

★ ★

# GREAT MOMENTS OF **THE WAR**

by **GRAFLEX**







Saipan Invasion! Coast Guardsman on a landing craft instinctively recoils as a direct hit is scored on enemy-held beach.



# This Was a Photographic War

IN the years to come, people will not only read about World War II, but they will see it . . . for every phase of the war—from treacherous beginning to smashing climax—has been preserved on film. The full impact of the sacrifice and courage which made victory possible will be brought home to succeeding generations by the best of all records—the photograph.

When war came, the camera found new and important uses as a weapon. GRAFLEX equipment became "fighting equipment" in all phases and theaters of the war. As an aid in troop training, photographs greatly reduced training time and increased the trainee's effectiveness—for the camera quickly and clearly demonstrated methods of equipment assembly and operation . . . actual combat conditions . . . methods of attack and defense . . . first aid . . . logistics.

In the air, the reconnaissance camera became

an essential weapon, searching out enemy troop movements and fortifications, showing bomb damage by day or night and selecting new industrial and military targets, and in many ways determining the aerial, and thus the over-all, strategy of the war.

At home, the camera did an equally important job. The camera brought the war right into America's homes. Civilians followed the course of their far-distant war in the thousands of action photographs which flowed back from the battle fronts. America quickly grasped the need for sacrifice and united support. And that response may be measured in the sudden finality of American victory. There was no part of the war in which photographs did not play an important role. GRAFLEX is proud that its long-famous skill in the manufacturing of precision cameras enabled it to produce these vital weapons in time of war.



OFFICIAL U. S. MARINE CORPS PHOTO, GRAFLEX-MADE

*TARAWA! As one Marine hurls a grenade, another reloads his machine gun and a third uses his field telephone.*



# The Camera—A Weapon of All the Services

## Army, Signal Corps, Air Forces, Navy, Marines, and Coast Guard Took Thousands of Important Pictures

THE Armed Forces quickly trained thousands of servicemen as combat photographers when war came, and sent them into action. One of their many jobs was to photograph actual invasions and battle conditions. Their shots were later analyzed for combat faults, and many lives were saved when the camera caught a combat error which could be corrected before the next battle.

Battle photographs of the enemy in action were of particular value. Taken under extreme difficulty, these photographs enabled Intelligence Officers to study the opposition's tactics and to prepare our fighting men for the enemy's tricks.

The fighting men of this war received much of their training as they sat in classrooms studying photographs of equipment and illustrated lectures on every phase of modern warfare. Using the camera as a training device, the United States was able to mass-produce more quickly an army, navy, and air force of highly skilled technicians.

The Armed Forces accomplished almost overnight what the enemy had spent generations doing... the creation of a vast fighting force. From the very beginning of the war, America was working against time as she prepared to defend herself and her allies. It was then in the great rush of training that the camera first proved itself of immeasurable value.

Later, as the war moved into the offensive stage, the camera became a front-line weapon. The Armed Services used specially built GRAFLEX cameras in the air war against the submarine menace. Through the attack and bombing run against the undersea craft, these aircraft cameras made rapid photographs which showed the effect of the plane's bombs as they fell and exploded. No enemy submarine was "written off" by our Serv-

ices until its sinking was verified. GRAFLEX "sea-search" cameras helped in recording the end of Nazi and Jap U-boats.

The Army Air Forces needed an automatic aircraft camera for night bombing which would take photographs of the target by the giant flash of an illumination bomb. GRAFLEX designed a special shutter which operated from a photoelectric cell. Only the specific time-intensity characteristics of light produced by the exploding illumination bomb were adequate to make the camera operate. That meant that the plane might fly over search-light batteries, flares, exploding shells, or ground fires, without danger of the automatic camera be-



OFFICIAL U. S. COAST GUARD PHOTO. GRAFLEX-MADE

ginning its work before reaching the target area.

Once the illumination bomb exploded, however, the photoelectric cell picked up its specific light rays and actuated the camera.

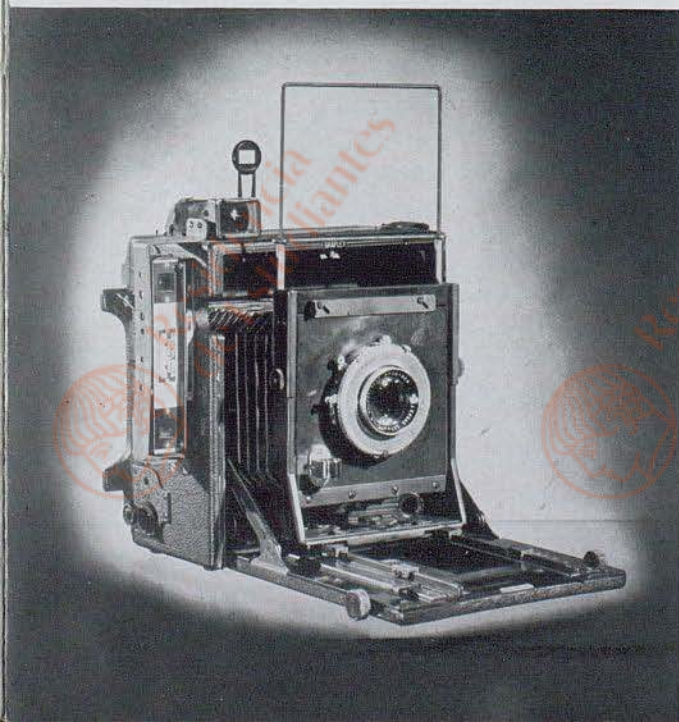
The special grid shutter, designed by GRAFLEX, which was used on these intricate aircraft cameras, permitted the camera's shutter to be fully





OFFICIAL U. S. COAST GUARD PHOTO, GRAFLEX-MADE BY PHOTOG. MATE 3/C SCOTT WIGLE

*This picture of our ships crossing the Channel under barrage balloon cover is the first invasion photo radioed to America.*



open for making exposure within 8 milliseconds after the commencement of the bomb's flash.

