## AVIATION

BY JOSEPH S. EDGERTON.

the character of a great aero-nautical test laboratory. Not only are physical problems of flight being worked out before the eyes of the greatest gathering of spec-tators ever to witness an air meet, but some of the most pressing but some of the most pressing aeronautical, industrial and engineering problems are being attacked by the Nation's foremost tacked by the Nation's foremost ta

tacular events at the Cleveland airport they have received little public attention. They promise, however, to bear much fruit during the control of the cont

the Aeronautical Chamber of cidedly in favor of the use of Commerce, for example, have agreed this week to study the apmulti-motored transport planes. plication of service conditions and uniform discounts as practiced in the automobile industry to the aeronautical industry as a key to the development of better service for the airplane owner.

### Plan Service Plants.

Leaders in the manufacture of planes and motors reached an agreement that the development of a vast system of service stations and parts distribution centers should be undertaken. This will mean increased satisfaction and safety to the airplane owner and operator. It should mean increased prosperity for the industry.

prosperity for the industry.

Efficient engine service, aeronautical experts agree, demands extensive shop equipment, close inventory of costs and special training of personnel. All this works to the benefit of the industry, the owner and the airtraveling public.

phibians are on the market, together with four flying boats and seaplanes and nine types convertible for either land or water use. The rapid increase in the market for cabin planes for both commercial and private use is one of the outstanding impressions gained from the exposition. There

traveling public.

Plans also were considered at Cleveland for the adoption of standards by which the private plane owner and transport operator may obtain the correct type of fuel and lubricants for his engine by name rather than by complicated technical specifications.
This is intended to simplify the
purchase of gas and oil by the private pilot or itinerant operator who flies away from home.

It has been recommended that both mobile and stationary refueling equipment be installed at major airports to cut down the amount of time necessary to refuel planes and to speed up present schedules on regular lines.

### Against Monopolies.

Action has been taken to discourage the granting of franchises by private airport operators or municipalities to one fuel or oil company. It is recommended that all companies be permitted to install their equipment at any airport they may desire to serve, so that competition may be set up, to the benefit of the public.

At another meeting engineers attacked the problems of light metals and their alloys, solution of which is of vital importance to every phase of heavier and lighter than air operations. Aircraft, whether lighter or heavier than air, demand the use of the lightest available material of construction consistent with adequate strength, it was pointed out. Builders have and is looking forward to develop-ment of alloys of beryllium, which has an atomic weight only one-third that of aluminum and magnesium and a specific gravity of little more than two-thirds that

amples of the use of light alloys in aircraft construction seen at the air races was employed in the Navy all-metal airship ZMC-2, reached the high

Engineers.
Efforts were made to determine

the requirements of airplanes in the matter of the amount of electric current and beam candle-power and the best type of lamps for safe landing at night. Speci-fications for standard landing light equipment are to be adopted as soon as agreement is reached on the basic requirements. Airport and airways lighting standards also were under considera

The troublesome problem of proper propeller pitch adjustment to obtain maximum circles to obtain maximum airplane speed and efficiency has been mulled over during the week. This is a problem which has agitated the industry for many years. A large propeller pitch, suited for high speeds, manifestly is too great for utilizing the maximum power of the engine in takimum power of the engine in tak-ing off and climbing. Pitches suited for military planes are not ef-ficient for commercial use. Effi-cient pitches vary with load and motor power in the same types of

planes.

Types of propellers with blades adjustable on the ground or controllable as to pitch by the pilot in flights have been developed with varying degrees of success. The efficiency, design problems and material for construction of any stable blank the propellers have controllable pitch propellers have been given serious consideration in Cleveland this week.

Seek Propeller Changes. While variable pitch propellers are desirable, there must be no considerable increase in weight of the blades or mechanism. It airplane on the Pacific Coast.

Cleveland last week took on was pointed out at Cleveland that

AMPHIBIAN GEAR

PUT ON SEAPLANES

Now Able to Fly From Ship

and Land on Deck, Sea

or Earth.

SAN DIEGO, Calif., August 31.—For the first time in history, airplanes can be catapulted from battleships and land either on a carrier deck, on the surface of the sea or on the surface of the earth.

