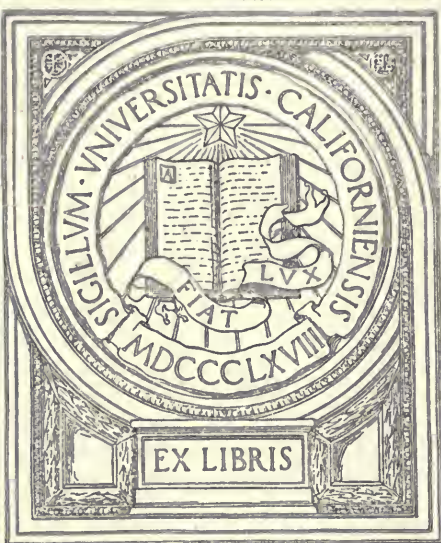




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LIFE OF ROBERT NAPIER









Engr. J. J. Waddington

*H. Kapner*

L I F E  
OF  
R O B E R T N A P I E R  
OF WEST SHANDON

CHEVALIER OF THE LEGION OF HONOUR;  
KNIGHT COMMANDER OF THE ORDER OF THE DANNEBROG;  
PRESIDENT OF THE MECHANICAL ENGINEERS

BY

JAMES NAPIER, M.A., F.R.S.E., &c.

THE  
SCOTLAND  
PRESS

WILLIAM BLACKWOOD AND SONS  
EDINBURGH AND LONDON  
M C M I V

ARRIBADO TO VIRU  
CELINDA ZOLTA  
YRABU



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140  
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## PREFACE.

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It is often said that the Clyde made Glasgow, and the object of this volume is to relate in some detail the life of one who, by his energy and perseverance, caused the Clyde to become the most famous ship-building centre in the world, and thereby contributed most materially to building up the fabric of what is now called the second city in the Empire.



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# LIFE OF ROBERT NAPIER.

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## CHAPTER I.

### EARLY DAYS.

DUMBARTON—PARENTAGE—BIRTH—SCHOOL-DAYS—APPRENTICESHIP—WORKS AS A JOURNEYMAN—STARTS IN GLASGOW—JOINS HAMMERMEN—MARRIAGE.

DUMBARTON is one of the oldest towns in Scotland, able to boast of authentic history for nearly fifteen hundred years. It was constituted a Free Royal Burgh by Alexander II. in 1222, and received fresh charters from his successors, which were confirmed by James VI. shortly after the union of the kingdoms. This historic town was the home of the Napiers and the Dennys.

Robert Naiper or Napier, son of John Naiper, was the grandfather of the subject of this biography, and he was born in the year 1726. He followed the calling of a blacksmith in Dumbarton, and about 1750 married Jean Denny, by whom he had a large family. Three of his sons—John, Robert, and James—followed the trade of their father, and were in their day well known as workers in iron. John, the eldest, along with his brother James, continued the business in Dumbarton, while Robert went to Inveraray and became smith to the Duke of Argyll.

Each of these three men had a son who followed in his father's footsteps, and came to great eminence in the engineering world.

Robert Napier was descended from the youngest branch of the family. His father, James Napier, was born in 1764, and in 1789 he married Jean Ewing, who

came from Rosneath. Their family consisted of six sons—Robert, Peter, James, John, David, William—and one daughter who was married to Mr Archibald Reid. Their eldest child died in infancy. Robert, their second, was born on the 18th June 1791, and baptised on the following day, from which fact we may presume he was not robust.

At the date of his birth his father was engaged in business in Dumbarton as a master smith, in conjunction with his brother John. John Napier at that time had a foundry in which were two steam-engines, one for blowing the cupola, and the other, of the Newcomen type, for working a primitive boring mill. Few steam-engines then existed in the west of Scotland, and part of the cannon cast at Clyde Iron Works were sent here to be finished. “Born with the hammer in his hand,” as he was wont to say, Robert

at an early age was sent to school in Dumbarton, where he was instructed in English and the elementary branches of knowledge, including Latin and French.

The most notable among his teachers was a Mr Traill who had been connected with Messrs Dixons' Glass Works, which was then the chief industry in the burgh. Under Traill's tuition he developed a special aptitude for mechanical and architectural drawing, which was carefully fostered by his master.

His father was anxious to give his children a good education, and, in accordance with Scottish custom, Robert, being the eldest, was intended for the Church, but when the time came that he should go to college the hereditary taste for the anvil proved too strong. The education for the ministry was thus bestowed on his younger brother Peter, who graduated in 1810, and afterwards became

minister of the Blackfriars Church in Glasgow.

Accordingly Robert, at the age of fourteen, began to work with his father, but at first a regular apprenticeship was not entered into.

In those days raids by the press-gang were frequently made on the Royal Burgh, and in one of these he was nearly captured. To prevent such an accident, as an apprentice was not liable to impressment, an indenture to serve his father was drawn out on 4th September 1809, which ran as follows:—

This Indenture of the date underwritten entered into and executed by and betwixt James Napier, Blacksmith, in Dumbarton on the one part and Robert Naiper, his son, with the special advice of Robert Denny in Greenhead as cautioner for him doth witness that the said Robert Naiper hath become bound and hereby binds and engages himself as an apprentice to the said James Naiper his heirs or assigns in the art and trade of a



Blacksmith and that for the full time and space of five years compleat from and after the commencement of his apprenticeship which is declared to have been upon the first day of September eighteen hundred and seven years notwithstanding the date hereof during which space the said Robert Naiper as principal and the said Robert Denny as caution with and for him bind and oblige them jointly and severally their heirs and successors that the said Robert Naiper apprentice shall at no time be absent or divest himself from his said Master's service without leave asked and obtained (sickness excepted) that he shall by no means reveal or discover to any person or persons whatever any secrets he may come to know or be instructed in relative to any branch or branches of his said Master's business and that he shall not be privy to nor know of anything that may tend to the hurt or prejudice of his said Master without giving him the earliest notice thereof and endeavouring to prevent the same and that he shall faithfully honestly and diligently serve and obey his said Master by night and by day in these branches of a blacksmith's trade which shall be assigned to him or in any other branch of trade connected therewith, and for each day's absence excepting as above he shall serve two



days at the expiry hereof which absent days shall be sufficiently verified and ascertained by the account thereof taken from the book of his said Master and attested by him.

For which causes on the other part the said James Napier the Master and Peter Cochrane, Shipmaster in Dumbarton, as cautioner for him bind and oblige themselves and their heirs and successors that the said James Naiper shall teach and instruct or cause the said Robert Napier to be taught and instructed in the art and trade of a blacksmith aforesaid or in any other branch of trade connected therewith excercised by the Master at which the said apprentice may be set to work and that so far as the Master knows and practises or the said apprentice's capacity can reach and shall use his best endeavours to render the said apprentice skilled and expert therein and that the Master shall entertain as he hereby becomes bound to entertain the apprentice at bed and board during the whole period of his apprenticeship Sundays excepted suitable to his station and in the same manner in which his other apprentices are or have been accommodated and the said parties oblige themselves to perform their respective parts of the promise each to the other under the penalty of

ten pounds sterling to be paid by the party failing to the party observing or willing to observe. Over and besides performance consenting to the registration hereof in the books of Council and Session or others competent for preservation and that letters of horning on a charge of six days and all other execution necessary may pass thereon in form as effairs and constitute

Prors. In witness whereof these presents are written on stamped paper by Archibal Colquhoun Writer in Dumbarton an agent duly licensed possessed of the legal certificate and subscribed at Dumbarton the fourth day of September one thousand eight hundred and nine years before those witnesses William Lang Senior Merchant in Dumbarton and the said Archibald Colquhoun writer hereof.

William Lang, *witness.*

A. Colquhoun, *witness.*

JAMES NAIPER.

ROBERT NAIPER.

PETER COCHRAN.

ROBERT DENNY.

It will be observed that, notwithstanding the date of the signatures, the apprenticeship was declared to have commenced

two years earlier, on first September 1807; it may also be noticed that his kinsman, Mr Denny, was his cautioner.

To prevent impressment, the deed was at once produced to a Justice of the Peace, and endorsed by him in the following terms :—

At Dumbarton the 4th day of September 1809 in presence of one of His Majesty's Justices of the Peace for the County of Dumbarton compared James Naiper within designed and in terms of the eightieth and eighty first sections of the Act of the forty-ninth of George III. Cap. 12: entitled an Act for punishing mutiny and desertion and for the better payment of the Army and their quarters produced the written Indenture entered into between him and the also within designed Robert Napier of this date and which Indenture is here endorsed by the said Justice of the Peace in terms of the said Act of Parliament.

On 6th October 1812 young Napier completed his apprenticeship, and was duly discharged by his father.

I James Napier within designed in respect that the also within designed Robert Napier has served me as my apprentice in terms of the within Indenture for the whole years therein contained properly and faithfully therefore I do hereby exoner and discharge him and the within designed Robert Denny his cautioner of the said Indentures whole purport and effect thereof so far as the same was incumbent on him and his cautioner and oblige myself to warrant this discharge at all hands. In witness whereof I subscribe this discharge written on the back of the Indenture by Archibald Colquhoun within designed at Dumbarton the sixth day of October eighteen hundred and twelve years.

Before these witnesses the said Archibald Colquhoun and James Donald apprentice to John McAulay Writer in Dumbarton.

A. Colquhoun, *witness*.

JAMES NAIPER.

James Donald, *witness*.

During this apprenticeship he acquired some experience as a millwright, working at the machinery in the calico works in the Vale of Leven, which his father was commissioned to alter and overhaul.

James Napier was a stern upright man, and under the strict tuition of such a father the son soon acquired great proficiency in his craft. Possessed of more than average abilities, he became a first-rate workman, especially in ornamental smith-work, of which accomplishment he was always very proud. In his spare moments he occupied himself making small tools, drawing instruments, guns, gun-locks, &c., and perfecting his drawing under Mr Traill. He always considered that he was under great obligations to Mr Traill for inculcating that love of the fine arts which he cultivated with such assiduity in his later years.

On completion of his apprenticeship he worked for a short time in Dumbarton as a journeyman. Thereafter, being anxious to see the world, he set out for Edinburgh, fortified with a certificate of character from the minister of the parish,

and a small supply of money from his father.

He had a struggle to get work in the Scottish metropolis, and at the outset had to content himself with such low wages that in his own words "he had often to count the lamp-posts for his supper." After some time he obtained a better situation from Mr Robert Stevenson, the eminent lighthouse engineer, and remained with him for a year or more.

There is a story told that a blunder in a first attempt to construct a boiler so mortified him that he terminated his connection with the east country; but, whether this be apocryphal or not, we find him in Glasgow, in 1814, working as a journeyman smith with Messrs William Lang & Sons, in the Old Wynd. With a view to further advancement he endeavoured to join the Incorporation of Hammermen, giving in as his "essay" a

screw bolt and nut ; but being unable for some reason to produce a burgess ticket, he was evidently not admitted.

His views at this period were modest, and he applied for a foreman's place with a firm in the country, but not succeeding in obtaining the situation, he returned to his native town and again worked with his father for a short time.

His uncle, John Napier, had gone to Glasgow in 1802, and young Robert resolved to follow his example, as there was more scope there than in Dumbarton. Having borrowed £50 from his father, he bought the tools and goodwill of a small smith's shop in Greyfriars Wynd, and there began business in May 1815. His rent did not exceed £20 per annum, and at first only two apprentices were employed.

His grandfather and father had been members of the Incorporation of Ham-



mermen, and his uncle had attained to the dignity of Deacon of the Society, so he again made an effort to join this body, and having overcome the difficulty of his burgess ticket, he was admitted. The entry in the register of the Hammermen reads thus: "25th August 1815, Robert Napier, Smith in Glasgow, a Freeman's son, made and gave in a Bored Hammer as his Essay, and showed his burgess ticket, which is dated 21st August 1815." This hammer passed out of his possession for many years; but he recovered it, and in his old age wrote the following account of its history:—

"This '*Essay*' *Hammer* was made by Robt. Napier in 1815, in presence of *Two* of the Master Court of the Corporation of Hammermen, Glasgow, being forged out of a piece of square bar of Iron and Steeled on both ends or faces of the Hammer at only *Three!* successive heats



in the fire. At this period every Blacksmith, before being admitted into the Corporation of Hammermen, was bound to prove that he was a good Tradesman."

It may be added that he was very proud of this "essay" hammer, and in 1868, at a gathering of several thousands of his employees, he displayed it as a proof of his early skill.

Little is known of his struggles in his first shop, but at length business success began to show itself, and he acquired such confidence in his prospects that he had a sign painted at the corner of the wynd, "Robert Napier, Engineer and Blacksmith."

He directed his attention to smith-work in general and the construction of Bramah presses, doing also a little millwright work, such as the making of cog-wheels, &c.

His cousin David, son of Robert Napier of Inveraray, had gone south to London

to push his fortune, and occasional letters passed, the London cousin sending to his Scottish relative particulars of Messrs Maudslay's presses, and other interesting information on mechanical topics, which he turned to advantage.

In little over two years' time Robert Napier had made a name for himself in Glasgow, and was chosen for the important office of Collector to the Hammermen, a position which he filled with such acceptance that he was subsequently elected Deacon of the Incorporation. He seems to have taken a deep interest in the affairs of the society, as the records show that he attended every meeting during his year of office. The formal meetings were held in the Trades' House; but at this time the ordinary business was transacted in the Swan and the Gardeners' taverns, where the Master Court regularly met.

In 1818 he married his cousin Isabella,

daughter of John Napier, and began housekeeping in Weaver Street, not far from his smithy.

His wife's family were in fairly affluent circumstances, and through his marriage he came into closer relationship with her brother, David Napier, who by this time had started a foundry at Camlachie, where he was making marine engines.

David had taken part in producing the machinery of the *Comet*, had tackled the problem of deep-sea navigation, and was now considered the most prominent man in the new marine engineering world. For the ensuing twenty years the careers of the two cousins were closely identified; and as Robert followed in David's footsteps, a short sketch of his life may be of interest.

## CHAPTER II.

DAVID NAPIER.

BIRTH — REMOVES TO GLASGOW — THE *COMET* — CAMLACHIE  
FOUNDRY — STARTS BELFAST TRADE — PURCHASES LANCE-  
FIELD—GOES TO LONDON—INVENTIONS—LATER YEARS.

DAVID NAPIER, son of John Napier, was born at Dumbarton on 10th November 1790, and was thus a few months older than his cousin.

At the time of his birth his father, who was the eldest of his family, worked in Dumbarton, but a few years later, in 1802, he removed to premises in Glasgow in the neighbourhood of Jamaica Street.

When he was five years of age David was sent to the public school at Dumbarton, where he received instruction

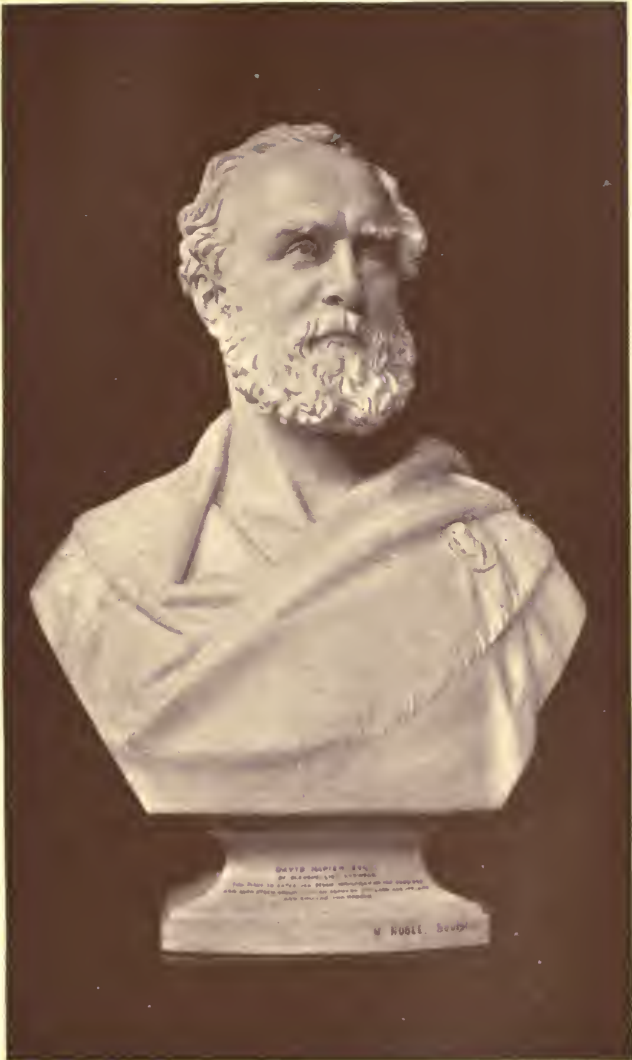
similar to his cousin Robert. Subsequently, on his removal to Glasgow, his education was continued, and he was taught drawing and mathematics by Mr Peter Nicholson, the well-known authority on architecture, who along with John Napier was one of the founders of the Royal Philosophical Society.

Though David never served a regular apprenticeship, he turned his hand to everything, and at the early age of twenty he was taking charge of his father's business. His father died when he was young, and the care of the foundry fell on him. Among his father's friends and customers—who were not very regular paymasters—was Mr Henry Bell, known at this time as a house builder. In this capacity he had been in the habit of visiting Napier's foundry in Howard Street, and when he resolved on his experiment with the *Comet* he gave Napier the order

for the boiler and castings required. David Napier was thus in the very forefront of steam navigation; and, grasping the fact of the future of steam-boats, he erected works at Camlachie Burn, in the east end of Glasgow, for the purpose of making small marine engines, which he supplied to the river steamers then building.

In those early days it was considered impossible to make ship's machinery capable of withstanding the shock of a heavy sea, and steam-boats did not venture outside the Cumbrae Heads in stormy weather.

Napier was familiar with the works of Bossut on the resistance of fluids; and after making some passages in the Belfast sailing-packets, he came to the conclusion that the full bow then considered necessary was not a form suitable for easy propulsion. He therefore boldly resolved to build a



DAVID NAPIER.





steamer for the Channel trade in conformity with his own ideas. His first step was to make a model proportional to the length, breadth, and depth he contemplated; and having erected a framework on the top of which was a drum for winding up a weight, he began making "tank experiments" in Camlachie burn. He continued fining the bow as long as there was any perceptible increase in speed, taking care to keep the weight of the block the same. Having at length in this manner determined the most suitable form, he handed the model to the builder, with instructions that the vessel was to be constructed in conformity therewith.

This steamer was called the *Rob Roy*, and despite all predictions of failure, she proved a great success. With her in 1818 he instituted regular steam communication between Greenock and Belfast, and afterwards sold her to the French Government,

who, changing her name to *Henri Quatre*, employed her for years in the Channel trade. He thus established over-sea communication; and the Blue-books of the House of Commons record the fact that the vessels built by David Napier were the first to demonstrate the practicability of navigating the open sea by steamer.

His reputation as a marine engineer brought him many orders, and for the extension of his business he was induced to purchase lands at Lancefield, in the west end of Glasgow, adjoining the Clyde. There he erected improved works, and also made a dock or wet basin; and having no further need of his Camlachie premises, he leased the foundry to his cousin Robert. For many years he was assisted by David Tod and John Macgregor, who acted as his managers, and who subsequently founded the well-known firm of Messrs Tod & Macgregor.

In 1826 he engined the celebrated vessel *United Kingdom*, the first of the so-called leviathans. She was 160 feet long +  $26\frac{1}{2}$  feet beam, with engines of 200 N.H.P., and was considered the wonder of her day. People flocked from all quarters to see her, the general public predicting that she would be too unwieldy at sea. She left the Clyde on 29th July 1826, with 150 passengers on board, and made the voyage to Leith round the north of Scotland in sixty-five hours.

David Napier's brain was of the most fertile character; and in addition to introducing many improvements into steamers, such as surface condensers, steeple engines, feathering paddles, twin screws, &c., he designed a rotary engine, a floating battery, a breech-loading gun, a steam carriage, and many other novelties.

While his ideas were good his work lacked the substantial qualities which dis-

tinguished that done by his cousin Robert, and the records of the Court of Session bear witness to numerous litigations in which perforce he was entangled. The solidity of Robert's work more than counterbalanced the brilliant design of that of his cousin, and gradually he came to have pre-eminence.

In 1835 a disastrous explosion occurred on one of his steamers, the *Earl Grey*. She was lying at Greenock, and was preparing to try conclusions with the celebrated *Clarence*, when her boilers burst, killing and injuring many. This accident affected his health, and in the end of the year David leased Lancefield House and works to his cousin and removed to London, where he afterwards engaged in business with his sons. He built some very fast iron steamers for the Margate traffic, which were considered "highly dangerous" boats. One of them, the *Eclipse*, became known

as "Spring-heeled Jack," and had the distinction of being immortalised in the 'Ingoldsby Legends.'

A few years later he retired, and his London yard was acquired by Mr Scott Russell in connection with the construction of the *Great Eastern*.

At the time of the Crimean War he designed a screw vessel which, in his opinion, would prove invulnerable, and yet have offensive powers capable of destroying anything afloat. She was similar to the *Monitor* which Ericsson subsequently built. The design showed no sides above water; a curved deck two feet thick, covered outside and inside with thick iron plates, was intended to serve the fourfold purpose of giving the vessel greater buoyancy, increasing the internal head-room, repelling shot, and elevating the aperture of the heavy gun with which he proposed to arm her. He offered to supply a breech-loading

gun, made of malleable iron, that would fire twice as quickly as any gun in the Navy, and also suggested that such a weapon, with an iron proof casemate, should be mounted on a steam carriage and worked on land. His suggestions, however, did not find favour with the Authorities, who declined his proposal without assigning any reason.

Another of the projects of his later years had reference to the purification of the Clyde. He submitted a plan for removing the sewage of Glasgow to the open sea by barges, and expressed his willingness to subscribe £500 to test it; but his scheme at that time was not considered, though subsequently in effect adopted.

In his younger days he had acquired a large tract of land at the head of the Holy Loch, where he built houses, and made roads on which he employed his steam carriage, which was the first conveyance

of the kind to carry passengers for hire. He also purchased a small estate at Glen-shellish, situated near the north end of Loch Eck, where he loved to stay in lonely solitude, thinking out and maturing many of his inspirations of genius.

After his retiral from business he lived chiefly at Worcester, from which place we find him writing to his cousin in 1864.

WORCESTER, *Jan.* 11, 1864.

DEAR COUSIN,— . . . I am glad to learn my sister is so much better than she was. The accounts were so alarming I received at one time, that I had a suit of black prepared, all ready for a start for Scotland if the next post had not brought intelligence that she was rather better. The probability now is that she will wear black for me instead. It is of very little consequence who goes first. One just goes a little before the other, and all are soon forgotten.—I am, dear Cousin, yours truly,

DAVID NAPIER.

ROBERT NAPIER, Esq.

I can still eat and drink pretty well, but cannot walk any distance without the fear of falling.



The end came a few years later, and he died in London in 1869, in the eightieth year of his age.

It has been said that, excepting his cousin Robert, no man contributed more to the success of steam navigation than David Napier of Glenshellish.



## CHAPTER III.

### CAMLACHIE.

LEASES CAMLACHIE FOUNDRY—ENGAGES DAVID ELDER—ORDER FOR *LEVEN'S* ENGINE—SUCCESS—BUILDS BELFAST STEAMERS—MEETS MAUDSLAY—WINS YACHT CLUB RACE—ACQUIRES VULCAN FOUNDRY.

IN 1821 Robert Napier entered into a lease of his cousin's premises at Camlachie, and removed his dwelling-place to Whitevale. The rent of the foundry was £300 a-year, including the use of tools; but as this sum was more than ten times what he had been paying for his old shop, and as there was considerable risk in the venture, he had the option of giving up the lease at the end of the first year. Though a great advance on what he had

hitherto been working with, the plant at Camlachie was of the most modest description. There were a few 10-inch and 12-inch lathes, a rude horizontal boring-mill, a vertical machine, and the necessary appliances for making castings; but even with these tools he succeeded in turning out first-class work.

One of his first steps was to fix upon a good works manager. In making this selection, he was most fortunate in securing the services of Mr David Elder, who continued with him for forty years. Mr Elder came from the east country, and was a very sterling upright man. He was a millwright to trade, and would turn out nothing but the most solid work, on which he put the most accurate finish. He was nearing forty years of age when Mr Napier engaged him, and a good deal of millwright work had previously passed through his hands.

Established in his new premises, Napier



*A. Brown.*

ROBERT NAPIER, 1830.



undertook a contract for large water-pipes for the City of Glasgow, which he executed satisfactorily. The first order for machinery came from Mr Boyack, of Dundee. It was for an engine of 12 H.P., to be used in driving a mill; and so well and substantially was this made that it was running at the date of Mr Napier's death, fully fifty years afterwards. Orders of a similar nature followed, and he also made numerous land engines. Robert Napier, however, perceiving that there was a great future in steam navigation, desired more especially to construct marine engines like those with which his cousin David had been so successful.

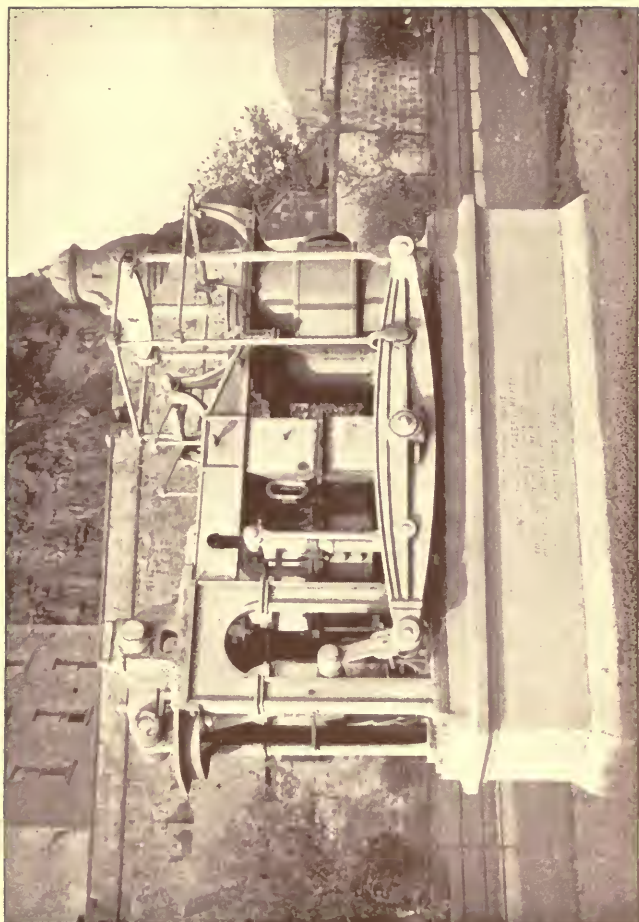
Failures were then more frequent than successes, and as he was an untried man as a marine engineer, he had great difficulty in attaining his wishes.

Through his Dumbarton connection he was acquainted with the Langs, and from

them he ultimately, in 1823, succeeded in getting an order for the engine of a luggage-boat they were about to build.

