GRAFLEX Journal

SHARING INFORMATION ABOUT GRAFLEX AND THEIR CAMERAS

ISSUE 2 2024

FEATURED

A Need for a Speed - An Upgraded 1939 Baby Speed for 120 Roll Film

By Jeffery L. Yost

Underneath the Graflex Journal's header is the following dedication statement: "*SHARING INFORMATION ABOUT GRAFLEX CAMERAS.*" The Graflex Journal as well as the www.graflex.org and Pacific Rim Camera Pacific Rim Camera Reference Library websites are the standards for all things Graflex. Since you are reading this issue, you are keenly aware of the comprehensive list of topics and detailed information which are available to Graflex aficionados. Pure and simply put, this is the Journal's sole purpose.

…So, why am I reminding you, the readers, of this? This is the perfect opportunity to inspire each of you to share your experiences about your Graflex camera/cameras with all of us. We, as well as the readers, would love to hear from you and see some high-res photos of your prized Graflexes in an interesting article. We would also love to have you share some photos that you took with your favorite Graflex.

If you are like me, once you acquire a Graflex you become acutely unfulfilled with owning just one! Graflexes magically start to accumulate until your significant other takes notice! At this point it becomes a survival strategy by going full-blown covert with all the incoming eBay shipments. Many of these gems arrive not working and in need of repair, or a CLA. Regardless, your passion for acquiring more becomes an addiction.

Recently, eBay provided me with a beautiful (Aren't they all?) Miniature "Baby" Speed Graphic, #239887, with a ubiquitous Kodak Flash Supermatic 101mm f4.5 Kodak Ektar lens. Research revealed that this Miniature Speed was born amongst a sizable batch of 1,000 Baby Speeds that were requisitioned on March 21, 1939. Campbell, California, resident, J.H. Galberth's address was carefully Scotch® taped to the front standard's cover. J.H.'s name was also taped to the back of an attached film pack. The film pack was disappointedly empty. However, Mr. Galberth appeared to have subsequently duct taped a makeshift ground glass inside. The Mini's back was minus its film holder, ground glass, and popout viewing hood. However, what remained was the front half of an upgraded Graflok back. Most likely the original Graphic or Graflex back was swapped out to the desirable Graflok back around 1948, or later. It was during this time that the big G's mothership factory began offering the new Graflok as a retro-upgrade for most of their senior Graflex models. Perhaps, the original mini's Kodak lens was also upgraded by Mr. Galberth to the newer 101mm Flash Supermatic at this time? Kodak's CAMEROSITY lens date code of "EI3257" indicates this newer Flash Supermatic is from 1948

After receiving the Baby Speed, a quick assessment inspired me to acquire the missing Graflok back half via eBay, which included the film holder frame, ground glass, and pop-out shade. If that wasn't enough, a Graflex "23" (6X9) Graphic roll film holder was quickly sourced to shoot this with B&W 120 roll film.

Most of you are aware of the plethora of confusion regarding the sourcing of the various types and formats of Graflex film and plate holders, film packs, and roll film holders for the three Graphic, Graflex, and Graflok backs. …Finding the elusive roll film back with the optional Spring Kit, for SLR Graphic backs is almost impossible. (I am still trying to find one for my early 3¼ x 4¼" Auto Graflex.)

Today, we are fortunate to enjoy the opportunity to resurrect and use these lovely mechanical works of wood, leather, steel, brass, aluminum, and glass, again. If you are not able to do some minor restoration and mechanical work yourself, there are several qualified Graflex technicians available to help get your Graflexes working again. In addition, newly manufactured 120 roll films, as well as some 4X5 sheet films, are readily available through a sundry of manufacturers like Ilford, Kodak, Fuji, Lomography, etc. Additional film manufacturers are evolving as film continues to increase in popularity.

One does not need a darkroom to process their film. Film processors like **The Darkroom** (San Clemente, CA), **Indie Film Lab** (Montgomery, AL), **Carmencita Film Lab** (Valencia, Spain), etc., are available to do all the magical alchemy work for you. (Search for 120 film processors in your area. There are many.) Most film processors also offer fee-based services to scan your negatives into high-res files to digitally archive and/or post-process in Lightroom, etc.

An alternative option, which is extremely appealing, is to develop your B&W film at home. This process can be inexpensive, if you choose. (Indeed, "*inexpensive*" is a relative term.) A darkroom is not needed since a small changing bag/tent will suffice. A few processing materials like a Paterson tank and some chemicals keep it simple. Once your film is developed, you can digitally scan your freshly minted negatives, or use your DSLR/mirrorless to convert your analogue exposures into high-res digital files. There are numerous tutorials on YouTube about how to accomplish exceptional looking photos using these simple methods.

Recently, the new high-tech **AGO Film Processor** was introduced. (No darkroom needed, except a changing bag.) The AGO appears to be quite an innovative alternative option to develop 35mm to 4x5 film formats. **Vintage Visual**, a new Estonian startup company, has developed a unique film processing system that uses inexpensive Paterson Super System 4 tanks. (Compared to JOBO) The AGO uses a proprietary temperature probe and software to automatically compensate the film's development time via an algorithm that is based on each chemical bath's real time temperatures. The AGO utilizes continuous horizontal auto agitation (It can also use vertical.) while using up to 60% less chemicals while in the horizontal mode! The AGO is programable and has Bluetooth connectivity. Current pricing for the AGO is €439, or $483 (Current exchange rates during this writing), including free shipping to the USA. Since I recently celebrated a birthday, I purchased one and plan on reporting the results using my new (to me) Graflex "Baby" Speed Graphic.

In closing, I appeal to each of you to share with us your Graflex experiences and adventures for future quarterly issues of the Graflex Journal. We would love to hear from you! Please send us your photos and stories. … After all, we own some of the finest cameras ever made. Let's endeavor to share our experiences with each other to help keep Graflex and film alive.

