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The Graflex 4x5 Anniversary Speed Graphic - an Unsung Veteran of WW II
By William E. Inman

Let's go back to 1940 just before the United States entered WW II. Graflex celebrated its 50th Anniversary by introducing the 4x5 Anniversary Speed Graphic. Unlike its predecessor, the Speed Graphic [later termed "Pre Anniversary" - ed.], the new Speed Graphic had a tubular viewfinder, a telescoping sports finder and an accessory rangefinder was available. The addition of the rangefinder was a significant step forward to insure sharper pictures. Both Kalart and Hugo Meyer rangefinders were used. Prior to the introduction of the rangefinder the press photographer would use the zone focusing method, estimating the distance of the subject to be photographed and setting that distance on the focusing scale that was on the bed of the camera. As the cameras were supplied primarily with either the 127mm or the 135 mm, which was shorter than normal for that size format, the lenses had a better depth-of-field, and were preferred in most instances. It was like having a 35mm lens on a 35mm camera. The normal focal length for the 4x5 format is a 150mm lens. The 4x5 Anniversary Speed Graphic was a well-made rugged camera. The box was made of a tight straight grain

Anniversary Speed Graphic

Honduras Mahogany, and it was kiln dried at the Rochester plant. Honduras Mahogany was selected for its strength and durability as well as its properties of not being effected too much by changes in atmospheric conditions. Additional improvements included the "Tandem Track" (the front track was connected to the rear track inside the camera box) for focusing wide angle lenses when the bed was lowered plus rising front and lateral shift lens movements, a positive front standard lock, and a second focusing knob on the left side of the camera bed. The

Speed Graphic had a focal plane shutter with 24 shutter speeds from 1/10th to 1/1000th of a second.

With the advent of the United States entering WW II on December 7, 1941 all the branches of the military recognized the importance of photography. Thus began a search for a camera that would meet the military's standards of ruggedness, durability and versatility. They didn't have to search too long because Graflex had already made the camera they needed. It was of course the new 4x5 Anniversary Speed Graphic, introduced one year earlier. It was the choice of the army, navy, marines, air corps, Coast Guard, the civilian government agencies, and all the industries producing war materials, not to mention all the major newspaper across the United States.

The 4x5 Anniversary Speed Graphic served in many capacities. One of the most important jobs was serving as the armed forces combat camera. Photographs such as the first invasion off Normandy, the marines' raising of the flag atop Mt. Suribachi, the very famous photograph by Joe Rosenthal, and surrender scenes in Tokyo Bay aboard the USS Missouri. In public relations, photographs of President Roosevelt, Prime Minister Winston Churchill, and Stalin meeting together, and General Douglas MacArthur wading ashore in the Philippine Islands keeping his pledge to return, were among the most memorable.

In training, photographs of equipment illustrated lectures on every phase of modern warfare. These are but a few examples of the thousands of photographs taken during WW II by the combat photographer and the photo journalist using the 4x5 Anniversary Speed Graphic, often putting their lives in jeopardy. The camera itself could take a lot of knocking about and still come up with pictures.

The majority of exposures during the war were made on black and white film. Kodak Super XX Pan was available in both sheet film and film pack [ASA 400]. Color film was available but the logistics of getting it processed was a problem in the field.

There was another accessory that became an important companion to the 4x5 Speed Graphic. It was the flashbulb synchronizer. The flashbulb industry was still in its infancy at the outbreak of WW II. It was 1936 when Wabash entered into the manufacturing of flash bulbs. Phillips had improved their original foiled filled flashbulb, produced by General Electric and Westinghouse, to a wired filled bulb. Both the foil filled and wire filled flashbulbs were products of Phillips in the Netherlands. G.E. obtained patent rights to manufacture the foil filled flashbulb in 1930 (The foiled filled flashbulbs could only be used for open flash photography.) G. E. didn't pick up the patent

rights for the wired filled flashbulb so Wabash did. (Wabash was acquired by Sylvania after WW II.) Somehow G. E. got around the Phillips patent and in 1937 came out with their own wire filled flashbulb. The wire filled flashbulb was much easier to control for synchronization. Photographers, especially the press, were eager to have any one make a mechanism to synchronize the camera shutters to the flashbulb. Some of the first external sync mechanisms invented were for the focal plane shutter, such as the Mendelsohn, Kalart, Abbey, and Smeaton synchronizers, but were too limited. The press photographer pushed hard to synchronize the between-the-lens front leaf shutter, none of which had built in synchronizing mechanisms as we know them today.

