



ZEPPELINS, AIRPLANES AND SUBMARINES

LAST NIGHT'S AIR RAID

SIX OR SEVEN ZEPPELINS OVER ENGLAND.

Eastern, North-Eastern, and Midland Counties Bombed.

No Considerable Damage OFFICIAL STATEMENT

The following announcement has been received from the War Office....

A Zeppelin raid by six or seven airships took place last night on the eastern, north eastern and midland counties.

A number of bombs were dropped but up to the present no considerable damage has been reported.

A further statement will be issued as soon as possible.



Zeppelin Raid on Derby

This was the brief, censored report in the Derby Daily Telegraph on 1st February 1916 following the bombing of Derby by a German naval Zeppelin airship. The intended target for the raid by the 9 airships was Liverpool, however due to poor visibility at the coast and navigational inadequacies, none of the airships reached their intended target. It fell to each Captain to therefore attempt to identify suitable industrial targets to discharge their bomb load.

The raid on Derby was carried out by L14, a Zeppelin airship of the L10 class, under the command of Kapitänleutnant Alois Bocker who was to become a prisoner of war later that year after a forced landing in L33.

L14 approached from the Tamworth direction and due possibly to the poor observance of blackout requirements and to clearing skies, Bocker was able to identify a target and commenced the bombing of Derby using the remaining 21 high explosive bombs and 4 incendiaries.

Bombs fell harmlessly on the Rolls Royce site, while 3 more fell on the Metalite Lamp Works in Gresham Road Osaston.

The most serious bombing occurred at the Midland Railway Loco Works where 9 high explosive bombs fell on the engine sheds killing 3 railwaymen and injuring 2 others, one subsequently dying of his injuries.

L14 was the most successful German Navy airship; 42 reconnaissance missions; 17 attacks on Britain dropping a total of 22,045 kg (48,601 lb) of bombs; taken out of service during 1917 and 1918. Destroyed by its crew on 23rd June 1919.



AIRPLANES

The First World War saw the rapid development of airplanes of all types. It had only been 5 years previously that Louis Bleriot had flown the English Channel on the 25th of July 1909. At the start of the war, there was some debate over the usefulness of aircraft in warfare. Many senior officers, in particular, remained sceptical. However the initial campaigns of 1914 proved that cavalry could no longer provide the reconnaissance expected by their generals, in the face of the greatly increased firepower of twentieth century armies, and it was quickly realised that aircraft could at least locate the enemy.



Although it may be considered odd looking by modern standards the F.E 2 aircraft was an example of an effective war machine and served in various rolls until the end of 1918. The pilot occupied the rear cockpit and the gunner the front, giving his one or two Lewis machine guns an unobstructed field of fire of over 180 degrees. The final production model was the F.E.2d (386 built) which was powered by a Rolls-Royce Eagle engine with 250 hp (186 kW). While the more powerful engine made little difference in maximum speed, especially at low altitude, it did improve altitude performance, with an extra 10 mph at 5,000 ft.



The Zeppelin

The airship was named after its inventor Count Ferdinand Von Zeppelin, who had designed the first dirigible as far back as the 1890's.

The type used during the conflict was a giant cigar-shaped cylinder of gas bubbles filled with highly flammable hydrogen. It flew only because it was lighter than air. A huge lightweight framework of duralumin girders and steel wires supported a row of 19 gas-bags which, when inflated, contained two million cubic feet of gas and filled almost the entire internal space.

The Zeppelin could fly at a maximum speed of about 63 miles per hour at an altitude of over 10,000ft. The wartime casualty rate among German airship crew was 40%, and two and a half miles up, there were special terrors not faced by men on the ground. Men perished in the airships because engines failed, or storms blew up, or commanders simply lost their way and ran out of fuel.

German engineers discovered sausage skins were the perfect material to make Zeppelin gas-bags. These came from the intestines of animals, and it took the guts of more than 250,000 cows to make a single airship. Intestines became so precious that German sausage-making was banned for a while during the war.



Propaganda was a new and important weapon of warfare that was exploited by both the British and German governments during WW 1 to rally home support.

In order to counter the threat of Zeppelin raids on the United Kingdom improved defensive measures were developed which made raids more hazardous and several airships were destroyed. By mid-1916, there were 271 anti-aircraft guns and 258 searchlights across England, and the introduction of an effective combination of explosive and incendiary bullets gave the defending aircraft their first successes. Nevertheless, in 1916 23 raids dropped 125 tons of bombs, killing 293 and injuring 691 people.

Aerial defences against Zeppelins were haphazard, and divided between the Royal Naval Air Service (RNAS) and the Royal Flying Corps (RFC), with the Navy engaging enemy airships approaching the coast while the RFC took responsibility once the enemy had crossed the coastline.

The local connection - Rolls Royce

At the outbreak of World War I in August 1914, the Royal Aircraft Factory asked Rolls-Royce to develop a new 200 hp air-cooled engine.

Development of the new engine was led by Henry Royce from his home in Kent. Based initially on the Rolls-Royce Silver Ghost engine, the power was increased by doubling the number of cylinders to twelve and increasing their stroke to 6.5 inches, although their bore remained at 4.5 inches. The engine was also run faster, and an epicyclic reduction gear was designed to keep the propeller speed below 1,100 rpm. To reduce inertia and improve performance the valve gear was changed from sidevalves to an overhead camshaft design.

On 3 January 1915 the Admiralty ordered twenty-five of the new engines. The Eagle first ran on a test bed at Rolls-Royce's Derby works in February 1915. The engine first flew on a Handley Page O/100 bomber in December 1915, the first flight of a Rolls-Royce aero engine. The Eagle engine went on to power over 40 different types of aircraft.



Submarines

One of the men named on the Elvaston War Memorial, William Mould, provides the local connection to the submarine service and specifically to the K class of vessel.



The K Class Submarine

William Mould served in submarine K5 from January 1918 until his death by drowning on the 20th January 1921.

The K class submarines were a class of steam-propelled submarines of the Royal Navy. In 1913 an outline design was prepared for a new submarine class which could operate with the fleet, sweeping ahead of it in a fleet action.

The K class of submarines was the brainchild of Admiral Jellicoe. At 339 ft long they were nearly twice the size of most other submarines. They were made this long to achieve a top speed on the surface of 24 knots. The submarines were steam turbine driven with two funnels that had to be retracted before the dive could take place. This could take up to 5 minutes and was a constant source of leaks and problems, and was of particular concern in the case of a crash dive or bad weather.

The boilers were oil fired and coal was used for the galley which was outside the pressure hull, under the upperworks, behind the funnels. There is a story of one of these submarines that dived, forgetting all about the chef, who had to swim for it, but was later picked up.

"Kalamity" Class

A total of 6 of the K class submarines were lost due to accidents. Only one torpedo was fired at a German vessel, it failed to do any damage.

William Mould was aboard K5 when it was lost, due to unknown reasons during a mock battle in the Bay of Biscay in 1921. Nothing further was heard of her following a signal that she was diving, but wreckage was recovered later that day. It was concluded that she exceeded her safe maximum depth!

The K-Boats operation was scrapped after it had claimed 250 British lives but not one German soldier was killed.

