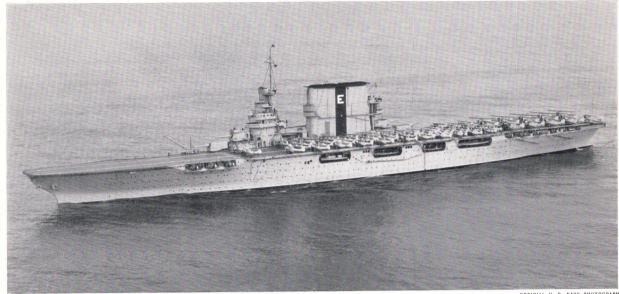


KODAK flies the Battle Flag

* of War Production





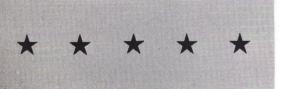
THE ARMY-NAVY PRODUCTION AWARD

IN 1906 the Navy instituted in the Fleet an award for excellence which has been known ever since as the Navy "E." First awarded for excellence in gunnery, this was later extended to include outstanding performance in engineering and communications. An honor not easily won nor lightly bestowed, it became and has remained a matter of deep pride to the men of the Service who receive it.

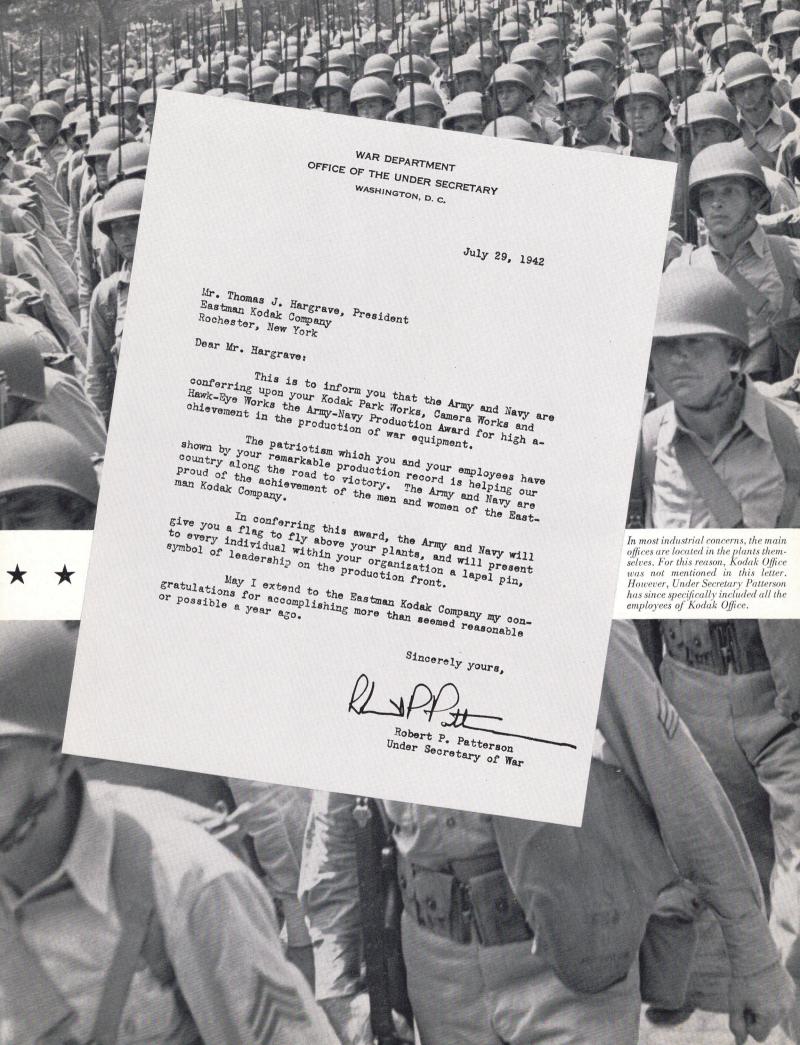
When the rising tide of war in Europe placed a premium on the production of war equipment, the Navy "E" award was extended to embrace those plants and organizations which showed excellence in producing ships, weapons, and equipment for the Navy.