As so much hung on the satisfactory carrying out of this contract, he bestowed on his first marine engine his best skill and finish, introducing improvements on the condenser, air-pump, slide-valves, &c., and taking special care to have the framework strong and rigid. The *Leven* succeeded beyond his most sanguine hopes, and her engine, after lasting out three hulls, finally found a resting-place on a pedestal at Dumbarton Castle as a monument to the constructor.

This order was speedily followed by others, and he was now constantly employed as a marine engineer, constructing machinery for river boats and larger vessels, such as the Belfast steamers *Aimwell* and *St Andrew*, in the running of which he appears to have been interested.



ENGINE OF "LEVEN."





It may be noted that in the early days of steam navigation the builder was frequently the owner of the vessel, and it was generally owing to his initiation that new routes were started. Thus in 1818 David Napier began the Belfast trade with his steamer *Rob Roy*, and in 1826 Robert Napier made a further forward stride in the same trade with the *Eclipse*, which he in great part owned. At the time she was described as "the most complete vessel of her size ever built on the Clyde; in point of sailing unequalled by any vessel; built of the best British oak, copper-sheathed and fastened, with double side-lever engines, having cylinders 35 inches in diameter, warranted equal in construction and workmanship to the best engines made."

Being desirous of selling this vessel, and hearing that some of the London companies wanted crack steamers, he went

to London in the spring of 1827, and stayed with his Inveraray cousin, David Napier, who was then becoming known as a skilled mechanic, especially in connection with the invention of the rotary printing-presses, so much used in later years in the production of the 'Illustrated London News' and other papers.

Messrs Maudslay were then reckoned the most famous engineers in London, and being desirous of seeing their works, Napier approached them through his cousin, who had at one time been in their employment. He received a most gratifying reply to his request for permission to visit their premises:—

Mr Maudslay's respectful compliments to Mr Napier, and begs to say he always feels more gratification in meeting or seeing any gentleman who has a knowledge of the business he is engaged in than the thousands who go about taking up the time without gaining any information. . . . Mr

M. will therefore be glad to see Mr N. either on the receipt of this or at 4 o'clock, or to-morrow morning, Friday.

LAMBETH, *March 1, 1827.*

This letter was specially complimentary, as the London engineers did not then throw open their works readily for inspection.

He was at this time living quietly at 31 Whitevale, and there are few letters of general interest extant. There is, however, one from his friend Dr Chalmers, who had just resigned the charge of St John's in Glasgow, on his appointment to the Chair of Moral Philosophy in St Andrews University.

KIRKCALDY, *November 13, 1823.*

DEAR SIR,—Having had no time in Glasgow, I wish to thank you (now on my way to St Andrews) for the use that you so kindly allowed us of a child's coach, from which our little

daughter derived a great deal of enjoyment, and also of substantial benefit.

May I beg my most affectionate regards to Mrs Napier and your brother.

I should have called along with Mr Somerville upon you for the purpose of introducing him to your acquaintance. This I was not able to accomplish, but I hope that you will soon meet, and that he will prove a blessing in the highest sense of the word to your family.

It is my great wish that the chapel shall prove a blessing to your immediate neighbourhood.

Give my compliments when you see him to your cousin, David Napier, Esq.—I am, dear Sir,  
yours truly,

THOMAS CHALMERS.

The brother Dr Chalmers referred to was the Rev. Peter Napier, who was then assistant minister in the High Church, in Glasgow, from which in the following year he was presented to the church of St Georges-in-the-Fields, a charge then newly created. In later years Dr Napier became minister of the Blackfriars, or what was more commonly known as the



CLARENCE, 1827.



College Church of Glasgow, a position which he occupied till his death, which took place in 1865.

Robert Napier was now no longer an unknown engineer, and his reputation as the best engineer on the Clyde was established in 1827.

The Northern Yacht Club, at their regatta in August of that year, offered a cup, valued at twenty guineas, for the swiftest steam-boat. The course was from Rothesay Bay round boats moored at the north end of the Great Cumbrae, and back to Rothesay. Several steamers entered for the race. The contest was an exciting one, occupying nearly three hours, but in the end victory lay with Napier's steamers, the *Clarence* winning the cup, and the *Helensburgh* coming in a good second. This apparently trivial incident was one of the most important events in his life, and had a material bearing on his subsequent career.

Up to this point his life had been a laborious struggle to obtain a subsistence, and his position little more than that of an industrious master mechanic.

His success changed the situation. Orders, not only from Glasgow but from other quarters, flowed in on him, and he began to find himself in affluent circumstances.

He now entered into negotiations with his cousin for the purchase of Camlachie Works which he had hitherto leased ; and to meet the growing requirements of his business he resolved to obtain premises near the Clyde. A favourable opportunity presented itself of acquiring the works at the foot of Washington Street, where Mr M'Arthur had carried on business as a marine engineer, and he availed himself of it.



## CHAPTER IV.

ASSHETON SMITH.

RETIRES FROM ROYAL YACHT SQUADRON—SENDS FOR NAPIER—  
ORDERS *MENAI*—BUILDS *FIRE KING*—SPEED OF *FIRE QUEEN*  
—DISLIKES SCREW YACHT—INTIMACY WITH NAPIER.

THE steam-boat race at the Northern Regatta was a novelty, and it attracted the attention of a very noted yachtsman, Mr T. Assheton Smith of Tedworth. He was then about fifty years of age, and had been for a long time a prominent member of the Royal Yacht Squadron, during which period no fewer than five sailing yachts had been built for him. The idea of having a steam yacht suggested itself to him, and he made a proposition to admit such vessels into the Club. His views were not favour-

ably received ; and some of the members went so far as to insinuate that he intended building a steamer for business purposes. Mr Smith was naturally indignant, and resented the matter so much that he withdrew his name from the Club. Being a man of great influence and wealth, and of inflexible purpose, he determined to brave the opinion of the Royal Yacht Squadron by ordering a steam yacht for himself. Knowing Robert Napier by reputation, he wrote him a letter stating his requirements, and requesting him to come to his house at Penton near Andover. Mr Smith was quite a stranger to Napier, but he resolved to go and see him. On his journey he went first to Dublin, crossed back to Holyhead, drove down by Cheltenham to Bristol, and then proceeded to Andover. On their meeting, Mr Smith plunged at once *in medias res*, giving full details of his quarrel with the

Yacht Club, and explaining his proposed method of procedure, winding up with the not very reassuring remark that Mrs Smith (whom he had recently married) was very much against his building a steamer, and that Napier must overcome her objection. As he had never seen Mrs Smith, Napier demurred ; but Mr Smith would take no refusal. At this juncture dinner was announced, and he was introduced to the lady of the house. Napier had no want of tact, and made such a favourable impression on the lady that he was asked to come next morning to breakfast. At this second meeting Mr Smith gave him an order for a steam yacht costing over £20,000, and sent him on his way rejoicing. In addition to the order he also took with him something much more valuable, the lifelong goodwill and unbounded confidence of this powerful English gentleman. Such trust did Mr Smith place in his new

acquaintance that he never went to see the yacht during construction, but left everything to the builder till she was delivered at Bristol. The *Menai*, as she was called, was over 120 feet long and 20 feet beam, with double-side lever engines; and a model of her is still to be seen in the Glasgow Art Galleries. Her owner was so pleased with her that he continued to order new yachts from Napier till he was nearly eighty years of age, the following being the names of some of the yachts thus supplied:—

1830.	<i>Menai</i>	. . . .	Paddle.
1838.	<i>Glow-worm</i>	. . . .	Paddle.
1839.	<i>Fire King</i>	. . . .	Paddle.
1843.	<i>Water-Cure</i>	. . . .	Experimental Yacht.
1844.	No. 1 <i>Fire Queen</i>	. . . .	Paddle.
1845.	No. 2 <i>Fire Queen</i>	. . . .	Paddle.
1846.	No. 3 <i>Fire Queen</i>	. . . .	Screw.
1849.	<i>Jenny Lind</i>	. . . .	Paddle.
1851.	<i>Sea-Serpent</i>	. . . .	Paddle.

Mr Smith was a strong advocate of

hollow water-lines, and though Napier dissuaded him from them in the case of his first yacht, he insisted on them in the *Fire King*. She proved to be a very fast boat, but before her trial Mr Smith was so confident of her success that he made a public challenge in 'Bell's Life' to the effect that the vessel would run against any steamer then afloat from Dover Pier round Eddystone Lighthouse and back for 5000 guineas, or a still higher sum if required. Regarding the hollow lines, there was a somewhat heated controversy between Mr Smith and Mr Scott Russell, who claimed to be the discoverer of the "wave principle," for which he received a gold medal from the Royal Society of Edinburgh in 1838. Mr Smith, on the other hand, while not professing scientific knowledge, contended that he was the introducer of these lines, as he had adopted them in one of his sailing yachts built

more than ten years previously, and had constantly pressed their adoption on the builders of all his steam yachts.

His yacht following the *Fire King* he named the *Fire Queen*, out of loyalty to her late Majesty. One day, in reply to the Queen's query why he had adopted this name, he said: "May it please your Majesty, I had a yacht called the *Fire King* which was superior to any I had before; this is superior to that, and I call her the *Fire Queen*." One of these vessels was the fastest boat afloat, being able to steam nearly sixteen miles an hour. She had steeple engines with malleable iron framing, constructed from the designs of John Napier, Mr Napier's second son, and the Admiralty thought so much of her that they purchased her for a packet. Mr John Napier had the modern ideas of light machinery with large boiler power, but these were not favourably considered



*P. T. Outless.*

FIRE QUEEN, 1845.





by his father's manager, Mr Elder. At that time John Napier rarely got an opportunity of showing what could be done, but in 1846 he was prepared to build steamers to go twenty miles an hour if his plans were adopted, which they ultimately were in the case of the fast river steamer *Neptune*.

On the introduction of the screw propeller, Mr Smith tried it in the third *Fire Queen*, but he disliked it; and many letters he wrote to his friend Napier, saying that "if he could not build him a paddle boat he must always stay on shore, as he would never go to sea again in a screw."

Mr Smith was on intimate terms with the Duke of Wellington and other members of the aristocracy; and he was of much assistance to Napier in his subsequent dealings with the East India Company, the Admiralty, and foreign governments,

being always ready to give his name as security for him in the largest contracts.

When the Duke of Wellington was staying at Tedworth, Mr Smith communicated to him his ideas regarding small gunboats for coast defence. The conservative Duke was so impressed that he advised him to write his views to the First Lord of the Admiralty, which he did. Having had no acknowledgment, Mr Smith, meeting him one day, inquired if he had received his note, to which question that official replied in the affirmative, but added that the First Lord of the Admiralty could not pay attention to all the recommendations made to him. Upon this Mr Smith took off his hat, and, making a stately bow, remarked, "What his Grace, the Duke of Wellington, has considered worthy of attention, I think your Lordship might at least have deigned to notice." Within a few years his suggestion was adopted, and

a formidable fleet of vixen craft, many of them engined by his old friend Napier, did good service in Chinese waters.

Napier's relations with Mrs Smith were also most cordial. He never forgot how much had depended on his first interview with her, and in token of his appreciation of her kindness he presented her with a water-engine to blow the organ at Tedworth, similar to the one he had introduced at Shandon, a novelty with which she was greatly delighted.

He entertained for her husband the highest respect on account of his disinterested, kind, and upright conduct in all matters, and he gave expression to that esteem by adopting his motto, "Deeds, not words."

Mr Smith died in 1858, and a very interesting memoir of him, entitled 'A Famous Fox-hunter,' was written by his friend Sir John Eardley Wilmot.

## CHAPTER V.

### VULCAN FOUNDRY.

EQUIPS VULCAN FOUNDRY—FOUNDS STEAM-PACKET COMPANIES—  
CONTRACTS FOR *DUNDEE* AND *PERTH*—THEIR GREAT SUCCESS  
—LETTER TO MR DUNCAN—INTRODUCTION TO EAST INDIA  
COMPANY—BUILDS *BERENICE*—VOYAGE TO INDIA—BEATS  
*ATALANTA*—INTIMACY WITH MR MELVILL.

By the year 1830 Robert Napier was the most prominent marine engineer in Glasgow, and in order to meet the constant demands made on him for new steamers, he equipped the Vulcan Works with heavy tools suitable for making large engines.

In this matter he was ably advised by Mr Elder, who was far-seeing, and kept well in advance of the times. Almost no steam-boat line was now started with-



ROBERT NAPIER, 1833.



out consulting Napier, and he took an active part in forming new companies for running steamers. Among many such undertakings special mention may be made of the early steamers on the Belfast Trade, the Londonderry Company, which still exists (dating from 1816, and claiming to be the oldest Steam-ship Company in the world), and the City of Glasgow Steam-Packet Company, in which lay the kernel of the future Cunard Line.

We noticed in a former chapter that the first engine Napier made at Camlachie Foundry was for Mr Boyack of Dundee, and that it had given satisfaction.

In the summer of 1832 the Dundee, Perth, and London Shipping Company, with which Mr Boyack was connected, resolved to adopt steam vessels. Mr George Duncan, M.P., who took a prominent part in the affairs of the Company, consulted Napier on the project, and he

gave him a favourable opinion of its chances of success, basing his estimate on the results of the Liverpool boats with which he was connected. Plans and offers were asked from prominent engineers in London, Glasgow, Leith, Aberdeen, and Dundee. A committee was appointed to consider the tenders, and they unanimously came to the opinion that "the offer by Mr Robert Napier, engineer in Glasgow, to furnish two vessels of 604 tons burden and about 260 horse-power each, combined the greatest advantage to the Company, and that it would be decidedly for their interest to accept of it in preference to any of the other offers." They accordingly contracted with him to build and engine two vessels for the sum of £36,000 sterling. The Company required security for the implementing of the contract, and one of the cautioners was Mr David MacIver of Liverpool, who, hearing of the





VULCAN, 1834.



business, in a very handsome manner voluntarily offered to become security for his friend. Napier, in a letter written in 1835, mentions that he lost more money by this contract than by all the work he had done since he commenced business. Yet he spared neither trouble nor expense to make these boats the fastest and most splendid mercantile steamers afloat, implementing not merely the specification, but giving much more than the contract stipulated for. They were called the *Dundee* and *Perth*, and were considered very large steamers, their dimensions being 175 feet long and 28 feet beam. The hulls were built by Mr John Wood of Port Glasgow, who was then reckoned the best builder on the Clyde. During their construction they came under the notice of the French Government, who thought of acquiring them for their Toulon and Algiers service. The Dundee

Company expressed its willingness to part with them in consideration of a profit of £10,000 ; but in the end the negotiations fell through. When the steamers were completed they gave unqualified satisfaction, and the following is an excerpt from the minute of the meeting of the Directors of the Company held on 12th May 1834 :—

The meeting (now that the steam-ship *Perth*, the last of the two steam-ships contracted for with the Company by Mr Robert Napier of Glasgow, has been taken off his hands and arrived safe in the Tay) unanimously agreed that the Manager shall be instructed to convey to Mr Napier the expression of their entire satisfaction with respect to the honourable manner in which he has discharged his obligations to the Company for building, furnishing, and fitting-out these vessels, and of their opinion that in so far as they can judge with reference to the mould and strength of the hull, the power and finishing of the engines, and the comfort and the elegance of the cabins, he has in every respect equalled, and in many respects exceeded, the terms of the contract.

The success of the Dundee boats contributed to the establishment of Napier's general reputation more than any work he ever did. Plying to the Port of London, they came in for a severe ordeal of criticism, out of which they emerged triumphant and universally admired. Large numbers of people flocked to see them on account of the reported sumptuousness and finish of their cabins, and they became one of the sights of London. The cabins, indeed, were most luxurious, the panels in the saloons, which were painted by a rising artist, who afterwards became famous as Sir Horatio M'Culloch, being especially noteworthy.

The steamers ordered in 1832 were originally intended to begin the service in 1833, but owing to difficulties with workmen and other causes they were not ready in time for the summer season, and the *Dundee* did not make her maiden

voyage till April 1834. Mr Duncan, the Chairman of the Company, wrote to Mr Napier, who was also a shareholder, giving him the following particulars :—

DUNDEE, *Monday, 7th April 1834.*

MY DEAR SIR,—I have only time to quote to you part of our agent's letter received this morning :—

“I have great pleasure in saying the *Dundee* steamer is safely up this morning, Captain Wishart highly pleased with her operations. I give you copy from his log-book for your information, that you may judge of her speed.

Left Dundee,	12 minutes past 9,	2nd April.
Buoy of Tay,	5 minutes past 10.	
Bell Rock	not seen.	
St Abb's Head,	10 minutes before 2.	
Flambro' Head,	45 minutes past 2	A.M. Thursday.
Cromer,	45 minutes past 11.	
Yarmouth,	10 minutes past 2.	
Orfordness,	45 minutes past 4.	
Gunfleet Beacon,	48 minutes past 6,	brought up at 7.15.
Nore,	30 minutes past 6,	Friday morning.
Gravesend,	30 minutes past 8.	
Her moorings,	30 minutes past 10.	

“There was a head-wind all the way to Cromer. We consider she has made her voyage, fair steam-



DUNDEE, 1834.





ing, in thirty-eight hours. The 'Pool' was full, but she came through without touching so much as a barge. I had an opportunity of seeing the passengers as I met her at Gravesend, and all seemed delighted with their voyage and arrangements."

I have no time to say a word myself, only believe me, yours always,      GEORGE DUNCAN.

The Company ordered a third steamer, called the *London*, which was equally successful, and, as we shall see at a later stage, she was specially mentioned by Mr Cunard "as the description of vessel he required." Napier took the *Dundee* contract at a very low price, as it afforded him an opportunity of showing what he could do in the case of vessels steaming continuously for over twenty-four hours, and he took enormous trouble to ensure success.

Although much burdened with business, which he had to conduct single-handed, necessitating (among other labours) journeys to London and elsewhere, which in

those days were very tedious and exhausting, he was now finding time for a little leisure. In the end of 1833 he feued about eighteen acres of ground at Shandon, and here he built a modest cottage, where he proposed spending the summer months. It was only two or three hours' journey from Glasgow by river, and he was interested in the steam-boats which plied on the Gareloch. It took him some time to get his house ready, and there is a very interesting letter to Mr Duncan, with whom he had formed an intimate friendship, from which we will make a few extracts. It is dated Whitevale, Wednesday, 10 P.M., 15th May 1835 :—

“I should be very happy that your arrangements for going to London were such that we could meet there, as I propose going up to Liverpool with the new *City of Glasgow*, which starts next week



CITY OF GLASGOW, 1835.



on her first passage ; and from that I go to London to see Mr Smith about a new steamer he wants me to make nearly as large as the *Dundee*. I want also to see the India and Government people about their steamers. I have had different letters from them, and sent them three models. I learn £60,000 has been voted for two vessels, and I have been advised by my friends in London to go up. I should like to have a letter from you to Sir H. Parnell by way of introduction, and probably you will take the trouble of writing him before I go as to the object of my visiting London. . . .

“My cottage at Shandon is getting nearly ready for its inmates. The painter is papering and painting one or two of the rooms, and the woodwork of one of them I am varnishing instead of painting, the wood being so very clean that I thought it a pity to conceal it. . . .

“My business, as you are aware, is mostly confined at the Vulcan Foundry to the fitting up of engines and machinery for steam-packet companies, who, I may say, are in almost every case as good and secure as the Bank of England; and any other work I do in general is for people who are as good as the generality of banks. I am also connected with a coal-work, which till lately has certainly been a sinking fund; but no other losses that I am aware of have risen from it, but, on the contrary, within the last twelve months it has begun to pay a little of the sunk funds. I hold one-fourth of the Muirkirk Iron Works. This also has been a sinking fund but is now beginning to do some good, and in less than two months I hope to be able to inform you that it is not only doing some good, but much good, as by that time I fully expect we will have another large furnace in operation, and

the rolling mill for bars and boiler-plates also in play. I am interested in another work at Port Glasgow, &c., &c. . . .

“I have four new steamers at the Broomielaw finishing for public companies, and I have other two on the stocks, and the whole of these vessels are from 15 to 20 per cent higher priced than the *Dundee* and *Perth*.

“I certainly lost a good deal of money by your two vessels, owing to the *scandalous*, I had almost said *villainous*, conduct of the workmen, and the very low prices I had for your vessels.

“I have indeed always had plenty of ‘Sinking-Funds,’ and the last two years has not decreased them—viz., the improvements at Vulcan Foundry, in houses and machinery, and purchase of new ground there; Muirkirk Iron Works, Barrowfield Coal Works, the giving up of Camlachie Foundry to one of my brothers, purchase of

Shandon grounds, making do. and building cottages there, &c., but notwithstanding all these—call them what you please, *goods* or *evils*—I have hitherto (without entering any further into particulars) always had 20s. in the pound for all honest creditors, and a beefsteak and a bottle of wine over and above for all friends such as you ; and I trust the next time you manage to come west that you will fulfil your promise of domiciling with us at the coast eight days at least, and put us to the test. If we cannot offer you wine, we may probably collect a little mountain-dew for the benefit of your health ; and if we cannot manage that, there is some fine spring water not far off which may probably do you as much good as any of the former. At all events you shall have a share of whatever we can afford, and a hearty welcome, and I know that is all you want. Mrs N. fully expects you, but not till the good weather





*W. J. Huggins.*

ISABELLA NAPIER, 1835.



comes in. She probably may not go down till the school vacation in June. I hope to have a short respite about that time also, and should like above all things to spend a few days with you among the Highland hills. . . .

“I hope you will be able to make some sense out of this long letter, which has grown upon my hand. I have never said so much to any person before about the different businesses I am concerned with ; but from the friendly interest you have taken in writing me as you have done, I think it due to you to detail a little.—Yours most sincerely,

“ R. NAPIER.

“ *P.S.*—Do not forget Sir H. Parnell’s letter of introduction to me.”

This postscript was a most important injunction, and a few months later he

writes Mr Duncan informing him that he has got the yacht from Mr Smith, and also that he has succeeded in obtaining the contract for one of the two steamers the East India Company ordered. He adds: "What is more, they have given me my own way with the vessel, trusting to my honour in everything. The surveyor has been thrown overboard along with his specification, so that if we do not make a good vessel we will have ourselves to blame."

The India Company's vessel was called the *Berenice*, and she was the first ocean steamer Napier engined. While costing nearly £30,000, her dimensions were only slightly larger than those of the *Dundee*, which she resembled in many respects, being a paddle-boat with double side-lever engines, having three copper boilers worked at low pressure. She was also fitted with expansion valves, which gave very satis-

factory results. In one of his letters Napier says: "From the generous and kind manner in which Mr Peacock acted towards me in giving me a *carte blanche*, as it were, about the vessel, trusting to my honour to bear him out in the preference bestowed on me by building and finishing the vessel in the best style and with the best and most fitting material, so as to ensure to the Company a first-rate sea-going steamer of a good model, combining great strength and durability, for encountering and standing the strong navigation of the Indian and Red seas, and of carrying her cargo on a light draught of water and her guns on deck without being crank, it has been my anxious study to make the vessel in every respect such as would be creditable to Mr Peacock and profitable to the Company." The other vessel, called the *Atalanta*, was built in London, and

there was keen rivalry between the English and Scottish constructors.

The *Berenice* left for India in the spring of 1837, and Napier was much gratified at receiving the following letters from her commander, Captain Grant.

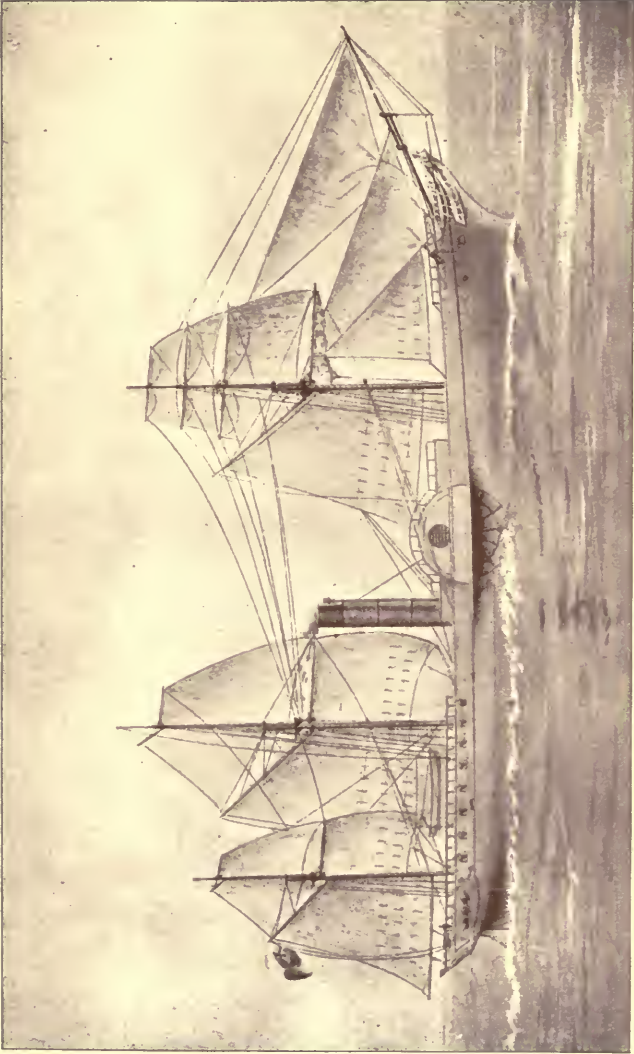
BOMBAY, 24th June 1837.

MY DEAR NAPIER,—This is a copy of my report to Government of our arrival in Bombay. I have no time to write more. I hope it will please you. Your noble ship has behaved well, and beat the *Atalanta* by eighteen days.—Yours sincerely,  
G. GRANT.

*Captain Grant's Report.*

Rear-Admiral Sir C. MALCOLM, Bt.,  
Superintendent Indian Navy.

SIR,—I have the honour to report the arrival of H.C. steam-ship *Berenice*, under my command from England, having left Falmouth on the 16th March at 11 P.M. and touched at Santa Cruz in Teneriffe, Mayo, one of the Cape de Verd Islands,



HON. E. I. CO.'S BERENICE, 1837.





Fernando Po, Table Bay, Cape of Good Hope, and Port Louis, Isle of France. At each of these ports we took in coal, and were detained altogether twenty-five days. We have been steaming sixty-three days, and run in that time upwards of 12,000 miles, having averaged eight miles per hour the whole voyage.

The following statement will show the distance run betwixt each port we touched at, the quantity of coal consumed, our greatest and least speed per hour, &c.

	Distance run.	Quantity of coal (in cwt.) used per hour.			Total number of tons.	Greatest speed per hour.	Least speed per hour.	Number of days steaming.	Number of days detained at each port.
		Greatest	Least	Average					
From Falmouth to Santa Cruz	Miles 1510	15½	12½	14½	128	Knots 10	Knots 6	7½	D. H. 1 16
From Santa Cruz to Mayo	896	20	15½	17¾	87	11	9½	D. H. 4 9	4 7
From Mayo to Fernando Po	2284	14½	11½	12½	190	9¾	6½	14 2	6 0
From Fernando Po to Table Bay	2269	14	11½	12	220	10	5½	14 3	6 18
From Table Bay to Port Louis	2488	20	14	17	313	10	6½	12 2	6 2
From Port Louis to Bombay	2612	15	11½	13	170	10	7½	13½	...

