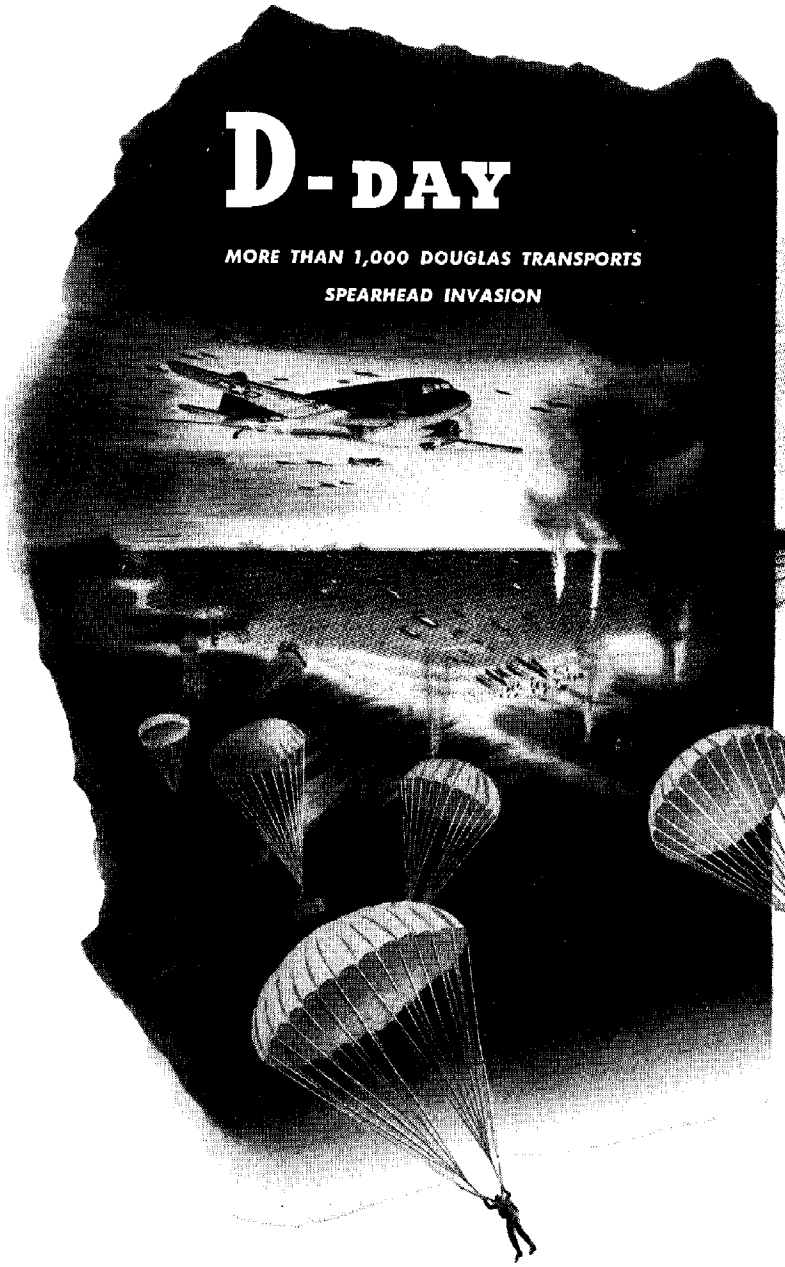
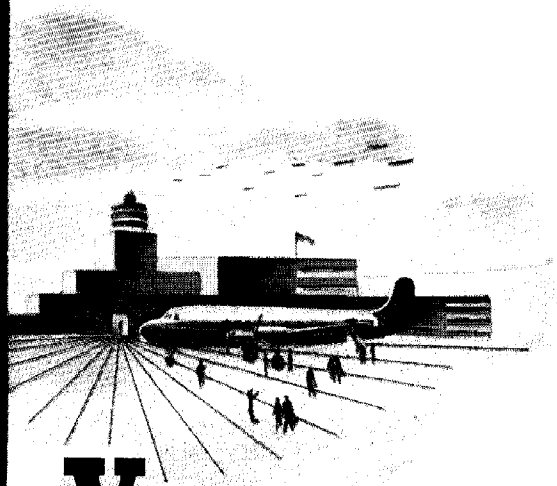

Douglas



D-DAY

MORE THAN 1,000 DOUGLAS TRANSPORTS SPEARHEAD INVASION



V-DAY

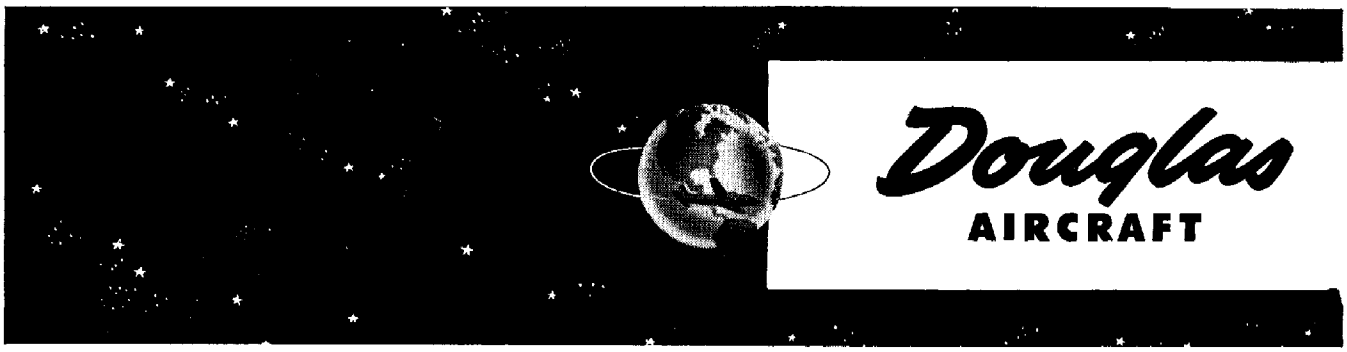
THOUSANDS OF DOUGLAS TRANSPORTS WILL SPEARHEAD PEACETIME PROGRESS

Unarmed and unarmored, more than 1,000 Douglas Skytrains* transported 24,000 skytroops to spearhead the invasion.

In this greatest mass movement by air in history, 98% of these DC-3s at war completed their missions SAFELY!

Come V-Day and over a billion miles of Douglas dependability in wartime will have perfected air travel for you.

** More than three times the number of planes in use today on domestic airlines.*



DOUGLAS EQUIPPED AIRLINES: American Airlines — Hawaiian Airlines Ltd. — Braniff Airways — Chicago & Southern Air Lines — Colonial Airlines — Delta Air Lines — Eastern Air Lines — Western Air Lines — Northeast Airlines — Northwest Airlines — Pan American Airways — Pennsylvania-Central Airlines — TWA — United Air Lines — China National Airways — Pan American-Grace Airways — Avianca (Aerovias Nacionales de Colombia) — Cia. Mexicana de Aviacion — Panair Do Brazil — Cia. Nacional Cubana de Aviacion, S. A. — Uraba, Medellin and Central Airways — Cruzeiro do Sul (Brazil) — Primeas Lineas Uruguayas de Navegacion Aerea, S. A. — Aerovias de Guatemala, S. A. — Canadian Pacific Airlines — Australian National Airlines — Royal Dutch Airlines (K.L.M.) — Royal Netherlands Indies Airways (K.N.I.L.M.) — Sabena (Belgian Congo) — Swissair (Switzerland) — A.B. Aerotransport (Sweden) — Indian National Airways — L. A. P. E. (Spain) — Aer Lingus (Ireland) — American Airlines of Mexico — British Overseas Airways (BOAC) (England).

Douglas
AIRVIEW

"Teamwork"

★ ALL THE WORLD, Allied and Axis, knows of the power and production of the American aircraft industry. United Nations soldiers and sailors have seen it on their airfields and carriers and in protective umbrellas over them at the front. The Axis troops have felt the weight of guns and bombs carried by the products of our factories.

No one doubts now that the aircraft industry has done its job of arming America and her allies beyond the wildest dreams of even the optimists of three years ago. But doubt remains in the minds of many as to whether the aircraft industry has done its job efficiently or on time. Have these airplanes, the skeptic asks, been produced with the best possible utilization of time, manpower and materials?

For instance, the C-47 transports built in the Douglas Long Beach plant a few months after Pearl Harbor, took 2.50 manhours per pound of airframe weight to build. A recent C-47 to leave the plant took only 0.36 manhours per pound. The B-17 *Fortress* at the same plant now requires only one-tenth the number of manhours required when the war began.

The record of constantly improved efficiency and careful cutting of the cost to the people of the United States extends beyond that.

In January of 1941, a year before America entered the war and before the time that airplanes were sold on a fixed-fee basis, a Douglas A-20 cost approximately $11 per pound of airframe weight. In January of this year the cost to our government was down to $5.10. Last month it was lower.

This efficiency record has been made possible by two things: careful planning by management, engineers and production executives, and loyal, skillful and understanding hard work by the men and women in the shops and offices.

There has been no mystery in this performance. It can be summed up in one word—"*teamwork.*"

Donald W. Douglas.

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This Month

September, 1944 Vol. XI, No. 9

Features

News

Inside Douglas

COVER: A South Pacific Paratrooper, down in the jungle, prepares to shed his harness. His camouflaged 'chute blends with the jungle growth as perfectly as does his jungle suit and painted helmet and face. —U. S. Army photograph.

STAR of the Unit's first motion picture was this retired B-17 with engines removed, used in Salton Sea to show "ditching."

OUR motion picture technicians in uniform teach the Air Forces G.I. Joe, aloft and ashore, how to beat the German and the Jap. Their lessons, imprinted on celluloid, train him in the increasingly complex art of warfare, show him how to save his precious skin when force-landing in jungle, desert or sea. They show the sky-going G.I. how to avoid being trapped by enemy intelligence into revealing military secrets. They orient him, and provide documentaries that the home folks may know how our soldiers are pushing this conflict toward a victorious close.

Everyone understands we no longer hand a boy a musket or assign a pilot to an airplane, and say: "There is your enemy; now go out and defeat him." Waging war is not so simple. We deliver to our fighting man weapons far more complex than anything known in World War I. We must train him not only how to use those weapons effectively; we must reveal to him the best possible ways of saving himself from all the perils inflicted by the rigors of war.

You have heard that Chinese proverb which says, "A picture is worth a thousand words." The old philosopher referred to a still photograph. We have adopted the Chinese method, and improved upon it through the medium of motion pictures. We of the Army Air Forces First Motion Picture Unit, occupying quarters at Culver City, California, formerly known as the Hal Roach Studios, produce motion pictures containing thousands of individual pictures. Only recently our soldier experts completed their hundred and fiftieth "feature." They turn out more films a month than any studio in Hollywood.

Former Hollywood cinematographers, directors, artists and other technicians labor on the sound stages, in cutting rooms, on distant locations within continental United States, over foreign battle lines and sometimes actually behind enemy lines, to record the dramatic, moving story of our soldiers' role in this war. Not all can see or feel the impact of battle. That high privilege is reserved mostly for combat camera crews, trained by our units to serve with every overseas Air Force.

As the Air Force extends its striking power to all fronts, the training, equiping and orienting of technicians and air crews increased the demand for training film production to such an extent our unit now has 10 production crews shooting at all times.

Not so long ago one of our units filmed a picture entitled, "Troop Car-

rier Mission." To record this important document we sent crews to North Carolina, where certain training was to be undertaken. During a period of eight hours, 6000 paratroopers tumbled out of the Douglas C-47s, 1700 of them unloading in the first mass jump. Those boys had learned the technique of bailing out and landing largely from lectures and practice with training devices on the earth. From the ground and in the C-47s our camermen trained their lenses on the jumpers as they first hurtled, then floated downward. In other C-47s, aided by powerful artificial lights, they filmed carefully rehearsed jumpers as they fastened their static lines to the guide wires and bailed out. (Other films revealed the technique of cockpit procedure and controlled power approach and landings with C-47s.)

Came D-Day in France; came a call for glider landings in Burma, first inland glider invasion in history. You know less of the Burma operation. Neither could have succeeded half so well had it not been for these pictorial presentations.

Remember, 6000 troops had landed in eight hours during the Carolina maneuvers. Though no enemy interfered with those operations, our forces simulated landings in "enemy" territory as best they could. Paratroopers and gliders alike dropped into water, smashed into trees, alighted on rough terrain. Could our equipment take it? How should our landing techniques be worked out?

In the darkness of March 5, this year, scores of C-47s, mostly from General Olds' Troop Carrying Command, began circling over dry rice paddy fields within a small triangle surrounding Katha. Two hundred miles behind the Japs' forward lines, these lay. But the tow planes and gliders went in, mostly in twin tows. Early gliders landed scrapers. Later gliders brought more troops. For five nights the C-47s roared over Katha and her adjacent fields, roared over until planes and gliders disgorged 18,000 troops. Many C-47s landed on those precarious fields.

With the troops flew Maj. W. E. Whitley. Until three years ago, Maj. Whitley ground out 35mm footage on a Twentieth Century-Fox camera. Now he is one of our cameramen. Major Whitley took many of the scenes made in Carolina. In Burma he followed through, picturing operations under enemy fire. Later these scenes were "cut in" with the earlier sequences, bringing "Troop Carrier Mission" thoroughly up to date. By viewing this document, every potential air invader—pilots and passengers alike — learn every move perfectly before taking off on such high adventure.

Though dramatic, such a portrayal is scarcely more important than "Flight Procedure of the A-20." In fact, it is difficult to say one airplane is more important than another to the success of our arms. Suppose the A-20 is called upon to lay the groundwork for invasion by troop-carriers by blasting installations with bombs and its many guns. Certainly the fighter-bomber's crew must know how to fly and fight the airplane if they expect to accomplish their mission and get home safely, to fight again.

Only one procedure may be permitted—the correct procedure. So we set about to photograph the proper means for handling this spirited steed. Our crew flew to Will Rogers Field, Oklahoma. There they prepared an A-20 to serve as a camera plane by mounting one camera in the fuselage, to shoot through the side; and by cutting through the plexiglass nose, and mounting a second camera on a free head base to follow action ahead, above and below.

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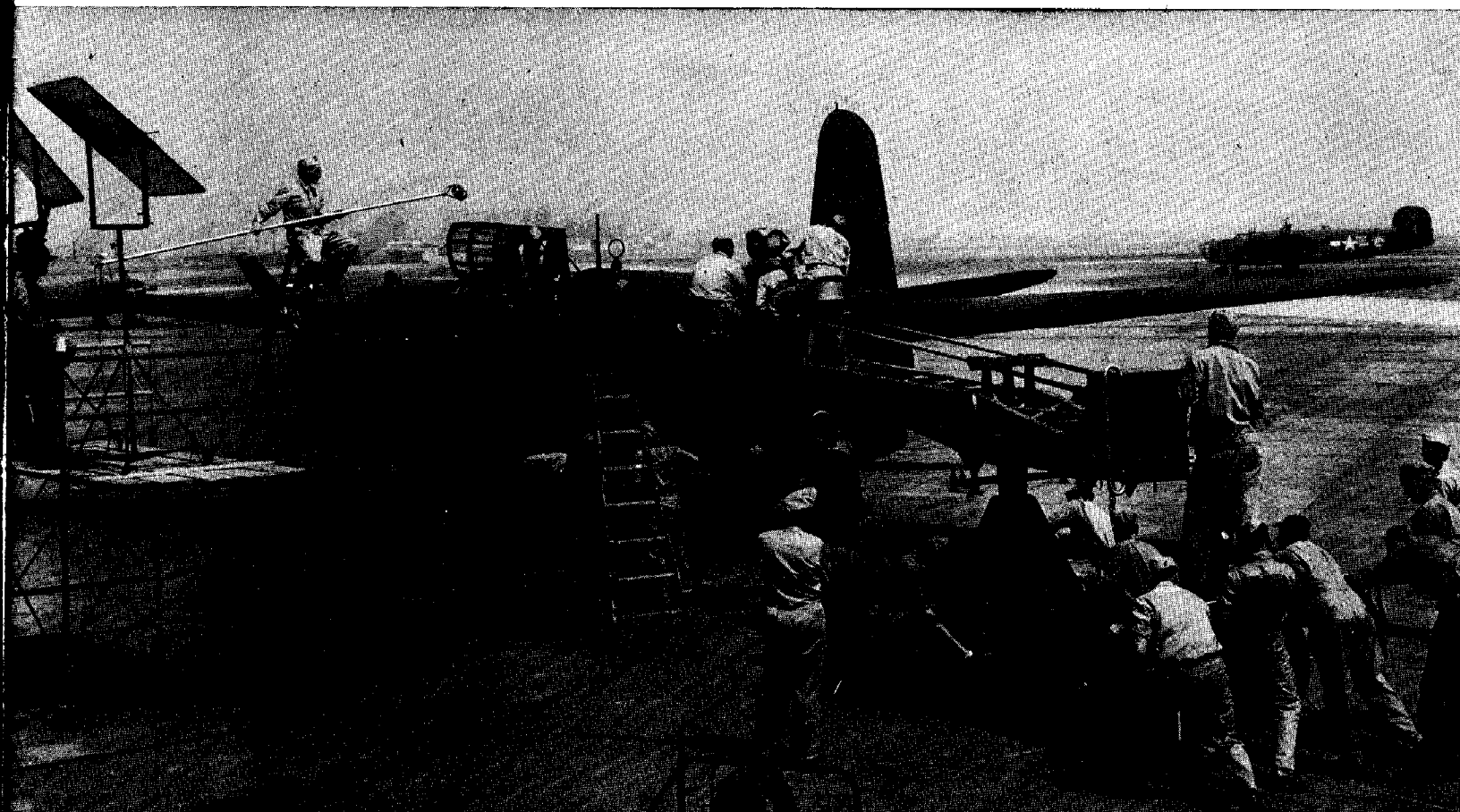
ATTACK bomber pilots are guided through intricacies of A-20 by Unit film. Flyers learn how to both fly and fight the plane.



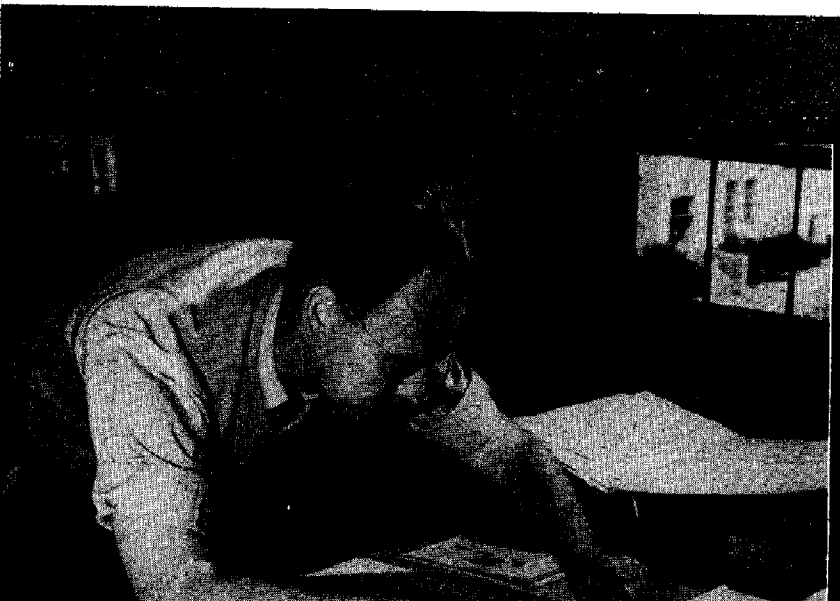
When Chicago administration building was destroyed with records, it high-lighted the important role Douglas photographers play

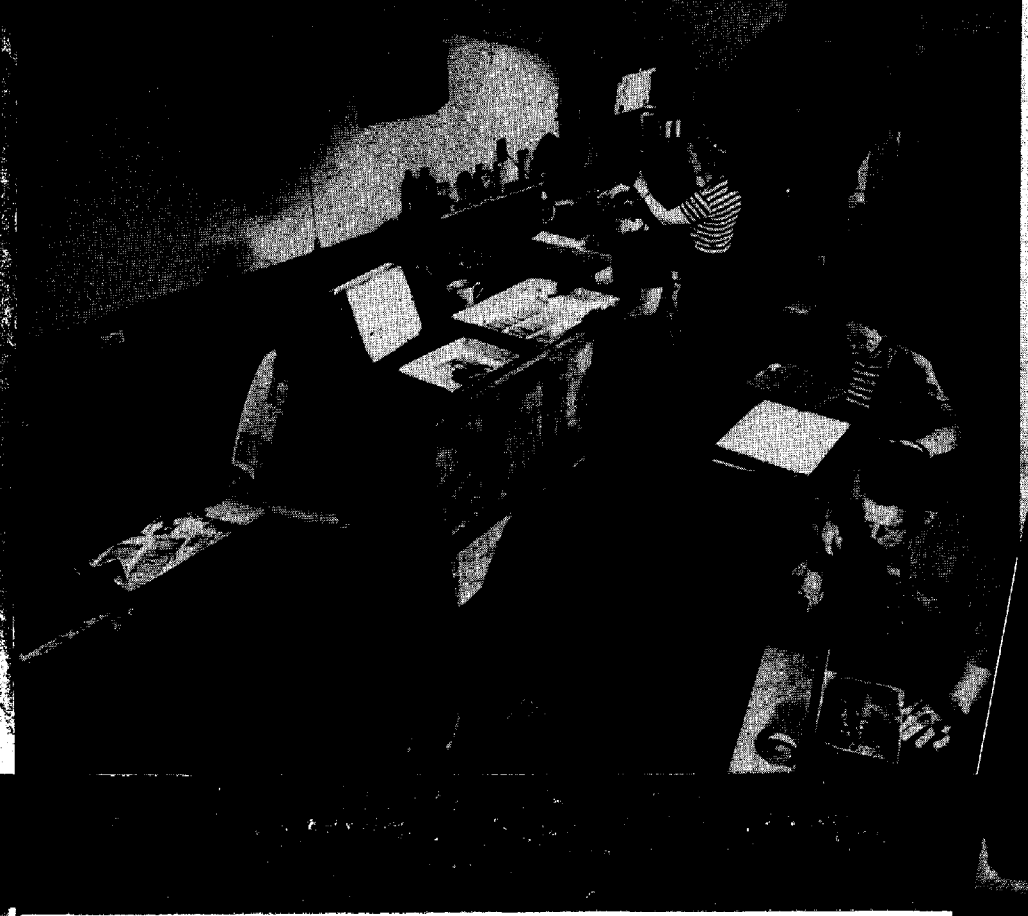
It was the grey, misty dawn of July 18 in Southern California when the telephones began ringing. They rang in the homes of Donald Douglas, of Frederic W. Conant, Arthur E. Raymond, Ed W. Burton, and in the homes of many another key executive of the company.

