

Flying Inspectors Personify Federal Air Aid Policy

Department of Commerce Field Men Represent Government in Task of Encouraging Aviation—Industrial Concerns Aid Safe Air Travel.

By WILLIAM P. MacCRACKEN, JR.
Assistant Secretary of Commerce for Aeronautics

ARRIVING at your airport this afternoon—or it may be at almost any time—is a plane with an aerial beacon: A pair of wings enclosing a shield with an aerial beacon and a replica of the Wright brothers' airplane in which man made his first successful flight in a power driven heavier than air machine, all within a double circle bearing the words, "Aeronautics Branch, Department of Commerce." The pilot of the plane, who is known at your airport, steps out, probably dragging with him a couple of brief-cases bulging with examination papers of those seeking licenses as pilots and mechanics. The chances are he immediately sets up his headquarters at a nearby place, working on the papers at night, and spending the days at the airport watching the flying of applicants for licenses or himself flying in planes for inspection purposes. This man represents the Government in its important task of encouraging aviation under regulations designed to promote safe flying and adequate landing facilities.

Flying Field Inspectors
The public has heard nothing or very little about the Department of Commerce's flying field inspectors. It reads an increasing volume of material about airmen who succeed in ocean crossings, in distance and duration tests, and doubtless is also stirred by the romantic appeal that fastens to the air mail pilot who flies by day and night in any weather.

The Department of Commerce field men, in many instances, have led or shared in air achievements which have been first page news. They have had long experience in flying, some with the army or navy, and others with the Post Office Department. In their number is a war ace and several men who saw service over the lines on the Western front.

Colonel Lindbergh's devotion to aviation and the progress of commercial flying has been a revelation. This same quality is also conspicuous in the D. C. field men, and in fact his presence has played a large part in their selection for the posts they occupy. In a sense they personify the spirit of the Government's interest in aviation, suggesting as an appropriate inset in the Department of Commerce insignia, a modern plane pointing the new era of commerce by air to contrast with those days when the American clipper ship put the United States in the forefront of world commerce.

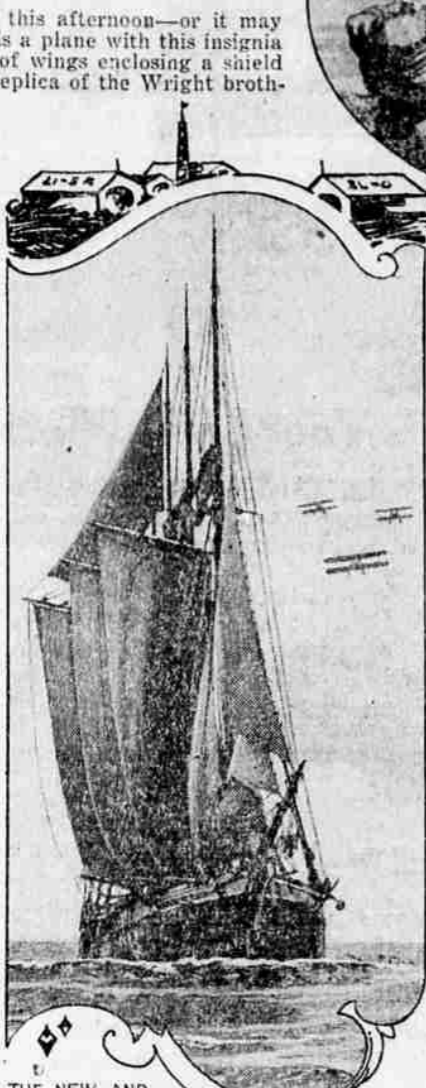
Promotion and Regulation of Aeronautics.

The air commerce act, approved May 20, 1926, provided comprehensively for the promotion and regulation of civil aeronautics. Among other things it provided for the establishment and maintenance of civil airways and their equipment with intermediate landing fields, beacon lights, signal and radio apparatus and other aids to air navigation; the establishment of air traffic rules; the inspection and licensing of aircraft; the collection and dissemination of information pertaining to air commerce and the state of the art, including data concerning the causes of accidents; the establishment of a suitable weathering service; the publication of air maps; the promotion of air commerce, industry and trade; and the conduct of scientific research and development work tending to the improvement of facilities for air navigation. The act provided for the ratification of air ports as to suitability, and for the encouragement of the establishment and maintenance of air ports by municipalities.

The act did not create a new bureau in the Department of Commerce to perform these functions. The intention was that, so far as practical, the duties imposed by the act should be distributed among existing agencies of the department.