Around 1937 there were a number of inventors who came up with flash synchronizers for the front shutter; however only two inventors eventually prevailed. One was Irving Jacobson [the Jacobson Synchronizer] in Los Angeles, California, and Sid Lindahl [the SOL Synchronizer] in Denver, Colorado. Irving Jacobson went to work for Graflex in 1940 and Sid Lindahl went to work for Heiland Research. [Incidentally, I worked for Sid Lindahl at Lindahl Photo Sales in Denver in the early 50s. In 1953 I moved to Los Angeles, California and went to work for Western Division of Graflex. Irving Jacobson was the Service Dept Manager there.] The two types of synchronizers consisted of a 3 or 4-cell battery case with a reflector fitted to the side of the Speed Graphic and a solenoid fitted to the lensboard and attached to the trip arm of the front shutter. The solenoid could be adjusted so that when the flashbulb reached its peak light output, about 20 milliseconds, the shutter would be wide open at all speeds, even to 1/400 sec. The solenoids were small and compact, and you could close the Speed Graphic' bed with them attached. This was not so with the other types. Every Anniversary Speed Graphic supplied to the government during WW II came with a Graflex synchronizer. Before the war many SOL Heiland synchronizers were being used by press photographers. The Heiland synchronizer was an option for the military if they wanted it.

Kodak, Wollensak, and Ilex supplied the front shutters for the Anniversary Speed Graphic. Optics were supplied by Kodak, Wollensak, Bausch and Lomb, and Ilex. The entire Graflex production plant was devoted to the war effort. As an indication of this commitment, the average person could not buy a Speed Graphic during WW II. Only newspapers and commercial photographers in war plants could get a priority to purchase. If you had a Speed Graphic you could however send it in for refurbishing during the war. Production of the Anniversary Speed Graphic from 1942 to 1945 during WWII was around 40,000. The camera was discontinued in 1947 after a total production of
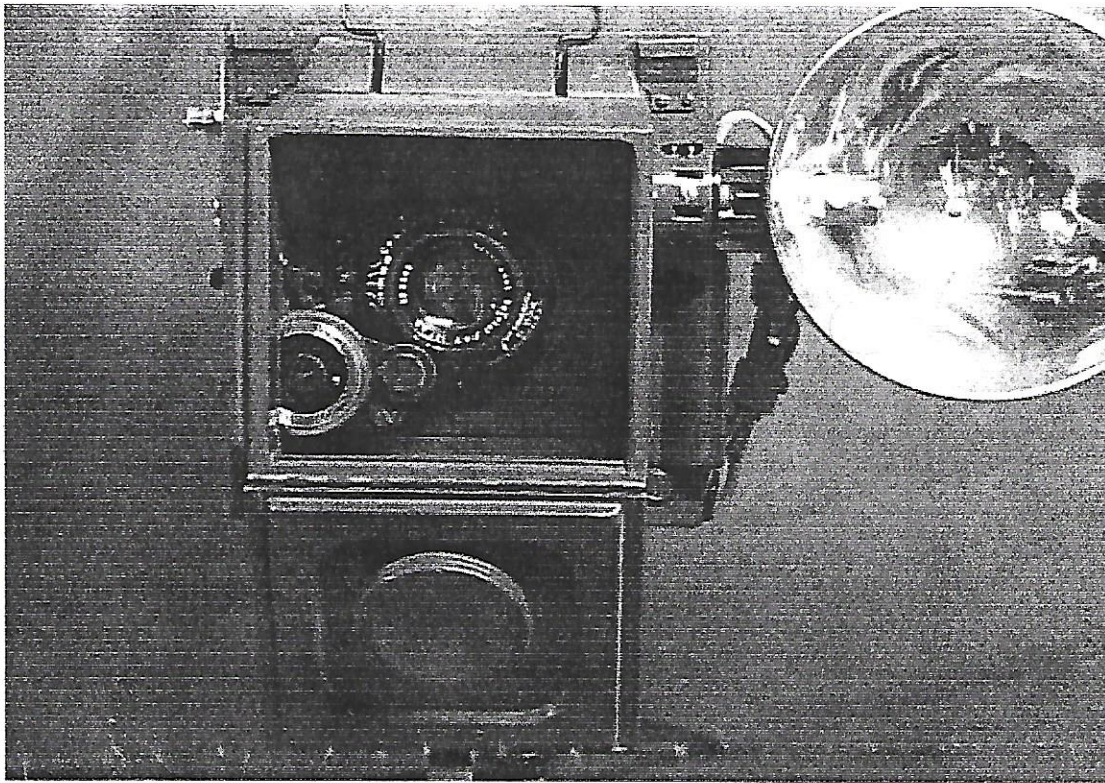
Combat Graphic

