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**INTRODUCTION TO DARTMOUTH HARBOUR
PAPERS**

by

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Dartmouth is best known today as a tourist resort situated at the mouth of, and on the west bank of, the River Dart, a river that rivals the Rhine for scenic beauty. At the beginning of the period under discussion Dartmouth was the equal of Plymouth the premier city in the South-West of England, in maritime activities, but throughout the nineteenth century, Dartmouth slipped backwards, in economic and physical terms. This was due, in part, to the growth of the naval dockyard at Devonport and to the difficulty of accessing the narrow harbour mouth in a sailing vessel. To this was coupled to the lack of a good transport road out of the town, before 1826, and the late arrival of a line of railway before 1864. In addition after 1863 Admiralty sought to ‘protect’ the anchorage of its officer-cadet training ship ‘Britannia’ in Dartmouth harbour.

The halcyon days of Dartmouth were over before the 19th century began. The maritime history of Devon was created and enriched by Dartmouth’s premier citizens in the 15th, 16th and 17th centuries, by Sir Walter Raleigh and his half-brothers. the Gilberts, as well as the merchant venturer, John Davis, and in earlier times, John Hawley, reputedly the model for the Shipman in Chaucer’s Canterbury Tales and Robert Wennyington. The decline of Dartmouth as a port did not begin before 1690; it remaining the premier port of Devon until that year and losing its supremacy after Plymouth became the site chosen by the Surveyor to the Navy Board in 1689 or the new naval dry dock¹.

Clifton-Dartmouth-Hardness, to quote the full title of the town, was and is one whose natural and peaceful harbour is the finest in England, but it was not always so for, although Dartmouth had a population of less than 3500 souls as late as 1801, the town had, in the 14th century and after, wielded much power and was then among the most important commercial ports in England.. The town’s position in the fish and wine trade with Mediterranean ports, especially those in the Iberian peninsula, sustained the economy of the town long after the 14th and 15th centuries. It was in the Newfoundland fishing industry and trade that Dartmouth took the lead and prospered after 1580¹. Following the end of the English Civil War and the Restoration of the monarchy in 1662 settlement of Newfoundland by West Country folk

began and, so much so, that whereas in 1716 the population of Dartmouth and Newfoundland were of the same order but, by 1765, those living in Newfoundland were five times as numerous as those living in Dartmouth.

As a consequence, between 1765 and the first census of 1801 the number of inhabitants in Dartmouth remained the same at about 3000-3500. In the succeeding half a century whilst the national population of Britain grew rapidly as the first Industrial Revolution reached its peak, Dartmouth stagnated, and not just in economic growth, but in population growth, for in the first half of the 19th century Dartmothians totalled no more than 4500 and by 1867 were still below 5000 souls.² Shipbuilding and ship repairing yards were established from the 13th century onwards along the northern side of the Pool, where the tidal creek debouched below the mill dam and the mill tail, into the Dart. After the mid 13th century this creek above the mill dam became the Millpool feeding two tidal mills via a sluice. From the 17th century the dam became known as Foss Street and served to link the two commercial areas. Between central Dartmouth and the southern end of Foss Street lay the prestige properties fronting the Quay and Spithead which, together with St Saviours Street (now Duke Street), were to become the focus of Dartmouth financial and banking activity in the 19th and 20th centuries.³ There was no carriage road out of the town and up the steep scarp to the 420' high plateau, which dominated the town from the west, before 1826 and the River Dart was always a barrier to the east. All commodities from local villages had to come in on foot or by packhorse or, from farther afield, by ship. Dartmothians had to be self-sufficient, but there were never very many of them. Dartmouth lived on shipping, an industry requiring both seamen and ships. The latter were built in small shipyards along the Hardness shore of the Millpool, which divided Dartmouth into two separate communities. This division of Dartmouth was real until the 13th century when the mill dam was built across the Ford Creek from Spithead to Hardness.³

The earliest shipyards at Hardness in Dartmouth were established at some point in the 13th century. The first reference we have to these early shipyards is contained in the volume of 'Pre -Reformation Dartmouth' documents edited by H R Watkin. There is a document noted on August 7th 1362 which states that John Coggere of Kingsweare granted to John Raleghe and Dionosius his wife a place of land at le Ropetackle----on the west the yards of the men of Hardenasse. The original document is in the Prideaux Collection. At that time shipbuilders were often named 'Cogger' on account of the type of ships that they built. The Hardness shipyards appear to have been freehold properties and, therefore, the earliest deeds to the properties have not survived, but by the time of the Reformation the properties would have seemed to become church property. From the late 16th century the shipyards were leased out by the Corporation of Dartmouth to individual shipbuilders for the standard term of 80 years, altered to 79 years after the change in the calendar to the Gregorian system. Although claimed to be Corporation property from the Reformation onwards the Corporation tenure was deemed illegal in 1889 and they came into the hands of the Charity Commission. In this paper the yards are listed under their Charity property number. viz 92-97.

At that time the principal product of the small individual yards was the North European type of single-masted vessel known as a 'cog'. By the early 17th century the number of established yards totalled 7, situated along the length of Undercliffe, a narrow alley, carved out from, and running from west to east parallel and close to, the northern shore line of Dartmouth Millpool. In the 19th century the narrow street running along the northern

boundary wall of the Hardness shipyards from the eastern edge of Zion Slip to the western edge of Kings Quay, a distance of approximately 450 ft, underwent a name change to Silver Street; a totally inappropriate name. The length of the street, it was in reality little more than an alley, would suggest that in the beginning there could have been as many as 9-12 yards. By 1600 these simple beach yards were spread, not all of them adjacent, along the length of the lane, which gave pedestrian access to the yards,. Any goods of ample size and weight had to be brought to the yard in small boats for nothing larger than a pack horse could traverse most Dartmouth streets before the end of the 19th.century , and certainly not Undercliffe/Silver Street. Although the total breadth of the yards increased until they filled the total space available the number of yards subsequently decreased through the effect of the property leases falling in and being taken up by adjacent builders, or through acquisition after the death of the owner, or by sale, forced or otherwise. At the start of the 19th.century the number of yards had shrunk back to 7 yards with one or two building slips in each yard.

With such a capacious harbour in which to expand why did Dartmouth shipbuilders not expand in the years after the Napoleonic Wars.? The answer lies in the make-up of the area in which the town and port is situated. The town in particular is circumscribed by hills which, until after the 1914-18 War, prevented expansion of domestic housing. The available housing was crammed into a built-up area, which over the period from the Norman Conquest until about 1870 was extended only inwards from the Belmont in the north to Bellevue in the south and Ford Cross in the west. The river was a natural barrier to the east. Even within these boundaries housing development was limited to reclamation of land from the river along the line of Lower Street and upwards to Higher Street. Above Town the highest street of the three parallel streets was still devoted to gardens, with less than 50% housing in 1852. It was not until 1830 that the Millpond area was developed for housing and not until 40 years later did ribbon development commence up the line of the Higher Victoria Road to Townstal.

Dartmothians built new houses only when it became necessary and then only when the land was easily accessible on foot or on horseback. Because of the shortage of land internal roads were always narrow, except for the Newcomen Road built in 1864-68, much as they are now. There was no carriage road providing access from and to the nearest line of turnpike road situated beyond the steep scarp up to the 420 ft plateau at Townstal until 1826⁴. To most Devonians Dartmouth was at best an 'evil smelling and decaying town at the mouth of the River Dart'. It was no wonder that people emigrated from Dartmouth, but few people came to settle in the town. This process led to the law that in Dartmouth work expanded only to fill the availability of people. In all respects, political and otherwise, Dartmouth was a 'rotten' borough and Dartmothians thought small. Changes in the world outside passed them by. This did not matter greatly until the end of the 17th.century, but after Plymouth was selected and not Dartmouth for the site of the western dockyard for the navy in 1690 it mattered very much indeed.

100 years later Dartmothians woke up to the fact that their harbour was little more than a coastal port with few commercial advantages to offer to deep-sea and foreign shipping. At the opening of the 19th.century Revolutionary and Napoleonic Wars with France seemed to herald a new dawn in Dartmouth fortunes, but, alack and alas, throughout the new century dreams of a new awakening proved to be transient and almost insubstantial. The primary new development at the opening of the 19th.century was the opening of the new

Sandquay dockyard, which it was hoped would revive Dartmouth's position vis a vis Plymouth Dockyard.

THE HARDNESS SHIPYARDS FROM ZION SLIP TO KINGS QUAY.

We have learnt from the Introduction to this series of papers that by beginning of the 19th century the situation was about to change in so far as Dartmouth was concerned. There was a group of shipyards inside the town limited by space, capital and work force. From 1792 new avenues of potential were being explored at Sandquay, but in this paper we are concerned with only the long established shipyards at Hardness.

Growth of the shipyards

The width or breadth of the yard would depend to a great extent on the beam of the seagoing ships being built. Thus, in Mediaeval times a typical beam measurement of trading vessels then in use would have been 34 ft, but by the late 15th century the typical figure had reduced to nearer 24 ft. In length such vessels would have measured approximately 75 ft between perpendiculars. To accommodate a vessel of 25 ft beam would require a shipyard width of 40-50 ft to allow for shoring and staging around the hull and free movement of workmen and tools around the structure. As to length, by the mid-17th century the average length of a Hardness shipyard reflected the trend of increasing overall size of ship being built and breadth had increased to 50-60 ft. In Hardness yards the extra length of the shipyard to cope with increased vessel length had to be acquired by reclamation of the foreshore in front of each yard; the original length had being found by under-cutting the cliff which previously had fronted the shore of the Millpool. At the north end of the available space so found the constraint was the dwelling houses of the master shipwright and his family. At the southern end of the yards a similar constraint arose from the waters of the Millpool and the proximity of the New Ground whose northern wall was about 200 ft away, when it was first embanked in 1671-80. Starting at a length of about 50 ft the length of yards had increased by reclamation to 70 ft by the end of the 17th century and 100 years later to as much as 120-130 ft. Table 1 shows the extent of reclamation in the final years of the Hardness shipyards.

