and was made of steel, aluminum, rubber, fiber and glass. Giro manufactured five models: B, C, D, E, and F. Wollensak supplied all the lenses and shutters. Models B, C, D, and E came with an 85mm f3.5 lens, while Model F came with an 83mm f3.2 lens. Shutters were Alphax and Rapax. Models B and C came with non-sync shutters, while Models D and E came with M-F sync shutters. The Model F came with a Rapax full-sync M-F-X shutter and was the deluxe model.

There was nothing automatic about these cameras. The film advance was a manual knob on the right side. You advanced the film for each exposure by watching for the exposure number visible through the red window on the back of the camera. The camera hood had a fold-down magnifier for more critical focusing, and the front panel of the hood could be folded down for a sports finder. The flash outlet was a standard Kodak bayonet connector. The covering on the cameras was black with some chrome on the front.

During 1951, while Graflex was setting up the production in Rochester, N. Y., they sold off the balance of the Giro-flex camera inventory.

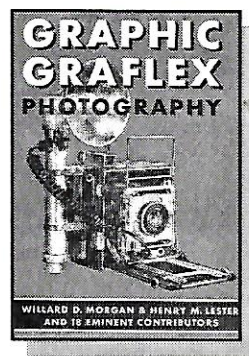
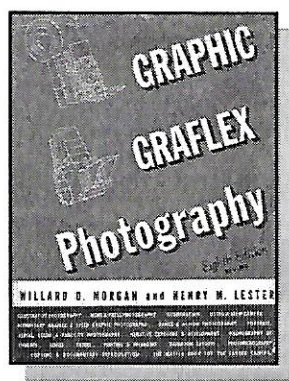
1952 saw the introduction of the Graflex "22" twin-lens 120 camera replacing the Giro-flex camera. Graflex introduced three models, the 200, 400, and 400F. The Graflex "22" retained the features of the Giro-flex camera but underwent some internal and cosmetic changes. An Ektalite field lens was added to the viewing screen. The cameras had a "Silver Gray" or a



black leather covering and were trimmed in black. Later models were given a chrome trim. The Model 200 has an 85mm coated color-corrected Graflar f3.5 lens in a Century (Alphax) M-F-X shutter, with speeds from 1/10 to 1/200. Model 400 had a Graflar f3.5 lens in Graphex (Rapax) M-F-X shutter, while the Model 400F had a Graflex Optar f3.2 lens in a Graphex full sync M-F-X (Rapax) shutter. The Kodak bayonet sync outlet on the Giro-flex was replaced on the Graflex "22" with a shoe contact to accommodate the Graflash PL and BC units. The #2723 Unicord was needed for other flash units. It's very hard to find a good one.

The Giro-flex cameras were discontinued in 1952. The Graflex "22" Model 400F was the deluxe model and was discontinued in 1954, due to lack of sales. I would put this camera on the rare list, as it took me five years to find one for my collection. Models 200 and 400 were discontinued in 1956.

Books: Photography with the Graflex 22, hardbound, 128 pages, Morgan & Lester, publisher; Photography with the Giro-flex, softbound, 132 pages, Photo Imex, Inc., publisher.



GRAPHIC GRAFLEX PHOTOGRAPHY

The Master Book for the Larger Camera

| Edition (1) | Printing | Month/ Year | Contributors (2) | Chapters (3) | Pages (4) | Binder Color (5) |
|---------------------|---------------------|----------------|---------------------|-----------------|--------------|---------------------|
| 1 st | | Jan 1940 | 21 | 26 | 408 | Tan |
| 2 nd | | May 1940 | 25 | 27 | 416 | Tan |
| 3 rd | | May 1941 | 27 | 29 | 431 | Tan |
| 4 th | | Jan 1942 | 27 | 29 | 434 | Gray |
| 5 th | | Jan 1943 | 27 | 29 | 436 | Gray |
| 6 th | | Mar 1944 | 27 | 29 | 434 | Orange |
| 7 th | 1 st | Nov 1944 | 27 | 29 | 436 | Orange |
| 7 th | 2 nd | Jun 1945 | 27 | 29 | 438 | Orange |
| 7 th | 3 rd | Jan 1946 | 27 | 29 | 438 | Orange |
| 8 th | 1 st | Jun 1947 | 34 | 30 | 446 | Tan |
| 8 th | 2 nd | Jan 1948 | 34 | 30 | 442 | Gray |
| 8 th | 3 rd | Oct 1948 | 34 | 30 | 446 | Gray |
| 8 th | 4 th (6) | Oct 1950 | 34 | 30 | 446 | Gray |
| 9 th (7) | | Jul 1952 | 29 | 28 | 414 | Green |
| 10 th | | Jan 1954 | 20 | 20 | 424 | Tan |
| 10 th | Supplement | 1955 | 1 | 5 | 16 | |
| 11 th | | Sep 1958 | 15 | 18 | 256 | Black |