The greatest and most oppressive heat we felt during the voyage was soon after leaving Fernando

Po; the thermometer in the engine-room stood at 120 degrees, and in the coal-bunkers, where the men were working, it was at 136. Our greatest run in twenty-four hours was 252 miles. I have much pleasure in stating that the ship has performed her voyage in a most satisfactory manner. She is an excellent sea-boat, and carries her sail well in the worst of weather. We have not lost a spar with the exception of a jibboom since we left England, and the masts, yards, sails, and rigging are in good order. The engines and boilers, with everything connected with them, are in the most efficient state, and reflect great credit upon my chief engineer, Mr David M'Laren, who has proved himself to be a most excellent officer and engineer,—his attention to his duty, and the good order he has kept his men in, merits my warmest praise. The ship I consider to be at this moment in almost as efficient a state as when we left Falmouth, and perfectly capable of undertaking as long a voyage as that she has just now so satisfactorily finished.

The ship's log-book, with a copy of the steam-log, shall be sent to you as soon as they are completed. The latter has been kept by the purser and chief engineer, and the original was sent regularly to the Hon. the Court of Directors by their orders from each port we touched at. Mr

Spear, the purser, was originally engaged as 2nd officer of this ship, being well acquainted with steam; but in consequence of a defect of vision I was under the necessity of relieving him from that duty and appointing him purser, and to appoint Mr Bennett, the then purser, to be 2nd officer. Mr Spear has ably assisted at keeping the steam-log, and in all other respects performed his duty to my satisfaction. The ship expenses for fresh provisions, water, port charges, &c., amount to £217, 10s. 8d. since we left Falmouth.

Before concluding the report, I must beg leave to bring to your notice the very meritorious conduct of my surgeon, Mr Morrison, for his humane and kind attention to the sick, and having voluntarily given up his own cabin for their accommodation for nearly the whole voyage when I had no place fit for them.

Five boxes of the Hon. Company's despatches accompany this letter. They are directed to the Right Hon. the Governor in Council of Bombay. I beg to enclose a copy of our muster-roll, and have the honour to be, Sir, your most obedient humble servant,

G. GRANT, Captain I.N.,

Commanding the *Berenice*.

Steam-ship *Berenice*,

BOMBAY HARBOUR, 13th June 1837.

The success of the *Berenice* was one of Napier's first triumphs over his English rivals. It helped to dissipate the prejudice against Scottish engineers, and establish the reputation of the Clyde as an engineering centre. In proof of this it may be said that the connection then made with the East India Company and their successors lasted uninterruptedly till Mr Napier's death.

As a result of the satisfactory execution of this contract a most intimate friendship was established with the secretary, Mr James C. Melvill, who had unbounded influence in the direction of the Company's affairs, and, as we shall see, it was through his direct agency that Mr Cunard sought out Napier a few years later.

## CHAPTER VI.

### ADMIRALTY.

INTRODUCTION TO ADMIRALTY—TENDER FOR *VESUVIUS* AND *STROMBOLI*—CAPTAIN OMMANNEY'S REPORT—HOSTILITY TO SCOTCH ENGINES—PARLIAMENTARY RETURN—RESULT—LETTER ON BOILER QUESTION.

AFTER delivering the *Berenice* to the East India Company, Napier resolved to make an effort to obtain an order from the British Government. This was an extremely difficult matter to manage, as conservatism overruled all other considerations,—Messrs Watt, Maudslay, Seaward, and one or two others being considered by the Authorities as the only firms worthy of being entrusted with Admiralty engines. Napier, however, had now some powerful friends, and owing to his European reputa-

tion his claims could not be overlooked ; so in 1837 he was afforded an opportunity of tendering to the Government, but no business resulted at that time. His first successful tender was made in the spring of 1838, when he was asked to offer for one or two sets of side-lever engines of 280 N.H.P.

In view of present-day practice, the details of this offer are simple and interesting, and we reproduce them.

*Price*—£13,480 per set.

	Weight—tons.	
Engines	145	Cylinders, 61 inches.
Boilers	56	Stroke, 6 feet.
Water	36	Revolutions, 19.
Coal-boxes	20	Wheels, 27 feet.
Paddle-wheels	20	Boiler pressure, 5 lb.
	— 277	

The whole of the engines and machinery guaranteed to be equal to the best made in Britain, and finished to the entire satisfaction of the Lords Commissioners and their engineers.

This tender was accepted, and the engines were fitted in the *Vesuvius* and *Stromboli*, vessels which took a prominent part in the bombardment of Acre.

His influence must have been considerable and his credit good, as on the 5th July 1838 he received a letter saying, "The Lords Commissioners do not think it necessary to insist on your giving bond for fulfilling your engagement to provide the steam-engines you have contracted for."

Admiral Erasmus Ommanney was Captain of the *Vesuvius*, and after the vessel had been some years in commission he wrote as follows :—

H.M.S. *Vesuvius*, BEIROUT,  
February 1843.

DEAR MR NAPIER,—You will no doubt, and with very good reason, call me a shabby fellow for not writing you since I have had the pleasure of being carried so far by a pair of your incom-

parable engines; but I trust it will be a satisfaction to hear that they have done their duty well, and are now almost as efficient as when they left Glasgow. I am proud to think they have been no expense to Government for repairs since we have been on the station. . . .

The *Stromboli* is at Constantinople, where she has been lying some time with little work; but I believe she is still in perfect order about her engines. . . .

There has no vessel done her work equal to the *Vesuvius*; always been ready when wanted, never had a *screw loose*. . . .

Several of your old apprentices are out here. I send you a small calculation of what we have done since we have been employed the two first years.

In grateful recollection of kind attention to me. I hope yourself and family continue to enjoy health and prosperity, of which I shall be glad to hear if you have leisure.—Believe me, yours very truly,

ERASMUS OMMANNEY,  
Captain.

In the meantime there was a cessation of orders from the Government, probably from a desire to return to the old re-



strictive policy of limiting the field to English engineers. Napier, however, was not a man to be set aside lightly, and he had powerful friends. He was confident in the superlative excellence of his work, and, much to the annoyance of Sir W. Symonds, who was then Surveyor of the Navy, Mr Robert Gore moved in Parliament for a return of

the names of marine-engine makers with whom the Admiralty had made contracts for engines from the year 1839-1843 inclusive, with the amount of horse-power ordered from each of such engine-makers in each year; of the original cost of the engines of her Majesty's steam-vessels, *Alecto*, *Devastation*, *Geyzer*, *Cyclops*, *Prometheus*, *Polyphemus*, *Vesuvius*, and *Stromboli*, specifying any extra charge beyond contract price, and if such engines were fitted with an indicator; of repairs and the cost of such repairs, and the number of days and hours any of said vessels were incapable of performing their work in consequence of such repairs, and of the names of the makers of each of the said vessels.

This return was granted, and a synopsis of it is given in the following table :—

	SEAWARD.					MAUDSLAY.	NAPIER.	
	Alecto.	Gyzer.	Cyclops.	Prometheus.	Polyphemus.	Devastation.	Vesuvius.	Stromboli.
N.H.P.	200	273	320	192	200	420	295	280
Days under repair	393	50	164	353	162	92	38	51
Days in commission	1,173	273	912	1,095	639	486	912	942
Days in 1000 under repair	335	183	180	320	253	189	42	54
Cost of repairs	£1,158	89	800	1,012	240	250	38	68
Cost of engines	£10,997	14,373	23,009	11,015	10,914	19,331	13,880	13,480
Expense of repairs for every £10,000 of first cost	£1,053	62	347	918	220	129	27	50
Cost of repairs	£1,158	89	800	1,012	240	250	38	68
Time in commission	1,173	273	912	1,095	639	486	912	942
Expense of repairs per day during commission	19/8 $\frac{3}{4}$	6/6 $\frac{1}{4}$	17/6 $\frac{1}{2}$	18/5 $\frac{3}{4}$	7/6	10/3 $\frac{3}{4}$	0/10	1/5 $\frac{1}{4}$

As the table sets forth, Napier's engines were shown to cost the nation at first less money than those made by the English contractors, and also to compare most

favourably with them in the amounts spent on repairs. As a result, from that time forward he became one of the most trusted of the Admiralty's contractors and advisers.

One of the first requests they made to him was for advice on the Boiler question, which seems, even at that early date, to have been troubling the official mind. As his reply is instructive, we give a long extract from his letter.

“GLASGOW, 5th March 1844.

“*To the Secretary of the Admiralty.*

“SIR,—In complying with the request of my Lords Commissioners of the Admiralty, as contained in Sir John Burrow's letter of the 8th February, regarding tubular boilers, &c., I have been led, by the consideration of the subject, to take a more general view of steam machinery and vessels than I had at first intended, and have now the honour of submitting to my

Lords the following statement received from James Napier (*i.e.*, his brother), giving his experience in the construction and use of Patent Tubular Boilers in steam vessels from the year 1831, together with my views of boilers and machinery for steamers.

In 1831 I constructed boilers for the *Aimwell* steamer, having tubes 4 inches in diameter and 8 feet long; in 1832, boilers for the *Duke of Lancaster*, having tubes 5 inches diameter and 9 feet long; in 1833, boilers for the *Royal William*, from Leith to London, with tubes 7 inches diameter and 14 feet long; and subsequently boilers for the *Royal Adelaide* and *Royal Victoria*, also from Leith to London, with tubes 8 inches diameter and 16 feet long; in 1840, the *Bonnie Dundee*, with tubes 11 inches diameter and 14 feet long,—all of which gave entire satisfaction. From the above examples, and a number of others, it was found that from 4 to 6 feet of communicating surface in tubular boilers was as effective as 8 or 10 feet in common boilers, and that in all tubular boilers it required great attention to be paid to have ample area for draft. . . .

I have in general found it advisable to have tubes of larger diameter in order to ensure a good

draft and proper combustion rather than tubes of a smaller diameter with the same area, although the latter might contain more heating surface, and this more especially for vessels intended for long voyages or for general service where bituminous coal, giving out a good deal of smoke, must frequently be used. . . . It has been found by experience that the quantity of heat communicated to the water is fully three times more in the fire-box than in the tubes, the surfaces in both being equal. This, in my opinion, does not arise solely from the greater intensity of heat in the fire-box, but also from the heat resting on, or passing along, the surface of the fire-box with a lower velocity than in the tubes, which confirms what I have advanced in regard to the advantage of large tubes in preference to very small ones.

Subjoined are dimensions of tubes which I would consider suitable for vessels having a medium length allowed in the engine-room for boilers:—

- 3-inch tubes, 7 feet long for 150 horse-power.
- 4-inch tubes, 8 feet long for 200 horse-power.
- 5-inch tubes, 9 feet long for 250 horse-power.
- 6-inch tubes, 10 feet long for 300 horse-power.
- 7-inch tubes, 11 feet long for 380 horse-power.
- 8-inch tubes, 12 feet long for 400 horse-power.

JAMES NAPIER.

“Although it may be held as an axiom that the greatest amount of power with the least weight carried and the smallest space occupied by machinery are beneficial for a vessel, this, when applied to boilers and machinery, may nevertheless in practice be carried to an extent that would be highly improper and injurious.

“For example, tubular boilers, if constructed to contain only a very small quantity of water with a very large amount of heating surface and a very small area of ebullition and separation, are unfit for giving out heat in a regular steady manner, and of being maintained in a proper state under the most skilful and careful arrangement, but will on the contrary vary sensibly with every increase or diminution of the intensity of the fires. . . .

“The injurious effect is even greater, in my opinion, in regard to steam-engines when concentrated in the smallest space

with the least quantity and weight of materials. . . . Whenever machinery is carried to the extreme of lightness in its proportion as compared to power, and the different parts so crowded and concentrated together, its efficiency and durability can hardly fail of being impaired, even when the very best quality of materials, combined with the greatest care, skill, and attention, are employed in construction. . . .

“From the experience I have had for many years in constructing and fitting out steamers of all kinds for war and mercantile purposes, and the many opportunities I have had in the course of business of seeing and examining almost every variety of steamer, and of learning the great exertions that other countries have been and are making for ascertaining the best forms and proportions for vessels and engines for the purpose of establishing steam navies with the view of competing with that of this



country, I trust my Lords will pardon the liberty I take in making a few observations and suggestions relative to this subject.

“I am aware that many experienced officers and others connected with the Navy are of the opinion that steam-vessels for the purposes of war and ocean navigation should have the length only equal to about five times the breadth of beam. In so far as the strength of ships is concerned these short proportions may be quite unobjectionable, but before any vessel can be entitled to be called a good *steamer* she ought not merely to be strong, but in every other respect to be completely suited and adapted for the particular service on which she is to be employed. . . .

“My decided opinion is that steamers for war and general service navigating the ocean should never be less in length than six times the breadth of their midship section unless some special purpose de-



mands another proportion. . . .—I have the honour to be, Sir, your most humble obedient servant, R. NAPIER.”

In those days the Admiralty were by no means pioneers, and it was only after the difficulties connected with experimenting had been successfully overcome in the mercantile marine that what were no longer novelties were adopted. A very different state of matters now prevails at Whitehall, where the opposite course is followed, and costly experiments are occasionally resorted to, often with disastrous results.

## CHAPTER VII.

### LANCEFIELD HOUSE.

ACQUISITION OF LANCEFIELD—DEFEATS CLYDE TRUSTEES—JAMES  
NAPIER—JOHN WOOD—FOUNDING OF JOHN REID & CO.—  
CONNECTION WITH MUIRKIRK IRON WORKS—LETTER FROM  
LORD GEORGE BENTINCK.

It has been previously mentioned that there existed an intimate connection between Robert and his cousin, David Napier, from whom he had acquired the Camlachie Foundry. Robert was now carrying on an extensive business in the Vulcan Works, but finding them too small to overtake the contracts offered him, he again approached his cousin in a characteristic letter.

“WHITEVALE, *7th Nov.* 1835, 8 P.M.

“DEAR COUSIN,—I once heard you say that you would either let or sell your

premises at Lancefield. Are you so disposed still? If so, the rent for the whole, or the lowest price for the whole, and the terms of payment? At present I could not venture to withdraw cash from my business to pay you cash, but I would pay part.—I am, yours sincerely,

“R. NAPIER.”

David seemed desirous of leaving Glasgow, and the negotiations thus abruptly entered on were concluded at once, as the following letter shows:—

LANCEFIELD, 11th Nov. 1835.

DEAR COUSIN,—I hereby become bound to let to you for twelve years from Whitsunday next, the whole heritable property belonging to me at Lancefield for £500 a-year, payable in equal instalments at Martinmas and Whitsunday, you having a right to purchase it within the first seven years of the lease on paying £20,000. If a sale takes place, £5000 to be paid down in cash, and the remainder in equal

instalments, including interest; and during the other five years of the lease I shall not be at liberty to sell it without first offering it to you. During the course of the lease you pay all public burdens.—I am, dear Cousin,

DAVID NAPIER.

On completion of the agreement, Robert at once removed his residence from Whitevale to Lancefield House, and it may be noted in passing that he exercised his right of purchase within the stipulated time, and became proprietor in 1841. The Lancefield property included a tidal basin; and in after years the Clyde Trustees, in a very hectoring and bullying manner, endeavoured to take this away, even threatening force, to which threat Napier rejoined that he would repel force by force. They then engaged in litigation, and the upshot of the matter was that Napier succeeded in thoroughly defeating them, getting a special Act of Parliament, by which



LANCEFIELD DOCK, 1850.



he remained undisputed master of his dock.

In the closing years of his life it was purchased by the Trustees at a very large price. In fact, he got twice as much for the dock as he paid for the whole Lancefield property.

About this time he entered into a new agreement with his manager, Mr Elder, for a period of seven years. His salary was to be £250 per annum, and 7s. 6d. for each Nominal Horse-Power his employer contracted for, which bonus came to a large sum. There was an unusual clause introduced into the contract—viz., that Elder was to have the right of making plans for his own private use. When this engagement expired it was renewed for other five years, and Napier, in an interesting postscript to a letter written in November 1842 to his friend Mr Moncrieff, says: “You will perceive Mr Elder and

I have arranged, in the spirit of true friendship, for another lease of each other's services for five years, if we are spared together so long. If all is right with both of us, it should nearly, I think, terminate the laborious and active part of our lives." His prognostications, however, were so far from being fulfilled that he continued actively engaged in business for nearly thirty-five years after this date.

In those days it was customary to have engagements extending over a period of years with leading hands and foremen. Thus in 1828 Mr Napier had brought James Thomson from Manchester to act as leading smith, finisher, and turner for a period of years. He was to receive the sum of £10 to defray the expense of conveying his family from Manchester to Glasgow, and a wage of 36s. per week, to be paid fortnightly; and a formal stamped document was drawn out embodying this



agreement. A new engagement was entered into on 8th June 1838, reading thus :—

It is hereby agreed between James Thomson and Robert Napier that the said James Thomson shall give the whole of his personal services for the term of five years from and after this date. On the other hand, Robert Napier to pay the said James Thomson a yearly salary of £120 sterling, with a bonus of £5 for every pair of engines that are finished and set agoing from the Works of Vulcan and Lancefield Foundries, commencing with the following engines: The *Victoria's*, *Fire King's*, *Glow-worm's*, Aberdeen and Arran Company's engines; these bonuses to be paid at the end of each year for all engines set agoing and finished during the preceding year; and we agree to put this on stamp paper.

Witness R. NAPIER.

" JAMES THOMSON.

About the same time he engaged George, brother of James Thomson, as foreman of Lancefield Works on somewhat similar

terms. James Thomson by-and-by acquired some capital, and in 1847 he left Mr Napier's employment, and, along with his brother, founded the firm of Messrs James & George Thomson, known afterwards as the Clydebank Shipbuilding Company. Messrs Thomson removed their works from Glasgow to Clydebank about 1870, and the firm has now become incorporated with the Coal, Steel, and Armour-plate Company of John Brown & Co., Sheffield and Clydebank.

Although helped by able foremen, many of whom afterwards struck out for themselves, the business depended largely on Napier's own personal exertions; and as he was often called away, his affairs were very apt to get into confusion. His wife's cousin, Mr John M'Intyre (whose son, Mr James M'Intyre, one of the founders of the firm of Napier & M'Intyre, was also at Vulcan Foundry), had acted as his factotum

for many years. His death, which took place in 1840, left his employer in a dilemma, as he had no person in his establishment whom in his absence he could absolutely trust with the management of affairs.

In this extremity he turned to his brother James, who was then in partnership with his cousin William, under the style of "James & William Napier." This firm owned the Swallow Foundry in Washington Street, and had a good reputation as engineers and boiler-makers. James Napier was the inventor of the tubular boiler, for which he took out a patent in 1830, and in the same year introduced it successfully into steam-vessels. At first the introduction was attended with no small difficulty, and, to use the inventor's own words, "his firm had to contend with ignorant and interested prejudices, and to give guarantees of security, and sub-

mit to penalties and responsibilities in their contracts for these boilers which no other engineer in the regular course of his business would ever submit to." He was a great authority on boilers, and his report submitted to the Admiralty has already been referred to.

A patent for a steam-carriage was taken out by him in conjunction with his Inveraray cousin, Mr David Napier of London, grandfather of the present well-known maker of motor-cars. At that time, however, the difficulty of constructing a light and satisfactory boiler was insurmountable, and the carriage was not a success.

It may also be mentioned that James and William Napier were among the first to build steamers of iron, a material then only beginning to be used for shipbuilding.

No great inducement was offered to James to give up his own business, where he had overcome the initial difficulties, and



J. F. Waddington, L<sup>td</sup>

James Napier



in which he had good prospect of success ; but being very loyal to his eldest brother, who had a personal ascendancy over all the members of his family, he was persuaded to dissolve partnership with his cousin and come to Vulcan Foundry to take charge of Robert's commercial affairs. The oversight of financial concerns was hardly his *rôle*, as his bent was mechanical ; and though overshadowed by his brother, he was perhaps the more able engineer of the two.

While he endeavoured to confine himself to general business, his engineering instincts occasionally asserted themselves. Thus at the time when the side-levers in some of the Cunard vessels cracked, and Elder, the manager, attributed the cause to defective iron, suggesting as the only remedy that these ponderous pieces should be made entirely of brass, thereby making the cost of this type of engine prohibitive, James Napier pointed out that the fault

lay in bad design, due allowance not having been made for expansion. He predicted further failures, which actually took place, and in the end his suggestions for remedying the defects were adopted.

At a later date, when in London, viewing the *Great Eastern* while she was on the stocks, he gave an opinion that the launch would not be successful, as he personally had experienced trouble with launching vessels broadside. The secretary of the company, who did not happen to know him, derided his remarks as the views of an ignorant man, and he was somewhat surprised at Mr Napier's acquaintance with Mr Scott Russell when the latter cordially welcomed him. As is well known the launch was unsuccessful, trouble arising exactly in the way Napier had anticipated. While regretting the accident, he could not forget the secretary's incivility, and the paragraph announcing it was promptly cut



out of the newspaper and sent him, with the grim remark, "From Mr James Napier, the result of his experience."

James Napier's connection with his brother's business lasted from 1841 till a short time before his death, which took place in 1873. During this period he kept a sharp control over the financial arrangements, and there is no doubt that his brother was much indebted to him for the supervision of his commercial affairs, which were left entirely in his hands. He was a fearless man, of sterling upright character, a great favourite with all, and familiarly known by the workmen and others as "Uncle James."

Outside of his immediate establishment the person with whom Mr Napier came into closest business connection was his much esteemed friend Mr Wood, who built the hulls of most of the wooden steamers which he engined. John Wood was born

in 1788, and learnt the elements of his profession from his father, who was a ship-builder in Port-Glasgow. With a view to acquiring the best knowledge of his trade he went to Lancaster, then a shipbuilding centre, and served under a Mr Brocklebank for two years. There was an interesting parallel between his early days and those of David Napier, as, owing to his father's death in 1811, he had to undertake the task of constructing the *Comet*, which his father had contracted to build. He subsequently built a great number of river-steamers engined by David Napier, and afterwards steamers for deep-sea navigation engined by Robert Napier, the largest of these being the Cunard steamer *Europa*.

Mr Wood, while possessing the most eminent attainments, was of a very modest and retiring disposition. He was the most celebrated builder of wooden ships of his time, his vessels being specially strong,



*W. Clark,*

R.M.S. EUROPA.



and having a reputation for beauty and symmetry of form. Mr Napier was so satisfied with his work that he wished him to construct all the first steamers Mr Cunard ordered ; but he would only undertake one, the *Acadia*. Writing to Mr Wood in 1841, he says : “I have uniformly in England and Scotland held you and your work up as a pattern of all that was excellent, and I have never yet had it proved to me that I was mistaken.”

Mr Napier's only sister was married to Mr Archibald Reid, and on his death in 1837 his business was taken up by Mr Wood, Mr Napier, Mr M'Intyre, and Mr John Reid, who carried it on under the style of Messrs John Reid & Co.

With the advent of iron shipbuilding Mr Wood's trade was gone, and he practically retired, his business being merged in Messrs Reid's firm. In his latter years he resided at Port-Glasgow, where he

died in 1860 in the seventy-third year of his age.

One of the few enterprises outside his own business with which Robert Napier was connected was the Muirkirk Iron Company, which he joined in 1834, Mr Ewing of Strathleven being then the chief proprietor of the works.

Lord George Bentinck was manorial lord of the Muirkirk estate, and being on intimate terms with Mr Assheton Smith, he took a special interest in his friend's acquisition of shares in the Company, and wrote him several letters on the subject. His views on the purchase were expressed in the following letter :—

HARCOURT HOUSE, *March 5, 1834.*

SIR,—I have to apologise to you for not having sooner acknowledged the honour of your last letter. The fact is I have been so much engaged with the business of Parliament and of my constituents that I really have had no time to attend to my own.

Since I received your letter I have spoken with Mr Ewing, who agrees to postpone all further discussion of the subject till we can all meet in town at the end of April or beginning of May.

I hear from Kilmarnock that you and Mr Hamilton have met, and that you have absolutely purchased Mr Yuill's share for a price equivalent to £11,500 for the whole. I sincerely trust you may not find that you have paid too dearly. My valuer estimated the materials of the work at £6812, 18s. 2d., and the Company's estimate did not exceed £7089, 16s. 2d. The stone, mortar, brick, and wood-work of course are worth nothing to sell, whatever they may have cost in the original erection. Of course, therefore, had the works been abandoned, £7089, 16s. 2d. would have been the outside price that the Company could have obtained for the works; and it is therefore all that you should have paid for them. It is true that when I stated this to Mr Ewing that gentleman threw out a hint that he would batter down the walls with a park of artillery rather than sell them standing for the breaking-up price; but I need not say that he must have been in joke and could not have been in earnest, for considering the fatal effects of such a course of conduct upon the existence of his old servants the

Company's workmen, he must have been worse than an African savage or a Muscovite barbarian,—in fact, he must have been a devil incarnate to have entertained seriously for one moment so monstrous a thought. But Mr Ewing is proverbially a warm-hearted man, with a polished mind, and of course, therefore, as I said before, he was merely in joke.

Now in reference to my mention to you in a former letter that Mr Ewing had represented the profits of the Muirkirk Iron Works to have been in two separate years once £17,000 and the other time £30,000, you will recollect that *I did not guarantee the fact*, I only guaranteed *the statement by Mr Ewing* of such being the fact. With respect to the fact itself, of course, as I was not at that time manorial lord of those works, I could of my own knowledge know nothing. And it is fair to say that I am inclined to be of opinion that Mr Ewing is apt to think his geese swans, and especially on that particular occasion when, in trying to persuade me to give £20,000 for the works to the real intrinsic and *bona fide* value of which I have above referred, I really do believe he talked and wrote *not me* but *himself* into believing that the whole concern had been much



more profitable, and was altogether a much finer thing than the reality could warrant.

I have troubled you at too great length, and in having done so I beg to apologise, whilst I have the honour to remain, Sir, your obedt. humble servant,

G. BENTINCK.

To R. NAPIER, Esq.

Napier's connection with Muirkirk extended over a period of ten years, during which time he acted as the Company's engineer. He gave great attention to the business, and made frequent journeys to the works, which were managed by his friend Mr Carswell, through whom he had been induced to join the enterprise.

Lord George Bentinck was a shrewd man, and his views regarding Muirkirk were in the main correct. The business was far from lucrative, and on the expiry of the contract of copartnery Napier was glad to terminate his connection with it.

## CHAPTER VIII.

### ATLANTIC NAVIGATION.

EARLY ATTEMPTS—LETTER TO MR PATRICK WALLACE—PROPOSAL FALLS THROUGH—INCEPTION OF BRITISH AND AMERICAN COMPANY—ENGINES *BRITISH QUEEN*—RESULTS—FAILURE OF COMPANY.

It is now incumbent on us to show the part that Robert Napier took in the inception of Atlantic steam navigation. Hitherto what he had undertaken to do had been successfully accomplished, and his work had been characterised by great thoroughness; but at the same time it must be remembered that nearly all the vessels had been built for short-distance runs in comparatively quiet waters.