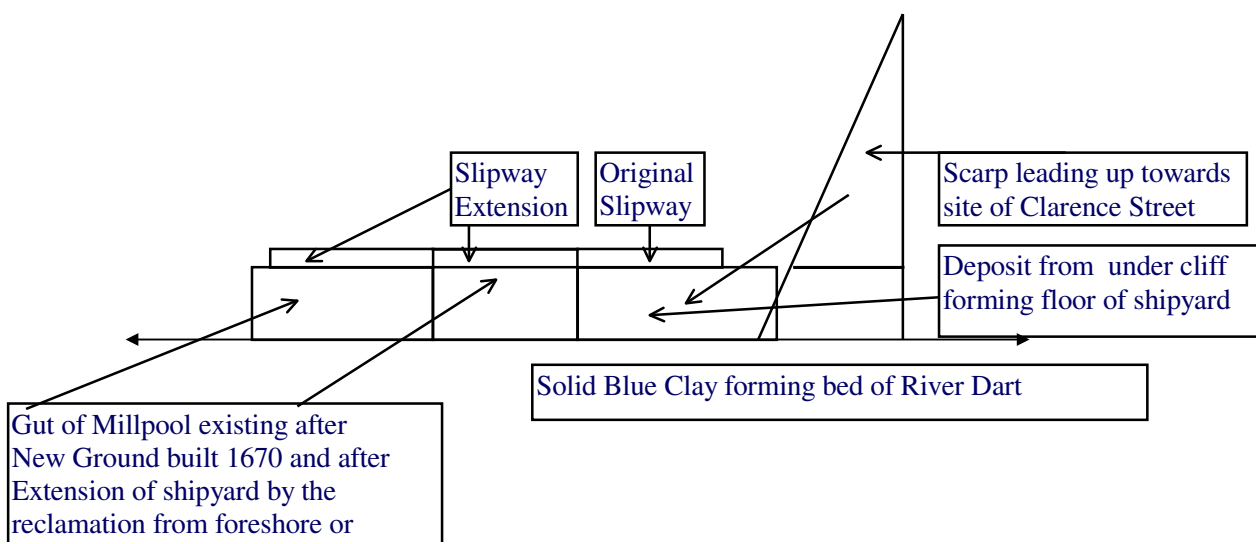
Table 1 Hardness shipyard extension during the 19th century^{4a}

Property No.	Shipyard name	Length in Feet	
		1833	1882
92	Follett West	121	128
93	Follett Middle	121	128
FR	Follett East	121	128
94	Bamfil & Co.	107	Built over 1816
95	Avery Yard	103	Built over 1816
96	Nichols West	114	129
97	Nichols East	114/124	129

This extension to the length of the yards appears to have taken place before 1852, although by that time the site of the Bamfil and Avery yards had been incorporated into the site of the Bonded Stores. By 1833 the length of water space between the end of the Hardness shipyards and the northern wall of the New Ground would have been approximately 110 ft and would have limited the ability of a shipyard to launch contemporary vessels built in the yard after the New Ground was embanked, say by 1690 AD. The earliest shipyards consisted of a set of timber ways laid on a strip of beach, often temporarily, and a covered shed or linhay for storage and off-vessel work, such as planing masts, shaping spars and fashioning fittings. Each yard had at least one saw-pit, sometimes covered so that work could proceed in inclement weather. Later in the 17th and 18th centuries the range of buildings increased with sheds and stores having mould-lofts over. Some sheds housed timber stocks, such as the Bonded Timber Shed situated to the east of Yard 97 and alongside Kings Quay. This was built in 1803 when Robert Newman took up a Navy Board contract, and after his bankruptcy in September 1803 it was used by later builders, principally Thomas Leathy. Yards 96 and 97 were amalgamated between 1816 and 1849 when Henry Nichols became the lessee of both yards. They were given a common width and length whilst some 15 ft of the area of Yard 95 was added to form a quay on the west side. The shipyard portion with the Patent Slip of 1861 and the fitting-out portion were made equal in area and width. Effectively Yard 97 was made narrower and contained only the Patent Slip.

How the Hardness shipyards were extended from the 14th century

Yards 92-97 were built up over the centuries by reclaiming the foreshore in front of the yard from the 14th century onwards. Yard 95 was nearest to its original length at the end in 1815. Yard 92-93-FR were not only lengthened with time but also reshaped internally by adding or reclaiming alluvial mud being deposited by flocculation from the foreshore [see charts and maps 1833-1852]. The asymmetric slip of 1833 in Yard 92 was altered into the small dry-dock of 1841 by this means. It is contended that the same thing happened in Yard 96 and 97. The foreshore land or bed of the river was the property of the Duchy of Cornwall and so new leases ought to have been offered by them in respect of the grant for reclamation, but for various reasons this did not happen before 1860. In fact, as evidenced in lease documents, the extensions were authorised by the Dartmouth Corporation. In 1833 Yard 96 was 114 ft long and subsequently extended to 129 ft between 1833 and 1889; or by 15 ft of 41½ ft authorised. The slipways were extended on the area of foreshore reclamation from the 14th or 15th century onwards.



In the early years of the 19th century the master shipwrights had begun to vacate the houses fronting on Silver Street, as Undercliffe had now been named, and were living elsewhere in the town. The dwelling houses were not converted then into stores in every case, but were inhabited by junior members of the master shipwright's family. Master shipwrights may have thought it convenient to live close to their yard, but the Silver Street area was very definitely downmarket and, after the closure of all but two of the yards, it became a slum area. At various periods during their tenure of the shipyards Avery, Bamfil, Foster, Newman, and members of the Follett and Nichols family lived elsewhere in Dartmouth and Kingswear.⁵

Launching & Rigging the vessels

The traditional method of launching vessels of the size indicated from the Hardness yards would have been possible even after the New Ground was embanked.. As ships grew longer the difficulty of launching in the conventional manner was overcome by temporarily converting the yard into a dry or graving dock by building a temporary closure or wall across the outer end of the building area, evidence has been found recently that this was usually achieved by sliding thick horizontal timbers between a pair of vertical timber guides.⁶ After fabrication was completed, the closing timbers would have been removed during an ebb-tide and the new vessel allowed to float out on the rising tide. Elsewhere in Dartmouth, at the Wood-Clist shipyard for example, the closing wall was of a different construction, being a temporary masonry and mortar wall, which was demolished to enable the ship to be floated out. By converting the building slip into a dry building dock the work could be continued without regard to the state of the tide, which in Dartmouth Millpool has a range of more than 14 feet.

Another limiting factor was the depth of water available between the New Ground and the ends of the yards. By the 19th century the maximum depth of water at high tide was 14 ft and less than nothing at low tide. After the Millpond shrank and the mill-houses were demolished, circa 1805⁷, there would not have been any scouring effect from the mill tail, so that the build-up of deposits in the Pool increased rapidly and the depth of water at high tide decreased to below 11 ft and, as we have noted before, to nothing at low tide when the bottom ground exposed comprised an extensive area of several feet of clay-like mud and silt. The method of sideways launching might have been adopted as silting-up of the Millpool reduced the available depth of water. but the yards would have had to be re-aligned sideways to allow this procedure to be adopted and would have required two or more yards to be amalgamated to provide one berth for the purpose. As the total breadth available for shipbuilding was confined to the distance between Kings Quay in the East and Zion Slip or the George & Dragon public house wall in the West the adoption of this practice would have meant a very considerable change of method and, in the long term a considerable loss of employment. There is no evidence to suggest this method was contemplated or adopted.

However, other methods adopted were:-

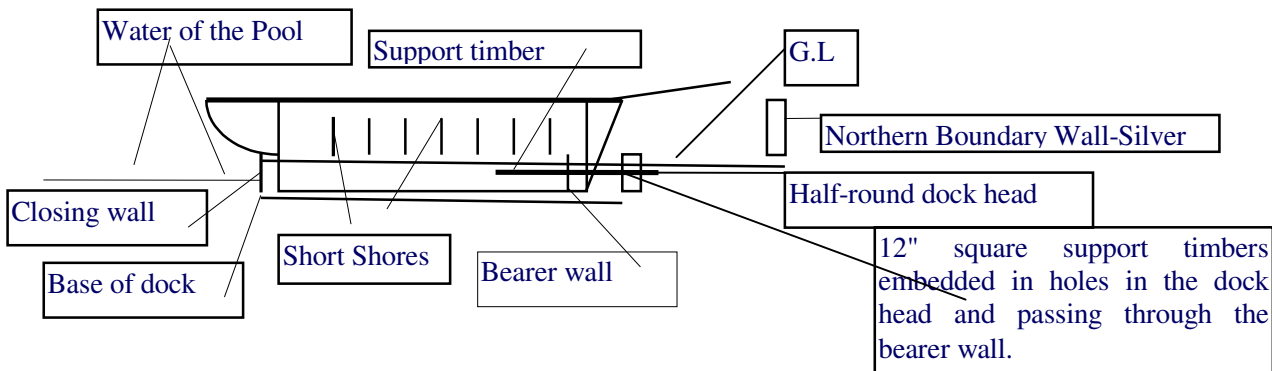
- a)) The use of a graving dock

b) by the use of a Patent Slip.

Graving or dry docks

The first method was adopted in Follett's west yard, No 93, where the dock was built, about 1841, by converting the existing asymmetric dock there into a round headed and parallel dock with a bearer wall. Used with support timbers the bearer wall made the use of raking shores redundant, an important point in a narrow width shipyard. The useable length of dock was 75'-80' and the width 25'. Vessels were floated out from the dock rather than being launched as on a building slip. The size of the dock would suggest that it was meant to hold a packet brig and this would put the date of construction as 1841. This type of dock is illustrated below in Fig1.

FIG 1 How vessels were built in Follett's West yard between 1838 & 1868.



