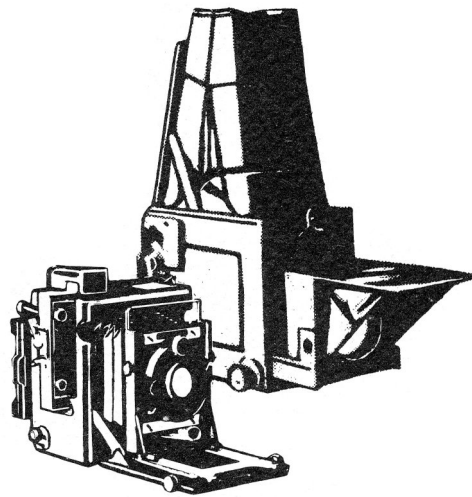


GRAFLEX HISTORIC QUARTERLY



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New Times, New Camera; The Pacemaker Series

Part 1

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Americans were anxious to get back to their normal lives once World War II was over, and things that looked new and stylish before the war now seemed hopelessly outdated. Pent-up buyer demand after the war is well documented, but there was also a pent-up demand on the manufacturing side as well. While the war accelerated manufacturing and engineering technology by asking planes, boats, even companies and people to do more and be better, the war often stifled innovation. Once Uncle Sam approved of a design, it was difficult to change it, particularly if it worked.

With the Anniversary Speed's design being locked up for the duration, the engineers at Graflex were eager to redesign the Anniversary camera after the war, even though the camera was only seven years old.

When the first Pacemakers were introduced at a Cleveland trade show in January 1947, dealers saw, not a revolutionary camera, but an innovative and evolutionary one. The body of the Speed Graphic was the same size as the Anniversary, but functional and stylistic changes abounded.

The common use of wide-angle lenses and flash bulbs brought about folding infinity stops and the focal-plane shutterless Crown Graphic camera.

Manufacturing advances in stamping, machining and molding of stainless steel, aluminum and the postwar wonder metal—magnesium, brought us the all-metal Graphic back, the all-metal bed, the brushed metal front standard now with back tilt and warp-free aluminum lens board.

The biggest change was to the focal plane shutter. Gone was the brass table with 24 oddly spaced shutter speeds. Gone, too, was the six-position tension knob, the former was replaced with a direct reading window and the latter a simple two-speed switch. The speeds themselves had been simplified to six speeds that were pretty much linear and reflected the widespread use of light meters. The standard speeds were 1/1000, 1/500, 1/250, 1/125, 1/60, and 1/30. In Tim Holden's notebook, he stated that they could modify the shutter to give more speeds in the high end: 1/1000, 1/750, 1/500, 1/375, 1/60, and 1/30. A Speed with this shutter has yet to surface.

Integrated into the shutter was a new body release that was large and easy to find without looking. A no-bump switch (you had to push it in to move it up or down) allowed the body release to control either the front or rear shutter. Stylistically, the brushed metal trim gave the camera line a modern and up-to-date look. And it was now a line of six cameras, a Crown and a Speed for each of the three formats: 2¼ x 3¼, 3¼ x 4¼ and 4x5.

The Graflex engineers didn't always get it right. Tim Holden tells the story of Joe Sprague vs. the Engineers. The Engineers wanted to make the front standard out of aluminum. Joe Sprague was both a photojournalist and talented engineer, and he saw a prob-

lem with the weak aluminum front standard. The Engineers held fast with their loyalty to new technology and their slide rules. The problem was brought to a meeting in front of N.L. Whitaker, President of Graflex. Joe said it was not stiff enough and would be too easily bent, causing misalignment, poor focus and a major headache for Graflex. The Engineers claimed that the standard would take a 700-pound pressure. After losing the battle of words, Joe picked up the \$25,000 prototype from the back and with his fingers around the front standard, gave it a crunch, snapping the standard cleanly in two, and handed it back to the engineer. N.L. Whitaker said simply, "Gentlemen, do we need any more discussion about it being stainless steel?"



Even with the war over and everybody back home, Graflex was not in a position to start production of six new cameras at once, and there was no guarantee that the public would be receptive to the new camera.

The 23 Pacemakers were the first to be shown and primarily used to test the market. It was these cameras that were at the Cleveland show and were removed in the evening when the public was allowed in. Graflex wanted the dealers to get to know the camera before the public introduction.

The 23 Pacemaker line was widely accepted and primed the pump for the 45 Pacemaker, which was introduced to dealers in the February 1947 issue of Trade Notes. And while they might have grumbled, photographers paid the 34% price increase over the 1945 Anniversary. Because of the high demand for the 23 and 45 line of Pacemakers, the introduction of the 34 Pacemaker was delayed until August/September of 1948.

Maybe it was the exclusive use of the 4x5 over the 3x4 by the Armed Forces, or maybe it was the late introduction of the 34 Pacemaker, but the 34 Pacemaker was as big a failure as the 4x5 and 2x3 were a success. It was the first of the line to be discontinued in 1959.

