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Principal Works: Volume 3

Samuel Smiles

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A political and social reformer, Samuel Smiles (1812–1904) was also a noted biographer in the Victorian period. Following the engineer's death in 1848, Smiles published his highly successful *Life of George Stephenson* in 1857 (also reissued in this series). His interest in engineering evolved and he began working on biographies of Britain's most notable engineers from the Roman to the Victorian era. Originally published in three volumes between 1861 and 1862, this work contains detailed and lively accounts of the educations, careers and pioneering work of seven of Britain's most accomplished engineers. These volumes stand as a remarkable undertaking, advancing not only the genre, but also the author's belief in what hard work could achieve. Volume 3 includes a revised version of Smiles's biography of George Stephenson (1781–1848), as well as a biography of his equally famous son, Robert (1803–59).

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978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

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Samuel Smiles

Frontmatter

[More information](#)

---

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Frontmatter

[More information](#)

---

# Lives of the Engineers

*With an Account of Their Principal Works*

VOLUME 3

SAMUEL SMILES



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---

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Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

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VOLUME III.

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Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)



*George Stephenson.*

*Engraved by W. Holl, after the portrait by John Lucas.*

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Principal Works: Volume 3  
Samuel Smiles  
Frontmatter  
[More information](#)

LIVES  
OF  
THE ENGINEERS,  
WITH  
AN ACCOUNT OF THEIR PRINCIPAL WORKS;  
COMPRISING ALSO  
A HISTORY OF INLAND COMMUNICATION IN BRITAIN.  
BY SAMUEL SMILES.

~~~~~  
"Bid Harbours open, Public Ways extend;  
Bid Temples, worthier of God, ascend;  
Bid the broad Arch the dang'rous flood contain,  
The Mole projected, break the roaring main;  
Back to his bounds their subject sea command,  
And roll obedient rivers through the land.  
These honours, Peace to happy Britain brings;  
These are imperial works, and worthy kings."  
POPE.

~~~~~  
WITH PORTRAITS AND NUMEROUS ILLUSTRATIONS.

VOL. III.  
[GEORGE AND ROBERT STEPHENSON.]

LONDON:  
JOHN MURRAY, ALBEMARLE STREET.  
1862.

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Samuel Smiles

Frontmatter

[More information](#)

---

---

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978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

## P R E F A C E.



THE following volume contains a revised edition of the Life of George Stephenson, with which is incorporated a Life of his son Robert, late President of the Institute of Civil Engineers. While complete in itself, this book also forms the continuation of the biographical history of British engineering—the earlier portions of which are comprised in the two volumes of ‘Lives of the Engineers’ already published,—and brings the subject down to the establishment of the railway system, in the course of which British engineers have displayed their highest skill and achieved their greatest triumphs.

Since the original appearance of the work some six years ago under the title of ‘The Life of George Stephenson,’ much additional information relative to the early history of railways and of the men principally concerned in establishing them, has been communicated to the author by the friends and pupils of the two Stephensons, as well as by the late Robert Stephenson himself, of which the author has availed himself in the present edition.

Although it is unusual to embody two biographies in one narrative, it will probably be admitted that in the case of the Stephensons such a combination is peculiarly appropriate,—the life and achievements of the son having been in a great measure the complement of the life and

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978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

achievements of the father. The care with which the elder Stephenson, while occupying the position of an obscure workman, devoted himself to his son's education, and the zeal with which the latter repaid the affectionate self-denial of his father, are among the most effective illustrations of the personal character of both. As regards their professional history also, it will be found that the relations which existed between them, more particularly with reference to the improvement of the locomotive and the construction of the first passenger railways, were of so intimate a kind, that it is impossible to dissociate the history of the one engineer from that of the other.

These views were early formed by the author as to the proper treatment of the subject of George Stephenson's Life, and were carried out in the preparation of the original work, with the concurrence of Robert Stephenson, who supplied the requisite particulars relating to himself. Such portions of these were accordingly embodied in the narrative as could with propriety be published during the lifetime of the latter, and the remaining portions are now added, with the object of rendering the record of the son's life, as well as the early history of the railway system, more complete.

