

OBITUARY.

PETER DENNY, LL.D., was born at Dumbarton on the 31st of October, 1821. His father, William Denny, was a ship-builder of that town, and came of a family of farmers who, for several generations, had been established at the entrance of the Vale of Leven. In the year 1833, when Peter Denny was only twelve years old, his father died, leaving a widow with eleven children, of whom four were too young to be of any assistance to her in the impoverished condition in which she found herself. The lad remained at school in Dumbarton until his fourteenth year, when he obtained employment, first as a clerk to the local sheriff's officer, and afterwards at Christie's Glass Works, then the staple industry of the town of Dumbarton. He remained as a clerk in the employment of the Messrs. Christie until May, 1843, when, through some misunderstanding, he left their service and became a pupil of his elder brother William, who was at that time managing Messrs. Napier's shipyard at Govan. Very shortly afterwards William went to America, and Peter joined his brother Alexander, then doing a good business as a naval architect in Paisley.

At this stage it becomes necessary to follow the movements of the other members of the family; for the evolution of Peter Denny as a notable shipbuilder is inextricably entwined with the careers of his brothers William, James, Alexander and Archibald. The premises occupied by their father were known as the Wood-yard, and were situated on the west side of the River Leven, not far below the bridge. In that yard William Denny, senior, had first worked as a carpenter, then managed as a partner, and ultimately controlled as proprietor. The class of ship-work then done on the Leven was, however, of a very humble character, consisting, for the most part, of small wooden coasting smacks, schooners, and the like. Such as it was, it seems to have been well done, and the yard was provided with one of Morton's patent slipways, which was an indication of enterprise and advancement in those days. His eldest son, John, assisted him in the business, while

James, Robert, William, Alexander and Archibald learnt their trade as carpenters under their father at the old Woodyard. On the death of his father, John Denny entered upon the tenancy of the shipyard, while James went to America, where he remained until the year 1847. Robert Denny became a ship carpenter, and both William and Alexander moved about from place to place, wherever they could obtain employment.

Of this family of shipwrights William Denny was, without doubt, the most able. He was early recognised as a superior tradesman and a skilful naval architect. It was in this latter capacity that he chiefly distinguished himself, and it was after being in business as such for several years, that he became manager of Messrs. Napier's shipbuilding yard at Govan, leaving his private business as a naval architect to his brother Alexander, who also had ere this shown ability in the same direction. It was while William Denny was with Messrs. Napier that Peter Denny left the Dumbarton Glass Works. Writing of this incident, Peter Denny tells the story thus :—

"My brother William kindly asked me to come and stay with him in Glasgow and he would make a ship-builder of me, setting me at once to work on plans at his lodgings. I felt it so difficult and strange that I would have given it up at any moment, but with his usual kindness he had patience with me and persuaded me to stick to it. I did, and soon got confidence and progressed so that he was able to take me in as an assistant in the Govan Yard, I think towards the end of the year, August, 1843, at thirty shillings a week."

But the duration of William's subsequent stay with Messrs. Napier was very brief, as he went to America at the close of the year 1843. Peter Denny then joined his brother Alexander at Paisley, where he was able to be of considerable use in preparing specifications, plans, &c. William returned from America in 1844, when he, Alexander and Peter formed a partnership as naval architects under the name of Denny Brothers, and found plenty of employment. Towards the end of the year, however, they determined to begin business as shipbuilders, commencing operations in January, 1845, upon the east shore of the River Leven just below the parish churchyard. Their elder brother, John, had now been dead many years, and the old Woodyard was occupied by strangers.

