# THEME 11: INDUSTRIAL DEVELOPMENT

## 11.1 ENGINEERING


**Figure 126: Joseph Sparrow's Victoria Iron Works.** *circa* **1880**

Dunedin's first iron foundry, David Mason's Otago Foundry was established in 1860. Mason went on to work for the Otago Harbour Board as Inspector of Works before joining the Sew Hoy Mining Company, where he worked on the company's dredges. [OBITUARY: *Otago Witness* Thursday 8th October 1896] The first casting of iron took place at Wilson and Selby's Otago Foundry in Cumberland Street in 1862 [NEWS OF THE WEEK: *Otago Witness*, Issue 554, 12 July 1862, Page 5] The same foundry under the ownership of Wilson and Sparrow built an iron hulled steamboat for the Harbour Steam Company in 1867 (Fig. 126). The vessel was designed by Mr Darling, constructed by Sparrow and the materials were supplied by Briscoe and Co. [IRON STEAM-BOAT BUILDING IN DUNEDIN: *Otago Witness*, Issue 816, 19 July 1867, Page 3.]

**Farra Engineering** was formed from the amalgamation of three founding companies, Farra Brothers (1863), Dunedin Engineering and Steel Company (1868) and Otago Iron Rolling Mills (1886). Their engineering works occupies a large site on the reclamation and includes a fine post-war Art Deco administration building.

Surviving examples of some products of these enterprises includes the Dunedin Engineering and Steel Company boiler at the Dunedin Gasworks Museum, and a similar boiler inside the Hoffman Kiln building at Benhar (although outside the Dunedin City Council area).

Other major Dunedin engineering companies included Cossens & Black, which was established in 1875 and John McGregor and Company, which carried out shipping repairs and the construction of gold-dredging equipment. McGregors also built whole vessels, including the Otago Harbour ferries *Waikana* and *Waireka* and, in 1912, the steamer *Earnslaw* for service on Lake Wakatipu. Cossens & Black equipment survives on a number of archaeological sites in Otago and includes the winding gear at the New Main Shaft at Bullendale (Petchey 2006: 28).

**The Hillside Railway Workshops** (Fig. 127) were established in 1881, although there had been other railway workshops close to the current site since 1875. The five government workshops: Addington, Hillside, Otahuhu, Wanganui and Woburn were major early industrial complexes in New Zealand. Hillside opened in 1881, with major upgrading and expansion during 1926-29, to manufacture wagons and locomotives. Between 1897 and 1967, Hillside manufactured a total of 190 locomotives, including ninety 4-6-4 tank engines (Classes Wg, Ww and Wab) between 1910 and 1927, and thirty-five 4-8-2 Ja express engines between 1946 and 1956, the last of which, Ja 1274, now stands on display outside the Otago Settlers Museum. During World War Two Hillside manufactured 3 inch mortars, as well as machined components for other weapons systems.

Prior to the 1950s, Hillside was the largest industrial complex in the southern half of the South Island, employing a maximum of nearly 1200 people in 1946.

**Figure 127: Hillside Railway Workshops.** *circa* **1900**

Since 1966, Hillside has manufactured nearly 1600 wagons, including 1200 bogie container wagons between 1971 and 1988. More recent contracts include large car carrier wagons and hopper wagons for fertilizer, utilising both steel and aluminium alloys. In 1989 the workshops were renamed Transtec Hillside Engineering, a division of Transport Engineering Equipment Liaison (TEEL) Business Group of the New Zealand Railways Corporation. Transtec Hillside is now the largest structural engineering enterprise in New Zealand and incorporates the country's largest metal foundry. It concentrates on iron and steel castings, steel and aluminium machining and fabrication, wagon assembly, and shot/sand blasting and painting, together with the physical testing of metals and castings. The workshops, in Hillside Road, are among South Dunedin's biggest employers and most imposing structures. One of the ends of the nearby Carisbrook sports ground is known as 'The Hillside End' or 'The Workshops End' due to the presence of the stadium's larger neighbour.


