

**1997-7152**

**PAPERS OF FRANK BAXTER**  
**ENGINEERING DEPARTMENT, LNWR/LMS, 1913 - 1972**

This collection of papers gives an indication of the wide range of subjects covered in the working life of a railway engineer. It includes information on the permanent way, construction of bridges and buildings, and research into new techniques and new materials.

Due to the disparate nature of the material, it has been catalogued in date order rather than subject order.

## PAPERS OF FRANK BAXTER, ENGINEERING DEPARTMENT, LNWR/LMS

1. PLAN Jun 1906  
 showing minimum structure and maximum load and height of platforms for London & North Western Railway  
 Scale: 1" - 2ft  
 Annotated
2. PLAN Jan 1909  
 Sections, plans and elevations of switch diamond crossings for London & North Western Railway.  
 Scale: 4ft - 1"
3. BOOKLET 1909  
 "Expanded metal lathings for plaster work in fire-resisting and other building construction" published by The Expanded Metal company Ltd. [2 copies]
4. DIAGRAM [20c.]  
 of results of London & North Western Railway cement tests
5. DIAGRAM [20c]  
 of test results of cost and quantities of material to make 1 cubic yard of concrete
6. DIAGRAM 1910  
 showing reinforcement required for concrete slabs.
7. PLAN 17 May 1911  
 Sections, plans and elevations of proposed reinforced concrete sleeper, London & North Western Railway. Scale: 3" - 1ft  
 [2 items]
8. NOTEBOOKS 1912; 1913; 1933  
 giving details about setting curves, permanent way calculations, safe loads, costs of bridges, crane gear, etc.  
 [Handwritten with coloured diagrams] [5 items]
9. NOTEBOOKS 1913  
 giving details on a variety of matters e.g. permanent way prices, loads for bridges, piles and wood girders, up-loops, coal bunkers.  
 [Handwritten with diagrams] [6 items]

10. NOTE BOOK 1914  
giving details of bricks, sand, natural cements, cement, reinforced concrete, fireclay and firebricks, slates, woods.  
[Handwritten with diagrams] [9 items]
11. NOTEBOOK [?c.1914.]  
giving details about setting curves, permanent way calculations, safe loads, costs of bridges etc.  
[Handwritten with coloured diagrams]  
[FRAGILE - loose pages and binding]
12. BOOKLET [?early 20c.]  
"Science Notes and Tables for Technical Students" issued by The Technical Manufacturing Co with examples of their instruments.
13. SPECIFICATIONS Mar 1914  
for asphalte production and use.
14. JOURNAL Aug 1915  
London & North Western Railway Vol 4, No 36, with article re. preparations for electrification of Watford to Willesden line and erection of carriage sheds.
15. JOURNAL Jan 1916  
London & North Western Railway Vol 5, No 41, with note of F. Baxter being made 2nd Lieutenant, Kent Fortress Engineers
16. DIAGRAM Nov 1918  
of tensile test of steel plates and bars for London & North Western Railway with covering letter.
17. CERTIFICATE 21 Oct 1919  
that Frank Baxter has passed the Quantities Section of the Diploma Certificate as a Professional Associate of the Surveyors Institution
18. REPORT Feb 1920  
Electric track equipment and wear of conductor rails prepared by southern Division, Permanent Way Dept, Watford.
19. PAMPHLET 6 Jul 1920  
"Instruments and machines for measuring the wear of rails" by A E Langley read at General Meeting, Ipswich, with plan of rail moulding machines and rail wear gauges.  
Annotated.  
[Loose pages]
20. PLAN 27 Jan 1921  
Sections and half plan details of permanent way switch for North London Railway.

