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THE SHIPYARDS OF DARTMOUTH
SANDQUAY DOCKYARD

By

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SANDQUAY IN THE AGE OF SAIL - BEFORE THE DOCKYARD.

In 1790 John Seale of Mount Boone had attempted to win one of Dartmouth's two parliamentary seats, standing against Arthur Holdsworth who was the Borough mayor, in the interests of the Admiralty. Holdsworth won the election and also the long campaign to unseat him organised by John Seale. It seemed to John Seale that to curry favour with the Admiralty, and have that body regard him as the person most likely to control elections in the future in Dartmouth, he would have to carry out some project that would save that body money and also provide a facility that was of use to them. If that project provided employment in Dartmouth and created jobs dependent on him that would be to his personal advantage. All of this would not achieve his election as the Dartmouth franchise was vested in the freemen elected by the Corporation, but someday the franchise might alter.

After some thought John Seale decided to build a dry dock complex equal to any that Plymouth possessed. As to the site for such a dockyard, Seale owned an estate on the western side of the River Dart and upstream of the town and harbour of Dartmouth. The estate extended inland from the tidal water of the river and then climbed the slopes of the hill that gave the estate its name, Mount Boon or Boone, up to the higher ground near Townstal Church and Norton Dawnay. Here was the ideal green field site. Prior to the building of the dry dock and dockyard the area to be industrialised was predominantly rural. Much of the ground near the river was a pleasure ground with statue-lined walks and gardens. In 1790 the only non-rural features were a timber wharf and a ballast quay called Sand Key or Quay, which gave its name to the shoreline at this point.

There is in existence a chart of Dartmouth Harbour, dated 1790 and attributed to Joseph Dessiou. Oddly, this chart has two scales. One of 350ft to the inch, applicable to the land mass in general, and another of 500ft to the inch applicable to the block town plan of Dartmouth. This dichotomy led the author of this paper to examine the chart most carefully. Upon such examination it was proved that the block town plan was of Dartmouth at an earlier date. Also, in the north-eastern corner of the Dessiou chart there was depicted a dry-dock which was not placed where the 1792 dock was built; although the legend appeared beside the dock stating that the dry-dock was now building. It was the presence of this feature that dated the original of the chart as that made by Edward Dummer, Surveyor to the Navy Board, in 1689. If the town plan is examined in detail it can be dated as of circa 1690 and not 1790. If the dry-dock plan is scaled at 1/500 the dimensions agree with those of the dock proposed by Edward Dummer. In 1790 only one person could have told Dessiou that a dry-dock was contemplated at Sandquay and that person was John Seale. He would have told Dessiou where it would be built and so why did Dessiou put the dock on the chart in the wrong place? The simple answer was that Dessiou was working on an existing chart with a dry-dock on it. There are numerous other features dating from 1689, both in Dartmouth and Kingswear, that back the origin of the Dessiou chart as being of the earlier date.¹

SANDQUAY DOCKYARD DESCRIBED.

Now that we have established the ground layout before John Seale decided to build his dockyard complex, for that it was to be, we can place the actual dock where it was to be built and set out a theory as to how and why it was built as it was. Construction of the Sandquay Dockyard complex was begun in 1792 and completed in the following year in time for occupation by Lady day 1793. The original dock yard contained 4 building slips, a small rectangular wet dock, the dry-dock itself, a boiler house with a brick chimney housing a boiler that fed steam to a Newcomen type pumping engine. This engine pumped out any residual water after emptying or that leaked through the gates of the dock. The presence of a nearby reservoir was for domestic water and not for filling the empty dock as claimed by some historians. There were 2 covered sawpits, a foreman's office reached by a flight of steps at the head of the dock, from which operations all over the yard could be supervised, a blacksmiths shop, workmen's sheds, a dockmaster's house with another wet dock adjacent. Beyond the dockyard wall there was an semi-open area known as Clist-Wood. Apart from the dockmaster's house there was no living accommodation for the master shipwright or his family.

Seale started on the project in 1792 with the dry dock itself. This was 260 ft in length, 70 ft wide at the top and 30½ ft at the bottom. The width at the gates was 42 ft. The dock lay along the waters edge on a north-south line, and with the entrance gates at the upstream end to the north. The dock was entered around a knuckle. Vessels such as 5th and 6th rate frigates could and did enter the dock, but the later paddle-wheel steam packets could only enter if one or two of the access jetties of which there were five were removed or alternately the south side of the wet dock cut away. At the same time as the dry dock was built, storesheds, and carpenters

shops were erected to the south of the dock behind the building slips and wet dock². A small parcel of reclaimed land was added at the southern end to provide for the approach to the Floating Bridge in 1831/2. Adjacent to this portion was built the Floating Bridge Tavern in 1832 and in 1878 the Lifeboat House. Seale also laid out a ropewalk, 1000 ft in length, and capable of extension to 1200 ft and running east-west from Sandquay across Mount Boone Park³.

