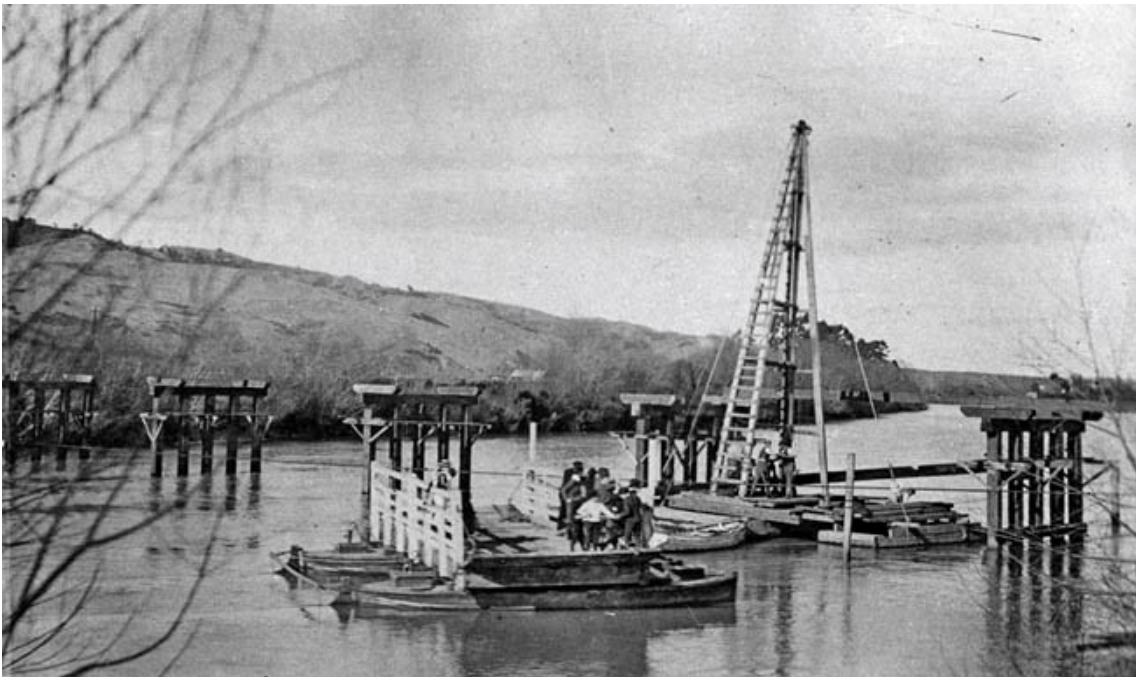


Reference Guide

Engineering Sources at the Hocken Collections



*The Catlins Bridge under construction, 1890. The contractor was William McPhee.
Photographs Collection. S09-307a.*

Nau Mai Haere Mai ki Te Uare Taoka o Hākena:

Welcome to the Hocken Collections

He mihi nui tēnei ki a koutou

kā uri o kā hau e whā arā, kā mātāwaka o te motu, o te ao whānui hoki.

Nau mai, haere mai ki te taumata.

As you arrive

We seek to preserve all the taoka we hold for future generations. So that all taoka are properly protected, we ask that you:

- place your bags (including computer bags and sleeves) in the lockers provided
- leave all food and drink including water bottles in the lockers (we have a researcher lounge off the foyer which everyone is welcome to use)
- bring any materials you need for research and some ID in with you
- sign the Readers' Register each day
- enquire at the reference desk first if you wish to take digital photographs

Beginning your research

This guide gives examples of the types of material relating to engineering in New Zealand held at the Hocken. All items must be used within the library. As the collection is large and constantly growing not every item is listed here, but you can search for other material on our Online Public Access Catalogues:

- for books, theses, journals, magazines, newspapers, maps, and audiovisual material, use Library Search|Ketu. The advanced search - <https://tinyurl.com/mtske2x9> gives you several search options, and you can refine your results to the Hocken Library on the left side of the screen.

The Library Search Guide <https://otago.libguides.com/ketuhelp> contains helpful tips and assistance for using Library Search|Ketu;

- for pictures, photographs and archives and manuscripts, use Hākena - <https://hakena.otago.ac.nz> . Listing of the ephemera collection has just begun on Hākena; please talk to desk staff if you have any questions about this collection.

The Hākena Search Help Guide <https://otago.libguides.com/hakena> contains helpful tips and assistance for using Hākena;

- some of the photographs from the Pictorial Collections are available for viewing online via Hocken Snapshot at <https://hocken.recollect.co.nz/>. Some other photographs and artworks can be viewed at <https://otago.ourheritage.ac.nz/>.

