

ly, and then waved brisk farewells. The party of American newspapermen were among the last to shake the hands of the daring aviators, and were followed by officers of the Prairie, Hisko and Aroostook.

Along the shores of the bay the citizens of Trepassey and hundreds of people from nearby towns cheered lustily and waved American flags as the planes finally started down the bay.

The rise into the air from the water did not prove an easy task. The NC-1 made two unsuccessful attempts before she finally got off, and Commander Towers's flagship sailed away in the lead. The NC-4 rose from the water on the second attempt.

For more than four hours before the actual start was made the three seaplanes indulged in a series of trials over the waters of the bay. At the end of each the movable material within the hulls of the big craft was re-arranged and another test made. It was not until the best arrangement had been secured that Commander Towers gave the order to make the start.

Everything was found in order, and the three seaplanes returned to the positions located for them in the orders issued by Commander Towers for the start. According to these orders the flagship, NC-3, was to be the first to start off. Two minutes after her engines were accelerated to full speed the order was for the NC-4 to follow. She in turn was to be followed by the NC-1 after another two-minute interval.

In this manner formation flying was to be obtained from the start without any delay other than what might be caused by some unexpected defect of machinery.

Spare Parts Abandoned To Take More Gasoline. Early this afternoon the commanders of the three seaplanes held a conference to decide the means of reducing the 28,800 pounds of each machine to the absolute limit and so avoid the experience of yesterday, when the NC-1 and NC-3 failed to lift this enormous load from the water.

At the conference all members of the crews were present. It was finally decided to attempt the flight across the ocean without reducing the load. In order to accomplish this reduction it was found necessary to leave behind all spare propellers and to cut down the gasoline supply from 1,780 to 1,630 gallons.

It was also decided to take off from Mutton Bay, despite the danger of the icy spray breaking the propellers. This decision was arrived at in view of the small amount of water in the harbor here, which is not sufficient to enable the seaplanes with their load to gather sufficient speed to lift themselves into the air.

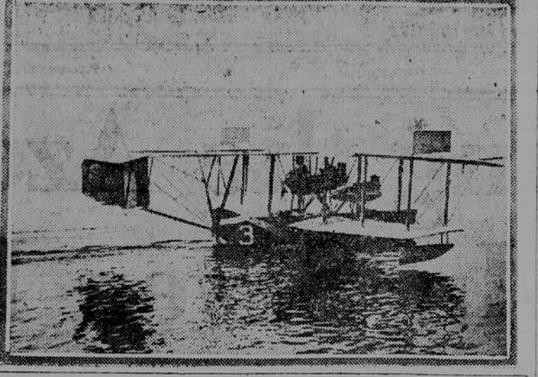
Just before the start all three planes were taken alongside one of the three supply ships in the harbor and made fast to the stern. Flexible pipes from the supply ships were taken aboard and steam passed through the lubricating oil tanks in their hulls, to warm up the oil, in order that there should be no possibility of it congealing, and so cause the engine bearings to burn out when the engines were started up.

"Take-Off" Is Made In Choppy Waters. On the final start the throttles of the four Liberty motors of each plane were opened wide and the three ships started through the water at a speed which quickly reached fifty knots an hour. The waves thrown up from the bluff bows sent a shower of spray over the commanders sitting in the forward cockpits, and burst over the pilots sitting side by side in the hatchway just aft of the navigating cockpit.

Despite the spray, they forced their craft through the choppy waters, working their rear elevators at every favorable opportunity in the effort to rise.

New Inventions Aid Ocean Flight. Marvellous Instruments to Keep Direction and Find Location Used First Time. At the start of the flight across the Atlantic the American seaplanes were

AN NC PLANE



making an average speed of ninety miles an hour. Despite this aviation officials here expressed the opinion that this would drop down to the sixty miles an hour average set according to the plans, when the planes approached the end of the journey.

For the first six hours the seaplanes will consume an average of 110 gallons of gasoline an hour. At the end of that time the weight of their fuel will have been decreased by 8,810 pounds, or, in other words, will then be a total of 24,390 pounds.

Weight Constantly Reduced. With this reduced weight the commander of each plane will be able to shut down one of the four Liberty motors and hold it in reserve, ready to take the place of any other motor that might give trouble. The shutting down of this engine will not in any way interfere with the speed of the planes, so the reduced weight will not require so much engine power to send it forward through the air.

In addition to the destroyers that are stretched across the ocean, the planes will be guided to their destination to-morrow by one of the most remarkable islands in the world. This is the island of Pica, in the Azores, which rises sheer from the water to a height of 7,000 feet. It will be visible to the navigators of the seaplanes for a distance of over 500 miles, and will first come into sight shortly after they emerge from the darkness of their night flying.

