

A Brief History of
Griffin's Blue Lias
Lime and Cement Works
Stockton, Warwickshire
(in business 1841-1910)



by Simon J. Bartlett
a great-great-grandson of the founder

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Quote your sources, and if you don't know what they are, say so!

Credits and acknowledgments

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www.littlebeams.co.uk, a site for Warwickshire history and genealogy.

Future editions will incorporate many more illustrations, including maps and photographs, with new information (as yet unprepared or simply undiscovered) on such topics as:

* Quarrying and production methods *Transport * Costs * Customers

I welcome any comments whatsoever on this work, as well as help in correcting inaccuracies or in obtaining relevant new information.

Credits and acknowledgements

My special thanks are due to John Frearson (johnphfrearson@bopenworld.com) of John Frearson Limited, Rugby, who has done considerable archival research on their forerunners in the lime and cement industry for Rugby Cement and its present owners Cemex (U.K.) Ltd.. He has generously passed on to me copies of documents, plans, maps and pictures that have a Griffin connection, which have substantially augmented my own collection. Where any such items have been included here, this is acknowledged with the addition of his initials (JF) to other source details.

Thanks also to my geologist cousin Michael Griffin, a great-great grandson of the founder of Griffin's Works, through whom I gained some interesting information on the raw material.

HR - indicates an item copied with his kind permission from the extensive collection of the late Harold Rawbone of Leamington Hastings.

Illustrations with no source acknowledgement are from my own collection or Griffin family papers in private hands.

S. J. B., March 2010
history@littlebeams.co.uk

Illustrations: swimming ammonite, BBC Wiltshire website*George Nelson, Warwickshire CRO (JF)*

1. Introduction: from Julius Caesar to Parker, Pasley and Aspdin¹

LIME was one of the first products of mankind and its use as a binding agent for building materials was well known to all of the ancient civilisations of the world. It was the **Romans**, however, who brought this knowledge to Britain. Examples of their use of lime mortar can still be found here today, and they also knew how to make a lime suitable for water works by mixing certain substances with the lime.

A common component of such “hydraulic” lime was pozzolana, a volcanic rock containing silica and alumina (the ingredients of clay), found originally in the area of Pozzuoli in Italy; another suitable material was trass, also a volcanic rock, occurring in Southern Germany. In Britain, however, the Romans used crushed bricks, tiles and pottery made of clay, and again, such Roman building work still survives.

While lime mortar continued to be used by the Anglo-Saxons and the Normans, hydraulic lime was not used again after the Romans left Britain until over a thousand years had passed. Trass was probably first employed in Britain in the seventeenth century, having previously been used in Germany for millstones, fragments left over being ground and mixed with lime and sand to line dykes and canals in Holland. The first recorded use of pozzolana in this country was probably in 1756, when John Smeaton was rebuilding the Eddystone Lighthouse and decided to lay the courses of Portland stone in a mixture of pozzolana and Blue lias lime (see Postscript).

The onset of the Industrial Revolution during the latter part of the eighteenth century created an urgent need for roads, canals, and later railways, and this in turn stimulated the search for a strong and durable hydraulic cement which could be produced from local materials.

In addition, the increase in brick building had led to a demand for a suitable stucco to give it a stone-like appearance, brick being regarded by many as a cheap and unsightly substitute for stone. Many ingredients had been tried,

from ground glass and brown sugar to bone ash and linseed oil, but no satisfactory recipe had been evolved, although several “oil cements” were patented, two of which patents were purchased by the famous architect brothers Robert and James Adam.

It fell to one James **Parker** of Northfleet, Kent, to hit upon a formula much superior to that of any previous material, and one suitable for both engineering and architectural purposes, as well as being sufficiently cheap to make its manufacture a highly profitable commercial undertaking. In 1796 he patented a cement the basis of which was septaria or “cement-stone”, found in many clay and shale formations in the British Isles including the London Basin. This was broken into fragments, burnt in a kiln, then ground into powder, before being packed immediately into airtight casks.

These casks usually held three bushels (1½ cwt), a ton of cement-stone yielding about 21 bushels of cement. When required for use it had to be mixed with 30% water. It may be said that this “Parker's cement”, later renamed “Roman Cement” by Parker himself, represents the birth of the British cement industry; indeed it was tested and approved by none other than the great civil engineer Thomas Telford.

In the event even Telford's positive report did not succeed in convincing an industry wary after earlier failures of much-heralded products, and this may be the reason why Parker sold his patent to the Wyatt family, who traded as Parker & Wyatt. When Parker's patent expired in 1810, Francis & White became the most prominent manufacturers of Roman and later artificial cements.

Roman cement continued to be manufactured until the second half of the nineteenth century, but by the 1830s, supplies of cement-stone were becoming more difficult to find. There thus arose a determination to find a superior “artificial” cement which would not only be stronger but also obviate the need to depend on

cement-stone, so that cement could be made in areas distant from sources of the stone.

Two men who experimented with both Roman and artificial cements were Lieut.-Col (later General Sir Charles) **Pasley**, and the French-born engineer, Marc Isambard Brunel.

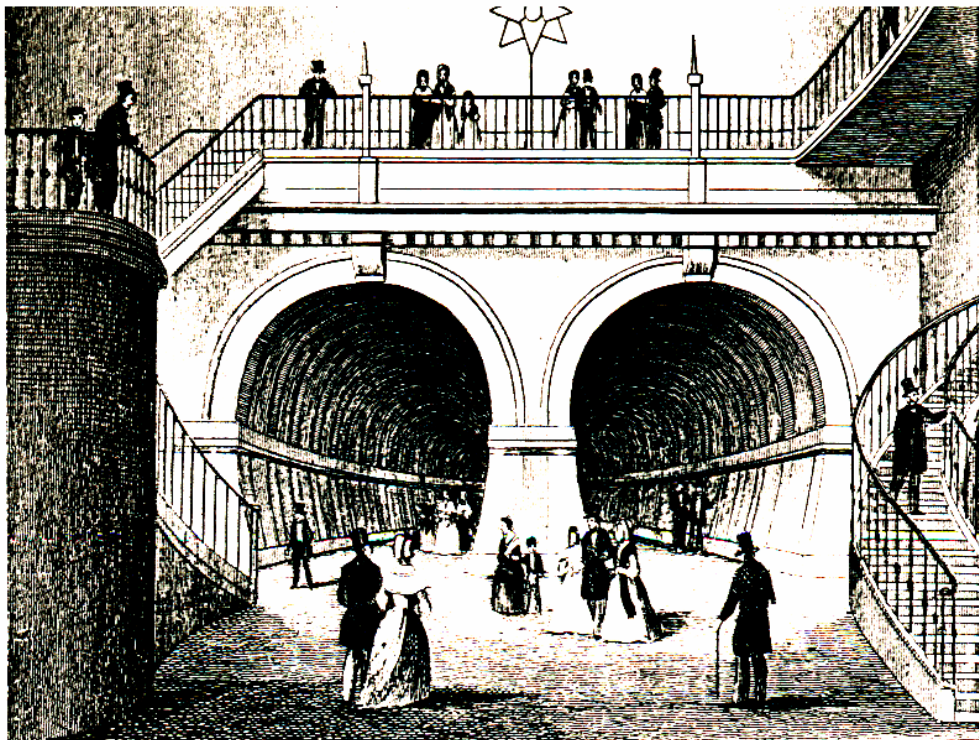
Pasley, director of the establishment for field instruction at Chatham, wanted improved material especially for military engineering purposes. However, his authoritative treatise entitled “Observations on Limes, Calcareous Cements, Mortars, Stuccos and Concrete, etc.”, published in 1838 with a second edition in 1847, attracted much attention throughout the lime and cement industries.

Brunel, on the other hand, found Roman cement inadequate for his Thames tunnel between Rotherhithe and Wapping. Started in 1825 using Roman cement, it flooded, and required an improved cement (developed by Francis & White) to enable its final completion in 1842. It was the world's first tunnel under a navigable river, and the earliest work in which cement was used on a comparatively large scale. The railway later laid through the tunnel

is still in regular use as part of the London Underground (Metropolitan Line). At the Wapping end, the original shaft, complete with commemorative plaque, today forms part of the Underground station.

On 21 October 1824, Joseph **Aspdin** of Leeds was granted a patent for a binding material in the form of a powder, usually grey in colour, which he named “Portland” cement, because of its similarity in appearance to Portland stone, a limestone from the Isle of Portland. This forerunner of modern cements was manufactured by burning and finely grinding a mixture of “argillaceous earth or clay”, and “limestone such as that generally used for making and repairing roads.”

Although it was not until the second part of the century that a “true” Portland cement was produced, i.e. a product resembling those of today, the stage was set for the growth of lime and cement industries wherever suitable clay and limestone were to be found.



Marc Isambard Brunel's Thames Tunnel (1842)

Trustees of the British Museum

2. 19th century lime and cement works in Stockton, and elsewhere in Warwickshire

THE Warwickshire village of Stockton, site of Griffin's Works, lies about half way between Leamington Spa and Rugby. First mentioned in records dated 1272, it had remained a tiny farming hamlet until the discovery of clay and lime in the vicinity ². The consequent development of the cement and lime industries is reflected in the steady growth in its population in the nineteenth century, from 274 in 1801 to 682 at the 1881 census.

One early development involved the Parish of Stockton itself. In 1792, on the Enclosure of Stockton lands, the church had been awarded a plot of land in "Long Highlands", in lieu of scattered lands it had held previously. This plot, just a short distance away from what was to be the first Griffin quarry, was found to contain "a rock of limestone". It was sold mainly to Messrs Tomes & Handley of Warwick (for £885), the rest (to a value of £52 10s) becoming the property of the Warwick and Napton Canal Company. ³

Work began on the Warwick & Napton in 1795. Although it was originally intended to be a linking canal, with little local trade, Tomes & Handley obviously had an eye to business opportunities which it would open up in an age when heavy haulage by road was difficult or impossible. John Tomes, a Warwick solicitor, was chairman of the Canal Company, and Charles Handley, of Barford near Warwick, chief engineer.

In August of that same year of 1795, Handley had suggested varying the line of the Warwick & Braunston Canal, as it was originally called, so that it would instead join the Oxford Canal at Napton-on-the-Hill. He claimed that this would save £50,000. In fact the final cost was around £75,000, compared with the original estimate of £82,444, which makes Handley's assertion seem a little exaggerated, even taking into account that such enterprises did, and do, more often than not make a mockery of original forecasts. Be that as it may, his plan was adopted, he was given a reward of 300

guineas, and in the year 1800 the renamed Warwick and Napton Canal was wholly opened to traffic ⁴.

The "Long Highlands" rock was quarried until 1820, when it was exhausted and work ceased. Over half of the revenue from the sale had by 1807 been spent on repairs to the church, the rest being invested in land in Napton, the rent supporting a schoolmaster at Stockton.

Meanwhile, in 1819, a private arm of the canal was dug by Tomes and Handley from near the bottom of Stockton Locks, near Long Itchington village, to limeworks and a quarry. This is now known as "Kaye's arm", as the enterprise later became Kaye's Cement Works.

The principal lime-burners in the area at this period were Thomas Walker of Newbold near Rugby, Richard Greaves of Stratford upon Avon, George Nelson of Warwick and William Oldham of Southam.

Thomas Walker

The Walker family had been landowners at Newbold-on-Avon since the 17th century, but it was probably not until the 1820s or 1830s that they began quarrying limestone for lime production. Thomas Walker died in 1856, having handed over the business to his third son, George. George Henry Walker was to be the co-founder of the Rugby Lias Lime & Cement Co., forerunner of the Rugby Portland Cement Co.

Richard Greaves

Richard Greaves, born in 1801, was the eldest son of John Greaves, merchant and carrier of Stratford on Avon, a proprietor of the Upper Avon Navigation and a director of the Stratford & Moreton Railway, a horse-drawn tramway. Richard inherited his father's business at Stratford together with estates at Warwick, Barford, Long Itchington, Southam and Stockton⁵. By the 1820s he was quarrying limestone at Wilmcote and Southam and in 1824 built lime kilns at Wilmcote, and later at Southam, for making blue lias lime. With the aid of the canals, his lime was on the London

market by the 1830s, and in 1840 he commenced making artificial cement at Stockton, in partnership with J.W.Kirshaw of Warwick, as Greaves and Kirshaw. By 1858 a further works was to be opened at Harbury, and although no details of the works have survived - a phrase sadly applicable time and time again in the case of the early industry in Warwickshire - they were probably small, with only three or four kilns initially.

An advertisement in *The Builder* in 1843 (its first year of publication) reads:

A depot is opened in London for the sale of Blue Lias Lime and Cement from Mr Greaves" celebrated quarries at Southam, Warwickshire.

In the same journal in 1845, we read:

Stockton Lias Cement

Manufactured on Principles laid down in Major General Pasley's Essay on Limes and Cements. It is of a beautiful stone colour, and of acknowledged superior quality, free from vegetation, does not crack and is well adapted for every description of modelling and casting. It has been extensively used at the Earl of Macclesfield's at Ensham Hall by C.Barry Esq; at Sir F.Shuckburgh's, Shuckburgh Hall by H.E.Kendall Esq; for works now in progress at Marbury Hall, Cheshire, and for mansions erected last summer in the vicinity of London.

Wilmcote Lias Cement

Of inferior quality to the above from containing oxide of iron, but is of very superior quality for Tunnels, Sewers and Hydraulic purposes. Its use is stipulated by Mr John Roe, Engineer of Sewers, London.

Ground Lias Lime

For concrete and every description of hydraulic work, for which purposes it has been used at Woolwich and Chatham dockyards, the London docks, New Exchange, Hungerford Suspension Bridge, Westminster Bridge, Grand Junction Water Works, Holborn Sewers, Regent and Grand Junction Canals, Wood Paving Companies, London & Birmingham Railway Co., for works in the Alster at Hamburg, the Kiel and Altona Railway,

and Various Sea Walls etc.

At R.Greaves' Works, Stockton near Southam, Warwickshire, and at No. 2 Wharf, Paddington, London.

In the second (1847) edition of his *book Observations on Limes, Calcareous Cements, Mortars, Stuccos and Concrete, etc.*, Pasley, by then Inspector-General of Railways, says that Greaves was then making "a powerful water cement" by "mixing a proportion of indurated clay or shale with the excellent blue lias lime of the neighbourhood, the former being broken and ground and the latter burned and slaked."

George Nelson

The third principal lime burner in the area, George Nelson of Warwick, was also a customer of Griffin's Works, and as such will again be referred to later. He was a timber merchant in earlier life, but in the 1830s he began the manufacture of gelatine and isinglass at Emscote and in 1837 founded, in conjunction with a cousin, the firm of George Nelson, Dale & Co. In the 1840s George started to produce lime, which is used in large quantities in the manufacture of gelatine. He died in 1850.

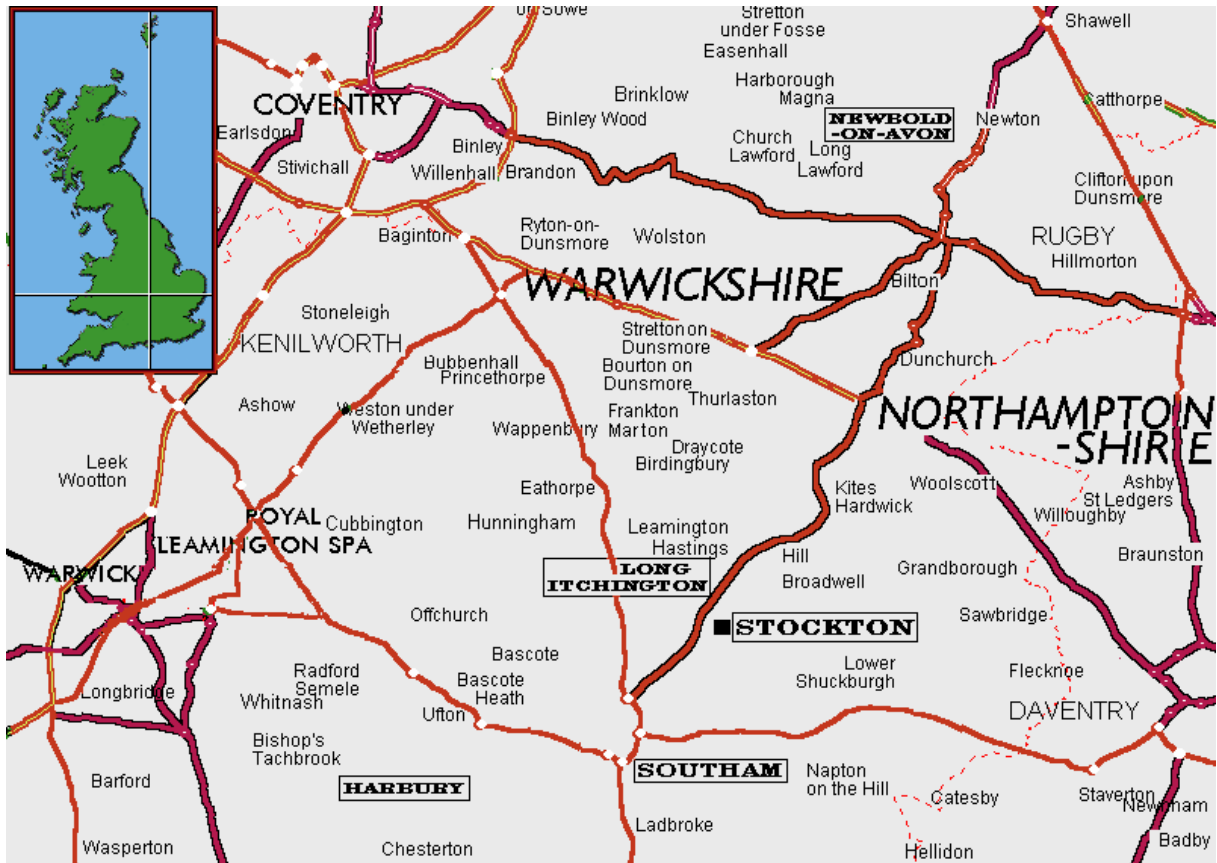
William Oldham

He was a farmer of Southam who owned much land in the area where limestone was to be found. According to A.J.Francis, he "seems to have started the production of lime in the 1840s and followed this later with the manufacture of an artificial cement." However, the surname at least crops up earlier than this. A catalogue of documents in Rugby Cement archives contains the entry

21st April 1831: Agreement for Lease of Lime Rock at Long Itchington - J.H.Anthony to Messrs Oldham & Witheringtons ⁶.

From about 1854, Oldham was in partnership with Lawrence Mallory Tatham, a London lime and cement merchant trading with Capt. Arthur Lister-Kaye, and who acted as agents for Greaves and Kirshaw.

19th century lime and cement works in Stockton, and elsewhere in the county of Warwickshire



19th CENTURY WARWICKSHIRE LIME & CEMENT WORKS



Here, excavation of the blue lias lime rock involved the use of precarious walkways. Photo: HR

White's Topographical Directory of Warwickshire, 1850

Extracts from the description and directory of Stockton, pp. 701-2.

STOCKTON, a parish and small village, 2 miles S.E. by E. from Southam, contains 1220 acres of land; and, in 1841, 94 houses, and 452 inhabitants; in 1801, 274; 1821, 344; 1831, 350; rateable value, £1,947.18s. This appears to have been, at the Conquest, a member of Long Itchington, and soon afterwards was in the possession of the powerful family of Limesie. In the reign of Edward I. it passed, by marriage, to Sir Robert de Somerville, and, in succession, became the property of the various families of Griffiths, Smith, Purfey, and Clapham. The principal land-owners are Mr. William Bayes, Mr. John Bayes, Miss Lovell, Rev. C. Pilkington, Mr. John Greaves, Mr. George Nelson, Mr. Rd. Hawkes, and Mr. Wm. Hodgson, who is also lord of the manor. [.....]

(The following comment contains an error; instead of Richard Griffin, it should read William):

The blue lias limestone abounds in this parish, and is considered to be the best in England. The lime works are very extensive, and are the property of Mr. Richard Greaves, and Mr. Richard Griffin.

Church Allotment.—Upon the enclosure of the common fields of this parish, in the year 1792, there was awarded to the churchwardens, in lieu of several green slades, dispersed over the said common fields, a plot of land, lying in Long Highlands, containing 13a. 2r. 4p. It is not known how the original slades were acquired, but the rents had always been applied to the repairs of the church. Some time afterwards, it was discovered this allotment contained a rock of limestone, of which, a part was sold to the Warwick and Napton canal company, for £52. 10s. and the remainder to Messrs. Tomes and Handley, of Warwick, for £885.; but of this land about nine acres has been left in so bad a state that it is let at the yearly rent of £2. 10s. The residue of the allotment, 4a. 2r. 24p., being required for the purposes of the Warwick and Napton canal navigation, was conveyed to them in consideration of the annual rent of £9. 6s., to be paid to the rector and churchwardens, and their successors. Of the money received for limestone, all but £440. was immediately laid out in substantially repairing the parish church. This sum, afterwards reduced by other repairs, to £400., was invested in 1807, in the purchase of two closes in the parish of Napton-on-the-Hill, containing together 7a. 2r. 35p., let at the yearly rent of £12. At a vestry meeting, held in April, 1807, the Rev. Charles Crane proposed to convey to trustees a house in Stockton, for the use of a school, with a plot of ground adjoining the street; and it was also agreed the £400. residue of the limestone money, should be appropriated towards supporting a schoolmaster of the church of England, for teaching the children of the inhabitants of the parish reading, writing, and arithmetic. The school is kept in the house given by the late Dr. Crane, and fitted up at the parish expense; and £12., the above-named rent, is paid to a schoolmaster, who engages to teach 33 boys and 19 girls, upon the national system. The present schools were built, boys', 1844; girls, 1841. Richard Haysman, master; and Mary Eagles, mistress.

Directory.—John Batchelor, beerhouse; Michael Bishop, foreman lime works; John Cleaver, shopkeeper; William Cleaver, shopkeeper and coal dlr.; Rd. Church, vict., and plumber and glazier, King's Arms; Wm. Cooper, vict., Barley Mow; Mary Eagles, schoolmistress; Wm. Elkington, shopkeeper; Chas. Finch, butcher and carpenter; Mr. Wm. Finch; Wm. Hands, shoe maker; Rd. Haysman, schoolmaster; Eliz. Horley, shopkeeper; Rev. Charles Pilkington, B. C. L., Rectory; Wm. Rawbone, shoe maker; Thos. Sanders, vict. and coal dealer, Blue Lias Inn; John Sharman, tailor; and the farmers are John Bayes, William Bayes, Joseph Beck, and tailor; William Beck, and miller; John Cleaver, William Cleaver, William Dalton, Edward Gibbins, Francis Goode, William Griffin, and lime burner; Ann Hawkes, Wm. Hodgson, the Hill; John Nicks, and Thomas Sanders, and John Cleaver, carrier to Coventry, on Fridays.

3. Founding of Griffin's Lime & Cement Works. The 1844 sale.

WHEN Thomas Griffin of Hill Farm, Stockton, Warwickshire, died in 1953 at the age of 85, a local newspaper reported in his obituary that “one of his uncles started the first lime works in Stockton over a hundred years ago.” The time was right, but all the evidence points to Thomas's grandfather William as the founder of the works, at a period when, as has been seen, the local Blue Lias lime was already helping to shape the face of Victorian Britain, and was in fact widely held to be the best in England.