We do not know the name of the designer of the dry-dock, but if the contractor was a local man it was a James Davey, who was active in 1775. Amos Peek the other major Dartmouth contractor, who was still active in 1825-1835, was not born until 1799. However, the designer was in all probability John Smeaton, who in 1790 was employed in work on Devonport Dockyard. It is not known why the dock gates were placed at the upstream end of the dock necessitating a vessel entering from the harbour making a cant around the knuckle. The positioning of the dock with its longitudinal axis north-south is explained by the cheapness of construction. The dry-dock was not excavated, but merely cut out of the hillside adjacent to the site. The material so removed was dumped off shore at a distance equal to the width of the dock. This material might not result in a spoil heap high enough to reach in height from the river bed to the desired height above high water spring tides, but other material from the dockyard site, which was cut into the hill, could be added. The outside face of the deposited material was then squared up and finally faced with a stone or masonry wall. The interior sides and head of the dock was 'altared'. The cost of the whole dock was stated in 1840 by Thomas Langmead, employed as house carpenter from 1792 till after 1840, to have been £12,000, approximately £550,000 at today's prices. The site is now built-over by a modern marina building, but an on-site archaeological team would be very revealing.

In 1793 on completion of the complex a young Dartmouth shipbuilder, Benjamin Tanner, took up a 21-year lease of the whole⁴. Tanner had been building in the Gillard leased Yards at Hardness and saw the opportunities offered by the new dockyard at Sandquay. Documents on file in the Devon Record Office at Exeter show that he was involved in affrays with other shipwrights as early as 1788, but although Tanner described himself as a shipwright then he continued to do so and in 1797 was still calling himself a shipwright although he was building in his own right and repairing damaged naval vessels at Sandquay from 1793 onwards. There is no clear evidence as to when he started building in Gillard's Yard, but he was not mentioned as the tenant in possession in 1788. There remains the possibility that Benjamin Tanner had not been a shipbuilder in his own right before 1793 but only a foreman to one or other of the Hardness shipbuilders.

However, on account of an incident in 1807 it can be assumed that prior to taking up the lease of the dockyard Tanner had been building ships in the two shipyards at Hardness leased to Mr. Gillard and from 1793 onwards he undertook repair work to naval vessels damaged at sea, either by storms or battle damage. Tanner appears to have been well thought of by the Navy Board and by naval officers who came into contact with him.⁵ In late 1802 when the Navy Board requested tenders for building a fleet of small warships in anticipation of an early resumption of hostilities with

France, Tanner quoted and obtained a contract to build 3 naval vessels⁶. At about the same time, 1796⁷, as he took out a lease of the Sandquay Dockyard, Tanner leased some land at Noss Point on the Kingswear side of the river. where he built merchant ships. and in 1807 he began the construction of houses for his work force at Noss⁸. Tanner also utilised Higher Noss Creek as a timber pond and as such it was still in use by William Ashford, the Dartmouth timber merchant, in the middle of the 19th. Century. In December 1803 he took over the similar contract to his own awarded to Robert Newman after that builder's failure in late September 1803⁹. Tanner had been awarded a contract to build 2 frigates in early 1803 and in 1804 a contract for a further three gun-brigs¹⁰.

Realising that none of the existing slips or the small wet dock, the largest being only 90 ft x 60 ft, was large enough to house the vessels he had contracted to build for the Navy Board, Tanner decided to enlarge the complex by leasing from John Seale the area above the dry-dock and known as Clist Wood. Adjacent to this area was a small cove, which did duty as a timber and mast pond and here he proposed building three masonry-lined wet docks, closed by temporary masonry end walls, together with supporting buildings plus a large steam boiler and 2 kilns for shaping planks. On the north side of the cove a new joinery and carpenters shop was erected together with a stable under. North of the dockyard wall he built a large house for himself and his family. There was a mould loft, housed either under the joinery shop or as a part of Tanner's house, which was designed to give a full view of all work in the dry-dock area to the south-west of the house as well as the new yard. It is probable that Tanner's three clerks, led by A.B. Mantell as chief clerk, had their office here. It is possible that Tanner's Bank of Dartmouth had its premises here also. In later years a new north wall was built to the west of the earlier one and the enclosed space between the walls gave access to Tanner's house and the quarry behind it. The spring rising in the quarry provided the purest water in Dartmouth and was brought to the surface via a well in the Clist Wood Yard. The whole complex consisting of the Clist Wood and Sandquay yards was 470 yards long¹¹.

To finance the capital work Tanner agreed with his landlord, John Seale, that the latter would buy-back at the end of the lease any buildings or plant erected by Tanner at 50% of their original cost. To further relieve himself of the need for a large loan Tanner floated the second Bank of Dartmouth in 1803, through which private persons could invest in the perceived prosperity of Dartmouth. When Benjamin Tanner as a sole trader went bankrupt in 1807 the bank folded. Tanner filed two sets of bankrupts accounts showing a deficiency of £7,000 in one case and £24,000 in the other¹².

The three new wet docks, actually walled slipways with masonry closing walls, were laid out in a fan-wise fashion. The first, the most southern, was 110ft. x 60ft. and was capable of housing two gun-brigs or sloops at one time. The second was 125ft. x 40ft. and the third 150ft. x 48ft. These two slipways were each capable of housing one of the two frigates to be built by Tanner. The first two wet docks were completed, but the third was finished only on its south side when Tanner was

bankrupted and work ceased in 1807. The north side of this dock abutted the small mast pond, which had existed as a cove before the Clist Wood Yard was built. The third dock was never completed even in 1885 when the naval authorities took over the yard. The centre dock was used for the building of the frigate '*Dartmouth*' and the uncompleted dock would have been utilised to build the frigate '*Creole*' of which only the keel was completed and which lay at Noss when work stopped in 1807. The dry dock was the home of the partly completed frigate '*Dartmouth*' from late 1807 until 1811 and was used as the breaking-up yard for the frigate '*Blonde*' in 1811-1813¹³. From that time until 1845 it was rarely used and consequently became something of a 'white elephant'.