**Figure 128: An early advertisement for H E Shacklock's Orion range.**
*circa* **1880**

## 11.2 MANUFACTURING

**H E Shacklock:** Dunedin's first major manufacturer was Henry Eli Shacklock ,who arrived in Dunedin in 1862 and opened the South End Foundry in Crawford Street across from the Oval reserve. Shacklock designed a cast iron range in 1873 for the efficient burning of the lignite coal commonly found in Otago. The Orion coal range (Fig. 128) was sold widely throughout New Zealand and, by 1894, the firm had a staff of 40. When re-formed into a private company in 1900, H. E. Shacklock Limited had a capital value of £25,000. Shacklock was averse to risk in business and although he was a founding member of the New Zealand Manufacturers' Association in 1884, his focus remained the craft-based industrial traditions of his Midlands training. The firm would be developed and expanded by his descendants until it was bought out by Auckland business, Fisher and Paykel Limited.

One of the surviving stone buildings of the old Shacklock factory [**B498**] is also registered by the New Zealand Historic Places Trust as a category II Historic Place (Reg. No. 2160). Products of the Shacklock factory have been found on archaeological sites throughout Otago. The remains of a Shacklock range are recorded in Scanlan's Gully near Macetown (Petchey 2002: 36), and many ranges continue in service, or at least in place, in older Dunedin houses.

**Brinsley and Company**: Other iron foundries in 19th century Dunedin included Brinsley and Company in Cumberland Street, which was set up in 1895 to challenge Henry Shacklock's hold on the New Zealand coal range market. Brinsley's manufactured the Champion range. J. W. Faulkner and Sons, on Castle Street, specialised in fencing and were the makers of woven wire fence materials and wire netting, producing some 1,500 yards daily and consuming 70 miles of wire in the process. Faulkners were also known for cast iron fencing, gates, bedsteads, hospital beds, ornamental fretwork for buildings, and general casting.

**Reid and Gray:** This company was also located in Crawford Street and manufactured steel swing ploughs and agricultural implements. The business employed 200 workers at the turn of the century and exported throughout New Zealand, Australia, the Pacific and South America. Reid and Gray produced zigzag and disc harrows, turnip and manure drills, broadcast seed-sowers, rotary harrows, cultivators, strippers, drays, chaffers and baggers with automatic screw-press, and many other implements. Branches were set up in Oamaru, Timaru, Ashburton, Christchurch, Palmerston North, Auckland, Invercargill and Gore.

**Schlaadt Brothers:** German immigrants, Joseph Adolph Schlaadt and Henry Schlaadt, established an engineering works in 1875 on Cumberland Street. Schlaadt Brothers made specialised production machinery for the boot trade, including cutting presses, leather rollers, iron lasts and knives.

**George Methven and Company:** This firm began as iron and brass founders in Caversham before moving to Crawford St. They manufactured chaff-cutters, horse drive wheels, seed sowers, turnip-pulpers and shears, as well as brass castings for plumbers. This side of

the business continued to expand and Methvens became New Zealand's largest internal supplier of taps and plumbing fittings.

**Other Dunedin-based industries:** The first paper mill in New Zealand was the Woodhaugh Mill which began production in May 1876. It was situated on the Leith and was set up by Edward McGlashan, who obtained the machinery for the plant from Sydney. New Zealand's first large-scale machine-made paper plant was established at Mataura later in the same year after the success of the smaller operation at Woodhaugh. The Woodhaugh mill site is now a caravan and camping ground, but archaeological evidence of the mill survives, including the concrete retaining walls and parts of one of the original buildings.

John Donaghy set up one of New Zealand's first rope-making plants, a branch of an Australian business established by Michael Donaghy. The business was bought out by locals and renamed Donaghy's Rope and Twine Company Limited. Today, Donaghy's Industries is one of New Zealand's largest rural manufacturers and the supplier of ropes to the America's Cup team. The rope walk built by Donaghy's in South Dunedin [**B381**] is still in use, and is registered by the New Zealand Historic Places Trust as a Category I Historic Place (Reg. No. 7167).

Robert McKinlay began a footwear manufacturing plant in Dunedin which is still run by his descendants and their entirely Dunedin-made products are marketed throughout New Zealand and Australia.