1947-1955 The Side Rangefinder Era

The reason I call the Pacemaker line an evolutionary camera is that a good deal of features and accessories were continued from the Anniversary model. The standard lens would still be a 127mm Ektar or 135mm Optar in either a Supermatic or Graphex shutter, though these shutters would change from fully synchronized, to X sync only as electronic flash became the standard. Solenoids, while no longer needed for synchroniza-

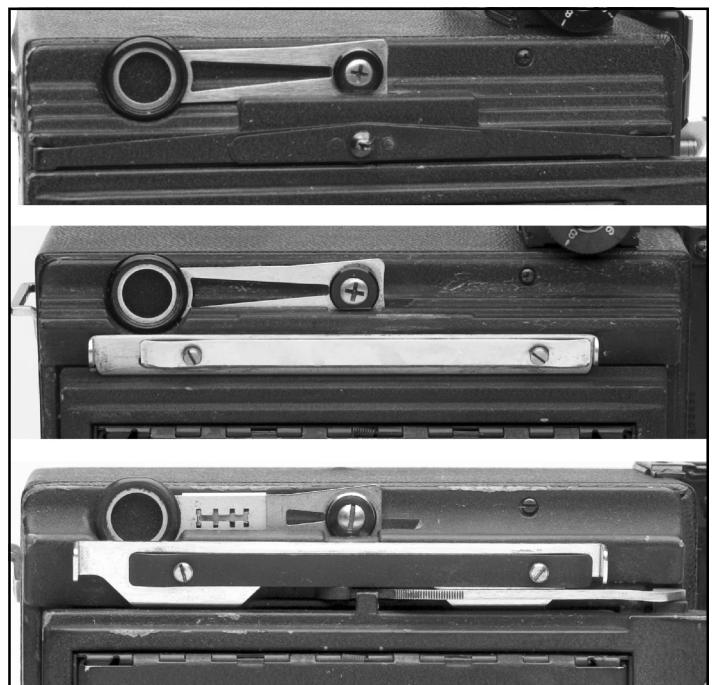
tion, were used to electrically trip the shutter from the battery case. The new #0 solenoid was introduced to give some extra punch for larger shutters, while the #2 worked well on most #2 shutters. The #3 solenoid was discontinued. The rangefinder options continued as well, with either a Kalart or Hugo Meyer model.

A thread of tradition going back to the first Speed Graphics of 1912 continued with the use of leather as a body cover with a delicately incised line near the body edge, though both would be gone by 1950.

The rear peep sight is a holdover from the Anniversary as well, but the front sport finder is now well integrated with the front standard. Made of flat stainless steel, the left side has graduations for parallax correction. The viewfinder is an updated version from the Anniversary, which is now removable. The lens and masks are the same, but the body is now of magnesium, and the assembly fits in a shoe on top of the camera. There was an accessory viewfinder for wide-angle lenses that used a pair of standard viewfinder lenses to approximate the view of a 90mm lens on 4x5.

It seems the design team at Graflex was stretched to their limit with bringing on the Pacemaker series and didn't get around to introducing its companion flash, the Graf-lite, until September of 1948. So for at least a year, the Pacemaker camera used the old style Graflex flash.

The popularity of the Graflex back had not diminished, and Graflex often marketed Speeds and Crowns as companion cameras to the Super D, so it took only a year (January of 1948) for them to introduce the Graflex back for the Pacemaker 45. Like the Graphic back, the frame was a magnesium casting, and this version used two slide locks, one top and one bottom, and tilted in slightly, foreshadowing the Graflok back to come.



1950 was a big year for Graflex. They introduced the Grafmatic film holder, the Graflok back, and the Korean War started. The Graflok back would have what I'm certain was an unforeseen, global effect on professional photographic equipment for the next 60 years. It was quite simple in its concept:

A. Replace a flat leaf spring with a radial spring and a strut.

and

B. Attach the struts to the body via a pair of hooks, which allow the ground glass to be removed and replaced instantly and without tools.

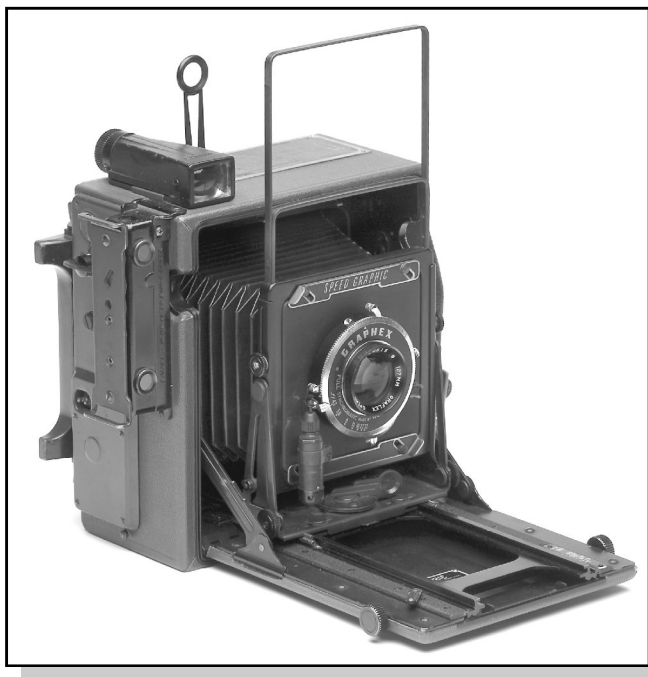
These two simple changes solved two problems that had plagued the industry for years:

1. It allowed for a thicker holder or accessory to slide in while still allowing the ground glass to stay on the camera.

2. Once off, it easily allowed for bulky accessories, like Polaroid and roll film backs to be used.

And once the patents expired, the rest of the industry adopted it. From Cambo to Calumet to Sinar, they all have adopted the Graflok back, now renamed the International back. Even Mamiya, with their RB 67, used the 2¼ x 3¼ version of the Graflok as their standard.

