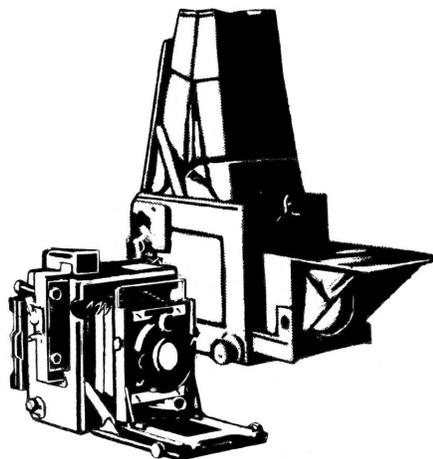


GRAFLEX HISTORIC QUARTERLY

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Ed. A long-range telephoto camera, often referred to as a "Big Bertha" (5x7), or "Little Bertha" (4x5), used Graflex cameras such as the Home Portrait or Series D or Super D in combination with a lens (in the case of the Home Portrait) of a focal length from 28" to 40", and in most cases, the lens was manufactured by Dallmeyer. It is reasonable to assume that the early cameras were modified versions of the Graflex Naturalists' and that they evolved into a Graflex affixed to a rigid platform, with a gearshift type of zone-focusing. From the 1940 first edition of Graphic Graflex Photography, comes this statement: "The 'gear-shift' model of the Big Bertha referred to was first developed for the New York Daily News with the cooperation of George Schmidt of the Daily News Photo Laboratory [in 1937]." Also from GGP comes the statement that "A stock camera is used, but each mounting job is handled on a custom basis so that nearly any desired combination can be obtained from the Graflex factory." In spite of this, there is some evidence to suggest that the Big Bertha was not actually modified by Graflex. The Quarterly is indebted to long-time subscriber and contributor Ronn Tuttle, for bringing the following article from The Complete Photographer, Issue 7, Volume 2, November 1941, to us.

BIG BERTHA CAMERAS

William C. Eckenberg, A.R.P.S.

Staff photographer, New York Times, Rotogravure Section

Big Bertha cameras have lenses ranging from 28 to 60 inches in length. Hard to handle, these cameras often produce remarkable shots, particularly of sports. The author, long a newspaper photographer, has used Big Berthas often and tells about this interesting photographic machine.

The long range camera, more familiarly known as Big Bertha, is an indispensable piece of equipment in practically every newspaper office. Almost every organization is using some type of telephoto equipment. The popular outfit, however, is the 28-inch Zeiss Triplet. There are also a number of 40-inch Dallmeyer f/8 telephoto lens cameras in use. More recently the 60-inch Dallmeyer f/8 has been introduced. While this camera is too long for baseball, it has proved valuable for certain types of assignments.



It is huge and requires at least two people to carry it. Not so long ago a lens working at f/8 was considered too slow for action photography. The advent of the new fast film has overcome this, however.

All of these cameras are bulky and quite heavy. Then, too, they are subjected to hard usage in all kinds of weather and under very severe conditions, so they must be sturdy. Both the 4x5 and 5x7 Graflex cameras are used for the long lenses, but in most cases the 5x7 is preferred. The operation of the camera is about the same except that the focusing is much more critical than with the short lenses. This, of course, is due to the shallower depth of field in the long focal length lenses.

When window jumping was popular in New York, it was the Bertha which was used to make pictures from adjoining buildings. It has also been used to make advertising illustrations and other types of pictures.

SPORTS

The increased demand for pictures of sports events such as baseball, football, tennis, horse racing, and prize fights brought about the need for good long-range cameras. At one time it was possible to work on the field when making baseball and football pictures. As a matter of fact, there are still some fields where sideline photography is permitted. In most instances officials felt that the cameramen were in the way. In order to avoid possible interference with the game and annoyance to spectators, they were ordered off the field at most of the major league ball parks and many of the football stadiums.

It has not been too much of a handicap for the photographers to work at a distance. Covering baseball from the stands affords a

greater opportunity to watch every part of the field. Pictures can be made of any portion of the field by merely swinging the camera.

