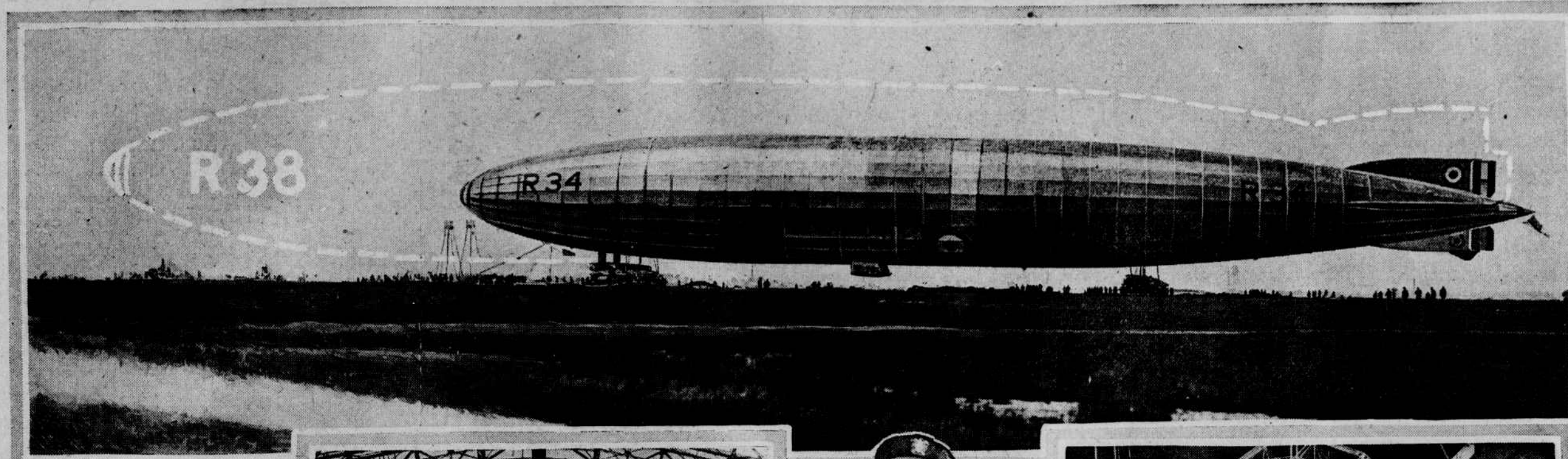


World's Greatest Airship, Owned by U. S., Here in July

Graphic picture showing the enormous size of the R-38, the rigid lighter than air vessel being built in Great Britain for the United States. The R-34, photographed at Mineola after her transatlantic voyage, looks almost a pygmy in contrast. In the centre is Commander L. H. Maxfield, U. S. N., who will bring R-38 over with a navy crew of seventy-two men, now in training.



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R-38, One-Third Larger Than the R-34 That Flew From England to Long Island, Being Completed in Britain—American Navy Crew to Fly It Home, Now in Training Abroad

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THE R-38, America's first rigid airship, designed and built by the British Air Ministry for the United States, will take off for its transatlantic flight early in July. Within forty-eight hours it should land on the Jersey coast, the world's greatest lighter than air machine adding a new page to the science of aviation and the history of navigation.

That is the plan. It depends, according to the men in charge of the mission, on two things only, the weather and the accommodations for the ship in America. The craft itself will very likely be ready within a couple of months; the men who will fly it are ready now. But the hangar at Lakehurst, New Jersey, to house it when it arrives will not be ready to receive it much before that time, and the most favorable climatic conditions will prevail then. So there is no hurry on this side to get away.

Construction Gives No Concern Despite Various Handicaps

The construction of the R-38 has been somewhat delayed by labor trouble and a shortage of material. The original specifications called for completion this month, but early last fall the time was extended a month, and now it may be longer, but this is not considered important.

