of hydrogen and air. This fact may, and probably does, also account for the explosions.

It has been stated that it is curious that there should be explosions, as these were never associated with German Zeppelins falling in flames during the War. In the case of the Zeppelins, however, the airships were flying normally on a more or less even keel when set on fire by incendiary bullets. The resulting fire would occur where the hydrogen streamed out of the holes in or near the top of the airship, and as the mass began to fall the flames would be, so to speak, trailing above the airship. In this case, however, the ship broke in two, and the loose petrol was added to the burning mixture of hydrogen and air. It is conceivable that it was not even necessary for the petrol to fall on to the hot engines in order to start the petrol burning.

Thus, at the moment only one thing appears fairly clear; one or more girders broke, and this was followed by fire. As to the reason for the breaking of the girders this can only be ascertained by a full technical enquiry. It is now no longer a secret that trouble had been experienced with some of the girders during previous tests, and that reinforcements had proved necessary. No doubt the enquiry will bring to light facts relating to the nature of these alterations, and possibly also show whether or not the girders that broke were the same as those which had been strengthened.

" R.38 " was designed to have a high ceiling—27,000 ft.—and to this end her construction was kept as light as was considered consistent with adequate strength. In order to ensure lightness, several departures from standard practice were incorporated, among which the employment of fewer gas bags. This would naturally result in a greater portion of the hull being affected in the case of over or under filling of one bag, while the girder length between frames would be increased. Whether or not this form of design was responsible is not for us to say. This, like other points arising, must be dealt with by the competent authorities who are holding the enquiry.

Those who Perished

A fact which renders the accident all the more lamentable is that, the flight being one for the purpose of thoroughly trying-out the ship, there were on board a number of our and America's leading airship experts, and thus the disaster has robbed the world of the cream of the airship services to whom we were looking for that guidance in technical airship matters which was to give us the craft with which future airship routes would be operated. The blow is therefore doubly heavy, and will be a severe handicap in the future development of commercial airships. However, the least we can do is to carry on in the spirit in which those gallant souls died, and to do our best to benefit by the terrible lesson learnt and thus advance one step further towards ultimate victory.

Air-Commodore E. M. Maitland, C.M.G., D.S.O., was the elder son of the late Mr. Arthur Maitland, Barrister-at-Law, of Shudy Camps Park, Cambridgeshire. Born in 1880, he was educated at Haileybury, and at Cambridge (Trinity), and saw service in South Africa. In 1908, he first came before the public in connection with a balloon journey, in company with the Frenchman M. Gaudron and Maj. C. C. Turner, from London to Russia, a distance of 1,117 miles which is, we believe, a record to this day. In the very early days of flying, Maitland built and flew his own aeroplane, on which he had a crash that resulted in his breaking both ankles. However, nothing daunted, he continued to fly after he got well again, and did a great deal of ballooning and also airship work. In 1913, he was placed in charge of No. 1 (Airships) Squadron of the R.F.C. at Farnborough, in which capacity he did some very valuable work. He was an early believer in parachutes as life-saving appliances, and he it was who made the first parachute jump from an airship in flight. Early in 1914, he was gazetted Wing-Commander in the R.N.A.S., the Admiralty having taken over the Army airships. Shortly before the outbreak of War, Maitland was in Germany in connection with trials of a Parseval airship, but he managed to get back safely to this country. In November of 1914 he went out to Belgium on work connected with the R.N.A.S., taking with him a kite balloon, and also the small non-rigid airship " Beta." While out there he saw some of the captive balloons in use by the Belgians and French, and so impressed was he by their possibilities that he came home especially to urge the extensive use of kite balloons for observation purposes. When the kite balloon station was established at Roehampton in 1914, Col. Maitland was appointed to command it, and in this capacity he did excellent work, always being the first to try out any experiments entailing any personal risk. One of his experiments in this way was a journey in a kite balloon slipped from her moorings, undertaken in order to discover if it was possible to make a safe landing in case of a balloon breaking away.