If you have any enquiries about ordering or other research questions, please ask the reference desk staff – they will be happy to assist you.

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General sources

For books, pamphlets and periodicals relating to engineering, try a subject search on Library Search|Ketu using the words *engineering New Zealand*. This will lead you to numerous relevant subject headings, such as:

- *Civil engineering – New Zealand*
- *Engineering – New Zealand – Periodicals*
- *Engineering – Research – New Zealand*

Many publications are catalogued under more specialised fields of engineering, such as *Agricultural engineering*, *Earthquake engineering*, *Electrical engineering*, *Hydraulic engineering*, and *Mining engineering*.

Useful general histories of engineering in New Zealand are:

Newnham, W. L. (1971). *Learning service achievement: Fifty years of engineering in New Zealand*. Wellington: New Zealand Institute of Engineers.

Wright, M. (1999). *New Zealand's engineering heritage 1870-2000*. Auckland: Reed.

Wright, M. (2009). *Big ideas: 100 wonders of New Zealand engineering*. Auckland: Random House.

For archives relating to engineering, try a broad search on Hākena, the pictures, photographs, ephemera, archives and manuscripts catalogue, for:

- *Engineers*
- *Engineering*

Individual engineers

For information about the history of engineering qualifications in New Zealand see the following online article:

Blakeley, J. P. (2016). Development of engineering qualifications in New Zealand: A brief history. *Unitec ePress Occasional and Discussion Paper Series* (1).
https://www.unitec.ac.nz/ePress/wp-content/uploads/2016/02/Development-Of-Engineering-Qualifications-In-New-Zealand_A-Brief-History-by-John-Blakeley.pdf

Archives

For archives relating to engineers, try a search on Hākena for *Engineers*. Notable collections are:

Edward Fletcher Roberts papers: Roberts (1883-1951) was a prominent Dunedin civil engineer. His papers contain material relating to his engineering projects, including photographs, pamphlets, and promotional brochures. His diaries include personal material alongside comments on engineering matters [ARC-0006].

Edward Roberts papers: Roberts (1851-1925) was a Dunedin consulting engineer (and the father of Edward Fletcher Roberts). His papers include reminiscences, scrapbooks, and photographs [MS-0484].

Publications

Directories: we have a large collection of New Zealand directories from the 1860s onwards, many of them for specific provinces. They include lists of people involved in trades and professions, including engineering. Some are available in the ready reference area, while others are on microfiche or on any of the public computers in the library. *Wise's New Zealand Post Office Directory* for the period 1866-1955 is also accessible online via the database Ancestry (available on any of the public computers in the library. University of Otago/Otago Polytechnic staff and students can also access this database offsite with their account details) For other directories kept in the stack, check Library Search|Ketu.

UK, Civil Engineer Records, 1820-1930, UK, Mechanical Engineer Records, 1847-1938 and UK, Electrical Engineer Membership Forms, 1871-1901 are databases that are available via Ancestry. Most early engineers had trained in Britain prior to working in New Zealand so are likely to be included in these records that include details of their schooling, professional training and work experience.

Register of Engineers: following the Engineers Registration Act of 1924, the register was published regularly in the *New Zealand Gazette* (it appears first in 1926). The register includes date of registration, full name, and address. We have the gazette available in hard copy, or electronically (and searchable) on the public computers. Gazettes for 1845-1846 and 1913-1992 are available online at http://www.nzlii.org/nz/other/nz_gazette/.

Association of Consulting Engineers New Zealand: we have directories of members of this organisation for the period 1972-1996 (with gaps).

Cyclopedia of New Zealand: this was published in six volumes, arranged by province, between 1897 and 1908. It includes entries on businesses, organisations, and individuals, including many engineers (see the table of contents for each volume). Individuals had to pay to be included so it is not comprehensive. Available in the ready reference area. It is also available online via the New Zealand Electronic Text Centre <https://nzetc.victoria.ac.nz/tm/scholarly/tei-corpus-cyclopedia.html>.

For other books and publications relating to engineers, try a subject search for *engineers New Zealand* on Library Search|Ketu – this will lead you to numerous more specialised subject headings. A useful general study, which includes biographical details, is:

Furkert, F. W. (1953). *Early New Zealand engineers*. Wellington: A.H. & A.W. Reed.

Companies

Archives

We have archives for several engineering manufacturing firms. Try searching Hākena using the following terms:

- *Engineering*
- *Iron industry and trade*

Among the more notable collections for general firms are the following:

A and T Burt: this major engineering firm was established in Dunedin in 1862. We hold archives of the firm from its beginnings until it was taken over in 1974. They include administrative records, photographs, and an extensive set of technical drawings [ARC-0599].

