INTERNATIONAL ASSOCIATION OF PANORAMIC PHOTOGRAPHERS

May 1991 #5

RESTON, VA Orlando, FL Chicago, IL

Panopticon photo by Steven Morton

The Panopticon "Ultra Wide" 120 Panoramic Camera

By Steven Morton

Traditional rotating panoramic cameras usually produce extremely elongated images. The few commercially available 220/70mm medium-format panoramic cameras on the market today use 50mm, 65mm or even longer focal length lenses. While images created by these cameras can be spectacular, it's often difficult to make enlargements from the negatives and impractical to reproduce the images at a reasonable size in publications.

The Nikon 28mm PC lens makes it possible to build a 360-degree medium-format panoramic camera that produces a 55x180mm image, incorporating an angle of view of 112x360-degrees. The Nikon PC lens covers a 56mm-long thin slit with ease.

A 70mm panoramic camera would probably be easier to build than a 120-format camera, since 70mm film would transport more easily through the camera. However, very few 70mm emulsions are available and 120-format is much easier to get processed. A 120-format roll of film is long enough to provide for more than four 360-degree rotations.

Such a camera — the Panopticon — was designed by me and Alan Holland, of Melbourne, Australia. Holland, who built it for me, spent considerable time and effort on the project. The camera features a 70mm Hasselblad magazine, which acts as a lighttight box to hold two 120-format film spools and the extra roller needed to help drive the film. The position of the two 120-format spools is the same as 70mm cassettes, and the film takes the same route from supply to take-up spool. The extra space, created by using 120-format film, allows the addition of a pressure roller, used to press the film against the driving capstan roller, which makes contact with the film after it has passed the slit. A 1mm slit was made by cutting a thin slice out of the middle of the magazine's original dark slide.

The importance of a smooth film drive in a panoramic camera cannot be overly stressed. The slightest variation in the speed of the camera's rotation, or the speed of the film being driven past the slit will result in visible banding in the picture.

The Panopticon is driven by a 12-volt DC motor, which spins at approximately 3,600 RPM The motor speed is first reduced by 10:1 ratio-reduction gears. This can then be driven into the upper part of the camera through a further 30:1 reduction gear to rotate the camera

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IAPP

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President
(Activities, Business)
David Paskin
11304 Taffrail Court
Reston, VA 22091 USA
703-476-5322

Exec. Secretary/Treasurer
(Memberships, Address Changes)
Richard Fowler
1739 Limewood Lane
Orlando, FL 32818 USA
407-293-8003

Editor
(Newsletter Items, Ads)
Larry R. Thall
P.O. Box 578366
Chicago, IL 60657 USA
312-348-8440

Printer
Jerry Wood
Annapolis Sailing School
Annapolis, MD 21403 USA

Ads & Notices

For Sale: #8 Cirkut film—Kodak VP, manufactured mid-'80s, still good. $15 per roll plus postage. Contact: Mike Hanemann, P.O. Box 22374, Milwaukee, OR 97222.

For Sale: Custom-made developing trays for Cirkut camera films. Sizes range from 8x48 inches to 12x48 inches. All trays have 6-inch-high sides and are made from .25-inch-thick acrylic plastic. Prices for trays range from $40 to $50, depending on size, plus packing and shipping. Custom contact frames using glass three inches wider than film size and .25 inches thick are also available in various lengths. Price is $75, plus packing and shipping. Contact W. Davis, 3649 Hearne Ave., Kingman, AZ 86401; 602-692-0752.

Wanted: Used Wing/Lynch 1-gallon tanks and C-41 timing module. Also looking for information and/or help in finding a supplier of aluminum grid material used for directional or spot lighting on electronic strobes and other lighting equipment. Or perhaps a supplier of different aperture grids to fit studio strobes with a diameter of approx. 6.5 inches Please call Steven Morton at +61 3 565 3663, or FAX +61 3 565 3637 or write Physics Dept., Monash University, Clayton 3168, Australia.

Happy Motoring

Do you have trouble finding DC motors, gears, clutches and other components for building custom panoramic cameras? If so, American Science Center of Evanston, IL might be able to help. The store is a veritable warehouse of surplus scientific tidbits. The firm has two catalogs (even the store manager doesn't know why there are two). Both catalogs are published "regularly—more or less six times a year." Each catalog has motors listed in it. Copies are free. Write to: Jerryco, Inc. 601 Linden Place, Evanston, IL 60202

Submission Deadline for July Issue is June 15.

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at a maximum speed of 12 rpm. The rotation of the upper part of the camera is used to drive the capstan which advances the film, while the rotation is also used to take up the film. This is accomplished with a belt, used to drive the take-up spool through a clutch. The clutch is used to allow slip due to the change in effective diameter of the take-up spool from when it's empty to when its full.

