

THE DEVELOPMENT OF TIN PLATING AT LYDBROOK

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Introduction

The title 'Tin Works' has been in general use locally for the Lydney, Redbrook and Lydbrook tin plate works. These works comprised two main areas of activity, the rolling of thin iron sheet or *black plate* from the product of the local iron working forges, and the process of dipping those iron sheets into tin then polishing, finishing, cutting and packing the tinned plates into boxes for sale and use elsewhere. Only the second group of processes involved the *tinned plate*. The two processes were not necessarily undertaken at the same site. The plating process was usually done as near as possible to water transport to avoid damage to the finished plate on overland journeys. Black plate was less fragile so might be produced elsewhere, then transported to the tinplate works, sometimes to supplement the black plate produced on site. Because black plate was produced specifically for tin plating, its production site sometimes appears to have been referred to as a tin plate works even though no actual plating occurred there. This appears to have been a cause of some confusion in recognising the date of the introduction of actual tin plating.

Discussion of the origins of tin-plating at Lydbrook was omitted from the article in the 2003 Journal entitled *The Introduction of the Tin-plate Industry to the Lower Wye Valley and the Newerne Valley of the Forest of Dean*, because no examination of its origins there had been found and the documentary evidence seen was slight (1).

Cyril Hart reported claims for the start of tin-plating works at Lydbrook in 1760, in 1798 and in 1806 (2). The claim had been made for 1798 on a letter head of the Lydbrook Tin Plate Works (2). Nor is there agreement as to who initiated the tin plate works or exactly where in Lydbrook. Three recent authorities vary considerably. The tin-plating works may have been built c.1806 by Thomas Allaway, tenant of the Partridges (3). Tin plate may have been first produced at the lower or middle forge by the Partridges, and Thomas Allaway erected new works in 1806, (4), or, apparently built by Thomas Allaway in 1798 or 1806 (5). This examination was begun to attempt to identify which was the most likely date for the start of tin plating in Lydbrook, to examine the available evidence and to understand the associations of tin-plating there with other production sites in the Forest of Dean.

The Lydbrook Forges

As at Lydney, the tin plate works at Lydbrook developed from existing iron working forges. Unlike Lydney, the forges at Lydbrook were not in single ownership. In 1760 three forges existed and for much of the time all had the same lessees. Nearest to the River Wye was a forge on a site near the present Forge Hammer Inn, and in Ruardean parish (6). This was owned by William Vaughan 'of the City of Bath, Esq.,' but also of the Vaughan family of Courtfield, the house on the opposite bank of the Wye (7). Higher up the Lyd brook, two forges were owned by Lord Gage of the Hall family of Highmeadow, near Staunton, and usually let with his furnace at Redbrook. In the 1720s all three forges had been operated by the Foley family, ironmasters in Dean (8). They appear to have relinquished the Gage forges but retained the one leased from Vaughan, working it with the nearby Bishopswood furnace. From 1762 until 1794, the three furnaces were again operated together under lease by the company first known as Partridge and Reynolds, later Harford Partridge and Co, of whom John Partridge the elder, and his son of the same name, were the Lydbrook figureheads. By

1817, the two lower forges were again under joint management, (below). No evidence has been found to support a date for tin plating at Lydbrook as early as 1760 and the period 1794 to 1817, when limited evidence has been found, includes the two dates of 1798 and 1806 given for the start of tin-plating.

For detailed examination and attempted clarity the period has been divided into the phases 1742-1794, 1794-1817, & After 1817. For the two earlier phases the evidence of the Gage and Vaughan forges has been treated in turn, in that order.

Lydbrook forges 1742-1794

The Gage forges, 1742-1792

In 1742 Rowland Pytt leased from Lord Gage his two Lydbrook forges with the Redbrook furnace for £200 p.a. His son was still tenant in September 1762 when, on 1 September, Richard Reynolds of Bristol, Iron master, John Partridge the Elder of the Town of Ross in Co. Hereford, Ironmaster, and his son John Partridge the Younger of Ross on Wye, leased the same sites for 21 years at £300 p.a. from 5 July 1763, (i.e. to 1784), as the **Reynolds & Partridge** partnership. It was described as *all that furnace for the making of Pig or Sow Iron called Redbrooke Furnace.... in the parish of Newland ... and all those two forges for the making of bar iron commonly called Lidbrooke forges ... being in Lidbrooke in the parish of Ruardean and all Houses, outhouses, buildings, coalyards, gardens etc belonging to the said furnace or forges lately enjoyed by Rowland Pytt Esq. lately deceased...* (9). In 1763 the same partnership leased Monmouth forge for 21 years at £122 10s p.a. (10).

