

VOL. XXV. No. 1
JANUARY-FEBRUARY, 1942

Curtiss FLY LEAF

BUFFALO, NEW YORK
COLUMBUS, OHIO
ST. LOUIS, MISSOURI

A PUBLICATION OF THE AIRPLANE DIVISION . . . CURTISS-WRIGHT CORPORATION



WAR *means* WORK!

On December 7, 1941, the Japanese attacked Hawaii. The following day the President of the United States appeared before a joint session of Congress, asked for and received a declaration of war against Japan. Within the space of forty-eight hours a vast majority of those countries, whose destinies still remained in the hands of their people, had taken an irrevocable stand against the tyrannies of the Axis.

The world was divided and at war.

But this war differs in many vital aspects from the conflagration of 1914 to 1918. This is a mechanized war. Airplanes, tanks, tractorized artillery units, trucks, jeep cars and motorcycles, all have combined to speed up the forward march of offensive action. Whole countries have been crossed and have fallen within a matter of hours instead of weeks, months and even years, as in the past.

The combined airplane, engine and propeller production of our corporation is vital to our nation's ultimate victory. This is not exaggeration. It is fact. All plants of the Airplane Division are already making an important contribution to Curtiss-Wright's total effort. Each must continue to contribute *but with daily increasing results*. This is the Airplane Division's goal — the single objective of each of its plants — your individual, personal duty.

Benjamin Wright

Vice-President in Charge of
Airplane Division
Curtiss-Wright Corporation



Charles W. France, Vice-President and General Manager,
Curtiss-Wright Corporation, Airplane Division, St. Louis Plant.

"Production Must Grow!"

During the latter part of 1928 and in 1929 our plant produced 749 Robins. Today this is not phenomenal but thirteen years ago it was a world's peacetime record — a new high in aircraft production. So impressive was it that the Press of the nation acclaimed "the airplane has arrived as part and parcel of the life of the everyday man in the street". A modernized version of this production record must be achieved by us, at all cost, during the current national crisis.

Our expanded manufacturing facilities are complete; practically all equipment is in place; a noteworthy task has been accomplished in a minimum of time, and, from our Final Assembly Department doors, airplanes are each week delivered to the U. S. Army and Navy ferry commands. Production is well underway but it must grow! This is the individual responsibility of every man — not only that our plant's reputation for quantity manufacture may be maintained, but, more important, because the very life of our country is in the balance and the successful results of your labor will help tip the scales to victory.

C. W. France

General Manager
Curtiss-Wright Corporation
Airplane Division, St. Louis Plant

COVER:—The statue of St. Louis located on Art Hill in front of the museum, Forest Park, St. Louis, Missouri, was presented to the City by the Louisiana Purchase Exposition in the early 1900's. It was at this famous Exposition that Thomas Scott Baldwin's airship, the California Arrow, powered by a Curtiss engine, made its notable record against many competitors. The Curtiss engine installation in the "California Arrow" really marks Glenn Hammond Curtiss' entrance into man's conquest of the air. His engine provided the answer to the American aeronauts' search for a high powered, light weight, efficient power plant. The airplanes superimposed in the illustration are the current Curtiss U. S. Army transport, C-55, now in service over England, the U. S. Navy trainer, SNC-1, a far cry from the unwieldy craft airships that lumbered over the statue's head the year of its presentation.

CURTISS-ST. LOUIS The MILESTONE BUILDER



by JOHN J. FOY
Editor, Curtiss Fly Leaf

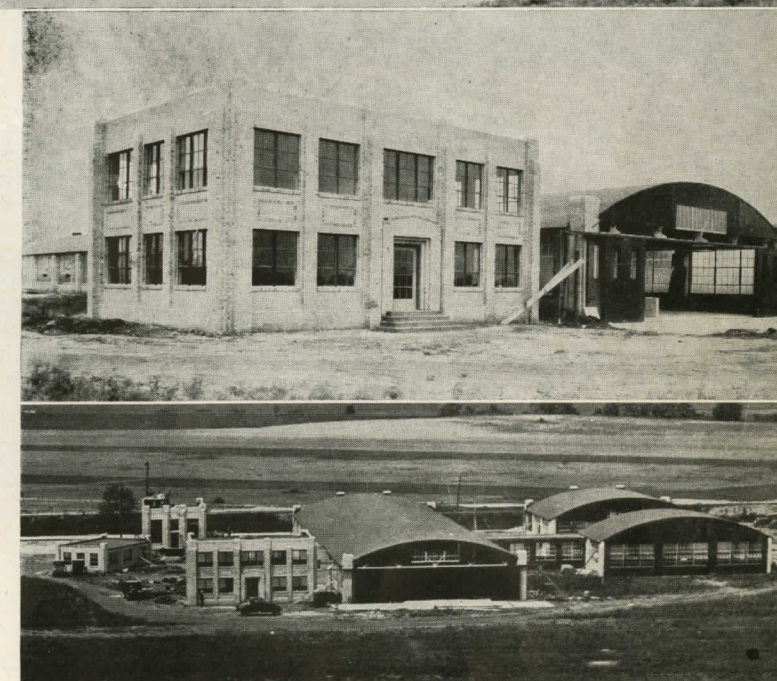
(This issue of the Fly Leaf is dedicated practically in its entirety to Curtiss-St. Louis' effort in World War II. In the new plant on Lambert Field, production is in the hands of a seasoned group of airplane manufacturing veterans, for Curtiss-St. Louis is not a new company. As aviation companies go, its years of contribution to the industry are many. There is an interesting story—one of success. Curtiss-Wright is proud of the past achievements of the St. Louis plant. We want everyone to know its background and accomplishments.)

In 1928 a new company appeared on the horizon of the world of aviation. This fact in itself is not startling — undoubtedly other aviation companies were formed during the same year. But the story of the Curtiss-Robertson Airplane Manufacturing Company of St. Louis, Missouri, is one of an organization which took off in the boom years, skyrocketed at a terrific rate of climb to early success, rode out the bumpy, stormy period of 1931 to 1938 and, with the birth of the National Defense Program, was moving along, on an even keel, a seasoned organization and an important producing factor of military designs.

AN IDEA MATERIALIZES

Major W. B. (Bill) Robertson, president and founder of Robertson Aircraft Company of St. Louis, had a contract with the U. S. Post Office Department in 1927 to fly the mail. In addition, his company conducted a parts supply business, also an aviation training school. These activities brought him into close contact with the Curtiss Aeroplane and Motor Company from whom he purchased parts.

Through this, a close kinship developed between the two organizations. In these early days the engine rights of the Curtiss Aeroplane and Motor Company had not yet been transferred to Wright Aeronautical Corporation and Robertson learned that some 1500 Curtiss OX-5 engines were completed and in stock at the Garden City plant. The Major, who was far-sighted way beyond the times, had long been of the

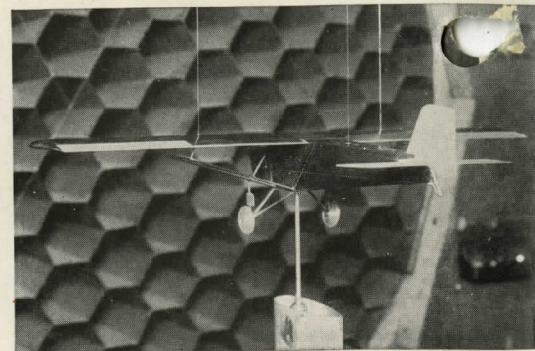


Across the top of the page is the Curtiss-St. Louis plant as it appeared about July 1940. To the right, a view of the original plant photographed in 1928. Directly above will be seen an intermediate stage in the growth of the old factory. Considerable manufacturing area was added and many individual expansions undertaken before the facilities as shown at top were completed. Today this plant no longer exists. On its site a huge factory 1,282,100 sq. ft. has been built and is now operating solely in the interest of National Defense.

opinion that a market existed for private airplanes which could be sold at reasonable prices to men of slightly better-than-average incomes. He had toyed with an airplane design idea built around the Curtiss OX-5 engine which, he felt, would fit logically into the market as he visualized it. As I say, he had "toyed" with an idea — the design was not down on paper nor had any prototype airplane been built. But, moved jointly by the prosperity of the times, his natural enthusiasm and an unshakable faith in the bright future of aviation, he approached the management of Curtiss with the suggestion that, by a consolidation of interests, a vast market for privately owned airplanes could be profitably and successfully tapped. Curtiss' interest at that time lay in the sales possibilities of



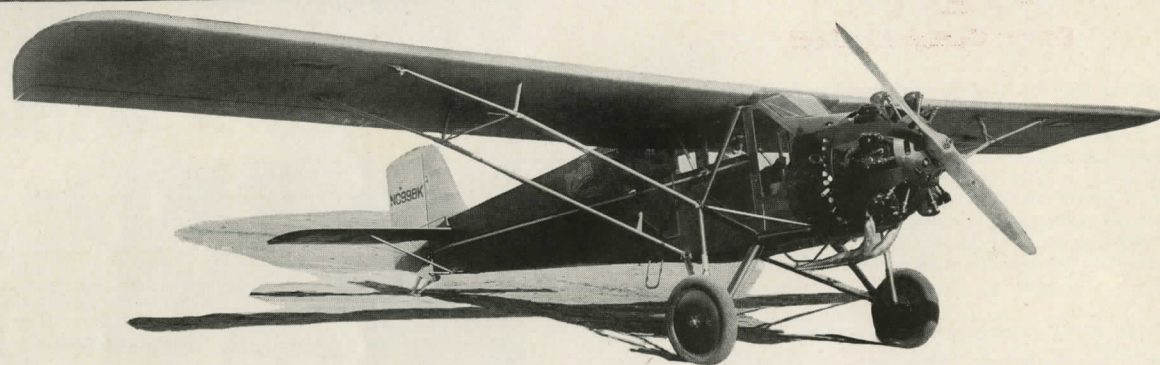
At left, refueling the Curtiss Robin from the air. This ship, famous for breaking all existing endurance records, was flown by Dale Jackson and Forrest O'Brine.



At right, The original scale model of the Curtiss Robin installed in an early wind tunnel in preparation for tests.



The Thrush, another Curtiss-St. Louis airplane of 1929-30 vintage. A six place ship, its production overlapped that of the Robin.



Above, The Curtiss Robin, first private airplane ever built on mass production lines patterned after those found at that time in the automobile factories of the nation.

the OX-5 type engine, Robertson's in the future of a new manufacturing enterprise producing aircraft suitable to the needs of Mr. and Mrs. America.

A NEW COMPANY IS BORN

In 1928, negotiations having been satisfactorily completed, the Curtiss-Robertson Aircraft Manufacturing Company was formed with factory and offices located on Lambert Field in Robertson (St. Louis), Missouri. Here began a saga in industrial enterprise and high ambition which stands out most colorfully in the history of aviation. Robertson got his brain child down on paper and named it the Robin, a three place, fabric covered, tubular frame airplane. It became one of the best known designs in the annals of the entire industry.

Existing records fell and new records were set by Curtiss Robins. Doug Corrigan, the famous "wrong way" flyer, made his memorable trans-Atlantic flight in a Robin of nine years vintage. Earlier, Forrest O'Brine and Dale Jackson set a new endurance record for continuous flight in their Robin. The plane was refueled from the air and their food was passed to them through the same channels. They even changed spark plugs in the air and the newspapers each day carried

• PAGE FOUR

their colorful story to an eager, attentive nation.

But while all types of flying records fell in the wake of the Robin, it established for itself a new kind of record — this one, not for flight, but for mass production. In the Curtiss-Robertson factory on Lambert Field, the first production line patterned after the automobile industry made its appearance. In a little over a year from the time the company was started, 749 Robins had been produced and were in service throughout the country. Business boomed. The outlook was bright and the success of the new venture seemed assured.

GREAT NAMES ARE JOINED

As the "prosperity era" hit its peak in 1929, Curtiss-Robertson, together with various other companies, were formed into the group which today bears the world-famous name of Curtiss-Wright Corporation. This consolidation included such other well known corporations as the Curtiss Aeroplane and Motor Company, Travel Air, Wright Aeronautical Corporation and Keystone. The Thrush, Curtiss-St. Louis-built, a single engine, six place airplane, entered the field about this time, its production overlapping that of the Robin.

It was the feeling of the aggressive new organization

that the time had come when the airplane industry should place its designs on the market through channels similar in their principal respects to the automobile distribution and sales system. Consequently, the first such sales group ever to appear in aviation was set up during the years 1930 and 1931 with the airplanes of the Curtiss-St. Louis plant as its products.

The nucleus of the newly formed dealer organization was selected on the basis of previous successful operation in the selling, merchandising and servicing of automobiles and the Curtiss-Wright Sales Corporation came into being with the Curtiss-St. Louis plant as its manufacturing outlet. They franchised and contracted with dealers and distributors who in turn operated under their own names. The country was divided into sections and dealerships were placed in the hands of regional sales managers. A thorough and complete market analysis was undertaken. As a result, it was decided that Curtiss-St. Louis should design and build a variety of airplane types for private usage.

AIRPLANES FOR MR. AND MRS. AMERICA

The most popular of these designs, the Curtiss Junior, retailing for \$1450, was priced to attract the widest portion of the total market. Progressively other models in the higher price brackets were built so that the entire Curtiss-St. Louis line of private airplanes progressed regularly in price up to an eight place Curtiss-Travel Air retailing at \$26,000.

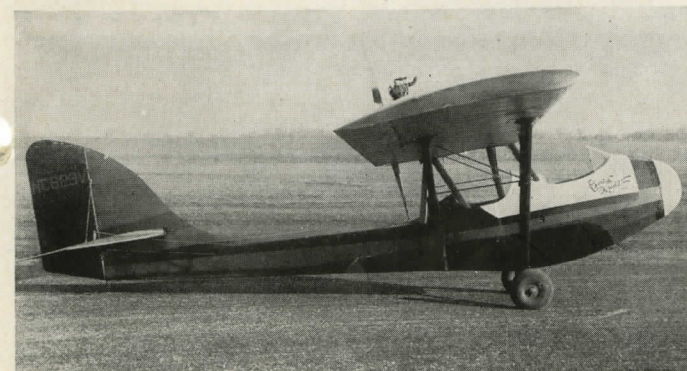
One of each of these airplanes was completed in St. Louis and when the full line was ready for display, the dealers and distributors were called to the factory. In addition to the sales force, the dealers' pilots accompanied them on this visit and it was part of the contract that these men should fly all of the Curtiss-St. Louis models. Questionnaires were furnished them and from their reactions, information as to the operation, design and flying characteristics of each type was obtained. Over 400 such reports were written. From the information received, modifications and refinements were made on the airplanes and within a very short space of time, over 265 Juniors alone had been sold.

Gregory J. Brandewiede, now assistant secretary of the Curtiss-Wright Corporation and Director of Purchases at the St. Louis plant, whose record of service dates back to an association with Major Robertson even before Curtiss-Robertson was formed, smiles as he reminisces on the events of these early times. "We sold a lot of Juniors," chuckles Brandewiede, "but not enough to justify our low unit cost. Then, when we attempted to raise the price to cover our manufacturing costs, the sales stopped. Maybe it was due to the depression which we were just beginning to feel in St. Louis but which I understand had become pretty bad in other places throughout the country. Anyway, we hit the doldrums."

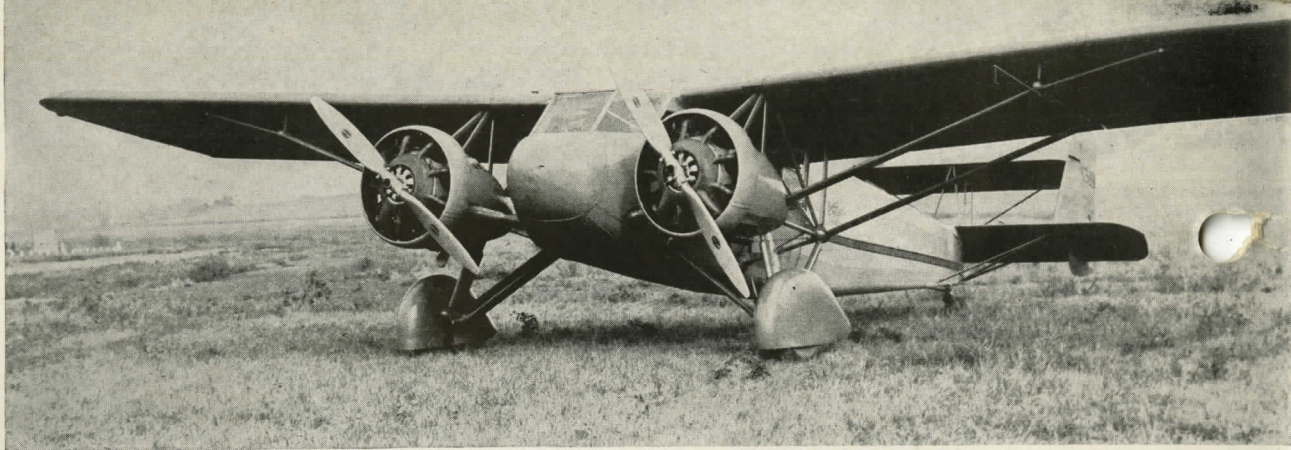
Thus "finis" can be written on this chapter in aviation history.