The construction is developing most satisfactorily, the British and American officials in charge are in complete accord and there is no concern about the delivery of the finished ship when it is wanted. Some weeks ago it was thought likely that the ship would be able to get away in April or May, but this hope has been abandoned more because of advices from Washington than any interruption of progress here.

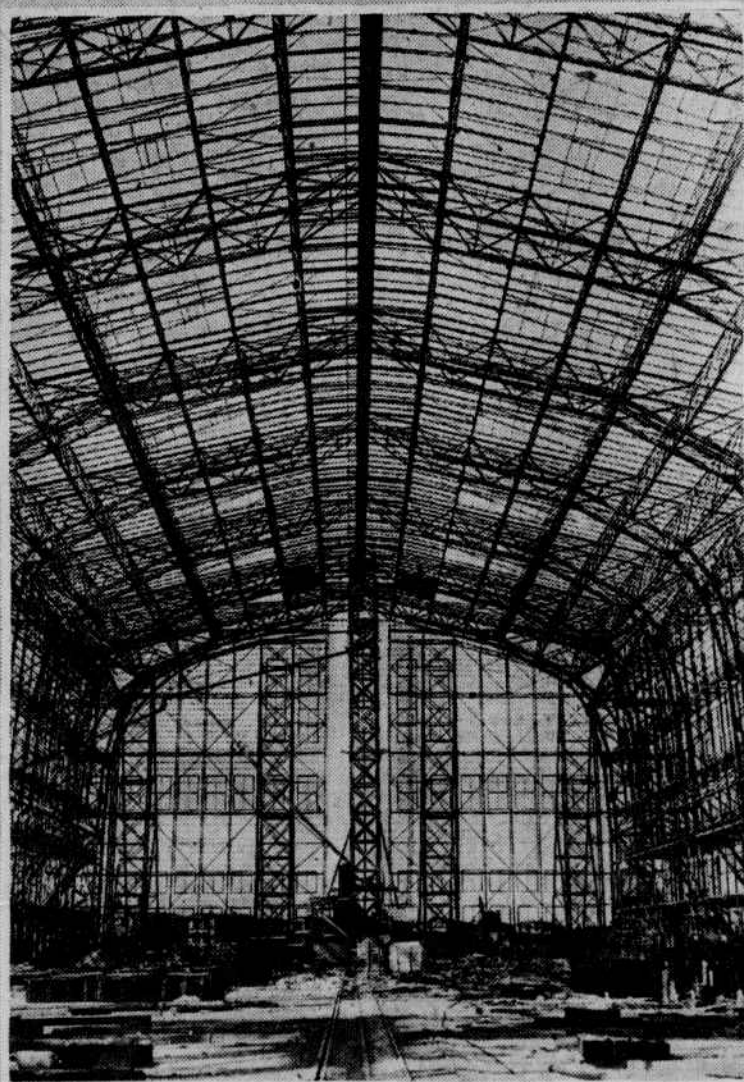
The R-38 is still in its construction hangar on an isolated field three miles outside of Bedford. It is now only a gaunt steel ribbed skeleton, but as the finishing touches are being applied to the framework a corps of men are working on the canvas. When completed the ship will be 698 feet long and have a gas capacity of 2,750,000 cubic feet. It will stand 92 feet high and have a diameter of 85 feet. Her speed? "We don't know," the experts say; "an airship is like a water ship, you never can tell until she proves it." But it is generally expected the R-38 will make between sixty and eighty knots an hour, probably nearer sixty in normal flight, but around eighty in an emergency. It will carry six twelve-cylinder Sunbeam motors, with cockpit, or "bridge," forward and in front of the two foremost motors and directly under the centre of the bag.

U. S. Navy Engineer Expects New Craft to Break All Records

The ship will be the largest and fastest ever built. Greater craft may have been conceived in fancy, or even designed, but the R-38 will have the premier place. Commander H. T. Dyer, United States Navy engineering expert, who is at Bedford inspecting the work as it progresses, is sure of this. He scoffs at German boasts and is confident the R-38 will break all records. He is at Bedford with a single non-com assistant, and will remain until the job is finished.