- (1) Editions 1 through 7 cover the 3¼x4¼ and 4x5 Anniversary Speed Graphic, the 2¼x3¼ Miniature Speed Graphic, and the earlier Graflex cameras and accessories. Editions 8 through 10 include the 2¼x3¼, 3¼x4¼, and 4x5 Pacemaker Speed and Crown Graphics, and the Super D Graflex and newer accessories. Edition 11 includes the Super Graphic and all the smaller amateur cameras.
- (2) In some instances, contributors wrote more than one chapter.
- (3) The 2nd Edition added one chapter. The 3rd Edition added two chapters. The 8th Edition revised 10 chapters. The 9th Edition dropped three chapters and added one new chapter. The 10th and 11th Editions have all new chapters. The chapter count includes the Graflex "Catalog Section."
- (4) The page count includes pages not numbered.
- (5) Editions 1 through 10 came with a red, white and blue paper jacket - Morgan & Lester, publisher. Edition 11 came with a black paper jacket with yellow letters - Morgan & Morgan, publisher. All editions used Graflex catalog number 5625.
- (6) An exact duplicate of this edition was published by the military as: "Educational Manual, Reprinted for The United States Armed Forces Institute, MA 875." It has a tan soft cover. (Reprints are not available from the U.S. Government.)
- (7) Because of continuing interest in photography with the large camera, in 1971 a facsimile printing of this edition was made from the original plates which were then in existence. It was published by Morgan & Morgan.

Book size and weight: Editions 1 through 9 - 7¾"x10¼"x1"; 2 lbs., 8 oz.
 Edition 10 - 6¼"x8¾"x1"; 2 lbs., 1 oz.
 Edition 11 - 7¾"x10¼"x½"; 1 lb., 6 oz.

Material for this chart was supplied courtesy of subscriber, William Inman, with additions by Tim Holden.

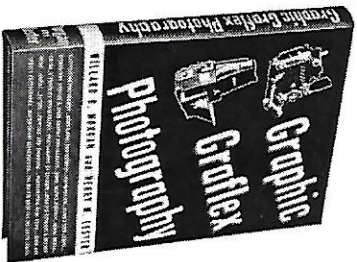
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17. Aerial Photography.
18. News and Press Photography.
19. Special Cameras.
20. Reader Interest in News Pictures.
21. Synchronized Flash Photography.
22. Science Photography.
23. Photomicrography with the Graflex.
24. Photography of Children.
25. The Photographic Darkroom.
26. Graflex and Speed Graphic Equipment and Its Operation.
27. Facts and Data Reference Section.
28. Index . . . Catalog Section.

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161-504-1130

Printed in U.S.A.

Lens Usage with Graflexes

By J.C. Welch


Part 4

One common trait among professionals in many fields is that, since they use equipment a great part of their time, they tend to modify their tools for more efficiency or better performance. Even from early times, it was fairly easy to change a Graflex's lens. The cameras have a wide range of focus, and the image was viewed on ground glass. This was true of both folding press models and SLRs. Later when rangefinder models became popular, ground glass was still included so various lenses could be used.

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The introduction of a new type of high-speed lens

F: 4.5



F: 4.5

U. S. PATENT APPLIED FOR

THE

GOERZ DOGMAR ANASTIGMAT

DOGMAR F: 4.5 This new Goerz Lens is a convertible anastigmat consisting of two pairs of uncemented glasses. The two combinations, which can be used separately at the smaller stops, are of different focal length, offering the advantage of three focal lengths in one lens. The available focal lengths are in the following ratio—Double Combination, 100; Back Combination, 158; Front Combination, 192. The extreme speed of F: 4.5 can seldom be attained in a lens without a serious sacrifice of covering power; but in the DOGMAR the corrections are so thorough that its negatives show remarkably fine definition to the corners of the plates for which the various focal lengths are recommended. In the DOGMAR our mathematicians have also succeeded in correcting almost completely the troublesome phenomenon known as *coma*, generally present in high-speed anastigmats and responsible for the tendency of many fast lenses to produce flat or fogged negatives.