Tanner was bankrupted by his 'sleeping' partner, Capt. Nicholas Tomlinson, in early 1807. Following the failure Capt. Tomlinson placed Tanner's foreman, John Cock, in charge and instructed Cock to remove and sell through the Sheriff's execution anything of value in Clist Wood yard. There is some evidence that Cock was over-zealous in his efforts. Tomlinson arranged for other Dartmouth shipbuilders to complete work on the outstanding contracts, including Robert Newman. John Cock continued work on the '*Dartmouth*' but in April 1810 John Cock himself was adjudged bankrupt. His stock in trade sale was held in September 1813.¹⁴ He may have completed the '*Dartmouth*' before he was sold up. Apart from the breaking-up of the frigate '*Blonde*', ex French *L'Hebe*¹⁵, the Sandquay Dockyard was not used for again for naval shipbuilding or repairing.

In December 1812 John Seale attempted to sell the, now vacant, lease of the dockyard by public auction offering a 21 year lease term. The lease terms offered were taken up by John Gibbs (I) who had been building merchant vessels in the Clarence Yard at Hardness since 1800. In 1813 John Gibbs I and one of his sons, Alan, signed the new lease and began building. The lease covered the two parts of Sandquay, now termed Higher and Lower together with the dry-dock, but not the ropewalk¹⁶. In 1815 regulations were issued for the use of the dry-dock which suggest that John Henry Seale had taken over control of the dry-dock from the lessees¹⁷. John Gibbs I died in 1822 and so in 1824, after the death of John Seale a new lease for a term of 21 years was negotiated with his son, John Henry Gibbs, Seale, later Sir John Seale Bart. who inherited the dockyard complex at Sandquay. The new lessees were George Gibbs and his nephew John Gibbs II¹⁸.

They were succeeded by John Wilson Green who leased both parts of Sandquay in 1836, but probably not the dry-dock for which new regulations were issued in 1832. Green was financed by his bankers, the Bank of Prout & Stapledon acting for the Devon & Cornwall Bank, who at the end of 1838 became alarmed at the outstanding debt of Mr. Green. The cause of Green's financial embarrassment was a 6-month strike of shipwrights at Sandquay over the terms for refitting an East Indiaman. At about 400 tons such a vessel would have to be housed in the dry dock and if this was done on the terms on which John Seale hired out the dock after 1832, it would have been costly. In 1839 Mr. Green went 'bust'¹⁹ and the strike then ended, but now there were no jobs to which the workers could return. As a consequence, grass grew on and in Sandquay dock, ever a sign of depression for Dartmouth.

SANDQUAY DOCKYARD IN THE AGE OF IRON.

In 1841 Andrew Alford of Dartmouth took a 5 year lease²⁰ of Lower Sandquay as the portion of the dockyard below the dry dock was now termed and at the 1844 by-election in Dartmouth, after the death of Sir John Seale, 'ships for votes' was the cry and in order to fulfil their promises first Joseph Somes, Britain's largest shipowner, and in 1845 after Somes death, George Moffatt, a London banker, took a 7 year lease of Higher Sandquay, as the Clist Wood yard was now named²¹.

In between these two men came, in early 1845 an independent parliamentary candidate. Capt. John Rhodes Pidding of Pidding Teas fame, took out a 7-year lease of Higher Sandquay, the dock and all the buildings plus the ropewalk and Sandquay Mills²². Pidding began extensive repairs to the bottom of the dock, which by now had a mass of grass and weeds covering²³. The whole complex had been described by an Admiralty Committee in 1840²⁴ as derelict; no part having been used since 1838 and the dock itself for considerably longer. To complete the story of the dry dock it only remains to say that after a short while Capt. Pidding realised his electoral chances were nil and departed from the scene complete with family and footman, the first and last seen in Dartmouth. To get even with the local electorate Pidding removed the dock gates and made from them frames for portraits of his ancestors.²⁵ After that time the Sandquay dock was used as a wet dock or basin with, in 1851-52, a Patent Slip installed²⁶.

SANDQUAY DOCKYARD IN THE AGE OF STEAM.

It was in 1845 that steam came to Dartmouth shipyards when George Moffatt, true to his promise, commissioned a 125ft. steamship from the brothers, Samuel and Henry Follett, which they were to build at Higher Sandquay. Meanwhile George Philip, aided by his son Alexander, was continuing to build various type of sailing ships at Lower Sandquay where he had leased the three most southerly slips in 1866.

PHILIP & SON AT SANDQUAY

The era of Philip & Son. may be said to have started in 1854 when George Philip of Aberdeen came to Dartmouth to take up employment as foreman shipbuilder to William Kelly, a blacksmith of Dartmouth who had decided to branch out into shipbuilding by taking a sub-lease of the southernmost portion of Sandquay dockyard from the lessee of both Sandquay and Clist Wood yards. This was William Ashford, timber merchant and ships chandler, who took out a 21 year lease in 1851. Ashford had shop premises at The Quay and a steam saw-mill and timber yard at the south end of Combe Mud.

At first William Kelly prospered building wooden ships, usually brigs or barques for the Newfoundland trade, but in 1858 William Kelly failed in the business. Whereupon, George Philip went into partnership with William Adams Couch who

had been building in the Clarence Yard on Shapleighs Gift. In 1865 the partnership was dissolved and George Philip took up a lease of the southernmost portion of Sandquay dockyard, three slips and sheds and sawpits. This was at a time when many orders were for Dartmouth owners such as Newman & Hunt; Tolman & Co.; and Hine, Pinson, Hine; A.B.Harris; the Seales, and the Hodsworths. William Kelly and George Philip were reputed to have built, between 1854 and 1865 for the Newfoundland trade the 'Guide the 'Castlian Maid the Wizard ' the 'Escort the 'Lottery and the 'Scout'.

