Bicycles, boats, V12 engines and the Hillman Imp – automotive connections that might surprise you

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A lovely example of an early Hillman Imp, powered by a rear-mounted overhead camshaft engine. Photograph copyright Kim Henson.

What links a 19th century Glasgow bicycle maker, a tiny Scottish island, the world's first V12 engine, the Hillman Imp, and the Internal Fire and Power Museum in west Wales?

Dave Moss explains...

Our story begins late in the nineteenth century, when one Alistair Edward Stuart Craig established a business called Craig Bicycles in Glasgow. It made modest numbers of machines, each emblazoned with his trademark: A man standing atop a mountain, holding a bicycle in the air, underscored with the slogan "As strong as the rock of Ailsa Craig". This, and the fact that his father was a solicitor in that city, seems to represent most of what's known about Mr. Craig and his early business activities.

Around 1891 he took the monumental step – for unknown reasons – of moving his enterprise from Glasgow to 18 Grand Parade, Putney, south London, where he renamed it The Ailsa Craig Bicycle Company… Aside from sharing his name, it's unlikely we'll ever know quite why this lonely outcrop of rock in the outer Firth of Clyde, 10 miles (16 km) west of mainland Scotland, so motivated this budding engineer to name his business after it.

Known for hundreds of years as "Paddy's Milestone" through its location around half way by ship between Glasgow and Belfast, Ailsa Craig covers just 99 hectares (240 acres), within which it rises steeply to 1,114 feet (304 metres). It has a long and intriguing history, though mechanisation was limited to two short narrow gauge railways, installed to aid quarrying of so called "microgranite", used to make curling stones – and transport coal for now-derelict gasworks, which powered two long-redundant foghorns. There are also two lighthouses, which have been fully automated since the 1990s, leaving the island uninhabited – and nowadays an important RSPB bird sanctuary.

Whatever the reason for Alistair's move south it proved successful, and the Ailsa Craig Bicycle Company soon expanded into machine tool manufacture. Then our hero caught an infectious bug common amongst late 19th century bicycle makers, succumbing to an irresistible urge to move into new-fangled internal combustion engine manufacture.

Encouragement may well have come through his acquaintance with experienced engineer Gottfried Ludwig Dörwald, next door neighbour at the Grand Parade workshops, who had served in the German Navy, and worked at Daimler.

By 1900 the pair had established the Putney Motor Company, which was briefly listed in early directories as a car maker, though photographs also exist of some specialised commercial vehicles. However, the company's main focus seems to have been stationary and marine engine production, beginning with a single cylinder petrol/paraffin unit, then moving quickly up to two and four cylinder engines. However in 1904, responding to a commissioned order, Craig and Dörwald developed a unit way beyond anything previously contemplated: a petrol powered, V12-cylinder, 18.3 litre, four-stroke side-valve unit, intended for the then newly-developing sport of boat racing.

A quite detailed technical description of this engine has survived, revealing that it offered "155 horsepower at 1,000 rpm, with a crankshaft reportedly "supported upon four substantial 5-inch phosphor-bronze bearings". We also know that "four connecting rods work on each web of the crankshaft", and the pistons were "of substantial construction, being 4 7/8 inches diameter by 5 inches bore… in order to effect an economy of weight, the connecting rods, like the crankshaft, are hollow". The description also indicates that the engine was "commissioned for use in a 40-foot racing boat, its hull made of cedar, with a thickness varying from 3/16 inch at the thwarts, gradually increasing to 5/16 and 5/8 inch at the bottom. The engine will be placed somewhat forward of amidships, and the developed power of the engine will be transmitted through a special reducing gear and a propeller shaft about 20 feet in length, to a single propeller 2 feet 2 inches in diameter…"

The craft's length, structure and powerful engine suggests a design meeting the rules of the British International Harmsworth trophy "auto-boat" race, an event conceived in 1903 by the Automobile Club of Great Britain and Ireland, with its affiliate the Marine Motor Association, to add a new and prestigious dimension to the Gordon Bennett Cup car racing series. Sadly, surviving records make no mention of V12-engined "auto-boats" in the 1904 or 1905 Harmsworth Trophy races. Indeed after that published report on its engine, the

project effectively disappeared, leaving no clues about who commissioned the craft, whether it was ever raced – or even built – and what ultimately happened to it… or its engine.

However the report certainly supports the Putney Motor Co's claim to have built the world's first V12, despite the February 16th 1904 edition of the New York Times introducing a sliver of doubt by suggesting the existence of *"a boat 50 feet long, fitted with 200 horsepower twelve-cylinder engines, which was made in Turin… and is now practically ready for use. It will be imported* (into the USA – ed) *by an automobile firm that deals in Italian motors…"* It was however some years before other V12 engines appeared – and Turin based Fiat didn't top that list…

In 1906, Putney Motor Company operations were seamlessly merged into the Ailsa Craig Motor Company, which continued production of the existing engine range – not including a V12 – offering outputs ranging from 6 to 30 horsepower. In 1910 it was re-financed and incorporated as a limited company, by which time Craig and Dörwald had both left the business and vanished into obscurity, apparently playing no further part in what would soon be growing interest in, and demand for, the power outputs of which only V12 engines were then capable.

