

DERBYSHIRE MISCELLANY

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Cromford Canal at Codnor Park c.1955

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WOOLLEY'S WORLD: WILLIAM WOOLLEY AND THE RURAL SCENE IN SOUTHERN DERBYSHIRE IN THE EARLY EIGHTEENTH CENTURY

(by Roger Dalton,

William Woolley's *History of Derbyshire*,¹ published in 1707, deals mainly with significant county families in the context of the places with which they were identified. Woolley gave little space to the north of the county with which he was relatively unfamiliar so that detailed coverage is limited to the three hundreds in the south of the Derbyshire: Repton and Morleston, Appletree and Wirksworth. Woolley also commented briefly, but seemingly accurately, on aspects of the rural scene with respect to these three hundreds given his origins within a Derbyshire farming family from Marston on Dove, and his extensive travels throughout southern parts of the county. Rural matters are the focus of this paper which aims to analyse and contextualise Woolley's observations in order to discover something of the world in which he lived. Although the changes which have taken place over the intervening three hundred years have been profound the opportunities and limitations consequent upon a variety of physical environments mean that strong dimensions of continuity through time are evident.

Woolley provided a framework for his accounts of 201² townships through general comment concerning landscape and farming in the different hundreds. For 139 of these townships he remarked briefly but precisely as to the agricultural worth of land and for a further 55 he variously noted the extent of enclosure, the major land uses and crops and type of livestock. It is evident that he had a sound awareness of the merits of different types of land in farming terms thus providing valuable insights as to how the agricultural potential of southern Derbyshire was perceived before the era of widespread improvement. Moreover analysis of his observations enables the identification of farming-environment relationships with unusual precision for a period some decades before the publication of the reports of William Marshall³, Arthur Young,⁴ and Thomas Brown⁵ and John Farey⁶ for the Board of Agriculture.

Despite Woolley's focus on southern Derbyshire he was well aware of the contrasts between the limestone and gritstone landscapes of the Peak. He did not find such areas attractive as *'the north and west parts which is called the Peak is not so pleasing to the eye grazing multitudes of sheep on top of its mountains'*. More particularly of its southern margins in Wirksworth Hundred he stated: *'it is but barren country feeding or rather I may say breeding great numbers of sheep and by reason of the coldness of the climate get but little corn or grain except oats until September or October, so that generally speaking it is but. indifferent country to live in, being barren of wood and other fuel'* (136). However *'the part joining to Appletree Hundred is a pleasant though hilly country'* whereas Derbyshire's *'....east and south parts are well cultivated and fruitful yielding a very spacious and pleasant prospect'*. Repton and Gresley Hundred was described as *'the pleasantest part of all the county for air and diversion, abounding in parks and large commons and good seats'* (176). Within these eastern and southern parts of Derbyshire Woolley recognised both coal country and tracts of sandy soils associated with sandstone outcrops.

Analysis of Woolley's observations at township level necessitates some simplification of the spectrum of qualitative terms he used to describe land. These ranged through excellent/very good, good, pretty good, good middling, middling/ordinary to indifferent and barren soil. Alternatives are rare such as *'mean'* at Measham (160) clearly suggesting a degree of difficulty. Consistent application of terminology is indicated by the use of similar terms for townships in comparable situations. For many townships Woolley gave an overall descriptor but for others he was well aware of variation. For example at Eaton by Doveridge (118) he noted that *'its situation expresseth the goodness of the soil, being on Dove bank, though on the east side there is a little range of hills, which is not so good land'* and similarly at Repton (146) *'the lowland is good but upland is sandy'*.

Combining Woolley's descriptors a simplified four category scale of land character has been devised. The situation with respect to the best and the worst is most clear. The term *'good'* is used here to include Woolley's rare references to excellent and very good with the more frequent good while at the other end of the scale bleak and indifferent have been taken as *'poor'*. Between these extremes it seems reasonable to combine pretty good and good/middling in an *'above average category'* and middling and ordinary as *'below average'*. Allowing for the townships where Woolley made no comment as to land character, most notably in that part of southern Derbyshire east of Derby, a distinct pattern of distribution is apparent as shown in the map of land classification. The flood plains of the major rivers were the most highly regarded lands while the moorlands of the Peak

especially on the gritstone were the least favoured. The lowlands variably based on marls, sandstones and coal measures appear on either side of average.

In the south of Derbyshire the major rivers, the Trent, Dove, Derwent and Soar all have extensive flood plains often between one and one and a half miles in width giving a total area in excess of 35,000 acres. Typical assessments by Woolley are those at Aston by Sudbury (116) where there was 'good land partaking of the fertility of the Dove banks' and Swarkestone (139) where 'the land about this town is mostly good especially the meadows' while at Little Chester (53) there was 'good land, mostly meadow, lying on the banks of the Derwent'. Other locations where the flood plains were associated with meadows include Spondon (81), Breadsall (85), Chaddesden (83-4), Barrow on Trent (114) and Long Eaton (59).

In south Derbyshire such lands had been prized since Domesday and continued to be so into the nineteenth and twentieth centuries. At Domesday⁷ the major river valleys supported extensive meadow lands as at Egginton. Subsequently the high values put upon hay tithes in the middle ages and rent charges for the sixteenth and seventeenth centuries⁸ were indicators of the enduring importance of flood plains. Towards the close of the eighteenth century William Marshall⁹ praised the quality of river side meadows in the Trent Basin noting the benefits of flooding and sediment deposition in securing an early spring bite. Of all the flood plain meadows those bordering the Dove were held in greatest esteem. From Mayfield to the Churnet confluence at Rocester Pitt¹⁰ reported that the 'water has a greyish cast apparent to the eye from its being impregnated with calcareous earth to which may be attributed the extraordinary fertility of its banks'. Below Rocester the Churnet diluted this fertility 'and although its banks continue to be excellent, yet they visibly decline in richness'. Similarly beyond Uttoxeter and Doveridge 'the herbage is very fine and rush free and thousands of acres are entirely pastured with sheep and cows, some horses'. Here 'very little of it mown for hay a consequence of floods the Dove sometimes rises so high in twelve hours as to carry off sheep and cattle to the great alarm of the inhabitants'. Farey¹¹ also noted the flood problem observing that farmers in the vicinity of Tutbury and Hoon had created artificial mounds as refuges for cattle. The situation on the Dove was exceptional but the Trent meadows were also highly valued in the early nineteenth century as at Aston on Trent in 1814 where 64 acres of 'more or less extraordinary good land situated on the banks of the Trent'¹² was offered for sale. In 1941 the Trent-Dove alluvial grasslands were described as 'some of the lowest and best lands of the county from an agricultural point of view, except for floods which are frequently serious'.¹³

Although for many centuries the best stock feeding grounds available in the county, in Woolley's day not all flood plain locations were agriculturally positive. At Shardlow (58) there was 'a large wet moor called Shardlow Moor which belongs to several towns in the neighbourhood' including Alvaston and Boulton (54) both of which had wet moorland. Drakelow (157) had some good land about it but also 'a pretty deal of boggy land by the Trent'.

The townships which Woolley's descriptors indicate as 'poor' were largely located at the southern margins of the Peak on limestone but more especially gritstone country. With reference to the limestone Parwich (216) was located 'on the bleak southern side of Brassington Moor', 'a large moor which extended almost to Buxton'. This part of the Peak was to be progressively transformed from limestone heath to grassland as enclosure took place through the eighteenth and early nineteenth centuries.¹⁴ That limestone grassland had merit was apparent at Bonsall (204) where 'it is a hilly rocky soil but has some pretty good grass ground' and at Carsington (205) where 'the land about it is pretty good pasture but hilly'. The gritstone country was clearly more difficult the area round Tansley (202) being hard land while Heage (188) was 'large in extent but bad land partaking of its neighbours the peak moors.' At Riber (200) there was a large prospect over the moors which were 'very convenient for game as is most of the land in this country'.

To the south of the Peakland margins Woolley's descriptors point to three broad areas of southern Derbyshire where the character of the soil might largely be classified as either above or below average. These were the coal country against Nottinghamshire, the mainly marl country west of Derby and to the north of the Dove and south of the Peak and the area south of the Trent where coal measures, marls and sandstones all occur. In addition to the influence of main rock formations further complexity arises from surface deposits of gravels and glacial clays. Diversity was such that some good or poor land was identifiable in townships within areas otherwise average. From the mid-eighteenth century onwards much average land was to be progressively improved, although the condition of grassland in south Derbyshire was much criticised by Farey¹⁵ writing in the early nineteenth century.

The worth of land over much of the eastern coalfield is summarised by Woolley's comment on Codnor (78) '*as pretty much common land but coarse as is most of the coal country*'. However some locations were viewed more positively including Shipley (71) which was for the '*most part good land considering it is in the coal country*', and also West Hallam (64) '*good middling land in the coal country*'. Similarly nearby Smalley (72) '*lies in the coal country yet hath some pretty good land*'.

