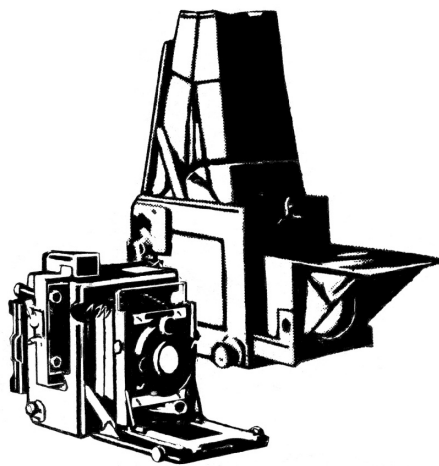


GRAFLEX HISTORIC QUARTERLY

Since 1996



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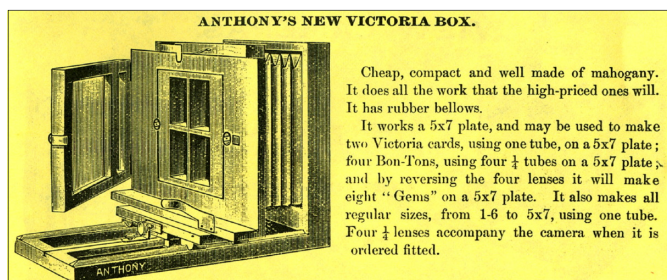
The Graflex Multiple Back

By

Thomas Evans and Ronn Tuttle

Before describing the Multiple Back in detail, we thought it would be interesting to highlight some early multiple image devices. From the earliest days of photography, devices were created to lower costs and speed up production by placing multiple images on wet plates, and later, on other supports. One of the first patented devices was an 1854 carte-de-visite camera that produced eight images on a single plate.¹ Multiple imaging was accomplished by the use of several lenses or moving the lens or the back, or both. A short-lived approach was the multiplying plate holder. The stereo, of course, was also a method of creating multiple images.

An early attempt at creating a multiple image was advertised in the 1888 W.D.Gatchell catalog issued in Louisville, Kentucky. Shown is Anthony's New Victoria Box, which was "Cheap, compact and well made. It works on a 5x7 plate and may be used to make two Victoria cards, using one tube; four Bon-Tons, using four ¼ tubes; and by reversing the four lenses, it will make eight 'Gems.' It also makes all regular sizes, from 1-6 to 5x7, using one tube."

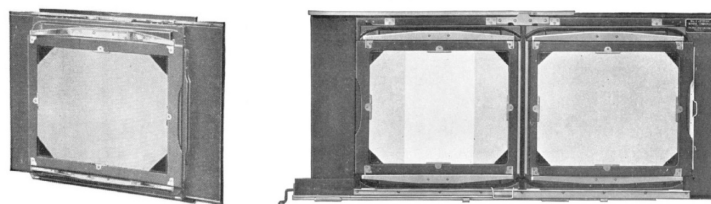


As changes in placing multiple images on film evolved, Thomas found a multiplying back using an interesting approach, which was patented in 1893 by Andrew Klay (of Bluffton, Ohio). Turning either knob works gears and racks inside that move the plate holder side to side or up and down, to position part of the plate where it could be exposed. Two "kits" or masks could be chosen for the desired number of images per plate. Without a kit, the operator could take two images on a 4½ x 6½-inch plate.



Now, to the Graflex cameras. When writing about Graflex cameras, catalogs are usually the best source of illustrations and specifications. Because these cameras were considered professional, they appeared in specialized catalogs of Graflex, Eastman Kodak, Eastman Kodak Stores, and some large dealers. Given the limited numbers of these catalogs available to the authors, production dates and other statistics are limited.

No. 1 and 2 Century Sliding Ground Glass Carriage

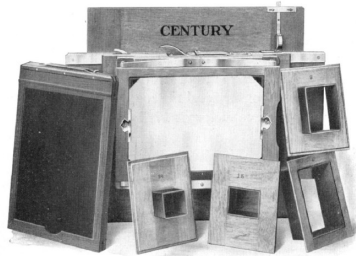


These backs were made to produce full size and "two-on" negatives (using removable "kits"). The No. 1 was made in 8x10 and 11x14 sizes (and other sizes at an extra charge) to fit No. 4A, 7A, 8A, 9A, and 10A studio cameras; and the No. 2 for the 5x7 and 8x10 sizes for 7A, 9A, 10A, and with an adapter frame, the 8A studio cameras. One ground glass was for focusing, and one

for making the exposure. For the No. 2, they claimed that "This precision super-back reduces the time interval between focus and exposure by 135%."

