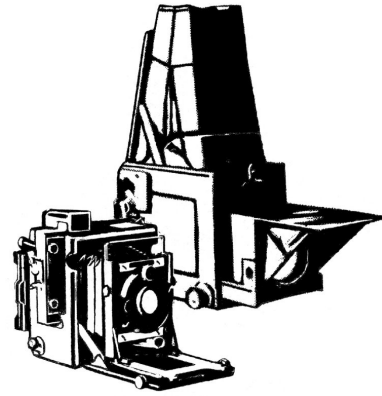


# GRAFLEX HISTORIC QUARTERLY

Since 1996

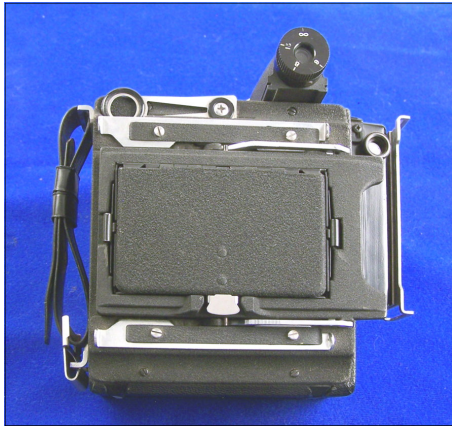


VOLUME 18 ISSUE 1

FIRST QUARTER 2013

## FEATURES

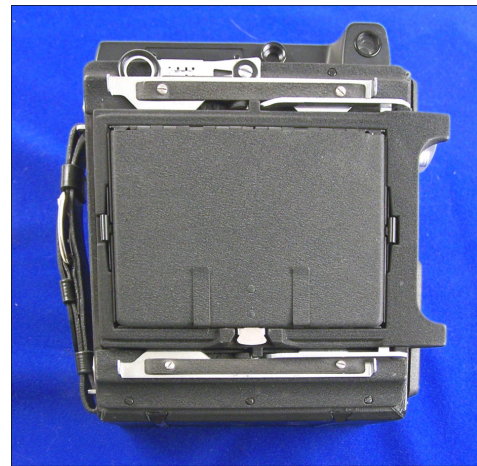
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THE GRAFLEX GRAFLOK BACK 1949-1973

Copyright 2013 William E. Inman, Sr.

In 1950 the “45” and “34” Pacemaker Speed and Crown Graphics were sold with Graflok backs. An accessory 4x5 or 3¼ x 4¼ Graflok back for the Anniversary Speed Graphic also became available. All the backs could be supplied with or without a metal four-sided removable viewing hood. The 4x5 dividing back was also supplied with a Graflok back frame, less the focusing panel. When the dividing back is fitted to a 4x5 Graphic or Graphic View camera with a Graflok back, the focusing panel is transferred from the camera to the dividing back for focusing and viewing the image.



Graflok back on “45” Pacemaker Speed Graphic.

The Century Graphic 23, with the Graflok back, was born in 1949 in answer to the demand for a lower-priced press-type camera for amateurs, and a second camera for professionals who preferred a smaller negative size for 120 color roll film. Competition at that time included the Rolleiflex and the Rolleicord.

To turn the Graphic 23 into a roll film camera, as well as a sheet film camera, Graflex engineers had to redesign the Graphic back. The focusing panel needed to be easily removed to accommodate the new 120 film holders and easily lock the roll film holder in place, and to use sheet film holders in the camera, by reattaching the focusing panel. This was done with two slide locks.

Thus the Graflok back was born, opening up a whole host of new accessories for all the Graphic cameras (the back being either sold with the camera or as an accessory), although the original Graflok back on the Century Graphic 23 was a non-removable part of the “mahoganite” camera body. The “23” Pacemaker Speed and Crown Graphic cameras were also supplied with Graflok backs in 1949 as shown in the picture above. An accessory Graflok back for the 2¼ x 3¼ Miniature Speed Graphic also became available.

The Graflex service department could, on special order, convert the 4x5 Super D Graflex camera to a Graflok back, instead of the original Graflex back.

The conversion of a Super D camera (either 3¼ x 4¼ or 4x5) to a Graflok back requires a precision manufactured spacer plate for the revolving back, in order for the back to be fitted, and to insure a sharp image on the Graflok focusing panel, as well as a sharp reflex image. This service can be performed by Fred Lustig of Reno, Nevada, an expert with



many years of servicing all types of Graflex products, with real Graflex parts. He is a service center only, not a parts dealer. Parts are not available separately. Fred is listed in the "News" section of Graflex.org.