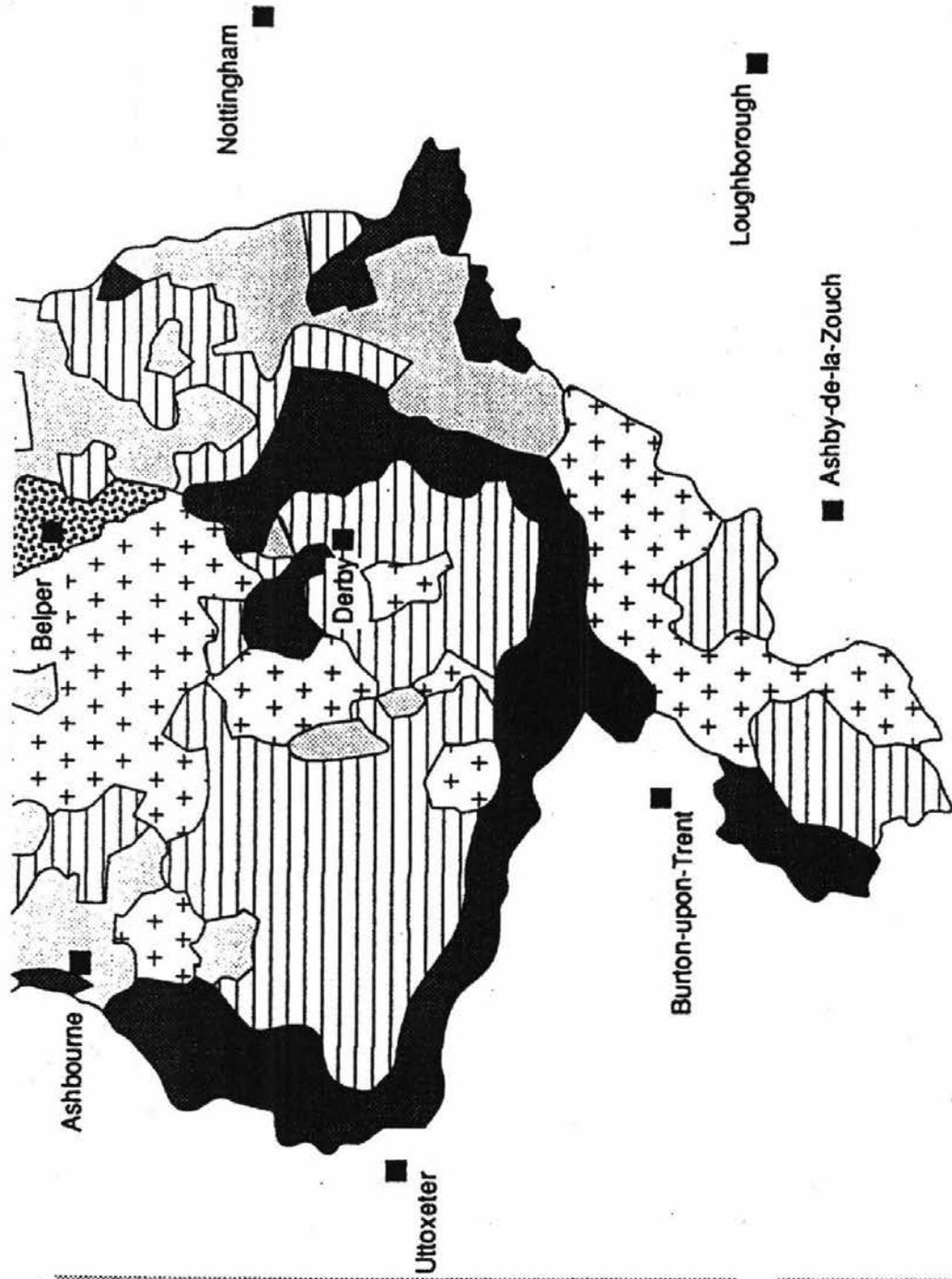
The mercian mudstone, commonly described as red marl, is at its most extensive to the west of Derby. Here Woolley described most townships as having '*good middling*' or '*pretty good*' land. Mickleover (11), Findern (10), Shirley (124) and Rodsley (125) were all good middling while Church Broughton (115) was '*pretty good land, mostly enclosed, some pasture, hilly and field*'. Similarly Somersal Herbert (119), Marston Montgomery (120) and Cubley (121) were also pretty good and enclosed but the dominant land use was indicated as pasture. Hollington (129) however was '*mostly arable*'. Radbourne (102) was less favoured and simply '*middling clay land*'. Just two references to livestock are pointers to possible more general practice. Trusley (117) was noted for dairying and Cubley (121) for its annual cattle fair especially for swine.

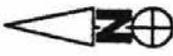
At the northern edge of the marls, the bromsgrove, formerly bunter, sandstone outcrops along a narrow strip of more elevated country between Derby and Ashbourne and here Woolley's observations indicate less favourable land. The sandiness of soils is noted at Quarndon (16) while at Mugginton (94) there was '*moderate land bordering the hill country*'. Hulland (134) was notably difficult being '*ordinary coarse land which lies cold, high and bleak*'. The southern margins of the marls are partly masked by various gravel and peaty deposits the presence of which is pointed to Woolley's record. He noted '*indifferent land*' at Burnaston (105) and Foston (111) both townships having gravelly land. Woolley described Hatton (110) '*as encompassed with moors*' where Hatton Moor was to be defined by Burdett¹⁶ on his map of 1767. At Sinfin (102) there was '*a wet moor*' which was '*bad*' and '*in winter is mostly under water all the towns about have right of common*'.

South of the Trent in Repton and Gresley Hundred the presence of marls, sandstones and coal measures give a diversity of land character. In Woolley's time indifferent sandy soils, particularly those derived from the Triassic sandstones and namurian gritstones outcropping immediately south of the Trent, were associated with tracts of common. Of Melbourne (141), to be famed for its market gardening, he wrote '*the land hereabouts is but indifferent partaking of the large commons that are in this hundred*'. Other townships where the more elevated parts were very sandy and in common were Foremark (143) and Repton (146). At Brethby (149) and Measham (160) the upland was middling ground partaking of the neighbouring woods and commons while at Calke there was '*a large coney warren on the common*'. A further group of townships Linton (159), Rosliston (159), Smisby (160) Willesley (161) and Ravenstone (162) were described as '*enclosed middling land*'. More favourable circumstances existed in the southernmost tip of Derbyshire as at Lullington (167) and Edingale (162) which had '*pretty good land, mostly enclosed*'.

Woolley's references to agrarian structure and farming, although confined to 55 townships, give useful pointers to the agricultural geography of his time. Noteworthy occurrences of arable are identified by reference to '*field land*' thus implying that open field cultivation was practised and that enclosure, if it had occurred, was only partial. Specific crops cited were rye at Barrow and oats at Wyaston. However Woolley's account of the town of Derby (16) implies that a range of grains would have been produced. He stated that '*the principal trade of the town is that of malting with which they supply a great part of Cheshire, Staffordshire and Lancashire*'. He added that '*this town is famous for its very good ale which the brewers send to London and other parts to good advantage*'. The bakers's trade was also significant in Derby as '*this town supplies most of the Peak country with bread made from hard corn they having not much oats among themselves*'. A number of locations with significant arable, including Breaston, Long Eaton and Weston on Trent, have land associated with the lower of the Trent river terraces where naturally lighter soils were suited to barley production.

Unimproved locations in Woolley's time had extensive commons, as at Quarndon, Morley, Boylestone, Foremark and Calke, which were often associated with coney warrens suggesting that rabbits played a noteworthy part in the local food economy. By contrast two clusterings of townships can be identified where '*improvement*' to agrarian structure had been effected through enclosure to pasture in previous times. These were seven townships southwestwards from Swadlincote and a further eighteen around Longford. Many of the townships were associated with heavier red marl based land where pastoral enterprises would have been seen as more appropriate than mixed farming systems. That milk production was central to such farming is supported by Woolley's reference to dairying at Trusley and Wyaston, the established cheese and butter markets at Derby and a custom house for cheese at Shardlow, no doubt for despatch down the Trent.



 5 miles 8 km	<p>Good land</p> <p>Above average</p> <p>Below average</p> <p>Poor land</p> <p>No data</p>
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**South Derbyshire
Land Classification
c1700**
*based upon William Woolley
'History of Derbyshire'*

Analysis of Woolley's various references to land and land use thus enables a feel to be gained as to how he saw the major landscape elements of Derbyshire, variation in the agricultural worth of land and aspects of agricultural systems then practised. Our problem some three hundred years on is to envisage the appearance of past landscapes and thus appreciate the niceties of Woolley's world. Land form in combination with surface geology as soil parent material gives a strong dimension of continuity through time whereas improvement to drainage and agricultural progress have produced significant change. Relative to today's landscape Woolley's most valued lands, the riverine flood plains, would most likely been wetter and more prone to flood at a time when river management was but modest in its impact. Elsewhere across much of the rest of southern Derbyshire it is evident that open and enclosed lands were intermixed with the trend of change moving towards the latter. Open field cultivation based on strips, headlands and furlongs is now a matter for the imagination sharpened by walking ridge and furrow. In the Midlands the improvements associated with enclosure were bound up with 'laying down to grass'.¹⁷ but, in the era before clean and selected grass seed was available and mowing was labour intensive, the creation of good pastures was difficult such that they were botanically varied and prone to weed infestation. Woolley showed that in his time areas of common were locally quite extensive and often associated with rabbit warrens. However commons would also have served as rough grazings and sources of fuel and animal bedding unlike the non agricultural recreational open spaces characteristic of many contemporary lowland commons. Woolley described upland Derbyshire as moorland sheep runs. The limestone heaths, of which there are now but a few localised vestiges, were soon to be enclosed to create a farmscape of stone walls and improved pasture. To a degree this also occurred on the gritstone but peat moors are still extensive although industrial pollution, drainage and localised afforestation and bracken infestation have also had their impacts. Such reflections underline the complexity of the evolving interaction between human activities and the diversity of southern Derbyshire physical environments, of which Woolley certainly had a sound working understanding.