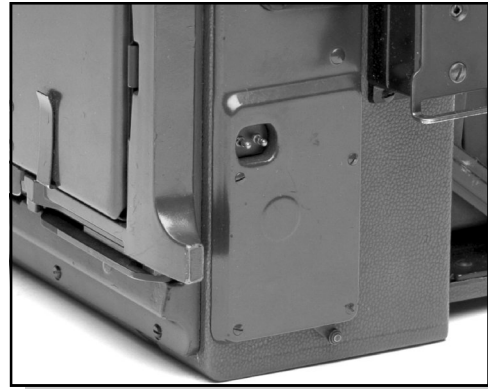
The Graflok back was an offshoot of the Pacemaker Graflex back. While the frame was different to accommodate the different film holder sizes, both used a pair of chrome plated slide locks to hold the accessories to the camera. On the Graflex version, the slide locks maintain a consistent height, while the Graflok back has a notch cut out in the center for the strut hook. Originally the Graflok slides were identical, the bottom one simply mounted upside-down. This meant in operation the top slider moved up and to the left to open, while the bottom moved down and to the right. In 1953 Graflex quietly changed the slot direction of the bottom so it moved to the left, like the top. This allowed for uniform operation for a right-handed photographer.



4x5 Pacemaker Speed Graphic KE-12(1).

The Korean War was also good for Graflex, as Uncle Sam asked for the only military specified Speed Graphic: KE-12(1). Covered in olive drab synthetic leather with black trim, it looked like a Speed Graphic in an Eisenhower jacket.

I don't know if the bidding for the contract was contentious and Graflex whittled the camera to the bare bones, or if Uncle Sam just wanted their trusty Speed back and didn't want any bells or whistles. Whatever the reason, the camera that came out was a unique Speed Graphic. Not only was it green, but it lacked the body release, and the Graflok back was missing the slide locks (though late versions of this camera included them). The kit was the KS-4A(1), which included an aluminum tripod, black Graf-lite flash, and a set of Series VI filters in a Halliburton case (The PH-47-H was the first to go green, but it was a standard Pacemaker with a Graphic back.).



KE-12(1) with Graflok back without side locks.

In May of 1951, Graflex announced that Ektalite field (Fresnel) screens would become a standard feature of all new 4x5 and 3x4 Pacemaker cameras, and, at the same time, a program was announced to retrofit new in-stock cameras as well as customers' cameras.

Graflex SLR cameras had been getting the Ektalite lens since '49, and in some cases dealer installation was available. The delay for the Graphic line was its inherent design. The Graphic cameras use a die-cast magnesium frame. The ground glass is installed from the rear, and it rests on a rib, or raised boss, in the frame. When the Ektalite screen is placed behind the ground glass—between the glass and this rib, it moves the ground glass out of position. The solution was to mill most of this rib down. For production, Graflex had a new mold cast for this piece, but retrofitting had to be done by a machinist.

In comparing a modified with a standard frame, the modified frame looked well designed, and the boss was short and thin, just high enough to get away from the molded surfaces and give a flat surface for the ground glass to rest on. The standard frame had a boss that was considerably higher than necessary -- unless they were planning to add the Fresnel lens at a later date.

I asked Tim Holden about predicting the use of the Ektalite field screen. He laughed, "No, we just got lucky on that one. The original design was to save material and thus cost, but it really paid off when we didn't have to completely retool for the field lens."



The Century No. 2 Studio Camera

By Ronn Tuttle

Several years ago, my wife and I decided to drive from Peoria to Marshalltown, Iowa, to attend the annual camera show held there. We left a day earlier than needed so we could stop in Ft. Madison to visit with some friends before going on to Marshalltown. While visiting, it was suggested we all four drive to the small village of Wever, Iowa, to visit an antiques shop. Upon entering the rather dimly lit building, my heart raced as I exclaimed "I'm in trouble!"...at the far end of the first aisle, I saw a mahogany Century No. 2 Studio camera on a Century Semi-Centennial No. 1 camera stand. A Dallmeyer 3A brass lens mounted on the camera really caught my eye. I tried to hide my excitement as I pointed out every defect I could find to the shop owner in an attempt to wiggle the price down. She was a much better and more experienced negotiator than I. Alas, we agreed on a price. Now came a real problem...four people and one Century 8x10 camera with stand would not fit into one Buick! Do I leave the camera, or do I make two elderly people walk home? Decisions, decisions! Finally, the shop owner said she would open the place for me the next day, even though she was normally closed. Our elderly friends were greatly relieved and very appreciative. We did not make it to Marshalltown that year.