The Ektalite Field Lens, located under the ground glass, became available for the 4x5 and 3¼ x 4¼ Graflok focusing panels in 1951 and for 2¼ x 3¼ Graflok focusing panels in 1953. The Graflok back for the 4x5 Graphic View came out in 1954. The Ektalite Field Lens provided a more brilliant image, corner to corner of the ground glass.

The Graflok back may have been licensed to various companies, foreign and domestic, as well as the fact that photographers could buy the Graflok back as an accessory and add it to whatever camera they wanted, allowing them to use all the Graflex Graphic film accessories, including the Polaroid manufactured film holder.

Graflex produced, for the Graflok back, 4x5 and 2¼ x 3¼ roll film holders, three 120 models and one 220 model, the 2¼ x 3¼ and 4x5 Grafmatic sheet film holder, and the 2¼ x 3¼, 3¼ x 4¼, and 4x5 Graflarger backs. The back would also accept the Graphic Film Pack Adapters.

In 1958 the Super Graphic was introduced with a revolving Graflok back, with an improved spring-loaded slide lock system for holding the various film holder accessories in place. The focusing panel, which included the Ektalite Field Lens, was completely enclosed, and the removable four-sided all-metal viewing hood was done away with and replaced with a leather wing-removable viewing hood. The Super Graphic revolving Graflok back was an integral part of the SuperGraphic camera and not available as a separate accessory.



Super Graphic, left, and Super Speed Graphic, right.

In 1965 the Graflex xl system was introduced, with the Graflok back and the new spring-loaded slide locks, below. The focusing panel was the same as the original, which included the all-metal four-sided viewing hood and the Ektalite Field Lens. At the same time, a 70mm RH/50 Graphic film holder was introduced, one for the xl system and one model for 4x5 Graphic cameras.



With the demise of Graflex cameras in 1973, the Graflok back eventually became known as the Universal back, as a number of foreign countries incorporated the Graflok back design into their view camera backs.

The original Graflok back patent (2,549,670) was filed August 17, 1949, and issued April 17, 1951. The Super Graphic Graflok back spring-loaded slide locks patent (2,931,281) was filed April 14, 1958, and issued April 5, 1960. Both were issued to Robert L. Dalton, who had at least 10 Graflex assigned patents (as well as several non-Graflex patents) and was probably a design engineer at Graflex.

Fig. 1.

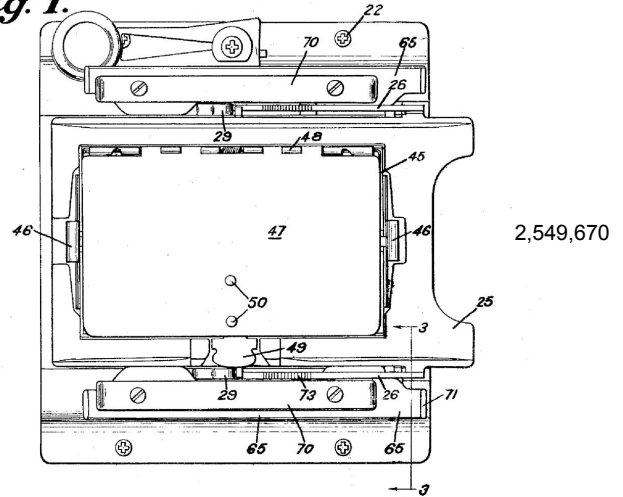
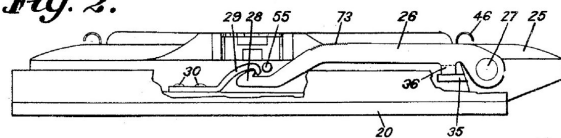
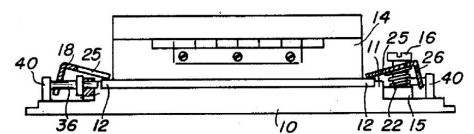
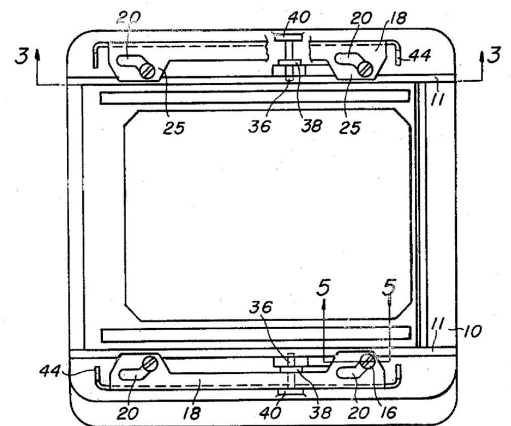


Fig. 2.