Multiplying Back

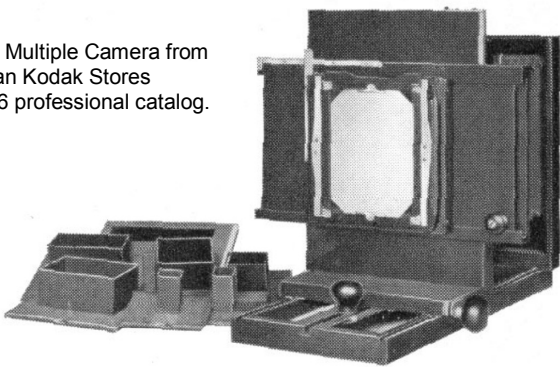
Century Multiplying Back from Eastman Kodak professional catalog, ca. 1912-1915.



Folmer Multiplying Back from Folmer Graflex professional catalog, 1928.

Because of the early use of the Century name, we believe it is reasonable to assume that it was a product first made by the Century Camera Company, acquired by Eastman Kodak in 1903. A comparison of the images suggests structural changes were made in the camera over time. Also, the name was changed from Century to Folmer, possibly around 1928, as the catalog for that year refers to "This new addition..." By 1937, the back was again called a "Century Multiplying Back."

Folmer Multiple Camera from Eastman Kodak Stores ca. 1936 professional catalog.



5x7 Folmer Multiple Camera

According to the catalog description, it was made for photographers who specialize in photographs for "chauffeurs' licenses, passports, and similar work." It used "kits" that could

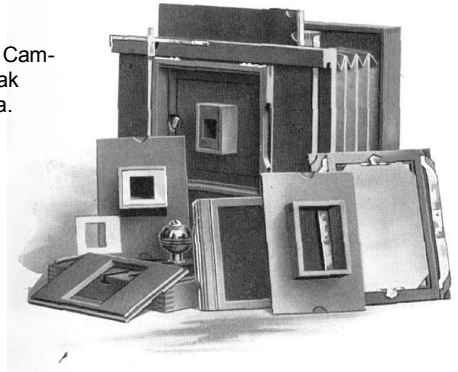
produce 1, 2, 4, 9, 16, or 20 horizontal or vertical negatives on a 5x7 sheet or plate. This camera was produced in dark-finished cherry and was priced (with an 8½ Kodak Anastigmat in a Compound shutter) at \$191, ca. 1936.

From comparisons of pictures of the Multiple and the Penny Picture Camera, we believe the Penny Picture became the "Multiple."

Production information is much easier with this camera, as the serial number book lists 870 cameras from 1926 through 1940.

Penny Picture Camera

Century Penny Picture Camera from Eastman Kodak professional catalog, ca. 1912-1915.

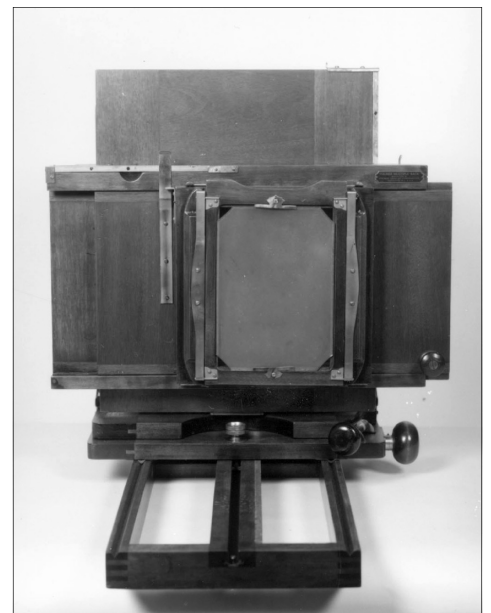


According to the Historic Camera Collectors' web site, the camera was made by the Century Camera Company from approximately 1900 to 1907, and the camera was described as having detachable rods to control movements. We were unable to find a definitive reason for the "penny picture" name, but footnote 2 suggests its possible generic origin.

Production information is limited. In the Graflex serial number list, there are two pages for "Century Cameras," on which 320 cameras are listed. Then in the regular listing, 267 cameras are listed from 1922 through 1926.

Folmer Multiple Back

From comparisons of the Multiplying Back, the Folmer Multiple Camera and the Folmer Multiple Back, it appears that they are all the same.³



When I (Ronn) wrote the article about my Folmer Graflex Century 4-A studio camera with the Folmer Multiple Back (GHQ Volume 16, Issue 1), I really knew very little about the back. I did know it was different from other studio cameras I have, and I thought it was pretty interesting. Then the Quarterly's Ken Metcalf forwarded to me, from Quarterly subscriber and contributor Thomas Evans, a copy of a user's chart with setup information for all the different image sizes that can be produced with this back.