In the Ruardean church rates of June 1783 Mr. John Partridge or occupiers were charged for the Upper and part of the Middle forges (the other part was in English Bicknor parish) as well as for 'Esquire Vaughan's forge.' This continued until 1787. It appears the lease was renewed.

A letter in the Gage documents said that **Mr. Partridge's** lease of the Gage ironworks was due to expire on 5 July 1793, *and I have let them to Mr. Tanner* (11). This demonstrates that John Partridge was identified as the local face of the partnership. The Reynolds and Partridge partnership had become Harford Partridge and Co., effectively the same company with John Partridge prominent in both. **Harford, Partridge & Co, Iron Masters, Bristol** were still referred to as Lord Gage's tenant in 1794, when the plant included a furnace (at Redbrook), finery, chafery, rolling mill and balling furnace - an iron work (12).

An undated document, folded with a copy of the 1762 lease, concerns repairs required at the sites and how much John Partridge should be allowed for additional buildings he had erected. It says that *The Company* had erected an aqueduct as well as *an additional finery made and the implements made thereto and to the other Fineries made and set up by the said Company for the use of the said works*. Allowance was to be made for the improvements provided they were *set up or made at the Expencc of the said John Partridge & Co. and also provided they are not considered fixtures* It appears that the document dates to 1794 when the lease ended.

A letter from Lord Gage to a Mrs Clarke, dated 5 April 1793, appears to concern the aqueduct *built for the convenience of the forge (but upon your manor)* and seeking to make an arrangement to pay rent for its continued use (13). From a subsequent letter it appears that

Lord Gage purchased many items at the works from Mr. Partridge (14). None of this evidence gives any suggestion of tin plating at the Gage forges before 1794.

The Vaughan forge, 1762-94.

The lowest forge near the River Wye had recently been purchased from Lord Foley and was owned by William Vaughan in 1768 when *A company at Bristol have lately erected a forge near Lydbrook....* They built a waterwheel and dug the slag left by ancient bloomeries (15). If the forge building was new, the site was old. The company was almost certainly Partridge and Reynolds (16). Whatever the formal title, it was *Mr John Partridge or Occupiers* who were expected to pay the Ruardean church rates for *Esq Vaughan's forge* and coal wharves in 1783-6 (17). The lease was renewed in 1788, when *Richard Summers, James Harford the Elder, John Partridge the Younger, Philip Crocker, Truman Harford and James Harford the Younger, (the Committee for managing and conducting the Trade or Business carried on under the name or firm of Harford, Partridge & Co, Iron Masters, Bristol)...* took the lease on 25 March 1788 from William Vaughan for 21 years, at £12 10s p.a. (to 1809). The site was described as *All that forge or iron work .. at Lydbrook in the parish of Ruardean in the possession of the above as tenants of William Vaughan etc..... lately bought by William Vaughan from Lord Foley* (18). The rental looks very low but this figure has been rechecked in the source. It may imply that this forge was little used, or that though a former forge site all the structures had been erected by the company, not the landlord. The Gage forges had been the principal works. Richard Reynolds of Bristol was a Quaker and from a family involved in the iron trade. He was manager of the Coalbrookdale works before 1768 and was replaced in the partnership by James Harford. By 1788 Harford and Partridge also leased Monmouth forge, Caerphilly furnace and Machen forge (Tredegar Works) and were supplying pig iron from the Redbrook, Monmouth and Lydbrook works to Melingriffith, which had been making tin plate since 1774/5 (19).

Partnerships of which John Partridge was a member were in control of both the Vaughan and Gage forges at Lydbrook and furnaces at Redbrook and Bishopswood. In 1787 his brother, William Partridge, was charged Ruardean church rates for *the new forge*. This was probably at Bishopswood as the entry in the rating list followed the rate due on his house there (20). It appears that the iron produced at Lydbrook was used at Melingriffith. Brooke's statement *that in 1760 at Lydbrook a Tinplate works is said to have been started* appears unfounded. It might be understood to mean that the works at which tin plate was later made were started up in the early 1760s (21). In this sense it could apply to the new premises at the Vaughan forge.