In addition to filling contracts for our own Armed Forces, GRAFLEX made equipment for The Royal Canadian Air Force, The Commonwealth of Australia, New Zealand, Great Britain, The Netherlands, The U.S.S.R., and Brazil.

*This is the historically important Speed GRAPHIC camera which made the first Normandy invasion picture, above, radioed to America. The camera was subsequently radio-auctioned during the 5th War Loan Drive. It alone accounted for bond sales in excess of 12 million dollars. Today it honorably reposes in the GRAFLEX historical collection.*



# Photography in the Air

## GRAFLEX Pioneered in Aircraft Cameras

AFTER making an automatic camera which operated successfully from a kite in 1908, aircraft cameras pioneered by GRAFLEX were adopted in 1918 by the United States Navy and the Army Signal Corps. In the years between World War I and World War II, GRAFLEX continued to make improvements upon its original K-1 and A-1 models of aircraft cameras. This, together with more than 50 years of experience in the design and manufacture of quality photographic equipment, enabled GRAFLEX to produce aircraft cameras in enormous quantities and in limited time when called upon in World War II.

Aircraft cameras must operate under a great variety of conditions—at high altitudes and at extremely low temperatures—and their mechanism, however precise and sensitive, must withstand unusual shock. War brought even new demands upon camera manufacturers. Speed of cycling had to be greatly increased. The camera's performance had to become more versatile.

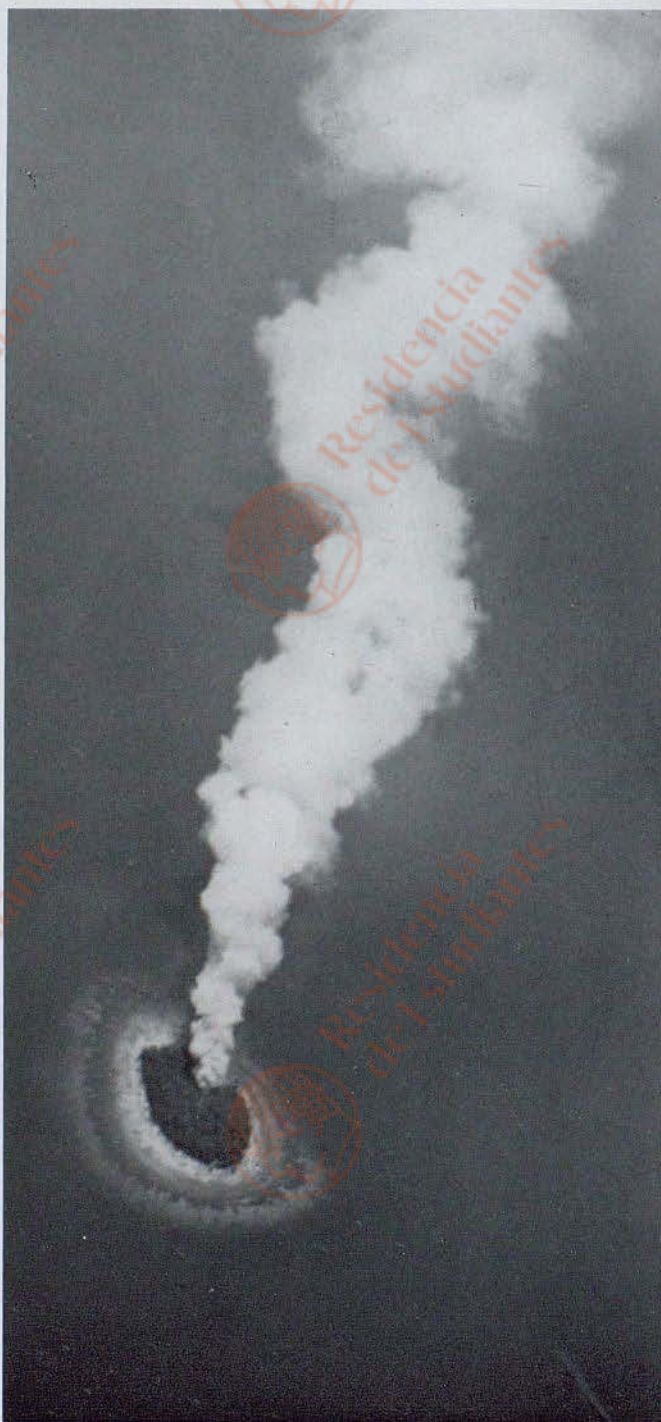
Working against "impossible" time limits, GRAFLEX achieved aircraft cameras whose driving cams made accurately timed revolutions at the rate of 30,000 a minute. Thus, camera operation was speeded up to permit making three exposures *a second*—or under different circumstances at widely separated intervals.

For greater effectiveness in cameras used in dive bombing and other low-altitude, high-speed assignments, speeds in between-the-lens shutters accepting large-diametered lenses were increased to 1/500 second, whereas they were formerly capable, in that size, of barely half that speed.

Aerial photographs were made of the enemy's cities, towns, rail yards, industrial centers, bridges and fortifications. No part of the German or Japanese stolen empires was immune from the searching eye of the aircraft camera. When the

time came to strike back at the aggressors, the plan for destruction was ready—on photographs.