This has been made possible by the recent delivery to aircraft squadrons, battle fleet, of several Wasp-powered Vought Corsair seaplanes, used by the Navy for observation and spotting of

Increases Cruising Range.

Seagoing Flying Fields.

When in flying position the wheels stand up at an approximate 90-degree angle upward from horizontal. Nat-urally they are in this position during

neering problems are being attacked by the Nation's foremost leaders at a great series of meetings in connection with the national air races.

There have been nearly a dozen important conventions of the leading aeronautical organizations there this week and some of them will continue into the coming week. Because of the more spectagular events at the Cleveland in the continue into the coming week. Because of the more spectagular events at the Cleveland in the continue into the coming settings with the least trouble and exertion.

nowever, to bear much fruit during the coming year. Their results will be felt not only in the aeronautical industry, but by the steadily growing portion of the public which is taking to air transportation.

The memory promise, speeds, as is done in automobile practice, was discussed. In a joint paper prepared by Theodore P. Wright and R. E. Johnson of the Curtiss Co., it was contended that the net gain in performance does not warrant gearing of engine variation. The manufacturers of commercial airplanes and engines attending the industrial conferences of the Aeronautical Chamber of Commerce, for example have

### 232 Plane Types.

A survey made public by the Aeronautical Chamber of Commerce shows that the American public now has 232 approved airplane types from which to select private or commercial aircraft. Representatives of most of the types which have passed the rigid Department of Commerce tests are on display in the Cleveland Auditorium and adjoining build-

ings.

Biplanes are in the majority, with 144 of this type as against 88 monoplanes. Ten different amphibians are on the market, to-

mercial and private use is one of the outstanding impressions gained from the exposition. There is a total of 112 different cabin planes manufactured under approved type certificates, as con-trasted with 120 open-cockpit types, which formerly held a clear field. There are 30 different twoplace sport and training planes on the market, five of which are of

the cabin type.
Commercial airplane manufacturers, meeting under the auspices of the Aeronautical Chamber of Commerce, have expressed general satisfaction with the present airworthiness requirements for airplanes set up by the Federal airplanes set up by the Federal Government to protect the Amer-ican public. The airworthiness requirements, which constitute the engineering code followed by commercial airplane manufactur-ers to obtain Government ap-proval of their planes, were dis-cussed in detail and only minor modifications recommended. Posmodifications recommended. Possible changes in the present spin-ning tests and maximum engine speed requirements are still under

## Distributors Meet.

Faced with the greatest produc tion in the history of the aircraft industry, distributors and dealers affiliated with the Aeronautical Chamber of Commerce met in Cleveland to discuss plans for a national marketing program to keep abreast of mounting production schedules. The formation of a national organization of dis-tributors and dealers was viewed by leaders in the industry as opening a new era in the develop-

alloys such as duralumin. Magnesium alloy is even lighter and is beginning to be used. The industry, however, is not satisfied and is looking forward to devide a device of the aircraft industry.

magnesium and a specific gravity of little more than two-thirds that of aluminum.

One of the most interesting examples of the use of light alloys sound economic basis along with

Airplane engine production reached the highest peak in the Navy all-metal airship ZMC-2, which was flown to Cleveland from Detroit. The ship, purely experimental, has an envelope made of alclad aluminum alloy, coated with pure aluminum to prevent corrosion.

Study Airport Problems.

Aircraft construction and airport problems of various types came up for consideration at a joint meeting of executive and engineer members of the Aeronautical Chamber of Commerce and the Society of Automotive Engineers.

Efforts were made to determine the highest peak in the aircraft industry during the first six months of this year, when 3,826 motors were manufactured, according to reports made public at the air meet this week. This report shows an increase of 78 per cent during the first six months of this year. Week according to report smale public at the air meet this week. This report shows an increase of 78 per cent during the first six months of this year. Week according to report smale public at the air

## **DUNDALK FACTORY GETS U. S. CONTRACTS**

Berliner-Joyce Makes Four Planes for Navy and Two for Army.

Special Dispatch to The Star.

BALTIMORE, August 31.—In less than three months after its organization the Berliner-Joyce Aircraft Co. whose plant is located at Dundalk, has been granted six military contracts.

