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Vacuum Brake Patent Papers

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Vacuum Brake Patent Papers

Reference Code(s): GB 0756 2007 7269

Title: Vacuum Brake Patent Papers

Dates: 1904-1919

Level of Description: Fonds

Extent & Medium of the unit of description:

Miscellaneous set of paper documents and drawings relating to patents for vacuum brakes for railway related vehicles

Names of creators:

G F Redfern & Co, Patent Agents; D Cardew, Oudh & Rohilkand Railway; S H Morden, Engineer; E S Luard, Engineer; H E Gresham, Engineer; Vacuum Brake Co Ltd; Consolidated Brake & Engineering Co Ltd.

Administrative/Biographical History:

This miscellaneous set of papers relates to patents and technical developments of vacuum brake apparatus between 1906 and 1919 in a variety of names. The original provenance is not clear, though a common thread seems to be the Chartered Patent Agents, G F Redfern & Co, 4 South Street, Finsbury, London, E.C., rather than a particular patentee. It is therefore not clear who brought this particular group of papers together and for what purpose, though they provide an insight into the technical development of the vacuum brake as it applied to various overseas railways and the essentially collaborative nature of the development.

Immediate source of acquisition or transfer:

The documents were donated to the National Railway Museum by Mr R F Weng in November 2006.

Scope & content:

The papers include five copies of Letters Patent in envelopes (generally without technical information), seven loose copies of patents with technical information, a set of six Budapest newspapers dated 1 November 1908, and a set of 23 drawings, 12 on wax linen and 11 paper blueprints, which may relate to some of the patents or may be of quite separate provenance. They cover aspects of the technical development of vacuum brakes principally for overseas railways during the period 1904 and 1919.

Appraisal, destruction and scheduling information:

There has been no appraisal of these papers.

Accruals:

No accruals are anticipated.

System of arrangement:

As the items originate from various different sources there is no intrinsic system of arrangement. For purposes of cataloguing, the papers have been arranged in sets as follows:

1. Copies of Letters Patent in envelopes
2. Loose copies of letters patent and associated correspondence
3. Budapest newspapers
4. Drawings, loose on wax linen
5. Drawings, loose in blueprint format

Conditions governing access:

Access is given in accordance with NRM access policy. Material from this collection is available to researchers through the NRM public research facilities. The collection is fully open to researchers.

Conditions governing reproduction:

Copies may be supplied of items in this collection, provided that the copying process used does not damage the item or is not detrimental to its preservation. Copies will be supplied in accordance with the NRM's terms and conditions for supply and reproduction of copies, and the provisions of any relevant copyright legislation.

Language:

Principally English, though the newspapers are in Magyar and German.

Physical Characteristics & technical requirements:

The letters patent are in their original envelopes and care needs to be taken when taking them out. The newspapers are comparatively fragile and should be handled with due care. The drawings have been flat folded and it is necessary to exercise care when unfolding them to prevent any tearing.

Finding aids:

A catalogue of items in this collection is attached as Appendix 1 to this document.

Existence and location of originals:

Not applicable

Existence and location of copies:

Not applicable

Related units of description:

No related archival collections have been identified for the individuals and companies mentioned in these papers. The patent agency, G F Redfern & Co, continues in business with an office at 7 Staple Inn, Holborn, London, WC1V 7QF.

Publication note:

No secondary sources have yet been published using this collection of material.

Archivists' Note:

The inventory of material, catalogue and administrative history was compiled by Martin Bashforth, Assistant Archivist, NRM, December 2007.

Rules or conventions:

Catalogue created in accordance with ISAD (G): General International Standard Archival Description (Second Edition), International Council on Archives, Ottawa, 2000.

Date of descriptions/revisions:

Catalogue created December 2007.

Useful Publications relating to this archive:

- Brinkworth, RE: *The vacuum brake and related appliances: their operation and maintenance*, Locomotive Publishing Co, London, 1931
- Locomotive Publishing Co: *Questions and answers on the vacuum brake*, Locomotive Publishing Co, London, c 1890
- Vacuum Brake Co Ltd: *The vacuum automatic brake*, Vacuum Brake Co Ltd, London, 1894
- Vacuum Brake Co Ltd: *Trial train: fitted with the rapid-acting vacuum brake for goods trains*, Vacuum Brake Co Ltd, London, 1907

Appendix 1:

Catalogue

1. Copies of Letters Patent in envelopes and imprinted G.F. Redfern & Co, Chartered Patent Agents, 4 South Street, Finsbury.

Item	Details	Contents
1.1	Cape of Good Hope Patent of S.H. Morden, Esq. for automatic vacuum brake apparatus Patent Number 3712, dated June 14 1906	Letters patent for improvements in or connected with automatic vacuum brake apparatus (no technical details or drawings included).
1.2	Natal Patent of S.H. Morden, Esq. for automatic vacuum brake apparatus Patent Number 121/1906, dated June 16 1906	Letters patent for improvements in or connected with automatic vacuum brake apparatus (no technical details or drawings included).
1.3	Transvaal Patent of S.H. Morden, Esq. for automatic vacuum brake apparatus Patent Number 286/1906, dated June 22 1906	a) Letters patent for improvements in or connected with automatic vacuum brake apparatus (no technical details or drawings included). b) Government of India Patent 3415 dated 22 Nov 1917, in the name of David Cardew (with technical details and drawing) c) Similar document in Magyar dated Budapest 1908
1.4	Australian Commonwealth Patent of S.H. Morden, Esq. for automatic vacuum brake apparatus Patent Number 6279, dated June 27 1906	Letters patent for improvements in or connected with automatic vacuum brake apparatus (no technical details or drawings included).
1.5	Argentine Republic Patent of S.H. Morden, Esq. for automatic vacuum brake apparatus Patent Number 4829, dated Sept 7 1906	Letters patent for improvements in or connected with automatic vacuum brake apparatus (includes technical details or drawings in Spanish).