• PAGE FIVE

Left, the 1930 Curtiss-St. Louis Junior designed to sell for \$1,450, the low-price member in a line of private airplanes which ranged up to the \$26,000, eight place, Curtiss-Travel Air illustrated at right.



As the great Depression took its toll upon the nation, Curtiss introduced the Kingbird, one of the first twin-engine commercial airplanes in U. S. carrier service. Turkey's first commercial airline, when instituted, used Kingbirds for flying equipment.



CURTISS ENTERS COMMERCIAL FIELD

Not content, however, to exploit solely the field of privately owned airplanes, Curtiss-St. Louis had been doing considerable experimenting in commercial transport designs. They introduced the Kingbird, one of the first twin-engine airplanes used on carrier lines. However, the capacity of this ship — it was eight place — made it better suited to feeder line operation than for main line air transport work. Eastern Airlines was one of the first customers. Their Kingbirds were later sold to Turkey for use on the original commercial airline operation of that country. Two Kingbirds also went into service with the U. S. Marines.

Then came Curtiss-St. Louis' second big contribution to the world of commercial flying. The company which had continued experimenting with various transport designs during the period when the Kingbirds were in production, introduced in 1932 the famous "Condor". This ship, huge for its day, carried 18 passengers in addition to its crew. Eastern Airlines once again was the first major customer. Shortly afterwards the American Airlines bought a Condor sleeper plane, the first luxury airliner embodying sleeping facilities ever to take to the skyways. Admiral Byrd purchased a Condor for his first trip to the South Pole and because of its phenomenal performance under the most adverse of weather conditions, obtained a second one from the U. S. Navy when he embarked on his next trip to Antarctica.

It is interesting to note at this point that Glenn Hammond Curtiss, who in May 1910 flew from Albany to New York, following the Hudson River, in two hours and fifty-one minutes, thus clipping three hours from the fastest train time of that day and, in addition, winning a \$10,000 prize for his effort, reflew his original route on May 29, 1930 in a Curtiss-St. Louis Condor. What must have been the thoughts and reactions of this patriarch of aviation who a scant twenty years before had taken his life in his hands to make this same trip in a kite-like contraption called a "flying machine"?

Condors were in service in every continent on the

globe. The Chinese purchased a redesigned commercial Condor converted for military bombing purposes. Reports received not many months ago indicated that this airplane was still flying over China and was being used for the transportation of money between the multitude of scattered municipalities which make up her hinterland.

The U. S. Army purchased Curtiss Condors and the cargo version of this famous ship sold widely in South America where its design was found ideal for transporting heavy mining and oil field equipment inland from the sea. Condor bombers also entered Columbia's military service.

With the introduction of metal-clad commercial transports, Eastern Airlines returned their Condors to St. Louis to be converted into cargo ships and delivered to England. Half a hundred of these pioneer commercial airliners were in service at one time — a record for this type of ship during the years 1932 to 1935. Many of them are still doing yeoman duty in foreign countries. But Curtiss-St. Louis, realizing that the advent of the all-metal skin spelled the doom of fabric covering, were already designing a giant luxury airliner which only recently reached the high standard of perfection which its engineers felt essential to its announcement.

SHIFT AND SHUFFLE FINANCING

George Ebert, now Comptroller at Curtiss-St. Louis and whose services with the company date back prior to the days of the Condor, tells, in whimsical fashion, a story of the financial problems which beset the St. Louis company about the time the Condor was introduced. It is the type of story which one would not dream of telling then, but which in the light of today's events, is a compliment to the perseverance and courage of the organization which already had felt the sharp teeth of the Depression. "I don't think I will ever forget," says Comptroller Ebert, "the day when having strained every possible resource, we were prepared to offer the Condor to the commercial airline

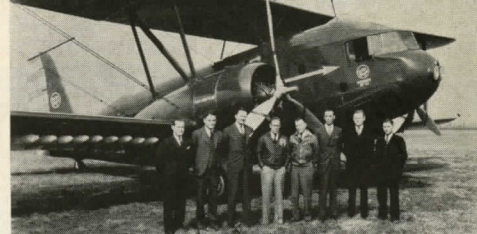
operators of the world. We had about \$1,200 in the bank — half the money needed for one week's payroll but there wasn't a man in the organization who would have been willing to fold his hands and say quits'.

"Eastern Airlines was our first customer. We asked for and received 25% cash in advance on the signing of their contract. This gave us the necessary financial support essential for the purchase of materials and at least enough to tide us over a few payrolls. The Goddess of Luck certainly must have been smiling down on us because shortly after receiving Eastern's contract, we sold American Airlines. The same down payment was asked for and received and we progressed one step further in this memorable and hectic transaction.

"I can recall the day when Ralph Damon, who was at that time president of our organization, obtained an order from the U. S. Army for two Condors to be delivered in thirty days. We all wondered how he was going to do it. But, Eastern Airlines agreed to lend us two of their ships already on the production line and after incorporating the necessary Army changes, we

A fair conception of the size of the giant Condor that pioneered the commercial skyroads across America, can be gained from the picture below. Unfortunately, the identity of some of the men in this 1933 picture is unknown to your editor. However, starting from left to right are a few whose names are now well known. Second from left, E. Russ Goodlett, next to him, E. K. "Rusty" Campbell. In fifth position, C. W. Hunter, now running an airplane manufacturing plant in China. Next in line, G. M. Ebert, Comptroller at Curtiss-St. Louis. A careful study reveals W. J. Moulder, today Quality Manager at the Curtiss plant on Lambert Field and to the right J. N. Foster, Factory Superintendent also George Page, Chief Engineer. The tenth man in the group is Ralph S. Damon, formerly President of Curtiss-St. Louis. The big fellow under the propeller of the left engine nacelle is G. J. Brandewiede and elbowing him is J. E. Samuels. Fifth from the right S. A. Carlson, at the time Service Engineer for Wright Aeronautical Corp, and third from the right, George Gay. H. Lloyd Child, now Chief of the Flight Test Section at Curtiss-Buffalo, stands immediately to the right under the ship's nose. An apology is offered to anyone remaining unidentified, but nine years change many faces.

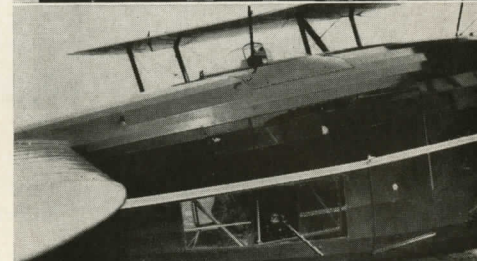
The Condor Bomber. Note bomb load under lower panel. Standing, L to R, G. M. Ebert, R. S. Damon, G. J. Brandewiede, Frank Hawks, E. K. Campbell, G. A. Page, K. Perkins, J. N. Foster.



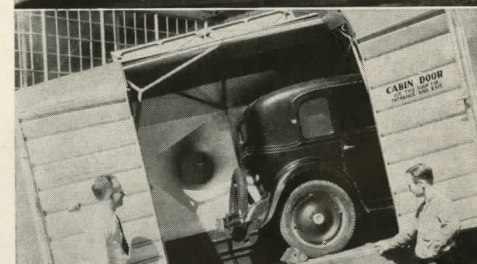
The Condor Transport. A full passenger load is shown standing along the trailing edge of the panel. Some Condors carried 18 people.



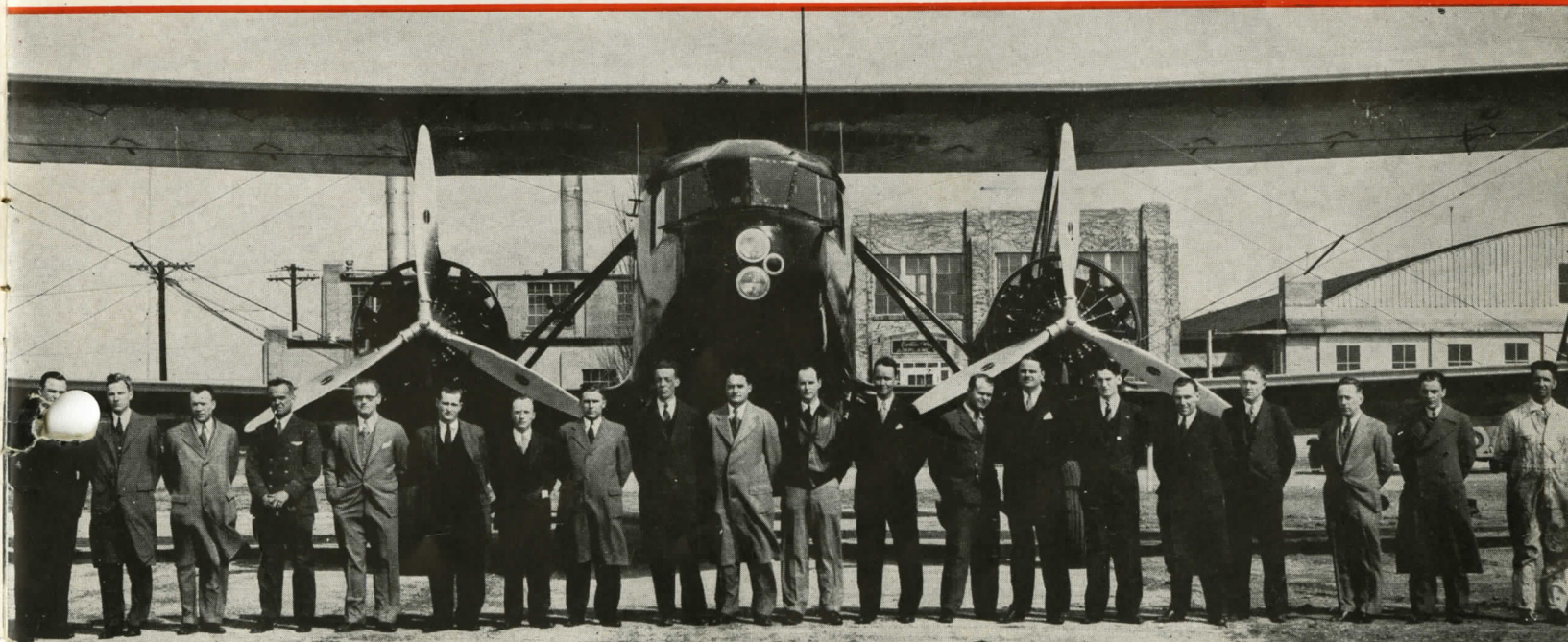
The tail end of the Condor Bomber fuselage. Note the revolving turret at the top of the fuselage and the armament at the bottom.



Condor cargo-transporters are still in use in South America. The ample cargo compartment is well illustrated by the automobile shown inside.

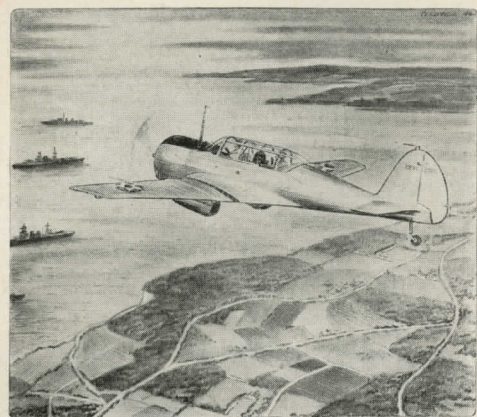


Two Condors made the trip with Admiral Byrd to the North Pole. In the group, L to R, are Jack Allard of the New York Office, Admiral Byrd, Harold June, pilot of the ship, and Al Lodwick, former Curtiss-Wright executive.



NAVY TRAINERS FROM AN INLAND PORT

THE CURTISS SNC-1



Safely situated west of the Alleghanies and east of the Rockies, in a haven sheltered from the likely attack zone, the Curtiss plant is producing a two place tandem observation-trainer, the SNC-1, for the U. S. Navy. Modified in accordance with Navy specifications, the SNC-1 is basically the CW-22-B, latest addition to the famous Curtiss-St. Louis "19 Series" covered at greater length elsewhere in this chapter.

The SNC-1 is a low wing monoplane and is powered by a Wright Whirlwind, nine cylinder, radial engine, turning a two blade, two position propeller. The tandem arrangement of the cockpit is ideal both for pilot training purposes and for observation duty since the observer is afforded a completely unobstructed view.

SNC-1 production and deliveries are well underway and will continue to increase. For the U. S. Naval Air Bases these ships are already performing an important duty in preparing naval pilots for their graduation into larger combat flying equipment and Navy bombers.

were able to deliver as per contract—on the nose.

"Thus by an intricate pattern of shift and shuffle, all three contracts were signed and completed successfully and we wound up our first year of Condor sales with all bills paid and \$100,000 in the bank".

Curiously enough, while getting the material for this story, I sat at George Ebert's desk while he held a conversation with someone in one of the branches of the military services. It went somewhat like this.

● PAGE EIGHT

Below. Three important developments in the evolution of the Curtiss-St. Louis famous "19 Series" are illustrated. At left, the "19-L" designed under contract for the U. S. Department of Commerce (now the Civil Aeronautics Authority) which was seeking a safe, all-metal airplane for private use. At center, the "19-R", a

"Hello G—I!", said Ebert, "Say, when are you fellows going to send us some money? We haven't got a lot coming, only about two and three-quarter million, but we've got a payroll coming up and I can use some of it." No matter how big or how successful, the problems of business and financial management are always present.

ENTER THE "19" SERIES

Retracing our steps, however, to the year 1935, the time when Condor production had been about completed, the U. S. Department of Commerce (now the Civil Aeronautics Authority) contracted with Curtiss-St. Louis to design and build an all-metal airplane for private or sportsmen pilots' use. The primary essentials were a reasonable retail price, an all-metal skin and the widest possible factor of safety. The resulting design was the forerunner of what in St. Louis today is known as the "19 Series". In its early engineering stages, it became apparent that the design held great military possibilities. Having recognized this fact, the engineering department kept it permanently in their collective mind as the design progressed.

The first airplane of the "19 Series" was designated the "19-L" and when completed was turned over to the Department of Commerce thus winding up the contract. Following on the heels of the "19-L", the "19-R" military trainer was built. This was a two place, tandem job with an open cockpit and non-retractable landing gear equipped with pants. It mounted two machine guns and included two bomb racks. Sixteen of these were sold to South American countries.

Foreign countries, now our Allies in the present world struggle for the preservation of democracy, showed considerable interest in the design but requested that Curtiss-St. Louis continue their development in order that the non-retractable landing gear could be eliminated and retractable gear substituted, thus improving the streamlining of the ship and increasing its speed and altitude. In compliance with these requests, the basic "19-R" design was changed and the new type gear installed. At this point the "19" designation of the ship was also dropped, the model

later development of the "19-L" and built as a military trainer. It featured a two place tandem cockpit and non-retractable landing gear streamlined with pants. At right, the CW-22-B, basically of the "19 Series" but again modified, further streamlined and equipped with retractable landing gear, is a two-place trainer.