Thomas's instruction chart⁴ came attached (along with a strip of photos) to his Folmer & Schwing Multiple Camera (ca. 1929), which has the same basic back, but his "is a fixed back and takes only 5x7 holders." Mine could use either the 5x7 that came with the camera or a 4x5 reducing back. Thomas also has managed to acquire 4 "kits" to make different sized pictures. The kits are basically a masking device that keeps the multiple images from overlapping each other on the film. They consist of a stationary wooden insert with a metal cone attached that is placed inside the camera back between the film and the lens. Part of the back slides with the film holder, from side-to-side and up and down, to place the smaller image on the correct area of the film.

The position is controlled by a spring pin that fits into holes drilled in brass rods. The rods are marked "A" and "B" (one for vertical control, and one for horizontal) and the numbers 1, 4, 9, 16, and 20 to indicate the number of exposures each setup will produce, depending on which way they are placed in the back. I have concluded that the six-exposure setup found on my camera is an owner modification.

Thomas also sent information obtained from the October 1911 issue of Photo Era Magazine stating that the photos taken with these cameras are called "ping-pong pictures." Thomas suggests that name comes from the back and forth movement of the back. The article goes on to say the film backs can be either 4x5 (4-image size) or 5x7 (7-image size).

A penny per picture sure doesn't sound like much, but after giving it much thought, that is probably more than I have been paid for most of the pictures I've made over the years.

¹ Camera, By Todd Gustavson, George Eastman House, pp. 64-71. This section presents a comprehensive discussion of early multiple image cameras.

²October 1911 Photo Era Magazine, page 202, Answers to Correspondents: "Frederick S. A. - The camera about which you ask is called the Multiplying Camera, and the pictures made by it are called Ping-Pong pictures. With a 4x5 camera of this type, you can make 1, 4, 9, or 12 pictures on one plate; and with the 5x7 size, you can make 1, 2, 3, 4, 6, 12 or 24 pictures on one plate. These small pictures usually sell for a penny each, though in summer resorts and similar localities the price is sometimes as low as 10 cents a dozen and sometimes as high as 25 cents. - Elizabeth Flint Wade."

³Regarding Folmer's 1912 patent 1,045,539, I think that he is making the spring-back frame square, so it would be reversible, and making the vertical movements of the back governed by a square-bar device. He seems to have invented the square-bar device.

The purpose of Folmer's 1913 patent 1,061,736 is less clear. It looks like a sliding back in which the ground glass is on one side, and the film holder is held on the other side.

⁴If you have one of these backs or find one without instructions, Thomas has

prepared the following writeup, which applies to 5x7 backs. "There are two 1/4" square brass bars, 'A' and 'B'. There is a plate on the camera at the top-left (looking at the back of the camera) that says to use bar 'A' at that location when making vertical images, and bar 'B' there when making horizontal images. This location governs the left and right sliding adjustment of the back by having holes drilled into it at different locations, into which a pin on a spring fits to lock the position. The other bar is located top-right (looking at the back of the camera) and governs up and down movement of the back in the same way.

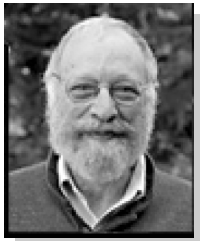
Each bar can be turned to allow the use of one of four different sets of holes. Bar 'A' sides are marked '1', '4', '16-20', and '9'. Bar 'B' sides are marked '8' and (on the other end) '20', '16', '1-9', and '2-4'. (The '16-20', '1-9' and '2-4' markings are marked on the ends of the bar vertically, with the 16 above the 20, the 1 above the 9, and the 2 above the 4, which I believe means that this face is to show for both 4 images and for 9 images on 5x7", etc.). These numbers correspond to the columns on the instruction card labeled "Markings to show on Bar A" and "Markings to show on Bar B". And I believe that these numbers also correspond to the numbers stamped on the different small cones.