It may not be out of place to explain briefly the circumstances in which the book originated and was written, and the sources from which the facts it contains were derived, as a guarantee to the reader that every possible pains have been taken to secure due authenticity and accuracy of information.

The subject of a biography of George Stephenson was brought under the author's notice shortly after the death

Cambridge University Press

978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

## PREFACE.

vii

of the engineer in 1848, by the present Mayor of Leeds, James Kitson, Esq., a large locomotive-manufacturer in that town, and an intimate friend of both the Stephensons. Mr. Kitson thought that the author's business connection with railways, and his personal knowledge of the elder Stephenson, with other qualifications, fitted him for the task of writing his biography. The suggestion was very tempting; but the preparation of such a work involved too much labour to be lightly undertaken, and beyond putting together a few memoranda, which were published as an article in a London journal, nothing further was then done in the matter.

In the mean time a very suggestive and able article made its appearance in the *Athenæum* of December 8, 1849, urging the claims of the subject of railway enterprise and its early history upon the attention of literary men. The reviewer pointed out that although there then existed abundance of railway statistics, these would be found of very little use to the historian who, a century hence, looking to the extraordinary effects of the railway system on the means and manners of Great Britain, should try to relate how it arose, with what efforts and influences, and by what manner of men it was brought to pass within a few years—to discover, in short, something like what we now vainly seek and regret to find untold of the great mechanical novelties of the last century. “It is this,” he observed, “which we now desire to have collected, while the memory of the chief facts is yet fresh, while many of the first authors are still living, and while of those deceased—including a principal author of the system, George Stephenson—there are survivors able to supply authentic and lively

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Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

memorials. . . . It is surely worth writing; and if the task be not soon accomplished, the materials requisite for its complete execution will have disappeared beyond recall. The real value of such records—the place due to their objects in the national annals—has hitherto been little regarded. Professed historians of the old school overlook them with dignified contempt; mere philosophical moderns at best admit them here and there to a summary notice made up of dry statistical matter, that reads but tamely among reports of party struggles and foreign disputes—of the vanities of courts and the achievements of armies. Our purpose here is to vindicate the claims of the subject and to show what part of it may well be preserved for the instruction of future times.”

The only attempt made to work out the literary design so ably sketched in the *Athenæum*, was by Mr. Francis, in his ‘History of the English Railway,’ which, though an exceedingly graphic resume of the early history of railways, failed in the main point of biographic interest in connection with the subject. A series of summary articles on the life and works of George Stephenson was also published by Mr. Hyde Clarke, C.E., in the ‘Civil Engineer and Architect’s Journal;’ but, though valuable as a collection of facts and dates, it was not a biography, and the Life of George Stephenson, therefore, remained to be written.

To ascertain Robert Stephenson’s views as to a Life of his father, the author called upon him at his office in Great George Street in March, 1851; Mr. Kitson having previously written him on the subject. Mr. Stephenson then said that a Memoir of his father had been fre-

Cambridge University Press

978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

## PREFACE.

ix

quently spoken of, but he had almost given up the hope of seeing it undertaken. He did not think the theme was one likely to attract the attention of literary men of eminence, nor did he seem to be at all sanguine as to its popular interest, though his views on this point afterwards underwent a change; but he promised that, in event of the author deciding to prosecute the proposed biography, he should give his best assistance in supplying the necessary facts.

Furnished by him with letters of introduction to several of his more intimate friends in Newcastle—among others to Mr. Budden, his business manager at the Forth Street Works—the author shortly after made a visit to that place, with the object of ascertaining what materials could be obtained for the purposes of the proposed memoir. After three or four days' diligent search it was found that the results, when reduced to shape, were of a very meagre kind. Books and newspapers were of no avail. The information wanted existed but in the memories of individuals, from whom it could only be gathered by direct personal intercourse and by slow degrees. Many of them were unlettered men, who, though they could communicate in conversation what they remembered, could not place it on written record. Others, possessing information and able to communicate it in writing, were too much engrossed by business affairs to give the requisite time for the purpose. Thus the author shortly became persuaded that to prepare a satisfactory Life of George Stephenson from authentic sources, required an actual residence of some period in the district where he had lived; and as the pursuits in which he was engaged at the time rendered this out

b

Cambridge University Press

978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

x

## PREFACE.

of the question, he communicated to Robert Stephenson his regret at not being able, under these circumstances, to prosecute the proposed biography.