Up to this period only wooden ships had been built on the Leven, these being for the most part small craft ranging from about 50 tons to 200 tons, and the largest a barque of 603 tons. Besides the business carried on at the Woodyard, Messrs. McMillan were building vessels of wood at the Dockyard,

on the east side of the Leven near the parish church; so that when Denny Brothers started, there were three shipyards in the town of Dumbarton. But from the first the Denny's used iron, commencing with the paddle-steamer "Lochlomond" of 95 tons and 70 nominal HP. In their first year they built also the iron paddle-steamer "Rob Roy," of 30 tons and 15 HP., and the screw-steamer "Water Witch," of 240 tons and 35 HP. This latter vessel, destined for the Dublin and English trade, was the first mercantile screw-steamer built on the Clyde. The reasons for the preference shown by the young firm for iron were probably twofold. In the first place, William and Alexander Denny had, for several years previously, designed and superintended the construction of nearly all the iron vessels built on the Clyde; and in the second place, the intelligence and foresight of the brothers convinced them that the days of wood as a material for ships were fast coming to a close. To them it was evident that, with the advent of steam navigation, the iron ship must become a necessity, if the capabilities of the marine engine were to have full scope for development. It was this clear vision and faith in the future of steam-ship building which made the reputation of the firm of Denny Brothers, and led to the unique and honoured position among British shipbuilders and engineers occupied by Peter Denny for many years before his death. The firm stuck to steam with a tenacious grip, and in the whole course of its career, during which time it has built nearly 530 vessels, it has produced only four sailing ships.

Not having workshops for the manufacture of marine engines, the young firm had for five years to get its engines from sub-contractors. Upwards of twenty vessels were, however, built by the firm before Dumbarton had a marine-engine works of its own. In the year 1846 James Denny returned from America and joined them, and three years later, the firm of Denny Brothers was dissolved by mutual consent; William, James, and Peter paying out Alexander and starting afresh under the name of William Denny and Brothers, the designation retained to this day. Alexander started building in a small yard on the north side of the town, taking with him his brother Archibald, under the name of Alexander Denny and Brothers. In 1847 the firm of William Denny and Brothers obtained possession of the old Woodyard, and shortly afterwards the premises near the parish church were taken over by Alexander Denny and Brothers. It is interesting to note that the "Lochfyne," a screw-steamer of 83 tons, built by William Denny and Brothers in that year, is still employed in the daily

carriage of goods between Dumbarton and Glasgow. Up to the close of the year 1851, the firm had built thirty-one vessels, of which twelve were paddle-steamers, sixteen were screw-steamers, and three were sailing vessels. The largest of the steamers was the "British Queen," of 772 tons and 150 HP., and the largest of the sailing vessels was the "Three Bells," which afterwards distinguished herself through standing by and rescuing the whole of the crew of an American ship-of-war, which foundered in Mid-Atlantic.

It became apparent to Peter Denny about the year 1850 that the steam machinery of the firm should be made in Dumbarton, and he therefore proposed to his partners and brothers—William and James—that he should commence an engineering business in the town. This was agreed to, and he entered into partnership with his friend, Mr. Tulloch, of Greenock, and his brother-in-law, Mr. John MacAusland, the firm commencing as engineers in Dumbarton, under the title of Tulloch and Denny, which in 1862 was changed to Denny and Co., the designation still retained.

Having now an engineering establishment partly controlled by one of themselves, Messrs. William Denny and Brothers in the year 1852 came to the front as builders of large iron steamers. Until that time the fleets of the principal ocean passenger lines were, for the most part, composed of wooden vessels and propelled by paddles. The reputation of William Denny and Brothers was such as to induce the Cunard Company to intrust them with the hull and engines of the iron screw-steamers "Australian" and "Sydney," each of 1400 tons and 300 nominal HP. These two vessels, when completed, were, however, at once sold for the Australian Mail Service; but in the same year the "Alps" and "Andes," each of 1440 tons and 300 HP., the first screw-steamers employed in the transatlantic passenger trade, were built by the firm for the Cunard Company. The engines of these vessels made by Messrs. Tulloch and Denny, were of the "beam geared type," with 66-inch cylinder and 54-inch stroke. The steam-pressure used in those days was about 6 lbs. per square inch, and the coal consumption 5 lbs. per I.H.P. per hour.

By the close of the year 1853 Peter Denny and his partners had built forty-three vessels; of which forty were steamers and twelve had been engined by Tulloch and Denny.

It was in the year 1854 that, in the words of Peter Denny—

"A great calamity to me took place in the death of my brother William, aged 39. I was so depressed and disheartened that it needed all the encourage-

ment of my friends in consenting to carry on the business, being so imperfectly qualified as to the technical and practical work, and having the necessity of the commercial department wholly upon myself."

