

GRAFLEX Journal

SHARING INFORMATION ABOUT GRAFLEX AND THEIR CAMERAS

ISSUE 3, 2015

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2001. I think it would be interesting to combine the two Naturalists' cameras in one article.

William Folmer was an inventor, manufacturer of professional-grade cameras, and savvy marketer. As an example of his marketing skills, he patented a camera "...designed for photographically recording the reading of gas and electric meters..." (patent number 1,260,356), then, with few modifications, re-branded the camera for law enforcement as a Finger Print camera.

Earlier examples of this technique are the two Naturalists' cameras. The first one, featured here, (although not patented by Mr. Folmer) is essentially a Reversible Back Graphic. In Mr. Folmer's words from his 1904 catalog:

There are now enough botanists, agriculturists, seedmen, etc., using cameras ...to warrant the making of a camera especially designed for such work...this new combined view and natural size camera is offered to the scientific public. The camera here presented is a recent invention that constitutes a radical departure from all other cameras...

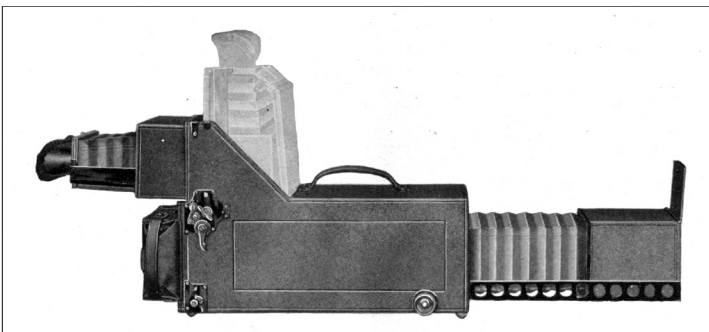
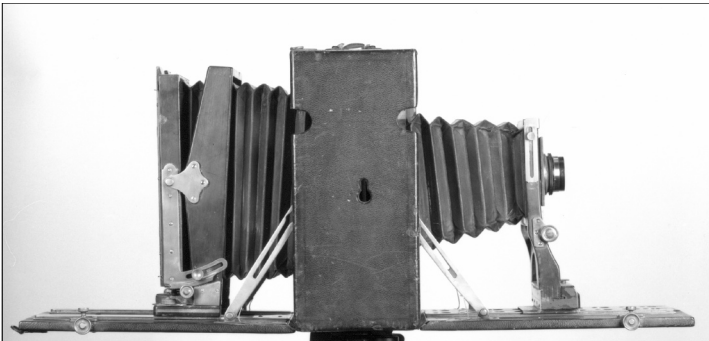
Four strings are attached to the box in such a way that the camera may be suspended from the ceiling or in a doorway in a vertical position, and by introduction of a strong rubber band...at the point where the four cords unite all vibrations are obviated...for as the object is supported directly on the camera-bed the whole system may be rotated during any part of the exposure, and the soft effects hitherto possibly only in a well-lighted studio can be secured.

This short-lived camera was not listed in 1901 and 1906 catalogs, but was resurrected in 1907, based on an elongated Auto Graflex. In the 1907 catalog, it was stated:

The Naturalists' Graflex camera is designed especially for naturalists' work in photographing birds, wild animals, or similar subjects where long-focus or telephoto lenses are required.

Seedmen are out, and wild animals are in. Though few were made, this camera was listed through 1921. Although not originally advertised for sports and other long-focus photography, it's longevity may have been due to non-naturalist uses.

I am now the proud, but poorer, owner of this fine camera.