The probable reason for it being constructed was the dereliction of the large dry dock built in 1790-92 at Sandquay by John Seale as a part of his grandiose scheme for a naval and commercial dockyard to rival that at Plymouth and Devonport. When the Admiralty Commission was assessing ports for the West India Mail Packet station in 1840 the availability of facilities was most important and by late 1841, when the decision to select Dartmouth, was being reviewed it was quite critical.⁸

The above diagram depicts how vessels were built or overhauled and refitted or repaired in Follets yard in Dartmouth in the mid-19th century. The controlling or limiting factor on the ground is the proximity of the wall of the George & Dragon public house. On account of this feature and a plane-sided dock wall, long raking shores would have caused difficulty during construction; and the use of flying shores would not have been possible.



Fig 2 Alternative Method of construction utilising Conventional Raking Shores. in Yard 94

The counter of a long vessel would have overhung the closing wall, which was probably of the type found in 1995 in Bamfil's yard, Yard 94. Whenever possible the bowsprit and fore rigging would have overhung the dock-head above the narrow passage leading to the yard entrance in Silver Street. In the Bamfil yard, a similar method was used except that the dock was much narrower in extent and conventional raking shores and staging would have been used bedded on bearer plates at ground level.⁹

All the yards as far as and including Nichol's yard-west, No 96, faced across the 'gut' of the Millpool to the New Ground, only 125 ft away. For this reason the length of the vessel that could be built was limited. The reason for building in docks was the need to place the keel as low as possible to the LWM so that the vessel could be floated out at high tide, bearing in mind that the maximum depth of water was only 14ft, 11ft from the end of the 18th century and later. This limitation of water depth also applied to all yards, but free launching space was available in Yard 97 because it was not masked by the New Ground. This restriction was acceptable until about 1860 when deep-sea tonnage rose rapidly over the 500 ton mark. The largest vessel, built by 1806 in Avery's yard, was the cutter 'Ranger' at 217 tons builders measure¹⁰

The largest vessel built in William Follett's west yard in 1863 was a barque of 254 tons. Her length was 112' and breadth 25'. The yard was then under the management of his grandson Frederick Follett.¹¹

The use of a Patent Slip.

One of these units was installed in Nichols Yard West in 1861. The capacity was 500 tons with an overall length of 135 ft and a travel of 80' along the rails. Although one of these Patent Slips was installed in 1861 by Henry Nichols, the family were innovators and earlier in 1841, for the same reason as William Follett, they proposed to convert Yard 96 into a dry dock by fitting a pair of gates into a closing wall running across the breadth of the yard which was to be extended by some 41½' southwards by reclamation of the foreshore, as shown on the layout plan, which would be needed if a mail packet brig was to be housed in the proposed dock. Although authorised in 1841 it was not carried out as can be seen from an examination of the Dartmouth Harbour survey of 1852. By that time only 15' of the foreshore had been reclaimed and no further extension was made before the Patent Slip was installed in 1861.¹²

Vessels employed by Dartmouth owners in the 13th and 14th centuries being between 100 and 400 tons could not all have been built in the Hardness shipyards, but after the beginning of the 18th century the two factors outlined above and one other, a natural process, combined to limit the tonnage of vessels that could be built. The natural process was the progressive silting-up of the Millpond and Millpool by flocculation and precipitation, which occur where saltwater and freshwater meet. The Millpool was open to the salt water of the river at its eastern end and connected by the Mill Gullet and the Mill Tail to the fresh water of the Millpond above the Foss dam. As a result of the silting-up, by the end of the 18th century, the maximum tonnage of vessel that could be built at Hardness was 200-220 tons. The dry dock in Follett's Yard West increased the maximum capacity in terms of tonnage to about 250-260 tons.

The late 18th century witnessed the beginning of the decline of the Hardness shipyards and the emergence of shipbuilding at other locations in Dartmouth Harbour. Only two groups of shipyards remained in use at Hardness after 1816, separated by the new Bonded Stores built by Arthur Hunt. One group of 3 yards leased to William Follett in 1808 did not build ships after 1868. The last pair of yards, those of Henry Nichols, closed down shortly after his death in 1879. This pair of yards, which had been equipped with a Patent Slip in 1861, reopened for a short period from 1880 to 1882 as Simpson, Denisons boat-building yard and then closed finally in 1883 when the 'Gut' of the Millpool was filled with dredging spoil in that year and all the yards became landlocked. In their final years the Follett group of yards were concentrating on fast schooners for the Mediterranean fruit trade. After the installation of the Patent Slip, the Nichols yards changed from building cargo carriers to cruising/pleasure yachts.

One task that was particularly difficult in the Hardness shipyards, on account of the lack of depth, from front to back, was the stepping of the masts and fitting of the bowsprit-jib boom. There is no surviving record, either pictorial or written, to show how the job of rigging the vessel was tackled in Hardness shipyards. In some of the shipyards, notably the Follett Yard West, the bowsprit and jib-boom could have been added to the hull whilst it was still in the yard before floating out, since at the head of the dock there was a narrow passage between the two dwelling houses. Lower masts could have been stepped by the use of temporary craneage fixed to the staging and platforms erected around the hull during building, as was done during the early years of steel shipbuilding, or by the use of sheer legs. No evidence of the use of permanently erected sheer leg has been found. Temporary sheer legs could have been erected on the deck planking and held there by lashing the feet of the spars forming the legs to ring bolts fixed into the deck planking or the bulwarks and then removed after use. The only known installation of fixed sheerlegs in Dartmouth was that of Philip's at Noss Point and these were of 20th century date.

It is possible that the yards shared the use of one or two sets of temporary sheer legs since these were only in use for a relatively short period of the time taken in building each vessel. Alternatively, the hull, after launching, could have been moored alongside the New Ground where a more permanent set of sheer legs would have been available or a Scotch derrick erected. This is supposition, however, as the only printed reference to sheer legs on the New Ground was made in 1878 when the self-righting properties of the new RNLI lifeboat were being demonstrated by using temporary sheer legs to capsize the boat moored in shallow water off the New Ground.¹³

Chronological History of Tenure of the shipyards from the 18th century

To relate the history of the Hardness shipyards it is convenient to number the shipyards in the Hardness area between Kings Quay and Zion Slip. In order to relate the history of ownership it is easiest to use the numbering of leasehold Corporation properties as identified in the 1889 schedule produced by the Charity Commission, then to eliminate the freehold property. On this basis, the shipyards which existed in the 17th, 18th, and 19th centuries and that concern us in this paper are those numbered 92-97. Thus 92 is Follett's yard west, 93 is Follett's middle yard and 94 is Follett's east yard which was Freehold. Yard

94 and 95 are the 2 shipyards which became the site of the Bonded Stores, whilst Yard 96 and 97 are the two yards associated in the 19th-century with the Nichols family. By the time that the schedule had been drawn up all of the shipyards listed had ceased to operate. All the shipyard premises were in the ownership of the Trustees of the Corporation of Dartmouth or the Feoffees of Townstal Church Lands, both land and the buildings erected on the land, except for property, FR, between Yards 93 and 94, which was freehold. Table 2 below details the 19th century shipyards at Hardness.

Table 2 Details of Hardness Shipyards in mid-19th century

1889 Plan No	Tenure	Dimensions in 1833 Length x Breadth	Last Shipbuilder and finish date
92-West	Leasehold	128 ft x 50 ft	Follett family in 1808-68
93-Middle	Leasehold	120 ft x 50 ft	ditto
FR	Freehold	111 ft x 50 ft	ditto
94-West	Leasehold	111 ft x 70 ft	George Bamfill in 1814
94-East	Leasehold	111 ft x 67 ft	ditto
95	Leasehold	111 ft x 67 ft	John Avery in 1807
96	Leasehold	114 ft x 57 ft	Henry Nichols in 1879
97	Leasehold	114 ft x 40 ft	ditto

As to the history of the yards themselves , commencing with:

Shipyards 92

A Dartmouth Corporation lease, numbered, DD 65580¹⁴, was granted to George Gillard of Liverpool, shipwright and master mariner. The lease was dated 25/2/1788 and was for the standard term, in Dartmouth, of 79 years. The 79 term was the lease life adopted after new style dating. Prior to the end of the 17th-century the normal term was 80 years. No authority knows why 80 years was adopted, but since a leaseholder had to be 21 years of age before becoming a leaseholder, the term would allow for a reversionary interest to ones children. It is not certain whether Gillard actually built in the yard, but he does not appear in the 1804 return to the Admiralty, and there is an inference in Benjamin Tanner's bankruptcy papers that for a short while prior to 1793 he was building ships in the Gillard Yard and that at the time of his bankruptcy Tanner kept stored a large amount of timber there. Bearing in mind that Tanner was bankrupt in February 1807, Gillards two leasehold yards would have been available for sale leasehold in 1808.

The next leaseholder, on the Gillard lease, was William Follett. Wm. Follett (1773 - 1856) came to Dartmouth in 1808 from Chatham where he was a master shipwright for the Royal Navy. On 9/4/1812 this lease was conveyed to Robert Harris the elder, banker, in trust for and later for assignment to, William Follett, shipbuilder. It is presumed from this assignment that William Follett borrowed money from the Dartmouth Bank of Harris & Company (1795-1840), and which became a branch of the National Provincial Bank of England in 1840.¹⁵

Whether the money was needed to finance improvements, purchase the adjoining yards or to finance the building of a private venture vessel we do not know. In its final form the yard, situated next to the George and Dragon Public House, consisted of 3 slips, 5 lofts (over sheds) and 2 sawpits, plus one dwelling house although there were two cottages as well. The house adjoining the eastern yard abutted an arch over Silver Street in the mid 19th century. Whether this arch was to keep erect the northern boundary wall of the shipyard or to keep up the house opposite is not clear. There was another similar arch near the eastern end of Silver Street. William Follett took out a new lease from the Dartmouth Corporation on 4/5/1838 for a term of 79 years to run until 1917. In 1868, when his son was managing the firm, Henry Follett, one of William's two sons, was residing, not beside the yard, but in a house in Clarence Street. After taking out the new lease William Follett, about 1841, converted the asymmetric slip into a graving dock to replace the large drydock facility at Sandquay, now unusable, and so to improve Dartmouth's chances in the struggle to be selected as the port for the West India Mail station. The details of the dock have been established by a recent archaeological 'dig' conducted by a team from Exeter Archaeology.

