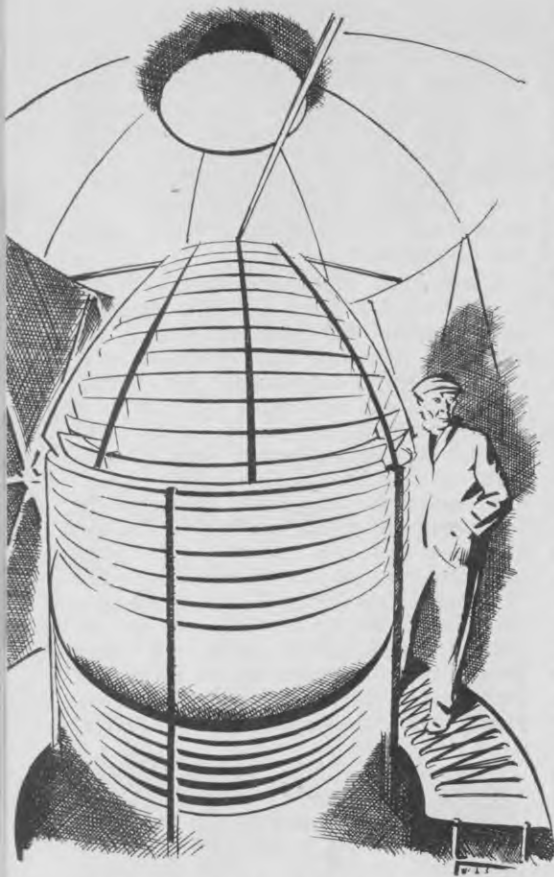




*The lamp at the top of the lighthouse.*

Head on the beam, he is guided up the harbour by the Pencarrow low-level light, its white sector winking up the safe channel and the red sector flashing over foul ground.

Not the new low-level Pencarrow light, but the old white tower 322 ft. up the cliff above it, is a real curiosity in lighthouse history. Pencarrow was the forerunner to Baring Head and was the first lighthouse to operate in New Zealand. Its history over the last hundred years shows how modern science has been adapted to serve the users of the sea. A hundred years ago the light shining from Pencarrow was an ordinary lantern placed in the bay window of a cottage—now

the low-level light is a Dalem-Aga apparatus, using acetylene dissolved in acetone as fuel, with automatic replacements of mantles, and automatic lighting up at sunset and cutting off at dawn. Between these two extremes was a multitude of inventions—the colza oil wick burners, the paraffin burners, the kerosene burners, with mantles like Aladdin lamps, and last of all the electric design which was installed at Baring Head in 1934, the first of its kind, so it was said, in the Southern Hemisphere.

"A group occulting white light, having three eclipses every 15 sec., thus: light 5 sec., eclipse 2 sec., light 2 sec., eclipse 2 sec., light 2 sec., eclipse 2 sec., visible for 23 miles, is exhibited from a white concrete tower 40 ft. high." That is how the "New Zealand Nautical Almanac" describes Baring Head lighthouse. Not being sea captains, we wanted to know what it all meant and how the apparatus worked. So we asked Mr. Wylie, the acting keeper, to show us.

Leaving our visit to the lighthouse itself till dark, we first went to the powerhouse, which is also the control station. This is built between the houses of the two keepers and is a plain, rough-cast building, holding in its five rooms the two Diesel engines and generators which provide power for the station, the battery sets which store the power, the radio-beacon equipment (for fog signals), motors and generators for the beacon, and an anemometer (which we discovered, is a wind-measurer). The radio-beacon room is a grey-painted complication of dials, panels, boxes, clocks, switches, and valves. Mr. Wylie explained that this wireless fog signal is worked automatically by an eight-day clock, regulated from wireless time signals. At night and in foggy weather the beacon sends out from its singing aerial (the pylons were the first thing we saw at Baring Head) a continuous series of Morse signals as follows: ZLOA, followed by A's for 45 seconds, a long dash, a repetition of this, and then a silence for 250 seconds, the whole transmission taking six minutes. In fair weather from sunrise to sunset the signal is transmitted twice an hour, on the hour and at the half-hour. The signal, being a call sign, enables ships and even