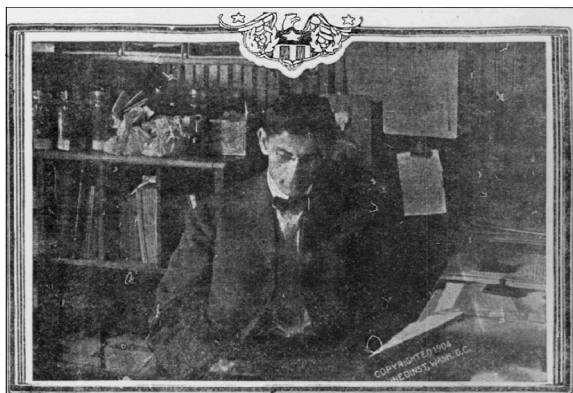


TWO NATURALISTS' CAMERAS

By Ronn Tuttle

In the spring of 2004, my good friend, Sam, passed away at the tender age of 92. It is never pleasant to lose a friend, but as the old saying goes, "every cloud has a silver lining." The silver lining in this case was the opportunity to help his family sort through his vast camera collection.

My part was to identify and catalog the several hundred items. One camera was unique and very interesting, but beyond my ability to identify. I could not find anything that looked like it in my limited reference books. I wrote an article for the GHQ ("Special Finds", 9,4 in 2004) and submitted it, along with photographs, to Ken. He quickly identified it as a Naturalists' camera, very much unlike the one illustrated in Mike Hanemann's GHQ article in 6, 1 in

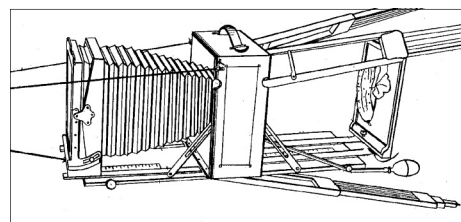
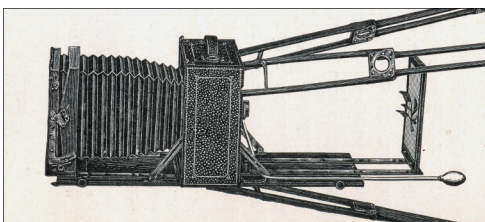
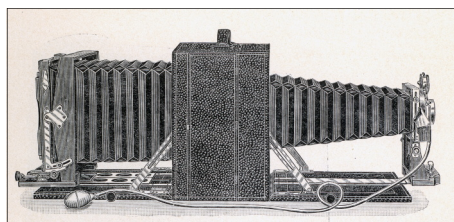
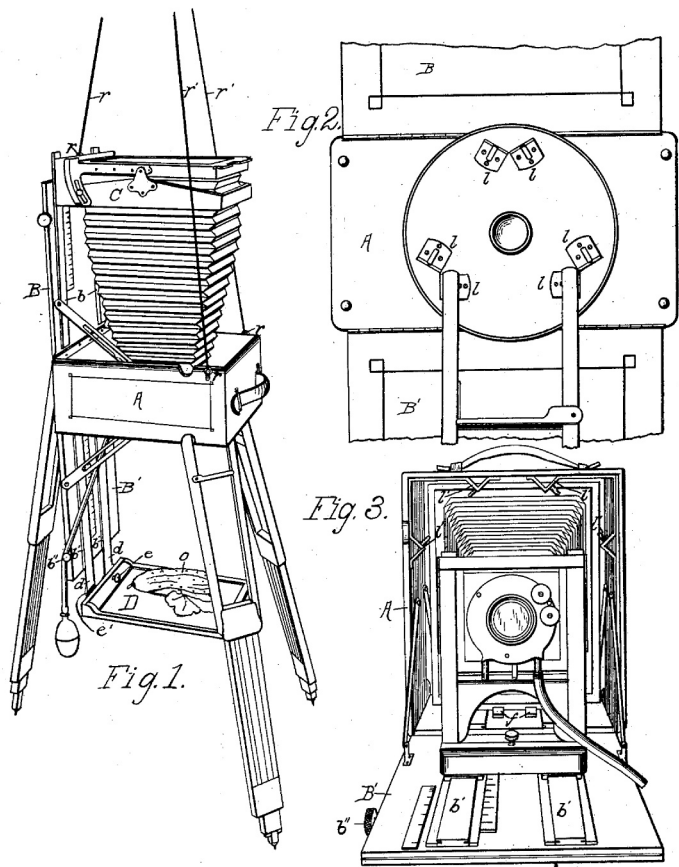