Four contracts were from the Navy and two from the Army. Among the projects is the construction of a single-seat all-metal fighter for the Navy. This plane, it is understood, will be a definite advance in structure and performance. There will be no interior bracing and support. It will depend solely on the "skin" or covering of metal for strength and rigidity.

The plane, it is said, will be faster than any now used by the naval service, and in addition will have phenomenal climbing ability.

ice, and in addition will have phenomenal climbing ability.

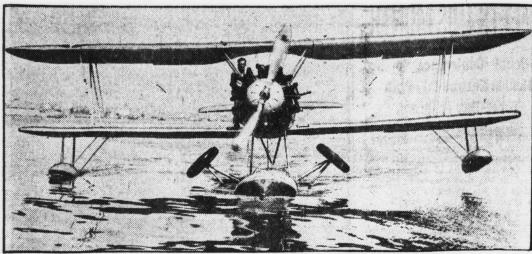
Other Navy contracts include a new type of observation plane for use on light cruisers, wooden pontoons and wing floats and a set of experimental stainless steel floats or pontoons.

The two new pursuit planes being built by Berliner-Joyce for the Army have been hailed as outstanding military aircraft developments of the year. In addition to the military program, the company is starting production on

the company is starting product a new type of commercial plane.

Lands Seeded by Airplane.

## NAVY'S NEW TRIPLE-THREAT OF THE AIR



Vought Corsair seaplanes, used by the Navy for observation and spotting of gunfire.

These are the first seaplanes to be equipped with amphibian gear. While the Navy has two other types of amphibians, those are flying boats. With these planes pilots with the battleships will not be forced to land on the sea when the fleet is away from its base. They now can wind down the wheels and come to rest with the fighters and bombers aboard any of the three carriers.

a water take-off as even the best sea-plane could not take off or land with the wheels down.

With these planes in service, the car-riers become seagoing flying fields of-fering a haven and service to the eyes of the fleet. Also for the first time the amphibian idea has been applied to armed planes spotting over and beyond the battle line.

Increases Cruising Range.

The development means also that light seaplanes can perform missions requiring longer cruising ranges. Their effectiveness as observation planes and spotters becomes at least doubled.

No material change has been made in the structure of the plane, it is understood. These are the conventional Corsairs, powered with 425-horsepower Wasp engines.

The amphibian gear consists rather simply in a pair of wheels which can be wound up or down at the pilot's pleasure. In taking off from a land station or carrier the wheels are in the down position. Once in the air the pilot rolls them up high enough to clear the water in event of a water landing. This he does manually.

Seagoing Flying Fields.

## MISSOURI STUDENT FORETOLD MODERN AERONAUTICS IN 1891

of the fleet. Also for the first time the amphibian idea has been applied to armed planes spotting over and beyond the battle line.

By the Associated Press.

KANSAS CITY.—G. H. Gray is one man who can point to modern aeronautical accomplishment and say with truth, "I told you so."

A weekly list of licenses for aircraft, pilots, mechanics and students is now issued by the Aeronautical Chamber of Commerce. It is compiled from Department of Commerce records and serves as a means of checking those who claim connection with the flying industry. A quarterly license digest covering the country is also published.

Field for Film Firms.

NORTH HOLLYWOOD, Calif.—A field for the exclusive use of motion picture companies is located here. Airplane thrillers are made.

By the Associated Press.

KANSAS CITY.—G. H. Gray is one man would report to modern aeronautical throughout the subject of a man will rule in the clouds."

A weekly list of licenses for aircraft, when he was a senior in Central College, Payette, Mo. He took that title from a term for flying used as early as 1830 by an English balloonist.

Derision from his classmates greeted the youth when his predictions were published. He had the temerity to foresee that airplanes would be invented, that aluminum would be used in their construction and that geographic exploration would be conducted, even in polar regions, by aerial navigation.

"During the lives of the generation on wo on earth," Gray wrote in 1891, when he was a senior in Central College, Mr. Gray, now a Kansas City industrial executive, says he wouldn't change that the true of his prophecy today, except a statement that "the principles advanced the youth when his predictions were roughlished.

Radio to Direct Traffic.