New Instruments Used. Throughout the voyage the seaplanes will be navigated by a combination of nautical instruments, some of which are being used for the first time in the history of navigation. All of these combined are expected to keep the planes to their true course and reduce the loss of time and distance caused by driftage due to side winds. One of these instruments is the drift indicator devised by Lieutenant Commander R. E. Byrd. This instrument is fitted to the bow of each of the seaplanes and immediately if the ship is drifting to either side from its course. As an aid to its use through the night hours of the flight the navigators will drop smoke bombs to the sea below them in order to get a direct observation.

Another instrument is the turn indicator, which is designed on the principle of the gyroscope. This immediately detects any deviation from the course while the machine is turning, and enables the navigator or pilot to check the deviation in its incipency.

Do Not Need to See Sun. Added to these is the aerial sextant, also devised by Commander Byrd, which enables the navigator to take a sun observation irrespective of a clear horizon. This is done by means of a bubble arrangement attached to the sextant.

The most important navigational aid while the planes are approaching the Azores will be the wireless direction finder. This wonderful instrument functions irrespective of any weather conditions. No atmospheric conditions influence it, or hinder its operation. Above all, it has the remarkable virtue of becoming more accurate in its operation as the ship approaches a coast. This instrument will give a true position with less than 2 per cent error.

Throughout the flight the crews will be unable to speak to each other normally on account of the terrific roar of the engines. In order to overcome this difficulty an ingenious system of intercommunicating telephones has been devised.

Wonderful Telephone System. In the flying helmet of each man a telephone receiver has been fixed so that it naturally fits his ear. Fastened to his chest is a harness that holds a specially designed telephone transmitter before his mouth. Any time he wishes to talk to any other members of the crew he pushes a plug into the socket fastened before his station. These telephones are so designed that they completely exclude all engine noise.

The commander sitting in the navigating cockpit has two sockets before him. One is for the intercommunicating phone, and the other for the wireless telephone with which he will be able to talk direct to the commanders of the other two NC ships throughout the flight. The telephone can be used while the radio operator is communicating by wireless telegraph with the patrol vessels below the seaplanes.

Sea Flight Beset By Many Mishaps. Frowns of Fortune Are Scattered Impartially Among Various Craft. The concentrated efforts of the leading aviators of the world to fly across the Atlantic Ocean this year make a story of continuous disappointments, setbacks and failures.

Boy, 4, Loops the Loop With Mother in Plane

ATLANTIC CITY, May 16.—Babies who think they are in clover when they hear about being "rocked in the cradle of the deep" or "rock a-bay on the tree top" are back numbers. "Rocked in the cradle of the air," is the very latest.

Bobby Weil, four years old, is claimant to rock honors in the newest Morpheus rock. Bobby went up with his mother, Mrs. Emanuel Weil, of New York, for a loop-the-loop with Aviator Steele. During the aerial flip-flops, Bobby reposed in his mother's arms. When the ride was finished and the plane had come to a standstill at the pier, the youngster was sound asleep.

Now there are two new signs in front of the grandstand at the field. One reads: "Children in arms carried free on the sky line"; "If baby won't sleep, take him for a ride in the air cradle."

Little time to send word home of what transpired. Reports showing how far the flyers had progressed were looked for at any moment, however.

When the seaplanes swept eastward from Trepassey the department promptly broadcasted the news to the world that the attempt at a transatlantic air flight actually had begun. In a matter of minutes American naval folk all over the world had the news. Secretary Daniels, at sea on the transport Mount Vernon, undoubtedly heard it.

An official report from Trepassey Bay, N. F., received late to-night said weather conditions along the seaplane route were good when the start was made, and if the winds then prevailing continued the airships should reach the Azores in nineteen hours, or about 1 p. m. to-morrow, Washington time.

Reports from Azores Slow. The Navy Department took pains today to test out the rapidity of communication over the cable to the Azores, but at best the progress report will be slow, it is said, since the destroyers must devote three-fifths of their time to sending out radio compass signals when the planes are anywhere in their vicinity. It will be necessary also for reports for the Navy Department to be relayed eastward to the Azores, as the radio sets of the destroyers are strong enough only to cover a range of between 200 and 300 miles.

It is possible, however, that the battleships on both sides of the course will intercept messages and with their high power reach the United States direct with reports of progress. Recently, since the station ships and battleships on both sides of the course were established, Washington intercepted a weather report sent by the Arkansas, not more than 100 miles off Plymouth, England, which was being sent to the Aroostook at Trepassey Bay.