2,931,281



Here is what Graflex told its dealers in August 1949 in their Trade Notes -

### NEW GRAFLOK BACKS AVAILABLE

WHAT IS A GRAFLOK BACK?

WHAT IS ITS PURPOSE?

WHAT CAMERAS CAN IT BE USED WITH?

HERE'S THE STORY...

What is a GRAFLOK Back? It is a spring-loaded GRAPHIC Back with *built-in slide locks* - of wholly new design and permitting the instant removal of the ground glass back at the press of a finger. Its purpose: to allow the user complete freedom in the interchangeable use of standard GRAPHIC film holders and GRAPHIC film pack adapters with the new GRAPHIC "22" and "23" Roll Holders. A further advantage: the built-in slide locks which hold the Roll Holder on the camera when the ground glass back is removed may be used even when the ground glass back is *on the camera* to lock a holder or pack adapter to the camera - if crowd conditions or circumstances of use suggest that precautioning step against inadvertent film exposure. In addition to these new features - the GRAFLOK Back has the all metal four-sided removable focusing hood.

GRAFLOK Backs are now available separately to bring 2¼ x 3¼ Pacemaker GRAPHIC cameras with standard GRAPHIC Backs up-to-date - ready to accept the new Roll Holders. Many dealers have already ordered these backs for their customer-owners of Pacemaker "23" cameras or for purpose of converting stock Pacemaker "23" cameras - to make them immediately salable with Roll Holders as America's finest roll film cameras. Since the 4-sided removable viewing hoods can be retained by the dealer's customer for use with the new GRAFLOK Backs, they are listed both with, and less the hood at a consequent saving.

Good news for the tens of thousands of owners of the older 2¼ x 3¼ Miniature Speed GRAPHICS is the fact that a GRAFLOK Back for their cameras is in production - so that they too can convert their cameras to accept GRAPHIC Roll Holders interchangeably with the film holders and pack adapters they already own. These backs, necessarily having a built-in synchronization socket and contacts, are only modestly higher in price than those for Pacemakers.

## THE EVOLUTION OF A GRAFLEX COLLECTION

By Ronn Tuttle

I didn't set out to collect Graflex cameras, or anything else, it just sort of evolved. My interest in photography began at the age of nine in 1954 when I bought a used Brownie Holiday Flash camera. My folks gave me a Brownie Starmatic camera for my 12<sup>th</sup> birthday that served me well through my high school years and beyond. In my early 20s, I got serious and bought a 35mm Yashica camera and set up a darkroom. After buying a Yashica 2¼ x 2¼ TLR, I was amazed at how much better my prints looked...could a 4x5 format camera be even better? With kids to raise, a mortgage to pay, and all the usual stuff that seems to afflict young folks, I didn't think I could afford one. In the mid to late 1970s, the owner of the camera store I frequented held a "parking lot sale," where I was delighted to find a 4x5 Graflex Super Graphic for \$15.00. I grabbed it just ahead of several other hands. It was a little rough cosmetically and was missing the lens, starting a pattern that continues even today. I eventually acquired a 210mm Fujinon lens for it. In 1982 I attended a photo workshop in Colorado as a student, and then for the next decade, returned as a workshop assistant each fall. The Super Graphic went along with me a couple of times.

In the early 1990s, the camera store owner from whom I bought the Graphic became the manager of the photo lab at Caterpillar, where I was employed. He sent an assignment my way that seemed to be a perfect use for the 4x5 Graphic. I photographed the Peoria skyline, both during the day and at night. Our lab then made Duratrans prints that were used as the backdrop for the news set at one of the local TV. stations. I again used the Super Graphic to photograph the news set with my backdrop photo in use.

I had no idea what buying that first Graflex product would lead to...three decades and 30+ Graflex cameras later, I guess the Super Graphic I bought to use has evolved into a collection.







### THE GRAFLEX ELECTROSWITCH

By Ken Metcalf

**G**raflex introduced their Electroswitch in late 1945, which attached to the Graflex battery case and independently and simultaneously activated the shutter tripping solenoid and flash bulbs. It was designed for the just introduced No. 2 Graphex fully-synchronized shutter (but not X sync) and the No. 2 Supermatic synchronized shutter, for either the 3/4 x 4/4 or 4x5 Anniversary Speed Graphic. The Graphex shutter required a No. 2 solenoid, while the Supermatic shutter required the “new” 0 solenoid. In 1946 the price was \$10. The switch is shown here mounted on a Graflex battery case on a 4x5 Anniversary Speed Graphic made in 1946 (number 392286). See also [GHQ](#), Volume 11, Issue 4.

