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The Editor is always glad to receive for examination illustrated articles on subjects of timely interest. If the photographs are sharp, the articles short, and the facts authentic, the contributions will receive special attention. Accepted articles will be paid for at regular space rates.

## BLERIOT'S CHANNEL FLIGHT.

History is making fast, these days, in the world of aeronautics, and the dramatic flight of Bleriot across the English Channel has set a milestone of progress which must forever be memorable. No one, surely, would be so unjust as to belittle this great performance by reference to earlier and longer flights over the land. In point of risk and daring, that bold, early morning dash across the Channel stands in a class by itself. Quite apart from its spectacular features, there are serious reasons, well understood by the aeronaut, why a flight across a twenty-mile arm of the sea, edged on either side by cliffs hundreds of feet in height, is a more hazardous undertaking than a flight in a closed circle over chosen ground, or even a straight-away dash across country, between starting and alighting places which have been already selected. In a land flight the aeroplane rises gradually from the ground; the height at which the aeronaut will travel is a matter of choice; and it may be attained by gradual ascent. So also in landing, the descent is a matter of gradual control. In the cross-Channel flight, however, the aeroplane, immediately after the start, must launch himself out from cliffs several hundred feet high, and find the distance between himself and the earth's surface increased suddenly by that amount. Should his motor fail during the twenty-one-mile stretch of the course, he must forthwith make a swift swoop into the sea, where, in spite of the fact that Latham has twice been rescued, the chances of disaster are very great indeed. The speed of the aeroplane is so much greater than that of an attendant torpedo boat, that the latter is quickly left behind; and when the aeroplane is once in the water, it is merely a question of the flooding of the hollow wings and central body, before the weight of the motor, tanks, and chassis, to say nothing of the operator, will submerge the whole machine.

The Wright brothers have described in a paper before one of the technical societies the great agitation of the lower strata of the air caused by the uneven surface of the ground, where trees, hills, buildings, and other obstructions cause the air in contact with it, should a wind be blowing, to roll in billows and swirl in eddies, in much the same way as the waves break on the shore, or as water is thrown into commotion when flowing in a cataract over a rocky river bed. Bleriot encountered these atmospheric billows as he passed from sea to shore above the lofty cliffs of Dover, where his machine was described as having been driven violently from its true line of flight.

The fact that the first machine to cross the Channel was a monoplane has raised the prestige of that type. Throughout his experimental work Bleriot has made almost exclusive use of the monoplane; and although recently he has done some work, we believe, with the biplane, the fact that he selected his favorite machine for the great venture would seem to indicate that he considers it, at least at the present stage, superior to a multi-plane flier. On the other hand, it should be remembered that the other notable success of this memorable week in the history of aviation, when a flight of 1 hour, 12 minutes, 36 seconds with a passenger, and a speed test of 10 miles across country, were made by Orville Wright in the government tests at Fort Myer, was achieved with that biplane type of machine with which the brothers ushered in the era of practical aeroplane flight.

## GRANDEUR OF THE HUDSON-FULTON NAVAL PARADE.

Of the many imposing pageants that will lend interest and dignity to the Hudson-Fulton Celebration, the most notable will be the great naval parade with

which the week of festivities will open. It is difficult to say whether this stately procession will be richer in historical or in contemporary interest. The presence in the van of that stately column of the "Half Moon" and the "Clermont," absolute replicas, as they are, of the quaint little sailing craft of Hudson and of Fulton's epoch-making steamboat, will in itself form an attraction that should prove sufficient to draw hundreds of thousands of patriotic lovers of their country's history to the shores of the Hudson River. Yet without disparaging the rich historic interest of these two vessels, it is certain that the spectacular, we had almost said dramatic, element of the naval parade will be furnished by the vast assemblage of modern warships, which, gathered from every naval country of importance in the world, will follow in the lead of the two vessels of 1609 and 1807.

So successful have been the efforts to make the military features of the naval parade worthy of the occasion, that it is now certain the fleet of warships will be the largest, if we except the rendezvous of British ships in the English Channel, that has ever been gathered together. Including the foreign representatives, there will be eighty war vessels; and of these, fifty-three will fly the flag of the United States. The dominant feature in the United States fleet will be the sixteen battleships which last year made the circuit of the world. It is to be hoped that among the battleships will be the "South Carolina" and "Michigan," the first vessels of the "Dreadnought" type to be built for the United States navy. An effort should certainly be made to place these vessels at the head of the naval section. The other battleships of the fleet will possess special interest from the fact that they will appear with the curious latticework or "basket" masts, with which the ships of the North Atlantic squadron have now been equipped. The fleet will come down from the rendezvous off Provincetown, Cape Cod, where it is now engaged in the summer maneuvers, and every ship will be in the very pink of condition and tuned up to the highest pitch of excellency in training and equipment. As the crowds look upon this stately line of battleships, they will be able to more fully appreciate the enthusiasm which it awakened in the various ports throughout the world at which a call was made. Following the battleships will be three of the latest armored cruisers, vessels 500 feet in length and of 22 knots speed; the three scout cruisers, of the speed trials of which so much has lately been said and written, the fastest of which are good for 25 and 26 knots maximum speed. The torpedo-boat division will contain twelve torpedo boats and four submarines. Associated with these will be the two cruisers, "Dixie" and "Castine," whose duty it is to act as "mother" ships to the small craft. The rest of the naval fleet will be made up of the tender "Yankee"; two supply ships, "Celtic" and "Culgoa"; the repair ship "Panther," fitted internally with forges and a complete machine shop; besides seven colliers and a tug and torpedo vessel. The total number of ships in the fleet, as given above, is fifty-three, and it is possible that certain auxiliaries will be added before the final list is made up.