In its final form the yard, situated next to the George and Dragon Public House, consisted of 3 slips with 5 lofts (over sheds) and 2 sawpits, plus one dwelling house although there were two cottages as well. The house adjoining the east yard abutted an archway over Silver Street, doubtless built as a flying shore to restrict bowing and subsequent collapse of the hose walls lining the narrow alley. The yard had a 130 ft frontage on to the Millpool. It extended back from the waters edge 124 feet to Silver Street (Undercliffe). In February 1869 the yard was offered for sale, but there were no buyers and the property remained in the hands of the Follett family well into the 20th century.

The yard was not used for building ships after 1868 but became a timber yard. From about 1852 the Follett group of yards was managed by Williams sons, Samuel, who was also a master mariner, and Henry and was home to the firm of Follett & Foster. Both sons had been building in their own right at Sandquay from 1845 to 1852 where they built steamships as well as sailing vessels, but no doubt when their sub-lease expired they came back to the Silver Street yard and took over from their father who was now aged 78. After the death of William Follett in 1856 the sons developed other interests. Samuel became an official registrar as well as being a shipbuilder whilst Henry was both shipowner and a shipbuilder. They took on a partner, one Capt. William Foster, and formed the firm of Follett & Foster. It is probable that Capt. Foster was manager of the yard. The firm was not long lived and by 1859 Frederick Follett, grandson of William was managing the Follett group of yards.

One of William's sons, Henry Follett, had married in October 1833 the only daughter of Thomas Way and moved into one of that family's properties on Spithead. In 1859 Henry Follett became Lloyds Surveyor in Jersey and Guernsey and it is probable that this was the time when Frederick Follett became the leaseholder and/or manager of the yard. The schooners designed by William Follett were reputed to be the fastest sailing schooners built in the South-West. The Follett schooners had to be fast sailers because they were built for the fruit trade. It is probable that the George Steers designed racing yacht 'America' of 1851 was based on a Follett design.¹⁶

The water area to the west of Yard 92 was closed off by the filling of the Pool during the period 1875-1884 and was totally landlocked by deposited spoil from the river dredging

in 1883. Follett's yards were equipped only for the building of wooden vessels and no attempt was made to build in iron or composite construction. In their group of yard the Follett family built vessels at the rate of one per year in addition to carrying out repairs and refits. William Follett completed 27 vessels between 1824 and 1851.¹⁷ The vessels were mainly schooners of between 120 and 175 tons. He did not build any vessels for the Navy Board. Vessels built in the yard could not be launched in the traditional fashion, due to the presence of the New Ground, embanked from circa 1675, but were built in a graving docks formed by building a temporary closing wall at the Pool end of the building slip. When the vessel was finished the wall was demolished down to the level of the LWM and the vessel floated out.

In the graving dock in 1862 Frederick Follett began construction of a barque of 250 tons nrm. Dimensions 112' x 24'-8" x 14' depth of hold. This was the second ship built in a 12 month programme. After this vessels was complete Fredrick Follett returned to building schooners of which 4 were built during the period 1864-1869.. A 5th schooner was in frame in 1869 when the yard closed and this vessel was floated out and towed to the Wood-Clist or Sandquay Higher yard where it was finished-off by of Robert Moore. A schooner laid down in 1865/6 and of 130 tons was built as a private venture and sold 'off the stocks' to a Brixham company. Typical vessels were of 90 to 110 ft in length between perpendiculars; this being close to the maximum capacity of the yard. The barque referred to above seems to have been the largest vessel built in Follett's yard. From 1869 to 1883 the yard became a timber yard and was managed by Henry's son, Frederick, who built 4 schooners between 1863 and 1868 before going bankrupt in August 1868. He had liabilities of £4850 and assets of only £450. At his examination it became clear that he had not paid any rent for 15 months and a distress warrant was levied for £30 by the Dartmouth Town Council.¹⁸

Although Frederick gave up building ships he carried on in Dartmouth as a sailmaker for many years for in 1858 he had purchased the sail loft of the late Capt. Henry Petherbidge situated behind the old Newman house in St. George's Square and he traded from there for many years. However, Frederick did purchase the freehold of the southern half of the property by fee-farm grant No 46 on 6/3/1899.

Shipyard 93

The modern history of this yard commences with a Reversionary lease to Roger Sparke, shipwright, on 7/4/1653 of the site of an house with two gardens. The lease was to commence after the determination of the existing lease to Peter Terry. The site lay between two existing yards those of Richard Towle on the West and William Barnes on the East. On 20/4/1656 the lease was exchanged for a 3-life lease to Roger Sparke. The yard passed into the possession of his son, Jonathan, next to his son, Henry. The next lease was a standard term lease for 79 years dating from 21/6/1749. At some time between 1774 and 1787 the long tenure of the yard by the Sparke family ended and in 1787 a new lease was granted, dated 25/2/1787, to Capt Thomas Goldsmith for a term of 79 years. Capt. Goldsmith had been master of a privateer equipped and fitted out by John Seale. At the time when he took out the lease he was living in Hanover Square [now Anzac Street] in Dartmouth.

The first tenant to Capt. Goldsmith was George Gillard, who held the lease of Yard 92. This lease was taken over by W.H.Rudland, surgeon, in 1822, excluding the house built

thereon. In the same year George Gillard, who had been living in the house whilst building in the yard, removed to a new house in Foss Street. The existing lease was assigned by the Feoffees of Townstal in 1830. By 1832 Wm. Follett was the occupier as tenant of the ground behind the house, although Rudland held the new head lease, granted on 19/3/1834 for 79 years.. The Follett family took over the lease and remained as occupiers or leaseholders until the premises ceased to be leasehold in 1899 when the freehold of the southern half of the property was purchased by Fredrick Follett by fee farm grant No.46. The house on the northern portion was assigned after the death of Mr. Rudland to a Mr. Mathews and on 19/6/1876 the house and two cottages there were conveyed to Messrs Ridge, Habley and Ford.

Another part of Shipyard 93-was a Smithy. By a Corporation lease (DD 65583) granted on 20/2/1788 for a term of 79 years to Charles Campion Jones, anchorsmith, he was granted a plot of waste ground at Hardness. The lease deed is endorsed '410 to Lease 435 circa 1803'. The dimensions of the plot were given as N-S 69 ft and 27½ ft E-W. The plot was surrounded by Corporation land, except on the West where was situated the land of George Gillard. The party wall on the west, running from the quay extremity to the house, was stated as being the property of George Gillard and jointly built by him and Jones. The smithy was incorporated into Follett's Middle yard before 1852. The ground plans of Yards 92 and 93 as in 1852 and 1889 show alterations the one from the other, but the basis of the 1852 and 1889 plans is the same i.e. the town plan of 1833 surveyed and drawn by Thomas Lidstone and William Thomas, both local builders in Dartmouth.

Shipyard FR

A Freehold property since early 17th century. It was offered for sale in Trewman's Exeter Flying Post on 21/8/1808 as a 'Yard, shed and dwelling house situated at Underecliffe and now in the possession of Mrs Rich as tenant. Commonly called Mr.Oliver's Yard.' After negotiations the property was bought by William Follett and on 20/10/1815 the property was conveyed, freehold, to Wm. Follett who had been the tenant to Nicholas Oliver, son of John Oliver, by Messrs Farwell, Jackson and Oliver. Mr. Farwell was a prominent country banker and head of the Totnes Bank, established about 1800 and which failed in 1841, but we have no knowledge of Mr. Jackson. He could have been a partner of Mr. Farwell although the two known partners were Mr. Wise and Mr. Baker.

Turning from the Follett group of yards to the next two yards to the east,

Shipyards 94 & 95

The history of the tenure of these two yards can be traced continuously from the early 17th century. when they were leased to Cornelius Hayne and successively to Capt. Edward Ashe, Philip Lee or Leigh and then to Edmund Pearse Bamfil (on Mrs Sarah Sparke's Lease) and after his death in 1802 to his son George Bamfil. It was joined with Shipyard 95 until 1793 and which yard was then held by John Avery, and who died in 1807. Capt. Edward Ashe was commander of the revenue cruiser at Dartmouth and the builder in 1735 of the Mansion House in the slip of that name off Lower Street.^{18a} Mention was made above of a lease to Sarah Sparke. This was for 62 years at a rent of 6/8d annually. The rent indicates 2 slips @ 3/4d each.

A new lease replaced an old lease of 1733 to Capt. Edward Ashe surrendered, for Property 94 and 95 West. The property was re-leased by a lease granted on 21/12/1784 to Edmund Pearse Bamfil, shipwright, for a palace, yard and buildings for 51 years from 1812 and was in reversion of a lease of 20/9/1733, which was a lease with other lands to Edward Ashe for 79 years at a consideration of £70 and a rent of 20s annually. The lease was due to expire in 1863 but, in 1793 Bamfil dissolved the firm of E P Bamfil & Company, shipwrights, and continued building on his own.¹⁹ It is assumed that his partner was John Avery because the site of Yards 94 and 95 were sub-divided, apparently by mutual agreement. Bamfil retained the two-slip yard as Yard 94 and Avery retained the single slip Yard 95. After the death of his father in 1802 his son George Bamfil carried on building ships here until 1814. In 1806 John Avery was awarded a contract by the Navy Board to build a 6th Rate frigate of 422 tons. Although building started the contract was annulled in early 1807 upon the death of John Avery. Indications are that the contract was renewed to Benjamin Tanner and the hull in frame towed to Clist-Wood yard at Sandquay and completed there.

This site together with that of Yard 95 was then sold to Arthur Hunt and leased on 15/5/1814 to him by a new lease. The property was described at that time as comprising 'A Shipyard at Hardness' and was leased for a term of 79 years at a consideration of £100 and an annual rent of 10s. The high level of consideration reflects the rampant inflation experienced throughout the second Napoleonic War in the years 1803-1815. The lease recited previous owners as being Cornelius Hayne then Edward Ashe then Philip Leigh and then Edmund. Pearse Bamfil. The lease was endorsed 'Bonded Cellars now stand on this part built by Arthur Hunt.' This lease was for properties 94 and 95 combined.