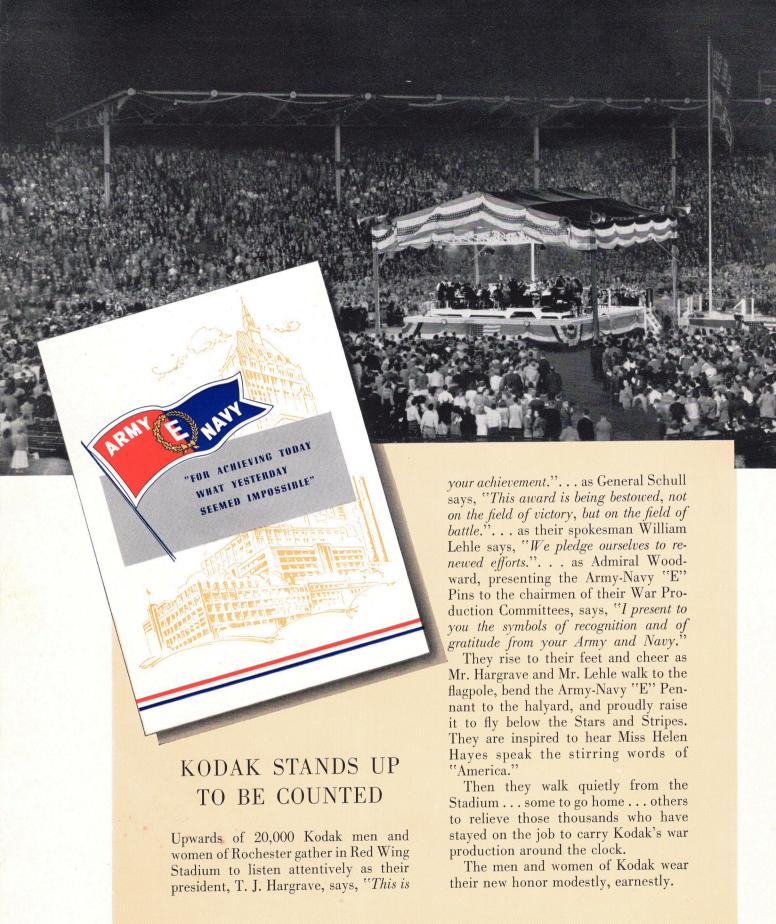
Then came Pearl Harbor—and with it a demand for war production such as the world has never known . . . an awareness that our fighting forces and the men and women of American industry are partners in the great struggle for human freedom...and on the part of all Americans a grim and enduring resolve to work and fight together until victory in that struggle is final and complete.

From that high resolve was born the Army-Navy Production Award -which stands today as our fighting forces' joint recognition of exceptional performance on the production front... of the determined, persevering, unbeatable American spirit which can be satisfied only by achieving today what yesterday seemed impossible.











PROGRAM OF CEREMONIES

Introduction	W. B. Potter, Program Chairman
Address	T. J. Hargrave, <i>President</i> , Eastman Kodak Company
Address	
Presentation of Army-Navy Award and Pennant	
	Brigadier General Herman W. Schull, Ordnance Department, U. S. Army
Acceptance of	Award WILLIAM J. LEHLE, Eastman Kodak Company
Raising of Army-Navy "E" Pennant	
Presentation of	of Award Pins Rear Admiral Clark H. Woodward, U. S. Navy
Introduction of	of Brigadier General Harold M. McClelland, Air Forces, U. S. Army
Remarks	
"America" .	