The same applies to football, where photographers work from the top of stadium stands. Many important pictures made at football games with these super cameras, would have been out of range of cameras on the sidelines. Football pictures made on the field can be far more dramatic, but it is easily understandable that a photographer cannot give the game as complete coverage from the ground as from the stands. Many football coaches took immediate advantage of the Bertha pictures. They used them to show players instances of faulty blocking and defense.

AT THE OPERA HOUSE

Last season the big camera invaded the confines of the Metropolitan Opera House. The Editor told me he would like, if possible, to see the action pictures rather than the posed type which had always been made. It was therefore my privilege to experiment with the camera at the famous house of music. My tests proved so successful that arrangements were made to shoot all the important operas. Up to that time no actual performance pictures had ever been attempted. Mr. William Freese, Manager of The New York Times Studio, arranged for the set-up, and together we covered twenty-five operas.

It is common knowledge that the real opera lover considers silence a sacred privilege during a performance. The noise of a rustling program or a pin which has been dropped will guarantee immediate reactions from an opera audience. It was therefore necessary to soundproof the equipment so that no one would be disturbed by the noise of the camera. I found that most of the noise was made when adjusting the mirror and shutter after making a picture. By holding the shutter release down when adjusting the mirror, I eliminated the click. When rewinding the shutter, I held the curtain release on the right side of the camera while winding the curtain, thereby avoiding any undue noise.

Before shooting a performance, I made it a practice to study the libretto in order to thoroughly understand the plot. In that way I was able to get a good continuity set of pictures and could also watch for important spots in the opera. Mr. Freese contacted the technical staff and performers backstage. From the electricians he obtained valuable information about the lighting for various scenes. Lighting was perhaps one of the most difficult problems. A scene might start quite bright, and in a matter of a few minutes, it would melt into a subdued light. I found it necessary to keep my eyes fixed on the ground glass almost constantly in order to note the changes in the light. The stars themselves were most anxious to help us if they could. If Mr. Freese told them we wanted to get a certain scene and the light was of poor grade, they would volunteer to hold a pose at a particular time in order to insure a good picture.

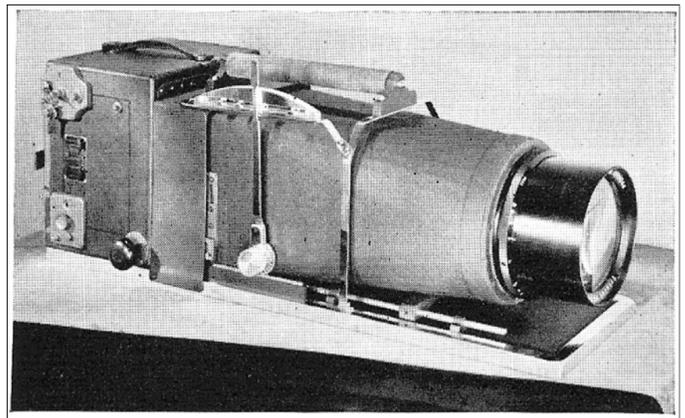
Stage directors also proved equally helpful. One of them in particular was keenly interested in the venture. He is an ardent camera enthusiast in addition to being a fine director. Many times he would stand beside me offering valuable advice on forthcoming action. On one occasion he ordered stronger light in a moonlight scene so that I could get a picture.

THE CAMERA-RECENT DEVELOPMENTS

Structural improvements are constantly being made in order to lighten the camera. Most of the modern Berthas have a strong bed, the frame of which is usually made of channel duralumin. A metal cone extends from the leather bellows of the Graflex to the lens. This mechanism runs on a track which is attached to the bed. The camera is still too heavy and too long to be hand held and must be supported by a tripod or rested on a rail when in use.

One of the recent developments has been the gear shift focusing device. This has been especially fine for baseball assignments. It enables the photographer to do his focusing in advance on the various bases. Then, by merely shifting the lever to a stop which has been locked in place while pre-focusing, his picture is sharp. This does away with the need for ground glass focusing when split-second action takes place. Most always a photographer anticipates action at a certain place on the field, but the unexpected often happens. He must then hurriedly shift the camera and refocus, unless he is using the gear shift. Many fine pictures have been lost because of the need for focusing.