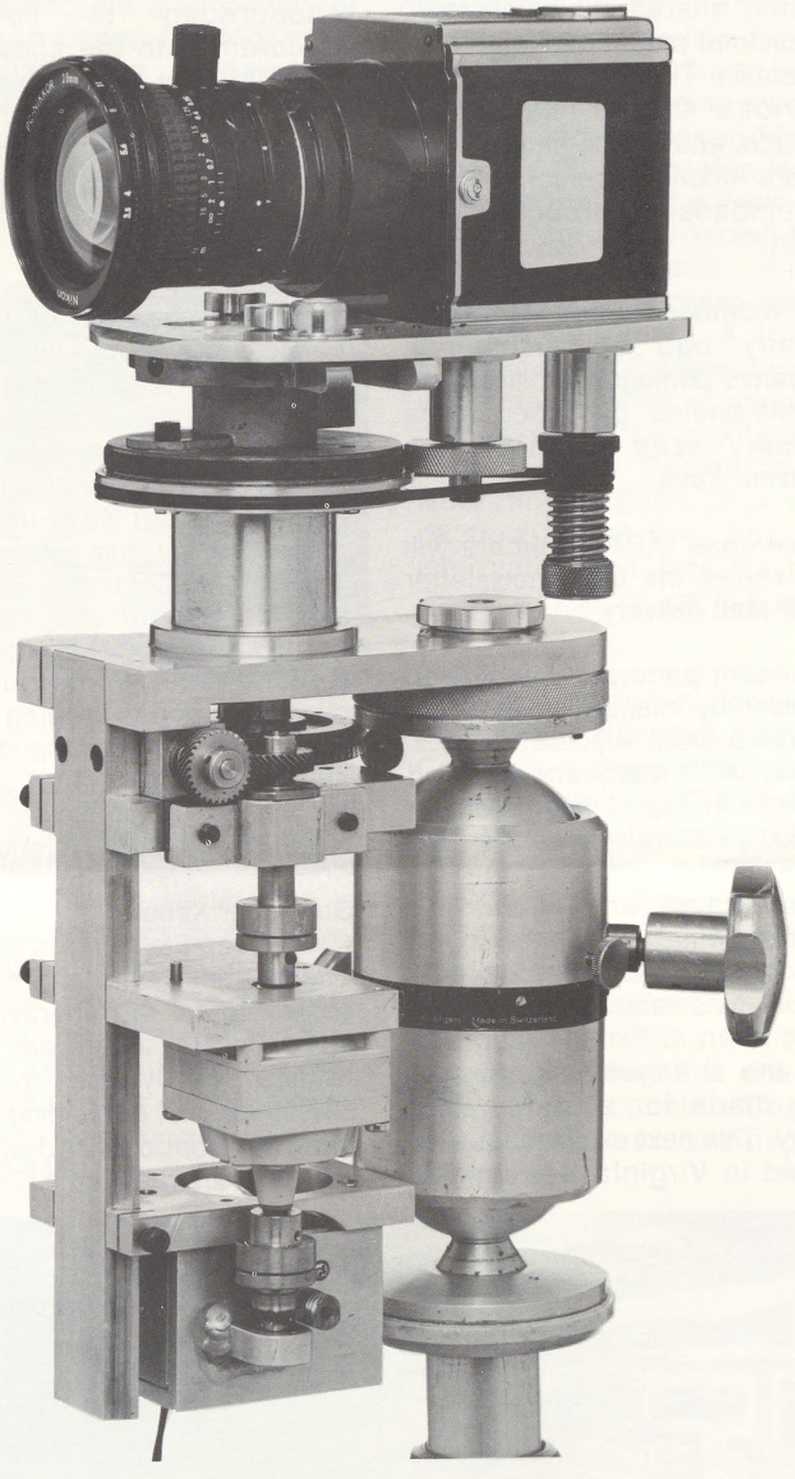
The Panopticon's rotational speed can be reduced from 12 RPM by adding any combination of four modular-planetary-reduction gears. The ratios of these planetary gears are 3:1, 4:1, 5:1 and 6:1. Using all the planetary gears yields a total reduction of 3,600:1. The effective exposure with a 1mm slit at 12 RPM is 1/30 of a second. By reducing the speed of rotation, using all four gears, the effective exposure is 2 minutes. The total time required for one full rotation at this speed is 6 hours.

The exposure can be doubled and quadrupled by reducing the voltage supplied to 6 and 3 volts respectively.

An "early" photograph taken with my camera can be seen in the last edition of "International Photography," published by Kodak. The 360-degree-plus image is located in the book's special panoramic section called "Panoramic Panorama," which also includes the work of other IAPP members.

Modifications are planned for the camera to reduce its size and weight. Instead of the modular planetary gears, a gearbox with 1:1, 10:1, 100:1 and 1,000:1 ratios will be permanently installed to allow rapid and easy speed changes.

Images produced with this camera show that a panoramic camera with a very-short-focal-length lens is best-suited to subjects located relatively close to the camera, such as forests and building interiors. It is not suited to landscape panoramas of mountain ranges on the distant horizon.



Steven Morton's Panopticon

For further information, I can be contacted at (W) +61 3 565 3663, (H) +61 3 571 9259, (FAX) +61 3 565 3637, or write Steven Morton, Physics Department, Monash University, Clayton 3168, Australia.

In the News...

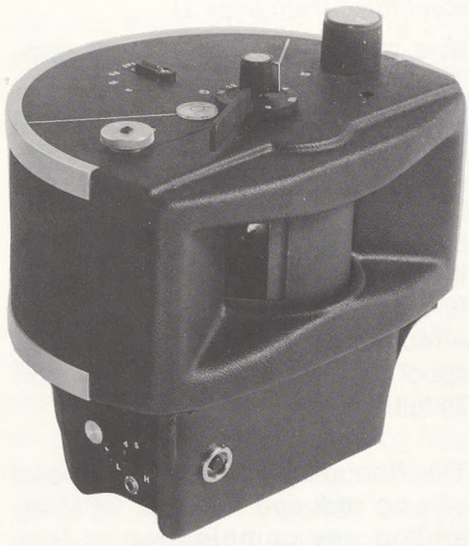
IAPP member **Tom Yanul** currently has an exhibition of 30 architectural panoramas on tour in Yugoslavia. The tour began at the American Center Gallery, in Belgrade, and will be shown at six or more American Center Galleries and embassies throughout the country.