William Griffin (1791-1861), was a tenant farmer with some 170 acres of arable land and pasture at Stockton Fields (renamed Hill Farm after World War Two). On June 22nd 1841, William signed a 21 year agreement by which Capt. Thomas Lamb of Leamington Spa, owner of the farm, leased him “his Lime Rock” at Stockton, on land adjoining the Warwick & Napton Canal, and was guaranteed a minimum of £100 annually in royalties, calculated on 4,000 tons at 6d per ton, “whether excavated or not”⁷.

That quarrying was already in progress is indicated by the terms of the agreement, whereby William paid Capt. Lamb £150 for “Tools, Waggons &c &c” and “as an indemnification for expenses incurred in Excavations”, while the “Railway, Iron Rails, Buildings & Fixtures” remained the landowner's property.

Why did Captain Lamb allow his tenant to take over the lime business which he had started on his land at Stockton? Such an enterprise would certainly have been profitable, or potentially so, to judge by the reputation enjoyed at the time by Blue Lias limestone. A factor in his decision may have been his failing health, which had by all accounts not been of the best for many years.

A native of Daventry, Thomas Lamb had joined the Army in 1808 at the age of 19, and within a year had arrived in India, where he

served in the Bengal Native Infantry, apparently without seeing acting service. Appointed “Barrack Master” in 1819, he was on sick leave from 1822 until 1824. He then continued in the same post until 1832, when he was again given a sick certificate, being “furloughed” - allowed permanent leave - until he finally retired officially in 1834⁸.

Captain Lamb died in Leamington Spa on 15 Sept. 1841, aged 51, within three months of signing the agreement with William Griffin. Two and a half years later, the 168 acres of farm land which William held on lease, plus 17 acres including lime kilns and the quarry, for which he paid an annual surface rent of £25, were put up for auction, together with farmland owned by the late Captain in Braunston, Northants: the handbill for the quarry land is reproduced here⁹.

From the sale handbill for the seventeen acres, described as Lot 2 (the farm being Lot 1), and from an accompanying map, printed in London, we find that at the time of the auction, the area excavated covered about two acres, through which ran a tram road down to three lime kilns by the Warwick and Napton Canal. There was “a small building used as a storehouse, standing near the works.”

It is perhaps a measure of the potential of Blue Lias Limestone that the sale was advertised in *The Times*, giving notice that the auction was to be held on Tuesday 14 May 1844, at The Mart, London¹⁰. The notice states that particulars were to be available a month before the sale from auctioneer G.R. Dodd of Royal Exchange, London; Daventry solicitors Wardle & Wilson; and “chief inns in neighbouring towns.”



Statement of intent, preliminary to the formal contract, whereby Capt. Thomas Lamb of Leamington Spa (Bengal Army, Retd.) agrees to lease his Lime Rock at [Long Highlands] Stockton to William Griffin for 21 years

We hereby agree on the undermentioned general conditions under which Captain Lamb agrees to let his Lime Rock at Stockton to Mr. W. Griffin, and under which Mr. Griffin agrees to take the same.

Messrs. Waule and Wilson are requested to prepare for execution by the parties on Friday next a lease, in due form, containing usual covenants, securities &c. sending the same by post to Cap. Lamb at Leamington, when it shall be duly executed.

The general conditions on which the Rock is let by Cap. Lamb and taken by Mr. Griffin are one hundred & fifty Pounds to be now paid down as an indemnification to the owner for expenses incurred, in excavations, Tools, Waggon, &c. &c. (except Railway, Iron Rails, Buildings & Fixtures) - which Tools, Waggon, &c. are thenceforth to be the property of Mr. Griffin.

The Rock to be taken on lease for 21 years, or until the whole of the available rock be excavated, whichever shall first happen, and not less than 4,000 Tons, to be paid for, whether so much be excavated or not, every year, and be paid for by equal half yearly payments, viz. on the 1st Jan^y & 1st June, in each, and every year, at the rate of Six pence p^r Ton, as Royalty: any greater quantity excavated during any one Year to be paid for at the like rate of Six pence p^r Ton, on the 1st January then next ensuing. —

The manner or methods by which from time to time the quantities excavated each half Year when in excess to the stipulated quantity of Minimum of 4,000 Tons, to be such as shall be mutually agreed upon by the owner, his Heirs &c. and by the Lessee, or by such fair Arbitration as may be agreed upon. —

Leamington
22nd June 1841

Geo. Lamb
W^m Griffin

The Times, Saturday May 4th 1844 (Supplement, P.11, rt hand column)

Warwickshire.—Valuable Limestone Quarry and Kilns, with Land extending to 17 acres, the whole of which is freehold and tithe-free, situate close to the Warwick and Napton Canal, in the parish of Stockton, two miles from the town of Southam.

MR. DODD has received instructions from the Trustees under the Will of the late Captain Thomas Lamb, with the concurrence of the Mortgagees, to SELL by public COMPETITION, at the Mart, London, on Tuesday, May 14, at 12, a PLOT of very superior FREEHOLD ARABLE LAND (exonerated from tithes), extending to 17 acres, in which is a Quarry of the celebrated and unequalled Blue Lias Limestone, communicating (by means of a tram-road) with kilns situate on the banks of the Warwick and Napton Canal. The quarry is under lease to Mr. William Griffin, at a yearly rent or royalty for the removal of 4,000 tons of the stone annually, with power for the tenant to extend the same yearly on royalty rents to the amount of 12,000 tons. The blue lias lime is admirably adapted for concrete waterworks, and the foundations of all buildings which are likely to be damp. Its extensive use in the Eddystone Lighthouse, Ramsgate and Dover piers, the London and St. Katharine's Docks, and the new Houses of Parliament, proves its excellence by the firmness of those stupendous works, as the lias will become as hard as stone itself when under water. The blue lias cement, which is prepared entirely from the blue lias stone, is more durable than the Roman cement, cheaper from its taking double the quantity of sand, and does not require to be coloured. It has been internally used in the new Post-office and British Museum, &c.; and externally on the fronts of the magnificent buildings in Belgrave-square, Hyde-park-gardens, Norland-crescent, Bayswater-buildings, the Athenaeum Club-house, &c. It has, when thoroughly dry, the colour and firmness of Portland stone; and, if required, forms a superior surface for oil painting. The high road from Rugby to Southam, and the Warwick and Napton Canal, are boundaries to this property; and the latter forms a junction with the Oxford Canal a few miles from the works. Stockton is situate nine miles from the town of Daventry, two miles from Southam, eight miles from Rugby, and ten miles from Warwick. To persons of moderate capital this property offers a most eligible opportunity for investment, and not being of a speculative character, a considerable, safe, and increasing income may be calculated upon for many years. Plans and particulars are preparing, and may be obtained, one month prior to the sale, of Messrs. Wardle and Wilson, solicitors, Daventry; of G. R. Dodd, Esq., 33, New Broad-street, London; at the George Hotel, Northampton; Craven Arms, Southam; Warwick Arms, Warwick; Spread Eagle, Rugby; Dun Cow, Dunchurch; Bath Hotel, Leamington; at the chief inns in other neighbouring towns; and at Mr. Dodd's offices, 4, Austinfriars, Royal Exchange, London, and at Reading.

LOT 2.
A PLOT OF FERTILE
Freehold Arable Land
Containing 17A. 1R. 2P.
IN WHICH IS A
QUARRY
OF THE
CELEBRATED BLUE LIAS LIMESTONE,
TOGETHER WITH
THREE LIME KILNS,
*Situate on the banks of the Warwick and Napton Canal, and communicating
with the Quarry by means of a tram road,*
ALSO A SMALL
BUILDING USED AS A STORE-HOUSE,

STANDING NEAR THE WORKS,

The surface of this Field where the soil has not been removed, and which now comprises about Fifteen Acres is included in the Lease with Lot 1, and the apportioned rental on this lot shall be considered as £25 per ann.

The Quarry is also let on lease, (the counterpart of which may be inspected at the office of Messrs. Wardle and Wilson, Solicitors, Daventry, ten days prior and at the time of sale) to Mr. William Griffin, eighteen years of which will remain unexpired on the 1st of June next, at a yearly rent or royalty of sixpence per ton for the removal of 4000 tons of the Stone (whether such quantity shall be gotten and sold yearly or not), with power for the tenant to extend the same yearly on royalty rents to the amount of 11,999 tons.

The whole Estate is subject to a Land Tax of £9. 11s.—£1. of which shall be considered as apportioned upon this Lot.

Blue Lias Limestone is admirably adapted for concrete water works, and the foundations of all Buildings which are likely to be damp. Its extensive use in the Eddystone Lighthouse, Ramsgate and Dover Piers, the London and St. Katherine Docks, and the New Houses of Parliament, prove its excellence by the firmness of those stupendous works.

Blue Lias Cement is prepared entirely from Blue Lias Limestone, and has been internally used in the New Post Office, British Museum, Athenæum Club House, and externally in the fronts of the magnificent Buildings in Belgrave Square, Hyde Park Gardens, Norland Crescent, Bayswater Buildings, &c. where its superior appearance is evident.

The High Road from Rugby to Southam, and the Warwick and Napton Canal, are boundaries to this property, and the latter forms a junction with the Oxford Canal, a few miles from the works.

It may be here remarked, that should the present tenant be induced to surrender his Lease to the purchaser, a much more extensive trade might be carried on, and the consequent advantage would be very considerable.

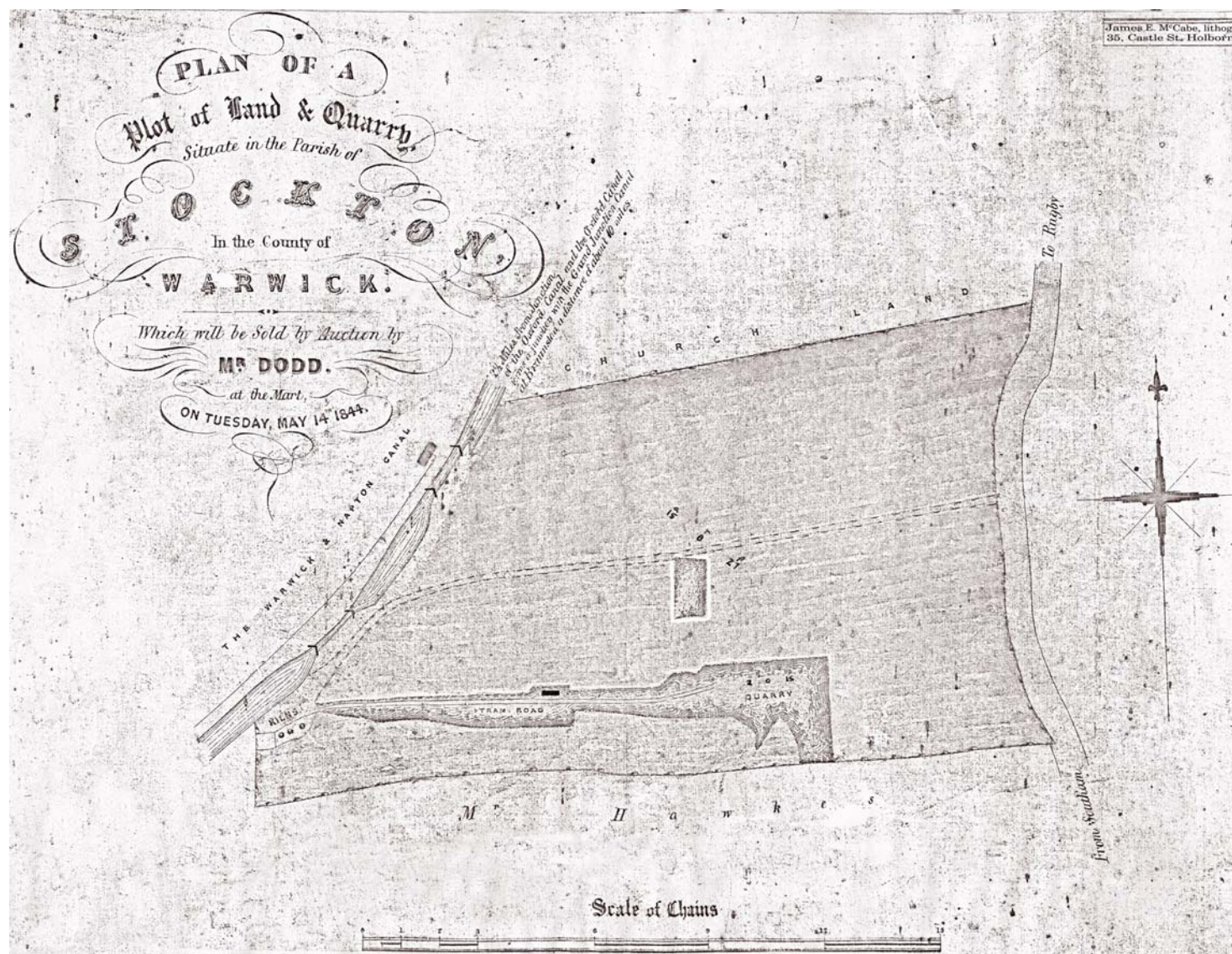
Notice of Sale of Griffin's Lime Works Quarry on May 14, 1844

In contrast to the minimum 4,000 tons mentioned in the 1841 agreement, there was by now, as can be seen, a maximum amount of 11,999 tons which could be excavated in any one year: the actual output at the time is however unknown.

Information on the result of the sale has not come to light, and no mention has been found

in local newspapers during the period before and after the sale date. However, at least by 1850, William Griffin was in possession of the land containing the kilns and quarry, while the "farm land" passed into the Nelson family.

The quarrying potential of part of this land is not referred to in sale notices, but became clear as (Charles) Nelson's Cement Works grew.



Acreages marked on map: --
 Land
 15a 0r 27p
 Quarry
 2a 0r 15p

From the
 Stockton
 Parish
 Collection
 C.R.O.
 Warwick

4. William Griffin purchases the Quarry. *Products. Production and Turnover 1849-54*

WHITE'S directory for 1850 states that "the lime works [in Stockton] are very extensive, and are the property of Mr Richard Greaves, and Mr Richard Griffin." This photograph of 1980, taken from the western bank of the Grand Union Canal (formerly the Warwick and Napton), shows remains of Greaves's Works'



kilns, or those of the later partnership of Greaves, Bull and Lakin, situated at Stockton Locks, about a quarter of a mile from the former site of those belonging to Griffin's Lime Works.

As far as "Richard" Griffin goes, there is in fact no known member of William's family at the time bearing that name. In the Farmers' list

appears "William Griffin, and lime burner"; it seems clear that the name Richard is merely one of the not infrequent errors of this nature found in such directories.

In June 1850, George King of Southam, auctioneer, appraiser and surveyor, "received of Mr William Griffin the Sum of Forty pounds as Compensation for Time & Expences in getting up a Company to purchase the Blue Lias Rocks & Land at Stockton as agreed upon". Thus William apparently did not become the owner of the Works until several years after the 1844 sale: maybe he had come to some agreement with the executors of Capt. Lamb's will, allowing the previous leasing arrangement to continue until he raised enough capital to buy ¹¹.

Just what legal status the new company had is unclear. The concept of registered companies was just being incorporated into legislation, but very few companies were in fact registered in the first years. No mention of the company was found at Companies House in London; only a sample of the dossiers on early companies has been kept, the rest being destroyed when a company ceased trading.

Southam June 12th 1850. Received of Mr. William Griffin the Sum of Forty Pounds as Compensation for Time & Expences in getting up a company to purchase the Blue Lias Rocks & Land at Stockton as agreed upon.
£40-0-0
George King

Products of the Blue Lias

The Jurassic Lias formation is found at the surface or just below the soil in Warwickshire, Staffordshire and Northamptonshire. The name Lias is probably derived from the word "layers", which in the local accent would be pronounced very much like "liars" but was probably written down without the "r" to prevent any suggestion of untruths!

It is thus very descriptive of the layered formation of dark blue or grey claystone and light blue or grey limestone, created approximately 170 to 150 million years ago in the Jurassic seas. At this period, the land was covered in lush vegetation where dinosaurs roamed, while the familiar ammonite abounded in seas rich with fish and squid, on which thrived sea-going dinosaurs such as ichthyosaurs and long-necked plesiosaurs.



An ammonite as it would have looked when swimming in the Jurassic Sea.

When all this marine life died, the calcareous skeletons and shells were deposited on the floor of these warm, tropical seas, and millions of years of build-up of the fragments resulted in the eventual formation of limestone.

Sea levels fluctuated over the huge time span of the Jurassic era, when relatively shallow waters deepened considerably for a few hundred thousand years due to the shifting of the continents. During periods of deeper, stiller water, fine particles of rock eroded from the continents would be deposited. This sediment formed the basis of claystone.

The Blue Lias limestone and claystone were the raw materials of William Griffin's Blue Lias lime and cement works at Stockton. The Blue Lias which made Stockton and other sources important in the Industrial Revolution occurs in beds of limestone separated by seams of yellowish clay.

An 1893 manual on lime and cement¹² states that "an excellent cementing material is procured from these lias beds, [although] it must always be borne in mind that permanence in the proportions of the ingredients of a natural limestone is not to be expected; not only do the different seams of stone vary widely in the character of their composition, but also there is no certainty of permanent composition in any seam.

The beds of limestone are thin, and commonly much fissured, and the natural surface of the stone is brownish yellow in colour, owing to the action of moisture. The interior of a block is generally bright blue on a fresh fracture (due to iron protoxide), hence it is commonly styled "blue lias limestone."

The stone is calcined in open topped cup-shaped kilns, the fuel is interstratified with the limestone, about 6 to 7 tons of coal are burnt to produce 25 tons of lime. The calcined stone must be thoroughly ground to a fine powder, then spread in a layer of about 12 inches thick on the floor of a dry weatherproof shed, and exposed to the air for two or three weeks before it is used in building. A good plan is to fit up the aeration shed with shelves, or trays, on which the lime can be placed.

Lias lime can be slaked in the ordinary manner, but ample time must be given not less than three days, and the slaked lime must be sifted through a fine-meshed sieve, to reject all coarse, imperfectly slaked particles. If used when freshly ground, it is liable to expand when hardening in the mortar joints, and cause

Products. Production and turnover 1849 - 1854

rupture in the masonry. The expansion is due to the delayed slaking of impure caustic lime.

An excellent "Portland" cement is [...] made from the lias limestones, and the clay of the beds separating the seams of stone. If due care be taken to mix the lime and clay in correct proportions, according to their respective analyses, the cement will be good; but the variableness of composition of each ingredient renders the manufacture more difficult than with pure chalk and clay.

Limestone is the commonest raw material used to produce lime. Today, the excavation of rock for lime production, normally undertaken in a quarry, involves the use of explosives or mechanical rock breaking hammers. In the nineteenth century, however, and still for very small-scale lime production in the third world, excavation was and is by hand pick and shovel.

William Griffin sold a lot of his limestone straight from the quarry. He thus lost the chance of adding value to a large part of his production, although especially in the early days, if he encountered technical difficulties in lime-burning or in making cement, then the unprocessed stone may not have been the least profitable product in the short term.

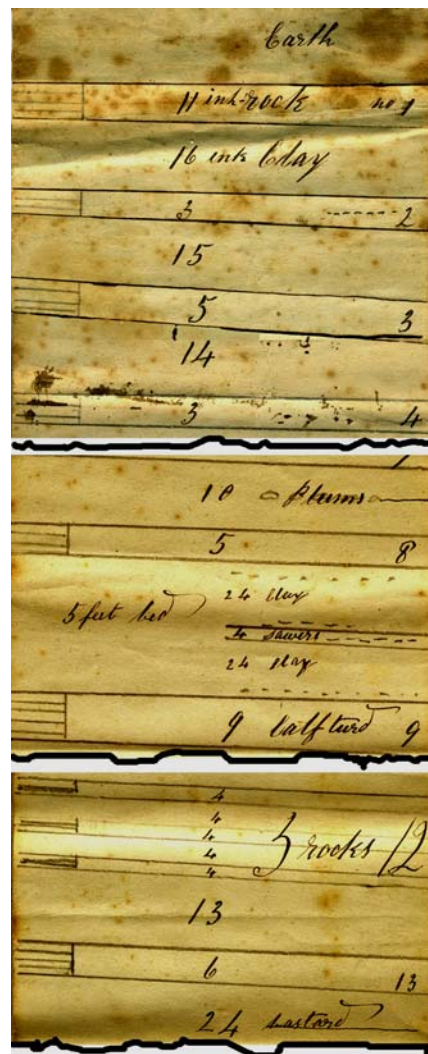
To produce lime, in most lime kilns the stone was broken down to a standard size, typically pieces between four and six inches across. Traditionally, wood was often used in kilns, but the Griffins appear to have burnt North Warwickshire coal. By heating any material containing calcium carbonate to an optimum temperature of around 1,000°C (1,800°F) for several hours (a process known as "calcining" or simply "burning") carbon dioxide is driven off leaving calcium oxide, as lumps of quicklime.

This may be sold as "lump lime" (today, the standard lump size is up to eight inches in diameter), or "ground lime" (the modern standard grade being ¼" or smaller). When the user adds water to slake the Blue Lias quicklime, it quickly hardens, even if completely submerged.

The 1893 manual on lime and cement tells us that "the approximate weight of ground blue lias quicklime is 49 to 70 lbs. per cubic foot, though the values vary with the quality, condition, and age, of the lime. [...] Lias lime is sold by weight and by measure, in the lump, and in the ground state, in 2-bushel, and in 3-bushel bags.

There are about 1¼ cubic feet in a bushel, which in turn is the equivalent of about eight "dry gallons" of non-liquid material. Of ground Lias lime, one ton makes ten 3-bushel bags (at the rate of 58 ½ lbs. weight per cubic foot); of Portland cement, of ordinary quality, about 20 bushels make a ton weight."

The following extracts from a survey of the quarry¹³, apparently a cross-section, show the variety in the seams. If "plums" and "calf turd" could be taken at face value, "bastard" and "sawers" are more mysterious.



Production and Turnover

Thanks to an extant sales ledger for 1849 to 1854, we have information on the scale of business carried on at the time ¹⁴. Unfortunately, the accounts book only records sales and income - there are no details of expenditure apart from a few rare mentions of payments to boatmen or of canal dues. However, it is clear from the occasional, but

considerable variations in amounts charged that transport was sometimes included in the price per ton or per quarter quoted.

The tables below show weights and values of material sold during this period. "Lime" entries were probably for burnt lump lime, as where ground lime was supplied this was specified.

Griffin's Lime & Cement Works Sales 1849-54

WEIGHTS in tons (2,240 lbs. or 1,000 kg) & hundredweights (20 cwt=1 ton).						
Year	Lump Lime	Limestone	Cement	Ground lime	Total Weights	Year
1849	1,192 17	1,896 00	0	0	3,088.17	1849
1850	1,494 09	1,679 00	0	0	3,173.09	1850
1851	862 10	1,816 15	0	03 00	2,682.05	1851
1852	432 17	1,757 05	348 03	02 11	2,540.16	1852
1853	549 07	2,284 10	204 12	0	3,038.09	1853
1854	797 05	1,621 00	682 04	0	3,100.09	1854
1849-54	5,329 06	11,054 10	1,234 19	05.11	17,624.06	1849-54

VALUES in pounds, shillings and pence (£sd). £1=20s, 1s=12d						
Year	Lump Lime	Lime-stone	Cement	Ground lime	Total Values	Year
1849	778 12 8½	191 12 03	0	0	970 04 11	1849
1850	812 12 6	168 04 00	0	0	980 16 06	1850
1851	399 08 3	186 16 01	0	4 10 0	590 14 04	1851
1852	224 10 5	178 13 04½	420 15 0	3 16 6	827 15 03	1852
1853	292 00 0	226 13 07½	241 08 9	0	760 02 04	1853
1854	428 9 10½	177 04 00	862 05 6	0	1,467 19 04	1854
1849-54	2,935 13 9	1,129 03 4	1,524 9 3	8 06 6	£5,597 11 10	1849-54

There is some evidence to suggest that the 1854 accounts may not be entirely complete, sales to and payments by some customers for the latter part of the year probably being entered in the next ledger. Actual totals for the year in question could therefore have been slightly higher.