21. CERTIFICATE 31 Feb 1921  
that Frank Baxter was elected a member of The Society of Engineers on 31 Jan 1921  
[Torn]
22. PLAN 26 Apr 1921  
Section, elevation and plan of renewal of quay wall in reinforced concrete at Poplar Dock,  
London & North Western Railway, North London line.
23. BUNDLE  
CORRESPONDENCE 1923  
Mr Baxter, Standard Flat Roofing Co., and Munro & Partners and Ragusa Asphalte Co Ltd, re.  
Mastic Asphalte Roadways, with section plan.  
SPECIFICATIONS [c.1920s]  
for specially hardened stair treads  
AGREEMENT 8 Aug 1923  
between 1. Harold Neville Munro, Frank Baxter, and Cuthbert Haysey, and 2. The Standard Flat  
Roofing Co. in which 1. hands over to 2. all information relating to their invention of hardener  
for hard asphalte for roads, stairs, floors etc.  
SPECIFICATION [1923]  
for specially hardened asphalte.
24. BOOK May 1924  
"Rates of pay and conditions of service of railway staff" issued by London Midland & Scottish  
Railway
25. NEWSPAPER 8 May 1926  
Daily Express re General Strike
26. NEWSPAPER 11 May 1926  
Daily Mirror "Why Railway Service is Improving"
27. DIAGRAMS 25 Oct 1926  
with calculations to indicate strength of worn rails prepared by London Midland & Scottish  
Railway Company, District Engineers Office, Camden Town.
28. DIAGRAM [?early 20c]  
showing loss of weight of rails due to wear of running surface.  
[3 items]
29. DIAGRAM [?early 20c]  
of tyre profiles of electric stock, steam stock, and engine tyre.

30. DIAGRAMS 1926  
 - of alteration of radii of switch curves with varying main line switches  
 - of leads A & B switches; - of leads C & D switches; - of leads E switches
31. CERTIFICATE 1926  
 awarded by London Midland & Scottish Railway Company to F Baxter for carrying out duties of Examining and Repairing the line at Camden Town Station, during General Strike.
32. SPECIFICATIONS Nov 1927  
 for proposed building over moulding platform at Old Goods Depot, Tredegar Road, London (London Midland & Scottish Railway Company) for the Ragusa Asphalte Company.
33. BOOK 17 May 1928  
 "General Instructions to be observed respecting cant on Curves"
34. FILE [early 20c.]  
 "Hallade instructions for redesigning versines on curves"
35. BOOK Jan 1929  
 "Points for the guidance of Gangers, sub-gangers and others concerned in the maintenance of the Permanent Way" issued by the London Midland & Scottish Railway
36. LECTURE NOTES [early 20c.]  
 re. fundamental principles of the permanent way and its construction
37. REPORT Apr 1930  
 Retaining wall calculations for terrace of shops, Bridge Approach, Wealdstone, Middlesex.  
 [loose pages]
38. DIAGRAM [?early 20c]  
 showing safe loading for timber beams
39. DIAGRAM [?early 20c]  
 showing strength of timber pillars of different wood types
40. PLAN [?early 20c]  
 of strength of brick arch of bridge No 347 on Rugby & Birmingham Line  
 Scale: 2ft - 1", 3 tons - 1"
41. NOTES [?early 20c]  
 on various road altering schemes from [?Mayfield Works]  
 [Handwritten pages and diagrams taken from larger book - loose pages]
42. FILE Aug 1930