INSTRUCTIONS FOR OPERATING THE					FOLMER MULTIPLE CAMERA FOLMER MULTIPLYING BACK	
Number of pictures desired on 5 x 7 plate or film	Place in Horizontal Slot	Place in Vertical Slot	Marking to show on Bar A	Marking to show on Bar B	Use Kit Marked	
1 Size 4 5/8" x 7"	Bar A	Bar B	1. or 9.	20. or 1-9	(Remove Master-Kit)	
2 Size 3 3/8" x 4 1/2"	Bar B	Bar A	1.	2.	2.	
4 Size 2 1/4" x 3 3/8"	Bar A	Bar B	4.	4.	4.	
9 Size 1 3/8" x 2 1/8"	Bar A	Bar B	9.	1. or 9.	9.	
16 Size 1 3/8" x 1 3/8"	Bar A	Bar B	16 or 20	16.	16.	
20 Size 1 3/8" x 1 3/8"	Bar A	Bar B	16 or 20	20.	20.	
SPECIAL INSTRUCTIONS						
4 Full-Lengths on Horizontal Plate Size 1 3/8" x 4 1/2"	Bar B	Bar A	1.	4 c.	4 c.	
THE FOLMER GRAFLEX CORPORATION, Rochester, N. Y.						

So, if one were to take 4 vertical images on a 5x7" film, one would install the number 4 cone in the vertical orientation and arrange Bar A in the upper-left position with the side marked '4' showing. And install the B bar in the upper-right position with the side marked '2-4' showing. One then has the choice of two holes in each bar, pairs of which correspond to the four quarters of the 5x7" film.

I found the following pictures under the instruction card when I un-tacked it from my Multiple Camera. The strip of four pictures (younger woman) are each 1 1/8 x 1 5/8 inches, which would make them an example of 16 on a 5x7" plate/film. The strip of 3 images are closer to 1-1/8 x 1-1/4 inches, making them an example of 20 on a 5x7". The date of 1929 is my guess, based on when the camera was new."





Speed Graphic Cameras and Barrel Lenses

By Daniel W. Fromm

One of the reasons I bought a 2¼ x 3¼ Pacemaker Speed Graphic, instead of another 2¼ x 3¼ or 2¼ x 2¾ camera, was that Ken Ruth of Photography on Bald Mountain advised me it was the most useful and relatively inexpensive camera for macro work with roll film. He explained that, thanks to its focal plane shutter, the Speed Graphic could use inexpensive enlarging lenses, which he said work well close up, as macro lenses. So when a good opportunity turned up at a camera show, I acted on Ken's advice.

My Speed, made in 1947, came with an uncoated 101mm f/4.5 Ektar that shoots very well. The next lens I bought for it was a 65mm f/6.8 Raptar, not an enlarging lens. This lens' back focus was too short for it to focus to infinity on the Speed, so I got a Century Graphic, made in 1951, at another camera show. Since then I've found other lenses for my Graphics, many in barrel and some of them, at last, macro lenses. More recently I bought a 2¼ x 3¼ Crown Graphic, made in 1953, with a 105mm f/3.7 Ektar at a camera show, for the lens and have acquired another 2¼ x 3¼ Crown, made in late 1949 or early 1950, at a camera show to use as a parts camera. This last camera is too good to break up for parts, so I'll have to find a use, or a new home, for it.

Likely lenses for these cameras, the ones most commonly used on them, were made primarily by Kodak and Wollensak and were sold for out-and-about use at normal distances. They are all in shutters, usually a Kodak Supermatic or Wollensak Rapax, and sometimes a Compur. They include: 65mm f/6.8 Raptar and Angulon; 80mm f/6.3 Wide Field Ektar; a variety of 100mm Tessars for pre-WWII cameras; 101mm f/4.5 Ektar and Raptar; 103mm f/4.5 Graflar and Graftar; 105mm f/3.7 and 107mm f/3.7 Ektars; 127mm f/4.7 Ektar and Raptar; and 203mm f/5.6 and 250mm f/5.6 TeleRaptars. Wollensak Raptars and TeleRaptars were also sold in Graflex clothing as, respectively, Optars and TeleOptars. I've seen a variety of triplets and Tessar clones, perhaps taken from 6x9 folding cameras, on 2¼ x 3¼ press cameras. I now have 80mm Wide Field Ektar, 101mm Ektar, another 103mm f/4.5 Graftar and another 105mm f/3.7 Ektar. At normal distances I've taken more pictures with my 101mm f/4.5 Ektar than with all of my other lenses combined. Other focal lengths are useful, but clearly not absolutely necessary.

When I began to look for lenses to use on my Graphics, I wasn't sure I could afford good ones. With few exceptions, though, my unlikely lenses have been inexpensive lucky finds at camera flea markets, from dealers on the Internet, and on eBay. Their low cost has usually reflected their obscurity, not their low quality. Perfectly usable equipment need not cost terribly much. In fact, with luck and care in buying and subsequent selling, I've been able to amass a heap of gear, some of it normally very expensive, for very little money. The auction site eBay has been a

great help, and in two ways. Interesting gear can sometimes be bought there at low prices, and I can be reasonably sure that if I want to get rid of a lens that I don't like or don't need, I can recover much of its cost, and sometimes more, by selling it there.