Plant Manager John Buckwalter was calling from the Douglas plant in Chicago. From where he was telephoning, the last flames of the fire which had consumed Chicago's administration building were still visible. Not only the building, but all the records of the $33,000,000 plant—the payrolls, the books, the correspondence, the carefully preserved figures and charts, the files were forever gone. Santa Monica alone could duplicate them.

Within 24 hours, Chicago desperately needed, among other things, photostats of 12,000 production drawings and project sketches, duplicates of 16,000 separate memoranda, 10,000 contract change notifications and master change records, 52,000 materiel releases, 250 engineering handbooks, 8,000 job tickets, and microfilming of 3,000 standard part and mixed assembly cards. Two blueprints and a transparency of each of 12,000 drawings, plus 30,000 drawing change notices must go out at once. Tooling was asked for 4,000 ozalids and blueprints, 1,000 complete sets of standard (K) tool prints, lists and data sheet illustrations totaling 500 items, and 10,000 tool outlines. From tooling came nearly 40,000 facsimiles of all kinds.

The next day, a C-47 *Skytrain* lifted from Clover Field with the first load of duplicates and by the next night, a





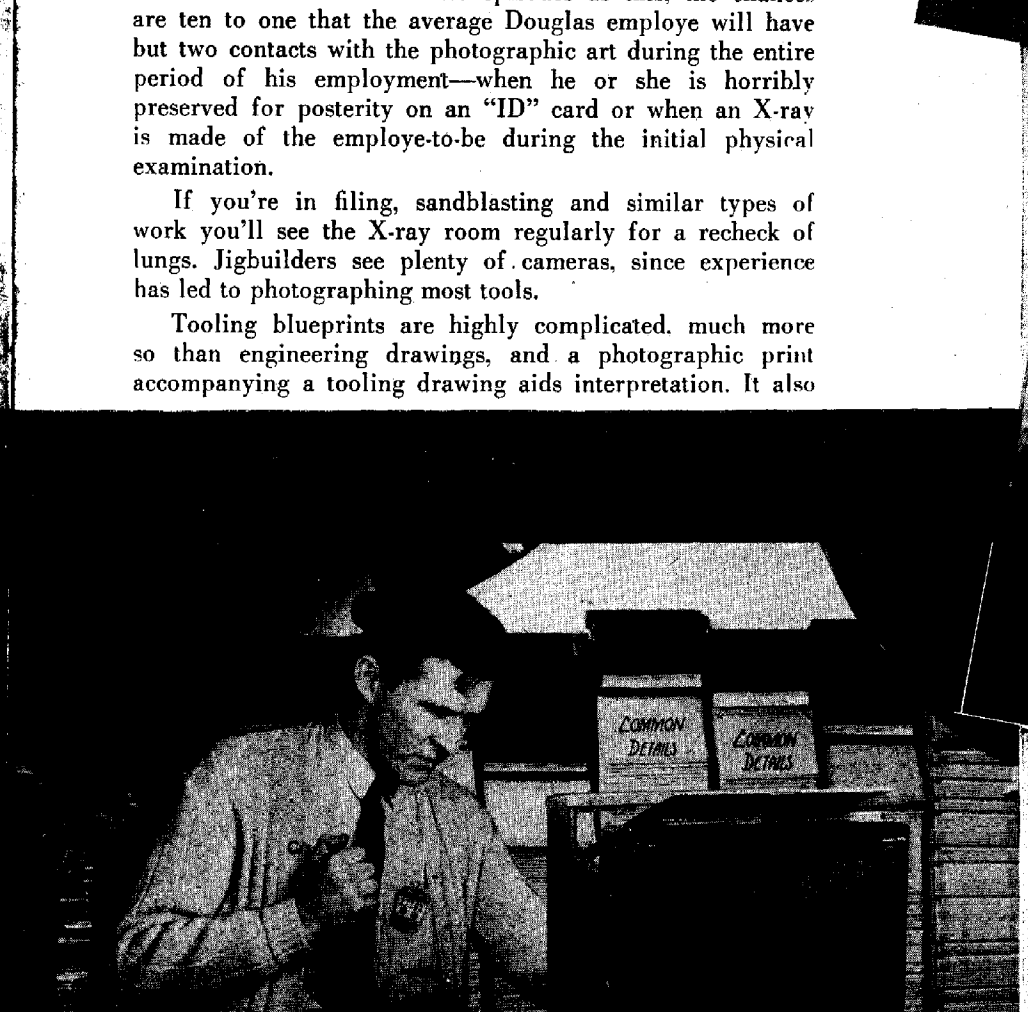
HUGE copying camera is adjusted by Harland Swift, while Thad Brown controls the movement of copy board to photograph copy of engineering drawing full size.

Skymaster took the rest of the 6,300 pounds of paper. Most of engineering had not slept for two nights. Their efforts, however strained, would have taken months—not days—without the cameras that duplicated endlessly, and never missed.

Outside of such dramatic episodes as this, the chances are ten to one that the average Douglas employe will have but two contacts with the photographic art during the entire period of his employment—when he or she is horribly preserved for posterity on an "ID" card or when an X-ray is made of the employe-to-be during the initial physical examination.

If you're in filing, sandblasting and similar types of work you'll see the X-ray room regularly for a recheck of lungs. Jigbuilders see plenty of cameras, since experience has led to photographing most tools.

Tooling blueprints are highly complicated, much more so than engineering drawings, and a photographic print accompanying a tooling drawing aids interpretation. It also



"STILL" of a plexiglass dome is set up under eye of Harry Cottrell, (on ladder) supervisor of Santa Monica "still lab" by Bob Le Rossignal, Royal Wright, Fred Carter.

X-RAY machine takes photographs, too. All new employes must be X-rayed, employes in certain jobs must be checked regularly. Nora Burgeson, shown, photographs Eleanor Owen in routine check-up.

EQUIPMENT for processing photographs in Dept. 274's laboratories is photographer's dream. Kay Thomas, above, operates the high capacity printer.

eliminates perspective sketches of the tools.

Tools for the use of hundreds of vendors are photographed for reference as well as record. Likwise, many photographs accompany invoices of tools purchased by the government, as proof of fabrication.

The larger share of photographic work in Douglas plants is done by the "still" photograph departments which take all "ID" pictures and tooling photos as well as many other types. The department in each plant is under the direction of the process engineer.

Equipment used by the still departments — cameras, driers, printers and a multitude of other items — runs into money, something like an average of $35,000. Forty thousand prints a month are turned out by Santa Monica, the largest number of any plant.

An important phase of the work is the shooting of Kardex shortage records. Forecasting shortages of parts or assemblies in the production line stockrooms used to be a complex and time-consuming routine. After a bin-to-bin check of each of the many stockrooms revealed potential shortages, the investigators gave their follow-up cards to the checking group.

Their checking the cards against inventory records of warehouses and field storage locations might reduce the original 200 or 300 shortage cards from each stockroom to about 40 per cent. These remaining cards were then sorted into various categories and reports, often running 40 to 50 pages in length, were typed for ditto reproduction, consuming an average of about 200 hours per week.

Now, however, the cards indicating acute shortages are sent to the Kardex group where coded guide strips are attached to the Kardex record of the part or assembly. These records are then assembled in panels, each panel holding about 150 cards, which are hung side by side and a photograph taken. Prints are then made and distributed to affected departments, vendors and plants.

During flight tests cameras are set up in the pilot's compartment to photograph the instrument panel of the ship. Formerly, a pilot took off with a pad on a board strapped to his knee. He was supposed to record the antics of the maze of dials before him on the pad. Now he's a comparatively free man, since cameras do much of his "book work" for him.

The engineers want to know certain things about test

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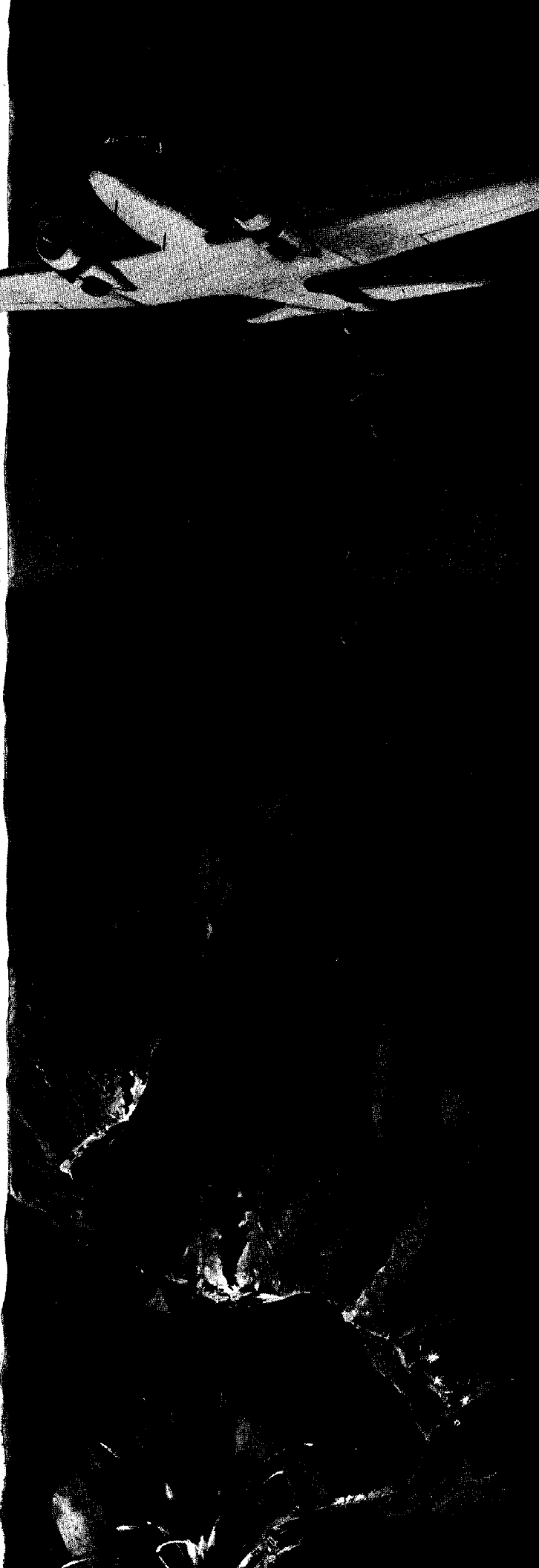
TOOL sits for its portrait by Geo. Brooks. Dept. A274 takes tooling pictures in addition to its many other assignments.

What? A B-47



YOU never heard of a B-47? Can't find it in your aircraft identification book? Well, no wonder, there just *ain't no such animal*—that is officially. But unofficially, there was one. At least once, and maybe more than once.

The instance of a good old "Workhorse of the Air" becoming a mild edition of a *Flying Fortress* was related by Maj. Richard L. Benjamin, on a recent visit to Douglas Santa Monica.

Major Benjamin, now located at a Santa Monica redistribution center, was formerly attached to the First Air Commando Group in India. This is the outfit, under the famous Col. Phillip Cochran ("Flip Corkin") and Col. John Alison, who have been flying men and supplies to points behind the Jap lines in Burma raising great havoc with communications, wiping out isolated garrisons, and supplying General Joe Stillwell's Burma steers with what it takes, along with guts, to whip the Nip to his knees.

The FAC group had as the backbone of its operations 13 C-47s which towed two gliders each. Major Benjamin was a pilot of one of the *Skytrains*.

One night last fall, while returning from delivering a couple of gliders of concentrated confusion to Jap generals, Benjamin sighted a string of enemy trucks making its way along a narrow mountain road toward the Imphal valley.

Upon landing at his base, Benjamin reported the truck convoy to his superior officers. "Too bad we can't do anything about it," they said, "but our bombers and fighters are off on another deal. It's a shame to let those trucks get through but—"

The Major didn't want anyone to "but him any buts". It was then that he mentally turned a C-47 into a B-47. Being a personable young fellow, a top pilot, and a shrewd guy, he sold his bosses on the idea.

Within minutes ground crews were loading three 500-pound bombs into the fuselage of a *Skytrain*. Along with them was put a flock of 20-pound fragmentation bombs. By the time the bombs were loaded the plane was gassed up and ready to go. The crew consisted of First Lt. R. T. Gilmore as co-pilot, Tech. Sgt. J. H. Webb as crew chief, Sgt. R. D. Alexander as radio operator, and Corp. R. A. Royce.

Forty-five minutes after the "B-47" took off it was over the convoy while Benjamin and Lt. Gilmore figured out their "bombing run".

They had no bomb sight. The bomb release was a healthy kick out the door of a 500-pounder by Sgt. Webb and Corp. Royce, upon signal from Gilmore.

The Jap trucks were moving along slowly, the blackness of the pre-dawn broken only by the thin slits of light from the masked headlamps. Sighting these light slits over the

• *Concluded on Page Forty*

DRY shampoo, done by Norma Schlottman, riveter, a lock at a time, is applied on special mitt, saves time, and preserves lovely permanent.

as pretty does

LONG, silky eyelashes are encouraged by Beth Lawrence, assembly line, by applying vaseline at night.

Assembly-line lovelies resort to many a time and beauty saving trick in fighting machine grime, come up prettier than ever

"HOW do I look?" is, by nature and inclination, a primary thought in the minds of all "us gals" in aircraft production.

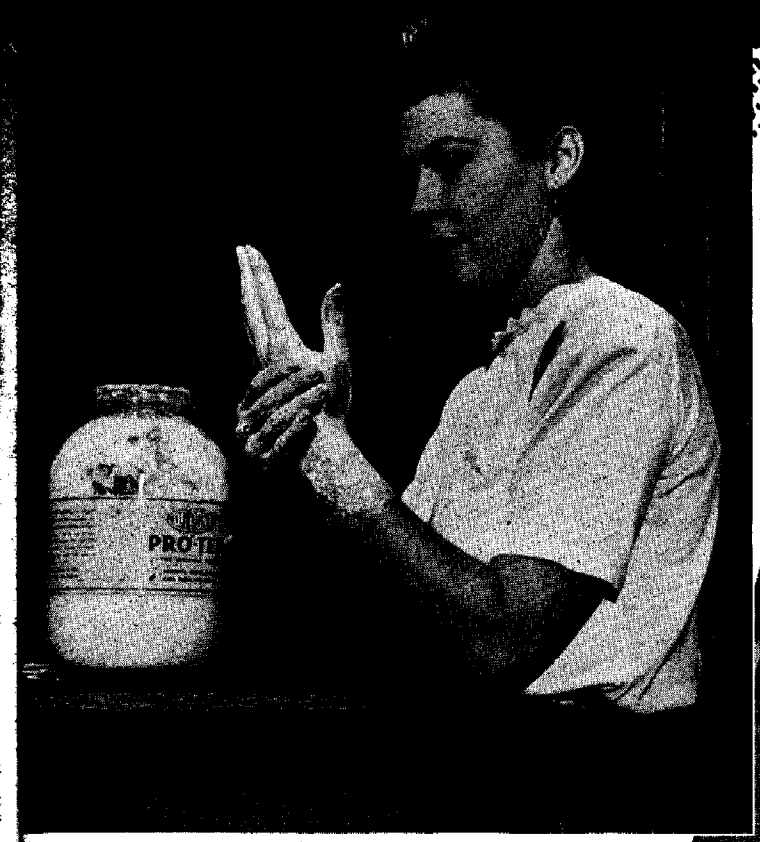
We just can't help it.

We try to keep fresh-appearing, neat and attractive in spite of the grit or grime involved in our work, whatever it is. And that goes for women on assembly lines as well as in the office.

So it's a worth-while discovery, almost like finding gold or nylon hose, to note that many assembly-line lovelies in our Santa Monica plant have developed a defense against machinery dirt, a way of keeping alluring and clean, yea, even beautiful, while bucking rivets, testing gas tanks, or punching holes in dural.

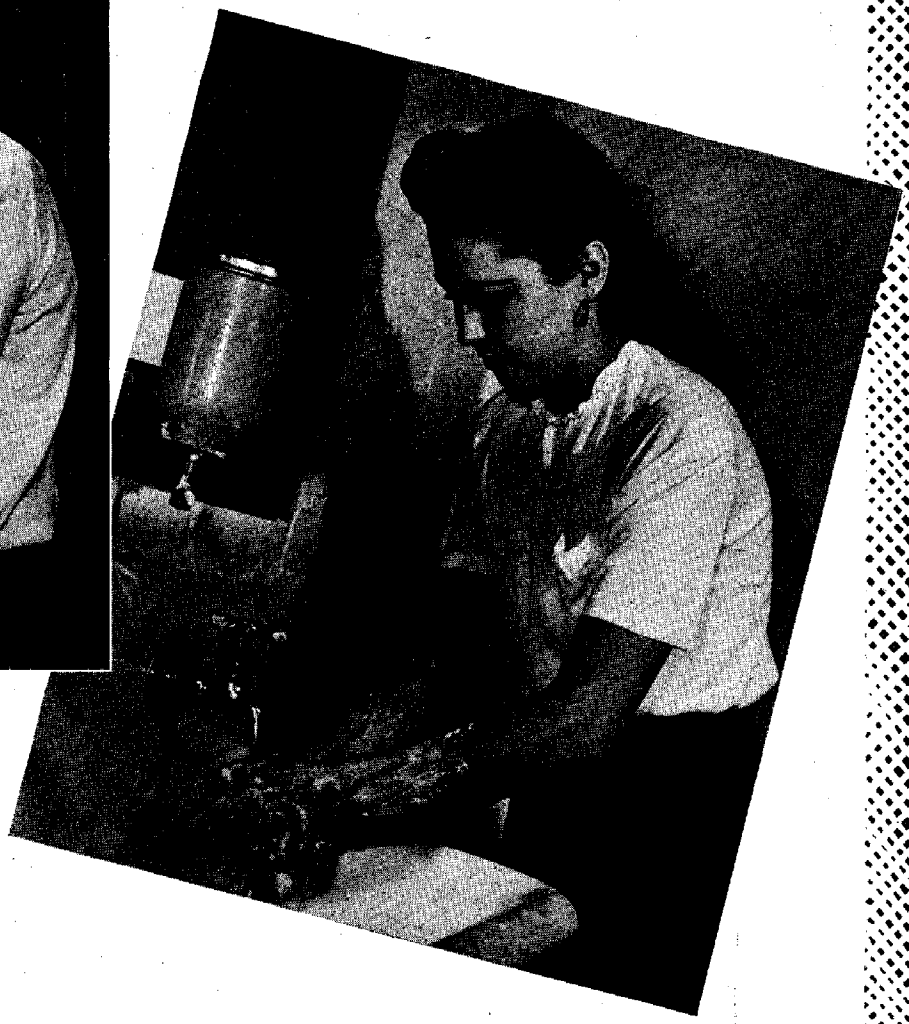
By applying the production routine to daily beauty care, feminine workers manage to appear glamorous on a minimum amount of time.