★ QUOTATIONS FROM THE SPEAKERS ★

T. J. HARGRAVE,

President, Eastman Kodak Company

"Kodak is proud to be playing such a distinctive part in this war. Our people are doing a big job—and doing it well. They will do a bigger job—and do it well. On behalf of the thousands of Kodak people here tonight—and particularly on behalf of the other thousands who could not come because they are manning their battle stations on our own industrial front—we hereby renew our pledge of fidelity to the service of winning this war."

Brigadier General Herman W. Schull, Ordnance Dept., U. S. Army

"Sometimes you workers may feel that what you are doing is not important and that you would rather be closer to the scene of battle. Whenever you feel that way go out and look at the Army-Navy Production Pennant flying from the roof of your plant or office building. Remember that it was placed there by the Army and Navy of the United States of America in recognition of the fact that you and your associates have done a magnificent job in the production of difficult, complicated articles requiring the highest degree of technical skill and experience."

Rear Admiral Clark H. Woodward, U. S. Navy

"Every worker in your plants and offices will receive this badge of honor. Wear it so your fellow Americans will know that you are soldiers of production who have won a victory. By accepting it I know that you accept a challenge—to surpass even the great record that stands to your credit today."

WILLIAM J. LEHLE,

Representing the men and women of Kodak

"We pledge ourselves to renewed efforts toward even greater achievements so that our part in our country's job may be brought to successful completion."

Colonel George W. Goddard, Air Forces, U. S. Army

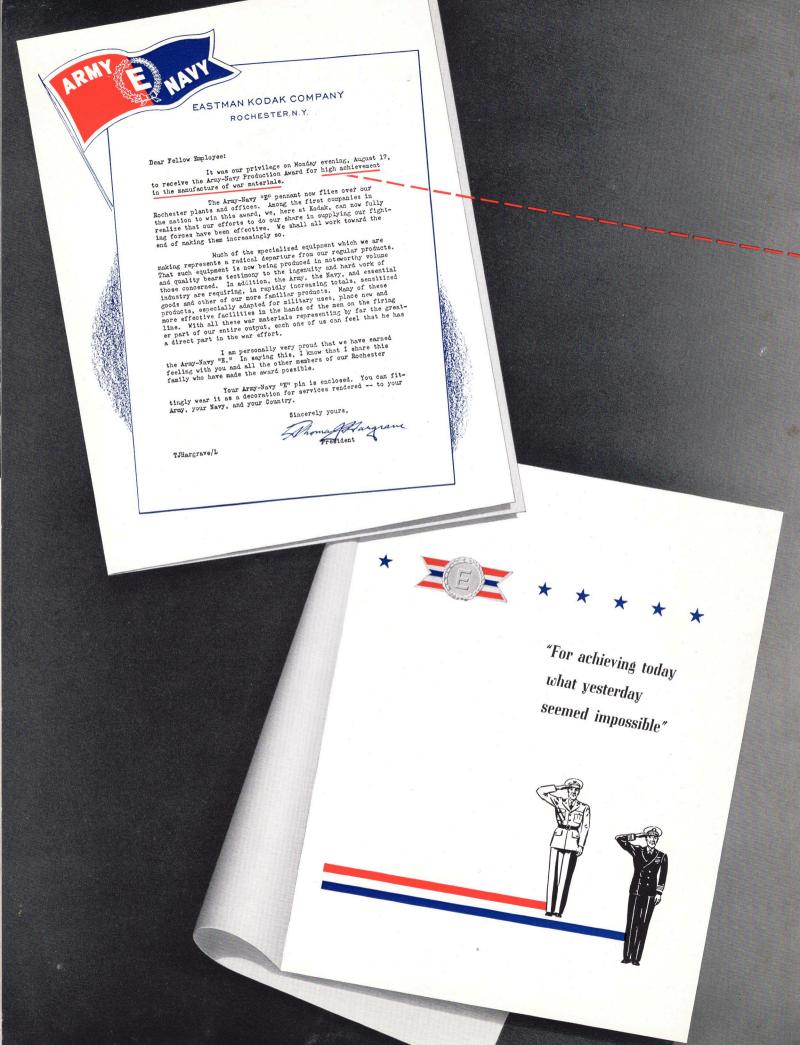
"The Army Air Forces thoroughly appreciate the research and production by the Eastman Kodak Company that make possible the production of aerial cameras, lenses, photographic films of all types, photographic papers, and photographic chemicals. Standing before you people who are supplying these things is no different from standing before a regiment of infantry troops. Perhaps, from the size of your crowd, I should say two Army divisions. Your efforts are every bit as important."