With the founders' departure, one Ellis Abraham Davidson Kisch, who had first met Dörwald in Germany, and invested in the Putney Motor Company in 1902, became the revitalised company's managing director. Under his guidance it blossomed, moving to much larger Thames riverside premises in the 1930s, where trade continued under the grand though hardly snappy title of the "Ailsa Craig motor Co, Chiswick, London, W4, Marine and General Engineers, Motor Engine Manufacturers and Boat Builders." Between the wars the company gained a Royal Warrant from George V, and continued producing 4 to 6 horsepower petrol-powered engines, adding both diesels, and 6 cylinder units up to 50 horsepower, before WWII.

From its earliest production Ailsa Craig's engine lines were identified by letters, with more popular units also carrying trade-marked names – and the 'F' series included a small,

paraffin-powered stationary engine named “Imp”. Around 1960, when Rootes Group were developing a new small car, codenamed “Apex”, intended to rival BMC’s Mini, the ‘Imp’ name had been registered to Ailsa Craig for over 40 years. Enquiries were made… and agreement reached: the name could be released… at a cost of one Humber Super Snipe, the top luxury saloon in Rootes’ range. On September 30th, 1960, Rootes duly announced their new small car would be called the Hillman Imp – though it was May 1963 before the first examples began rolling out of their brand new factory, at Linwood, near Glasgow.

Ailsa Craig was successfully run by Ellis Kisch’s son Robert until financial problems struck in 1962, when the company was taken over, allegedly at a knockdown price, by Warsop Fram, a contractors’ plant manufacturer. Though operations continued, oddly the new owners seemingly had little interest in either utilising engines gained by the takeover in their existing petrol-powered machinery ranges, or further investing in the business. However profitable opportunities weren’t ignored, which in the 1960s led to engines of Yugoslavian and Swedish origin being sold under the Ailsa Craig brand for marine and stationary applications. Yet as with the British motorcycle market, sales slipped as Japanese engine manufacturers gradually gained market share.

Ailsa Craig ceased trading in 1972, when remaining assets were scrapped or sold. Reportedly a bonfire of old company files, drawings and general paperwork followed, though various records escaped, finding their way into London’s Science museum archives. Many working drawings and various complete engines were also liberated, and now reside at the Internal Fire and Power Museum, at Tan-y-groes, Ceredigion, in west Wales.

References – Further Reading

The little that is known about Alistair Craig is here:

https://www.gracesguide.co.uk › Alistair_Edward_Stuart_Craig

Some satellite pictures of Ailsa Craig can be found here:

https://earthobservatory.nasa.gov/images/91856/ailsa-craig

A usefully detailed eBook, titled The Ailsa Craig Archives, Book One, The History, May 2009 version, has in the past been available for free download, but as of 2024 no longer seems to be on-line. A printed version may be available for reference at the reading room of the Caird Library, the National Maritime Museum, Greenwich.

A technical description of the Craig Dörwald V12 engine, written by the English Correspondent of the *Scientific American* magazine, and published in it's supplement no 1517, dated Jan 28 1905, can be viewed here:
https://www.scientificamerican.com/issue/supplements/1905/01-28/

(subscription may be required)

Graces Guide entries for the Putney Motor Works and Putney Motor Co:

https://www.gracesguide.co.uk/index.php?title=Putney_Motor_Works&redirect=no

https://www.gracesguide.co.uk/Putney_Motor_Co

A few very brief details of some Ailsa-Craig/Craig-Dörwald cars are here:

http://www.britishmm.co.uk/history.asp?id=28

The Science museum has a quite extensive Ailsa Craig-related photographic archive, which is accessible here

https://collection.sciencemuseumgroup.org.uk/documents/aa110001505/photographic-archive-of-the-premises-work-and-products-of-the-putney-motor-co-and-the-subsequent-ailsa-craig-companies

The history of the Warsop company (by Donald G. Whiting) is in a PDF downloadable here:

http://domain928502.sites.fasthosts.com/pdf_files/history/warsop_fairport_history.pdf

Some details of how the the Imp name was obtained by Rootes can be found here:

https://imps4ever.info/algemeen/imp-name.html

The full Hillman Imp story is here:

https://imps4ever.info/algemeen/history.html

The Internal Fire Museum of Power is located at Tan-y-groes, Ceredigion. SA43 2JS.

Museum website: http://www.internalfire.com/

Details of the museum's core collection are available online here:

http://www.internalfire.com/ifod/listobjects.php?showall=1&keyword=&catall=1&act=&cat=16&coll=1&search=1

The full contents of the internal fire museum collection can be searched here:

https://www.ifarchive.net/collection.php

Wikipedia entries (some of which include pictures)

https://en.wikipedia.org/wiki/Ailsa_Craig_Engines

https://en.wikipedia.org/wiki/Ailsa

https://en.wikipedia.org/wiki/Ailsa_Craig