Step by step, with the same precision and care that an A-20 Havoc bomber is assembled, they employ tried-and-true



GLOVES of protecting cream are put on hands by Peggy Wild, expediter, before work, above. This protective coating will keep skin free of dirt and irritants.

WATER takes the cream protective film off at night, leaving the hands perfectly clean, smooth and white, at right. Hands are actually improved by its constant use.



HANDY sandpaper mitt, used by Peggy, below, removes objectionable hair quickly from legs.

by Florence Anakin

beauty short cuts and grooming time-savers to turn out an eye-appealing result.

The first step in this synchronized process is the care of woman's crowning glory. Hair really takes a beating in war plants. Done up in nets and bandanas all day, it tends to become oily and drab looking. The time-allotted one shampoo a week is not sufficient for cleanliness and sheen.

One of the most effective ways to combat this beauty gremlin was suggested by dainty Norma Schlottman, riveter on the A-20 line. She uses a quick-as-a-flash dry shampoo between regular washings.

No soaping, no rinsing, no drying — this perfumed powder is swiftly sprinkled on a white terry-cloth mitt and rubbed through the hair, a lock at a time, from the scalp out. A vigorous brushing completes the treatment. Without harming any original wave or curl, the hair is left clean and shining in ten minutes flat.

The second step calls for a little "sub-assembly" work in eye beautifying.

Up and coming Beth Lawrence, of inner wing assembly. has big, brown eyes that twinkle when she confesses her simple formula for those come-hither orbs.

Before retiring she quickly applies vaseline. In the

• *Concluded on Page Forty-two*

TRAFFIC JAM in New Guinea. This scene is at newly-won Hollandia airfield on the north coast of the famous jungle island.

Next Stop--The Philippines?

by H. E. "Pat" Patterson

Landing in newly-won New Guinea fields, South Pacific C-47s are blazing a glorious trail to the Philippine Islands

THE war against Japan in the Southwest Pacific theater of operations today is about to enter its third phase and in that phase the Troop Carrier Command and its C-47 airplanes are destined to play a vitally important role.

With the capture of the northwestern tip of New Guinea the Allies are now poised, ready to strike, within 700 miles of the Philippines but these last 700 miles back to Bataan are all over open water with few islands in between.

However, the Troop Carrier Command in the last few months out here has demonstrated that it can establish and maintain a 700-mile conveyor belt line of supplies by air under combat conditions and start operating C-47 conveyor system within a few hours after new air strips are captured.

Hollandia and Tadji were the proving grounds for the new tactical employment of *Skytrains* in this theater; Wadke and Biak showed that their employment as carryalls to back up the landing waves was sound.

Back to the Philippines

Today, the C-47s of Brig. Gen. Warren R. Carter's Troop Carrier Command are ready for the new strike, whenever it comes and it will come because the Allies are on the offensive and General MacArthur will not digress until he is back in the Philippines.

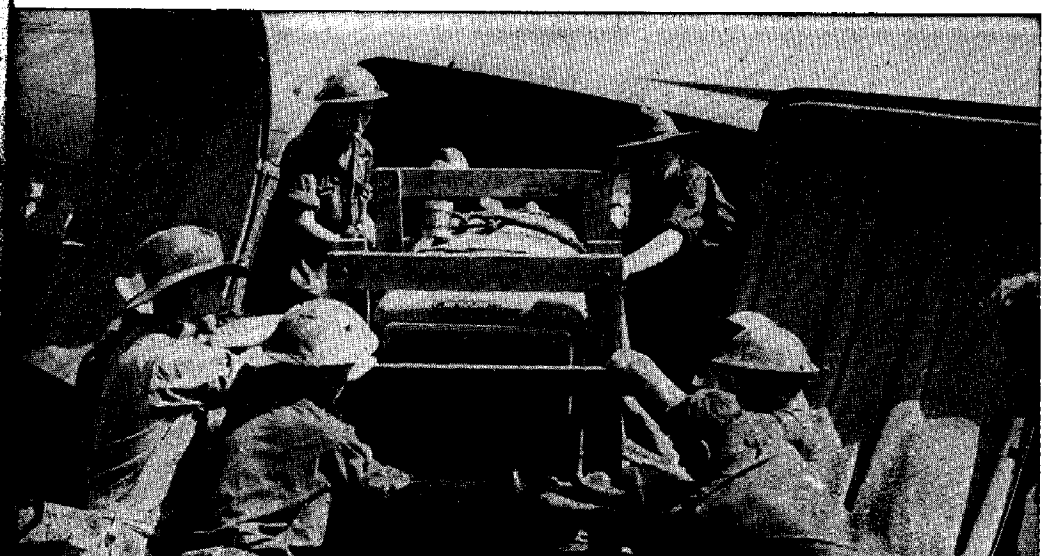
Every one of the troop carrier C-47s today is equipped with new cabin gas tanks for the long, over water hauls that they are expected to be called upon to make in our new offensive. Although they were not needed in flying supplies into Hollandia and Wadke the cabin tanks were kept filled to demonstrate that the C-47s could fly under combat conditions with a full load of 5000 pounds plus the extra weight of the gasoline.

The first phase of the war in New Guinea was early in 1942 when the Japs were advancing up the Markham river valley whose broad floor is one gigantic airfield. In this phase the Troop Carrier Command flew troops and supplies from the mainland of Australia to Port Moresby and then over the Owen Stanley mountains to establish our bases at Gusap, Dumpu, Nabzab and Lae and built up complete bases that could be supplied only by air such as the one at Tsili Tsili.

After the fall of Lae our ocean vessels were able to come up the New Guinea coast and build up a huge base there. But even then the C-47s had to transport much of the valuable supplies from Lae to safer areas up the

GASOLINE **is one of the most important cargoes hauled by the workhorse Douglas C-47s in the South Pacific. Gas is used by planes and also ground equipment.**

MEN AND SUPPLIES **also travel by air in the New Guinea area. Above, Australian soldiers debark at a forward battle area. Below, a bulldozer is unloaded for work.**



Markham valley.

Gradually, as we advanced, we enter phase two of the New Guinea war. That was after the capture of Finschafen and Saidor. In this phase we were able to build up bases at Finschafen and Saidor and in the Admiralties, bases supplied by ships wherein a great striking force was based and made ready. Then came the strike at Hollandia and Tadji. The Allies were on the move and their supplies had to come in fast—by air.

Physicians went in with the landing waves to set up stations for the air evacuation of wounded. Air engineers went into direct repairs of the air strips for the arrival of the C-47s.

The C-47s landed at Tadji and at Hollandia within 48 hours after we captured the fields. In the first C-47s that landed on these strips were troop carrier combat communications teams consisting of ten men and an officer capable of sustaining themselves under combat conditions.

Into the Beach

Their job was to set up an airways communication and an operations unit to tell the Troop Carrier home base what supplies were needed, the condition of the strip, how many planes to send and how many could park on the runway at one time. They were in operation five hours after the strips were captured.

How well this new communications team did its job was demonstrated at Hollandia when a landslide blocked our supply road from the beach. With the urgent request for supplies, the C-47s went into action and sent in nearly a hundred plane loads that first day and a total of 174 loads into Hollandia and Tadji. It was the largest belt line air conveyor system ever to operate in this theater.

Our schedule called for a strike at Wadke next and supplies by ships were not coming in fast enough. For example, the bombers were not getting their heavy bombs fast enough. Again came the *Skytrains*, this time loaded with ten 500-pound bombs, in a constant shuttle service to keep bombers in the air.

The Troop Carrier Command flew 2000 plane loads of food, ammunition and gasoline into Hollandia in twenty days and won official commendation from Maj. Gen. Ennis C. Whitehead, deputy commander of the Fifth Air Force who said, in part:

"This headquarters desires to com-

• *Concluded on Page Forty*

The Fourth Front

The Allied invasion of Southern France August 15 was spearheaded by American paratroopers flying in Douglas C-47s. These are first invasion pictures

WITH the invasion pattern initiated in Sicily, bettered in Italy and perfected in Normandy. United Nations forces struck the southeast coast of France last month.

Leading the show by from four to eight hours were the nail-hard United States and British paratroopers and glider-borne infantry, just as they did previously in Sicily and in Normandy.

Long before dawn the paratroopers tumbled into the night from the cargo doors of Douglas C-47s. Close behind them came the glider-borne troops. hauled from distant bases by C-47s to cut loose over the soil of France and glide to landings at strategic spots behind the coast.

The opening of the fourth front in Europe was the most smoothly executed of all invasions up to that time. Land, sea and air forces achieved tactical surprise and quickly made capital of it. Within a matter of hours after the dawn landings on the coast of the Riviera, the new beachheads were secure. By nightfall only a few isolated pockets of resistance remained to threaten the unloading of reinforcements and supplies at the beaches. Twenty-four hours later the advance inland and along the coast was in full swing.

In only a matter of days a former great naval base was invested by Allied troops. In little more than a week France's second largest city and largest port had been cut off. At the same time, other troops drove north to reach the Swiss border and far up the Rhone valley.

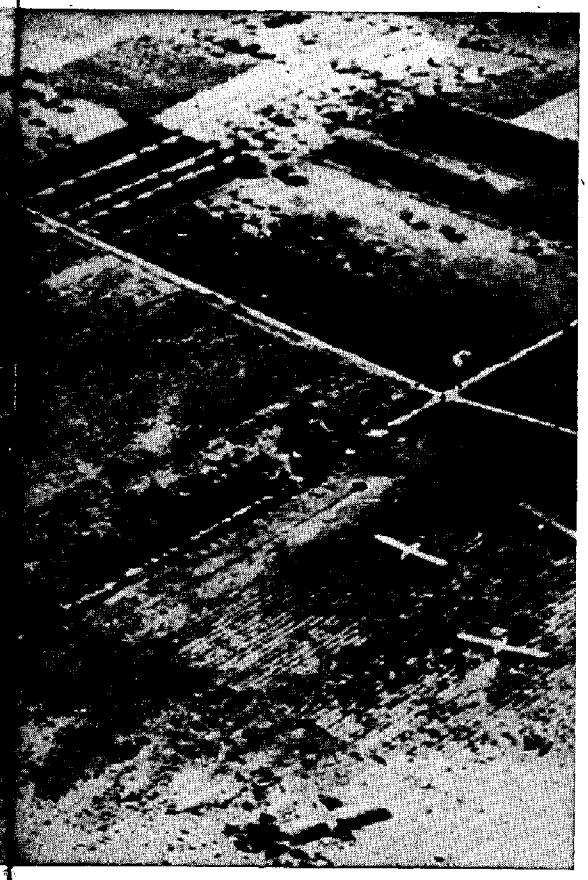
It was the swiftest of the invasions to date. And it was the cheapest. Only 300 American lives were lost.

INVASION DAY over Southern France at August 15. Yank paratroops are landing be

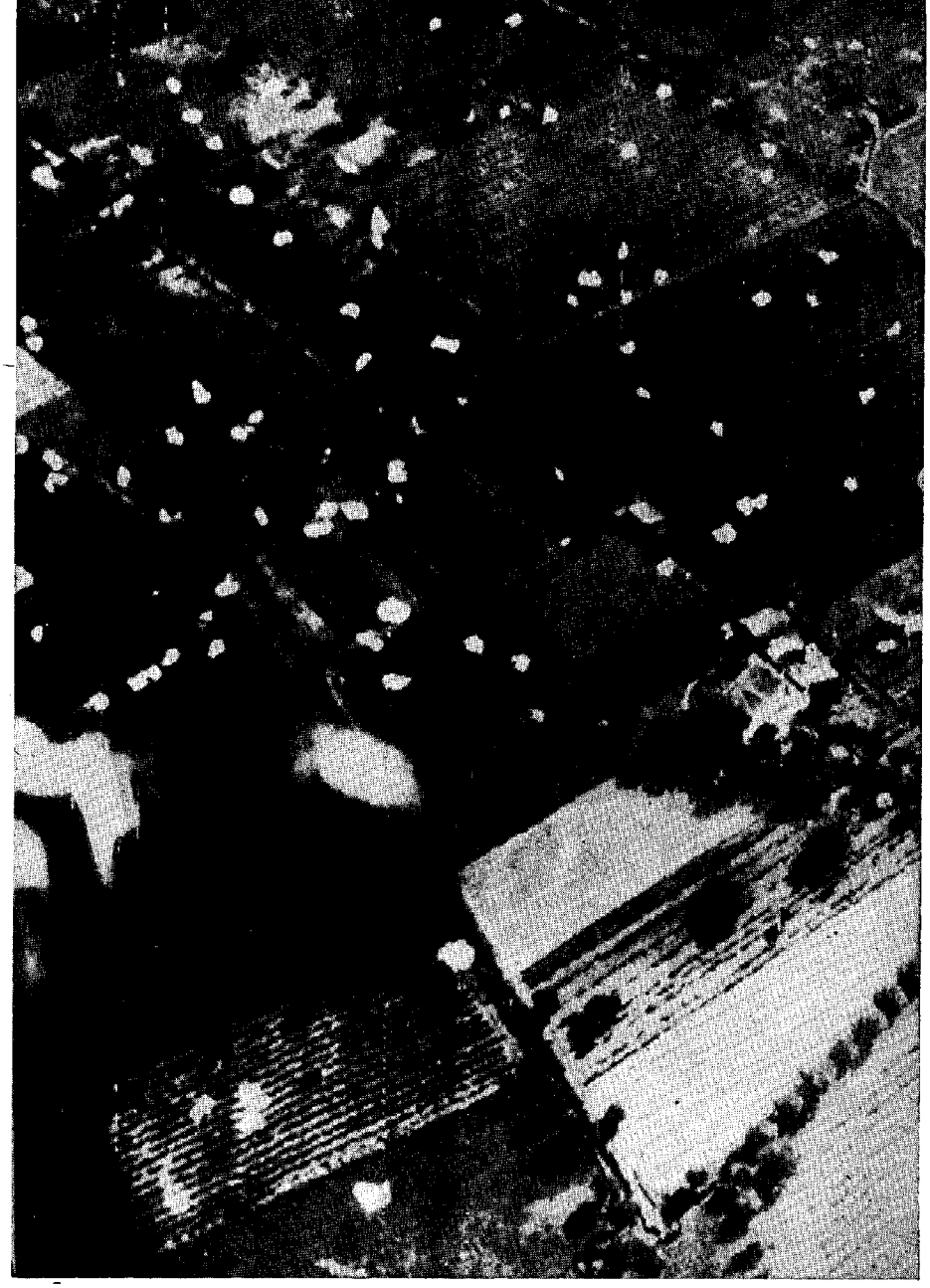
READY for invasion, a medical paratrooper, right, helps a comrade with his 95-pound pack just before they board C-47 transport plane of the 12th Air Force which will carry them to the invasion sector in Southern France behind Nazi lines.

GLIDERS were used in great numbers in inv of Southern France. Nine of these C-47-t gliders may be seen above in the fields

German lines somewhere between Marseille and Nice. German resistance was smothered quickly.



they landed behind long-prepared shore defenses. Big gliders can haul troops, artillery, jeeps and ammunition. Many gliders were used in Normandy.



***EMPTY PARACHUTES** dot the countryside somewhere between Toulon and Cannes after American forces have landed. After original successful assault, C-47s came back again to bring reinforcements. Below, paratroopers en route to the new invasion in Douglas Skytrain sooth their battle-taut nerves with cigarets and talk. Leader of the group, the jumpmaster, left, is giving his comrades a light.*

HOME AGAIN after more than two and one-half years of jungle war in New Guinea, "Old Miscellaneous" returned last month. She was still spry enough to buzz the field when she arrived. She will soon make bond drive tour over the nation.

"Old Miscellaneous" Comes Home

by Jack Mahon

I. N. S. War Correspondent

"Old Miscellaneous," oldest C-47 in the South Pacific has come home. She has seen everything, been everywhere

"OLD No. 2" is going home soon (about August) New Guinea, and there'll be many a pilot in this weird and treacherous air theater of the war against the Jap who'll hate to see her go.

For "Old No. 2" is like an old sweetheart to these boys whose lives are filled with flying over the 12,000-foot Owen Stanley Range and the treacherous New Guinea weather fronts to bring supplies and men and ammunition to the boys on the fighting front at the scattered island bases stretching ever northward along the coast towards the Philippines.

As you might have guessed, "Old No. 2" or "Old Miscellaneous" as she is also known, is a Douglas C-47 and the oldest lady in the service of General George Kenny's Far Eastern Airforce.

As one Yank correspondent described her, "Old Miscellaneous" has "made more deliveries than the best stork that ever frightened an old maid." She has been flown by a couple of hundred-odd pilots from every state in the union and wherever they gather the boys ask if the old lady is still winging her way over the jungles.

The life of the old gal began back in 1942. On February 13, the records say, she was delivered to the United States Army. She was the tenth C-47 bought by the Government and the first to come overseas to the Southwest Pacific theater.

The old gal didn't tarry and by May was already on the first leg of her long journey back and forth from Australia to New Guinea and points north.

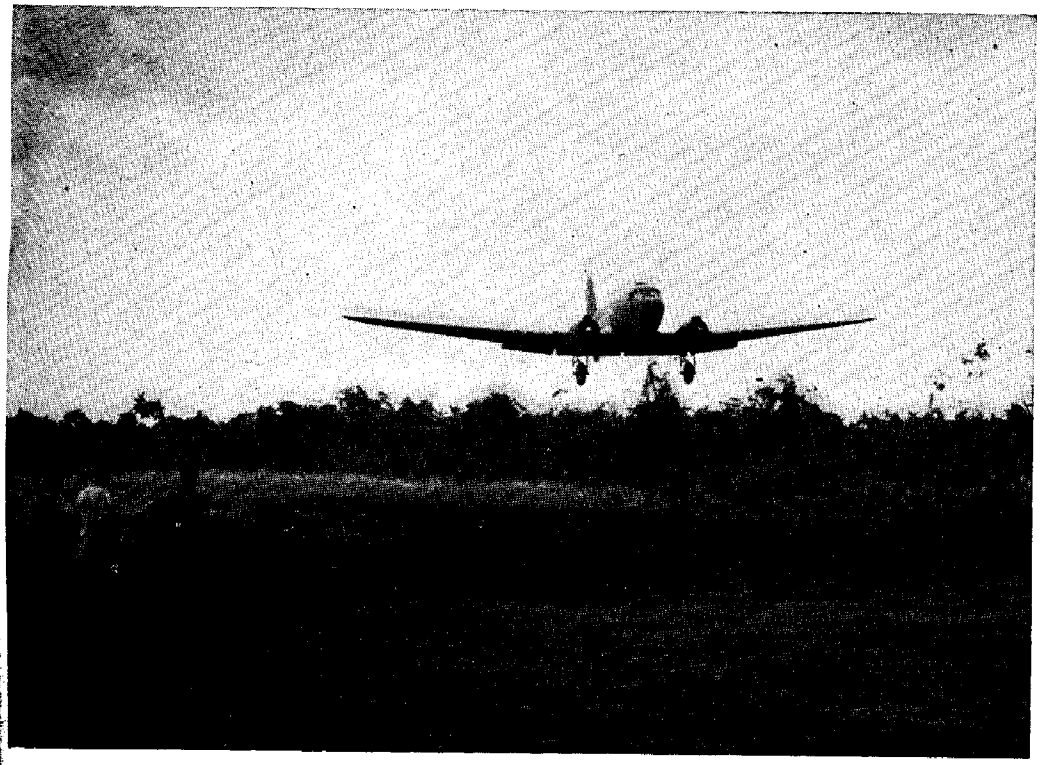
The life story of "Old Miscellaneous" is in reality, a story of the war of General MacArthur's forces in New Guinea. She brought the 32nd Division to Buna in one of the first big American-Australian ventures to drive the Japs back along the northern coast of this island, the last barrier to a Jap invasion of Australia itself.

The Japs landed at Muna only two months after "Old Miscellaneous" arrived in the Pacific. They were headed for Port Moresby to the South and very possibly if they had succeeded would have pushed into Australia.

From Brisbane and Townsville, on mission after mission, the old gal carried fighting men to the front to stem this terrible threat. There was little rest for her crew and no rest at all for her but she never complained.

Men were landed on strips that were under constant fire. Aussies often jumped out of "Old Miscellaneous" on a bomb-wracked airfield and there was one instance, in these early days, when a battalion fell out of her belly. mounted 105 millimeter guns and immediately started blasting away at Japs who were dug in at the other end of the airstrip.