Not only will this be the largest collection of war vessels ever assembled on this side of the Atlantic, but it will be the largest fleet of an international character that has yet been gathered either here or in Europe. England will be represented by four armored cruisers, the "Drake," which it will be remembered was the flagship of the Atlantic squadron which visited this country a few years ago under Prince Louis of Battenberg; the "Duke of Edinburgh" and the "Black Prince," two of the latest of the pre-"Dreadnought" armored cruisers; and the "Argyll," a smaller armored cruiser of earlier date. This squadron will be under the command of Rear Admiral Hamilton. The German government has notified the Department that it will send a squadron, probably of four vessels, under the command of the ranking officer of the German navy, Admiral Von Kaister. This squadron will probably include the four powerful and modern cruisers of the "Scharnhorst" and "Roon" classes, and they will afford visitors to the celebration an opportunity to see some of the latest German cruisers prior to the introduction of the "Dreadnought" type. France will send a squadron of battleships under an admiral of the navy. The flag of Italy will fly from the cruiser "Etruria" and her cadet ship "Aetna." The Netherlands will send the cruiser "Utrecht" (a part of whose crew will man the "Half Moon"), and probably two or three other war vessels. It is also expected that South America will be represented by five warships; and Japan, although she will have no vessels in the parade, will send a member of the Royal House, Prince Kunihiko of Kuni, to act as the official representative of that country.

## LEFFERT LEFFERTS BUCK.

The sudden death from apoplexy at his home in Hastings-on-Hudson, N. Y., on July 17th of Leffert Lefferts Buck has removed one more of the race of

bridge engineers who by their work during the past few decades have made America famous as the country of long-span bridges. Mr. Buck who was best known in this city as a former chief engineer of the Bridge Department, New York, was born in Canton, New York, in 1837. His early schooling was received in the Canton Academy, which he left before the completion of the course to serve an apprenticeship as a machinist. In 1859 he entered St. Lawrence University, but at the outbreak of the war, two years later, enlisted as a private in the 60th New York Volunteers. After serving through the war he was mustered out in 1865 with the rank of captain. He then entered the Rensselaer Polytechnic Institute from which he graduated in 1868. The early years of his engineering practice included some notable work in Peru, where he was connected with the construction of the famous Verugas Viaduct on the Lima & Oroya Railroad. In later years he replaced this bridge with a cantilever structure. He also built a suspension bridge over the Santa River in northern Peru. After his return to the United States in 1873 Mr. Buck entered the Mechanical Department of the Illinois Central Railroad. One of the works with which his name will always be honorably associated was the rebuilding of the International Suspension Bridge at Niagara Falls. First reinforcing the anchorages, he gradually rebuilt the suspended structure and replaced the stone piers with steel towers, the whole of the work being done without interruption of the traffic. In 1881 he became resident engineer of the Central Railroad of New Jersey, and his work at this period includes the construction of a number of truss bridges of the Northern Pacific Railroad and large bridge across the Willamette River in Oregon. Two of his finest structures are the steel arch which took the place of the old Clifton suspension bridge at Niagara and the steel arch railroad bridge across the river at the head of the Whirlpool Rapids. In 1895 he was made chief engineer of the Bridge Department, and became responsible for the construction of the Williamsburg Bridge, the longest suspension bridge in existence. Mr. Buck was a member and director of the American Society of Civil Engineers, a member of the Loyal Legion, of the Military Service Institute, of the Burns Society, and of the Engineers' and Century clubs.

## AN ANTIQUE ENCYCLOPEDIA.

A quite recent record of the aggregate results of the investigation of papyri states that Berlin, through its fortunate acquisition of certain of these documents, has come to share a cherished precedence. A late number of the Sitzungs-Berichte of the Berlin Academy, speaking especially of the papyri in Germany, says: "First we had the Persians of Timotheos, then the Didymos commentaries on Demosthenes, together with many other fragments of Greek poetry and prose, and to-day we have a very remarkable text indeed. It is written on a leaf that formerly was wound around a mummy. It was unrolled from the body without receiving the slightest injury. Through the style of the letters used on it, it is traced to the second century B. C."

In the text mention is made in formal order of legislators, painters, sculptors, architects, and mechanics. Only the most prominent representatives of the professions and trades have been selected, and frequently the particular achievement is stated to which the representative owes his fame. Following these the seven wonders of the world, the largest islands, the highest mountains, the longest rivers and the most beautiful fountains are enumerated.

The text, which is concluded with these, is only an extract from a larger work which, in its turn, is based on the results of Alexandrine investigation. How fragmentary the transmission to us of these results, formerly was is shown by the fact that not seldom we read mention of new texts and of new men. We are told, for instance, of a certain Phœnician, Abdaraxos, who is said to have produced the objects of mechanical art found in Alexandria, and of one Dorion who invented an engine of war that bore the appropriate name, The Ender of War.

The greatest significance of the new find lies in the fact that it answers the question, what men in antiquity were known as classics in their art, with new and authentic information.

According to press dispatches, an inventor named Frank Russak has devised a machine for the benefit of that large public eager to hire a book for a few hours' reading without the trouble of going to a circulating library. These machines are said to hold ten or twelve books, and display their titles so that they can be read without being removed from the case. This case opens only when a certain coin is inserted in the slot as the price of hire. Another coin is inserted in another slot as the price of the book, should the reader desire to keep it. The machines are to be distributed in hotels, trains, and seaside resorts, and wherever there is likely to be a demand for books to while away an hour or two.