Lydbrook forges 1793-1817

The Gage forges, 1793-1817.

David Tanner of Monmouth took the lease of Lord Gage's Lydbrook and Redbrook sites from 5 July 1793 for 21 years at £300 p.a. (22). The description of the properties was:-

		a. r. p.
346	In the manor of Bicknor, at Lydbrook, Part of Forge, Yard and Buildings	0.0.20
351	Remaining part of ditto in Ruardean	0.1.28
353	Pond	0.2.39
354	Tenements, Garden & forge	1.0.32
355	Pond	1.2.24
356	Upper Pond	0.1.30

The division of site 346/351 between the parishes of English Bicknor and Ruardean identifies it as the Middle Forge. Within the same lease David Tanner also held, in Redbrook, plots 270-273 including the Upper Forge, Furnace Mead and adjacent gardens there. Tanner sub-let the Lydbrook forges and Redbrook furnace and forge to **Dr. Hobbes and Mr. Ellaway**.

On a separate lease Tanner held Site 278, Lord Gage's lower works at Upper Redbrook, for 21 years commencing at Lady Day 1794 at £50 p.a. This was let and worked separately from the Redbrook furnace and Lydbrook forges. He also held other land in Staunton, Newland and Redbrook from Lord Gage.

By 1798 David Tanner was effectively bankrupt. He failed to pay rents, or money owed for cordwood already supplied, and would not pay for necessary *repairs unless Gage would allow all they had laid out*. He would not give up the Lydbrook or Redbrook leases. His assignees continued to work up stock at Redbrook. In a 1799 land tax list, Redbrook furnace and the forges at Lydbrook were still recorded as let to the Redbrook and Monmouth Company (i.e. Tanner) at £1100 with the farm called the Old Mill (23).

Lord Gage and his agent, James Davies of Eastbach Court, continued to seek rent and compensation from the company. The Tanner lease would have required him to return the sites and fixtures in as good a condition as he received them. He had not done so and the sites required immediate repair and investment, [Fig. 1]. This had to be done before new tenants could be secured. In trying to come to an agreement with the assignees in bankruptcy, an arbitrator was sought. The two parties found difficulty in identifying a suitable person. James Davies suggested 'Young Blakemore,' (Richard Blakemore, nephew of John Partridge who was to receive six of John Partridge's shares from the Harford Partridge partnership before 1810 and was to form Blakemore and Co. with principal interest in the major South Wales iron and tin making sites), but Mr Estcourt, for Tanner, objected, *as they pretended Mr Partridge was going to take the works and as a nephew might be prejudiced* (24).

The sub-tenancy to **Messrs Hobbes & Ellaway**, (Allaway?), was an additional complication. In 1799, when David Tanner had ceased paying rent, though not yet officially bankrupt, Lord Gage claimed the unpaid rent for their tenancy directly from Hobbes and Ellaway. Both partners owed rent, but Dr Hobbes is mentioned more often in the letters. He kept in contact with James Davies, paid more of what he owed, but not all, so was proceeded against by bailiffs who seized his goods. He attempted to negotiate with the agent but was said to have been forced to move to a smaller house. Both men had difficulty in paying their share. Lord Gage's solicitor had distrained upon the stock from Lydbrook and Redbrook sites in part payment of Tanner's debts (25). The Lydbrook forges had little work, *...at Lydbrook they do very little, and when there's nothing for the men to do they pay them half wages..., the furnace at Redbrook is never in blast..... the rolling mill is much out of repair...* (26). Lord Gage's solicitor assured him, *not a day was lost in proceeding for the recovery of the Rent of Lidbrook forges and Redbrook furnace from Dr. Hobbes & Mr. Ellaway who suffered their effects to be taken in Execution before they advanced the money*. They were required to provide security for the remainder of rent owed but offered Bills of Exchange to be paid at 2 and 3 months ahead (27). Though Lord Gage was willing to give them longer to pay, the solicitor and agent served another Execution order, *as they had no security*. By January 1800 they had paid *the greatest part of the sums due from them on Tanner's account* (28). The urgency was to get payment before Tanner received his Certificate of Bankruptcy, after which Gage was likely to get little or nothing among so many other creditors.