"Old Miscellaneous" probably has been shot at as much, it not more, than any plane in the war down in this neck of the woods. She often landed on strips that were by no means a rival of Hamilton Field and was constantly



REGULAR LIFE of "Old Miscellaneous" for more than two years was like this. The C-47 is pictured coming in for a landing at rough, remote Aitape airfield.

CREW, Capts. Glotzbach, Libuse, Sgts. Gibbons, Boffa, flew her back home.

ducking, despite heavy cargo loads, the ack-ack of enemy fortifications.

Troops got first priority on those original missions the old gal made over New Guinea but once she landed, her job was far from finished. Cargo, ammunition, oil, plane parts, guns and medical supplies had to be rushed into this jungle theater by the ton and there were few ships capable of carrying out all these assignments.

The C-47 was designed for just such a job and since there were only a few available at the time, the ones that were, saw service—and then more service!

The Japs' next drive southward, an attack from Wau, saw "Old Miscellaneous" swing back into the same routine which resulted in the successful completion of the Buna campaign.

Only difference in this operation was the longer distance to be flown and the more dangerous pattern of the flights. To reinforce the defense of Wau the old lady raced 3200 troops over the Owen Stanley range within 48 hours!

In between these troop-carrying missions which have predominated her service life down here, "Old Miscellaneous" also saw a great deal of the Australian mainland in her years of service. Supplies were needed from Sydney and Melbourne on the southern end of the island all the way north to Brisbane, Townsville and even Darwin on the northwestern coast.

On her many supply runs to Darwin, the old gal had to make the long flight over Australia's famed Never-Never land—a long stretch of mysterious deserts. On these trips, pilots and navigators charted courses for many new air maps now being used for the northwestern coast of Australia.

Between February, 1943, and September, 1943, "Old Miscellaneous" went back to the wars. The Aussies were pushing north from Wau aiming to clamp a pincers movement on the Jap garrisons defending Lae and Salamau on the eastern coast.

To do this, supplies had to be dropped in the dense green jungles along the New Guinea coast almost daily. A new airstrip was carved out of the jungle at Tsili-Tsili to the west of the enemy camps and you might be interested to know it was built with materials brought in exclusively by air!

As the campaign for Lae-Salamau approached its climax, it was decided to drop paratroops in the Markham Valley to join the Australian forces in the final mop up! C-47's of Brig. Gen. Paul H. Prentiss' forces carried these troops on this assignment which resulted in the climax of the campaign—seizure of the big airbase at Nadzab!

The rest of the story is of the same pattern. Back and forth from the Australian mainland, and later from Port Moresby, with supplies, food and men, the old gal flew from campaign to campaign. She was in on the capture of Finschafen, the Admiralty Islands, Saidor.

After the last-named tour of duty "Old Miscellaneous" returned to Australia for another check-up. Recently the word came through that the old gal just like an old soldier, was to get a state side leave—the dream of every G.I.

Behind her is a record of more than 2,000 missions and close to 3,000 operational hours! This may not seem too impressive a record in comparison with peace-time transports, but it must be remembered that they operated in temperate climates from good airstrips.

"Old Miscellaneous" considers it a compliment to land on a field that hasn't at least one good-sized bomb crater. She has worn out 12 engines and is now using 13 and 14. Ailerons, elevators, rudders and wing tips have been frequently replaced, but there is plenty of flying left in the old girl.

As she grew old in the service, this famous old ship was transferred to eight different units and recently has been flying with Brig. Gen. Warren G. Carter's Troop Carrier Command.

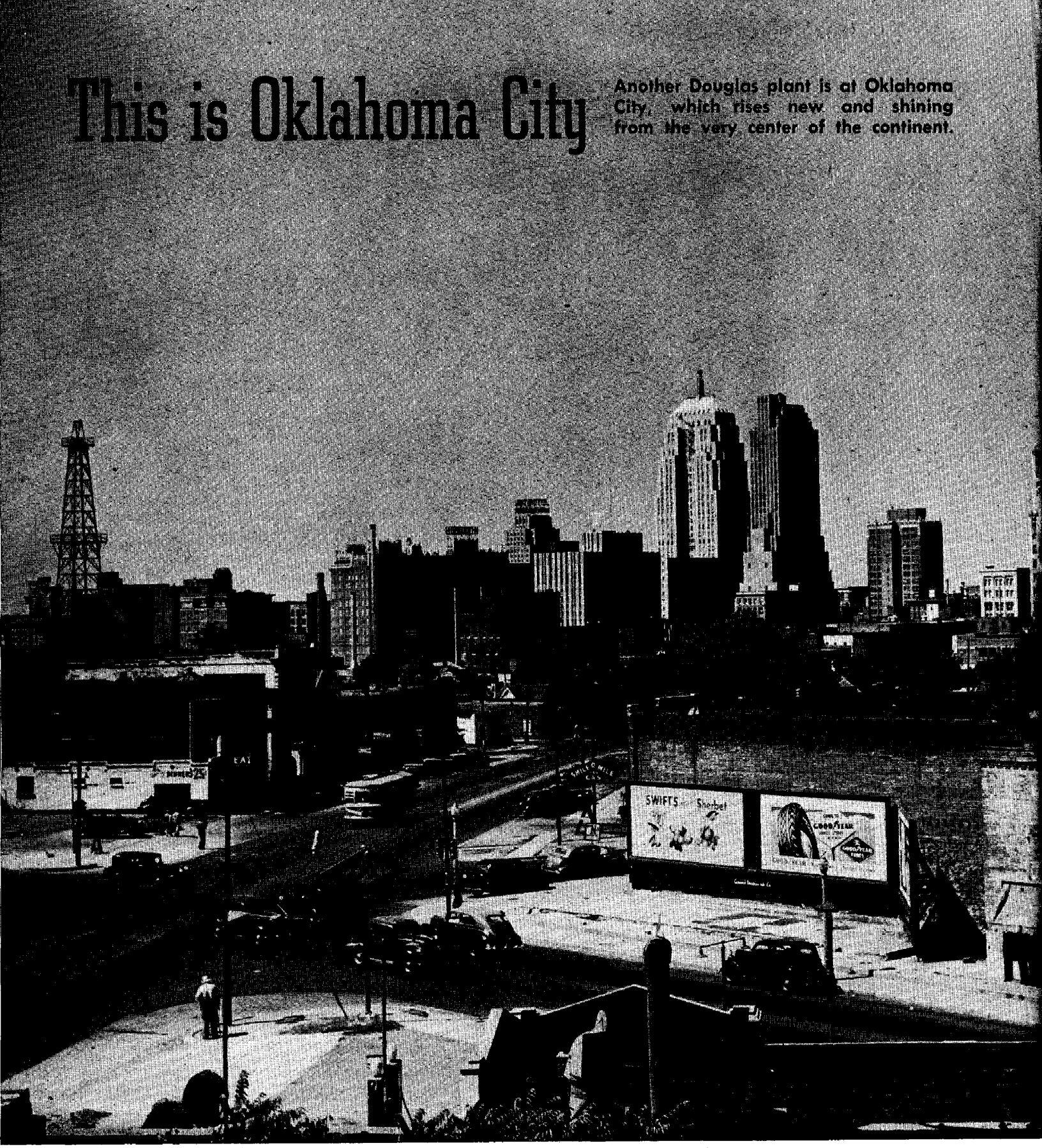
On its last transfer the old lady of the sky, carried the following note:

"This ship is the oldest, fastest C-47 in the Southwest Pacific, so into whose ever hands she falls, treat her kindly and she will always get you to your destination."

It is a perfect tribute to a grand old lady from the boys who have flown her so long—and grown to love her.

This is Oklahoma City

Another Douglas plant is at Oklahoma City, which rises new and shining from the very center of the continent.



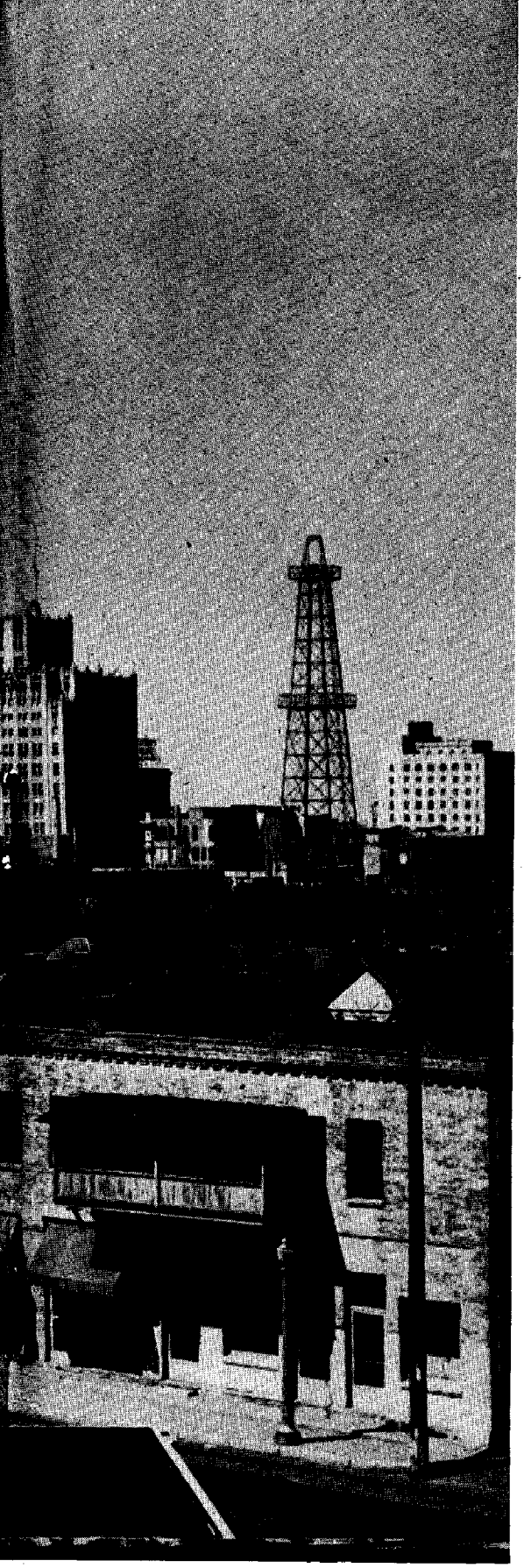
by Charles Saulsberry

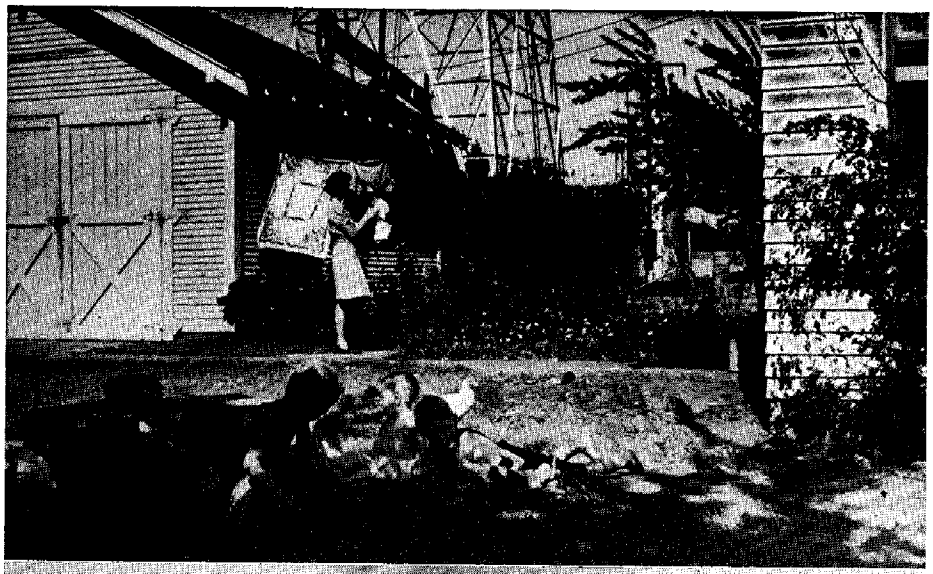
ONE day it was only two shacks on the prairie—the postoffice and the depot. The next it was Oklahoma City, a teeming city of tents and more shacks, peopled by ten thousand gingham women, bearded men and scared, noisy youngsters.

Things happen like that in Oklahoma, the last frontier, a state whose name is a Choctaw Indian word meaning "Home of the Red People."

The famous "run" of April 22, 1889, opened the last refuge of the red man to white settlement and brought the more adventurous souls of 45 states into Oklahoma territory. Since then, towns, fortunes and oil fields have been made and wiped out overnight, and made again, several times over.

Today, Oklahoma City is a war-swelled city of 260,000 or more. The



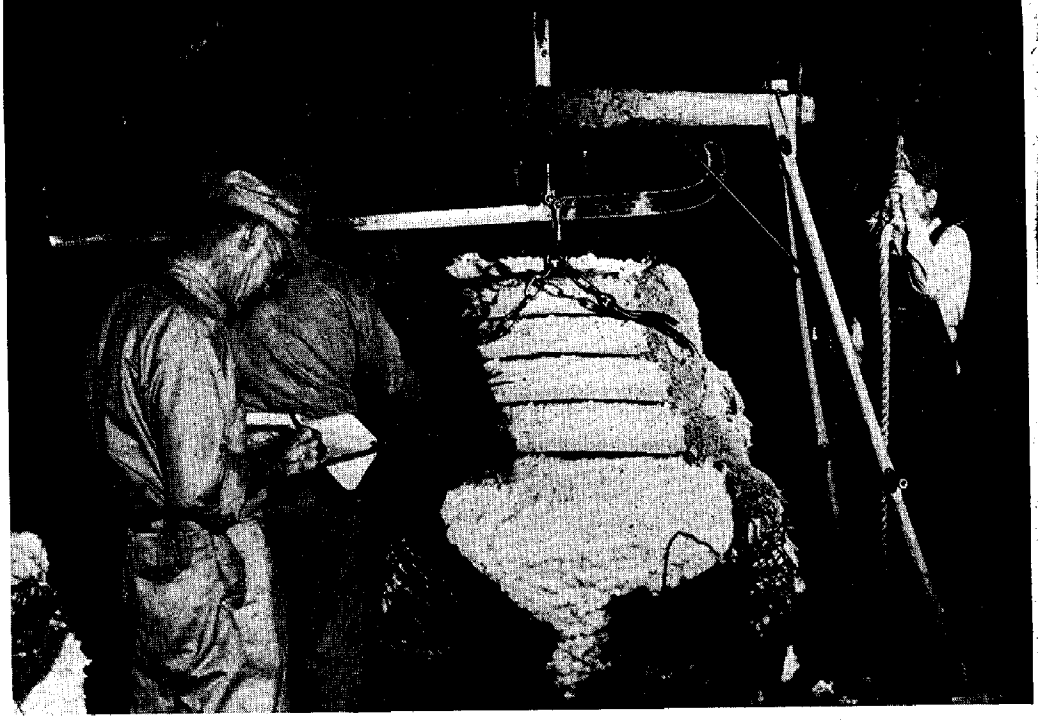


swing shift and the sailors and the soldiers keep the sidewalks rolled down flat until dawn, although 3.2 beer—Oklahoma's strongest legal beverage—can't be had after midnight except and unless.

The oil field is an ever-extending 12-mile swath of derricks, from Petunia

***SKYLINE** of Oklahoma's capital, left. Note the oil wells close to the heart of the city. Above, top, kids and their pet chickens and dogs, mom and her backyard washing are literally in the shadow of the steel derrick. This is common everywhere in the city. Center, sharp-peaked, many-gabled brick houses are from the pre-depression building boom. Greater residential development, with simpler designs, followed 1929 oil discovery. Bottom, home in Nichols Hills. Although most of them belong to oil millionaires, this one is the home of feed dealer. Note slant to north of tree tops, which persists whether the wind is blowing or not. Large or small, Oklahoma City homes and grounds are meticulously kept by prideful owners.*

PANHANDLE cowman rests feet after delivery of City's daily 300 truckloads.



NEAR the top as a cotton-producing state, Oklahoma also has accompanying cotton-seed processing industry. Here bale is weighed, enters vast warehouse.

No. 1, plunked in the center of the capital's petunia bed to the forests of derricks in close-in white and Negro districts alike.

Except for an occasional sombreroed, long-braided Indian strap-hanging on a jam-packed bus or a bulky squaw and wriggly, dark-skinned youngsters occupying a blanket in a softball crowd, you wouldn't recognize the Indians from the downtown mob, so complete has been their absorption into the city and white men's ways. The cowboy hasn't been downtown for years. His boots hurt his feet too much on concrete. He brings his cattle to Packingtown, buys a fancy saddle, has a couple of beers and departs.

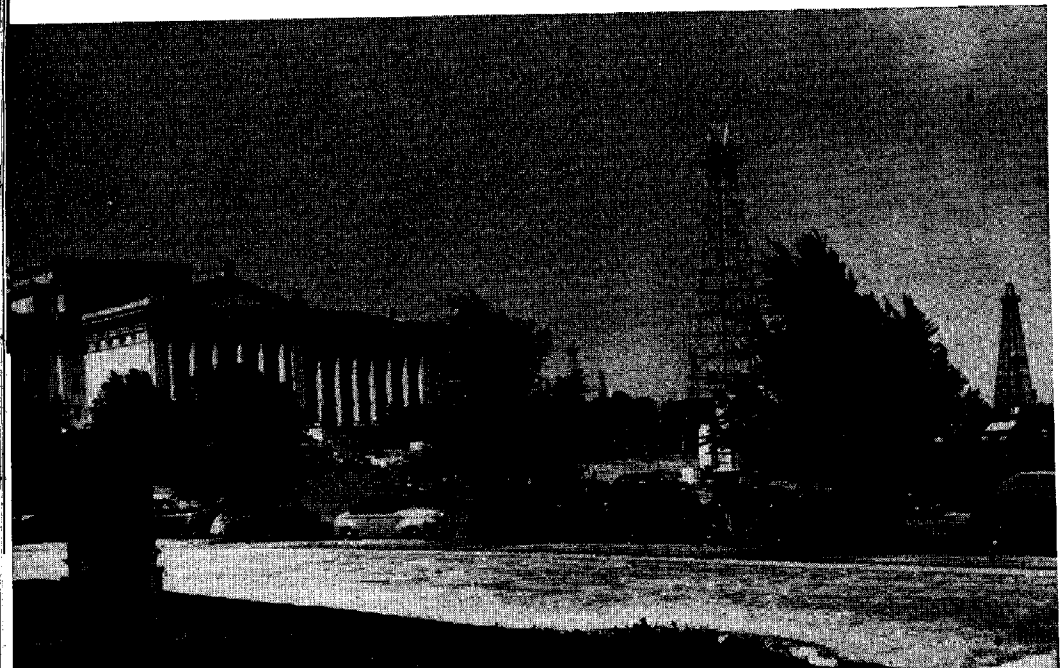
War industries and activities have brought 60,000 newcomers to Oklahoma City. They build C-47s at the Douglas factory, repair damaged bombers at the Air Service Command's largest depot or drill the inevitable new oil pool. Or they wait for husbands to finish reconnaissance training at Will Rogers field or learn to fly or service naval planes at nearby Norman's two large inland Navy stations.

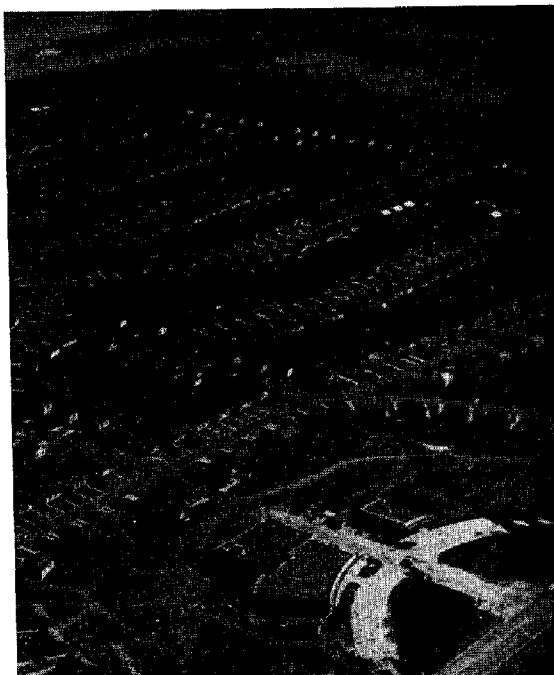
They live in the new garageless defense houses which keep springing up on vacant lots and in thriving Midwest City, in abandoned stores behind curtained plate glass windows, doubled up in homes and apartments. Midwest City, across the highway from Tinker field was built on the theory that the Oklahoma City Air Service Command and Douglas would stay if the people would stay—and the people would stay if given a model, modern community close to the plants. It is one of the most carefully planned projects in the nation, with 1,500 houses and a population of 6,000, shopping centers, schools, theaters and churches.