The part that aircraft cameras played in the final defeat of our enemies cannot be overestimated. Except for hit-and-run strafing missions, the Air Forces were almost completely dependent upon a constant supply of good pho-



OFFICIAL U. S. NAVY PHOTOGRAPH, GRAFLEX-MADE

*Pin-point bombing! Jap munition dump goes up in smoke after raid on Eiol island in Truk lagoon.*



tographs to guide them in their work. Important targets were selected from aircraft photographs and raids were planned accordingly. When air power had done its work, new photographs were made. If the target showed sufficient damage to render it useless to the enemy, it was removed from the high-priority bombing list. If the revealing photographs showed that it might still be a menace, it was raided again and again until strategists were satisfied that it was effectively out of operation.

Much of the success of the tremendous Allied

invasion of Europe may be attributed to the aircraft cameras which spotted German gun emplacements and strong points months before the attack. Constant strafing and bombardment weakened the enemy coastal defences, and on D-Day, supporting Naval and Air Forces were able to silence many previously detected shore batteries and pillboxes. Aircraft cameras had detected, too, the best roads leading to the beaches, and these were effectively smashed, preventing enemy armored reinforcements from reaching the invasion beaches.

## The Combat Photographer is a Fighter

THE combat photographer's mission was as important as it was dangerous. The action pictures of the war that America saw in its morning papers were taken by highly trained lensmen who risked their lives on every battle front.

Many of these men had been professional news-photographers in civilian life. Some had worked for big metropolitan papers; still others had worked for magazines and smaller newspapers. When they went to the battle fronts to take on the most dangerous assignment of their lives, their prized Speed GRAPHIC cameras went with them. They had known the GRAPHIC well in civilian life—had used it to cover every type of assignment they had known. The sturdy camera needed few changes for its wartime role—the principal one being that of minimizing bright surfaces to eliminate dangerous position-disclosing reflections in battle areas. The same versatile qualities that made it first choice among lensmen in peace made the Speed GRAPHIC essential in war.

It was the privilege of GRAFLEX to train many of the combat photographers for the Armed Forces. GRAFLEX, with the fullest co-operation of the Rochester Institute of Technology, operated and staffed Photo-Mechanical Schools for the Army Signal Corps, Navy, Marine Corps, and Army Air Forces, and concurrently provided similar serv-

ices to our armed forces in the areas served by our New York and Los Angeles branches.

The list of great war pictures taken with GRAFLEX-made instruments, the predominant choice among fighting photographers in all services, is impressive. The first invasion picture off Normandy, the startling shot of the U.S.S. *Missouri* hurling its salvo of six one-ton shells, the immortal picture of Marines raising the flag atop Mt. Suribachi, the surrender scenes in Tokyo Bay—the list is endless. For combat photographers covered the war—and GRAFLEX cameras went with them.



OFFICIAL COAST GUARD PHOTO, GRAFLEX-MADE BY GERALD C. ANKER

*Aussies land at Balikpapan. U. S. Coast Guardsman at the helm of landing craft records the action.*





OFFICIAL U. S. NAVY PHOTOGRAPH, GRAFLEX-MADE

*Dash for the beach! An assault boat carrying U. S. Marines hurtles toward the beach at Bougainville.*

## Good Pictures for the Home Front

### "Public Relations'" Biggest Job!

**E**ACH of the services wanted the public—the families and friends of its fighting men—to know what sort of job the service was doing and how it was doing it. The best way to tell that story to the most people was by pictures—and more pictures.

Cameramen were assigned the job of showing the home front every part of the Services' work—from induction through training, and into combat. The public was able to follow its sons—and its daughters—as they trained and fought.

Public Relations Offices from each of the Services were opened in every major American city. Their job was simple . . . to co-operate with publishers and advertisers who needed war pictures or stories with a war theme.

Each Public Relations Office maintained a large stock pile of pictures showing the details of that service's work as a fighting force. When an advertiser or editor required a picture pointing up some certain phase of that work, the Public Relations Office supplied it to him. For

the oftener the war message carried in photographs could reach the American people, the sooner the Armed Forces could achieve a final victory over their foes.

The success of the Public Relations program is evident. Nearly every magazine and newspaper carried photographs marked with the stamp of the various service Public Relations departments.

An added war message was brought home to the public every time it saw an action photograph in a magazine or newspaper, or read an advertisement employing a war picture or copy theme.

Again, GRAFLEX-made cameras found their specific job in this vital phase of war work. The Speed GRAPHIC was ideally suited for Public Relations work. For years it had been used by news-photographers, professionals and amateurs to record shots of all kinds . . . action photographs of athletic events, children, pets . . . composition subjects . . . portraits . . . candid shots. The success of its performance bears out the confidence professional lensmen have always placed in it.





*Jap Suicide Torpedo Bomber, struck by ack-ack, falls apart in mid-air after attacking an American carrier.*

OFFICIAL U. S. NAVY PHOTOGRAPH, GRAFLEX-MADE





OFFICIAL U. S. ARMY SIGNAL CORPS PHOTOGRAPH, GRAFLEX-MADE  
*Yank Infantryman crouches as land mines are exploded by his buddies in road ahead leading to Leghorn harbor, Italy.*



# Combat GRAPHIC "45"

## New Cameras for Fighting Photographers

AS our Armed Forces struck back at the Japanese in the Pacific and began the long series of island-hopping campaigns which ended in Tokyo Bay, the Marine Corps and the U. S. Navy asked GRAFLEX to provide a sturdy, hand-held, splashproof camera to be used in these gruelling island invasions.

Camera news from the Pacific had been bad. The tropical climate played havoc with nearly all equipment and instruments, including cameras. Dry rot, constant dampness, fungus growths, dirt, and omnivorous insects were added and constant enemies in the war in the Pacific.