Lime sold mostly at between 2s and 2s 3d a quarter (4 cwt) (10s to 11s 3d a ton), this increasing to 18s 6d per ton for London

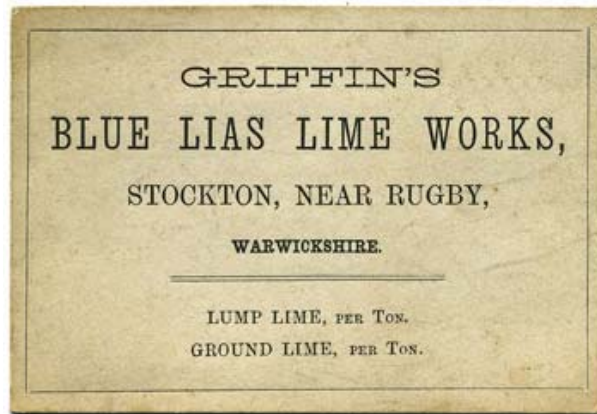
customers where canal and Thames river transport costs were included.

Limestone could be had at between 1s 9d and 2s 3d per ton, while the price for ground lime was 9d a bushel (56 lbs.) or £1 10s per ton

Cement from Griffin's Works was sold to London at between £1 3s 9d and £1 6s per ton, while a small amount was disposed of locally at a price of sixteen shillings.

Products. Production and turnover 1849 - 1854

This business card¹⁵ may have been printed in the early days of the company, since just as in the first draft advertisements or letters of introduction written by founder William Griffin (reproduced in the chapter on The Role of the Canals), no mention is made of cement as a product to be offered for sale.



1) Stones Sold for Cash Payment

1849		tons		£	s	d
Jan 22	Wallington	25	W.G.	2	10	0
Feb 13	Worster	25	W.G.	2	10	0
16	Charrage	20	W.G.	2	0	0
16	Harrips	24	W.G.	2	8	0
16	Daffern	23	W.G.	2	6	0
March 20	Dunsford	26	W.G.	2	12	0
April 2	Beasley	27	W.G.	2	14	0
10	Dunsford	25.10	W.G.	2	11	0
May 1	Carl Machesfield	2	W.G.		4	0
30	Tranter	40	W.G.	4	0	0
June 2	Hambrage	26	W.G.	2	12	0
11	Hardey	23	W.G.	2	6	0
16	Worster	25	W.G.	2	10	0
July 10	Judge	21	W.G.	2	2	0
August 17	Daffern	25	W.G.	2	10	0
18	Worster	25	W.G.	2	10	0
31	Judge	22	W.G.	2	4	0
Sept 21	Dugdale	20		2	0	0
(Correct total is £42 9s 0d)				£	44	9 0

1849 limestone sales for cash on the opening page of the sales ledger

5. Markets and Customers 1849-54

THE vast majority of the customers served by Griffin's Lime & Cement Works during the period covered by the extant ledger came from within the home county of Warwickshire, and those that did not were served via the network of canals of which the Warwick and Napton was a part.

The total number of customers on the books was about 200, although the exact number is not ascertainable, due to uncertain spelling and the possibility of changed addresses. After excluding those of doubtful or unknown origin, we have a list of 152 from Warwickshire, nine from London or Middlesex, six from neighbouring Northamptonshire, and one each from Leicestershire and nearby Oxfordshire.

(a) Limestone

As far as limestone sales are concerned, after again excluding several doubtful entries, under 2% of the tonnage went outside the county boundary, to a mere two customers, compared with over thirty within the county who bought stone during the six years under consideration.

Of over forty customers with accounts for stone, just four, all in north Warwickshire, took over 60% of the total sold.

The largest of these purchased 22% of the limestone sold. He was Mr George Roberts, of New Inn Wharf, New Inn Bridge, Little Heath, Foleshill, near Coventry. The following description is an edited abstract from an article in the Coventry Canal Society magazine ¹⁶:

Bridge 8 on the Coventry Canal is New Inn Bridge: the Longford Road bridge. In road terms it is the one next to Windmill Lane, in canal terms, between the ex-Courtaulds Little Heath works and the former gas works site.

There was once a wharf here; from 1845 to 1854 the wharfinger was one George Roberts, a Gloucestershire man from the Forest of Dean. In the 1845 directory he is stated to deal in lime, coal, slates, tiles and bricks. In 1850, cement, white stone gate posts &c. are also mentioned, while the tiles are Staffordshire blues and also blue and red quarries. Some of the coal, tiles and bricks had probably travelled no further than from Hawkesbury, Exhall or

Bedworth, but the lime, cement and slates must have come from further afield. In the 1851 census, the Roberts family (George had five children) is the third recorded, south from the bridge, on the east side of the road, immediately after widow Mary Ann Chaplin, who kept the butcher's shop and, until 1850, the New Inn as well.

The Coventry to Nuneaton railway line opened in September 1850, and this must have had an effect on George's business, although the nearest public goods sidings were in Lockhurst Lane (Holbrooks) and Blackhorse Lane (Exhall parish). In any event, he had given up and gone back to Drybrook, Gloucestershire (East Dean parish) by the time of the 1861 census.

His successor (from 1855) was sometime builder Abraham Goode, who was listed variously as a lime merchant and a limeburner.

It is known that Goode often purchased coal from Wyken Colliery, but unfortunately we do not know if he used any Griffin's Works lime.

The other three of those large customers were:

(16%) Mrs Betsey Ball, of Catherine de Barnes Heath, Solihull, "lime burner, coal dealer & farmer";

(13%) Mr William Thomas, of Mount Pleasant, Bedworth, "coal & ironstone master, lime burner and farmer"; and

(10%) Mr William Roadknight, of Coleshill St., and the gas company's wharf, Atherstone, "coal, lime & salt merchant, and wharfinger."

Mrs Ball would have been served by the Warwick and Birmingham Canal, the other places lying along the route of the Coventry Canal.

(b) Lime

With regard to lime, the situation is somewhat different. Over 130 Warwickshire customers were recorded compared to just eight from the London market, yet the latter bought 48% of the total sold - over 2,500 tons - in-county sales barely topping the 2,000-ton mark.

Markets and Customers 1849-54

Principal customers were:

(24%; with purchases in 1850 & 1851 only)
Mr William Lee & Son, 16 Upper Ground St,
Blackfriars, London, lime merchants & cement
makers;

(15%) Messrs Pearce & Smith, of London;

(8%) The Oxford Canal Company;

(6%) Mr Charles Richardson, 6 South Wharf,
Paddington, London;

and three Warwickshire customers:

(4%) Mr Thomas Kelcey, of Dunchurch,
carpenter and builder;

(4%) Earl Spencer, of Wormleighton, farmer
and landowner; and

(3%) George Nelson, of Emscote Mills,
Emscote, Warwick; Saw Mills Wharf,
Warwick; and 23, Warwick St., Leamington
Priors (now Leamington Spa), timber merchant
& patent gelatine manufacturer.

The overall picture, then, is of a large majority
of small customers and a very few important
ones, the former including many local farmers
as well as some small businesses in the
building trade, while the latter were mainly
merchants and industrial users.

Occupations of identified customers

The following is a list of the occupations of
some 70% of the customers, as identified in
contemporary directories.

Purchasers of lime: 59 farmers, 13 builders
and/or carpenters, 9 landowners, 5 graziers, 3
bricklayers, 3 parish officers (Churchwardens
& Surveyors), 2 Roman cement
manufacturers, 2 lime merchants, 2 canal
companies, 2 tailors, 2 stone masons, 1
gelatine manufacturer, 1 railway contractor, 1
brick maker, 1 stone merchant, 1 timber
merchant, 1 plumber & glazier, 1 butcher, 1
miller, 1 hatter, 1 shoemaker.

Purchasers of limestone:

6 farmers, 6 brickmakers, 3 lime burners, 3
lime merchants, 2 landowners, 1 gelatine
manufacturer, 1 coal master, 1 coal & iron
stone master, 1 wharfinger, 1 bricklayer, 1
stonemason, 1 grazier, 1 parish officer.

The following tables show the spread of sales
in terms of weights of lime and of stone. The
tonnages given are six-year aggregates
calculated on total purchases as recorded
between 1849 and 1854.

Lime Tonnage	Number of customers	Known occupations
0-1	37	Mostly unidentifiable cash sales in 1849
1-10	90 (66 known occupations)	39 farmers, 4 graziers, 3 builders, 3 carpenter and builders, 3 land-owners, 3 parish officers, 2 stone masons, 2 tailors, 1 brick-layer, 1 brickmaker, 1 hatter, 1 miller, 1 plumber and glazier, 1 shoemaker.
11-20	14	8 farmers, 2 landowners, 2 builders, 1 grazier, 1 timber merchant.
21-50	18 (14 known)	7 farmers, 2 builders, 2 landowners, 1 bricklayer, 1 canal company, 1 Roman cement manufacturer.
51-100	13 (12 known)	5 farmers, 1 bricklayer, 1 carpenter, 1 carpenter and builder, 1 lime merchant, 1 railway contractor, 1 Roman cement mfctr, 1 stone mason.
101-200	4	2 landowners, 1 gelatine manufacturer, 1 carpenter and builder.
201-500	2	1 canal company, 1 Londoner (probably lime or cement company).
501-1,000	1	A London customer (probably a lime or cement company).
1,258 tons	1	A cement manufacturer and lime merchant.

Limestone Tonnage	Number of customers	Known occupations
1-30	18 (9 known)	4 farmers, 2 landowners, 1 lime burner, 1 parish officer, 1 stone mason.
31-100	15 (9 known)	4 brickmakers (2 also tilemakers, 1 builder, 1 lime merchant), 2 farmers, 1 bricklayer, 1 lime dealer, 1 wharfinger.
101-300	4 (2 known)	1 brickmaker and builder, 1 coal master.
301-600	4 (3 known)	1 brick and tile maker, 1 gelatine manufacturer, 1 grazier & coal dealer.
1,000-2,000	3	2 lime burners (1 also a coal master), 1 lime merchant.
2,477 tons	1	A wharfinger, dealing in coal, lime, whiting, tiles and bricks.

So larger customers generally bought Griffin's Blue Lias lime and stone for industrial use, and the smaller ones for agricultural purposes, including neighbours who just wanted a sackful, no doubt to spread on their vegetable patches. Earl Spencer of Wormleighton tops the farmers' list, and his account shows that lime went to his farms at Prior's Marston (Russell and Wilson) and Lower Boddington (Cowper), and to the Wormleighton estate itself (Thomas Fabling, Manor House).

To return to the Nelson family, who bought the late Captain Lamb's land which William Griffin farmed at Stockton: in White's 1850 Topographical Directory of Warwickshire, George Nelson is listed among the principal landowners in Stockton. As has been stated, he had started a lime works before his death in 1850, in connection with his gelatine business at Emscote (or "Edmonscote"), Warwick.



This envelope, franked Edmonscote (Emscote), undated; Warwick, Aug 2 1849, Leamington Spa, August 2 and Southam, Aug. 2, probably contained a letter, now lost, from George Nelson (right) to his tenant William Griffin.

In the surviving ledger for the period from 1849 to 1854 George's account has entries for the years 1849 to 1851. In 1851 it shows purchases of 124 tons of lime, around 15% of the total sold in the year, and 316 tons of limestone, representing about 17% of recorded sales of stone for the year.

Thanks to a loose chit slipped into the ledger at the page recording transactions with George Nelson, and later with his executors, we see that the £93 14s 7d from sales of lime and limestone between August and December 1851 paid well over 50% of the half-yearly bill, mainly for rent, owed by William Griffin as tenant at Stockton Fields. The rent apparently

stood at £143 18s, compared to £152 10s at the 1844 sale.

From 1852 until the ledger accounts end in 1854, the Nelson account is in the name of George's widow Sarah. No more lime is bought, while stone purchases, after a gap in 1852, were around 11% of the total for 1853, and 20% (326 tons) the next year.

Sarah also figures as one of only two customers who bought cement during the six years covered by the ledger, although the amount is small - the 1854 purchase of 26 tons represents one boatload - and may have been a sample, or possibly for resale.

It was to be the eldest of George and Sarah's five sons, Charles, who later founded Nelson's Cement Works in Stockton, producing the famous "Cock" brand, and who quarried part of his tenant's land at Stockton Fields. That was still in the future, as Charles was still only sixteen when George died.

Thanks largely to over fifteen years' research compiled by A.J. Francis in his exhaustive study of the cement industry in the last century, something is known of at least some of the Griffins' London customers ¹⁷:

William Lee & Son

In 1850 and in 1851 over half the lime sold by William Griffin went to this company, then sales ceased. The fact that in 1852 the Griffins started supplying cement to a competitor, William Ashby, may have meant that his production capacity did not permit him to meet all the potential orders for lime. At any rate, cement brought in double the revenue per ton that lump lime did, despite the extra labour involved in grinding..

William Lee was born in 1801, the youngest son of a Lewisham building contractor, and was perhaps the most prominent of the traders and manufacturers based on the River Medway during the early nineteenth century. If Stockton blue lias lime was in demand in the area, it must have been because of its high quality, since abundant raw material was available locally - both grey and white chalk and Medway estuary clay.

The Medway industry had the disadvantage of a lack of deep-water berths, which meant for example that works barges had to trans-ship export orders to larger sea-going Thames vessels; nevertheless by the early 1900s, the Medway cement industry comprised some 26 works.

In 1881 William Lee died, but the firm continued trading in the face of growing foreign competition, until in 1900 it was registered as a limited company with a capital of £125,000, the works then covering 31 acres with 500 acres of quarries nearby.

As at the time when the firm was a customer of Griffin's works, they had a London wharf at Blackfriars; their fleet of sailing barges

numbered about eighty, and had black sails decorated with the White Horse of Kent

Finally, in 1911, William Lee, Son & Co. amalgamated with 32 other companies to form the British Portland Cement Manufacturers Ltd.

Pearce and Smith

This London partnership was by far the most important customer for lime in 1849, purchasing nearly 500 tons, ten times as much as the second largest lump lime buyer. They were the railway contractors for the Copenhagen Tunnel, still in use just north of King's Cross Station. As work was started on the tunnel on 27th March 1849 it is not impossible that the Stockton lime went into mortar for the brick-built tunnel.

The building of this Great Northern Railway, linking London with York, with its metropolitan terminus and exit tunnels, generated great interest among the citizens of London.

In the years 1849 and 1850 it was a popular entertainment for Londoners, especially in the evenings, to watch the bricks being made for the Copenhagen Tunnel. As the tunnelling navvies excavated earth and clay, so the contractors, Pearce and Smith, made bricks of it at the tunnel mouth. In the earlier decades of railway building immense numbers of bricks were needed: 300,000 for an ordinary road bridge, for example, and 14 million per mile for a tunnel. ¹⁸

In an 1850 treatise¹⁹, Edward Dobson writes, The clay is neither weathered nor tempered, but as soon as dug, is wheeled up an incline to the grinding mill. It is mixed with a certain proportion of sifted ashes, and, passing between rollers, falls into a shed, whence it is, without further preparation, wheeled to the moulders. The moulds are of wood and the process employed is that known as slop-moulding. [.....] The bricks thus made are of an irregular reddish brown colour, and of fair average quality.

Over a century and a half later, nearly all these bricks of tunnel-earth, many of them uneven because of hurried handling, are still doing their job. Held together by Griffin lime?

Coles & Shadbolt

No record remains of the original partnership, but around 1850 Frederick Shadbolt was making Roman cement in the Caledonian Rd in Islington, in the north of London. The Griffin accounts ledger shows that a single purchase was made by the firm, in 1853, and sent to them at St James's Wharf in Caledonian Road. The amount involved was just 28 tons 10 cwt, a normal load for a narrow boat, and was apparently bought as a sample. It seems that Shadbolt was not impressed.

In the 1870s, a nephew joined the firm, and when the company erected a new Portland cement works at Harefield, Middlesex, it was he, Percy George Shadbolt, who became joint manager with John King, of the firm of Thetford brewers who had become partners.

Completed in 1880, the new works lay beside the Grand Junction Canal, and had a weekly output of 350 tons, which was sent mainly by boat to Caledonian Road. Like William Lee, Son & Co. Ltd, Coles Shadbolt & Co. Ltd figured among the firms that amalgamated in 1911 to form the British Portland Cement Manufacturers Ltd.

Thomas Freen & Co. Ltd.

Again, this firm purchased only a small amount of lime from Griffin's Works, buying 27 tons 10 cwt on July 24 1849, and another 29 tons 15 cwt on September 4th, at the going rate of ten shillings per ton. The total cost of these two boatloads, £28 12s 6d, was paid by cash on May 1st 1850. Francis writes that Thomas Freen made a first attempt to make Portland Cement at around this time, at his works at Wouldham, on the Medway, and again it seems reasonable to suppose that Griffin lime was bought for trials.

The company frequently advertised both Portland and Roman cement in the technical press, but in 1855 they went bankrupt, and although a new company, the Wouldham Patent Portland Cement Co., was formed the same year, it too soon went into liquidation, in 1859. Nevertheless, new capital was available, and production continued throughout the century - among the firms who amalgamated in 1911, as mentioned previously, figured the Wouldham Cement Co. (1900) Ltd.

As a footnote, it may be added that both among management and among workers, even the larger companies belonging to the cement industry in the nineteenth century were, like the Griffin company, very much family affairs, with whole families working together, generation succeeding generation, and owners of different firms being related to each other. Thus we find in 1834 one Richard Freen Martin of Lambeth - the middle name is surely not a chance coincidence - patenting "Martin's cement", made from powdered gypsum, pearl ash and sulphuric acid.

This earliest of the gypsum or "marble" cements, notes *The Builder* in 1843, presents a surface equal in smoothness to marble. We would observe that the interior of the Chapel Royal, Buckingham Palace, was stuccoed with Martin's cement, and a few days later the edifice was fit for the reception of Her Majesty.

(c) Cement

Although the weight of limestone sold did not vary greatly throughout the period (see Table 1), it is noticeable that sales of lime slumped between 1850 and 1851, the tonnage in the second year being only 58% of the 1850 figure. Whether or not William had already planned to enter the cement-making business, the halving of revenue from lime sales must have spurred him to diversify, and the first year of production, 1852, certainly initiated a revival in company fortunes.

It is nevertheless difficult to establish any sort of pattern as far as this side of affairs is concerned, since with the exception of a small transaction in 1854 with Nelson's, all of the cement produced went to a single customer, Messrs Ashby & Sons, at their Roman Cement Works, Isleworth, Middlesex. From 1852 to 1854 it was the demand from this one source which determined the overall fortunes of the company.

Although in 1853 sales of both lime and limestone showed an increase, Ashby & Sons took only 204 tons of Griffin cement compared with 340 in 1852, causing company gross turnover to drop from £827 to £760. In 1854, cement sales increased to 655 tons and as a result, gross company revenue almost doubled, to £1,467. See the Appendix for more detailed figures.

William Ashby, born in 1788, was a Quaker and the son of a banker of Staines. His business, William Ashby & Son, was established in 1825, as a barge transport company carrying building materials. Within a short period William had erected a works on the Thames at Isleworth for the making of Roman cement. Francis quotes the following as being extracted from “local newspapers of the 1920s”:

Years ago a very stout gentleman, a mountain of flesh in fact, might have been seen walking from his house in North Street to business. He was Mr Ashby and he had a prosperous little cement works in Town Wharf. Corpulence seemed as little to his taste as it is to the ladies. [...] He did not give the impression of extreme affability but as his workmen stayed with him for many years, it is possible that his looks belied him. Ashby's Roman cement works adjoined Beck's wharf.

The stone was dredged from the sea somewhere near Brightlingsea and usually contained a lot of small crabs. It was brought up by barge to the wharf. William Ashby was also the proprietor of a fleet of sea going and river trading craft for which he had extensive river frontage with berth accommodation for loading and discharging.

He also owned a warehouse in Upper Thames St., London, at which craft from Isleworth discharged cargo for transmission by road to inland markets. It was probably to the Beck's wharf mentioned above that three loads of Griffin's Blue Lias lime went in 1854, when an account in the name of Mr E. [Edward] Beck of Isleworth is opened in the ledger.

One entry is of particular interest as canal and river dues are itemised; it is reproduced in the chapter on the Role of the Canals.

It seems certain that William Griffin never met the stout Mr Ashby, as the London manufacturer died in 1850, whereas the first business done between the two enterprises apparently dates from 1852. It would have been with William Ashby's son George Crowley Ashby that the Griffins dealt, since he took control of the business on his father's death, continuing the production of Roman cement for a further twenty years. In 1870 George moved to East Greenwich and erected

works for making Portland cement; by the 1880s production had reached 7,500 tons a year, selling at 35s per ton. Ashby and Sons finally ceased cement manufacture in 1926 and reverted to founder William's original business of the distribution of building materials. Their successors today are the well-known firm of Builders' Merchants.

Although a directory of 1874 (see below) still mentions cement-making as part of the Griffin company activities, there is no known reference to William himself as a “cement maker”.

In the census returns for 1841 and 1851, his occupation is given simply as farmer, while in the 1861 census, taken shortly before his death, he appears as “farmer and Blue Lias lime burner”.

Underlining the importance of the London market, those present at Stockton Fields on the night of the 1851 census included a visiting cement maker, a 43-year-old native of “London, St. Luke's”, named Matthew Fullwood. The surname is not easily legible, but a London search of the 1881 census produced just a single entry for the name, one Matthew Fulwood, colour and cement maker, whose age and birthplace tally with the Stockton entry. It has not been possible to establish the name of the company that he represented

See note ²⁰



1850 franking inscribed “Works”



Remains of two of eleven kilns which existed at Griffin's Works when the assets of the company were put up for sale in 1910. The three views date from around the year 1970.



6. Management and mismanagement

WE can but speculate as to what part other members of the Griffin family played in the management or financing of the Works during William's lifetime. It is however very possible that his entrepreneurial brother George of Southam, Wine & Spirits Merchant and supplier of top hats to Rugby School, had a finger in the pie²¹. A promissory note by which £75 was borrowed in 1847 from one Thomas Martin was jointly signed by George and William, and written by the former at Southam²². Furthermore, great-grandchildren of William, the generation of Stockton Griffins born in the second decade of the twentieth century, remembered an old sign which read "George Griffin, Lime Works": whether this was George of Southam or William's own son George remains a mystery.

Nevertheless, up to the time of his decease, William is the only name to appear in records bearing any mention of the Lime Works, and most if not all of the extant accounts, covering the years 1849 to 1854 plus a late credit entry in 1856, appear to have been written in his own hand, early entries being initialled by him.

Further research may reveal what successes or failures the remainder of the 50s brought. It is however clear that William did not make his fortune, and in fact left considerable unpaid debts, but he should have been able to live more comfortably than some of his neighbours who depended solely on farming the not very rich lands in the area. When he died in 1861, he left "effects under £3,000"²³, the "stock, furniture &c on the farm at Stockton" being valued in 1869 at £1,873²⁴.