Guy N. Collins (pictured above in 1904) was a botanist, plant explorer and geneticist, who became the Principal Botanist at the U.S. Department of Agriculture in Washington, D.C. This guy, Guy, was granted one patent (number 727,085) in March 31, 1903, (when a resident of Washington, D.C.) for a "Photographic Camera," which looks very similar to the Folmer & Schwing Mfg. Graphic Naturalists' of 1904. To further belabor this point, the F&S Mfg. catalog states "Collins' Patent March 31, 1903."

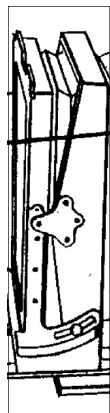
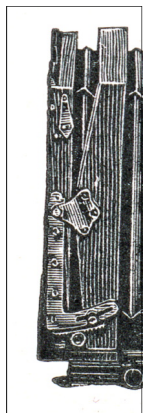
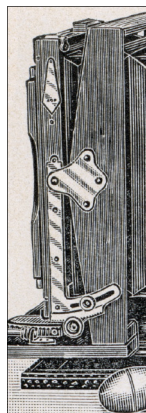
So? As the only known example of this camera, some questions can be raised, though not necessarily answered:

1. How closely did Mr. Collins and Mr. Folmer work in designing and manufacturing the camera?
2. Why was it patented?
3. What were the changes between the patent and the actual camera?
4. What other changes were made and when?
5. Was this Mr. Collins' camera?

1. Comparing the patent illustration to the catalog illustration, it is reasonable to conclude that Folmer used his Reversible Back Graphic Special and Reversible Back Graphic to fashion the Graphic Naturalists'. As an aside, only one Graphic-style camera was patented in its entirety, the Reversible Back Cycle Graphic Special of 1904 (804,802, [GHQ 12, 2](#)).



Left to right, 1904 Reversible Back Graphic Special, Graphic Naturalists', and Collins patent illustration.

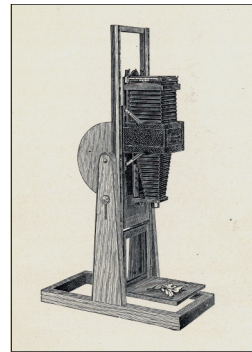


It would be reasonable to assume that because Mr. Collins was a botanist and Mr. Folmer was a camera designer, the former came to the latter for help. Also, Folmer may have anticipated entering a new market without much effort.

2. As applying for and receiving a patent was a relatively expensive process (unless the government was footing the bill), and the patent was not assigned to Folmer & Schwing, the patentor must have believed he could share in the profits from Folmer's marketing his camera. As the patent language suggests, our guy (sorry) was excited and believed his idea had great merit.

From the patent:

This invention relates to photographic cameras, and my object is to adapt an ordinary portable view-camera for use in photographing in their natural size...specimens. In the photographing of such specimens for record and for the illustration of scientific publications, it is found to be extremely difficult to so mount the specimens on vertical surfaces. So far as I am aware, such photographs have never heretofore been made except in the laboratory or studio and by means of photographic apparatus and object-supports mounted upon unwieldy camera-stands incapable of use by scientific parties in the field.

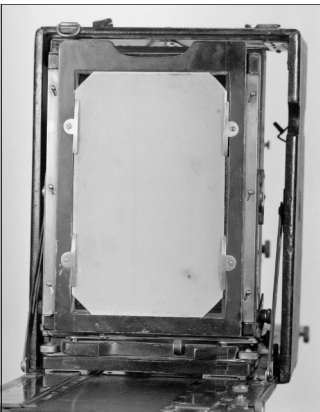
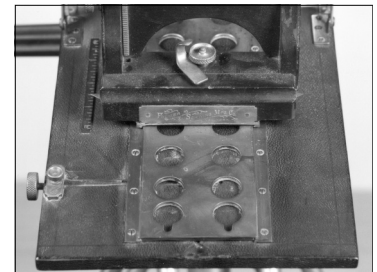


1904 Laboratory Stand.

To overcome these difficulties and at the same time not so modify the camera as to render it unfit for ordinary view-camera work, my invention, broadly considered, consists in mounting the frame and lens-axis of a portable view-camera in a vertical position and attaching to one of the hinged drops, a support for the object photographed. It also consists in affording a flexible swinging support [of cords or wires] for the camera in lieu of a tripod, by means of which both camera and object may be rotated about a vertical axis, so as to secure more uniform lighting.