In the second half of the century orders fell away as owners retired from the shipping business until in 1876 Newman & Hunt sold out their interest in the Newfoundland fishing trade to the Hudson Bay Company. Typical output in 1868 was a brigantine named *Sly Boots*. Principal dimensions 104'x23½'x13'and of 189 tons. In 1876 just before the sale of Newman & Hunt, Philip & Son built a three masted brigantine for that Company. This was the *Retriever* of 216 tons; principal dimensions 117'x23'x13½'. By 1870 new techniques were being adopted by George Philip who began to build steam-powered vessels as well as sailing ships, including trawlers and yachts. This change in policy was the result of Alexander Philip joining his father after completing his apprenticeship at Laird's of Birkenhead.

Meanwhile, Robert Moore, who leased Higher Sandquay in 1861 for a term of 21 years launched the schooner rigged 100 ton steam trawler '*Bertha* built to the order of G.P. Bidder. The hull of this vessel was constructed of iron plates on wood frames. At Higher Sandquay, the old Wood-Clist yard, or North Sandquay as it was referred to by contemporary artists and writers, Robert Moore was building barque or ship rigged vessels of up to 430-450 tons. George Philip died in 1874 and was succeeded by his son Alexander, who had been apprenticed at Lairds. It was Alexander who introduced composite and steel plated hulls into the Philip repertoire. The first composite hulled vessel was a steam launch built for Mr. H Brisdon of Dartmouth.. She was launched in August 1871. Her principal dimensions were 56ft. x 9ft. beam x 6ft.' deep.

In 1872 George Philip built the experimental steam trawler *Edyth* for the G. P. Bidder. *Edyth* was larger than her predecessor and fitted with a lifting or 'disconnecting' screw designed by Samuel Lake, of Dartmouth. Her principal dimensions were 95ft. x 19ft x 11ft. The *Edyth*, which was equipped with a steam capstan was placed at the disposal of the Commissioner for Irish Fisheries. Another landmark at this time was the launch in March 1878 of a 263-ton three-masted brigantine named the *Albert Victor* and equipped with a 'Liverpool House' amidships. She was metal-sheathed and launched fully-rigged. Designed for the fruit trade she had a cargo capacity of 440 tons. Then in early 1878 came disaster, for in April 1878 Margaret & Alexander Philip, trading as Philip & Son were adjudged bankrupt. They owed £5,783 with assets of £1,190. It was claimed that the Assets would pay 6/6 in £, but Alexander Philip offered his creditors only 2/- in £ over 12 months. Therefore, it was agreed that the company be wound up in liquidation. As a result of the bankruptcy all work in the yard was suspended after the launch of *Albert Victor* in March 1878.

It was in 1856 that William Kelly and George Philip built the third version of the Floating Bridge ferry, which was horse-driven, and in 1867 the firm built the replacement steam powered version. This was not the first steam engine for the ferry, which had a steam engine from 1831 until 1836. The first all-steel vessel built by Philip & Son was the '*Totnes Castle*' of 1896. She was employed as a passage boat on the Dartmouth-Totnes run. The vessel was 83 ft long by 14 ft beam.

By 1870, Mr. Redway a shipbuilder of Exmouth, was renting the long-disused the Patent Slip in the dry dock where, in October 1870, he had 3 vessels on the slip at one time - a first for Dartmouth. In the same month it was announced by the *Dartmouth Chronicle* that Mr. Redway had bought the lease of the dry dock and Patent Slip including all the machinery installed by William Kelly in the period 1854-1861. In addition he leased two of the three houses forming Sandquay Terrace recently built by Mr. Ashford and the two slips immediately south of the dry dock. George and Alexander Philip lived in the third house. The Redway's built up an engineering works consisting of a machine shop and fitting shop housed in a covered building over and at the southern end of the dock, part of which was filled-in for the purpose.²⁷

On 7th March 1873 Robert Moore and the Redway's were trying to put a barque *Swan* on to the Patent Slip, but the cradles were carried away by a tidal bore which washed up the slip. This drove the vessel sideways athwart the dock. Eventually, she was got up with the aid of tackles and help from the tug *Guide* going down harbour. Unfortunately the *Guide* came into collision with Hingston's coaling hulk *Happy* and carried away her bulwarks and foremast. At this time the coaling hulks were moored on the western side of the harbour. Moore and Redway tried again three days later, but still could not put the ship on to the Patent Slip as there was then too little water. Finally, they got her on the Slip on 21st March 1873 for repair and overhaul. The next task was to be the barque *British Empire*, which was to go on Slip for re-classification^{27a} after long being moored in the wet dock in North Sandquay.

On 15th February 1873 Redway had launched the barque *Eulie* At a celebration dinner at Sun Hotel in Smith Street amongst those present were the shipbuilders Alexander Philip, Edwin Redway, designer, Robert Moore, William Kelly, and John Houston, foreman to Alexander Philip. In an after dinner speech William Rees, chairman, said he had first come amongst them from Totnes in a time of depression when there were hardly any sounds of shipwrights hammers at Sandquay. It was just after the time in 1837 when John Wilson Green who carried on a large trade had failed in unforeseen circumstances. Grass then grew on Sandquay, which was a barometer of prosperity in town. Rees was referring to a shipwrights strike over working conditions on an East Indiaman, which was in for overhaul. The strike dragged on and when the men agreed to return to work there was no work to which they could return. The circumstances are related in my book '*Dartmouth Banking and Industry*.'