When he undertook the contract for the Dundee boats he said he had a purpose in

view, and there can be little doubt that this object was to build an Atlantic steamer.

Between Britain and America there was at this time a regular and increasing trade conducted by sailing-packets.

In 1819 the *Savannah*, a small sailing-ship of 350 tons, with auxiliary paddles, came across from America to this country partly under steam, but chiefly under sail. Her performance, however, was considered so unsatisfactory that her engines were taken out in the following year, and up to the end of 1832 no further attempt was made to cross by steam.

In August 1833 the *Royal William* steamed over from Quebec, but prior to this date the subject of trans-Atlantic navigation had been fully dealt with by Napier.

In the beginning of 1833 he was consulted by Mr Patrick Wallace of London regarding a regular service of steam-vessels betwixt Liverpool and New York, and

his reply, dated 3rd April of that year, is subjoined. The letter is a long one, but we reproduce it in its entirety as showing how carefully Napier had studied the problem in all its bearings, and what a clear conception he had of the whole situation, of the requirements of the trade, and the size, speed, and strength of the vessels necessary for success. This forecast is all the more remarkable, as he had nothing to guide him, and the opinions of professed experts such as Dr Dionysius Lardner were not encouraging.

“VULCAN FOUNDRY, GLASGOW,  
3rd April 1833.

“DEAR SIR,—I am sorry that it has been out of my power to write you sooner. I now send you my opinion, with some remarks about the proposed speculation for establishing steam-vessels betwixt Liverpool and New York, with an estimate of the probable cost of fitting out and sailing these vessels. Before going into details,

I may mention that I have endeavoured to state everything as fairly and candidly as possible, so as not to mislead you or your friends, and have rather overestimated the cost and expense than otherwise. The amount of revenue, I am aware, can only be an approximation to the truth, for in all new undertakings of any magnitude many things occur that cannot be foreseen ; but judging from what has taken place in other stations where steam-vessels have been introduced, it is reasonable to calculate upon a *very great increase* of revenue in a short time. But in an undertaking of such magnitude as the one proposed, it is of the greatest importance that the whole be reviewed in a broad and liberal manner at the outset, and everything that can be brought to bear either for or against the interest of the speculation, fairly weighed and balanced before anything is decided upon. If your friends are in earnest about entering upon

the speculation, they should make up their minds to meet with strong opposition and other difficulties for a short time. But if they enter upon it with a determination to meet opposition and difficulties spiritedly, and to overcome them, then I have not the smallest doubt upon my own mind but that in a very short time it will be one of the best and most lucrative businesses in the country, provided always that the Company set out right at first by having first-class vessels fully suited for the trade in every department. I am aware that in getting up the first of these vessels great care and attention will be necessary to gain the different objects in view, and in doing this an extra expense may be incurred, but which may be avoided in all the other vessels. If the practical difficulties, &c., are fairly surmounted in the first vessels,—and which I have no doubt but they may,—the first

cost and sailing expenses of the two first vessels ought not so much to be taken into account. In fact, I consider it as nothing compared with having them so efficient as to set all opposition at defiance, and to give entire confidence to the public in all their arrangements and appointments, cost what it may at first; for upon this depends entirely the success, nay, the very existence, of the Company.

“I wish it therefore to be impressed upon the minds of your friends the great necessity of using every precaution that can be thought of to guard against accidents on such a long passage, and if accidents should happen, to be prepared with a remedy to meet any common one that may occur, as far as possible. By attending to this you will give confidence to the public and comfort to yourselves, and in the end I am certain it will more than repay you.



“The plan I would propose with regard to the whole of the engineer department is: I would endeavour to get a very respectable man, and one thoroughly conversant with his business as an engineer; I would appoint this man to be master engineer, his duty to superintend and direct all the men and operations about the engines and boilers, &c., to be accountable to the captain for his conduct—viz., to be under the captain. All the other men for working the engines should be regular bred tradesmen, and all the firemen boiler-makers. A workshop, with a complete set of tools and duplicates of all the parts of the engines that are most likely to go wrong, should be on board. In a word, I would have everything connected with the machinery *very strong* and of the best materials, it being of the utmost importance to give confidence at first, for should the slightest accident happen so as to prevent the vessel making her passage



by steam, it would be magnified by the opposition, and thus, for a time at least, mar the progress of the Company. But if, on the other hand, the steam-vessels are successful in making a few quick trips at first, and beating the sailing vessels very decidedly, then you may consider the battle won and the field your own.

“With regard to the size of the vessels, I am decidedly of opinion they should not be less than 800 tons,—probably more,—and propelled by two engines of not less than 150 horse-power each, or 300 in whole, so as to ensure good passages in almost any kind of weather. The model of the vessels should be such as is best adapted for great speed, and carrying a large cargo on a moderate draught of water ; but upon no account should the model be sacrificed for the sake of cargo, for the future success of the Company depends in having *fast* sailing steamers as well as good ones.

“In the estimate I have made of the probable cost of such vessels as will suit your purpose, I have thought it prudent to make a considerable allowance for extras to the two first vessels—viz., I have considered the vessels completely ready for sea, with everything on board necessary for the vessel and machinery—viz., sails, rigging, anchors, cables, cabin furniture complete, engines and machinery duplicates, tools, iron tanks for coals, and water to trim the vessel. In a word, everything complete for the passage.

“From an official document I have, I find that the number of passengers that have left the Clyde for two years is as under :

For New York—

In the year 1831, 1336 passengers ; and

In the year 1832, 1672 passengers.

For the British Colonies in N. America—

In the year 1831, 3062 passengers ;

In the year 1832, 3273 passengers.

To the above may be added all that leave this country for debt, &c. From the North of Ireland—viz., Belfast and Londonderry—a very great number of passengers go annually to the States and Colonies. A great proportion of them could not afford to go by steam; still there would be a number that would go.

“I have mislaid the document I had for the average number of passengers that regularly sail from Liverpool every week. I am, however, in daily expectation of a correct list of the number of the ships, which, if I think of any use to you, I will send it. You no doubt are aware that the best time for passengers is the spring and fall of the year. One of the Packet’s ships last fall had £1800 of passage-money *from* New York. The two last ships that sailed from Liverpool had about £1000 each of passage-money. Cabin fare, 35 guineas to New York and 30 to Liverpool; fine

goods, 1s. per foot. A Packet ship leaves Liverpool every week. Besides the regular Packet ships, about 170 vessels averaging 400 tons each have left Liverpool for New York from the 1st March 1832 to the 1st March 1833, and in the same time about 90 vessels about the same burden have left Liverpool for New Orleans, making a total of 260 ships from Liverpool, which all carry more or less passengers, a number of whom I have no doubt would go by steam were it once fairly established.

Supposed cost of a first-class steam-ship complete and ready for sea, with everything on board, 800 tons and 300 horse-power—£34,000.

Sinking fund, at 10 years' purchase	. £3,400	0	0	
Insurance (supposed)	. . . . .	3,400	0	0
Coals for 6 passages from Liverpool, supposing the distance 3168 miles at 6 miles per hour=22 days' passage, consumption of coal per horse 25 cwt.=660 tons for the 22 days, and say 6 trips from Liverpool per annum, $660 \times 6 =$				
3960 tons at 8s. . . . .		1,584	0	0

Coals for 6 passages from New York, supposing the passage 16 days 14 hours = 8 miles per hour, say consumpt of coal 500 tons $\times$ 6 = 3000 at 20s. . .	£3,000 0 0
Keeping up engines and boiler, per annum . . . . .	1,000 0 0
Keeping up vessel, with all and sundry necessary repairs, per annum . . . . .	1,000 0 0
Oil and tallow, per annum . . . . .	200 0 0
Lights, dock-dues, and pilotage (supposed)	700 0 0
Coal-heavers, porters, and labourers, per annum . . . . .	500 0 0
Advertising, per annum . . . . .	100 0 0
Washing and dressing, per annum . . . . .	100 0 0
Sundries . . . . .	300 0 0
Total amount of expenses per annum, except the men's wages for sailing the vessel . . . . .	£15,284 0 0

Wages—

Commander . . . . .	£300 0 0
First mate . . . . .	75 0 0
Second mate . . . . .	65 0 0
Two carpenters, at £52 . . . . .	104 0 0
Twelve seamen, at £3 per month . . . . .	432 0 0
Two stewards, at £52 . . . . .	104 0 0
Cook and boy . . . . .	52 0 0
Master engineer . . . . .	200 0 0
Three working engineers, at £104 . . . . .	312 0 0
Eight firemen, at £52 . . . . .	416 0 0
Four coal-trimmers, at £52 . . . . .	208 0 0
Doctor . . . . .	104 0 0

Victualling the crew, 37 in number, at 1s. 6d. per day on an average . . .	£900 2 0
Annual total amount of wages . . .	£3,282 2 0
Annual total amount of expenses against vessel brought forward.	15,284 0 0
Total gross expenses per annum . . .	<u>£18,566 2 0</u>
Average weekly expenses, £357.	

## Supposed revenue—

Say 6 trips per annum from Liverpool with 100 passengers, each trip at £30 each . . . . .	£18,000 0 0
Say 6 trips from New York, with 50 passengers at £30 . . . . .	9,000 0 0
Say 6 trips from Liverpool, with 50 tons of fine goods at £3 per ton . . . . .	900 0 0
Say 6 trips from New York, with 150 tons of goods at 20s. . . . .	900 0 0
Supposed gross revenue . . . . .	<u>£28,800 0 0</u>
Total gross expenditure brought over . . . . .	18,566 0 0
Annual profit on each vessel . . . . .	<u>£10,234 0 0</u>

“From all I can judge, I am convinced the number of passengers that are likely to go regularly are rather under than over stated, but I expect to be able in

a few days to form a more correct estimate of the whole.

“I hope you will excuse me putting you to so much postage, but really I have not time to write you a *short* letter.

“I shall be glad to hear from you, and am, dear Sir, yours very truly,

“ ROBERT NAPIER.

“ To PATRICK WALLACE, Esq.,  
London.”

No business resulted with Mr Wallace and his friends, and the project fell through from lack of funds.

A proposal was made to Mr Napier that he should put his ideas into practice and build a large steamer on speculation ; but while he gave the matter consideration he came to the conclusion that the risk attending such a venture would be too great. His view was that the hull should be about 220 feet long, with 40 feet beam ; and he



estimated the cost of such a vessel with large engines to be about £50 per ton. It may be noted that these dimensions were approached in the *Great Western* (the first vessel to cross without re-coaling), and exceeded in the case of the *British Queen*, which measured 245 feet long by 40 feet beam.

An opportunity soon thereafter afforded itself of showing what he could do on the Atlantic. In 1836 the British and American Steam Navigation Company was formed, with a capital of £1,000,000 sterling. Mr Macgregor Laird, with whom Napier was intimate, took a prominent part in the formation of this Company, and was appointed secretary. The Company resolved to order a large steamer, and Mr Laird entered into negotiations with Napier, who offered to supply the engines, which were of unusual size, at £50 per nominal horse-power, and to look after the building



of the hull for a fee of £1000 sterling. Hall's condensers were thought to be desirable; but at first Napier was not willing to supply them, as his limited experience with such condensers had cast a doubt in his mind on their reliability, and he was against introducing a novelty in a large pair of engines.

In October he made a definite offer to supply the machinery with Hall's condensers for £20,000 sterling, but his tender was not accepted, and the order was placed with Messrs Claude Girdwood & Co. This firm, however, was not able to implement the contract, and about a year later Napier was asked to undertake the work, which he did at a price considerably above his original offer.

The engines were much larger than any he had hitherto made, the cylinders being  $77\frac{1}{2}$  inches and the stroke 7 feet. The hull of the vessel was built by Messrs Curling &

Young of London, but Napier took care to give the builders special directions as to the strength and fastening of the engine keelsons, paddle-beams, &c., so that his machinery should be rigid; and it was said that whatever else might break up, the part connected with the engines would stick together,—a fact which was brought home to the ultimate purchasers of the vessel when they dismantled her.

The *British Queen*, which cost £60,000 sterling, was a magnificent steamer, and much larger than the early Cunard boats. There was a very bitter feeling raised that such a fine vessel built on the Thames should be engined in Scotland, and an acrimonious correspondence on the subject was carried on for a long time in the 'Mechanics' Magazine,' under the heading of "London *versus* Country-made Engines,"—an attempt being made to decry the Scottish contractor. Napier's motto was "Deeds, not Words,"



*W. J. Huggins.*

BRITISH QUEEN, 1839.



and after the vessel had been running for a year he emerged triumphant, one of the correspondents writing, "I will only ask where the engines of the *British Queen* can be matched, in any respect whatever, either for strength of material in proportion to their power, for beauty of design, for smoothness while in motion, and above all, for the high state of perfection in which the engines perform their duty?" which challenge was unanswered. Comparison was instituted between the engines of the *British Queen* and those of the *Great Western*, made by Maudslay, when it transpired that the framing of the latter had given way and required to be patched with malleable iron straps.

The speed of the vessel was taken from an average of the Dundee and Perth boats, and was intended to be a mean of 9 knots an hour in all weathers, so that she might make the passage from London to New York

in 14 to 15 days. This estimated speed was accomplished on service with a daily consumption of forty tons of coal.

She was launched in May 1838, and sent round at once to the Clyde to receive her machinery; but from various causes she did not make her first voyage till 12th July 1839, sailing on that date from Spithead with a full complement of goods and passengers. She made the passage in  $15\frac{1}{2}$  days, her best day's steaming being 240 knots.

The details of the performance of what was then considered an Atlantic greyhound, with boilers working at 5 lb. pressure, are interesting, and we submit an extract from the engineer's log, giving particulars of the vessel's fourth voyage from New York to London :—

ENGINEER'S LOG, P.S. *BRITISH QUEEN*.

Date.	Steam.	Vacuum.	Revolutions.	Coals.	Knots per hour.	Distance.
April	Lb.	Inches.		Tons cwt.		
2	4·8	30	14,750	29 14	8·0	172
3	4·7	30	15,750	36 0	9·4	225
4	4·7	30	17,500	39 12	10·2	243
5	4·8	29 $\frac{7}{8}$	15,950	42 0	9·6	235
6	5·0	30 $\frac{1}{2}$	15,900	49 4	8·6	205
7	4·5	30 $\frac{1}{2}$	17,600	48 0	9·0	215
8	4·7	30 $\frac{1}{2}$	17,100	42 0	8·6	205
9	5·4	30 $\frac{1}{2}$	18,300	44 8	9·6	230
10	5·4	30 $\frac{1}{2}$	17,450	46 16	8·6	204
11	5·6	30 $\frac{1}{2}$	18,240	40 0	8·6	206
12	5·7	30 $\frac{1}{2}$	19,660	40 0	9·2	220
13	5·4	30 $\frac{1}{2}$	20,000	43 4	10·0	240
14	5·4	30 $\frac{1}{2}$	18,200	36 2	9·0	216
15	6·0	30 $\frac{1}{2}$	19,750	40 16	9·0	230
16	6·0	30 $\frac{1}{2}$	19,250	36 0	10·0	180

Total number of revolutions from New York to Portsmouth, 263,400; total quantity of coals, 613 tons 16 cwt. Left New York 1st April 2.30 P.M.; arrived at Spithead 16th April 1840 at 6 P.M.

The British and American Company originally contemplated building two vessels in America and two in this country, and they intended to run steamers twice a-month to New York, starting alternately from London and Liverpool. With this

view they ordered the *President* and another steamer, and proposed following with similar large vessels ; but the advent of the subsidised Cunard Line and the loss of the *President*, which sailed from New York in 1841 and was never again heard of, caused the enterprise to end in failure.



## CHAPTER IX.

### CUNARD COMPANY.

CUNARD'S EARLY HISTORY—CONSULTS MR MELVILL—NEGOTIATIONS WITH NAPIER—FIRST CONTRACT SIGNED—CORRESPONDENCE WITH NAPIER—DIFFICULTIES—NAPIER SUPPORTS ENTERPRISE—OFFERS BURNS AGENCY—SUCCESS—FIRST SHAREHOLDERS—INTIMACY WITH CUNARD.

WE now come to one of the most important events in Napier's career—the founding of the celebrated Cunard Company. In the inception of this enterprise the leading *rôle* was taken by him, and we purpose going into this matter somewhat fully in the light of the documentary evidence still extant.

In the early 'Thirties, about the time Robert Napier was expressing his opinions on the practicability of regular steam

communication between the two continents, the same subject was being considered from a different point of view by a prominent Canadian, Mr Samuel Cunard, whose attention was directed to the matter by the successful trans-Atlantic passage made by the small Quebec-built steamer *Royal William* already referred to. Cunard was descended from a family of Pilgrim Fathers who had emigrated to America in the early part of the seventeenth century and settled in Philadelphia. When the United States declared their independence, the Cunard family was loyal to its British traditions, and removed to Halifax, where Samuel was born in 1788.

After serving an apprenticeship in a merchant's office he obtained a partnership in a Boston shipping firm, which conducted a service between Halifax and England, employing on the trade "tub-like" vessels widely known as "coffins,"



*Sir J. Graham Gilbert, R.S.A.*

ROBERT NAPIER, 1845.



from the fact that several of them foundered in the stormy waves of the Atlantic.

The good passages made in the beginning of 1838 by the *Sirius* and *Great Western*, and the efforts that were being put forth by the British and American Steam Navigation Company to establish regular communication, stimulated Cunard to endeavour to make his dream of an Atlantic postal service a reality. He was not unknown to the Admiralty, as he had already conducted a mail service between Newfoundland and Bermuda in a manner that satisfied the British Government.

In the end of 1838 he obtained a provisional Atlantic mail contract, and set out for England to take the necessary steps for fulfilling it.

Cunard was agent in Halifax for the East India Company, and on his arrival in London he consulted the secretary

of the Company, Mr James C. Melvill, regarding the building of steamers for the proposed service. Mr Melvill was on intimate terms with Robert Napier, who had supplied his Company with the *Berenice* and other vessels, and he strongly advised Cunard to put himself in Napier's hands.

Accordingly, on 25th February 1839, we find that Cunard formally opened negotiations through his agents, Messrs William Kidston & Sons, of Glasgow, writing to them as follows :—

PICCADILLY, 25th February 1839.

DEAR SIRS,—I shall require one or two steam-boats of 300 horse-power and about 800 tons. I am told that Messrs Wood & Napier are highly respectable builders, and likely to be enabled to fulfil any engagement they may enter into. Will you be so good as to ask them the probable sum for which they would engage to furnish me with these boats in all respects ready for sea in twelve months from this time? I am told that the

*London* is a fine vessel, and about the description of vessel that I might require; but I have not seen her. I shall want these vessels to be of the very best description, and to pass a thorough inspection and examination of the Admiralty. I want a plain and comfortable boat, not the least unnecessary expense for show. I prefer plain work in the cabin, and it will save a large amount in the cost. If I find these gentlemen are likely to meet my wishes, I will immediately proceed to Glasgow and make the necessary arrangements with them. I shall also require two or three boats of 150 horse-power: perhaps they will say the probable cost of a boat of this latter size, complete for sea, with a plain cabin, &c., &c.

S. CUNARD,

At the General Mining Association,  
Ludgate Hill.

Messrs W. KIDSTON & SONS.

Possibly Cunard may have been acquainted with the nature of Napier's proposals for Atlantic steamers; at any rate, it is to be noted that the size and power of the boats he mentions are exactly those fixed on by Napier in his letter, written

in 1833, to Mr Patrick Wallace as the *minimum* he would recommend.

To Messrs Kidston's inquiry Napier replied at once :—

“ VULCAN FOUNDRY, 28th February 1839.

“ GENTLEMEN,—In reply to your inquiry as to whether it is my practice to contract and supply companies with steam-vessels finished and completed ready for sea, and whether I am at present in a position to undertake the construction and delivery of two or more vessels so as to have them ready in twelve months from this date, and the cost of steam-vessels about 800 tons and 300 horse-power, it has been for many years past my practice to contract with companies to supply them with steam-vessels ready for sea.

“ In this way I supplied the Dundee Shipping Company (George Duncan, Esq., Chairman) with three steam-vessels—the



*Dundee, Perth, and London*; the Inverness Shipping Company (Thomas Davidson, Esq., Findhorn, Manager) with the *Duchess of Sutherland*; the Aberdeen & Leith Shipping Company (Robert Mitchell, Esq., Manager) with two vessels, the *Sovereign* and *Duke of Richmond*; the East India Company (James Melvill, Esq., Secretary) with one vessel, the *Berenice*; the Isle of Man Steam-Packet Company with three vessels; the Londonderry Steam-Packet Company with three; the Belfast Company, Glasgow, with three; the City of Glasgow Steam-Packet Company with the *John Wood, Vulcan, City of Glasgow*, and a new vessel at present building for them. I also supplied Thomas Assheton Smith, Esq., with three vessels—the *Menai, Glow-worm, and Fire King*. To any of these parties you are at full liberty to apply in order to ascertain the manner I fulfilled my contracts for these vessels.

“From the great accommodation I have for doing work, I could at present undertake to build and finish in twelve months two or more steam-vessels, were I favoured with the order soon. The cost of these vessels depends on so many different things that it is hardly possible to name a price for them without knowing more about them than you have communicated to me. I have done them as low as £35 per ton of total measurement of the vessel, and I have got above £50 per ton for some others. I may, however, state that good vessels, *warranted* to stand any inspection and give entire satisfaction both as to the vessel and machinery, cannot be done for less than from £40 to £42 per ton,—this for the vessel ready for sea, with cabins, sails, rigging, anchors, cables, &c.

“If your friend is really in want of vessels I shall be happy to go to London



LANCEFIELD HOUSE.



and meet him, and I have no doubt but that we would in a very short time understand one another.—Your most obedient servant,

R. NAPIER.

“Messrs W. KIDSTON & SONS.”

Cunard, on receipt of this letter, thought his best course was to go to Glasgow to see Napier with the intention of arranging the contract; and accordingly early in March a meeting took place at Lancefield House. What then transpired can be best told in Napier's own words, in a letter written on 28th January 1841 to Messrs J. & G. Burns, as Messrs Burns' firm was then styled.

“As there are some things connected with these vessels that may not be known to you and the other owners so well as to the Honourable S. Cunard and myself, I hope you will excuse me making a few

explanations — viz. : The first application that was made to me about these vessels was through Messrs William Kidston & Sons, and on the 28th February 1839 I wrote them a letter for the information of Mr Cunard, and stated that vessels warranted to stand inspection cannot be done for less than £40 to £42 per ton. Some short time after this Mr Cunard came to Glasgow and waited upon me at my house with specifications, &c., for vessels of 800 tons and 300 horse-power, for which he wished an offer from me, to be finished in a plain substantial manner; and seeing that he was prepared at once to give me an order if my terms pleased him, I at once said at the rate of £40 per ton. His reply was that he considered it fair and reasonable, but as he had three vessels all of one size (and that similar to what I had in hands for the City of Glasgow Steam-Packet Company), he said if I took

£30,000 for each of the vessels, he would give me the order before he left me. This I agreed to as per the missive letter sent you, accepted and signed by Mr Cunard.”

This was the first arrangement for the Halifax steamers, and it will be observed that it was completed at the first meeting that took place between Mr Cunard and Napier.

Business requiring his attention in London, Mr Cunard at once went south, leaving instructions to get copies of plans and specifications ready for his approval. He returned to Glasgow for this purpose about the 12th March. During his absence, however, Napier had been reflecting on the whole problem, and had come to the conclusion that unless the vessels were made larger they would not be successful. He urged Cunard very strongly to increase the dimensions, but he was most reluctant



to give his consent, as the expense alarmed him. Napier, on the other hand, dreaded failure ; and the course he adopted to avert this can best be told in his own words, taken from the letter we have already quoted.

“I said to Mr Cunard that if he paid for the alteration of the vessel and work connected therewith, which I thought, if properly gone about, might be done for the above sum (£2000), that I would then make him a present of all my part of the work for the enlarged size of vessels. He at once saw the great benefit to be derived to him from this arrangement, and accordingly the contract of 18th March 1839 was drawn out.”

This contract stipulated for steamers of 960 tons, with engines of 375 N.H.P., and the price was fixed at £32,000 for each vessel.



The second arrangement was not such a favourable one for the engineer as the first one. Napier, however, was always very jealous of his reputation, and was prepared to make sacrifices to maintain it, and hence his proposal to Cunard. To quote his own words, "He felt that if these small vessels did not succeed they would do him more injury in character than any money he could gain would benefit him."

A formal contract was now entered into and signed on the 18th March 1839, the sole contracting parties being Samuel Cunard and Robert Napier. The same day Cunard left for London, and the first stage of the negotiations was reached. Napier next day wrote a letter of thanks to his friend Melvill.

"GLASGOW, 19th March 1839.

"MY DEAR SIR,—Yesterday, after signing the contract in a formal manner, Mr Cunard left this per mail for London.

“It being customary in our Scotch contracts to name arbiters to settle any differences that may arise between the contracting parties, I took the liberty of naming you to Mr Cunard. To this he agreed at once.

“I hope you will excuse this liberty on the faith you are not to be troubled further than coming down, I trust, and taking a sail up in one of the vessels to London.

“I am of opinion Mr Cunard has got a good contract, and that he will make a good thing of it. From the frank off-hand manner in which he contracted with me, I have given him the vessels cheap, and I am certain they will be good and very strong ships.

“I can only again repeat my obligations to you for your kindness, and am, dear Sir, yours faithfully,

R. NAPIER.

“JAMES C. MELVILL, Esq.,

Secretary, The Honourable East India Company.”

When Cunard arrived in London he at once put himself in communication with the Government, and informed them what he had arranged. On the 21st March he wrote to Napier—

The Admiralty and Treasury are highly pleased with the size of the boats. I have given credit where it is due to you and Mr Wood. I have pledged myself that they shall be the finest and best boats ever built in this country.

You have no idea of the prejudice of some of our English builders. I have had several offers from Liverpool and this place; and when I have replied that I have contracted in Scotland they invariably say, "You will neither have substantial work nor completed in time." The Admiralty agree with me in opinion that the boats will be as good as if built in this country, and I have assured them you will keep to time.

Again on the 25th March he wrote :—

Am I not right in saying you are to give me everything upon the best and most improved plan.

On 27th March Napier replied to Cunard :—

“I am in receipt of your esteemed letters of 21st and 25th current. I was quite prepared for your being beset with all the schemers of every description in the country and in this stage of the business, and think it right to state that I cannot and will not admit of anything being done or introduced into these engines but what I am satisfied with is sound and good. In a word, I shall not pay the least attention to any scheme but that I have fixed on—viz., *‘your engines will be made similar in construction to those I am at present making to the Admiralty.’*

“Hall’s condensers cannot be allowed if it was on no other ground but that of time, as it would be actually impossible for me to meet your time and adopt his plan. Every solid and known improve-

ment that I am made acquainted with shall be adopted by me, but no patent plans.