The camera and lens cleaned up nicely. The Packard shutter has the flash synch feature, allowing the use of my much more modern studio strobes with the camera, and I eventually found a set of Waterhouse stops the correct size, including some with slots to create a soft focus effect. The Dallmeyer is a very sharp lens, and even though I have been told it can be adjusted to produce a soft focus, I refuse to change

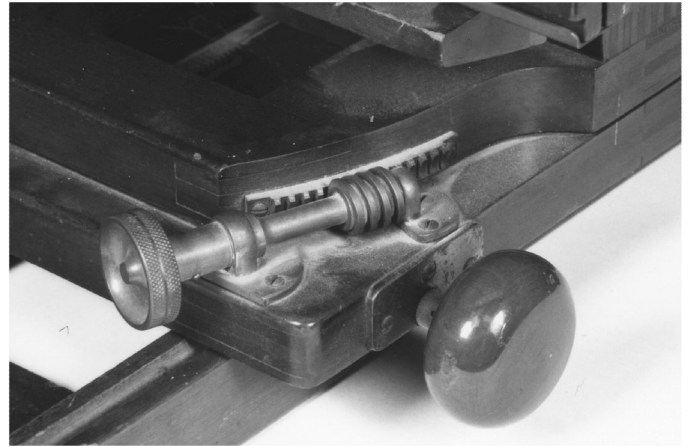
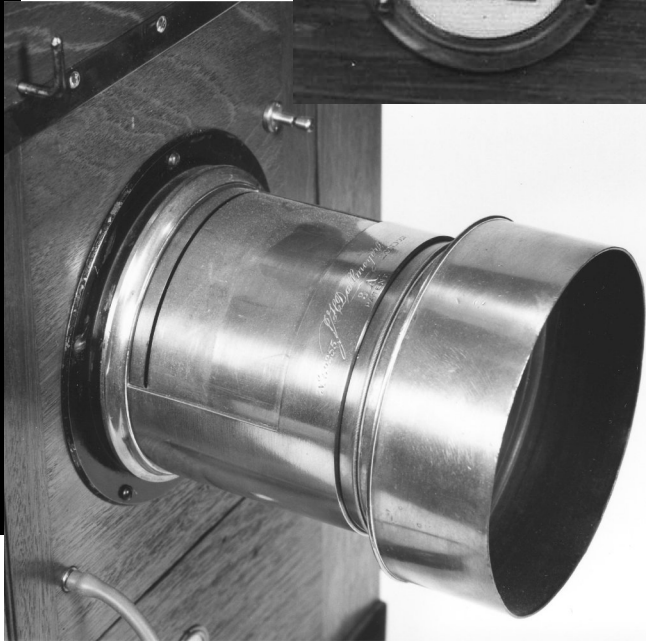
anything about it. The camera came with a 5x7 back and two roll film backs. I have since acquired 8x10 and 4x5 backs for it.

The various sized backs are attached to the No. 7 Sliding Carriage by the usual pin system used on most large format cameras. The carriage is attached to the camera rear and held on by a brass spring clip at the top. The sliding feature allows two exposures on one sheet of film, a feature I do not use, as I prefer to make either full 8x10 or 5x7 negatives. Contact prints are very nice, and the 5x7s give the option of enlargement. I recently upgraded from an "old" Elwood 5x7 enlarger to a much "newer" 5x7 Beseler (only 40+ years old).

Why would anyone want to use a 100-year-old camera? Because I can, I guess. I get a great deal of pleasure from using many older/vintage pieces of photographic equipment, many saved from oblivion, and several restored from nearly total junk condition. I like the challenge of total manual control over everything. I still prefer wet darkroom work using trays, etc. over automation.

At the View Camera Magazine Large Format Conference held in Rockford, Illinois, this past spring, it was reported by many sources that large format and ultra large format photography are enjoying a grand revival. Companies such as Ilford, while having had to downsize, are now doing very well with a larger slice of a smaller pie and intend to stay in the conventional photo supply business for the foreseeable future. Wooden LF & ULF camera makers are doing very well. College and universities continue to teach using conventional methods, as well as digital. Younger people who have grown up in the computer age and who sit in front of a computer all day earning a living find they want something different to relax with after work. They are discovering "old fashioned" photography, and even wet darkrooms. A speaker from Bostick & Sullivan, chemical suppliers, congratulated the silver printers in attendance on having joined the ranks of ALTERNATIVE PROCESS users such as platinum, palladium, albumen, and others. This is viewed as a badge of honor among fine art and other photographers.

Two of our granddaughters (ages 4 & 5 at the time) became fascinated by the ground glass image the first time they looked through the Century. They have since enjoyed taking each other's pictures with the Century and other old cameras of Grandpa's. They even like to occasionally make prints in the darkroom. There is hope for the future...conventional photography ain't dead yet!



No. 7 5x7 back shifted to utilize the split back feature that allows two 3½- x 5-inch exposures on one sheet of film.



Waterhouse stop in the slot and Packard shutter release.





GRAFFACTS....