The greatest problem before the department was that of creating a satisfactory regulation system. Several conferences were held with representatives of the aircraft industry after which the first Air Commerce Regulations were drafted and put into effect. This was on December 31, 1926. Under the system of examination and licensing of airmen and aircraft a field force of skilled pilots and engineers, who also enforce the air traffic rules and investigated accidents, was provided.

Licensing of Pilots
The personnel of the air regulations division must obviously possess unusual qualifications. Excepting clerical and office workers, they must be especially expert in the various phases of aeronautics.



THE NEW AND OLD IN COMMERCE

Aeronautical engineers and inspectors are required capable of advising with manufacturers and technicians and determining the airworthiness and suitability of new aircraft, both prior to and during construction, including the examination and checking of technical data, drawings and diagrams. The inspection of aircraft and the examination and licensing of pilots and mechanics require a force of inspectors skilled in the maintenance and operation of aircraft, with piloting ability well above the average, and with good personality. The act provides for the determination of the physical fitness of licensed pilots and of applicants for licenses—a service that can be performed only by physicians with knowledge of flight requirements. The physical fitness of licensed pilots must be checked at suitable intervals. A medical director is in charge of giving physical examinations to pilots and to applicants for pilots' licenses and about two hundred physicians and surgeons at various points throughout the country serve as medical examiners for the aeronautics branch.

Licensing of Planes
The Air Commerce Act requires that all airplanes operated in interstate commerce be licensed. This has resulted in the setting of standards for airplane construction in order to meet the requirements of the Department of Commerce. Manufacturers whose products meet these requirements are granted approved type certificates upon request, by authority of which they may build other airplanes of the same type. This affords an additional means for the public to distinguish between the airworthy and the unairworthy plane.

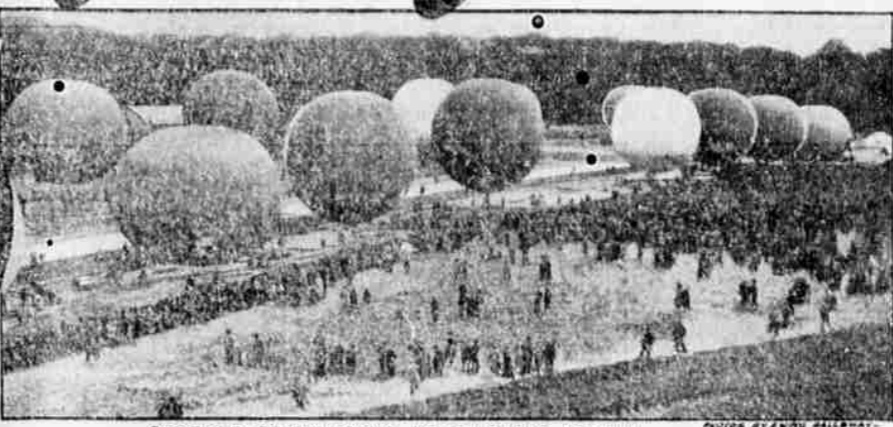
All licensed planes must have been approved by the department as safe for operations. Planes bearing merely identification numbers may also be safe, but the appearance of the letter "C" or "A" in conjunction with the number is the only true safeguard to the lay public.

New Era in Air Commerce
The establishment of transcontinental air routes by the Post Office Department was the beginning of the present era of air commerce on a safe and sane basis and the new step which has been taken with the organization of several combined railroad and airplane transportation schemes is good evidence of the progress that has been made. Under this system railroads and aircraft will be used to transport passengers on the best possible schedules.