In August 1873 there was a broadside launch of a trawler by Redway. There were two sideways groundways with grooves cut into them upon which worked the sliding ways. The vessel was given a slight inwards list and two thick pieces of timber spars called poppets, were fastened to inner side of vessel. Signals having been given Mr. Edwin Redway called out '*Cut trips down dogs*' and the vessel glided beautifully to edge of quay. The weight of the vessel having almost left the ways caused the latter to lift and the movement delivered the ship into the water. In October 1873 Redway began construction of large building sheds for winter work spanning the southern end of the Patent Slip. The largest of these would be capable of housing a small vessel.

In June 1874 there was a shipwrights strike, which stopped all shipbuilding in Dartmouth. As a result a locally owned schooner requiring heavy repairs was sent to another port. Shipwrights who were currently paid 32/- per week on old work and 28/- on new work wanted a further 3/- per week. Employers would only grant 2/- on new work and nothing on old work. The shipwrights went back to work on employers terms.

In October 1874 Robert Cranford visited Redway's yard. At head of the Patent Slip was a 12 hp engine, which 'drove' the cradle of the Slip, a vertical frame lathe and two circular saws. The waste steam from the boiler was led to a planking kiln. There were three casting pans for molten lead. There was also a large boat shed. Everything was made by Redway's, except the sails supplied by Laphorne. Teak topsides were fixed with Muntz metal, not tree nails. Galvanised fittings were made on site. The Mould loft and stores were situated on the site. At this time Redway had 50 employees.

Cranford next visited the yard of Philip & Son, who had 70 employees. Alexander Philip was in charge with John Houston his foreman and Houston junior as Timekeeper. He wrote, "*There is a 100ft. boatshed and 5 slips, all in use, Close by is a steam boiler, fired by wood chips and shavings. This feeds a steam kiln and an 8 hp engine, which also drives a circular saw and grindstone. Largest shop is smithy where all furnaces are at work under supervision of Mr. Williams, son of gardener at Ford. Mould loft is an open-air platform where John Houston lays out curves. He states this loft is superior one to that at Aberdeen where he had a hay-loft with a pole in the middle.*"

Next visited was Robert Moore's yard to the north of Redway's where Cranford was met by Mr. Parr, foreman. "*Here a steam engine drives a circular saw, and there was a furnace for bending frames and plates-erected when they built the 'Bertha'. There was also a steam kiln. There are 4 sawyers employed; the top sawyer is Mr. Hart, the Townstal parish clerk. At entrance to the yard are some old stores erected by Benjamin Tanner with a mould loft over.*"

In 1875 a new Patent Slip on the telescopic principle was laid down by Messrs Redway at Middle Sandquay, grounded on the solid rock below the base of the old dry dock. A new engine and boiler was installed for driving band and upright saws.

“This will also drive a capstan and the winch of sheer legs recently erected. This new equipment,” commented Cranford, “is a great acquisition for Dartmouth and is much needed for lifting boilers out of ships or heavy items of equipment.”

The new equipment for Sandquay was almost complete by the end of August 1875. The old Patent Slip had come from Birkenhead where it had been well-used. *“The new Slip was superior to the old and was fitted with ‘altar’ quays that allow heavy ships to be secured before tidal water recedes. In effect it is like a dry-dock. New machinery installed in the yard includes a band saw, planing machine and latest lathes plus an hydraulic punching machine. One of main uses of the new sheer legs is to remove boilers of steamships, which are then converted to sailing ships. A new mould loft is to replace the existing one now in use as a storage area for the gear of yachts during the winter months..”*