The then current 3-cell Graflex flash could trip only the Graflex solenoid to sync non-sync shutters or X sync shutters with flashbulbs, while the new synchronized shutters were considered more reliable. Once the Graflite flash became available in 1948, the problem was solved.

According to a Graflex flash instruction sheet, “The GRAFLEX Electroswitch was developed to enable photographers...using shutters with built-in synchronization, to release their shutters from the battery case. It further allows the photographer to hold the battery case at arm’s length for the purpose of obtaining different lighting effects. [You could remove the flash gun from the camera with the old system or the newer system, for a better lighting effect, but the actual improvement in synchronization was the only real advantage.]

The Electroswitch consists of a housing which incorporates a switch and a cable consisting of two connecting cords. It is used in combination with a solenoid release. The solenoid release’s main function is to electrically release the shutter. The flash synchronization is accomplished by the built-in synchronizer. However, the solenoid release fitted to this shutter may be adjusted for flash synchronization - thus affording dual synchronization for any possible need. At the opposite end of the cable,

one pair of wires is attached to the Electroswitch housing, and the other pair of wires terminates in a plug which attaches to the series outlet beneath the main switch at the back of the battery case.

Due to the added built-in mechanism, the synchronized shutters require some added power when electrically released. Because of this, the No. 2 Graphex shutter requires the No. 2 solenoid release, and the No. 2 Supermatic shutter requires the No. '0' solenoid release. The solenoid in use will serve only as a release for the shutter, flash synchronization being accomplished by the built-in shutter synchronizer. However, with proper adjustment by a competent camera repairman, a solenoid release can usually be adjusted to accomplish the flash synchronization, thereby giving the photographer the advantage of a spare synchronizing means for coping with any possible need.

With the Electroswitch installed, the shutter will be released, and it in turn will close the circuit to the lamp by pressing the black contact button which is located in the circular opening on the front of the Electroswitch housing.”

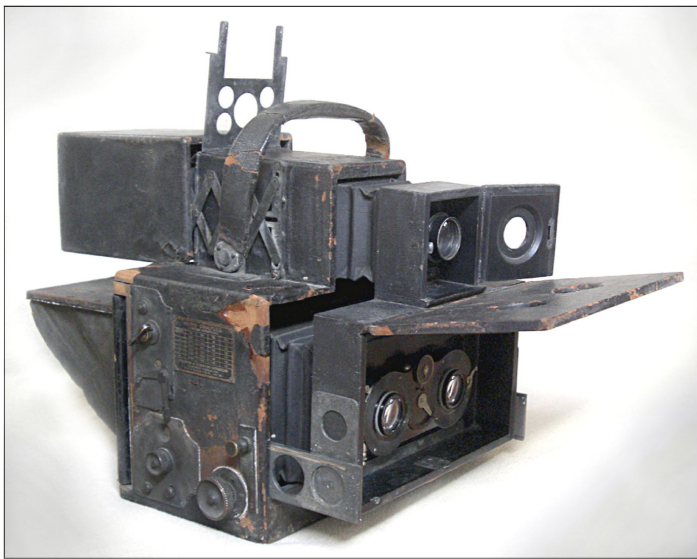


The back story comes from Tim Holden: “The Electroswitch was important since the batteries at that time were poor. If you got 5 amps, you were lucky, and it didn’t last. Consequently, after the solenoid drew enough to trip the shutter, there might not be enough energy left to fire the bulb. The Electroswitch gave the battery a moment’s rest after the shutter was tripped.

To be sure, the Jacobson patent with the inertial [sic] delay after the circuit was closed before the linkage tripped the shutter allowed better usage of those batteries.

To get that patent and some other good ideas, Graflex hired Irv Jacobson as an engineer. He stayed in California and worked on assignments, coming to Rochester 2 or 3 times a year. [Later,] he was in charge of WD [Western Division] service at 800 N. Cole Avenue, Hollywood.”