As innovative as it was, it was no longer in the Folmer catalog when they issued their first catalog in 1906 under George Eastman's frugal eye, and examples are as scarce as hens' teeth.

3. The most notable change in the actual camera was substituting a heavy-duty single track for the patent's double track. Examination of the camera shows two key way-type holes at the outer end of the track, but no noticeable wear marks. One conclusion is that this camera was little or never used as intended.



4. At some point, the shutter/lens that was supplied with the camera was replaced with a barrel lens without a shutter. The more intriguing change was the conversion from a 6½x8½ Graphic-style back to a 5x8 Graflex-style back and its placement off center. The placement may have been done to use the long dimension to increase stability.

In the F&S Mfg. catalog of 1896, two cameras were advertised in the 5x8 size (Advertised as "F. & S." cameras, they may have been made by others.) and never again. According to Todd Gustavson of the George Eastman Museum: "5x8 was a popular format for amateur photographers during the dry plate era ca 1880-1910." This being so, why was it fitted to this camera? There is no way of knowing for sure, but it could have been the format requested by the owner. Ronn Tuttle thinks the government may have had an overstock of 8x10 film, and that by cutting it in half, a 5x8 back could make inexpensive use of the supply.

5. Because speculation is rampant here, as there is a partial sticker on the camera that says in part "U.S. Department of Agriculture...", and Mr. Collins worked for them....it very well could have been his camera.....or not.



KM

READY, AIM, FIRE Shooting the 3¼ x 4¼ Format with Instant Film

By Paul Lewis

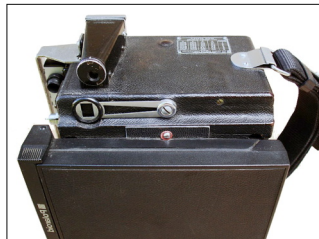
About 25 years ago, I got bitten by the old Graflex camera bug. I am sure the readers of this publication understand the reasons and share the same, if not more, appreciation for the beauty and technology of the large format, Graflex, beauties.

Well, the first camera I bought was a pre-war Speed Graphic that sported a beautiful Zeiss Tessar f/4.5 to f/45 lens. The only mistake I made was picking a 3¼ x 4¼ format camera. Recommendations on the Internet for using this old camera were, more or less, as a collectible.



That idea really did not sit well with me, as I really wanted to shoot with my first Speed Graphic camera and see what that beautiful lens would produce on film. I was lacking film, film holders, a darkroom, and darkroom skills. But Polaroid was alive and well at that time, and there seemed to be an opportunity to produce an image, if I could just figure a way to mate a Polaroid back to the old Speed Graphic. There were plenty of ways to work Polaroid film with 4x5s fitted with Graflok backs; not so much for 3¼ x 4¼ spring back models. So, I understood the concept from that. Still, I thought that the original 3¼ x 4¼ film format and the Polaroid film size were a real good match for the old Speed Graphic. Why not try to find a way to make them work together?

So, I found an old NPC Polaroid back on eBay and then off to my wood shop to see if I could mate the Polaroid back to the spring back position. The solution was to replace the spring back with a filler piece and then mount the Polaroid back to that. As it happens, there is cabinet plywood that fills that space decently. So, it became just a matter of centering up the Polaroid back on the spacer and then cutting out a path for the image by outlining the hole in the Polaroid back and cutting a little outside that line. Some dark calking and 4 to 6 short, brass, countersunk wood screws mate the parts. The calking assures a good light seal and strengthens the mated parts. A little flat black paint matches the black interior of the camera and makes the finished project look like a real piece of gear. In the first edition, I used the original mounting points for the springs, the screw mounts, to secure the made-up back to the camera.