Automobile traffic at the National air races in Cleveland, August 24 to mich method the propher of home and will be septiment and say with the storage form to motion, together with the valuable propher test, of motion, together with the valuable many will plane the propher of home and many

## MILLION TO SEE SCHNEIDER RACES

Big Preparations Are Made for Airplane Contest by British.

SOUTHAMPTON, England (A) .-Above the panorama of the Solent, famous stretch of English yachting water, the international race for the Schneider cup is scheduled to be flown September 6 and 7.

Thousands of Americans will be able to visualize the course. During the World War Southampton, a few miles away, was an American Army concentration point.

ation point. Nowadays great Atlantic liners carry tourist cargoes in and out of this southern English port over the course selected for the air speed classic.

Great Preparations Made.

The British have made great preparations for this year's race. A million people—as many as see the Derby at Epsom—will line the shores or crane their necks from yachts and club ships on the Solent. Shore stands near Portsmouth accommodate 10,000. Parking arrangements have been made for 50,000 automobiles,

have been made for 50,000 automobiles, while there are two fields for private planes. The Royal air force will have 600 planes of all descriptions on hand. So far it is doubtful as to the contestants. Lieut. Alford J. Williams of the United States Navy, who had entered a Mercury speed plane of his own design, has withdrawn. The Italians asked postponement after the death of their leading pilot, Capt. Giuseppe Motta, but when the British refused any delay the Italians indicated they would have a team entered in time.

Course 50 Miles Long.

military flyers, fling their machines around the dangerous corners.

Mastering the science of turning and banking, after daring spurts on the straightaway, wins the race. But at 300 miles an hour, the speed expected this year, a sharp turn may cost many seconds unless perfectly executed.

Taking off, flying and landing one of the specks of flying metal that compete for the Schneider trophy requires uncanny skill. The slightest mishap spells disaster.

The pilots diet like jockeys and they fit into their racing machines like a hand in a glove. Bobbing on the water, high speed planes seem as small as insects, with slim bodies and a slit for the pilot, the smallest of wings and close under them nontoons almost as big as the body of the plane.

## **GERMAN IS BUILDING ROCKET-PLAN FLYER**

One-Seater With Unique Equipment Soon Ready for Test Hop at Dusseldorf.

DUSSELDORF (P).—A motorless, propellerless rocket airplane, with streamline "arrow" body for greater speed, is under construction here at

speed, is under construction here at the Espenlaub airplane factory.

It was designed by Max Valier, inventor of the rocket automobile.

Lifted into the air by another plane the new plane is to take off for its first flight by merely setting off its rockets and dropping the tow line.

A one-seater monoplane with a 36-foot wing spread, it needs neither motor nor propeller because of its rockets.

foot wing spread, it needs neither motor nor propeller because of its rocket system of propulsion. About 225 pounds in total weight are thus saved.

In order to re-establish a proper balance the pilot's seat is built far out in the nose of the plane, where the motor is ordinarily installed. Directly behind him, in the narrow, arrow-shaped fuselage, is a compartment for the storage of rockets.

Facilities Provided at Air Races.

Radio to Direct Traffic.

Automobile traffic at the National air races in Cleveland, August 24 to September 2, will be directed from a radio-equipped National Guard observation plane.

The kite-shaped course is 50 kilometers, or 21s of meters long. The planes make seven circuits, traveling 350 kilometers, or 21s of meters long. The planes make seven circuits, traveling 350 kilometers, or 21s of meters long. The central air race administration building at the Cleveland airport durations.

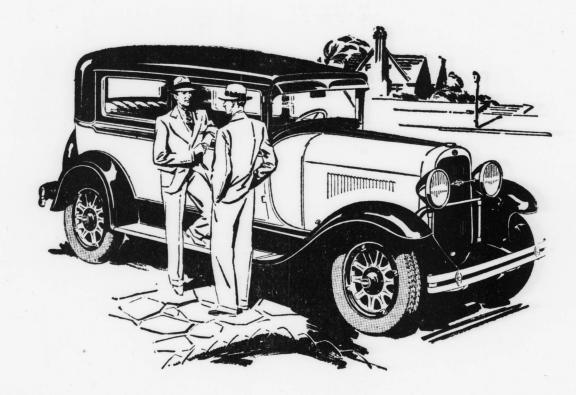
Despite the tricky circuit with its 14 acute-angle corners and 14 easier vation plane.