Thus three more years passed, during which nothing further was done. No biographer of George Stephenson appeared; and the persons capable of furnishing information respecting him were being rapidly thinned off by death. The author had himself almost dismissed the subject from his mind, when circumstances occurred in connection with his railway occupation which rendered it necessary for him to reside at Newcastle-upon-Tyne during the summer of 1854. He was thus unexpectedly placed in a position to prosecute at his leisure the necessary inquiries relative to the Stephenson biography. Much of the desired information came directly in his way, and the rest he went in search of. It became his recreation in the summer evenings to visit the places where George Stephenson had lived,—Wylam, where he was born,—Dewley, Callerton, Newburn, and Willington Quay, where he had worked as gin-driver, fireman, brakesman, and engineman by turns,—and Killingworth, where he had invented the safety-lamp and worked out the problem of the locomotive. All these places were within easy reach of Newcastle by railway; and thus, helped by the recollections of the engineer's former associates, his life was traced from boyhood to manhood, from the cradle almost to the grave.

All who had known George Stephenson in his early years were proud to speak of him, and to communicate what they remembered of his history. Though he had risen so much above them, there did not seem to mingle an atom of jealousy or envy in their recollections

Cambridge University Press

978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

## PREFACE.

xi

of him. They begrudged him neither his prosperity nor his fame. They spoke of "George" as if he had been of their own kin, a member of their own family; and were as proud of his career as if it had been their own. There was much that was very graphic in their relation of the incidents in "George's" early life, the vividness of which, the author fears, may have escaped in the process of reporting. But so far as any merit belongs to the earlier part of the narrative, he readily acknowledges that it is in a great measure due to the working men from whose lips he gathered it—colliers, brakesmen, and enginemen, mostly old men, some of them disabled by accidents and hard work—whom he visited in succession at Wylam, Callerton, Newburn, Willington, and Killingworth.

While residing at Newcastle, the author was also enabled readily to visit Darlington, and to gather from the lips of the venerable Edward Pease, to whom he had been introduced by a letter from Robert Stephenson, the interesting history of the Stockton and Darlington Railway, of which Mr. Pease was the projector,—the account of his employment of George Stephenson as the engineer of that line,—and of his subsequent connection with him as partner in the locomotive foundry in Forth Street, Newcastle-upon-Tyne. At Darlington also he obtained from John Dixon, C.E., many interesting facts relative to the survey of the Stockton and Darlington Railway, and the construction of the Liverpool and Manchester Railway across Chat Moss, of which portion of the line Mr. Dixon had been the resident engineer.

Having thus gathered together the materials of what,

*b 2*

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Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

it was believed, would form an interesting and continuous narrative of George Stephenson's early career, the author proceeded to communicate the result to Robert Stephenson, and to express the hope of now being able to proceed with the proposed biography of his father. To this communication a reply was received, dated "Dover, 26th Sept., 1854," in which Mr. Stephenson said—"I am glad to hear that you have not given up the idea of writing a memoir of my late father; and now that I have more leisure, it will afford me pleasure to assist you in many points which are known only to myself, especially in reference to the phases which the Locomotive Engine put on at different periods of my father's active and remarkable life—a life which spreads over a period comprising probably one of the most astonishing pages in the history of civilization. I am about to visit Newcastle, when I shall make a point of giving you my views as to the form which the memoir, in my opinion, ought to take; and respecting the mechanical portions, I shall feel it my duty to give every assistance."