THE GRAFLEX FLASHING UNIT 1941 to 1948

Copyright William E. Inman, Sr.
(Former Graflex Sales Rep.)

It all began in 1930, when General Electric and Westinghouse obtained licenses to manufacture the foil flashbulb from the inventor, J.B. Ostermeier in Germany, replacing the dangerous flash powder method. These bulbs were the screw-base type like your regular household lightbulbs. By 1933 there were three sizes: No. 10 (small), No. 20 (medium), and No. 75 (large). You had to use the Time or Bulb setting on the shutter of your Speed Graphic to get a flash picture. This method was called an "open flash."

In 1934 Phillips of Holland introduced the wire-filled flashbulb, and in 1936 the Wabash Photolamp Corporation of New York obtained the license to manufacture this flashbulb. Wabash was later acquired by Sylvania. Licensing was offered to G.E., but they chose to go their own way.

The new wire-filled flashbulb burn could be controlled better for synchronizing with the front shutter of the Speed Graphic. Pressure from professional photographers, especially the press, brought about the introduction of various types of flashguns, mechanical devices and electromagnetic coils called solenoids, beginning in 1936, to synchronize the front shutter with the new wire-filled flashbulb.

Folmer Graflex recognized the need for these devices to be installed on Speed Graphics and began listing them in

their price list and catalog in 1938. There were the Jacobson Photoflash Synchronizer, Kalart Synchronizer, the Mendelsohn Speedgun, and, in 1940, the Abbey Flashgun and the Heiland SOL Synchronizer. Up to 1939 all the flashbulbs were the large screw-base type. Focal plane flashbulbs were introduced in 1938 and 1939 by Wabash and G.E., thus the introduction of the Kalart Sistogun, the Smeaton FP Synchronizer, and the Mendelsohn Model G Switch. 1939 and 1940 also saw the introduction of the G.E. No. 5 and Wabash Press 25 bayonet-base flashbulbs.

Realizing the importance of having their own flash unit and synchronizer, Graflex hired Irving Jacobson, inventor of the Jacobson Synchronizer, acquiring his very good design patents for a flash unit and synchronizer. Thus in 1941, the Graflex Flashing Unit and Flash Synchronizer were born. A year before that, the 3¼ x 4¼ and 4x5 Anniversary Speed Graphics were introduced.

The Graflex battery case was made of heavy-duty brass tubing with "chromium" plating. There were two basic models: a 2-cell and a 3-cell battery case. The battery case split, allowing for adding either a 4- or 5-cell extension tube for more battery power. A 7-inch reflector was available for the large and medium screw-base flashbulbs and a 5-inch reflector for the small bayonet-base flashbulbs. Both reflectors were self-centering and were "equipped with ejectors which obviate the handling of hot or broken lamps." Two Graflex solenoids were available in different coil strengths, #2 and # 3, for fitting to the Speed Graphic front leaf shutters for synchronizing flashbulbs. The front leaf shutters did not have internal flashbulb synchronization until 1945. The battery case had a unique feature called a "focusing spotlight," which consisted of a small lens near the top front of the battery case with a lightbulb behind it. When switched on, it projected a strong beam of light, enabling the photographer to focus his Speed Graphic through the ground glass or with the Kalart or Hugo Meyer Rangefinder in poor light. Two round outlets were for the solenoid cord and extension flash. Also, a household plug was provided for an extension flash. The back outlet had a red screw-on pivoting button which would activate the solenoid and flash bulb. When the pivoting button was moved out of place, the series plug could be used for shutters with built-in synchronization and focal plane shutter contacts on the back of 2¼ x 3¼ Miniature Speed Graphics and the contacts on the 3¼ x 4¼ and 4x5 Super D Graflex cameras. This outlet was also used for connecting the remote control cord.

During WWII all the Speed Graphic camera production was shipped with the Graflex Flash Synchronizer. Also, during WWII, no purchases of Graflex products were available unless it was war related, such as a war plan photo department. Even the press could not buy cameras or accessories. They could, however, get repairs.

A Graflex extension flash Synchronizer Side Lighting Unit



From 1947 edition of "Instruction Manual GRAFLEX FLASH SYNCHRONIZER - GRAFLEX FLASHING UNIT."

with a clamp and 15-foot cord was introduced in 1944.

In 1977, while watching the movie "Star Wars," I almost fell out of my seat when the Light Saber appeared. They were using a Graflex 3-cell battery case with a slight modification to the bottom. Needless to say, the price of the Graflex 3-cell battery case skyrocketed. The "Star Wars" fans were willing to pay \$100 or more for the battery case. The original battery case price was about \$16.00.

In 1945 full sync shutters became available. As a result, Graflex developed the Electroswitch for the Graflex battery case (See illustration.). This was a two-cord arrangement with one cord connected to the contacts of the No. 2 Graphex full sync leaf shutter or Kodak No. 2 Supermatic (X) leaf shutter, the second cord connected to the solenoid, allowing the photographer to trip the shutter from the battery case and, by holding the battery case at arm's length, to get different lighting effects. Flash synchronization was obtained through the contacts in the leaf shutter.