“I am sorry that some of the English tradesmen should indulge in speaking ill of their competitors in Scotland. I shall not follow their example, having hitherto made it my practice to let deeds, and not words, prove who is right or wrong. At present I shall not say more than court comparison of my work with any other in the kingdom, only let it be done by honest and competent men.”

Now at this time the *British Queen* was being finished by Napier. This vessel, and her sister ship the *President*,<sup>†</sup> were very much larger and finer steamers than those Mr Cunard had ordered; and in view of this fact and the letters he was receiving from his customer, Napier suggested the desirability of still further in-

creasing the vessels. To this proposal Cunard turned a deaf ear, as he was unwilling to incur further expense, more especially as the Admiralty and Treasury had expressed themselves satisfied.

Mentioning the matter to Mr Melvill, and recounting his Glasgow experience, Cunard stated incidentally that the Admiralty were pleased with the ships, but that Napier considered them still too small, and was always proposing larger boats. Mr Melvill expressed the opinion that to ensure success the adoption of Napier's views was imperative, as he was the great authority on steam navigation, and knew much more about the subject than the Admiralty.

Cunard rejoined that while he valued Napier's advice, larger boats meant more money, which he could not afford, as he had been disappointed in getting his stock taken up; and even the offer of the agency

to his correspondents, Messrs Kidston, had not induced them to participate in his enterprise.

Melvill strongly advised him to go north again and place the matter fully before Napier, as he thought he would be able to assist him in his difficulties, and Cunard at once adopted this suggestion.

Another meeting took place at Lancefield House, at which Mr Cunard explained the position, and Napier, after consideration, said he thought he could help him in his difficulty.

As already mentioned, he was one of the founders of the City of Glasgow Steam-Packet Company, whose steamers plied to Liverpool. The Company was managed in Glasgow by Messrs Thomson & MacConnell, and in Liverpool by Napier's friend Mr David MacIver.

Thinking that those interested in local shipping would risk something in an ocean



venture, he sounded his friends and other co-shareholders, including Mr James Donaldson, a wealthy cotton broker. They responded enthusiastically, Donaldson personally undertaking to subscribe £16,000.

Having succeeded so far, he now approached Mr George Burns, who had fallen heir to the Belfast trade which the Napiers originated, and who, along with Mr Martin, was agent for a line of steamers trading to Liverpool.

Napier knew Mr Burns as an excellent business man and capable agent, and he suggested that he might obtain for him the agency of Cunard's steamers if he could assist in raising a part of the capital.

Burns, after due consideration, fell in with the proposal, and as prospective agent he propounded the scheme to Napier's friends and his own shareholders.

As stated in the life of Sir George



Burns, the amount aimed at (£270,000) was at once subscribed, and the new copartnery was called the British & North American Royal Mail Steam-Packet Company.

The original subscribers were as under:—

	Samuel Cunard . . .	£55,000
1.	James Donaldson . . .	16,000
2.	James Browne . . .	11,600
3.	James Wright . . .	11,600
4.	Thomas Buchanan . . .	11,600
5.	William Brown . . .	11,600
6.	Robert Rodger . . .	11,600
7.	W. Leckie Ewing . . .	11,600
8.	William Connal . . .	11,600
9.	Alexander Fletcher . . .	11,600
10.	William Stirling . . .	11,600
11.	Robert Hinshaw . . .	10,900
12.	Alexander M'Aslan . . .	10,800
13.	Elias Gibb . . .	6,400
14.	Alexander Glasgow . . .	6,400
15.	Robert Napier . . .	6,000
16.	James Campbell . . .	6,000
17.	George Burns . . .	5,500
18.	Alexander Downie . . .	5,500

19. William Campbell . . .	5,500
20. James Burns . . .	5,000
21. David MacIver . . .	4,000
22. Charles MacIver . . .	4,000
23. James Merry, Jun. . .	3,700
24. Alexander Bannerman . .	2,100
25. John Bannerman . . .	2,100
26. Henry Bannerman . . .	2,100
27. Archibald MacConnell . .	2,000
28. David Scott. . . .	1,600
29. James Martin . . . .	1,500
30. James M'Call . . . .	1,300
31. Alexander Kerr . . . .	700
32. David Chapman . . . .	1,500

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£270,000

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It will be observed Mr Cunard had by far the largest holding in the Company, and the other shares were divided pretty equally between Mr Napier and his friends and Mr Burns and those whom he induced to join the enterprise. Though Mr Burns personally did not subscribe a great amount, he obtained through

Mr Napier the agency, which was by far the most lucrative position in the venture. Napier, however, recommended Burns not for his wealth, but for his commercial ability, and the future history of the Company justified his selection.

The management of the steamers, including the appointment of officers and crew, was entrusted to Napier's old friends, Messrs MacIver of Liverpool, who performed their part in the most efficient manner.

The newly constituted Company adopted Mr Cunard's contract as a basis. The number of the vessels was increased to four, and they were made larger and more efficient in the way Napier desired ; in fact, everything was left to him, and his mark is still to be seen in the red funnel, which had hitherto distinguished the steamers he was interested in.

In addition to increasing the dimensions, the ships were filled up solid in

the bows between the timbers with strong beams and knees, and water-tight bulk-heads were fitted to prevent accident should the vessels strike ice. They also were doubled all over with hardwood planks, and strong iron straps were fitted to prevent straining. The cabin accommodation was made much more luxurious than originally contemplated, and perhaps this was necessary, as the fare was 38 guineas.

The names of the four vessels were the *Acadia*, *Britannia*, *Caledonia*, and *Columbia*,—the *Acadia*, built by Wood, being the “pattern card.” The first to sail was the *Britannia*, commanded by Captain Woodruff, which started from Liverpool on 4th July 1840, and arrived in Boston a fortnight later. On her outward passage she was retarded by westerly winds, but sailing for home in the ensuing month, she made the return voyage in a little over ten days, her best day’s steaming being 280 knots.



*W. L. Wyllie, A.R.A.*

R.M.S. ACADIA, 1860.



Such was the part played by Napier at the start of this celebrated Company; and from the preceding narrative it will be apparent that it was mainly through his co-operation with Mr Cunard, first in enabling the latter to get his plans into practical shape, and then in providing a series of steamships unrivalled in their time, that immediate success was attained.

It was the confidence reposed in Robert Napier, in the man and in his work, that secured most of the capital necessary (outside of Mr Cunard's contribution) to found the Company on an adequate basis, and it was undoubtedly the excellence and uniform success of the machinery and vessels he supplied that gained for the British and North American Company that support from the commercial world which led to its remarkable prosperity, and enabled it to emerge triumphant from its memorable contest with the Collins Line.



“Napier was the practical head and hand of the Cunard Company in its early days, without which it might have proved a less successful venture in the vast field of enterprise it so long monopolised.”

By those possessed of the requisite knowledge, Mr Napier's energy, organising skill, and engineering ability have been cordially recognised as the foundation from which the Cunard Company took its beginning, but by no one was the importance of his services acknowledged with greater freedom than by Mr Cunard himself. Between Cunard and Napier there existed a lifelong friendship. At the latter's request he sat for his portrait, which was presented to his daughter, Miss Cunard, with whose letter of thanks as reflecting these sentiments we conclude.

BUSH HILL, EDMONTON, *Jan.* 17, 1860.

MY DEAR SIR,—The portrait of my father that you have been so very kind as to present to me



has now been hung up in the dining-room at Bush Hill, and, although personally a stranger to you, I hope you will allow me to express my sincere thanks for a gift that must be valuable to me for its own sake, as well as for the sake of the donor, whose name has been familiar to me from early childhood in connection with much that I have heard of science and natural energy and talent.

Your present will always silently remind me of your generosity, which will at all times be remembered with pleasant gratitude.—Believe me, my dear Sir, yours truly and obliged,

ELIZABETH CUNARD.

R. NAPIER, Esq.

## CHAPTER X.

### IRON SHIPBUILDING.

ACQUIRES GROUND AT GOVAN—APPOINTMENT OF WILLIAM DENNY  
—STARTS IRON SHIPBUILDING—FIRST IRON STEAMER FOR  
ADMIRALTY—*SIMOON*—INTIMACY WITH NAVAL OFFICERS—  
FAMILY RELATIONSHIPS.

REGULAR ocean navigation was now becoming universal over the world, and companies such as the Royal Mail Company, the Pacific Company, the P. & O. Company, and others, rapidly came into existence to exploit the several routes.

Following on the Cunard boats Napier constructed a very fine steamer for the Eastern trade called the *Precursor*, which was acquired by the P. & O. Company. She cost over £65,000 sterling, which was the



*W. J. Huggins.*

R.M.S. PRECURSOR, 1842.



largest sum he had as yet received for a steam-ship.

Hitherto he had given out the hulls of his steamers, placing most of them with his friend Mr John Wood. Troubles, however, were experienced with sub-contractors, and it was also found to be practically impossible to construct wooden vessels that would keep their shape when driven by engines of large power.

To meet these difficulties, and keep abreast of the time, he resolved to add iron shipbuilding to his business, and, with this purpose in view, in 1841 he purchased some acres of ground at Govan, which he fixed on as the most suitable site.

He had been very fortunate in his choice of Mr Elder as manager of his Engine-Works, but as Elder knew little or nothing of shipbuilding except from an engineering point of view, a suitable naval architect

had to be found. He was again happy in his selection of his kinsman, Mr William Denny of Dumbarton, to fill this position, as he had the reputation of being one of the best ship-designers of his time. The terms of the agreement entered into are set forth in Mr Denny's letter of 1st November 1842, which is countersigned by Mr Napier.

GLASGOW, 1st November 1842.

*Mr R. Napier,—*

SIR,—I hereby offer to serve you as a draftsman, modeller, and inspector of any steam-vessels, either of iron or wood, that you may have at any time to build or repair, and to give instruction to your sons regarding drafting and building of vessels.

In a word, I agree to give you the whole of my personal services for three years on being paid by you for the first year at the rate of £150 per annum and £10 of premium for every new vessel that is built and completed under my direction and according to your instructions. For the second year, I am to receive at the rate of £175

per annum and £10 of premium on each vessel built under my superintendence. In the third year, I am to receive at the rate of £200 and £10 for each vessel built under my superintendence for you. I am to be at liberty to complete my present engagement to Messrs Coats & Young, and visit Belfast once each six weeks till the vessel is built, &c. This agreement to be extended by Mr Moncrieff.

WILLIAM DENNY.

R. NAPIER.

It is specially to be noted that one of Mr Denny's duties was to instruct Mr Napier's sons in the art of shipbuilding, and when a few years later he left to found the firm of Messrs William Denny & Brothers, his pupil, Mr James R. Napier, took charge of the yard.

Thus equipped, Napier started to build his first iron vessel, the *Vanguard*. She was a paddle-steamer of about 700 tons register. In her construction Elder considered that it was impossible to make substantial work with ordinary riveting, so he

bored the keel-plates and put in charcoal iron bolts, carefully turned and fitted to the holes and riveted cold. With workmanship of such a high order, and with a graceful form such as Mr Denny always imparted to his models, success was certain, and the vessel was universally admired.

She was launched on 29th June 1843, and at once orders followed in quick succession for similar vessels, the various companies engaged in the Channel trades abandoning wood and going in for iron steamers. As evidencing the satisfaction which his iron vessels gave, we quote a letter received from the Chairman of the Dundalk Steam-Packet Company, whose steamer *Dundalk* closely followed the *Vanguard*.

*February 22, 1844.*

DEAR SIR,—As Chairman of the Meeting held on 20th inst., it affords me much pleasure communicating the Resolution enclosed passed on that day. I have to add that but one feeling pre-





THETIS, 1845.



vailed on the occasion,—That neither expense nor pains were spared in the building and outfit of the *Dundalk*, alike gratifying to the Company and creditable to the establishment where so fine a vessel (admitted to be a first-class one) was constructed. Her form is much admired for its symmetry, and her engines, in the opinion of competent judges who have examined them, have been pronounced to be models of skill.

Napier had been endeavouring to induce the Admiralty to adopt iron instead of wood for steamers, and in the end of 1843 he received the following letter from his friend Sir Edward Parry :—

ADMIRALTY, 23rd December 1843.

DEAR SIR,—I am directed by the Lord Commissioners of the Admiralty to request that you will come to London to communicate with me *yourself* on the subject of the Tender you have lately sent in for one or more iron vessels with engines.

If you can conveniently be at my office on Wednesday next at 2½ o'clock it will answer the

intended purpose.—I remain, dear Sir, yours very faithfully,

E. W. PARRY.

*P.S.*—I have appointed Mr Lloyd or Mr Murray to be here to meet you at  $\frac{1}{2}$ -past 2 o'clock on Wednesday.

R. NAPIER, Esq.

The result of the visit he paid was that he was commissioned to build and engine three iron steamers for the Navy. They were called the *Jackal*, *Lizard*, and *Bloodhound*, and these were the first iron vessels in the service.

The prejudice of the officials was strong against iron, as they feared it sounded the knell of the dockyards, and efforts were put forth to make the boats unsuccessful. By increasing the scantlings about 40 per cent above those customary in steamers of a similar type, and by insisting on the frames being spaced only nine inches apart, the vessels were made to draw much more water than originally intended, and they

were slow; consequent on the deep immersion of their paddles.

Though the boats were comparative failures in respect of speed, no blame was attached to Napier; and as the workmanship was most satisfactory, about a year later he was entrusted with an order for an iron screw frigate for the Navy. This vessel was called the *Simoom*, and she was much larger than any steamer he had hitherto undertaken. She was laid down on 20th December 1845, and remained on the stocks for over three years, as the Admiralty had even then acquired the habit of making alterations during construction, which they were unwilling to pay for. At last, on 24th May 1849, she was launched, not without mishap, in the presence of a large concourse of people, and in about two years afterwards she was finished.

The delay in connection with this war-

ship was a serious matter to Napier, as she occupied so much space in his yard; and the inconvenience caused may be the more readily appreciated, when mention is made of the fact that during her construction he entered into thirty new contracts. He made representations to the Admiralty on the subject, and after delay received some recompense, though not of an amount which he considered adequate.

The *Simoom* was a very efficiently constructed vessel, and she was actively employed in the service as a troopship for nearly forty years.

Mr Napier was characterised by liberality in his views, and he made a point of opening his works to all, more especially to naval officers who were desirous of acquiring a knowledge of marine engines. He had many letters, such as the following one from Admiral Sir Thomas Cochrane :—

YESTER HOUSE, HADDINGTON,  
*October 7, 1851.*

MY DEAR SIR,—The Marquis of Tweeddale is very anxious that his son Lord John Hay, a Commander in the Navy, should profit by your splendid Establishment in Glasgow, and should receive your permission to attend and take advantage of the scientific instruction he can receive there; and you will confer a favour upon me by permitting him to do so, and I can safely hold out as an inducement that he will do ample justice to the opportunity that will thus be offered to him, as he is a remarkably fine young man, and was promoted by me when Commander-in-Chief in China entirely from his merits as a promising officer.—I am, my dear Sir, very faithfully yours,

THOS. COCHRANE.

ROBERT NAPIER, Esq.

This enlightened policy had the effect of establishing close and intimate relations with the Admiralty, and in after years, when these apprentices (or rather we should call them students) came to have power, they had strong leanings to Mr Napier's

firm. Thus Admiral Lord John Hay, writing him in 1871 when he was in command of H.M.S. *Hotspur*, concludes his letter with a postscript: "I feel still all the respect that is due to you from myself as one of the old apprentices in your works so many years ago."

His relations with the naval men with whom he came in contact were of the most harmonious character, and his kindness to them was so much appreciated that a number of them presented him with a valuable piece of plate.

Napier's reply was in his happiest style:—

"GLASGOW, 7th December 1844.

"MY DEAR SIRS,—I am so taken 'aback' (to use a naval word), that I feel at the greatest loss to offer you and your brother officers my grateful acknowledgments for the very kind and delicate manner in which I have been presented with a most





H.M.S. HOTSPUR, 1870.



elegant and splendid testimonial, intrinsically valuable as a piece of silver plate and as a work of art, but infinitely more so on account of its generous donors, and as expressing by them the most honourable, and to me by far the most gratifying, gift which I have ever received, or am likely to receive, and which I trust will remain as an heirloom in my family while it exists, and act as a landmark to them to be kind and hospitable to all officers of the Royal Navy.

“I feel deeply indebted to you and all whose names have been sent to me along with the valuable silver Candelabrum and Plateau, and beg to assure you all that, when I admitted naval officers to my Works, I felt the greatest pleasure in having it in my power to promote in the smallest degree the advancement of the knowledge of steam machinery amongst the officers of the Royal Navy.

“I have always been highly pleased and delighted at meeting with naval officers, and have often regretted that my engagements otherwise prevented me from paying that attention that I wished to pay. Nothing, I can assure you, would give me greater pride and satisfaction than to have it in my power to have you all seated at my table around this splendid testimonial of your kindness, and have the pleasure of drinking a bumper to the success of one and all of my naval friends; but as there is some doubt of my meeting you all together, I can only say that so long as I have a “roof-tree” above my head, one and all of you shall always have a hearty welcome. Praying that God may bless you all, I am, my dear Sirs, with kindest regards, yours most sincerely,

“ R. NAPIER.

“To Captains NEWELL and ROBB, R.N.,  
London.”

As years went on this cordiality with his naval friends increased, and whenever the Channel Fleet visited the Clyde the invitation to West Shandon was accepted with alacrity, and a most hearty welcome was always extended.

The last of these visits was in 1872, when Mr Napier was over eighty years of age. In accepting the invitation Admiral Hornby wrote him :—

H.M.S. *Minotaur*,  
GREENOCK, July 3, 1872.

DEAR MR NAPIER,—Pray accept my best thanks for your kind note of yesterday just received, and the hearty welcome to the Clyde which it conveys.

I am very sorry I cannot speak more positively to the time at which I may be able to have the pleasure of calling on you. I hope it will be on Friday afternoon, but I have to receive the Provost of Dumbarton in the forenoon, as he wishes to see the ship, and I am in hopes that my wife may join me here, probably on Friday morning, and if so, arrangements I have made may have to be deferred.

But if you will allow me to take my chance of finding you at home on that day, I hope to be able to reach you between 2 and 4 P.M. and to bring a few officers in our steam-launch to see the beauties of West Shandon, and to make the acquaintance of its illustrious owner.—Believe me, yours very truly,

GEOFFREY HORNBY.

ROBERT NAPIER, Esq.

He was on equally good terms with the powers that be at Whitehall. In concluding a letter in 1868, Sir Spencer Robinson, who was then Controller of the Navy, expressed himself in these gratifying terms :—

May God bless you, my dear old friend. One of the few bright spots in my official career is that it has again brought me into relations with you, and made me know still better than of old all that was valuable, excellent, and sterling in your honoured self.

Few contractors have ever been favoured with such expressions of esteem from the

Controller of the Navy, but this extract shows the very intimate relationship that existed between the British Admiralty and Mr Napier.

These busy years did not pass without changes in his immediate family circle. His brother, the Rev. Dr Peter Napier, was in 1844 presented to the College Church in Glasgow, but, as was not unusual in those Disruption days, there was a dispute about his settlement.

Canon Melvill of St Paul's, brother of the Secretary of the East India Company, was an intimate friend of Robert Napier, and as he was one of the most celebrated preachers of the time he sent him a copy of Dr Peter's sermons. In acknowledging them the Canon wrote as follows :—

EAST INDIA COMPANY,

*February 5, 1845.*

MY DEAR NAPIER, — Many thanks for your brother's sermons. They are excellent both in

matter and style, quite good enough for Episcopalians; I had almost said too good for Presbyterians. Certainly if the hearers of such sermons object to the preacher they ought to be doomed to some ranting raving fellow who will wear out a red cushion in twenty-four hours. . . .

Many thanks for your kind invitation to Shandon. You are as good a fellow as ever lived, and I owe you more than I can pay for all sorts of kindness. . . .—Most truly yours,

HENRY MELVILL.

Mr Napier, in the midst of his prosperity, was always most attentive to his old parents, and there was an annual gathering at Dumbarton. His cousin, the Rev. Dr Mathieson of Montreal, writing him in the end of 1843, concludes his letter saying—

We can only expect the old folks now should feel the burden of years. Few have attained their days amidst so much peace and comfort. The united ages of the first generation—viz., your father and mother, my own, and Aunt Nancy,



would amount to a considerable sum. May they all be preserved for many years to come. I hope it will be long before the General Assembly at Dumbarton, on Hogmanay, will be dissolved.

My kindest regards to Mrs Napier and all around your fireside, not forgetting Uncle and Aunt.

Uncle, I daresay, now and then wafts an "Och, och, poor man," across the Atlantic.

In 1846 his mother died at the age of eighty-four years, and two years later his father passed away at the same advanced age. A few months later he lost his youngest son Robert, and he was buried beside his grandparents in Dumbarton.

In the immediately ensuing years all his sons and daughters married and set up establishments of their own.

Mr Napier ceased to live in Glasgow, and henceforward resided permanently at his house on the shores of the Gareloch.

## CHAPTER XI.

### WEST SHANDON.

FIRST COTTAGE — ENLARGEMENT — DISAPPEARANCE — PRESENT MANSION — PROFESSOR KERR'S CRITICISM — COLLECTION — HOSPITALITY — LETTERS FROM MARQUIS OF DALHOUSIE AND OTHERS — ERECTION OF ROW CHURCH AND STATUE TO HENRY BELL.

As stated in an earlier chapter, Mr Napier acquired ground at Shandon in 1833, on which he built a small house, where he was in the habit of residing during the summer months.

Sunny memories are still called up among the few survivors who were privileged to enjoy the hospitalities of the first West Shandon house, memories standing apart from any attaching to the larger house which took its place. The posses-



WEST SHANDON.



sion of pictures and other works of art called for a gallery where they might be suitably displayed ; other additions followed, and the mason was much in evidence over a period of years. Eventually the first house disappeared, and the structure presently existing took its place, the whole, especially the front to the Loch, being one of the happiest creations of Mr Rothead. The building of West Shandon house extended over many years, but the great tower erected in 1852 practically fixes the date of the present edifice, and the following is a copy of the writing deposited under the foundation-stone in the north-east corner :—

“ WEST SHANDON, 18th February 1852.

“ This parchment, along with newspapers and a few coins, was deposited this day under the Tower of West Shandon House.

Another bottle (containing one specimen of each of the gold, silver, and copper coins at present in circulation, with the newspapers and other statistical papers of this date, also a brass-plate having the names of the family engraved on it) has been deposited in another part of the building.

“Those bottles, &c., &c., have been deposited by Robert Napier, Engineer, Glasgow, and feuar of West Shandon, for the amusement it may be of some future generation, provided that the means taken to preserve the parchment and paper prove successful. R. NAPIER.”

The local stone not being well suited to the style of architecture, fine white sandstone was brought from Bishopbriggs *viâ* the Forth and Clyde Canal ; and the woodwork of the house, after various differences with contracting joiners, was completed by men from Govan shipbuilding yard.

In designing and building the house, special attention was paid to producing a structure that would give little trouble in the way of repairs ; and to obtain this end expensive expedients were adopted, which the test of time fully justified.

Mr Napier took the greatest interest in Mr Rothead's work, and made so many alterations on the plans that he was said to have been his own architect.

Reference is made to West Shandon in 'The English Gentleman's House,' and there is a criticism by Professor Kerr, from which we quote a few extracts :—

This plan is presented in our series as an extreme case of intentional irregularity. No doubt there is much of the merit of convenience obtained by this total want of conventional regularity. The entrance-hall is much too small, unless we include with it the interior vestibule, which again, if large enough, becomes awkward in form. The cloak-room is a good item. . . .



The three public rooms form a good suite of its kind. The library is very good. . . .

The dining-room must be considered out of rule except as a sitting-room; the character of form is not that of an eating-room at all; no doubt considerations of prospect have governed the case. . . .

The offices generally are very confined, and not instructive. The same must be said of the museums, picture-gallery, and billiard-room in their relations to each other and to other apartments.

To cover over in this way the space which is generally, in such a plan, an interior court, is not to be commended; there is too much ceiling light and borrowed light in consequence, and with these comes stagnation of air and unwholesomeness, perhaps even on the pleasant shores of the Gareloch itself.

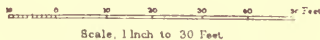
Mr Napier evidently did not think the criticism complimentary, so he wrote the author on the subject, and the Professor replied, saying—

The mediæval type of arrangement is characterised by what you quote as “disorderly con-





GROUND FLOOR.



PLAN OF WEST SHANDON.



venience": the classical type rests upon orderly (in too many cases) inconvenience. Between the two, I prefer the want of order to the want of convenience; and so evidently do you. As for *bad* plans, I could have selected them by the dozen; but a plan which is *not* bad, but the contrary, and at the same time unusually characteristic, was the object of my careful search, and I thought your house a most striking one in this respect, and well worthy of study. A passing jest or two in speaking of it appears to catch the eye of some people, but this is nothing. I think I may presume that you desire to have an unconventional unembarrassed house, and your success is complete. That such success must be paid for by the acceptance of a few drawbacks is but a truism that one scarcely needs to suggest.

Those who can recall Robert Napier as a capable business man are now but few, as it is more than forty years since he personally negotiated a contract; but in his capacity as owner of West Shandon, making friends of young and old by his

geniality, he lives in the memory of many.

The most attractive part of the house was the museum and picture-gallery, where was to be found one of the finest amateur collections in Scotland, of which an elaborate catalogue was compiled by Mr J. C. Robinson of the South Kensington Museum. There were many typical examples of the early Italian, Dutch, and Flemish masters. Raffaele was represented by a Holy Trinity, which once formed part of the collection of David, the eminent French painter; Titian, by a portrait of his daughter; Guido, by a Magdalen from Lord Chesterfield's collection; Paul Veronese, Tintoretto, and Da Vinci, by Scripture subjects. The landscape art of Italy was illustrated in the works of Pannini, Salvator Rosa, and other well-known artists. There were numerous examples from the brush of Rembrandt, Rubens,

and Vandyck, and some of the masterpieces of Quentin Matsys and Teniers, such as the Rent-Day, the Card-Players, &c. There were also specimens of the art of Verboeckhoven, Van Schendel, Cuyp, Jan Steen, Haghe, and other Dutch painters.

Pictures by Claude, Greuze, and Murillo adorned the walls; and the school of British art was represented by Reynolds, Wilkie, Raeburn, and contemporary artists.

In the museum were to be found inlaid *écritoirs*, *marqueterie* bureaux, *buhl* cabinets, screens covered with Gobelins tapestry, and many fine pieces of decorative furniture.

Valuable selections of Dresden, Vienna, and other European porcelain found a home in cases set around the rooms.

Naturally the French art of the eighteenth century was well represented, the Sèvres porcelain specimens being of special interest, and including parts of sets of

which the other pieces were scattered over Europe. Five pieces of great beauty belonged to a set of which the remainder was the property of her late Majesty Queen Victoria, and these formed one of his special treasures.

The collection of miniatures, snuff-boxes, bijouterie, clocks, and watches was most extensive and unique, and the whole was set out exquisitely.

His taste for ornamental smith-work, as became a descendant of Tubal-Cain, was displayed in curious old locks and keys, metal-work, guns, swords, armour, and accoutrements of all kinds.