Tinsmith, John Eustace, of Dunedin developed an air tight tin lid with a lip in 1884. Although others copied the idea, he was making 100 tonnes of tin cans a year in the 1920s.

In 1898 the New Zealand Wax Vesta company began manufacture of matches in Dunedin.

Scott Technology Limited is a leading New Zealand engineering company which specialises in the design and manufacture of automated production systems. Headquartered in Dunedin they are recognised by the world's major appliance builders as specialists in the field of advanced automation systems.

## 11.3 TEXTILES INDUSTRY

**Textiles industry:** Dunedin was essentially a 'pre-industrial' settlement for the first twenty years after its founding. Very little manufacturing was attempted beyond small craft-based enterprises. The hardship facing the Scottish weaving industry based in Paisley led a number of skilled weavers to emigrate to Dunedin and the area south of the city in which some settled became known as 'Little Paisley'.

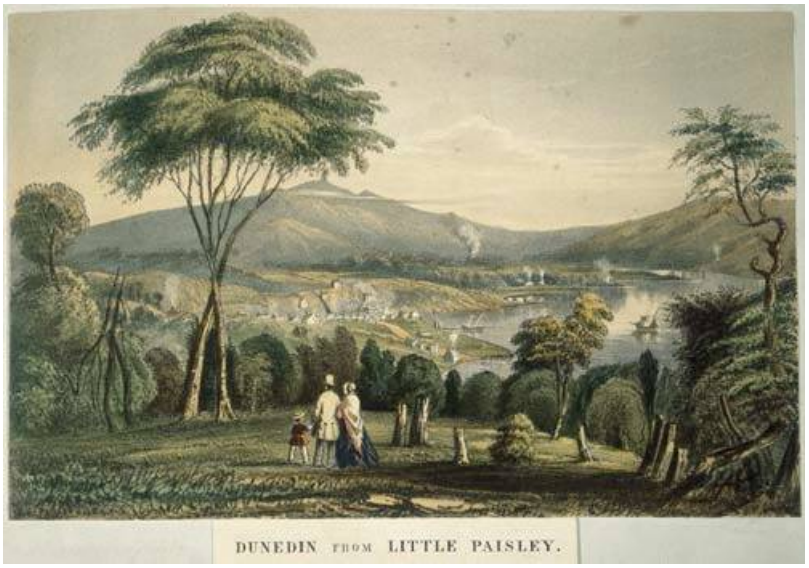


**Figure 129:** [Edward Immyns Abbot] **Dunedin from Little Paisley. 1849**

The first substantial manufacture of cloth in New Zealand was undertaken in 1853 in Dunedin by John Barr, an immigrant from Paisley, Scotland. Barr was a passenger on the *Philip Laing* in 1848 and became the sexton of the Southern Cemetery as well as the settlement's first gaoler. Three others from the Scottish weaving trade, James Marshall, John Gillies and James Patrick, along with their families, joined Barr in squatting on a piece of land on South Road that became known as Little Paisley (Fig. 129).

Barr produced bolts of tweed cloth to traditional Scottish patterns. The obituary of Paisley weaver, James Patrick, recounts that their efforts to continue their trade were futile and Patrick turned to farming and brick-making, firing the bricks for Cargill's house *Hillside* which was close to the Little Paisley settlement. [OBITUARY: *Otago Witness*, Issue

2263, 15 July 1897, Page 45] The weaving enterprise was a favoured scheme of Captain William Cargill and emphasises the essentially pre-industrial nature of the early settlement. The Scottish connection with woollen textiles continued with the Mosgiel woollen factory [**B637**] in 1873 for which Arthur Burns had brought skilled labour and specialised equipment from Britain.

**Figure 130: Women at work in the Roslyn Woollen Mill. 1905**

The largest of Otago's 19th century mills, Roslyn Woollen Mill in Kaikorai Valley (Fig. 130), was established in 1879, eventually employing up to 500 staff. The owners, Ross and Glendenning Limited, expanded to other plants across New Zealand and, by 1948, employed 2000 staff nationwide. The company also built large factories in Central Dunedin. The firm's straw hat factory in Stafford Street (1918) was designed by William Henry Dunning and featured full height glazing in the front elevation to allow a high level of lighting for the fine work undertaken by a largely female workforce. Both buildings still stand, but are now used for other purposes.