To learn more about the AGO Film Processor, visit them here: https://vintagevisual.eu

120 Film Labs:

The Dark Room: https://thedarkroom.com/product/120-film-developing/
Indie Film Lab: https://order.indiefilmlab.com
Carmencita Film Lab: https://carmencitafilmlab.com
(Search for additional film processors in your area)

1950

	2¼ x 3¼ Cat. No.	Price	3¼ x 4¼ Cat. No.	Price	4 x 5 Cat. No.	Price
Graphic "23" Roll Film Holder	246△	19.95	—	—	—	—
Graphic "22" Roll Film Holder	249△	19.95	—	—	—	—
Graflex "23" Roll Film Holder	146	19.95	—	—	—	—
Graflex "22" Roll Film Holder	149	19.95	—	—	—	—

1965

CAT. NO.	DESCRIPTION	UNIT NET PRICE	QTY.	QUANTITY NET PRICE	LIST PRICE
1244	45 GRAPHIC 23 ROLL HOLDER	26.33	3	23.70	39.50
1251	45 GRAPHIC 22 ROLL HOLDER	26.33	3	23.70	39.50
1252	23 GRAFLEX 120 ROLL HOLDER RH	33.00	3	29.70	49.95
1253	23 GX 120 ROLL HOLDER RH /10	33.00	3	29.70	49.95
1254	23 GX 120 ROLL HOLDER RH /12	33.00	3	29.70	49.95
1255	45 GRAFLEX 120 ROLL HOLDER RH	33.00	3	29.70	49.95
1256	45 GX 120 ROLL HOLDER RH /10	33.00	3	29.70	49.95
1257	45 GX 120 ROLL HOLDER RH /12	33.00	3	29.70	49.95

1965 GSA

RAPID-VANCE ROLL FILM HOLDERS

Quick as a wink, on the scene, add the convenience of roll film economy and speed . . . with 8, 10, 12 exposures on 120 roll film, 20 exposures on 220 roll film or 50 exposures on 70mm roll film! Shoot color, go to black and white, then shift again to color . . . in mid-roll if you like . . . Nothing equals the quick advance, rapid interchange of Graflex Rapid-Vance lever action roll film holders designed for the xl Camera Systems and 2¼" x 3¼" cameras with Graflok or Graphic backs.

RH/8

Provides 8, 2¼" x 3⅛" exposures on 120 roll film. Perfect format for wide rectangular framing.

Catalog No. 1252
1 or 2.....$34.00
3 or more.....$32.30

Extra Carriages
Catalog No. 1202
1 or 5.....$19.73
6 or more.....$18.74

RH/10

Ideal Format gives 10, 2¼" x 2¾" exposures on 120 roll film, for enlarging to perfect proportion 8 x 10 prints.

Catalog No. 1253
1 or 2.....$34.00
3 or more.....$32.30

Extra Carriages
Catalog No. 1203
1 or 5.....$19.73
6 or more.....$18.74

RH/12

Square format, 2¼" x 2¼", with 12 exposures on 120 roll film gives maximum black and white and color roll film economy.

Catalog No. 1254
1 or 2.....$34.00
3 or more.....$32.30

Extra Carriages
Catalog No. 1204
1 or 5.....$19.73
6 or more.....$18.74

RH/20

20 exposures in the ideal format, 2¼" x 2¾" . . . on 220 roll film. Versatile, print mate size . . . fast, fool proof operation.

Catalog No. 1258
1 or 2.....$47.60
3 or more.....$45.23

Extra Carriages
Catalog No. 1205
1 or 5.....$34.00
6 or more.....$32.30

RH/50

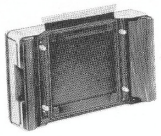
Enjoy multi-shot convenience of 50 exposures on 70mm roll film, standard perforated or non-perforated film-bulk cassette loads, in the ideal format, 2¼" x 2¾" negative size.

Catalog No. 7351
1 or 2.....$102.00
3 or more.....$ 97.00

Pair of 70mm Film Cassettes
Catalog No. 7013
1 or 2.....$6.80
3 or more.....$6.50

Extra Carriages
Catalog No. 1206
1 or 2.....$51.00
3 or more.....$45.90

POLAROID* PACK FILM HOLDER

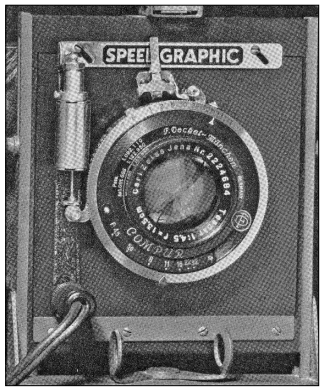


Add versatility of "picture in a minute" results with the xl Camera Systems. Polaroid* Pack Film Holder easily attaches to xl Camera Body with quick snap action. Accepts all series 100 Polaroid* films. For xl Camera Systems only.

Catalog No. 7350
1 or 2....$78.00 3 or more....$74.25

1971

CAT. NO.	DESCRIPTION	UNIT NET PRICE	QTY.	QUANTITY NET PRICE	LIST PRICE
1290	23 RH/8 120 ROLL HOLDER	49.67	C 3	47.19	74.50
1291	23 RH/10 120 ROLL HOLDER	49.67	C 3	47.19	74.50
1292	23 RH/12 120 ROLL HOLDER	49.67	C 3	47.19	74.50
1293	23 RH/20 220 ROLL HOLDER	59.67	C 3	56.69	89.50
1294	45 RH/8 120 ROLL HOLDER	49.67	C 3	47.19	74.50
1295	45 RH/10 120 ROLL HOLDER	49.67	C 3	47.19	74.50
1296	45 RH/12 120 ROLL HOLDER	49.67	C 3	47.19	74.50
1297	45 RH/20 220 ROLL HOLDER	59.67	C 3	56.69	89.50



1939

By Ken Metcalf

In 1939 Nazi Germany attacked Poland, and France, Australia and the United Kingdom declared war on Germany; Russian troops invaded Finland; "Gone with the Wind" and "The Wizard of Oz" premiered ; and Hewlett-Packard was created.

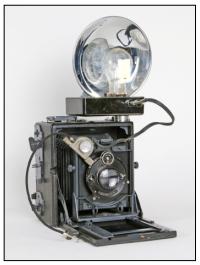
However, in this article, I will focus on the year's least noteworthy event, the invention and sale of the Jacobson Synchronizer.

The inventor was Irving Jacobsen, and the synchronizer was mounted on a 1939 4x5 pre-Anniversary Speed Graphic (number 238677) at right.

Beginnings of Synchronized Flash

1896 Folmer & Schwing catalog
Courtesy George Eastman Museum

"During the powder flashing days, left, the flashgun was always held away from the camera in order to avoid any possibility of vibration from the concussion created by exploding powder. However, with the advent of the flashbulb, it was possible to mount the entire flash outfit, right, on the camera as one unit. This factor in itself was quite a revolutionary feature in the accepted practice of news photography back in 1931*. Then the Kalart company were the first to mount the battery case of the synchronizer to the tripod socket of the camera, right. With these improvements the synchronized flash outfit became a necessity for thousands of photographers. Today, with the marvelously improved synchronizers and flashbulbs the field of flash photography is only at its beginning."[1]



1937 pre-Anniversary Speed Graphic with Kalart Micromatic Speed flash.