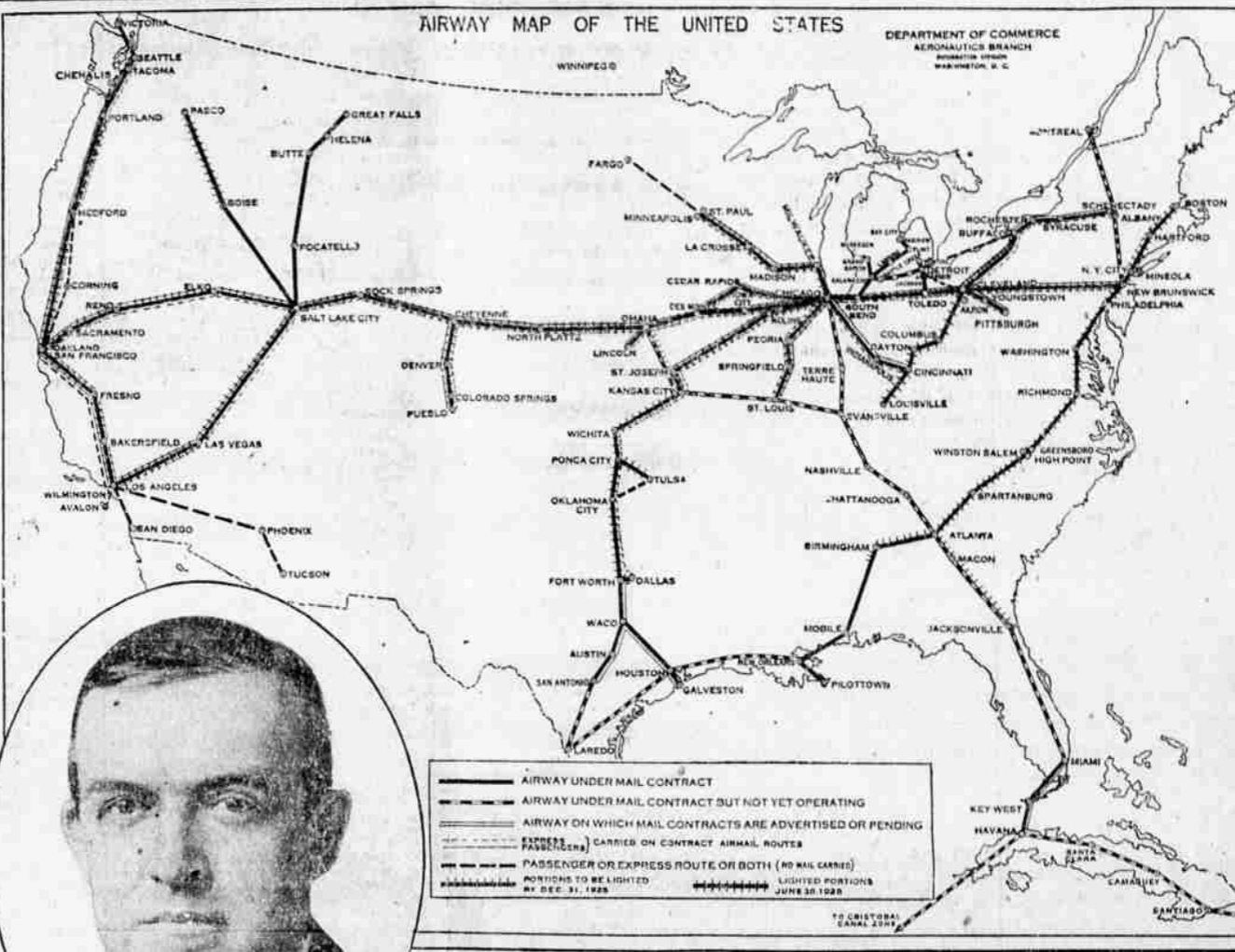
Deepening interest in long-distance flying, coming as it has after a remarkable demonstration of the value and reliability of air mail has naturally resulted in an increased



GLIDER BEING TESTED IN GERMANY



BIG FIELD OF BALLOONS AT BRUSSELS, BELGIUM



WILLIAM P. MACCRACKEN, JR.
Assistant Secretary of Commerce for Aeronautics

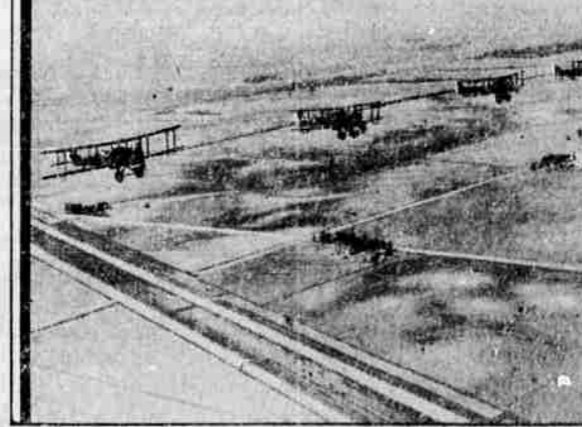
desire to use this new transportation both in business and for pleasure. The economic necessity for air transport has thus been created. Proof of this is seen in the rapid expansion of the contract air mail lines, many of which now carry passengers and express. These lines are achieving success on the solid foundation of private enterprise and have already set up a remarkable record without any subsidies such as are given to promote aviation in other countries.

Similarity of Air and Auto Development.

In many obvious ways the air



THE GAS FILLING STATION MOVES FROM PLANE TO PLANE



FLYING IN BATTLE FORMATION

plans and the automobile have striking similarity in their introduction and their use as well as in their engineering construction. Today travel by air excites the same interest as traveling by motor car twenty years ago. The airplane has certain definite advantages over the automobile in its initial stages. It is benefiting by years of experience in automotive engine construction. When the automobile appeared gasoline was a waste product at the oil refineries, and it was several years before it was generally adapted to the needs of the internal combustion engine. The airplane derives the benefit of fuel manufacture and research which has rendered gasoline the universal motor fuel and has made possible the tremendous expansion in the use of the automobile.