Cossens and Black: this large Dunedin engineering firm was established in 1874. It manufactured a wide range of products, including farm machinery, drain-pipes, windmills, brick-making machinery, mining plants and dredges. We have extensive archives for the company, including administrative records, numerous plans, and photographs [ARC-0217].

Farra Dunedin Engineering: this company took over the Otago Iron Rolling Mills, established in 1886 at Burnside, Dunedin. We have a large collection of archives of the firm, mostly administrative, dating from the 1880s to the 1980s [ARC-0075].

J. and W. Faulkner Limited: this Dunedin engineering firm, established in the late nineteenth century, specialised in wrought iron work and the manufacture of bedsteads. Our archives for the firm include correspondence, order books, catalogues, engineering drawings, photographs, workshop manuals and staff records [ARC-0900].

John McGregor and Company: in 1894 John McGregor acquired the Otago Foundry, established in the 1860s. Our archives for this firm date from the 1890s to 1960s and include company records, order books, specifications, and photographs. There are several different collections from and about the company – check Hākena under the name *John McGregor and Company Limited*.

More specialised manufacturing firms for whom we hold archives are:

H.E. Shacklock Limited: established in Dunedin in 1871, this firm specialised in the manufacture of stoves. The archives include business records, copies of early patents, photographs and a limited number of catalogues and manuals [ARC-0603]. Please note that access to this collection requires the written permission of Fisher and Paykel, the successor firm. We also hold research papers of the firm's historian, John Angus [86-152].

Reid and Gray Limited: founded in Oamaru in 1868, this company shifted to Dunedin in 1873. It was the largest manufacturer of agricultural implements in the southern hemisphere. The collection includes various business records along with numerous photographs and catalogues [MS-1165].

Publications

There are several published histories of individual engineering firms. Check Library Search|Ketu using the name of the company, or the subject heading *Engineering firms – New Zealand – History*. Some books are catalogued under geographically specific headings, for example, *Engineering firms – New Zealand – Christchurch – History*.

Some engineering firms, foundries and ironmongers appear in the following encyclopaedias:

Industries of New Zealand (illustrated): An historical and commercial review. (1898). Auckland, Wellington, Christchurch and Dunedin: Arthur Cleave Publishing Company.

Tait, G. A. (Ed.). (1959). *Manufacturing in New Zealand*. Auckland: Cranwell Publishing.

Professional organisations

Archives

We hold archives of the Otago Branch of the Institution of Professional Engineers of New Zealand (IPENZ), including minutes, correspondence, and membership information. These cover the period 1934 to 1989. See Hākena for details.

We also hold records of some engineering-related unions and employer organisations, for example, the Hillside Branch of the New Zealand Railway Tradesmen's Association. Search on Hākena using the name of the organisation or try a subject search for *Trade-unions*.

Publications

For IPENZ publications, including conference proceedings, bulletins, annual reports and other reports and brochures, search Library Search|Ketu with *Institution of Professional Engineers New Zealand* as author or subject. Earlier items are catalogued under *New Zealand Institution of Engineers*. Holdings include:

Cooke, Peter D. F. (2014). *An evolving order: the Institution of Professional Engineers New Zealand, 1914-2014*. Wellington, New Zealand: Institution of Professional Engineers New Zealand.

For periodicals and books relating to other societies, unions, and employer organisations, try a simple search on Library Search|Ketu using the name of the organisation.

Local authorities and public works

Archives

We hold the archives of various Otago local bodies – many of these include material relating to engineering. Try a search on Hākena using the subject *local government*. Territorial authorities for whom we have large collections of historic records are:

- Balclutha Borough Council
- Bruce County Council
- Clutha County Council
- Hampden Borough Council
- Kaitangata Borough Council
- Lawrence Borough Council
- Milton Borough Council
- Otago Regional Council
- Palmerston Borough Council
- Queenstown Borough Council
- Tapanui Borough Council
- Tuapeka County Council
- Vincent County Council
- Waihemo County Council

We also hold records of various catchment and road boards. For full details of all these collections see Hākena. Please note that Dunedin City Council has its own archives <https://www.dunedin.govt.nz/services/council-archives>.

One important collection which includes many items concerning engineering is the archives of the Otago Harbour Board [ARC-0014]. This includes a large series of records of the board's engineer's department, covering the period 1874 to 1980.

