U.S. to EUROPE by AIR

By Julian Leggett

YESTERDAY'S dream of daily air travel between the United States and Europe is moving rapidly toward the point of reality. Within twelve months, aeronautical authorities agree, weekly service will be established and daily service is just a step beyond.

Feasibility of regular transatlantic travel by air has been demonstrated by the flights of Germany's giant dirigible, the "Hindenburg." Several hundred passengers and tons of mail have been transported in safety and so commonplace have the flights become that arrival of the big ship at either of its destinations, Frankfort or Lakehurst, N. J., is barely noticed.

Top, flying boat on catapult. Bottom, dotted lines show U. S.-Europe routes. Solid line shows German route to South America.
cess of the dirigible, from a commercial standpoint, has been based on the novelty of the trip rather than on the amount of time saved. The “Hindenburg’s” speed is limited to between eighty and ninety miles per hour under favorable conditions, only half that which might be achieved by using flying boats.

With the intention of instituting flying-boat service as quickly as equipment can be provided, companies in the United States, Germany, France, England, and Holland are surveying routes and training crews for transatlantic duty. Pan American Airways System in this country is actively engaged in preliminary work, gathering weather information, surveying air lanes and cooperating with air transportation companies in Europe.

While each company recognizes the advantage of being the first to offer weekly or daily service, there is little competitive...

Top, closeup view of ten-ton flying boat being prepared for launching from catamarf aboard “mother ship.” Bottom, flying boat lands after transatlantic U. S. flight.

creates little more excitement than the docking of an ocean liner at New York.

But service faster than that afforded by the “Hindenburg” or any other dirigible is regarded as necessary if air travel to Europe is to be a paying proposition. Suc-
research work being done.
All operate under an
agreement calling for ex-
change of information on
routes and weather and
all apparently realize the
necessity for such service
to be entirely safe and
capable of operating on
schedule.
There will be two
routes to Europe, one by
the great circle course
between Newfoundland
and Ireland, the other by
the Azores. The great
circle route has the ad-
antage of being shorter,
while the Azores is avail-
able, but the distance is greater and travel
would be almost impossible in winter.
The third route was surveyed by Col.
Charles A. Lindbergh several years ago.
Germany’s Deutsche Lufthansa Airline
recently made experimental flights over
the Azores route, for the purpose of ob-
taining weather data and of testing the
practicability of launching huge flying
boats by catapult from “mother” ships
stationed at points on the route. Two ten-
ton planes equipped to land on the water
were used in the tests, the “Zephyr” and
the “Aeolus.” Catapulted from the
“Schwanenland,” a ship equipped espe-
cially for hauling the flying boats into the
air, the “Zephyr” flew directly from the
Azores to the United States, a distance of
2,380 miles in twenty-two hours and four-
teen minutes. This was an average speed
of 108 miles per hour. The “Aeolus” flew
by way of Bermuda, where an overnight
stop was made, and covered 2,835 miles in
twenty-four hours and nineteen minutes,
an average of 116 miles per hour.
While no attempt was made to establish
a speed record, these two flights dem-
strated how much faster service can be
offered by using flying boats.

(Continued from page 152A)

U. S. to Europe by Air
(Continued from page 503)

Present plans of Deutsche Lufthansa
call for the “Schwanenland” and another,
but larger, catapult ship to be stationed in
the North Atlantic, one at the Azores and
the other off Bermuda. These ships will
be able to handle the twin-motorized Dorn-
ier Wal flying boats with which the service
will be started, possibly in the spring of
1937.
The catapult ship is powered with Diesel
engines. Its equipment for launching the
ten-ton planes weighs more than 100 tons
and is designed to handle aircraft up to
sixteen and one-half tons gross weight.
Air compressed to a pressure of 2,300
pounds per square inch is used to give an
acceleration of about 112 feet per second
to the plane, resulting in a speed of ninety
miles per hour at the point where the
plane leaves the runway. This remark-
able speed is built up in a run of slightly
more than 100 feet.

An electric crane hoists the flying boats
from the water. In rough weather the
cradle can be folded on deck. A powerful
searchlight, necessary for spotting the
planes on the water in night landings, also
is part of the equipment. A “towing sail,”
attached to the stern and floating on the
water, creates a smooth “wake” behind
the ship when it is in motion. Flying boats
can land on this wake with less danger
than in the open sea.
The flying boats, “Zephyr” and “Aeolus,”
also are equipped with Diesel engines, two
each plane. Each engine is rated at 500
horsepower. Mounted in tandem above
the wing, one engine drives a tractor pro-
peller and the other a pusher. Fuel economy
of these power plants is unusually high, in
counter to that of gasoline motors.
Choice of the catapult ship and flying
boat for the new service probably resulted
from Lufthansa’s operation of similar
equipment in the South Atlantic. From
Berlin to Santiago, Chile, a distance of
9,500 miles, planes have been making bi-
weekly trips with mail for several months.
The 1,000-mile jump across the Atlantic to
the nearest point in South America is ac-
complished by catapulting the flying boats
from ships stationed near each end of the
water hop. Thus, the flying boats have

(Continued from page 152A)

been able to start their flights with a max-
imum load without risking a takeoff from
the open sea.

England is building a fleet of flying boats
which may be placed in service on the
great circle route sometime next summer.
Imperial Airways, which maintains a vast
system of air lines in the far-flung corners
of the British Empire, is in charge of the
construction, as well as training crews for
transatlantic duty. Completion of this
fleet is expected to mark inauguration of
several test flights between Portsmouth or
London and New York. On the outcome
of the flights will depend the start of reg-
ular air travel between the two countries.
France, too, is beyond the point of toy-
ing with the dream of North Atlantic
service. Huge ocean-going air liners are
being constructed. One already has made
a test flight, in easy stages, to this country
by way of the Azores. From Paris to New
York, the French planes would have the
choice of the great circle course or the
Azores-Bermuda route, leaving the coast
of Europe at Lisbon.

During the summer England and France
might be expected to fly passengers and
mail over the shortest route, but winter
probably would cause both nations to use
the Azores route.

Holland’s plans for transatlantic service
are not sufficiently advanced for an-
nouncement of the route which Dutch air
liners might use, but some authorities be-
lieve the Azores would be considered most
favorably, due to the safety factor and its
year-round possibilities.

Just now Pan American Airways is busy
with inauguration of passenger travel on
its Pacific line, but the results obtained on
test flights with big flying boats on the
California-Manila route are expected to
have some influence on plans for Atlantic
service. Pan American would have the
choice of the great circle or the Lindbergh
routes, in the north and the Azores route
in the south. The idea of anchoring catap-
pult ships, similar to those used by Luf-
thansa, off Ireland and off Newfoundland
has been suggested by aviation experts as
one possible aid to flying the northern
route, but no tests have been made. An-
other suggestion is construction of float-
ing airports in the Atlantic for the con-
venience of transatlantic planes.