Mingled with the spirit of dare-and-do, that prevailed among the settlers lined up on the Kansas border that spring day of '89, waiting for the pistol shot to start the great land race, was a strain of Yankee conservatism. Oklahoma City built solidly up from the prairie to the tips of its 33-story

PETUNIA No. 1 is name of producing oil well plunked right in the center of the capital's flower bed. Capital is domeless. Oil helps state revenue, pays public debt.

PLANNED CITY. Across four-lane highway from Tinker Field and two miles from Douglas is thi





SHADY grove by Lincoln Park Lake goes all around the water's edge, is a favorite spot for Oklahoma City families, who are enthusiastic and constant picnickers.

PRETTY girls, like these at golf and country club, are Oklahoma's specialty.

twin skyscrapers and expects the houses built during the war emergency to be lived in for years to come.

Oil, too, keeps breeding towns to surround Oklahoma City. Newest is Dillonville, a cafe-postoffiice in the heart of the new West Edmond pool which has 80 war-important drilling operations going on, dumping 2,000 employes and a half million-a-month payroll into the metropolis. Even before this extension, the Oklahoma City field was the world's third largest. Since 1929, when that first gusher took the sting out of the depression, 600,000,000 barrels have poured out, with depletion nowhere in sight.

Yet, Oklahoma City isn't primarily an oil town. Through the slaughter houses of the city pass two million head of beef, pork and mutton yearly. This year, Oklahoma will ship 85,414,000 bushels of wheat—an all-time record.

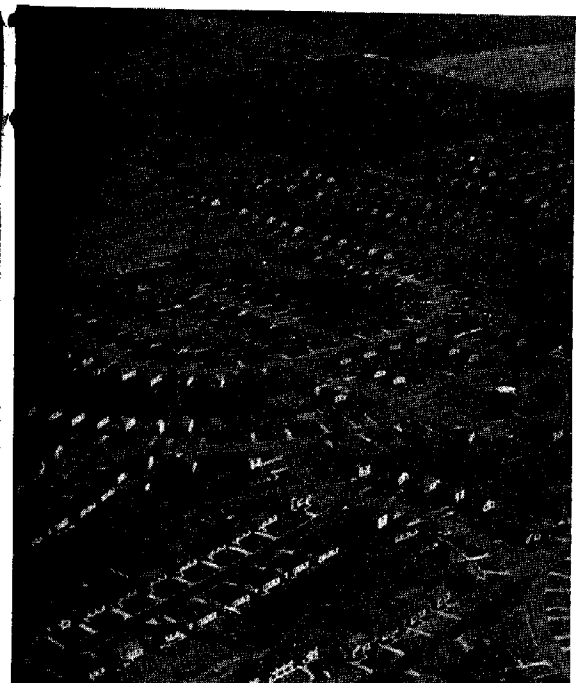
Lacking mountains, oceans, night spots and whiskey (legal), Oklahoma City still is not short on recreation. Fishing, hunting (small game variety) and vacation spots are all within "A" card reach, while the city has well-equipped parks and playgrounds and some of the best natural golf courses anywhere.

It can't claim all the credit, but Oklahoma City has had a large part in introducing Wiley Post, Tom Braniff and Bennett Griffin to aviation; Pepper Martin, Carl Hubbell, and the Waner brothers to major league baseball, and Don McNeill to tennis. Governor Robert S. Kerr, an Oklahoma City oil millionaire, was the keynoter of the national Democratic convention, and Oil Man Frank Buttram is a leader in the industry.

In short, Oklahoma City has a bit of everything—especially weather. It's typical of Oklahoma's great diversification and, to newcomers, it's Oklahoma's greatest phenomenon.

Newcomers know that Will Rogers must have lived here. He said: "If you don't like Oklahoma weather, wait a minute."

war-built community with modern shops, schools, playgrounds and utilities for 6,000 residents.



FIRST churches of all denominations are jammed with worshippers on Sunday mornings, fill both sides of "church row" on Robinson Avenue. High school, left.

Johnny Comes Marching Home

HOME FROM THE WARS, line of DC-3s gets ready to fly away, like TWA skyliner at right, to their old peacetime civilian job. Below, the veteran DC-3 gets new wiring, controls, lightweight floor, bulkheads.

Returning DC-3s and C-53s are re-skinned, re-painted, rebuilt and improved for their new job on the airways at home

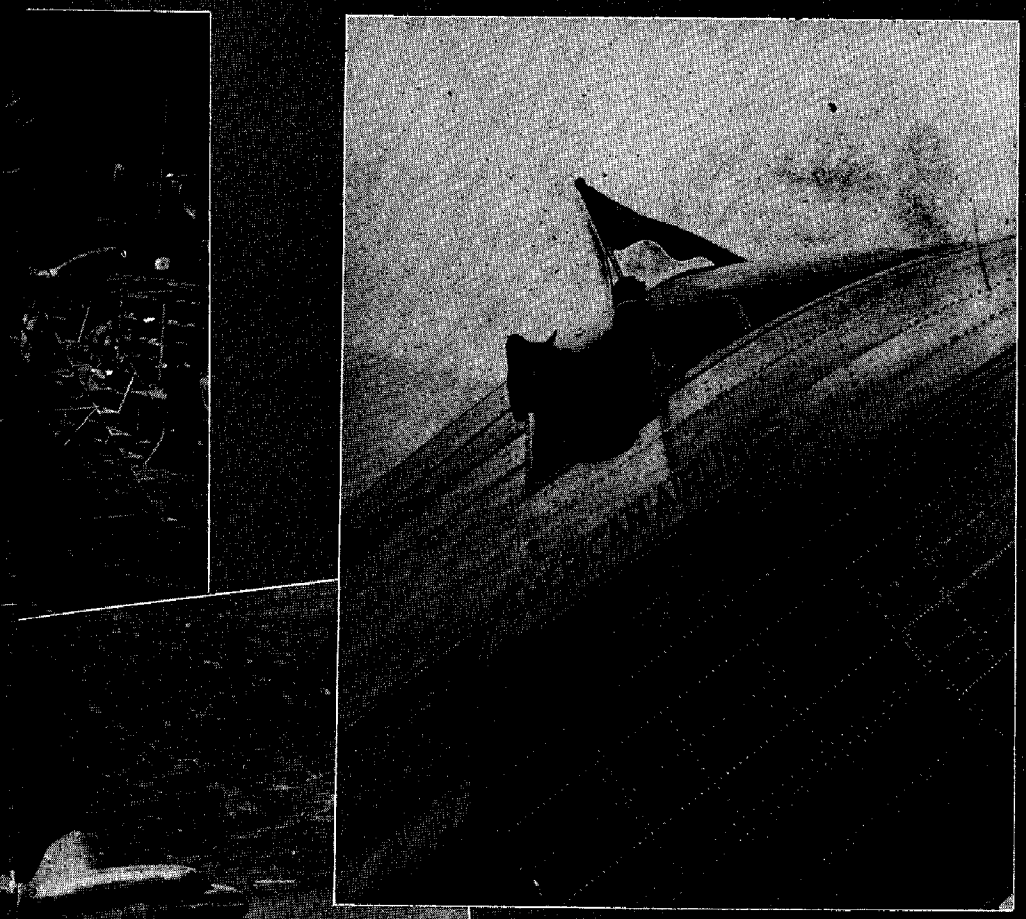
IN those early war days of desperate haste, the Army didn't waste much time in converting the DC-3s requisitioned from the airlines into Army transports and cargo airplanes. They took time to unload the passengers, spray on the camouflage and the white star, and away they flew to their war jobs—sometimes with the same pilot in the cabin. The airlines, to a great extent, went to war along with their planes — ran the lines, marked the routes, carried the critical cargoes here and abroad. By the time the Army was through with the converted liners, they had shifted the bulkheads, laid a new heavy cargo floor, opened new hatches and stripped the plush interior of fabric, sound proofing and baggage racks down to the bare aluminum structure. The Army also added a double row of peculiar metal bucket seats. These were for paratroopers—and as comfortable as a toothache.

In Their Stride

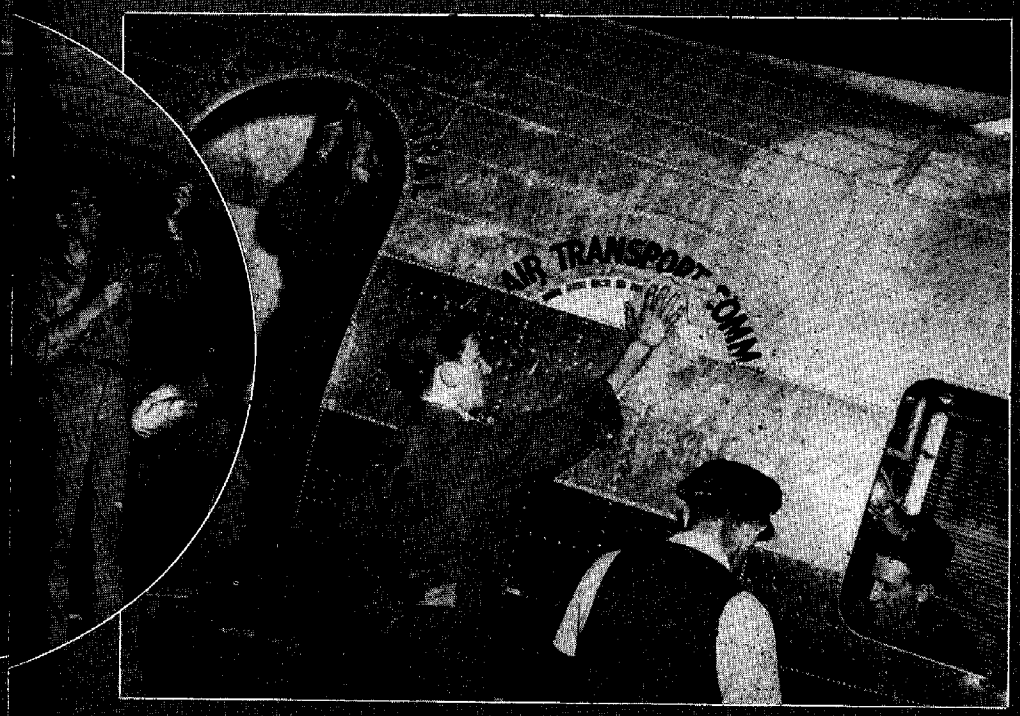
The converted DC-3s took the war in their stride, carrying staggering cargoes of vital supplies across every continent, over the roofs of towering ranges; towing gliders to their targets; spewing armed men over every battlefield, sometimes through a blizzard of explosives.

When they arrived from Army bases, the Douglas transports, upon minute inspection, proved to have weathered day after day "work-horse" assignments in every theater of war in shape to continue to deliver the familiar Douglas high quality performance.

In July the first of these volunteers rebuilt at Douglas returned to civilian life when a Delta airliner, in gleaming silver, sailed away from the Douglas Santa Monica plant to help relieve



FIRST BACK on American Airlines was the Flagship Tulsa, after more than two years of war. Capt. Ernest Basham puts up flag for first flight.



RESKINNING the fuselage of a Pennsylvania Central airliner, while men inside busily refurbish the interior, left. Note old ATC insignia, about to come off. This metamorphosis is taking place in the repair shops of the airline itself, one of the few who had the facilities to rebuild its own ships to meet CAA inspection

the choked air traffic of the country. Some airlines, with sufficient equipment and men, have already started rebuilding in their own repair shops. Many of them showed their former airline insignia, still discernable after the camouflage of Army life had been stripped off. All of them had received expert and loving care from Army mechanics, who really know their job.

Not all of the DC-3s came back from war, and of those which did, careful inspection rejected some because of battle wounds or strain. These lost airliners were replaced by the Army with newer C-53s. Even so, every transport had to be stripped tothe last frame, every unit of the airplane checked and rechecked for perfection before certification was obtained from the C.A.A. Engineering improvements, developed since the war started, are incorporated in each of them, making them better fitted than when they volunteered.

Insignia Goes On

Bright insignia was emblazoned in reds, blues, greens or yellows of the various airlines on bright noses and over new passenger doors. In their rebirth, the planes are more beautiful than before. New rugs, new soundproofing, special interiors, new heating and ventilating devices, new, improved Douglas lightweight seats and new, soft-toned fabrics and paints would make their original interiors seem pretty drab.

It must be strange for the Douglas workers assigned to this work, after five years of raw metal, dull paint and planes as grim as the men they carried. Most of it is being done by hand at first. But new equipment is on the way, and reconversion will be vastly accelerated under the supervision of the Douglas company's Customer Service department. It is estimated that by fall, 100 of these airliners will be at work to untangle the air traffic snarl. Later on, when peace is assured, these "work horses of the air" will be joined by their big brothers—mighty *Skymasters*.

Story Will Wait

Much of the story of where these planes have been and what they have been doing will have to wait until after the war. Some of the airlines have painted a service stripe on the tail of those of their planes that have seen action. These planes will now continue their steady way over the familiar routes of peacetime, just as if Pearl Harbor never happened.

Tulsamerican

The new and powerful A-26 Invader has pushed the Liberator clear out of the Tulsa plant. In two years of production the workers increased efficiency 24 times

LIBERATOR number 952 left the Tulsa plant July 31, and with it went Tulsa's heavy bomber program, making room for the A-26 Invader, versatile attack bomber which will be turned out by the thousands.

The last of the mighty B-24s, its fuselage covered with signatures of employes who bought bonds to pay for her, rolled out the assembly building doors July 25.

The following day, ceremonies were held at first and second shift rest periods . . . . farewell tributes to the B-24, pioneer of the Tulsa plant. Plant Manager W. G. Jerrems, telling fellow employes of their accomplishments in the Liberator production job, said:

"When our last B-24 is delivered we will have established a record second to no other aircraft plant participating in the Liberator program. In assembling our last 350 Liberators we have surpassed the production records of great plants on the west coast and in the middle west.

"Our record on file with the Army Air Forces Procurement Branch shows that the first bomber assembled in this plant required the use of 12.3 man hours per pound of bomber assembled. When we had delivered our 250th ship, we had reduced that figure to two man hours per pound. Ship number 750 required only three-fourths man hours per pound. Our last airplane required only one-half man hour per pound. These statistics show that for two years you have steadily increased your endeavors to a point where you could build more bombers with less people and in less time than any other assembler of this type airplane. Your Liberator bomber program is a job well done."

Later in the ceremony, the winner of a contest among bond buyers to choose the name for Liberator 952 was announced. H. W. Addington, Jigs and Fixture Fabrication, won top honors with his name, the "TULSAMERICAN."

A drawing was held to determine the bond buyer who would win a ride on the "TULSAMERICAN," and Marcus H. Johnson. Development. held the lucky number. Johnson, who served 15 months in World War I and has two sons in the navy, went along as waist gunner on the ship's maiden flight July 30.

When the "TULSAMERICAN" flew away, with it flew the early history of the Tulsa plant.

Tulsa's first B-24 was christened August 15, 1942, by Donald W. Douglas. Ground for the plant had been broken May 2, 1941, and in the spring of 1942 enough of the assembly building was finished so that jigs and fixtures could be set up.

The plant was built originally to assemble component bomber parts sent from Ford's plant at Willow Run. Ford was to assemble one third, Tulsa a third, and Consolidated at Fort Worth the final third.

During the two years since the plant's dedication, it has been converted from an assembly plant to one that can handle complete fabricating, assembling and manufacturing of the Invader. A Modification Center, which has readied thousands of planes for front line duty, was built in the fall of 1942.

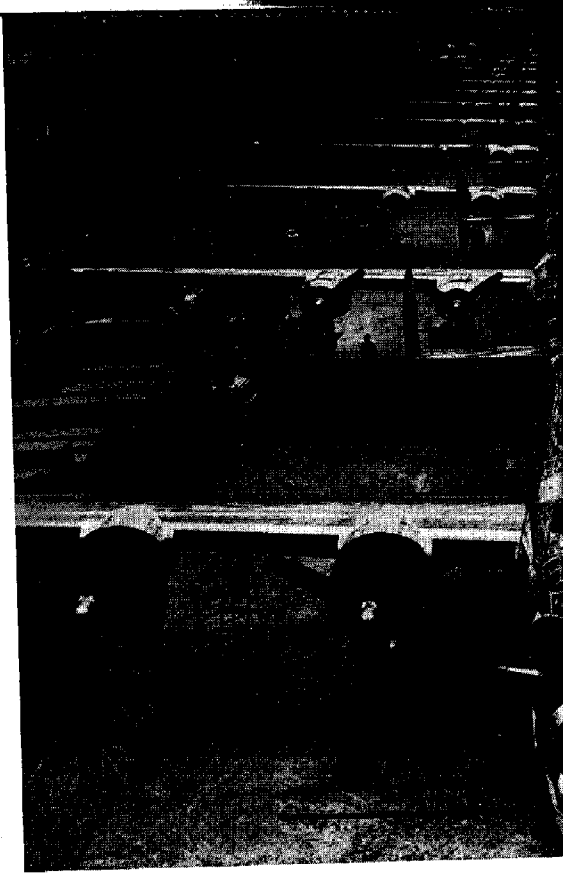
While the B-24s and A-24s were on the Tulsa line, the A-26 was designed, and was assigned to high-priority production by the army. Tulsa drew a large part of the contracts.

Earlier, it had been agreed that when the B-24 and A-24 interfered with production of the A-26, contracts would be terminated. The A-24 contract was terminated November 17, 1943, and Invader jigs were already being set up.

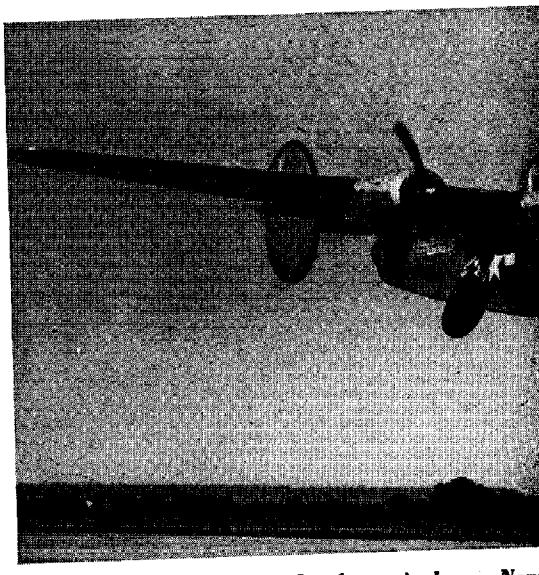
Liberators, which in less than two years have been produced at the Tulsa plant on the average of almost a plane and a half for every 24 hour period, are stepping aside for a younger sister.

The Invader, already proved to be a speedy and versatile attack bomber in South Pacific battles, will take the skill of thousands of Tulsa Douglas workers now employed, and additional thousands will be hired to speed production.

Already on an accelerated program, the A-26 can be rushed to the front by the thousands, thanks to pioneering in mass production on 952 Liberators.