IAPP member **Rainer Lampinen** recently had an article on panoramic photography, illustrated with his photos, published in the February issue of the Finnish magazine *Kuva*.

All overseas IAPP members will now receive the IAPP newsletter via **Air Mail** delivery.

The recent panoramic exhibition organized by Images, of Hampton, VA. was a great success. Images' owners, **IAPP members Jeff and Jim Aldrich,** report that more than 700,000 persons viewed the 250-print show. Originally slated to hang for just one week, the exhibition remained on view in the mall for more than six weeks, due to popular demand. The exhibition will be seen in Finland later this year, and arrangements now are being made for a tour in this country. This next exhibition will be located in Virginia Beach, VA. IAPP members are still encouraged to contribute panoramas to the show. Good vertical and streak pans are especially needed. For further information write to : Images, Inc., 32 E. Queens Way, Hampton, VA 23669, or call 804-723-7677, or FAX 804-723-7872.

WW, Inc., maker of Cyclops panoramic cameras introduced a new, motorized model at this year's PMA trade show. Named the Cyclops Pro, the new camera is similar to previous models, except in four very-important respects. First, the camera's lens is electronically driven, via a self-contained battery pack. A separate charger is included. Second, the Pro features six shutter speeds, ranging from 2 seconds to 1/125 second. Third, the Pro is offered with a choice of two lenses—an 85mm six-element f: 2.8 Rolyn Optics Coronor and a 80mm, six-element f:2.8 Schneider Xenor.
Fourth, remote firing is possible. The owner's name and camera's serial number are engraved on a silver plate attached to the camera. The Cyclops Pro sells for $2,900-$3,600, depending on lens choice. A deposit and six-week lead time are required.



Cyclops Pro

Joseph Meehan sends the following progress report on ***The Committee on Panorama's 150th Anniversary:*** I have received some interesting suggestions since my last brief report to the membership. Along with other committee input and discussion during Yellowstone, it looks as though we will have some recommendations to present to the membership in the next few months. I plan to condense and summarize all these ideas and send them to committee members for their impressions. I will also be asking the committee to decide which

Images' Panoramic Exhibition Opening *Photo by Raymond H. Starr, Jr.*

items should be presented to the membership for approval. If anyone would like to receive a copy of the material the committee members will receive, send me a request via phone or FAX at 203-824-9848.

IAPP continues to grow with 15 new members joining since the last newsletter. They include: James Alinder, P.O. Box 1146, 39165 S. Highway One, Gualala, CA 95445-1146; Stephen Bayne, 1401 12th Ave., Seattle, WA 98122; Jan Feigus, P.O. Box 207, Hatboro, PA 19040; Liz Hymans, 40 Lagoon Rd., Belvedere, CA 94920-2319; Andrew Kalnas, 204 Wood Ridge Drive, Mars, PA 16046; Willard Korfhage, 158 Union St., Brooklyn, NY 11231-3002; John Mayo, 3857 Camino Lindo, San Diego, CA 92122; Robert Parrish, 5409 126th Place SE, Bellevue, WA 98006; Vincent Re, 3415 Warsaw Ave., Cincinnati, OH 45205-1899; Ed Rich, 1950 South Ocean Drive, Apt 9M, Hallandale, FL 33009-5958; Richard Roos, 17291 Irvine, SU 257, Tustin, CA 92680; George S. Shelley, 1522 SW 13th Court, Fort Lauderdale, FL 33312; Dan Slater, 1352 Dorothea Rd., La Habra Heights, CA 90631; Charlotte Watts, 401 Chicken Coop Rd., Sequim, WA 98382.

IAPP member **Peter Lorber** has announced that Custom Panoramic Lab, of Boca Raton, FL, has become a subsidiary of American Group Photography, specializing in large-group portraits. Lorber and Tom Fagan, the company's other senior officer, have invested in a Trajan Portable Assembly Staging. According to Lorber, his company is the first

Lorber(L), Romberg(C), Fagan(R)

American firm to purchase a Trajan system from Gillman and Soame of Oxford, England. Lorber and Fagan thank Jim and Ann Aldrich for their assistance in setting up a quality panoramic lab. Currently, photography bookings, which at present extend to January, 1992, are limited to Central and South Florida. For further information contact Denise Romberg, marketing director, at 305-970-4450.

The International Center of Photography, located in New York City, will conduct a two-weekend, 4-day panoramic photography workshop June 8-9 and June 15-16, 10 a.m.-4 p.m. The workshop is being taught by IAPP member Joseph Meehan and Jose Gayton of Ken Hansen Photographic. The New York camera store, well-known for its terrific panoramic camera department, is supplying cameras for the workshop. A total of approximately 17 different models, including all types of panoramic cameras, will be available for student use. Tuition for the workshop is $295 plus a $50 camera-rental fee. For more information call Jose Gayton at 212-777-5900, or call ICP at 212-860-1776.