Owing to the practical elimination of coma, the DOGMAR—even when used wide open—affords images of sparkling brilliancy.

The lens is equally free from flare; and, although of unsymmetrical design, there is no distortion of lines over the listed sizes of plates. For a lens of its speed, the DOGMAR is very compact and it can be used to advantage on hand and reflecting cameras. The combinations are placed very close together, assuring even illumination over the whole plate. Each combination, used separately, makes an ideal lens for landscapes and artistic portraiture.

Figure 1.

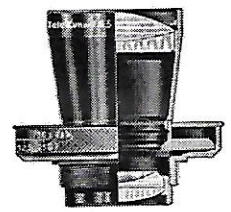
Over the years, I have seen some pretty bizarre lenses attached to Graflex products, especially the versatile Speed Graphic. Many seem to be choices of convenience, and some completely unfathomable, but a few have stood out as being wise selections. My favorite for SLRs is the Goerz Dogmar (Figure 1.). Perhaps saddled with an unglamorous choice of names, the lens was their successor to the Celor. That is, it was designed to be a (comparatively) fast lens, yet well-corrected wide open. I had a 7½" f4.5 barrel version that looked from the side just like the B&L Tessar I replaced with it. The camera I mounted it on, a 3¼x4¼ R.B. Auto, still folded up with the lens on it. Goerz glass ages well, and it was a great performer. I made sure I used a lens hood on the uncoated glass.

The 4x5 R.B. Series D, sometimes overlooked for its "Super" version, is one of the better SLRs to take out and use. The lensboard and opening would, in fact, accommodate one of several f2.9 lenses, putting "D" owners up there with the "C" speed de-

mons. There are several 8" Plaubel f2.9 versions, and one has a specially redesigned mount to let the R.B. Series D's mirror swing completely up. However, that lens is fairly scarce. More common is the Dallmeyer 8" f2.9 Pentac. This lens can also be found in its military version, which has no maker's name, only the British military arrowhead symbol.

Also from Dallmeyer (and Ross) came various light-weight telephotos that fit quite well on Graflex cameras. I have seen them in barrel and shutter, and often for quite a reasonable price. These are quality British optics. Another group of fine teles was made by Schneider, including a 360mm Tele-Xenar (Figure 2.) that is much lighter than the Wollensak 15", yet only a bit shorter in focal length. Again, this lens is found in both barrel and shutter, although uncoated versions are more common. Later Schneider Tele-Artons are also fine for the family of Speeds.

Schneider Tele-Xenar f: 5.5



Schneider Tele-Xenar f:5.5 in Compur shutter

The **Tele-Xenar** is of the fixed magnification type, beautifully corrected over a large field and with a speed which makes practical its extensive use, even under bad light conditions.

The press man can use it for baseball and football and tennis shots at a distance. The amateur will find it a wonderful lens, for snapshots, where subjects are unaware of picture taking. The naturalist and bird photographer who cannot get close up can secure remarkable shots. One of its novel features is its use as a portrait lens giving long focus perspective on a short bellows camera.

The **Tele-Xenar** cells will interchange with the regular **Xenar** of the same approximate extension. Simply unscrew the cells and replace them by **Tele-Xenar**. The picture obtained is twice as big in linear size, and you expose just like any other anastigmat. Supplied in special half-sunk mount for Graflex-cameras. The 11¾" **Tele-Xenar f: 5.5** in half-sunk mount is suitable for 3" x 4" Graflex-cameras. The 14¼" size for the 4 x 5" size.

Schneider Tele-Xenar f: 5.5

| Equivalent Focal Length | Xenar 3.5 | Xenar 3.8 | Xenar 4.5 | | Size of shutter | Exterior diam. of shutter |
|-------------------------|-----------|------------------|-------------|------------------|-----------------|---------------------------|
| | | | Isconar 4.5 | Radianor 4.5 | | |
| 180 | 7½ | 75 mm | 105 mm | 105 mm 120 mm | O 5 | 2½/32 |
| 240 | 9½ | 105 mm 120 mm | 135 mm | 135 mm | 15 | 2½/16 |
| 270 | 10¾ | 135 mm 150 mm | | 150 mm 165 mm | II 4/2 & II/5 | 3½/16 |
| 300 | 11¾ | | | 180 mm | II 6/2 | 3½/8 |
| 360 | 14¼ | 165 mm | | 195 mm 210 mm | III/7 | 3½/8 |

Figure 2.