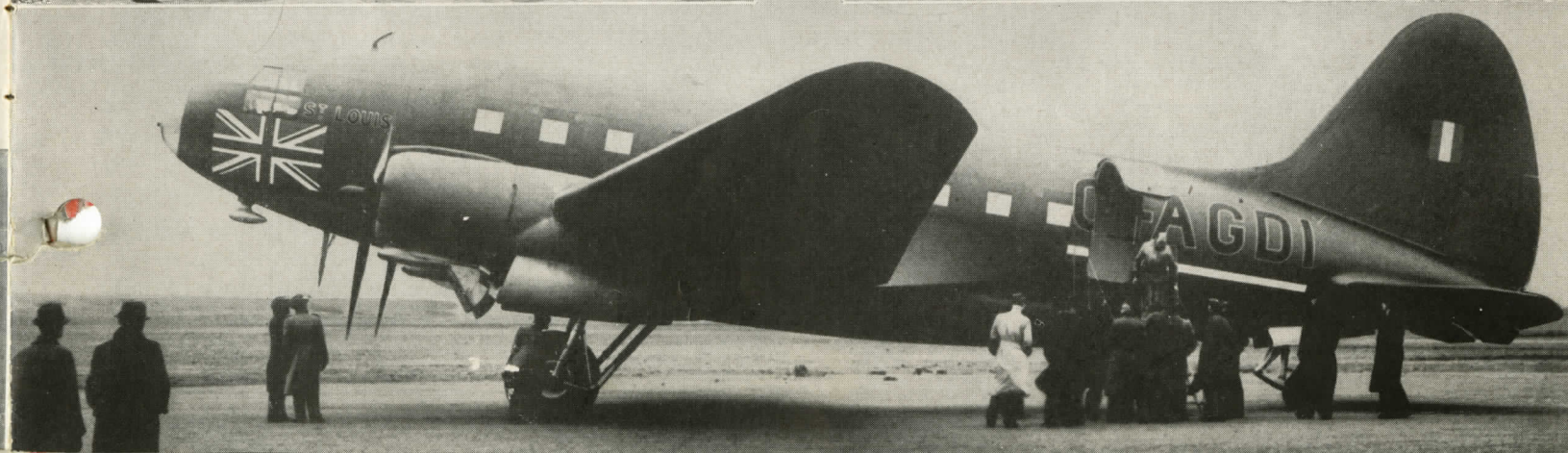
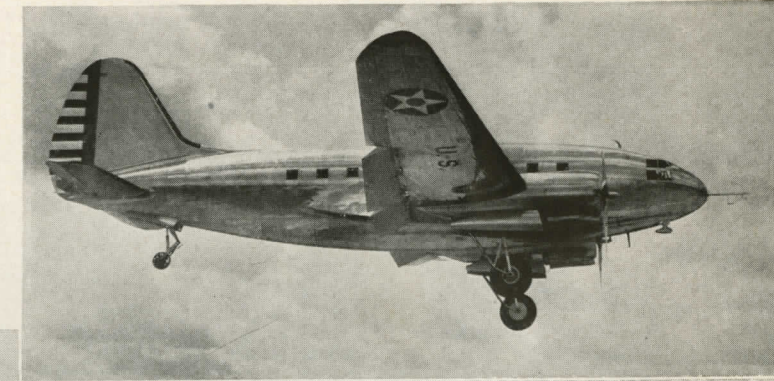
In service with the Netherland East Indies, a long line of Curtiss Interceptors, CW-21-B's, are shown on an unidentified airport. Many are now taking an active part in the war against the Axis. At the extreme right is the CW-22-B military trainer, also of the "19 Series" with, left to right, Marvin Parks, of Curtiss-St. Louis; Captain Henry A. Maurenbrecher, N. E. I., and Captain Derck Bode-meijer, also of N. E. I.

being called the CW-21, a single place, low wing monoplane, powered by a Wright Cyclone, 9 cylinder radial engine. Again modified the design is now known as the CW-21-B. It has proved to be the world's fastest climbing interceptor. A mile a minute, straight up! The CW-22 and the current CW-22-B are also basically of the "19 Series" and were built as two place trainers or for observation service. The U. S. Navy version now in production is officially designated the SNC-1. Several hundred of the CW-22 series have been sold.

THE CURTISS TROOPSHIP OF THE SKIES

It should be remembered that while the "19 Series" dates back to 1935, its evolution consumed a period of years—years during which Curtiss-St. Louis continued their experimentation and development on a twin-engine transport with all-metal skin. The twin-engine design was selected because investigation of the transport field, through the operation managers of the principal airlines, pointed to the fact that all other qualifications being equal, maximum pay load and low maintenance or operating costs were primary purchas-

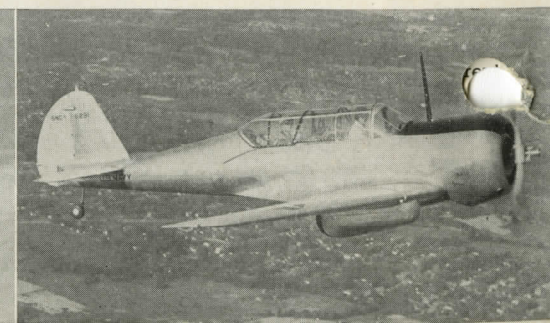
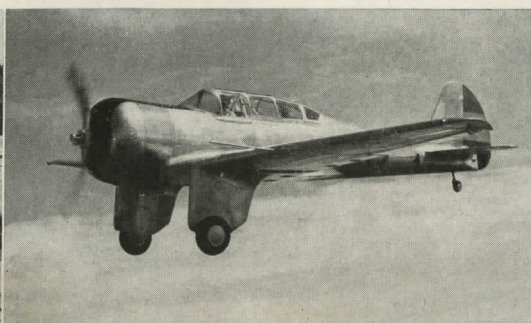
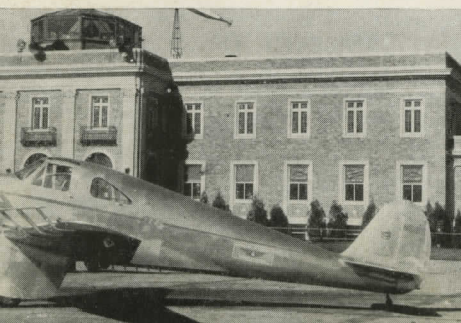
IN CIVILIAN DUTY the huge Curtiss-Wright transport, the CW-20, shown at left below during a routine flight test. Production is well underway on an Army version of this ship, the C-46, troop and cargo transport.



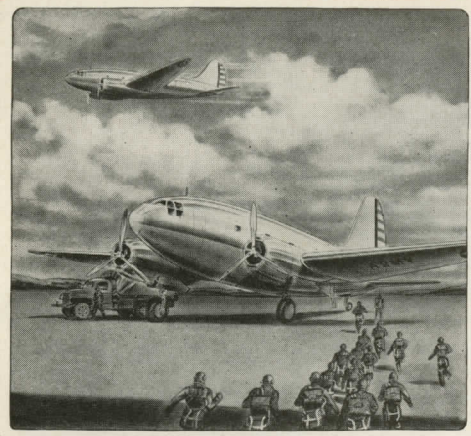
ing considerations. With the engineering of the new design completed, a prototype airplane was placed in production and designated the CW-20. Its passenger carrying capacity was 36 people, a 100% increase over the maximum passenger cargo of the early Condors. In addition the CW-20 would accommodate a crew of five for deluxe service, or four for normal commercial operation. In its vast cargo holds it had capacity for 5,200 pounds of freight or air express. The CW-20 was powered by two Wright 1750 horsepower twin Cyclone engines and incorporated many innovations in its construction and design such as a specially constructed tell-tale system of warning lights to fore-

● PAGE NINE

IN MILITARY SERVICE the original Curtiss-Wright transport modified in accordance with U. S. Army specifications. At bottom: The same transport after arrival in England. Note camouflage and insignia.



THE TALE OF THE "20"



As recounted elsewhere in this chapter, with the advent of the all-metal commercial transport, the production of Curtiss fabric-covered Condors was stopped and the company concentrated on the completion of its engineering plans for the development of the CW-20, the largest twin-engine transport in the world. Many important features of the design had to be perfected before it was felt that the ship was ready to be offered to the air carrier systems of the world. For instance, an objective of Curtiss engineers was to build a transport having a cruising speed of better than 200 m.p.h., an important plus-value in view of the fact that today's twin-engine airliner cruises at approximately 185 miles. A cruising speed of 220 miles for the CW-20 was easily achieved and this at only 55% throttle. Next, increasing the payload received close attention with the result that the CW-20 carries about 50% more passengers than other twin-engine transports now in service. Its cargo capacity was similarly increased—a total load of 5200 lbs. can be easily stored in its giant cargo compartments.

Twin-engine installation was felt most advisable since operation and maintenance costs are vitally important factors in the successful operation of any air carrier system.

It is interesting to note in this connection what John W. Morrison in England has to say concerning four-engine bomber operation as compared to twin-engine. His thoughts in this connection are also applicable to transport designs. Comments from his letter addressed to Cy Caldwell of the magazine, "Aero Digest", and reprinted by them in their December 1941 issue follow: "The ideal long range heavy bomber has yet to be produced. Personally, I still prefer the twin-engine bomber to the four-engine one although I am bound to agree that the absence of engines in the 2500 to 3000 horsepower class has, up to the present, been the governing factor in favor of four engines. The problem of essential air flow diameter seems to have been effectively overcome with four bladed and co-axially mounted, contra-rotating air screws.

"We can take the Curtiss cargo transport or troop-carrier as an outstanding example of an aircraft capable of carrying a load of 14,000 pounds together with petrol, oil and crew over a distance of more than 1,500 miles on two engines. I don't know of any four-engine bomber that will lift a heavier load than this airplane.

"The reduction in the number of cockpit controls would be a boon to the bomber pilot and the considerable reduction in the number of engine installation man-hours would boost production. Two 2500 horsepower Turbo supercharged Wright duplex engines and a considerable smaller cabin would result in a top speed around six miles a minute".

While Mr. Morrison's comments deal with the operation of bombers, he pays a high compliment to Curtiss engineering foresight in his remarks on the Curtiss-Wright transport, recently converted into a troop-cargo ship and designated by the Air Corps, the C-55. It made the trans-Atlantic flight to England in nine hours and forty minutes where its performance apparently attracted Mr. Morrison's eye. The production airplane is called the C-46 and a large U. S. Army contract is underway in the Curtiss-Wright plants.

Dean C. Smith, Director of Cargo Programs, in a candid camera view, leaning against one of the giant prop blades of the Curtiss C-55.



tell faulty operation of engine, landing gear, oil pressure or the point where fuel supply was becoming dangerously low. Sound proofing material was utilized and a de-icing installation incorporated on the leading edge of the wing and tail areas.

Hardly had the ship been completed, or to be more accurate, shortly after flight tests had started, the U. S. Army, in line with the current National Defense Program, contracted for the production and conversion of the CW-20 into a troop-cargo transport and designated it the C-46. Many of these Army changes were incorporated in the prototype airplane to which the Army had assigned the designation, C-55. Upon the completion of this work, the luxury airliner, which had been originally planned for peacetime roles in the skyroads over the world, was delivered to the military services and later transferred by them to Great Britain.

One day, not so many weeks ago, the huge ship took off for a trans-Atlantic hop. Its flying time over the ocean was nine hours and forty minutes. It arrived without incident and is now taking its place in the battle over England where enthusiastic reports of its performance have been received from high governmental sources. A cablegram from England dated December 19, concerning her trip, says in part, "Pilot was very pleased with her. She has created considerable interest in aviation circles in England". John Bull, in line with the English practice of naming all designs, has called her the "Curtiss-St. Louis", a fitting tribute to a great ship, since, seldom is the maker's name combined with a nickname.

COURTNEY'S AMPHIBIAN

Dropping current production for a moment, a colorful character joined the ranks of Curtiss-St. Louis in the early '30's. He was Captain Frank Courtney, who during World War I made quite a record for himself in England's R. A. F. The great ambition of his life was to pilot a plane on a non-stop, trans-Atlantic flight—from England to the United States. Thus, it is not surprising, to find him at a later date in a Dornier-Wal, westward bound, flying through the darkness of night over the far reaches of the Atlantic.

His big boat was forced down upon the water in the dead of night—his only landing light, the fire which was fast consuming his ship. Courtney's rescue, little short of a miracle, in no way dampened his ardor for further exploitation in the field of aviation. He set about designing an amphibian of medium size but which he felt incorporated all of the essential features to make it a "perfect airplane".

He dreamed of taking off or landing gull-like on the ocean's crest, or, with equal ease, roaring skyward from the earth—or settling gently on a landing field. His enthusiasm for this "dream ship" ran high and was the principal factor in his persuading Richard Hoyt, at that time Chairman of the Board of Curtiss-Wright, on undertaking its production. Hoyt decided to center its engineering development and manufacture on Lambert Field, at Curtiss-St. Louis. Unfortunately the prototype did not hold great enough promise of high performance and the design, though far-sighted, died in the "X" model stage.

In all justice to Courtney, it should be stated that several factors contributed to the loss of Curtiss-St. Louis interest in his amphibian—Condor sales were still good—the 19-R and others of its series appeared to have a better future as production airplanes.

But, in his amphibian were incorporated two features. The first, the landing gear for ground operation was "tricycle". In light of today's divided opinions on the relative efficiency of this type of gear compared with the so-called "conventional" style, the Courtney

amphibian, of the early 1930's, proves quite interesting. Strictly speaking, of course, there was nothing new about tricycle landing gear. Glenn Curtiss used it on his Scientific American, prize-winning ship, the June Bug, in 1908 and on many later models. As a matter of record, it has appeared time and time again since the birth of heavier-than-air craft. But, Courtney's gear retracted, when the ship was in flight, thus greatly improving the streamlining.

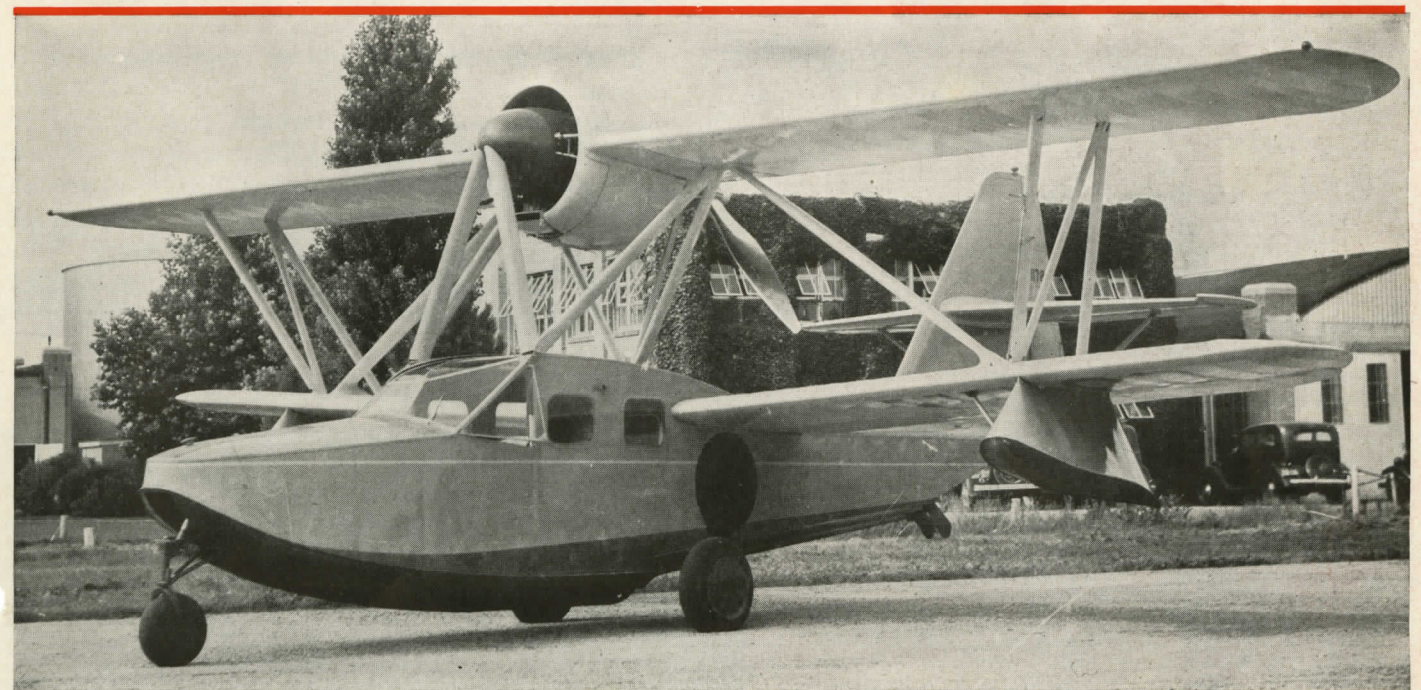
Another feature of Courtney's amphibian which is also interesting in light of today's developments, was his use of an extension drive shaft which turned the pusher propeller. The power plant was centrally located in a wing nacelle on the upper panel.

In closing, this brief story of Frank Courtney's life, one other interesting event should be recounted. Those familiar with aviation history will remember that Glenn Hammond Curtiss captured the New York World prize award for his flight from Albany to New York City on May 29, 1909. Curtiss, who called his early ship, the "Albany Flyer", lived to re-fly the same course in a giant Curtiss Condor twenty years later.

