GARRETT PORTABLE STEAM ENGINE

The Garrett portable steam engine (Redland Museum Object No. R00650) was purchased by the museum on 3 July 1982 from Mr Clayton Thrupp (? -1997) of *Sutton Grange*, Paradise Creek, Roma, Qld. At that time, the museum was seeking a steam engine reminiscent of those used in the agricultural industries in the Redlands district. It was restored by Graham Chapman of Kallangar with funds from the Rotary Club of Cleveland ($6750).

The museum's Garrett Portable Steam Engine is still in working order. It can often be seen in use at special events at the Cleveland Showgrounds such as RedFest and the Caravan and Camping Show. Regular safety inspections are carried out to allow the engine to be operated by museum volunteers.

Inscription

Cast on brass plate above fire door > 'RICHARD GARRETT & SONS LTD \ ENGINEERS & BOILER MAKERS \ 22953 7 KILOS PER SQ CM 1900 \ LEISTON WORKS SUFFOLK ENGLAND' <Cast on cylinder head > 'INSPECTION OF MACHINERY ACDT 1951-82 \ REGISTERED NO.9216A \ CERTIFIED PRESSURE 7 kpa \ DATE 23/2/88 RI HITCHCOCK CHIEF INSPECTOR'

Abbreviated History of the Steam Engine

Whilst there were rudimentary attempts to harness the power of steam from Roman Egypt times, it was not until 1698 that Thomas Savery (1650-1715), from Devon, England, developed a steam device that helped pump water from Cornish coal mines. It had no piston and no moving parts and could only draw water up 25 feet which meant that it had to be located within this distance from the mine floor being drained. As mines became deeper, this became impractical. (Reference: https://en.wikipedia.org/wiki/Thomas_Savery)

Thomas Newcomen (1663-1729), a Devon, England, ironmonger, in 1712 improved on Savery's inefficient design introducing the *atmospheric* engine which pumped water from mines in Cornwall using a vacuum created by condensed steam. By the time of Newcomen's death in 1729, there were some 100 of his steam engines in Britain and Europe. (Reference: https://www.britannica.com/biography/Thomas-Newcomen)

James Watt (1736-1819), a Scottish engineer, made improvements to Newcomen's model by installing a separate chamber to condense steam without cooling the rest of the engine and patented this in 1769. He continued to make improvements over the years including rotary motion and the steam locomotive. Watt formed a company with Matthew Boulton in 1774 and began producing steam engines.
(Reference: https://en.wikipedia.org/wiki/Watt_steam_engine)

It was not until Richard Trevithick (1771-1833), a Cornish mining engineer, around 1800, developed high pressure steam, that mobile steam engines became practical. He designed the first semi-portable steam engine to drive a corn threshing machine. The portable steam engines had wheels and could be moved from one work site to another, initially by horses, or oxen, and later by tractors or trucks. They were also used in driving milling machinery (eg sawmills), pumps in mines or oil wells, and factory tools and presses. (Reference: https://en.wikipedia.org/wiki/Portable_engine)

Manufacturer

Richard Garrett & Sons was a manufacturer of agricultural machinery, steam engines and trolleybuses at their Leiston Works, in Leiston, Suffolk, England. Richard Garrett founded the company in 1778. The company was active under descendants of its original owner between 1778 and 1932. In the late 1840s, after cultivating a successful agricultural machine and implement business, the company began producing portable steam engines. The company grew to a major business employing around 2,500 people.

Richard Garrett III, the grandson of the company's founder, visited The Great Exhibition of 1851 in London, where he saw some new American manufacturing ideas. Richard Garrett III introduced flow line production – a very early assembly line - and constructed a new workshop for the purpose in 1852. This was known as 'The Long Shop' because of its length. A machine would start at one end of the Long Shop and, as it progressed through the building, it would stop at various stages where new parts would be added. There was also an upper level where other parts were made; they would be lowered over a balcony and then fixed onto the machine on the ground level. When the machine reached the end of the shop, it would be complete. In 1914, following a major fire at the works, a new factory was built on land that had been owned as a demonstration farm next to the station. From then on, the sites were always known as the "Old Works" and the "New Works".

The company joined the Agricultural & General Engineers (AGE) combine in 1919, and the combine entered receivership in 1932. Beyer Peacock purchased the company in 1932 after the collapse of AGE. The business continued as Richard Garrett Engineering Works until the works finally closed in 1981.

Today, part of the old works is preserved as the Long Shop Museum. Some of the offices are used as flats but the rest of that site has been demolished and the land used for housing. Some of the New Works is still used as industrial units while the offices have been converted to flats and more built on the site, known as Colonial House.