Back on later model Speed.

Now to application: I was a new guy to Graphic cameras, and not real experienced with Polaroid film either. Clearly, there were some challenges to overcome; mostly, getting smart by making mistakes. So, first shot: blank. I failed to close the curtain shutter. I had forgotten that the old Tessar lens has no inter-lens shutter and

is always open. The second shot created an image. But, that one was way out of focus. It dawned on me that I did not think to set a new infinity focus point. So, lacking a dark slide, I could not remove the back without exposing the film. The solution I came up with for that was to just shoot through the pack and move the standard back a little at a time. Eventually, I got close to a well-focused image and, then, ran out of film. With further experimentation using up a second pack of film, I managed to get a decent image.

I was satisfied that an image could be obtained, but the process was tedious, and lacking a good rangefinder along with an inter-lens shutter and enough experience, the results were inconsistent. So, the old camera went back to inactive status for several years.

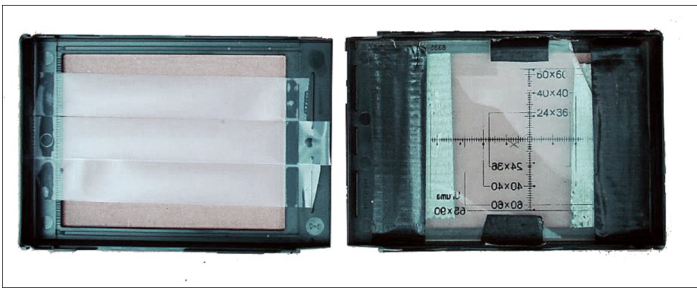
Fast forward about 8 years. I had retired and learned a lot more about large format cameras. I learned how to do darkroom work, built a darkroom, processed 4x5 film, learned how to service shutters, and do repairs on large format cameras, even repair and build bellows. Then, another newer Speed Graphic, 3¼ x 4¼, showed up in KEH's "As Is," category. It was dirt cheap, missing a few small, cosmetic parts and sporting a set of pin-holed bellows: a great project. Plus, I knew I could fix it up and make it work with the first Polaroid back.



In a few weeks, I had rehabbed the new Speed Graphic and discovered that it had a good rangefinder. I also installed a lensboard with a Compur shutter sporting a Zeiss Tessar 135mm lens. Now, there were better options with the Compur shutter providing 1 sec to 200th, and the focal plane shutter offering a tenth to a thousandth plus T and B on the lens body. Things were looking up.

Having the earlier experience with the infinity settings, I had to give some thought as to how to find a reasonably accurate film plane. So, with the Polaroid film back in place, used the carcass of an empty Fuji 100c film pack to set that. I had an old fragment of ground glass and taped that onto the plastic frame. That was as close as I could get to an accurate film plane, so I could establish focus at infinity. (Note: lacking ground glass, a few strips of Scotch Mat Magic tape will capture enough of an image to make a decent setting.)





Frames: glass and Scotch Tape substitute and image on tape.

With the infinity point set and the range finder adjusted, the only thing lacking was the ground glass back for close focusing. That piece is now an accessory for a Graflex B. The Polaroid back is, more or less, permanent. Now, instead of a dust catcher, some instant film fun can be had with a 3¼ x 4¼ Speed Graphic. Well, that is so long as Fuji keeps supplying FP-100c.

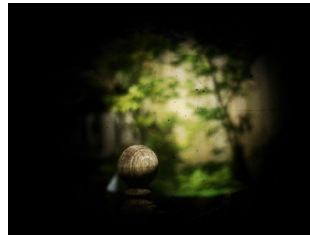


So, this same idea will also work on a Graflex Series B. I was really not very interested in the Graflex Series B until one needed a new home. Then, just like the first Speed Graphic, I felt the urge to pull an image out of the B. Given my experiences with the Speed Graphic cameras, I decided to take a similar approach with the Series B camera. That turned out to be not so easy and a bit tedious to use.