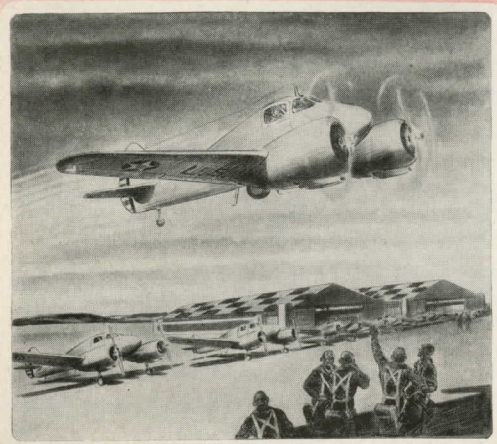
The big Condor, Courtney at the controls, left Albany with Curtiss and a group of honored guests aboard. Courtney had been erroneously told that Curtiss would fly the transport. He was unaware that many years had intervened since Curtiss' hands had guided an airplane. Shortly after the flight started, he nonchalantly reached for his camera and with summary abruptness, placed the flight in Curtiss' hands.

An excellent view of the Courtney amphibian showing clearly its large roomy cockpit and retractable tricycle landing gear. An extension drive shaft, running through the engine nacelle

on the upper wing, turned the pusher propeller behind the trailing edge of the panel. This ship was far-sighted in many features and born of Courtney's broad experience.



THE CURTISS AT-9 ARMY "JEEP" OF AIR



Many times forgotten in the hubbub concerning production of combat aircraft is the fact that the "production" of skilled pilots is just as essential to the nation's defense as the manufacture of the airplanes which they must fly.

In today's aerial warfare many types of trainers are employed to take the pilot through the various essential training stages. The primary trainer has its place. These light, low powered ships school the student-pilot in the fundamentals of flying. The basic trainer, a heavier type with increased power, carries this first training a stage further. Next comes the advanced trainer into which pilots, who have already obtained a degree of skill in the operation of primary and basic trainers, are graduated. Upon the completion of this phase of their training program they are ready to operate airplanes which perform actual military missions such as observation work, liaison, artillery spotting, troop placement, coastal patrol duty and the like.

Up until a short time ago the advanced trainer was the final training step for the pursuit or bomber pilot but today the U. S. Army has added another stage for their final seasoning and to prepare them for the operation of multi-engine bombers.

For this use the "Transition Trainer" was designed, its purpose being to duplicate insofar as possible the intricate operations of the modern, multi-engine bomber, pursuit or interceptor. The transition training period includes instruction in the advanced phases of instrument and radio flying. In addition, the Army employs a "Transition Trainer" which is virtually a "flying observatory" for instruction in celestial navigation. This is vitally important in today's aerial war since the safety of bombers engaged in a mission of nighttime destruction prohibits the use of radio navigation devices.

Curtiss designed and has in production the AT-9, a "Transition Trainer" intended to duplicate for the pilot all of the tricky flying characteristics which he must expect to meet once he takes over the command of a multi-engine airplane. Its purpose then is primarily one of final flight instruction rather than navigation, although it is fully equipped for blind flying and radio operation.

The AT-9, therefore, must be recognized as most important in the final training program of the Army pilot. Many have already been turned over to the Army Ferry Command and have been flown to their designated bases. Many more are on Curtiss production lines—still more will follow until the Army's full quota has been delivered. Has it a nickname? You bet! Like all other popular Army airplanes, it is familiarly known by its own pet name, the Army "Jeep" of Air.

● PAGE TWELVE

It is said that Curtiss admits being nervous as he first "took over", but his early skill was fast reborn and for the remainder of the flight, he flew the giant with a master's hand. He did not relinquish the controls until the time came to land.

Thus, another character appeared from the wings of the Curtiss-St. Louis stage—a resourceful man of iron nerve—a designer—an excellent pilot.

"VIVE LE FRANCE!"

The General Manager at Curtiss-St. Louis is C. W. (Charlie) France. During World War I he served with the British in the famous Lafayette Escadrille, later transferring to the American 17th Squadron where he ran up a sizable bag of Boche aircraft in a series of colorful skirmishes. Small in stature, quiet spoken, he gives one the impression of great capability.

His problems in connection with the expansion of the St. Louis manufacturing facilities have been many. In 1939 only 152,000 square feet of manufacturing and office space were utilized by the company. But, with the birth of the National Defense Program in 1940, a total of 57,800 square feet was rented. This additional space comprised buildings widely separated from the main building and scattered all over Lambert Field.

I can recall a visit to Curtiss-St. Louis not more than a year ago. Whenever it was necessary for me to talk to someone not in the building in which I happened to be at the moment, I had to borrow an automobile and drive to whichever one of the miscellaneous quarters sheltered my man. It was not unusual to put fifteen to twenty-five miles on the speedometer during the normal conduct of a day's business.

Even in normal times, with no great pressure being exerted on an organization, Mr. France's problems of management, under these circumstances, would have been most difficult. But, with the extreme pressure of the National Defense Program, the thunder of riveting as the steel work of the new plant reared upward into the sky, it was enough to try the patience of Job. Added to the headaches of physical expansion was that of increasing personnel which, at the beginning

With the Curtiss Transport forming an impressive background, Guy W. Vaughan, left, Curtiss-Wright President, and Charles W. France, right, Vice-President and General Manager of Curtiss-St. Louis, are shown seated on the bulldozer used to officially start digging operations on November 19th for the new plant now completed on Lambert Field.

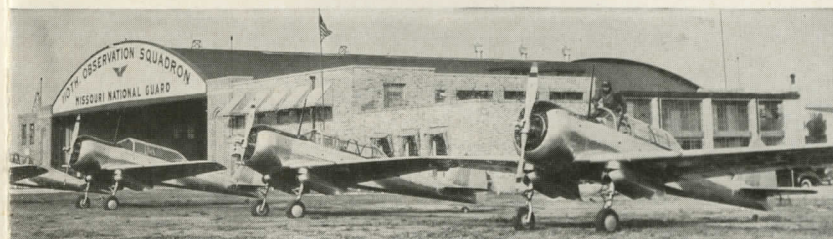
of 1940, numbered only 481 people, but at the close of 1941 had reached many thousands.

The weight of Charlie France's manifold problems have left their mark. His shoulders appear to droop a little and, as he walks through the corridors of the new plant, he gives the impression of deep pondering but the bright energetic sparkle is still in his eye. Refusing to talk about himself, he told me quietly, "There are many men better known to our industry who at one time or another were part of this organization. Lt. Col. J. H. "Jimmy" Doolittle, Frank Hawks, who met such an untimely end, Ralph Damon, Walter Beech, Eddie Allen, were all once part of this company. Theirs are well-known names, typical of the experience and caliber of today's management and personnel. These names will add more color to your story than mine". With these words of modesty, he closed my interview on the St. Louis operation and turned again to the problems of production.

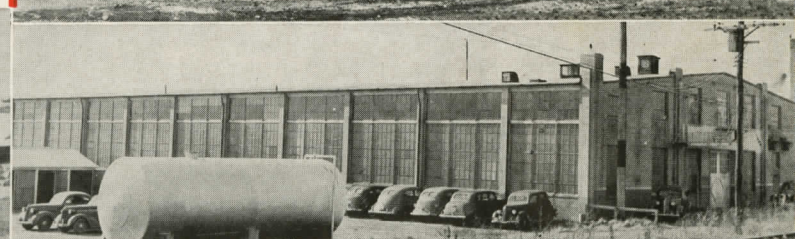
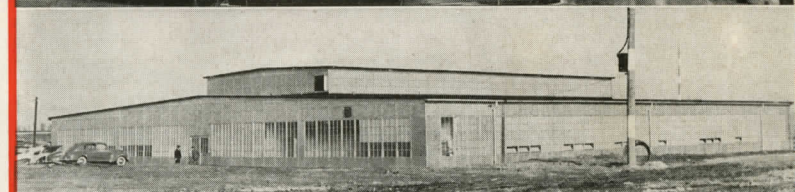
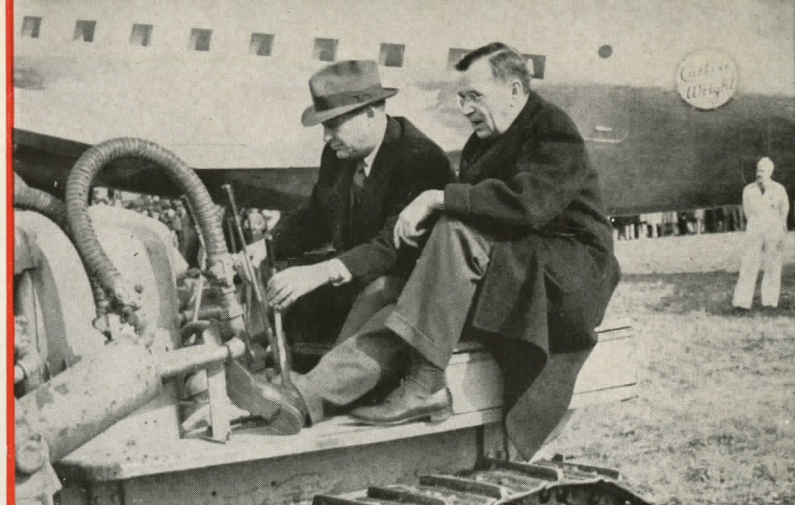
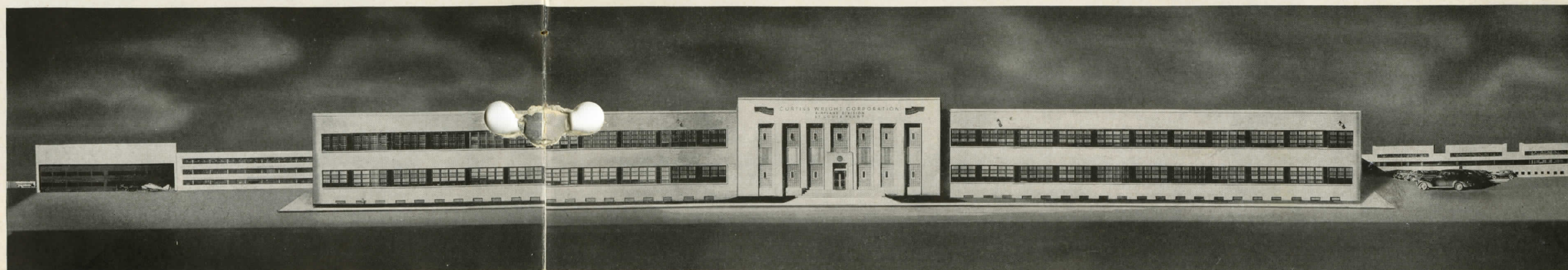
The hush-hush which must cloak all military operations during wartime, prohibits further discussion of current Curtiss-St. Louis manufacture. However, you can safely bet your money that the demonstrated foresightedness of the St. Louis organization is continuing through this period of crisis—that additional new military designs will, before long, materialize into final production and add their strength to the mighty air forces which our country has well underway.

● PAGE THIRTEEN

The buildings shown in this group were utilized by Curtiss-St. Louis in its fevered expansion which took place immediately after the announcement of the National Defense Program. Widely separated over Lambert Field, they were nevertheless the only sites available to take up the overflow of the growing organization. Note the country church in the center of the group on the right.

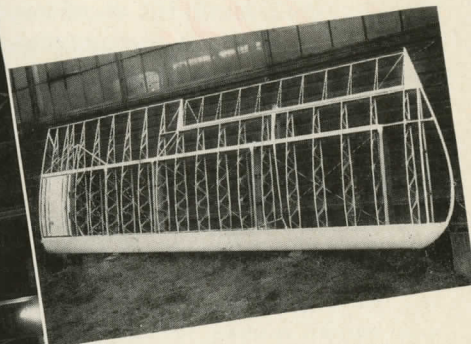


Compare the huge Curtiss-St. Louis plant below with its earlier predecessor illustrated on Page 3. 1,282,100 sq. ft. working in the interest of National Defense.



13 YEARS AGO...

1929



Above, Curtiss-St. Louis factory scenes of 1929. Note the production line which Curtiss introduced to the aviation industry when manufacturing the famous Robins. Many interesting features catch the eye in these pictures. For instance, the modern type illumination in the Final Assembly Department shown at left, or directly underneath, the view of the panel department which shows several woodworkers — artisans no longer used in aircraft production. Second from left below, one of the first, if not the first, ship produced by Curtiss on Lambert Field.



To peek at the first and last pages of the manufacturing scrap book of J. N. Foster, Factory Superintendent at Curtiss-St. Louis and one of the first employees of the company, is, for all the world, like lifting the curtain on the first act of "Perils of Pauline", that popular melodrama of the past, and then, by some miraculous transformation, finding yourself gazing at the modern stages of "The Philadelphia Story".

Six of his rare old photographs illustrating the Cur-

tiss Robin in production are reproduced on the page above. Taken in 1929, they contrast vividly with the accompanying, up-to-date production pictures appearing on the next three pages; and are all the more interesting because, in their time, they illustrated the last word in modern aircraft manufacturing methods. Long strides have been taken by the industry in the intervening years. But, if these early pictures appear crude or make you smile, think how advanced they were in their day compared with aircraft manufacturing pictures of World War I.

Yet, today, the aircraft manufacturer is still heavily beset with the problem of a multitude of hand opera-

and Today

.. AT CURTISS ST. LOUIS

tions essential to the fabrication of modern military airplanes. In the light of present conditions, single-purpose machines such as are found in great abundance in automobile production are impractical in aircraft manufacture. The comparatively small number of units purchased of one design, even in our all-out defense effort, make the utilization of this type of specialized equipment financially impractical. In their place general-purpose machines and presses must be utilized, ones with a wide variety of application.

It is this factor of quantity that makes it fairer to compare airplane manufacturing with yacht building

rather than to attempt a comparison between the production of automobiles and airplanes. In the first place, in its accepted modern sense, mass production in boat building is indisputably impractical. The market for yachts is too restricted. The same applies to airplanes. But, despite this handicap, the aviation industry has forged ahead. Five years ago the total annual output of all types of aircraft was only a paltry few hundred. Today, the industry is producing in one week several times the total annual production of a few years back. Thus, we progress, supply and demand being the all

Continued on Page 29



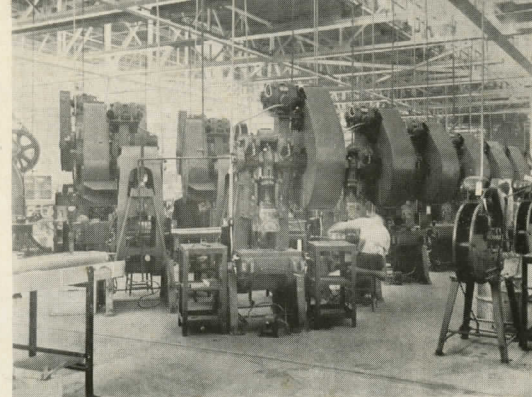
1947



Above, a view of Final Assembly Department in the new St. Louis factory, a far cry from the view taken thirteen years ago and shown at left. Photographs at right show the application of skin to framework while at the bottom a huge new press forms major aircraft parts.



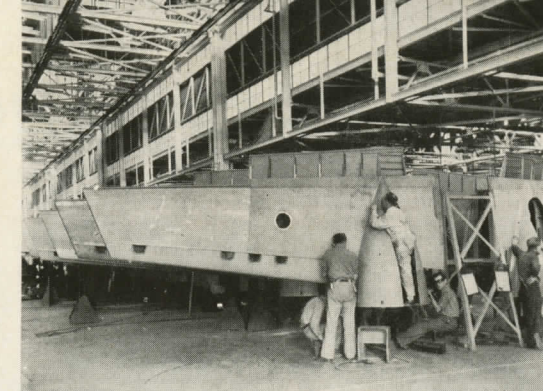
Hungry Jaws—Pressing Major Parts.



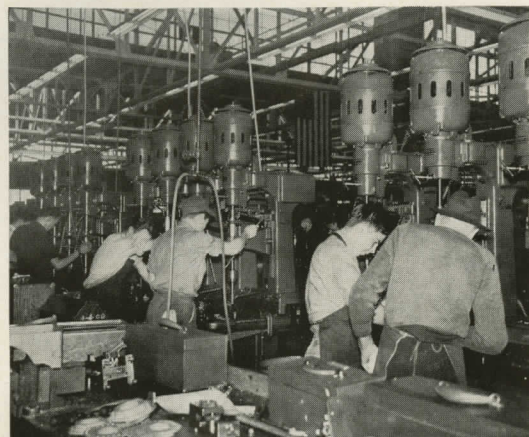
A Modernistic Forest—The Punch Press Section.