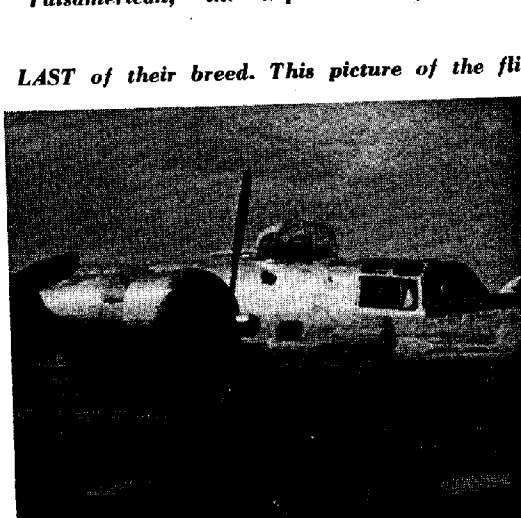


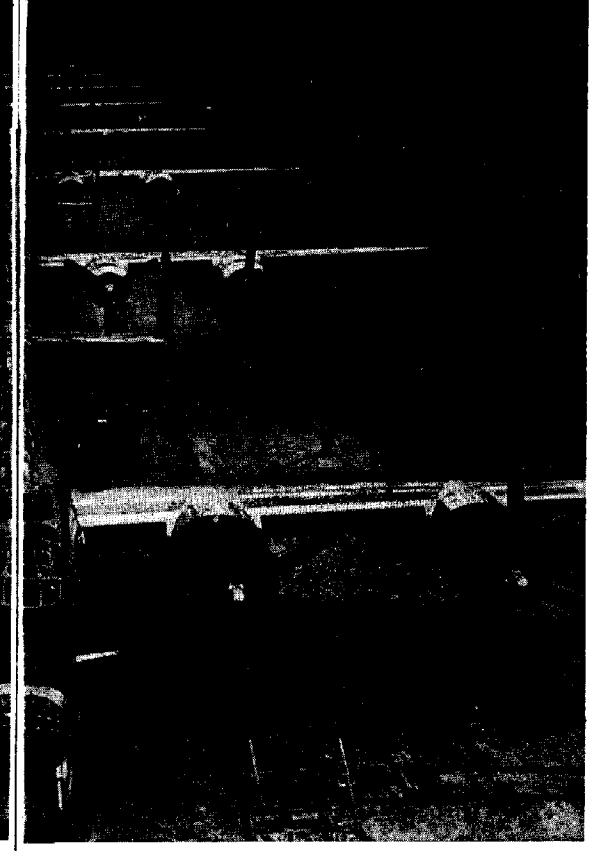
FULL BLAST production of B-24s at Tulsa looke like this, a solid line of big bombers four-fift



FIRST TAKEOFF of the last airplane. Nam "Tulsamerican," the airplane was paid for

LAST of their breed. This picture of the fli

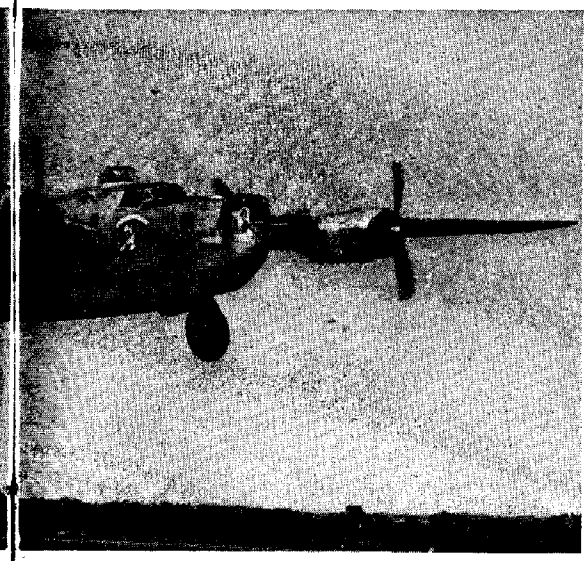




of a mile long. Today A-26 Invaders are on same long, fast-moving Tulsa airplane production line.

LUCKY employe Marcus Johnson, who bought bond, won free ride on B-24.

FLIGHT CREW for last ship was Moltrup, Updlke and Pilot Carroll.



bond purchases of Tulsa plant workers as well as built by them. Many signed their names on plane.

START AND FINISH. These men were the first men to work at the plant on B-24 production and they all stayed on the job until last of the Liberators flew away.

line at Tulsa was taken the day the last B-24 flew. Next to last ship, 951, is at the left of picture. Soon the apron will be full of A-26s.

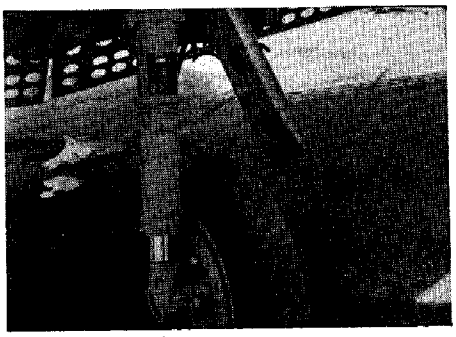
Twenty Questions

Here's your Quiz—kids! Get out your pencils and let's see what you do (or don't) know.

WELL, everyone we tried this Quiz on said it was far easier than any of the others. So you ought to get a good score, if you don't get overconfident. On most of the people we tried, question No. 10—the one about the "E" flag—seemed to give them the most trouble. Next toughest (in our limited survey) was No. 12. But they breezed through the rest. We tried it on an office girl (who should get at least 70) and she scored 45, while George Schofield, Critical Shortage Control Supervisor, walked away with an easy 95. Rules for scoring are given below, as well as where the answers will be found (if we've got them all right this time). If you disagree with us on any of the answers, write in and we'll argue.

There are 20 questions, they naturally count five each. Take five off 100 for every one you miss —or just count five for every one you get right, whichever is easiest. You will find the answers on page 41. If you think this is easy (or too tough) send us your ideas for the next one.

If you send in suggested questions, they should concern either some aspect of Douglas or Douglas planes, aviation or terms familiar in aviation circles. And include the answer, please.

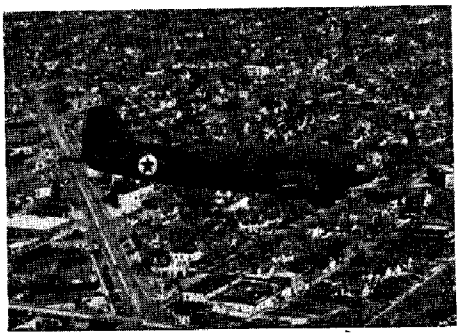


1. ***The oleo strut—it lets the plane down easy on:***

a. springs ***c. oil***
b. air ***d. rubber***

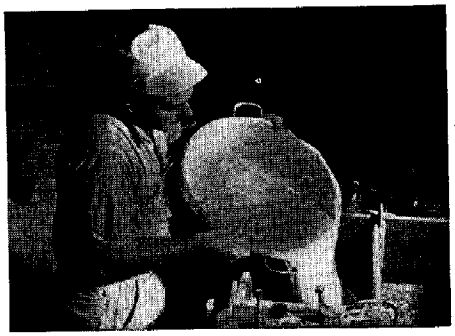
2. ***His shoulder patch, that of the 8th Air Force, means his base is in:***

a. England ***c. Washington***
b. Africa ***d. Burma***



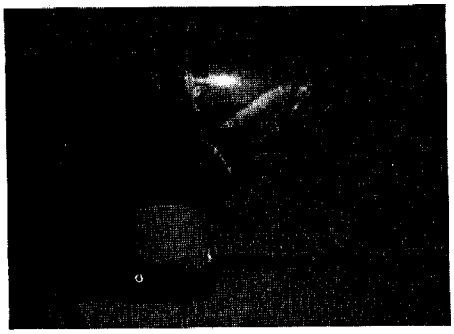
3. ***High over Oklahoma City is this C-47 earmarked for:***

a. a general ***c. Russia***
b. Texaco Air Lines ***d. Marshal Tito***



4. ***Got to have plaster in building airplanes to:***

a. stop up cracks ***c. mix with paint***
b. make molds and forms ***d. fireproof doors***



5. ***Blam! This Fortress cuts loose with its:***

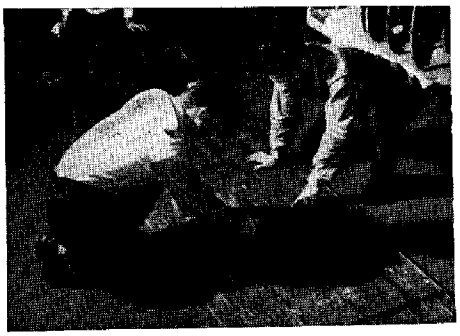
a. nose guns ***c. chin turret***
b. ball turret ***d. Venturi tubes***

6. ***Peek! That thing she's looking through:***

a. aligns jigs
b. ims wing guns ***d. times rpm***
c. hoots the sun

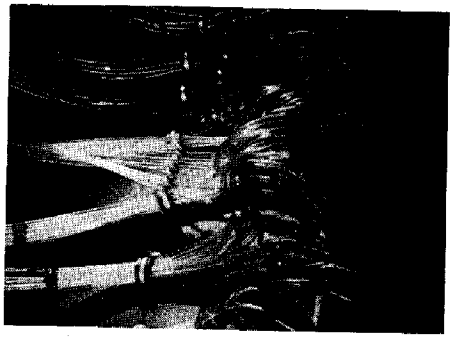
7. ***This cute little window on an A-20's back porch is for:***

a. observation ***c. formation lights***
b. lighting inside ***d. emergency escape***



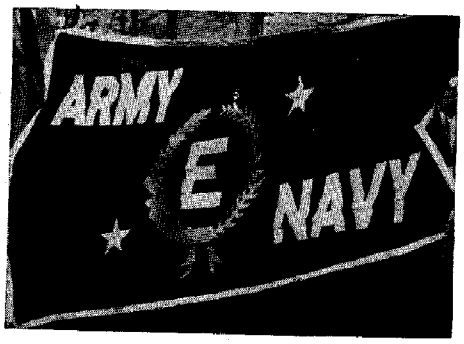
8. ***Blue prints. They are printed by use of:***

a. blue ink on white ***c. lithography***
b. white ink on blue ***d. light on chemicals***



9. *Popular shop name for this plastic tubing is:*

a. spaghetti *c. worms*
b. macaroni *d. snakes*

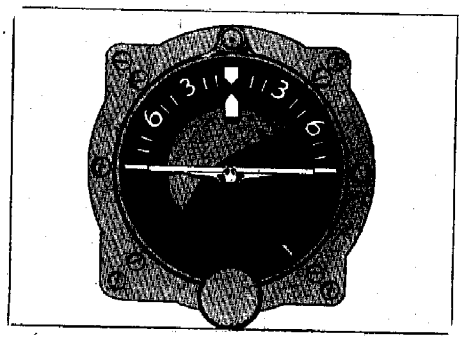


10. *The Army-Navy "E" flag, presented to three Douglas plants is given:*

a. for the duration *c. for six months*
b. forever *d. until revoked*

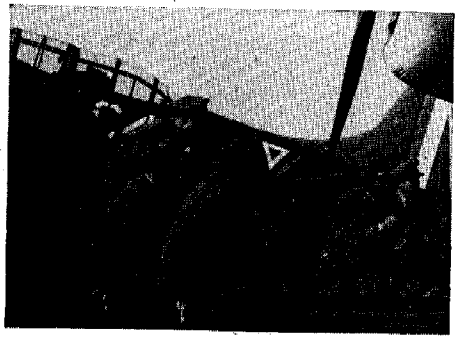
11. *Very natty uniform, and means she is a:*

a. policewoman *c. WAVE*
c. courier driver *d. girl guide*



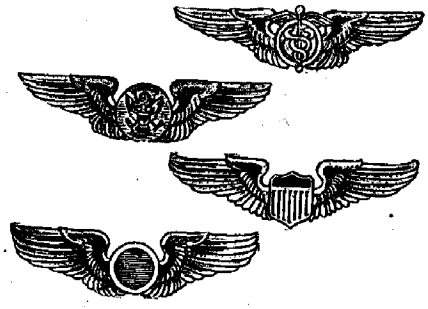
12. *Where's the ground? Consult your:*

a. turn and bank indicator : *rate of climb indicator*
b. artificial horizon *d. gyro-compass*



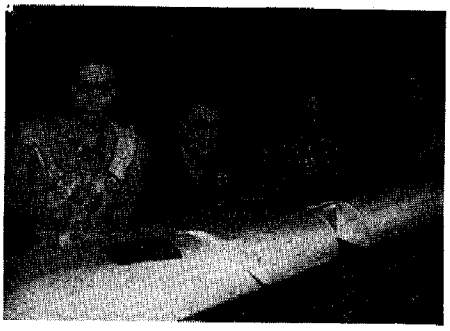
13. *Maybe the uniforms puzzle you, but the plane insignia obviously comes from.*

a. Poland *c. Greece*
b. Mexico *d. Argentina*



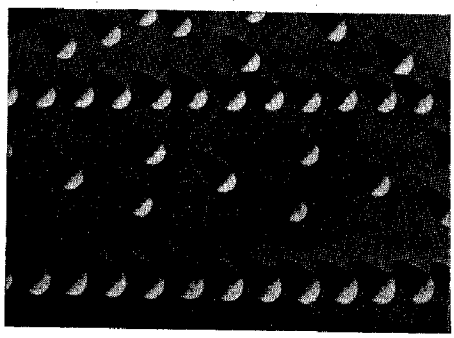
14. *Pick out the pilot's wings. They are:*

a. top right *c. top left*
b. lower right *d. lower left*



15. *Sewing cloth on control surfaces to:*

a. stop vibration *c. save metal*
b. make them tighter *d. give strength*



16. *Here's one everybody knows. Big rivets on bottom row are:*

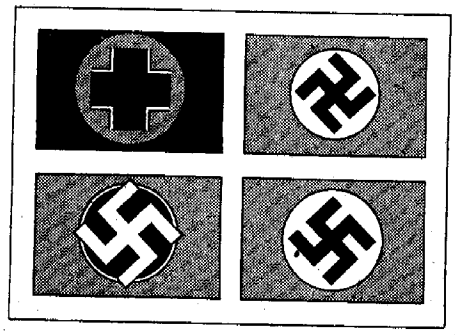
a. round head *c. countersunk*
b. cherry *d. brazier head*

17. *Every motor that's shipped has those little bags inside the pliofilm. They contain:*

a. instructions *c. nuts and bolts*
b. moisture preventive *d. candy*

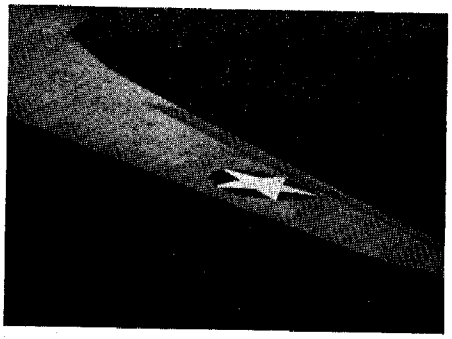
18. *What's this? A sea-going Skytrain? They call it:*

a. an Amphibio *c. a Duck*
b. an Alligator *d. a Water Buffalo*



19. *Know thy enemy. The true Nazi flag is:*

a. upper right *c. upper left*
b. lower right *d. lower left*



20. *That black strip on the landing edge is:*

a. an anti-icer *c. grannule leader*
b. weather strip *d. de-icer*

Fighting With Pictures

• *Continued from Page Seven*

Maj. Franke Clarke, remembered as an ace stunt pilot for the movies, flew the camera plane for the cameramen who filmed other A-20s as they dove, climbed, banked, stalled — every maneuver of which this fast plane is capable. Sometimes Major Clarke's plane moved in for closeups. On one or two occasions wings snapped together, but our men got their pictures, pictures which will help many pilots and gun crews to preserve their lives while striking killing blows against the enemy. To round out the picture, our crew swarmed over other A-20s at Mines field, California. There they filmed flight preparations, taxiing, inspection of landing gear, and other steps necessary to getting off the ground and flying safely.

To Remain Alive

All sorts of knowledge must be incorporated in these pictures. A recently completed training film entitled "Ditch and Live," is a subject not to be overlooked. This film portrays an air crew landing a disabled bomber on the ocean — a procedure which involves bringing a bomber down safely on water, escaping before the big plane sinks, and remaining alive until help comes.

Accomplishing these feats is no mean task. Pilots of land planes do not alight on water as on a smooth, hard surfaced runway. Could they reason, the seagulls of Salton sea might describe the methods; for it was on this brackish body of water, in California's Imperial Valley, a B-17 *Flying Fortress* became our mechanical guinea pig that other *Fortresses* might hit the water without carrying their crews to destruction.

We really employed three B-17s. With one, at Metropolitan airport, near Los Angeles, we conducted "dry drills," photographing certain procedures, inside and out. On stage two, at the First Motion Picture Unit, we placed a cutaway mockup, or a com-apart model, in which was filmed closeup action of crews preparing for and simulating ditching. When it came to portraying the action, a picked crew "ditched," escaping from a retired *Fortress* (minus engines) which had been towed to and moored on the Salton sea. Seconds counted as the crew piled out through the hatches.

Speed certainly counts when an air crew hits the ocean, for a bomber may disappear in 30 seconds. To emphasize the necessity for escaping while there yet is time, the *Fortress* was towed offshore, and actually sunk while the cameras showed two rubber rafts, bearing the crew, moving as swiftly away from the disappearing tail as paddles could propel them. Later a salvage crew brought her carcass up again.

Who can say how many lives this single sequence may, by precept, save for another go at the Axis?

Every Trick of the Trade

Who, indeed, can measure the efficiency imparted to our fighting men by this method of visual education? Few could perceive, when the First Motion Picture Unit came into being on the first day of July, 1942, that the camera would turn its talents to so many difficult subjects.

From "Learn and Live," a six-reeler covering safety lessons for pilots, we moved to a series on flight training, from "Take-Offs" and Landings" to "Radio Range Orientation" and "Combat Crew Teamwork." But that was scarcely the end. Shortly we organized complete facilities comparable to those of any commercial studio. Then came a complete flight echelon under Major Clark's direction, including 15 bombers and liaison aircraft converted into camera ships. Experts in several fields staffed other departments.

Every trick of the trade is employed in making these training films, including the building of replicas of the most complex equipment from Allied and enemy aircraft to complete air bases and landing fields. These models serve as scenes to simulate combat, and to show trainees in a single, brief lesson the overall strategy of a complicated operation.

The Boys Learn How

The purpose? Preparation of our Air Force for total war.

Consider other titles: "Aircraft Hoisting," from the how-to-do-it series. "How to Land and Live in the Jungle," one of a series showing airmen in detail how to make the best of the country if forced down in jungle, desert, arctic, mountainous and w o o d e d regions. "Enemy Methods of Interrogating Captured Air Crews," or how the Nazis employ psychological tricks which may induce our airmen to reveal military secrets. "Technical Air Intelligence." That one requires a bit of explaining.

Somewhere in the communications zone of the Libyan theater, North Africa, a fighter pilot was slugging it out with a Messerschmitt 110 in a dogfight. Our boy got in a brief burst, and the Me's tail popped off. Prior to that amazing episode, the Mes had been giving our fighter pilots plenty of trouble. Here was a mystery of the first order. Perhaps, if only we could unlock the mystery, that mid-air explosion would open the way to further victories.

The story thereafter — to make it brief—opens with a Crash Officer racing to the scene, first in an A-20, later in a jeep. Within a radius of a half mile he found the two parts of the plane, wings and tail group widely separated on the desert. Significantly, he turned up fragments of the Me's oxygen bottles. Shortly, experts of the several laboratories at Wright field were plopping .50 caliber machine gun bullets into duplicates of those bottles. In due course, they learned that a burst of gunfire striking among the group would explode them like so many small bombs, rending the plane apart with great force.

No Miracle

To Culver City came the Me. Our crews reconstructed the wreckage, and, as cameras ground, displayed for the education of our fighter pilots exactly how important Technical Intelligence is, and how, through the efforts of this unsung branch of the AAF, Me-110s were blasted, and more unlucky Nazi pilots and their gunners were blown to kingdom come. Through the use of this striking real-life drama, pilots became aware of the importance of Technical Intelligence and of the cooperation necessary on the pilot's part in determining the weaknesses of enemy planes.