[Ed. Presented here is the introduction from Mr. Fromm's interesting and well-written article, [Speed Graphic Cameras and Barrel Lenses](#). The remainder of the article can be found at the following English and French web sites. PDF downloads are available below.

Mr. Fromm was born in 1944, trained as an economist, and he worked as an economic forecaster and builder of econometric models and as an applied statistician.

Photography is one of his hobbies, and he took it up to record the natural colors of the tropical fish he keeps and studies. Dissatisfaction with close-up pictures of flowers taken with 35mm equipment brought him to 2x3 Graphics. Mr. Fromm can't thank enough Emmanuel Bigler, who did yeoman work translating his English text into French and as an editor, for his encouragement, good advice, and help.]

English:

<http://www.galerie-photo.com/telechargement/dan-fromm-6x9-lenses-v2-2011-03-29.pdf>

<http://www.galerie-photo.com/1-lens-6x9-dan-fromm.html>

<http://www.galerie-photo.com/2-lens-6x9-dan-fromm.html>

<http://www.galerie-photo.com/3-lens-6x9-dan-fromm.html>

French:

<http://www.galerie-photo.com/telechargement/optiques-6x9-dan-fromm-v2-2011-04-08.pdf>

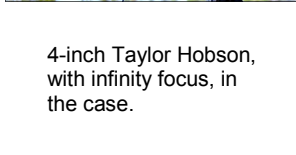
<http://www.galerie-photo.com/1-optiques-6x9-dan-fromm.html>

<http://www.galerie-photo.com/2-optiques-6x9-dan-fromm.html>

<http://www.galerie-photo.com/3-optiques-6x9-dan-fromm.html>



12-inch Taylor-Hobson, with infinity focus, in the case.



4-inch Taylor Hobson, with infinity focus, in the case.



10-inch Taylor-Hobson in No. 3 Ilex shutter.





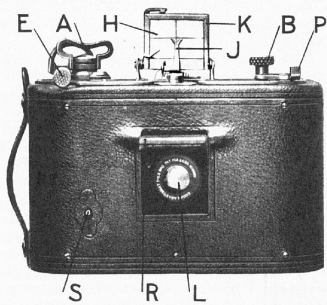
**The No. 0 Graphic
1909 – 1923**

By

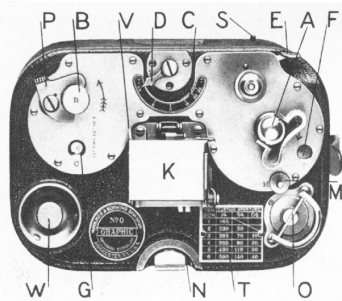
Ken Metcalf

When I received my No. 0 several years ago, I was disappointed by how small it was, and how much I paid for it. I am still disappointed by how much I paid.

The 1909 Graflex catalog states, “In presenting the No. 0 Graphic we introduce a type of camera that is radically different from any other photographic instrument and possessing advantages that will at once appeal to photographic workers requiring a camera of the smallest possible size [25 oz., and 5 x 3½ x 3¼], extreme efficiency and at the same time, so simple in operation that the merest novice ...will secure the greatest possible percentage of perfect results.” For once, Graflex may have been pretty accurate. When they state that it is “...needless to elaborate on the advantages of universal [fixed] focus cameras...,” they may have been pushing it a bit. Okay, just one more quote on the lens: “This [a rapid shutter], together with the fact that every part of the picture is in perfect focus...” The camera was fitted with a “high-speed, three-inch” f/6.3 Zeiss Kodak Anastigmat and was replaced fairly soon with a shorter focal length 69mm Kodak Anastigmat. A well-done feature of the camera is a “mechanical device” that allows the diaphragm to be set from the top of the camera. This feature is a lot easier to use than that of the Auto, and other models. Probably due to size constraints, the shutter is limited to a maximum of 1/500. Another good feature of the camera is a “sky-shade” that acts as a lens hood and lens cover.



Instruction illustrations, courtesy Les Newcomer.



One of the more interesting features is the folding direct-view sight-finder, which has the lens and sighting bar reversed from all other Graflex cameras. Also, the finder includes a metal-bound mirror that can be folded back for normal viewing or “If it should be desirable to use the finder at a deceptive angle, the mirror is placed at an angle of 45°. With the mirror in this position, the subject can be photographed at right angles to the line of vision...without the knowledge of the subject.”