But it was the habit of Peter Denny to set up few claims on his own account for the success of the firm. He was aided by excellent managers, of whom not the least able were Mr. Walter Brock and Mr. John Ward, now partners in the firm. It is also a matter of history that to his son William, who died in 1887, the firm owes a very large share indeed of its pre-eminence among shipbuilding establishments. But the personality of Peter Denny is a factor in the commercial development of Dumbarton and its shipping industries, the importance of which it is perhaps yet too early to correctly estimate.

James Denny ceased to be a partner in May 1862, and for some years afterwards Peter Denny controlled the entire business.

The engineering firm of Tulloch and Denny became known as Denny and Co. in the same year. Their original shop still exists and constitutes about 6 per cent. of the total area now covered by their engineering premises. Peter Denny states in his Presidential Address to the Institute of Marine Engineers, delivered in 1891, that from 1845 to 1860 no material advance was made in marine engineering. "Pressures were gradually increased with a larger range of expansion in the cylinders, and at one time it was thought that superheated steam was to revolutionise everything. Then surface condensers replaced the old jet ones, but the real advance only came with the compound engine."¹ He made no claim for himself or his firm in regard to the early introduction of the compound engine in ships. On the contrary, he has left it on record that about the year 1867, when the compound system began to attract attention, they were often asked by their customers in regard to it, but could give little information, because they knew little and could not obtain trustworthy particulars. On asking his old friend Mr. Randolph, of Randolph and Elder, for help, he was told to find out for himself and pay for it as Mr. Randolph had done. Peter Denny was not a man to harbour a resentful spirit even after such a rebuff, for he said, "in my opinion this new departure was largely, if not altogether, due to the efforts of Messrs. Randolph and Elder pushing into notice first the 'Woolf,' and then the compound engine as it is known to-day." But Peter Denny did find out for himself and did not pay for it, and early in 1868, being then the sole proprietor of William Denny and Brothers,

¹ Transactions Institute of Marine Engineers, vol. iii.

he laid down a vessel on his own account and contracted with the firm of Denny and Co. to make for her a set of compound engines. Before the vessel was half finished she was acquired by the Cunard Company and named the "Batavia." The engines were a complete success, and her owners declared that they had never had a vessel which paid better.

Ere this, however, the firm had left the old Woodyard and was established in more suitable and extensive premises on the opposite side of the Leven. About 10 acres of the present Leven Shipyard were acquired in 1864, and, after filling in the foreshore and erecting the necessary buildings, the new premises were opened in 1867. Further extensions were made in 1881 and 1882, when the full area, amounting to 43 acres, was completed.

A brief retrospect is here necessary. In the year 1846 Peter Denny was married to Helen, the eldest daughter of Mr. James Leslie, supervisor in the Inland Revenue Service. Of this estimable lady, who survives her husband, it must in justice be said that to the influence of her amiable and noble character is largely due the success of Peter Denny and the co-operation in his business of each of his talented and energetic sons. Their family, surviving, consists of John, Peter, Archibald and Leslie, besides two daughters. On William, the eldest son, coming of age, in the year 1868, he was taken into partnership with his father, and those two constituted the firm of William Denny and Brothers until 1873, when Mr. Brock joined them. In January, 1881, Mr. Denny's son John and his nephew James became partners; in January, 1883, Peter and Archibald joined the firm, and, in February, 1885, Mr. John Ward was admitted a partner. The breadth of mind and clearness of prevision which characterised Peter Denny throughout his career were distinctly manifested in the choice of his managers, and in his admitting them in due course as partners. He had a great faith in the benefit arising from an infusion of new blood into the body over which he presided, and he always acted upon the principle that the best work is given by those who have a direct interest in results. What William Denny, the younger, did for the Leven Shipyard has already been fully recorded in the Proceedings.¹ It may be said, however, that no one was more conscious of what the firm had gained by his partnership and lost by his death than was the subject of this notice. Indeed it is to be feared that the

¹ Minutes of Proceedings Inst. C.E., vol. lxxxix. p. 457.

shock occasioned by the sudden and early termination of that distinguished career left a permanent effect upon the health and vigour of Peter Denny.