Commander Dyer is a tall, forceful Yankee, popular in Bedford and highly held by the British builders. He says he is only a sort of liaison between the builders and the Navy Department, but any advice and suggestions he has are always well received, and he says the relations are most cordial.

When Commander Dyer was asked what new ideas in the science of aeronautics would be employed, he said he could not tell. "The designing and construction are entirely in



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View of the record breaking hangar being constructed at Lakehurst, N. J., to house the new dirigible.

charge of the British Air Ministry and they are keeping all that secret," he said. He admits the ship will be a decided advancement over the R-34, the Atlantic pioneer, but the new ideas, which are no longer under experiment but have proved advantageous, will not be divulged until America gets the ship.

The crew sent over to train for the R-38 flight is not stationed where the ship is being built. Commander L. H. Maxfield, a veteran naval flyer, is at Howden, Yorkshire, with fifteen officers and forty-three men, all United States naval men. They are training on the old British field there on the R-32, and the British keep the R-33 there also. Already they are seasoned fliers; they take the air almost daily.

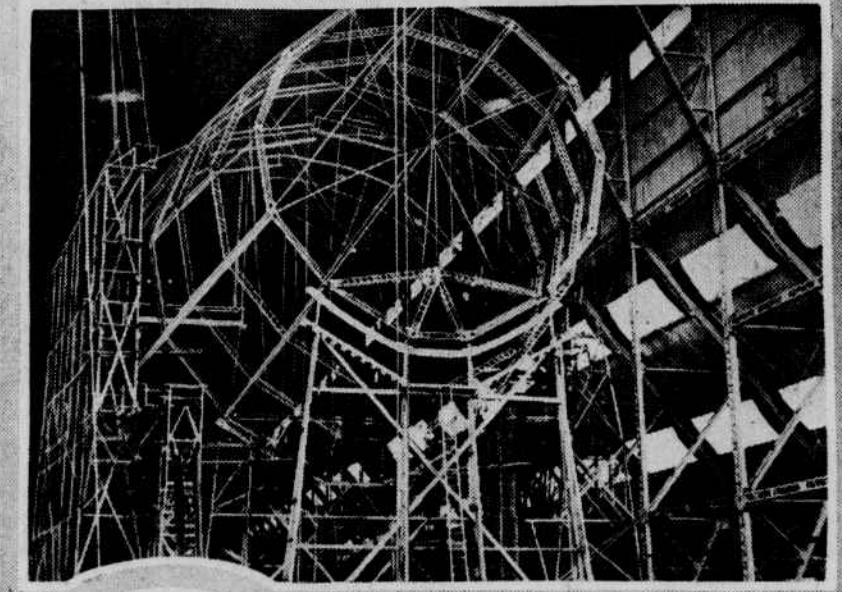
Sixty Americans Keep Cheerful In Yorkshire's Most Desolate Spot

In England they say that Yorkshire has every conceivable kind of country. There may be doubt about that, but there is no doubt that Howden is the most desolate section of all Yorkshire. Seiby, with 9,000 inhabitants, is ten miles away, and Hull thirty miles in the other direction. These sixty Americans have been there since April, and they are facing another six months, but they are far from discouraged.

Capt. Maxfield has a lively, bustling camp—somewhat snowed in at present—and men and officers are working hard and pulling together to learn all there is to know about handling a rigid airship. This month they are filling records in their log on temperature effects, not because they fear the severity of an English winter, but they are thinking of next winter on the Jersey coast. These rigids carry water for ballast, and so they have to look to something besides their motors. All the men have had a great many hours in the R-32, and during the recent aeronautical congress here the Americans were over London daily. Sometimes they stay in the air for twenty-four hours.

The men are kept busy taking care of the R-32, making tests and studying, as well as flying. They have the discipline, but at the same time that admirable spirit of fellowship that so distinguished American air service units in France during war days, a thing that makes for morale. They are a big, happy family off in the lonely fields of Yorkshire by themselves, but with the one big idea of seeing that Jersey coast loom out of the west.