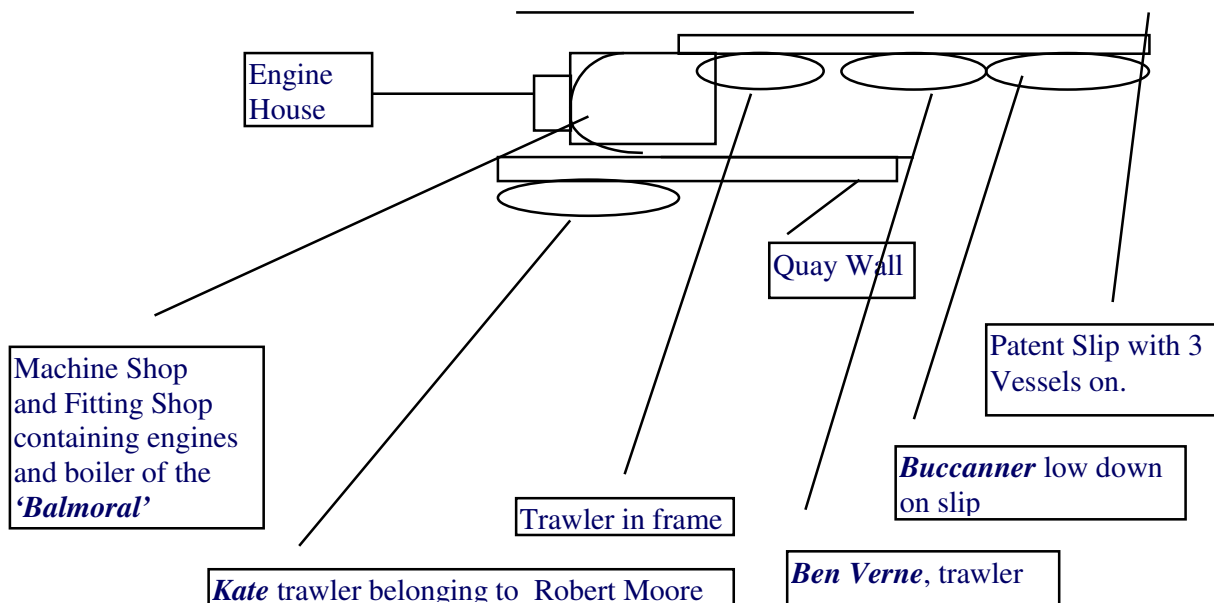
We have a description of Redway’s yard early in 1876 when Robert Cranford visited it to view the new machinery. The planing machine was from Powis, James and Western & Co. of Lambeth. It was 5ft. long 3 ft wide and 4 ft high. It had 6 knives or plane stones of which 4 were for rebating and two were fixed. *“Two top and two bottom, and two for finishing the fair sides. Under knives are smoothing planes. The speed of the machine is 2000 rpm. It takes 6 men to operate the machine, 4 skilled and 2 labourers. Planks for a ship called the ‘**Balmoral**’ were being cut in February 1876. Great advantage of the machine is the saving in shipwrights time. The machine can cut flooring boards and can prepare a deck in 24 hours from stock timber.”* Cranford described the saw-setting machine, band and circular saws and a heavy duty lathe made by Illingworth of Leeds for making shafting. There were also hydraulic and duplex punching machines. The complete set of machinery was driven by a 20 hp engine. The new sheds forming the machine and fitting shops had been erected by the ground landlord-the Trustees of the Raleigh Estate.

In May 1876 Cranford paid a visit to the Philip yard. This he described as lying between the two halves of Redway’s yard, which suggests that there had been an exchange of property between the two firms. Philip now had slips numbers 3/4/5 while Redway had slips 1 and 2 to the south. This arrangement led to a dispute over the right of way between the properties between Alexander Philip, who had a short fuse at the best of times and Edwin Redway. The dispute was finally settled by each cutting a new entrance from the roadway. John Houston was still both foreman and designer in the Philip yard. There was less machinery here than in the Redway yard and the motive power was only an 8 hp steam engine. The workload was still considerable and employed 70 hands. *“In the first shed was the steam engine, which drives lathes, grindstone and band saw. This saw can cut out frames for a trawler in 6 days. Smithy and boatbuilders shops are full of work. The main output is now trawlers and some slips cater for two vessels...”*

In September 1876 Philip & Son laid down a gridiron for ship repair. The first vessel to use the gridiron was the ‘*Constance*’ of 255 tons built by White at Cowes in 1855. *“She is being re-coppered. Workmen stand on floating stages that rise and fall with the tide. Redway has installed new 20 hp steam engine from Sara of Penrhyn*

Foundry. It is much quieter and more powerful than the old one. John Houston has left Philip & Son and set up at Combe building trawlers."

Shortly after the bankruptcy of Philip & Son came more disaster - the Great Fire!



On 14th September, a Sunday, fire broke out at Redway's yard. Subsequently, much damage was reported. The fire discovered by Mr. White, boat builder, who was on river at about 8 p.m. when he observed a strange light near to the engine house. Mr. White rowed ashore and called out Dartmouth fire brigade. By the time the Town fire engine arrived the fire had spread to the machine shop and fitting shop. The fire engine could not approach nearer to the site of fire than Redway's lower yard, 500 ft away, but extra hoses allowed jets to play on fire. The Fire engine of HM *Britannia* and water tanks brought up by ship's crews were also put to work.

In 30 minutes the trawler, '*Ben Verne*' which was ready for launch took fire on the Slip, and her starboard quarter was badly damaged. A trawler in frame at the top of the Patent Slip had caught fire and her port side and keel were badly damaged. The cutter yacht belonging to Capt. Bailey, lying low down on the Slip was not damaged. An old trawler, *Kate* lying alongside the quay wall with £500 value of equipment on board for a new ship now building in Mr. Moore's yard at Higher Sandquay had her rigging burnt away, but she was cut loose and towed away to anchor in the river and so was saved. Fortunately there was no wind, but even so a shed in the adjacent corner of Philips yard took fire. However, the flames were stopped from spreading further. By 10p.m. the fire was under control, except for wood in the timber stack, which burnt until 6 am, but it broke out again after both fire engines left the scene. The Town fire engine came back at noon and remained on site till 4 p.m. The wind now got up and fanned flames so that the *Britannia* fire engine was not recalled until 6 p.m.

Much of the new machinery in the shops was destroyed or damaged including the engines and boiler of the '*Balmoral*' which had been removed from that vessel and part-exchanged for work to be done and valued at £1200. Work had finished at 4 p.m. on the Saturday so the boiler fire had been drawn and the ashpit filled with water as a precaution before throwing the ashes over the quayside. Many of the tool chests belonging to the tradesmen were consumed by the flames and their contents destroyed. Initial estimates put the damage at £7,000, or about 1/3 of the total value. However, Redway's insurance was for only £3,000 at a Manchester Fire Office. As a result of the under-insurance Redway's were unable to restart operations and before the end of 1878 they opted for bankruptcy. As a result this part of Sandquay remained out of use until 1882/83.

