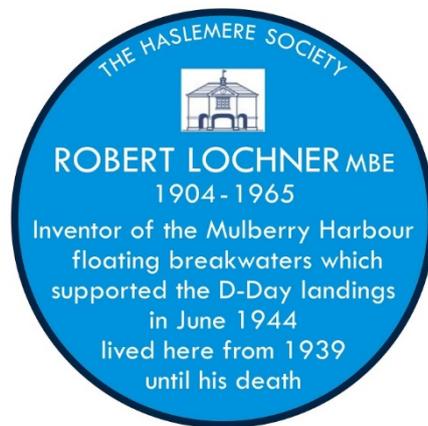




Robert Lochner MBE

Blue plaque at Rats Castle, Liphook Road



Robert Lochner

1904-1965

Robert Lochner was a truly remarkable man. Before the war, as a qualified engineer, he worked for 14 years for Crompton Parkinson Ltd in design, production and sales positions, before taking up an appointment as sales manager for Laurence, Scott & Electromotors Ltd, moving to Rats castle at about the same time. He was also a keen amateur sailor, and proud owner of his own sailing boat, the Odette. He is pictured here on board with his wife. Amongst other achievements, he successfully completed the 208mile RORC race in 1939, although he does appear to have grounded his boat earlier in the year.

With war imminent, on 30 August 1939, he wrote to Admiral Lawrence volunteering his services of an experienced sailor and successful manager. Remarkably, he was commissioned within 18 days. Happily for the war effort his days at sea came to an abrupt end after a short period when he was spotted in his glasses on board ship, and reassigned to research efforts.

With the onset of war the admiralty was seriously concerned by Germany's magnetic mines, which attached to ships' hulls and sank 15 ships in short order.

However, the defusing of a mine dropped by aircraft at Shoeburyness in November allowed a solution to be developed within one week. Lochner was assigned to the research efforts. Together with a team of fellow scientists, he invented the de-gaussing girdle, a skirt fitted to the hulls of ships, and energised by a special electrical current which countered the threat from these mines securing the future of the north Atlantic convoys on which Britain's war effort depended.

As a reward for his efforts, he received the remarkable sum of £5000.

Explanation of Amount of the accompanying Payable Order in favour of			
Messrs. <i>R.A.N.A. Lochner</i>			
If any enquiry respecting this payment is necessary, please quote the No. and Date of the Payable Order and return this form to the Director of Navy Accounts, ADMIRALTY, BATH.			
	£	s.	d.
<i>P.P. No. 4950/39</i>	<i>5,000</i>	<i>0</i>	<i>0</i>
			<i>Ex gratia toward in respect of contribution to the development of methods of degaussing and ancillary equipment</i>
CARRIED FORWARD			
D.N.A. Form—No. 174. (D.N.A. 4432/34) (39104) W25896/D.0585 75m 12/49 E.S. Gp25.			

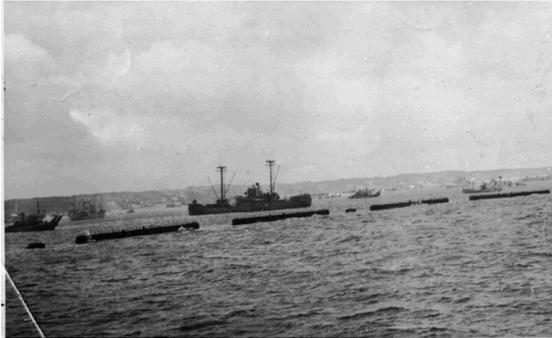
After the war, Lochner had a third career, qualifying and practicing as a successful patent and trademark barrister. He was due to take silk at the time of his premature death.

The Story of the Mulberry Harbours

It is as the inventor of the floating breakwaters for the Mulberry Harbour that Lochner is best known.

One of the principal challenges facing the Allies in mounting the invasion of Europe was that Hitler had secured all of the Northern European mainland ports, and had plans to defend and then blow them up in the event of an invasion. For the invasion to succeed, the Allies therefore concluded that it would be necessary to create temporary harbours to ship supplies to support the invading troops. Without this Harbour there could be no invasion.

The big challenge was to create a breakwater to secure the concrete landings that were to be towed across the English Channel. Lochner led efforts by a group of scientists known by the somewhat 'Boys Own' name of 'The Wheezers and Dodgers' to solve the challenge. Early experiments with a device called a bubble breakwater proved disappointing: but what was the alternative?

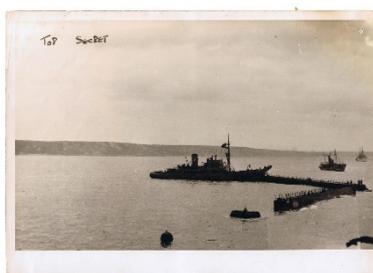


The bubble break water had experimented with the preposterous notion that pipes could be laid on the seabed and blow bubbles to calm the waves.

Lying in bed at Rats Castle recovering from flu in the spring of 1943 Lecher realised from his holiday experiences that waves have little strength below the surface. Jumping out of bed, he went to the attic to find an old Lillo rubber mattress, and with the use of an iron bar he bent the mattress lengthways and sewed the two sides together with the bar forming a rough and ready keel. After experiments all day in the pond in his garden, he realised that he had the basis of the solution. His realisation that waves only exert their force to a relatively shallow depth completely revolutionised the approach to the solution.



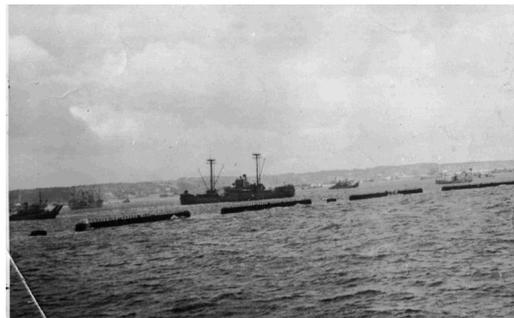
By July 1943 a mathematical theory to support the approach had been evolved, and in August 1943 experiments began in Portsmouth. The breakwaters were 200 feet long and 12 feet wide with gigantic airbags divided into three compartment running the full length and separated from each other by canvas walls proofed with rubber.



In August 1943, Lochner and his fellow experts flew to Canada to report to the Anglo-American invasion planning conference in Quebec on progress with the harbours. The decision to go ahead with the harbours was taken.

Full-scale trials of the floating breakwater commenced in April 1944. An onshore gale produced heavy seas, and the bombardons calmed the waves effectively.

Assembling two Mulberry harbours, which commenced on D-Day +1 was one of the most remarkable engineering feats in history. In all, one and a half million tons of harbour equipment had to be brought across the Channel in an operation involving 150 Allied tugs. Yet by D-Day +12 most of the Phoenix caissons were in position. However disaster was to strike. A major Atlantic storm destroyed the Mulberry A harbour on the American beach at Omaha. Lochner was sent to assess the damage. He concluded that the American harbour could not be saved but that certain of the equipment could be redeployed to the British beach at Arromanches. The enlarged harbour was completed by D-Day +40, a harbour 2 miles long by 1 mile broad. On July 23, Churchill visited Mulberry B, and on his return stated ' This miraculous port has played, and will continue to play, a most important part in the liberation of Europe.'



The Wheezers and Dodgers under Lochner's leadership had played a critical role in winning the war.