The Bonded Cellars or Stores were re-leased for 71 years to R.L.Hingston and R.L.Hingston jnr. on 10/8/1822. The consideration was £10 and annual rent 6/8d. The property boundaries were given as N - Silver Street, S - The Pool, W the land of George Baker and E-the Corporation land of Hingston. This lease was, therefore, for 2/3 of the Bonded Stores-viz the part on Property 94 East and 95. George Baker, merchant, leased part of the Bonded Stores i.e. that on Property 94 West in 1822 and remained there until the death of R.L.Hingston in 1834 after which time he removed to Luke's Cellars in Back of Duke Street. Mr. Baker did not take out a fresh lease but took up possession on the existing lease. A new lease was granted on 7/12/1835 for a term of 79 years to R.L.Hingston and his son, R.L. Hingston jnr. and was for the Bonded Stores, previously known as the Bonded Cellars. The consideration was £27-15-0 and the rent 10s. The boundaries were given as Land to West of Wm .Follett and to the East that of E.P.Bamfil and some time since leased to A.Hunt and George Baker. This is not correct The East part of the Bonded Stores stood on the site of what had earlier been the Avery shipyard (95) during the time that E.P.Bamfil was in property 94. The eastern boundary property was said to be that of Thomas Leathy, shipbuilder, but q.v Yard 96 & 97.

In 1890 the west part of the Bonded Stores was transferred to T.O.Veale, who took out a fee-farm grant No 22 on 14/11/1895 for £14-10s. The middle part was that of Harry Wiles who took out a fee farm grant No.25 on 11/11/95 for £9 pa. The Eastern part was leased to W. Ash Hawke who took out a fee farm grant No 29 on 14/11/1895 for £7-10s. By reason of these fee-farm grants the property became freehold.²⁰

Shipyard 95

By DD 68687 a lease was granted to John Avery, miller, on 1/10/1793 for 79 years between the shipyards on the West of Edward Ashe, gentleman, and on East by that of Henry Nichols I, whose lease dated from 1786. The property was stated to be ex Bartholomew Harvey. The Avery lease of 1793 lease would have run until 1872, but in 1812 the site was again leased to John Avery III, his grandson, for 59 years from 29/9/1812 and at a consideration of £45 and annual rent 5s. This lease renewal would have been granted to John Avery III in reversion and represents the dividing of the two yards. This was the date when the firm of E.P.Bamfil and Co., shipwrights, dissolved and E.P.Bamfil traded from Yard 94 from then on as a sole trader. The joint company appeared to have been comprised of two partners, John Avery I and E.P Bamfil.

It is probable that after the death of his father, John Avery II wished to build ships in his own right and the partnership was then dissolved. John Avery II continued building ships in Yard 95 until his death in 1807. In 1806 he tendered for and was granted a contract by the Navy Board for the construction of a frigate^{20a}. Where he proposed to construct the vessel is not stated, but it cannot have been at Hardness, unless it was one of the smaller 22-gun frigates. Perhaps he proposed to use the third, unfinished, slip at the Clist-Wood Yard of Benjamin Tanner. John Avery died in late February/early March 1807 and the previous leaseholders of the yard, the executor and bondsman of John Avery informed the Navy Board that it was not in their power to build the frigate contracted for by John Avery II and asked the Board to cancel the contract. From 1807 it appears that Yard 95 remained empty or was used by Thomas Leathy as a second yard to that at Yard 97 where he had been building since 1804. When in 1815 George Bamfil ceased building the lease of both yards passed to Arthur Hunt, merchant, who erected the Bonded Stores on the site of Yards 94 and 95., having, apparently, persuaded Thomas Leathy to give up his occupancy of Yard 95, either by payment or persuasion.

Arthur Hunt's decision to build a second set of Bonded Stores in Dartmouth may have been influenced by the Holdsworth dominated Corporation not to grant Arthur Hunt a lease in Foss Street for a plot of land for a grist-mill adjacent to the Mill gullet, except on onerous terms that invalidated the economics of the project. This incident took place in 1812 and may have influenced Arthur Hunt to strike a compensatory blow against the Holdsworth family, who had the existing Bonded Warehouse at Coombe. It is entirely possible that Hunt had an annual tenancy agreement dating back to 1808 with Thomas Leathy and then when George Bamfil declined business in 1814 he saw the opportunity to gain possession of the double site and upon which he could build his Bonded Stores. On the other hand it may just have fallen out that way. The following lease was granted on 10/8/1822 to R L Hingston and his son, R L Hingston jnr. This lease was for 71 years, being in reversion of Arthur Hunt's lease of 1814.

The next lease was granted on 1/6/1835, and was for a Palace and curtilage, yard and linhays to A.B.Harris, banker, as trustee for the sons of R L Hingston deceased, George and Richard L.Hingston., for a term of 79 years and at a consideration of £45 and annual rent 5s. Boundaries given as E shipyard ex John Leigh or Lamb then Henry Nichols . S-The Pool, N-Silver Street and W-property ex Edward Ashe and now R.L.Hingston II. The lease is

endorsed 'For central portion only of Bonded Stores.': This lease was for 79 years to run until 1914, but on 16/10/1884 Richard and Ann Hingston assigned the property to the National Provincial Bank as security for a mortgage. On 21/10/1889 the National Provincial Bank foreclosed and sold the property for £310 to Robert Cranford, who took a mortgage of £364 from the Starr Building Society (498) of Paignton on 4/6/1890. Cranford repaid the loan on 21/12/1892, but on 18/11/1892 he had sold the lease of the property to Harry Wiles of the Thatched Barn Club, London. Subsequently, by fee farm grant the freehold of the western part of Yard 94 was purchased on 14/11/1895 by T O Veale, surveyor and by Grant 25 the eastern part similarly on 14/11/1895 by Harry Wiles. William Ash Hawke purchased the freehold of that part of the Bonded Stores on the site of Yard 95 by fee farm Grant No.29 on 13/4/1896.

Property 96

In the 18th. century previous owners were stated to be John Lamb then Thomas Ago and then Henry Nicholas I followed by Robert Newsman. In SM. 2034 the lease to Thomas Ago was to expire in 1735. The property had been in the possession of John Lamb and released by him, John Lamb, in 1668 by a lease due to expire in 1748. John Lamb died and the yard passed to his widow Sarah, who released it in 1703 by lease No 183 for 35 years to run from 1748 to expire in 1783; the tenant in possession is stated to be Thomas Jago. In 1769 the yard was re-leased by Henry Nichols I for 79 years to expire in 1848. At some time the lease of 1769 passed to Robert Newman the elder, shipbuilder, but no changeover was registered. It was in this shipyard that several packet ships were built between 1798 and May 1802 culminating in the Packet ship 'Duke of Marlborough' which was built in 1801-2 by Robert Newman for Capt. John Bull of Falmouth.²¹ On 27th. November 1802 Robert Newman was granted a Navy Board contract for 3 small men o' war, 2 large brigs and a corvette.

It is probable that the building of packet ships during 1798-1802 brought the reputation of Robert Newman to the notice of the members of the Navy Board for he was granted the first Navy Board contract in November 1802, ahead of that to Benjamin Tanner, the progressive young shipbuilder of Dartmouth^{21a}. He commenced building the two brigs simultaneously in Yard 96 and 97²², building a Bonded Timber Shed adjacent to Kings Quay. In Sept. 1803 when Newman became bankrupt the two 365 ton brigs were in frame so these were towed out and taken to the Clist-Wood yard at Sandquay higher up the river where Benjamin Tanner, who had taken on Newman's contract, was building similar vessels on another Navy Board contract.

The fact that two vessels were in frame at the same time confirms that Newman had taken a rental of Yard 97 in addition to Yard 96 and explains why the Bonded Timber Shed was built along the side of Kings Quay and not on the site of Yard 96. As with other private or commercial yards it was necessary for Robert Newman to store Navy Board issued timber in Bond and to house such timber he built, or had built, a Bonded Timber Shed. This store was located adjacent to yard No.97 alongside Kings Quay. It was used subsequently by John Greave, a merchant, and then by Thomas Leathy.

Robert Newman abandoned his contract when it became clear that the cost of building at war-time costs and peace time prices was going to over stretch him financially. He certainly quoted peace-time prices since the renewal of hostilities did not occur until May 1803, and costs soared above those on which the contract was based. Even so Newman became bankrupt in September 1803. The same problem contributed to the downfall of Benjamin Tanner in 1807

During 1806 William Newman, son of Robert, requested the Navy Board to allow him to build small warships, but these requests were politely refused. By March 1807 Robert Newman felt that the steps he had taken in December 1803 to arrange for his contract obligations in respect of his Navy Board contracts to be transferred to Benjamin Tanner had avoided inconvenience to the Navy Board at that time, December 1807 justified him asking for a fresh contract, but it was not until December 1812 that the Navy Board relented and contracted for Robert Newman to build the 6th rate frigate 'Erne' for the Navy Board, but he may have built this vessel in the Clist-Wood yard at Sandquay^{22.a} then empty except for the unfinished frigate 'Dartmouth'. In December 1813 the Navy Board reverted to their previous view and told Robert Newman that they had no present use of his services^{23b.} Newman could have built the 'Erne' in a Hardness Yard for an armed ship of war would have had heavier scantlings for a given set of dimensions than a merchant vessel within a given size (i.e. tonnage).

In 1814 Newman sold his lease of Yard 96 to Ambrose Nichols who had begun building in 1804 and transferred his business to Tanner's old yard at Clist-Wood. On 30/8/1814 a lease for the yard was granted to Ambrose Nichols, son of Henry Nichols for 79 years. Ambrose Nichols surrendered Robert Newman's lease of 1765 (1769 ?), and subsequently, probably in 1841, had a clause inserted in his new lease to effect that he could take in (reclaim) 41½ feet of the foreshore in front of his property, which was stated to be of dimensions 129 x 59 feet. Ambrose Nichols began building in Yard 96 whilst Thomas Leathy was occupying Yard 95. From 1814 Ambrose Nichols built in Yard 96 until the year before his death, 1828. Since the yard was only 114 ft in length in 1814 this would appear to confirm that the enabling clause was entered at a later date, probably 1840-41 when the yard was in the possession of Ambrose's widow, Ann.. In whose occupancy the yard was from 1828 to 1849 we know not. In 1814 the yard to the east was then that of Thomas Leathy.