In September 1878 it was reported "*Trawler Launch from yard of A Philip the John Brown, 6th vessel for Vivian & Tozer. The yard has only one building whereas there are normally 5 or 6.*" This is the only evidence that Alexander Philip had compounded successfully with his creditors and was trading again; although as a sole trader and in low key. Shipbuilding was reported to be very quiet at Sandquay with little work in hand. R. Redway were advertising for 30 apprentices for their North Sea trawling fleet. The *Dartmouth Chronicle* reported several bankruptcies amongst local traders. Besides Redway & Sons there were Thomas Tucker of the Steam Packet Inn, William Ashford the timber merchant and lessee of Sandquay, Henry Ash Hawk accountant and James Davey wine and spirit merchant, who became an auctioneer. The trading situation was so bad that it equalled 1856 and 1844, but causes were varied the main one being lack of orders for wooden shipbuilding as opposed to iron shipbuilding.²⁸

SANDQUAY CHANGES AFTER 1882.

Let us remind ourselves of how things stood at Sandquay in 1882. Philip & Son, now headed by Alexander Philip, the son of the founder, occupied the three southerly slips and the wet dock north of them together with the buildings behind them. Middle Sandquay, comprising the first and second slip together with the site of the drydock now partly filled were unoccupied; whilst Higher Sandquay, comprising the two wet docks or slipways built by Benjamin Tanner and their associated buildings, was about to become vacant. Here Robert Moore was able to build vessels up to 450 tons and of greater length than at Lower Sandquay. As related above Robert Moore had earlier installed equipment for building composite and riveted hulls, and also machinery such as circular and band saws and a lathe driven by line shafting from a 7 hp steam engine. Mr. Moore declined business in September 1882²⁹ and vacated the premises.

In May 1880 the sale of Plant, Machinery including the Patent Slip at Sandquay, ex the property of Redway & Son took place. From the Bill of Sale one can judge the scale of the establishment at Middle Sandquay. There were several power plants - a 20 hp steam engine by Sara of Penryn with a Cornish boiler 20ft. x 5ft. (24"x 36"). The latter "*was new 2 years ago*" for driving machines in the Shops. A 12-hp

horizontal engine & boiler for working the Patent Slip comprising 100 Tons of iron and a couple of donkey engines with double purchase winches. In addition there was the pair of 50/250-ihp marine compound surface condensing engines and the boiler of the '*Balmoral*'. Amongst the machinery was the planing machine, a band sawing machine, and saw sharpeners by Powis & James & Co. There was also a vertical saw frame from Sara of Penryn, a circular saw etc. There was also the Patent Slip, 500ft. long complete with powerful gear for handling ships of 600 tons register. There were two sheds - one 60 x 20ft. and the other 27 x 15ft. The Illingworth centre lathe partly damaged, an emery grinding wheel, 2 wooden saw benches and a metal punching machine. There was also a brick chimney stack. At the sale about £600 was realised and the remainder of the plant was sold privately.

The filling-in of the 'Gut' of the Millpool with dredging deposits in 1883-5 would leave the site of the Hardness shipyards landlocked. Here Simpson & Denisons and their landlord, John Naylor, decided on different courses of action. Naylor sought compensation from the Dartmouth Harbour Commissioners while Simpson & Denisons removed to Middle Sandquay, amalgamated and expanded. The company now amalgamated their boat building and engine works, filled in the site of the fourth slip and the wet dock to provide the required working space. Customer's boats were built and had their engines fitted, refitted or repaired on the Patent Slip in the remaining portion of the dry dock. The presence of Philip's to the south and Higher Sandquay to the north limited their room for expansion to the area between the dry dock and the western wall of the dockyard.

After Robert Moore vacated Higher Sandquay and before Simpson & Denisons could take out an option or otherwise act to possess Higher Sandquay the Admiralty moved and bought the site in 1885 for use as an engineering workshop for the naval training establishment of HM *Britannia*. The northern 2/3rds of the house recently vacated by Robert Moore was demolished leaving only the office accommodation. The two wet docks or slips were filled and also the mast pond. The boatshed of *Britannia* was extended over the site. The whole area was fenced off and became known as the Navy Yard. Further changes were to take place in 1898³⁰.

Here we get ahead of ourselves in terms of chronology. After settling down in the new works at Sandquay, F.C Simpson decided to improve working conditions at the yard and in October 1883 preliminary work was put in hand to install electric lighting using Swan incandescent lamps supplied from a generator driven by a 60-hp Kingdon engine. Other improvements were a foundry, both for private and public use as the nearest foundry was at Exeter. Two gridirons were erected along the face of the outer wall of the dock, one of them 150 ft long. By this time the number of employees had risen to 150 and the average wage was 25/- per week³¹. The overall works manager was George Kingdon.

Although the company increased the number of standard designs that it offered and increased the power output from the Kingdon engine, the room for expansion of business was limited. As a preliminary move Simpson decided to re-structure the organisation and finance of the company. To this end in July 1887 the partnership

of Simpson and the Denison's was dissolved. Perhaps Simpson thought they had insufficient capital to expand the business and in George Kingdon he had now a manager who could deal with everyday matters, something that had been the responsibility of the Denisons. Within two weeks Simpson had found and installed a new partner. It was a Mr. Frederick Strickland, a relative of his wife. From 22nd July 1887 the firm changed its name to Simpson & Strickland. It was Simpson's desire to build not just boats but ships and to do this the firm must find a new location³² as soon as it was convenient. Simpson wanted to be away from Dartmouth before the pent-up emotions of the Dartmouth citizenry forced him to face facts over his policy of retrenchment that was eroding the standard of life for ordinary people, besides his desire was for something higher than that of a mere mayor of a small municipality.