One good thing about the B is that it has a locking back. I was also lucky to find a film pack with a dark slide that could be converted. An old Polaroid Super Shooter was sacrificed to mate with the modified film pack back. With the dark slide back, I could also create a focusing screen from an extra 3¼ x 4¼ spring back. Still, I double checked focus points in the same way, using the ground glass frame from the Fuji film pack. I did this because I wanted to employ the B as designed. That makes the focusing process really tricky. Since the B is an SLR, with the modified Polaroid back, the focus has to be established on the mirror and then re-set to accommodate the change in film plane. I overcame this issue by using a gauge. This is the white ring shown at



top of next column. Here is the process: I establish focus on the mirror. Then, I locate the white dot on the focus knob and rotate the white ring to match up with the far right black line. There is a little take-up in the knob, just a little, and I take that up and re-adjust so the black line and white dot match. I pin down the white ring with a free finger and make sure the white dot is matched to the black line. The focus



knob is then rotated counter clockwise so the white dot on the focus knob matches up with the second black line. The second black line is the focus point on the film plane. The image on the ground glass is now out of focus.

Somewhere in that process, I have set the shutter speed and aperture based on my light meter and any common sense fudge factors. Then...fire, pull the tab, pull out the film, and wait the recommended time on the film sheet based on temperature. At the end of the wait, peel the film apart and, with some good luck and planning, a decent color image will appear.

So, I have to admit this is a bit whimsical and tedious. But, I really wanted to see what the B could do. Despite the complications, it was great to get a color image out of that old camera!

The spring back models like the Pacemaker look to be very similar to the earlier model, so I think a 4x5 locking back would do real well with a back made up from a film pack back. The film pack backs are real handy because of the dark slide.

At the moment, I have my last and very expired pack of Fuji FP100 45c loaded in a ragged 550 holder. This thing was extremely handy. With the 4x5 film format, it was a perfect match for the full-size Graflok back camera. But it seems that era is at an end, since the very nice Fuji 4x5 color and black & white packs are off the market.

So, while that style holder works with the Graflok models, what about the 4x5 spring back models like the Pacemaker? The Graflex film pack to Polaroid back conversion would be a good choice since the old Graflex film pack offers a dark slide. I have built this modification for my Graflok back cameras, but not the full size spring back models. One caution is just be sure it is mounted securely. That way the light box is sealed so the instant film can be pulled without fogging the film. I do not see any reason why this approach could not be used for the full-size spring back models. By using the existing screw mounts, you can always go back to the original configuration. Why not enjoy using the camera with instant film as long as it is available in the market?

Thomas Evans adds...

The Polaroid 405 (for pack film) and 545 (for sheet film packets) holders are still available used, but I don't think anyone is making holders to fit 4x5 cameras anymore. No one ever made Polaroid backs for 3x4 cameras - not for the Graflok back and certainly not for the Graflex back. I think that much of the desire to adapt a Polaroid back to the 3x4 cameras is that it allows these fine old cameras to be used, and the Pack Film image size is a perfect match. Ilford will make 3¼ x 4¼-inch sheet film (FP4 and HP5, only) on special order once a year when they make their large-format film run, but they want \$80 for a 25-sheet box!

When I cut down the Polaroid 405 pack film holder to fit the 3x4 Graflok back, I also intended to cut down another one to fit the 3x4 Graflex back, but at the time I could find only 405 backs in excellent condition, which I didn't have the heart to chop up. Now they are selling for \$100 to \$300! Apparently these backs are now a hot item. I would still like to do this, but am unlikely to spend that much money for a 405 holder to cut up.

Checking my price estimate, I found this offer from Germany for a 405 holder adapted to a 3x4 Graflex back <http://www.ebay.com/itm/Polaroid-Packfilm-Magazin-405-fur-R-B-Graflex-Reflex-Kameras-3-1-4-x-4-1-4-inch-/141734755172?hash=item21000cbb64>.