Mr. Stephenson paid his promised visit to Newcastle in the beginning of October, 1854, when he communicated his views as to the treatment of the proposed biography, and took the author over the scenes of his own and his father's early life, relating by the way many interesting incidents which the sight of them recalled to his memory. The ride to Killingworth will be found described at pp. 64-6 of the following work. The author afterwards read over to Mr. Stephenson the narrative he had by this time prepared of his father's early life, much of which was entirely



Cambridge University Press

978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

## PREFACE.

xiii

new to him, though he was ready to admit its accuracy, considering the authentic sources from which it had been obtained. At a subsequent period the author enjoyed the advantage of much intimate personal intercourse with Mr. Stephenson, and obtained from him, either orally or in writing, many of the important facts embodied in the following narrative. Besides what was supplied directly by himself, much additional information was obtained through his instrumentality from other gentlemen well qualified to supply it—from Mr. Charles Parker, relative to the early history of the London and Birmingham Railway; from Mr. T. Sopwith, C.E., as to George Stephenson's visits to Belgium; and from Sir Joshua Walmsley as to his journey into Spain. Mr. Stephenson continued to furnish the author with corrections and additions from time to time as they occurred to him; and one of the last communications received from him, shortly before his death, was a letter accompanying a large bundle of the correspondence and papers of Mr. Joseph Sandars (since deceased), the projector of the Liverpool and Manchester Railway, of which due use has been made in the present edition. It has also been thought desirable to append Robert Stephenson's own narrative of his father's inventions and improvements in the form in which it was communicated to the author, the record being valuable as an authentic memorial of the early history of the Locomotive Engine and Railways.

Since the publication of the earlier editions of the Life of Stephenson, the author has been enabled to avail himself of the personal recollections of Mr. T. L. Gooch, C.E.; Mr. Vaughan, of Snibston; Mr. F. Swan-

Cambridge University Press

978-1-108-05294-8 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 3

Samuel Smiles

Frontmatter

[More information](#)

xiv

PREFACE.

wick, C.E.; and Mr. Binns, of Claycross, all of whom officiated as private secretaries to George Stephenson at different periods of his professional life, and afterwards held responsible offices either under him or in conjunction with him. The materials for the narrative of Robert Stephenson's career in Colombia have been kindly supplied by his friend Mr. R. S. Illingworth. Much of the valuable information communicated by these gentlemen is published for the first time in the present edition.

The same pains have been taken with the illustration of the book as in the case of the two volumes of 'Lives of the Engineers' already published. The author has had the advantage of being ably supported by his artists, Messrs. Leitch and Skelton, whose illustrations speak for themselves, and will, he believes, be found worthy of the subject.

*London, October, 1862.*

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NOTE.—*End of the "Rocket."*—The important influence which this famous engine, which won the prize of 500*l.* at the Locomotive Competition at Rainhill in 1829, exercised on the general extension of the railway passenger system, led the author, in the early editions of the 'Life of George Stephenson,' to express the regret (repeated in the note to p. 274 of the following work) that pains had not been taken to ensure its preservation, in like manner as the French Government have preserved Cugnot's road locomotive of 1770 in the Conservatoire des Arts et Métiers at Paris. It is, therefore, with pleasure we have to state that, while these sheets are passing through the press, the "Rocket" is in course of removal to the Museum of Patents at Kensington, where it will find its appropriate place in that highly interesting national collection.

C O N T E N T S.

CHAPTER I.

The colliery districts of the North — Newcastle-upon-Tyne in ancient times —  
The Roman settlement — Social insecurity in the middle ages — Northum-  
berland roads — The coal-trade — Modern Newcastle — Coal haulage —  
Early waggon-roads, tramways, and railways — The colliery workmen —  
Pumping-engines — The pitmen — Coal-staiths — The keelmen Page 1-12

CHAPTER II.