The new 1936 magnesium 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.

Graflex recognized the need for these devices to be installed on Speed Graphics and began listing them in their price list and catalogs in November 1938 (top column right).

PHOTOFLASH SYNCHRONIZERS

Prices include cost of fittings, installation and synchronization where such charges are applicable.

	R.B. 2¼x3¼	2¼x3¼	3¼x4¼	4x5	5x7
Connecting Cord for Focal Plane Shutter Flash Photography	.90				
Jacobson Photoflash Synchronizer complete		26.50	26.50	26.50	
Kalart Synchronizers:					
Battery Case and Reflector with Connecting Cord	5.80				
Speed Flash		14.50	14.50	14.50	14.50
Micromatic Speed Flash	16.75	16.75	16.75	16.75	16.75
Micrometer Senior Speed Flash	19.75	19.75	19.75	19.75	19.75
Mendelsohn Speedguns:					
Model C with Chrome Reflector		14.00	14.00	14.00	14.00
Model C with Aplanatic Reflector		15.75	15.75	15.75	15.75
Universal Speedgun with Aplanatic Reflector		26.50	26.50	26.50	26.50

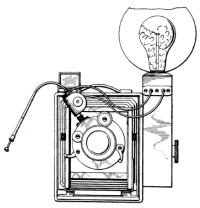
There were the Jacobson Photoflash Synchronizers, Kalart Synchronizers, the Mendelsohn Speedgun, and the unexplained Graflex focal plane connecting cord. In 1940 the Abbey Flashgun and the Heiland SOL Synchronizer were added.

Kalart[3] KALART

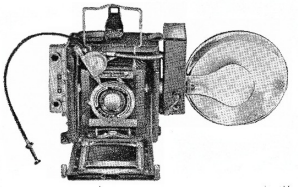
Although primarily known for their long-lived rangefinders, Kalart's (Morris Schwartz) first front shutter synchronizer was conceived in 1930, and was the first U.S. patented synchronizer (1,996,592, applied for in 1932). Then followed by the Master Micromatic Speed Flash, Automatic Synchronizer, and Master Speed Flash, all for front leaf-shutters.

Micromatic Synchronizer

patents 1,996,592 & 1,996,592
applied for 1932
approx. 50 parts



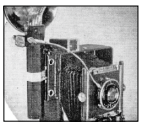
patent 2,117,509
applied for 1934
co-patent with 1,996,592



2¼x3¼ Speed Graphic.
Kalart Micromatic Speed Flash attached

Automatic Synchronizer

patent 2,321,945
granted 1943

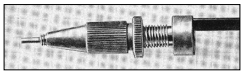


"Here is the only mechanical, self-cocking universal Synchronizer — the first improvement over the original, mechanical principle, the Kalart Micromatic. It is truly automatic — requires no winding or cocking — sets itself for the next exposure when the thumb is removed from the release button.

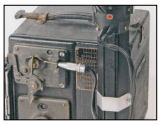
The Automatic is compact, snaps into the jack terminals of the battery case, requires no cable release, eliminates all wires. There is nothing awkward or bulky to hang on your shutter. An armored, flexible coupling connects the Synchronizer to the shutter. It is adjustable to variations in different shutters.

In operation, you simply press the cushioned release button setting in motion AUTOMATIC SYNCHRONIZER the inertia rotor which controls the timing cycle. (Based on the same principle which has made the Kalart Micromatic so dependable, so accurate and so successful)."

Passive Synchronizer

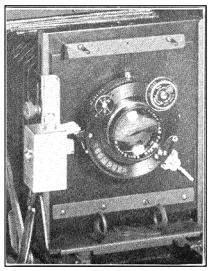
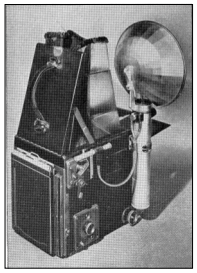


patent 2,654,595 &
parts of 2,225,596
granted 1940-41



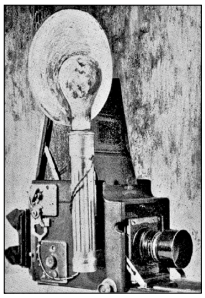
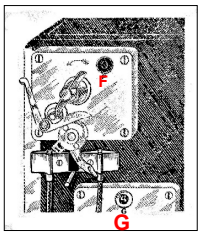
"Kalart designed this Passive Synchronizer for use with all bulbs, on popular priced cameras with pre-set (self-setting) shutters. It can also be used on set and release shutters such as Compur, Compur Rapid, Supermatic, Kodamatic, etc. with bulbs like the Mazda SM. No cable release is necessary. No cocking or winding. The shutter is tripped in the usual manner by the finger release of the shutter or body release button—the unique, gentle self-acting Passive Synchronizer does the rest."

Mendelsohn Speedgun[4]


Left to right, Model C on Speed with temporary mount; Model SG-3 on focal plane Graflex; and Model A on 2¼ x3 ¼ Mini Speed.

Also, noted in a 1936 Mendelsohn letter, the Model G Speedgun, was made for the Graflex focal plane shutter. However, it was never listed in Graflex catalogs.

From a Mendelsohn fact sheet.

"Operation. To make an exposure, insert photoflash bulb into push-pull socket. Release or turn shutter key until "O" appears in window, at (F). Turn tension key until "6" appears in window (G). Insert leads from battery case into Synchronizing Switch as indicated in drawing. Pull Mirror Set Lever, (H) back as far as it will go and is caught. Focus in regular way. Stop down where necessary, because of intense illumination provided by flash bulb. Trip shutter as if for normal snapshot. Flash bulb will be ignited automatically, and exposure will be made by light of photoflash bulb."

As their focal plane ads claimed:

Makes Instantaneous Photoflash Exposures of Approximately 1/50 Second Speed.

Fits All Models of the Graflex Except "National" Graflex and a Few Very Old Types.

Graflex

Although Graflex continued to support others for synchronizing their shutters, they slowly entered the market with the built-in synchronization of the focal plane shutter on their new 1938 2¼ x 3 ¼ Speed Graphic. See top right column.