For the Combat GRAPHIC, GRAFLEX specified its time-proven kiln-dried, straight-grained mahogany with the addition of a coagulant dip. Further, the joints of the camera were to be sealed in order to assure an effective resistance to the Pacific elements. Other careful selections of materials were made and new methods were developed to combat tropical enemies, and with these meticulously worked out and proved out, GRAFLEX began the manufacture of its now-famous "invasion camera."

The Combat GRAPHIC embodies the requirements called for by the Marine Corps and by the Navy. Like all GRAFLEX photo-equipment, it was designed to operate effectively in temperatures ranging from minus 65 degrees Fahrenheit to plus 160 degrees Fahrenheit.

To protect the camera during actual combat, a functional dustproof and splashproof cover was designed that not only protected the camera but served as a hand-rest when opened. Because the Combat GRAPHIC was designed and built with the



OFFICIAL U. S. ARMY SIGNAL CORPS PHOTOGRAPH, GRAFLEX-MADE  
*Wreckage lines the streets of Bitburg, Germany.*

emphasis upon rigid and substantial construction, without sacrificing photographic performance, the camera has built-in flash synchronization.

In addition, the Combat GRAPHIC has both a between-the-lens shutter and a focal-plane shutter. An interlock was provided to assure proper operation. As a final combat precaution, the entire camera was finished in a glareproof surfacing to prevent detection by the enemy.

These sturdy cameras will play an increasingly important part in camera history. For the Combat GRAPHIC "45" is a splendid all-around camera . . . versatile . . . tough . . . and within an attractive price range.

Perhaps the best recommendation that has been made for the Combat GRAPHIC has come from the combat photographers who have used the camera. Many of these expert lensmen have tried to purchase the Combat GRAPHIC for their own personal use! They, and the entire camera public, will be glad to know the GRAPHIC "45," in peacetime garb, will be available soon.





*At the foot of famed Mt. Suribachi, U. S. Marines, storming the Japanese island of Iwo Jima, plunge forward through the fire of the Japs as the Leathernecks rush inland to widen and strengthen their beachhead.*

OFFICIAL U. S. MARINE CORPS PHOTOGRAPH, GRAFLEX-MADE BY PVT. ROBERT CAMPBELL





OFFICIAL U. S. MARINE CORPS PHOTO, GRAFLEX-MADE BY CPL. EUGENE JONES

*Part of the price of victory—Iwo Jima. Note the volcanic sand that proved such an obstacle to our landings.*

## Cameras and Radar!

THE secret of the mystery weapon, radar, was well kept throughout the war. Now that military restrictions have been lifted, the public has learned how vital this electronic process was to our success on every battle front. Still little known is the very important part cameras and photographs played in conjunction with radar.

Before cameras were utilized to augment radar, the Air Forces had a difficult problem. Fliers, approaching their target, could view the objective through their magical radar screens, but the radar image was a fleeting image on the fluorescent screen which until coupled with the camera depended on the observation and memory of the observer. The over-all target picture never remained permanently fixed on the screen.

This situation handicapped the bombardier and the pilot. Orientation was difficult and target selection by comparative methods was impossible.

Working against time, GRAFLEX modified existing cameras with a special device which permitted photographs of the image screen to be taken at the required intervals. The photos thus obtained resulted in a complete photographic reproduction of a temporary radar image.

These photographs, when carried on later raids, permitted the pilot and bombardier to judge the target's position with such accuracy that night bombing, and bombing through heavy overcasts, became as deadly as daylight precision bombing.

Here, again, the camera found a vital war job to do. In making night bombing as deadly as daytime bombing, the combination of camera and radar saved countless American lives, for the risks involved in aerial attack are greatly lessened under cover of darkness. As science advances, in the cause of war and of peace, the camera will find new and important applications.





OFFICIAL U. S. NAVY PHOTOGRAPH, GRAFLEX-MADE

*The setting sun outlines a Rising Sun warship, as the destroyer takes a fatal hit amidships in Navy raid on Palau.*



# Red-Hot Competitors Get Together to Form "The War Picture Pool"

ONE of the "minor miracles" of the war was the voluntary formation of the "Picture Pool"—a move which placed the talent and the resources of all the great American news-picture agencies in a common force to bring home fighting photographs of the war for the public.

From the very beginning of the war, military and naval authorities realized that it would be impossible for each of the news and picture services to have its own lensmen and reporters at each scene of fighting. There simply wasn't enough room on a battlefield or an invasion beach for so many noncombatants—no matter how important or dangerous their jobs.

By common agreement, the news and picture services consented to "pool" their best men—and their best pictures!

Several men, chosen by lot from all the representatives of the highly competitive companies, were permitted to go into action with the troops.

From then on, they were on their own. Regardless of the agencies to which these men belonged, their photographs were the common property of all the contributing agencies.

Negatives of their best pictures were rushed from the battle fronts to the offices of the once-rival companies... with the result that the American people were able to follow the course of their far-distant victory day by day through the magic of the camera.

This example of unselfish patriotism among American business, both great and small, is typical of the united support which was readily given to the war effort.

Now, in peacetime, these great news and picture agencies are again friendly rivals. One thing they retain in common, however, is their unparalleled record for getting good pictures through the abilities of their highly trained and skilled cameramen, who invariably use Speed GRAPHICS.