James Frezzolini, an electrician at the New York Mirror, has built several of the latest Berthas. He told me that one of their old 48-inch cameras originally weighed 120 pounds. After reconstruction, using dural throughout, the camera now weighs 65 pounds. On his camera a cone runs directly from the Graflex box. The lens is attached to a sleeve which operates inside the cone and moves on ball bearing rollers. The focusing mechanism is a worm drive. This makes it impossible for the camera to run out of focus by sheer weight of the lens when it is tilted. Another feature is his patented diaphragm control. This is a conveniently located knob and dial showing the various f-markings. It eliminates the need for reaching out to the end of the camera to change the diaphragm opening because of fluctuating light.



Each year pictures made with Bertha cameras win salon prizes. A dramatic baseball picture made by Ernest Sisto of Times Wide World Photos has won first prize in the sports section at the Press Photographers' Association of New York exhibit. Also a picture made by Michael Ackerman of Acme News Pictures showing the launching of a battleship won a prize. Made with the 40-inch lens, the picture had real punch because of the marvelous perspective and roundness. Other pictures of the launching made at closer range with the short lenses were good, but they were not as dramatic.

So, while it is often a backbreaking job to lug the heavy Berthas to the top of stadiums and many other lofty perches, I think all news photographers will agree that they receive worthwhile dividends in great pictures for their effort.



Eastman Clinical Camera

By Thomas Evans

Judging from the Graflex Serial Number Book, 1480 Eastman Clinical cameras were made by the Folmer & Schwing Department of the Eastman Kodak Company (and, after 1926, the Folmer Graflex Corporation) between July 30, 1922, and the end of 1938 at a fairly steady rate of about 100 per year.

The Eastman Clinical was a 5x7 view camera that was made to be simple to operate by medical personnel who would have minimal photographic training. Other than lens rise and fall, there were no camera movements. A 3¼ x 4¼ lantern slide back was available and, at least by 1930, was included in the outfit. The outfit also included an enlarging back with light source and a rugged stand with a top that allowed the camera to be tilted 90 degrees, so that the camera could be pointed straight down.



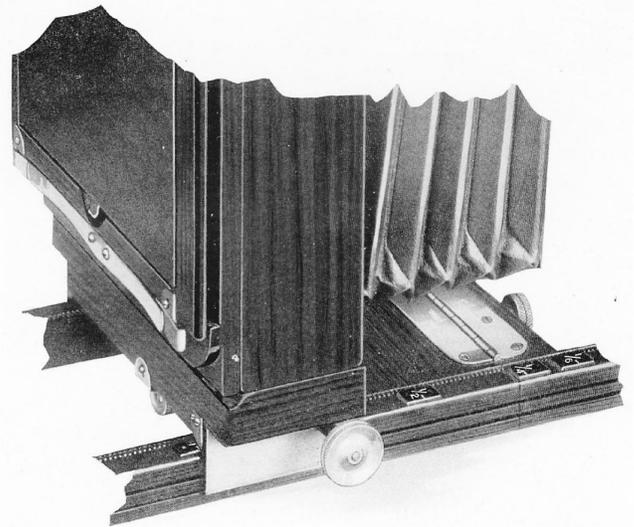
In 1930 the Eastman Clinical outfit sold for \$180.00 complete. The camera alone sold for \$70.00 (without the lens, which sold for \$37.50). At the same time, the 5x7 Kodak 2D (also made by Graflex), which was a more capable view camera with rear horizontal and vertical swings, sold for \$60.00. Why would medical professionals be inclined to purchase a more expensive yet less capable camera? Perhaps it was the efficient, specialized nature of the Eastman Clinical camera and its carefully designed outfit that made it more desirable.

Eastman's *Elementary Clinical Photography*, published in 1927, begins with the statement: "It is assumed in this booklet that the chief interest of the medical man in photography is in its use to reproduce lesions and conditions as he sees them. This at once removes a good many considerations applying in ordinary portraiture, for the process is changed from an art to a routine science." The book goes on to lay out the chief requirements of the camera with which to accomplish this task, being 1) long bellows extension sufficient to give full size images, 2) anastigmat

lens, 3) ground glass focusing, and 4) convenient size. The Eastman Clinical Camera was designed to meet these requirements. "For clinical purposes there is no more efficient all around camera than the Eastman Clinical Camera... The size of picture, 5x7 inches, was chosen after careful census of medical opinion." The camera came equipped with the 203 mm f/7.7 Kodak Anastigmat lens, in a Kodamatic shutter, described as being "...notable for its faithful delineation. It is highly corrected... it can be used for making full size pictures and reductions."



