



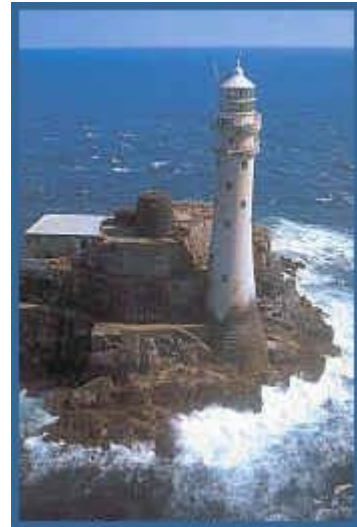
THE FASTNET LIGHTHOUSE



The Fastnet Lighthouse is known as The Teardrop of Ireland, the last sight of Ireland for emigrants sailing to America.

The Fastnet Rock is 4.5 miles southwest of Cape Clear and southwest of Mizen Head. There are two pinnacles of hard clay shale with veins of quartz rising to a height of 30m. above low- water mark surrounded by deep water.

The Corporation of Trinity House sanctioned the first lighthouse, a cast iron tower designed by George Halpin, in 1848 to replace the Cape Clear Lighthouse, which was too far inside the dangers, too high and too foggy.



Three dwellings were built at Rock Island at the entrance to Crookhaven Harbour to house the Lightkeepers' families. The Tower was finished in 1853 and the light first shown on January 1st. 1854. The total cost including the dwellings was 20,000.

On November 26th. 1881 a similar tower on the Calf Rock was carried away in a gale. In the same gale the sea broke the glass on the Fastnet lantern. In 1883 an explosive fog signal was installed. A charge of gun cotton was electrically fired every five minutes during fog or thick haze.

In 1891 the Irish Lights Board resolved that the light on the Fastnet was not powerful enough for its position as the principal landfall light on the southwest coast. They applied for the sanction of the Elder Brethren of Trinity House to build a new tower to make it the best possible light.

Mr. William Douglass, the Commissioners of Irish Lights engineer, surveyed the Rock for a new site for the tower. He proposed a granite tower 42' in diameter at the lowest course and 147' in height with the focal plane of the light at 159' above high-water mark. The cost was estimated at £70,387.

After much negotiation between the Commissioners, the Board of Trade and Trinity House, the Board of Trade sanctioned the expenditure for the building of the new Lighthouse on November 28th. 1895.

Mr. Douglass increased the diameter of the base of the tower to 52'.

The first course of stone is 6' below high-water mark. The first ten courses are built into the natural rock. After twenty-five courses there are 5 courses with built-in water storage tanks. The entrance floor is at a height of 57.75' above high water.

Above the entrance floor the masonry of the tower extends to a height of 88'. It is divided into seven rooms with granite floors.

The first floor room is the Storeroom. It contained the magazine for storing the gun cotton for the fog signal.

The second floor room was the oil-room with oil tanks and a pump for forcing the oil up to a small supply tank in the lantern.

The third floor room was a spare bedroom for workmen.

The fourth floor room was the principal storeroom with presses and shelving. There was a special felt lined cupboard for storing the detonators for the fog signal charges.

The fifth floor room served as a kitchen with a cooking range, a circular table, a bookcase, shelving and a white glazed stoneware washing up sink.

The sixth floor room was the bedroom for the lightkeepers with bunks, a wardrobe, lockers, shelves and a rail with sliding hooks. The floor was covered with cork carpet.

The top storey was a service room with a cast iron rainwater tank, which collected the water falling on the lantern and upper balcony, the wireless telegraphic instruments, a sink, a wash-hand-basin, cupboards and shelves for light room utensils and stores. The windows were louvred to give bottom ventilation to the lantern.

The total height of the masonry is 146.33' and the external form tapers for a height of 116' in an easy curve, which is the segment of an ellipse.



There is an easy curve under the projecting balconies of 26' diameter at 133.5' and 146.25' to throw the spray clear of the service room and the lantern.

The staircases follow the elliptical curve of the tower. They have radial cast iron treads.

The first courses were laid in June 1899 and the masonry work was completed in May 1903. A total of 89 courses consisting of 2,074 stones, having a nett cubic content of 58,093 cubic feet and weighing 4,300 tons, were landed and set in 118 working days. In addition 4,500 cubic feet of granite blocks used to fill in holes in the foundation and the space between tower and rock up to the level of the Entrance gallery.

The granite stones were brought from Messrs. John Freeman and Sons of Penryn, Cornwall. Good hard granite was needed for the base, but as it would be covered with seaweed its pure colour and coarse grain were not important. For the upper courses, hard fine-grained uniform coloured stone was bought.

The stones were cut with dovetail joints in all directions to interlock and give strength to the tower. No stone can be removed unless all stones are removed from above it. This system of dovetail toggles bonds the entire structure into a monolith.

The entire tower was erected in sections of 6 - 8 courses in the contractor's yard in Cornwall where Mr. Douglass or Mr. Foot, the Resident Engineer, inspected them before they were dismantled and transported to Rock Island. They were checked rigorously at the Rock Island yard again before they were transported on the lerne to the Fastnet Rock.

The SS lerne was specially built for carrying the stones. A powerful steam winch and derrick deposited the stones on two tiers of rollers on the deck. The SS lerne moored onto three buoys next to the quay. The stones were lifted into



the water with derricks from the quay and lifted from the water with the ship's derrick onto the deck. At the Rock, the stones were lifted by means of a series of pulleys and masts up to the new course. The main mast was held in a 16' diameter hole in the stones at the centre of the floor at each storey.