Research on aviation fuel is keeping pace with the aircraft engine manufacturer. Much of this research is being done directly in the laboratories of the petroleum companies, while Government departments, notably the Bureau of Standards, the Navy and War Departments, are conducting extensive experiments and tests and have been for a number of years. Not even secondary to the work being done on fuel, is that being accomplished on aircraft engine lubrication. Here again petroleum is the source from which this most essential element in the perfect operation of the motor is derived, and the technical staffs of the oil and aircraft engine manufacturing industries as well as of appropriate Government departments are doing invaluable work in this connection. Another pronounced advantage is that a supply of suitable fuel is assured. When the automobile first appeared on the roads it was difficult to make any considerable

journey without taking along in the car a supply of gasoline. There were no filling stations and pumps along the highways but practically the first equipment on the ground at a new airport is the aviation fuel station.

Importance of Airports
Given the same progress in engine construction and reliability as well as safety that marked the growth of the automobile, the progress of the airplane rests on the establishment of suitable airports and landing fields. In fact, the airport and airway might be likened in their relations to the progress of aeronautics to the effect of the holding and improvement of good roads on automobile expansion. Nature has provided the air space but airports, intermediate, landing fields, and other ground aids to aviation are necessary to the establishment of a real airway. There has been a great growth

in airports in the United States and a large number of cities are constructing these facilities or are planning for their immediate establishment. This increase in the number of airports renders the extension of air transport lines much easier than was formerly the case. At one time a city not on the air mail route could see no reason to construct an airport, but on account of the miscellaneous operations now in existence and the increasing use of the airplane in general business, no city can afford to neglect this important matter. As a result, cities far off the present routes are building good airports. This is not only providing a basis for the miscellaneous operators but is also attracting the scheduled air lines.

Markers on Air Routes
Just as the driver of the automobile likes to know where he is "at" on the road so does the airplane pilot when he is in the air. One of the Department of Commerce flying men reports to me: "Jones—a well known civilian pilot—had a bad time before dusk last evening. He expected to make Wright field but got into trouble. He knew he was near a small town and that with luck he might see a marker on top of one of the oil storage tanks along a railway siding on the outskirts of the town. It happened that this marker not only would give him his exact location but would also tell him that not one hundred yards from it was an excellent field for such a landing as he now had to make. He dropped, found he was right about the marker and made the landing in the farmer's field."

This is not a far-fetched illustration of the point that marking of airways not only is a convenience to pilots in establishing their location and the distances of travel but is a direct aid to safety in air travel. In such markers the experienced pilot has an added focal point for an intimate study of the immediate terrain—and, of course,

a means of knowing where he is "at." With air travel developing more rapidly than the installation of aids to navigation, the marking of cities has become an important need. On the Pacific Coast, in the Middle West and elsewhere, petroleum companies have led the way, marking on the roofs of buildings, on storage tanks and in other ways the name of the city or of nearby cities, sometimes with arrows pointing to airports or landing fields with the intervening miles indicated. The Department of Commerce is urging such air marking, especially in the smaller villages. It reports that more than 2,000 towns and cities have been "air marked" by municipalities, aero clubs, factories, office buildings, fuel companies and others.

Railroads have been urged to paint the names of stations on roofs, and two companies have definitely undertaken the program. One large oil company—namely, the Standard Oil Company of Indiana—has marked 980 of its stations in as many towns in ten states and 999 more such signs are scheduled. In seven other states the Standard Oil Company of California has marked nearly 500 of its structures, while other similar concerns have undertaken such markings.

Light Beacons.
The difficulty of night flying is being rapidly overcome by lighting and other aids to aviation. Light beacons have been extensively constructed on routes where there is night flying, and in this connection industrial concerns have again helped materially. For instance, the Standard Oil Company of California recently installed two light beacons, one at Mt. Diablo and another at Los Angeles in California, and three more are under construction by this company on sites near San Diego, California; Portland, Oregon; and Seattle, Washington. Among other industrial concerns which have installed beacons in different parts of the country are Quaker Oats Company, the Staller Hotel Company, the Olson Rug Company, the Alabama Power Company, Greenbaum Sons Investment Company.

All in all, there is developing in aircraft activity and in aids to navigation a coordination of effort which promises the solution of many problems and is laying the foundation for air travel along such sound lines that the widening use of the airplane for commerce and pleasure is inevitable.

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