Schneider also made a 500mm Tele-Xenar that is not common, but pretty long in its reach. Like all true telephotos, it will focus at infinity at well less than its focal length, and will fit on a Pacemaker 4x5 with a little help. An extension lensboard (You'll have to construct it.) helps, as well as a physical support - it's a heavy piece. I have seen this lens in only shutter and coated.

COOKE-TELAR LENSES

USED WITH GRAFLEX AND OTHER CAMERAS TO OBTAIN LARGE IMAGES OF DISTANT OBJECTS

The Cooke-Telar is a compact high-speed lens of long focus requiring only a short bellows extension. Complete in itself, it gives magnified images of far distant objects, but without the drawbacks of shaky camera extensions and telescopic attachments.

It is not an anastigmat, and we prefer to say so frankly rather than risk the disappointment of our customers. It is, however, an exceedingly useful addition to one's equipment, and when stopped, say to F/16, its definition and depth of focus can disappoint no one who reads the above.

The larger stops may be used for emergencies and in dull lights, but naturally at the cost of sharpness and depth. Greater care will, moreover, be needed in focussing. The Cooke-Telar, with an aperture of F/7, works nearly three times faster than do the single elements of other lenses. It requires the same bellows extension as an ordinary lens, yet its image is approximately twice as large.

It is used both for time and instantaneous exposures of scenes which any other lens would render too small. The press photographer who wishes, unobserved, to obtain with his Graflex, photographs of celebrities, can stand far away, and with the same bellows extension, secure an image of the same size as with a normal lens used close at hand.

At twice the distance his image is nearly the same size as with the other lens. At the same distance, it is roughly twice the size. It is invaluable for pictures of birds and animals which would be frightened at close range, while for views of aeroplanes, athletic events, mountain scenery, and for all

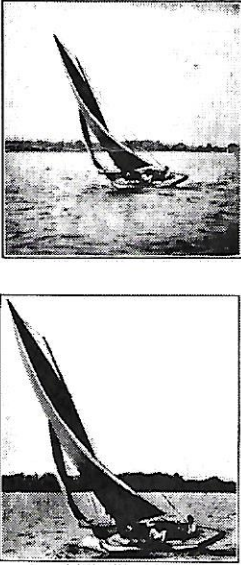


Figure 3.

A series of telephotos that is not common, but yet superb, is the Busch Telars, sometimes found marketed by Cooke (Figure 3.). Sixteen- and seventeen-inch and longer lenses are found that will infinity-focus on Graflexes. I mounted a 22" Telar on a 3¼x4¼ R.B. Auto, named it Little Bertha, and had a superb combination that was ¼ the weight or less of the famous Big Berthas. An amazing attribute of Telars is their coverage: much wider than later telephotos. The aforementioned 22" would cover a 14"x17" ground glass, similar to a 22" NON-telephoto, yet it required about 12" to focus to infinity.

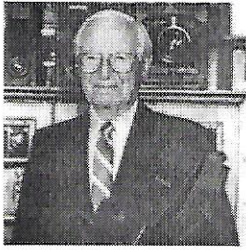
An unusually fast lens that fits the Pre-Anniversary 4x5 is the Kodak 6½" f2.7 Aero-Ektar. A huge piece of glass, the rear cell will just fit into the camera's front standard, but only after the user installs the empty lensboard first. Existing only in barrel, it of course needs the Speed's back shutter. A problem with these coated lenses is that they didn't come with flanges - they screwed directly into the original aerial camera's body. I once had a machinist make a narrow brass flange just for this application. It presents an unbelievable sight when mounted, and is as sharp as you might expect. Incidentally, some examples of the lens from the 1950s are mildly radioactive, providing more conversation than danger.

Another great choice for SLRs is one of the various small portrait lenses in barrel. They will lighten a buyer's wallet much less than one in shutter, and are fast (f6 or so) and bring the user into the wonderful world of large format portraiture. An example is the Wollensak 4x5 Verito, an ordinary looking optic, but which when used wide open, will soften a grandmother's wrinkles. I used a Busch Portrait Aplanat on the 3¼x4¼ R.B. Auto and took some of my best people images with it.