Electroswitch fitted for use with a No. 35 A Flashing Unit and a No. 2 Graphex shutter with built-in synchronization.

In 1948 Graflex introduced a new flash unit called the Graflite, which was designed by Irving Jacobson.



KALART Focuspot

— for focusing in total darkness or under adverse light conditions

This newest device from Kalart is used in conjunction with the DeLuxe Range Finder and makes focusing easy even in total darkness.

When the Focuspot is switched on, a beam of light is thrown through the Range Finder. This light is split in two by the mirrors and the two beams are projected on the subject to be photographed. The beams act as a guide in locating and CENTERING the image on the ground glass. The focusing knob of the camera is turned in the usual way. When the two light beams are superimposed on the subject, your picture is in sharp focus. The camera may be held at any level.

Focuspot is available in three models:

Model "A"—for use with battery case of Graflex Synchronizer.

Model "B"—has its own 2-cell plastic battery case which can be locked on the left side of Speed Graphic cameras, B & J Press cameras and most film-pack cameras, thus making an excellent handle.

Model "C"—for use with the improved Kalart Master battery case fitted with a special outlet for the Focuspot.



According to a 1944 Kalart brochure, "It was first offered to the Armed Services for making photographs in dark areas, such as interiors of planes and ships." The bulb and lens of the focusing spotlight were removed and replaced with a Kalart sync cord that provided power to the Focuspot.

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.

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Armonk, NY 10504-1200
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F O L M E R -
C E N T U R Y



From the July 1922 issue of The Kodak Magazine.

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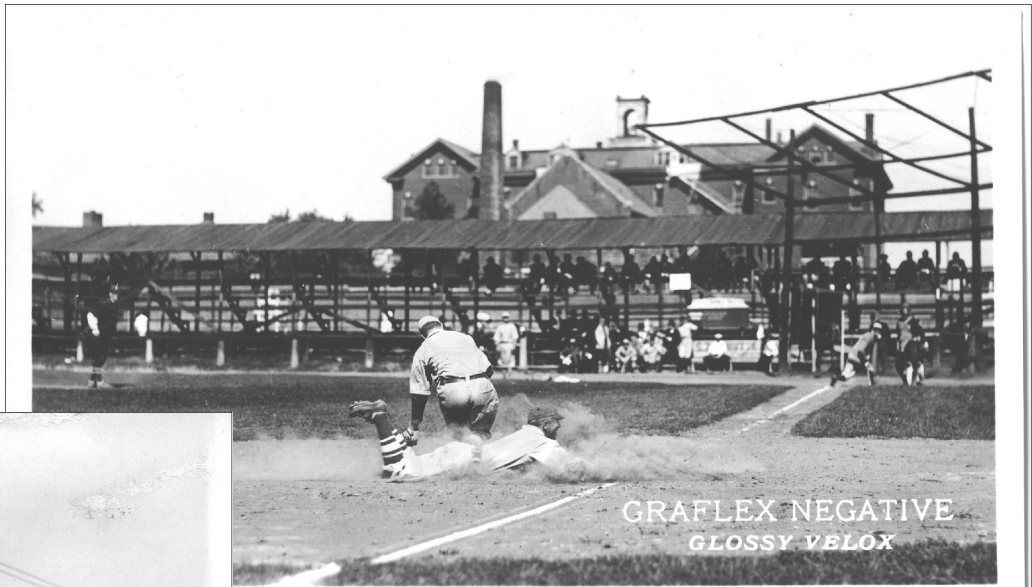
WANT AD POLICY:

Any subscriber wishing to place a want ad or seeking Graflex-related items may send them to the GHQ for inclusion at no charge (at this time). The editors reserve final publication decisions.

For a **XMAS** gift

Graflex
Completes the
Picture

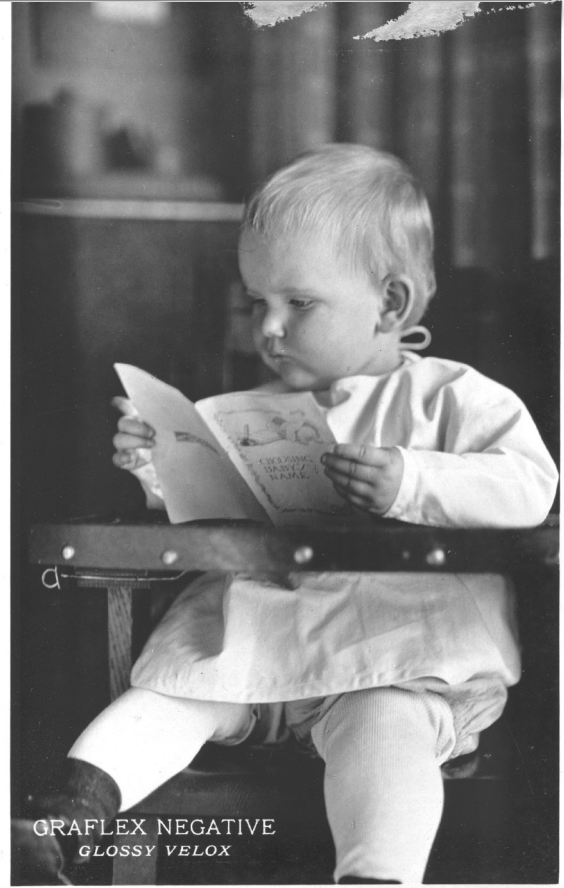
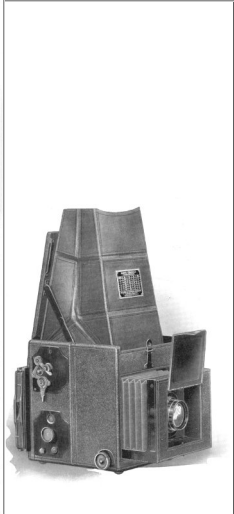
Page from 1933 Graflex brochure compliments of subscriber Bart Nadeau.