approximately 45,000. Graflex also produced other specialty cameras in addition to the Anniversary Speed Graphic, making equipment for the Royal Canadian Air Force, the Commonwealth of Australia, Great Britain, the Netherlands, the U.S.S.R, and Brazil.

Graflex also produced a modified version of the Anniversary Speed Graphic. It was a special camera for the marines and the navy for Pacific island invasions. There was a limited number produced. It was called the 4x5 Combat Graphic. It had a front and back shutter, no bellows, it was synchronized for flashbulb, and the front element of the Kodak lens on the front shutter was the focusing mechanism. The design specifications called for a hand held splash proof camera that could stand up to the rigors of the tropical climate. Some were also sold to the civilian market after the war after being repainted by the factory.

World War II was one of the most photographed events in our history. With out a doubt the 4x5 Anniversary Speed Graphic made a significant contribution to help win the war. It was truly a front- line weapon and an unsung veteran. For those of you who have a 4x5 Anniversary Speed Graphic, especially the military version or a 4x5 Combat Graphic, you have a true piece of history in your possession. Its worth noting that after WWII many combat photographers came home and opened up their own photographic studios as portrait and wedding photographers or as commercial photographers. The camera they often chose to begin their new business was the 4x5 Anniversary Speed Graphic. As for the press corps, the 4x5 Anniversary Speed Graphic continued to be their backbone until 1947 when it was replaced by the new 4x5 Pacemaker Speed and Crown Graphics.