Following William's death, his appointed executors took charge of things, and in White's Directory of 1874 there are separate entries for "Griffin, William, (executors of): blue lias lime and cement manufacturers"; "Griffin, Thomas, executor & manager" (William's son, farmer at Birdingbury Fields) and "Archer, Thomas, executor & manager" (William's son-in-law, chemist, of Southam). This is incidentally one of the few known references

in print to cement making as part of the activities of the company.

Evidence of the financial state in which William Griffin left his affairs comes in a letter of October 1866. Thomas Archer wrote to his fellow executor Thomas Griffin to complain that accounts were not then being properly kept, and also made it clear that he was not too happy about the general management of the business²⁵:

"You must remember that we are both accountable parties with regard to the Trustship, and we must keep accounts in such a manner that we can explain and justify our conduct to your Mother and every other member of the family, and it is my particular desire that this should be very carefully attended to. If I leave the working out of details of the business to you I expect you will keep an account of all your business transactions with regard to receipts and payments, and to sales and purchases. I shall also expect that the account Books and all Vouchers be kept in some secure place to which I can have access whenever I may desire that I may examine the same and if needed take copies of them."

"I do not authorize you to put the management of the business into other hands. If you cannot manage it yourself pray inform me and we must appoint a suitable person to manage it or to assist you, otherwise we must give up the business, for I cannot consent that the business shall be carried on without having proper accounts kept and without such accounts being submitted for my inspection. I have thought it best to write thus plainly and at the same time it is intended kindly hoping that if we understand each other and our duty and responsibility better we shall get on better than we do now."

"[...] Your Mother is entitled to the income from your Father's estate and she has a right to spend such income as she pleases; she will perhaps say she has had no income. I do not deny this - your Father's creditors had a first

claim and the debts on the estate had to be paid and thank God by good management that will soon be effected.

"I hope soon to see your accounts and hear whether you are prepared to carry out the suggestions of this note, or if you have others to offer instead I hope you will soon let me know what they are, as if I do not hear something from you of a satisfactory kind I shall take steps to protect myself from liability under your Father's Will."

William Griffin surely cannot have been that bad a businessman. He had had the initiative to set up on his own at Stockton Fields, leaving the family farms at Avon Dassett and Farnborough, where his forebears had lived for generations, and to found the lime business when the opportunity arose. It may simply be that as old age overtook him he was no longer really able to cope, but soldiered on as none of his sons was ready to take things over in his stead.

He seems to have recognised in his chemist son-in-law Thomas Archer a man able to turn things round, appointing him as a trustee, and indeed it appears from the tone of the above letter that the latter became the driving force. At the same time, the ill-feeling referred to may be understandable, if Thomas Griffin felt that his brother-in-law made the rules and took all the credit, while *he* was doing all the work.

In 1874, Thomas Griffin died, reputedly of measles, at the early age of forty-two²⁶. It seems logical to suppose that his surviving brothers William, John and George took a hand in running the company, although they too were all involved in farming. William and John appear to have remained all their bachelor lives at Stockton Fields, while to judge from directory entries, George spent most of his time managing the Griffin farm at Avon Dassett Fields, where he died, aged 41, in 1882.

Southam Griffins were still involved in 1881. George the latter's son John, cousin to the Stockton family, and brother-in-law too after marrying his cousin Sarah Jane, appears in the 1881 census for Southam as "farmer, wine and spirits merchant and lime merchant."

What by this time had become of the businesses of Greaves, Oldham, Nelson and

Walker, mentioned as being the chief lime-burners in the area at the time when William Griffin started his business?

Greaves & Kirshaw had in the 1860s become Greaves, Kirshaw and Bull, when John Coulson Bull, son of the Rector of St Thomas's Birmingham, had joined the partnership. Within a few years Kirshaw retired, and in 1870 Richard Greaves died. He had lived in Warwick in his later years, had served on the magistrate's bench, been Mayor of the town, and also High Sheriff, as well as being chairman of the Stratford-on-Avon Railway and a director of the North and South-West Junction Railway.

He had been married to Catherine, daughter of North Wales slate industry pioneer Samuel Holland, and a cousin of Mrs Gaskell the authoress, but died childless. Of his two brothers, one was MP for Warwick, and the other owned the Portmadoc slate mine, which was at one time the second largest in the world.

Greaves leaving no sons, it was a nephew, Michael Henry (later Sir Michael) Lakin who became a partner, the firm being renamed Greaves, Bull and Lakin. Bull died in 1885 and Michael was joined by his brother Edward. Michael Lakin was for many years Deputy Chairman of the County Council and was created a baronet in 1909 for services to Warwickshire. In the same year, his works were reconstructed with modern plant.

As for William Oldham, in 1868 he had retired, and the works and quarries, which belonged to him, were leased to his associates Tatham and Lister-Kaye. In 1875 Tatham, Kaye & Co. became Kaye & Co. when Lawrence Tatham retired, and in 1880 Arthur Lister-Kaye purchased the works from the Oldham family and formed a limited company. On his death in 1893, his widow Eugenia and son Lister (later Sir Lister) took over. A new works was built in 1908.

William Griffin's landlord George Nelson having died in 1850, his business was handled by relatives until in 1856 his 22-year-old son Charles took over. He introduced the manufacture of cement at the lime works which had been started by his father, and traded as Charles Nelson & Co. Meanwhile the

family gelatine and isinglass business at Warwick continued to function separately as George Nelson, Dale & Co., and was eventually taken control of by Charles's younger brothers. It is still in existence today as part of the Davis Gelatine Group.

In 1870 Charles took into partnership two of his brothers, George and Montague, together with Thomas Blyth and William Blackstone, London lime and cement merchants, though in general the products of the Warwickshire manufacturers were directed to Birmingham and other Midland industrial centres, the Welsh borders and North-West England.

It is known that at this time the company was making under licence a cement containing calcium sulphate, known as Scott's or Selenitic cement. In fact, many other companies were doing likewise, including Greaves, Bull & Lakin. Henry Scott was an instructor at Chatham and in charge of the laboratory there, and as such maintained the establishment's relationship with the industry, formed by Pasley over forty years previously.

He had discovered that limestone burned in the presence of sulphur dioxide produced a lime which did not slake in water, but gradually hardened like cement. When in 1871 he formed the Patent Selenitic Company Ltd., Charles Nelson & Co. were among the shareholders. This traded until the patent expired in 1883. Even today, a small quantity of gypsum (naturally occurring calcium sulphate) is added to Portland cement to regulate the setting time.

To judge by letters sent by Charles Nelson to his Stockton Fields tenant Ann Griffin, William's widow, he was a considerate landlord. Writing to her from his home at Crackley Hill, Kenilworth, on January 11, 1876, he says that he is "sorry to be obliged to remark on the unsatisfactory condition into wh. a large proportion of the farm has been allowed to fall", with "each year the fields more overgrown with weeds."

Suggesting that it might be better if she gave up the tenancy, he recognised that "there may be, however, personal feelings in connection with a place wh. has so long been your home, that would render any change too painful, & such feelings I feel bound to respect. I

therefore merely offer the suggestion as a friend, leaving the decision entirely in your hands." ²⁷

In the event, after another year had passed without the situation improving, Charles felt obliged in January 1877 to serve Ann with notice to quit by March 1878. As fate would have it, Charles was not to live that long, as he succumbed the same year to Bright's (kidney) disease, leaving a widow and ten children. Blyth and Blackstone, his executors, granted Ann Griffin a reprieve, and the Griffins continued at the farm for another three generations spanning ninety years.

Under Blyth and Blackstone's management, a limited company was formed in 1886. The Nelson family itself was increasingly preoccupied with overseas operations, including shipping and property developments in Australia and New Zealand, and the establishment of the great Canterbury lamb and other meat refrigeration business of Nelson Brothers, a name preserved in the present-day Nelson Financial Trust. By 1904 the directors of the Stockton cement company were Montague (later Sir Montague) Nelson, and Charles, George and Howard, the sons of Thomas Blyth. Although quarrying and cement production in the Stockton area is now in the hands of Rugby Cement plc, formerly the Rugby Portland Cement Co., "Nelson's" has left its mark on the community. "Nelson's Club", started by the company for its employees, still exists as the local social club, and many of the houses in Stockton were built in the yellow brick made from the clay removed from near the surface of the limestone quarries ²⁸. They provided accommodation for Nelson's workers, in Napton Road, George St. and Elm Row - this last sadly elmless now, since Dutch elm disease struck in the 1970s. Other such yellow-brick houses are to be found outside Stockton, in the village of Kineton, for example.

Regarding the old quarries on the east (Stockton) side of the Rugby road, at the time of writing they continued to provide a quiet haunt for nature-lovers and fishermen, their blue-grey hillocks of spoil no doubt still hiding many a fossil, like the petrified skeleton of an ichthyosaurus which for many years decorated a flower bed in the front garden at Hill Farm

Management and mismanagement

until the farmhouse was demolished in 1981. The “Nelson's Quays” development scheme proposed in the late 1980s by a consortium including Rugby Cement, and involving the building of a marina and up-market water-side housing with individual boat-houses, as well as some more modest dwellings, did not come to fruition.

As for Thomas Walker of Newbold near Rugby, after his death in 1856, his son George Henry took over, and in 1862 formed the Rugby Lias lime & Cement Co., in partnership with none other than Lawrence Mallory Tatham. Tatham's associate Lister-Kaye later joined them, but in 1868 Walker bought them out, at the same time agreeing to supply them

with lime and cement at the following ex-works prices: Lump lime, 7/- per ton; ground lime, 9/6 per ton; best artificial cement, 1/- per bushel; all other cements, 9d per bushel.

Initially Walker was to supply not less than 400 tons of lime and 50 tons of cement per week, to be sold as Rugby Blue Lias Lime, and Rugby Portland or Rugby Roman cement as the case may be. This arrangement continued until Walker's death in 1872, when a new company was formed called the Rugby Portland Cement Co., with a share capital of £60,000. Various groups succeeded each other in control of the company, including members of the Walker family, until the business ceased to function as a partnership in 1925.



Stockton Fields farmhouse in the 1880s. The men in the foreground are believed to be two of William the lime-burner's four sons, John Griffin (1837-1906), following whose death the Works' assets were disposed of by his executors, and his brother William (1827-1891). Sister Sarah Jane, who married her cousin John Griffin, publican and sometime lime merchant of Southam, may be the lady standing in the background, on the left.

7. *The last years*

BY all accounts Griffin's Works were still very much a going concern in 1893, for it was then that the solid red-brick dwelling now known as "Griffin's House" was built, to the north of the original quarry site. It included a foreman's office, and was possibly contemporary with a grinding shed and chimney built down near the canal wharf.

The dwelling was formerly known as "Barrott's House", after its first occupant, William Barrott, who "as foreman of the works was required to live nearby to supervise the grinding sheds and steam grinding engines."²¹

Kelly's Post Office Directory for 1896 has a Stockton entry for "Griffin & Co., blue lias lime manufacturers". No mention now of cement-making, which may have ceased.

By now, an important role in the business was almost certainly played by John Griffin of Southam, who had inherited his father George's wine and spirits business, by all accounts a prosperous one, since he and his wife and first cousin Sarah Jane, as we know from legal papers such as tax and property transfer documents, owned both land and houses in the area.. In the 1881 census (although not in earlier or later censuses taken in his lifetime) as well as being in wine and spirits he is described as a "lime merchant".

The first years of the twentieth century saw the final decline of the Lime Works, because of competition from larger neighbours, but also because the quarries were becoming worked out. The last area quarried by the Griffins was to the east of the Rugby road, a few hundred yards from the original site, and on the north side of the area known as "Calley Gardens", which itself had been quarried and then filled in again using waste from the quarries on either side, so that it was recovered for agricultural use.

Tramroad tracks were moved and re-laid as different areas were excavated, and the last stretch of track ran through a tunnel under the road, on the north side of the now disused

railway cutting, down to "the lime bank", the canalside bank of waste by the company wharf.

Final closure came in the first decade of the twentieth century. The last of William's sons, John Griffin, died in 1906, and in 1910 his executors ordered the sale of the company's assets. Ironically, the final sale notices, published in the Leamington Spa Courier on November 18th, 1910, and reproduced on the next page, give us the most detailed information we have as to the former scale of limeburning operations and the equipment used.

While, as will be seen in the next chapter, canal transport was certainly the most important means used by the enterprise in its heyday, how important a role was later played by the railway when this came to Stockton has yet to be clarified. Suffice it to quote from the sale notice²⁹ when the land and former foreman's house were put on the market in 1943, to the effect that "the L.M.S. Railway passes through the land, and a railway siding which previously served the original works could no doubt be again connected up."

After the Second World War, the site of the first excavations, as well as adjoining land which had been quarried by Nelson's, was used for tipping refuse, until in the late 1980s, when the surface of the tip had reached the original surface level, it was covered with earth and reseeded, leaving but little trace of the activity which had begun a hundred and fifty years before.

The last remaining ruins of the chimney and accompanying building, and the old arches of the entrances to the lime kilns, still exist at the time of writing, while a millstone from a grinding shed, embedded in the yard at the rear of "Griffin's House", possibly, survives as a humble monument to Griffin's Works.

GRIFFIN'S LIME WORKS, STOCKTON,
 $\frac{1}{2}$ miles from Southam and $\frac{1}{4}$ mile from
 Stockton Station.

**IMPORTANT BREAKING-UP SALE OF THE
 MACHINERY, PLANT, TOOLS, BUILDINGS,
 &c.**

**TO BE SOLD BY AUCTION, BY
 HUTTON, THOMPSON AND
 COLBOURNE.**

By direction of the Executors of the late Mr.
 John Griffin, on **THURSDAY, DECEMBER**
1st, 1910, at 11-30 o'clock, comprising a
25 H.P. ENGINE and BOILER, by Danke;
 Vertical Engine, by Tangye; Two Steam
 Pumps, by Tangye; Steam Winch and Platform
 Hoist, Large Quantity of Trolley Rails, 8 Tons
 of Pine Baulks, 12 Trolley Wagons, 2 Pairs of
 Grinding Stones, Large Quantity of Tools, 2
 Canal Boats, 5,000 New Blue and Brindle
 Bricks.

THE WHOLE OF THE BUILDINGS,
 Forming Engine House, Grinding Mill, Boiler
 House, and Shaft; the Brickwork forming 11
 Kilns, and a very large quantity of Quarried
 Stone, &c., &c.

NOTE.—The above Plant lies handy for re-
 moval, there being a Canal Wharf and L. and
 N.W. Railway Siding on the Premises.
 Catalogues on application.

STOCKTON AND BIRDINGBURY,
 $\frac{1}{2}$ mile from Stockton Station (L. and N.W.R.)
 and $\frac{1}{2}$ miles from Southam.

**HUTTON, THOMPSON, AND
 COLBOURNE**

Are instructed by the Executors of the late
 Mr. John Griffin to **SELL BY AUCTION,** at
 the **CRAVEN ARMS HOTEL, SOUTHAM,**
 on **THURSDAY, DECEMBER 1st, 1910,** at 6
 for 6-30 o'clock in the evening precisely, and
 subject to Conditions of Sale,

36 A. 2r. 7p., or thereabouts, of **VALUABLE
 FREEHOLD LAND,** in the following
 Lots:—

LOT 1.—All those 3 ENCLOSURES of LAND
 situate in the Parish of Stockton, on the Road
 leading from Southam to Rugby, known as
 "GRIFFIN'S LIME & CEMENT WORKS,"
 with an excellent COTTAGE and GARDEN,
 the whole containing an area of $\frac{1}{4}$ acres 3 roods
 18 perches, or thereabouts. The Cottage is let
 to Mr. J. Barrett at a rental of £10 per annum,
 and the land is let to Mr. T. Griffin at a
 nominal rent.

LOT 2.—All those 4 FIELDS of ARABLE
 and PASTURE LAND and WORKINGS,
 situate near Lot 1, in the Parish of Birding-
 bury, on the Road leading from Southam to
 Rugby, containing an Area of 21 acres 2 roods
 29 perches, or thereabouts, in the occupation
 of Mr. T. Griffin.

The above Properties are bounded by the
 Warwick and Napton Canal, and are inter-
 secting by the Weedon and Leamington Line of
 L. and N.W.R. Co.

Further particulars may be obtained from
 Messrs. Wright, Hassall, and Co., Solicitors,
 Leamington, or from the Auctioneers, War-
 wick, Solihull, and 11, Cherry Street, Bir-
 mingham.

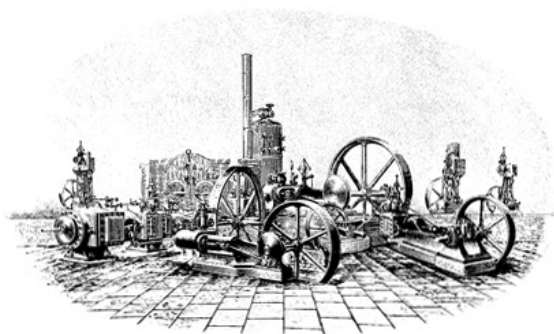
The second sale notice offers for sale the foreman's
 house built in 1893. In the event, it remained in the
 family until 1964, although it is still known as
 Griffin's or Griffin House.

This is the first of the two sale advertisements
 printed in the *Leamington Spa Courier*. It tells
 us that the three lime kilns mentioned in the
 1844 sale notice had, over the years, increased
 to eleven in number. The adoption of steam-
 driven equipment for material handling and
 grinding is also notable. Britain was still the
 workshop of the world, and Tangye's steam
 engines were exported all over the Empire.

Tangyes Limited

CATALOGUE—EDITION 1891

STEAM ENGINES AND BOILERS—(CODE—PABONUM)



CORNWALL WORKS, BIRMINGHAM

8. The Role of the Canals

LINKING Griffin's works with the outside world was the fourteen-mile long Warwick and Napton Canal, which joined the national network at the two terminal points mentioned, and enabled Stockton Blue Lias lime and cement to be carried all over the country.

If it went south, this was by way of the Oxford canal into the Grand Junction Canal, which joined the Thames Navigation near Brentford,

and if need be, right into the heart of London, via the Paddington branch and the Regent's Canal. If boats went north to the industrial North Midlands, the Oxford, Coventry, and Ashby de la Zouch canals were those used ³⁰.

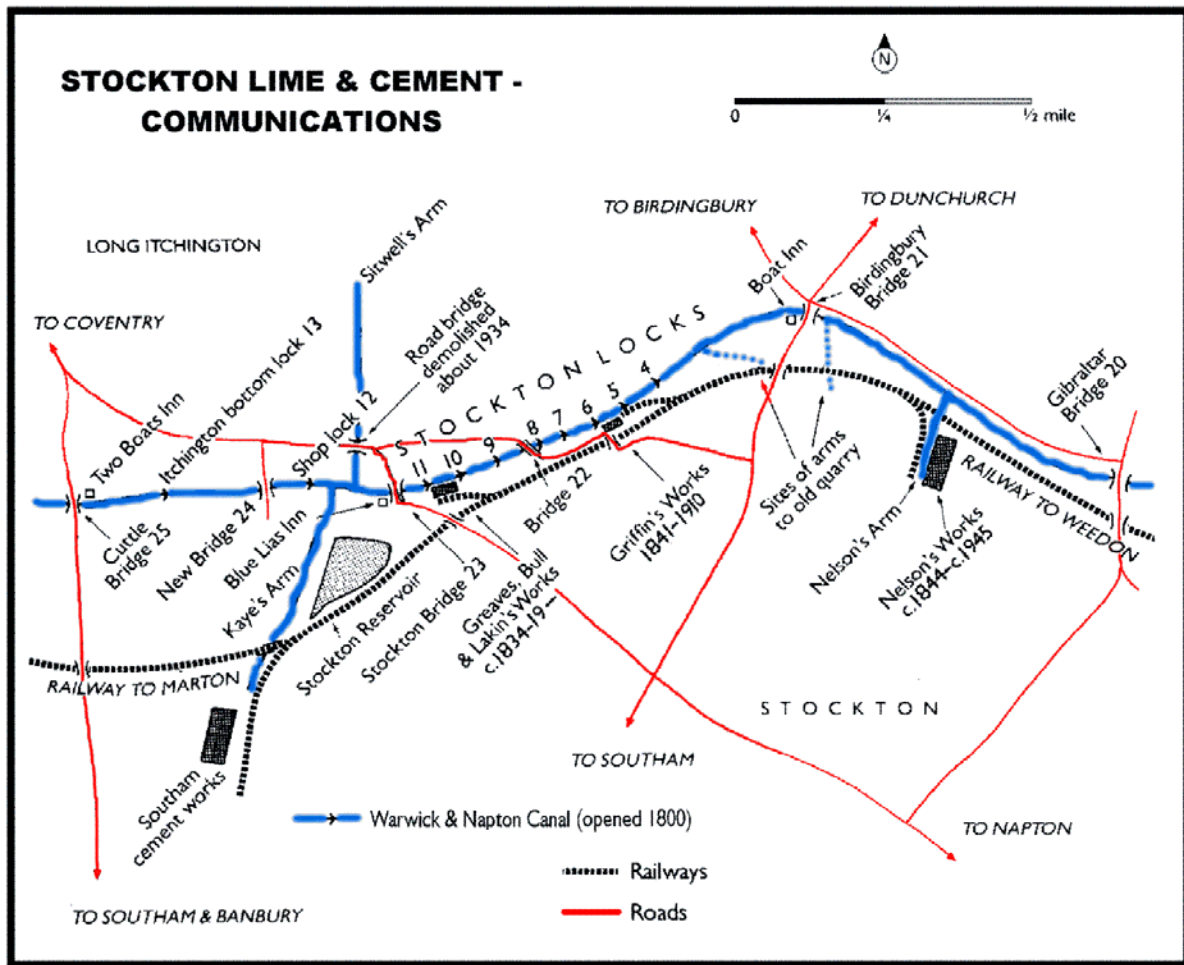
The following entries have been extracted from a 1904 canal distance table, which gives the distances in miles and in furlongs, or eighths of a mile ³¹ :

Point on the Warwick and Napton Canal	M F
Budbrooke, junction with Warwick & Birmingham Canal	0
Warwick, Cape Wharf	0 4
Emscote, Nelson's Works	*1 5
Emscote, Blaydon's Old Wharf & Buffery's Lime Wharf	*1 7
Leamington Stone Wharf	3 2
Leamington, Flavel's Foundry	*3 5
Offchurch Wharf	5 4
Bascote, Buffery's Lime Stone Wharf	8 4
Cuttle Wharf, Long Itchington	9 7
Stockton, Tatham & Witherington's Lime Works	10 3
Stockton, Greaves & Co.'s Lime Works [<i>opp. locks 10 & 11</i>]	10 4
Stockton, Griffin's Lime Works [<i>opposite locks no. 5 & 6</i>]	10 7
Stockton Top Lock [<i>one of a flight of nine; nos. 4 to 12</i>]	11 0
Birdingbury Wharf	11 2
Nelson's Lime Works	11 5
Gibraltar Wharf	+11 7
Calcutt Bottom Lock [<i>one of a flight of three</i>]	13 5
Napton Junction, junction with Oxford Canal	14 2

* Nelson's, and Checketts & Buffery, both of Warwick, and Mr Mitchell of Foundry Wharf Leamington, were all listed as customers for Griffin limestone in the company accounts for 1849-1854.

+ Nearby "Gibraltar Farm", as it appears on local maps, confirms this "-er" spelling.