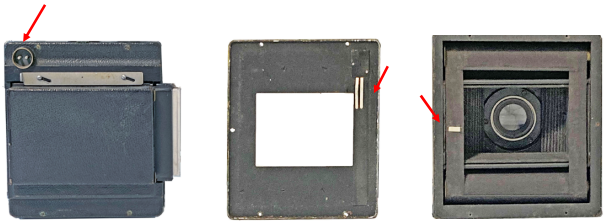
MINIATURE 2¼ x 3¼

SPEED GRAPHIC

This brand new Miniature 2¼ x 3¼ Speed Graphic is 36% smaller than any Speed Graphic camera ever built. Yet, it embraces all the features of the larger Speed Graphics . . . plus these new and advanced ones; • focal plane shutter flash synchronization • all-metal bed • helical racks and pinions • precision Vernier footage scales • dual focusing controls • interchangeable molded lensboards • satin chrome trim • internally coupled accessory range finder.

Available with "Graflex Back" or "Graphic Back," together with representative accessory equipment.

Light, compact, and easy to carry . . . the Miniature 2¼ x 3¼ Speed Graphic is a "natural" for close-ups, action shots, scenics, pictorial studies, and all-around finer "shooting" night or day.

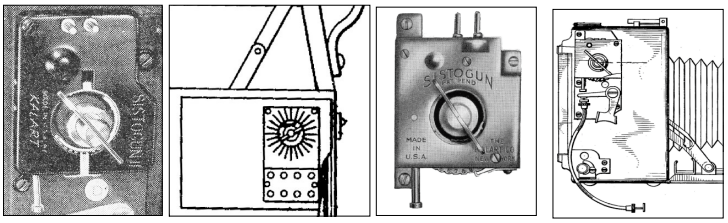


Left to right, cord socket on back, metal strips, metal tab in middle of focal plane shutter in full open position, to complete the flash circuit.

Tim Holden wrote, "Morris Schwartz of Kalart, like Sam Mendelsohn and a few others, developed what they thought were good devices for focal plane shutter type sync. After we produced the 2¼x3¼" Speed Graphic, we could not convince them that there was too much 'stretch' in the curtain for it to be dependable. They were unhappy."

Sistogun

KALART



Left to right, first Sistogun from 1933 patent 1,959,596 shown on a Series B Graflex, and Sistogun II from 1939 patent 2,291,190 shown on a Speed Graphic.

Although not shown in Graflex catalogs and not available until at least 1942, I think the Sistogun is worth inclusion.

Regarding the first synchronizer[3] "Mr. Ernest Sisto, who was staff photographer of the New York Times, invented a device which made it possible to synchronize the Anniversary Speed Graphic focal plane shutter with a flashgun. The Anniversary equipped with a focal plane shutter needs to be wound up to a certain speed and when releasing the shutter, the slit of the curtain travels along the film surface. During that time, a bulb should produce its peak-light long enough to expose the 4 inches of film surface that the slit needs to travel along. The device mounted under the winding knob makes use of the movement of the winding key when the shutter is fired. With Sisto-Gun cameramen synchronized their Speed Graphic without loss of shutter speed, even at 1/1000 second. The Sistogun could be used with the battery cases of most popular flash synchronizers."

For further information on the Sistogun II, please see footnote ***.

Special thanks to Jo Lommen (jolommencam.com) for information about Kalart products. Much of the information was obtained from relatives of the original inventors and manufacturers.

Mr. Lommen was especially helpful with the material on the Sistogun.

Synchronizing

Before taking a closer look at the Jacobson Synchronizer, author Willard Morgan stated the primary problem with then made synchronizers.[1]

"Time-lag. Moment of ignition to peak flash intensity. Different bulbs have different time-lags. Concentrate on

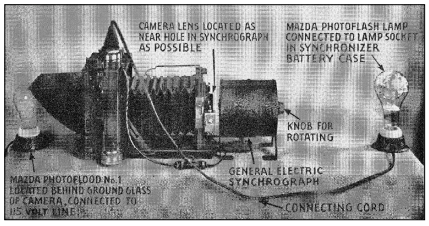
several brands of bulbs with similar time-lag to make synchronization easier."

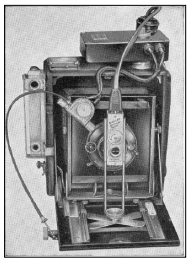
Here is a quote from Les Newcomer's definitive articles on the Graflex synchronizer.[2]

"Synchronization, simply put, is getting the shutter to open and close when the flash bulb is at its brightest. The difficulty is that the duration of the light output of a typical flashbulb is 50-60 milliseconds[1] and needs about 20 milliseconds to get to half-peak, or 50% light output. Until mid way through WWII, flash synchronization was achieved by tripping the shutter through a solenoid. The photographer pushed the button on the flash battery case that closed two circuits: one to the flashbulb and one to the solenoid. Linkage in the solenoid delayed tripping of the shutter for about 20 milliseconds, enough to get the flash to peak brightness.

But this linkage was, pardon the phrase, a weak link in the design. Too tight and it wouldn't have enough inertia to trip the shutter, too loose and the shutter would open too late. Links stretched and solenoids shifted during the hard knocks a press camera took. It didn't take much to cause a *weak flash*. Photographers are inveterate tinkers, and it didn't take long for several companies to come up with synchronizing testers, including Graflex."

Below are examples of several 1939 attempts.





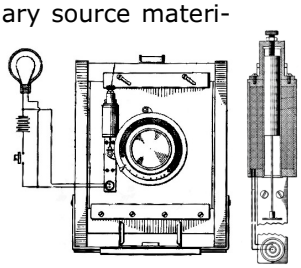
Left, General Electric Synchrograph, and right, Kalart Synchroscope.

Graflex introduced their Synchronizer Tester in 1945 (patent 2,353,896). It is considered by many to be the most accurate tester. The articles on it were published in the GHQ by Les Newcomer, issues 19,2 and 19, 3 in 2014. Les, in his second article, covered in more detail a range of synchronizers and tests.

Jacobson[1] JACOBSON SYNCHRONIZER

For those few who made it this far, to me, the most relevant synchronizer for Graflex was the Jacobson Synchronizer, and its inventor Irving Jacobson.

Although there is very little primary source material, here are a few things I found.



- Jacobson's first sync. patent 2,161,355, was filed in 1937, and granted in 1939, to him in Burbank, CA. It was for front-mounted leaf shutters, targeting larger-format press -type cameras.