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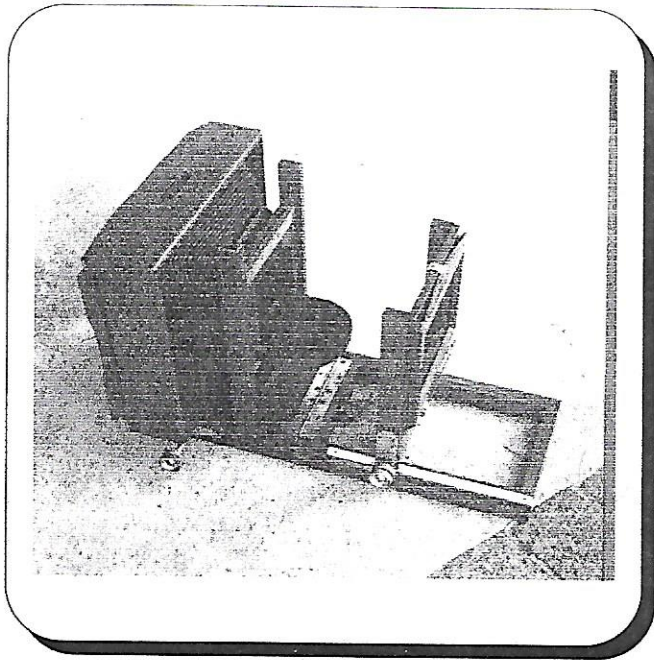
Graphic Enlarging Camera
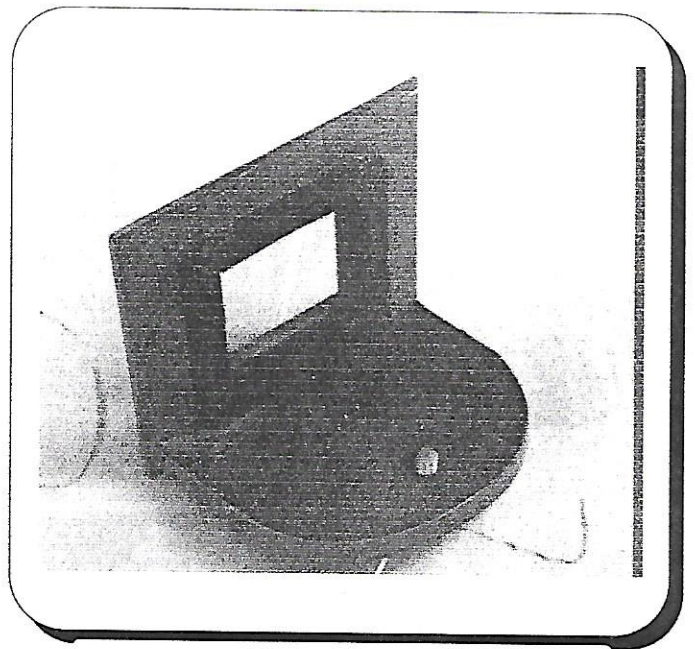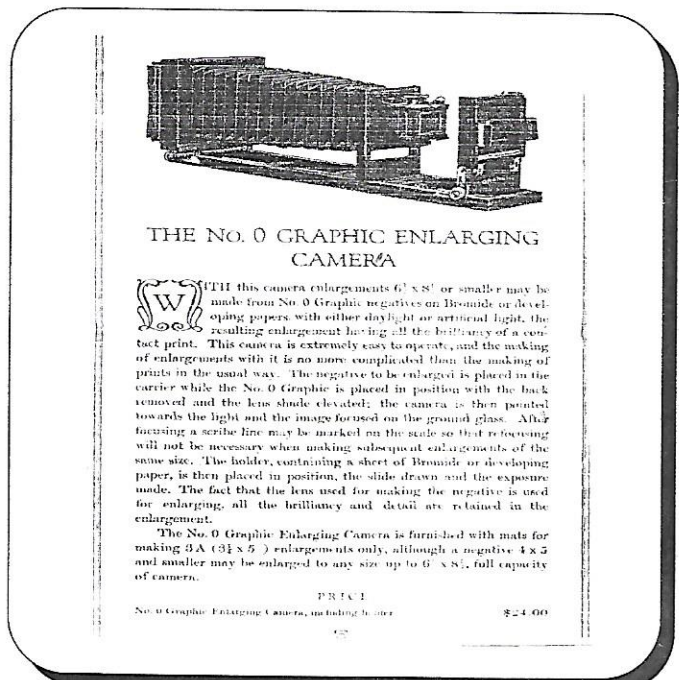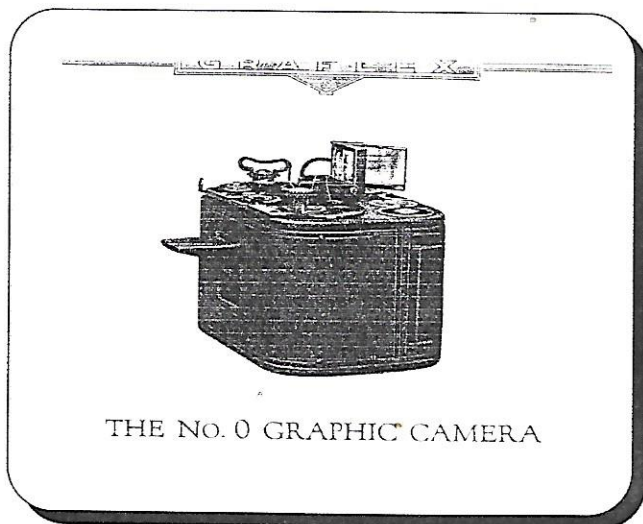

lensboard? No - camera stage!

Dear GHQ,

One rarely has any luck at an estate auction, but I sure did. In my home town of Sanford, Maine [pop. 5200], there was a mansion that you had to pass by to get downtown. I had always wondered what it was like inside. 45 years later my sister, Pat, who still lives in Sanford, notified me of an estate sale.

On arriving, I found a box lot of instamatics, a Kodak movie camera new in box, and a Vanity Kodak also new in box. I left an absentee bid.

My sister called some time after that and said, "Come get them - they are yours.... and by the way they threw in a very strange Graflex view."

I could not figure out the proper lens to fit this last item's strange lensboard. Research brought me to a 1913 catalog that explained a lot - the "lensboard" actually holds a camera, the "0" Graphic. What a find!