References

1. C. Glover and P. Riden, *William Woolley's History of Derbyshire*, Derbyshire Record Society, Vol VI, 1981. The lengthy introduction to this volume discusses what is known of William Woolley's life and family and the origins, scope and significance of his History.
2. To simplify referencing the bracketed numbers in the text of this article are those given by Woolley to each township.
3. William Marshall, *The Rural Economy of the Midland Counties*, 2 vols, 1796.
4. Arthur Young, *A Farmer's Tour through the East of England*, Vol 1, 1771.
5. T. Brown, *General View of the County of Derby*, 1794.
6. J. T. Farey, *General View of the Agriculture of Derbyshire*, 3 vols: 1811, 1815, 1817.
7. P. Wheatley in H. C. Darby and I. B. Terret (eds), *The Domesday Geography of Midland England*, 1971, p201.
8. E. M. Yates, 'Enclosure and the Rise of Grassland Farming in Staffordshire', *North Staffordshire Journal of Field Studies*, 14, 1974, pp46-60.
9. William Marshall, *op cit*, Vol 2, p46.
10. W. Pitt, *County Reports of the Board of Agriculture: Staffordshire*, 1808, pp88-90.
11. Farey, *op cit*, Vol 1, 1811, p132.
12. *Derby Mercury*, 20 January 1814.
13. A. H. Harris, 'Derbyshire', *The Land of Britain*, Part 63, 1941, p60.
14. P. Anderson and D. Shimwell, *Wild Flowers and other Plants of the Peak District*, 1981, ch 9.
15. Farey, *op cit*, Vol 2, 1815, p190.
16. J. B. Harley et al, P. P. Burdett's *Map of Derbyshire*, 1791 Edition, Derbyshire Archaeological Society, 1975.
17. J. Broad, 'Alternate Husbandry and Permanent Pasture in the Midlands 1650-1800', *Agricultural History Review*, 28, 1980, pp77-89.

BEMROSE'S FACSIMILE PRINTING PROCESS

(by Edward J. Law)

In the early 1840s a process called anastatic printing was developed. Its main advantages over the existing processes proved to be the ability to reproduce drawings directly from the original, without the intervention of engravers, its immediacy, and its cheapness, and it was widely taken up by amateurs. However, it was not a great money spinner, and by the late 1850s only one printer, S H Cowell of Ipswich, was promoting the process. It must have proved profitable as an ancillary to a regular printing establishment, for Cowells continued to operate their anastatic press for a further thirty years.

Early in the 1860s Messrs Bemrose of Derby developed a similar process, Bemrose's Facsimile or Fac-Sim Process. The following note appears in a history of the firm¹:

Early in the 'sixties the firm bought out their process of facsimile printing, by means of which any number of perfect facsimiles of a drawing could be printed by them from stone without the expense and delay of redrawing. The artist or amateur had only to buy a bottle of facsimile ink, and with a pen draw the outline on paper with the ink and let it dry, pack it up carefully to prevent rubbing, and send it to the Firm who would then transfer it to stone and print off copies by lithography. This process was expeditious and cheap, and used for facsimile circulars, architects' and surveyors' plans, lists of quantities, and for illustrating books, etc. It was used for the Pilgrimage to Bedlam and the Derby Ram.

The earliest known output by Bemrose's process is in the first volume of *The Reliquary*, 1860-1, a journal which continued to include Bemrose's Fac-Sim plates down to 1870. A Facsimile Society (sometimes Derby Facsimile Society) commenced in 1865, with Bemrose & Sons establishing a strong connection with it, on the lines of that forged by Cowell with two anastatic drawing societies. The annual subscription was half a guinea and prospectuses were advertised as obtainable from the Rev. C. J. Newdigate, West Hallam, Derby, or from Bemrose & Sons, Derby. The first volume of drawings appeared in 1866, and two more 'annual' volumes, delayed by dilatoriness of members in submitting drawings, followed in 1869 and 1873. Each volume comprised between twenty-five and thirty drawings, from a membership which never exceeded sixty.

Bemrose published a promotional pamphlet,² *Bemrose and Sons' Process of Fac-simile Printing with instructions for using the instantaneous or Fac-simile ink*, following the lead of Cowells who had issued their first pamphlet on anastatic printing in 1851. It was claimed that the Fac-Sim process was superior to the anastatic as the latter could not use tracing paper. Bemrose's booklet probably appeared after 1862 for the following advertisement, which appeared in *Drake's Commercial Directory of the Borough of Derby*, 1862, carries no mention of it:

The attention of artists and amateurs is called to Bemrose's new process of facsimile printing, by which they are enabled to produce any number of perfect facsimiles of a drawing, thereby saving the expensive process of redrawing. Adapted for facsimile circulars, architects' and surveyors' plans, list of quantities, drawings of coins, antiquities, relics, scenery, buildings, &c., &c. Specimens and prices on application.

The Derby Ram, a satirical newsletter which first appeared in 1865 and was to be published 'as public events require it', was printed and published by Bemrose & Sons. An examination of the volume held by the British Library found no evidence of the use of the Fac-Sim process. However, another volume which was subsequently located that had belonged to H. M. Holmes, a Derby worthy, contained twenty-six issues, thought to be the entire run, dated from 1865 to 1868 and cartoons in issues two to nine include the imprint Bemrose's Fac-Sim Process. In the tenth issue is a notice 'Now ready, *Ye Little Ram Nos. 1 to 9. Reduced in size by patent machinery*'. Copies of *Ye Little Ram* have not been located, but it seems from the above notice that they were reduced facsimiles of the first nine issues of *The Derby Ram*.

It is interesting that William Bemrose, who by 1865 had withdrawn from active management of the firm in favour of his sons, felt obliged, when he learned of plans to publish *The Derby Ram*, to issue a warning in the

strongest terms.³ 'The Ram' he wrote 'shall not be issued from this Office in its present form neither as it respects embellishment or matter. I also think the Proprietors of Prayer Books and Advent to Advent and The Ram should be different persons'. When it did appear the title page stated only that it was 'printed & published for the proprietors by Bemrose of Derby', with no indication of who those proprietors were. This must have been sufficient to placate William Bemrose, though it is likely that the identities of proprietor, editor and illustrators were widely known in the city and county.

The other title mentioned in the firm's history, *Ye pilgrimage to Bedlam*, is thought to have appeared in 1864. It is a large format drawing, 26 x 57cm, a political satire relating to Sir George Grey, Secretary of State for the Home Department, and a parliamentary act concerning the confinement and maintenance of insane prisoners: Grey was Home Secretary, for the third time, from July 1861 to June 1866.⁴

In 1868 Priestman Atkinson, who provided illustrations for *The Derby Ram*, and Alfred Wallis, who was its editor, were responsible for the production of another comic periodical, *The Chesterfield Crow*, a single sheet, four page newsletter, published and printed by Richard John Smithson of Chesterfield. The work was priced at three pence and was 'to be published according to the state of the weather', which must have been propitious on the 19th and 26th of September 1868 when numbers 1 and 2 appeared. It is very much in the style of *The Derby Ram*, and although printing is credited to Smithson it may well have been produced by Bemrose's facsimile process. The two issues which have been seen are part of a composite volume titled *East Derbyshire Election Cartoons 1868*. This work comprised eighteen Liberal Cartoons, three Conservative cartoons, *The Chesterfield Crow* and an illustrated title page. The latter details the foregoing contents, and records that it and the Liberal cartoons were produced by J Priestman Atkinson, London, and 'Executed in Bemrose & Sons Fac-simile Process, Derby'. whilst also crediting Richard John Smithson as the printer and publisher.

Atkinson and Wallis were also responsible for producing *The delectable ballad of the Derby Ram*, an illustrated poem, which, though undated, is thought to have been published in 1869. The 26th number of *The Derby Ram*, of 11 December 1868, notes:

'The fine old ballad, which lent its name to our periodical, is also in the hands of our artist for the exercise of his well-known powers of imaginative illustration; an introduction, with serio-comic notes, to be added by ourselves.'

The four volume *Notes on the Churches of Derbyshire* by J Charles Cox also utilised Bemrose's process. The first volume appeared in 1875, and in detailing the illustrations notes 'Rest of plates produced by Messrs Bemrose & Sons' process of Facsimile Printing from drawings by Mr Bailey and others, a process which seems peculiarly suited for the illustration of architectural details'. In the second volume, two years later the author thanked Mr Bailey for 'the studious care and finish that he has bestowed upon the drawings, which have been fac-similed by Messrs Bemrose's Anastatic process'. This despite the credit on one plate to Bemrose & Sons Fac-simile process, Derby; clearly Bemrose's process was equated to the anastatic process in Cox's mind, and probably in the public consciousness.

Acknowledgement

I wish to express my grateful thanks to the staff of Derby City Libraries, Local Studies Library, Irongate, for willing and cheerful assistance in facilitating examination of publications in their collection.

Sources

1. H. H Bemrose, *The House of Bemrose 1826-96*.
2. Geoffrey Wakeman, *Victorian book illustration: the technical revolution*.
3. Dennis Hackett, *The history of the future: the Bemrose Corporation 1826-1976*.
4. Catalogue entry, Durham University Library.

Note

The works noticed in this article comprise all the printing by Bemrose's Fac-Simile Process which is known to the author. It is likely that other material was printed, not least being the ephemeral items detailed in Bemrose's advertisement of 1862. Research on the topic continues and the author (who can be contacted at lawe@eircom.net) will be grateful for further references.

SEVERN ENGINEERING WORKS AND JAMES A LEE

LITTLE CHESTER, DERBY

(by Geoff Sadler,

Introduction

Severn Works, Severn House and Severn Terrace are buildings near the junction of Alfreton Road and Mansfield Road, Chester Green, Derby. Why these are so named has, until recent times, been a puzzle. A phone call received out of the blue solved this mystery. At the same time a brief episode in Chester Green's industrial heritage was revealed but also raised some questions that, so far, remain unanswered.