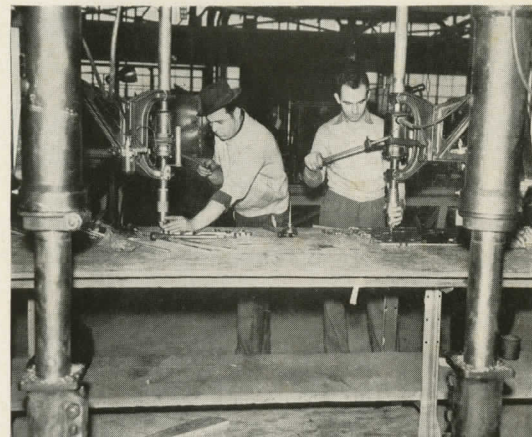
Bulkheads and Stringers—The Belly of the AT-9.



Clean Up on AT-9 Trainer Panels.



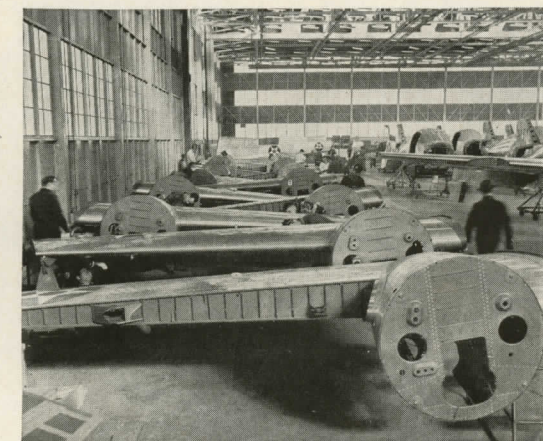
By Fours Abreast—The Drill Press Section.



Two Men at Jack Knife Drills.



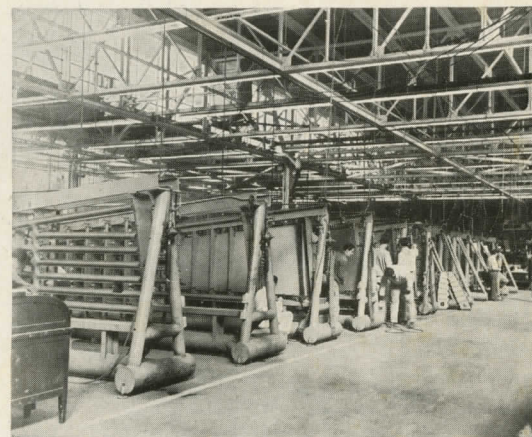
The Skin Game—A Fuselage is Covered.



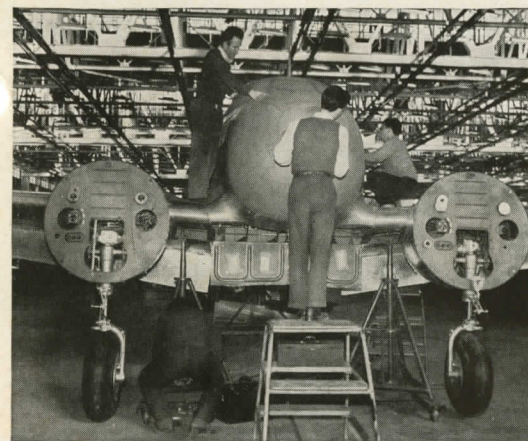
Trainer Wings—Final Assembly



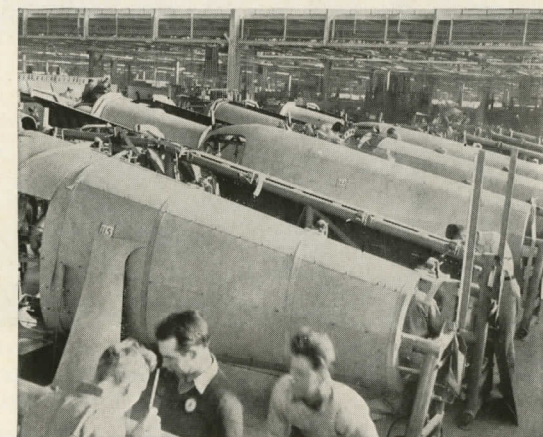
Women in Defense Production—Inspection.



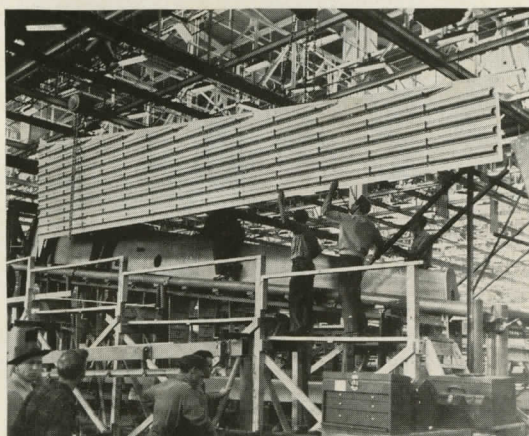
Wing Sections for Troopships—Jig Time.



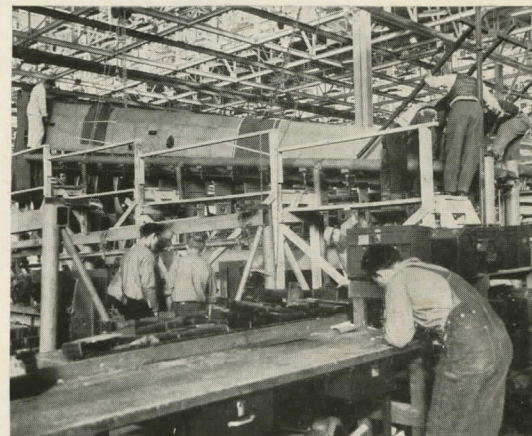
Panel, Fuselage and Center Sections Are Joined.



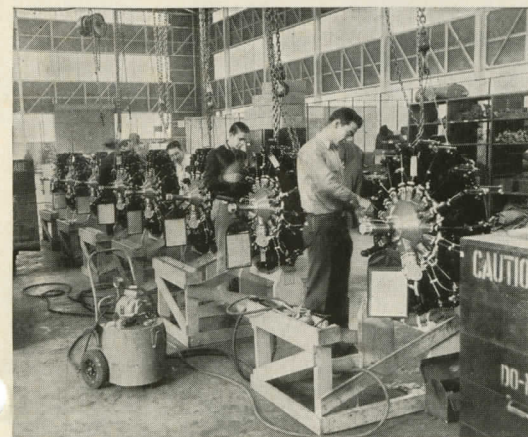
Like Ocean Waves—Over the Fuselage Department.



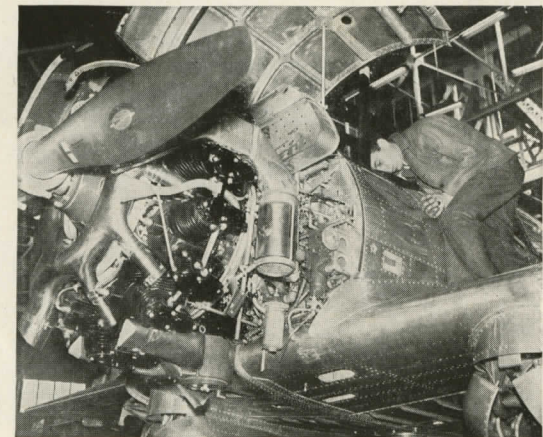
Hoisting Skin Panel to Wing—Double-Decker Jig.



Troopship Panel Leading Edge is Put in Place.



Power Plants for Installation on War Birds.

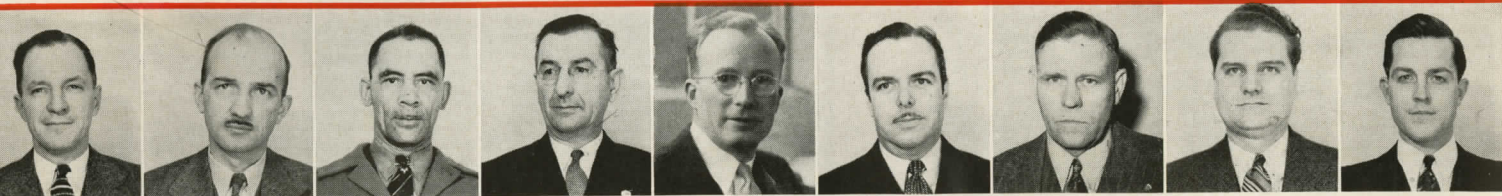


At the End of the Line—Final Assembly.

SKILLED VETERANS IN THE BATTLE



Above, L to R, J. P. Davey, 23 yrs.; G. A. Page, Jr., 22 yrs.; S. W. Young, 22 yrs.; G. J. Brandewiede, 13 yrs.; G. M. Ebert, 13 yrs.; J. N. Foster, 13 yrs.; Carl Snarrenberg, 13 yrs.; C. M. Tucker, 13 yrs.; E. A. Goodlet, 13 yrs.



Above, L to R, H. R. Moles, 13 yrs.; L. F. Engelhardt, 13 yrs.; C. D. Williams, 13 yrs.; M. Andrews, 13 yrs.; P. J. Paulton, 13 yrs.; W. J. Moulder, 12 yrs.; W. H. Burcke, 12 yrs.; N. H. Deck, 12 yrs.; H. E. McDonald, 12 yrs.



Above, L to R, B. A. Grace, 12 yrs.; M. A. Rhoads, 12 yrs.; E. M. Flesh, 12 yrs.; Oscar Hammer, 12 yrs.; Ralph Gregory, 12 yrs.; A. E. Honey, 12 yrs.; H. M. Hill, 12 yrs.; G. E. Knierim, 12 yrs.; J. J. McMenamy, 12 yrs.



Above, L to R, Florence Weishaar, 12 yrs.; A. H. Hesskamp, 12 yrs.; C. L. Giesler, 12 yrs.; C. W. Meyer, 11 yrs.; C. H. Hurkamp, 11 yrs.; Wm. Maxwell, 11 yrs.; W. K. Maierhoffer, 11 yrs.; W. H. Braznell, 11 yrs.; F. Schmoele, 11 yrs.



Above, L to R, Paul Meyer, 11 yrs.; T. A. Cole, 11 yrs.; I. C. Young, 11 yrs.; H. J. Behlman, 11 yrs.; F. W. Feldman, 10 yrs.; R. F. Backs, 10 yrs.; Joe Leonard, 10 yrs.; Walter Forster, 10 yrs.; R. F. Dreifke, 10 yrs.



Above, L to R, E. T. Klein, 10 yrs.; D. N. Donzelot, 10 yrs.; R. G. Crowe, 10 yrs.; R. A. Fuhrer, 10 yrs.; H. E. Lee, 10 yrs.; H. C. Houser, 10 yrs.; J. H. Trebilcock, 10 yrs.; T. C. Stevens, 10 yrs.; Henry Miller, 10 yrs.

FOR PRODUCTION

Typifying the tremendous expansion which has taken place in the aviation industry within the last two years in the interest of National Defense is the Curtiss-Wright Corporation, Airplane Division's plant at St. Louis, Missouri. Not only has physical floor space been increased over fifteen fold, but personnel has been jumped better than eighteen hundred percent from the 481 people employed in the beginning of 1940.

If it had not been for the basic, skilled organization which, for years past, formed the backbone of Curtiss-St. Louis' operations, the task of absorbing the many thousands of new employees — of training them in aircraft production methods — would have been difficult indeed. But the nucleus of the present St. Louis organization has worked together for a long time. They know their business and, to a large extent, because of them, the task of absorbing the tidal wave of new workers was made far less difficult.

Traditional throughout the Airplane Division are its "Service Pin" groups. These are made up of the men

whose period of service with the company extends five years and over — these are the Curtiss-St. Louis' veteran-army who work unceasingly in the battle for production. Many of them were employed in the original Curtiss Aeroplane and Motor Company for years prior to the forming of the St. Louis organization. Some came from Travel Air and Keystone at the time of the combine in 1929. Their seniority is based on their total years service which includes not just their association at St. Louis but also the period of time they were employed by any of the companies which made up the original Curtiss-Wright Corporation. Hence, many boast a period of service which exceeds in years the age of the St. Louis organization itself.

Because this year's St. Louis group totals 148, space will not permit reproduction of all their pictures. We have been able to use only the pictures of those with a service record of ten years or better. "Service Pin-ers" in the five year group are listed by name.

Hats off to each and every one of them — they're doing a fine, creditable job in the production army back of the military forces.

St. Louis "Service Pin-ers" of Five to Nine Years

- | | | | |
|----------------------------|----------------------------|----------------------------|---------------------------|
| L. J. Burcke, 9 yrs. | W. L. Remmert, 7 yrs. | M. A. Piercy, 6 yrs. | Don Hanson, 5 yrs. |
| R. W. Fowler, 9 yrs. | E. A. Kuhlman, 7 yrs. | H. O'Brien, 6 yrs. | C. R. McWhorter, 5 yrs. |
| John Piggott, 9 yrs. | A. C. Steinhoff, 7 yrs. | E. F. Laskiwitz, 6 yrs. | E. J. Meyer, 5 yrs. |
| H. H. Waldschmidt, 9 yrs. | C. H. Marshall, 7 yrs. | J. King, 6 yrs. | Ray Ruge, 5 yrs. |
| George Wood, 9 yrs. | J. Fred Hager, 7 yrs. | D. Y. Moore, 6 yrs. | J. J. Rudnay, 5 yrs. |
| Dell R. Golder, 9 yrs. | J. A. Danzinger, 7 yrs. | H. A. Harter, 6 yrs. | J. Rutledge, 5 yrs. |
| C. W. Scott, 9 yrs. | H. M. Lohrman, 7 yrs. | J. W. Boucherie, 6 yrs. | L. Brooks, 5 yrs. |
| W. L. Wells, 9 yrs. | W. F. Remmert, Jr., 7 yrs. | Chas. A. Grady, 6 yrs. | G. G. Fleming, 5 yrs. |
| | Richard Behlman, 7 yrs. | E. R. Van Hise, 6 yrs. | Delores Kaemmerer, 5 yrs. |
| | A. Ruehmann, 7 yrs. | Zane Cieslak, 6 yrs. | A. J. Beutell, 5 yrs. |
| | Joe A. Tripp, 7 yrs. | Earl Wolfersberger, 6 yrs. | Ralph Prip, 5 yrs. |
| | Allen Lathrop, 7 yrs. | George Keevin, 6 yrs. | Paul N. Pierce, 5 yrs. |
| | J. B. Whitehead, 7 yrs. | Wm. R. Mahoney, 6 yrs. | Wm. R. Short, 5 yrs. |
| | H. L. Higdon, 7 yrs. | F. G. Gravemann, 6 yrs. | Lester W. Scholle, 5 yrs. |
| | Helen Ortmann, 7 yrs. | E. F. Lohmann, 6 yrs. | Russell Strand, 5 yrs. |
| | E. Koch, 7 yrs. | R. J. Endres, 6 yrs. | H. A. McLaine, 5 yrs. |
| | Nels Borgstrom, 7 yrs. | Louis Pataky, 6 yrs. | H. L. White, 5 yrs. |
| | A. A. Oeding, 7 yrs. | Mary A. Weishaar, 6 yrs. | E. W. Volk, 5 yrs. |
| | John Szabo, 7 yrs. | Lucille Hoorman, 6 yrs. | L. A. Meyer, 5 yrs. |
| | | Bernard Belleville, 6 yrs. | M. F. Barteau, 5 yrs. |
| | | R. J. Breitweiser, 6 yrs. | Gustave Carlson, 5 yrs. |
| | | R. Stroer, 6 yrs. | L. A. Raidt, 5 yrs. |
| | | | C. W. France, 5 yrs. |
| | | | E. A. Warren, 5 yrs. |
| | | | |
| F. J. Collins, Sr., 7 yrs. | A. B. Thaelke, 6 yrs. | Joe Littich, 5 yrs. | |
| Gunnar E. Carlson, 7 yrs. | C. E. Newkirk, 6 yrs. | L. J. Jordan, 5 yrs. | |
| W. F. McKinley, 7 yrs. | M. Buchholz, 6 yrs. | | |
| | C. Kaiser, 6 yrs. | | |
| | E. P. Feldman, 6 yrs. | | |