Graflex SLRs have never been wide-angle friendly, but it is possible to do quite well with Crown Graphics. A classic adaptation is the 65mm Schneider Super Angulon, which covers 4x5 if you don't reach for the front rise knob. It becomes an extreme wide angle with this format. I used one with a slightly recessed lensboard setup, but other users have said they did it with an ordinary Pacemaker board. The 75mm Super Angulon is easier and covers 4x5 with movements. Non-Super Angulons of these focal lengths won't cover 4x5, incidentally. But the 65mm Angulon is a fine choice for Century or 2¼x3¼ Pacemakers. Likewise, the 90mm Angulon is a natural for all the 4x5 Speed models and fits without fuss. Other later lenses that are commonly used on Pacemakers are the Schneider Symmars, with the 135mm, 150mm, 180mm, and 210mm fitting the 4x5 Graphics easily. They're all very nice optics.

Some users have opted for a convertible Symmar, but I do not recommend them, except if you pretend they are a single focal length. Not only will most of the single, converted cells not focus at infinity (They are NOT telephotos.), but also I have found performance to be weak when divested of half their glass. Classic convertibles of the past, such as the Zeiss Protar Series VII, would be welcome on a Graphic, but all versions of this camera lack the bellows extension to utilize the longer single-cell focal lengths of most combinations.

These are just a few options for upgrading a Graflex. I have not begun to list them all, such as Nikors, Fujinons, and more, so if you have a favorite, let the readers of the Quarterly know.



Ask Tim Holden....

The history of Graflex is a story of strong personalities, starting with William Folmer. After his tenure, the Whitakers (father and son) and

"Hod" Schumacher joined the company. Could you tell us under what circumstances the Whitakers and Schumacher each came to the company, their importance to Graflex, and some stories about each person?

I don't know much about William F. Folmer or William E. Schwing. They were manufacturers of gas fixtures and bicycles in New York City, and, eventually, Folmer got interested in cameras and started handling used equipment. Folmer was the only man who was in charge of a company which was bought out by George Eastman and who was left in charge of that company. Eastman changed the leadership of every other camera company that he bought out.

However, in 1926, when the Folmer Manufacturing Company was spun off as a result of the court action order, Folmer and another gentleman ran the company for a while. But in the meantime, it apparently went downhill financially and had been bankrolled, so to speak, by bankers in New York City, who contacted Nelson L. (N.L.) Whitaker. The upshot of it was that in 1928, N. L. Whitaker bought the company, being the principle stockholder. There were a few other minor stockholders, mostly friends and relatives of N. L. Whitaker. He was a very fine man. He was a banker in Fulton, New York, and also ran an insurance company there. At one time, he spent a year or two investigating the status of the Hunter Arms Company, which made rifles. That company was also located in Fulton. I believe it was owned or had come into the possession of his wife, Mrs. N. L. Whitaker. She was a lovely lady, so I understand, and was the mother of Gaylord C. (G.C.) Whitaker. While N. L. Whitaker knew absolutely nothing about photography, he did know people. He knew how to question them and determine how much they knew. If he got rather equivocal answers, he just blew his top. I had to answer him directly either "yes" or "no," even if I took the position that I didn't care for a particular camera or feature, but I knew that the market would or would not take it. Some other people there had the misfortune of giving their personal preferences and assuming that the market would follow them. N. L. knew that wasn't so and really let them have it. N. L. joined the company in 1928, and his son graduated from Wesleyan in 1931 or 1932. G. C. was sent over to Kodak and

placed in the training program which Kodak had for outstanding college graduates who Kodak hoped would benefit the company. Among those was Howard A. Schumacher, known more familiarly as "Hod." All those people were brought into Kodak, given a brief review of photography, and then sent out to work in the Eastman Kodak stores, the big retail outfits which were a part of Kodak. I don't know too much about the time-frame during which G. C. Whitaker officially became part of Folmer Graflex, as it was known, and when Hod Schumacher came along, but it was shortly thereafter. They were both installed at Graflex when I came on the scene in 1935. They were good friends, and Hod was certainly a "ball of fire." Without N. L. Whitaker and Hod Schumacher, Graflex never would have made the grade. They both understood the value of promotion.