The No. 0 Graphic used as a Deceptive Angle Camera

While reading the instruction booklet, provided by Les Newcomer, I came across the following: “When photographing objects near the ground, the subject can be properly centered by placing the mirror at an angle of 45° and holding the camera near the waistline.” Fortunately, Les also was able to supply the following explanation: “The camera needs to be in the vertical (aka ‘portrait’) mode, then the viewfinder works almost as well as a folding Kodak finder.

Contrary to your hope that this subject has been exhausted, mention should be made of Folmer patent 989,240, which was submitted close to the time of the No. 0 patent. In this patent, a view finder was set out that had a mirror similar to the 0, but pivoting from the bottom, rather than the side. The mirror was used on the short-lived 1 A Speed Kodak of 1909-1913, which is generally believed to have been made by Graflex.

Like the naming of other Graflex cameras for Kodak films, the No. 0 derived its name from the film introduced in 1902 for the No. 0 Folding Pocket Kodak.* When Kodak started a new numbering system in 1913, the number 121 was assigned to this picture area (1-5/8 x 2-1/2). See [GHQ](#), Volume 8, Issue 2. Size 127 film, which can still be found today, can substitute for number 121 film; however, it would have to be moved to a 121 spool, as 121 uses a much larger diameter wood spool, with female ends similar to those on a 120 spool. The 127 spool is all metal, with male ends. Also, it is possible that actual use will show that the ruby window is not properly aligned for 127 film.

After William Folmer filed patents for his signature reflex cameras, most of his patents were for camera features. Okay, except for some aerial cameras. There was never a patent for his most long-lasting

camera, the Speed Graphic. One exception is his patent (number 993,047) for the No. 0. The application was submitted in 1909, the date of its introduction, but it was not granted until 1911. The patent graphically shows an intricate mechanism, not again attempted until their National Graflex.

There were around 1,300 cameras produced from 1915 until the camera was discontinued in 1924; however, the last batch was produced in 1921, which suggests to me a diminishing interest in the camera. From serial numbers collected prior to 1915, it is possible that another 2,000 may have been produced. Compared to the Speed Graphic and other cameras, I believe total production was fairly modest, which probably accounts for their scarcity and higher current price. In 1909 the camera was priced at \$50 and \$48 when last offered in 1923.

For the collector, there are several considerations. First, because the leather covering was applied to aluminum, it is rare to find leather that has not pulled back to some degree. Second, catalogs show tooling around the edges of the lens door, but not always. Also, the leather texture on doors sometimes does not seem to match that used on the body. Lacking a sufficient number of samples, it is certainly possible that they did not always use the tooling. Because the leather on the door is slightly below the level of the camera body, it does not receive the same amount of wear.

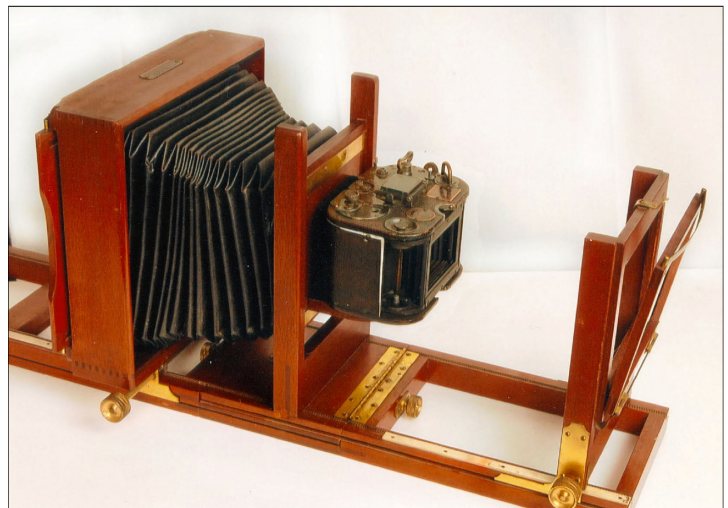
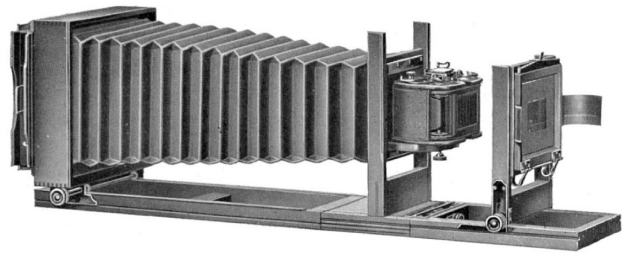
Not exactly a Harvard case study, but from samples (mostly from eBay and thus of poor quality) it appears that there were several styles of cases. As examples available to me do not have the company name embossed on the leather, but came with the camera, fit the camera, have purple linings, recognizable stitching, and other Graflex-type workmanship (although they also have some characteristics of Eastman Kodak cases), finding labeled cases may be difficult. Here are a few possibilities, with the case at the top of the article being the most common.