It is clear that neither Hobbes nor Ellaway had reserves of capital. Hobbes had personal goods seized to help pay the debts and needed to move from his home. Ellaway offered long dated Bills and had no security. Their business had failed and they were in debt. They had probably relied on business from David Tanner. Despite the spelling of his name, Mr Ellaway must be William Allaway, later of the Lydbrook tinplate works. William Allaway, *of Walford House near Lydbrook*, died on 15 June 1849 and was buried on June 23, aged 74, so must have been born c.1775 (29). In 1798 he would have been c. 23 years old and unmarried. He married Anne Probert of English Bicknor on 31 August 1805 and his eldest known child was born in 1807 (30). Though his marriage and children's baptisms were recorded in English Bicknor, he was not from there, as in the 1841 census he is shown as not born in Gloucestershire. No evidence has emerged of where he learned his trade. It may have been in the same Gage ironworks which he was leasing in 1798, but before 1793 during John Partridge's tenure, or possibly at another of the iron works with which the Partridge family was involved, perhaps Monmouth. Boys started work young in those days. It is fairly clear that Dr. Hobbes had the greater financial resources of the partnership and William Allaway probably the greater practical knowledge but little or no capital.

That Hobbes and Ellaway were paying men half wages in 1799, suggests that they did not wish to surrender their lease, but when Tanner was made formally bankrupt their tenancy from him must have ceased. He gave up the keys to the Redbrook sites in October 1799 (31). Lord Gage received some money for the repair of the forges, £450 he thought, but was also assessed £700 for property of Tanner's left on site. It seems to have been the furnace that was most damaged (32). James Davies had surveys made of repairs required at Redbrook and Lydbrook in February 1800, and hoped to start repair work at Lydbrook in April that year (33). [Fig. 2]. The survey gives no evidence of facilities for tin plating at Lord Gage's Lydbrook sites at that date. Davies proposed taking Tanner's lease himself when the repairs were *complete or at the end of two years* (34). The Ironworks, Rolling Mill and divers Messuages, Lands and Tenements at and near Redbrook, were leased by James Davies Esq. and others from 25 March 1800 for 21 years at £555 pa (35). The wording is vague, but later evidence shows that Davies and Co's lease included the Gage Lydbrook forges, [1814 below].

In 1814 "The Redbrook Company" (i.e. Davies & Co.) paid a half year's rent due 5 May which included

Works (Redbrook)	£186 10s 0d	
Land at Higher Redbrook	£36 0s 0d	
Land at Lidbrook	£13 0s 0d	
Mill & land	£40 0s 0d	
Land late Herberts	£ 4 0s 0d	
Bunjabs, Lockalls	£14 0s 0d	
	<hr/>	
	£29410s 0d	(36)

This shows that though the company still held land at Lydbrook it was not valued highly. The last four rents are of the Lydbrook properties, mostly orchard or grazing. In 1816 James Davies was expected to pay the Ruardean church rates for the Lydbrook forges, but Davies surrendered the lease in 1816 and **Mr Stokes** was expected to pay in 1817, but did not do so (37). He was probably the *James Stokes, Lidbrook, Ironmaster* whose daughter Susan was baptised at English Bicknor on Sept. 14, 1815. If so, he had been an Iron master while James Davies held the forges, so was possibly then a sub-tenant.

From 1800 discussion in the letters concentrated on the Redbrook works. Hobbes and Ellaway are not mentioned, nor the Lidbrook sites.

The first mention of tinworking in the Gage documents was in 1803 but referred to Redbrook, not Lydbrook. At Upper Redbrook, at length, Davies secured a number of potential partners of whom the principal was "Mr Thompson", who was to invest £6000 for 3/8 of the shares. James Hall was to invest £2000, be manager, live at Upper Redbrook, to receive a house, firing and the payment of taxes (38). Hall was reported to have had *the whole management of the ironworks in Wales for the Bristol Company* (39). During the negotiations Mr. Thompson wished to have Mrs Anstey's Farm and Mill, *as he intends making tin as they do at Lower Redbrook*, (c.1803) and, in Sep. 1805, *Mr Thompson (Mr Hall Manager) intends turning the lower works to the making of tin in the Spring of the year and has got a man well skilled in the business to advance two thousand pounds for 1 share. He is to live in the works and have a salary for his attendance* (40). This cannot have meant the works at Lower Redbrook, as they were already a tin works and then in the hands of John James (41). 'Lower works' meant the site within Mr Davies' lease and lower down in the Newland-Redbrook valley. R. G. Harris records James Hall, Manager of Redbrook Ironworks and Upper Redbrook Tin Works, at the foot of the Incline, as still there in 1841, then earning £50 p.a. (42). Lord Gage was at first unwilling to agree to Thompson's terms for taking cordwood off the estate, but by 24 July 1805 James Davies had *now settled with Mr. Thompson* (43). A new partnership was formed in 1805 for the Upper Redbrook Works, James Davies transferring 3/8 of the property to Thompson (44). An 1814, half year, rental shows Upper Redbrook as the works site. Davies and Co. continued to hold the lease until August 1816 when the lessees requested Lord Gage to accept the surrender of the lease of the iron works (45).