Wylam colliery and village — George Stephenson's birthplace, High Street  
House — Stephenson's parents — The Stephenson family — Old Robert  
Stephenson — George's boyhood — Dewley Burn colliery — Sister Nell's  
bonnet — Employed as a herd-boy — Makes clay engines — Employed as  
corf-bitter — Drives the gin-horse — Black Callerton colliery — Love of  
animals — Is made assistant-fireman .. .. 13-22

CHAPTER III.

Jolly's Close, Newburn — Wages — Athletic feats — Throckley Bridge — "A  
made man for life" — Appointed engineman — Studies his engine — Ex-  
periments in bird-hatching — Puts himself to school and learns to read —  
His schoolmasters — Progress in arithmetic — His dog — Learns to brake —  
Brakesman at Black Callerton — Duties of brakesman — Begins shoe-mend-  
ing — Fanny Henderson — Saves his first guinea — Fight with a pitman  
23-36

CHAPTER IV.

Sobriety and studiousness — Inventiveness — Removes to Willington Quay —  
Marries Fanny Henderson — Their cottage at Willington — Tries to invent  
a perpetual-motion machine — William Fairbairn and George Stephenson —  
Ballast-heaving — Cottage chimney takes fire — Clock-cleaning — Birth of  
Robert Stephenson — George removes to West Moor, Killingworth — Death  
of his wife — Engineman at Montrose, Scotland — Return to Killingworth —  
Brakesman at West Moor — Is drawn for the militia — Thinks of emigrating  
to America — Takes a contract for brakeing engines — Improves the wind-  
ing-engine — Cures a pumping-engine — Appointed engine-wright of the  
colliery .. .. 37-55

CHAPTER V.

Self-improvement — John Wigham — Studies in natural philosophy — Education of Robert Stephenson — Sent to Rutter's school, Benton — Bruce's school, Newcastle — Literary and Philosophical Institute — Stephenson educates his son in mechanics — Ride to Killingworth — Robert Stephenson's boyish tricks — Repeats the Franklin kite-experiment — Stephenson's cottage, West Moor — Odd mechanical expedients — Competition in last-making — Father and son make a sun-dial — Colliery improvements — Stephenson's mechanical expertness .. .. . Page 56-72

CHAPTER VI.

Various expedients for facilitating coal-haulage — Sailing-waggons — Mr. Edgworth's experiments — Cugnot's first locomotive steam-carriage — Murdock's model locomotive — Trevithick's steam-carriage and tram-engine — Blenkinsop's engine — Chapman's and Brunton's locomotives — The Wylam waggon-way — Mr. Blackett's experiments — Jonathan Foster — William Hedley — The Wylam engine — Stephenson determines to build a locomotive — Lord Ravensworth — The first Killingworth engine described — The steam-blast invented — Stephenson's second locomotive .. .. . 73-103

CHAPTER VII.

Frequency of colliery explosions — Accident in the Killingworth pit — Stephenson's heroic conduct — A safety-lamp desired — Dr. Clanny's lamp — Stephenson's experiments on fire-damp — Designs a lamp, and tests it in the pit — His second lamp — Cottage experiments with coal-gas — Rev. Mr. Turner — Stephenson's third lamp — The Stephenson and Davy controversy — Scene at the Newcastle Institute — The Davy testimonial — The Stephenson testimonial — Merits of the "Geordy" lamp .. .. . 104-128

CHAPTER VIII.

The Killingworth mine-machinery — Robert Bald's account — Stephenson improves his locomotive — Strengthens the road — His steam-springs — Experiments on friction — Steam-locomotion on common roads — Early neglect of the locomotive — Makes an engine for the Duke of Portland — Again contemplates emigration — Constructs the Hetton railway — The working-power employed — Robert Stephenson viewer's apprentice — His pursuits at Killingworth — His father sends him to Edinburgh University — His application to study — An early attachment — Studies geology under Professor Jameson — Geological tour in the Highlands .. .. . 129-148

CONTENTS. xvii

CHAPTER IX.