*As pall of smoke darkens city, Yank artillerymen move their gun into position on a corner of Bismarck St., Aachen.*

ACME PHOTO BY BERT BRANDT, WAR POOL CORRESPONDENT





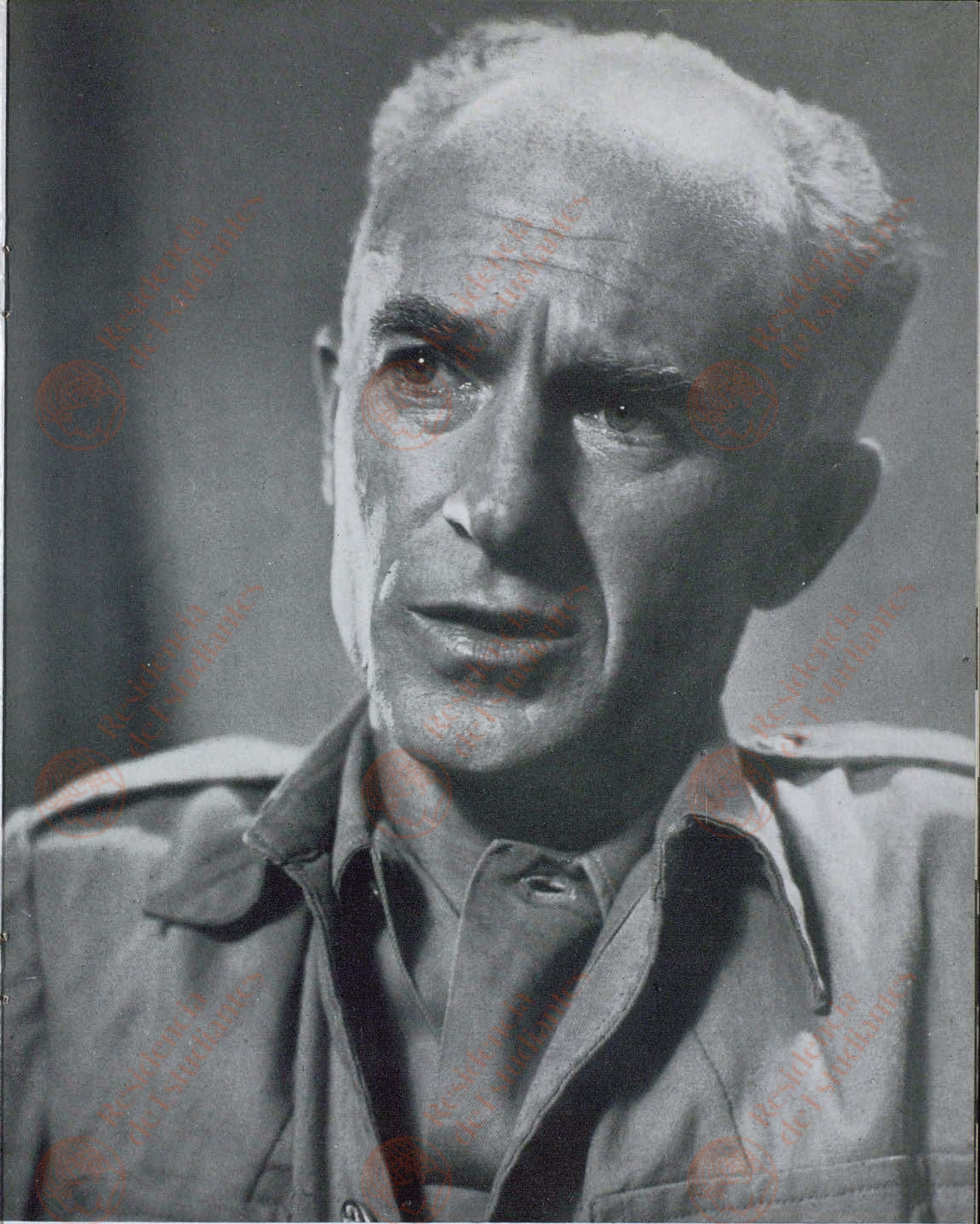


PHOTO COPYRIGHTED BY MILTON J. PIKE, GRAFLEX-MADE

Said Ernie Pyle of this great portrait . . . "Weary though it is—my all-time favorite picture."