---- Jim Chasse

THE No. 0 GRAPHIC CAMERA

THE No. 0 GRAPHIC ENLARGING CAMERA

WITH this camera enlargements 6' x 8' or smaller may be made from No. 0 Graphic negatives on Bromide or developing papers with either daylight or artificial light, the resulting enlargement having all the brilliancy of a contact print. This camera is extremely easy to operate, and the making of enlargements with it is no more complicated than the making of prints in the usual way. The negative to be enlarged is placed in the carrier while the No. 0 Graphic is placed in position with the back removed and the lens shade elevated; the camera is then pointed towards the light and the image focused on the ground glass. After focusing a scribe line may be marked on the scale so that refocusing will not be necessary when making subsequent enlargements of the same size. The holder, containing a sheet of Bromide or developing paper, is then placed in position, the slide drawn and the exposure made. The fact that the lens used for making the negative is used for enlarging, all the brilliancy and detail are retained in the enlargement.

The No. 0 Graphic Enlarging Camera is furnished with mats for making 3A (3¼ x 5) enlargements only, although a negative 4 x 5 and smaller may be enlarged to any size up to 6' x 8', full capacity of camera.

PRICE

No. 0 Graphic Enlarging Camera, including holder $24.00

THE GRAFLEX PHOTORECORDS
by Tim Holden

There were four different Photorecords. Two were basically the same, but the others were quite different, and considerable confusion often occurred.

The first unit appeared in 1932 in answer to the need of law enforcement agencies to have a simple-to-operate device for making the then standard "two-on 4x5" shots of suspects. Each picture included a full face and a profile view of the subject. The Photorecord outfit consisted of a large stand (using parts of a standard studio stand with a fixed platform on which rested a simple box with back for holders and a sliding front panel with the lens. Large reflectors attached to the stand provided the same illumination for each shot. A revolving chair with height adjustment and head rest with background screen was located at a prescribed position in front of the stand. The operator seated the subject, turned the lights on, and made a full face shot of the subject, who then turned for the profile view, while the operator slid the lens panel to the other side for the exposure. A divider in the camera kept the two views separate.
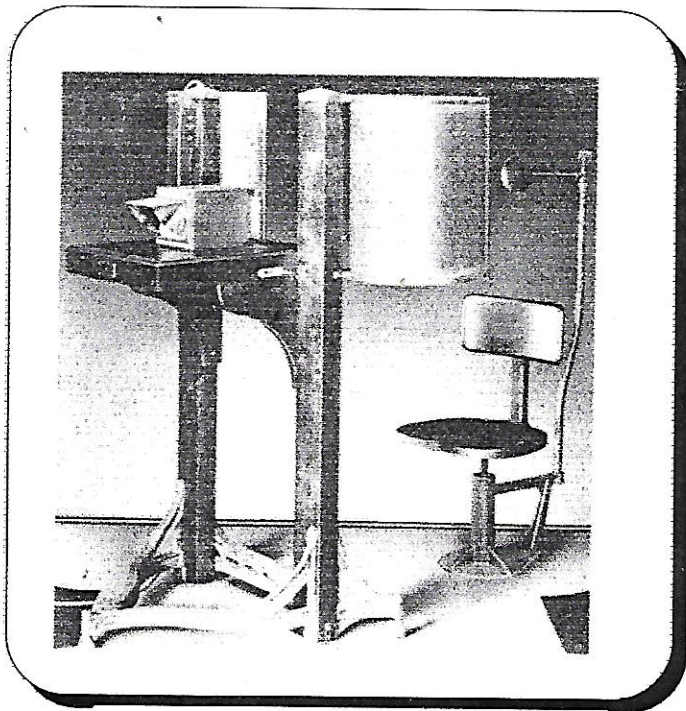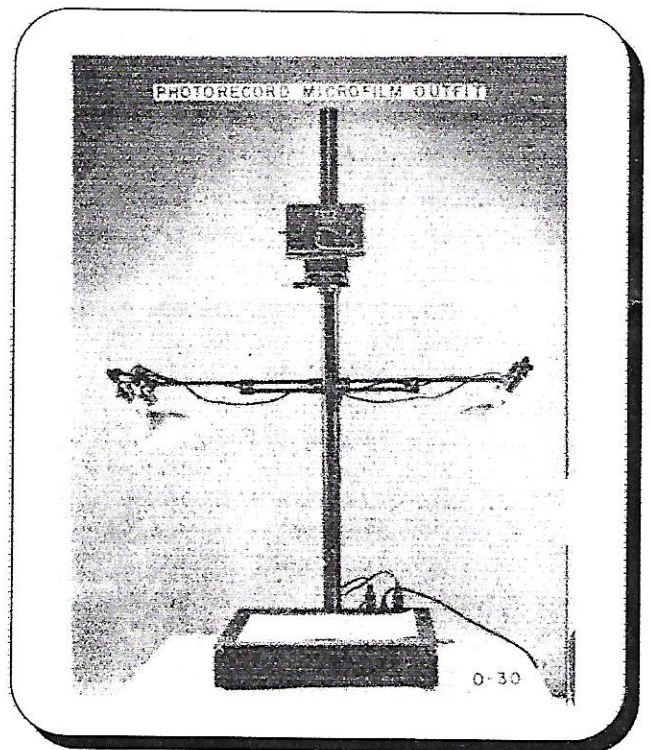