The Bishop Auckland coal-field — Edward Pease projects a railway from Witton to Stockton-on-Tees — The Bill rejected — The line re-surveyed and Act obtained — George Stephenson's visit to Edward Pease — Stephenson appointed engineer of the railway — The line re-surveyed — Mr. Pease visits Killingworth — The Newcastle foundry projected — The railway constructed — Locomotives ordered — Stephenson's anticipations as to railways — Public opening of the line — The coal traffic — The first railway passenger coach — The coaching-traffic described — The "Locomotion" engine — Commercial results of the Stockton and Darlington Railway — Town of Middlesborough created .. .. . Page 149-177

CHAPTER X.

Insufficiency of the communications between Liverpool and Manchester — The canal monopoly — A tramroad projected — Joseph Sandars — Sir R. Phillips' speculations as to railways — Thomas Gray — William James surveys a line between Liverpool and Manchester — Opposition to the survey — Mr. James's visits to Killingworth — Robert Stephenson assists in the survey — George Stephenson employed — The first prospectus issued — Stephenson's survey opposed — The canal companies — Speculations as to railway speed — Sir John Barrow's views — Stephenson's notions thought extravagant — Article in the 'Quarterly' .. .. . 178-200

CHAPTER XI.

The Liverpool and Manchester Bill before Parliament — The evidence — George Stephenson in the witness-box — Examined as to speed — His cross-examination — The survey found defective — Mr. Harrison's speech — Evidence of opposing engineers — Mr. Alderson's speech — Evidence against the locomotive — The Bill thrown out — Stephenson's vexation — The scheme revived — The line re-surveyed — Sir Isaac Coffin's speech — The Act passed .. .. . 201-218

CHAPTER XII.

George Stephenson appointed engineer — Chat Moss described — The resident engineers — Mr. Dixon's visit of inspection — Stephenson's theory of a floating road — Operations begun — Tar-barrel drains — The embankment sinks in the Moss — Proposed abandonment of the work — Stephenson perseveres — The obstacles conquered — Road across Parr Moss — The road formed — The Liverpool Tunnel — Olive Mount Cutting — Sankey Viaduct — Stephenson and Cropper — Stephenson's labours — Pupils and Assistants — His daily life — Practical education — Evenings at home .. .. . 219-241

Cambridge University Press  
 978-1-108-05294-8 - Lives of the Engineers: With an Account of Their  
 Principal Works: Volume 3  
 Samuel Smiles  
 Frontmatter  
[More information](#)

xviii

CONTENTS.

CHAPTER XIII.

Robert Stephenson mining engineer in Colombia — Mule journey to Bogota — Mariquita — Silver-mining — Difficulties with the Cornishmen — His cottage at Santa Anna — Longs to return home — Resigns his post — Meeting with Trevithick — Voyage to New York, and shipwreck — Returns to Newcastle, and takes charge of the factory — The working power of the Liverpool and Manchester Railway — Fixed engines and locomotives, and their respective advocates — Walker and Rastrick's report — A prize offered for the best locomotive — Discussions of the Stephensons — Boiler arrangements and heating-surface — Mr. Booth's contrivance — Building of the "Rocket" — The competition of engines at Rainhill — The "Novelty" and "Sanspareil" — Triumph of the "Rocket," and its end .. Page 242-275

CHAPTER XIV.

The railway finished — The traffic arrangements organized — Public opening of the line — Accident to Mr. Huskisson — Arrival of the trains at Manchester — The traffic results — Improvement of the road and rolling-stock — Improvements in the locomotive — The railway workmen — The engine-drivers — The railway a wonder — Road-travelling improved — The Government and railways — Steam on common roads — Joint-stock railway companies — New lines projected — The Grand Junction — Public opposition to railways — Robert Stephenson engineer of Leicester and Swannington Railway — George removes to Snibston, and sinks for coal — Stimulates local enterprise — His liberality .. .. . 276-300

CHAPTER XV.