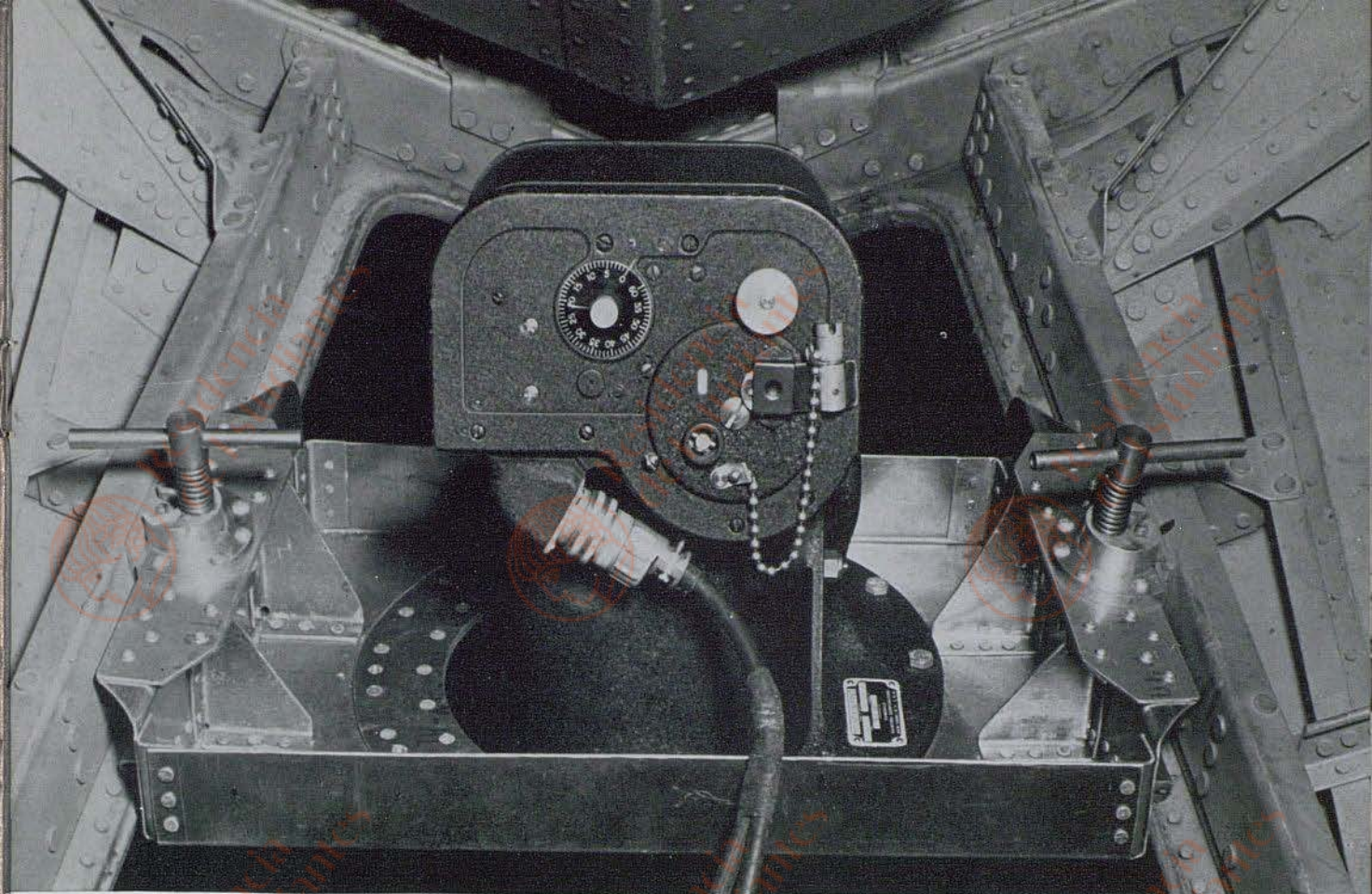




OFFICIAL U. S. ARMY AIR FORCES PHOTO, GRAFLEX-MADE

*A Squadron of P-38 Lightnings, in perfect formation, streaks toward France on D-Day.*

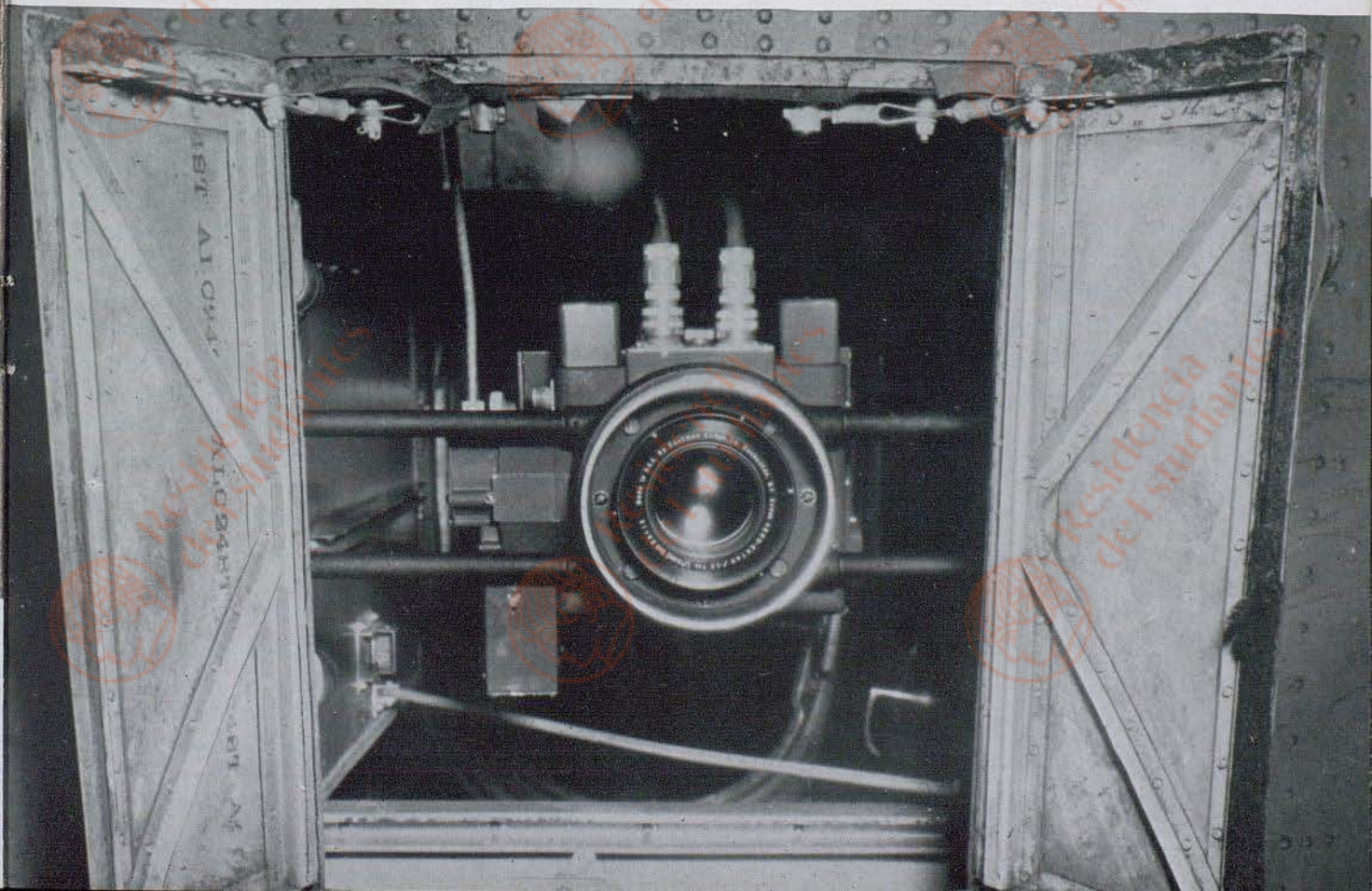




OFFICIAL U. S. NAVY PHOTO, GRAFLEX-MADE

*A Graflex-made K-25 Aerial Camera as seen when mounted in a Navy PBV. (Below) The Graflex-made K-21 peers through doors in the camera bay of a Flying Fortress.*