However, since there are several documents that make it clear that Thomas Leathy occupied Yards 95, 96 and 97 at different periods there must have been one or more changes of tenancy by him before 1814/15. The most rational explanation is that Leathy took up tenancies in the period 1804²³-1810 as fitted in with his order book, but after 1815 and until 1824 he confined his shipbuilding to Yard 97 for which he now had his own lease. It will be convenient here to state that after his discharge from bankruptcy Robert Newman came back to shipbuilding in Dartmouth in 1810 and completed in 1813 the ship-rigged 6^{th.} rate frigate 'Erne' and then continued building in Clist-Wood Yard until 1817 after which date he retired. Robert Newman died at the age of 61 in May 1837. He lived long enough to see his son, William, also a shipbuilder and Lloyds Surveyor, elected Mayor of Dartmouth in 1854.

In his will dated 12/12/1828 Ambrose Nichols I bequeathed the shipyard to his wife Ann. After her death it was to be offered to his 1st son, William Henry for £500. Then if

William Henry refused it the yard was to be offered to his 2nd son, Henry, for £500 and if he refused it the yard was to be offered to his 3rd son, Ambrose II for £500. Ambrose Nichols I died on 12/12/1829. Ann Nichols, his relict, died on 5/6/1849 and was predeceased by William Henry Nichols in 1844. By now Henry who had been building in Kingswear refused the bequest. Ambrose Nichols II was then offered the yard but refused it. Ambrose II eventually emigrated to the Antipodes.

Therefore, the shipyard was sold at auction at the New Market Inn in Dartmouth on 30/9/1849. It was bought by Henry Nichols for £300 so saving him an outlay of £200 and he then retained the yard until his death in 1879. On Ambrose Nichols I lease there is a sketch of a proposed dock to be built here. It is most probable that it dates from 1841 and was a counter-proposal to that of William Follett.q.v. The proposal was not proceeded with, probably because Follett got in first. It is possible that from 1844, after the death of his brother, William Henry, that Henry Nichols, who had been building since 1840 at Barnes Key in Kingswear, occupied either Town Palace Shipyard in succession to his late brother or transferred to Yard 96 until 1849 when he bought the lease of Yard 96.

In 1881 the yard was leased by John Naylor, an associate of F.C. Simpson. Naylor built a large stores on the western portion of the yard which he used out and rented out. The eastern part he utilised as a refitting berth or his yacht Sabrina. In 1883 this yard like all of those from Kings Quay to the boundary of the George and Dragon became landlocked with dredging spoil from the river which was used to fill the 'Gut' of the Millpool. Subsequently a house was built on the site and a fee-farm grant was made on 4/7/1898 to William Henry Goodridge, coal merchant.

Property 97

Previous owners of this shipyard lying against and to the west of Kings Quay were stated to be William Spurway, who held the lease in mid 17th century, a sub-tenant of his may have been Henry Sparke, Shipwright, then Thomas Rooke and then Revd. Nathaniel Terry, a clerk in Holy Orders who held much other property in the town. Revd. Terry was not a shipbuilder and took on tenants and under-tenants. Unfortunately we do not know who his undertenants were. In 1792 a new lease was taken out by a shipbuilder called Richard Perring. We have no knowledge as to when Perring took possession of the yard, but by 1793 he was bankrupt.²⁴ The yard remained vacant until 1799 when the tenant in possession became a Mr. Andrew Bennet, but it is not clear whether he was building in Dartmouth before this date for Mr. Bennet found it necessary to recruit his work force from outside Dartmouth. On 19th September 1799 he placed an advertisement in the Exeter Flying Post for 8 to 10 shipwrights.²⁴ For reasons explained previously it is believed that in 1814 the yard became the property of Thomas Leathy to whom a lease for 79 years was granted on 20/2/1815 for the yard and the Bonded Timber Shed lying against the yard on the widened Kings Quay. This as the shed was almost certainly built by Robert Newman in late 1802/early 1803 when he took up his Navy Board contract. In order to accommodate the Shed it was necessary for Robert Newman to widen Kings Quay at the expense of the yard proper. This widening of the quay by some 9 ft was acceptable in that Newman had ample room because he was in possession of both Yards 96 and 97. This is why the egress from Kings Quay appears, and is, so disproportionate to the adjoining width of Silver Street and

Clarence Steps. It also made certain that the extended slip into the River Dart from Yard 97 could no longer be used. This slipway belonged to an earlier period and was probably built in the 17th century either by Edward Spurway or Henry Sparke. From it vessels of mediaeval pattern of up to 400 tons could be built and launched. The slipway may have been abandoned about 1780 when the New Ground was extended eastward by 33 ft. Robert Newman would have had no compunction about abandoning the slipway because the silting up of the Millpool would have restricted the size and draft of the vessel that he could launch from here. The remains of this slipway were unearthed during excavations in connection with sewage works in 1996, but unfortunately they were removed and not reserved. In 1824 Thomas Leathy ceased building, having sold the lease of the yard in October 1823, to John Gibbs II.

John Gibbs II had been building ships at Sandquay with his father and uncles, but after the death of his father, John Gibbs I in 1822, his son decided to build in his own right at Hardness as well as at Sandquay. He took up the Leathy's lease of Yard 97 and sub-leased the Bonded Timber shed to a local merchant, John Geaves. John Gibbs continued building in Yard 97 until at least 1837, but probably until the end of 1841.²⁵ John Gibbs II died on 13/12/1841 shortly after making his will and his property passed into the hands of his executors, Capt. Samuel Follett, Noah Clift, shipowner, and T.S.Lovell, auctioneer. The executors were instructed by the will of John Gibbs to sell all his properties both freehold and leasehold. Settling matters took some time and the yard was sub-leased for the period 1846-1848²⁶ to Andrew & Edward Alford, who had been building ships at Sandquay yard on a short-term lease probably from 1841. Edward Alford moved to Barnes Key yard in Kingswear about 1848 and remained there until 1864.

It was not until 2/3/1848 that the shipyard was sold at Langley's Hotel in Dartmouth and was bought by Henry Nichols for £300. By the end of 1849 Henry Nichols held both properties, 96 and 97, retained them until his death in 1879. When in 1860 Henry Nichols had completed the changes in the combined Yard 96 & 97 referred to earlier he took out two new leases, 767 & 768 from the Dartmouth Corporation and in 1861 he installed a Patent Slip, 135 ft in length, in Yard 97 and much later erected an overall roof to make the yard suitable for working in all weathers. He was able to construct this quite cheaply since the roof span could be supported from the buildings on either side of the yard.

Besides building in Yards 96 and 97 the Nichols family built in other places in Dartmouth and in the Barnes Key shipyard in Kingswear, now under the site of Kingswear station. Barnes Key was occupied in the period 1840-44 by Henry Nichols and the Coombe Yard, called Town Palace or Shapleigh's Gift, was occupied by William Henry Nichols from 1832 to 1844. After the death of Henry Nichols in 1879 the yard closed and Henry Nichols executors offered the Patent Slip for sale [May 1879]. However, the whole premises and the Slip were sold leasehold to John Naylor who negotiated a fresh lease from the Corporation. John Naylor was a wealthy yacht owner and a member of the Royal Dart Yacht Club. He built a large stores on the inner half of the site of Yard 96 and moored his yacht 'Sabrina' in the outer half.

In late 1879/80 F.C.Simpson took out a sub-lease of Yard 97 including the Patent Slip. Here the firm of Simpson & Dennison's installed their boat building business from 1879 to

1881. To facilitate easy handling of engines and boilers into the small boats being built and the erection of the boats themselves the new company installed an overhand 'walking-beam crane' of $\frac{3}{4}$ ton capacity and 9 ft travel; the only one in Dartmouth up to that time. The power units for the boats were brought down to the yard from the Clarence Street Engine Works qv. The output of the yard was mainly wooden steam launches of about 30 ft length and which were powered by Kingdon Tandem Compound Patent steam engines of 20-35 ihp. The work force of 12 skilled operatives worked shorter hours and were paid more than was usual in Dartmouth.

In the following year, 1882/3, the boat building business was transferred to the ex-Redway yard at Sandquay and which occupied the site of the old dry-dock of 1793 together with the engine factory which had been established in 1879 a short distance away in Clarence Street in the grounds of Mr. Simpson's house 'Combecote', previously known as 'Belmont'²⁷. To increase the capital structure of the company F.C. Simpson ousted the Denisons and took on another partner, a Mr. Strickland, a relation of his mother, who was better able to provide fresh capital to expand the business. After the transfer the company incorporated itself and underwent a change articles and management structure and became known as Simpson-Strickland & Co. Ltd.

After the building of the North Embankment was completed in 1885 the lease of Yards 96 was bought for investment purposes by William Henry Goodridge, a local coal merchant. On the plot and fronting Mayors Avenue, after that road was built in 1893, he built a house and laid out a gardens and, in July 1898 and again in November 1901, by fee-farm grant he purchased the freehold. Yard 97 was purchased in the same way on the same dates and built upon by John Way, but his house faced on to Silver Street. It is not clear who lilted the rails of the Patent Slip and their bearer beams, subsequently filling the site where they has been with mud deposit, probably removed from Coombe Mud. Later still the freehold site of Both Yards was sold to Dartmouth Motors who established themselves in and around the site of the old Bonded Timber shed.

In 1880 shipbuilding in Dartmouth was in a state of depression This effected the trade of shipbuilding nation-wide, but it was compounded in Dartmouth by the first stirring of the Embankment Dispute which was to sweep away all trace of the Hardness yards and leave the town divided politically for 12 years from 1880 until 1892. For nearly all of this period F.C. Simpson was Mayor and head of the Anti-Embankment party. The why and wherefore of the dispute need not concern us, but suffice it to say that after the town was reconciled in 1893 Dartmouth was a very different place.

The Clarence Street Engine Works.