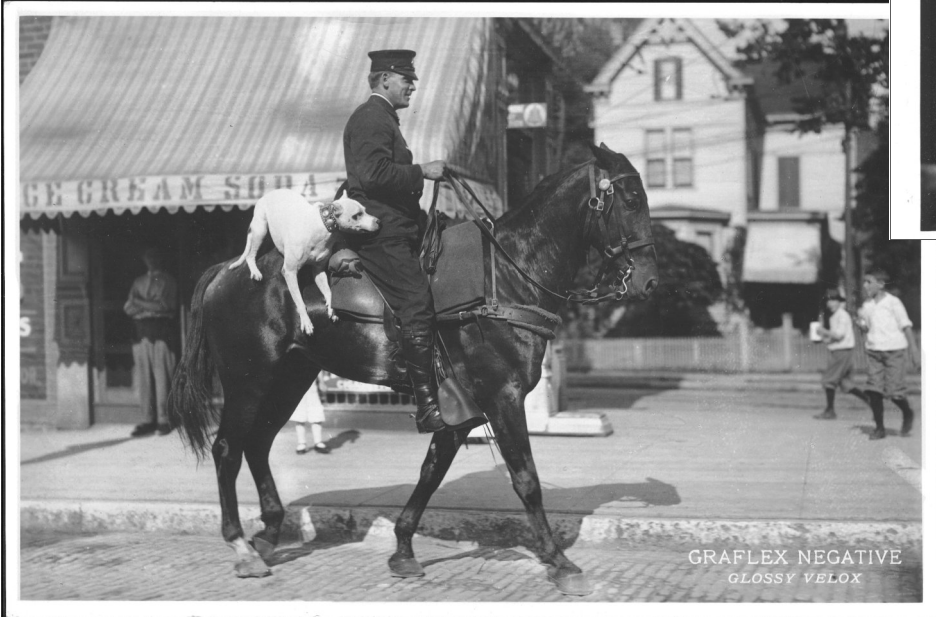
GRAFLEX NEGATIVE
GLOSSY VELOX



GRAFLEX NEGATIVE
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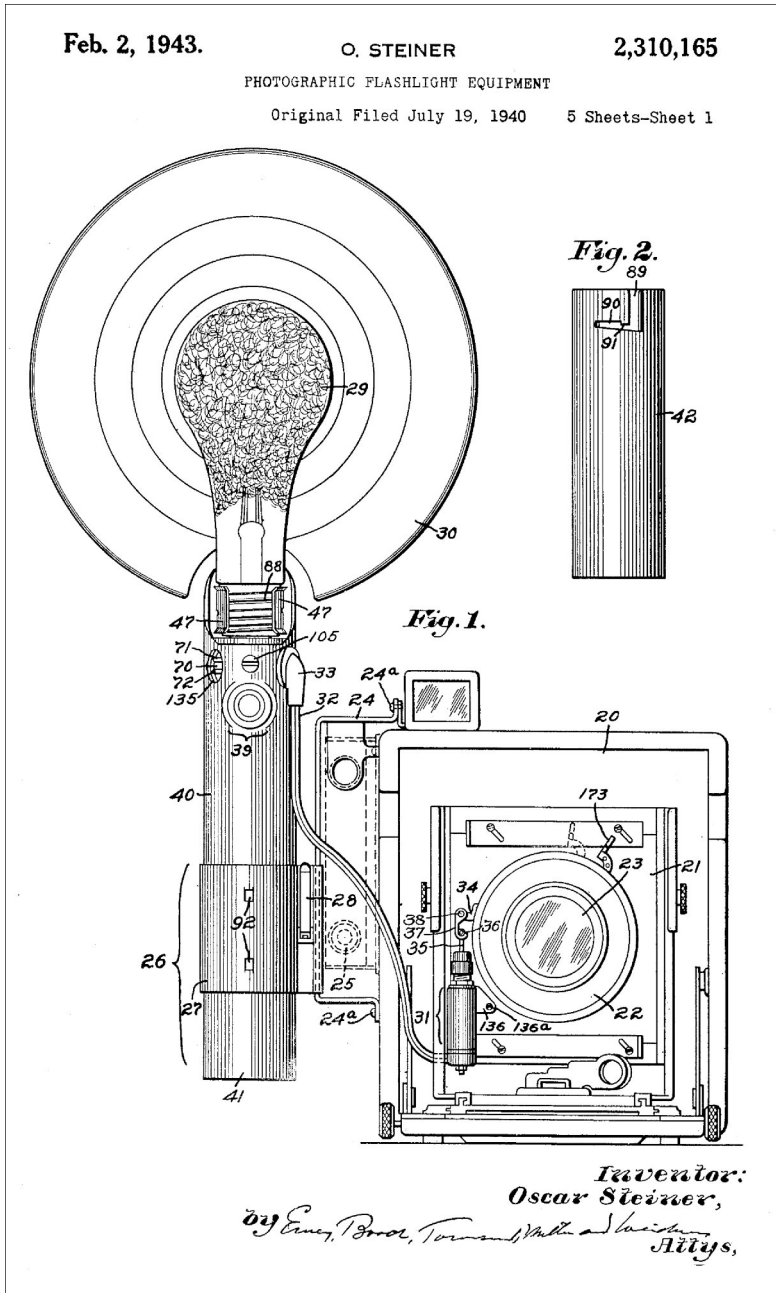