Photorecord, first version

With the appearance of Photofloods, the lighting system was made smaller, and a series-parallel switch with interlock was provided so that the subject was not blinded and the life of the lamps was extended. Also included was a lock requiring the
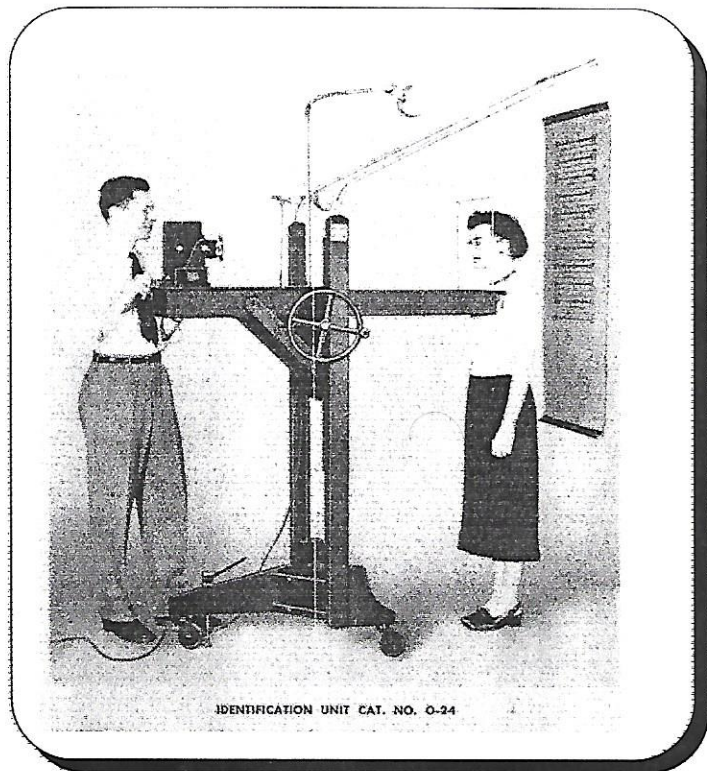
sliding of the lens before the next exposure could be made. This outfit was available until about 1940.

By 1935 interest in the recording of printed material with the use of microfilm resulted in the appearance of several devices. One of these, our second version, was a portable outfit complete with camera, film magazine, stand and lights; it was made by The Folmer Graflex Corporation. When set up it allowed copying a full page of a newspaper, as well as smaller items. The outfit was pneumatically operated by a foot pump, which caused the film to advance and by means of a bypass, trip the shutter. It was widely used by many organizations, including the members of the Church of Latter Day Saints as they built their famous genealogy files. The camera stand had provision for aiming the camera horizontally at a wall.