I think that the interest is wide-spread.

If you have questions, Mr. Lewis is available at: paulslewis@bellsouth.net.

A BRIEF HISTORY OF POLAROID

By Thomas Evans

Dr. Edwin Land conceived of the instant print camera in 1943. The first model, Polaroid 95, was introduced in 1948, and was a success. During the 1950s and into the 1960s, the Polaroid print material was supplied in roll-film form. After exposure, as the tab was pulled, the film and paper were pressed together (from different supply rolls) through rollers, with the developing reagent being squeezed between them. After a minute or two, depending on emulsion and ambient temperature, the back door was opened, and the print was peeled off of the film. In 1957 the EV (Exposure Value) system was introduced with model 95B. Some two dozen models were introduced during the first decade-and-a-half, with various rangefinder – viewfinder – lens and shutter combinations, but all using the roll film print material. The Polaroid 900, with a fully automatic electric-eye controlled shutter, was introduced in 1960. Polaroid pack film began to replace the old roll film in 1971, with the introduction of the Big Shot portrait camera, and in 1972 with the SX-70.

During the 1970s, Film Pack Adapters became available for many professional cameras, and the Polaroid Model

405 through 545i 4x5-inch adapters allowed the use of Polaroid Pack Film and single-sheet Film Packets in 4x5" format cameras. The 405 and 545 type holders could be used on any 4x5-inch format camera with a Graflok or Universal back, such as the Pacemaker Crown and Speed Graphics, and view cameras such as the Graphic View. The pack film could also be used in the Polaroid back made to fit the graflex xl, producing full-sized, 3¼ x 4¼" images. 8x10" print material was also available, and gorgeous, and expensive. The Polaroid 8x10 film holder could be used on nearly any 8x10 format camera, as it was no thicker than a regular dual cut film holder, although I have needed to modify the back of a 100-year-old Century Studio camera by removing a small amount of the wood where the holder did not have enough clearance. The 8x10 holder requires its own procedure. After the exposure is made, the print paper is slid into the holder, and the holder is mounted into a processing machine, which pulls the film and paper together through rollers for processing. 20x24" print material and cameras were available by special arrangement. The benefit of being able to quickly produce an image was appreciated by professional photographers. As Ansel Adams wrote in the 1980 edition of The Camera: "This ability is of particular value when a test is needed of lighting, exposure, or focus, but also when you simply want to be sure of your results." He goes on to add: "Several Polaroid films offer uniquely beautiful image tonalities, and are well suited for use as the final image."

Some types of Polaroid film that were once available:

Type 51 ASA 320, High Contrast producing B&W positive prints, intended for line copy.

Type 52 ASA 400, Panchromatic, producing B&W positive prints.

Type 55P/N ASA 50, Panchromatic, producing B&W positive print and negative.

Type 665 ASA 75, Pack Film, producing B&W positive print and negative.

Type 664 ASA 500, Panchromatic Pack Film producing B&W positive prints.

Type 57, 107 & 667 ASA 3000, Panchromatic, producing positive prints. (107C Coaterless)

Type 668 Polacolor 2 film for professional use. (and Type 108, Polacolor 2)

Type 669 ISO 80 Color Instant Pack Film.

Type 72 ISO 400 4x5 Black & White Instant Sheet Film for positive prints.

Type 79 ISO 100 4x5 Color Instant Sheet Film.

Polaroid filed for bankruptcy October 11, 2001, and after several ownership changes, it filed for bankruptcy again December 18, 2008. Polaroid announced in 2008 that it would gradually cease production of all analog

instant print film. With the advent of digital technology, and the wide-spread movement of professional photographers to digital imaging, the demand for Polaroid products diminished beyond what seemed like a point of no return.