In January 2005, a call was received from Sandy Thomson, a member of the British Association of Paper Historians, in Scotland. During research through the archives of *The Scotsman* newspaper he had found, in the July 26 1873 edition, an advertisement of a share prospectus for a Limited Company called James A. Lee's Paper Mills Machinery Company Ltd with works at Little Chester, Derby. Sandy was enquiring if the Little Chester History Group knew of this Company.

However, nothing was known. Subsequently, personal research together with information from Sandy and, through him, a contact in Gloucestershire provided the information to piece together this article; the various sources being listed at the end.

Company Prospectus

The introductory paragraph for the Company Prospectus names James Abraham Lee as the Managing Director.

**JAMES A. LEE'S PAPER MILLS
MACHINERY COMPANY (LIMITED)**
SEVERN ENGINEERING WORKS, DERBY.
Incorporated under "The Companies Act 1862 and 1867," by
which the Liability of Shareholders is limited to the amount
of their Shares.

CAPITAL, £120,000, in 12,000 SHARES of £10 EACH.
TO BE PAID UP AS FOLLOWS:

On Application.....	£1 0 per Share.
On Allotment.....	12 0 "
Two Months after Allotment.....	22 0 "
Four Months after Allotment.....	22 0 "
Six Months after Allotment.....	23 0 "
	£10 0

*With option of paying the entire amount on Allotment, under
Discount of 5 per cent.*

DIRECTORS

HUGH ROBERT BAINES, Esq., Merchant, 57 Gracechurch Street,
E.C.

JOHN COWAN, Esq. (late Proprietor Serampore Paper Mills,
Calcutta), London.

The Hon. FRANCIS O. DRUMMOND, Director Natal Land and
Colonisation Company, Threadneedle Street.

W. S. FITZWILLIAM, Esq., King William Street, London, E.C.

CHARLES M. I. POLLOCK, Esq., Oriental Club, Hanover Square, W.

JAMES A. LEE, Esq., Managing Director, Derby.

Bankers.

Messrs SMITH, PAYNE & SMITH London

The Prospectus goes on to state that:-

'This Company has been formed for the purpose of acquiring the business of Mr James A Lee, until recently carried out at Severn Engineering Works, near Lydney, Gloucestershire, and now at the new Works under the same name at Derby together with the engineering plant, goodwill, and the benefit of existing contracts to be taken to as from the date of completion of the purchase from Mr Lee; his valuable patents for improvements in machinery for reducing wood fibres into pulp for paper making, and for improvements in the manufacture of paper'.

Details of his patents were described in the Prospectus. The capital for the Company was stated as being £120000 in 12000 shares at £10 each.

Paper Making

In the 1800s pulp for papermaking was largely made by processing rags. To give some idea of the quantities used: paper mills, during 1800, used rags to produce around 11 thousand tons of paper.

By 1870 paper production had increased to around 150000 tons. This increasing demand led to shortages of suitable rags. In the 1860s the following statement was made - *'Every housekeeper ought to have three bags; a white one for white rags, a green one for coloured, and a black one for waste paper'*. So recycling is not new! Alternative raw materials were therefore being sought. Experiments using a wide range of materials, eg spruce wood, straw, cabbage stump, had been made as early as the second half of the 1700s. Esparto grass was a success but it was not until the mid 1800s that paper made wholly from wood pulp was produced.

Two basic processes are needed to produce pulp from wood. Firstly; the wood has to be mechanically chipped into small pieces. The chips are then loaded into a 'digester' along with 'cooking liquor'. The mixture is then 'pressure cooked' in the sealed digester vessel for some hours. This 'cooking' process separates the wood fibres from the lignin (ie the glue that holds the fibres together) and other organic matter leaving the wood fibres (pulp) undamaged. The mixture is then drained to separate the fibres from the 'liquor'.

In the 1850s, Burgess and Watt patented the preparation of pulp from wood chips using caustic soda solution as the 'liquor'. Apparently this patent gave very little detail of how the theory might be made into a practical process. So, there was scope for concepts of a more practical nature to be patented. The cooking process had to be fairly precise. Undercooking meant that the chips were only partially digested while overcooking damaged the pulp. Developments and experiments had continued over the years but there was still scope, in the latter part of the 1800s, for developing and improving machinery and equipment, and therefore the economics of wood pulp manufacture.

It was improvements to the chipping and cooking processes that James Lee had patented and/or developed. The Prospectus for the Company quoted patents for England, Sweden and Norway, It went on to claim that the patented machinery and equipment *'produced wood pulp which was cheaper in price but equal in quality to pulp produced using esparto grass and other fibrous substances'*.

Comparative costs per ton for bleached pulp were given as: from rags £35, from esparto grass £30 compared with only £24 from wood using Mr Lee's processes.

Equipment Details

As well as information in the Company prospectus, details of machinery and plant developed by James Lee are given in an article published in *The Engineer* for September 24 1869. It describes a visit to the Cone Paper Mill situated near Lydney, Gloucestershire, which was owned by the Gloucestershire Paper Making Company Ltd.

Mr Leigh (Lee) of the nearby 'Severn' Ironworks (ie The Severn Engineering Works) was named in the article as the Engineer for the Company.

Apparently, Cone Mill had been re-opened around 1867 with the object of *'carrying on some scientific experiments in the manufacture of paper by the exclusive employment of wood'*.

Originally the mill had been operating a machine for producing wood chips but this had been *'soon found unsuitable and the time it required for its work was great'*. To improve the process Mr Lee had devised and patented a machine (Figure 1), which apparently was a great improvement on the original. The operation of this machine is described in the Appendix.

For the cooking process the wood chips were filled into wire cages that were rolled into the pressure vessel (Figure 2). The vessel was 32 feet long and 3ft 9inches diameter and made of nine-sixteenths inch thick iron. The end cover of the vessel was bolted in place and made watertight with a lead gasket. A solution of heated caustic soda was then pumped in and maintained at 220°F for several hours (5 to 6 being stated in the article but 3 hours in the Prospectus). The temperature was maintained by hot water being pumped around a pressurised closed circulation pipe array system that passed within the vessel then through a separate furnace and back to the vessel.

When the cooking process was completed the vessel was emptied of the spent caustic soda (lye) and the cages withdrawn. Apparently at this stage the pulp was *'in the form of fibre of unusual length and brightness and of a pale drab blue'*. From this point methods used to process the pulp were *'that usually employed in paper mills'*.

About 1½ tons of wood chips could be processed in each 'cooking' cycle per vessel. Two pressure vessels were installed at the mill; these being used alternately.

A system of evaporating pans was used to process the lye to recover the soda. Details of the system are in the Appendix.

'Messrs Houghton, engineers, of London' had patented the principle (no 467 of 1857) and designed the pressure vessels and evaporating system but the Gloucestershire Paper Company had purchased the English patent rights from them with the installation being by James Lee's Company. The article in *the Engineer* indicated that Mr Lee had improved the system and *'it is to him that credit of many improvements in detail is to be adjudged'*. Mr Houghton could be considered as the entrepreneur with the concept while James Lee was the engineer with the ability to produce and install the equipment.

Paper produced by the mill was very strong and of high quality with a good surface; large quantities being used for emery and glass papers.

James Lee

James Lee was born in 1837 and married Elizabeth Lee Burden in 1859. They had a son James in 1860 and a daughter Sarah in 1862. In the 1871 census the family were recorded as living in Stroat hamlet near Chepstow, Gloucestershire. This was only few miles from where James Lee had his 'Severn Engineering Works' near Lydney on the River Severn. The firm was concerned with *'boilers and apparatus for making of paper from wood straw etc and of patent evaporating apparatus are manufactured'*. Apparently; *'all the draughtsmen were foreigners: most of them of considerable linguistic attainments'*. The Cone Paper Mill having *'the apparatus in active operation'*.

James Lee certainly had a creative mind because over several years he was named in a number of patents viz:

Date	Patent ref	Title
1869	743	Wood Cutting and Grinding
1871	3183	Bleaching and Pulp Engines (jointly with E. Sweetapple)
1873	1804	Cooking and Boiling.
1874	695	Boiling Waste Products etc... (Soda Recovery)

In addition, there were the Swedish (1871) and Norwegian (1872) patents mentioned earlier. Also, he exhibited his pulping plant at the 1873 International Exhibition in Vienna

He was also active in Europe because by the time he moved to Derby in 1873 the Company Prospectus stated that machinery had been *'erected by Mr Lee in England France, Sweden, Prussia'* and was currently *'erecting six other mills in Germany'*. In addition, the *'existing contracts alone were estimated to produce a net profit of £12000'*.

Derby Works

A notice in the *Derby Mercury* for April 16 1873 announced Lee's move to new works of the same name in Little Chester, Derby. The works are listed in Wright's *1874 Trade Directory for South Derbyshire*, which would have been compiled during the previous year, and names him as Lee Jas Abraham, Civil & Practical Engineer living at 103 Friar Gate, Derby. The 1873 rate book did not list him as the owner of '103' so the probability was that he would have 'rooms' there.

The site of the works is a two-acre plot at the corner of Mansfield Road and Alfreton Road, Derby. Figure 3 shows a map of the site taken from the OS map 1882. Original buildings still exist. Figure 4 & 5 show recent pictures of the works while Severn House (Figure 6) fronting on to Alfreton Road is on the top left hand corner of the site facing Alfreton Road. This would have been the home of the Works Manager. Severn Terrace (Figure 6), adjacent to Severn House and comprising four houses, was built after James Lee's occupancy of the site.

Reasons for moving to Derby were given as being more advantageous than the Lydney site for obtaining coal, iron and labour. Another important feature was that the Derby works had a direct connection from its own sidings to the adjacent main line of the Midland Railway *'thus placing all principal shipping ports within easy access for export trade'*.