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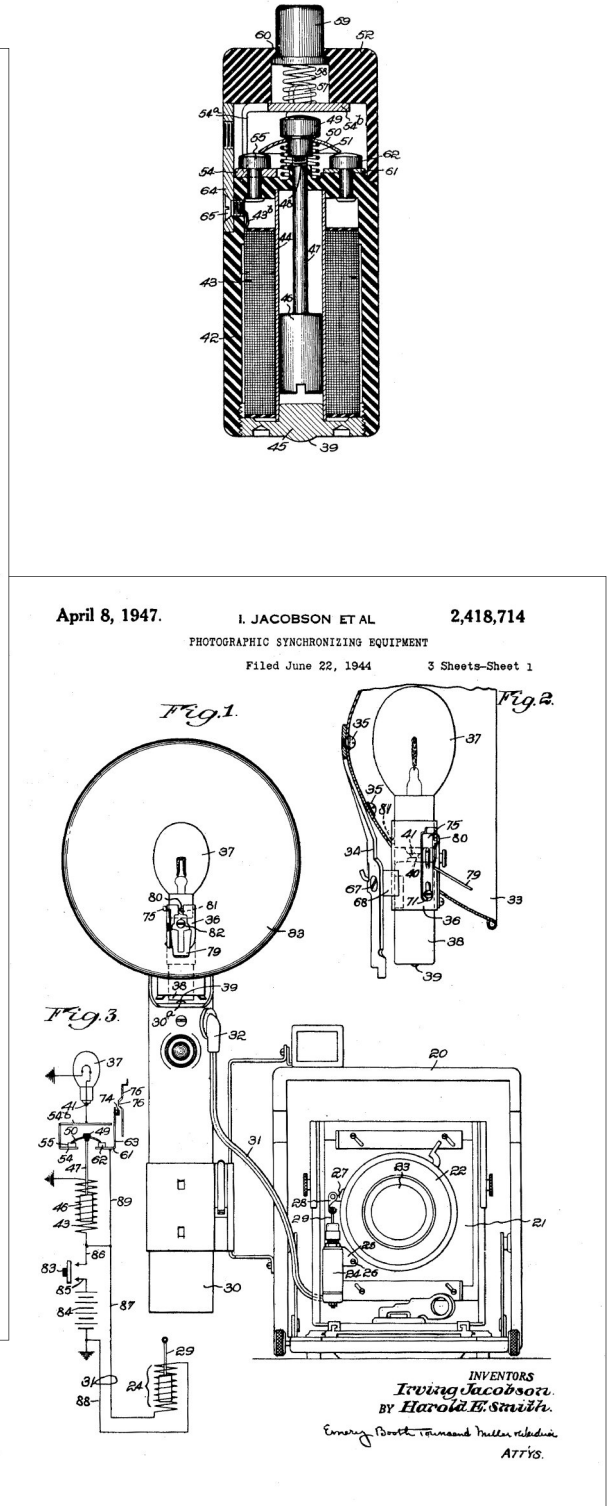


GRAFLEX NEGATIVE
GLOSSY VELOX

OVER—Presented here is a sample of prints from the collections of subscriber Bart Nadeau and Ken Metcalf. Some thoughts on the prints: "The photos may be advertising Velox paper. Otherwise, if it were advertising Graflex, it would probably mention which Graflex camera was used. Thus: Graflex negative/Velox print. Note that the film used wasn't mentioned." Easton Lothrop; "I would say it was after the Kodak takeover of Graflex, since it is a promotion piece for both products; Velox and Graflex. This kind of real photo promotion appears to have been quite popular up to WWI." - Jerry Spiegel; "It look like a Kodak sample print." - Bart Nadeau; "I don't have a clue." - Ken Metcalf. What is known is that the prints are fairly small (4"x6") and printed on single-weight paper. Readers are encourage to submit their ideas as to the use of these prints. The Auto Graflex was added to fill a hole in the composition.



Patent 2,310,165 granted to Graflex Chief Engineer (and assigned to the Folmer Graflex Corporation). This patent number appears on the battery case of the Graflex flashgun.



A later patent covering some of the elements of the earlier patent.