Occasionally they stage a week end dinner



Part of the frame of R-38, now under construction in Britain. She will be ready to fly in June. In oval—American workmen studying the construction of the giant airship.

be housed. Capt. T. T. Craveno, director of naval aviation, has recommended that hangars capable of accommodating similar air monsters be located in Florida and on the Pacific coast.

The R-38 will be manned and directed more like a battleship than an airplane, not so much because of a naval crew as the nature of rigid airship flying. Capt. Maxfield and nearly all of his officers are seaplane pilots and they know both sides of the flying game.

"There is no comparison between flying a rigid airship and an airplane," Capt. Maxfield said. "The average aviator doesn't need to know anything about meteorology, while airship men must be familiar with that science. In fact, we handle a rigid exactly as we would handle a battleship. The control car is so much a bridge that we now call it a bridge. The officer on watch navigates by signals as on board ship. He does not touch a control; he is far away from his power supply, and he looks upon the air not as an aviator who can ride a bump with a twist of his wrist, but as a mariner regards the sea. He must continually take soundings. It is not enough for him to know the temperature at his own level; he must know what he might expect a thousand feet above and what he will find a thousand feet below. He must compute his tonnage and his ballast and be in a position to communicate with all sections of his ship and get reports. He not only has his compass but must know his latitude and longitude. He can fly in fog, snow or rain that an aviator would have to doze, but he must have his estimates before him."

"When his watch is over he is relieved by another officer, and he goes into his ship to sleep or eat, make out reports, write letters, play cards or otherwise occupy himself. These rigids are not built for lavish comfort, but they have every necessary facility, and the men aboard conduct themselves in much the same way as they would on a battleship."

This was strange flying talk to a man who had crossed the "T" less than two years before.

"Then you must miss that sensitive feel of the air entirely," I suggested.

"Miss it! Not at all," answered the Captain; "only instead of feeling it with a rudder bar and a joy stick we register it with our delicate scientific instruments; it is an entirely different kind of aviation."

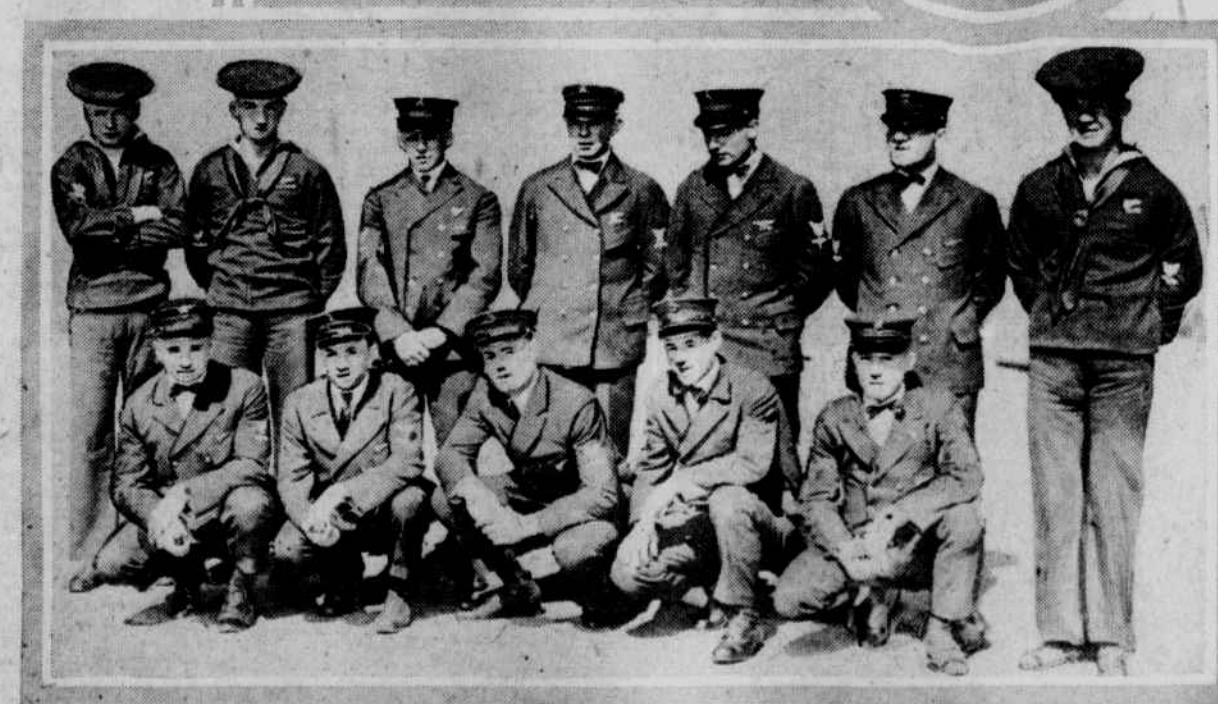
"The game must be moving on," I said.