PEOPLE

PLACES

PLANES

U. S. Army and Navy Ferry Pilots

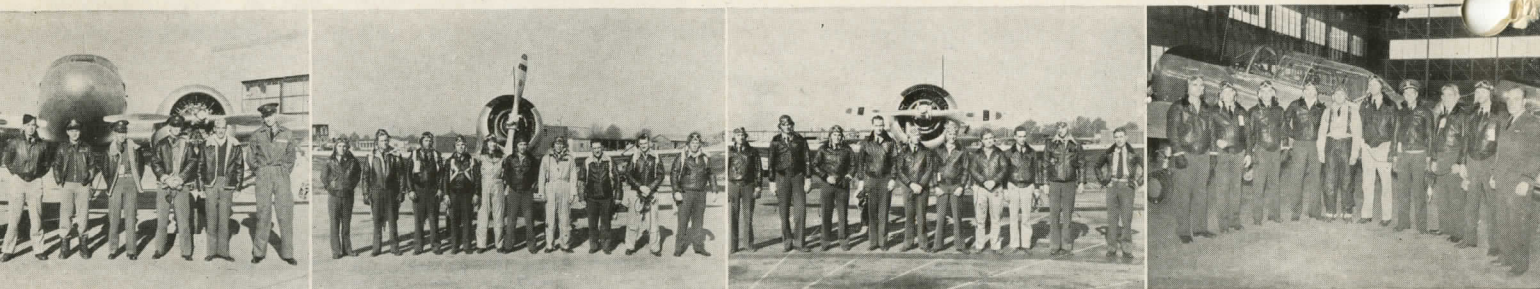
FREQUENT VISITORS AT CURTISS-ST. LOUIS

As each week passes and production within the huge plant on Lambert Field gains momentum, more and more U. S. Army and Navy Ferry Pilots are appearing with startling regularity to fly St. Louis built

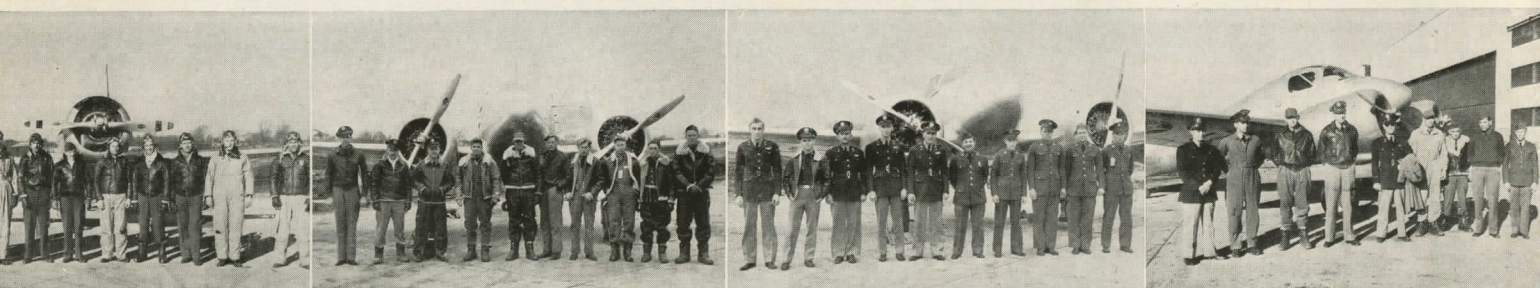
airplanes to the bases for which they are destined. Photographs of such typical groups taken recently are reproduced herewith. Look them over — you will find many familiar faces.



Above, left. Navy ferry pilots from Corpus Christi, Texas, recent visitors at Curtiss: L to R, Lt. L. O. Mathews, Lt. L. S. Price, Ensign T. E. Starr, Ensign H. F. Flacksbarth, Ensign J. D. Keeling and Ensign J. W. Hill. Second from left, Ensign J. H. Sandor, Ensign H. B. Bassett, Ensign W. R. Chamberlain and Ensign J. S. Neander. Second from right, Lt. V. L. Hathorn, Ensign J. O. Fisher, Ensign F. M. Johnson, Ensign J. A. Kush, and Ensign A. L. Couter. Right, Lt. D. W. Boyle, USMCR, Lt. J. C. Lindsay, USMC, Ensign F. T. Mahoney, USNR, Ensign M. Arthurs, USNR, Ensign G. F. Vance and Ensign W. E. Fitch.



Above, left. AT-9 ferry pilots from Turner Field, recent visitors at Curtiss-Columbus. L to R, Lt. John Kokolus, Lt. J. S. McKown, Lt. J. E. Frizen, Lt. O. R. Berney, Sgt. T. B. Lenze, Sgt. F. H. Truan, Sgt. J. B. Campbell and Sgt. A. W. Weissman. Second from left, a group of Navy pilots from Corpus Christi, Lt. F. E. Beard, Ens. S. B. Hibbard, Ens. E. S. Mathis, Ens. L. R. Swanson, Ens. M. L. Deahl, Ens. M. S. Alexander, Ens. C. A. Huff, Ens. F. C. Srsen, Ens. S. C. Blackiston and Ens. I. A. Envold. Second from right, Lt. Ernest W. Humphrey, Ens. Berg, Ens. Bellsi, Lt. Mathorn, Lt. Knight, Lt. Link, Ens. Appling, Ens. Johnson, Lt. B. A. Kempson and Ens. Dietrich. Right, taken inside of Final Assembly, Lt. H. H. Boys, Ens. R. T. Brown, Ens. J. H. Sandor, Ens. R. A. Ogden, Ens. C. R. Boothe, Ens. C. F. Clarke, Ens. B. M. Barrkman, Ens. R. G. Randal, Ens. R. D. Rupp and Ens. L. W. Blaisdell.



Above, left. Navy Ferry Pilots from Corpus Christi, recent visitors at Curtiss plants. L to R, Lt. P. D. Duke, Lt. F. W. Wiggin, Lt. F. W. Lake, Ens. J. A. Biren, Ens. H. W. LeFevre, Ens. I. E. Carey, Ens. A. J. Joungwaard, Ens. R. S. Swanson, Ens. F. O. Ibisch and Ens. J. C. Anderson. Second from left. Members of the Army Ferry Command from Ellington Field. Lt. R. M. Crow, Capt. Henry L. Borden, Lt. Jack Payne, Capt. Clark L. Miller, Major L. B. Kelly, Sgt. A. E. Cade, Sgt. E. V. Rickard, Sgt. Wm. A. Tyhurst, Sgt. C. H. Houston and Sgt. M. P. Hutto. Second from right. From Mather Field, Sacramento, California, Army Ferry Pilots. L to R, Lt. R. T. McKee, Lt. J. B. Riley, Lt. M. B. Hall, Lt. J. L. Harding, Lt. M. D. Harrell, Sgt. L. M. O'Neill, Sgt. K. M. Connell, Sgt. E. F. Roberts, Sgt. N. T. Grant and Sgt. W. D. Forester. Right, in the group of U. S. Army Ferry Command Pilots from Ellington Field, Major L. B. Kelley, Lt. J. S. Michael, Lt. Crow, Lt. Emenck, Lt. Lester L. Bear, Sgt. T. J. Bowman, and Sgt. G. A. Smith.



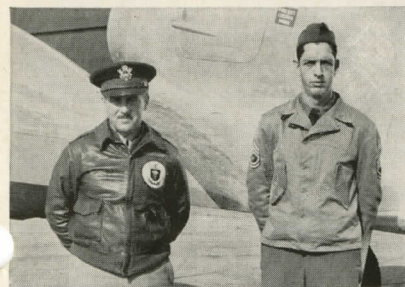
Above. Members of the Navy Ferry Pilot group at Lambert Field in Curtiss-St. Louis. L to R, Lt. F. R. Willet, Ens. D. M. Slater, Ens. J. W. Swiencicki and Ens. C. Walden.



Above. Another group of Navy Pilots ferrying SNC-1's to Corpus Christi. L to R, Lt. E. W. Wiggin, Ens. Kirkland, Ens. Sali, Lt. Griggs and Lt. Porter.



Above. Lt. Howard Boys, formerly with Curtiss-St. Louis, now with the Navy, shakes hands with E. M. Flesh, Project Engineer.



Above. Lt. G. S. Bond from Corpus Christi. Sorry, boys, but the photographer did not catch the Sergeant's name.



DOROTHY LAMOUR Visits Curtiss-Buffalo

Defense Bond Sale Approaches
\$1,250,000 Mark

Dorothy Lamour of silver screen fame got off to a flying start on her recent visit to Curtiss-Buffalo in the interest of the Defense Saving Bond Drive. In one minute she sold \$4,550 worth of bonds. Escorted through the factory by Curtiss executives, she spoke to the men in behalf of the bond sale during the noon hour lunch period. She is shown above, seated in the cockpit of a Curtiss P-40, with Burdette S. Wright, Vice-President in Charge of the Airplane Division, standing on the panel behind her, and Major C. H. Mitchell attached to the U. S. Army office at Curtiss-Buffalo plant on the right.



CURTISS-COLUMBUS WELCOMES

New Naval Inspector

Newly appointed chief Inspector of Naval Aircraft at the Curtiss-Columbus plant is Lt. Comdr. J. B. Kneip, who assumed his post December 11 after serving in a similar capacity at the Spartan Aircraft Co. in Tulsa, Okla. Commander Kneip is a native of St. Peter, Minn., and was graduated from Annapolis in 1915. He served on convoy duty with various destroyers during the first World War. His aviation background dates back to 1920 when he received his wings from the Navy air training school at Pensacola, Fla. Since that time he has served a number of aviation assignments for the Navy and in 1925 organized the first Navy torpedo plane at the San Diego base. Commander Kneip is unmarried, lives in Columbus at 1371 Virginia Av. in Grandview.



Recent Brazilian guests at Curtiss-Buffalo are shown above. L to R, Capt. Oswaldo Pemplona Pinto, Major Mendes da Silva, L. W. Botts, Col. Armando da Silva e Mello Ararigboia, Major Miguel Lampert, Major Leigh Wade, Major Nero Moura, Major Antonio Joaquim da Silva Gomes, and Manuel C. T. Llop.



In charge of the newly formed U. S. Army Property Office at Curtiss-Buffalo plant is Major Willis A. Garvey shown above with Mrs. Garvey.



Natives of Russia, one of the most active theatres in the current war are the gentlemen shown above on a recent visit to the Buffalo plant. Second from left, Major G. V. Uspenski, Lt. A. K. Selesnov, Major Constantine I. Ovchinnikov and Col. A. N. Kotikov. At extreme left is Lt. Whiteman who toured the Curtiss-Buffalo plant with the visitors.



A group of R. C. A. F. pilots at Curtiss-Buffalo. L to R, Flying Officers Wm. Lavery, John Scherer, W. L. Pigden, A. E. L. Cannon, Sgt. G. D. R. Baird, Flying Officer J. M. Ingalls, Sgt. F. R. Skelly, Sgt. C. B. Pierce, Flying Officer H. T. Mitchell and Sgt. W. D. Peacock.

Curtiss HOBBY HABITEERS

A TEETOTALER WITH A BEER HOBBY



Left, Earl Walker, beer bottle hobbyist, at work in the Curtiss factory on Lambert Field.

ght, one of the large cabi-
s in which Walker keeps
collection which now
767 separate and dis-
tinct bottles.

ow, no hobby this, 'tis
nored Walker plans to
ke it his life's work. We
er, of course, not to the
er bottles but to pretty
rtle Agnew, his number-
e girl friend. Below, right,
alker's answer to veiled in-
uations or direct requests
tapping a keg of father's
er.

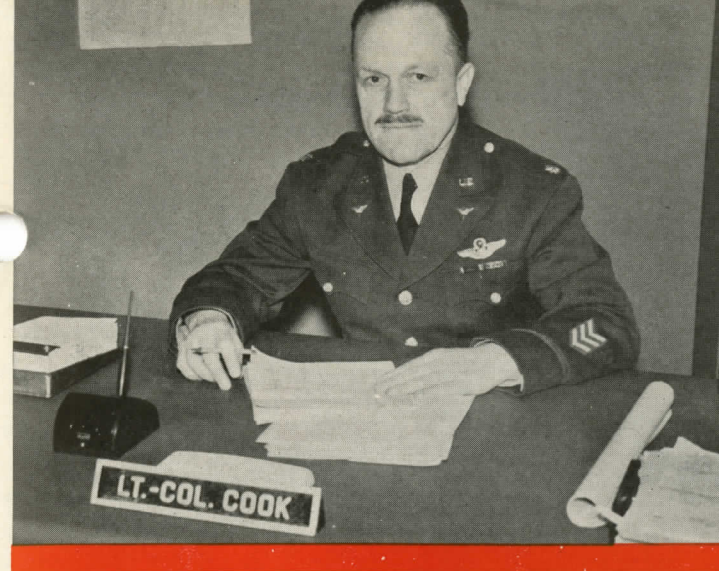


Here is a strange paradox. Earl Walker, welder, at Curtiss-St. Louis, is an abstemious young man. Oh, it has been rumored that on occasion he will take a sip of wine but on hard liquor and beer he turns thumbs down. Yet, despite his avoidance of giggle water in any form, he collects beer bottles from all over the world. Earl started his collection in 1934 just after prohibition was repealed. Today he has 767 separate and distinct bottles—all of them full. He has bottles from every state in the Union! There are bottles from Czecho-Slovakia, bottles from France, bottles from England, bottles from Sweden, bottles from Denmark, bottles from Holland, bottles from Mexico, bottles from Canada, yes, he even has bottles of beer from Germany and Japan.

Most of his collection has been given to him by thoughtful friends who know about his hobby but he has purchased quite a few himself. The highest price he ever paid for a bottle of beer was \$2.50. The most prized member of his collection is his brew from Czecho-Slovakia. (He sold a duplicate bottle to a collector in Chicago for \$65). The oldest in his collection was bottled prior to prohibition and was given to him by the president of a St. Louis brewery. Some of his beers are strong enough to stand by themselves, without benefit of bottle. They range from 17%, a Mexican product, to one-half of 1%, a relic of prohibition near-beer days.

Sharing his hobby interest is his girl friend, Myrtle Agnew. No, she doesn't drink either. Walker says that the thing that seems to interest people most is the wide variety of labels. Disconcerting in the extreme is the persistence with which his friends drop bottle openers as he is trying to explain the fine points of his hobby. While he admits that these little gestures are as subtle as a punch in the nose, he has yet to uncork the first bottle from his collection. Instead, he escorts his interested visitor to a well stocked beer cooler, (property of his dad) and with the greatest show of generosity, quenches the thirst of his heckler from the spiggoted barrel rather than the labeled bottle. Smart lad!

Continued on Page 29



Lieutenant Colonel
H. W. COOK
Air Corps Factory Representative
CURTISS-ST. LOUIS

front with the 94th Pursuit Squadron which was commanded by Captain Eddie Rickenbacker. While with this organization Colonel Cook operated against all kinds, types and forms of German Air and Ground forces. Officially credited with the destruction of seven enemy aircraft, he was awarded the Distinguished Service Cross with oak leaf cluster. He returned to the United States May 30, 1919, after serving several months in Germany with the Army of Occupation.

For a short time after the war, Colonel Cook was in the Air Mail Service of the Post Office Department and flew the mail between Omaha, Nebraska, Cheyenne, Wyoming, and Salt Lake City, Utah. He returned to the regular Army as a Captain in 1920. He completed the Air Corps Engineering School during 1921-22 and was assigned as Air Corps Representative with the old L. W. F. Plant at College Point, Long Island. Transferred to the Air Corps Tactical School at Lang-

Continued on Page 29

DUCKS FORGET TO DUCK

Ducks are considered a delicacy by many. Have you ever tried them roasted with savory oyster dressing or perhaps indulged in a large plate of Long Island duck with sauerkraut, potatoes and raisin stuffing? There are many ways to fix duck but, to Lt. J. G. Strange of the U. S. Naval Air Station in Corpus Christi, Texas, goes the 1941 "duck trophy". His original recipe for "duck l'aeroplane" has made him a famous personage over night.

His prize winning idea came to him right out of the blue or, maybe we should say midnight blue, because Lt. Strange at the time was night-flying a Curtiss SNC-1. The Lieutenant admits that quite a conflict took place between himself and the ducks which made him famous. The ducks were going one way, the Lieutenant flying the other. Neither got out of the other's path. The result—fried duck! And, if you don't believe it, the picture which accompanes this rambling will prove the story. Note particularly the tail feathers of the duck which appear just inside of the engine speed ring under the right hand prop blade. The duck, it is reported, was done to a nice brown turn. Moral:—Next time Duck, duck!