Numerous pieces of sculpture by Fillans and others stood in prominent positions in the hall and elsewhere, but special attention was always directed to a statue of a veiled lady executed by the famous Thorwaldsen.

The gathering together of so fine a

collection of articles of vertu, though a task of no small difficulty, was a source of the greatest pleasure to their owner. He was justly proud of it, and at all times he was delighted to show the house and its treasures to his friends. The majority of his visitors had no special knowledge of art, but all, even the children, had beauties pointed out to them, and went away with memories that did not easily fade.

The grounds, which were laid out with great artistic taste, were a distinguishing feature of West Shandon. The winter climate on the Gareloch permits the growth of various foreign trees and shrubs too tender to succeed elsewhere, and conifers and rhododendrons were freely planted, whereby beauty was conferred upon the spot as noticeable in winter as in summer.

Mr Napier's hospitality was boundless,

and is well illustrated by his offer to place his establishment at the disposal of Lord Dalhousie, Governor of India, who happened to be staying in a hotel at Arrochar. To this offer the Marquis replied as follows :—

ARROCHAR, *September* 15, 1856.

SIR,—I am unable to thank you sufficiently for your most kind and courteous letter. Its kindness is so spontaneous and so manifestly genuine, that I should accept your proposed hospitality with the greatest pleasure were it not that my movements are necessarily so uncertain that I should not be justified in putting you to the inconvenience which my acceptance of your proposal would inflict upon you.

I trust, however, that you will so far permit me to profit by your courtesy, as to consider your letter the commencement of a personal acquaintance with you, and that you will allow me, when I shall have put away—if ever I do put away—my crutches, to take some opportunity of presenting myself to you, and of personally thanking you and Mrs Napier for the very gratifying instance



you have afforded me of real Scottish hospitality.—I beg to remain, my dear Sir, with many thanks, your very faithful servant,

DALHOUSIE.

R. NAPIER, Esq.

As bearing on this subject, we may subjoin a characteristic letter from his intimate friend Mr Lorne Campbell, who was factor to the Duke of Argyle, and resided at Port-na-kill.

ROSNEATH, *Thursday*.

MY DEAR ROBERT NAPIER,—Of course you know we have Lord John Russell here, and you will be glad to know they have seen the Loch on Tuesday afternoon for the first time in the perfection of beauty. Among the first objects that attracted his quick eye was your chateau: and on my telling him whose it was, and what a terrible fellow you are, he launched forth at once on the Duke, the *Cunarders*, and all you have done for them, and said he would like to go and see you some time while they were here.

They go to-morrow to Lord Minto's for a few days. He will likely tell me when he proposes

to see you; and I will be sure to give you notice, that you may be at home.

They are most agreeable, easy people; so when they *do* go, don't make too great an ado about them. A glass of sherry will serve them; and if I act as their coxswain, you can, if you like, give *me* a glass of champagne.—Yours very truly,

LORNE CAMPBELL.

Not only to private individuals but also to public bodies he extended a hearty welcome; and he took a prominent part in entertaining the British Association when they visited Glasgow in 1855.

Professor Pillans, writing him at that time, says :—

As one of those who availed themselves of your kindness in placing the *Vulcan* steamer at the disposal of the British Association, I am deputed by them to convey to you, in their name and, I think I may venture to add, in the name of all the members of the Association now assembled here from every part of the United Kingdom, the expression of their cordial thanks and sense of obligation for the opportunity you afforded

them in the "land of the mountain and the flood" of renewing old friendships and forming new acquaintances which to some may prove an era in their lives, and to all will be a day of agreeable recollections.

They regard this act of considerate liberality on your part as one of a series which promises ere long to extend a designation, hitherto reserved for the East India Company, to the yearly increasing number of the "Merchant Princes" of Glasgow.

While entertaining so freely, Mr Napier never forgot that he had also responsibilities; and social needs came in for a full share of his bounty. He took a great interest in the church at Row, which he attended regularly. He was on very friendly terms with the Argyll family, and in connection with the rebuilding of the church the Dowager Duchess thus wrote him:—

ST LEONARDS-ON-THE-SEA,  
28th Jan. 1850.

DEAR SIR,—I should have replied to your letter, dated the 12th, much sooner, but my health

is often my excuse for deferring letter-writing, and I shall therefore hope you will excuse my delay.

I have asked Mr Davidson to address you on the subject of the Row church, &c., &c. He manages for me all these matters, as I am myself quite unfit to do so.

I am sure the parish generally are much indebted to you for the great interest and liberality with which you deal with them.

I trust all will be well and pleasantly arranged regarding the new church to please all parties, and to be conducive above all things to the comfort of our worthy minister.

I hope Mrs Napier and the other members of your family are quite well.

With kindest remembrances to Mrs Napier and yourself, I am, dear Sir, yours very sincerely,

A. ARGYLL.

ROBERT NAPIER, Esq.  
of West Shandon.

The Rev. Laurie Fogo, who succeeded the saintly John Macleod Campbell, was minister of Row parish, and during his incumbency the present handsome church

was built. To its erection Mr Napier contributed liberally, and he also placed in the churchyard an elaborate monument, in the form of a statue, to mark the resting-place of Mr Henry Bell, the pioneer of steam navigation.

## CHAPTER XII.

ROBERT NAPIER & SONS.

FUTURE PLANS — *SANTIAGO* DIFFICULTY — JOHN ELDER'S DEPARTURE — NAPIER AND ELDER FIRMS — CRIMEAN WAR — *PERSIA* — *EREBUS* — RETIRAL OF JAMES R. NAPIER — WESTERN BANK — CATHEDRAL — UNIVERSITY — LETTER FROM MELVILL.

By the middle of the century Robert Napier was at the zenith of his greatness and fame. He had successfully introduced on the Clyde iron shipbuilding for large vessels, and other firms that had sprung from him were developing the industry.

Being now sixty years of age, he was desirous of greater leisure, that he might enjoy to some extent the fruit of his arduous labours. His intentions for the future were that his business should be actively carried on by his two surviving



H.M.S. DUKE OF WELLINGTON, 1853.





sons, James and John, assisted by his son-in-law, Mr Rigby, and his nephew, James S. Napier; and with this purpose in view he had left Glasgow, and now resided permanently at West Shandon, on the shores of the Gareloch.

In the meantime the Pacific Steam Navigation Company, with whom he was much associated, had arranged for an extension of their mail service, and placed a contract with him for four large paddle-steamers—the *Santiago*, *Lima*, *Bogota*, and *Quito*. At this time the building-yard at Govan was managed by Mr James R. Napier, and the engine-works at Lancefield and Vulcan by Mr Elder, in conjunction with Mr John Napier, Mr Elder's son John occupying the position of chief draughtsman.

The managing director of the Pacific Company, Mr Just, who was on terms of intimacy with all parties, gave instructions to the respective managers, who complied

with his wishes ; but in doing so due consideration was not paid to one of the conditions of the contract, which was treated as of little importance. This condition was that the vessels should steam at the rate of 12 knots with 500 tons on board, this weight being 150 to 200 tons beyond the maximum weight the vessels were intended to carry on their regular voyages.

When tried at full load-draft the paddle-wheels of the *Santiago* were too deeply immersed, and as the required speed in this condition was not attained, the Company declined to accept the vessel. Mr Napier was much annoyed, as Mr Just's instructions had been complied with, and the failure was due in large measure to alterations from the original plans. If his object had been solely to fulfil the guarantee as to speed rather than serve the Company, he could, by reducing the paddle-wheels (which would have cost little), have

made the vessel steam 12 knots with the stipulated weight, but she would then have been useless in ordinary sea-going conditions. However, in his anxiety to please he altered the *Santiago* at great expense, so that she might fulfil the literal terms of the contract and prove a useful steamer. But he did not think that the directors used him well in claiming to exact penalties for delay in delivery, and in consequence he was not desirous of building more vessels for them.

At this juncture John Elder, who as chief draughtsman had much to do with the *Santiago* difficulty, desired to leave, and on 27th August 1852 wrote to his employer in the following terms:—

DEAR SIR,—In compliance with the liberty granted me in your favour of the 18th March and the 16th June, I have arranged to join Messrs Randolph Elliott & Company. I shall therefore feel obliged by your informing me what day I

might consider myself clear of my engagement with you, and beg to state that I have done everything in my power for the last five months to render this change in the sub-management of your establishment as gradual as possible; and if there is anything else could be done by me either before or after my dismissal it will give me much pleasure to avail myself of the opportunity.

The 1st of September next is my quarter day, and, if convenient, I should like to close with you and your sons at that time.—I am, dear Sir, yours very truly,

JOHN ELDER.

John Elder's agreement was entered into in 1846, and did not expire for some time. There was no question of dismissal, as Mr Napier was sorry to lose his services; but he reluctantly assented to his request to depart on four days' notice.

The Pacific Company found John Elder an eager competitor for their orders. As is well known, he introduced into the mercantile marine the compound engine, with its consequent reduction of coal

consumption. To the Pacific Company, with their South American service, this saving in coal was of enormous advantage, and they became his chief supporters, ordering many vessels from his firm, and continuing to do so till the date of Mr Elder's death, which took place in 1869.

We may remark on the intimate connection between the Napier and Elder firms.

Randolph, the founder of the latter, was brought up in Napier's works, and started in business for himself in 1834. After John Elder joined him they began shipbuilding in Napier's old yard at Govan. On Mr Elder's death, Mr (afterwards Sir) William Pearce, who then acted as manager of Messrs Napier's ship-yard, was asked to take the position of shipbuilding partner at Fairfield. He was under a long engagement with the Napiers, but they readily acceded to proposals for his advancement, and consented to his departure. A few years later

he became sole partner, and did much to enhance the reputation of the Clyde as a shipbuilding centre, his chief triumphs being the Cunard steamers *Umbria* and *Etruria*, in the construction of which he was ably assisted by Mr Shepherd, who succeeded him at Napier's establishment, and afterwards followed him to Fairfield.

When John Elder was leaving, Mr A. C. Kirk was entering on his apprenticeship at Vulcan Foundry. This most talented engineer, on completion of his indenture, went to London, where he occupied a prominent position in Messrs Maudslays' establishment. On his return to Scotland he became manager of Messrs Youngs' Paraffin Works, where he revolutionised the industry. A few years later he took charge of Messrs Elders' Engine-Works, and superintended their transference from Centre Street to the present premises at Fairfield.

On the death of Mr Napier he, with



others, acquired the business of R. Napier & Sons, and in his capacity as senior partner upheld the firm's reputation. He took an active part in the introduction of steel into shipbuilding, and built the *Parisian*, the first Atlantic mail-steamer constructed of the new material. In 1881 he successfully introduced into the mercantile marine the triple expansion engine, which has since been universally adopted; and a few years later was entrusted by the Russian and British Governments with their first orders for this class of machinery. The last mail-steamer he engined was the Orient liner *Ophir*, which was selected as the vessel best suited for the conveyance of their Royal Highnesses the Prince and Princess of Wales in their tour of the British dominions,—a service which she performed to the satisfaction of all.

Even at the present day the connection is maintained, Mr Gracie, the well-known

director of engineering at Fairfield, being an old Napier apprentice.

In 1853 Mr Napier adopted his sons as partners, and altered the style of his firm to "Robert Napier & Sons," under which designation it was henceforth known. This was a preliminary move, but unfortunately the change was not a success; and within a few months we find him regretting the step he had taken, and making up his mind to revert to the old "Robert Napier," which he did in deed if not in name.

Mention may here be made of an interesting episode illustrating the peculiar attitude which the British Government occasionally adopts towards its subjects.

Shortly before the Crimean War the Russian Government ordered some engines from Napier, and when the war-cloud darkened, in view of possible hostilities they sold them to a German firm. On declaration of war the British Government



seized this machinery, although technically it was the property of a neutral, and promptly despatched an official, who placed the broad arrow on the engines, and arranged to have them watched day and night.

Owing to the sale effected by the Russians, the position of matters was complicated, and Napier sought the protection of his Government, offering to complete the engines, and deliver them to the Admiralty, provided he was indemnified against any claims that might arise.

Instead of acceding to this apparently reasonable proposal, the Government officials coolly made a claim on him for the expense of watching the property which they had confiscated.

Napier promptly refused their demand, and had recourse to his friends in the House of Commons, through whom pressure was brought to bear whereby his position

was properly recognised, and he obtained the desired protection.

The British Government ultimately took the engines in accordance with Napier's suggestion, and they were fitted on board H.M. ships *Urgent* and *Transit*. The latter vessel, it may be observed, had a somewhat unfortunate career, and was finally wrecked on the coast of China.

The dimensions of vessels were in the meantime still increasing; so, to meet the growing requirements of shipowners, Napier purchased more ground at Govan, and laid out a new yard where he could build vessels up to 400 feet long.

Owing to the conditions of the Government subsidy, the Cunard company had hitherto built wooden vessels for their mail service; but now they resolved to adopt iron, and gave out the contract for the *Persia*.

This vessel was a great advance on any-



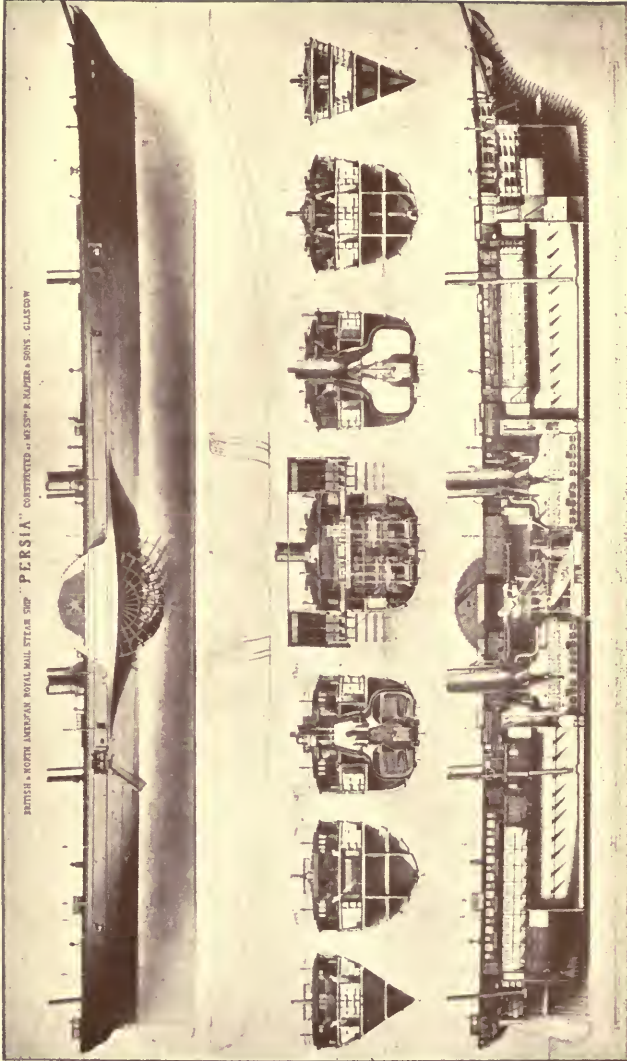
R.M.S. PERSIA, 1856.



thing hitherto built on the Clyde, and her design was a long time under consideration. In the beginning of March 1852 we find Napier writing Mr C. MacIver that "he was studiously considering the *Persia*," and in August of the same year he arranged to make the engines for the sum of £45,000. It was not till a year later that the contract for the hull was settled, and there is an interesting letter on this subject. Writing from West Shandon on 3rd August 1853 to Mr MacIver, he says :—

"MY DEAR SIR,—Yesterday I arranged with Mr Burns for the building of your large iron steamer, and recommended she should be made about fifteen feet longer and from one to two feet lower. Mr Burns stated nothing could be done in Glasgow on that score, the whole rested with you. I therefore think it best, after a day's

consideration of the subject, to write you direct, and to state that my people are to go over the details of the specification with Mr R. Thomson previous to the same being laid before you for approval. But as the dimensions are what R. Thomson cannot touch, I have to request that you give the following your immediate consideration and attention, as I am most uneasy regarding the success of this vessel as a whole ; for I am convinced, unless the greatest care, attention, and judgment are exercised in the getting up of this large vessel with a limited power, that *there is a very great risk of failure* in one thing or another. On the other hand, if care is taken, and we are not unnecessarily tramelled as to dimensions, &c., *I have no fears but that a good result will be obtained*, and I think from the past experience had of my character in such matters you may have every confidence



R.M.S. PERSIA, 1856.





that I shall *not* propose or recommend anything to you that is at all likely not fully to answer its purpose.”

Then follow the technical details, and the letter closes with the remark—

“Excuse my anxiety as to this vessel.—  
Yours faithfully, R. NAPIER.

“C. MACIVER, Esq.”

The consideration of dimensions and plans extended over many months, and it was the summer of 1854 before work was fairly started.

The *Persia* was 390 feet over all by 45 feet beam, having a gross tonnage of 3600 tons. She had double side-lever engines, with cylinders  $100\frac{1}{2}$  inches in diameter, a stroke of 10 feet, and wheels fully 40 feet in diameter. Everything that care and skill could devise to make her a strong and a safe ship was done.

Her frames were spaced 18 inches apart,

and at the bow were placed diagonally, with a view to greater strength in the event of a collision. This arrangement stood her in good stead when on one occasion she ran into an iceberg stem on, and escaped with slight damage. Her cabins were of the most sumptuous description, and accommodation was provided for nearly 300 passengers. Her cost was about £130,000, and at the time of her launch, which took place in the presence of 50,000 people, she was the finest and largest vessel afloat.

She was tried in January 1856, and steamed from the Cloch Lighthouse to Bell Buoy, a distance of 175 knots, in 10 hours 43 minutes, this speed working out at the rate of over 16 knots an hour.

At the trial trip, in proposing the health of the builder, Mr Burns said, "Mr Napier had built forty large vessels for the Company's lines, and there never had been

a fault or a mistake from the starting to the carrying out of any one of them. This was saying a vast deal, but they were so indebted to him."

The *Persia* may be considered the first of the Atlantic greyhounds. She added much to the prestige of the Cunard Company, it being humorously observed in reference to her builder, "She has nae peer on the Atlantic." Even the English papers wrote, "It must be confessed she is the finest ship afloat. What can be done by others is one thing, what has been done by Mr Napier is another." Mr Kirkcaldy drew a sectional plan of her, which had the unique distinction of being the only mechanical drawing ever exhibited at the Royal Academy.

During the Crimean War the Government ordered from London and elsewhere wooden ships cased with iron plates; but as these were not a success, they

commissioned Napier to build an iron vessel of a similar description. She was called the *Erebus*, and the most extraordinary exertions were put forth to construct her rapidly, as the contract was taken with a penalty of £1000 a-day. She was 186 feet long by  $48\frac{1}{2}$  feet broad, and was cased with  $4\frac{1}{4}$ -inch armour plates placed on 6-inch teak backing. The work was pushed on night and day, no fewer than 1200 men being employed on her construction. Laid down in the beginning of the year, she was launched, with her machinery on board, on 19th April 1856, having been only three and a half months in hand. She left next day for Portsmouth, and reached Spithead at the close of the naval review held then on 23rd April. The credit for this exploit was largely due to Mr James R. Napier, but the strain told severely on his health, and soon afterwards he retired from the firm.



H.M.S. EREBUS, 1856.



James R. Napier, while not a practical business man, was possessed of high scientific attainments. Educated at Glasgow University, where he took a high place in the mathematical classes taught by Professor Thomson, the father of Lord Kelvin, he applied his knowledge to marine architecture, and was one of the first to investigate theoretically the intricate question of strains in iron vessels. He was an intimate friend of Professor Rankine, who joined with him and others in writing a treatise on ship-building, which was recognised as a standard work.

He also instituted elaborate measured mile trials (now so universal) for the purpose of acquiring accurate data regarding the performances of vessels. He was an advocate of hollow water-lines, and had strong views on this subject which were exemplified in a steamer called the



*Athanasian*, built by him to illustrate them.

After retiral from business he devoted his time to scientific pursuits, and his society was much cultivated by Lord Kelvin, in conjunction with whom many abstruse problems were investigated.

He made several long sea-voyages, and devoted special attention to matters connected with navigation, such as perfecting compasses and methods of obtaining rapidly deep sea-soundings, ideas which his friend Lord Kelvin afterwards brought to perfection.

He built a fishing steamer called the *Islesman*, in which were embodied most of the ideas to be found in the modern well-trawler.

For ordinary domestic wants he patented stoves, and an apparatus for making coffee which is still unsurpassed, and known by the familiar name of "The Napier Coffee-pot."



An active member of the Glasgow Philosophical Society, he took a great interest in similar institutions, including the British Association and the Royal Society of London, which recognised his attainments by electing him a Fellow.

On the retiral of his eldest son the business was carried on by Mr Napier and his second son John, who attended most diligently to the affairs of the concern, assisted by able managers whom he selected, such as Mr Walter Brock, now of Messrs Denny & Co., Mr Pearce, Mr Shanks, and others.

Advances were made to Mr James S. Napier to resume his connection with the firm, but though the relationship was most intimate and cordial he preferred to remain outside. No partnership was offered to any others, and Mr Napier and his son remained the sole partners till the date of the former's death.

Mr Napier took a warm interest in the affairs of the City of Glasgow, but he never aspired to municipal honours, though his son-in-law Mr Alexander Hastie was Lord Provost, and represented the City in Parliament.

In 1857, at the time of the disasters to the Western and City of Glasgow Banks, there was great distress, and Mr Burns, who had been interested in the Western Bank, wrote Mr Napier as follows :—

GLASGOW, *27th November* 1857.

MY DEAR SIR,—A deputation is going to Government on the present state of money matters here, and I have been requested to beg most urgently that you will join it. You will not be asked to do anything more than show face; but that is considered of consequence, and I am sure you will be willing to lend a helping hand.—Yours very truly,

G. BURNS.

TO ROBERT NAPIER, Esq.,  
Golden Cross, London.

The deputation was to consist of the

Lord Provost and some leading men ; and in the letter intimating to Mr Napier that he had been nominated, Mr Crichton says : “ You have been selected as being the employer of a very large number of mechanics, and as being perhaps better known to the Government than any other private citizen of Glasgow.”

Mr Napier, however, while sympathising with the distress, did not see his way to join in the movement, which came to nothing.

One outcome of the visit which her Majesty Queen Victoria paid to Glasgow in 1849 was a revival of interest in the Cathedral ; and a movement was set on foot to improve the edifice, and introduce stained glass windows in the aisle to give a dim religious light. In this scheme Mr Napier took a great interest, and he wrote Sir Andrew Orr, who was then Lord Provost, expressing his views.

“WEST SHANDON, 21st April 1857.

“MY DEAR LORD PROVOST,—I am favoured with your note of yesterday requesting me to attend a meeting of Committee on Friday next to consider the Report upon Cathedral Windows.

“I am sorry that a previous engagement for that day (and which I cannot get off from) will prevent me from being present.

“I have, however, much pleasure in stating that I consider Mr Stirling and the gentlemen who drew up the report deserve the best thanks of the subscribers for the careful, clear, and concise manner in which they have placed the whole subject connected with this painted glass movement before all who are interested in it.

“I notice that the feeling of the Committee is decidedly in favour of employing foreign artists. Seeing such is the case, I will *not* dissent, although I would have

liked that native artists had had a chance. But I *do* dissent from giving the order to the royal factory at Munich, or to any other party, without a more careful examination of the matter than has yet been done. I do *not* object to the high price of the Munich glass if it really is so much better than other painted glass. I have, however, my doubts on this subject; and in this I am strengthened by the enclosed letter received from Mr M'George, and also by the opinion of others. I quite agree with the Committee that *quality* more than price should be attended to; but if an *equally good* or better quality can be got at a much lower price, this is a matter of great importance for all concerned, and ought *not* to be overlooked.

“I know the subject from its novelty has many apparent difficulties; still, they are not insurmountable.

“If Mr Stirling or any of the Committee

could spare time, and could get a gentleman such as Digby Wyatt, or any other neutral person acquainted with art, to go along with him to the Continent, and see what has been done and doing in stained glass, and report, the time and money would be well spent, I think.—I am, my dear Lord Provost, yours faithfully,

“R. NAPIER.”

Mr Napier and his son John are each represented by a window in the south-east corner of the choir of the Cathedral, the subjects being Simon and Matthias the apostles.

He also took part in the movement for transferring the University to a more suitable site; and his firm subscribed £2000 towards the fund for erecting the new buildings at Gilmorehill.

In the midst of multitudinous correspondence Napier still kept in touch with

old friends, such as Duncan and Melvill, the latter of whom was now a K.C.B. This chapter may therefore be fittingly closed with a letter showing that the opinion Sir James had expressed to Cunard in former years as to Napier's capability had only intensified with years.

EAST INDIA HOUSE, 24th December 1856.

MY DEAR MR NAPIER,—Very many thanks for the memorial so well told and illustrated of that great man Watt.

Were he alive he would designate my friend Robert Napier as the man who, above all other living men, has given practical effect to the inventions of Watt, and has passed to the world the great blessing of steam navigation. I in my conscience believe that the best vessels afloat are those with which you have had to do.

Many happy Christmases to you, my dear friend, and to dear Mrs Napier, and to all your family, to each of whom pray present our united regards and best wishes.—Ever affectionately yours,

JAMES C. MELVILL.



## CHAPTER XIII.

### IRONCLADS.

ADMIRALTY ORDERS *BLACK PRINCE* — PARKHEAD FORGE — *ROLF KRAKÉ* — TURKISH FRIGATES — *NEPTUNE* — *SCOTIA* — CAPE MAIL-STEAMERS — *QUEEN OF THE THAMES* — PRACTICAL RETIRAL — “MEASURED MILE” — LAST PUBLIC APPEARANCE — HOSPITALITY — HONOURS.

ALTHOUGH nearly seventy years of age, Mr Napier was still very active. This is amply proved by the fact that he then struck out into a new line whereby he increased his fame, making the building of battleships a special feature of his business.

The Emperor Napoleon III. had given orders for the construction of an ironclad frigate called the *Gloire*. This new departure, coupled with an unusual activity in the French dockyards, caused disquiet in the mind of the British Government.





H.M.S. BLACK PRINCE, 1861.



To meet the emergency the Admiralty determined to lay down large sea-going vessels, cased with armour plates; and in the early part of 1859 they addressed to Messrs Napier a confidential letter, requesting a design and suggestions for a shot-proof frigate of 36 guns, cased with  $4\frac{1}{2}$ -inch armour plates from the upper deck to five feet below the load water-line, to steam  $13\frac{1}{2}$  knots, and to be capable of carrying weights amounting to 1200 tons, in addition to coals for at least seven days full steaming.

Mr Napier personally went very carefully into the details of the design, and in the end of February submitted three models and plans for the proposed ship. Two months later he received the following letter :—

ADMIRALTY, 30th April 1859.