To simplify the making of repeatable, comparable photographic documents, the bed or rail of the camera was marked 1/1, 3/4, 1/2, 1/4, 1/8, at the appropriate locations for the concomitant image reductions made with the 203mm lens. The operator was instructed to setup the camera, rack the front standard all the way forward, set the rear standard at the mark for the desired image scale, and then focus by moving the camera and stand forward or backward.



When the camera was introduced in 1922, flash photography still involved magnesium powder spread out in a trough that exploded in a brilliant flash of flame and dense smoke, perhaps undesirable in a medical institution. At the beginning of the 1930s, the flashbulb was introduced to photographers as an alternate source of portable light. In 1932, in its *Radiography and Clinical Photography* publication, Eastman Kodak encouraged clinical photographers to further simplify their processes with the use of the photoflash lamp, especially in the photography of patients who were unlikely to remain motionless during a long exposure. "The best clinical photographs are those which tell the story in a coldly impersonal, scientific manner. In order to secure images with the required detail and perspective, it is necessary that the camera lens be sharply focused and then stopped-down..." and thus the exposure would require more light.

The characteristics of the new flashbulb were explained to the medical professional as: "The Mazda Photoflash lamp consists of an evacuated glass bulb within which is a piece of aluminum

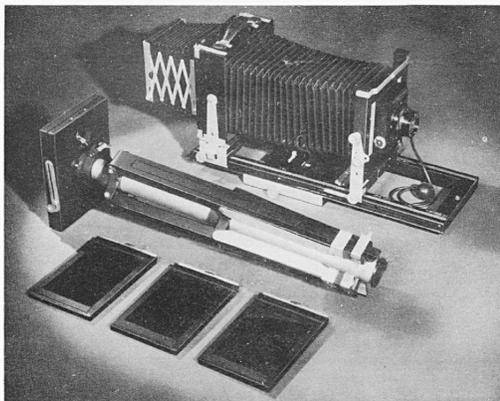
foil. When the lamp is connected to a flashlight battery, the foil is ignited by the current, creating an instantaneous blue-white light of uniform intensity, which assures a uniform exposure. There is no flame, smoke, noise or fumes..." And the doctor is reassured: "The method of close-up clinical photography with this type of illumination is simplicity itself; anyone who can focus an image on a ground glass can make photographs of excellent quality."

To make the process as simple as possible, a single set-up with specific equipment was recommended. The subject should be seated in a chair with headrest, backed by an Eastman Home Portrait Reflector painted gray, and flanked by two more reflectors placed on either side just 12 inches from the shoulders. A Kodalite electric lamp was to be used for focusing only. In addition to these, all that was required were a Photoflash lamp and reflector, an "adequate supply" of Mazda Photoflash lamps, and film. After focusing, the lens was closed and stopped-down to f/32. When all was ready, the lens shutter was opened and the flash manually set off. (There was no hint of using synchronized flash.)

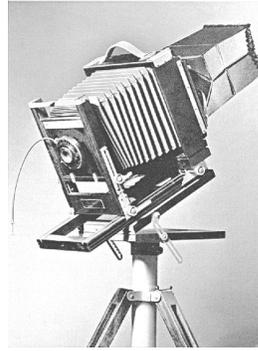
The article states: "In practice, the three-quarter size image made on 5x7" Eastman Super Speed *Safety* Portrait Film has been found most suitable for medical photography, since the bulk of the work is essentially close-up, requiring the greatest amount of detail," and goes on to carefully explain in detail just how to process the film and make prints, or positive transparencies for display.