OFFICIAL U. S. ARMY AIR FORCES PHOTO, GRAFLEX-MADE





# The GRAFLEX Diamond Award

## Combat Photographers' D. S. C.

**F**EW men on a battlefield had a job more dangerous than that of the combat photographer. His assignment demanded that he be with the advance troops—and not infrequently he was ahead of them. Unlike his fighting comrades, he was armed only with a camera; and no matter how vital that weapon is in modern warfare, it does not protect a man's life! Too few people realize the risks that these skilled cameramen took in order to bring back a photographic record of our victory.

As early as 1938, the GRAFLEX Diamond Award was being made to the winner of the National News Picture Contest as a reward for "Distinguished Service" in news photography.

When war came, it was no longer possible to give the Diamond Award for national photography because the war had become the center of pictorial interest.

As greater pictures emerged from the war, and as more and more combat photographers gambled their lives to record them, the need for a suitable award became increasingly apparent.

Therefore, the first wartime presentation of the GRAFLEX Diamond Award was made to a combat photographer who had captured the greatest symbolical shot of the war—the Marines raising the American flag atop Mt. Suribachi. Joe Rosenthal, of the Associated Press, who made the picture, wears his GRAFLEX Diamond Award with the other members of the proud company whose photographic skill has won them the Diamond Award . . . "For Distinguished Service."

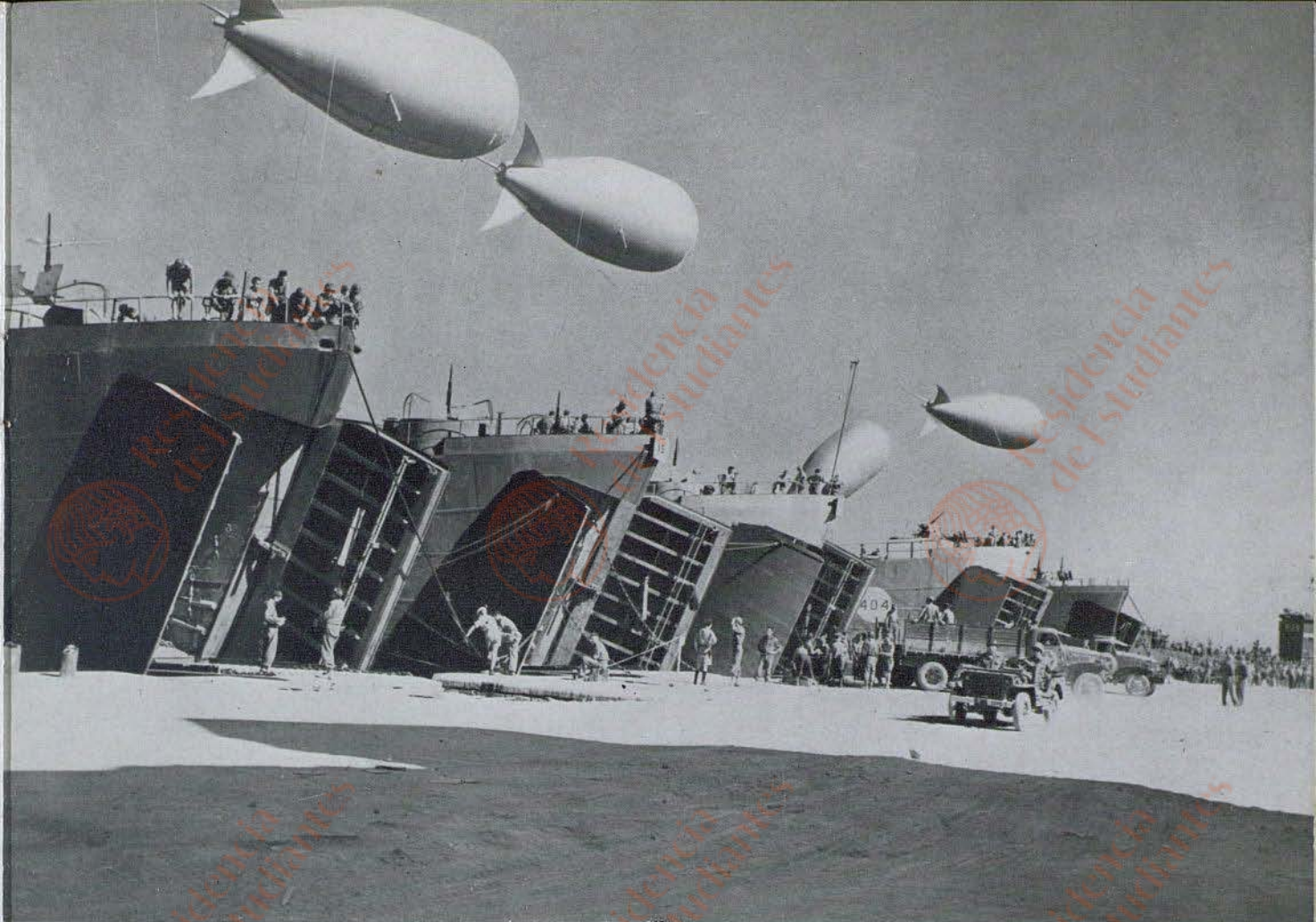
Soon, GRAFLEX will resume its annual presentation of the Diamond Award. Once again, the National News Picture Contest as conducted by *Editor and Publisher* magazine will serve as a basis for the awards.