Lt. Strange returns victorious from his joust with the Ducks. How did he do? Well, he has one by the neck. The tail feathers of a second can be seen inside the speed ring to the right underneath the prop blade and judging from the front of the ship, there should be much rejoicing over roast duck throughout the countryside over which he flew.



Lieutenant Commander

JOHN H. CAMPMAN

Inspector, Naval Aircraft at Curtiss-St. Louis

After a long and active Navy career with the fleet, Lieutenant Commander John H. Campman had settled comfortably in his California home to enjoy his retirement when he was called to active duty as the inspector of Naval aircraft at Curtiss-St. Louis in October of 1940. He has held that post ever since.

Lieutenant Commander Campman decided on a military career early in life, attending the Virginia Military Academy before entering the United States Naval Academy at Annapolis, where he was graduated with the class of 1915. He served with the European Squadron of the fleet from 1918 until 1921 when he became a Naval aviator.

He commanded Fighting Squadron VF-5 and later Light Bombing Squadron VB-1. The squadron won the Naval gunnery trophy in 1929 and 1930, a coveted award during peacetime operations. The Lieutenant Commander is a bachelor and very popular among Curtiss personnel.



QUICK FACTS ON THE CURTISS PLANT IN

STRATEGIC

St. Louis

For military purposes, the Curtiss-St. Louis plant is ideally situated. It rests in the heart of the nation, the Alleghanies and Appalachians forming protective walls to the east and the Rockies, an equally strong barrier on the west. Here, the Missouri climate is not rigorous but remains uniformly good throughout the year, not so hot as to deprive workers of their energy, nor so cold as to make working conditions difficult. It is, in all respects, *strategic St. Louis*.

The construction of Plant 4 on Lambert Field involved problems not encountered in building Plant 2 on the Municipal Airport, Buffalo, New York, or Plant 3 at Port Columbus, Ohio. The original Curtiss-St. Louis plant, itself expanded several times during the past decade, stood on the actual site of the new factory. The urgency of the National Defense Program made it imperative that nothing be permitted to hold back production in the old operating unit while the new one

was in the process of completion. Consequently, as the army of workmen besieged the excavation with bulldozers, steamshovels, derricks, cranes and tractors, the gaping foundation spread over a vast area. The old buildings were torn down, literally piece by piece, to make way for new construction.

So imperative was the demand for an unbroken production flow, that original plans contemplated building the last sections of the new plant tent-like over the remaining sections of the old one, and, when thus completed, removing the walls from the old structure and expanding manufacturing throughout the mammoth arena built around it. Later events, however, proved this unnecessary for production throughout the entire construction of the new plant and the razing of the old continued at an increasing rate despite the many handicaps.

Continued on Page 29

ON THE MANAGEMENT FRONT AT CURTISS-ST. LOUIS



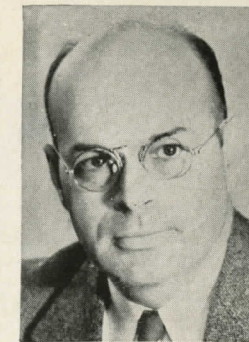
CHARLES W. FRANCE — Vice President and General Manager . . . born July 12, 1896 at Seward, Nebraska . . . attended University of Nebraska . . . awarded B.S. in Mechanical Engineering . . . served with Lafayette Escadrille in World War I . . . transferred to the U. S. 17th Squadron after America entered the war . . . shot down number of enemy planes while in Rickenbacker's squadron . . . upon return joined Mountain States Telephone and Telegraph Co. . . in 1928 transferred to Western Air Express in capacity of Division Superintendent . . . in 1934, Vice-president in Charge of Operations for Eastern Air Lines, Inc. . . in 1936 joined Curtiss-Wright as Vice-President-General Manager at St. Louis plant.



GEORGE M. EBERT — Comptroller . . . born February 23, 1906 at St. Louis, Mo. . . employed in 1929 as Chief Accountant of Gypsy Division of Wright Aeronautical Corporation . . . transferred to Curtiss-Wright Airplane Manufacturing Company in 1930 . . . made Assistant Treasurer and Assistant Secretary at St. Louis in November 1936 . . . Comptroller at this plant in July, 1940 . . . guided the financial helm of Curtiss-St. Louis during the stormy depression years . . . saw Curtiss enter commercial field with introduction of Kingbirds and Condors and later the CW-20, world's largest transport.



GEORGE A. PAGE, JR. — Chief Engineer . . . born in 1891 . . . flight training commenced in 1913 . . . holds F. A. I. License No. 279 . . . broad experience in all phases of shop work, field maintenance and flight inspection . . . transport pilot in 1920 and 1921 . . . airplane designer during World War I with Curtiss Engineering Corporation . . . joined Curtiss-Wright in 1917 and has been with the corporation steadily with the exception of two short vacations into the skyways . . . he has worked on between 50 and 60 separate and distinct Curtiss designs . . . now co-director of Engineering for the entire Division.



J. P. DAVEY — Factory Manager . . . born at Old Westbury, Long Island . . . joined Curtiss-Garden City in 1918 . . . in charge of maintenance and plant engineering from 1921 to 1929 . . . assistant to Factory Superintendent in projecting Condors and other experimental airplanes from 1929 to 1931 . . . transferred to Buffalo in 1931 in charge of experimental department . . . Superintendent of Experimental and Project work under Peter N. Jansen in 1937 . . . transferred to St. Louis August 22, 1940 as Factory Manager . . . his brother, "Bill" Davey, is Factory Manager of Buffalo Plants 1 and 2.



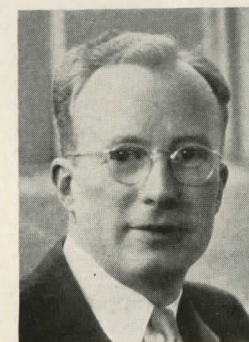
EDWIN A. WARREN — Sales Manager . . . his alma mater is Purdue University . . . graduate Aeronautical Engineering . . . flew with U. S. Army Air Corps until 1935 . . . returned to Purdue as Research Engineer . . . travelled the skyways as transport pilot with T. W. A. . . in 1936 joined Curtiss-St. Louis as Sales and Demonstration pilot . . . promptly sent to China . . . upon return did liaison work between Curtiss and the Air Corps . . . in 1937 demonstrated Curtiss planes in Mexico . . . was made Sales Manager of Curtiss-St. Louis in 1938.



GREGORY J. BRANDEWIEDE — Director of Purchasing . . . born June 15th, 1899 . . . a native St. Louisan . . . interest in aviation started in 1920 . . . barnstormed with Major "Bill" Robertson, Colonel Charles A. Lindbergh, Bud Guernsey, Earl Sloineger and other well known pilots . . . in 1926 this group was awarded second commercial contract by the U. S. Post Office Department for carrying mail between Chicago and St. Louis . . . joined Curtiss in 1927 . . . has served in many capacities . . . holds position of Ass't Sec. of Curtiss-Wright.



WILLIAM E. NICKEY — Assistant to General Manager . . . graduate of University of Minnesota . . . holds a Bachelor of Mechanical Engineering Degree . . . received flight instruction at the Naval Base in Pensacola . . . served as flight officer with U. S. fleet . . . was associated with Aluminum Industries as Production Manager in 1931 . . . returned to Navy in 1935 as Executive Officer of the U. S. Naval Reserve Aviation Base at St. Louis, Mo. . . served as Test Pilot for the Aviation Dept. of Shell Oil . . . joined Curtiss in 1940.



WALTER J. MOULDER — Quality Manager . . . served apprenticeship as tool maker . . . worked his way through college via the night-class route . . . attended Temple University at Philadelphia, Drexel Institute, Penn State and M. I. T. . . a member of Society of Automotive Engineers . . . twenty-five years experience in aircraft manufacturing and inspection . . . Navy inspector during World War I . . . has Navy dirigible experience . . . came from Moth Aircraft Corporation to Curtiss-St. Louis in 1930 . . . made Quality Manager in 1941.



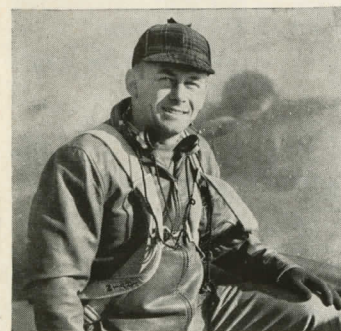
O. L. ALLMAN — Personnel Manager . . . born at Mount Vernon, Illinois, on July 16, 1903 . . . formerly Personnel Director of Owens-Illinois Glass Company serving at Huntington, West Virginia . . . was transferred to Owens-Illinois Can Company, St. Louis plant . . . came to Curtiss March 1, 1939 . . . his work, vitally important, has been to keep the factory supplied with trained personnel as expansion and increased production made it necessary . . . under his hand, employment has increased to 8,500 currently on the payroll.

Test Pilotin'

... WITHIN THE AURA OF A GREAT NAME

The silver screen and the printed word have had a great deal to do with our present-day conception of the "wild west". But, it was "every-day buisness" to the men whose adventurous backgrounds have been drawn upon to furnish the necessary color for dramatization. So it is fast becoming with aviation. As the shadow of Time steps between the past and the present, its early heroes are being reborn in fiction and on the screen. They are cloaked in a halo of brilliant, exciting living. This is particularly true in the case of pilots—test pilots—regardless of how long or loud they deny that their vocation embraces anything of a daredevil nature.

Many such brilliant characters color the pages of Curtiss-St. Louis Flight Test Section's history. Famous Major "Jimmy" Doolittle (now Lt. Colonel), Frank Hawks and more recently H. Lloyd Child, who



PILOT

Jack Jones traded law for aviation. Genial, likeable, efficient.

Rusty is no longer with us. He has passed on to a better world. Not as the movies would picture it—in a blaze of glory—but quietly, with his family by his side, in bed.

Rusty was a sandy haired, sandy complexioned Scotchman—unassuming, yes, even self-effacing. In World War I he instructed Army pilots in the principles of flight. The Curtiss Jenny in those days was the official Army training ship and so great was Rusty's



Lt. Col. James H. Doolittle, better known as Major Jimmy Doolittle, once test hopped 'em for Curtiss-St. Louis.



Earl K. "Rusty" Campbell in the cockpit of a Condor, many of which he not only test flew but sold for Curtiss-St. Louis.

The late Frank Hawks at one time associated with Curtiss-St. Louis who met an untimely end in an accident in East Aurora, N. Y.



skill as instructor and pilot, that the Army would not release him for actual combat service.

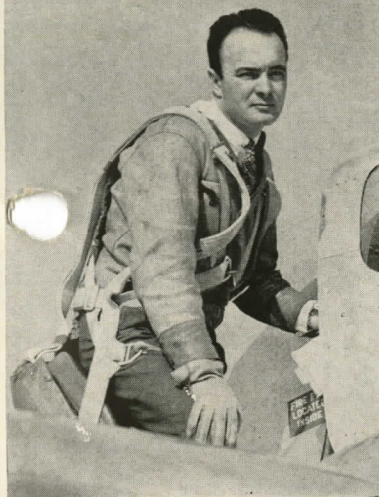
After the war, he, together with Father J. B. Culemans and Dr. C. C. Sloan, organized and operated the first airport at Moline, Illinois. A strange partnership this, with Protestant "Rusty," Roman Catholic Culemans and Doctor of Medicine Sloan at the helm. The worthy padre was the first priest in this country to receive a pilot's license. With the formation of the Curtiss Flying Service, the partnership sold out the port and Rusty, himself, joined the St. Louis organization. His partners, however, continued to operate a service hangar at Moline, Illinois, under Campbell's name.

Rusty's career with Curtiss was colorful. He test flew the famous Condors, Robins and Juniors in addition to other Curtiss designs. Much of his flying was in the nature of sales demonstrations. In his capacity as Sales Manager at Curtiss-St. Louis, he sold more commercial airplanes than



PILOT

Arch McEwen of "gopher fame". Also, Ass't to Service Manager.



PILOT

Rus Thaw, placed third in Bendix Race.

during his regime saw the airport improve and grow. It was during one stage in these expansions that Rusty, while standing beside his service hangar supervising operations, collapsed. Gene Lyons, now Public Relations Manager at Curtiss-St. Louis, was at his side at the time. It was Gene who took him home. Rusty died at a hospital, within the week, and thus ended

any other sales executive of the corporation.

As the great Depression progressed and the nation tightened its belt, it was decided to dissolve the Curtiss Flying Service. Rusty bought back his beloved airport but later sold it to the City of Moline where it became the second municipal flying field in the State of Illinois—Chicago was the first. Rusty was made Airport Manager and

the career of a famous and well-loved birdman. Many pilots, famous throughout the industry, learned to fly under Rusty's hand. Verne Carstens, who flew the Martin-Johnsons through Africa, Harold Neumann, famous racing pilot of many of Benny Howard's outstanding designs, credit him with much of their fame.

All one need to do is amble through the great plant on Lambert Field and mention test pilots. You are immediately deluged with "Rusty" reminiscences. Many men have been in the Flight Test Section before and since his day, but none seem to have captured the hearts—lived in the memories—of the old organization as has Rusty. The Flight Test per-

Continued on Page 30

PILOT

Harvey Gray, a S. American "Colonel".

But the Bosses Weren't There..

AT CURTISS-COLUMBUS PARTY

J. A. Williams, general manager of Curtiss Columbus, played host—by remote control—for the executive and supervisory force of the Columbus Plant the night of Saturday, January 3, 1942.

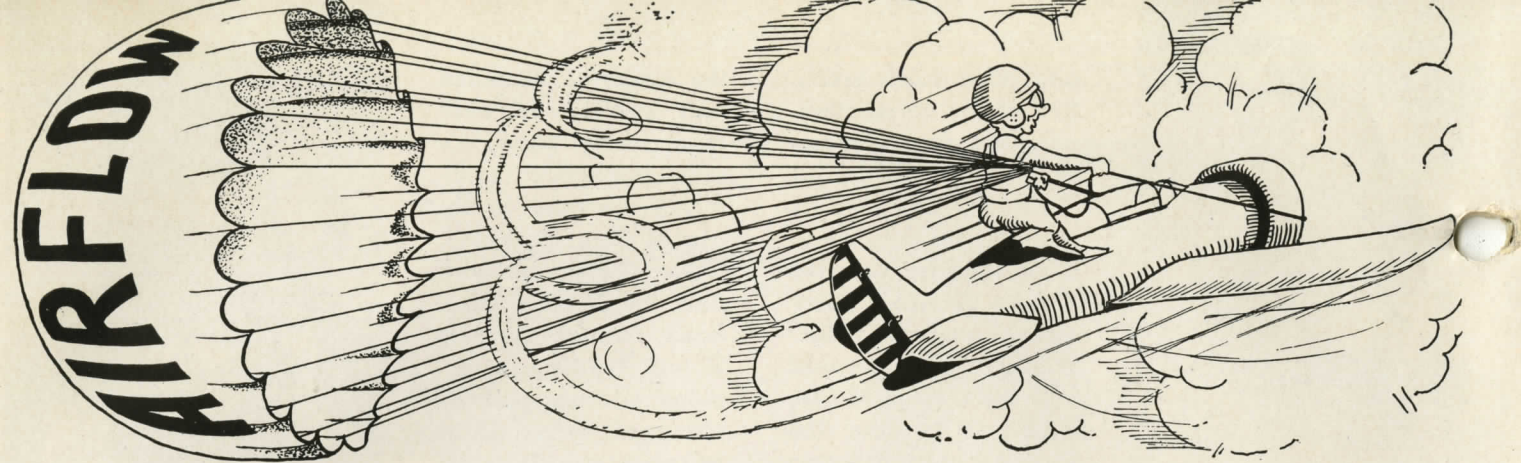
In Buffalo that day for a conference, he had planned to fly back in time for his party, but the conference did not finish in time, and he was not able to leave Buffalo until later that night by train. Also stymied by the same conference were Stanley I. Vaughn, factory manager, and Ray C. Blaylock, chief engineer, of the Columbus executive staff.

Tom and Jerrys were available in abundance, and the catering staff of the Columbus Country Club,

Continued on Page 30

Did they have a good time? Well, judge for yourself. Perhaps it's best not to identify them. All fellow-workers down in Columbus will know them anyhow.





The editor's little girl came in with an illustrated text from her Sunday school.

"What is that you have there?" he asked.