- Patent 2,271,340 was filed in 1939 and granted in 1942 in Los Angeles CA, and assigned to the Folmer Graflex Corp. This patent updated the prior patent to include an enhancement for Compur shutters. It was not available in 1939, and by 1942, the Jacobson synchronizer was not sold by Graflex.**

- Patent 2,311,440 was filed in 1939 and granted in 1943 in Los Angeles, CA and assigned to the Folmer Graflex Corp in Rochester, NY. It was for smaller cameras with focal plane shutters.

- Patent 2,406,691 was filed in 1944, and granted in 1946 in Hollywood, CA to Mr. Jacobson and a Mr. Smith of Rochester, NY. It was assigned to Graflex Inc. It was for a focal plane shutter on a reflex camera.

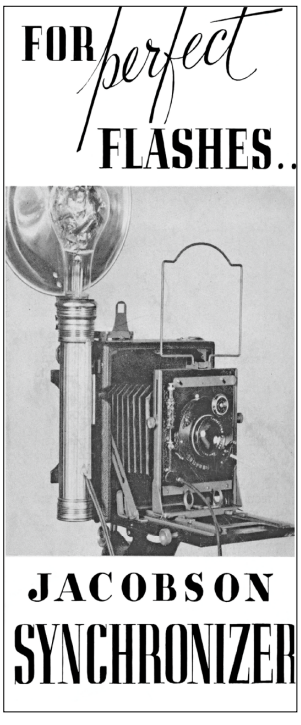
- His synchronizers were made by Irving Mfg. Co., which I assume was his company, that was listed in Los Angeles business directories for only 1938 through 1940.

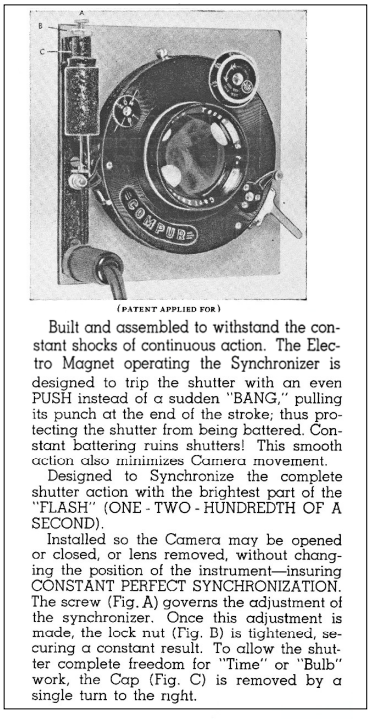
- "Realizing the importance of having their own flash unit and synchronizer, Graflex hired Irving Jacobson, inventor of the Jacobson Synchronizer, acquiring his very good design patents for a flash unit and synchronizer."[2]

Irv Jacobson

- Mr. Jacobson was probably hired by Graflex in 1939. In 1941 Graflex's Western Division was opened in Los Angeles with Irving Jacobson as Service Manager and head of Graflex Activities in the West.[5] Also, in 1941, the Graflex Flash Synchronizer was announced. In the following Trade Notes, Tim Holden wrote that the synchronizer was "basically his [Jacobson's] design."[6]

Jacobson Synchronizer





THE JACOBSON SYNCHRONIZER FOR THE SPEED GRAPHIC

The big exclusive feature of the **JACOBSON SYNCHRONIZER** for the **SPEED GRAPHIC** is that once it is installed it is an integral part of the camera never to be removed, "always in sync." The camera may be closed without removing the synchronizer. When ready to shoot all you do is open your camera, plug in the flash cord and "shoot." This quick action helps you get the shots the other fellow misses unless he uses a **JACOBSON SYNCHRONIZER** too. Especially designed to meet the constant shocks of continuous action the **SPEED GRAPHIC** generally receives, the Electric Magnet operating the **SYNCHRONIZER** was designed to trip the shutter with an EVEN PUSH instead of a sudden BANG pulling its punch at the end of the stroke; thus protecting the shutter from being battered. **Constant battering ruins shutters.** The smooth PUSH action of the **JACOBSON** also **minimizes camera movement.**

The **JACOBSON** synchronizes the complete shutter action with the brightest part of the FLASH (one two-hundredth of a second).

Extra synchronizer caps are available for the photographer who, due to demands of special work, must use more than one make of flash lamp. Thus you may have a cap "in constant sync" for each make of lamp used. This is a big time and temper saver.

LIST PRICES OF THE JACOBSON SYNCHRONIZER FOR THE SPEED GRAPHIC

Model No. 4 for 4x5 Speed Graphic
Model No. 3 for 3¼x4¼ Speed Graphic

JACOBSON SYNCHRONIZER complete with 2½-foot cable and shutter stop. May be used with any standard 3-cell battery flash case $17.50

JACOBSON SYNCHRONIZER with 2½-foot cable, shutter stop, 3-cell battery flash case and reflector 25.00

As noted many pages ago, the synchronizer was first listed in Graflex catalogs in 1938, jointly listed with others, then gone in 1942.

Here is a description of the synchronizer, with detailed instructions in footnote ****

"One of the main features of the Jacobson synchronizer is that it has been designed to function as an integral part of the camera and is not made for interchangeable use. There are two types of Jacobson synchronizers: One is the electro magnetic type used on Speed Graphic cameras, and the other is the mechanical release type which has been built for the body release type cameras such as the Leica and Contax.

The electromagnetic type is used on the front lens type of shutter such as the Compur. This Jacobson synchronizer has been designed to operate only with the Compur type shutter because it is built to match the working characteristics of this between-the-lens shutter which is standard on most cameras.

This synchronizer is of the solenoid plunger type which has a good strong starting energy, a long distance of travel which ends in a good vigorous push at the end of the stroke. The small size of the Jacobson Electro Magnetic Tripper makes it easily adaptable for permanent attachment to the lens board of the camera. When in use only the connecting cord needs to be attached."

Now, for the much un-anticipated Jacobson Synchronizer mounted camera. This story started with a question from Stephen Shurd, about a camera he purchased, that had an unusual number of modifications. Those included a 127m Ektar in a Supermatic shutter with a trigger extension, two sets of infinity stops, Heiland Sol flash equipment, a Graflok back, and various Irving Mfg. items. The 4x5 pre-Anniversary Speed Graphic, serial number 238677, was scheduled for production in 1939.