With the aught gone by 1924, the company may have felt the Revolving Back Series B of 1923, in the 2¼ x 3¼ format, was sufficient. The next real replacement was the 120 size National Graflex that was introduced in 1933. See GHQ, Volume 14, Issue 2.

After preparing this article, I have come to appreciate the O as a well-engineered, compact camera, especially for a company that had allowed itself the luxury of relatively unrestrained camera size and long-standing patents.

^{*}Graflex historian Tim Holden said that within the company, it was often called the “aught.”



How I Acquired the No. 0 Graphic Enlarging Camera

By
Jim Chasse

In my youth (1940s), there was a mansion up the street from where I grew up. The mansion’s owners had built up the town of Sanford, Maine, by manufacturing textiles, mostly clothing for the military, circa 1917-1918. Called the Goodall Mansion, it had been in Sanford for 129 years and is now privately owned and part of the National Trust for Historic Preservation Gift of Heritage program.

After being passed along for several generations, the mansion was used seasonally for many years and finally was made available for sale – contents first.



Always curious about the mansion, my sister and I would walk by, so I attended the auction and saw a box-lot of cameras, which included a new-in-the box magazine Cine Kodak, a new-in-the-box vest pocket Kodak Series 3, and miscellaneous “stuff.” I left an absentee bid with my sister and left. A week later, sister Pat said come and get the box lot and also this Graflex wooden camera with an unusual lens-board.



Front standard and “shelf” for the No. 0.

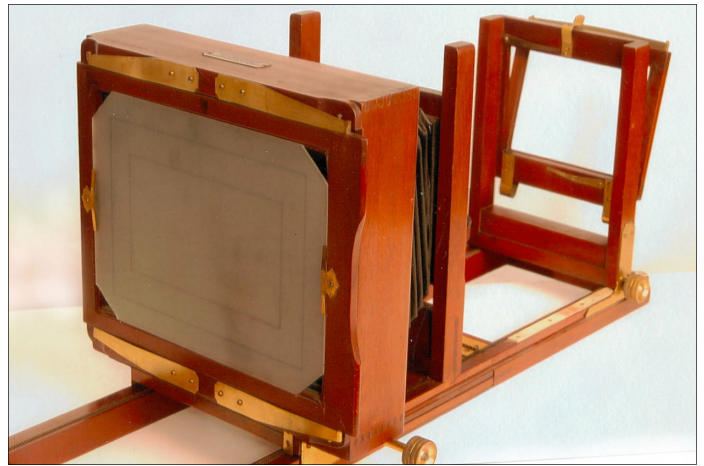
I took it to knowledgeable camera collectors for identification, but no one knew what it was. I could not figure it out until in researching a 1913 Graflex catalog, I found it...it was not a camera at all, but an enlarger.

Here is what I learned with further research. It was first shown in the Graflex catalog of 1910, one year after the No. 0 camera was introduced, and the enlarger was made only for the No. 0 camera. It continued to be listed in catalogs through 1918. In 1914 and later, an accessory

Rapid Rectilinear six-inch lens in an Automatic shutter was also listed.

Surprisingly, the metal identification plate says “Folmer & Schwing Division, Eastman Kodak Company” but does not identify the actual enlarger. Regarding dating the enlarger, there is a serial number, 18,544, suggesting a manufacture date circa 1910-1912.

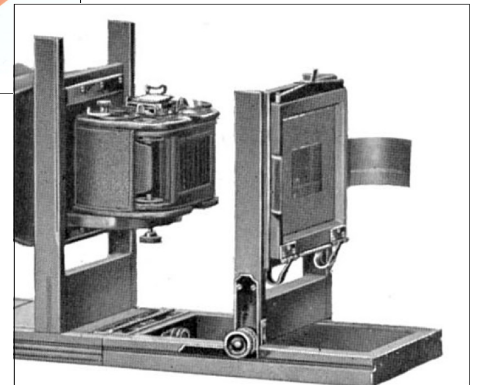
As described in the catalog, enlargements $6\frac{1}{2} \times 8\frac{1}{2}$, or smaller, could be made on Bromide or developing paper, with either daylight or artificial light. The 1909 catalog states, “The negative to be enlarged is placed in the carrier, while the No. 0 Graphic is placed in position with the back removed and the lens shade elevated; the camera is then pointed toward the light, and the image is focused on the ground glass. The holder, containing a sheet of paper, is then placed in position, the slide drawn and the exposure made. The camera is furnished with mats for making 3A ($3\frac{1}{4} \times 5\frac{1}{2}$) enlargements only, although a negative 4×5 and smaller may be enlarged to any size up to $6\frac{1}{2} \times 8\frac{1}{2}$.” This fine piece of woodworking was originally priced at \$24.00 and was only \$27.00 in 1918. Because the total number of No. 0 cameras made was relatively modest, and this enlarger was sold only for that camera, I believe it is quite rare.