The London and Birmingham Railway projected — George and Robert Stephenson appointed engineers — An opposition organized — Hostile pamphlets — Public meetings against the scheme — Robert Stephenson's interview with Sir A. Cooper — The survey obstructed — The line re-surveyed — The Bill in Parliament — Thrown out in the Lords — The project revived — The Act obtained — The works let in contracts — The difficulties of the undertaking — The line described — Blisworth Cutting — Primrose Hill Tunnel — Kilsby Tunnel — Its construction described — The cost of the railway greatly increased — Failure of contractors — Magnitude of the works — The railway navvies .. .. . 301-324

CHAPTER XVI.

Projection of new lines — Dutton Viaduct on the Grand Junction — The Manchester and Leeds — Incident in Committee — Summit Tunnel, Littleborough — Magnitude of the work — The Midland Railway — The works compared with the Simplon road — Slip near Ambergate — Bull Bridge — The York and North Midland — The Scarborough branch — George Stephenson on estimates — Stephenson on his surveys — His quick observation — His extensive labours — Travelling and correspondence — Life at Alton Grange — Stephenson's London office — Journeys to Belgium — Interviews with the King — Public openings of English railways — Stephenson's assistants — Results of travelling by rail .. .. 325-355

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Frontmatter

[More information](#)

## CONTENTS.

xix

## CHAPTER XVII.

George Stephenson's views on railways and coal-traffic — Leases the Claycross estate, and sinks for coal — Removes to Tapton House — British Association at Newcastle — Appears at Mechanics' Institutes — Speech at Leeds — His self-acting brake — His views of railway speed — Theory of "undulating lines" — Stephenson's conduct towards the Chester and Birkenhead Company — Atmospheric railways projected — Stephenson opposes the principle of working — The railway mania — Stephenson tries to check it in vain — Parliament and the mania — Stephenson's letter to Sir Robert Peel — George Hudson, the Railway King; his fall — Stephenson again visits Belgium — Interviews with King Leopold — Journey into Spain

Page 356-393

## CHAPTER XVIII.

Robert Stephenson's career — His extensive employment as Parliamentary engineer — His rival, Brunel — The Great Western Railway — Width of gauge — Robert Stephenson's caution as to investments — The Newcastle and Berwick Railway — Contest in Parliament — George Stephenson's interview with Lord Howick — The Royal Border Bridge, Berwick — Progress of iron-bridge building — Robert Stephenson constructs the High Level Bridge, Newcastle — Pile-driving by steam — Merits of the structure — The through railway to Scotland completed .. .. 394-415

## CHAPTER XIX.

George Stephenson surveys a line from Chester to Holyhead — Robert Stephenson afterwards appointed engineer — The railway works under Penmaen Mawr — The crossing of the Menai Strait — Various plans proposed — A tubular beam determined on — Strength of wrought-iron tubes — Mr. William Fairbairn consulted — His experiments — Professor Hodgkinson — Chains proposed, and eventually discarded — The bridge works — The Conway Bridge — Britannia Bridge described — Floating of the tubes — Robert Stephenson's great anxiety — Raising the tubes — The hydraulic press bursts — The works completed — Merits of the Britannia Bridge 416-440

## CHAPTER XX.

George Stephenson's life at Tapton — Experiments in horticulture — His farming operations — Affection for animals — Bee-keeping — Reading and conversation — Rencontre with Lord Denman — Hospitality at Tapton — His microscope — A "crowdie night" — Visits to London — Visits Sir Robert Peel at Drayton Manor — His conversation — Encounter with Dr. Buckland — Coal formed by the sun's light — Opening of the Trent Valley line, and great railway celebration — Eulogy of the railway system — Meeting with Emerson — Illness, death, and funeral — Statues of George Stephenson — Robert Stephenson's gradual retirement from the profession — His tubular bridges in Egypt and Canada — Acts as railway arbitrator — Helps to launch the Great Eastern — Enters the House of Commons as member for Whithy — His foreign honours — Illness, death, and funeral

441-464

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Frontmatter  
[More information](#)

xx

CONTENTS.

CHAPTER XXI.