One major change that started in 1880 before the Embankment Dispute was the start-up of marine engine and boilermaking. The industry started off in a small way in the specialist works of Simpson & Denisons that had been built in the rear gardens of Combecote, the residence of F.C. Simpson. The site on the north side of Clarence Street, just to the west of the junction with Bake Hill, is now covered over by 4 houses. Approximately 20 men were employed here under the direction of George Kingdon as

Works Manager. The steam engines built here were designed on the Kingdon Patent Tandem Compound system.

The works comprised a large fitting shop accommodating areas devoted to a machine shop, coppersmiths, pattern-makers, and fitters. In addition there was a stores area and a stable for the horses who pulled the transporter wagons carrying completed engines/boiler units from the works to the boat-building yard in Silver Street. Motive power for a comprehensive range of machine tools was provided through overhead line shafting driven by an 8 hp engine/boiler set. The works remained on this site until 1882/3 after which they were transferred to the new combined boat building establishment at Sandquay.

The alliance between George Kingdon and Francis Charles Simpson deserves mention here. George Kingdon who had been manager to John Pope at the Waterhead Iron Foundry in 1868 moved from that firm to take up the post of head mechanic to W.E. Froude, the hydrodynamicist, then at Chelston, Torquay. Kingdon, who built all of Froude's testing equipment remained with Froude until the latter's death in 1879. By that time Kingdon had built a prototype of his engine and patented the system on which it operated. He was introduced to Simpson, an Oxbridge graduate engineer, who was convinced that Kingdon's engine would be ideal for fitting into yacht dinghies and the fast steam launches then in vogue. Many of his wealthy yachting friends would, thought Simpson, be attracted to such boats. The attributes of the Kingdon engine, which operated on the compound system with the two cylinders in tandem, one above the other, were lightweight, reliability, interchangeability and economical consumption of fuel and lubricating oil through the use of a special labyrinth shaft seal.

Other novel features of the Kingdon engine were the 'D' shape slide valve that had steam ports for both cylinders, high and low pressure, cast into it and the large ratio of low/high pressure cylinder, between 2½ and 3. The smaller ratio was used in the A type engine and the other in the larger N type engine. Variants of the A type engine were the smaller ½A compound and the D½A double compound. . Between 1880 and 1887 some 120 engines were built.^{27a}

The Ships they built in the Hardness Yards.

Most of the early vessels such as the 14th century single masted cogs . were small in size but sea-going. However, as the size of deep-sea ships increased, both as to draft and bulk tonnage the Hardness shipyards became increasingly outdated. More reliance had to be placed on orders from the coasting trade and from the owners in the Newfoundland fishing trade.

Naval vessels built to the order of the Navy Board by-passed Dartmouth and went to Plymouth until 1803 when two shipbuilders, Benjamin Tanner and Robert Newman secured contracts in 1803 to build a series of small naval vessels. Tanner was to build his vessels in the new Sandquay dockyard and similarly Robert Newman in his Hardness yards, Nos. 96 & 97. Only one other vessel intended for naval service was built in the Hardness yards. This was the cutter *Ranger* built by John Avery in Yard 95 in 1806. The ship, of 217 tons, was bought off the stocks by the Navy Board and rebuilt by Avery as a gun-brig, armed with 16-6 pounder guns and renamed '*Pigmy*'. This was a very apt name for the ship as her basic

dimensions were 80 ft length and 26 ft breadth. Her length was 80' and breadth 26'. The exact nature of the sail plan of the '*Ranger*' is not known, but it may have been that of a 'corsair-cutter' with a gaff-rigged mainsail and a set of square sails on the single mast, above a full set of head sails. In this rig the single mast is stepped far enough forward to enable a mainmast to be added without too much alteration. If the '*Ranger*' was so rigged her attraction to the Navy Board at a time of urgency is clear. The vessel was bought by the Navy Board 'off the stocks' in 1806 and converted into a gun-brig and renamed '*Pigmy*'. This ship was lost at sea in June 1807. Larger naval vessels were contemplated at Hardness, but although building started they were taken elsewhere 'in frame' to be completed.

In the second quarter of the 19th century when the principal builders at Hardness were Follett and Nichols, each turned out an average of one vessel per year. Follett completed 27 ships between 1824 and 1851 and Nichols 19 in the same period, rather less in number and of smaller dimensions than those of William Follett. Although Henry Nichols had installed a Patent Slip capable of handling ships up to 500 tons in Yard 97 which was not embarrassed by the proximity of the New Ground, he does appear to have taken advantage of the situation of his yard. In the middle years of the 19th century Nichols was, principally, building schooners with an overall length of about 100 ft. In June 1869 a catastrophe was narrowly avoided when, on launching, a schooner fell over on her side and developed an alarming list. With some difficulty she was got alongside the New Ground and moored securely.

In the Follett yard at this time the principal product was also schooners of 120-175 tons displacement. In 1862 Follett began construction of a barque, displacing 254 tons n.n.m. (Dimensions 112' x 24' 8" with a depth of hold of 14'). This was the largest vessel to be built in modern times in any Hardness shipyard. After building of this barque William Follett's grandson, Frederick, reverted to building schooners for the fruit-carrying trade for which his grandfather had been noted.'

Frederick laid down 4 schooners between 1864 and 1868. A 5th was in frame when he was adjudged bankrupt. The partly completed vessel was towed to Wood-Clist yard at Sandquay and finished there by the shipbuilder, Robert Moore. Most vessels built in Follets yard after 1850 had an overall length of about 110 ft. William Follett's two sons, Samuel and Henry built ships at Sandquay in Dartmouth. Here, in 1845, they built a steamship of 125 ft length. This was the first steamship built on the Dart. After the death of William Follet in 1856, Henry moved to Spithead became a ship owner and also built ships elsewhere in East Devon. Capt. Samuel Follett retired from shipbuilding. Frederick Follett, as stated earlier took over the Silver Street yard. Frederick Follett and a Capt. Foster became agents in the mid-1850's for the Marine Life and Casualty Insurance Company and also for Cunninghams Patent Reefing Topsails.

No ships of iron or composite construction were built in the Hardness yards at any time, The first iron shipwork to be carried out on the Dart was the lengthening of the composite built paddle-wheeler '*Mary*' owned by Capt. John Moody of Goole. A twelve foot section was added amidships. The work was carried out by the yard adjoining the old House and Steam Coal Wharf at Combe where John Moody set up an engineering works in 1855 under the management of a London engineer, a Mr. Cooper. The firm was known at first as Moody & Cooper, but later, with the aid of finance from Charles Seale-Hayne, it

transformed itself into the Dartmouth Steam Packet Company. During the period 1861-1882 when Robert Moore was building in Wood-Clist yard at Sandquay he launched a number of ships of composite construction, wood planked on iron frames, using a heating furnace erected here for the purpose. Vessels of up to 450 tons were built by Robert Moore in this yard, laid out by Benjamin Tanner in 1803, including the steam trawlers 'Bertha' and 'Edyth', the latter built by Philip & Son, built to the order of George Parker Bidder, the Calculating Boy, and fitted with several novel features including Samuel Lake's lifting screw.

How they financed the ships that they built at Hardness

We do not know any great amount as to how capital was provided for the ships built at Hardness. Most shipowners found the capital to buy their trading ships from the profit of previous trading ventures,. From what sources did the shipbuilders find their capital ? If they did not have money put by from the profit of vessels completed earlier then had to have recourse to money lenders, scrivener or, after 1796, to the country banks such as the Dartmouth Bank or, after 1806, to the similar bank of Harris & Company. as we know that William Follett did. More can be learnt of the history of these country banks in the book 'Dartmouth Industry and Banking from 1795 to 1925' written by the author.²⁸

Probably the most common method of raising finance for building ships was by borrowing on the shipbuilders principal asset, the shipyard itself. As an example of this method we can quote an endorsement on a lease of Yard 96. The property was assigned in 1853 and according to the endorsement, on 7/5/1853 C.F.Nelson, solicitor of Kingswear, drew up a document by which Henry Nichols, son of Ambrose Nichols I, and Ambrose Nichols II, assigned a lease of the property as security of a mortgage of £300. to W. Shaw Lindsay and his son, both of 17 Portland Place, London. The property was stated to have been originally leased by Ambrose Nichols I on 30/8/1814 and comprised shipyards, sheds and buildings with permission to reclaim from harbour up to 41½ ft along the foreshore in front of the premises. The mortgage in question was repaid and the property released to Henry Nichols, son of Ambrose I, on 15/4/1854. On 20/4/1854 Henry Nichols again assigned the property, this time to William Smith, solicitor of Dartmouth, as a security for a loan of £150.²⁹

W Shaw Lindsay, author of the book '*An History of Mercantile Shipping*' was the owner of a line of auxiliary steamers trading between Dartmouth and Indian ports in 1856-7. The Lindsay Line held the mail contract between England and India in 1856, but lost in the following year to the Union Line of steamships operating from Plymouth. Lindsay's steamers were underpowered and unable to keep to the contract schedule.³⁰ Mr. Shaw Lindsay owned some property in Dartmouth from 1850 onwards, particularly Island House. Mr Shaw Lindsay bought the property 'on spec' believing that it would increase in value when Dartmouth became a mail packet station. Another property speculator. buying property in Dartmouth at the same time and for much the same reason was a Scottish gentleman, living in London, named Hugh Mair. The attraction for him was the approaching Dartmouth & Torbay Railway.

The property, Yard No 96, was bounded on the West side by the land ex John Hayne and now of Thomas Leathy. and on the East by the Corporation Land of Thomas Leathy.

With Silver Street on the North and by the Pool on the East. The reference to the land of Thomas Leathy on the east of the yard could have applied equally to the Bonded Timber Shed which was sited between Kings Quay and Yard 97 or by shipyard No 97 itself. Thomas Leathy may still have been registered as the primary leaseholder of the shipyard, but no longer had any interest in either Property 96 or 97 after 1841. The cause of the errors lay in the copying of details of one lease from another. It was quite a common error.