Neither Tanner, Davies, nor the sub-tenants had found iron working sufficiently profitable in Lydbrook and Redbrook. Bankruptcy, losses and half time working had resulted. Even Lord Gage felt badly let down. Yet the forges had been refurbished in 1800.

The Vaughan forge, 1794-1817.

'Mr.' Partridge also continued to rent Gage sites in Lydbrook after 1798-9, the *several small tenements with warehouses made use of in the iron manufactory usually let at £40 pa. but now held for a short time, three years of which are unexpired and will then bear a considerable advance, let to Messrs. John & William Partridge - £20.00.00*. Their exact location is not stated, but logically to be of use to the Partridges during this period, they would be expected to be conveniently near to the former Vaughan forge to be used with it. Nor is it established whether the tenancy was extended after the three years, even if at a higher rental. A map of 1807 shows 'Mr.' Partridge holding plots around the lower forge and buildings alongside the road. William Partridge held them in 1809 (46). The *several small tenements and warehouses* may be what grew to become the Lydbrook Tin Plate works, but if so no mention of 'tin' has been found.

The Vaughan forge was put up for sale in 1808 when it was described as *a very convenient forge for the manufacturing of iron with an excellent pool of water for working the same and a coal yard and divers buildings thereto belonging, situate at Lydbrook aforesaid within a few yards of the navigable river Wye, now in the occupation of Messrs Harford, Partridge & Co. whose term therein will expire at Lady Day 1809, together with a garden adjoining the Forge Pool, now in the occupation of Mr. Lerigo as tenant from year to year*. The company

also held two closes of land, together 6 acres, in English Bicknor parish. John Partridge bought the freehold (47).

A survey survives, described as *A Survey of lands in the Manors of English Bicknor and Staunton sold to the Crown by Lord Gage in 1817*. A note suggests the survey was first made c. 1780, but it had been updated at the time of the sale. It includes in English Bicknor manor the freehold land of William Vaughan Esquire (i.e. pre 1809), let to **Messrs Partridge & Co.**, a forge, yard, garden and part of a pond at Lydbrook, together 3r 2p, (Plot No. 208) (48). Partridge and Co. also held, and possibly owned, a House, gardens, Blacksmith's shop and little wood at Lydbrook, together just over an acre, Plot 329. Nicholls added *they* (the lower iron works) *were in Mr Partridge's hands and were worked in connexion with the furnace at Bishopswood* (49). William Partridge owned Bishopswood furnace from 1796 (50).

After the end of the Harford Partridge partnership, and John Partridge's purchase of the Vaughan forge, the two Partridge brothers appear to be operating together and the title 'Partridge and Co.' probably applies to them. Their works combined the small tenements, the ownership of the Vaughan forge and Bishopswood sites. In 1808, of the three Partridge brothers, John was 76 (John Partridge the Younger of 1788), Richard had died leaving his business interests to John, and William was 59 and High Sheriff of Monmouth. John died in 1810, leaving his major interests in S Wales to his nephew Richard Backmore, and other interests to William. William died in 1814 leaving the business to his son, another John. It is unlikely either would have sought to be personally involved in the detailed management of the Lydbrook works on their purchase in 1808 (51).

The significance of 1798, the date given on the letter head for the founding of the Lydbrook Tin-Plate works is not immediately clear. It was the date of Tanner's effective bankruptcy. Hobbes and Ellaway were still paying rent in 1800, but this was probably owed from before 1798. William Allaway may already have found employment with Partridge & Co. It may have been the start of the Partridge lease of the *several small tenements*. The third date, 1806, claimed as the start of tin works at Lydbrook, appears to relate to changes associated with Davies & Co's lease, but when Mr. Thompson planned to 'make tin' at Upper Redbrook in 1806 there was no suggestion of tin-plating at Lydbrook. Could that date also have seen the start of the 'Partridge & Co' partnership?