1. L. to r.: Charles H. Rogers, Chairman Camera Works War Production Committee; Einar W. Jensen, Chairman Kodak Park War Production Committee; Honorable Samuel B. Dicker, Mayor, City of Rochester, N. Y.; Col. Frank J. Atwood, District Chief, Rochester Ordnance District; William J. Lehle, representing Kodak employees in the ceremonies; Col. Lewis Sanders, Nat'l Selective Service Headquarters; Captain Henry T. Markland, Naval Inspector of Ordnance, Optical Material; Brig. Gen. Herman W. Schull, Ordnance Department, U. S. Army; Rear Admiral Clark H. Woodward, U. S. Navy; Brig. Gen. Harold M. McClelland, Air Forces, U. S. Army; T. J. Hargrave, President, Eastman Kodak Company; Col. George W. Goddard, Air Forces, U. S. Army; Col. Oscar N. Solbert, Office of War Information; Frank B. Dugan, Chairman Kodak Office War Activities

Committee; John T. Harbison, Chairman Hawk-Eye War Production Committee; W. B. Potter, Program Chairman.

- 2. "The Star Spangled Banner"—Frances DeWitt Babcock, Gen. Schull, Mr. Hargrave, Admiral Woodward.
- 3. Highest industrial award of the fighting forces—William J. Lehle and T. J. Hargrave unfurl the Army-Navy Production Pennant.
- 4. Admiral Woodward pins the Army-Navy "E" on Messrs. Rogers, Jensen, Dugan, and Harbison.
- 5. Colonel Atwood, General Schull, Colonel Goddard, General McClelland.







"... HIGH ACHIEVEMENT IN THE MANUFACTURE OF WAR MATERIALS"

THE Army-Navy Production Award was bestowed upon the Eastman Kodak Company for its output of photographic material and equipment for the Army and Navy, and for its production of outright matériel of war.

That Kodak is making an enormous contribution to the photographic needs of our armed forces and those of our allies will cause little astonishment. Realize, however, that more than two-thirds of the Company's production of varying types of film and paper—the largest single photographic manufacturing operation in the world—is for the fighting forces, or for other purposes officially regarded as essential to the successful conduct of the war.

The new...perhaps the major...accomplishment has been the rapid adaptation of brains, men, and machines, heretofore producing precision photographic equipment, to the quantity production of immensely intricate war equipment. The pages which follow are devoted—as far as the story can safely be told—to those products and developments which have earned the Eastman Kodak Company the crimson and blue pennant now flying over its Rochester plants and offices. A pennant which, in the words of the distinguished Army officer who presented it to us, "may be considered a military decoration . . . for skill, steadfastness, and devotion to duty—in much the same sense as battle honors are given to military organizations for the display of similar qualities on the field of battle."



Aerial lenses, films, photographic papers, developers, chemicals—these Kodak products have long been at the fighting fronts.

FILM ON THE FIGHTING FRONTS

IN modern war . . . in globe-wide war . . . an Army and Navy without photographic equipment would be fighting with blinders on. One reason is that accurate, significant, up-to-the-minute maps are essential—and Kodak aerial lenses and films, Kodak papers, developers, and chemicals, team together to make the reconnaissance photographs which make maps meaningful. There are many other reasons: objectives for bombing or assault, troop concentrations or movements, the results of bombing attacks and artillery fire, the presence of enemy planes, shipping, and naval forces, the penetration of Axis camouflage. The eye of the aerial camera, and the special films with which the aerial camera is loaded, have proved under fire to be far better observers and reporters than the human eye and mind. They see more at a glance. They show successive developments. They don't forget. Due in good part to Kodak research and Kodak products, wartime photography today, and tonight, is achieving desired results under conditions and at altitudes wherein the human observer would be seriously handicapped if not downright ineffectual.