*Note: Electroswitch provided courtesy Les Newcomer.  
Reviewed by Bill Inman.*



### TRIPLE LENS GRAPHIC

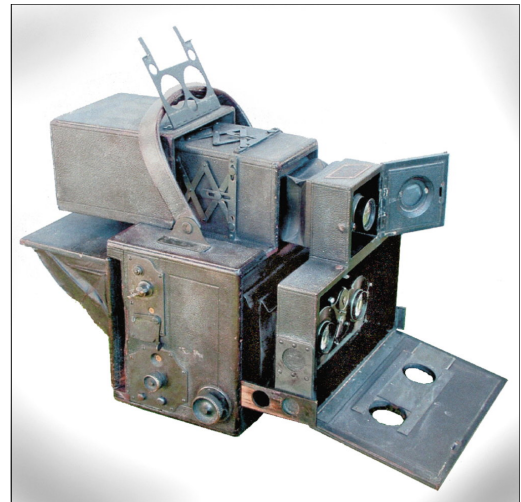
A second Triple Lens Graphic (above) has surfaced, this time from the owner of a camera store in England, who put it on eBay. It was shipped from North Walsham, UK. The seller bought it from another camera dealer who had taken it in as a trade-in over 40 years ago. Not knowing what it was, he put it in the attic, and it stayed there until recently, when he sold it to the seller. The first camera was described in the *GHQ*, Volume 8, Issue 1, and is shown on the Robert Goldman web page <http://www.ignomini.com/photographica/3dcameras1.html>. In both cases, the film size is 5x8.

A partial label for film or plates was found INSIDE the camera. From the Internet, a picture that shows a box of plates with a similar logo was found. There are references to the company, Wellington

and Ward, Wellington being the manager of Kodak's factory in England prior to 1900, more evidence of the camera's English roots.

Unlike the first camera, this one has a serial number...30933, which places it around 1912-1914. The camera was listed and illustrated in the 1901 and 1904 Folmer & Schwing Mfg. catalogs, but was dropped from catalogs from 1906 and later. Unusual features of this camera are a top-handle-type Speed Graphic shutter plate, along with a Folmer and Schwing Division (1908-1916) speed plate, an Auto Graflex tension plate, and a track locking screw, which was not shown in either catalog.

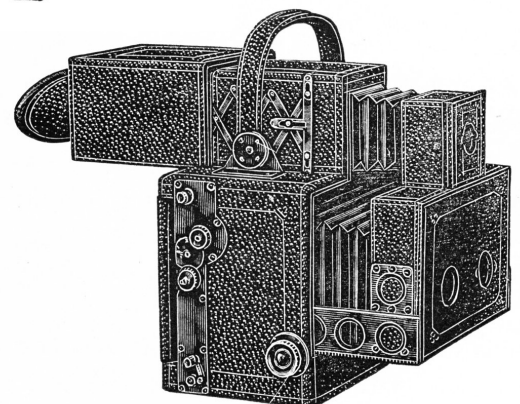
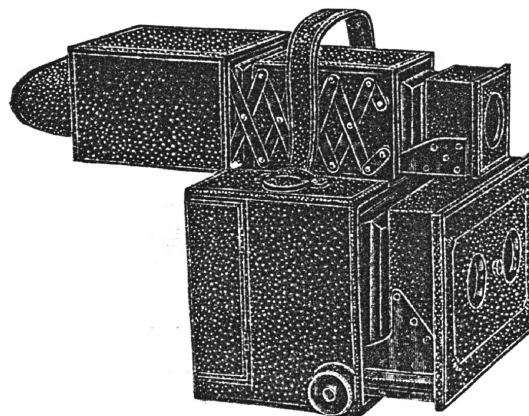
Based on the lack of patent information on the tension plate, the later parts noted above (including a Compound shutter), and studies of the changes in paints used, leather texture changes, and milling around the focal plane shutter, Graflex historian Les Newcomer believes the camera was constructed in the teens, long after it was dropped from normal production.



Above, Robert Goldman camera with Folmer & Schwing Co. (1905-1907) markings.



Early glass slide showing Triple Lens with taking lenses diaphragms linked with an aperture bar, similar to that used on a Stereo Auto Graflex.



Middle right, 1901 catalog illustration. With this model, there is no focal plane shutter, and three front-mounted leaf shutters were the only offerings. Lower right, 1904 catalog illustration. In the 1904 catalog, the camera is pictured with a focal plane shutter, and Folmer & Schwing dropped the front leaf shutter in favor of barrel lenses. Comparing the cameras, there were changes in the lazy tongs and the front housing supports.

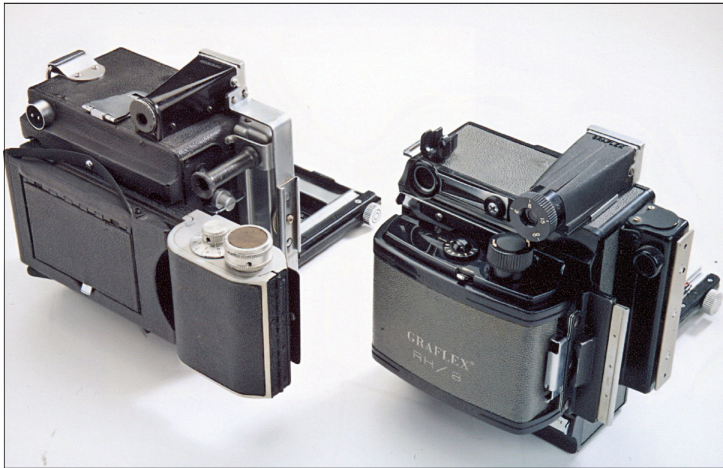
Because of the estimated date of the camera, and the popularity of a front shutter on the Speed Graphic, it is reasonable to assume that the camera was originally fitted with a front shutter.