The importance of the canal was a point that William had sought to stress in two draft advertisements written on 1st July 1841, a few

days after signing the original lease agreement for his first quarry with Capt. Lamb. The drafts³² read as follows:

*The undersigned having taken the Lime
Stone Rock on Cap. Lamb's Farm at
Stockton near Southam, thro' which
the Warwick and Napton Canal
passes, will supply the finest Blue
Lime Stone, or Well burnt Lime to
be delivered at the Wharf on the Canal
without trouble. Enquire at my
House Stockton, or to the Foreman.
William Griffin
Stockton near
Blue Lime Stone Quarry
1st July 1841.*

Having taken on Lease, the valuable Blue
Lime Stone Rock at Stockton, thro which the
Warwick and Napton Canal passes. The undersigned
is desirous of extending the use of the finest Lime
to be procured in England, and accordingly will
be happy to supply the Lime Stone or pure well
burnt Blue Lime to any persons for building
or agricultural purposes, and will contract
for delivering the same in Boats, at any Wharf
or Place on the different Canals with which
the Warwick and Napton communicates. There
will always be a supply of the finest Burnt Blue
Stone Lime, or Lime Stone ready at the Wharf on
the Canal, to be loaded on Boats passing without
trouble or delay.

Applications to be made to me at The Farm
House or to the Foreman at the Lime Works.

Stockton near }
Southam }
1st July 1841. - } William Griffin.

Ironically, due to the coming of the railways, revenue from canal transport was already on the decline when Griffin's Lime Works were founded, but the Warwick & Napton nevertheless played a role in the local industry right into the twentieth century. Moreover, at the turn of the century, it was noted, "steamers engaged in the London and Birmingham traffic regularly trade over the canal."

Already, in 1839, a 20% reduction in canal tolls on through traffic was necessary in the face of railway competition, and by 1844 they were but a third of what they had been six years earlier. Nevertheless in 1842 a sizeable total of 14,515 boats is recorded as having passed from the Warwick & Napton Canal at Napton Junction³³.

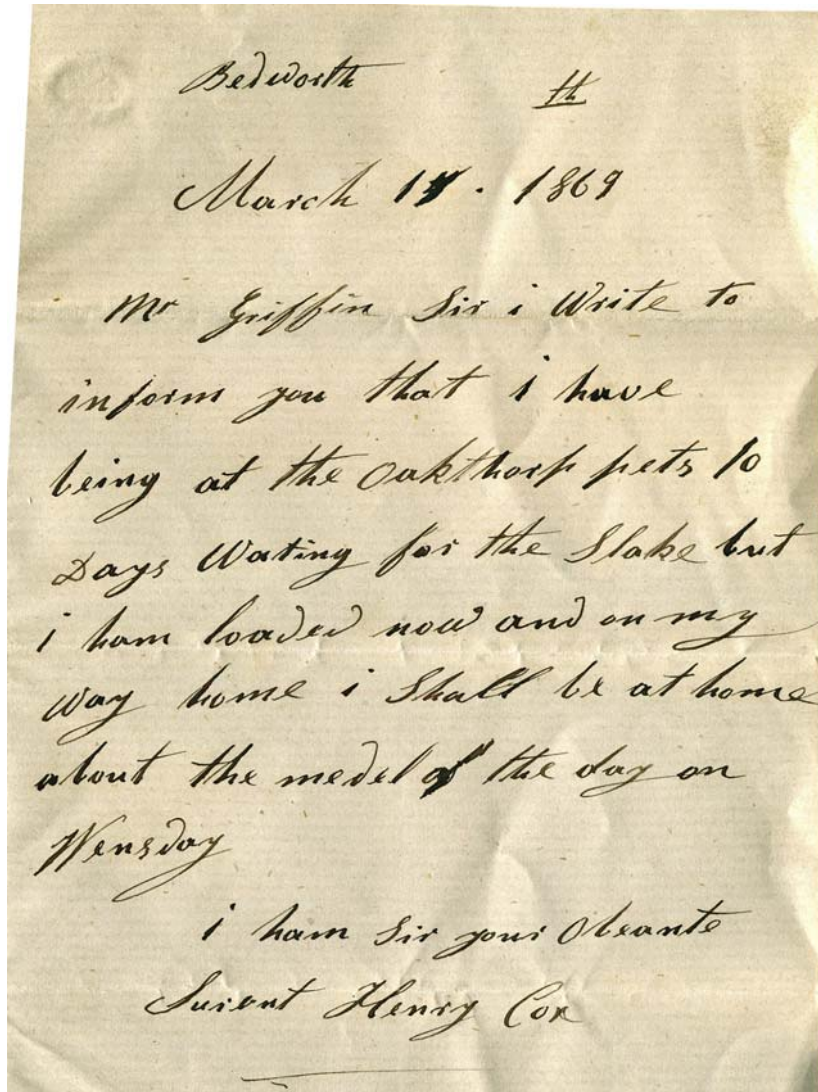
The Role of the Canals

The narrow boats or “monkey boats” using the canal carried between 25 and 30 tons each, normally in not more than twos, owing to the difficulty in passing locks. Average speeds attained by one horse were 2 m.p.h. for one boat and 1½ m.p.h. for two; a mile an hour faster if empty.

Thus on Monday, March 15th, 1869, when steerer Cox was on the way back from

Oakthorpe Colliery, near Ashby de la Zouch, he wrote to his employer (all in one breath?)

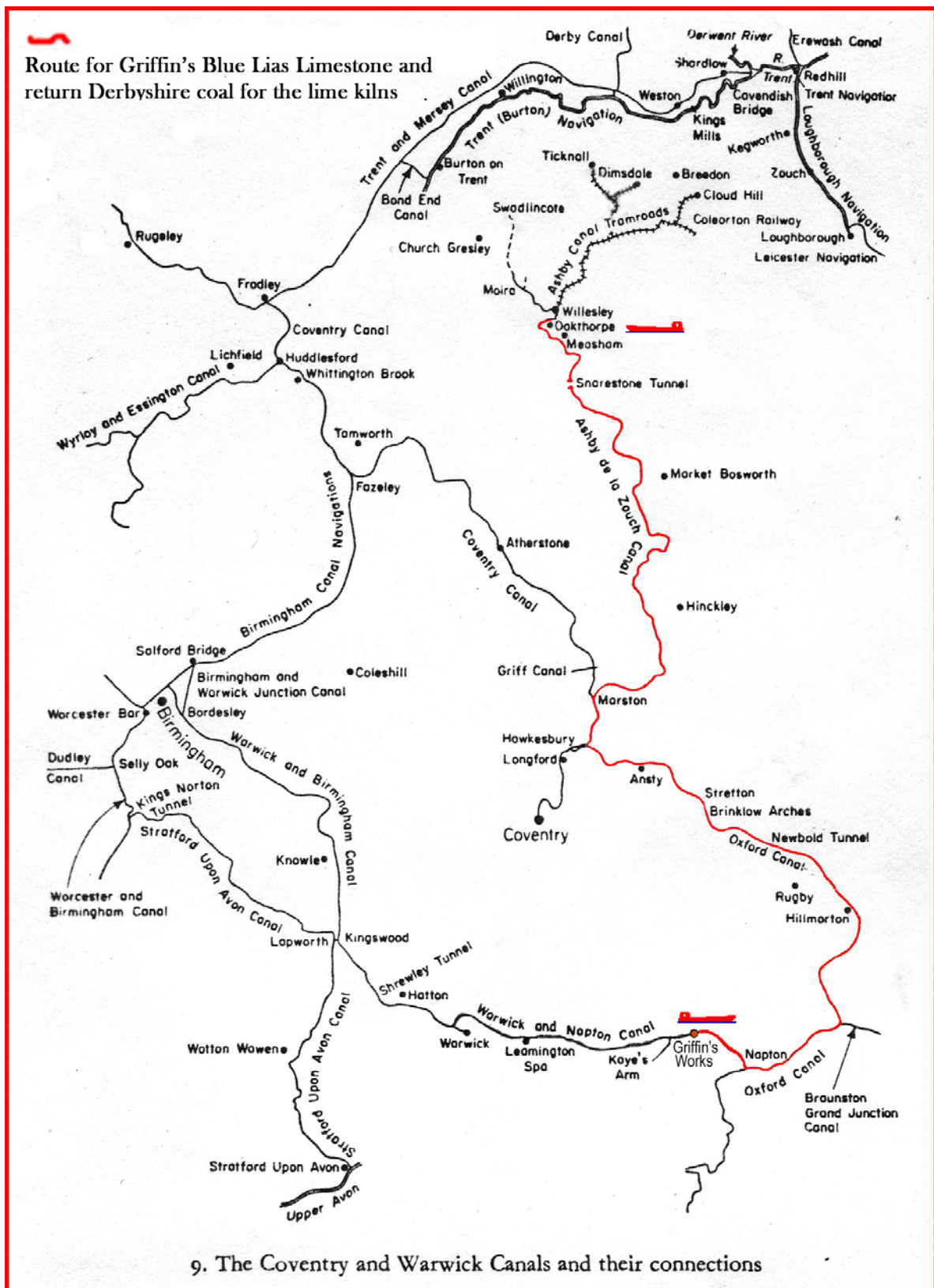
“Mr Griffin Sir i Write to inform you that i have being at the Oakthorp pets 10 Days Waiting for the Slake but i ham loaded now and on my way home i Shall be at home about the medel of the day on Wensday i ham Sir your Obeante Sur(v)ent Henry Cox”³⁴.



Bedworth H
March 15. 1869
Mr Griffin Sir i Write to
inform you that i have
being at the Oakthorp pets 10
Days Waiting for the Slake but
i ham loaded now and on my
way home i Shall be at home
about the medel of the day on
Wensday
i ham Sir your Obeante
Survent Henry Cox

He faced a 33-mile journey via the Oxford Canal, i.e. between 17 and 22 hours' travelling time, depending on the number of boats involved. No doubt he tried to make good time after being kept waiting so surprisingly long for his coal slack, although he perhaps had his wife Emma and baby son Thomas with him for company.

The night of the 1881 census found 44-year-old Henry, who was a native of Stratford-on-Avon, on his Canal Boat at Stockton, with his Droitwich-born wife, 14-year-old Tom, whose birthplace is given as Stockton, and daughters Emily and Sarah Ann, aged nine and three, both born up the canal at Braunston.



The Role of the Canals

By all accounts the canal was a slow but sure way of moving Griffin lime and cement, at least as far as may be judged from evidence afforded by the 1849-54 ledger. In the case of just one customer, Charles Richardson of 6 South Wharf, Paddington, do we read (for 1854)

Apr 1 [deducted] “for damaged lime 2s 6d” [which was a mere five cwt], and again, following the June entries,

“Spoilt Lime .. 10 Tons ... 17/6: £8 15s.”

As the lime was being sold in this case at 10s a ton, it may be that the customer was paying another 7s 6d for canal tolls and haulage, and when William made good the damaged lime he had to foot the bill.

There is supporting evidence in another 1854 entry: Mr E. Beck of Isleworth near London is charged as follows:

	£	s	d
Apr 22 Lime 28 tons 10 cwt at 10/-	14	5	0
Napton tonnage		1	2
Grand Junction Do		3	0
Thames Dues		4	2
Waterman		7	6
Haulaged 28-10 at 5/- pr ton.	<u>7</u>	<u>2</u>	<u>6</u>
	26	1	10

This represents an all-in figure of about 18s 5d per ton, close to the figure paid by William Griffin on the “spoilt lime”, which went to a destination not so far from Isleworth. Another load of lime was sold to Mr Beck in July, for which a similar proportion of extra costs were also shown separately, although not then itemised, but given simply as a single total described as “Expenses”. Finally, a sale dated October 9th 1854, the last in the ledger to this customer, does not mention costs, but quotes 18s 6d per ton, obviously the all-in price.

There were of course locks and tunnels to be negotiated, the latter involving on occasion “legging”, where for lack of a continuous towpath horses could not pass, and boatmen had to lie on their backs and push against the tunnel wall to keep under way. One wonders what happened on a summer's day in 1849, when the transportation of a load of lime for Messrs Pearce & Smith of London, via the Braunston and Blisworth tunnels, resulted in William's noting in the accounts the special entry “Expences to men at Tunnel £1 10s”.

It was of course both to buyer's and seller's advantage if the boats were loaded both ways. In 1867, a customer wrote from “Measham, near Atherstone, Derbyshire” (near Oakthorpe - see map) ³⁵:

“Mr Griffin Sir will you Pleas to give me a order fore 2 Loads of Slack as We Want 2 Loade of Lime Stone and we have not got heney orders in Pleas to send word by Return of Post and Pleas to Enclose me the order and then I will Settle the Remainder of that a count From your Humble Survant John Bird”

Large amounts of slack would be needed for lime burning, or perhaps also to fuel a steam engine to grind the stone.

The June 1866 bill from the Warwick and Napton Canal Company shows that 172 tons of Griffin's lime were carried on the canal during the month, in six loads of between 28 and 30 tons, as well as 108 tons of coal, in two presumably double boatloads of 54 tons each. Henry Cox's name appears again here, with those of boatmen Wilson, Brooks, Wright, and – Coles ³⁶.

The 1866 toll for lime and coal was 4d a ton, and this indicates that local tolls held up reasonably well when the bottom dropped out of the market for through traffic, for example on the London to Birmingham route. When the Warwick and Napton Canal was opened in 1800, a figure of 6d a ton had been quoted for lime and limestone; this included tolls north on the Oxford Canal until it joined the Grand Junction in Northamptonshire, or as far as the Coventry Canal, but not south, and would obviously have encouraged northward trade.

By way of comparison, in 1904 the London to Birmingham through toll worked out at 0.21d per ton per mile for the part of the journey between Warwick and Napton, which gives a total of almost exactly 3d per ton ³⁷.

Back in 1849, an account in the ledger in the name of Mr William Thomas of Bedworth shows that on January 25th, he was paid £205 1s 6d for “Coals”, presumably supplied during the previous year of 1848. How much was actually for Griffin's Works is of course open to speculation - it is known that in much later years, at least, local coal merchants were supplied.

The Role of the Canals

In fact a 1904 invoice is headed “Blue Lias Lime Works, Stone Quarry and Coal Wharf.” This invoice also lists sand, while on the 1866 toll bill appear three entries for manure. Obviously any heavy low value cargo would

be carried on the narrow boats, and this side of the business may even have outlasted the production of lime, which at any rate was carried on for at least sixty years³⁸.

[illegible]

No. 11404

STOCKTON
BLUE LIAS LIME WORKS, STONE QUARRY AND COAL WHARF.

Mr. J. Griffin Stockton House
Bought of GRIFFIN & CO.

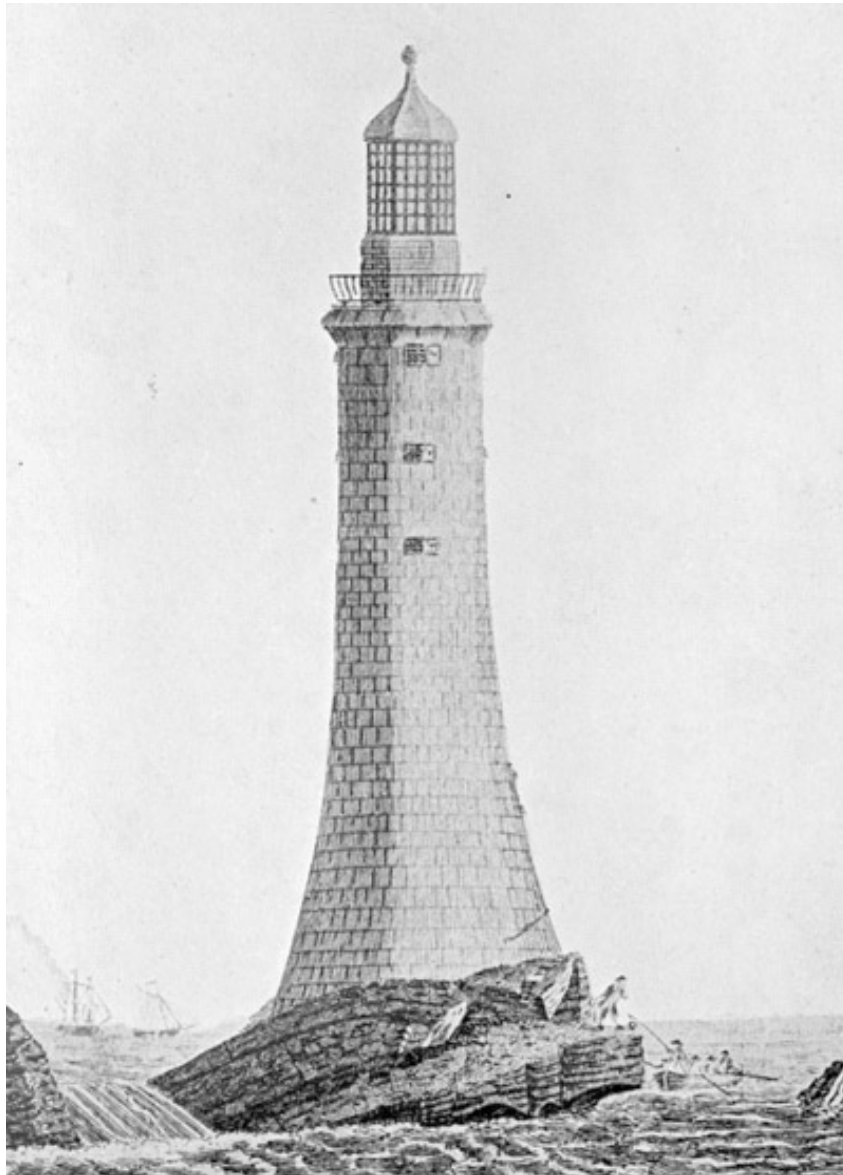
Loaded Jan 6th 1903

	Tons.	Cwt.	Qrs.	Sacks.	Rate.	£	s.	d.
Ground Lime								
Lump Lime								
Lime Stone								
Coal	1							
Sand								
Empty Sacks Returned.								

Carted by J. Rawbone
Steerer,

Empty Sacks to be returned
in good Condition within One
Month, or paid for.

Postscript



South aspect of the Eddystone Light-house

For over 300 years, the famous Eddystone lighthouse has marked a deadly reef 13 miles off Polperro in Cornwall. In fact, the present building is the fifth.

The first was built by Henry Winstanley as early as 1698, and was a world's first for such an exposed position. However, it had to be virtually rebuilt by him after just a few months' battering. Proud of his second wooden house, he defied an approaching storm to visit it. When the storm abated, lighthouse, keepers, and poor Henry, had all vanished for ever.

John Rudyerd completed the third light in 1709 using shipbuilding principles. It resisted 47 years of storms until ironically, it was burned down, when the candles giving light to warn the shipping set the roof on fire.

Enter the Blue Lias. In 1759, John Smeaton completed his lighthouse of granite blocks, dovetailed together and cemented with a mixture of his own invention, using pozzolana and the Lias. Removed after 127 years, it now stands atop Plymouth Hoe, a monument to Smeaton and the strength of the Blue Lias cement.

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N.B. The Appendix of Images and Transcripts has a separate index

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Notes, References and Bibliography

- ¹ *The Cement Industry 1796-1914, a History* by Major A.J. Francis. Pub. David & Charles 1978. The information in the introduction to this history of Griffin's Works was taken largely from Francis's exhaustive work, as indeed was much of the information on the Warwickshire industry and London manufacturers of lime and cement.
- ² Victoria County History: Warwickshire.
- ³ White's *Topographical Directory of Warwickshire*, 1850.
- ⁴ *The Canals of the East Midlands*, by Charles Hadfield. Canals of the British Isles series, pub. David & Charles 1966.
- ⁵ *Waterways to Stratford* (pp. 36 & 42), by C. Hadfield & J. Norris (1962), quoted in Francis, *op. cit.*, p.88.
- ⁶ Rugby Cement plc (now part of Cemex), Crown Ho. Rugby Works: archives relating to "Land at Long Itchington in the County of Warwick (part of the Oldham estate)". Packet 13F.
- ⁷ GR Piece 17 (original document in the Griffin family collection), being the 1841 agreement by which William Griffin took a lease on Thomas Lamb for twenty one years, or until the rock was exhausted, whichever was the sooner. Reproduced in these pages.
- ⁸ *Officers of the Bengal Army 1758-1834* (Part III, L-R), by Major V. C.P. Hodson. Phillimore, 1946. Copy in the library of The Society of Genealogists, London .
- ⁹ GR Piece 101. Copy of handbill, with plan, for Lot 2 (Land containing Quarry and Lime Kilns) to be sold May 14 1844. Original in the Stockton collection, County Record Office, Warwick. GR Piece 92 is the handbill for Lot 1, the farmland.
- ¹⁰ Sale notice in Supplement to The Times, several issues, including Saturday May 13 1844, p.11. and Monday May 13 1844, also on p.11 (rt. hand column). Available in the Times Online Archive 1785-1985.
- ¹¹ GR Piece 34 - copy of 1850 receipt for expenses in "getting up a Company to purchase the Blue Lias Rocks & Land at Stockton ..."
- ¹² *A Manual on Lime and Cement: Their Treatment and Use in Construction*, by A. H. Heath Pub. E. & F. N. Spon, 1893.
- ¹³ GR Piece 73. Primitive geological survey of the quarry, apparently a cross-section, but with some notes which seem to refer to surface "features", e.g. plums, calf turd. The whole document is reproduced in the Appendix.
- ¹⁴ Accounts ledger for 1849-54.
- ¹⁵ GR Piece 24. 19th cen. business card, Griffin's Blue Lias Lime Wks.
- ¹⁶ The information on George Roberts is taken from Parts One and Two of "New Inn Bridge Wharf", an article by Reg Instone in the magazine of the Coventry Canal Society, which appeared in the Summer and Autumn issues for 2008. In 2010 these magazines could be downloaded from the Society website at <http://www.covcanalsoc.org.uk> .
- ¹⁷ A.J. Francis, *op.cit.*
- ¹⁸ Edward Dobson, "A Rudimentary Treatise on the manufacture of Bricks and Tiles", 1850. Quoted on the Brickfind company website, at <http://www.brickfind.co.uk/bricks.html> (2010).
- ¹⁹ Edward Dobson, *ibid.*
- ²⁰ This franking mark (ref G48) was found among a stamp collection made by a great-granddaughter of William Griffin. Unfortunately, the envelope or wrapper which it was cut from has not survived.
- ²¹ That George supplied top hats to Rugby School was information supplied by Marjorie Sparkes (nee Griffin), a granddaughter of George's nephew Thomas Griffin (1832-74). At the time of writing, this is unproven; however, George's son, George Thomas Griffin had a hatter's business at 6, Market Place, Rugby, and may have been the actual supplier.
- ²² GR Piece 8 - promissory note dated July 29th 1847.
- ²³ Will of William Griffin of Stockton Fields in the co. of Warwick, farmer. Dated 16th Sept. 1858. Proved 7th Oct 1861.
- ²⁴ GR Piece 38. Receipt for amount of valuation made 12th May 1869, signed by the trustees of the late Wm. Griffin.

²⁵ GR Piece 16. Letter from Thos Archer to Thos Griffin. 18 Oct 1866.

²⁶ According to Marjorie Sparkes (see note 14), her grandmother, Thomas's widow, used to say that her husband had died of measles "caught off old Blundell", the Blundells having been farming neighbours of the Griffins. The death certificate leaves the matter in doubt; as measles caught in adulthood could indeed lead to bronchial complications such as the form of tuberculosis given as the cause of death. Whether the culprit would have been John Blundell (bap. 1826), Birdingbury farmer between at least 1861 and 1876, or his father Richard, from whom he took over, is not clear.

²⁷ GR Piece 11. Letter from Charles Nelson to William's widow Ann (née Clarke) (1800-85).