The camera that I looked at, serial number 157435, was most likely made in 1927. The camera is equipped with a 203mm f/7.7 Kodak Anastigmat lens, but this is in a more modern Kodak No. 2 Supermatic shutter. The stand, built around a large brass tube, is quite solid. The camera is indeed very easy to set up for a specific image scale, and a 1:1 image on a 5x7-inch negative made with this set-up is very clear and rich in detail. It is easy to see how a medical institution that was interested in maintaining photographic documentation of the conditions of its patients would find the Eastman Clinical outfit attractive.

Note: I learned that in the UK, Kodak Limited EKC sold an Eastman Clinical camera in half-plate size (4¼ x 6½ inches) that had front and rear swings, and an interesting scissors-bellows type of ground glass hood. These cameras do not appear to have been made by Folmer Graflex, but were most likely made in the UK. They were sold with the same compact stand and tilting top as the FGC Eastman Clinical.



Typical setup of equipment and position of patient for Photoflash photography.



Beginning in 1935 the Clinical camera was sold with a Graflex-type viewing hood.

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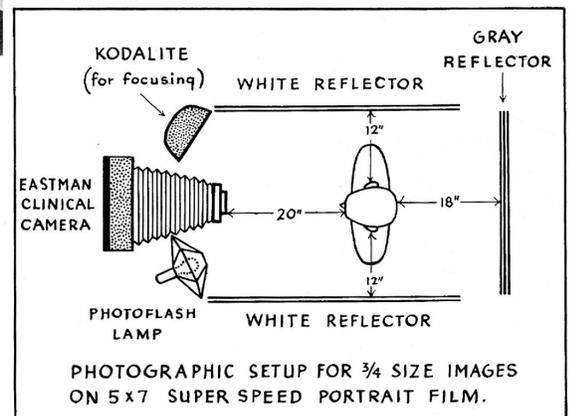
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Eastman Kodak Company. 1930. Eastman Professional Photographic Apparatus. Eastman Kodak Company, Rochester, New York.

Eastman Kodak Company. 1932. Radiography and Clinical Photography Volume VIII, No. 3, pp. 14-18.

January 1931 GE Mazda Photoflash advertisement from Camera Craft.

Kodak Limited. ca.1933. Clinical Photography. Medical Department, Kodak Limited, Harrow, Middlesex, United Kingdom.





Working with the Eastman Clinical Camera

By Nicholas M. Graver, RBP FBPA, Rochester, NY.

Our department had both an Eastman Clinical Camera and a conventional 2D 5x7 camera, as well as an 8x10 2D model view camera. No one made much distinction between them on the job. The Clinical had both the extra-long bellows and the extension bed section, permitting greater than 1:1 (life-size) images. Our Clinical Camera was more worn, having been in steady use since the founding of the department in 1925.

The cameras were used for negatives, as well as positive making. Copying a negative (especially of radiographs) produced the standard 3¼x4-inch lantern slide.

One accessory probably unknown to your readers was the wooden holder for **lantern slide plates**. While sheet film was 3¼x4¼-inch size, sensitized glass plates were exactly sized to the popular 3¼x4-inch lantern slide. So these holders held the ¼-inch smaller lantern slide glass plates. Plates came in both "Medium" and "Contrast" grades, and when processed in various developers, could adjust contrast to suit the needs of any image. A popular darkroom technique was to make the plate image slightly "heavy/dense" and then "perk up" the contrast with Farmer's Reducer solution, using a broad camel-hair brush or by immersion, till the desired image was almost achieved. The bleaching action continued a bit into the fixer, so some judgment was required. I have a few of these Lantern Slide Plate Holders in storage. Perhaps I'll dig them out sometime for collectors? They look nearly the same as standard plate holders.

We soon switched to film for making positive lantern slides. This allowed us to incorporate the many special emulsions, including graphic arts products.

And film was so much simpler to handle, unbreakable and cheaper. Bound between two cover glasses, it was preferable to the glass plate slide. If dropped, rebinding was simple, instead of re-making a new positive on a sensitized glass plate.

Despite starting as a 5x7 camera, much medical work was shot on 3¼x4¼ film, especially when color transparency film came into use, first Kodachrome sheet, and later Ektachrome. Our medical center worked closely with EK Co., so we often had first use of new products, emulsions, etc. Many EK technical publications were illustrated with photos made in our department, sometimes with credit.