## THE STORY OF THE CENTURY

By Jim Chasse

I enjoy collecting “new in the box” cameras whenever possible, as they show little or no use. The two featured 2¼ x 3¼ Century Graphics have an interesting history. Also, see [GHQ](#), Volume 16, Issue 1. But first some background. During my high school years in the early 1950s, in Sanford, Maine, my camera of choice was a 2¼ x 3¼ Miniature Speed Graphic with an f/4.5 Ektar lens, purchased used from our family doctor. With an Adapt-a-Roll back, it became a roll film camera, as the back just slid in like a sheet film holder and was available before the Mini could be adapted for roll film. This gave me a very wide choice of black and white and color films. My early Miniature had a spring back (or it could have been purchased with a Graflex-style back), which required a hard-to-use spring kit, for the use of Graflex roll film backs.



Left, Adapt-a-Roll on Miniature Speed Graphic, and right, roll film back on a Century back with a Graflok back.

Now, my high school “best friend,” Jim Cochin, had a 2¼ x 3¼ Century Graphic with the early (and horrible) 103mm f/4.5 Graflex Trioptar lens, in an inexpensive Century shutter, with only five speeds (1/10 to 1/200). Jim and I took many high school function photos with these cameras, but Jim’s photos, when enlarged to just 8x10, were always very soft. I thought nothing of it, as mine were sharp and usable for school pictures. Many years later, as a working professional photographer, I started collecting many Graflex cameras and now understood lens resolution.

Through “CameraShopper,” I acquired a very early (1949) 2¼ x 3¼ Century, NIB, serial number 501579, at right. It had no rangefinder, but I noticed the body was pre-drilled, under the imitation leather covering for it. I found a rangefinder, NIB, with the box marked “for Century Graphic.” The box fit perfectly in the empty space in the original Century box, not by accident, but by design, I suspect. Having located the early and correct instruction booklet, I now have a complete and vintage Century, which was first offered in 1949. Upon viewing this cam-



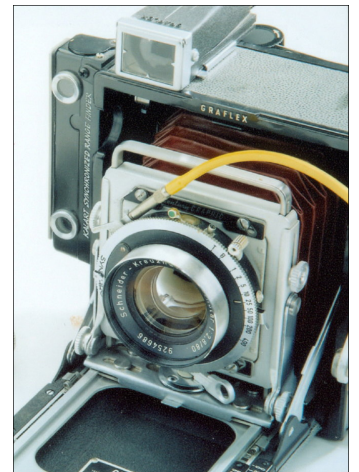
era from time-to-time, I think back to my high school days and Jim Cochin, so many, many years ago.

One of the last Century Graphics to be manufactured, I acquired NIB by accident. I was answering a “for sale” ad in “CameraShopper.” The seller had a 1932 3¼ x 4¼ revolving back Series D. It had the rare 6" f/2.9 Taylor-Hobson Cooke lens, which was advertised by a retired professional photographer from Fitchburg, Mass. I drove out ASAP, excited to get it. He said, “Oh, I also have the original box for it.” WOW!! But I digress.

Before retiring from wedding photography, he had used a 2¼ x 3¼ Century with an 80mm f/2.8 Rodenstock Heligon lens. As a backup camera, he also had a never-used NIB Century, purchased in 1968. The lens was a Graflex Graflar in a Prontor shutter. I acquired this one, along with his working Century camera, as my second featured camera.

Quite a day in Fitchburg. Now I have the earliest and latest Century cameras offered by Graflex, which can easily be modernized with a simple lens upgrade.

As a side note, the 2¼ x 3¼ Century was also offered with an f/2.8 80mm Schneider Xenotar and was called the Century Professional (see [GHQ](#) Volume 15, Issue 4). With an ideal format (2¼ x 2¾) roll film back, this was quite the performer in its day, giving Rolleiflex results at a discount. I acquired my red bellows Century Professional at auction.



Oh, happy days!



Top left - 1949 Century.  
Top right - 1968 Century.  
Bottom - my first Miniature.