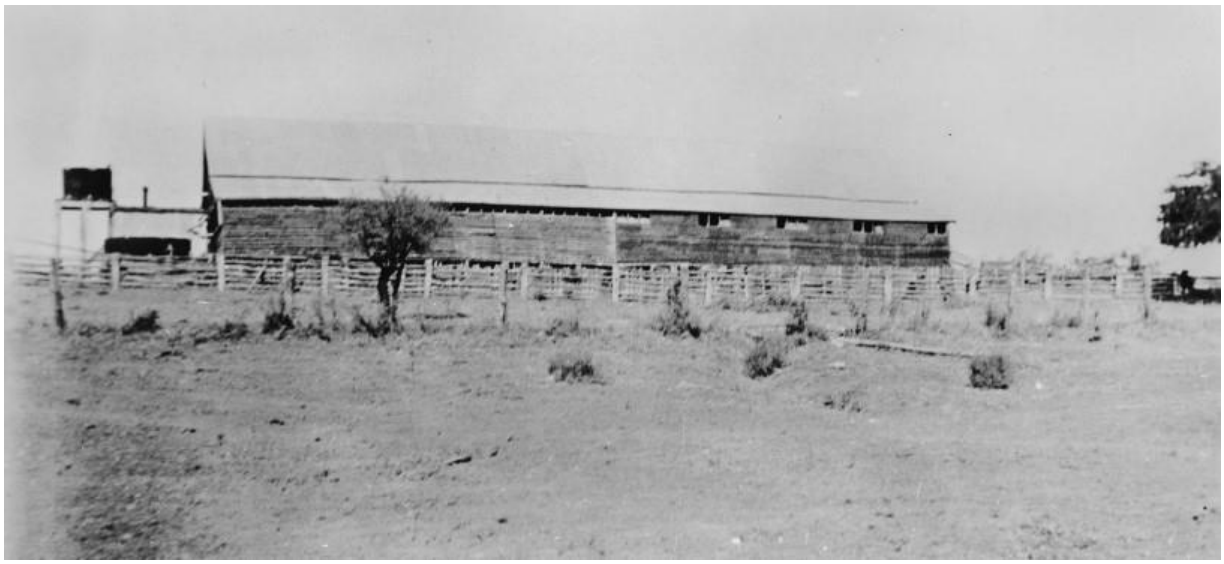
As well as providing employment, Garretts had considerable influence on the town and the area, establishing their gas works and supplying the town with water from the Works well until a public supply was put in just before the First World War. Houses were built for the workers at the company's expense and a handsome contribution was made to the rebuilding of the parish church in 1853. A Mechanics Institute was equipped with a reading room, library and a dining room where the workmen could eat their food. A Mutual Benefit Society was set up to protect men against the hazards of sickness and accident. (Reference: https://en.wikipedia.org/wiki/Richard_Garrett_%26_Sons)

Previous Owners

The museum's Garrett steam engine was originally used at Weribone Station in the early 20th century. Weribone Station was at that time a sheep property of 26,000 hectares, at Surat, Queensland. The date of acquisition of the steam engine by Weribone Station's owner/s is, however, not known.

Thomas Simpson Hall (1808-1870), one of the first settlers to the Maranoa, took up and occupied the first lease of Weribone Station and Noorindoo Station in the Surat area in 1850. He was a grazier from "Dartbrook" in the Hunter River region and had established the "Yambougal" cattle station at the present site of Surat. As well as being a magistrate and prominent community member, he is also known for his initial breeding of Border Collie dogs with dingoes, forming Halls Heelers, later known as Blue Heelers, to control cattle. (References: https://en.wikipedia.org/wiki/Halls_Heeler, adb.anu.edu.au/biography/hall-thomas-simpson-3696)

An article in the Toowoomba newspaper *Western Star and Roma Advertiser* on 11 January 1908 attributes the ownership of Weribone Station to Goldsbrough Mort & Co. Ltd., wool brokers [now Elders IXL). The article refers to 25 shearers at the station going on strike leaving 60,000 sheep to be shorn. The strike was about the irregular and lengthy lost time caused by the use of shearing machines that kept breaking down. The shearing machines would have been powered by a steam engine, which could have been the one now owned by the museum. (Reference: https://trove.nla.gov.au/newspaper/article/97419239/10175058)



Above: Cattle yards and shearing shed at Weribone Station, c1929 (Reference: State Library Queensland)

The obituary of Gwendoline Dean BEM, daughter of C.L. Thrupp, in the Courier Mail on 10 February 2012, mentions that Weribone station, in addition to carrying cattle and sheep, was also a breeding station for the famous "Waler" horse used by the Army during World War 1. (Reference: www.couriermail.com.au/ipad/obituary-gwendoline-dean)

In 1933 the steam engine was owned by Arthur Salter of *Brucedale Station*, Roma. In 1955, Arthur's son, Howard Salter, sold it to Clayton Thrupp of *Sutton Grange*, Roma.

On a Saturday morning in 1979, five members of Redland Museum (Norm Dean, his wife Ethel, Norm Austin, Cliff Dunn, and Robin Gay) left for *Sutton Grange,* about 30 miles south of Roma, where they purchased the steam engine and arranged for its transportation to the museum. (Reference: *Redland Museum – The First Thirty Years* by Tracy Ryan)

Above Left: The engine on a concrete stand with the semi-trailer approaching.

Above Right: The engine being towed by a tractor to the loading ramp.

Left: The engine safely loaded on the semi-trailer ready for transportation.

(Photo Reference: Redland Museum e-hive Object No. P01871)

Contribution to Australia's wool industry

The Australian wool industry developed significantly because of the Industrial Revolution and the invention of items like the steam engine. By 1915 most large Australian sheep station shearing sheds had machines powered by steam engines. Washing sheep before shearing was central to the marketability of wool. It reduced transport costs by removing grease, dirt, grass seeds, twigs and burrs. This meant that Australian wool could compete with European wool in London markets. Steam engines heated water which was better for the washing and scouring of the wool.
(Reference: https://maas.museum/inside-the-collection/2016/03/31/industrial-revolution-wool/)

Other Reference:
https://espace.library.uq.edu.au/data/UQ_212952/s18378366_1956_

Prepared: 1 June 2020 by Sylvia McGarry, Redland Museum volunteer