A very useful accessory was the Lantern Slide Back, with its 3¼x4¼ ground glass focusing screen secured by two knurled knobs. It facilitated sliding the focusing screen around the camera back, and then quickly locking it in place when the image was composed. Repositioning the image was far faster than moving the camera or subject.

We often had limited control over the subject, which could be a hospital patient, laboratory animal, or specimen. Rapid working was a critical factor in the sterile confines of surgery.

The switch to 2x2-inch slides had been a controversial issue after WWII, when modern cameras and improved slide films arrived. It was the Kodaslide Projector, Master Model 1000 W. 2x2 auditorium grade slide projector, that finalized the switch from view cameras and heavy lantern slides to 35mm SLR cameras, now themselves almost totally displaced by digicams.

The 203mm, f-7.7 Kodak Anastigmat lens was simply super. It later was renamed Ektar: recognized as superior. Same lens, upgraded name. There was no single optical design for Kodak Ektar lenses. They could be of various designs, but were called Ektar if they had the highest quality image, unlike Tessars, which are all of the same design. Having been the "normal" focal length for the 5x7 format made it a long-focus lens for the 3x4 lantern slide, a highly workable configuration.

So, during my career, the old wooden view cameras rapidly transitioned from occasional use for the few old-timer clients to the apparatus retirement shelf. Last time I checked, they had been trashed.

[Ed.- Mr. Graver was Senior Medical Photographer at University of Rochester School of Medicine and Dentistry from 1963 into 1981, then joined Kodak Research Laboratories prior to Kodak Information Center, and then early retirement. "I made my living with this camera, for a while, along with other models."]





Mini Graflex Kit, Packed Away for About 70 Years, Surfaces

By Jack Billington

I would like to share my good luck acquiring a nice camera and some early Graflex related photography. In December my wife and I got a call from a lady who runs an occasional yard sale.

She lives about an hour from our house and still had a card I gave her at one of her past yard sales. This was at least 10 or more years ago. Anyway, she did a house clean-out and had about ten boxes of camera things. Most of the items dated to the 1940s. So she invited us to come over recently to see if we wanted to buy the items. We liked what we saw, the price was fair, so we purchased them.

There was a Miniature Speed Graphic camera, 2¼ by 3¼-inch film size (serial number 249925), which was made in 1940 by the Folmer Graflex Corp.

One of the nice historical things we found was a 1941 letter that was sent to the original photographer concerning a 2¼ by 3¼-inch film pack holder. It also mentioned a beautiful leather case for the camera. He bought both of these items, and I have them now.

There are about a dozen unopened film boxes dated to the early 40s, and also some film pack holders.

There is a Speedgun brand flash with a solenoid that needed repair to the wires on it. I taped up this flash wire, which is a double wire. There are two prongs on the wire that allow different settings on the flash. The wire is crimped or soldered in. The bottom half of the double wire is connected to the solenoid. I didn't want to pull these units apart, so I carefully taped them separate from

each other and then together as a unit. I put two D batteries in the flash holder, and everything is now working. The coating on the original wires was dry and crumbling. The lens is a Carl Zeiss Jena Tessar 1:3,5 f=10.5cm, and the shutter is a Compur-Rapid. This was the most expensive lens/shutter combination advertised that year at \$142.

There is also a Graflex catalog that is dated 1940. The exact same camera is shown on one of the pages. I also got a large number of camera magazines, Popular Photography type. Most are dated in the 1930s to the 1950s.

Years ago I spent about 20 years shooting with a 4 x 5 Crown Graphic. This little guy will feel like a featherweight to use. Our Graflex 35mm Stereo Camera is in the picture just to show the size of the Miniature Graphic. I have had this stereo camera for years.

A couple of weeks ago, my wife and I went to a flea market. One of the dealers had this old cardboard cutout for sale. The two figures are holding a camera that looks just like our Miniature Graflex. Of course, we had to buy it. The wire finder has the same bend as the wire finder on our camera. I believe these two photographers are from the wonderful Muppet family. This poster is about three feet in length and complements the camera nicely.