## Letter to the Editor.....

The question has been raised by Jim Chasse as to what qualifies as a Professional Century Graphic. Graflex researcher, collector and 16-year Graflex employee, Bill Inman, answers:

You have to keep in mind that the word “**professional**” was an advertising term used by Graflex and their advertising department. Graflex was competing with the Hasselblad, Mamiya Press, Rollicflex, Koni-Omega and other medium-format cameras. These cameras, along with the Century Graphic, were appealing to the wedding photographers in particular, as well as the amateur photographer. These professional photographers liked the Century Graphic but wanted a faster and shorter focal length lens, along with a more competitive roll film holder.

In 1954 the all-black Century Graphic was dressed up with a great gray cover and red bellows, making it more appealing to both the amateur as well as the professional. All that was needed were the faster lens and improved 10-exposure roll film holder.

1962 saw the introduction of the 80mm Schneider Xenotar f/2.8 lens. This lens made the Century Graphic more appealing to the professional wedding photographer in particular. The 80mm lens was like the focal length on the Hasselblad. The lens was available if anyone wanted to send in and have it fitted to the Century with gray cover and red bellows **before** the new version of the Century with gray cover and black bellows was introduced the following year. So, if the collector has a Century 23 with red bellows and the Xenotar f/2.8 lens, I think it could be designated as a professional camera.

In 1963 GPE Graflex decided to make the Century Graphic look more professional by changing to black bellows and the gray body cover. During the changeover period from 1963 to 1964, there were Century Graphics with red bellows shipped with the 80mm f/2.8 Xenotar lens.

1964 saw the introduction of the redesigned “Rapid-Vance” 10-exposure roll film holder and in 1965, the 20-exposure roll film holder. In addition, the long optical viewfinder was an optional accessory that extended over the back of the camera when the roll film holder was used.

The word “Professional” was not applied directly to the Century Graphic until 1966, although indeed it was a professional camera, with the f/2.8 lens in the 10-exposure roll film holder competing with those cameras mentioned earlier. Equipped with the Multi-grip (from the xl), Kalart rangefinder, Graflite flash plate, 3-lens options, and an RH/10 roll film holder, it now was a “Professional Outfit” with its own catalog “P” code.

The word “Professional” was supposed to make it appealing to the potential buyers, professional and amateur, and compete with the other medium-format cameras.

Don’t forget that the early all-black Century Graphic could be fitted with a Kodak 101mm f/4.5 1/800 lens/shutter, 101mm F/4.5 Graflex Optar and 105mm f/3.7 Kodak Ektar. The Century Graphic could be interpreted as a professional camera with those lenses as well. It’s all in the mind of the buyer and what he bought the camera for.

After all, he was buying a Graflex camera from a company who makes professional cameras! That alone identified the photographer as a professional, whether he had a “45” Graphic or a “23” Graphic in his hand.

That’s the way it was back in those days. I know, I was there.

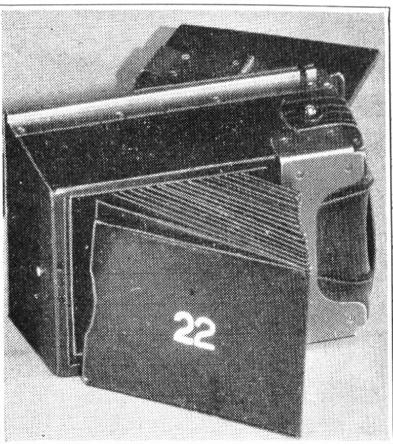
Bill Inman

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This Camera Craft ad from November 1933 was given to the Quarterly by Robert Lansdale, publisher of the prestigious Photographic Canadiana ([www.phsc.ca](http://www.phsc.ca)). William Folmer, in 1899, patented (number 631,249) a device for holding 12 glass plates in sheaths (septums) and followed it by a similar device for sheet film in 1904 (patent number 762,035). In 1906 Graflex introduced a combined glass and film magazine holder, using cardboard in the glass septums to allow film to be inserted on top of the cardboard. In 1931 Graflex offered an 18-film 4x5 “bag mag,” essentially putting film sheaths in the glass plate body.

Interestingly, the bag mag pictured in the ad had been replaced by a new model in 1922. Les Newcomer speculates that “I’m not sure how you cram another 6 in there. I have to believe this outfit was making their own sheaths, or buying them and re-numbering them.”

If any of your bag mags have a number over 18, you are a prize winner, and we would like to hear from you. Unfortunately, there is no monetary prize.