On May 7, 2009, Polaroid Corporation was purchased by Hilco Consumer Capital and Gordon Brothers Brands, and was placed under the holding company of PLR IP Holdings, LLC. The new Polaroid is currently offering a number of instant film and digital products, including the Polaroid PIC-300 Instant Print Camera, which makes business-card-sized prints, and the Polaroid OneStep SX-70 and OneStep 600 cameras. Color and B&W instant film that can be used in the SX-70 and 600 cameras is currently being made by the Impossible Project, which has been working on recreating Polaroid instant films since 2009.

What Instant film is available today?

Fujifilm, long a competitor of Polaroid, has continued to produce instant film material. Until recently, they produced their well-respected FP-100c color instant film in the 4x5 packet size, but now it is available in only the Pack Film format. They also continue to produce special sizes of instant film for a variety of Fuji instant cameras designed to appeal to the armature trade.



Since its beginning in 2009, The Impossible Project has achieved a certain amount of success in recreating Polaroid Instant films. In addition to the instant film materials for the SX-70 and Type 600 cameras mentioned above, they are producing instant film for the Image/Spectra cameras, and are now offering a Black and White instant film for 8x10-inch cameras.

Another project (crowd-funded) to produce a 4x5-inch Type 55P/N, positive print and negative instant film, has been undertaken by New 55 Film. They have produced and shipped film to their supporters, and are encouraging people to buy and use their product, despite the need to fix a few issues.

The Pack Film version of FP-100c can still be used in Polaroid 405 type holders on 4x5 cameras with a Graflok-type back, such as the Pacemaker Crown and Speed Graphics, and the Graphic View. It can also be used with graflex xl cameras that have the Polaroid Series 100 Film Pack Adapter that was

made specifically for the xl. The instant film made by the Impossible Project, other than the 8x10 film, is designed to produce the familiar 3x3" square images, and will not work in the 405 holder. The New 55 Project has announced that they have a limited number of 4x5- inch instant film packets available, which are designed to be used in the Polaroid 545 holders, and old stock is sometimes available. The 8x10 instant film produced by the Impossible Project, Black and White available now, and color in the testing stage, works in the old Polaroid film holders and processing machine, and so can be used in nearly all 8x10 format cameras.

As interest in the use of film has increased, so too has an interest in using Polaroid instant films. There is a real fascination with watching the print appear as if by magic, that, once seen, is hard to shake, and the "uniquely beautiful image tonalities" of instant film are charming. The interest in adapting Polaroid film holders of various types to vintage cameras also appears to be on the rise.

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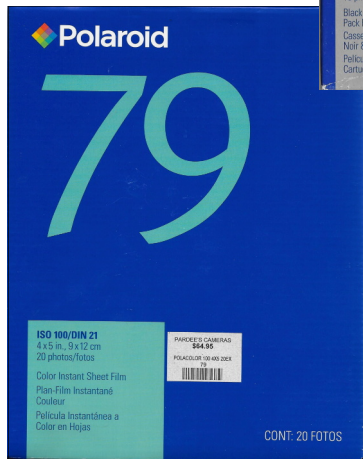
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New 55 Project: <http://shop.new55.net/collections/all/products/new55-pn>

Graflex Journal

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Check out this Graflex site from Thomas Evans!

<http://graflexcamera.tumblr.com/>

It is prepared with care and filled with interesting articles.

A FIRST LOOK

Violin maker and Journal contributor, Laurent de Miollis, is crafting custom-made Anniversary Speed Graphics which will soon be available for sale.



The Journal will update readers on the availability of this fine camera. In the meantime, more information can be obtained on [https://www.facebook.com/The-Graflex-Speed-Workshop -L-de-Miollis-940056326011194/?ref=bookmarks](https://www.facebook.com/The-Graflex-Speed-Workshop-L-de-Miollis-940056326011194/?ref=bookmarks).

From a 2003 article, A Collectors Paradise, by Journal publisher John Manser.

The collector is usually thought a crank by his acquaintances, a nuisance by his friends, a miser by his relatives, a blessing by the dealers and a deluded idiot by everyone concerned.