²⁸ Memories of Thomas Griffin (1913-2004), great-grandson of the founder.

²⁹ GR Piece 95 - copy of notice of sale on Apr 7 1943, "by direction of the Administrators of the Estate of Miss Anne Griffin deceased" of freehold property at Stockton, "comprising Cottage, Agricultural Land and Works Site with canal frontage."

³⁰ The map reproduced here to show the routes of the canal and railway serving the works is taken from *The Warwick Canals* by Alan Faulkner (pub. Railway & Canal Historical Society, 1985).

³¹ Bradshaw's *Canals and Navigable Rivers of England and Wales*, 1904. 1969 reprint, published by David & Charles.

³² GR Piece 26 - copy & transcript of two draft advertisements (1841)

³³ Bradshaw (1904), *op.cit.*

³⁴ GR Piece 61. Letter from Henry Cox to "Mr Griffin". March 15 1869.

³⁵ GR Piece 60. Letter from John Bird to "Mr Griffin". May 1st 1869.

³⁶ GR Piece 14. June 1866 toll bill from Warwick & Napton Canal Co.

³⁷ Bradshaw (1904), *op.cit.*

³⁸ GR Piece 30. 1904 invoice, Blue Lias Lime Wks., Stone Quarry etc.



Appendix of documents images and transcripts

Section 1 Identity of Customers Pages 46-54

Alphabetical list of customers 1849-54, with names, addresses, occupations and info. sources.

Section 2 Sales and turnover by customer 55-63

Tables showing amounts and value of limestone, of lime (lumps of “burnt lime”, i.e. quicklime, and of ground burnt lime) and of cement sold to each customer, by year, for the period covered by the extant sales ledger - 1849-54. Grand totals are also given, including overall gross company revenue for the period.

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Section 3 Contemporary survey of the quarry

A primitive geological study recording clay and rock seam thicknesses, stone quality, etc.65

Section 4 Sales ledger extracts

ledger-extracts.pdf has images of the pages from the sales ledger referred to in the main text:

If you download the file, make sure that it is kept in the same folder as the main text if you wish to navigate between the two using the bookmarks.

Introductory notes to this section	1
Account of Wm Lee of Blackfriars, largest customer for lime	2
A/c Geo. Roberts, Foleshill, Coventry, ditto for limestone	3
A/c Messrs Ashby of Isleworth, Middlesex, customer for cement	4
A/c Mr Mitchell, Railway Contractor: the only recorded purchaser of ground lime	5
A/c Mr Geo, Nelson, with note re. rent etc.	6
A/c Earl Spencer, Wormleighton: sales to his tenant farmers	7
A/c William Beck, Stockton miller, a typical small customer	8
A/c Mr E. Beck, Isleworth, Middlesex, showing canal dues	9
A/c Pearce & Smith, London, with "expences to men at Tunnel"	10
A/c Chas. Richardson, Paddington: entries re. "spoilt lime"	11
A/c Mr William Thomas, Bedworth, re. purchases of coal	12



Griffin's Blue Lias Lime and Cement Works, Stockton, Warwickshire. Customers recorded in 1849-54 sales ledger.

Bracketed items are additions taken from contemporary directories, or provide standard spellings and geographical locations of places noted.

Column heading abbreviations: **P**=original page no.(s) in ledger **Sc**=source of information on occupations, and additional name/address details

M=material purchased: C cement L (ground or lump*) lime S (lime)stone. * Only customer John Mitchell's entries specify which.

Source codes (directory unless stated): **cn** census record - **gr** History of Griffin's Works - **ha** Hagar's LEI 1849 - **ma** Mason's Brentford etc.1853 (S. London)

ol orig. ledger - **pb** P.O. B'ham/WAR/WOR/STS 1854 - **pw** P.O. WAR 1845 - **vc** Victoria County History - **wh** White's WAR 1850**wl** Whellan's NTH 1849

P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
2	Abbots	[Cash sales 1849; no place]		?		L
35	Alsop John Mr	Napton-on-the-Hill	WAR	farmer, butcher	wh	L
134	Alsop Thomas Mr	Napton	WAR	farmer	wh	L
137,140-1, 196	Ashby William & Son	Roman Cement Works Town Wharf Isleworth	MDX	Roman cement mfr. & plaster of Paris/gypsum. 1847 at Broken Wharf Upper Thames St.(P.O.LND 1847)	ol	C
13, 118, 170	Ball [Betsey] Mrs	Catherine de Barnes Heath[Solihull]	WAR	lime burner , coal dealer & farmer. Not in White's 1850.	pw	S
128	Barnes Wm Mr	Sawbridge [parish of Wolfhamcote]	WAR	Not in directories w, o, or 2.		L
57	Barnwell [Wm.Mason]	Sawbridge [parish of Wolfhamcote]	WAR	farmer. 21 houses at the time in Sawbridge hamlet.	wh	L
110	Barnwell William Mr	Thurlaston [Dunchurch]	WAR	farmer	wh	L
2	Bayes	[Cash sales 1849; no place]		prob. William Bayes, farmer		L
30,178	Bayes Wm. Mr	Stockton	WAR	farmer	wh	L
171	Bayliss Wm. Mr	Braunston	NTH	farmer, grazier	wh	L
1	Beasley	[Cash sales 1849; no place]		?		S
28	Beasley Joseph Mr	Dunchurch	WAR	bricklayer	wh	L
174	Beasley William Mr	Thurlaston Toll Gate [Dunchurch]	WAR	bricklayer	cn	L
192	Beck E[dward] Mr	[Shrewsbury Wharf] Isleworth	MDX	timber, slate & stone merchant	ma	L
44	Beck Joseph Mr	Stockton	WAR	farmer, tailor [in w; & o,2,respectively - if same person]	wh	L
47	Beck William Mr	Stockton	WAR	farmer	wh	L
2	Bicknell C.	[Cash sales 1849; no place]		prob. Chas. Bicknell, stone mason		L
83	Bicknell Chas. Mr	[Coventry St.] Southam	WAR	stone mason	wh	L
2	Biggs	[Cash sales 1849; no place]		possibly a servant at Blundells' Farm Birdingbury		L
123	Black Robert Mr	Toft [Dunchurch]	WAR	farmer; land agent to Lord John Scott.	wh	L
115	Blick William Mr	[Dun Cow] Dunchurch	WAR	farmer, publican	wh	L
16	Bloore [& Rhodes] Mr	Stretton Wharf [Stretton-under-Fosse]	WAR	wharfingers & corn dealers	pw	S
--	Blundell Richard	see Brundle Richard Mr				
2	Bolten	[Cash sales 1849; no place]		?		L
157	Bromfield H. Revd	[not stated]		poss Curate of Charlecote WAR		L
127	Bromfield [H.J.] Mr	Causton [Cawston, par. Dunchurch]	WAR	farmer. Henry Jenkins Bromfield.	wh	L

Griffin's Blue Lias Lime and Cement Works customers recorded in 1849-54 sales ledger.

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P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
2	Brunde [Blundell?]	[Cash sales 1849; no place]		poss. Richard Blundell [21]		L
116	Brundle Richard Mr	Birbury [=Birdingbury]	WAR	prob. farmer, Richard Blundell, Birdingbury Fields.	pw	L
122	Bucknell [Chas.] Rev	Neithercote [hamlet of Nethercote]	WAR	incumbent, Wolfhamcote: Rev. Charles Reading Bucknill (sic)	wh	S
--	Bucknill	see Bucknell				
--	Bullin	see Bulling				
135	Bulling [Thos.Wm] Mr	Toft [Dunchurch]	WAR	farmer. Bullin (sic) Thomas William	pb	L
60	Burden John Mr	Priors Hardwick	WAR	butcher	wh	L
154	Chamberlayne H.T. Esq	Thorpe [=Stoney Thorpe or Stoneythorpe]	WAR	Henry Thomas Chamberlayne of Stoneythorpe Hall, Southam.		L
77	Chambers (Thomas) Mr	Birbury [=Birdingbury]	WAR	bricklayer	wh	L
102	Chambers William Mr	Dunchurch	WAR	bricklayer	wh	L
2	Chambers Wm.	[Cash sales 1849; no place]		prob. the Dunchurch bricklayer		L
191	Checketts & Buffery Messrs	[Emscote] Warwick	WAR	stone & marble masons	wh	S
82	Church Richard Mr	[Kings Arms] Stockton	WAR	publican, plumber & glazier.	wh	L
131	Churchwardens Lm.H.	Leamington Hasting[s]	WAR			L
132	Churchwardens Stock.	Stockton	WAR			L
166	Clarke Mr	Coventry	WAR	builder? (Wm.) Sovereign pl.; or Chas., bricklayer, Albion St;	wh	S
1	Clarrage	[Cash sales 1849; no place]		?		S
49	Cleaver Samuel Mr	Stockton	WAR	not in w, o, 2.		L
161	Coles & Shadbolt	St James Wharf Caledonian Rd Islington	LND	Roman cement manufacturer. See Francis, p.174	ol	L
56	Coles [Wm.] Mr	Offchurch	WAR	farmer	wh	L
86	Congreve [Thos.] Mr	Leamington Hastings	WAR	farmer	wh	L
168	Cooke George Mr	[Nether or Lower] Shuckburgh	WAR	coal and corn merchant & farmer	pb	L
184	Cornborough [John]Mr	Grandborough	WAR	farmer	wh	L
107	Crofts Thomas Mr	Causton [Cawston, par. Dunchurch]	WAR	No Thomas in w,o,2.A John Crofts,farmer, under Dunchurch.		L
2	Curtis	[Cash sales 1849; no place]		?farmer		L
177	Curtis [Mary] Mrs	Farnborough	WAR	farmer	wh	L
52	Curtis [Wm.] Mr	Priors Marston	WAR	farmer	wh	L

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P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
1	Daffern	[Cash sales 1849 (twice); no place]		?		S
95	Daffern James	Wash La Nuneaton. Name/address deleted	WAR	White's 1850 gives a James Daffern, grocer & blacksmith, in Napton-on-the-Hill.		X
2	Douglas	[Cash sales 1849; no place]		Thos., farmer & shoemaker?		L
54	Douglas [Thos.] Mr	Napton	WAR	farmer & shoemaker	wh	L
1	Dugdail	[Cash sales 1849; no place]		?		S
1	Dunsford	[Cash sales 1849 (twice); no place]		?		S
129	Eadon Chas.junr. Mr	[Navigation Inn] Napton	WAR	publican; grazier; coal merchant, Old Wharf	wh	L
21	Eadon Chas.senr. Mr	Napton	WAR	farmer	wh	S
50	Elkington [James?]Mr	Broadwell [par.Leamington Hastings]	WAR	Only Broadwell Elkington entry in w : James, shoemaker.(One small purchase, 1849)	wh	L
53	Fabling [Thos.] Mr	[Manor House] Wormleighton	WAR	grazier	wh	L
67	Fessey [John] Mr	Stonten Motts [Stoneton, parish of	WAR	farmer	wh	L
25	Finch Wm. Mr	Stockton	WAR	poss retired carpenter		L
10	Freen Thos Mr & Co.	[Canal Rd., Kingsland Rd.] London	LND	Roman cement manufacturer.	ma	L
2	French (?)	[Cash sales 1849; no place]		?		L
29	Garner John Mr	Teachbrook [=Bishop's Tachbrook]	WAR	farmer	wh	L
156	Garner John Mr	Southam	WAR	w.:no John Garner, but a John Gardner Esq., Southam Fields.		L
66	Garner [George] Mr	Wolscote [Woolscott,par.Grandboro']	WAR	farmer	wh	L
59	Gibbins Edmund Mr	Stockton	WAR	not in w, o, 2		L
112	Gilbert Mrs	Borton [prob.Bourton-on-Dunsmore]	WAR	Not in w, o, 2 for B.- on- Dunsmore.		L
39	Goode John Mr	Hill [Leamington Hastings]	WAR	farmer	wh	L
74	Goode [Wm.] Mr	Grandborough	WAR	farmer	wh	L
2	Goodman	[Cash sales 1849; no place]		?		L
106	Grant Mr	Fenny Compton	WAR	White 1850 has John Grant, quarryman.		L
70	Griffin Edmund	Boddington	NTH	White 1850 has Edward Griffin, farmer, Upper Boddington		L
88	Griffin George Mr	[High St.] Southam	WAR	hatter	wh	L
143	Griffin James Mr	Farnborough	WAR	farmer	wh	L
2	Hall Thos.	[Cash sales 1849; no place]		prob. Thos. of Napton		L
36	Hall Thos. Mr	Napton	WAR	grazier	wh	L
1	Hambage	[Cash sales 1849; no place]		?		S

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P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
80	Hands (George) Mr	Calcut[t] [par. Grandborough]	WAR	farmer	wh	L
79	Hands Henry Mr	Hill [Leamington Hastings]	WAR	farmer	wh	L
187	Hands Henry [jun.]Mr	[Kites] Hardwick	WAR	farmer	wh	L
89	Hands Thos. jun. Mr	Grandborough	WAR	farmer	wh	L
185	Hands [Wm.] Mr	Willoughby	WAR	farmer	wh	L
1	Hardey	[Cash sales 1849; no place]		Thos. of Chilvers Coton?		S
104	Hardy Thomas Mr	[Chilvers Coton] Nuneaton	WAR	blue brick & tile maker and builder	pw	S
-	Harris	see Harriss				
1	Harriss	[Cash sales 1849; no place]		?		S
22	Harriss [Benjamin]Mr	Hartshill [nr Atherstone]	WAR	Benjamin Harris, bricklayer	wh	S
147	Harriss [W,J] Messrs	Wyken Colliery [Craven Coll.,Wyken]	WAR	W.S. & J. Harris, coal masters. Earl Craven a large Wyken landowner.	pw	S
93	Harriss [Wm.] Mr	Coten Wharf [Wh'f at Chilvers Coton	WAR	Wm. Harris, brick & tile maker, builder & wharfinger. Wharf on the Coventry Canal.	wh	S
2	Haward	[Cash sales 1849; no place]		?		L
55	Hawkes Mr	Southam	WAR	Only Hawkes entry in White's 1850: Thomas, a whitesmith (tinplate smith), Daventry Rd.		L
96	Haynes John Mr	Napton	WAR	farmer	wh	L
162	Herbert Mr	[not stated]		?		L
-	Heritage	see Herratage				
125	Herratage [James] Mr	Dunchurch	WAR	"taylor" (tailor)	ol	L
-	Hibbert	see Hiberts				
109	Hiberts [J.H.] Capt.	Bilton Grange [par.Bilton nr Rugby]	WAR	Capt. John Herbert Washington Hibbert, landowner	wh	L
-	Hickin	see Hicking				
180	Hicking [Joseph] Mr	Marton	WAR	farmer	pb	L
27	Hill Mr	Wormleighton	WAR	not in w., 1851 cen..		L
42	Hinks Henry Mr	Mawbonehall [Malvern Hall] Broadwell	WAR	not in w,o, 2; P.O.1845 has Thomas Hincks, farmer. Still pronounced Mawbonehall today.		L
72	Hinks Mathew Mr	Kytes [Kites] Hardwick [L. Hastings]	WAR	farmer	wh	L
175	Hinks Richard Mr	Broadwell [par. Leamington Hastings]	WAR	not in w, o, 2. Entry for Ann Hinks, farmer.		L

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P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
32	Hodgson William Esq	[The Hill] Stockton	WAR	landowner, lord of the manor	wh	L
26	Holbech William Esq	[Farnborough Hall] Farnborough(sic)	WAR	landowner, lord of the manor	wh	L
2	Hopper	[Cash sales 1849; no place]		?		L
- (11)	Horley Thomas	[loose chit in page 11]		Poss. Middle Foss farm, Radford Semele; or Ufton (2 Thos Horleys in WAR farmers list)	pb	L
176	Horn Richard Mr	Southam	WAR	not in w, o, 2		L
58	Howard [Samuel] Mr	Welton	NTH	farmer, brick manufacturer & coal merchant	wl	L
87	Hudson Thos. Mr	Hill [Leamington Hastings]	WAR	farmer	wh	L
61	Ivens Mr	Grandborough	WAR	Thomas, farmer, Grandborough Fields, or William, farmer.	pw	L
19	Jackson [William] Mr	Shuckborough [Lower Shuckburgh]	WAR	grazier & coal dealer	wh	S
2	James	[Cash sales 1849 (twice); no place]		?		L
2	Jessey	[Cash sales 1849; no place]		?		L
20	Johns [Thomas] Mr	Hatton [hamlet of Shrewley]	WAR	farmer	wh	S
197	Johnson F.[H.] Mr	Wolescote[Woolscott,par.Grandboro']	WAR	Francis Horwood Johnson, farmer	wh	L
1	Judge	[Cash sales 1849 (twice); no place]		?		S
8/124/159	Kelcey Thos.	Dunchurch	WAR	carpenter & builder	wh	L
33	Kench William Mr	Toft [Dunchurch]	WAR	farmer & horse dealer	wh	L
152	Kenning James Mr	Hill [Leamington Hastings]	WAR	not in w, o, 2		L
81	King Mr	Southam	WAR	Only King entry White 1850: George, land & estate agent, Market Hill		L
41	Lawrence [Thos.] Mr	[Biggin Hill] Thurlaston [Dunchrch]	WAR	farmer	wh	L
91, 92	Lee William Mr & Son	16 Upper Ground St, Blackfriars	LND	Lime & Roman cement manufacturers.	gr	L
201	Leeson John Mr	Braunston	NTH	builder [White's 1850: & brick manufacturer]	ol	L
73	Lewis [Thomas] Mr	[Calcutt Ho.] Calcutt[t][Grandboro']	WAR	farmer	wh	L
69	Lickorish John Mr	Stockton	WAR	not in w, o, 2		L
-	Line	see Lines				
182	Lines [Wm.?] Mr	Lawford [Long Lawford or Church L.]	WAR	Prob. Wm Line,farmer.P.O.1845 gave Joseph, Jos.jun.& John Line, farmers. No "Lines".	wh	L
94	Lovel [William] Mr	Radford [Semele] Wharf nr Leamington	WAR	lime burner, Radford "r." (sic) kilns	pb	S

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P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
2	Lowe	[Cash sales 1849; no place]		?		L
2	Lyde [Lloyd?]	[Cash sales 1849; no place]		?		L
2	Lynes	[Cash sales 1849; no place]		Wm. of Lawford?		L
1	Macclesfield Earl of	[Cash sales 1849; no place]		Stockton Lias cement used at the Earl of Macclesfield's Ensham Hall (A.J. Francis, <i>The Cement Industry 1796-1914</i> , p.88)		S
34	Marlow[Charlotte]Mrs	Broadwell [Leamington Hastings]	WAR	farmer	wh	L
188	Marriott [Chas.] Mr	Thularston [Thurlaston, Dunchurch]	WAR	farmer & assistant overseer	wh	L
108	Martin John Mr	Dunchurch	WAR	carpenter & builder	wh	L
38	Martin Wellington Mr	Dunchurch	WAR	Not in w,o,2.White's 1850 lists a William Martin, farmer.		L
114	Mason [Samuel] Mr	Hill [Leamington Hastings]	WAR	farmer	wh	L
2	Masters	[Cash sales 1849; no place]		?		L
65	Mathews [Thomas] Mr	Fenny Compton	WAR	Thomas Matthews, corn miller, only Mat(t)hews entry 1850 (his purchase 1849).	wh	L
-	Matthews	see Mathews				
37	Maycock [Thomas] Mr	Dunchurch	WAR	farmer	wh	L
111	Miles [Grosvenor] Mr	Bo[u]rton Ho. [Bourton-on-Dunsmore]	WAR	farmer	pb	L
121	Mills Mr	Willoughby Bridge	WAR	Almost certainly William Mills of the Navigation Inn.	wh	S
17	Mills [William] Mr	[Navigation Inn] Willoughby	WAR	virtualler, & coal and lime dealer.	wh	S
105	Mitchell Mr	Foundry Wharf Leamington	WAR	not in w, o, 2.		S
5	Mitchell [John] Mr	Farnborough [Farnborough]	WAR	Railway Contractor [prob. the John Mitchell "surveyor" in P.O.1854.]. Some entries specified "ground lime".	ol	L
2	Moore	[Cash sales 1849; no place]		?		L
2	Morris	[Cash sales 1849 (twice); no place]		?		L
24	Nelson George Mr	Emscote [Warwick;& Saw Mills Wharf]	WAR	timber merchant & patent gelatine mfr. Also timber merchant 23 Warwick St Leamington Priors.	wh	S
169	Nelson Sarah Mrs	Emscote [Mills nr Warwick]	WAR	widow of George; continued his business.	gr	S
2	Nevol	[Cash sales 1849; no place]		?		L
2	Nevol [Neville] Mrs	[Cash sales 1849 (3 times); no place]		?		L

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P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
43, 139	Oxford Canal Company	Oxford	OXF			L
200	Parriss [William] Mr	Thurlaston [Dunchurch]	WAR	carpenter & builder	wh	L
9	Pearce & Smith Messrs	London	LND	contractors. Built the Copenhagen tunnel nr King's Cross in 1849-50	ed	L
167	Pickard Mr	Old Lowr Coakes St Coventry	WAR	not in w, o, 2		S
103, 181	Pilkington C. Revd.	[The Rectory] Stockton	WAR	Rev. Charles Pilkington, B.C.L., incumbent & a "principal landowner"	wh	L
158	Potter & Co. Messrs	Purfleet Wharf, Earl St. Blackfriars	LND	George Potter & Co. grey stone & lime merchants	kl	L
23	Potter [Thomas]	Stoke Heath [par.of Stoke] Coventry	WAR	brick & tile maker	pw	S
2	Prickett	[Cash sales 1849; no place]		?		L
165	Priestley [John] Mr	[Harnall Place] Coventry	WAR	brick & tile maker	wh	S
45	Rawbone William Mr	Stockton	WAR	shoemaker	wh	L
2	Reading	[Cash sales 1849; no place]		John, farmer?		L
68	Reading John Mr	Priors Hardwick	WAR	farmer	wh	L
97	Redhead Mr	Napton	WAR	White's 1850 has Wm Readhead, beerhouse, & wheelwright & grocer.		L
71, 199	Reynolds William Mr	[Warwick St.] Southam	WAR	carpenter [& builder, White's 1850]	ol	L
173	Richardson Chas. Mr	6 South Wharf, Paddington	LND	brick, cement & lime mcht; sole agent for Greaves' blue lias lime & cement	kl	L
2	Rimell	[Cash sales 1849; no place]		?		L
142	Ringrose [Wm.] Mr	Wolescote [Woolscott, par. Grandborough]	WAR	farmer. White's 1850 gives him as Wringrose.	wh	L
18, 146	Roadknight Wm. Mr	[Coleshill St] Atherstone	WAR	lime mcht. In P.O.1845: coal, lime, salt mcht & wharfinger, gas co. wharf	pb	S
15, 99, 163	Roberts George Mr	New Inn Bridge [Lit.Heath] Foleshill	WAR	wharfinger & dealer in coal, lime, cement, whiting, Staffs blue tiles, bricks, etc.	wh	S
190	Sanders M[ary] Mrs	Stockton	WAR	beer retailer [poss.wife of Thos., farmer & beer retailer in P.O.1845]	pb	S
164	Sands William Mr	Coten Wharf [Chilvers Coton Nuneatn]	WAR	White 1850 gives a Wm.Sands, carpenter, of Chilvers Coton.		S
100 etc	Scott John, Lord	[Cawston Lodge] Causton [Cawston]	WAR	landowner, "occasionally " residing at Cawston. Also pp.150,172	wh	L
84	Sharman John Mr	Stockton	WAR	tailor	wh	L
186	Sheppard [Henry] Mr	Napton	WAR	farmer	pb	L
101	Shuckburgh C.B. Revd.	Borton [Bourton-on-Dunsmore]	WAR	Rev. Blincow Shuckburgh, landowner.	wh	L