Picked for America Flight. Following the settlement of the Mexican problem, Towers was sent to Hampton Roads to take part in the Rodman Wanamaker's preparations for flying across the Atlantic in the flying boat America.

This project had rapidly developed when the European war put an end to the attempt. Commander Towers was sent to London as assistant to the naval attaché there, where he remained until July 31, 1916.

When the United States entered the war Commander Towers was appointed a member of the Army and Navy Board on selection of sites for air stations in the third, fourth and fifth naval districts.

On February 6 he was appointed commander of the transatlantic flight, and placed in charge of development of plans and assembly of the Rodman Wanamaker's personnel for the project. "April 21, 1910," according to official orders, he was "ordered to proceed to such place as the NC Seaplane Division 1, that will make the transatlantic flight, may be, reporting to the commander of that naval district, and assume command of that division when placed in commission. As commander of the NC Seaplane Division 1 his status will be the same as a commander of a division of seagoing ships of the navy."

Designer a Pennsylvania Man. Commander Holden Chester Richardson, one of the three designers of the NC type of seaplanes, was born in Pennsylvania, December 7, 1878. He entered the Naval Academy September 8, 1897, and was appointed ensign June 7, 1903, after service on the Illinois and the Massachusetts. After a special course at the Massachusetts Institute of Technology he was appointed an assistant naval constructor.

On February 8, 1908, he was sent to Washington, where he commenced the experiments on hydro-aeroplanes that laid the groundwork for his later successes in designing boat bodies and floats for seaplanes.

"Short Ads are the Best"

"A short, snappy ad, that gets the point over quick, is the best, because people haven't time to spend reading a lotta stuff."

Nearly any one you ask could assure you of this. Mail order firms that receive direct orders in answer to their advertisements know what pays and what doesn't; what people read and what they don't read.

Ahd yet, strangely enough, mail order advertisements are often very long; we know one once that had 2200 words of fine type and it "pulled" very profitably.

People must read long advertisements, or these "keyed" many-worded announcements would not be profitable. On the other hand Cream of Wheat advertisements often have no text at all—just a picture. With no other means of sales promotion, a great business has been created by this pretty picture advertising alone.

Should advertisements be short or long? The whole subject of advertising can not be safely jammed into a few epigrams. When you advertise, hire an expert to advise with you.

Advertising space in the "Butterick publications" is for sale by accredited advertising agencies. Butterick—Publisher. The Delineator. Everybody's Magazine. Two Mothers the year, each.

January 8, 1885. He was the first naval officer to learn flying and the first to take command of a naval aviation camp. He was graduated from the Naval Academy, Annapolis, February 12, 1906.

When the Mexican crisis developed in April, 1914, Commander Towers was sent down in command of the navy's air forces of two flying boats and two seaplanes. With him were Lieutenant Commander Bellingier, who commands crew No. 3 in the present venture, and Lieutenant Sautley, who was later killed in a flying accident.

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How Destroyers Patrol Air Route

THE approximate position of each of the twenty-one United States destroyers stationed fifty miles apart in the line of the transatlantic air flight between Newfoundland and the Azores, as represented by numerals on the map on Page 1, is shown by the following data, given out by the Navy Department. The table gives the latitude and longitude and name of the destroyer in each of the twenty-one positions corresponding to the numerals.

Table with columns: Group Station No., No., Lat. N., Long. W., Destroyer, In Reserve. Lists destroyers like Greer, Aaron Ward, Buchanan, Upshur, Bogs, Ward, Palmer, Walker, Thatchey, Kalk, Meredith, Bush, Cowell, Maddox, Hopewell, Stockton, Craven, Dent, Phillip, Waters.

Aero Club Officials Believe NC's Will Win

Special Correspondence. ATLANTIC CITY, May 16.—Prominent aeronautic authorities attending the second Pan-American Aeronautical Congress here, are confident that the navy NC seaplanes will make the long hop overseas. They are getting quick bulletins from authorities in touch with the fliers.

"The success that has met the efforts of the intrepid navy crews in their run to Trepassey shows they are ready for anything, and I expect the Yankee ships to be the first to turn the trick," said President Alan R. Hawley, of the Aero Club of America to-night.

Augustus Post, secretary of the club, said: "The splendid courage, boundless confidence and superb handling of the NC boats by their navigators and crews give me the strongest confidence that they will bring the Atlantic once they get to the Azores. The navy has done everything that science could do for the crews, and it looks to me as though we were about to witness the crowning achievement of the development of aeroplanes through the war's necessity in another display of what Uncle Sam can do once he makes up his mind."