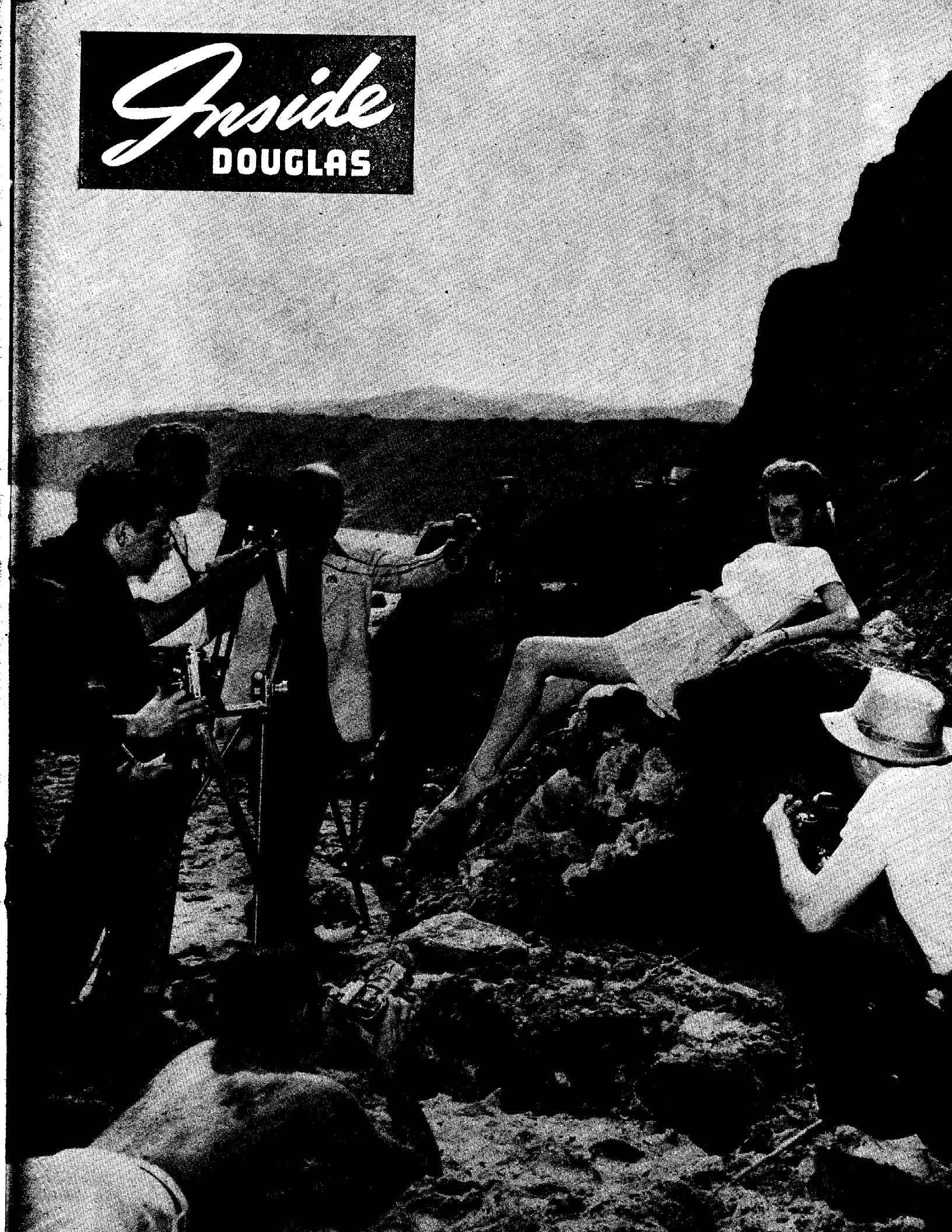
These excellent results represent no miracle. As far as our units are concerned, killing Me crews is only part of our daily chores, even though we approach the problem remotely and somewhat by indirection.

INSIDE DOUGLAS—▶

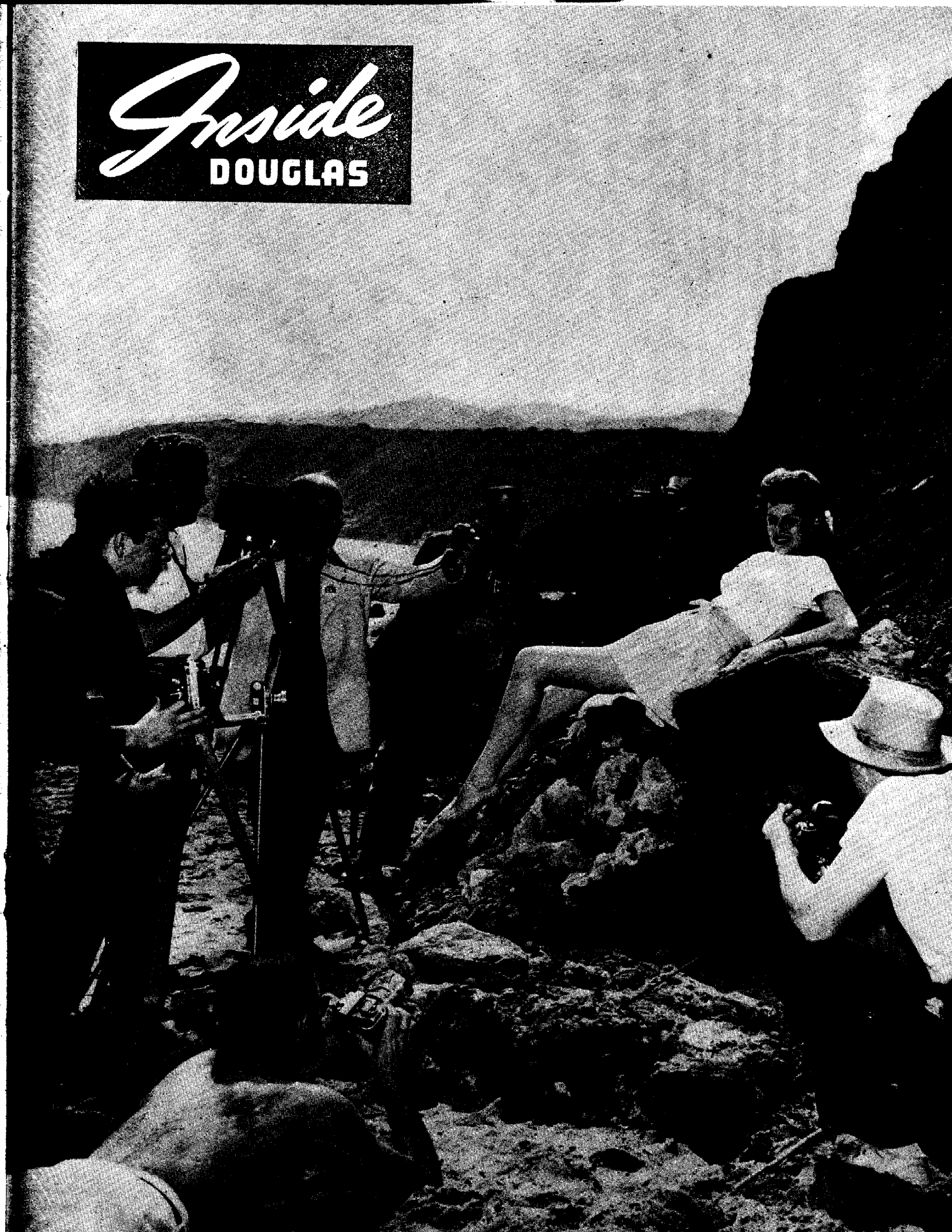
The Douglas S a n t a Monica Camera Club adjourns to the seaside at Castle Rock for a day of picturing the beauties of nature. The club holds regular shows, includes many professionals in its ranks.

—Photo for Camera Club by James Hervey

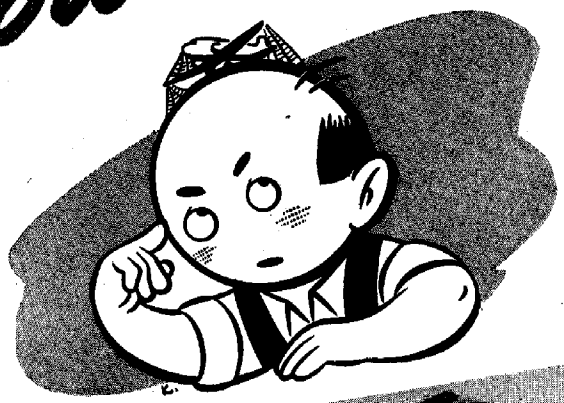
Inside DOUGLAS



Inside DOUGLAS



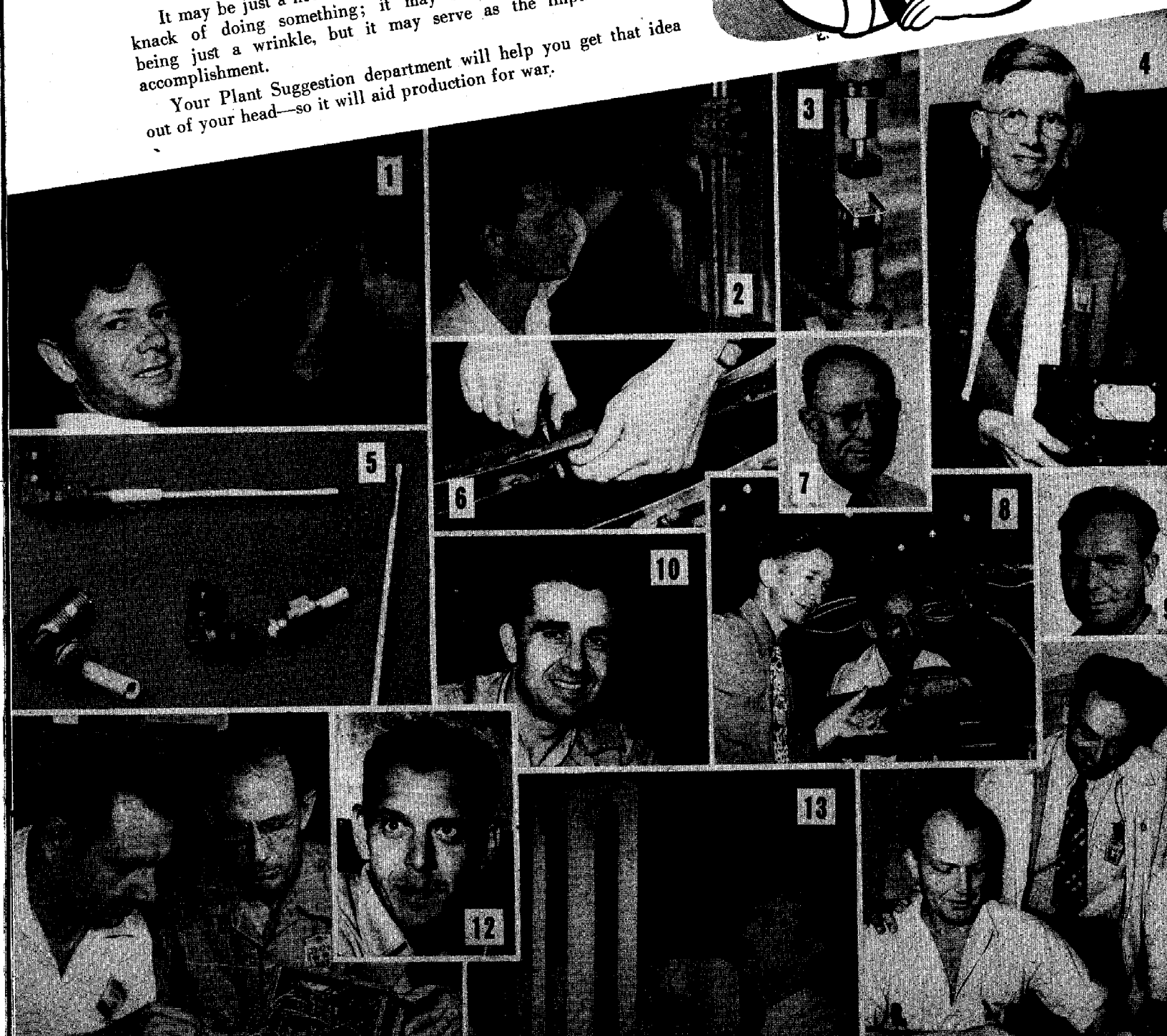
Get that IDEA off your mind



Conducted by *Al A. Adams*

It may be just a notion, a bit of information, a tip, or a peculiar knack of doing something; it may seem unimportant to you, being just a wrinkle, but it may serve as the impulse toward accomplishment.

Your Plant Suggestion department will help you get that idea out of your head—so it will aid production for war.



1. *MARLOW PAULSON, A592, suggested assembly drill jig for rework of C-54 center section fuel tank stiffener. Makes possible drilling of hat sections accurately in inaccessable places, eliminates drill rework.*

2. *FRANCIS ANDERSON, D635, suggested scribe trim bar for fitting and trimming cowling skins. Bar placed over cowling skins establishes proper tolerances, aids joining of contour skins. Idea is adaptable to other phases of fitting.*

3. *W. D. HOLDER, B552, suggested combination tip for single-shot riveter. By rebuilding original tip and drilling the anvil, various size and shape screw rivet sets are accommodated.*

4. *WYLES TIFFANY, A702, suggested electronic test meter for calibration of maximum current relays on Sciaky resistance spotwelders. Electronic stop meter measures time interval consumed by spotwelding machine during actual physical weld, assures good weld.*

5. *R. P. FORREST, B552, suggested development and installation of new lines using flare tubing to accommodate nut and sleeve of new line size. Inserts of 1/4-inch development stock in protruding 3/8-inch guide, insures line going straight into fitting. Line held firmly while necessary contours are being formed in balance of line.*

6. *D. E. TALOR, B643, suggested procedure to secure master plaster pattern templates to surface table while plaster coat is applied.*

7. *JOSEPH CROCKETT, D281, suggested analysis and compilation of technical orders in reference book. The book makes it possible for inspectors to have a reference at hand, stops incorrect interpretations of orders.*

8. *JOE B. REEVES and CLARENCE DUCHENE, C595, suggested use of dummy machineguns instead of actual guns while making final adjustments on armament. Saves damage to actual guns, makes work easier.*

9. *GILBERT LIVINGSTON, D365, suggested production change notice form containing a series of itemized boxes that call for required information, eliminates longhand writing.*

10. *J. M. CLINE, C596, suggested tool to install spare blocks in tie assembly without removing wings.*

11. *JACK QUICK and RALPH CROSLEY, D557, suggested auto-pilot test unit which makes accurate ground check, eliminates use of highly sensitive installation previously used. Adaptable to planes using C-1 auto-pilot stablizer.*

12. *CROSBY IVES, C287, suggested standard ridge reamer for wing bushings on A-26. Reamer reworks sharp-edged bushings on plane, wing not removed.*

13. *JAMES ELLISON, D595, suggested fuel gauge testing jig to test gauges before installation. Calibrates exact depths of fuel tanks, quickly, accurately.*

14. *JOHN ATKINSON, C578, and DONALD SCHOEN, C633, suggested tapered Erco punch for flush riveting of heavy skins on A-26. Enables punching heavier material more satisfactorily. Rivets insert more freely to eliminate 95 per cent of high rivet heads. Decreases swelling, enables closer tolerances of contoured sections.*

15. *F. H. COYLE, B552, suggested transfer valve test equipment for automatic pilot. Equipment gives positive check on transfer valves on plane under condition equivalent to flight.*

16. *GORDON GETTYS, C542, and HUGH ROWLAND, C554, suggested leaving tooling tabs on wing panel skins after forming. Tabs fit into jig, contours are held to closer tolerances.*

17. *J. E. GRISWOLD and HOWARD ROSS, R151, suggested revised method of manufacturing cable lock. Lock coined from annealed steel instead of centrifugally cast from beryllium copper. Method is faster, cheaper.*

18. *CARL MERCHANT, C597, suggested special radio wrench for use on intricate mechanism. Wrench, constructed of micarta, aids worker in working about hot wires.*

19. *JAMES CARLIN, C377, suggested new procedure for template storage racks to permit easier location of templates. Broke down racks into 20 sections instead of 12, coded accordingly.*

20. *CURTIS CORY, D361, suggested program to aid Tulsa plant's C-47 schedule by subcontracting subassembly sections to departments during slack periods.*

21. *G. W. LINDQUIST, B342, suggested improvement on one-shot dimpling riveter. Reworking head of a riveter when application is correlated to dimpling yoke solves problem of alignment, saves tool breakage.*

22. *FRANCIS MORGAN, C554, suggested use of Tinnerman clips for litter bag installation instead of angle clips. New method uses screw instead of rivets, eliminates drilling operation.*

THE Home Shift

Conducted by GENEVIEVE CALLAHAN AND LOU RICHARDSON

HOME SHIFT this month is made up of answers to questions frequently asked us by inexperienced cooks. Among them you are likely to find solutions to some of your problems. Let's take a look at them.

ABOUT BAKING PEARS

QUESTION: How long does it take to bake pears? Do you bake them covered?

ANSWER: For 4 firm ripe pears you'll need 1/3 cup sugar, 1/2 cup water, a dash of salt and a little lemon juice. Wash pears, leave on stems but cut out blossom ends. Place upright if possible, in deep baking dish. Mix sugar, water and seasonings, pour over pears, cover, and bake in hot oven (400°) 1 to 1½ hours. Serve hot or cold, with or without cream. Baked one night, they're good next night.

TO KEEP DOWN ODORS WHEN FRYING FISH

QUESTION: Is there any way to have fried fish without smelling up the house?

ANSWER: Why fry it? Bake it, or simmer the slices gently in a skillet containing diluted consomme or tomato soup. Add seasonings, of course. Either way, fish will be tender in 12 to 15 minutes.

TO GET JUNIOR TO EAT HIS VEGETABLES

QUESTION: Junior drinks his milk all right, but he will not stay at the table long enough to eat his other food. Is there anything to do about it?

ANSWER: Try giving him his glass of milk at the end of the meal rather than at the beginning. A glass of milk goes a long way toward filling up a small stomach, you know.

FOR GOOD LAMB GRAVY

QUESTION: Is it possible to make good brown gravy from roast leg of lamb? Mine looks and tastes like greasy library paste.

ANSWER: Secret here is not to use too much fat. Pour off most of it, pour some water into the roasting pan and heat to boiling on top of the stove. Stir in a little thin flour-and-water paste and cook, stirring constantly, until smoothly thickened. Season to taste just right. If it looks pale, add a bouillon cube or a little Kitchen Bouquet.

THE CUSTARD TEST

QUESTION: Recipes for top of stove custard always say "cook until it coats a metal spoon". Just what does that mean?

ANSWER: A soft custard made in a double boiler usually takes 7 to 10 minutes to thicken. After 4 or 5 minutes it's a good idea to start testing. Dip a clean silver spoon into the mixture, and lift it up. At first the creamy mixture will run off the spoon. Eventually, however, it will cling, covering it with a definite film that does not readily run off. Then it's done.

BAKED TOMATO HALVES

QUESTION: How do you keep baked tomatoes from breaking when you lift them on to the plate? Mine run all over everything.

ANSWER: Always use firm ripe tomatoes. Cut them in two crosswise. Place cutside up in a shallow greased pan or baking dish; sprinkle each half with salt, pepper, a little sugar, and dot each with butter. Bake in a hot oven (425°) 15 to 20 minutes, or until just tender. Use a pancake turner to lift them from the baking pan. Have ready squares of toast on which to place each half, to absorb juice.

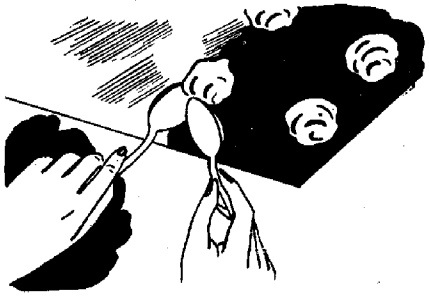
FOR FLUFFY BAKED POTATOES

QUESTION: How do you make baked potatoes soft and fluffy? Mine never are.

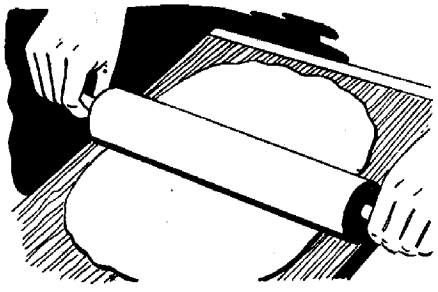
ANSWER: When you take them from the oven roll them gently between the hands, using a towel; then cut a slit in the top of each to let out the steam. Now push the sides firmly. This treatment breaks up the moist particles, makes for fluffiness. Potatoes are best baked at 450°.

TRICKS IN COOKING . . . .

Trick in kneading bread is to fold the dough over toward you, then push down and away from you. Keep turning the ball of dough, about a quarter-turn after each folding-and-pushing motion.



Tricks in making puffy drop cookies are: chill dough before dropping it; always grease and flour the pan; allow plenty of space between dabs of dough; bake at exact temperature called for in recipe.



Trick in rolling pie crust is to roll from center out, not clear across. Use a light, firm touch, don't bear down too hard. Don't use any more flour on the board than is absolutely necessary.

LEMON BISQUE—A NEW DESSERT

A dessert that's popular right now is one made of evaporated milk and gelatin. To make it, pour a tall can of evaporated milk into refrigerator tray and let it freeze until ice crystals begin to form. Meanwhile dissolve a package of lemon-flavored gelatin in 1½ cups hot water, add ½ cup honey a pinch of salt, 2 tablespoons lemon juice, and grated rind of a lemon. Chill until syrupy. Then in a big bowl whip the cold milk, fold in syrupy gelatin. Crush 12 graham crackers fine, put half of them in the bottom of a 9x12 inch baking pan, pour in the gelatin mix, then top with remaining crumbs. Chill 3 hours. Cut in squares to serve.

SHRIMP WIGGLE

1 small can shrimps
1 small can peas
1 can condensed cream of celery or mushroom soup
Seasonings.

Drain shrimp, remove black veins. Drain peas, combine with shrimp and soup and heat slowly. If mixture seems too thick, add a little milk or water from peas. Season to taste with salt, pepper, and paprika, also a dash of tabasco sauce if you have it. Serve hot on buttered toast. Serves 3 or 4.