Can a panoramic format be patented? **Herbert Klein,** a California inventor says he holds the patent (No. 4,357,102) for the use of masks to create photos with a 1:2 or larger width ratios. His claim relates most-clearly to 6x13mm-format disposable cameras and the Minolta film-plane mask for the same format. Klein marketed the Optivision panoramic camera in the early '80s and licensed Concord Camera Co. to develop the format.

Servicing The No. 5 Cirkut Camera

by Bill McBride

To maintain a smooth-operating camera, the No. 5 Cirkut needs periodic lubrication. The spring motor mechanism and the geared tripod turntable are the two main assemblies requiring oil. The supplies needed for lubrication are: a non-toxic and non-residue cleaner/degreaser , available at electronic parts stores; clock oil, available at clock shops; and graphite, available at hardware stores. The following technique may also be used on the No. 6 Cirkut camera as well.

The tripod top-center post and the six brass turntable wheels should be cleaned with a non-toxic cleaner/degreaser and then lubricated with clock oil.

The following steps indicate the procedure for removing the No. 5 Cirkut motor assembly, so proper lubrication can be administered.

1. Remove speed dial plate and pointer as one assembly by removing the wood screws and pulling the assembly out of the body.

2. Remove the start & stop lever assembly screw (s), if any, and pull out the assembly. Late-model cameras have their lever assemblies lightly pressed in, so pry it loose carefully and then pull it out.

3. Remove the film drum lock screw on the top of the body along with the coil spring and locking disk.

4. Open the back of the camera and turn film drum to expose the drum shaft lower set screw (the motor may have to be operated or turned by hand to get this set screw in the vertical position). Remove the set screw only as the top set screw does not have to be removed, and then pull the drum shaft out. If the shaft is difficult to dislodge, place a 3-inch "C" clamp on the square end of the drum shaft and gently pull and twist the shaft out of the clockwork spring brass housing.

5. Remove all the wood screws that are holding down the folding front bed rails and remove the front bed rail hardware.

6. Remove the wood screws holding the motor baseplate to the camera body. Leave the flat head machine screws attached to the baseplate.

7. The baseplate should now be loose. Pull out the spring end first to pull the baseplate at an angle and slide the baseplate toward the spring end. Then gently work the governor end of the baseplate out of the camera body, which will bring out the entire motor assembly.

8. Clean the motor assembly with a non-toxic cleaner/ degreaser. Use clock oil for the gear journals. If the main spring case is opened, lubricate the coiled spring with graphite. Do not use oil on the main spring. If the governor turns too slowly on a test run, adjust the governor top screw and lock nut to achieve the proper running speed through trial and error.

9. To return the motor assembly back to the camera body, unwind the spring motor all the way to zero tension. Push the governor brake all the way down, being careful not to move it while putting the motor back into the body. Place the exposure slot pin in the vertical position and then twist the shaft slightly on, so it will remain in that position during assembly.

10. Put the governor end of the baseplate in first, at an angle with the spring end out. Then slide the spring end of the motor assembly into the body. Be sure the exposure slot pin is properly engaged into the exposure slot lever.

11. Place several wood screws on each end to hold the motor assembly onto the camera body.

12. Install the start & stop key or lever back on the body.

13. Place the speed control dial to the 1/2-speed position. Tilt the speed control plate down slightly. Then work it in to engage with the governor brake, without changing the 1/2-speed position. Next install the speed control plate wood screws.

14. Wind the spring and start the camera. It should go slowly and increase speed as the speed dial is moved on to 1/12-speed. Should the motor go fast when first starting the camera, re-assemble, as the governor brake must have moved during assembly.

15. Now that everything is running okay, install the rest of the baseplate wood screws. Then reinstall the front bed rails and platform. Reinstall the drum vertical shaft, followed by the top spring, locking disc and screw.

Should readers have further questions, please contact Bill Mcbride at P.O. Box 6237, Santa Barbara, CA 93160.

Cutting 10-inch Cirkut Film Down to Size

When cutting a 10-inch roll of Cirkut film to fit , let's say, a No. 6 or No. 8 camera, many implements, such as a hack saw or pipe wrench cutter, will do the trick. It's difficult, however, to cut the film without leaving a ragged edge.

IAPP member Arnold Greene has come up with a simple, but very clever, solution to this problem.

First take a tube from a window shade (modern cardboard tubes work better than older wooden ones) and cut it to a length of approximately 10 inches. Next cut plastic centering extrusion pin flush with the tube. Drill a 3/16-inch hole through the plastic roller end. Screw a 1/4-inch bolt through the hole, allowing approximately 1/4-inch below the bolt head to project. Next, cut off the head.

Greene says the Cirkut film, which comes on a plastic roller, can then be easily screwed onto the protuding bolt. This "single piece" now can be taken to a home center or hardware store (anyplace that has a machine for cutting window shades to length) and cut to the desired length.

The machine is a lathe-type device. The remaining portion of the shade roller fits on one end of the machine. The far end of the cutter incorporates a curved, toothless blade, which can be positioned at the desired length. The toothless blade cuts the film very smoothly, without any film chips flying off during the cut, providing the blade is sharp. Greene says the stores he has approached were happy to cut film for him.

Although Greene has had no problem with fogging, he says it might be a good idea to make a "tent" of light tight cloth around the film before the cut, especially if the film isn't wound tightly.