Between 1868 and the present time the history of William Denny and Brothers has been one of uninterrupted progress. They are now building their five hundred and thirtieth ship, and that vast fleet includes vessels for the Cunard Company, Peninsular and Oriental Company, Royal Mail Company, Allan Line, Union Steamship Company of New Zealand, British India Steam Navigation Company, Union Steamship Company, Irrawaddy Flotilla Company, Russian Volunteer Fleet, American Line, Russian Steam Navigation and Trading Company, Compania Trasatlantica, and many other important ocean steamship lines. By no means their least significant successes have been attained with swift twin-screw and paddle-steamers for channel and river passenger service. In the preparation of the designs for these and other fast steamers the firm has been materially aided by the results obtained in their elaborately equipped experimental tank, the only device of the kind to be found in any private ship-building establishment in the United Kingdom. The experiments made upon models in wax of contemplated steamers have furnished Messrs. Denny with data of which the accuracy has been in every case established by the performances of the vessels when built. The tank and the intricate mechanical devices employed in these interesting and valuable experimental researches were the invention of the late Mr. William Froude, F.R.S.¹

The shipyard has a frontage on the River Leven which permits of the building of eight vessels on the stocks at the same time; it has also two tidal docks, each with a set of powerful shears for lifting engines and boilers into vessels after launching. The whole of the works are served by an elaborate telephonic system, in connection with which is a signalling arrangement whereby any of the officials or foremen can be promptly brought to a telephone box in order to communicate with the head office. They have also a complete installation of electric lighting, and hydraulic and electrical power are conveyed throughout their entire extent. Ready transport is provided both by a railroad of ordinary gauge, connected with the North British system and worked by small locomotives, and by an extensive network of rails on the Decauville system which reaches every part of the

¹ Minutes of Proceedings Inst. C.E., vol. ix. p. 395.

premises. Peter Denny, aided by sons and other partners, aimed at and practically succeeded in making Dumbarton sufficient in itself for all the components of a steamship without having recourse to outside assistance. The Dennystown forge, Levenbank foundry, and Dumbarton rope-works are largely owned and controlled by Denny Brothers, and in their own shipyard they employ a competent staff of artist designers, decorators, glass-stainers, upholsterers, carvers and cabinet makers. They also supply all electric-light installations, and strive in every way to give employment to the people of Dumbarton, whose sons and daughters have the preference above all others in being afforded the means of learning the many trades which co-operate in the production of a first-class ocean passenger steamer. In 1847 the Dumbarton shipyards employed only about 400 workmen; by the year 1870 the number had increased to 2800, whereas at the present time, the shipyard and engine-works of Messrs. Denny alone, together with their forge, foundry and rope-works, give employment to no less than 3750 men, women and girls; the gentler sex being chiefly occupied as tracers in the drawing-offices, and as designers, decorators, &c., in the upholstery, stained-glass and figured panel departments.

The genius and ability of Peter Denny were potent factors in determining from the first the course taken by the firm in leading up to the foregoing results. That ability was early recognised far from Dumbarton, and in the year 1871—shortly after the lamentable loss of H.M.S. "Captain"—Peter Denny was appointed by the Government of the day as a member of the Committee on the Designs of Ships of War. Soon afterwards, in 1873, he was one of the Royal Commissioners which held sessions in that and the following year to inquire into the causes of the loss of life and property at sea. Among the knighthoods and decorations he received from foreign governments, are those of "Isabella the Catholic" of Spain, the "Illustrious Order of Jesus Christ" of Portugal, and the "Order of Leopold" from the King of the Belgians. Several years ago the University of Glasgow conferred on him the honorary degree of LL.D., and Mr. H. M. Stanley, the explorer, named a mountain in Africa "Mount Denny" after his friend the Dumbarton ship-builder. It is, however, in his native town, by the people with whom he spent his long life, and to whom therefore every side of his character was fully revealed, that Peter Denny was held in the fullest affection and esteem. In 1851 he was elected Provost of the Burgh and occupied that position for three years, during which he was chiefly instrumental

