

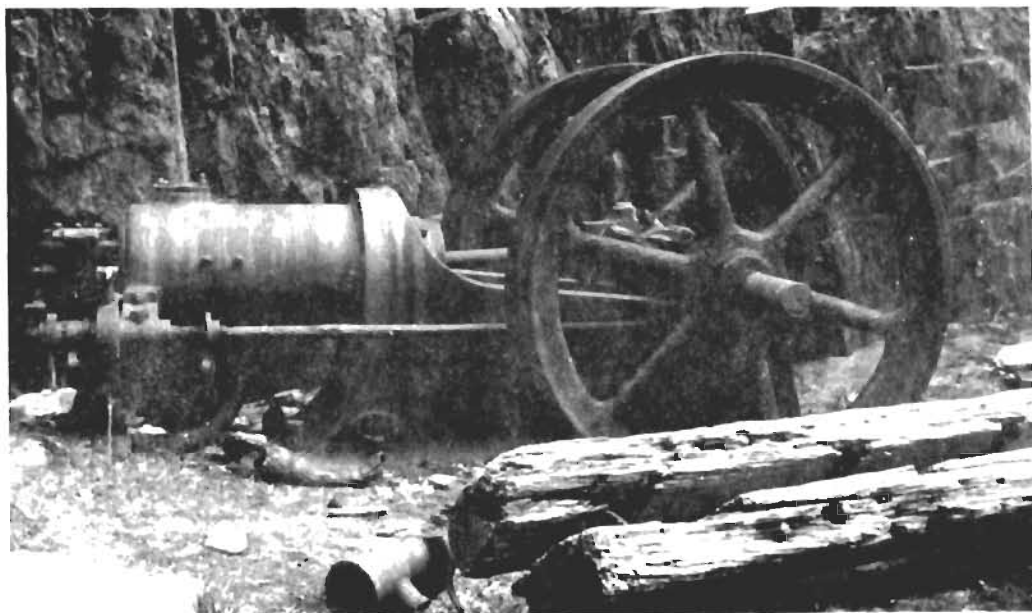
A 6 LOUCESTER ENGINE IN SCOTLAND

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On a tiny island off the west coast of Scotland can be seen the remains of a piece of industrial history, the like of which is not to be seen outside an industrial museum. The site is an old marble quarry, at the south end of the isle of Iona, where long ago part of the low limestone cliff was altered to a fine crystalline marble by the action of heat from adjacent intrusive volcanic rocks. An example of Iona marble can be seen inside the island's famous cathedral.

Amazingly the marble cutting machinery, c. 1900, is still there in its original position. It consists of a large sawing frame, driven through countershafting by a gas engine complete with a gas generator. Also lying about amongst the rocks and marble waste are the remains of two wooden trucks with flanged wheels, a hand-operated winch, and the remains of a wooden crane. Ironwork in the cliff suggests a lifting device for loading the marble onto boats, though little marble could have been exported as the quarry is very small. A short distance inland are the outlines of the foundations of two small buildings.



The gas engine was made in Gloucester by Fielding & Platt Ltd. It has a single, horizontal cylinder, mounted on a cast-iron bed, which is bolted to a masonry plinth. Twin flywheels, and a flat belt-drive pulley, are carried on the open crankshaft. The engine was fuelled by gas made in a vertical cylindrical gas generator plumbed directly into the engine. The sawing frame, an iron and wood structure about 12 feet high, was made in Arbroath.

Gas engines were the first internal combustion engines; they superseded the steam engine, being more economic and almost twice as efficient, and in turn were superseded by the oil or petrol engine. The fuel gas, known as Producer Gas, or Power Gas, was made in the generator by the controlled primary combustion of solid fuel, almost any kind of fuel could be used when gasified in a suitable generator: coal, peat, wood, straw, refuse, etc. The gas was drawn through the apparatus by the suction of the piston of the engine itself. This system had the advantage that the quantity of gas made was dependant on the amount used by the engine, and there was no need for it to be pressurised.

Minerals have been exploited on several other Scottish islands. Raasay has derelict iron mines, which can be explored above and below ground. On Arran, in the village of Corrie, are well-preserved limestone mines and limekilns, while in Glen Sannox are the remains of a Barytes mine and mill. Most of the mine is flooded, but several short adits following the veins of Barytes can be explored. On the mainland at Lochaline, close to the ferry which runs to Mull and Iona, is a working silica mine and plant. Further south, at Leadhills and Wanlockhead, are the numerous old mine workings of Scotland's main lead mining area. At Wanlockhead village, the museum trust has formed a collection of local mining relics and minerals: some form an open air museum, the smaller items are exhibited in a house in the village, usually closed, but open on request.

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