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62, 149	Sitwell [H.W.] Revd.	[The Vicarage] Leamington Hastings	WAR	Rev Henry Wilmot Sitwell, incumbent.	wh	L
126	Slater Mr	[not stated]		builder	ol	L
193	Smith Mr & Co.	Heyford nr Weedon	NTH	Whellan 1849: John Smith, carpenter, Nether Heyford. [was this Smith & Co. by the time of the 1854 purchase?]	wl	L
6-7, 153, 194	Spencer Earl	Wormleighton	WAR	landowner	wh	L
198	Spencer Messrs	Flecknoe [Fields, par. Wolfhamcote]	WAR	farmers	wh	L
2	Spraggot	[Cash sales 1849; no place]		?		L
183	Sprawson [John] Mr	Marton	WAR	timber merchant	wh	L
155	Sturley Thos. Mr	[Banbury Rd.] Southam	WAR	brick & draining pipe maker	wh	L
189	Surveyors Napton	Napton	WAR	Surveyors of the Parish of Napton		S
113	Surveyors Stockton	Stockton	WAR	Surveyors of the Parish of Stockton		L
40	Sutton John Bliss Mr	Thurlaston [Dunchurch]	WAR	farmer	wh	L
75	Sutton Wm. Lucas Esq	[Manor House] Grandborough	WAR	landowner	wh	L
151	Taft Henry Mr (see Wm.)	[Coventry St.] Southam	WAR	builder	ol	L
64	Taft James Mr	[Banbury Rd.] Southam	WAR	builder	wh	L
63	Taft William & Henry	Southam	WAR	Henry prob.=Henry of Coventry St, in building partnership in this case.	wh	L
78	Taylor [Robert A.]	Woscote [Woolscott, par. Grandborough]	WAR	Robert Alexander Taylor, farmer	wh	L
2	Tessey	[Cash sales 1849; no place]		?		L
14, 145	Thomas William Mr	[Mount Pleasant] Bedworth	WAR	coal & ironstone master, limeburner & farmer	wh	S
195	Timms Richard Mr	Braunston	NTH	Whellan 1849 Joseph Timms, farmer. Kelly 1848: & coal wharf; Slater 1850 & boat builder		L
48	Timms [William] Mr	Grandborough	WAR	farmer	wh	L
1	Tranter	[Cash sales 1849; no place]		?		S
148	Truelove Benjamin Mr	Cop Heath Wharf Knowle [parish of Hampton--in-Arden]	WAR	w: Benjamin Truelove, farmer, Balsall St, Temple Balsall, par. Hampton-in-Arden	wh	S
-	Truslove	see Truslow				
133	Truslow Wm Mr	Leamington Hasting[s]	WAR	Wm Truslove, farmer	wh	L

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P	Customer	Address	Cty	Occupation (for source see next column)	Sc	M
144	Wady William Mr	Warmington	WAR	farmer	wh	L
2	Waggoner	[Cash sales 1849; no place]		?		L
117	Wak[e]lin Mr	Flecknoe [par. Wolfhamcote]	WAR	builder [not in w, o, 2]	ol	L
138	Walker William Mr	Broadwell [par. Leamington Hastings]	WAR	farmer	wh	L
1	Wallington	[Cash sales 1849; no place]		?		S
120	Ward Nicholas Mr	Hinckley Wharf [nr. Hinckley]	LEI	brick & tile mfr, dealer in coal & slate, lime burner, & farmer.	ha	S
46	Warner Mr	"Plot" [Stockton Fields?]	WAR	not in w, o, 2		L
85	Warner William Mr	Stockton	WAR	not in w, o, 2		L
179	Warner William Mr	Napton	WAR	grazier	wh	L
12, 98	Warwick Canal Co.	Canal Office, Warwick	WAR			L
2 (3 x)	Watson	[Cash sales 1849; no place]		?		L
31	Watson Mr	Napton	WAR	carpenter [w.& builder & architect].Recheck for 1st name.	ol	L
90	Watson James Mr	[Hardwick Ho.] Kytes [Kites] H'dw'k	WAR	farmer	wh	L
51	Watson S. Mr	[Woodbine] Cottage, Grandborough	WAR	farmer. Initial only given in directory.	wh	L
160	White Mr	Borton [Bourton-on-Dunsmore]	WAR	not in w,o,2		L
130	Whitehead James Mr	[Warwick Rd.] Southam	WAR	stone mason	wh	L
119	Wilkins [Thomas] Mr	Lighthorne	WAR	builder	ol	L
76	Wise [Wm. John] Rev.	[The Vicarage] Grandborough	WAR	incumbent	wh	L
1 (3 x)	Worster	[Cash sales 1849; no place]		?		S
2	Wosicthe (?)	[Cash sales 1849; no place]		?		L
-	Wringrose	see Ringrose				
11	Yeomans Mr Joseph	London	LND	?		L

Weight and Value of Limestone, Lump Lime, Ground Lime and Cement sold, 1849-1854

Weight of Limestone sold							
Unit: Imperial ton, hundredweight (cwt.). 1 ton = 2240 lbs (pounds) = 1,016 kgs 1 hundredweight (1 cwt) = 112 lbs = 50.8 kgs. 20 cwt = ton).							
Customer	1849	1850	1851	1852	1853	1854	Total
Ball Mrs	303 10	317	312	332	362	213 10	1840 00
Bayes Wm. Mr	---	04	16	---	---	---	20 00
Beasley	27 00	---	---	---	---	---	27 00
Bloore Mr	52 00	---	---	---	---	---	52 00
Bucknell Revd	---	---	10 05	---	---	---	10 05
Checketts & Buffery	---	---	---	---	20	---	20 00
Clarke Mr	---	---	---	---	21	26 10	47 10
Clarrage	20	---	---	---	---	---	20 00
Cooke George Mr	---	---	---	---	91	---	91 00
Daffern	48	---	---	---	---	---	48 00
Dugdail	20	---	---	---	---	---	20 00
Dunsford	51 10	---	---	---	---	---	51 10
Eadon Chas.senr.	---	35	---	---	---	---	35 00
Finch Wm. Mr	02	---	---	---	---	---	2 00
Hambage	26	---	---	---	---	---	26 00
Hardey	23	---	---	---	---	---	23 00
Hardy Thomas Mr	---	72 10	49	---	---	67	188 10
Harriss (cash)	24	---	---	---	---	---	24 00
Harriss (Benjamn]	24	22 10	<i>(also an entry for 1848 of 24 tons)</i>				46 10
Harriss (William]	---	63	---	---	---	---	63 00
Harriss (W,J]Messrs	---	---	---	148 05	---	---	148 05
Howard Mr	---	---	15	28	21 10	20	84 10
Jackson [William] Mr	111 10	102	45 10	86	41	47	433 00
Johns Mr	27	---	---	---	---	---	27 00
Johnson F. Mr	---	---	---	---	---	10	10 00
Judge	43	---	---	---	---	---	43 00
Lovel Mr	---	24	---	---	---	---	24 00
Macckesfield Earl	02	---	---	---	---	---	2 00
Mills Mr ref.112	---	---	24	25	---	---	49 00
Mills [Wm] Mr	23	---	---	---	25	---	48 00
Mitchell Mr	---	19	27	205 10	106	---	357 10
Nelson George Mr	24	---	316 10	---	---	---	340 10
Nelson Sarah Mrs	---	---	---	---	237 10	326 10	564 00
Pickard Mr	---	---	---	---	29	---	29 00
Potter [Thomas]	73 10	140	52	30 10	102 10	103	501 10
Priestley Mr	---	---	---	---	79 10	---	79 10
Roadknight Willm	189 10	178	118 10	179 10	242 10	184	1092 00
Roberts George Mr	345 10	607 10	376	120 10	584 10	443 10	2477 10
Sanders M. Mrs	---	---	---	08 10	---	---	8 10
Sands William Mr	---	---	---	---	156 10	72	228 10
Surveyors Napton	---	---	---	---	28	---	28 00
Thomas William Mr	261	129 10	407	435 10	107 10	84	1424 10
Timms [Willm] Mr	---	---	---	09	04	---	13 00
Tranter	40	---	---	---	---	---	40 00
Tru[e]love Benjam	---	---	---	149	25 10	---	174 10
Wallington	25	---	---	---	---	---	25 00
Ward Nicholas Mr	---	---	48	---	---	---	48 00
Worster	75	---	---	---	---	---	75 00
Total Wt tns., cwts)	1896 00	1679 00	1816 15	1757 05	2284 10	1621 00	11054:10

Griffin's Blue Lias Lime & Cement Works. Weight and value of materials sold as recorded in 1849-1854 ledger.

Value of Limestone sold							
Unit: pre-decimal pounds, shillings, pence (£sd).							
£1 = 20 shillings (20s) = 20 x 5p = 240 old pence (240d) = 20 x 12d. 1d = 0.42p							
Customer	1849	1850	1851	1852	1853	1854	Total
Ball Mrs	29 00 0	32 00 0	28 18 0	32 19 6	23 17 10½	34 08 7½	181 4 0
Bayes Wm. Mr	---	8 0	1 12 0	---	---	---	2 00 0
Beasley	2 14 0	---	---	---	---	---	2 14 0
Bloore Mr	5 04 0	---	---	---	---	---	5 04 0
Bucknell Revd	---	---	1 00 6	---	---	---	1 00 6
Checketts Buffery	---	---	---	---	---	2 00 0	2 00 0
Clarke Mr	---	---	---	---	2 19 7½	2 02 0	5 01 7½
Clarrage	2 00 0	---	---	---	---	---	2 00 0
Cooke George Mr	---	---	---	---	---	9 02 0	9 02 0
Daffern	4 16 0	---	---	---	---	---	4 16 0
Dugdail	2 00 0	---	---	---	---	---	2 00 0
Dunsford	5 03 0	---	---	---	---	---	5 03 0
Eadon Chas.senr.	3 10 0	---	---	---	---	---	3 10 0
Finch Wm. Mr	6 0	---	---	---	---	---	6 0
Hambage	2 12 0	---	---	---	---	---	2 12 0
Hardey	2 06 0	---	---	---	---	---	2 06 0
Hardy Thomas Mr	---	7 05 0	4 18 0	---	7 10 9	---	19 13 9
Harriss (cash)	2 08 0	---	---	---	---	---	2 08 0
Harriss (Benjamn]	2 08 0	2 05 0	---	---	---	---	4 13 0
Harriss (William]	---	6 06 0	---	---	---	---	6 06 0
Harriss (W,J]Msrs	---	---	---	22 04 3	---	---	22 04 3
Howard Mr	---	---	1 10 0	2 12 3	2 05 0	2 03 0	8 10 3
Jackson Mr	11 03 0	10 04 0	4 11 0	7 15 4½	5 05 9	4 02 0	43 01 1½
Johns Mr	2 14 0	---	---	---	---	---	2 14 0
Johnson F. Mr	---	---	---	---	1 02 6	---	1 02 6
Judge	4 06 0	---	---	---	---	---	4 06 0
Lovel Mr	---	2 08 0	---	---	---	---	2 08 0
Mackesfield Earl	4 0	---	---	---	---	---	4 0
Mills Mr ref.112	---	---	2 08 0	2 10 0	---	---	4 18 0
Mills [Wm] Mr	2 06 0	---	---	---	---	2 10 0	4 16 0
Mitchell Mr rf114	---	1 18 0	2 14 0	19 13 4½	---	10 12 0	34 17 4½
Nelson George Mr	2 08 0	---	32 05 7	---	---	---	34 13 7
Nelson Sarah Mrs	---	---	---	---	34 07 10½	23 15 0	58 02 10½
Pickard Mr	---	---	---	---	---	2 18 0	2 18 0
Potter	7 07 0	14 00 0	5 04 0	3 01 0	11 11 9	10 05 0	51 08 9
Priestley Mr	---	---	---	---	---	7 19 0	7 19 0
Roadknight Willm	18 19 0	17 16 0	18 13 0	16 17 3	20 14 0	24 05 0	117 04 3
Roberts George Mr	34 11 0	60 15 0	37 12 0	12 01 0	49 17 10½	58 09 0	253 5 10½
Sanders M. Mrs	---	---	---	17 0	---	---	17 0
Sands William Mr	---	---	---	---	8 02 0	15 13 0	23 15 0
Surveyors Napton	---	---	---	---	---	2 16 0	2 16 0
Thomas William Mr	29 07 3	12 19 0	40 14 0	43 11 0	9 09 0	10 15 0	146 15 3
Timms [Willm] Mr	---	---	---	18 0	---	8 0	1 6 0
Tranter	4 00 0	---	---	---	---	---	4 0 0
Tru[e]love Benjam	---	---	---	13 13 4½	---	2 11 0	16 4 4½
Wallington	2 10 0	---	---	---	---	---	2 10 0
Ward Nicholas Mr	---	---	4 16 0	---	---	---	4 16 0
Worster	7 10 0	---	---	---	---	---	7 10 0
Total Value (£.s.d)	191 12 3	168 04 0	186 16 1	178 13 4½	177 04 0	226 13 7½	£1,129 3s 3d

Weight of Lump Lime sold							
Original weights in quarters/bushels (560lbs/56lbs); here in tons/cwt/bushels.							
Customer	1849	1850	1851	1852	1853	1854	Total
"Pd for"	00 01	---	---	---	---	---	00 01 0
Abbots	00 01	---	---	---	---	---	00 01 0
Alsop John Mr	00 16	---	---	---	03 00	02 08	06 04 0
Alsop Thomas Mr	---	---	03 04	---	---	01 14	04 18 0
Barnes Wm Mr	---	---	00 16	---	---	---	00 16 0
Barnwell (Wm.Mason]	01	02	03	01	07	10	24 00 0
Barnwell William Mr	---	02	---	---	---	---	02 00 0
Bayes	00 01	---	---	---	---	---	00 01 0
Bayes Wm. Mr	04	09 12	08 16	05 08	01 12	00 16	30 04 0
Bayliss Wm. Mr	---	---	---	---	28	29 15	57 15 0
Beasley Joseph Mr	33 02	29 04	05	---	---	---	67 06 0
Beasley William Mr	---	---	---	---	06	15 16	16 02 0
Beck E[dward] Mr	---	---	---	---	---	77 08	77 08 0
Beck Joseph Mr	01 04	---	00 16	00 10	01	---	03 10 0
Beck William Mr	03 10 01	---	02 04	---	02 12	---	08 06 1
Bicknell C.	00 04	---	---	---	---	---	00 04 0
Bicknell Chas. Mr	00 14	01 02	---	---	00 12	02	04 08 0
Biggs	00 01	---	---	---	---	---	00 00 1
Black Robert Mr	---	---	01 04	---	---	---	01 04 0
Blick William Mr	---	08	---	16	03 08	---	27 08 0
Bolten	00 12	---	---	---	---	---	00 12 0
Bromfield H. Revd	---	---	00 12	05 18	---	---	06 10 0
Bromfield [H.J.] Mr	---	---	02 04	---	01	02 08	05 12 0
Brunde [Blundell?]	00 08	---	---	---	---	---	00 08 0
Brundle Richard Mr	---	01	---	---	01	01 04	03 04 0
Bulling [Thos.Wm] Mr	---	---	02 18	---	---	---	02 18 0
Burden John Mr	02	---	---	---	---	---	02 00 0
Chamberlayne H.T(?)	---	---	---	03 08	---	---	03 08 0
Chambers (Thomas] Mr	00 16	---	---	---	08 12	12 10	21 18 0
Chambers William Mr	---	02 08	---	---	---	---	02 08 0
Chambers Wm.	01	---	---	---	---	---	01 00 0
Church Richard Mr	00 04	---	00 12	---	---	---	00 16 0
Churchwardens Leam.Hastings	---	---	00 08	04 04	---	---	04 12 0
Churchwardens Stockton	---	---	01 12	---	---	---	01 12 0
Cleaver Samuel Mr	00 06	---	---	---	---	---	00 06 0
Coles & Shadbolt	---	---	---	---	28 10	---	28 10 0
Coles [Wm.] Mr	00 04	---	---	---	---	---	00 04 0
Congreve [Thos.] Mr	00 04	02 08	00 04	00 16	00 14	---	04 06 0
Cooke George Mr	---	---	---	01	12 02	05 08	18 10 0
Cornborough [John]Mr	---	---	---	---	00 08	---	00 08 0
Crofts Thomas Mr	---	02	---	---	---	---	02 00 0
Curtis	00 08	---	---	---	---	---	00 08 0
Curtis [Mary] Mrs	---	---	---	---	02	---	02 00 0
Curtis [Wm.] Mr	08	14 16	04	---	---	---	26 16 0
Douglas	00 12	---	---	---	---	---	00 12 0
Douglas [Thos.] Mr	12 12	08 16	16	14	14	12	77 08 0
Eadon Chas.junr. Mr	---	---	01 14	04 10	---	---	06 04 0
Eadon Chas.senr. Mr	00 06	01	---	---	---	---	01 06 0
Elkington [James?]Mr	00 10	---	---	---	---	---	00 10 0
Fabling [Thos.] Mr	06	04	04	---	---	---	14 00 0

Griffin's Blue Lias Lime & Cement Works. Weight and value of materials sold as recorded in 1849-1854 ledger.

Weight of Lump Lime sold							
Original weights in quarters/bushels (560lbs/56lbs); here in tons/cwt/bushels.							
Customer	1849	1850	1851	1852	1853	1854	Total
Fessey [John] Mr	03 16	---	---	02	---	---	05 16 0
Finch Wm. Mr	03 02	00 12	00 14	---	---	---	04 08 0
Freen Thos Mr & Co.	57 05	---	---	---	---	---	57 05 0
French (?)	01	---	---	---	---	---	01 00 0
Garner John Mr	53 05	40	---	---	---	---	93 05 0
Garner John Mr	---	---	---	02	---	---	02 00 0
Garner [George] Mr	00 16	---	---	---	---	---	00 16 0
Gibbins Edmund Mr	00 08	---	---	---	---	---	00 08 0
Gilbert Mrs	---	01	---	---	---	---	01 00 0
Goode John Mr	03 12	---	---	---	---	02 08	06 00 0
Goode [Wm.] Mr	01 14	---	---	---	---	01	02 14 0
Goodman	02	---	---	---	---	---	02 00 0
Grant Mr	---	01 08	---	---	---	---	01 08 0
Griffin Edmund	18 08	---	---	---	---	---	18 08 0
Griffin George Mr	02	---	---	---	00 10	---	02 10 0
Griffin James Mr	---	---	---	12	02	---	14 00 0
Hall Thos.	00 08	---	---	---	---	---	00 08 0
Hall Thos. Mr	01	---	---	---	00 08 1	---	01 08 1
Hands (George) Mr	00 08	00 12	00 16	02 08	---	---	04 04 0
Hands Henry Mr	00 16	---	---	---	03 04	02	06 00 0
Hands Henry [jun.]Mr	---	---	---	---	00 16	03 16	04 12 0
Hands Thomas jun. Mr	03 16	---	---	---	---	---	03 16 0
Hands [Wm.] Mr	---	---	---	---	01 12	---	01 12 0
Haward	02	---	---	---	---	---	02 00 0
Hawkes Mr	00 06	---	---	---	---	---	00 06 0
Haynes John Mr	---	01 12	---	---	---	---	01 12 0
Herbert Mr	---	---	---	---	16 16	15 08	32 04 0
Herratage [James] Mr	---	---	04	---	00 14	---	04 14 0
Hiberts [J.H.] Capt.	---	00 16	---	---	---	---	00 16 0
Hicking [Joseph] Mr	---	---	---	---	00 16	---	00 16 0
Hill Mr	07 04	---	---	---	---	---	07 04 0
Hinks Henry Mr	02	---	---	---	02 01	00 08	04 09 0
Hinks Mathew Mr	06	---	06	---	---	---	12 00 0
Hinks Richard Mr	---	---	---	---	03 06	---	03 06 0
Hodgson William Esq	25 16	---	---	---	---	---	25 16 0
Holbech William Esq	03 08	02 04	---	02	02 08	10	20 00 0
Hopper	00 01	---	---	---	---	---	00 01 0
Horley Thomas	---	loose	chit -	year	unknown	00 14	00 14 0
Horn Richard Mr	---	---	---	---	02	---	02 00 0
Howard [Samuel] Mr	08 12	---	02	04	---	08	22 12 0
Hudson Thos. Mr	01	---	---	---	---	---	01 00 0
Ivens Mr	04 04	---	---	---	---	---	04 04 0
Jackson [William] Mr	---	00 04	---	---	00 16	---	01 00 0
James	01 04	---	---	---	---	---	01 04 0
Jessey	00 00 1	---	---	---	---	---	00 00 1
Johnson F.[H.] Mr	---	---	---	---	---	07 12	07 12 0
Kelcey Thos.	36 06	04 14	38 10	67 12	49 04	02nxtBk	198 06
Kench William Mr	52 04	---	---	---	---	06 08	58 12 0
Kenning James Mr	---	---	---	08 08	---	---	08 08 0
King Mr	00 12	---	---	---	---	---	00 12 0

Weight of Lump Lime sold							
Original weights in quarters/bushels (560lbs/56lbs); here in tons/cwt/bushels.							
Customer	1849	1850	1851	1852	1853	1854	Total
Lawrence [Thos.] Mr	20 12	13 12	01 12	02 14	---	---	38 10 0
Lee William Mr & Son	---	815 15	442	---	---	---	1257 15
Leeson John Mr	---	---	---	---	---	06	06 00 0
Lewis [Thomas] Mr	03 08	00 16	---	---	---	---	04 04 0
Lickorish John Mr	00 08	---	---	---	---	---	00 08 0
Lines [Wm.?] Mr	---	---	---	---	02 16	---	02 16 0
Lowe	00 01	---	---	---	---	---	00 01 0
Lyde [Lloyd?] Mr	00 08	---	---	---	---	---	00 08 0
Lynes	00 02	---	---	---	---	---	00 02 0
Marlow[Charlotte]Mrs	08	---	---	---	04	04 16	16 16 0
Marriott [Chas.] Mr	---	---	---	---	01	00 10	01 10 0
Martin John Mr	---	01 04	---	---	---	---	01 04 0
Martin Wellington Mr	09 04	---	---	---	---	---	09 04 0
Mason [Samuel] Mr	---	01	---	---	02	---	03 00 0
Masters	00 16	---	---	---	---	---	00 16 0
Mathews [Thomas] Mr	01 12	---	---	---	---	---	01 12 0
Maycock [Thomas] Mr	04 12	---	---	---	---	---	04 12 0
Miles [Grosvenor] Mr	---	01 04	---	01 04	---	---	02 08 0
Mitchell [John] Mr	21 12	18 12	10 16	12 04	---	---	63 04 0
Moore	00 02	---	---	---	---	---	00 02 0
Morris	01 12	---	---	---	---	---	01 12 0
Nelson George Mr	---	03 16	123 18	---	---	---	127 14
Nevol	00 12	---	---	---	---	---	00 12 0
Nevol [?Neville] Mrs	05 18	---	---	---	---	---	05 18 0
Oxford Canal Company	53 02	71 06	65 12	74 16	111	41 16	417 12
Parriss [William] Mr	---	---	---	---	---	07	07 00 0
Pearce & Smith Messrs	487 10	287	---	---	---	---	774 10
Pilkington C. Revd.	---	02	---	---	00 16	---	02 16 0
Potter & Co. Messrs	---	---	---	29	---	---	29 00 0
Prickett	02 12	---	---	---	---	---	02 12 0
Rawbone William Mr	01	00 16	00 12	---	---	---	02 08 0
Reading	00 10	---	---	---	---	---	00 10 0
Reading John Mr	01 16	---	04	---	04 18	02	12 14 0
Redhead Mr	---	01 12	03 10	---	---	---	05 02 0
Reynolds William Mr	02 16	14 08	---	00 16	29 18	08 04	56 02 0
Richardson Chas. Mr	---	---	---	---	28 10	279 10	308 00
Rimell	00 12	---	---	---	---	---	00 12 0
Ringrose [Wm.] Mr	---	---	---	01 16	---	---	01 16 0
Roadknight Wm. Mr	04	18	---	18	25 06	12	77 06 0
Sanders M[ary] Mrs	---	---	---	01	---	---	01 00 0
Scott John, Lord	---	12 08	20 16	38 08	19 12	13	104 04
Sharman John Mr	01 16	---	---	---	---	03	04 16 0
Sheppard [Henry] Mr	---	---	---	---	01 12 1	---	01 12 1
Shuckburgh C.B. Revd	---	05 08	---	---	01 12	00 12	07 12 0
Sitwell [H.W.] Revd.	19 14	01 04	07 14	18 11 1	---	02 08	49 11 1
Slater Mr	---	---	08 12	---	---	---	08 12 0
Smith Mr & Co.	---	---	---	---	---	56 15	56 15 0
Spencer Earl	47 16	38 10	22 12	25 16	22 12	29 02	186 08
Spencer Messrs	---	---	---	---	---	50 15	50 15 0
Spraggot	00 01	---	---	---	---	---	00 01 0