Graflex Historic Quarterly

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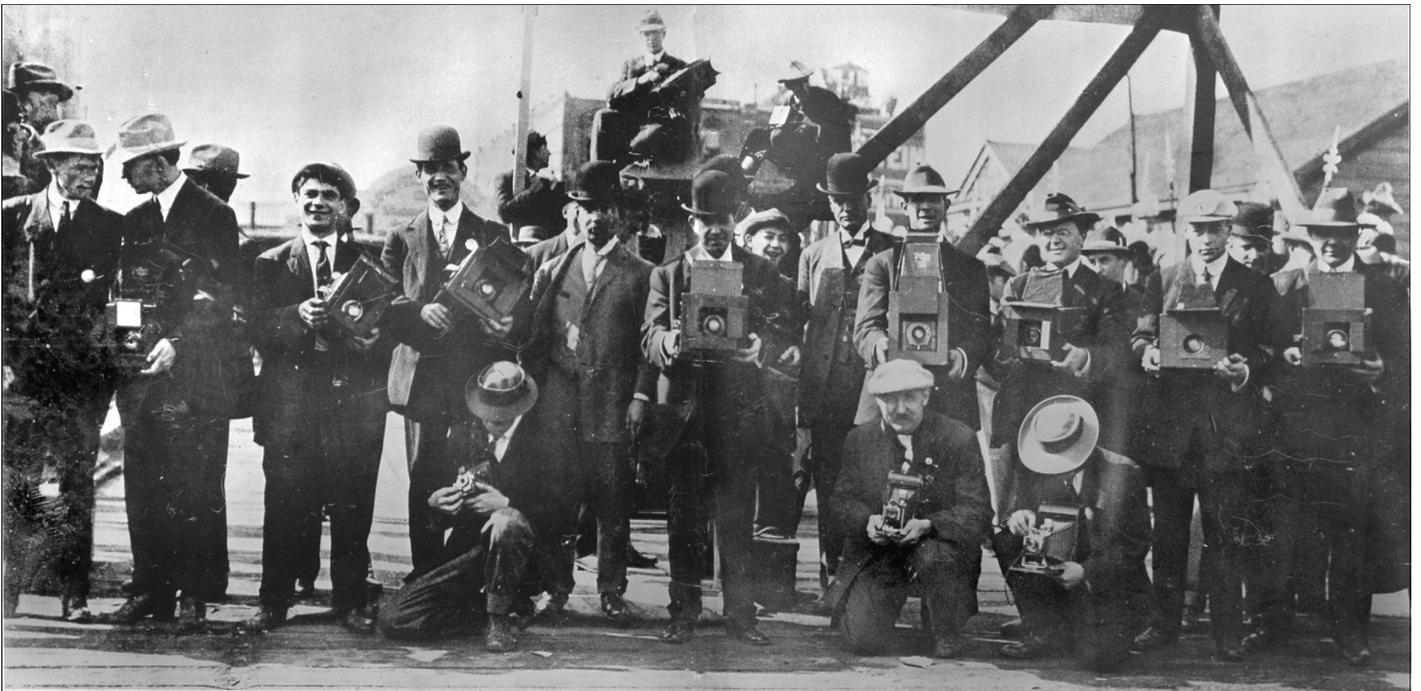
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Photographs, courtesy of the George Eastman House.



The answer to the question about the cameras, shown in the last issue of the *Quarterly*, comes from Todd Gustavson, Curator of Technology at the George Eastman House and author of the recently published comprehensive book, *500 Cameras*. According to Todd, he believes most of the cameras are various models from the Reflex Camera Company, except for several folding cameras that may be the Folding Pocket Kodaks. One exception may be the camera held by the man in the top center of the picture, which could be a Graflex.

According to Mc Keown's *Cameras*, the Reflex Camera Company of Newark, New Jersey, made a variety of popular SLR cameras, though they were short-lived.

Cameras to the left are from the Reflex Camera Company of Newark, NJ. Far left camera was creatively called "Reflex," ca. 1910. Near left is the Patent Reflex Hand camera, ca. 1902.

Folding Pocket Kodak on right is a No. 4A, ca. 1907, made by the Eastman Kodak Company, Rochester, NY.