In July 1873, only four months after moving to Derby the Prospectus for forming a Limited Company was published. The actual date of formation was July 24 and James Lee was named as Managing Director on an annual salary of £750 for five years.

The fact that the Derby premises were *'new and extensive'* implies that the move was part of a scheme, which must have required much thought on land purchase, construction and fitting out of the works. There must have been financial backing for this with the creation of a Limited Company, so soon after moving to Derby, being the ultimate aim of the project; the limited-company status also having the facility to attract new shareholders. Valuation had assessed the freehold and plant at a worth of £44,120, 2s, 6d.

<p style="text-align: center;">NOTICE OF REMOVAL</p> <p style="text-align: center;">JAMES A. LEE ENGINEER, PATENTEE, AND MANUFACTURER OF WOOD PULP AND PAPER MILL MACHINERY The Severn Engineering Works near Lydney Gloucestershire</p> <p>Having found it necessary to meet the requirements of the rapidly increasing demand for his machinery and to obtain greater facilities for its further development begs to notify his friends that he has purchased new and extensive works at Little Chester, Derby, where, on and after March 11 1873 his business will be carried on.</p> <p>All communications after that date must be addressed to</p> <p style="text-align: right;">James. A. Lee The Severn Engineering Works, Derby</p>

A workforce was soon recruited because an item in the Derby Mercury for August 20 1873 announced:

'On Saturday last the employees of Mr J. A. Lee, Severn Engineering Works Derby had their first excursion since Mr Lee removed his works from Lydney, Gloucestershire, to Little Chester, Derby. The place selected for the day's recreation and enjoyment being Matlock Bath, where there was a good substantial dinner etc provided at Mr Lymm's refreshment rooms.

After dinner (the health of their employer and Mr Morris, the manager of the works, and others having been heartily drunk) they spent a very pleasant afternoon visiting the different places of interest, and Mr Lee, with his usual liberality, contributed largely towards the enjoyment of the day!'

Unfortunately, this successful and promising start up together with the optimistic Prospectus did not bring the planned long-term success. On September 23 1874, only 16 months after the Company was formed, a notice for the auction sale on October 8 of *'the works along with the fixed plant and tools'* appeared in the *Derby Mercury* (Figure 7). Details in the sale notice show that the works was comprehensively equipped with plant and machinery from *'the most eminent makers'*. In the event the auction was unsuccessful since a later notice in the *Derby Mercury* announced an Auction Sale on November 3 & 4 of tools and equipment only; the land and buildings being sold by private treaty. Company records show that a formal resolution to *'wind up'* the Company had been passed as early as March 1874. The actual dissolution was two years later in February 1876.

Reasons for the sale are unclear. In all probability it was due to the knock-on effects of a disastrous explosion that had occurred during June of the preceding year at the Cone Paper Mill in Gloucestershire, where in 1869, as previously described, Mr Lee was the Works Engineer and at which his equipment was installed.

Cone Paper Mill Explosion

The *Gloucester Journal* for June 1873 reported that a *'boiler'* (actually a pressure vessel) in which wood pulp was being processed had exploded causing extensive damage to the works.

Providentially, at the time of the explosion all the staff were at the opposite side of the works and nobody was seriously injured. The noise of machinery masked the explosion so their first indication was debris crashing through the roofs and flooding from several tanks. The bulk of the damage was confined to a section occupied by the cooking and evaporating processes, which were *'a conglomerated mass of ruins'*.

The pressure vessel 'flew from its seat through the roof, thence over the pond, uprooting two large oak trees and several other trees, then knocked down a stable, and eventually embedded itself in an embankment two hundred yards or more from the works, whilst part of the roof was dashed quarter of a mile distant'. Damage was estimated at upwards of £6000.

Derby Works Sequel

The freehold and land of the Derby Works was sold to Thornewill and Warham, a long-established Burton upon Trent firm of engineers and iron founders, who occupied it in addition to their Burton site. By 1880 they had built Severn Terrace, a row of four workers houses (Figure 8), adjacent to Severn House on Alfreton Road.

By 1891 the site was occupied by Messrs Mather and Kitchen and called The Severn Boiler Works. The firm specialised in the new trade of welded boiler construction and had over the previous two years become one of 'the leading houses in the trade'.

A print of the works, c1891, (Figure 8), viewed from above the Midland Railway line is from the publication *Derby Illustrated- Its Art Trade And Commerce*. The buildings except one can be identified from details in the 1874 sale notice. The exception is the open-sided shed over the rail siding, which must have been erected post Mr Lee's occupancy. Artistic licence has been used in the drawing. The impressive railings and gates at the far end could not have existed because this is where Severn House and Severn Terrace are situated facing Alfreton Road. The railway on the upper right is the Great Northern line (later LNER) that passed through Derby to Nottingham.

Unanswered Questions

• What Happened To James Lee?

His career after the closure of the Derby works is largely unknown. The *Paper Trade Review* of May 1 1885 in an article on wood pulp stated - 'We learn that during the last few years, Mr Lee has been engaged solely in foreign mills. making and erecting machinery at mills in France, Sweden, Prussia and India'. The same journal for October 23 1885 reported that he had taken up an agency in Britain for special lubricants to be used in paper mills. He died in 1888 at his family home, which was then at Halstead in Essex.

• Why did the Company fail?

The explosion at Cone Mill in June 1873 did not stop the formation of the limited company a month later in July 1873 and there were no apparent problems at the time of the Works Outing in August 1873.

Although the failed pressure vessel, etc, was not of James Lee's design he had been closely associated with its installation and improvements to the cooking and evaporating system; this aspect being emphasised in the Company Prospectus. So it could be surmised that the outcome of subsequent enquiries into the explosion resulted in a lack of customer and shareholder confidence in the equipment and demise of the Company nine months after the incident.

• Why did the pressure vessel explode with such severity?

When the 'entombed boiler' was dug out the newspaper report of 1873 said that *the boiler gave way at the riveting on the domed end*. By that time the vessel had been operating for at least 4 years. During this period it would have been subjected to many heating/cooling cycles; therefore it is feasible that a fatigue failure or metallurgical deterioration could have been initiated due to cyclic temperature changes.

However this does not explain the severity of the explosion. During normal use liquid was circulating through the vessel at a temperature of 220°F; not much higher than the atmospheric boiling point of water, ie 212°F, so, similarly, the internal pressure should have been not much greater than atmospheric pressure. Also, during normal operation, the vessel should have been practically full of liquid with little space for steam to form. Under these conditions failure of a riveted joint would have resulted in the sudden release of the pressurised liquid but no drastic explosion.

The estimated weight of the vessel and its contents is around 10 tons or more. For this to be wrenched from its mountings and hurled a distance of over two hundred yards leaving behind a 'conglomerated mass of ruins' there must have been a huge build-up of stored energy then its sudden discharge when the vessel exploded. This

energy could only have been created by steam pressure being generated within the closed circulation system followed by its explosive release on failure of the riveted joint. For this to have happened indicates that the furnace system went out of control and overheated possibly with the fracture of the circulating pipe heating system in the vessel. Also, the vessel may not have been properly filled with liquid giving space for steam to be generated and over-pressurise the system. At the time of the explosion no personnel were overseeing the furnace /cooking process, so this is a possibility.

However, the diagram of the pressure vessel shows what looks like a dead-weight safety valve on the expansion tank on the top of the vessel. Why didn't this operate to vent any excess pressure?

Conclusions

James Lee was a late 19th century entrepreneur in the development of machinery and equipment for converting wood into pulp for manufacture of paper. Discovery of his move to Derby from a factory near the River Severn in Gloucestershire and the brief existence of his company – James A. Lee's Paper Mills Machinery Company Ltd – in Little Chester revealed a forgotten part of the area's industrial heritage.

The Derby company was short lived possibly due to the consequences of a serious explosion at a paper mill in Gloucestershire, with which James Lee was closely associated. The legacy is the survival of the Severn Works on Mansfield Road and Severn House on Alfreton Road; the adjacent Severn Terrace was built at a later date.

Further research is needed to see if more information can be discovered about James Lee's subsequent career together with the cause of the Cone mill explosion and its aftermath. Also thanks must be given to Sandy Thomson for the valuable information he has provided for this article.

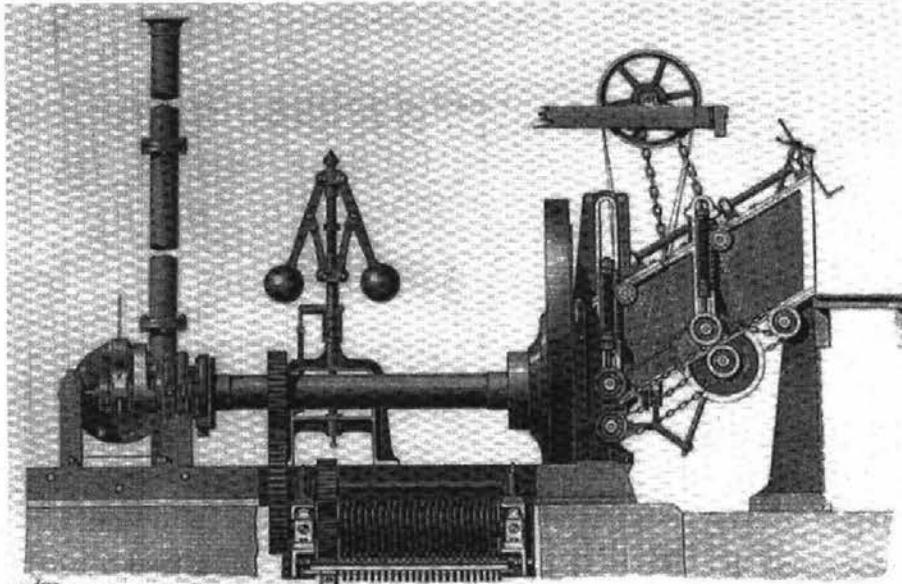
Appendix

(a) The wood chip machine (Figure 1), weighing around 14 tons, comprised a 4-ton cast iron disc driven directly by a 12 horsepower horizontal steam engine. Two blades were mounted on the disc, which, as it revolved at 200/250 revolutions per minute, sliced off pieces (half inch wide and one eighth of an inch thick) from the timber baulks. An arrangement of rollers fed the baulks up to the revolving cutters from an inclined hopper. To allow for different sizes of wood the feed rollers were spring-loaded; sizes up to 14 inch square being accommodated. Horizontal crushing rollers rotating at slightly different speeds received the pieces as they dropped from the blade to break down the slices and further open up the wood grain. To cater for shock loading, caused for example by the wood jamming, some drive shafts had conical friction connections that were designed to slip if overloaded. An output of 6 to 10 tons of chopped wood per hour could be achieved, the machine being operated by 'two boys'.