"Hallade instructions with design of versines diagram and working out chart

43. MENU CARD 4 Dec 1931  
of London Midland & Scottish Railway Company (Watford) Athletic Club 6th Annual Dinner
44. BOOK [?pre 1932]  
'The B.S.P. Pocket Book' giving tables calculations and technical information for the use of engineers dealing with pile driving operations with notes relating to steel sheet piling, pile driving equipment and contractors' plant, issued by The British Steel Piling Co
45. BOOK 1932  
'The B.S.P. Pocket Book' giving tables calculations and technical information for the use of engineers dealing with pile driving operations with notes relating to steel sheet piling, pile driving equipment and contractors' plant, issued by The British Steel Piling Co
46. BOOK 1932  
The HY-RIB Handbook giving details of the application of Hy-Rib combined centering and reinforcement to floors, roofs tanks, culverts etc issued by The Trussed Concrete Steel Co Ltd
47. SPECIFICATION 16 Mar 1933  
for mastic asphalt for waterproofing from London Midland & Scottish Railway Company District Engineers
48. SPECIFICATION 16 Mar 1933  
for mastic asphalt for paving from London Midland & Scottish Railway Company
49. INSTRUCTIONS Jan 1934  
for road repairs using cold emulsions on London Midland & Scottish Railway Company
50. BOOK Jul 1934  
"Hallade Handbook" issued by London Midland & Scottish Railway
51. LETTER 3 Oct 1935  
from Iron Paving Ltd, Public Works Contractor, to F Baxter, District Engineer, London Midland & Scottish Railway Company, Watford with photograph demonstrating their recent paving work at Islington.  
Enclosed:  
PHOTOGRAPHS [c.1935]
- man laying iron paving
  - horse-drawn London Midland & Scottish Railway Company Household Removals on iron paved road at [?goods yard] [2 items]
  - removals van on paved street

52. SPECIFICATIONS Apr 1937  
for all reinforced concrete work
53. PLAN [?early 20c]  
Elevations and plans of ferro-concrete sleeper with details of reinforcement  
Scale: 3" - 1ft
54. SPECIFICATIONS [c.1937]  
for tar spraying and tar macadamising, London District 1937 programme, for London Midland & Scottish Railway Company, Chief Engineers Dept, St Pancras Chambers, London NW1  
[3 copies - annotated]
55. NEWSPAPER 20 Sep 1938  
The Times - London Midland & Scottish Railway Company - centenary issue.
56. DIAGRAM 18 Oct 1939  
setting out dimension for ladder tracks on single and double turnouts.  
[2 items]
57. MEMORANDUM 11 Mar 1940  
to Mr Baxter re. adopting a new type of chair screw which is designed to resist pulling out of sleepers
58. PLAN [?mid 19c]  
of section of chair and seating of different weights.
59. MEMORANDUM 17 Dec 1940  
to Mr Baxter re. discontinuation of use of felt pads underneath chairs in main line relaying.
60. BOOKLET 25 Jan 1942  
Report on Foundations, Part 1 In Disturbed Ground, issued by The Institution of Structural Engineers
61. MEMORANDUM 23 Feb 1942  
[to] Inspector Axe, Watford, re. contract for chippings for ballasting
62. NOTE [1940s]  
Air Raid Precautions for Watford Engineering District.
63. BOOKLET 1944  
British Railways in peace and war issued by British Railways Press Office

64. BOOKLET [?1950s]  
Isle of Man - travel by rail - express services and cheap fares.
65. BOOKLET 25 June 1956  
Classification of insulating materials for electrical machinery and apparatus on the basis of thermal stability in service, B.S. 2757:1956
66. GENERAL CATALOGUE 1964  
from Starrett Tools, manufacturers of measuring tools, precision instruments, gauges and saws.
67. DIARY 1972  
of Mr Baxter, written in Diary of 1940
68. PRICES AND SPECIFICATIONS LIST 1975  
from Starrett Precision Tools and Instruments
69. BOOKLET [1970s]  
The Starrett Guide to Metric Conversion with comments on British industry's conversion to metric system and working of a micrometer.
70. PEDIGREE [1970s]  
of the Baxter family

## PHOTOGRAPHS

71. PHOTOGRAPHS [c. 1915]  
- new carriage shed, Willesden [2 items]  
- new station Willesden for electric lines [ 4 postcards]
72. PHOTOGRAPH Sep 1938  
Coventry Goods Shed modernisation
73. PHOTOGRAPHS  
- Coventry Span End viaduct [after the Blitz] [5 items] 1940  
- Reinforced face girders Trent Valley line Bridge [?early 20c]  
- Rugby [?early 20c]  
- War Memorial Broad Street Station 11 Nov 1925
74. PHOTOGRAPH [?early 20c]  
railway bridge over canal [unidentified]
75. PHOTOGRAPHS [?c.1920s]



of Frank Baxter  
[2 items]