in initiating the excellent water scheme by which Dumbarton is now supplied. In 1865, before the era of Board Schools, Peter Denny erected in the town a commodious school for the gratuitous teaching of the lads employed in the ship-building, engineering and boiler-works of the firm. The condition of employment was compulsory attendance at this school, and in this generous and practical manner did he give expression to his sense of the duty devolving upon him as an employer of juvenile labour. Acting in conjunction with the late Mr. John McMillan—also a Dumbarton ship-builder—Peter Denny, in the year 1885, presented to the town the Levensgrove public park, which when laid out had cost the donors upwards of £20,000. Five years later he gave further proof of his generosity by presenting to the town the large open space known as Knoxland Square, situated close to the residences of his workmen, including a handsome bandstand, from which musical performances are given from time to time in the summer months. The year 1894 was the jubilee of the firm of William Denny and Brothers, and in December the event was celebrated in the large machinery shed in the shipyard by a demonstration of the workmen and people of Dumbarton to testify to the gratitude and esteem felt for Peter Denny, the head of the firm. An illuminated address, with an album containing the signatures of his foremen and employees, was presented to him, and a silver salver, suitably inscribed, to Mrs. Denny. Shortly afterwards a movement was set on foot to obtain funds for the erection in the town of a bronze statue of Peter Denny. The money was speedily subscribed, and the work entrusted to Mr. Hamo Thornycroft, R.A. Highly as Peter Denny appreciated the sentiments towards himself which took this form of expression, it was easily seen by those who surrounded him that the erection of a statue of himself, during his lifetime at least, was not to his liking. The course of events speedily led to an issue which, amid all its sadness, served to relieve the modest, unassuming and large-hearted man of any pain on this score. In January, 1895, he took his usual winter holiday with Mrs. Denny on the Riviera, returning in April last by way of London, where he remained a few days. There he unfortunately took a chill of a malarial character. He returned to Dumbarton, and for a little time he endeavoured to resume his ordinary business duties, but he could not shake off the effects of the chill, and pulmonary complications soon set in, confining him to the house and then to his bed. A temporary improvement at one time gave grounds for hope which was, unhappily, soon dispelled. He gradually sank and passed

peacefully away on the 22nd of August, 1895, in his seventy-fourth year.

Peter Denny was an exceptional man; utterly without vanity or selfishness, he lived a life of activity and usefulness. Successful as he was in all he undertook, it is not known that he had a single enemy. Alike to the humblest of his workmen as to the most distinguished of his friends, he was ever gentle, thoughtful, generous and sincere. Throughout the whole of his business career he devoted his energies as much to the amelioration of the circumstances of those in his employment as to the building up of his own fortune. In providing wholesome and commodious dwellings for his workmen, and affording facilities for purchasing them, he made of his employees one large family, each member of which was interested in the welfare of the town and the prosperity of the business which gave them employment. Time after time did Peter Denny find by the conduct of the workmen, in periods of labour unrest, that the troubles which afflicted shipbuilders elsewhere were not brought into Dumbarton. The awards scheme for the encouragement of inventive skill on the part of his workmen; the generous contributions made by his firm to an accident fund chiefly controlled by the men themselves; the bursaries and medals given by him to encourage education in the burgh schools; and a multitude of other schemes, whereby he allowed his generosity to flow into public channels, all served to satisfy the people he employed that he was no mere exploiter of labour, but a sympathetic leader of industry and a man among the men who worked with him.

In addition to serving as President of the Institute of Marine Engineers, he was a Vice-President of the Institution of Naval Architects and a Member of the Institution of Engineers and Shipbuilders in Scotland.

He was elected a Member of this Institution on the 10th of April, 1877.

RICHARD ELIHU DICKINSON, born in Liverpool on the 16th of April, 1849, began his engineering career as an apprentice in the works of Messrs. Torres, Quiggan and Co., shipbuilders, of that city. He then entered the service of Messrs. Alexander Stephens and Co., of Glasgow, in whose drawing-office he remained for some time. In 1871 he proceeded to Bolivia, where he was engaged on the construction of a mole and piers at Tocopilla, and of a railway to that port from some copper mines in