Henry Woodhouse said: "If anybody can jump the Atlantic by air, the navy crews can do it. I have followed the plans, trials and experiments with the closest eye to details, and I am convinced the NC boats have a splendid opportunity now to sail the Atlantic successfully. The engineering problems that seemed insurmountable have been overcome by the aeronautic experts, and these ships represent the best that America's vast engineering talent can produce."

U. S. Army Prepares Field at Atlantic City For British Dirigible. ATLANTIC CITY, May 16.—Active preparations to receive the giant rigid British dirigible R-34, which is to fly across the Atlantic Ocean to this city next month, were begun here to-day under the direction of Major Thomas S. Baldwin, U. S. A., America's foremost authority on dirigibles.

Arrangements have been completed to have 2,000 bags of sand, each weighing over fifty pounds, ready at the airport to supplement the anchoring efforts of 300 men who have been hired to help hold her down. Logs twenty feet long and ten inches in diameter will be sunk in trenches running parallel for a distance of 1,200 feet. To these logs strong cables will be attached.

Hawker and Raynham Decide Not to Start. ST. JOHN'S, N. F., May 16.—While the American naval aviators were making preparations for their flight, Harry

G. Hawker, the Australian flier, and Captain Frederick P. Raynham, the British aviator, announced that mid-Atlantic weather conditions forbade a start with their machines.

Curtiss Compares Airship and Plane. Dirigible Only a Barge, He Says, Pointing Out Its Six Limitations.

Glenn H. Curtiss, co-designer with the Navy Department of the NC seaplanes now flying across the Atlantic Ocean, was asked by The Tribune to point out the comparative differences between airships and aeroplanes as shown in the "remarkable flights of the NC seaplanes and the naval dirigible C-5. His article follows:

By Glenn H. Curtiss. AIRSHIPS and aeroplanes cannot be considered as rivals. Each has a sphere of usefulness. The only dispute possible is concerning the size of these respective spheres.

In my opinion the airship is limited by certain of its attributes: First—It must be built in large units; therefore the cost of the smallest feasible airship must greatly exceed the cost of the smallest feasible aeroplane. This fact eliminates the airship as an aerial taxi or runabout.

Second—It is not so easy to maneuver as the aeroplane. Its drift in wind is greater and it is more the plaything of aerial disturbances than the aeroplane. It frequently produces a foaling parallel to seasickness. The airship, except in case of stunts, practically never does all this affects its desirability as a passenger conveyance.

Third—It is not so speedy as the aeroplane, having attained a maximum air speed of only 75 miles an hour, as contrasted with 163 1/2 miles per hour officially credited to the aeroplane.

Fourth—It needs a means as yet undevised for landing in a high wind, and its need for a landing field is in one sense greater than that of the aeroplane, since it must have a station and a crew beneath it before it can descend safely, while the flying boat, for instance, can come down even on a fairly rough sea.

Fifth—While it is true that motor failure does not force the airship to descend it does send it adrift and without motor power the airship is at the mercy of the wind, while the aeroplane is not.

These limitations are somewhat offset by the ability of the airship to stay aloft without the expenditure of fuel. As to how great an advantage this will be when there are aeroplanes with from five to nine motors, several of them always in reserve, we have yet to see.

BELLANS FOR INDIGESTION. 6 BELLANS Hot water Sure Relief.

Special War Lecture will be given at Fifth Ave. Presbyterian Church Thursday, May 29th, at 8 P. M. Capt. Gipsy Pat Smith of THE BRITISH ARMY. "In the Firing Line on Armistice Day"

British Pilots Express Regret at Loss of C-5. ST. JOHN'S, N. F., May 16.—Captain Harry P. Raynham, pilot of the British transatlantic Martinsyde biplane, expressed his keen regret to-night at the loss of the American dirigible C-5.

Bidding PARIS 5TH AVE. AT 46TH ST. NEW YORK. Offer today in their Readjustments special groups of Country Clothes featuring Sport Jackets. With or without sleeves—of velveteen, jersey and novelty silks, especially priced at \$35. Separate Skirts. Of plain and striped silks and crepe satin; also various smart models in wool materials, especially priced at \$25.

Spring and Summer FURS. Latest Models Exclusive in Style. Dry Cold Storage of Winter Furs. 2% Repairs and Remodeling at Summer Prices. A Jaekel & Co Furriers 384 Fifth Avenue. Telephone 2044 Greeley.