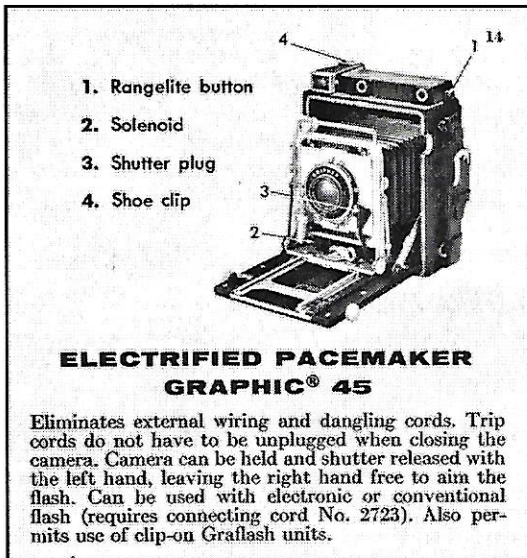
Ultimately, Hod became vice president of sales and advertising. G. C. Whitaker had various positions, mostly in charge of engineering, although he knew absolutely nothing about it. But I can tell you that if he didn't know how something worked or the reason behind it, he was a bugger for finding out details. He asked questions until he finally got enough information from people so he knew what they were talking about. Hod was a member of Phi Beta Kappa and also Kappa Beta Phi, which was the "honorary" drinking fraternity. He was a graduate of Iowa State University. One summer he played saxophone on a cruise ship to South America. Another summer he raced cars on dirt tracks in Iowa. I've forgotten some of the other stunts he did, but he had to work during the summer to earn money, and he knew how to do it, always with some flair. Hod was a very ambitious man, and nothing, including family, stood in the way of his giving attention to Graflex. As far as I was concerned, that was where our ways parted, since my family was more important than the company. But Hod would spend all Saturday morning in the office and then go out to play golf in the afternoon.

During the time you worked for Graflex, how were the company's relations with Kodak? In other words, was their ownership good for Graflex, and how were relations with them after the breakup?

Relations were excellent. Even after Kodak stopped advertising for Graflex products over the name of Eastman Kodak stores, people, including those at Kodak, believed Graflex was part of Kodak. Kodak continued to receive inquiries about Graflex products, and I worked closely with the men who became my very good friends. There was a direct phone line between the Kodak office and Graflex.

Graflex Historic Quarterly

The Quarterly is dedicated to enriching the study of the Graflex company, its history, and products. It is published by and for hobbyists, and is not a for-profit publication. Other photographic groups may reprint material provided credit is given GHQ and the author. We would appreciate a copy of the reprint.



HINTS AND AIDS FROM SALES SERVICE

What can you tell me about the Electrified Pacemaker Graphics? Bill Inman responds:

The May 1956 issue of the Graflex Trade Notes announced the 4x5 Electrified Speed and Crown Graphics, Catalog Nos. SFE-93 and CFE-93 (\$381.50 and \$325.50). They were the cameras with the Graphic Rangefinder on top of the camera box. With the solenoid wired to the red Rangelite button, this voided the Rangelite feature. There was a hot shoe fitted to the top of the viewfinder, which allowed the photographer to use the Graflash B-C for flash bulbs, or with the Graflex Unicord to the Stroboflash or conventional lamp head, that would be mounted on a three-cell Graflite battery case.

Visually, the hot shoe is one way to identify these cameras. Also, you need to look for the cord that runs from the inside of the camera to the solenoid and the cord that runs from the sync shutter (ASA double post contacts) through the camera to the hot shoe. In other words, two permanently installed cords. Sometimes dead shoes are fitted to the top of the Graphic rangefinder, usually in the top center, while on the Electrified Graphic, the hot shoe is fitted over the optical viewfinder toward the back, according to the picture in the 1957 catalog. They came with a 135mm f4.5 Optar in a Graphex fully synchronized shutter.

These models were produced starting in 1956 and were discontinued in 1958 with the introduction of the 4x5 Super Graphic. They were more expensive than the regular 4x5 Pacemaker Speed and Crown Graphics and are probably fairly rare.



In recognition of his enthusiastic support of the Quarterly and the study of Graflex, William E. Inman, Sr. is appointed Contributing Editor of the Graflex Historic Quarterly.

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