SIR,—I am commanded by my Lords Commissioners of the Admiralty to thank you for your

ready and cheerful compliance with their wishes, and for the very creditable design furnished by you for an iron-cased frigate; and am now to request you will state the price per ton and the shortest time you will require for building a vessel of this description, the drawings and specification for which will be ready for inspection at the office of the Surveyor of the Navy on Monday next. The tenders are to be sent under seal to the Surveyor of the Navy, marked "Tender for Iron Vessel," so as to be received by noon on Saturday the 7th May.—I am, Sir, your obedient servant,

H. CORRY.

R. NAPIER, Esq.

It will be observed that less than a week was given within which to inspect the drawings and specification and send in a tender; but yet Mr Napier on 6th May offered to build and engine the ship within a year for the sum of £283,000 sterling. In his letter of offer, reference was made to the novelty of the work, and the difficulty of forming a fair estimate of the cost and time necessary. There was

also a proposal to build the vessel in less than the time named, if required, leaving the remuneration for "forced labour" to be determined by the Admiralty.

Mr Napier was not successful in obtaining the contract for the first frigate, the *Warrior*, which was given to the Thames Company, but a few months afterwards, on the 23rd September, he received intimation that the Commissioners had decided on building a second vessel, and asking an offer for the hull. A tender was submitted on the 3rd October, offering to build the ship at £37, 5s. per ton; and three days later this offer was accepted. At first it was intended to call the ship the *Invincible*, and on 14th January 1860 my Lords sent notification to this effect. Next day, however, they issued new instructions, altering the name to the *Black Prince*.

The building of an ironclad was a task fraught with much difficulty, as the work

was entirely novel. To construct the vessel, more ground at Govan had to be acquired, and a promise obtained from the Clyde Trustees that they would deepen the river to the depth necessary for the launch and safe seaward passage of the frigate.

The *Black Prince* measured nearly 420 feet over all, and her displacement was 9800 tons. She was thus much longer and heavier than any work which had hitherto been undertaken in Govan Yard.

The difficulties that arose during construction were great. Material capable of standing the new tests, which were rigorously applied, could only be got after long delay and at enormously increased cost.

The trouble experienced with the massive stern frame, with the armour plates, with plans, &c., so retarded the work, that instead of being finished in twelve months as anticipated, the vessel was over two years in the Clyde under construction.

All obstacles, however, were finally overcome, and the *Black Prince*, christened by Miss Napier of Saughfield, entered the water on 27th February 1861. Her launch was considered such a great event in Glasgow that it was made the occasion of a public holiday; and even Professor Lushington adjourned his Greek class with the remark that "this was a sight the Athenians would have loved to see." The vessel was taken to Greenock about a fortnight later to be finished, and she remained there till nearly the end of the year.

As might have been expected in view of the circumstances of the case, the contracts for the *Warrior* and *Black Prince* proved most unremunerative to the builders; but while the Admiralty willingly compensated the English contractor, they declined to reimburse the Scottish one. This injustice, however, was not allowed to pass; and eventually, after long delay, Napier



got his claims recognised and his loss in great measure made good.

Many years before this time Mr Napier had acquired the Parkhead Forge, and the management of it was undertaken by his son-in-law, Mr Rigby. When ironclads were being contemplated, Mr Rigby induced his friend Mr Beardmore, who was then an engineer in London, to join him, and they took over the Forge, which was carried on under the style of Messrs Rigby & Beardmore. They put down heavy rolling-mills, with the intention of making armour plates; but not succeeding in this the mills were adapted for the production of ship and boiler plates, in which the firm did a large and profitable business. Rigby died in 1863, and his widow, advised by the Napiers, whom he had appointed as his trustees, carried on the business in conjunction with Mr Beardmore till 1872. Mr William Beardmore, who succeeded his





H.M.S. AUDACIOUS, 1869.



father, managed to carry out successfully the original intention of armour-plate making; and eventually, in 1900, with a view to turning out a ship of war complete, with armour, guns, engines, &c., he purchased from the Napiers the parent business of R. Napier & Sons.

After the successful completion of the *Black Prince* the Danish Government commissioned Messrs Napier to build a war-vessel. In this instance the Danes had such confidence in Mr Napier's integrity and uprightness that they made him sole arbiter in the contract which they entered into with Messrs R. Napier & Sons.

The *Rolf Kraké* was a handy ship of a new design, armed with four heavy guns, placed in turrets or shields, as patented by Captain Cowper Coles. In the war between Denmark and Prussia in 1866 she gave a good account of herself, being fired at 150 times and coming off unscathed.

She turned the tables completely against the Prussians; and competent authorities have asserted that if the Danes had possessed more *Rolf Krakés* the result of the war would have been different.

The Turkish Government was the next foreign Power to requisition his services, and entrusted him with an order for three large frigates—the *Osman Ghazy*, the *Abdul Aziz*, and the *Orkhan*.

David Livingstone, the celebrated African traveller, was one of Napier's acquaintances; and being in this country in 1865, he was asked to the trial trip of the *Osman Ghazy*, which was a great event. Livingstone's reply to this invitation will be read with interest, containing, as it does, a glimpse of his private life.

BURNBANK ROAD, HAMILTON,

24th June 1865.

MY DEAR MR NAPIER,—I thank you very much for kindly remembering me in the launch and trial trip.



OSMAN GHAZY, 1865.



I shall be unable to avail myself of the pleasure of seeing the launch; but I should like so very much to see an ironclad performing under your superintendence, that if possible I shall be present at the trial trip of *Osman Ghazy* on Wednesday.

In giving the usual intimation to my friends, I quite forgot to send one to you and Mrs Napier about the death of my mother, aged eighty-two.

She said to me, when going away seven years ago, that she would like to have one of her "laddies" to lay her head in the grave. That wish was granted, for I performed the last duty to her yesterday.

Tell Mrs Napier that the great change appeared only an hour before the close in quicker breathing. My sister said, "I think the Saviour has come for you, mother; you can lippen yourself to Him." "Oh yes," she said in a way that only we Scotch can understand, gave a last look to our little girl, and said, "bonnie wee lassie," closed her eyes, and soon all was over.

We are thankful to believe she is safe in the haven of mercy. These little things we mention only to friends who can appreciate them.—Ever yours,

DAVID LIVINGSTONE.

After finishing the warships for the

Sultan, Napier was commissioned by the Netherlands Government to build for them two coast-defence vessels, the *De Buffel* and *De Tijger*.

Further contracts for large warships for the British Navy followed, and the stream of orders from this source flowed henceforth uninterruptedly.

While engaged on this heavy class of work, Messrs Napier found time to construct a river steamer, the *Neptune*, with which they emulated the success attained in early days by the *Clarence*.

The *Neptune* was a very fast boat, and had many features that were then novelties, such as double diagonal engines running at high speed, Gifford's patent injectors, superheaters in the funnel uptakes, very small paddle-wheels, iron floats, &c., &c.

Mr Dunsmuir, now of Messrs Dunsmuir & Jackson, was placed in charge of the





NEPTUNE, 1861.

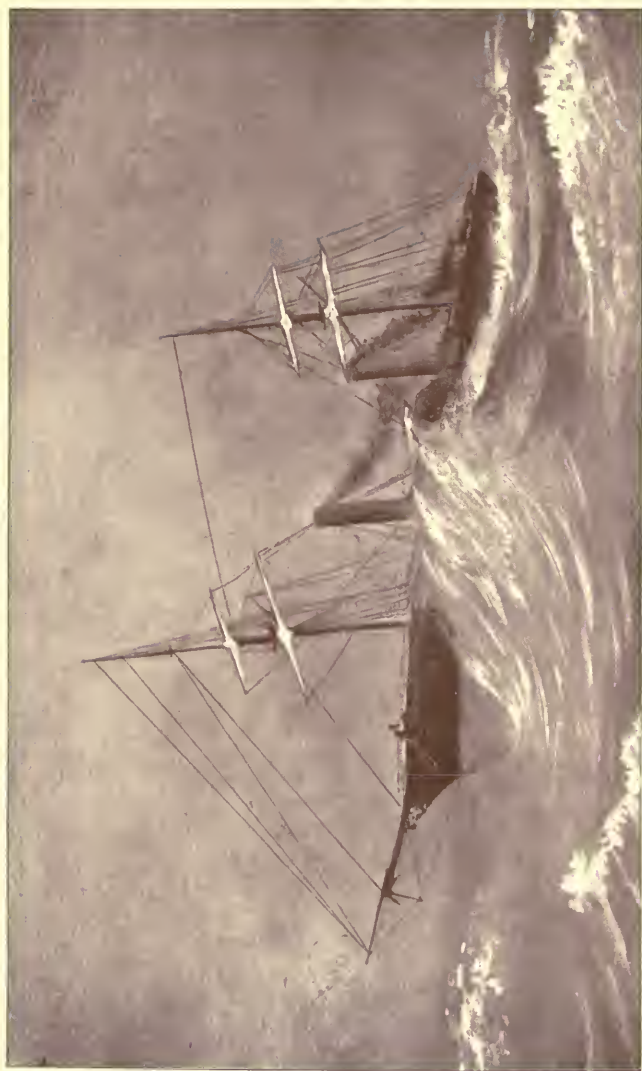


engine-room, and in his hands she was the swiftest vessel on the river, attaining a speed of 21 miles an hour, with engines making seventy-three revolutions per minute. After running two seasons on the Clyde she was sold to run the American blockade between Havanna and Mobile, Dunsmuir agreeing to go with her.

On her way out she was nearly wrecked off the coast of Portugal, having been navigated too near the shore among breakers. She was given up as lost, and no doubt would have been but for her great engine power, by which she was literally dragged through the surf, which was breaking over her, and thus made a very narrow escape. When coaling at St Thomas she was watched by the *Washita*, one of the fastest cruisers in the American Navy, commanded by the daring Admiral Wilkes, of Mason and Sliddell fame. No sooner had the *Neptune* cleared the harbour than

it was seen that the cruiser was pursuing her. The chase was maintained all day, but before daylight disappeared the *Washita* was left hull down on the horizon. All night the *Neptune* was kept going at her top speed, and by next morning there was no appearance of her pursuer.

There were several very hot runs about Cuba, but she managed successfully to pass four times through Admiral Farragut's blockading squadron. On one of these ventures she was nearly captured, having gone on a sand-bank during the night at the critical juncture of passing through the fleet. She remained aground for about three hours. During all this time the engines were kept going at full speed, and at daybreak she had the good fortune to pull off. Had the vessel not been exceptionally strong, it is evident she could not have stood the very rough treatment she continually received.



R.M.S. SCOTIA, 1862.



The profits on blockade-running were enormous, amounting in this case to £15,000 a trip; and Dunsmuir, on whom so much depended, was only receiving £100 for the double run.

After the fourth successful run, he very reasonably requested that his remuneration should be doubled; but the owners refusing this, he resigned with regret, and on the next attempt the *Neptune* was captured.

She was taken as a prize to Norfolk, in Chesapeake Bay, and used by the Northern States for watching other blockade-runners.

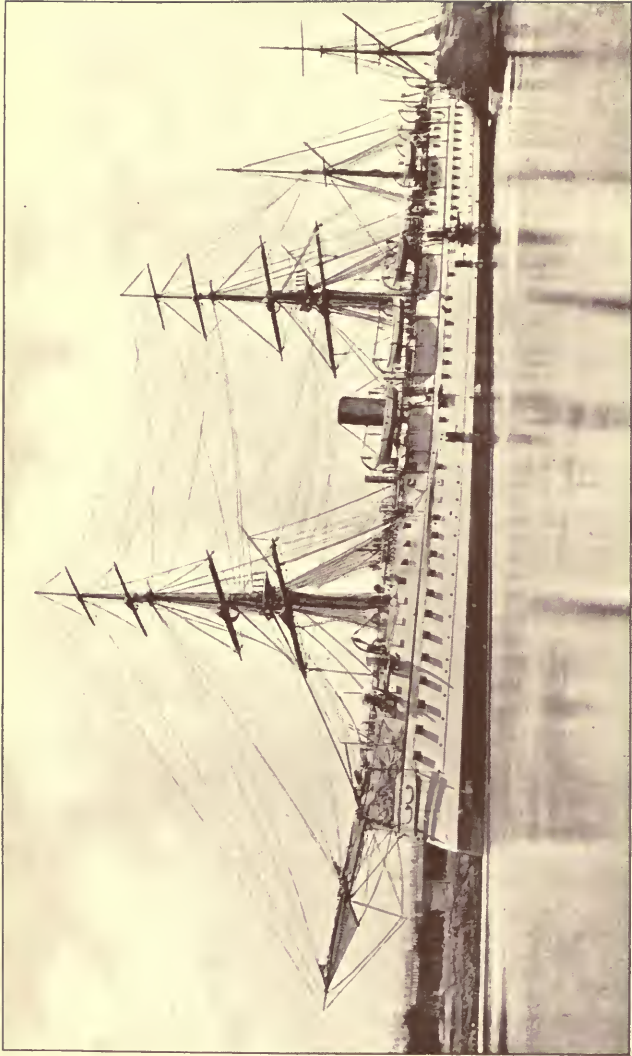
In 1861-62 two vessels were built for the Cunard Company,—the paddle-steamer *Scotia*, and a screw-steamer called the *China*. The days of the Atlantic paddle-steamer were numbered; and it may be mentioned that in the letter inviting the tender for the *Scotia* there is reference to the possibility

of her ultimate transformation into a screw, and provision was to be made for doing so. This change actually took place some years later, when she was purchased by the Telegraph Construction and Maintenance Company, and converted into a twin screw. These two vessels were the last ordered by the Cunard Company from Mr Napier.

In 1864 he undertook to build two large fast screw steamers for the Compagnie Générale Transatlantique—viz., the *Pereire* and the *Ville de Paris*. With these the blue ribbon of the Atlantic was wrested from their British competitors.

Mr Napier had previous experience of the generosity of the French, since he had attended the great Exhibition of 1855 in an official capacity, and had then been created a Chevalier of the Legion of Honour. Now he was extolled and feted by them; and when present at the Exhibition





H.M.S. MALABAR, 1867.



of 1867 the Empress Eugénie was so struck with his dignified appearance that she requested that he should be specially presented to her.

Another connection he formed was with Sir Donald Currie, who entrusted the construction first of his sailing-ships and afterwards the greater part of his fleet of Cape mail-steamers to Mr Napier's firm.

Special reference may also be made to the contract he received from his old customers, the Indian Government, for the troopship *Malabar*. This magnificent specimen of naval architecture, designed by Sir E. J. Reed, was sister ship to the *Serapis*, which was chosen as the vessel most suitable for his Majesty the King when, as Prince of Wales, he visited India.

In 1870 Messrs Devitt & Moore ordered a large steamer called the *Queen of the Thames*. It was the intention of her

owners to run steamers to Australia capable of making the passage in forty days ; and this was the pioneer vessel. Messrs Devitt & Moore contemplated building six vessels of her type to maintain the service, but most unfortunately the steamer on her first homeward passage was wrecked at Cape Agulhas, and in consequence the enterprise was abandoned.

Ten years later the scheme was again revived by Messrs George Thompson & Co., and brought to a successful issue,—Messrs Napier's firm, of which Dr Kirk was then the head, constructing the *Aberdeen*, the first vessel fitted with triple-expansion engines.

The Dutch Transatlantic Company in 1871 favoured Mr Napier with a large order ; and his former friends the Pacific Company returned to him. Contracts such as these, along with numerous important Government orders, kept his Works well employed.



R.M.S. BALMORAL CASTLE, 1875.



Competition gradually grew keener ; but Mr Napier always insisted that the quality of work turned out by his firm must be of the very best. When it was suggested to him that the exigencies of the times required cheaper methods, he would hear of none of them, saying he would, if need be, retire from business, but that his name must never be associated with work that could be considered in any way inferior.

As years pressed on him the active management devolved more and more on his son, Mr John Napier, but the conditions with which he was confronted made it impossible to carry on the Works profitably. Mr John Napier never shrank from his difficult task ; but though an able engineer, his attention was so taken up with the general management of affairs that few opportunities were afforded him of indulging his mechanical bent. It was,

however, at his instance that "the measured mile" at Skelmorlie, which is still considered the best of its kind in the kingdom, was laid out and measured, and letters were addressed to all the ship-builders in the following terms:—

"LANCEFIELD HOUSE, GLASGOW,  
30th August 1866.

"DEAR SIRS,—We beg respectfully to state that having long felt the want on the Clyde of a correct measured nautical mile for testing the speed of large steamers (similar to what the Admiralty have near Portsmouth and elsewhere), we had the shores of the Clyde examined for a suitable place for laying off a knot; and finding that from Skelmorlie Pier southwards would answer the purpose, we applied to the Right Hon. the Earl of Eglinton for liberty to erect beacons on his property. This the Earl at once most kindly gave





QUEEN OF THE THAMES, 1871.



full permission to do. We then employed Messrs Kyle & Frew, along with Messrs Smith & Wharrie, Land Surveyors, Glasgow, to measure and lay off a knot, which they did; and thereafter we made application to the Lords Commissioners of the Admiralty, begging as a favour that they would send one of their officers to remeasure and test the correctness of this knot, and we would willingly bear the expense. Their Lordships were pleased to accede to our request, and afterwards intimated to us that the knot had been duly tested by their officers and found correct. At the same time they declined to make any charge.

“Their Lordships have caused a printed notice to mariners to be issued from the Hydrographic Department of the Admiralty, of which the annexed is a copy.—We are, dear Sirs, your obedient servants,

“ R. NAPIER & SONS.”

## NOTICE TO MARINERS.

No. 36.

SCOTLAND—WEST COAST.

*Measured Mile in Firth of Clyde.*

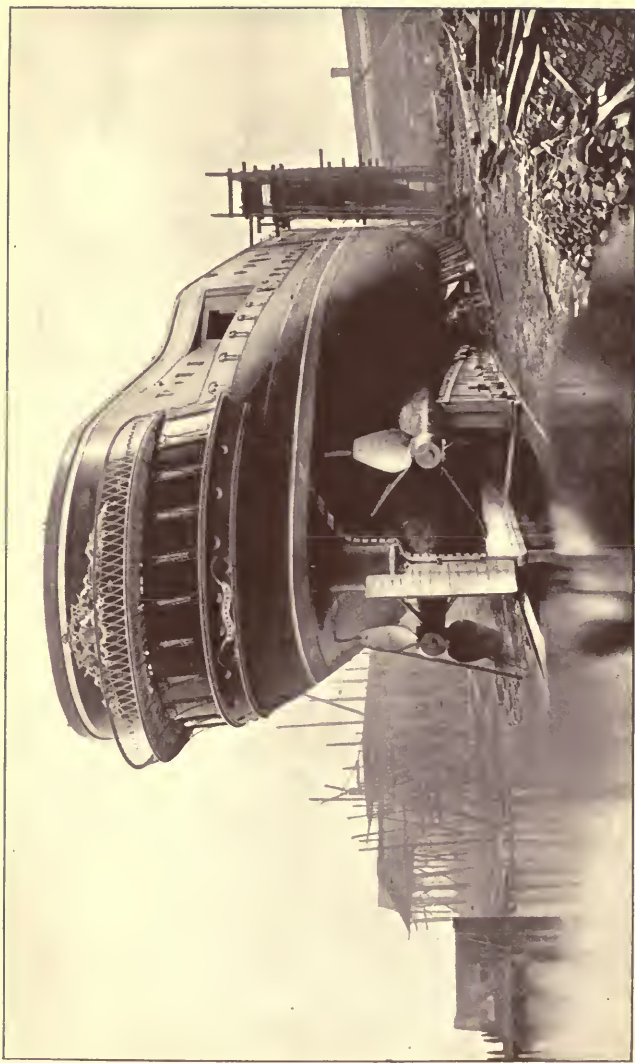
NOTICE is hereby given that beacons to indicate the length of a nautical mile (6080 feet), for testing the speed of steam-vessels, have been erected on the eastern shore of the Firth of Clyde.

Each beacon consists of a single pole 45 feet high with two arms 10 feet long forming a broad angle 15 feet from the base, the whole being painted white.

The two northern beacons are erected near Skelmorlie Pier, the outer one being close to the high-water shore on the south side, and from it the inner one (in a recess of a cliff) is 83 yards distant, bearing S.E. by E.  $\frac{3}{4}$  E.

The two southern beacons stand on level ground near Skelmorlie Castle, the inner one being 100 yards from the outer one, in a S.E. by E.  $\frac{3}{4}$  E. direction.

The courses parallel with the measured mile at right angles to the line of transit of the beacons



H.M.S. NORTHAMPTON, 1876.



are N.N.E.  $\frac{1}{4}$  E. and S.S.W.  $\frac{1}{4}$  W. The shore may be approached to the distance of a third of a mile.

GEO. HENRY RICHARDS,  
Hydrographer.

HYDROGRAPHIC OFFICE, ADMIRALTY,  
LONDON, *4th July* 1866.

One of Mr Napier's last public appearances was at a large social gathering of his workmen, held in the City Hall in 1868, over which he presided. At this reunion he related to his employees for their encouragement the story of his early struggles, and displayed as a token of his former skill the hammer-head, already referred to, which he had made more than fifty years previously.

Although he now rarely visited his Works, he was as active as ever in the social sphere, and continued to dispense open-handed hospitality at his house at West Shandon. He was in the habit of

getting letters such as the following one, and these always called forth a cordial response :—

195 WEST GEORGE STREET,  
*Thursday, 1st October 1874.*

MY DEAR SIR,—I have been encouraged by my mother, who has the pleasure of knowing you, to claim your acquaintance as a member of the name; and I propose to do myself the honour of paying you a visit at Shandon on the afternoon of Saturday next, if it is convenient to you to receive me.

I am staying with Mr and Mrs C. Tennant during the meeting of the Social Science Congress, and Mrs Tennant will avail herself of the same occasion to pay her respects to Mrs Napier.—Believe me, my dear Sir, yours very faithfully,  
NAPIER and ETRICK.

Almost every person of note who came to the West of Scotland called upon him; and special mention may be made of the visit which the Princess Louise paid to West Shandon shortly after her marriage with the Marquis of Lorne. Her Royal



Highness was so delighted with her host that she sent him her photograph as a souvenir.

In his closing years honours flowed in upon him from all quarters.

Reference has already been made to his connection with the French Exhibitions; and in a similar capacity he acted as Chairman of the Jury on Naval Architecture at the London Exhibition of 1862.

The Institution of Mechanical Engineers, of which he was a prominent member, elected him as their president in 1864, a distinction he enjoyed in common with his friends Fairbairn, Penn, and Whitworth.

He was also one of three honorary members elected by the Glasgow Society of Engineers in 1869, the other two being Fairbairn and Sir William Thomson, now better known as Lord Kelvin.

In the same year the King of Denmark,

desirous of recognising his services to naval architecture, conferred on him the honour of Knight Commander of the Dannebrog. A prominent naval officer, congratulating him on the occasion, wrote :—

I have rejoiced that the King of Denmark has shown a proper spirit in conferring on you the honour of one of Denmark's Orders, and may our Queen be induced to show her appreciation of your valuable services to our Navy by conferring a similar honour in the shape of a K.C.B. Why not? for, as Jack says, 'You builds 'em; we sails 'em.' Long may you be spared to enjoy what you have already gained.

This omission was commented on at the time of Napier's death, one of the papers boldly saying : "Her Majesty alone seems to have been negligent in recognising his genius by any distinguishing mark of royal favour, an omission which does little credit to the successive Governments which profited by his skill, and



JOSEPH WHITWORTH,  
*President.*

R. NAPIER,  
*Past President.*

JOHN PENN,  
*Past President.*

W. FAIRBAIRN,  
*Past President.*

MANCHESTER MEETING, 1866.



should have advised her Majesty of the opportunity afforded to her.”

This apparent overlook might to a certain extent be accounted for by the fact that Mr Napier was not a politician, and he never was in any sense of the word a place-seeker.

Titles, however, are evanescent, being of more importance in the eyes of contemporaries than in those of their descendants; and posterity will know Robert Napier by a greater designation as the father of modern shipbuilding.

## CHAPTER XIV.

### CLOSING YEARS.

GOLDEN WEDDING — CONGRATULATIONS — LOSS OF FRIENDS —  
DEATH OF MRS NAPIER — HIS ILLNESS — DEATH — FUNERAL.

IN 1868 Mr and Mrs Napier celebrated their golden wedding, and friends came from far and near to offer congratulations and good wishes for their happiness.

What a change had taken place in these fifty years! Instead of the obscure mechanic living in a humble dwelling in Weaver Street, struggling to earn a subsistence for himself and his young wife, he was now the most prominent business man in the West of Scotland, his residence a veritable palace, his society courted by many of the great of the land. Yet in

the midst of all his prosperity, Napier remained essentially a family man, and he loved to spend his time with her who had been the sharer of his joys and sorrows through so many long years.

His old friend Sir Spencer Robinson, Controller of the Navy, writing him on this occasion, said :—

Allow me to hope that your anniversary will be as prosperous and as happy as we sincerely wish it may be. I quite understand how short a time fifty years may be to look back upon ; but it is certainly a great and unspeakable blessing to be able to look back on fifty years of an honoured, useful, successful public life, shared, assisted, and blessed during that long period by the closest and dearest of human relations.

Mrs Napier was well known for her sincerity and uniform kindness to all, and there was constant reference made to her by her husband's numerous correspondents.

One of her favourite occupations was the

spinning of flax ; and Sir George Harvey, President of the Royal Scottish Academy, painted her portrait in a most characteristic attitude, seated at her spinning-wheel. Sir George was very pleased with this work ; and having expressed a desire to her Majesty's Commissioners that his art should be represented by it in the International Exhibition of 1872, the picture was publicly exhibited there.

Though Mr Napier had good cause for rejoicing, still this joy was tempered with sadness, as the number of his friends was gradually lessening. Most of his early acquaintances, including the Melvills, Assheton Smith, Wood, Duncan, Cunard, and his old manager Elder, were gone. From his own immediate circle he had lost his brother Peter and his three sons-in-law, Hastie, Wilkin, and Rigby. In 1869 his cousin, David Napier, passed away, and his death was followed some time after-





*Sir G. Harvey, P.R.S.A.*

MRS NAPIER.



wards by that of his brother James, with whom he had been so closely associated.

These partings he felt sorely ; but a heavier trial awaited him. In the autumn of 1875 Mrs Napier, who for some time before had not been robust, peacefully passed away, leaving his home desolate. A few lines written to his nephew, James S. Napier, expressed his feelings :—

“ 23rd October 1875.

“ MY DEAR JAMES,—It is my most melancholy duty to inform you that about 6 o'clock this night you have lost a kind friend, and I one of the very best of wives. Inform any friends, as I am not in a mood to do anything.—Yours always,

R. NAPIER.”

His remaining days were summed up in this pathetic sentence, “ I am not in a mood to do anything.” Up to this

time he had taken an active part in everything going on around him, but this bereavement so affected him that he ceased to have any special interest in his former pursuits.

A few months later he was attacked with serious illness, from which he never rallied, and he died on 23rd June 1876, in the eighty-sixth year of his age.

To meet the wishes of many friends the funeral was a public one.

The place of sepulture was adjacent to the old churchyard of his native town, Dumbarton, where lay the bones of his ancestors, and where his wife was buried.

On the day of the funeral the inhabitants of Dumbarton, Helensburgh, and Govan showed their regard by closing their premises, and special trains from Helensburgh and from Glasgow brought many hundreds of those who desired to pay the last tribute of respect.