To Graflex nerds, all of this is a common example of how Graflex cameras were modified, and updated. My mistake was my decision to bring the camera back to its possible 1939 condition. The only advantage was Willard Morgan's 1939 book Synchroflash Photography.

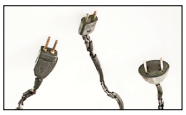
Here are some items removed and some kept.

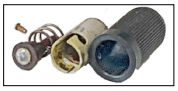
* Stephen kept the shutter, as it was a later 127mm lens in a Supermatic shutter, with an extension to the tripping lever.

* A second set of infinity stops was removed, along with the focusing scales.
* The Graflok back was replaced with a spring back.

* The Kalart Focuspot and eyepiece were removed.
* The lens/shutter was replaced. There were two options, the dial set Compur (top), or the rim set Compur (bottom). I, as is my want, made the wrong choice! My choice, was the dial-set shutter. The first purchase, however, was way too small, but the second "looked" right. This shutter/lens was made ca. 1927. It is okay, but it does not have the Compur sync. fix.

* The Kalart rangefinder (E99855), of 1941 was kept.
* Hard-to-find plugs and cables. Kept.





* The Heiland flash items, ca. 1940-41, were kept. Left to right, Heiland Sol battery case and reflector, and right, Jacobson unit courtesy the GEM.

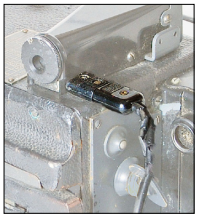
2¼x3¼ Speed Graphic - $8.00

FLASH UNIT CONNECTS DIRECTLY TO FOCAL PLANE SYNCHRONIZER

SPECIAL EQUIPMENT
We design and build special equipment and accessories.
IRVING MANUFACTURING CO.
1537 No. Hoover Street Los Angeles, California
. . . FOR SALE BY . . .

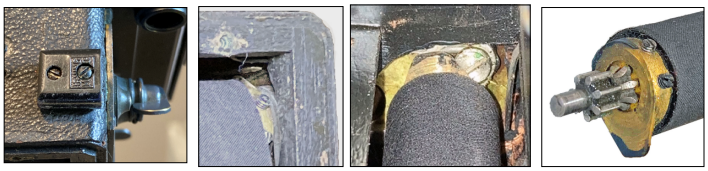
The camera was fitted with two synchronizers, one for a front shutter and the second for a focal plane shutter. As a rangefinder extension needed to be removed before the focal plane shutter was wound, it is possible it was little used.

Although the front shutter synchronizer (left) is hard to find, the focal plane shutter synchronizer (below) is quite rare.

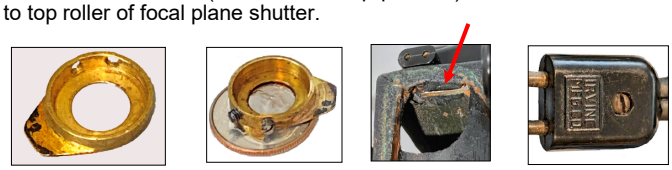


Given the materials used and the sample plugs, it is my belief that the focal plane sync was custom made by Mr. Jacobson, possibly to compete with the previously noted 1938 Mini. Speed Graphic (left). Possibly it is an example of Mr. Jacobson's evolution from this installation to the Miniature Speed Graphic.

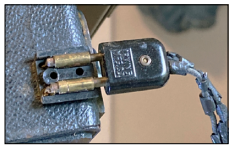
Below, are steps taken to find out the purpose of the plug, near the focal plane shutter.



Left to right, receptable on top of camera; item Stephen Shurd found when he removed the camera back; a closeup of what turned out to be a custom made cam (shown in the top position); and the cam attached to top roller of focal plane shutter.



Left to right, two pictures of the cam, with right pictures of the cam on a dime; and spring strip that closed the circuit when the cam was in the top position; and plug.



Top plug with cover removed. Polarity was maintained with the male rods being different sizes. It appears the cam was set to trigger the flash when the shutter curtain was fully open.

Certainly easier to install, as previously shown on the Mini Speed Graphic!

Conclusions:

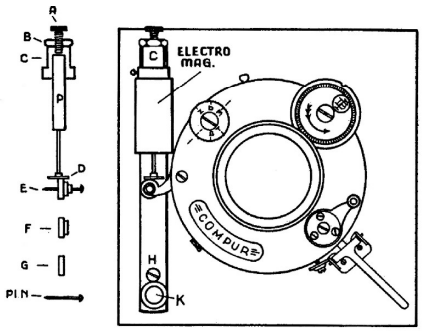
This article attempted to give a view of flash synchronization, just before new technology and WWII funded product development moved quickly forward.

Since only my long-suffering wife will read this far, thank you for editing and proofing all of my issues!

---

* You had to use the Time or Bulb setting on the shutter of your camera to get a flash picture. This method was called an “open flash.”

In fact, Graflex retail catalogs listed the flash lamp on-and-off through 1922, then switched to a “Flash-Light Material” in 1923, and finally to synchronized flash equipment in 1938.



** “My previous patent 2,161,355, a novel shutter actuating mechanism which may so adjusted when connected in circuit with a photo flash lamp as to open the camera shutter at the instant of maximum brilliancy of the flash lamp. The particular device in the above noted patent is arranged to the camera shutter by actuating the shutter trigger in precisely the same manner as the shutter is actuated when controlled by hand. While this device achieves excellent results, it has been recently that it is difficult to maintain this device in accurate adjustment when it is employed upon between-the-lens shutters of the "Compur" type which employ a main spring and a cocking mechanism for said spring which is independent of the shutter trigger.

This type of "Compur" shutter employs a relatively strong main spring for actuating the shutter leaves, this spring being cocked prior to actuation of the shutter by the rotation of a cocking lever provided for that purpose. The shutter trigger is connected to the main spring and shutter leaves by relatively complicated system of levers and linkage so that the amount of movement which must be imparted to the shutter trigger in order to actuate the shutter mechanism varies with the amount of wear to which this multiplicity of connections is subjected.

It has been found that the synchronization between shutter actuation and the firing of a photo flash lamp when an actuating device of the character described in the above noted patent is used varies appreciably with relatively small amounts of wear in the linkages connecting the shutter trigger to the shutter main spring.

It is accordingly an object of the present invention to overcome the above noted disadvantages by providing a shutter actuating device for flash lamp synchronization which acts directly upon the main spring of the shutter mechanism and of the linkages connecting the shutter trigger to this main spring.