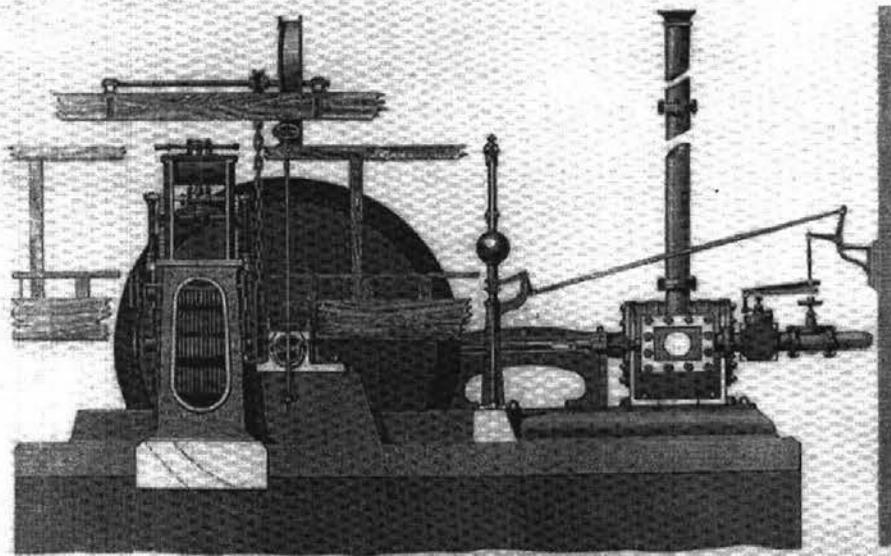
(b) To recycle the used caustic soda it was pumped into large evaporating pans heated by 'circulating pipes' and evaporated until it 'reaches the consistency of treacle'. It was then transferred to shallow pans heated by a furnace until reduced to a near solid mass containing resin and organic waste extracted from the wood. The dried residue was then fed into a furnace where waste matter was burnt off and soda ash remaining. Gases produced during this latter process were passed into the furnaces under the final evaporating pans. Finally, the soda ash was treated with lime to produce caustic soda; the claim being that 80% of the original quantity was recovered.

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SIDE VIEW OF TIMBER SLICER



FRONT VIEW OF TIMBER SLICER

Fig 1. Wood Chip Machine
Cuts up to 14 inch square timber

WOOD PAPER-MAKING MACHINERY, CONE MILLS, LYDNEY.
MR. LEIGHT, SEVERN IRONWORKS, ENGINEER.

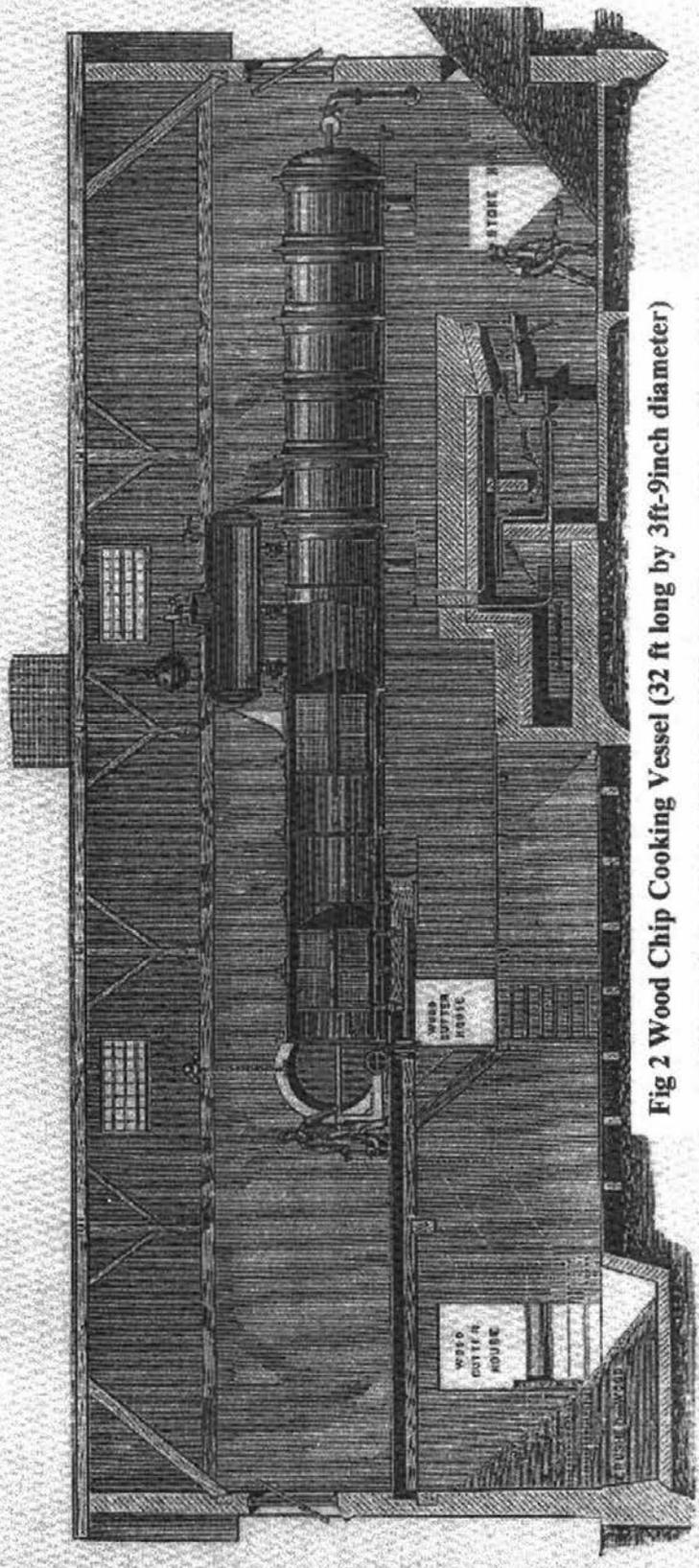


Fig 2 Wood Chip Cooking Vessel (32 ft long by 3ft-9inch diameter)