6 1/2 x 8 1/2 focusing back.



Carrier, without film holder.



Waterfront Strike, S. F., 1934 Press photographers

Photograph, courtesy Les Newcomer.

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/users, and is not a for-profit publication. Other photographic groups may reprint uncopyrighted material provided credit is given GHQ and the author. We would appreciate a copy of the reprint.

2¼ x 3¼ Century Graphic

Due to an inadequate draft review, information from Bill Inman's article was omitted. Here is the information:

When the Century Graphic was introduced in 1949, it came equipped with a Century MF shutter and Trioptar f/4.5 lens. The shutter was a Wollensak/Alphax, single action shutter using the Graflex trademarked name, "Century." The shutter worked with Class M (Medium Peak) G.E., #5, #11, and #22 flash bulbs, and Class F (Fast Peak) SM flash bulbs. Sylvania had similar type flashbulbs that worked with the shutter.

Although physically smaller, the shutter was the same Alphax shutter used on the Model D Ciroflex camera using the Wollensak name, fitted with an 85mm f/3.5 lens.

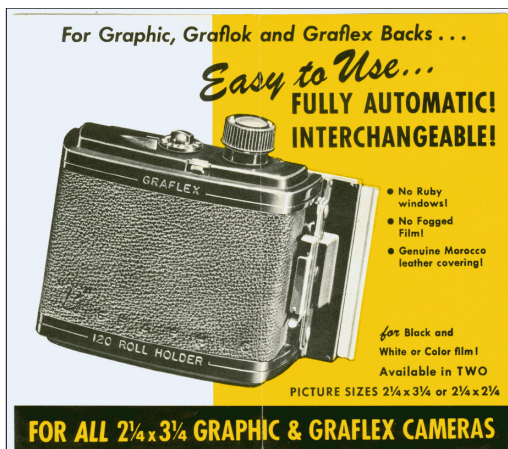
When Graflex introduced the Graflex 22 Model 200 in November 1952, it equipped the camera with the new Century (Wollensak/Alphax) MFX Shutter. (MF for the flashbulbs, and X for the electronic flash units. The main reason for the upgrade of the Century shutter was that electronic flash units were becoming more used.)

According to my 1953 Graflex catalog, the Century Graphic was being shipped with the new upgraded Century shutter with the 101mm (new name) Graflar f/4.5 lens, the same exact shutter as the Graflex 22 model 200 except for the difference in the focal length and f/stop (85mm f/3.5 Graflar lens).

As for the Rapid Advance Lever roll holder, the black lever models 8,12,10 went from 1964 to 1965, then, in 1965, Graflex changed to color coding the Rapid Advance Levers to: red - 8 exposures, green - 12 exposures, blue - 10 exposures, and adding yellow for 20 exposures, as well as yellow for the 70mm holder.

Also, the Rapid Advance Lever was described as "automatic;" however, it was actually used in advertising for the earlier knob-winding roll holder. In fact, the only feature that could be considered automatic was the frame counter that advanced for each exposure and was common to both models.

KM



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WANTED

Rolling adapter (called "septum") for a 5x7 Stereoscopic Graphic. This tapered fabric curtain, on a roller, changes its length as the bellows are moved during focusing.

If you have one for sale, or could give advice on constructing this part, please let me know.

Thanks.

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Cleaning Brass

From Subscriber Bill Baker

Get a ½-gallon bottle of household ammonia (and put it in a container with a lid), and get a suitable container to hold the brass parts. Put the brass parts in the container, and cover them with the ammonia. Let them soak for 5 or 10 minutes. Remove the parts and immediately rinse with water, otherwise you will have some black metal you don't want. Rub the parts with your fingers and most of the tarnish will come off. Then you will be able to polish it without much rubbing. When you are through, pour the ammonia back in the container. It turns green, but it will still work. Give it a try.