A few short years ago photographic reconnaissance was conducted at



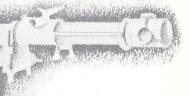


heights of 7,000 feet or so. More powerful and accurate anti-aircraft fire has raised the ceiling to the dizzy heights of five to seven miles above the earth. Every photographer will appreciate the problems this poses, and how the camera plane has recovered the advantage, when, through special lenses and films, new laboratory and field techniques, it is able to make its pictures at such heights with lessened chance of detection and interception.

Infrared film, sweeping away the haze which at once conceals the camera target and protects the camera plane, permits picture making at altitudes heretofore impractical. And Kodachrome Film, immensely more factual than blackand-white, is producing strikingly realistic color pictures at 15,000 feet—a height which may soon be doubled. Both films have proved invaluable in the detection of enemy camouflage, because ordinary green paint, as one example, appears quite different than natural green foliage and grass to black-and-white infrared, and to Kodachrome. The latter readily reveals camouflage because it is well nigh impossible to reproduce nature's colors except by the photographic color process which exposes the counterfeit.

Nighttime aerial reconnaissance is rapidly growing in importance in World War II—and again Kodak research and Kodak products are playing a major part in this development.

Kodak-made time fuses explode anti-aircraft shells at a height predetermined by stereoscopic height finders, which Kodak also builds.







Blackouts, or shielding clouds—the bomber equipped with a Kodak-made astrograph can find its target and return safely to its base.

Even at night, altitude is important to the safety of the aerial photographer. Kodak, therefore, has produced another special aerial film. Now, the reconnaissance plane can fly at great heights, yet obtain excellent photographic results without having to increase the size or complexities of aerial flash bombs, already so powerful that other pilots report seeing them when 200 miles distant. The film is developed and printed on a special Eastman waterproof paper with an efficiency and dispatch that provide the aerial photographer with finished pictures by the time his plane returns to its base. The waterproof paper doesn't have to be dried. Thus hours are saved. And, frequently, lives.

EYES FOR AMERICA'S EAGLES

Aerial lenses, in the last war, represented a serious problem. Since that era Kodak has been a major source of all-American aerial lenses. The pursuit of perfection continued unabated throughout the years of peace. Now we are not only self-sufficient on this count, but perhaps the best supplied of all nations. One of Kodak's Rochester plants is, and long has been, the largest photographic lens factory in the world. And the Kodak Research Laboratories, at a most vital moment, have developed a rare-element, high-refractive glass that is the first basically new optical material in half a century.



SO THAT BOMBS AND SHELLS MAY REACH THEIR TARGETS

UNLIKE Kodak's highly specialized sensitized goods plants, the camera and optical divisions were capable of conversion from the making of peacetime photographic equipment to that of war matériel. Preparations for this conversion were begun almost two years before Pearl Harbor. Today, more than 90 per cent of the output of these two plants of the Eastman Kodak Company is high-precision military equipment, much of it non-photographic in nature.

What are some of these fighting products?

Two of them are the immensely intricate height finder and the delicate time

fuse which pair to bring disaster to enemy aircraft.

The Army, in the person of Brigadier General Boatwright, then commanding the Frankford Arsenal, said of the former, "We still think the height finder is the most difficult optical instrument to make. You accepted the responsibility to make delivery to fit our requirements. This delivery seemed to me... to be impossible. I congratulate you (in being) ahead of schedule."

Let's return to our aircraft. Kodak again plays its important part in producing the astrograph and the drift meter—two complex navigational instru-

ments which scoff at enemy blackouts.