Conclusion

After 1793 the focal point of shipbuilding in and about the town shifted to the Sandquay location, but the long history of the Sandquay dockyard from 1789 requires a separate paper. It is much more a story of intrigue and business failure than the simple story of the Hardness shipyards and the men who built there. To the east of Kings Quay the properties were mainly warehouses in the 16th and after. There were 3 distinct sites, one for the Gasworks and two for shipyards, but their history is something for another paper. Not so much is known about the two shipyards named the Clarence Yard and the Coombe Yard. As far as depth of water for launching these two yards were in a worse pickle than the Hardness yards for the depth of water at high tide was less than 9 ft, rapidly shoaling to 6 ft over Coombe Mud. With a tidal range of 14+ ft the mud was exposed for a good part of the time between ebb and flood.

APPENDICES.

Appendix A.

Property title for the various shipyards

The relevant documents are appended below, grouped together for each of the Hardness Shipyard referred to in the text.

Title to Property 92

DRO DD 65580 of 25/2/1788
Plymouth Co-Op Deed/1 dated 9/4/1812
DRO SM 2034. Lease No.675 of 4/5/1838
Fee Farm Grant No.46 dated 6/3/1899

Title to Property 93

DRO DD 62800 of 7/4/1653
DRO DD 62820 of 20/4/1656
DRO DD63795 of 2/8/1716
DRO DD 64450 of 21/6/1749
DRO SM 2034. Lease No.408 of 25/2/1787
Plymouth Co-Op Deed/4 dated 13/3/1834
DRO Lease No.624 of ?
Plymouth Co-Op Deed/9 Conveyance to Charles Wm. Pudham.
Fee Farm Grant No.46 dated 6/3/1899

Title to Property FR

Freehold property since the 17th century and in 1634 in tenure of heirs of late John Anthonie. In 1653 this ground was said to be leased to William Barnes, probably the owner of the Castle Hotel on the New Quay, and in 1716 to be leased to Mr. Crews whose family had built inn or Coffee House, later known as the 'Assembly Rooms' adjacent to the Butterwalk. The shipyard was said to be in possession of a Mr. Taylor.

In the Exeter Flying Post of 23/1/1808 there appeared an advert of sale by public auction of Mr Oliver's yard now in possession of Mrs. Rich as tenant. At this auction the yard was bought freehold by William Follett. A deed held in Co-Op House Plymouth, Ref: Plymouth Co-Op Deed/2, is a conveyance from Messrs Farwell, Jackson and Oliver to William Follett dated 20/10/1815. Farwell was a Totnes banker and presumably held a mortgage on the property.

Title to Property 94

DRO DD 62603 of 30/6/1634 The Plot size is given as Length (n-s)106 ft and width (e-w) 34 ft. This width was narrower than most of the shipyards 50 ft or better being the norm.

DRO SM 2034 Lease No.148 of 6/9/1683

DRO SM 2034 Lease No.293 of ??/1762

DRO.SM2034 Lease No.404 of 21/12/1784

DRO SM 2034 Lease No.551 dated 15/5/1814

DRO SM 2034 Lease No.569 of 20/8/1822

DRO SM 2034 Lease No.666 of 7/12/1835

Title to Property 95

DRO DD 68687 dated 1/10/1793

DRO.SM 2034 Lease No.425 dated 29/12/1812

DRO SM 2034 Lease No.569 dated 10/8/1822

DRO SM 2034 Lease No.666 dated 7/12/1835

Fee Farm Grant No.22 dated 14/11/1895

Fee Farm Grant No.25 dated 14/11/1895

Fee Farm Grant No.29 dated 13/4/1896

Title to Property 96

DRO. SM 2034 Lease No 43 dated 1668 to John Lamb

DRO SM2034 Lease No.No 183 dated 1703

DRO SM 2034 Lease No.? dated 1769

DRO DD66058 dated 30/8/1814

Continued by Lease 767 of 26/11/1860

Fee Farm Grant No 37 dated 4/7/1898

Title to Property 97

DRO SM 2034 Lease No ? dated 1792

DRO SM 2034 Lease No.547 dated 20/2/1815

DRO SM 2034 Lease No.550 dated 9/10/1823

DRO SM 2034 Lease No.768 dated 26/11/1860

Fee Farm Grant 49 dated 21/11/1901

Appendix B

Notes and References

1. Jonathon G Coad, The Royal Dockyards 1690-1850, Scholar Press, 1989
2. Ray Freeman(Mrs) Dartmouth and her neighbours, Phillimore & Co. Ltd., Chichester, 1990.
3. I.H.Smart, Dartmouth Industry and Banking-The story from 1795 to 1925, Dartmouth Historical Research Group, 1995.
4. I.H.Smart, The Development of Dartmouth Millpond down to 1846, Dartmouth Historical Research Group,1993.
- 4a. There exist two large scale town plans. One drawn at the request of the Dartmouth Corporation in 1833 by Thomas Lidstone, surveyor and builder and by W.C. Thomas, builder. This map was supplied, updated, to the Local Government Act Office in 1858. The other was the Ordnance Survey of the town, surveyed in 1885/6 and published shortly after and drawn on a scale of 1/500. The 1883 plan was constantly updated, but the omission of a change in 1840 allows the map to be dated accurately. A second master copy shows

features which did not exist after 1680 and can only have been modified from data read from lease documents drawn up in the 17th century.

5. The information noted here is taken from various town directories published in the period 1823-1866 and kept in the Devon Record Office at Exeter.

6. Notes from a discussion with the Director of Exeter Archaeology 1995.

7. Ibid Ref. 3.

8. Reports of the Admiralty Committee on the West India Mail Packet Station 1840, BPP 1840-43.

9. Ibid Ref 6.

10. Ships of the Royal Navy, J J Colledge, Greenhill Press, Revised Edition 1987.

11. Dartmouth Chronicle file for 1863, Torquay Central Reference Library

12. Dartmouth Chronicle file for 1861, Torquay Central Reference Library

13. Dartmouth Chronicle file for 1878, Cookworthy Museum, Kingsbridge.

14. The extensive series of Dartmouth Deeds(DD) were catalogued and calendared in 1879 by Stuart Moore. He also listed several volumes, lists and records that he found amongst the deeds including the Corporation lease books. These are numbered SM 2033, SM 2034, and SM 2035. The most important of these is SM 2034 covering the period from the General Re-Lease of 1655 until 1858. This is housed in the Devon Record Office. SM 2033 which covers the short period or interregnum between the unreformed Dartmouth Corporation of 1835 and the new Town Council of 1836 has been lost or destroyed. SM 2035 is the continuation volume from 1858 until modern times and is housed in the Dartmouth Museum.

15. I.H.Smart, Dartmouth Industry & Banking 1795-1925, Dartmouth Historical Research Group, 1995

16. The America Story In the Dartmouth Chronicle for May-June 1907 there was reproduced a series of letter concerning the Steers family in Dartmouth, some of it from relations of the Steers family. It would appear that James Steers the elder was related to William Follett and served his apprenticeship with him when Wm. Follett started up in Dartmouth in 1808. After serving his time, James Steers the elder, became a foreman shipwright at Keyham Dockyard. He emigrated to the USA in 1820 taking with him his two sons. In July 1820 a third son was born, George Steers, who in 1836 designed and built a 16ft sailing dinghy which outsailed all her rivals, beating them out of sight. In 1850 he went on to design the famous schooner yacht 'America.' for Col. Stevens. It would appear that some at least of his design stemmed from his father's teaching and that of his father from William Follett. Perhaps the accolade bestowed on William Follett for building the 'fastest Schooners in the West' was justifiably bestowed. Ann Steers, sister of James Steers the elder, was a first cousin of Robert Mortimore, a Dartmouth jeweller, for whom she kept house and of Norwood Coaker, son of a well-known Dartmouth ships master. James Steers visited his sister, then living in Foss Street, in 1873, and gave her a signed painting of the 'America', which hung in the house situated at the corner of Foss and Duke Street for some years.

17. Port of Dartmouth Shipping Register 1824-185, Devon Record Office Exeter

18. Dartmouth Chronicle file for 1869, Author's Archive.

18a. The New Maritime History of Devon, Dr. M.Duffy.ed., Vol 1 Chap 5.,Conway Maritime Press,London 1992

19. Trewman's Exeter Flying Post 14/11/1793

20. In 1893-95 there was agitation in Dartmouth for the sale of reversions by the Trustees of the Corporation Properties so that those leaseholders who wished to purchase the freehold of their properties might do so and so obtain the full benefit of the improvements that they had carried out as leaseholders. In November 1893 the Local Government Board said that they would consider applications for the sale of Corporation freeholds by fee farm grants. However, it was not until April 1895 that the LGB approved the Trustees application. The grants, one-time payments in fact, were calculated on a sliding scale of valuations and the potential loss of rent income in perpetuity and were thus individual to each property.

20a. ADM106/1587. 13/3/1807. The third slip at Clist-Wood yard remained unfinished until after 1882 when the Admiralty took over the yard, situated north of the dry dock.

21. Information and leading particulars of the 'Duke of Marlborough' are taken from the book entitled 'Captain John Bull of the Falmouth Packet Service' written by Lt-Cdr. John Beck. Maritime Monograph No1, South-West Maritime History Society, 1995.

21a. The Exeter Flying Post states that both Newman's and Tanner's contracts were awarded at the same time. This is incorrect as the Navy Board letter book shows.

22. Trewman's Exeter Flying Post 22/9/1803 and letter to Navy Board dated 15/4/1812 ADM/106/1587

- 22a. PRO ADM106/1587
- 22b. Ibid.
23. WCSL Trewman's Exeter Flying Post 6/12/1804
24. Ibid 19/9/1793
24. Ibid 19/9/1799
25. Information contained in a letter from John E Horsley, founder Curator of the Brixham Museum.
26. Ibid Ref. 25
27. Dartmouth Chronicle file for 1880, Cookworthy Museum Kingsbridge.
- 27a. 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 Clarence Street Works.
28. Ibid Ref. 15
29. Endorsements on lease Ref. DD 66058
30. Dartmouth Chronicle file for 1856 1nd 1857, Torquay Central Reference Library.