It is also an object of my invention to provide an electromagnetic shutter actuating mechanism and means for connecting this mechanism directly to the main spring of a shutter mechanism to provide for accurate synchronism between the actuation of the shutter and the firing of a photo flash lamp independently of wear of linkages as sociated with the shutter actuating trigger.

It is also an object of my invention to provide a photo flash lamp and camera shutter synchronizing device of the character set forth in the preceding which includes means for restraining a camera shutter main spring after the shutter trigger is and which is actuatable to release said main spring.

It is a further object of my invention to provide a device of the character set forth in the preceding paragraph in which the time of actuation of the shutter leaves relative the time of energization of the actuating mechanism may be manually adjusted.

It is also an object of my invention to provide a photo flash lamp and camera shutter synchronizing mechanism of the character set forth in the preceding paragraphs which includes for engaging the lever or member of shutter main spring to hold said lever or member in cocked after the shutter trigger is actuated and which include also means for releasing said cocking mechanism a predetermined time after the circuit a photo flash lamp is completed.”

*** According to 1947 operating instructions, model II was made for 3¼x4¼ and 4x5 Anniversary and earlier Speeds. As the Pacemaker Speed Graphic was also introduced in 1947, finding them is much more difficult than finding hens teeth.

Here are several quotes from the Sistogun II instructions “This new synchronizer for the focal plane shutter of the 3¼x 4¼ and 4 x 5 Speed Graphic Cameras contains many improvements in design and construction over the justly famous Original SISTOGUN. It is easily installed—no holes to drill: no special tools required, and it is now even unnecessary to remove the shutter winding knob from the camera for installation. Its more positive contacts assure consistent synchronization without loss of shutter speed even at 1/1000 second.

The SISTOGUN II installs on the 3¼x 4¼ and 4 x 5 Anniversary and Old Style Speed Graphic cameras only. It consists of a Contact Ring and Housing and fits readily under the winding knob.

The curtain aperture of a focal plane shutter will expose the film progressively while it travels across the focal plane of the camera. It is necessary that the flash bulb maintain a uniform peak intensity to produce an evenly exposed negative. At 1/1000 sec. shutter speed the film is exposed in ⅛ inch sections for 1/1000 sec. per section. This means that a 4 x 5 film is being exposed for 32/1000 sec. (.032). If bulbs other than Mazda #31 or Wabash #2A are used their illumination will fade before the entire film is exposed and the negative will show more exposure in the center than at the top and bottom.

CAUTION: Be sure to "pack" the shutter before making your first SISTOGUN II exposure each time you set the shutter from ‘open’ or ‘time.’ “

**** When installing the Jacobson Magnetic Synchronizer the following instructions recommended by the manufacturer should be followed very carefully. In this way perfect flash synchronization will be obtained for all pictures.

The Model 4 Jacobson Magnetic Synchronizer. The screw, A, provides for adjusting the early or late release of the synchronizer and controls the stroke of the plunger, P. When synchronization is obtained, the lock nut, B, is tightened. A removable cap, C, holds the synchronizing adjustment parts, A and B, in position. This cap may be removed from the synchronizer to allow the shutter to be free from synchronization. When this cap is removed for the open flash type of exposure, the synchronization adjustments are not destroyed because the lock nut, B, holds the adjustment screw, A, firmly in place in the removable cap, C. Some photographers find it a great advantage to have more than one cap, C, to use flashbulbs which have different time-lags of firing. The second cap will have a different adjustment from the first cap which will make the magnetic tripper operate at a slightly different time interval.”

Sources

[1] Morgan, Willard D; Synchroflash Photography; Morgan & Lester, Publishers; 1939.

[2] Graflex Historic Quarterly; GRAFACTS The Graflex Flashing Unit 1941-1948; William Inman, 11, 4; Graflex and Kalart Micromatic Speed Flash and Kalart Synchronizer), 15,2; Flashbulbs in the Darkroom Using a Graflex Synchronizer Parts 1 & 2, 19, 2 & 19,3.

[3] Lommen, Jo; Refurbishing, Personalizing and using Classic Press Cameras; Kalart History, Rangefinder and Rangefinders (jolommencam.com, "Kalart pages")

[4] S. Mendelsohn; Speedgun Photography; 1936, 8½x11"; p. 9.

[5] Newcomer, Les; Greetings from the West, A Moving Christmas from the Western Division of Graflex, an unpublished CD.

[6] Graflex, Trade Notes, various 1939-1941. Vol V, #7 & 8.

Lahue, Kalton and Bailey, Joseph; Glass, Brass, & Chrome; University of Oklahoma Press; 1972.

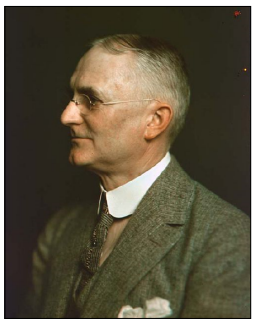
Kalart for Better Pictures, including price list, 18 pp., 1941.

FROM THE GEORGE EASTMAN MUSEUM COLLECTION

2-Color Kodachrome Cameras

"He was crazy about color," Dr. C. E. Kenneth Mees , the first director of the Kodak Research Laboratories, would decide. "He had a true amateur's love of color." So anxious was Eastman to be the first to market color film for amateurs that he introduced it too soon, according to Mees: "The sensitizing dyes known before 1930 wandered badly." "Eastman stepped up in-house efforts and by the fall of 1914 John Capstaff had devised a two-color subtractive process that produced seductive portraits but unsatisfactory colors for landscapes. Known by a new trademark—Kodachrome—the negatives [4x5 and 8x10"] were taken through red and green filters and transformed directly into positives. A mirror in the camera reversed one of the negatives so that the two-color [red and green] positives could be superimposed face to face as a completed picture. The picture still had to be viewed by transmitted light but in addition to its being used as a lantern slide, an ingenious illuminator—a shadow box with electric light inside—made wall mounting and tabletop viewing possible."[1]

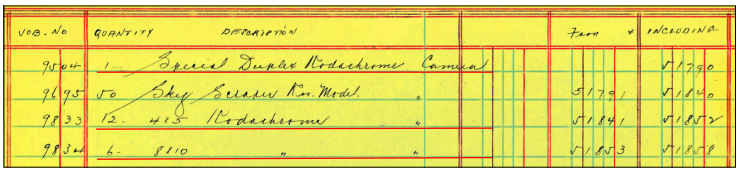
"...although the two-colour analysis would not reproduce pure blues, purples, or violets, it was very satisfactory for portraiture. Flesh tones were very well reproduced."[2]



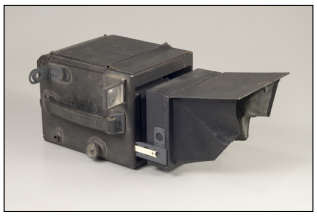
"In Capstaff's process the negatives, taken under two filters, were transformed directly into color positive images, the red-filter negative being turned into a green positive, and the green-filter negative into a red positive. By the use of a mirror in the camera, one of the negatives was reversed laterally, so that the two color positives could be superimposed face to face to make a completed picture."[3] At left, 1914 8x10" Kodachrome at the Smithsonian Institution.