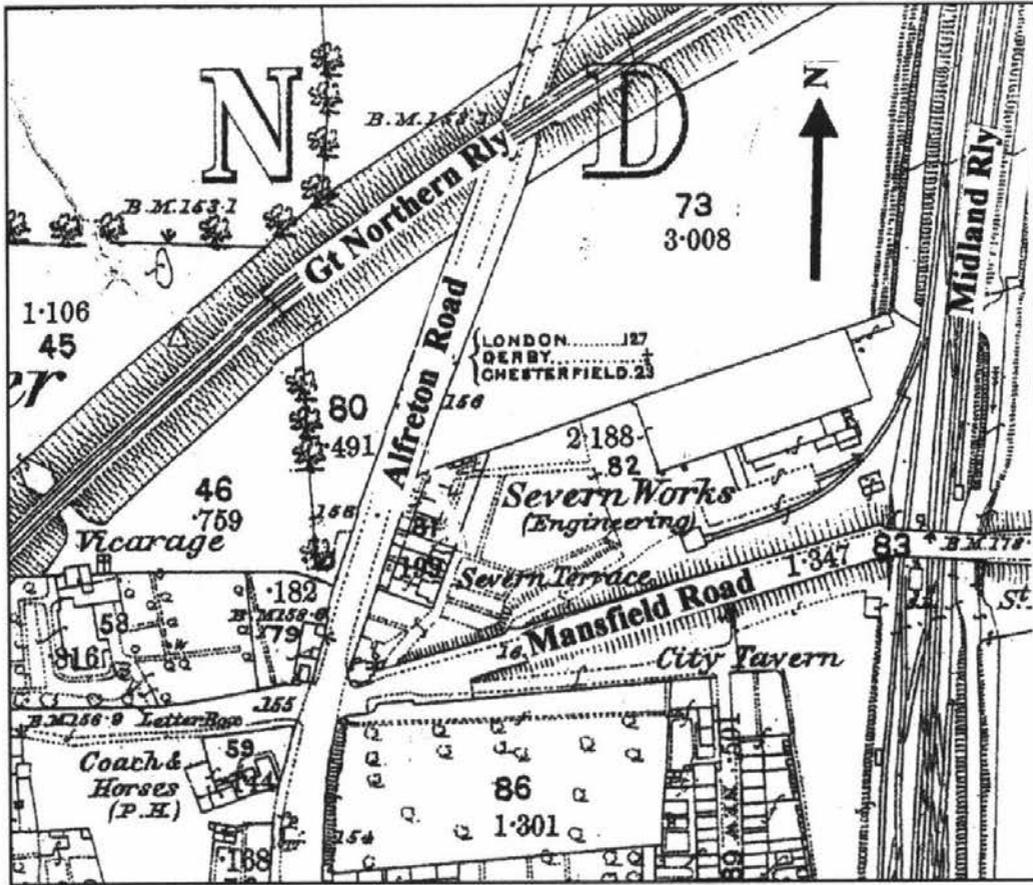


Fig 3, Map of Works, from 1882 OS Map

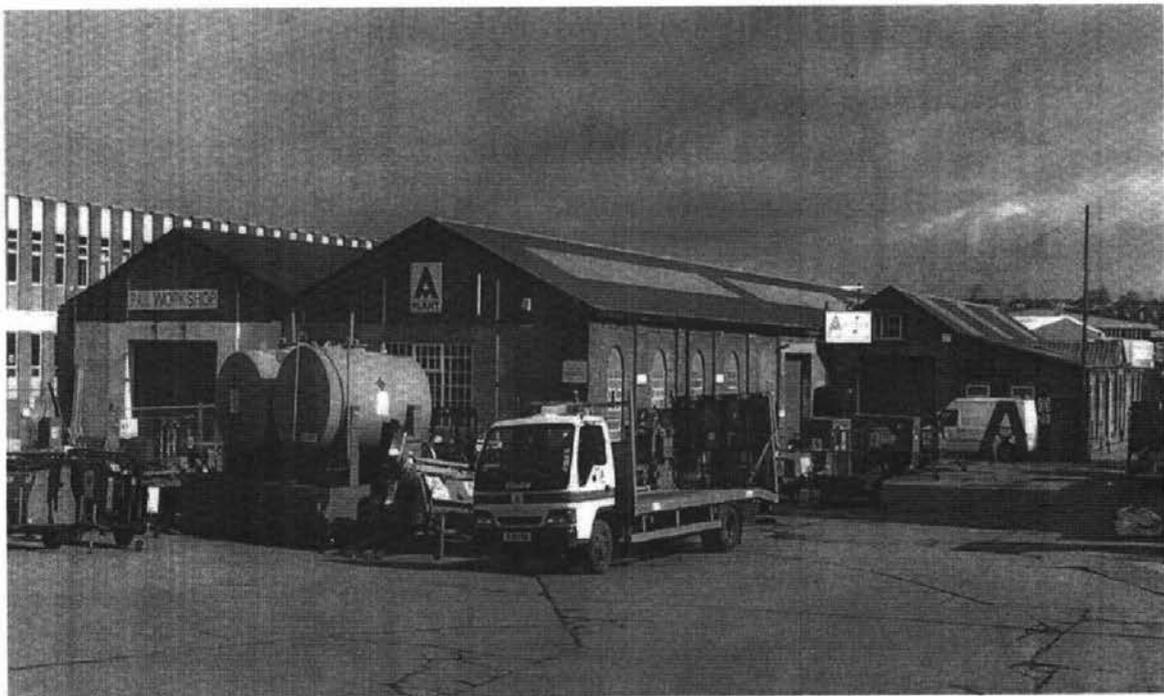


Fig 4. Severn Works 2005 (from Mansfield Road)



Fig 5. Works Office 2005



Fig 6. Severn House and Terrace, Alferton Road, 2005

BY MESSRS. COOPER & GOULDING.

DERBY.

THE SEVERN ENGINEERING WORKS, AN IMPORTANT FREEHOLD MANUFACTURING PROPERTY,

Combining unusual advantages of position and communication, capable of considerable extension, in perfect working order, and suitable for many business purposes, with the fixed plant and tools.

Messrs. COOPER and GOULDING are instructed to SELL by AUCTION, at the ROYAL HOTEL, Derby, on THURSDAY, October 8th, at two for three o'clock precisely (unless previously disposed of by Private Treaty);

THE excellent MANUFACTURING PREMISES, known as the "Severn Engineering Works," situated on the outskirts of the town of Derby, adjoining the high road, and communicating by means of a siding with the main line of the Midland Railway.

The Works consist of a freehold site of about two acres, partly covered by buildings of the most modern and substantial construction, comprising an erecting and fitting shop, 220ft. by 75ft.; smiths' shop, with four forges; stores, engine-house, pattern store, and boiler shed; offices, and manager's residence. The machinery and tools are by the most eminent makers, and have been but recently fitted. They include a 12 horse high-pressure horizontal steam engine, two 8-horse vertical engines, a Cornish boiler, two steam hammers, 11 self-acting lathes (beds 10ft. to 32ft., and centres 6in. to 18in.), large radial drill; drilling (double and single geared), planing, shaping (double and single headed), slotting, slot drilling, screwing, nut-shaping, and other machines, with shafting riggers, and gearing; saw bench and circular saws, 7-ton travelling crane, 10-ton stationary do., 7 cwt. forge crane, ralls, traverser, &c.

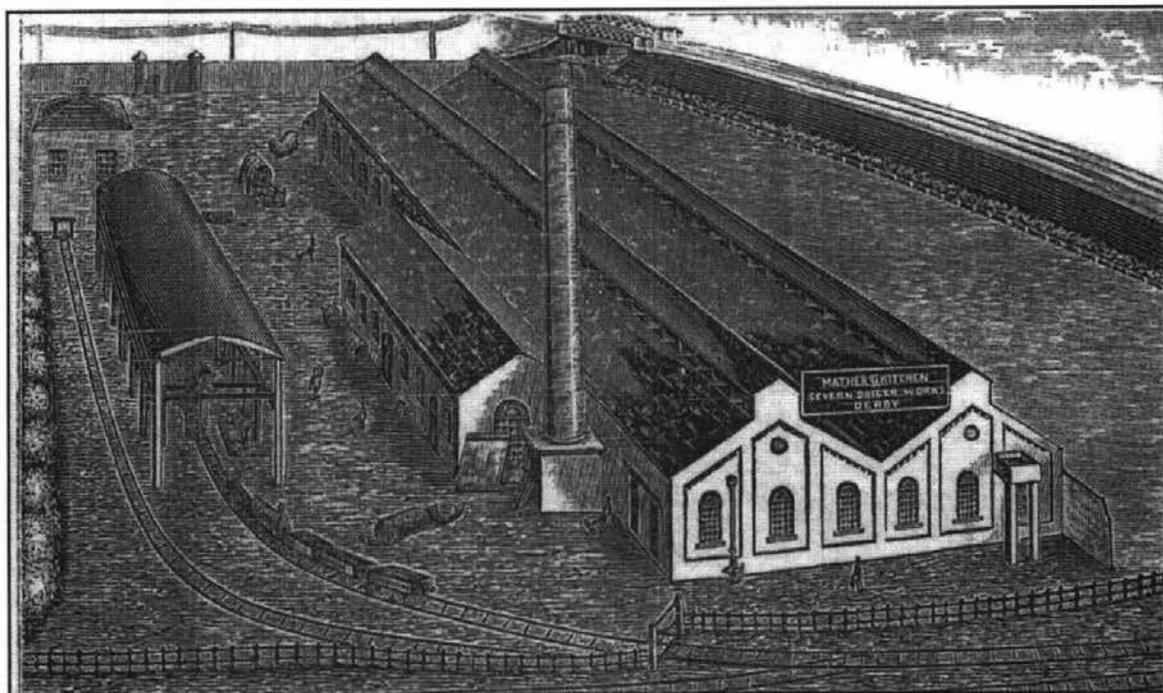
Gas and water are in the works, as well as a telegraph wire from the Derby Post-office.

The Works will first be offered as a whole, and if not sold, the land and buildings will be immediately offered without the tools.

Particulars, with plan, conditions of sale, and cards to view, can be obtained of Messrs. J. and G. E. WARRAN, Solicitors, Sheffield; of A. OSBORN, Esq., Solicitor, Ross; or of the Auctioneers, Ethelburga House, 70 and 71, Bishopsgate-street-within, London, E.C.

Fig 5. Notice of Sale
Thursday 8 October 1874

Fig 8. Severn Works 1891
Mather & Kitchen



THE DIARY OF JOSEPH HUTSBY PART 3: JUNE-SEPTEMBER 1844

(Continued from Volume 17, Part 4, Autumn 2005)

Joseph was a miner and preacher. His diaries cover the period 1843 to 1846 when he was a colliery official at Loscoe, probably at Loscoe Colliery close to the village centre. (Extracted from introduction to Part 1.)

Saturday June 1st

Turned at hard alday, soft ½ day. John Allen did not come this morning for the second time this week. Self ordered Joseph Slater to go to the soft coal to look over, and John allen to go to the hard coal to hammer. Self paid the men as usual.

Sunday June 2nd

Sidney came with a cart and John Riley with the earse. Charlotte went with them to Claycross and they brought Sarah Buckley to Greasley to bearry her. Self and John, Martha and Sarah Moss went to meet them at Mr Smedley's at Moore Green; followed her to the grave, beared her near were her sister Hannah was.

Monday June 3rd

Turned alday at hard, ½ at soft. Self in hard, at Collry till 2. A. Buckley at our house today.

Tuesday June 4th

Turned ½ day at both pits. Boiler bursted, got it to work again in 8 hours.

Wednesday June 5th

Turned alday at hard, ½ at soft. Self in hard, at Collry till 4.

Thursday June 6th

Turned alday at each pit, self in hard.

Friday June 7th

Turned alday at each pit. Self went to Derby for the Dial, brought it back. Bought myself a hat, gave 15s 9d.

Saturday June 8th

Turned alday at each pit, self at Colly alday. Paid the men as usual.

Monday June 10th

Turned alday, alday at each pit. Mr Griffin told me that Mr Whitingstall was coming to morrow.

Tuesday June 11th

Turned alday at each it. Mr Whitingstall came today at half past one.