**Arthur Ellis & Company Limited** was a large scale manufacturer of bedding and upholstery with a factory in Kaikorai Valley. The firm's trade names *Sleepwell* (mattresses) and *Fairydown* (quilts) became well-known throughout New Zealand. Members of the Ellis family were trampers, mountaineers and Antarctic explorers who promoted the

manufacture of world-class outdoor clothing and sleeping bags. Arthur Ellis equipment was used by Edmund Hillary and Sherpa Tensing during the ascent of Mt Everest in 1953.

**Hallenstein Brothers:** The New Zealand Clothing Company was founded by Bendix Hallenstein who came to New Zealand in 1862. The New Zealand Clothing Factory was established in Dunedin in 1873 and was the first major clothing factory in New Zealand. The company was a large employer of women. The factory was built on Lower High Street and expanded in stages, filling the area behind the Bank of New Zealand.

## 11.4 FOOD INDUSTRY

**Figure 131: Part of Cadbury's complex on Cumberland Street.** *circa* **1960**

**Cadbury's:** Richard Hudson established a biscuit bakery in Dunedin in 1862 and expanded the business to include what is thought to have been the first chocolate and cocoa manufacturing plant in the Southern Hemisphere. The company merged with the British owned Cadbury company in 1930 and began manufacturing Cadbury chocolate products in New Zealand. The present Cadbury complex at 280 Cumberland Street (Fig. 131) is an amalgamation of 19th and 20th

century industrial buildings, unified behind a façade designed by architects Miller and White and constructed in many different stages. The buildings are the legacy of mid-1870s industrial development in inner city Dunedin, which was concentrated on Cumberland and Great King Streets. The Cumberland Street frontage [**B030**] of this complex has been registered by the Historic Places Trust as a Category II Historic Place (Reg. No. 2143).

**W. Gregg and Company** was established in Dunedin in 1861 as a coffee roaster, spice and general merchant and food manufacturer. William Gregg opened a Coffee Palace in Moray Place, competing with tea rooms and making the consumption of coffee fashionable in polite Dunedin society. The company's growth continued after Gregg's death and it was a limited liability company in the 1920s. The extensive Gregg's operation, including coffee and spice lines, was amalgamated in Forth Street, Dunedin in the mid-1920s in a modern factory complex designed by Mandeno and Fraser. This site still houses the firm's instant coffee processing operations.

Gregg's pioneered the manufacturing of spray dried instant coffee in 1960 and launched this product in New Zealand prior to its popularity internationally.

The **Bell Tea Company** was founded by Norman Harper Bell. He worked initially for the Melbourne based Robus Tea Company and Dunedin's strong connection with Victoria drew him to New Zealand. Bell Tea was registered as a brand in 1894 and the firm's Dunedin factory continues to supply much of the country's loose packed tea.

Other 19th century manufacturers of food stuffs in Dunedin included the St. George Jam Factory operated by Irvine and Stevenson in George Street, Peacock and Company's Jam Factory in Moray Place and the Phoenix Company (biscuit and confectionery makers) in Maclaggan Street.

**Flour milling:** Flour was a basic staple and milling was one of the first industries established in Dunedin. A flour mill was established in the Woodhaugh Valley by John McGlashan, converted from Henry Valpy's

water wheel powered sawmill. Dunedin's Crown Roller Mills was constructed in 1867 as a three storey building to house a steam-driven flour mill. The mill was extended in 1878 and 1890 when a fifth floor was added and the stone mill grinders replaced with steel rollers. Production ceased in 1997 and milling was relocated to Timaru and Christchurch. The long established Green Island mill of Harraway and Sons continues limited production in Dunedin.

Because many flour mills were substantial structures in areas away from modern intensive development, archaeological evidence of a number of mills has survived. In the Woodhaugh Valley the remains of Anderson's 1872 stone mill, which replaced McGlashan's earlier wooden building, survive within the *Leithcourt* [**B386**] house. On the Taieri Plain the malting kiln from Mann's flourmill partially survives, while nearby at North Taieri, the water race and level site of the Culling Brother's 1860 flourmill can be found.