Ilford B&W Cirkut Films

Kodak's Verichrome Pan film , available in 8-inch by 5-foot and 10-inch by 6-foot rolls, is thought of as the standard Cirkut camera black-and-white emulsion. Ilford, however, also produces its FP3 (ISO 160) and HP5 (ISO 400) black-and-white films in 9 7/8-inch by 150-foot rolls, which can be cut down for use in smaller-than-10-inch Cirkut models.

Fabricating a Carrying Case for the No. 10 Cirkut Camera

by Bill McBride

A single, sturdy, wood carrying case (see Fig. 1) can be made for your No.10 Cirkut camera, which will hold the camera body and back, the tripod apparatus and the pinion gears. The case can be used for either the fan-speed-control type or the governor-speed-control type No. 10 Cirkut. Improvements or modifications to this design also can be conveniently made by the panoramic photographer.

This two-section case (see Fig. 5) is basically made from 1/2-inch plywood and the overall exterior dimensions are 26 1/4 inches high, 17 3/4 inches wide and 16 inches deep. The bottom section measures 17 3/4 inches high and the top section is 8 1/2 inches in height. All 1/2-inch plywood joints are glued and fastened with 1 1/2 -inch-6 steel roundhead screws. If preferred, flathead screws can be used instead.

The lower section of the case is equipped with two 3-inch chest handles, one on each side of the box, for lifting. Both the top and bottom sections of the case have a1 1/2-inch brass corner fitted on each of the four outer-edge corners to protect the case from bumps suffered during normal usage. The two sections are fastened together with two 2 1/2-inch flat brass hinges, mounted on the rear of the case (see Fig. 2). Two brass draw catches are installed on the front of the case to hold it shut during transport. A 2 1/2-inch brass hasp installed in the center of the box will permit the use of a padlock, if desired. Note: draw catches and hasp are not shown in Fig. 1, but are included in the Fig. 5 sketch. Four brass-plate-style 1 5/8-inch-diameter furniture casters with black plastic wheels are installed on the bottom of the case, and a 6 1/2-inch pull handle is installed on the top. Together they allow the photographer to roll the case on solid pavement with a minimum of effort.

The case interior (see Fig. 3) has an open slot on the left for tripod legs. The center portion is for the camera and back, and the open slot on the right holds the tripod top and turntable. The door of the upper storage compartment (see Fig. 4) is held open by two 1-inch brass hinges and a double-roller catch mounted on the inside. Also notice (see Fig. 3) that two brass safety chains are installed, one on each side, so the top section will open to a slightly more than halfway position.

A separate wood case can be made for the pinion gears, winding key and speed-control fans (if used), or these items may be placed in a small cardboard box , which can be put inside the carrying case. To prevent the camera from moving excessively inside the case during transport, removable foam padding or cardboard inserts can be installed.

The wood exterior of the box will accept paint, stain or varnish, and interior compartments can be lined with thin, flat commercial carpet material, as necessary, to complete this No. 10 Cirkut carrying-case project.

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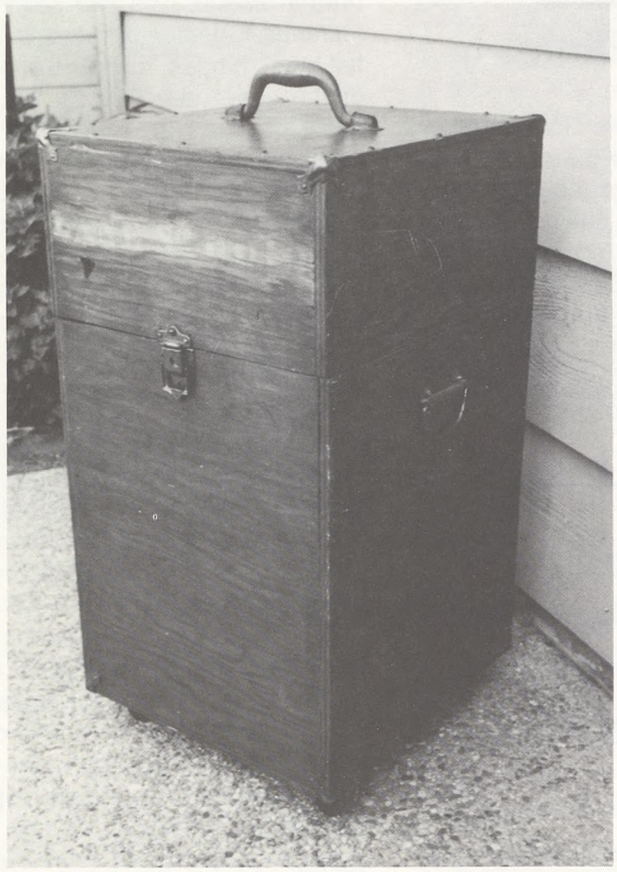