second version

When personnel identification in the military as well as defense plants became necessary, the Photorecord was pressed into service. Since it was not a very convenient way to make these pictures, Graflex developed what became the Photorecord Identification Outfit which continued in the line until 1954 [our third version]. This outfit was based on the use of the 100' 35mm magazine modified for manual operation. A camera consisted of a casting with a special lens in Heavy Duty Betax shutter and suitable arms and stops to insure a full frame advance as well as tripping of the shutter (self setting type).
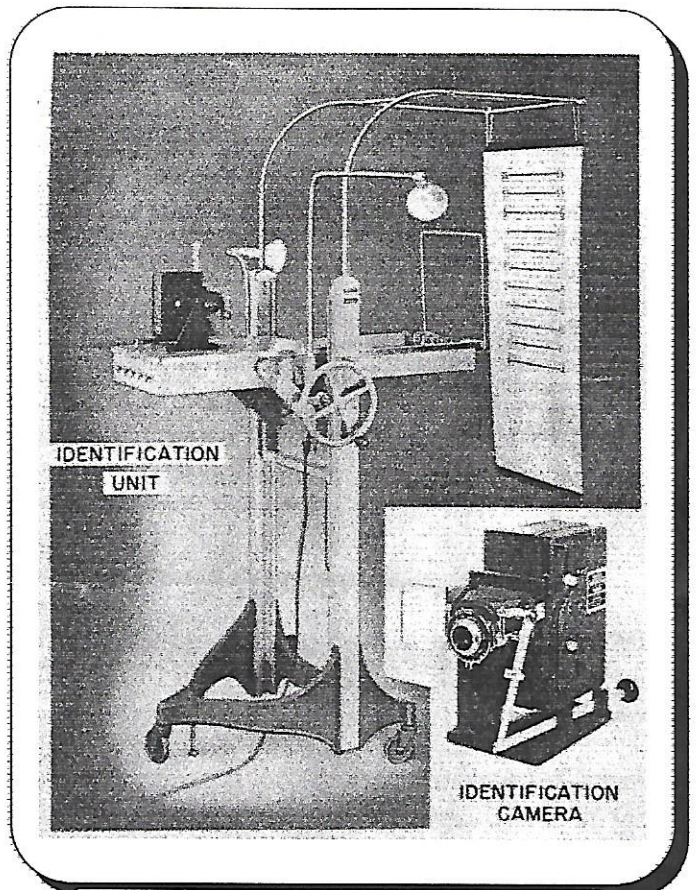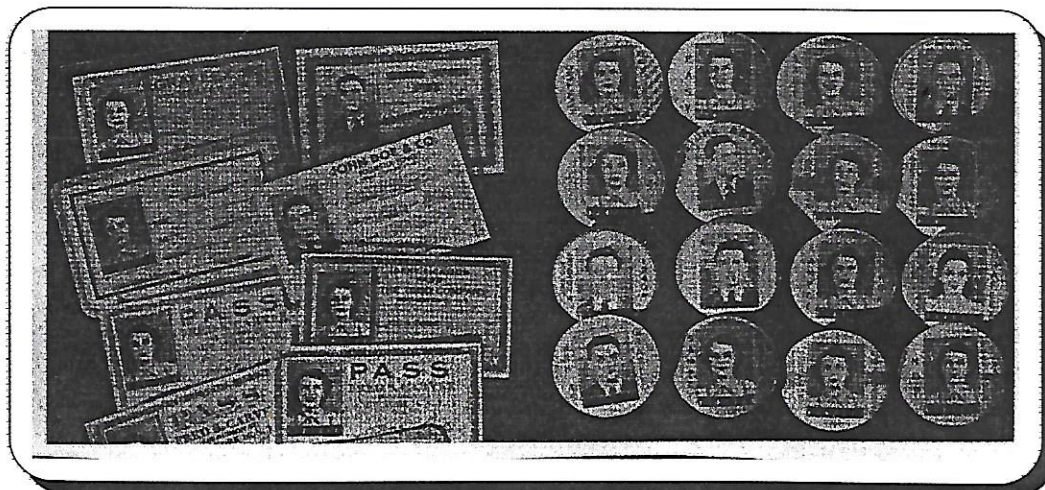
Third version, in use

attached to the camera which allowed the subject to check on his/her appearance before the exposure was made.