## 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.*

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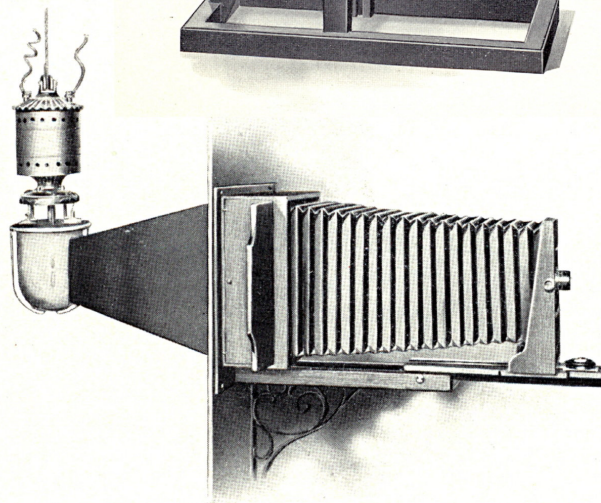
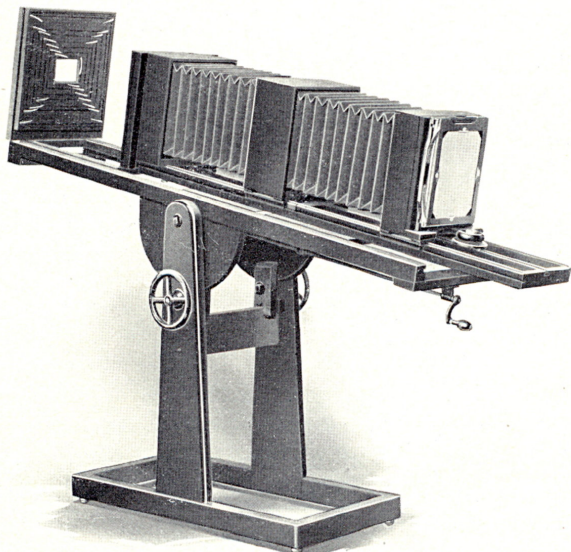
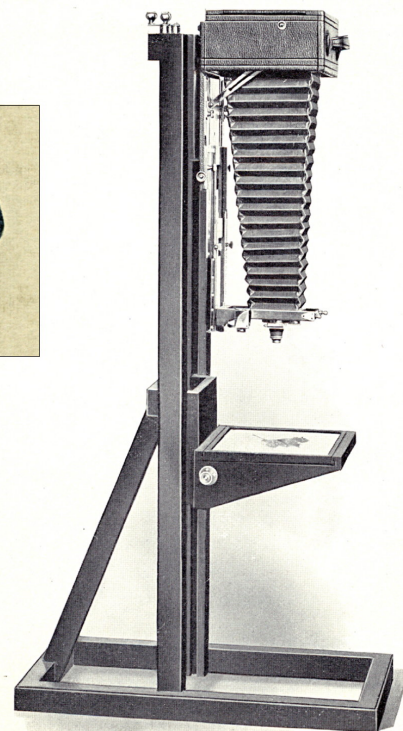
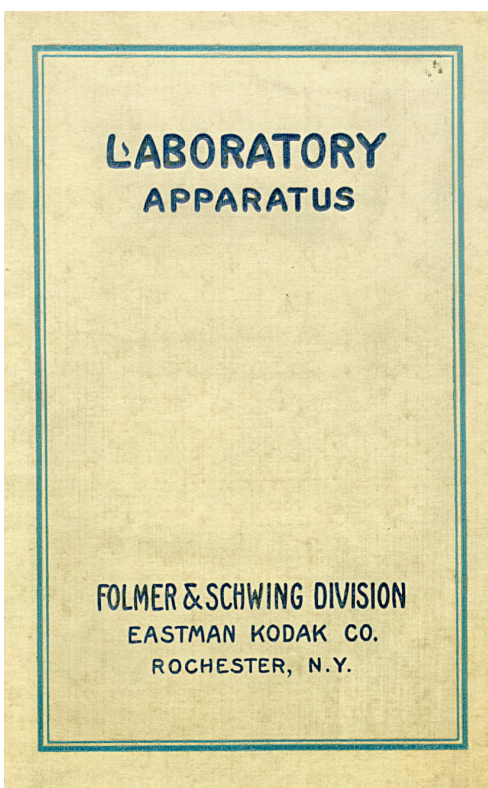
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## EXTENSIVE GRAFLEX CAMERA COLLECTION FOR SALE

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Collection includes stereos, Big Bertha, Naturalists' Graflex, etc.



Professional catalog ca. 1912-1915, showing left, Universal Laboratory Stand, top right, Photo-Micrographic Outfit, and bottom right Aristo Lamp on Enlarging and Reducing Camera.