



#### PILED UP LIKE CORDWOOD

*These are small-caliber guns, in all stages of manufacture. Eventually they will become parts of anti-aircraft and anti-torpedo armament, or peer from the gun-houses of light cruisers.*

building up tremendous internal pressures within the bore while at the same time the outer part of the forging was being shrunk, has made it possible to make guns up to 6-inch caliber out of a single piece of metal. This method,

known as the "monobloc" system, has greatly increased the speed with which small-, and medium-caliber guns can be built, and at the same time has considerably reduced costs.

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#### AERONAUTICS

## Transatlantic Air Service Planned To Start This Spring

### Pan-American Expects To Run Two Roundtrips a Week, New York to London and Also New York to Marseilles

PAN-AMERICAN Airways expects to provide transatlantic air service four times a week at a total yearly cost of almost \$4,000,000 to the government in the form of postal subsidy, the airline's application to the Civil Aeronautics Authority for permission to fly between the United States and Europe reveals.

Two flights in each direction each week will leave from New York or an alternate American port for Southampton or London, depending upon whether the Boeing Clipper or the Boeing Stratoliner is used. Two roundtrips a week are also to be made between New York

and Marseilles, according to a schedule of operations expected to be in effect by the end of the first year of operation. Passenger service will start this spring.

Both flying boats and a landplane—the Boeing Stratoliner, 33-passenger ship now undergoing tests in Seattle—are to be used in maintaining service on such a frequent basis.

Revenue from an expected 2,338 passengers a year and from cargo will total about one and three-quarter million dollars, while operating costs plus return on investment will come to about \$5,-

683,000, a financial statement attached to the application discloses. The difference, Panair officials are known to hope, will be made up by payments for carrying transatlantic mail.

Panair officials anticipate making only one survey flight preliminary to scheduled mail and cargo trips, several of which are to be made before passengers are carried. Six roundtrip surveys in 1937, plus the company's experience in more than a year of operation between New York and Bermuda and two years of flight across the Pacific eliminate the need for any further study.

#### Application

Information contained in the application constitutes actually the first such detailed announcement of the line's intentions. The schedules promise 19-hour service between New York and London in the Boeing Stratoliner, a 200-mile-an-hour four-engined landplane whose sealed cabin will not only allow stratosphere flight, but will keep the plane afloat in the event of a forced landing at sea.

New York-London service by the northern route in the Boeing Clipper will take twenty-four and a half hours. The return trip will take slightly longer because of prevailing winds. It will be flown over the northern route, via Newfoundland and Ireland, only during the summer months.

The southern route, via the Azores and Lisbon to Marseilles in the summer, and to London as well in the winter, will take 43 hours. On this route, an overnight stop will be made at Lisbon. This is believed due to the fact that European facilities for night flight are not up to American standards.

Departures for London will be made every Wednesday and Saturday, Tuesday and Saturday departures from England for the United States. Clippers will leave an American port for Marseilles each Tuesday and Friday and will return Monday and Friday, according to the tentative schedule.

Besides the Boeing Stratoliner, four Boeing Clippers will be used. Of these, two have already been delivered, with the others scheduled to come along at the rate of one a month between now and May.

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Hamburg, Germany, plans to construct the world's tallest skyscraper.

Both Chaucer and Omar Khayyam were astronomer-poets.