We do not hold official archives for national public works schemes, but there is sometimes material of interest in the papers of politicians or other individuals or organisations. For example, we have some papers of David Brathwaite, a consulting engineer on the Benmore

Power Project [01-045]; and papers of various individuals and groups involved in the Save Manapouri Campaign. Try a search on Hākena for the project or field which interests you, for example:

- *Bridges*
- *Clyde Dam*
- *Hydro electric power stations*

Publications

Several local authorities have published histories. We also hold numerous reports, district plans and other local body publications. Try searching Library Search|Ketu using the name of the local body.

For publications concerning national public works, try searching Library Search|Ketu with a subject search for *Public works – New Zealand*. The *Appendices to the Journals of the House of Representatives* (AJHR) contain annual reports on public works in New Zealand and many reports on specific projects. An index covering the period 1854 to 1953 is available in the ready reference area. AJHRs for 1858-1950 are now available to browse or search online at <https://paperspast.natlib.govt.nz/parliamentary>.

If you are interested in a specific engineering project, try searching Library Search|Ketu under the name of the project, or use a subject search according to the type of project, for example:

- *Waipori Falls hydro-electric scheme*
- *Tongariro Power Development Scheme*
- *Bridges – New Zealand – Wellington*
- *Flood control – New Zealand – Dunedin*
- *Sewage disposal – New Zealand – Auckland*

Of note are 26 volumes of newspaper clippings relating to the Upper Clutha Valley power development project, dated from 1976 onwards, compiled by G.S. Parsonson.

Transport

Archives

We hold numerous archives relating to transport. Try a subject search on Hākena for *transportation*, or for the form of transport which interests you, for example:

- *Bus lines*
- *Cable cars*
- *Railways*
- *Roads*
- *Shipping*
- *Ships*
- *Tramways*

On railways, see especially the large collection of papers and photographs of railway historian Jim Dangerfield. Major collections relating to shipping include the records of the Union Steam Ship Company of New Zealand [AG-292], the Cameron family papers [MS-1046] and the records of the Otago Harbour Board [ARC-0014]. We have various archives concerning individual vessels (especially shipboard journals of passengers on migrant voyages). Try a name search for the ship which interests you, for example:

- *T.S.S. Earnslaw (ship)*
- *Margaret Galbraith (ship)*

Publications

We have numerous books and pamphlets relating to transport in New Zealand. Try the following subject searches on Library Search|Ketu. These searches will find numerous sub-headings; add New Zealand to the search to obtain only those relating to New Zealand.

- *Aircraft*
- *Airplanes*
- *Automobiles*
- *Cable cars*
- *Local transit*
- *Motor vehicles*
- *Railroads*
- *Roads*

- *Shipping*
- *Ships*
- *Street-railroads* [for material on trams]
- *Traffic*
- *Transportation*

The *Appendices to the Journals of the House of Representatives* (AJHR) contain numerous official reports on railways, and a smaller number on roads.

See our separate guide to *Motoring* at

<https://www.otago.ac.nz/library/hocken/otago038951.html> .

Pictorial collections

Photographs

We have numerous photographs relating to engineering projects and transport. Try browsing through Hocken Snapshot at <https://hocken.recollect.co.nz/> under the following topics:

- *Aircraft*
- *Aviation*
- *Bridges*
- *Dredges*
- *Ferry transport*
- *Goldmining dredges*
- *Motor vehicles*
- *Railways*
- *Roads and road construction*
- *Ships*

If you are looking for a particular project, for example a specific bridge, try a search using the relevant geographical location. For photographs of a specific business, search by location and name of business, for example:

- *Dunedin – Reid and Gray Ltd*
- *Dunedin – McGregor, John and Co.*

The *Otago Witness* is a good source of photographs from the early twentieth century. Copies of the illustration sections are available in the pictorial reference area, along with some

partial indexes, or try the issues available via Papers Past (up to and including 1926). The illustrations section of the *Weekly News* (Auckland) is also available for browsing in the reference area.

We have numerous other individual photographs and albums featuring bridges, railways, ships, and other relevant items. The photograph collection is catalogued on Hākena. A card index to images of ships is available in the pictorial reference area. Please talk to desk staff if you wish to consult the pictorial collections.

The Dunedin City Council's own photographs collection contains a significant number of items, including images showing construction and transport. Some photographs can be viewed on their Flickr page at <https://www.flickr.com/photos/dccarchives/albums>.