*Panicky Nips sprawl over sides of stricken Jap destroyer escort—result of attack by B-25 Air Apaches Group.*

OFFICIAL U. S. ARMY AIR FORCES PHOTO, GRAFLEX-MADE







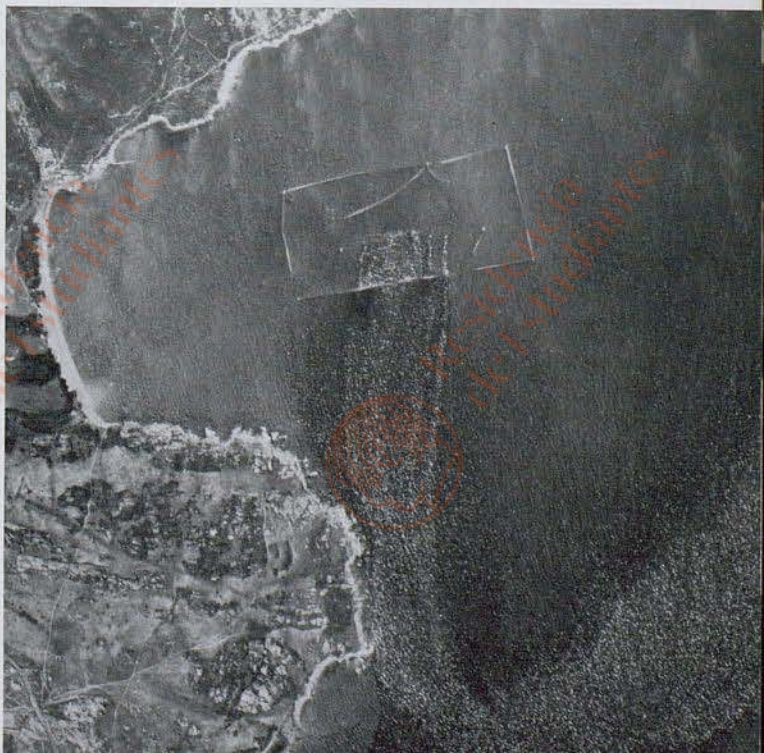
OFFICIAL U. S. ARMY SIGNAL CORPS PHOTO, GRAFLEX-MADE

*Barrage balloons guard our invasion craft in the Pacific.*



*Bombs drop on Italian cruiser "Trieste," seen at anchor. Right—only the oil slick and the still-intact antisubmarine net mark the grave of the once-proud battleship.*

OFFICIAL U. S. ARMY AIR FORCES PHOTOS, GRAFLEX-MADE







OFFICIAL U. S. MARINE CORPS PHOTO, GRAFLEX-MADE BY SGT. ROBERT M. HOWARD  
*Carrying their rifles high, Marines wade from their LST through a three-foot surf at Cape Gloucester.*



# The War—A Photographic Laboratory

OUT of the increased, almost impossible, demands of war, GRAFLEX learned many things! How to increase production without sacrificing quality or precision . . . new methods of camera manufacture . . . new materials for photo-products . . . improved photographic processes . . . new designs . . . all of which will give you better cameras and better photographs.

Perhaps no part of photographic science was left untouched by the war. Each Service had its own particular problem, and in solving these problems, GRAFLEX made many new advances in camera work. Film-holding accessories, filters, lens shades, carrying cases, flash-synchronizing attachments, tripods, range finders, and lens-in-shutter combinations have been developed and supplied in accordance with the needs of each branch of the Armed Forces.

It was gratifying to note that the Speed GRAPHIC

camera, itself, remained fundamentally the same for each of the Armed Forces. It retained, thereby, the same advantages of accuracy, dependability, and long life which had resulted in its universal acceptance as the indispensable camera for news photographers.

As continuing military contracts are completed and production capacity permits, GRAFLEX will bring to the camera public the benefits of its vast wartime experience embodied in new and improved photo-products. The principles of manufacture and design of GRAFLEX cameras and photo-products are constantly changing to keep abreast of new developments in camera science, but the basic principles of skilled craftsmanship and rigid quality control will not vary.

Your GRAFLEX Dealer will be kept posted upon all GRAFLEX camera developments. Why not ask him today about your specific problem?

ASSOCIATED PRESS PHOTO FROM THE WAR PICTURE POOL







WHETHER you are a professional photographer, an advanced amateur, or a camera beginner, you will be interested in the new photographic developments that have come out of the war.

GRAFLEX maintains two information centers for all GRAFLEX users: 50 Rockefeller Plaza, New York 20, N. Y., and 3045 Wilshire Boulevard, Los Angeles 5, California.

If you have a specific camera problem, or if you are merely interested in the wide field of interest and opportunity that can be found in camera work, you are invited to visit these GRAFLEX Information Centers.



GRAFLEX, INC.

ROCHESTER 8, N. Y., U. S. A.

THE DON McALISTER CAMERA CO.

78 E. STATE STREET  
COLUMBUS 15, OHIO

PRINTED IN U.S.A.

No. 177-146



*This GRAFLEX-made picture showing projectiles in flight as the Missouri fires six guns is reproduced from an official U.S. Navy photo on Kodachrome Film*