By means of the astrograph the aerial navigator, with the aid of his sextant, can quickly determine his exact position, even though enemy territory far



Army and Navy guns, in many sizes, are sighted or aimed by one or more of many Kodak-made optical instruments for fire control—such as the intricate aiming circle, above.





Mail makes morale, at home and abroad. Kodak-developed "V...— Mail" reduces the weight of important fighter-family correspondence more than 98%, cuts the time and heightens the certainty of its delivery.

below him may be completely concealed, either by blackout or by clouds.

The drift meter, as its name implies, tells the aircraft navigator the degree to which wind has affected the direction of flight. Also, with the aid of certain simple observations and reference to the meter's rotating chart, he can ascertain the ship's ground speed as compared to its air speed with or against the wind—essential to gauging distance for bombing flights.

Back to earth again—this time for consideration of the fire control instruments which make artillery effective:

Officers in advance positions use Kodak-made aiming circles and telescopes to establish their target's location. This information, once estimated, is relayed to the battery executive who, by means of another aiming circle, is able to give the gunners the exact range and direction of fire. Both the aiming circles used by the observers and the battery officer, and the panoramic sights on the guns themselves, illustrate the types of fire control equipment made by Kodak for the artillery, for tanks, for anti-aircraft—and are typical of the products made not only for these services, but for the U. S. Navy as well.

LETTERS FLY ON FILM

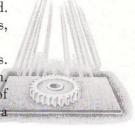
YOU know it as "V... Mail"—and more and more fighter-family correspondence is being conducted through this time- and space-saving medium.

An American fighting man in the Mediterranean, for example, writes you a letter on a sheet of paper . . . a special "V. . . _ Mail" form obtainable from any military or civilian post-office. This is photographed on a special 16-mm. movie film. Then the film is flown across the oceans to one of many developing



and printing laboratories designed and installed by Kodak. The film is processed. The tiny letters are "blown up" to readable size on other "V... — Mail" forms, folded, sealed, and forwarded home.

Fifteen hundred ordinary letters would weigh approximately 35 pounds. 1500 "V... Mail" letters, 16 pounds. 1500 such letters on one roll of 16-mm. film, seven ounces. Thus can fighter-family correspondence be flown instead of shipped. "V... Mail" lost in transit is not lost, because, upon reports of a mishap, original "V... Mail" forms are filmed and flown again.



PHOTOGRAPHY KEEPS THE RECORDS

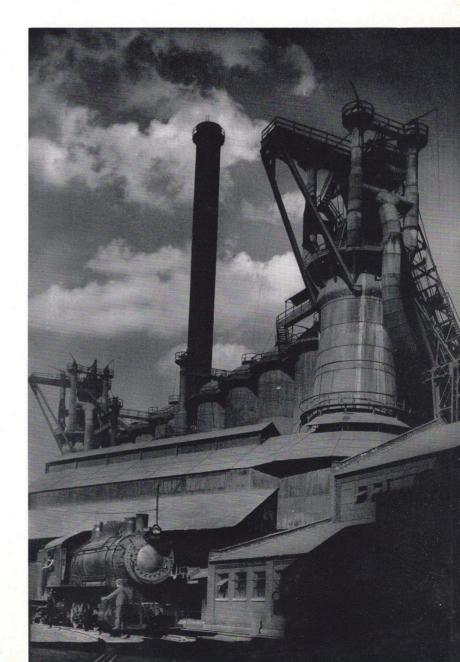
CAMERAS, still and movie, are unprejudiced observers at all maneuvers and engagements, stab every weakness and highlight every evidence of tactical brilliance. Camera guns, using untold thousands of feet of home movie film, have been developed for training pilots in the use of machine guns and aerial cannon, and for recording the results of that training in actual combat. In mock

dogfights, pilots test new planes against each other for speed and maneuverability, pulling the triggers of their camera guns and "firing" film instead

of precious bullets and shells.