Characteristics of the Stephensons — Resumé of George Stephenson's history —  
His patience and perseverance — His thoroughness and honesty — His battle  
for the locomotive — His manual dexterity — Deportment towards his work-  
people — His generosity — Compared with James Watt — Social influences  
of the locomotive — Habits of observation — His conversational powers —  
A late learner — His goodness of heart — Robert Stephenson's kindliness of  
disposition — His affection for his father — His manners — His generosity —  
The Civil Engineers' Institute — George Stephenson on politics — Views on  
Free-trade — Robert a "Protectionist" — Services rendered to civilization  
by the Stephensons .. .. . Page 465-482

APPENDIX.

Narrative of George Stephenson's Inventions and Improvements in connec-  
tion with the Locomotive Engine and Railways. By his Son, Robert  
Stephenson .. .. . 485-496

The Steam-blast in the Locomotive, and the Merits of the several Claimants  
to the Invention discussed; including Robert Stephenson's Remarks  
thereon .. .. . 497-504

INDEX .. .. . 505-512





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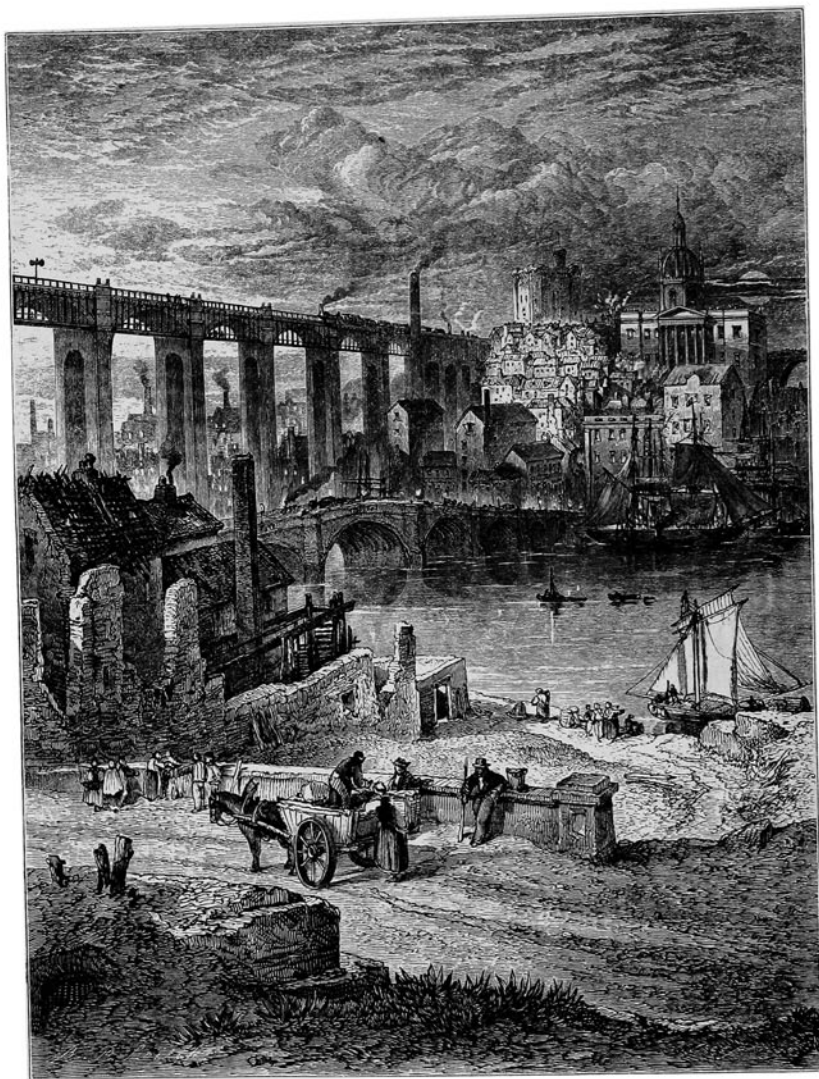
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NEWCASTLE-UPON-TYNE AND THE HIGH LEVEL BRIDGE.

[By R. P. Leitch, after his original drawing.]