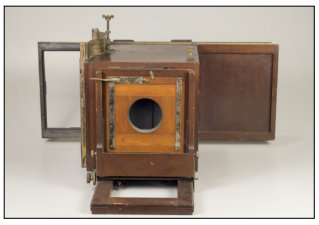
"...by 1914 the Lumière Brothers in France had devised a simple one-shot color process called Autochromes that accurately reproduced a full spectrum of colors using an ordinary plate camera. Further work on the Kodachrome process was stopped, but research into a viable film-based color process was continued. Eastman Kodak was eventually successful and in 1935 the film we now know as Kodachrome was introduced to the public."[1]

According to production records of the Folmer & Schwing Division of Eastman Kodak, 12-4x5", and 6-8x10" cameras were scheduled for production ca. 1913-14. Two orders earlier one "Special Duplex Kodachrome Camera" was listed although without a specified size.



VOR. NO	QUANTITY	DESCRIPTION		Form	INCLUDING
9804	1	Special Duplex Kodachrome Camera			1790
9695	10	Sky Eclair Kn. Model	"	1791	1840
9833	12	4x5 Kodachrome	"	1841	1852
9834	6	8x10	"	1853	1858





The museum has five 4x5" cameras in the collection styled like the one shown on top left. In addition, the collection has another 4x5" camera styled as the one in the middle left. Finally, at the bottom left is one of several 8x10" studio cameras with red/green sliding backs.

The two 4x5" cameras are from the Eastman Kodak Company Patent Museum.

The two-color cameras use a beam splitter or a semitransparent pellicle mirror, to expose two plates through red & green filters. These could be used for general photography as both colors were exposed at the same time. It is yet to be determined which is the case with these cameras. If "duplex" describes a two-lens camera, the "Special Duplex Kodachrome Camera," that is the camera the museum would like to find.

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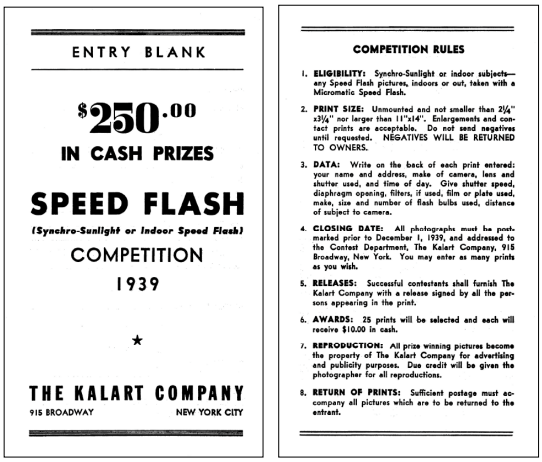
[1] Brayer, Elizabeth; George Eastman, A Biography; 2006; pp. 221-3.
[2] Coe, Brian; Colour Photography, the First Hundred Years; pp. 104-5.
[3] Mees, Dr. C.E. Kenneth; From Dry Plates to Ektachrome; 1961; p 210.

National Museum of American History Images below.

Graflex Journal

The Graflex Journal is dedicated to enriching the study of the Graflex company, its history, and products. It is published by and for hobbyists/users and is a not-for-profit publication. As such, we believe we qualify as a 501(c)(3) educational publication.

Masthead picture courtesy George Dunbar. Canadian Sgt. Karen Hermiston CWAC c.1943-1965 LAC.



ENTRY BLANK

$250.00
IN CASH PRIZES

SPEED FLASH
(Synchro-Sunlight or Indoor Speed Flash)
COMPETITION
1939

★

THE KALART COMPANY
915 BROADWAY NEW YORK CITY

COMPETITION RULES

1. **ELIGIBILITY:** Synchro-Sunlight or indoor subjects—any Speed Flash pictures, indoors or out, taken with a Micrometic Speed Flash.
2. **PRINT SIZE:** Unmounted and not smaller than 2¼" x3¼" nor larger than 11"x14". Enlargements and contact prints are acceptable. Do not send negatives until requested. NEGATIVES WILL BE RETURNED TO OWNERS.
3. **DATA:** Write on the back of each print entered: your name and address, make of camera, lens and shutter used, and time of day. Give shutter speed, diaphragm opening, filters, if used, film or plate used, make, size and number of flash bulbs used, distance of subject to camera.
4. **CLOSING DATE:** All photographs must be postmarked prior to December 1, 1939, and addressed to the Contest Department, The Kalart Company, 915 Broadway, New York. You may enter as many prints as you wish.
5. **RELEASES:** Successful contestants shall furnish The Kalart Company with a release signed by all the persons appearing in the print.
6. **AWARDS:** 25 prints will be selected and each will receive $10.00 in cash.
7. **REPRODUCTION:** All prize winning pictures become the property of The Kalart Company for advertising and publicity purposes. Due credit will be given the photographer for all reproductions.
8. **RETURN OF PRINTS:** Sufficient postage must accompany all pictures which are to be returned to the entrant.

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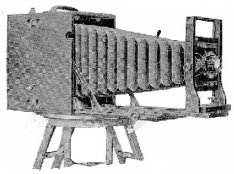

https://www.msn.com/en-ca/news/offbeat/dnc-proceedings-came-to-a-literal-standstill-for-the-group-photo/vi-AA1p930U?ocid=socialshare

Courtesy Davis Strong.

1957 Santa Claus poster (22 x 28"), from eBay.

From original pen and ink artwork by S. P. Wickert of Rochester NY.

He was hired as a draftsman by Graflex, Inc., and soon rose to the position of industrial designer. He became well-known to Graflex employees for his many amusing posters advertising annual company picnics, clam bakes and Christmas parties.