Weight of Lump Lime sold							
Original weights in quarters/bushels (560lbs/56lbs); here in tons/cwt/bushels.							
Customer	1849	1850	1851	1852	1853	1854	Total
Sprawson [John] Mr	---	---	---	06 08	04 16	09 12	20 16 0
Sturley Thos. Mr	---	---	---	01 12	---	---	01 12 0
Surveyors Stock. Par	---	01 10	---	---	---	---	01 10 0
Sutton John Bliss Mr	16 16	02	---	---	---	---	18 16 0
Sutton Wm. Lucas Esq	02 16	03 04	00 12	00 12	02 08	02 08	12 00 0
Taft Henry Mr	---	---	---	19 14	07 10	---	27 04 0
Taft James Mr	09 12	02 08	---	---	---	---	12 00 0
Taft William & Henry	06 04	04 16	03 14	---	---	02 12	17 06 0
Taylor [Robert A.]	00 12	---	---	---	---	---	00 12 0
Tessey	00 16	---	---	---	---	---	00 16 0
Timms Richard Mr	---	---	---	---	---	04 16	04 16 0
Timms [William] Mr	14	08	00 16	06 08	03 14	14 04	47 02 0
Truslow Wm Mr	---	---	01	---	---	---	01 00 0
Wady William Mr	---	---	---	02 04	---	---	02 04 0
Waggoner	00 04	---	---	---	---	---	00 04 0
Wak[e]lin Mr	---	02	---	---	---	---	02 00 0
Walker William Mr	---	---	---	02	---	---	02 00 0
Warner Mr	00 16	---	00 12	---	02 08	02	05 16 0
Warner William Mr	00 12	---	01	00 08	---	---	02 00 0
Warner William Mr	---	---	---	---	01 04	---	01 04 0
Warw'k Canal Company	16 04	17 12	04 04	---	---	---	38 00 0
Watson	01 00 1	---	---	---	---	---	01 00 1
Watson Mr	04 16	03	---	---	01 18	---	09 14 0
Watson James Mr	01	---	00 04	---	---	02 12	03 16 0
Watson S. Mr	01 12	---	01 04	00 08	00 18	08 12	12 14 0
White Mr	---	---	---	---	60	---	60 00 0
Whitehead James Mr	---	---	00 12	---	00 16	---	01 08 0
Wilkins [Thomas] Mr	---	---	25 14	11 16	---	---	37 10 0
Wise [Wm. John] Revd	02 08	---	---	---	00 12	---	03 00 0
Wosicthe (?)	01	---	---	---	---	---	01 00 0
Yeomans Mr Joseph	27	---	---	---	---	---	27 00 0
Total Weights in Tons/Cwt	1192 18	1494 9	862 10	432 17	549 7	797 5	5,329 6



Value of Lump Lime sold							
Unit: pre-decimal pounds, shillings, pence (£sd).							
£1 = 20 shillings (20s) = 20 x 5p = 240 old pence (240d) = 20 x 12d. 1d = 0.42p							
Customer	1849	1850	1851	1852	1853	1854	Total
"Pd Cash"	1 0	---	---	---	---	---	1 0
Abbots	1 0	---	---	---	---	---	1 0
Alsop John Mr	9 0	---	---	---	1 10 0	1 04 0	3 3 0
Alsop Thomas Mr	---	---	2 00 0	---	---	17 0	2 17 0
Barnes Wm Mr	---	---	8 0	---	---	---	8 0
Barnwell (WmMason	11 3	1 00 0	1 10 0	10 0	3 10 0	5 00 0	12 1 3
Barnwell William	---	1 00 0	---	---	---	---	1 0 0
Bayes	3 0	---	---	---	---	---	3 0
Bayes Wm. Mr	2 05 0	4 16 0	4 08 0	2 14 0	16 0	8 0	15 7 0
Bayliss Wm. Mr	---	---	---	---	16 02 0	17 17 0	33 19 0
Beasley Joseph Mr	26 08 4½	18 04 0	3 05 0	---	---	---	47 17 4½
Beasley William M	---	---	---	---	4 10 0	11 17 0	16 7 0
Beck E. Mr	---	---	---	---	---	45 16 9	45 16 9
Beck Joseph Mr	16 6	---	8 0	6 3	12 0	---	2 2 9
Beck William Mr	1 19 10½	---	1 2 0	---	1 06 0	---	4 7 10½
Bicknell C.	2 3	---	---	---	---	---	2 3
Bicknell Chas. Mr	7 10½	13 6	---	---	7 6	1 10 0	21 8 10½
Biggs	6	---	---	---	---	---	6
Black Robert Mr	---	---	12 0	---	---	---	12 0
Blick William Mr	---	5 00 0	---	9 06 8	1 14 0	---	16 0 8
Bolten	6 9	---	---	---	---	---	6 9
Bromfield H. Revd	---	---	6 0	2 13 0	---	---	2 19 0
Bromfield [H.J.]	---	---	1 02 0	---	10 0	1 04 0	2 16 0
Brunde[=Blundell]	4 6	---	---	---	---	---	4 6
Brundle Richard M	---	10 0	---	---	10 0	12 0	1 12 0
Bulling Mr	---	---	1 09 0	---	---	---	1 9 0
Burden John Mr	1 02 6	---	---	---	---	---	1 2 6
Chamberlayne H.T(---	---	---	1 14 0	---	---	1 14 0
Chambers (Thos]	9 0	---	---	---	4 06 0	6 05 0	1 10 0
Chambers William	---	1 16 0	---	---	---	---	1 16 0
Chambers Wm	11 3	---	---	---	---	---	1 11 3
Church Richard Mr	3 0	---	7 0	---	---	---	1 0 0
Churchwardens Lea	---	---	4 0	2 02 0	---	---	2 6 0
Churchwardens Sto	---	---	1 00 0	---	---	---	1 0 0
Cleaver Samuel Mr	4 6	---	---	---	---	---	4 6
Coles (Willm] Mr	2 3	---	---	---	---	---	2 3
Coles & Shadbolt	---	---	---	---	12 16 6	---	12 16 6
Congreve Mr	2 3	1 04 0	2 0	8 0	7 0	---	2 3 3
Cooke George Mr	---	---	---	10 0	15 05 0	8 09 0	24 4 0
Cornborough Mr	---	---	---	---	4 0	---	4 0
Crofts Thomas Mr	---	1 00 0	---	---	---	---	1 0 0
Curtis	4 6	---	---	---	---	---	4 6
Curtis [Mary] Mrs	---	---	---	---	1 00 0	---	1 0 0
Curtis [Wm] Mr	4 05 0	7 08 0	2 00 0	---	---	---	13 13 0
Douglas	6 9	---	---	---	---	---	6 9
Douglas [Thos] Mr	7 01 9	4 08 0	8 00 0	7 00 0	7 00 0	6 00 0	39 9 9
Eadon Chas.junr.	---	---	17 0	2 05 0	---	---	3 2 0
Eadon Chas.senr.	3 4½	10 0	---	---	---	---	13 4½
Elkington Mr	7 6	---	---	---	---	---	7 6
Fabling Mr	3 07 6	2 00 0	2 00 0	---	---	---	7 7 6
Fessey Mr	1 18 3	---	---	1 00 0	---	---	2 18 3
Finch Wm. Mr	2 02 7½	7 6	8 0	---	---	---	2 18 1½
Freen Thos Mr Co.	28 12 6	---	---	---	---	---	28 12 6
French (?)	15 0	---	---	---	---	---	15 0

Value of Lump Lime sold							
Unit: pre-decimal pounds, shillings, pence (£sd).							
£1 = 20 shillings (20s) = 20 x 5p = 240 old pence (240d) = 20 x 12d. 1d = 0.42p							
Customer	1849	1850	1851	1852	1853	1854	Total
Garner [Geo] Mr	9 0	---	---	---	---	---	9 0
Garner John	26 02 0	22 10 0	---	1 00	---	---	49 12 0
Gibbins Edmund Mr	4 6	---	---	---	---	---	4 6
Gilbert Mrs	---	10 0	---	---	---	---	10 0
Goode John Mr	2 00 6	---	---	---	---	1 04 0	3 4 6
Goode [Wm] Mr	19 1	---	---	---	---	10 0	1 9 1
Goodman	1 02 6	---	---	---	---	---	1 2 6
Grant Mr	---	14 0	---	---	---	---	14 0
Griffin Edmund	14 07 0	---	---	---	---	---	14 7 0
Griffin George Mr	1 09 0	---	---	---	5 0	---	114 0
Griffin James Mr	---	---	---	9 15 0	1 00 0	---	10 15 0
Hall Thos. ref62	11 3	---	---	---	4 6	---	15 9
Hall Thos.(cash)	4 6	---	---	---	---	---	4 6
Hands (Geo) Mr	4 6	6 0	1 0	1 04 0	---	---	115 6
Hands Henry Mr	9 0	---	---	---	1 12 0	1 00 0	3 1 0
Hands Henry [jun]	---	---	---	---	8 0	1 18 0	2 6 0
Hands Thomas jun.	2 02 9	---	---	---	---	---	22 9
Hands [Wm] Mr	---	---	---	---	16 0	---	16 0
Haward	1 02 6	---	---	---	---	---	1 2 6
Hawkes Mr	3 4½	---	---	---	---	---	3 4½
Haynes John Mr	---	16 0	---	---	---	---	16 0
Herbert Mr	---	---	---	---	8 08 0	7 14 0	16 2 0
Herratage [?Herit	---	---	2 00 0	---	7 0	---	2 7 0
Hiberts Capt.	---	8 0	---	---	---	---	8 0
Hicking Mr	---	---	---	---	8 0	---	8 0
Hill Mr	4 01 0	---	---	---	---	---	4 1 0
Hinks Henry Mr	1 02 6	---	---	---	1 01 0	4 0	2 7 6
Hinks Mathew Mr	3 07 6	---	3 00 0	---	---	---	6 7 6
Hinks Richard Mr	---	---	---	---	1 13 0	---	113 0
Hodgson William E	14 15 3	---	---	---	---	---	14 15 3
Holbech William E	1 18 3	1 02 0	---	1 00 0	1 04 0	5 00 0	10 4 3
Hopper	1 0	---	---	---	---	---	1 0
Horley Thomas	loose	chit.Yr/	value?	Estimatd	2s3d qr	710½	710½
Horn Richard Mr	---	---	---	---	1 00 0	---	1 0 0
Howard Mr	4 16 9	---	1 00 0	2 00 0	---	4 00 0	11 16 9
Hudson Thos. Mr	11 3	---	---	---	---	---	11 3
Ivens Mr	2 07 3	---	---	---	---	---	2 7 3
Jackson Mr	---	2 0	---	---	8 0	---	10 0
James	17 3	---	---	---	---	---	17 3
Jessey	6	---	---	---	---	---	6
Johnson F. Mr	---	---	---	---	---	3 16 0	316 0
Kelcey Thos	20 09 4½	2 15 0	24 05 0	35 04 0	25 19 6	œ1+nxtBk	109 12 10½
Kench William Mr	35 13 3	---	---	---	---	4 08 0	40 1 3
Kenning James Mr	---	---	---	4 04 0	---	---	4 4 0
King Mr	9 0	---	---	---	---	---	9 0
Laurence Mr	10 06 0	6 16 0	16 0	1 07 0	---	---	19 5 0
Lee William Mr So	---	36415 0	17616 0	---	---	---	54111 0
Leeson John Mr	---	---	---	---	---	3 00 0	3 0 0
Lewis Mr	1 11 6	8 0	---	---	---	---	119 6
Lickorish John Mr	6 0	---	---	---	---	---	6 0
Lines Mr	---	---	---	---	1 08 0	---	1 8 0
Lowe	1 0	---	---	---	---	---	1 0
Lyde [Lloyd?]	4 6	---	---	---	---	---	4 6
Lynes	2 0	---	---	---	---	---	2 0

Value of Lump Lime sold							
Unit: pre-decimal pounds, shillings, pence (£sd).							
£1 = 20 shillings (20s) = 20 x 5p = 240 old pence (240d) = 20 x 12d. 1d = 0.42p							
Customer	1849	1850	1851	1852	1853	1854	Total
Marlow Mrs	4 10 0	---	---	---	2 00 0	2 08 0	818 0
Marriott Mr	---	---	---	---	10 0	5 0	15 0
Martin John Mr	---	12 0	---	---	---	---	12 0
Martin Wellington	7 09 6	---	---	---	---	---	7 9 6
Mason Mr	---	10 0	---	---	1 00 0	---	110 0
Masters	9 0	---	---	---	---	---	9 0
Mathews Mr	18 0	---	---	---	---	---	18 0
Maycock Mr	2 11 9	---	---	---	---	---	211 9
Miles Mr	---	12 0	---	12 0	---	---	1 4 0
Mitchell (John]	10 16 0	8 06 0	5 08 0	6 02 0	---	---	34 8 6
Moore	2 0	---	---	---	---	---	2 0
Morris	18 0	---	---	---	---	---	18 0
Nelson George Mr	---	1 18 0	61 19 0	---	---	---	63 17 0
Nevol	6 9	---	---	---	---	---	6 9
Nevol?Neville]Mrs	3 06 4½	---	---	---	---	---	3 6 4½
Oxford Canal Comp	29 17 9	35 13 0	32 16 0	37 08 0	55 10 0	20 18 0	212 6 9
Parriss Mr	---	---	---	---	---	3 10 0	310 0
Pearce Smith Mess	351 06 4½	243 08 3	---	---	---	---	594 14 7½
Pilkington C. Rev	---	1 00 0	---	---	10 6	---	1 10 6
Potter Co. Messrs	---	---	---	13 01 0	---	---	13 1 0
Prickett	1 09 3	---	---	---	---	---	1 9 3
Rawbone William M	13 9	10 0	7 6	---	---	---	1 11 3
Reading	5 7½	---	---	---	---	---	5 7½
Reading John Mr	1 00 0	---	2 00 0	---	3 01 0	1 00 0	7 1 0
Redhead Mr	---	16 0	1 15 0	---	---	---	2 11 0
Reynolds William	1 11 6	7 04 0	---	8 0	14 11 0	4 02 0	27 16 6
Richardson Chas.	---	---	---	---	14 05 0	12819 6	143 4 6
Rimell	6 9	---	---	---	---	---	6 9
Ringrose Mr	---	---	---	18 0	---	---	18 0
Roadknight Willm	2 05 0	9 00 0	---	9 00 0	12 13 0	6 00 0	44 18 0
Sanders M. Mrs	---	---	---	10 0	---	---	10 0
Scott John, Lord	---	6 14 6	10 08 0	19 04 0	9 16 0	6 10 0	52 12 6
Sharman John Mr	1 04 9	---	---	---	---	1 18 3	3 3 0
Sheppard Mr	---	---	---	---	16 6	---	16 6
Shuckburgh C.B. R	---	2 14 0	---	---	16 0	6 0	3 16 0
Sitwell Revd.	12 01 1½	12 0	3 17 0	10 07 0	---	1 04 0	28 1 1½
Slater Mr	---	---	4 06 0	---	---	---	4 6 0
Smith Mr Co.	---	---	---	---	---	39 14 6	39 14 6
Spencer Earl	25 17 9	19 05 0	10 16 0	13 08 0	11 06 0	14 11 0	95 3 9
Spencer Messrs	---	---	---	---	---	30 09 0	30 9 0
Spraggot	1 0	---	---	---	---	---	1 0
Sprawson Mr	---	---	---	3 04 0	2 08 0	4 16 0	10 8 0
Sturley Thos. Mr	---	---	---	16 0	---	---	16 0
Surveyors Stock.	---	18 9	---	---	---	---	18 9
Sutton John Bliss	9 09 0	1 00 0	---	---	---	---	10 9 0
Sutton Wm. Lucas	1 11 6	1 12 0	6 0	6 0	1 04 0	1 04 0	6 3 6
Taft Henry[=WmHn?	---	---	---	9 17 0	3 15 0	---	13 12 0
Taft James Mr	4 16 0	1 04 0	---	---	---	---	6 0 0
Taft William Henr	3 02 0	2 08 0	1 17 0	---	---	1 06 0	8 13 0
Taylor	6 9	---	---	---	---	---	6 9
Tessey	9 0	---	---	---	---	---	9 0
Timms Richard Mr	---	---	---	---	---	2 08 0	2 8 0
Timms [Willm] Mr	7 00 0	4 00 0	8 0	3 04 0	1 17 0	9 07 0	25 16 0
Truslow Wm Mr	---	---	10 0	---	---	---	10 0

Griffin's Blue Lias Lime & Cement Works. Weight and value of materials sold as recorded in 1849-1854 ledger.

Value of Lump Lime sold							
Unit: pre-decimal pounds, shillings, pence (£sd).							
£1 = 20 shillings (20s) = 20 x 5p = 240 old pence (240d) = 20 x 12d. 1d = 0.42p							
Customer	1849	1850	1851	1852	1853	1854	Total
Wady William Mr	---	---	---	1 02 0	---	---	1 2 0
Waggoner	2 3	---	---	---	---	---	2 3
Wak[e]lin Mr	---	1 10 0	---	---	---	---	1 10 0
Walker William Mr	---	---	---	1 00 0	---	---	1 0 0
Warner Mr ref163	9 0	---	6 0	---	1 04 0	1 00 0	2 19 0
Warner Wm ref164	6 9	---	10 0	4 0	---	---	1 0 9
Warner Wm ref165	---	---	---	---	12 0	---	12 0
Warw'k Canal Comp	9 09 3	8 16 0	2 02 0	---	---	---	20 7 3
Watson (cash)	11 9	---	---	---	---	---	11 9
Watson James Mr	11 3	---	2 0	---	---	1 06 0	1 19 3
Watson Mr ref 168	2 14 0	1 10 0	---	---	19 0	---	5 3 0
Watson S. Mr	18 0	---	12 0	4 0	9 0	4 06 0	6 9 0
White Mr	---	---	---	---	33 15 0	---	33 15 0
Whitehead James M	---	---	6 0	---	8 0	---	14 0
Wilkins Mr	---	---	15 14 3	7 12 6	---	---	23 6 9
Wise Revd.	1 07 0	---	---	---	6 0	---	1 13 0
Wosicthe (?)	11 3	---	---	---	---	---	11 3
Yeomans Mr Joseph	35 02 0	---	---	---	---	---	35 2 0
Total values £ s. d.	778 13 8½	812 12 6	396 11 9	224 10 5	292 00 0	428 9 10½	2931 18 3

Weight and Value of Ground Lime sold (only to Mr Mitchell of Farnborough, Warks)							
	1849	1850	1851	1852	1853	1854	Total
Weight	---	---	40 sacks x 3 bushels	94 bushels	---	---	214 bushels
(in tons)	---	---	3 tons	2 tons 11 cwt	---	---	(5 tons 11 cwt)
Value	---	---	£4 10s 0d	£3 16s 6d	---	---	£8 6s 6d

Weight of Cement sold							
Unit: Imperial ton, hundredweight (cwt.). 1 ton = 2240 lbs (pounds) = 1,016 kgs							
1 hundredweight (1 cwt) = 112 lbs = 50.8 kgs. 20 cwt = ton).							
Customer	1849	1850	1851	1852	1853	1854	Total
Ashby William & Son	---	---	---	348 03	204 12	655 11	1208 06
Nelson Mrs Sarah	---	---	---	---	---	26 13	26 13
Total Weights in Tons/Cwt	---	---	---	348 03	204 12	682 04	1234 19

Value of Cement sold							
Unit: pre-decimal pounds, shillings, pence (£sd).							
£1 = 20 shillings (20s) = 20 x 5p = 240 old pence (240d) = 20 x 12d. 1d = 0.42p							
Customer	1849	1850	1851	1852	1853	1854	Total
Ashby William & Son	---	---	---	420 15 0	241 08 9	840 18 09	1503 02 06
Nelson Mrs Sarah	---	---	---	---	---	21 06 09	21 06 09
Total Total values £ s. d	---	---	---	420 15 0	241 08 9	862 05 06	£1,524 09 03

Gross Company Revenue as recorded in the ledger							
Material	1849	1850	1851	1852	1853	1854	Total
Limestone	191 12 03	168 04 00	186 16 01	178 13 04½	226 13 7½	177 04 00	1129 03 04
Lump Lime	778 12 8½	812 12 06	399 08 03	224 10 05...	292 00 0...	428 9 10½	2935 13 08
Ground Lime	---	---	4 10 00	3 16 06...	---	---	8 06 06
Cement	---	---	---	420 15 00...	241 08 9...	862 05 06	1524 09 03
Total £ s. d	970.04 11½	980 16 06	590 14 04	827 15 03½	760 02 04½	1467 19 04	£5,597 11s 10d

Contemporary survey of the quarry (GR Piece 73)

(1)

Earth	
11 inch rock	no. 1
16 inch clay	
3	2
15	
5	3
14	
3	4
2 1/4	
5	5
12	
6	6
3 6	
5	7
10	plums
5	8
5 feet bed	2 1/4 clay
	1/2 sawers
	2 1/4 clay
9	half turn 9
10	
9	10
2 1/4	

(2)

6 level rock	11
13	
1/4	
1/4	3 rocks 12
1/4	
13	
6	13
2 1/4	last one
16	Big rock 14
12	
17	5 rocks 15
12	
8	Black 16
2 1/4	
8	Butter 17
18	
12	to 8 inch clay rock
20	
4	
20	
last	4

Griffin's Blue Lias Lime & Cement Works. Survey of the quarry.

(3)

7	
5	rock same clay
36	
14	The Dubble rock
36	
8	
20	
6	
24	
3	
2	
4	
4	
2	
2	
2	
4	
4	
12	
12	
12	flat jointy

(4)

8	
last at top end 4	
from the 3	12
	4
	16
	9 Dubble
	60
first rock	9 jointy