A military version [our fourth, but not pictured] called the PH 385 included the camera and magazine, tripod, lights and identification sign. This allowed making standard 35mm ID pictures in the field. An original government contract called

This combination was placed on a moveable stand, again using the parts of the studio camera stand. The camera platform could be moved vertically, and was fitted with a numbering device controlled from the rear. Lamp arms for the 150 and 300 w. floodlamps were attached to the sides of the platform which had a centering frame for the subject . A background screen with height chart hung from two arms extending from the tops of the posts or columns which supported the camera platform. A unique feature of this outfit was a convex mirror

Third version alone

Photorecord products

for Graflex to also supply developing and printing equipment for the 100' rolls of film, but also all of the supplies necessary for producing laminated passcards (one and a quarter million AGO cards) all supplies for making rimless tamperproof identification badges (badge parts, imprinted identifying paper masks, cutting dies and presses for assembling the badges). Some 5-1/2 million of these were supplied. Also in the line was a special hydraulic press for heating and then cooling of the laminated passes. All of these items were also supplied in quantity to manufacturing plants producing equipment needed for the war effort. Nothing was made for the civilian market.

As a sidelight, 2 men were kept busy for several years just crating the large stands with all of its parts.

So you have a Graflex Photorecord? Which one?

The Graflex Identification Unit is so built that camera and lights are integral with the counterbalanced raising and lowering platform. Thus, these elements move with the camera, producing identification pictures that really identify—pictures having uniformity in lighting, background and field of view. Illustrated and described below are some of the more important features of this compact, self-contained, efficient and economical unit.

1 COUNTERBALANCED CAMERA PLATFORM—This feature quickly and easily permits camera and lights to be raised or lowered to the height of the individual being photographed. Sturdily constructed, and firmly anchored to its supporting stand, it will *not* vibrate or move during the photographing. This insures clear-cut, brilliant images that may be enlarged if desired.

2 POSITIVE CAMERA-PLATFORM CONTROL —During the photographing of large numbers of employees in rapid succession, adjustment of the camera to the height of each employee may be accomplished rapidly and with a minimum of effort. The background scale and camera adjustment covers heights from 4' to 6' 6". Ease of operation has been effected by use of a large-radius wheel with which the bed is raised or lowered at a touch. A positive lock holds the bed in any desired position.

3 CONVEX MIRROR—A mirror mounted alongside the lens not only provides a convenient focal point for the subjects' attention, but experience has shown that more natural facial expression is obtained where the subject can see himself in the mirror.

4 POSITIONING FRAME—The end of the camera bed against which the subject stands is curved to center the subject in the picture. This is further aided by the positioning frame indicating the upper limit of the picture area.

5 NUMBERING DEVICE—At the end of the camera bed is a bank of seven windows in each of which is a full set of numbers from 1 through 9, and blanks for complete absence of numbers. These numbers may be set for any desired numerical combination by means of convenient knobs located within easy reach of the operator.

6 SIMPLIFIED CAMERA OPERATION—With the lens pre-focused at the factory and the recommended shutter settings distinctively marked in *red*, the camera may easily be operated by persons with no previous photographic experience without danger of double exposures. The magazine may be loaded in subdued daylight, and the exposed portion may be removed in a dark room for processing before the 100' roll is finished.

7 REFLECTORIZED LAMPS—The lamps used in this Unit are the type that require no separate reflectors and they raise and lower with the camera, to maintain uniform lighting on the subject and uniform density of negatives regardless of the height of the subject.

8 DOUBLE-DUTY BACKGROUND SCREEN—One side of this screen is marked in feet and inches for heights from 4' to 6' 6" so that this information may be included on the negative. The other side is plain, for use when the height is not to be indicated.

9 STURDY CONSTRUCTION—The base of the stand is designed for strength and rigidity. Fitted with large full-swivel rubber-tired casters, the Unit is easily moved from place to place, and a sturdy jack locks the Unit in place to prevent any possibility of movement.

10 FINELY FINISHED—The finish of the entire Unit has been carefully selected to harmonize with office or other surroundings.

SPECIFICATIONS

LENS—84mm GRAFLEX Photorecord f/5 in focusing mount with locking screw. Lens is a fully corrected anastigmat.

MAGAZINE—Accepts 100 feet of double perforated film. 800 exposures per roll. Short lengths can be exposed and removed in a photographic darkroom for immediate processing.

SHUTTER—No. 2 Heavy Duty Betax (X) with speeds of 1/2, 1/5, 1/10, 1/25 and 1/50 plus T and B. Contacts for use with Class "X" (no delay) electronic high-speed units.

OPERATION—Semi-automatic. Pushing the lever forward operates the shutter and pulling it back advances the film. Interlocks prevent double exposure.

Graflex's list of Photorecord features

Graflex Historic Quarterly

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