James Kavanagh, the foreman, joined the project in 1896. He was to stay with the construction on the Rock until the last course, 89, was finished in June 1903. He went ashore at the end of June complaining of sickness. He died in July and was taken for burial in Arklow on the Irish Lights vessel. He had personally set every stone on the Lighthouse.

Bad weather and the difficulty of finding suitable stone delayed construction. During the summer months 11 - 15 men lived on the Rock in addition to the foreman with 4 - 6 extra hands being landed on any day that stones were set. In 1899 when the rock was being cut for the foundations as many as 22 men lived on the Rock, not counting the Lightkeepers.

An office, stores, carpenters' and blacksmiths' shops, a barrack for the workmen and two keepers' dwellings were built on Rock Island, giving work to the men when the weather was too severe for work on the tower

The characteristic of the light and its apparatus was finally decided by the Irish Lights Board and sanctioned by Trinity House in February 1902. The character adopted is a single flash every 5 seconds. The power of the beam through the lens for the centre of the flash is about 750,000 candlepower. The burner used 1.2 pints of oil per hour at 1200 candles.

This strong beam was achieved by the use of a biform four-sided apparatus - Dioptric. If one burner went out there was a duplicate. A flash of greater power is achieved with this apparatus. A flash of 38% more power is achieved with this form of light. The biform type can be more easily cleaned with the use of a gallery inside and outside. Finally, the duration of the flash is longer than with a monoform light.

The light floats in mercury, which enables it to revolve evenly. The light apparatus weighs 6 tons and needs a weight of 290lbs. falling at 49' per hour to rotate at a speed of 3 revolutions per minute. The weight falls through a tube in the centre. One of the tasks of the lightkeeper was to keep the light wound up.

The Lantern is 17' in diameter at the inner surface of the glass. The framing is steel with an intermediate cast iron sill. The two firing jibs for the Fog Signal were clamped outside. Messrs. Chance of Birmingham constructed the whole optical apparatus and lantern.

In 1904 The Marconi Wireless Telegraphy Company installed wireless telegraphy equipment and signal-flag masts on the roof of the lantern to contact passing boats. Mr. Rickards, the Marconi Company's Engineer, stayed on the Rock for some months to instruct the light keepers in the use of the apparatus and to experiment with several aerials. The Rock was used as a regular Lloyd's signal station, receiving flag-signals from passing ships and telegraphing the messages ashore to the Brow Head Station.

J. Kavanagh, son of the foreman, proceeded with the plumber and four men to dismantle the old tower in March 1904. The old tower was taken down to the top of the casing so that the remains could be used as an oil store. Six 300-gallon oil tanks were put in this store and five 130-gallon tanks for the oil store in the new tower.



A temporary light was installed while the work proceeded. In 1903 a storm damaged some of the lantern parts, but by April 1904 repairs had been made in Birmingham and the lantern returned to Rock Island, but it was not until June 25th. that the lantern and burners were ready.

The Commissioners came to Crookhaven on board the Irish Lights Steamer SS Alexandra to inspect their new light. They were delighted with the intense flash of the light at 22 miles distance.

There were six Keepers at the Fastnet Rock - four at a time and two on leave. Reliefs were twice a month when two men were taken off. Each man did four weeks on two weeks off. One man had to stay on watch during daytime to look out for fog and to signal passing ships. As soon as fog was seen another man was called up to work the fog-signal.

The annual cost of maintenance and repairs was about £1000. Lloyds repaid £200 to the Commissioners for the services of a lightkeeper. The cost of oil, mantles, etc. for the light was about £45 and ammunition for the fog signal was £260 p.a.

The rate for a labourer was 2s 6d. (12.5p.) per day for nine hours with an extra 1s. (5p.) when working on the Rock. Every man employed had 10d. (4p.) deducted from his pay per month for medical attendance.

The men provided their own provisions but were not allowed to let their stock run lower than a fortnight. The Commissioners set up a stock of reserve provisions on the Rock, which the men were allowed to purchase. On average they kept 2 cwt. (110kgs.) Salt beef, 2 cwt. Salt pork, 2 cwt. Tinned meats, 18lb. Tea, 1 cwt. Sugar, 12 tins Cocoa, 180 tins Condensed milk, 2.5 cwt. Biscuits in barrel, 70 lbs. Biscuits in tins (35kgs), 20 lb. Rice, 65lb. Green peas, 32lbs. Split peas. Of these the biscuits, tea, sugar and milk were most in demand and the meat was hardly touched.

When there were so many men on the Rock they slept three to a bunk. They were all turned out at 5 o'clock in the morning and made to wash themselves thoroughly, turning out all the bedding to air and washing down the barracks. This way the men stayed healthy.

Communication was kept with the shore by semaphore signals three times a day when the weather was clear and a set of canvas ball, cone and diamond signals for bad weather.

The temporary buildings and the wharf at Rock Island were dismantled. The SS Ierne was retained for service at other stations in the southwest.


Extracts from History of Fastnet Lighthouses by C.W. Scott. First published by the Commissioners of Irish Lights in 1906, reprinted by Schull Books in hardback in 1993 in a limited edition. Reprinted in soft back in 2001. Available from Jack and Barbara O'Connell, Schull Books, Ballydehob, West Cork.

Characteristics of the Fastnet Rock Lighthouse

Position

51° 23.3°North 9° 36.1°West

Light



Fl W 5s White Flash every 5 seconds, also exhibited by day when the fog signal is sounding: nominal range 27 nautical miles.

Radar Beacon

Morse 'G' on vessel's radar display.

Fog Signal

4 blasts every 60 seconds

Height of Tower

54 metres

Height of Light above mean high water springs

49 metres