After 1817

In 1817 the Highmeadow estate was sold by Lord Gage to the Office of Woods. The Office of Woods, retained the woodland but much of the rest was advertised for sale in an auction on 27/28 July 1818 (52). The 1818 sale advertised, *The estate includes an extensive **Iron and Tin Plate Works on the River Wye***. The land was to be sold in several lots. For each, the present tenant, the plot numbers, the plot names, descriptions and acreage were listed. One copy of the sale catalogue seen had, written in ink in the right hand margin, the name of the potential purchaser and price offered. Henry Davies was occupier of Lot 37, the Upper Forge, Furnace etc at Redbrook, which was 'bought in' at £1300 offered, and of Lot 38, the Tin Works, Rolling Mill etc at Redbrook, also 'bought in' at £1500. This must have been the Tin Plate Works on the Wye. Neither had received an offer thought sufficiently high. Henry Davies bought both sites from the Crown in 1823 (53). In 1818 he also occupied Lot 3, the forge, yard and buildings at Lydbrook, described with the same details as when Tanner leased them in 1793, except that they were now offered separately from Redbrook furnace. **John Tamplin** appeared to have offered £1520 for Lydbrook forges, a significant value, more than had been offered for Upper Redbrook tin works. This suggests growth and prosperity since

1806. Lots 1 & 2 were purchased by **James Pearce**. They had been occupied by William Partridge Esq. He had died in 1814 and Bishopswood iron works were no longer in production. Both lots were of approx. 6 acres, most of which was orchard or woodland, but included 2 houses, a mill and pond. **Mr. Pearce** offered £1042.10s.00d for Lot 1, which included the (grist) mill, and 26 Guineas an acre for Lot 2. The property included Cowmeadow orchard behind the present Lydbrook House, built by James Pearce, and the Grist Mill next to the forge Mr. Partridge had bought from the Vaughan family. The sale was not completed until 1823. In 1820 Mr Pearce was charged rates for Bishopswood forges. He appears to have bought out William Partridge's interests.

Exactly who the 'John Tamplin' was who made the offer for Lot 3 in 1818 is not clear. A Tamplin family was employed at Lydbrook iron works. In the 1851 census, Richard Tamplin aged 86, retired forgerman, born at Aberavon, lived with his son in law, John Lewis, roll turner, aged 62, also from Glamorgan. Edward Tamplin aged 55, born at Abergavenny, 'stocktaker iron,' lived at Lydbrook Hill Incline. Richard, son of Richard and Elizabeth Tamplin was baptised on 26 May 1799, and John Tamplin, forgerman, aged 49 had been baptised in 1802 at English Bicknor. A William Partridge was witness at the marriage of Edward's son, also Edward, at Bishopswood Church in 1846. This family of iron workers came to Lydbrook between 1796 & 1799, having previously been at Abergavenny, probably working for the Harford Partridge partnership. It seems possible that John Partridge (son of William decd.) had made an offer for Lot 3 in 1818 through an agent, and that some member of the Tamplin family acted as that agent. In 1834 when the sites were next at auction, offered 'for investment,' they were described on the accompanying map as 'The Property of John Partridge.'

Lydbrook tin plate works

There were tin works in Lydbrook by 1815. Their existence is confirmed by the baptism, in English Bicknor parish records, of Edward, son of John and Mary Jones of Lidbrook, *Tinman*, in May 1815, and of Mary, daughter of James and Frances James, Winmill, Lidbrook, *workman in tin manufactory* on 12 Nov. 1815. The incumbent had not previously recorded fathers' occupations, so *tin men* may have been employed there for some time. The use of the term elsewhere appears to imply tin-plating. In the same year, when Annie, daughter of William and Ann Allaway of Lidbrook, was baptised at English Bicknor church, William described himself as *Agent or clerk at an iron works*. He had married at English Bicknor in 1805 and six children were born and baptised between 1806 and 1815. They were Jane (1807), Stephen (1808), Thomas (1810), James (c. 1811), William (1812) and Annie, the sixth of William's children. William must then have been c.40, with 16 years' more working experience than when last seen, but apparently was an employee, rather than a lessee. He still regarded the place he worked as principally an *iron works*. In 1806 if he had 'started' a tin works it was probably as an employee or manager. Sometime before 1815 there was a recognizable tin works at Lydbrook. The site near the Vaughan forge was well located for plating tin sheet and shipping it at the nearby wharves owned by James Pearce.