Figure No. 1

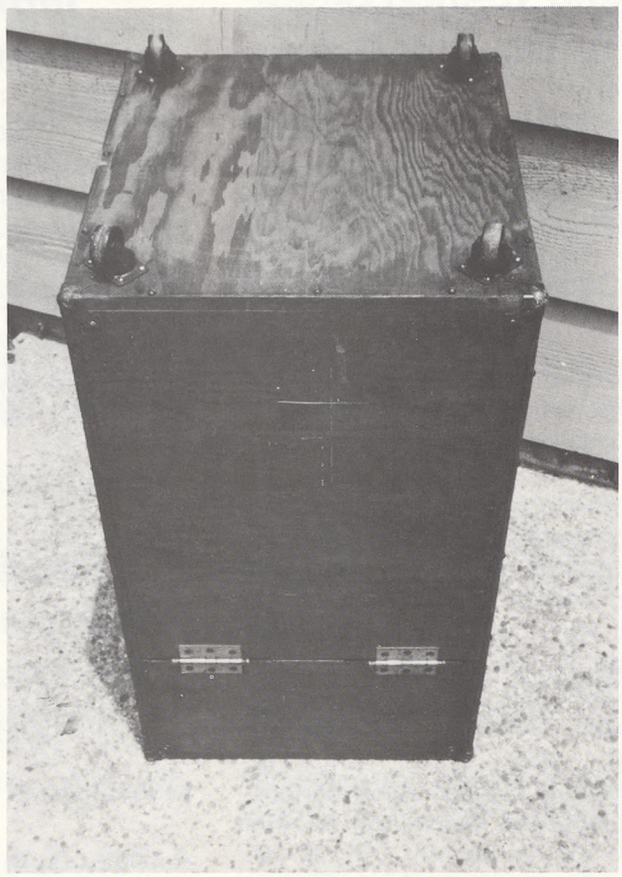


Figure No. 2

Figure No. 3

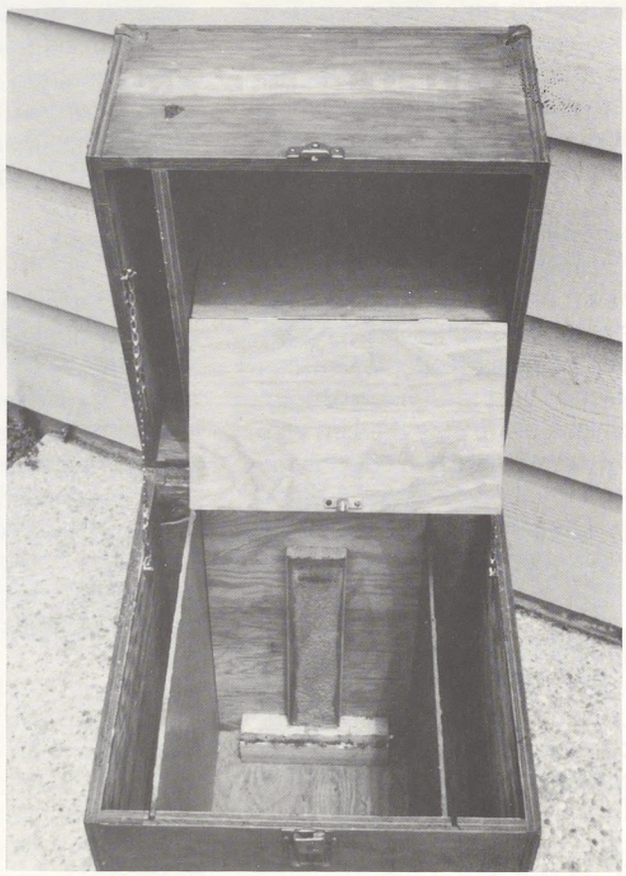
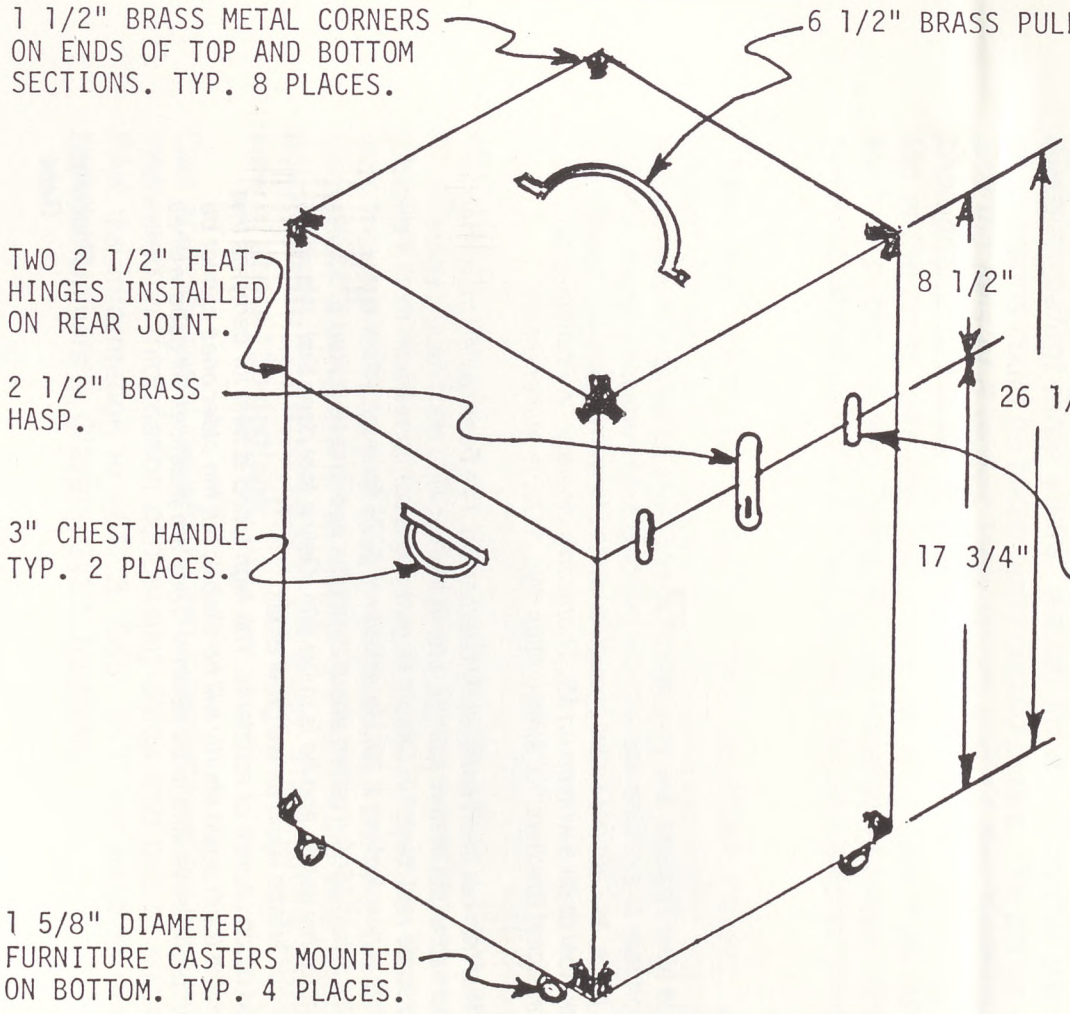