Websites

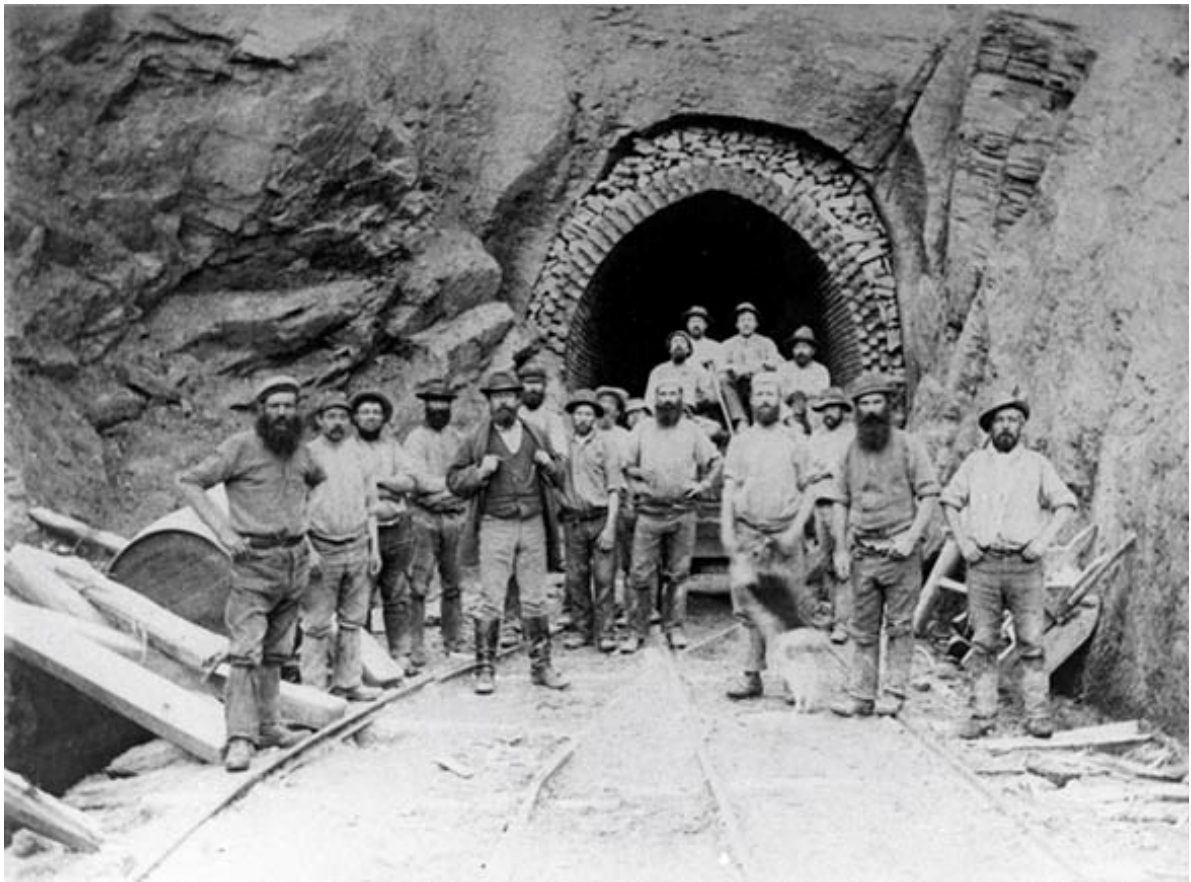
Engineering New Zealand has a website dedicated to New Zealand's engineering heritage: <https://www.engineeringnz.org/our-work/heritage/>

Archives New Zealand holds numerous records relating to public works and public transport. Its catalogue, Collections search, is available online: <https://collections.archives.govt.nz/web/arena#/>

Museum of Transport and Technology (MOTAT): <https://www.motat.org.nz/>

Te Ara The Encyclopedia of New Zealand includes a story 'Engineering': <https://teara.govt.nz/en/engineering>

The Hocken Collections website has PDFs of this and other guides and bulletins: <https://www.otago.ac.nz/library/hocken/otago038951.html>. Of relevance to engineering is our reference guide on *Mining* and several of the Friends of the Hocken Bulletins: *Ships, sailormen and their passengers* (Bulletin 14); *On the track: researching New Zealand and regional railways* (Bulletin 20); *Motoring – from Alpha-Romeo to Zodiac* (Bulletin 25); *Carrying a crowd: coaches, trams, cable-cars and buses* (Bulletin 27) and *Business Series 2a: Manufacturing* (Bulletin 53).



***Duck Point Tunnel on the Otago Central Railway. F.A. Coxhead photograph.
Photographs Collection. S08-167.***

Hocken Collections/Te Uare Taoka o Hākena
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Phone 03 479 8868
reference.hocken@otago.ac.nz
<https://www.otago.ac.nz/library/hocken/>

For hours, please check our website:
<https://www.otago.ac.nz/library/hocken/>