H.G. Nicholls wrote, *in 1817 Mr Allaway leased them (the Lydbrook ironworks), at which time they comprised three forges, rolling and bar mills, and a tin house capable of producing 100-150 boxes of tin plates per week* (54). Three Lydbrook forges were again under one management. There must have been a major change in William Allaway's fortunes between 1815 and 1817. Nicholls was writing retrospectively, after William Allaway's death in 1849 and while the works were managed by his sons. By the time Nicholls knew the works he recognised only two sites, the Upper and Lower. The latter he identified as have been

successively held by the Foleys then Mr Partridge and worked with Bishopswood furnace. This was the former Vaughan site. The other would have been the former middle forge. By 1817 the sites were leased by William Allaway and his backers. The date 1817, rather than 1818, might imply that when Davies and Co. surrendered their lease in 1816, William Partridge immediately took the lease from the Highmeadow Estate, and William Allaway, already agent of one of the iron works in 1815, became manager or lessee of both.

The tin-house referred to by Nicholls or *tin manufactory* where James James worked was nowhere mentioned in the 1817 or 1818 sale documents but surely would have been mentioned to secure a good price, if on the Gage property. It is likely to have been on the site owned by the Partridges since 1809 and the adjacent *small tenements made use of in the iron manufactory* rented by them in 1789-9. The letter heading claiming Lidbrook Tin Plate Works started in 1798 could be appropriate for an origin here, and Mr Allaway may have become involved in the business from 1806.

John, then William, Partridge had been iron masters in Lydbrook, in one partnership or another, since at least 1761. The Partridge links and those of their workers were with the earlier Monmouth, Abergavenny and South Wales iron and tin manufacturing sites, including Mellinriffith where tin plating was begun by 1774/5 during a Reynolds partnership and to which Lydbrook supplied iron blooms (55). Certainly in the period before 1800 there is considerable evidence of movement of men between different sites within the partnerships. It seems likely that acquaintance and expertise with tin plating was brought to Lydbrook by these contacts, although the impetus to start tin plate works at Upper Redbrook by Davies & Co. came from the Lower Redbrook Works, already established by Coley and Hathaway. The Gage letters show that, at times, there was some animosity in the Gage and Partridge activities. If an infant tin-plating works at Lower Lydbrook was in existence before Davies & Co. surrendered their lease, business competition could have been active. After the 1817 sale of the Highmeadow Estate the business at Lydbrook was concentrated in one ownership.

This examination has been unable to establish with certainty when or where tin plating was begun at Lydbrook. It was not in 1760, and probably not in 1798, though either may be seen as the origin of the company or works, which later adopted tin plating. It can safely be said that tin plating began there before 1815, that William Allaway was involved in the management of the works and the Partridge family in their financing, and that the buildings where the iron sheet was dipped in tin were probably near the old Vaughan forge.

The history of the works after 1817 is recounted by Cyril Hart and from 1871, when it was leased by Richard Thomas, by David Wainwright (56). William Allaway remained the lessee until his death in 1849. By 1820 he was in partnership with James Pearce as 'Pearce and Allaway', Pearce probably providing the capital. When the Iron and Tin works at Lydbrook were advertised for auction in October 1834, all the property was in the possession of **Messrs. Pearce and Allaway**, as Tenants, under a lease for 14 years from 1 January **1823** (to 1837) at £580 p.a. (57). The advertisement refers to a plan which might be seen in the office of the Auctioneer. *A Plan of Lidbrook Iron & Tin Works & Land The Property of John Partridge Esq. 1834*, confirms the then owner and details the use of the individual buildings of the works (58). It shows the Tin, Scouring and Scale Houses on the later tin works site. Little has been written of James Pearce.