One change made by the new management soon after the re-organisation was in regard to engine design and production. The double compound layout was discontinued and a four-cylinder quadruple layout introduced. The first two cylinders in tandem were coupled to one of two cranks on the single crankshaft and the other two cylinders in tandem to the other crank. In 1892 the D-1/2-A quadruple expansion engine was replaced by the 1/4-A size of which several examples still exist today (1995).

There were no new developments at Sandquay before 1893 except for a further change of structure whereby Simpson & Strickland became Simpson, Strickland & Company. Three new directors were recruited and the capital raised to £20,000 in £5 shares. The trading objectives of the new company were stated to be as yacht and boat builders, mechanical and electrical engineers, iron and metal founders. The changes became effective in April 1891. By the following month part of Simpson Strickland's works were established at Noss and 90 men were based here while 300 men still worked at Sandquay³³. By April 1893 the Noss Works were completed and the entire workforce deployed here, except for the foundry department, which remained at Sandquay³⁴. With the completion of the transfer Philip & Son were the only shipbuilding firm still trading on the Dartmouth side of the River Dart.

In 1902 when work started on the construction of the new Naval College ashore an inclined plane was installed up which heavy loads could be transferred from small coasting vessels moored at a temporary pier built adjacent to Higher Sandquay to the eastern end of the site on Mount Boone. Two years later, in 1904, both the temporary pier and the inclined plane were dismantled. Whilst all these matters were going on new buildings together with a high chimney stack were erected in 1902 at Sandquay for the power station of the Urban Electricity Supply Company, who were to supply electricity to the Naval College³⁵. Since 1893 the area of Middle Sandquay had remained unoccupied, but in 1902 Philip & Co. began building here and purchased the area in 1906 at the same time that the firm became a Limited Company³⁶.

APPENDICES

Notes and References.

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4. *Dartmouth Industry & Banking-1790-1925*, I H Smart, Dartmouth History Research Group, 1995
5. PRO Chancery Papers C13/83/40
6. WCSL, *Trewman's Exeter Flying Post* 17/2/1803
7. WCSL *Trewman's Exeter Flying Post* 7/9/1797
8. PRO Deposition of John Cocks 1808, in case of Benjamin Tanner, B3/5612
9. PRO ADM/106/1641
10. PRO op cit Ref 5/
11. Brit. Museum. op cit Ref 2.
12. The full story of Tanner's financial failure is related in the author's book '*Dartmouth Industry & Banking-1795-1925*. qv Ref 4.
13. *Sailing Navy List*, David Lyons, **L'Hebe/Blonde**, French two-decker Frigate, designed by Sane and built at St. Malo in 1782. Tonnage 1062. Dimensions 150ft. x 125ft. x 39ft. 11ins. x 12ft.9ins. Crew 250-300 men. Armament: 28 x 18pdr on lower deck, upper deck 8 x 9 pdr + 6 x 32 pdr. carronades, Focsls 4 x 9pdr. +2x 32pdr. carronades. Captured in action by HMS **Rainbow** 4/9/1782. Used as a troopship 1798-1806 and transferred into Royal Navy 1805 and renamed Blonde. Broken up at Sandquay Dockyard Dartmouth in 1811. This ship was the largest frigate ever built and was the model for the 'Royal Navy Leader' class frigates.
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16. DRO Seale Papers uncatalogued
17. op cit Ref16
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23. op.cit Ref 20
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26. Files of the *Dartmouth Chronicle* for 1855, Torquay Reference Library
27. Files of the *Dartmouth Chronicle* for 1870, Cookworthy Museum Kingsbridge

- 27a Files of the *Dartmouth Chronicle* from 1870 to 1877. Cookworthy Museum, Kingsbridge.
28. Files of the *Dartmouth Chronicle* for 1878, Cookworthy Museum, Kingsbridge
29. File of the *Dartmouth Chronicle* for 1882, Cookworthy Museum, Kingsbridge.
30. *The Royal Naval College at Dartmouth*, H C Davies & R W Grove, Gieves & Hawkes, 1980.
31. Files of the *Dartmouth Chronicle* for 1883, Cookworthy Museum, Kingsbridge.
32. Files of the *Dartmouth Chronicle* for 1887, Cookworthy Museum, Kingsbridge.
- 32a. I am indebted to Mr. Brian Hillsdon of the Steam Boat Association of Great Britain for notes on the range of engines produced by the Sandquay Engine Works.
33. Files of the *Dartmouth Chronicle* for 1891, Cookworthy Museum, Kingsbridge.
34. Files of the *Dartmouth Chronicle* for 1893, Cookworthy Museum, Kingsbridge.
35. *The Royal Naval College at Dartmouth*, H C Davies & R W Grove, Gieves & Hawkes, 1980.
36. *A Century of Progress-1858-1958*, R Tucker. The story of Philip and Son, but the author begins his tale 7 years before the company was formed. The book is mainly a pictorial history and contains several errors. The firm was not established until 1865 when George Philip and Wm. Adams Couch parted company. George Philip worked for Wm. Kelly at Sandquay from 1854 to 1858, but Kelly did not go bankrupt till 1861. There is no mention in the book of the bankruptcy of Alexander Philip in 1878 and hence there is no mention of how the firm was restructured.