At Dalreoch Toll the cortége was joined by the immediate friends of the deceased, and by fourteen hundred of his workmen, and the sorrowful procession wended its way to the parish church.

When the company were assembled his eldest son addressed them as follows :—

I have to thank you for myself, and on behalf of my brother and sisters, for your kindness at meeting us to-day. It was my father's wish, shortly after my mother's death, that at his own burial no special invitations should be sent, and we have acted accordingly. Your presence here to-day shows us more than anything could do the high respect in which he was held during his life, and for which we are sincerely grateful. His grief at the loss of my mother so affected him that he lost all interest in his former pursuits. About three months ago he became seriously ill, but from the effects of this he so far recovered as to be able on several occasions to go out in a carriage for a few miles. But about six weeks ago he had a second attack, and from this he never recovered, but got gradually weaker and weaker

till he died. We do not know whether he suffered pain or not. He was, however, very uneasy till within twenty-four hours of his death, when he appeared to be asleep, with an occasional waking up for a short time. We believe he was sensible to the last.

A service was conducted by his friends the Rev. Dr Jamieson of St Paul's, Glasgow, and the Rev. Laurie Fogo of Row, and thereafter the procession being formed up on each side, the coffin was carried by some of his oldest workmen to its last resting-place.

## CHAPTER XV.

### AN INSPIRING MEMORY.

“Show me the man who made all this, for he must be worth knowing.”

ROBERT NAPIER had a wonderful career, and was certainly the architect of his own fortune. Born in Dumbarton of humble honest parents, he started life as a blacksmith, with no advantages, and by his diligence, integrity, and enterprise he became the most prominent business man in the West of Scotland.

When steam navigation was in its infancy, he grasped the situation and saw its possibilities. The narrow and shallow Clyde was by no means the natural home of marine engineering, and the difficulties

to obtain its recognition as such were enormous. By superlatively good work he overcame the prejudices against Scottish contractors, and through his efforts Glasgow became the centre of the shipbuilding of the world.

With the successful inception of the Cunard Company he attained to a pinnacle of greatness, and this position he succeeded in maintaining till his death.

His great reputation attracted to the metropolis of the West orders which previously had been executed in London, Liverpool, and elsewhere.

Through his personal exertions, in the face of much opposition, contracts were obtained from the British and other foreign Governments, and the great shipping companies in Britain and Europe were induced to come to the Clyde.

Shipbuilding reacted on the coal and iron industries of Lanarkshire, and pro-



duced a rapid and extensive development of the City of Glasgow. It stimulated the improvement of the Clyde as a navigable river, whereby the prosperity of the town as a seaport was greatly increased.

In 1823, when Napier made his first engine, the annual revenue of the Clyde Trust barely amounted to £7000. To-day it approaches half a million sterling. Without shipbuilding, this development would have been impossible.

Napier possessed in great measure that talent which Carlyle considered one of the dominating characteristics of a Captain of Industry — the faculty of selection. This point need not be elaborated, as the subsequent careers of many of those who served him justify the assertion.

Most of the present leading engineering firms on the river were founded by men who had worked with him and his cousin David.

Prominent among these may be mentioned Messrs Denny, Messrs James and George Thomson (now Messrs John Brown & Co.), Messrs John Elder & Co. (now the Fairfield Shipbuilding Co.), Messrs William Beardmore & Co., Messrs Smith & Rodgers (now The London and Glasgow Shipbuilding Co.), Messrs Tod & M'Gregor (now Messrs D. and W. Henderson & Co.), Messrs Aitken & Mansel, Messrs Napier, Shanks, & Bell, Messrs Napier & Miller, Messrs Scott & Sons, Messrs Dunsmuir & Jackson, Messrs Napier Brothers, Messrs G. L. Watson & Co., and others.

The work which Napier succeeded in bringing, and the orders which were subsequently secured by the firms we have named, represented millions of money, which brought bread and comfort to many a toiling worker, and affluence to many a master.

Robert Napier, as we have already

shown, started with no advantages. Glasgow was the city of his adoption. He had no influential friends there, and his capital was of the most slender description. His success may be traced to the cultivation of two great qualities—industry and civility.

From the day he entered on his apprenticeship with his father till he reached fourscore his life was a round of unceasing toil. When he first started there were neither steamers nor railways, and the exposure and discomfort attendant on long-distance travelling were most trying. He inherited from his blacksmith progenitors a powerful bodily frame, which stood him in good stead in those early days, and enabled him to endure the fatigues of his arduous journeys.

His mental activity exceeded even that of his body. His correspondence was most voluminous, and personally con-

ducted. Business was attended to at all hours, and his numerous letters often attest the fact of being written at night-fall. All through his life he was a man of most active habits, and he endeavoured constantly to keep himself abreast of the times. Napier, in the words of Lord Beaconsfield, "grasped the spirit of the age" in which he lived. True, he had not the brilliant mechanical genius of his cousin, but he did not profess to be an inventor. His success lay rather in selecting the inventions of others, and by patience and industry adapting these to the requisite needs, and bringing the result to perfection. His own words to Cunard sum up his position: "Every solid and known improvement that I am acquainted with shall be adopted by me."

Mr Napier was a man whom it was a privilege to know apart from his eminence in business. His native dignity of

deportment, urbanity, and magnanimity of disposition marked him as one of Nature's noblemen, while his unfailing courtesy and generous consideration of others endeared him to those who had occasion in any way to come into contact with him. He held to the old conception of the commonwealth that all orders must work faithfully together, and that trade was to be extended not by cheapness and free markets but by good workmanship and superior merit. Holding strongly such views, he considered that combinations were undesirable, and the position he took up was antagonistic to trades' unions. His relations with his workmen were of the patriarchal order. Old servants were retained to the last, and those whose working days were over, he pensioned. His employees found it a pleasure to serve him, and, it may be said, regarded him with affection and veneration.

Napier was fired with ambition for noble ends. His great aim in business was to turn out superlative work. Mr Cunard's idea of perfection was expressed in the simple words of his contract, "equal to the best engines ever made by the contractor"; and an American engineer, viewing the engines of the *Cambria*, remarked that "such superbly finished machinery ought to be put under a glass case."

Mr (afterwards Sir) William Pearce, in bidding farewell to Napier's men, said the watchword of Govan yard had always been "Good Work," and such questions as What time will this take? or What will this cost? were always subordinated to the crucial one—Is this the best?

If Napier's sole object had been to accumulate wealth he could have amassed a very large fortune, as there were many avenues open to him for doing so. But for money as a possession he cared little,

except for the pleasure it afforded him of spending and distributing it. While he lived in a princely style, he was always ready to assist in schemes of benevolence ; and being of a modest disposition, many of his good deeds were done in secret.

In private life he was one of the most genial and unassuming of men, gaining many friends and never losing one ; and no one ever heard him speak an uncivil or unkind word. He was of a singularly equable temperament, and was always ready to face difficulties with a serenity and patience that are seldom met with.

His demeanour was uniformly that of a modest, humble-minded man, unaffected by prosperity, while at the same time exhibiting a firmness of character and loftiness of purpose that were admirable. His mind was, further, of a reverent, thoughtful cast, and open to the influences of a sincere, if unobtrusive, piety.



In summing up his life a writer says :—

So far as the Clyde is more particularly concerned, marine architecture owes more to Mr Napier than to any one else. He did much to bring that art to the high degree of perfectibility it has now attained ; but what is of not less importance, he assisted in projecting those enterprises of great pith and moment without which it would have been impossible for the Clyde to have attained its pre-eminence in relation to the industry with which his name is so intimately associated.

Napier's great work was his service to the City of Glasgow ; and though not a native, he by his honourable career may be said to have contributed more than any of her sons to give effect to the proud motto—"Let Glasgow Flourish."



## APPENDIX I.

COPY OF ORIGINAL CONTRACT FOR FIRST CUNARD  
STEAMERS, 18TH MARCH 1839.

It is Contracted, Agreed, and Ended between Samuel Cunard, Merchant in Halifax, Nova Scotia, and Robert Napier, Engineer in Glasgow, in manner and to the effect following: That is to say, the said Robert Napier Binds and obliges himself and his heirs executors and successors to Build and construct with the best materials, for the said Samuel Cunard, his executors, and assignees, Three good and sufficient steam-ships, each not less than Two hundred feet long keel, and fore-rake not less than Thirty two feet broad between the paddles, and not less than Twenty one feet six inches depth of hold from top of timbers to underside of deck amidships, properly finished in every respect, having boats, masts, rigging, sails, anchors, cables, and whole other usual and necessary appurtenances for the working and sailing of the said vessels, with cabins

finished in a neat and comfortable manner for the accommodation of from sixty to seventy passengers, or a greater number in case the said Robert Napier shall find that the space will conveniently and commodiously admit thereof, each of which vessels shall be fitted and finished with two steam-engines having cylinders seventy inches in diameter and six feet six inches length of stroke, with malleable iron boilers, the details of which vessels and machinery shall be constructed in the manner mentioned in the specification annexed and subscribed by the parties as relative hereto declaring that the said Robert Napier shall only be bound to furnish one complete set or suit of all things usual or necessary for such a size of vessels, but to furnish no duplicates or spare stores, sails, ropes, anchors, spars, &c., nor any thing belonging to the steward's department, such as silver plate, china, crystal, knives and forks, napery, or other like articles, nor arms, chronometers, maps, charts, or other articles of that description, which three vessels, all to be delivered on the Clyde, the said Robert Napier hereby binds and obliges himself and his aforesaid to finish and complete to the entire satisfaction of the said Samuel Cunard equal in quality of hull and machinery to the

steamer *Commodore* or the steamer *London*, both constructed by the said Robert Napier, and equal to the *City of Glasgow* steamer in the finishing of the cabins, also constructed by the said Robert Napier: and the said Robert Napier Binds and obliges himself and his aforesaid to have one of the said vessels ready for trial and delivery in the Clyde on or before the Twelfth day of March Eighteen hundred and forty; to have one of the said vessels ready for trial and delivery as aforesaid on or before the Twelfth day of April Eighteen hundred and forty; and one of the said vessels ready for trial and delivery as aforesaid on or before the first day of May Eighteen hundred and forty. And further, the said Robert Napier hereby Binds and obliges himself and his aforesaid, in the event of any part of the machinery in any of the said vessels giving way or breaking within six months after delivery of the said vessels respectively, to replace by new machinery or to repair the broken parts, unless such occurrences may have arisen from neglect or carelessness on the part of those in charge of the machinery, in which case, as well as in the case of burning of the boilers, or accidents arising from other causes over which the said Robert Napier can have no con-

trol, he shall be in no way responsible. In consideration of which, and as the price of the said three steam vessels, the said Samuel Cunard Binds and obliges himself and his heirs, executors, and successors, to make payment to the said Robert Napier and his heirs or assignees of the sum of Thirty two thousand pounds Sterling for each of the said vessels, or Ninety six thousand pounds Sterling for the whole three vessels, of which price Sixty thousand pounds Sterling shall be payable in cash, or by approved bills equal to cash, during the progress of the work; and the remaining Thirty six thousand pounds Sterling, being Twelve thousand pounds Sterling of the price of each of the said vessels, at the delivery of the said vessels respectively, as follows—viz., Five thousand pounds Sterling at the execution of these presents, Five thousand pounds Sterling on the Twelfth day of April next, and the like sum of Five thousand pounds Sterling on the Twelfth day of each of the succeeding months of May, June, July, August, September, October, November, and December, Eighteen hundred and thirty nine, and of January and February Eighteen hundred and forty, making together the foresaid sum of Sixty thousand pounds Sterling payable during the progress of the work, upon

which the said monthly payments shall cease, and there will remain due of the said contract price Thirty six thousand pounds Sterling, which the said Samuel Cunard Binds and obliges himself and his aforesaid to pay or secure to the said Robert Napier at one and the same time with receiving delivery of the said several vessels as follows: viz., the sum of Twelve thousand pounds Sterling at the delivery of each of the said vessels, and that in approved bills, at six months from the date of delivery of each vessel respectively, making up the said balance of Thirty six thousand pounds Sterling; or, in the option of the said Samuel Cunard, each of the said sums of Twelve thousand pounds Sterling may be divided into three approved bills of equal amount payable at six, nine, and twelve months from the date of the delivery of the said respective vessels; but in the event of exercising such option, the said Samuel Cunard shall be bound to include interest in the said bills at nine and twelve months after the rate of five per cent per annum for the period thereof to run after the lapse of six months from the date of delivery of the said vessels respectively till payment of the said several bills; provided always that it shall be lawful to and in the power of the said

Samuel Cunard, or any person appointed by him, occasionally to visit the building yard or yards in which the said vessels may be built, as well as the engineer work or works in which the machinery may be constructed, to the effect and for the purpose of inspecting the state and condition of the said vessels and machinery, ascertaining the sufficiency of the materials and workmanship, and seeing to the progress of the work. Provided further, that notwithstanding the noncompletion of the whole work, the different parts and portions of the said vessels and machinery, by virtue of the payment of the instalments herein before mentioned, shall from time to time be held as specifically appropriated to and vested in the said Samuel Cunard, subject to the right of the said Robert Napier to retain such parts and portions for the purpose of completing the work according to this agreement, and for his, the said Robert Napier, security of the prices of the said vessels so far as unpaid, the said vessels always remaining at the said Robert Napier's risk until the same are respectively ready for delivery as aforesaid; after which the same shall be at the risk of the said Samuel Cunard. And further, the said Robert Napier hereby Binds and obliges



himself and his aforesaid to have the said several vessels ready for trial and delivery on or before the days respectively hereinbefore specified, and that under the penalty of Five thousand pounds sterling, applicable to each of the said vessels, unless the completion of the same or any of them shall be prevented by the destruction thereof by fire before delivery, or any other cause which the said Robert Napier cannot possibly control, of which the arbiter hereinafter mentioned shall, in case of difference, be sole judge.

And both parties bind and oblige themselves and theirs aforesaid to implement, observe, and fulfil their respective parts of the promises, as well as all decrees-arbitral to be pronounced in virtue of the submission after written each to the other in all respects according to the true intent and meaning of these. And in case any question, dispute, or difference shall arise between the said parties as to the real import of these presents or the execution and implement thereof, or in any manner of way in the premises at whatever time the same may arise, all such disputes and differences shall be and the same are hereby submitted and referred to the amicable decision, final sentence, and decree-arbitral of James Coins Melvill, Esq., Secretary to the East

India Coy., whom failing, by non-acceptance, death, or otherwise, of William Connal, Esq., Merchant in Glasgow; and the decision of either of the said arbiters acting under this reference shall be final and conclusive to all intents and purposes. And both parties consent to the registration hereof, along with the decrees-arbitral, interim or final, to be pronounced in virtue of the submission hereinbefore written in the Books of Council and Session, or others competent therein, to remain for preservation, and that letters of horning on six days' charge and all other legal execution necessary may follow herein in form as effairs, and thereto constitute  
 procurators.

In witness whereof these presents, written upon this and the three preceding pages of stamped paper by Robt. Henderson, clerk to Moncrieff & Paterson, Writers in Glasgow, are subscribed, along with a duplicate hereof, by Mr Samuel Cunard and Robt. Napier, before designed, at Glasgow the Eighteenth day of March Eighteen hundred and thirty-nine years; before these witnesses—Hugh Moncrieff, Writer in Glasgow, and the said Robert Henderson, writer hereof.

Hugh Moncrieff, *witness.*

S. CUNARD.

Robert Henderson, *witness.*

R. NAPIER.



## APPENDIX II.

### PARTICULARS OF SOME OF THE LEADING CONTRACTS EXECUTED BY MR NAPIER.

Date.	Name.	Dimensions.	Tonnage.	N.H.P.	Owners.
1823	Leven . . .	80 × 16	54	33	Messrs Lang, Dumbarton.
1826	Clarence . . .	92 × 16	70	45	Glasgow owners.
"	Helensburgh . . .	90 × 17	72	45	"
"	Eclipse . . .	99 × 19	168	70	R. Napier.
1830	Arran Castle . . .	94 × 15½	81	50	Glasgow owners.
"	Menai . . .	120 × 20	230	110	T. Assheton Smith.
1832	John Wood . . .	120 × 22½	280	140	City of Glasgow Co.
"	Robert Napier . . .	128 × 23	310	180	Londonderry Co.
1833	Dundee . . .	175 × 28	650	260	Dundee and London Co.
1835	Isabella Napier . . .	135 × 23½	350	220	Londonderry Co.
1836	Berenice . . .	170 × 28·8	646	250	East India Co.
1837	Engines . . .	3 Sets	...	300	Turkish Government.
"	London . . .	190 × 30	800	340	Dundee and London Co.
1838	Fire King . . .	180 × 28	663	230	T. Assheton Smith.
1839	British Queen . . .	245 × 40·6	1862	500	British and American Co.
"	Vesuvius . . .	Dockyard	...	280	British Government.
"	Stromboli . . .	Dockyard	...	280	"
1840	Britannia . . .	206 × 34	1150	420	Cunard Co.
"	Acadia . . .	206 × 34	1150	420	"
"	Columbia . . .	206 × 34	1150	420	"
"	Caledonia . . .	206 × 34	1150	420	"
1841	Precursor . . .	230 × 37	1480	520	P. and O. Co.
1842	Hibernia . . .	218 × 36	1350	500	Cunard Co.
"	Thunderbolt . . .	Dockyard	...	330	British Government.
1843	Vanguard . . .	192 × 27	681	324	Glasgow and Dublin Co.
"	Dundalk . . .	180 × 26	594	270	Dundalk Co.
1844	Cambria . . .	220 × 35	1350	500	Cunard Co.
"	Jackal . . .	147 × 22½	361	150	British Government.
"	Lizard . . .	147 × 22½	361	150	"
"	Bloodhound . . .	154 × 22½	395	150	"
1845	Fire Queen No. 3 (Screw)	136 × 18·9	235	120	T. Assheton Smith.
"	Engines . . .	4 Sets	...	300	Turkish Government.

Date.	Name.	Dimensions.	Tonnage.	N.H.P.	Owners.
1845	Thetis . . . .	194 × 23	345	160	J. & G. Burns.
1846	Tynwald . . . .	208 × 26·6	611	370	Isle of Man Co.
"	Earl of Aberdeen	215 × 28	907	400	Aberdeen Co.
1847	Lyra . . . . .	211 × 26·6	494	275	J. & G. Burns.
"	Satellite . . . .	113 × 19·6	231	80	Cunard Co.
1848	Thistle . . . . .	202 × 27·6	653	336	Londonderry Co.
"	America . . . . .	251 × 38·1	1756	670	Cunard Co.
"	Niagara . . . . .	251 × 38·1	1756	670	"
"	Europa . . . . .	251 × 38·1	1756	670	"
"	Canada . . . . .	251 × 38·1	1756	670	"
"	Dauntless . . . .	Dockyard	1497	580	British Government.
1849	Emperor . . . . .	245 × 32·6	1256	400	Gee & Co.
"	Bolivia . . . . .	200 × 27	705	260	Pacific Co.
"	Simoom . . . . .	259 × 41·7	2016	...	British Government.
1850	Asia . . . . .	268 × 40	2130	800	Cunard Co.
"	Africa . . . . .	268 × 40	2130	800	"
1851	Santiago . . . . .	248 × 30	1023	400	Pacific Co.
"	Lima . . . . .	248 × 30	1110	400	"
"	Quito . . . . .	248 × 30	1110	400	"
"	Bogota . . . . .	248 × 30	1110	400	"
"	Magdalena . . . .	266 × 38	1850	800	Royal Mail Co.
1852	Sea Serpent . . . .	160 × 16·6	213	100	T. Assheton Smith.
"	Miranda . . . . .	Dockyard	1039	250	British Government.
"	La Plata . . . . .	285 × 40·6	2300	875	Royal Mail Co.
"	Arabia . . . . .	285 × 40·6	2300	875	Cunard Co.
"	Olaf . . . . .	Russia	...	400	Russian Government.
1853	Duke of Wellington	Dockyard	...	780	British Government.
"	Wiborg . . . . .	Russia	...	450	Russian Government.
"	Colombo . . . . .	280 × 37·3	1848	450	P. & O. Co.
"	Emeu . . . . .	217 × 36·6	1673	350	Australian Co.
"	Black Swan . . . .	217 × 36·6	1673	350	...
1854	Messina . . . . .	186 × 26	612	60	Austrian Lloyds.
"	Malta . . . . .	186 × 26	612	60	...
"	Transit . . . . .	Dockyard	...	640	Russian Government.
"	Urgent . . . . .	Dockyard	...	500	British Government.
1855	Lancefield . . . . .	227 × 32	1142	300	Jardine Mathieson.
"	Fiery Cross . . . .	227 × 32	1142	300	...
"	Persia . . . . .	360 × 45	3586	850	Cunard Co.
1856	Gaywan Bahi . . . .	Turkey	...	650	Turkish Government.
"	Fethia . . . . .	Turkey	...	650	...
"	Peiki Zafir . . . . .	Turkey	...	650	...
"	Napoleon III. . . . .	171 × 30	732	250	Canadian Government.
"	Queen Victoria . . .	171 × 30	732	250	...
"	Erebus . . . . .	186 × 48·6	1963	200	British Government.
"	Terror . . . . .	Palmers Co.	1963	200	...
1857	Louis XIV. . . . .	France	...	600	French Government.
"	Tage . . . . .	France	...	600	...
"	Duguay Trouin . . .	France	...	600	...

Date.	Name.	Dimensions.	Tonnage.	N.H.P.	Owners.
1857	Shadia . . . .	Turkey	...	650	Turkish Government.
"	6 Gunboats . . .	...	...	...	East India Co.
"	Emperor Alexander	Russia	...	250	Russian Government.
1858	Vladimir . . . .	251 × 31	1147	250	"
"	Malta . . . . .	...	...	600	P. & O. Co.
"	Jeddo . . . . .	...	...	500	...
"	Yacht . . . . .	188 × 18·0	303	82	Emperor of Burmah.
1859	Oleg . . . . .	251 × 31	1147	250	Russian Government.
"	Royal William . .	Dockyard	...	500	British Government.
"	Phœbe . . . . .	Dockyard	...	500	"
"	Shannon . . . . .	330 × 43·9	3092	800	Royal Mail Co.
1860	Marathon . . . .	336 × 36·6	1674	250	Cunard Co.
"	Hecla . . . . .	336 × 36·6	1674	250	"
"	18 Gunboats . . .	Dockyard	...	...	British Government.
1861	Black Prince . . .	380 × 58	9210	...	"
"	Scotia . . . . .	380 × 47·8	4050	1000	Cunard Co.
"	Neptune . . . . .	200 × 18·6	344	100	Napier & MacIntyre.
"	Orestes . . . . .	Dockyard	...	400	British Government.
"	Bristol . . . . .	Dockyard	...	600	"
"	Dryad . . . . .	Dockyard	...	600	"
"	China . . . . .	326 × 40·4	2536	550	Cunard Co.
1862	Hector . . . . .	280 × 56	6710	800	British Government.
"	Ister . . . . .	Dockyard	...	500	"
"	Rolf Kraké . . . .	185 × 38	1246	235	Danish Government.
1863	Stirling Castle . .	209 × 34	1093	Sailing Ships	D. Currie & Co.
"	Warwick Castle . .	209 × 34	1093		"
"	Roslin Castle . . .	203 × 33	1090		"
"	Pembroke Castle . .	203 × 33	1090		"
1864	Osman Ghazy . . .	293 × 56	6400	900	Turkish Government.
"	Abdul Aziz . . . .	293 × 56	6400	900	"
"	Orkhan . . . . .	293 × 56	6400	900	"
1865	Pereire . . . . .	356 × 43·8	3227	800	Compagnie Gen. Trans- atlantique.
"	Ville de Paris . . .	356 × 43·8	3227	800	"
1866	Malabar . . . . .	360 × 49	6213	700	Indian Government.
"	Agitator . . . . .	Dockyard	...	200	British Government.
"	Dryad . . . . .	Dockyard	...	300	"
1867	Danæ . . . . .	Dockyard	...	350	"
"	Prompt . . . . .	90 × 17	120	40	...
"	Hasty . . . . .	90 × 17	120	40	...
1868	De Buffel . . . . .	200 × 40	2200	400	Dutch Government.
"	De Tijger . . . . .	147 × 44	1440	140	"
1869	Audacious . . . . .	280 × 54	6010	...	British Government.
"	Invincible . . . . .	280 × 54	6010	800	"
1870	Hotspur . . . . .	235 × 50	4010	600	"
"	Valdivia . . . . .	301 × 38	2100	300	Pacific Co.
"	Queen of the Thames	336 × 38	2500	300	Devitt & Moore.
"	Rupert . . . . .	Dockyard	...	700	British Government.

Date.	Name.	Dimensions.	Tonnage.	N.H.P.	Owners.
1870	Yacht (Paddle)	165 × 22	398	90	King of Siam.
"	Mendez Nunez,	285 × 38	2014	380	A. Lopez & Co.
1871	Garonne	382 × 41·4	3088	530	Pacific Co.
"	Bustard	85 × 26	244	28	British Government.
"	Kite	85 × 26	244	28	"
1872	Edinburgh Castle	335 × 37·7	2357	270	D. Currie & Co.
"	Windsor Castle	335 × 37·7	2357	270	"
1873	Galicia	383 × 43	3434	600	Pacific Co.
"	Modeste	Dockyard	...	350	British Government.
"	Hugh Rose	Dockyard	...	350	"
"	Goethe	375 × 40	2987	600	Dutch Transatlantic Co.
"	Schiller	375 × 40	2987	600	"
"	Hoboken (Paddle)	222 × 22·9	582	220	"
1874	W. A. Scholten	350 × 38	2440	400	Netherland American Co.
"	P. Caland	350 × 38	2440	400	"
"	Arab	150 × 28·6	720	120	British Government.
"	Lily	150 × 28·6	720	120	"
"	Opal	Dockyard	...	350	"
"	Clyde	Dockyard	...	350	"
"	Meiji Maru	242 × 29	1000	270	Japanese Government.
1875	Sheldrake	125 × 22·8	600	360	British Government.
"	Moorhen	125 × 22·8	600	360	...
"	Penguin	170 × 36	1130	...	...
"	Wild Swan	170 × 36	1130	...	...
"	Dunrobin Castle	342 × 38·3	2500	300	D. Currie & Co.
"	Oresund	Denmark	...	40	Danish Government.
"	Little Belt	Denmark	...	60	"
"	Ingulf	Denmark	...	100	"
1876	Canopus	101 × 24	250	...	Indian Government.
"	Balmoral Castle	344 × 39·4	2500	300	D. Currie & Co.
"	Dublin Castle	344 × 39·4	2500	300	"
"	Warwick Castle	349 × 39·4	2656	370	"
"	Conway Castle	349 × 39·4	2656	370	"
"	Northampton	280 × 60	7630	...	British Government.

Mr Napier executed about four hundred separate contracts, which included orders for machinery and warships from the Danish, Dutch, French, Japanese, Russian, and Turkish Governments. He was entrusted with over sixty contracts from the British Admiralty.

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