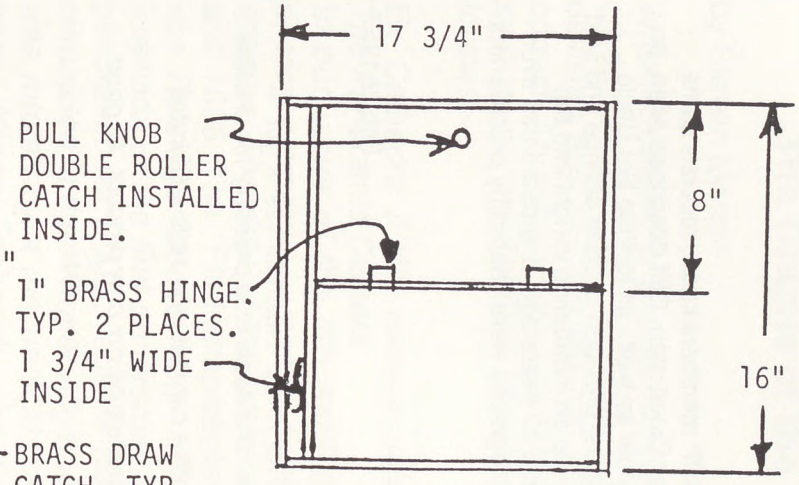
Figure No. 4

1 1/2" BRASS METAL CORNERS

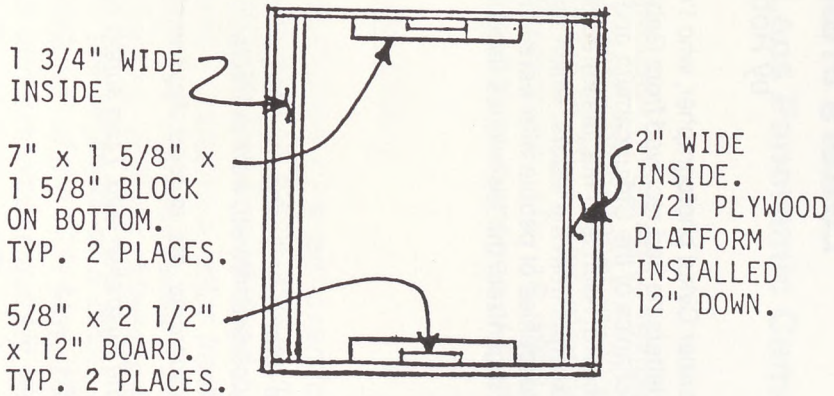
6 1/2" BRASS PULL HANDLE.



NO. 10 CIRKUT CAMERA CARRYING CASE



TOP SECTION



BOTTOM SECTION

NOTES:

1. ALL WOOD 1/2" PLYWOOD BOTH SIDES SMOOTH EXCEPT FOR BLOCK AND BOARD IN BOTTOM SECTION.

2. TWO BRASS SAFETY CHAINS INSTALLED INSIDE ON EACH SIDE SO THAT TOP SECTION WILL OPEN SLIGHTLY MORE THAN HALF WAY OPEN.

FIG. NO. 5

Letters From Gabriel Allen

by Robert J. Lang

Cliff Scofield, a former Cirkut photographer, who I'm sure many IAPP members know, recently came across some old letters he had received from Gabriel Allen, another Cirkut man. Cliff describes Allen, an expert on the mechanics of the Cirkut camera and a fine photographer as well, as looking like Uncle Sam without the beard. Allen also manufactured parts for the cameras, provided a repair service and sold used cameras. Excerpts from the letters, which appear below, provide an interesting insight into the thoughts and philosophies of people who were in this business some 30 years ago. It appears that even before IAPP was organized, the techniques used in panoramic photography were shared by practitioners of the art.