2. Loose patents

Item	Number, date and patentee	Contents
2.1	24461, 14 November 1908 Henry Edward Gresham	Improvements relating to Vacuum Brake Apparatus for Railway and like Vehicles, with technical details and drawings
2.2	27803, 29 November 1909 Henry Edward Gresham	Improvements relating to Vacuum Brake Apparatus for Railway and like Vehicles, with technical details and drawings
2.3	6300, 12 March 1910 Edward Sydney Luard Consolidated Brake & Engineering Co Ltd	Improvements relating to Vacuum Brake Apparatus for Railway and like Vehicles, with technical details and drawings
2.4	24067, 23 October 1913 E S Luard, Engineer	Improvements relating to Vacuum Brake Apparatus for Railway and like Vehicles, with technical details and drawings
2.5	105846, 3 August 1916 William Martin Billinton of Calcutta, Vacuum Brake Co Ltd	Improvements relating to Vacuum Brake Apparatus for Railway and like Vehicles, with technical details and drawings
2.6	114767, 28 September 1917 E S Luard, Engineer	Improvements relating to Vacuum Brake Apparatus for Railway and like Vehicles, with technical details and drawings
2.7	34354, Hungarian Patent 1905 E S Luard Consolidated Brake & Engineering Co Ltd	Improvements relating to Vacuum Brake Apparatus for Railway and like Vehicles, with technical details and drawings (plus miscellaneous associated papers)

3. Budapest Newspapers, 1908

Copies of six Budapest newspapers, each dated 1 November 1908 with the number 34354 pencilled on the front page and a public notice highlighted inside, possibly relating to item 2.7 above. The newspapers are (in Magyar) *Nepszava*, *Pesti Hirlap*, *Budapest*, *Pesti Naplo*, and (in German) *Neues Pester Journal* and *Pester Lloyd*.

4. Loose drawings, printed on wax linen

No.	Company	Title of drawing	Indent No	Date
2200	Madras Railway	Underframe for 15 ton oil tank wagon	842	1904/08/09
2202	Madras Railway	Details of brake gear 15 ton oil tank wagon	1053	1904/08/08
2299	Madras Railway	Underframe for carriages and luggage vans	1021, 1024	1904/04/11
2300	Madras Railway	Underframes for carriages and luggage vans, details of vacuum brakes	1021, 1024	no date
2396	Nilgiri Railway	Details of ironwork for open goods bogie wagon	1049	no date
2397	Nilgiri Railway Metre Gauge	Arrangement of vacuum brake for existing wagons	1049	no date
2398	Nilgiri Railway	Arrangement of brake on 2 nd bogie	1049	1904/11/22
2399	Nilgiri Railway	details of brakework for open goods bogie wagons	1049	
2747	Madras Railway	Six wheeled bogie	1104	1906/08/07
1973/ 5554	Madras Railway	Brake details timber trucks	1087	1906/11/21
None	Madras Railway	Arrangement of brake on ballast hopper wagon	1075	no date
7317	Madras Railway	Details of ironwork for ballast wagon	Order No PR2241	no date

5. Blue-prints on paper, some with correspondence attached

No.	Company	Title	Date	Notes
None	Oudh & Rohilkand Railway	David Cardew's complete specification, improvements to brakes	1907/09/29	With letter from D Cardew
None	Oudh & Rohilkand Railway	Wrought iron piston rod	1919/09/19	With letter from D Cardew
3389	Oudh & Rohilkand Railway	Vacuum piston rod	1919/08/06	With letter from D Cardew
5/3364	NWR (Burn & Co, Howrah)	Wrought iron piston rod for N.W.R.	1917/07/31	Order no 3111
4046	Oudh & Rohilkand Railway	Cardew's vacuum piston rod	1917/09/27	With letter from D Cardew
5512	Madras Railway	Arrangement of either-side handbrake and vacuum continuous brake	No date	Patent drawing
7355	Madras Railway	Arrangement of either-side handbrake and vacuum brake	No date	Patent drawing
7522	Madras Railway	Lane's patent either-side hand brake and vacuum automatic brake on hopper ballast wagon	1904/10/28	Indent 1075
7523	Madras Railway	Details of Lane's patent either-side hand brake and vacuum automatic brake	1904/10/27	Indent 1075
8547	Madras Railway	General arrangement of rapid-acting vacuum brake on covered goods wagon	1902/06/23	Vacuum Brake Co drawing
10678	Madras Railway	Arrangement of automatic vacuum brake	1905/09/12	Vacuum Brake Co drawing