The Army and Navy use huge quantities of film and equipment, still and movie, sound and silent, for instruction, education, personnel records and identification, information and orders, filing and recording by Recordak, censorship control through photographic copying, x-ray, dental x-ray, photofluorographic and electrocardiographic examinations, identification photographs, ballistic and proving ground tests-and even this listing is far from complete. Before planes are flown, for example, high speed movie cameras are operated at 2,200 frames per second while structural engineers stack carefully measured test loads on fuselage or wing so that the camera can catch any failure at the beginning of the first tiny crack. Other cameras fly with test pilots. At the touch of a trigger on the pilot's stick they record the readings of his complex instrument panel, capturing complete evidence of many aspects of the plane's performance far more significantly than could test pilots with pad and pencil.

Brass, steel, aluminum, magnesium—big as a second or tons heavy—paper-thin or inches thick—new Kodak X-ray films make the radiographs that turn thumbs up or down on the metals that go into the equipment our Army and Navy fight or fire, fly or sail. See over the page.



IN THE WAR ON OTHER FRONTS

New products require new departures in research as in production. The knowledge and the time of Kodak scientists have not been stinted in the development of new and complex products peculiar to the needs of modern warfare.



KODAK was awarded its Production Pennant solely for those products supplied directly to the Army and Navy. These do not represent the Company's full contribution to the war effort.

Three examples:

Most other manufacturers of war equipment use photography in a score of ways. Perhaps the most important today is x-ray inspection—on a scale entirely unimagined by laymen—to hunt hidden flaws in castings and assemblies in the aircraft industry, in the manufacture of ordnance, in shipbuilding plants, for boiler inspection for the ships of our fighting fleet. Metallography and spectrography in this work have become routine.

The second illustration of the exactness and economy of harnessing photography to war industry is Matte Transfer Film. Laborious and skilled handwork in transferring design drawings to pattern metal has been eliminated. They are instead transferred photographically to Matte Transfer Film laminated on sheets of metal to serve as patterns for cutting out parts. Months, and millions, have been saved by this one Kodak wartime development.

The research and development forces of the Company have also enlisted in Kodak's war effort—much of it in conjunction with the National Defense Research Committee. The work involved is mechanical, optical, chemical, and photographic. Dr. Vannevar Bush, Director of the Office of Scientific

Research and Development in Washington, says, "Your organization has given just the sort of cordial, prompt co-operation that is most effective."

RECIPE FOR VICTORY

FORESIGHTED preparations and expansion, quick and accurate adaptation, a fighting approach to each day's work—these are the factors which have enabled the Company, in this first year of war, to produce not only a tremendous volume of photographic materials for war use, but also to produce a greater volume of non-photographic military products than any previous year's output of civilian photographic equipment. These are the factors which have earned the Eastman Kodak Company the Army-Navy Production "E"—highest honor bestowed upon industrial concerns by our military services.

It has been a big job, little talked about by Kodak.

It will be a bigger job, obviously necessitating a curtailment if not a complete elimination of many of the Company's peacetime products.

Kodak has realistically faced facts. So must we all. In the words of the Company's president in acknowledging notification of the Army-Navy "E"—



"We realize that this is only the beginning, that there is yet much to be done, and that the end of the road may be far away. However, if it is possible for us to resolve any more firmly to produce more and more for victory, the Army-Navy Award will inspire us to do so."



The army and navy have honored us by the highest award given to industrial workers. Our plants can now fly the Army-Navy "E" pennant, emblem of excellence in the production of war materials. Each of us can and should proudly wear the Army-Navy "E" pin.

Let us be worthy of this honor and of the responsibility it represents.

We have earnestly tackled the jobs so far assigned to us—jobs that must and will continue to be done, and done well. For we know now what the score is. We know that nothing short of all-out effort on the part of each one of us is going to win this war.

This is our watchword and our pledge.

Kodak War Production Committees