"Yes," he smiled. "Five years ago I was sitting under a ponderous motor supported by bamboo struts and with a pontoon strapped to each wing."

Mightier Than Himalayas

AMONG the greatest results achieved by the Hedin explorations in Tibet was the discovery of a continuous mountain chain, 2,000 miles long, stretching east and west, and which, taken as a whole, is the most massive range on the crust of the earth. Its average height above sea level is greater than that of the Himalayas, and although its peaks are from 4,000 to 5,000 feet lower than Mount Everest, it passes average 3,000 feet higher than those of the Himalayas.

The eastern and western parts of this range were known before, but the central and highest part, in Boshu, was unexplored previous to Dr. Hedin's visit. He crossed ten passes in the range.



Group of U. S. Navy petty officers and men, part of the crew of seventy-two now in training to fly the R-38 across the Atlantic next July. Photograph taken just before they sailed from New York.

at Hull or Leeds, and now and then the Y. M. C. A. in London sends visitors. They go in for athletics, like any group of healthy Americans wherever stranded will do, and recently when the U. S. S. Pittsburg put in at Southampton they got together a football team and beat the Pittsburg eleven 19 to 0. The victory didn't get on many British sporting pages, but it was a great game and one that vastly astonished the few rustics who happened to pass along the country road.

The men make periodical trips to Bedford in detachments to study the construction of the R-38. They keep in close touch with the progress of building, and when the ship is ready they will be ready to step into it and take off. When they make trips in the R-32 they keep in constant wireless communication with their home field.

Capt. Maxfield hopes to command the ship on its maiden voyage, but no arrangements have been made for the passenger list outside the crew members. Certainly if there

is a list at all it will be light, because every man means so much less fuel. It is quite likely that a British officer will make the trip on an invitation extended in courtesy for the trip given an American officer by the R-34 commander.

With the successful voyage of the R-34 across the Atlantic she was already obsolete. She was after all most fragile, and improvements were based on this feature. R-38 is because of her greater size and consequent greater buoyancy, the frames could be built more strongly and the engines could be more powerful.

Most important of all the improvements perhaps is that the big, stanch R-38 is constructed to be weatherproof. She can ride to moorings like a ship through almost any kind of weather.

This immensely simplifies the terminal necessities, and makes a big ship like R-38 entirely independent of the weather in

landing and setting out. Hangars are only to be used for construction and repairs.

No increase in crew has been made necessary by the increase in size. This provides more space for passengers, mail and freight.

This is a development that is practically limitless in the opinion of experts, who affirm that the structural and engineering problems having been solved, the next solution is the size that will be most useful.

The size of the dirigibles need not be limited, as in the case of vessels on the surface of the sea by the depth of harbors and the twists of channels.

The R-38 outwardly looks like the R-34. When full of gas she will have 2,724,000 cubic feet capacity, which is fifteen times that of the C-5, the United States naval dirigible that blew to sea and was lost off Newfoundland on the eve of an attempt to cross the Atlantic.

The Navy Department has constructed a hangar at Lakehurst, N. J., where R-38 may