QUICK CHILI CON CARNE (For 4 or More)

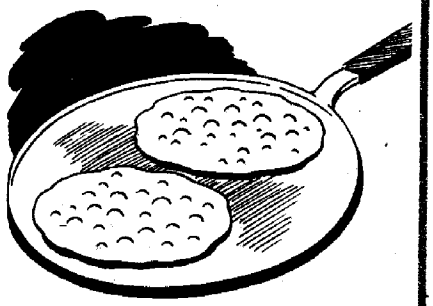
1 tablespoon oil or bacon drippings
1 peeled clove of garlic
1 onion, minced
1 lb. hamburger (or less)
1 teaspoon salt
Pepper to taste
1 to 3 teaspoons chili powder
1 No. 2 can kidney beans
1½ cups canned tomatoes
1/2 cup grated cheese

Cook the whole clove of garlic and the minced onion in the oil until they're limp. Remove the garlic and discard it. Add hamburger and seasonings and cook, stirring until red color disappears. Put in beans and tomatoes (or tomato soup) and cook ten minutes. Taste to see that it is seasoned just right. Serve in rice border with grated cheese over the top. Serves 4 to 6. For that rice border just spoon hot cooked rice to make a nest around the outside of a big plate or platter, fill with the chili and serve.

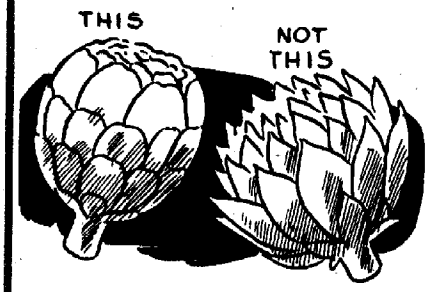
STRING BEAN SALAD

1 No. 1 can string beans
1 large onion, sliced
Salt and pepper
3 tablespoons vinegar or lemon juice
1 small can anchovies
1 tablespoon salad oil

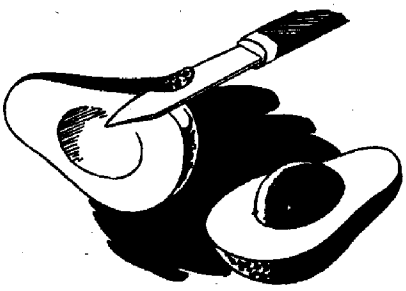
Drain beans, add onion slices, sprinkle with salt and pepper, then add vinegar or lemon juice. Mash anchovies to a paste with their own oil and the salad oil, and stir gently into the beans. Mix thoroughly and chill until ready to serve.



Trick in baking hot cakes is to have the griddle at just the right temperature. One way to test is to sprinkle 2 or three drops of water on it; if the drops dance, griddle is just hot enough.



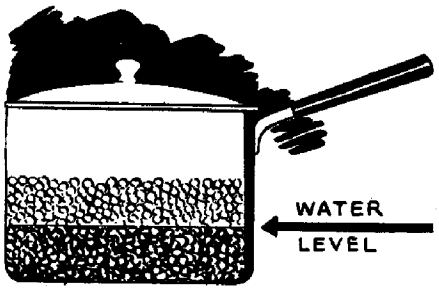
Trick in buying artichokes is to look for those with tightly closed heads. When the leaves spread and get needles on them, the artichoke is past its prime. Study these sketches.



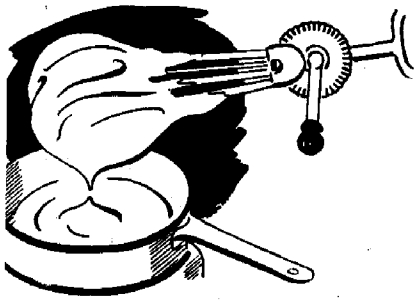
Trick in peeling an avocado is to cut it in two lengthwise. Then pull the skin off each half. If you're saving one half for use later, leave the seed in it—helps to prevent blackening.

. . AND HOW TO DO THEM

Trick in cooking jelly is to boil it rapidly until it will drip off a clean spoon in one big blob as shown in 3rd sketch. The other two sketches show how jelly test looks before jelly is done.



Trick in keeping peas bright green in cooking is to use very little water and to have it boiling and salted before you add the peas to it. Cook, covered, 6 to 8 minutes. Dont overcook! Overcooking robs peas of flavor, nutrition.



Trick in double boiler or 7-minute frosting is to beat it until the mixture will stand up in peaks when beater is lifted out. Sketch tells the story. Have cake cool before you frost it.

OKLAHOMA CITY

• *Mod's Day in the Sun*

★ A JUBILEE was thrown by the Modification people of Douglas Oklahoma City at Springlake park July 30, where they held sack races, a tug-of-war, egg races, apple-bobbing, dancing and feasting. Everyone took a whirl at the Ferris wheel, the roller-coaster and the various whirligigs. The party was enlivened by small fry of all sizes, pretty girls in shorts and a summer day.

Besides the contest directly below, between the day and night shift, the pictures are of Pat Young, a guest, and Willie Bender, of 591, feeding the inner women, lower left. Lower right, Mr. and Mrs. Ernie Mason (he's in 250) try out one of those new "papoose sacks" . . . on Ernie. In the center, the towsack racers approach the finish line.

That night, all those with the necessary energy left danced in the Casino to Eddie Ward's orchestra. A big day, but it didn't keep one worker home next day, come sunburn or low water.

TULSA • *My Lady Nicotine*

★ SOMETHING had to be done about the disappearance of "popular brand" cigarets from the market, and a solution of the difficulty was aired by Marie Fletcher, left, Final Assembly, and Delores Windrow, Shop Clerical. They took to corncob pipes.

Now, a corncob is an insidious animal. Breaking it in, it lulls you into a sense of false security—it's as mild as May. But given a little time, the cornbelt hod can achieve enough muscle to bring down anybody but Popeye.

Hip pockets bulging with Prince Albert and Granger, Margie and Delores perched comfortably on a bench during rest period, and settled back for a few puffs. Astonished friends gathered 'round, afraid to believe their eyes.

"Won't this," they inquired worriedly, "lead to . . . uh . . . to disaster?"

"Us get sick? Don't be silly!" insisted the intrepid duo as they really began to get on a head of steam in the cobs, and turned a becoming shade of chartreuse. "Why, this tobacco's just as . . . hack! . . . mild as . . . "

Spectators were diplomatic enough to tiptoe away. The next day, Marie and Delores didn't put on their fire-eating act, but claimed that they just forgot to bring them. Wagers around the plant are 10 to 1 that the cobs—given time—will win the argument hands down.

SANTA MONICA • *Hollywood Housing*

★ MARJORY BECKET, Douglas Materiel lovely, as a member of the audience of "People Are Funny" was pounced upon by Art Linkletter, master of ceremonies, for a radio interview. Slightly flustered at being picked out, Marjory revealed that (since he asked) the one thing she would like to have was an apartment where she could keep her cat. It seems that the manager of her present abode does not appreciate cats.

Listening to the program via radio was Sol Lesser, movie producer, and his astute "hot shot flack" (press agent in studio talk) named Berney Kamins. Now, Berney is not one to let an opening for a good national air break go by. He called the radio studio and said that Marjory (and cat) could use Mr. Lesser's "Three's a Family" set—as neat a four-room apartment as you'd find anywhere.

At first, Marjory took Berney's offer seriously—not being accustomed to the vagaries of Hollywood publicity. But it turned out that studio fire regulations would permit no one to live—let alone sleep—on a studio set. However, Marjory was brought to the studio and out to the set with much ceremony, and a photograph taken with Charlie Ruggles (at left in picture) registering pleased astonishment. But it wasn't a total gag for Marjory—she got a part in the picture as soon as Mr. Lesser got a good look at her. If this is the start of a movie career—she can keep a mountain lion!

SANTA MONICA • *Pocket-Sized Art*

★ WITH three dozen artists participating and a total of 87 entries, Dept. A11-122 last month sponsored the first exhibit of artists at the Fairfax location.

Media in which the artists expressed themselves were water color, tempera, ink and wash, pastels and colored pencils. The subjects covered a wide range, from the abstract "Kaleidoscopic Phantasmagoria" of Kendis Rochlen to an appealing head of a white Persian kitten by Dexter Hersey which received first honorable mention, with a number of satiric cartoons included.

There were no judges to select the prize winners, each employe being given an opportunity to vote for his favorite picture. As a result of this popular vote, Arthur Kaye, of the display group, won first prize with his moody water color, "Windy Day," a well-executed scene about the size of an "ID" card, shown at left.

What! A B-47?

• *Continued from Page Eleven*

nose of the plane, Benjamin, after a wide sweep to fool the convoy, came back for the "run."

"We couldn't very well miss, "Major Benjamin said modestly. "It was a narrow canyon. We were only 3,000 feet up. It was rather like shooting fish in a barrel. All of the 500-pounders landed on the road. I think we got one direct hit on a truck. The other two were damned near misses.

"While Webb and Royce were kicking the big ones out the door, Alexander was pulling pins of the fragmentation bombs and letting them go. With the three heavy-weights on their way, Webb and Royce joined Alexander in peppering the Japs with the little ones. Even Gilmore joined in this. We had a hell of a lot of fun for a minute or two.

"When we turned for home, we could see several burning trucks, and by the light of their flames we would see the Nips dashing around like a bunch of ants whose hill has been skuffed by a hikers foot.

"Those yellow —— —— were so surprised by a C-47 bombing them they didn't fire a single shot at us."

There you are—as the radio announcers say, a "true-life" story of how, for one night, a C-47 *Skytrain* metamorphosed from a plodding transport to a Nip-Killing bomber.

The next night it was back at its old run, hauling mules, or Ghurkas or supplies in its ex-bomb bay, while dragging a couple of 9,000-pound glider loads behind it.

But it had its memories!

Next Stop--Philippines

• *Continued from Page Fifteen*

mend you and all the units of your command for making possible by the air supply of Hollandia the capture of another forward airdrome at Wadke islands."

Again, after we landed at Wadke the Troop Carriers came in within 36 hours. Their *Skytrains* flew in the bombs, gasoline and supplies that made possible our air cover and enabled our main air arm to pound Biak for our next advance. At Biak it was the same story again.

So ended the second phase of the war out here, the long, bitter struggle to push the Japs out of New Guinea and give us air bases within striking range of the Philippines.

So ended a glorious chapter in the history of the Troop Carriers and their *Skytrains* and so begins a new chapter in which they will play a predominant part in this theater as they did in the invasion of Normandy.

Trucking and Mercy

• *Continued from Page Five*

wounded to fill the airplane."

Those wounded men represent just a few of the men who will remember the *Skymaster* when it takes to the commercial airways stateside.

Men who ride them home for furloughs, men who are taken west in time to do a job at a battle front, men who get their mail in four and five days from the Coast, all will remember.

It is common to hear men talk of the day when they'll be able to ride an airplane with cushions. Cargo-passenger airplanes used in war have aluminum "bucket seats" for men to sit on, seats that become uncomfortable during the long hours the *Skymaster* stays in the air on its ocean-spanning routine flights.

They say "won't this baby be something to ride when she's got berths in her," and "someday when I get back I'm going to get into one of these and just sleep for a whole flight."

With which sentiments I agree. I started this war correspondent business in a Douglas DC-3, flying from Seattle to Anchorage, Alaska, and then to Amchitka in the Aleutians. That was in January, 1943. I've been flying in Douglas planes ever since, taking the favored method of war transportation.

As Pretty Does

• *Continued from Page Thirteen*

morning she rubs in more of this, then uses cream mascara. This "sleeping-beauty" magic not only encourages growth and silkiness, but acts as a protection against brittle, easily broken lashes.

Another clever "pick-up" for tired, strained eyes comes from Peggy Wild, brunette expediter on conversion projects, who, also, enhances her eyes while she sleeps.

Peggy applies eye lifts, soaked with a soothing lotion, after going to bed. These cotton pads, containing boric acid, glycerine and astringent, relieve tiredness and irritation and prevent telltale lines from forming around the eyes. The pads can be bought ready-made.

As a result Peggy's eyes are lovely to behold and have been voted most likely to succeed by her coworkers.

Both Peggy and Beth agree that they feel it's a girl's duty to put her "best face forward" on the job.

Powder Base

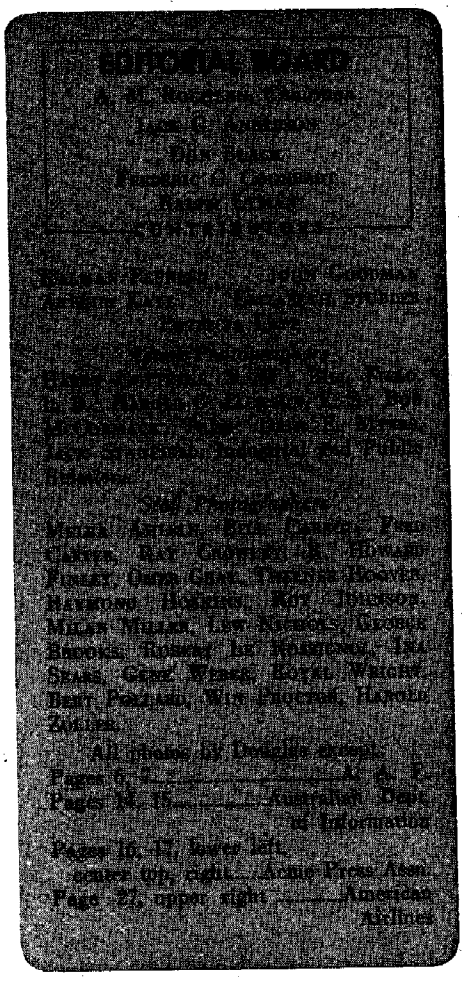
"Boredom and sluggishness on the assembly line are morale 'droopers.' They are out of place in a war plant," Beth remarked emphatically. "Any girl afflicted with this ailment should do an about-face and get a new slant on her looks. A change of hair-do, a new color of lipstick, or a new shade of powder base will do the trick."

And speaking of powder base, this little item of skin flattery has become almost essential in the lives of factory girls. Pretty Louise Dodd, tank tester on C-54s, uses creamy base that she swears by.

Commenting on her favorite complexion aid, Louise said: "I like to use this speedily applied base because it not only beautifies, but forms a protective coating from any dust or grime that might lodge on my skin causing unsightly blemishes and enlarged pores. At night when I remove my makeup with cleansing cream, all the dirt of the day comes with it."

The next step in our assembly-line beauty routine, is hand care. This is a real problem for women building airplanes. Keeping their hands beautiful could take a lot of time and money.

However, ingenious Peggy Wild again comes forth with a walloping good idea to keep hands white, soft and



smooth. Like the eye pads, this beautifying agent works while she sleeps. Every night she rubs hand cream generously on her hands, dons a pair of gloves and is off to slumberland.

At work, Peggy concentrates on hand protection. She fights dirt and grease by wearing cream gloves. This cream, furnished by the Douglas company, is available to all workers. Smoothed on gauntlet-fashion, the protective film keeps hands free from dirt and dermatitis.

Easily Removed

When the working period is over, this coating can be washed off with running water, removing all accumulated dirt, grease and stains. This eliminates the use of turpentine and harsh, abrasive soaps, injurious to the skin. The amount of time saved in extra hand care through use of this product is inestimable.

Before "final inspection" can be passed on the production beauty routine, it is most important to brush up on leg grooming hints.

With the critical hosiery shortage a national problem, Peggy and her assembly-line sisters, revert to nature and go barelegged. Although a healthy and economical practice, going without hose means the legs must be kept smooth and attractive.

Many exponents of this necessity-born fad keep legs smooth and hairless by using a sandpaper mitt once or twice a week. A few deft, circular strokes and objectionable fuzz disappears.

Convenient to carry in the purse or pocket, this little mitt can be used during the rest periods or on the lunch hour.

After completely erasing the hair, Peggy rubs a soothing body lotion over her legs. Then they are ready for the perfumed luxury of cream hose.

These hose, coming in all shades from natural to deepest suntan, are squeezed from a tube and rapidly smoothed over the legs and feet. Easy to apply, this minute film forms a slenderizing, protective coating that stays on until it is washed off with soap and water.

Easily Mastered

These easily mastered tricks of women soldiers in war production work are a tried and true system for keeping attractive and building morale. They know that when they neglect appearance, morale drops; soars when they look and feel right.

Time and again, prominent visitors to the Santa Monica plant have praised the eye-pleasing qualities of our feminine workers on the assembly line.

Beauty may be only "skin deep," but it's a decidedly important factor for keeping the girls happy on the job. When they feel they are well-groomed and attractive, the psychological effect is one of confidence and well-being. In other words, when their beauty is up—their morale is up!

INSIDE COVER—▶

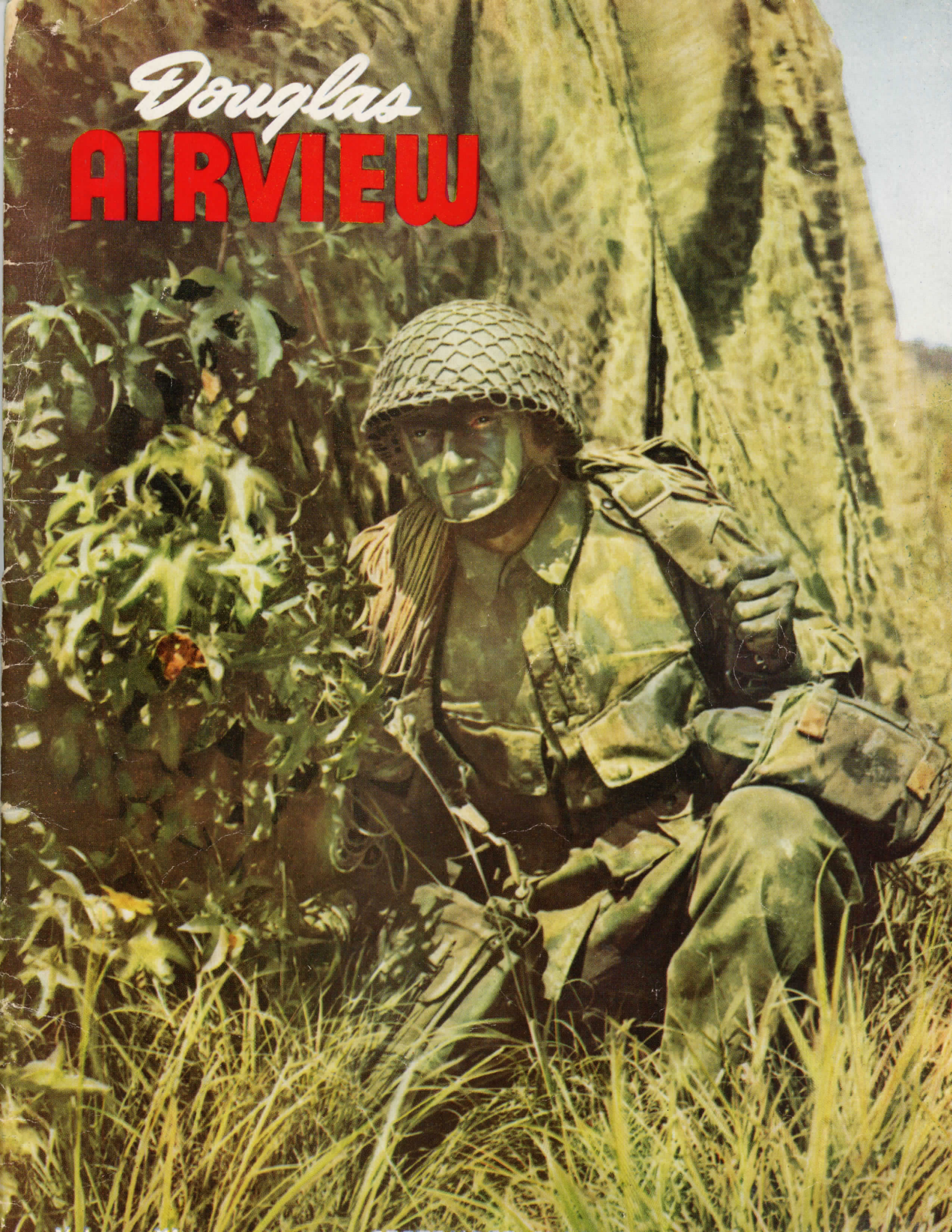
Infra-red camera picks out the massive lines of the Liberators, lined up on the ramp at Tulsa. Soon they will be replaced with A-26 Invaders.

Photo by R. M. McCormack

BACK COVER—▶

An Army Skytrain over the peaceful beaches of Southern California. With victory, many will return to the familiar paths of commerce.

Photo by Howard Finley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