Feb. 9,1957

Dear Cliff,

_____I'll see what is bothering your #10, when I call on you. The Turner-Reich lenses, if not recemented and poorly centered, work perfectly in all combinations. The scale was probably for another lens. No two alike.

The surplus Ektachrome, etc. is good. Anyone making a living with a camera who sells a Cirkut is foolish.

Thank you for the Australian lead. I can supply him. I enclose literature on my new product. All good wishes.

Sincerely,
Gabe

P.S. Your work is real good.

May 25, 1957

Dear Cliff,

_____The #8 is on its way to New Zealand. It is very difficult to sell these cameras to customers overseas, because of lack of opportunity to examine and also the shipping preparedness charges, which I have to pay out of the purchase price, as I am not smart enough to do the forwarding papers myself.

We could do as you say and ask Abel to do a writeup on Mr. Thomson's itinerary. "A Photographer Travels," or "Our Honorable Professional Brothers," or similar titles. We do have an honorable profession.

$250 is too high for any Cirkut that has not been completely overhauled. I've been fooled more than once by new looking cameras, and had to put in new springs, etc. in them. Cliff, I don't have a spare magazine on hand. If you run into some real "buys" in Cirkuts I'll give you a commission on them if priced right. I know one damn fool who has a new looking # 10. He asked me $275 for it ten years ago. Last year I sent Gramercy to him and he asked $500. I called about 2 months ago and he asked $750. He says he is saving all his equipment for his estate and he is in his 80s. Only a fool does that. We, if we have the chance, should make all our effects liquid as we grow older.

Always be careful of stands. Too much chance of accidents. The high tripod is best for cameras that can be tilted. The Cirkut as I will make them again shortly will be tiltable; but the older ones cannot be tilted. The governors, if working properly, leave little to be desired. They are practical. All good wishes.

Sincerely,
Gabe

Was von Martens First?

The Origins of the Rotating-Lens Panoramic Camera

by Steven Morton

When it comes to panoramic cameras, all historical photographic textbooks seem to credit Friedrich von Martens, a German engraver/photographer living in Paris, with devising and building the first rotating-lens camera in 1844. This may not be entirely correct. An extract from The British Journal of Photography, May 16, 1902, recently was sent to me by Geoffery Crawley, the current technical manager of BJP. It reads as follows:

Ex Cathedra (Latin, literal translation - "From the Chair")
The Panoramic Camera
In our issue of the 4th April we gave a description of a panoramic camera for photogrammetric purposes, which was the invention of Porro, the well-know Italian optician. The date of the construction of this instrument may be fixed between 1855 and 1858. The "Photographische Correspondenz" contains a letter from Franz Ritter von Reisinger concerning a claim , which has been circulated attributing the invention of the first panoramic apparatus to Martens, of Paris. Martens constructed a panoramic for Daguerreotype plates shaped to the segment of a circle, and this was chronicled in the "Wiener Allgemeine Theater Zeitung" of the 12th May, 1846. The lens was rotated by a mechanical contrivance. The announcement quickly elicited a reply from Wenzel Prokesch, who wrote that Herr Puchberger, of Retz, had obtained an Austrian patent three years earlier for a panoramic camera, by means of which photographs could be taken upon curved plates. The plates were 19 to 24 inches long and the lens of 8 inches focal length and 15 line aperture. Herr Puchberger made photographs of the St. Stephen's Church, Vienna , including the entire elevation to the top of the cross, with this instrument. He also used it for other kinds of outdoor work, such as public squares, barracks, and masses of troops. Ritter von Reisinger is of the opinion that this was the first panoramic camera used for photography.

I have just obtained a copy of this Austrian patent, which is titled "Ellipsen Daguerreotype" and is dated the 14th of June 1843. The patent is registered in the names of Joseph Puchberger and Wenzel Prokesch. It is handwritten in 19th-century German and it will take some time to translate fully. The patent also includes many interesting diagrams.

I would like to make some comparisons between this design and Martens' camera, when it first appeared in 1844. Initial information I have says Martens' camera was called the Megaskop and, of course, used curved Daguerreotype plates. My references give two plate sizes: 4.7x15 inches and 5x17.5 inches. The Megaskop had a swivelling lens moved by a handle and gears, and a flexible, black-cloth front permitting the necessary movement. The rear of the lens tube was flattened to form a slit, which passed close to the surface of the plate. The camera covered a horizontal angle of view of about 150 degrees.

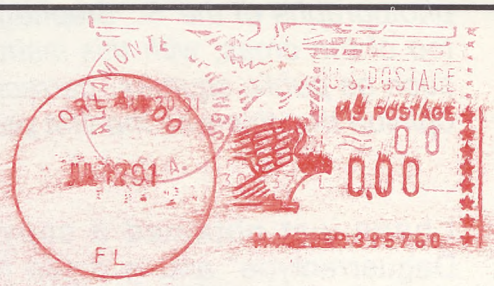
Can anybody assist me with further information about Martens' camera? I'm particularly interested in information concerning dates and patent particulars. If you can, please FAX the information to +61 3 565 3637, or write to me at Physics Department, Monash University, Clayton, 3168, Australia.

Technopan photo by Rainer Lampinen (original in color)

Periphery camera photo by Steven Morton

INTERNATIONAL ASSOCIATION OF PANORAMIC PHOTOGRAPHERRS

RICHARD G. FOWLER
1739 LIMEWOOD LANE
ORLANDO, FL 32818 USA



First Class Mail