While stationed at Roehampton, Maitland also carried out a series of parachute descents, including one from 10,000 ft, with a view to studying the phenomenon of " swinging." Later he was appointed to command the airship station at Pulham, where he continued his experiments. In 1917 he was called to the Admiralty to take charge of the Airships Headquarters Staff. It was almost entirely due to his personal effort that a greatly increased programme of airship construction was inaugurated. When the R.A.F. was formed in 1918, Col. Maitland was given acting rank of Brigadier-General, and in 1919 he was awarded the C.M.G. In that year also, it may be remembered, he made the double trip across the Atlantic in the " R.34," his log of the trip having since been published. After the return of " R.34," Gen. Maitland became O.C. of the airship base at Howden, and he made a close study of the commercial possibilities of airships, with the result that he became thoroughly convinced that airships have a brilliant future as civil aircraft.

Maj. J. E. M. Pritchard, R.A.F., was born at Leighton Buzzard, Bedfordshire, in 1889. His father was of Welsh origin, but was born in the United States, and fought there during the Civil War. Maj. Pritchard was educated privately and at Cambridge, where he took the degree of Master of Arts. Following a post-graduate course at the Royal School of Mines, he was elected a Fellow of the Royal Geological Society, and then took up his career as Mining Engineer. When war broke out Maj. Pritchard joined the R.N.A.S. as Flight-Sub-Lieut. He was posted to Roehampton Kite-Balloon Station, and passed out in ballooning and aerostatics. In 1915 he was posted to R.N. Airship Station at Kingsnorth, and later to Polegate, in command of " S.S.9 " (Zero type). Early in 1916 he was posted to R.N. Airship Station, Mudros, Eastern Mediterranean, in command of " S.S.3," where he made a Mediterranean airship record of 8½ hours' flying. Late in 1916 he was posted to Polegate again, this time as Senior Flying and Experimental Officer. In January of 1917 he was sent to East Fortune airship station as Commanding Officer of " C.24 " (coastal type). Two months later he was transferred to Howden as Commanding Officer of the Parseval airship " P.6," and in August of the same year he was posted to Cranwell. September, 1917, saw him posted to Admiralty Airship Department for Rigid Acceptance Pilot and Technical Flying Duties. During the latter part of 1917 and in 1918 he examined the various airships brought down, and wrote reports on them, as well as translating note-books, log-books, etc., found on board or on the crews. As Technical Airship Officer, he went to Germany after the Armistice, and in 1919 he was Admiralty Airship Representative to the Peace Conference in Paris. As will be remembered, he made the flight to America and back in the " R.34," jumping out in a parachute to give instructions to landing party on the other side. From October, 1919, to date he was Acceptance Pilot, and did Technical Flying Duties under the Airship Experimental and Research Division of the Air Ministry.

It might be added that Maj. Pritchard was keenly interested in the internal combustion engine, and he had great faith in the slow-running heavy oil engine for airship work. He was a strong advocate of the Ricardo engine, and used all his influence to obtain extensive research work on engines of this type. Like a good many other airship experts, he was of the opinion that the greatest danger to airships arose from the petrol fumes and not from the hydrogen, hence his desire to see the heavy oil engine developed.

Mr. C. I. R. Campbell, O.B.E., M.I.N.A., R.C.N.C., F.R.Ae.S., was Chief Designer and Superintendent of the construction of the " R.38 " at Cardington. He was undoubtedly our foremost airship designer, and his death is a great loss to the future progress of airship design and construction. While at the Royal Naval Engineering College, Devonport, he obtained the Newman Memorial Prize for highest proficiency in engineering subjects. From 1899 to 1903 he was at Royal Naval College, Greenwich, and from 1904 to 1908 he was at the Admiralty, chiefly engaged upon submarine design work. From 1908 to 1915 he was Admiralty Overseer at various works at home and abroad, superintending the building of various vessels. In 1915 he was put in immediate charge of airship design work at the Admiralty, and in 1920 was appointed Superintendent of airship design and construction at the Royal Airship Works at Cardington, Bedford. This post he held up to the time of his death.