At his marriage in 1802 to Ann Hodges of Magor, **James Pearce** was a maltster and barge owner of Ruardean, and put his malt house, 'lately built' wharves, arable land, on half an acre

west of Forge brook at Lydbrook, which he had bought from Mr. Cook, into the hands of trustees in a marriage agreement. By 1823 he had bought from the Office of Works the group of small properties around the old Vaughan site in Lower Lydbrook. These, confirmed to him in September 1823, all *late in the tenure of William Partridge Esq.* were in two lots, Cowmeadow orchard, a mill pond, messuage or tenement, garden and orchard in English Bicknor with the timber growing on them for £142.10.00, and Bowers Land, Cocketts and Hopkins Grove for £180.8.8. He had offered 26 Guineas an acre for the latter in 1818 (59). James Pearce died in October 1827 and was buried in Welsh Bicknor churchyard. He had only recently built Lydbrook House. He and his wife had two sons. James, the elder, died unmarried and intestate in Naples in March 1828, was buried in the Protestant burial ground there and a monument erected at Welsh Bicknor. John, the younger son, was with him at his death in Naples, and was his heir.

James Pearce must have gone into partnership with William Allaway and bought the additional land for potential expansion. The 1834 map shows that workmen's cottages alongside the mill pond were in his ownership. After his death, Mrs Pearce and her son continued the partnership. In 1836 William Allaway of the parish of Newland, Gent, leased Lydbrook House and the surrounding land from Ann Pearce together with a pew in English Bicknor Church, for 12 years (60). He, his wife and his two sons occupied Lydbrook House in 1841 at the time of the Census. Mrs. Ann Pearce occupied the house in 1856, when it was sold to Edward Russell, another Lydbrook ironmaster.

In 1837 Mrs Pearce was no longer charged church rates for the forge. Pearce and Allaways's lease for 14 years had ended. Mr Allaway was charged, for the Lower Forge, 6s., and for Engine and Foundry, 6s (61). William Allaway died in 1849 and the works were run by his sons. Pigott's Directory of Gloucestershire for 1852 lists as Tin Plate Manufacturers, Allaways, Partridge and Co, Lydbrook.

The buildings of the tin works no longer stand. The chimney stack was felled in 1938. Even the ponds have gone. Many photographs of the buildings and employees have been published, but nearly all from the later periods of the works (62). Place names in Lydbrook still mark sites associated with the works. The Forge Hammer Inn stands near the Vaughan forge, and Forge Hill towers above it. The Tin Man's Arms is the name of a private house alongside the road, the former mill pool and just above the early tin works site. Lydbrook House still stands where Lower Lydbrook meets the Ross Road. The site of the wharves is now occupied by canoes and seating. Terraces opposite the Baptist Chapel carried the Severn and Wye Railway and the Tin Works Branch lines which served the later works. The valley bottom sites now contain modern industrial buildings and housing.

Fig. 1 Estimates for Repairs

Extract from letter Davies to Gage, 17 April 1799

I had a valuation of the repairs taken to show in case the assignees would have come into any terms. I will send you the sums but the papers with their names I must keep to show.

Jas Morgan forge carpenters estimate for what is in his line	£336 17s 10d
John Grindall Tyler estimate for what is in his line	£136 17s 0d
Richd James & his brother Stone cutters & hearth makers	£ 90 4s. 0d
Morris the Mason of Lidbrook says Mason work besides timber is included	£ 50 . 0s . 0d

[D 1671 Gg 1545/38/38].

Fig. 2 Repairs requisite to be done at the two Forges & Premises at Lidbrook belonging to R^t. Hon^{ble}. Lord Gage Febr^y. 1800

Some little repairation to be done to two Dams In Dean Forest.

Upper Forge

A new Flood Gate and 37 y^{ds}. of new troughing, at Lime Kiln Pool -
Mason work from the pool to troughing leading to Finery Wheels -
Troughing from the Acqueduct to the Finery Wheels -
The Finery Wheels to be properly repaired - -and -
Flood Gate at upper Forge Pool, new -
The Drone in upper Forge, to be repaired and
A new Dog to be put in -
The roofs and inside of the Forge and three Coal Houses with
Seven dwelling Houses, to be repaired -

Lower Forge

A Water post and Prick post to be put new -
Mending a paire of Bellows -
A new Chaffery Wheel and the Timber under the Penstock & Troughing
to be new - - -
The Flood Gate to be repaired and a part of it to be made new
The Roof of the Forge, House adjoining and Timber House etc.
with Stone Coalyard to be properly repaired.

Feb. 1800, Davies to Gage, [Ibid 57/b].

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