"Oh," she replied, "just an ad about heaven."

* * *

Said the mountain guide: "Don't go too near the edge of that precipice; it's dangerous. But if you do fall, remember to look to the left, you'll get a wonderful view!"



He took her gently in his arms
And he pressed her to his breast;
The lovely color left her face
And lodged on his full dress.

* * *

Actor: "So you're going to use me in your next play? You've really discovered at last what I am!"

Director: "Yeah, hurry up and get into the hind legs of that stage horse over there."

* * *

Then there's the one about the skunk who said, when the wind changed: "It all comes back to me now."

* * *

Sky Pilot: "Do you take this woman for butter or for wurst?"

The O. K. Kind: "Oh, liver alone. I never sausage nerve."

* * *

Miss Dumb: "Did you have a good time the other night?"

Miss Numb: "Naw, I've got too much will power!"

* * *

Boss (to pretty, young applicant)—"So you want a job? Had any experience?"

Applicant—"Oh, some very wonderful ones!"

The salesman punched the doorbell and was greeted by a spinster. "I represent the Tightfit Wool Company," said he, "would you be interested in coarse yarns?"

A hopeful look came into the eyes of the spinster, as she breathed in reply: "Of course. Tell me a couple."

* * *

Shapely Showgirl: "I want you to vaccinate me where it won't show."

Doctor: "Okay! My fee is ten dollars in advance."

Showgirl: "Why in advance?"

Doctor: "Because I often weaken in such cases and don't charge anything!"

* * *

Wife: "How do you like my new gown? I got it for a ridiculous price."

Hubby: "You mean you got it for an absurd figure."

* * *

Customer: "Will this suit hold its shape?"

Salesman: "Absolutely, that suit is made of pure virgin wool."

Customer: "I don't care about the morals of the sheep. Will it hold its shape?"

* * *

"Can I be of service to you?" inquired the polite floor walker.

"I don't know," replied the perturbed young man, "I was told to stop in here and buy either a camisole or a casserole, and for the life of me I can't remember which."

"Well," said the floor walker, "if you'll tell me what kind of a chicken you propose to put in it, perhaps I can help you."



John, who was visiting in a distant city, received a telegram from his wife reading, "John, remember you are a married man."

His answer read: "Telegram received too late."

THE CURTISS FLY LEAF

Published Periodically at Buffalo, N. Y., by the

Airplane Division of Curtiss Wright Corporation Covering Activities in All Plants

Editorial Director, A. D. PALMER, JR.

Editor, JOHN J. FOY

Plant Correspondents: GENE LYONS, St. Louis, Mo., DICK DARROW, Columbus, Ohio

THIRTEEN YEARS AGO AND TODAY—Continued from Page 15
important governing factors.

Ours is a mighty country, rich in materials, throbbing with industry and capable of production far in excess of that of any other nation in the world. These are the forces which will ultimately beat the Axis. We, as a nation, have our shoulder to the wheel. Curtiss-St. Louis, as part of this vast production army, will help keep 'em rolling, keep 'em flying. This is the U. S. A.'s victory formula.

★ ★ ★

A TEETOTALER WITH A BEER HOBBY—Continued from Page 22

Recently a friend in Honolulu sent him a bottle of Hawaiian beer but the Postal authorities are holding it up. Since "Pearl Harbor" he senses the futility of trying to get it into his collection.

Walker's hobby has been widely publicized in several industrial beer publications in addition to his home town newspapers. Other hobbyists have offered him considerable money for his collection but Walker prefers to keep it intact and continues to add to it. As a matter of fact, he has insured it for quite a sum. His is an interesting and unusual hobby to unearth in an airplane manufacturing establishment.

★ ★ ★

Lieutenant Colonel H. W. COOK—Continued from Page 23

ley Field, Virginia, for four years where he was instructor in Pursuit Aviation, employment of Combined Air Forces and Attack Aviation. Then he was assigned to duty as instructor with the Indiana National Guard, resigning from the regular service in 1929 to engage in commercial aviation activity. He continued active in military aviation through Reserve Corps and National Guard as Air Officer in the 38th Division, which enabled him to retain all original and new flying ratings. This has made it possible for him to fly during the past year such fine airplanes as the AT-9, P-39, P-40, B-26 and other interesting types. He was assigned to the Materiel Division in February, 1941, and after short tours of duty at Wright Field and Buffalo, New York, was assigned to the St. Louis Area and with the Curtiss-Wright organization at this station.

★ ★ ★

STRATEGIC ST. LOUIS—Continued from Page 24

QUICK FACTS

Ground was broken on Lambert Field for the new building, November 19, 1940 . . . the building as it stands today including basement areas, power plant, etc., totals 1,247,100 sq. ft. . . in addition the Curtiss Training Center occupies 35,000 sq. ft., making a total of 1,282,100 sq. ft. . . Half of America's armed forces could stand shoulder to shoulder within the factory . . . 7,600 tons of steel form its framework . . . 191,650 cu.

yds. of earth were excavated and 40,000 cu. yds. of concrete poured . . . 1,482,000 sq. ft. of roof tile was used and over 200,000 sq. ft. of partitions erected . . . 220,000 sq. ft. of cobalt blue glass brings glare-free daylight to the workers . . . The forced draft ventilation system handles 993,405 cu. ft. per minute . . . Heat is furnished by boilers with a capacity of 227,500 lbs. of steam per hour at 175 lbs. pressure . . . These generate 6,750 h.p. and releases heat rated at 75,000 BTU/cu. ft./hr. . . 25 miles of water and sewer lines were laid, not to mention several additional miles of steam lines . . . Electrical wiring throughout the plant requires over 250 miles of wire . . . Now under consideration is the vast parking area which must be approached by a railroad underpass where 8,000 cars per day will be easily and conveniently parked . . . To enclose the plant on all sides and to fence off the various restricted areas, well over two miles of high barbed wire fence was erected . . . The carefully planned illumination installed throughout the office, engineering and factory building, utilizes over ten miles of fluorescent tubing. . . The huge doors in the Final Assembly high-bay area are 200 ft. long and weigh 200 tons apiece, big enough so that even the giant B-19 bomber could be easily warped through it and out on to the apron . . . At capacity current plans anticipate the employment of twelve to thirteen thousand people but there is plenty of available ground for further expansion . . . The Curtiss-Wright cafeteria in St. Louis is perhaps one of the most successful of all of these non-profit, Corporation-sponsored operations . . . It covers 21,666 sq. ft. . . Its seating capacity is 1,856 people at one time . . . The fittings and furnishings are bright and modern and built around a color scheme of light ivory and blue marbelized table tops and counter fronts, trimmed with stainless steel . . . The counters are 54½ ft. long, each in double row U shape which provides four serving lines . . . Better than 6,300 meals are currently served each day and, as employment increases, this is anticipated to reach 10,000 per 24 hour period. . . The kitchen covers an area of 3,330 ft. in addition to which is a dishwashing room of 750 sq. ft., all equipped with the very latest, modern, restaurant accoutrements . . . During a day's operation 180 doz. compartment plates, 150 doz. coffee cups, 300 doz. water glasses and 200 doz. each knives, forks and spoons are handled . . . At peak capacity, the cafeteria will serve per day, 1,200 lbs. of meat, 300 lbs. fish, 400 loaves of bread, 2,500 bottles of milk, 100 lbs. coffee, 1500 orders of cake, 3,500 rolls, 2,500 biscuits and a truckload of vegetables . . . Like the factory, the cafeteria is on a three shift basis . . . In addition to the cafeteria which is by far the largest restaurant operating in the city of St. Louis, there is a modern lunchroom which will seat 900 at one time and which is used by "lunch box employees" . . . In this room, three stainless steel mobile food kitchens serve hot sandwiches, coffee, cold drinks, ice cream and cake to augment the

food from home . . . As in other Curtiss cafeterias, a well balanced full course meal can be purchased for 35c . . . The cafeteria slogan is "We'll keep you eating if you will keep 'em flying" . . . Part of Curtiss-St. Louis is the completely modern hospital and its First Aid Annex . . . An operatory, laboratory, prescription department, X-ray room, small ward, examination room and all essential first aid equipment are included . . . Every reasonable facility for the protection of its workers have been anticipated in the plant's designing and construction . . . Provisions have been made for the installation of blackout curtains and in the vast basement, protection in the event of air raids is provided. . . Every factory worker has his own individual locker and the several large dressing rooms in which these are located also contain ample personal sanitary facilities . . . Curtiss-St. Louis employees come from every state in the Union . . . All are native born or naturalized citizens with a parentage representing every nation in the world—a vast cosmopolitan city, living, breathing, throbbing, working twenty-four hours a day in the interest of National Defense.

★ ★ ★

BOSSSES WEREN'T THERE—Continued from Page 27

where the party was held, staged a buffet supper which made a royale picture and plenty of good eating.

Paul Decker's orchestra played for dancing and a strolling accordionist was available for would-be harmonizers like John T. Corrodi, C. Rhodes Palmer and Bill LaCasse of the factory manager's staff.

The party was full of good spirit and except for the absence of the host and those who were with him, in Buffalo and was thoroughly enjoyed by all who attended. A telegram from Mr. Williams of thanks for helpful efforts in the past and best wishes for the future expressed the hope for a truly productive year at Curtiss-Columbus.

As if to put the many ex-Buffalo people in the executive and supervisory group in a true holiday spirit, Columbus came through with its first Buffalo-like snow of the season the night of the party.

★ ★ ★

WITHIN THE AURA—Continued from Page 27

sonnel has turned over many times but the name of Rusty Campbell lives on, a guiding light to all those who serve Curtiss in the air. To them, he will always remain a demigod, a great pilot, a swell guy.

But, meet the boys themselves. There's Jack Jones, formerly with Curtiss-Buffalo and recently transferred to St. Louis. His life has not been without excitement. He traded a law office for a cockpit and with the swap discovered new thrills and exhilaration. Domestically, Jack can be classified as a recent "plant romance". He's happily married to little Miss Curtiss-Buffalo-Flight-Test-Section-Secretary, (Marilyn Rochefort).

Graduated from Michigan State, he was assigned to duty as an Infantry Lieutenant with the C. C. C., later becoming a Flying Cadet with the famous Texas Air Corps. He has gone "upstairs" with transports over the South American jungles. Jack carried to Curtiss-Buffalo an unmarred record which he has continued through his recent transfer to St. Louis. Here, many times each day, he takes AT-9's and SNC-1's into the skyways, over the St. Louis plant.

Down there in the "49th State" you will hear a lot about Harve Gray, another member of the Curtiss-St. Louis Flight Test Section. Born in Illinois on October 11, 1906, he was graduated with a Bachelor of Science degree from the University of Michigan in 1928 and entered the Army Air Corps Primary Training School at March Field. He was commissioned a Second Lieutenant in June 1929 at the expiration of his training period at Kelly Field. Harve's experience with Curtiss includes Flight Test work on Ospreys, Travel Airs and Condors. He travelled to South America in 1933 and again in 1934 with the Condor. In 1935 he was made Director of Military Aviation in Ecuador with the honorary commission of Colonel. He received the Medal of the Star of Abdon Caledron, first class, for meritorious service with that country and in 1937 rejoined Curtiss-Wright, returning to South America to demonstrate the Hawk 75, the greatest pursuit ship of its day.

A brother test pilot, Russell W. Thaw, commenced flying in 1926, was an instructor in 1927 and an airplane salesman in 1928. Rus managed the Indiana Airways Company of Indiana, Pennsylvania, during the years 1929 and 1930 and in 1935 finished third in the great Bendix Cup Race, the feature event of the National Air Races. He joined Curtiss-St. Louis in 1941.

Another man well known to Army and Navy flight personnel is Arch R. McEwen who serves not only as test pilot but also as assistant to the Service Manager. Arch learned to fly in 1930 while still in school. He has barnstormed the country. In 1937 he joined Curtiss-St. Louis and was sent to Mexico and Cuba and has also acted as a representative for Curtiss in China.

There is a story about a gopher hole that tripped up Arch while landing a St. Louis-built Curtiss airplane not too long ago. It is rumored that Arch paid a high price to an amateur cartoonist employed within the plant in order to gain possession of a comic drawing of a chipper gopher thumbing his nose and waving breezily to Arch as his landing gear became messed up with the gopher's homestead.

These are the men who each day rain or shine, are carrying forward the banner of Rusty Campbell. Their part in National Defense is vital. But, the real glamour story of their work is yet to be written. Time must intervene and color the past, apparently, before this hardened generation is in a mood to "pass the olive branch."



Sleep in *Peace*, America?

No, America, there must be no sleep, no peace—not even rest—until the Forces which threaten our security have been destroyed. Already, on distant battlefields, Americans are laying down their lives for their country.

But, a fatal calm prevails within their land!

It is not difficult to understand the causes of this false tranquility. We're far from the scene of battle. The staccato rattle of machine guns, the scream of artillery fire, the roar of diving aircraft, all these are lulled into dangerous silence as their echoes die on the far reaches of the oceans that meet our shores.

Then, too, in the windows of our homes, no Gold Stars yet reflect the tragic tears of those within. "War" in large type screams across the front pages of our newspapers. But, no daily casualty list interprets the dread meaning of this word in terms of death, the death of those who once lived and moved among us.

"Oh," simpers the Placid Fool, "We have been made to sacrifice. Sugar has been rationed to us. Automobiles and even tires are hard to buy. We've not been allowed to forget this War."

Yes, there are half-truths in such insipid

prattle. But, against these infinitesimal sacrifices, jobs have become plentiful. We eat, live, read and speak freely in this land which has not yet felt the bludgeon-blow of War's iron-clad fist.

In this illusion of good living, lies our Nation's greatest danger. It can be fatal. It is conducive to complacent lethargy. Each easy step down its treacherous path is just another insidious nudge closer to the borderline of a shameful defeat—one that holds for us only enforced slavery, endless drudgery—that will make us the victims of systematic looting.

Those, whom Providence spares from active participation in any violent theater of this war, have a sacred duty to perform at home. They, in total, make up the Army of Production. From the labor of their hands must come the many implements with which this war must be won. Their job is more than just a day's regulated work. On their efforts hinges our joint success. Let this be their fervent pledge. "My country is at war! My countrymen are fighting—dying in that war! I will play my part—give an extra ounce of energy for every drop of sacred blood that's spilled."

Toward its fulfillment, may they bend their every effort!

Wake up, America . . .

Wake up — get Mad and WORK!

A NEW GIANT OF THE AIR... *for War or Peace*

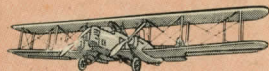


FIRST

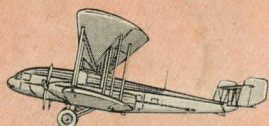
Since the Birth of Aviation



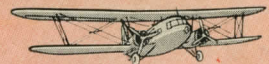
1920 • Curtiss Eagle, first inter-city "liner," 400 h.p., 10 passengers, 105 m.p.h. — 64' wing span.



1928 • Curtiss B-2 Condor Bomber for the U. S. Army. Greatest weight carrying airplane of its time. Heavy defensive armament. Two Curtiss Conqueror engines.



1929 • Curtiss Condor, 2 pilots and 18 passengers, 139 m.p.h. high speed, two 600 h.p. Curtiss Conqueror engines.



1933 • Curtiss Condor, the first sleeper plane — 6 compartments, each with 2 berths, two 720 h.p. Wright Cyclone engines, 167 m.p.h. cruising.

Send for **YOUR** copy of this fascinating 64-page history of aviation by Assen Jordanoff, author of "Your Wings", "Through the Overcast", "Safety in Flight", etc., with illustrations including full color photographs of current fighting types. Send 10¢ to cover mailing cost: Airplane Division, Curtiss-Wright Corp., Buffalo, New York.



Equipped for commercial service, the Curtiss-Wright Transport seats 36 passengers, carries a crew of five and several tons of cargo in addition.

- The large expansion of Air Defense was not yet on the horizon when Curtiss-Wright began the development of this new and mightier airliner, the largest twin-engine transport in the world. That its greater speed, its *extra* cargo and passenger capacity, and its inherent safety, were all accomplished in a *twin-engine* design is of additional importance since

economy of operation is so vital to the armed forces.

Currently an impressive number of these giant ships are in production to serve the United States Army as cargo and troop transports. But the time is not far distant when they will fly you over the nation's commercial routes with the utmost in comfort and luxury.

CURTISS-WRIGHT
Corporation
AIRPLANE DIVISION

BUFFALO, N. Y. COLUMBUS, O. ST. LOUIS, MO.