Facilities Provided at Air Races.

The central air race administration building at the Cleveland airport durations to building at the Cleveland airpo

## Thousands are saying

# HERE IS A REAL AUTOMOBILE



Thousands of Oldsmobile owners, prompted by their enthusiasm for Oldsmobile's remarkable abilities in every phase of performance—their enjoyment of its luxurious riding qualities—their knowledge of its dependability and general thoroughbred behavior-have voluntarily written their appreciation to the Olds Motor Works. It is significant that Oldsmobile owners everywhere have so definitely set their seal of approval on Oldsmobile. Certainly there could be no more conclusive evidence of genuine value than the plain sincere statement, recurring again and again throughout these expressions of owner opinion—"Here is a real automobile!"

These thousands of owners tell the facts as they find them. They know exactly what their Oldsmobiles will do-and how well.



—the new 90-degree V-type Eight at medium price—is built in the Olds factories, by Oldsmobile craftsmen, and sold through Oldsmobile dealers. At \$1595 for all models, f. o. b. factory, Lansing, Michigan, it is as outstanding in value in its field as the popular Oldsmobile Six, the fine car of low price.

Read what they saytheir reasons for buying
—and why they are glad
they bought Oldsmobiles.

> From Milwaukee, Wisconsin:

"I was first attracted by Oldsmobile because its general characteristics appealed to me, and our Chief Engineer—a very powerful and quiet-running motor, easy steering, smooth flow of power at all speeds, sturdy construction and general good appearance.'

From Susanville, California:

"With the protection you give your motor, it looks good to me for 40,000 miles without a major repair. When I selected my car I discovered that other cars in Oldsmobile's price range had some of the features I wanted, but Oldsmobile had all. It looks like more value to me. It has wide doors and plenty of leg room, and more room in front in the sedan. Such things as twin-beam headlamps, fuel pump, and radiator shutters helped to sell me. Also the fact that it is made by a reliable firm. And the way Oldsmobile sales are jumping shows that others think well of it."

From Frankfort, South Dakota:

"I never bought anything in my life I was so pleased with as I am with my new Oldsmobile. It seems to have everything—ease of handling, power, speed, quietness, luxury, beauty. It is my 14th car and the only real car I ever had."

From Jersey City, New Jersey: "After quite some shopping around, I found that in buying an Oldsmobile I was getting full value for money invested, a

discriminating buyer-drives an Oldsmobile. I like its responsible company back of it, good service to be had if necessary, and that I could stop anywhere and feel proud of the car I was driving—although Oldsmobile is not an expensive automobile.

These typical expressions were selected at random from the thousands that have been received. They are simply a "cross-section" of the great owner loyalty which is largely responsible for Oldsmobile's ever-increasing sales. If you wish to hear this enthusiasm expressed at first hand, talk to Oldsmobile owners in your own community. Then go to an Oldsmobile showroom. Check over the car in detail. Drive it yourself . . . put it through all its paces, and then you'll know why Oldsmobile owners are so remarkably outspoken in praise of their cars.

**TWO DOOR SEDAN** 

CONSIDER THE DELIVERED PRICE Consider the delivered price as well as the list price when comparing automobile values. Oldsmobile delivered prices include only reasonable charges for delivery and financing.

Northeast Oldsmobile Sales & Service 64 H Street N.E.

Telephone National 2335

Murphy Motor Co. 226 Carroll St., Takoma Park, D. C. Telephone Georgia 3782

Pohanka Service 1126 20th Street N.W. Telephone Decatur 0206 Mt. Pleasant Motor Co. 2424 18th Street N.W. Telephone Columbia 3633

Oldsmobile-Washington Co. 1515 14th Street N.W.

Telephone Decatur 5516

Chevy Chase Motors

Wisconsin Motor Co.

726 17th Street N.W.

Telephone Metropolitan 4314

6701 Wis. Ave., Chevy Chase, Md. Telephone Wisconsin 2493

Olds Motor Works, Factory Zone Office, 1515 14th St. N.W.