Wednesday June 12th

Turned each pit ½ day. Mr Whitingstall came to the office and gave myself and Jos Hicking a pound a pece. He went off at ten o'clock.

Thursday June 13th

Turned ½ day at soft, Laystill at hard. Self in Collry till 3.

Friday June 14th

Turned at each pit ½ day. Self in hard. At Collry till 5.

Saturday June 15th

Turned at each pit ½ day, self in hard. Paid the men as usual.

Monday June 17th

Laystill at each pit, self at Collry till 3. J. Hicking sent a note requesting my presents at Collry, as Mr Griffin, Mr Richards of Nottingham and a young gent from Belgue and a young gent out of Yourkshire was wanting to go down the hard coal pit. We went. Came up at 8 o'clock.

Tuesday June 18th

Laystill at each pit, self dialed the hard coal. At Collry till 4.

Wednesday June 19th

Turned at each pit ½ day. Self saw Mr Millward who said he could not spare that close. He whanted let me eather of those other closes when he had layed them. Did not accept the offer.

Thursday June 20th

Laystill hard, turned at soft ½ day. Self went to Newstad to look for some poles. Had none. Went to Duke of Potland's, found some there. Went round by Stableforde, bought an ass of Jos. Buttler, 3 years old. Gave £1 10s 0d for him and 1s 2½d for a bringing of him. Rode about 50 miles today, very tired.

Friday June 21st

Turned hard ½ day, alday at soft. Self at Collry till 4, in soft to day.

Saturday June 22nd

Turned ½ day at each pit. Self paid men as usual.

Sunday June 23rd

Aaron Buckley ayt our house till noon. Self preached at Millhay from 50 Psalm, 15th verse. A good time.

Monday June 24th

Laystill at hard, turned alday at soft. Self sent the Dray to the Duke of Potland's for load of larch. Self went after them. Went round by Blidworth, saw Mr Rawson, wood steward for Lady Walker.

Tuesday June 25th

Laystill at hard, turned at soft alday. Self at Collry till 3.

Wednesday June 26th

Turned at each pit ½ day, self in soft, at Collry till 6. Joseph Hicking at Leicester.

Thursday June 27th

Laystill at hard, turned ½ day at soft. Self at Collry till 6.

Friday June 28th

Turned ½ day at each pit. Self in soft, at Collry till 3.

Saturday June 29th

Turned ½ day at each pit, self at Collry till 6. Paid the men as usual. John Hutsby started to Whitwick Wakes at 2 o'clock today.

Monday July 1st

Turned ½ day at each pit. Self and George Hicking went and looked the seeds over, thought they was not ready. At Collry till 5.

Tuesday July 2nd

Turned ½ day at each pit. Carryed the hay home. Self at Collry 6. Paid Joseph Farnsworth for a coffin for Will Hutsby's child.

Wednesday July 3rd

Laystill at both pits. Self at Collry till 5. George Hicking went for a load of sand.

Thursday July 4th

Turned ½ day at each pit. Selfe at Collry till 6.

Friday July 5th

Turned ½ day at each pit. Mr Griffin gave orders that no hay be eaten without chopping. Selfe at Collry till 3.

Saturday July 6th

Laystill at hard, turned at soft. Self at Collry till 4.

Monday July 8th

Turned at both pits ½ day. Joseph Hicking at Wharfe. John Abort ill. Self at Collry till 5.

Tuesday July 9th

Turned at both pits ½ day. Self at Collry till 6. Joseph Hicking at Wharfe. John Abort poorly yet.

Thursday July 11th

Turned hard ½ day, at soft alday. Self at Collry till 6. Jos. Hicking at wharfe.

Thursday July 25th

Lay still at hard, turned soft ½ day. Selfe begged a day's fishing in Loscoe Dam of Robert Shaw. John Hutsby and W. Saxton went this morning to the Dam, a fishing. Caught nothing.

Friday July 26th

Turned at each pit ½ day. Selfe at Collry till 3.

Saturday July 27th

Turned at each pit ½ day, self at Coliry till 4. Paid the men as usual. Went to Loscoe Dam a fishing, caught about 3 pound.

Sunday July 28th

Self and family went to Brinsley Wake, dined with Mother and the whole of all our famileys except poor Sarah, who departed this life on the 29th of May last, very happy in the Lord. This is a day for much grief, for at the naming of her name all eyes was full of tears and much grief expresset on this memorable accasion.

Monday July 29th

Turned at each pit ½ day, self at Collry till 2, in soft.

Tuesday July 30th

Turned ½ day at each pit, self at Collry till 2. Went and heard at Taghill William Richardson preach from 'I am the way'.

Wednesday July 31st

Turned each pit ½ day, self at Collry till 3.

Thursday August 1st

Turned ½ day at each pit, alday at soft. Self at Collry till 3.

Friday August 2nd

Turned at each pit ½ day. Self went to Derby, bought John a hat, gave 15s for it. Called at Stanley Common and bought 100 punching of Robert Barsdall at 3¼ a punching £1 7s 1d, and on Tuesday following he brought them. Self payed him.

Saturday August 3rd

Turned ½ day at each pit. Self paid the men as usual.

Monday August 5th

Turned ½ day at each pit. Self at Collry till 4. Mr Griffin in the Hay lose leading it. Bought George Allen 5 acres 2 ton 11cwt green. Self paid my club 3s 4d. Mr C. Martin measured me for a pair of boots.

Tuesday August 6th

Turned alday at soft, ½ at hard. Self at Collry till 4.

Wednesday August 7th

Turned alday at soft and ½ day at hard. Jobe Whysall came to day. Self and him went and looked both pits over under ground and above. Self showed my plan of getting the next work, and he thought it would answer very well indeed.

Thursday August 8th

Turned alday at soft ½ at hard. Self at Collry till 3.

Friday August 9th

Turned day at each pit. Self at Collry till 3.

Saturday August 10th

Turned at each pit ½ day, self at Collry till 6. Joseph Hicking at Nottingham. Self paid the men as usual.

Monday August 12th

Turned at hard ½ day. Lay still at soft, being the wakes. Self at Collry till one.

Tuesday August 15th

Lay still at both pits. Self at Collry 2.

Wednesday August 14th

Turned at soft ½ day. Lays still at hard. Self at Collry till one. Mr Barnsdall brought a 100 punching at 3d £1 7s 0d. Self paid him.

Thursday August 15th

Turned at each pit ½ day, alday at soft. Self at Collry till 4.

Friday August 16th

Turned at soft alday, ½ day at hard. Selfe at Colly till 4.

Saturday August 17th

Turned at each pit ½ day. Self paid the men as usual. At Colly till 6. Joseph Hicking at Nottingham.

Sunday August 18th

Self preached at Ilkiston from 50 Psalm and verse 15. A good time. One soul in distress.

Monday August 19th

Turned at each pit ½ day. Self dialed the soft coal in the pit. Started to prepare for seating the new boiler.

Tuesday August 20th

Turned at each pit. Self at Colly till 2.

Wednesday August 21st

Turned ½ at each pit self at Colly till 3.

Thursday August 22nd

Turned alday at soft, ½ 2 day at hard.

Friday August 23rd

Turned alday at soft, ½ day at hard.

Saturday August 24th

Turned ½ day at each pit. Self at Colly 6. Paid the men as usual.

Monday August 26th

Turned ½ day at hard, alday at soft. Self at Colly till 4.

Tuesday August 27th

Turned alday at each pit. Self at Colly 9. Went to Claycross, called at All Field Gate. Bought some old mettle at £2 per ton.

Wednesday August 28th

Turned at each pit ½ day, self at Colly till 4.

Thursday August 29th

Turned at each pit ½ day. Self and George Hacking went to fetch some old mettle, could not break it up. Brought 10 cwt.

Friday August 30th

Turned ½ day at each pit. Self at Colly till 5. John went to Millhay.

Saturday August 31st

Turned ½ day at each pit. Self in Colly till 5, Paid the men as usual.

Monday September 2nd

Turned ½ day at each pit, self in soft, at Colly till 4.

Tuesday September 3rd

Turned ½ day at hard pit, turned dirt at soft. Self in soft. Finished the mean road in soft. Engin boiler bursted at 9 o'clock this morning, started again at 5.

Wednesday September 4th

Turned ½ day at each pit, self at Colly till 9. Went to Eage to see about some old mettle. Bought an ass, Charley, gave £2 1s 0d, 4 years old.

Thursday September 5th

Turned ½ day at each pit. Self at Colly 5.

Friday September 6th

Turned ½ day at each pit, self in soft. Layed the new boiler on the brick work at Colly till 6.

Saturday September 7th

Turned ½ day each pit. Self at Colly till 6. Paid the men as usual.

September 8th to September 17th

Turned well. Self took a house off Mr George Burgin in Loscoe, in the Nouck, at 2 shillings per week. Paid 3s 6d for Bottles and flowers. Rent comanceing on the 21.

September 21st

Set the new boiler to worke. Paid the men as usual. We all slept at Loscoe for the first time.

September 22nd to October 23rd

Self went Ripley fair. Bought a pair of pigs, gave £2 10s 0d. Back at 5 o'clock. Went to Mr's who said we must not work at either pits to morrow. Self went to Colry, told Sam Ward and William Weston that we should not work at either pits to morrow. Went also accompanied by my wife to Joseph Slater's house to let him know not to take the men down on the next morning. Called at John Brown's, told the men must not go down the hard.

SALE OF SHIRLEY MILL**WATER CORN MILL and LANDS adjoining
SHIRLEY, NEAR ASHBOURNE, DERBYSHIRE**

TO BE SOLD BY AUCTION,
By Mr. BREAREY

At the Black's Head Inn, in Ashbourne, on Saturday the 13th of May, 1815, at 3 o'clock in the Afternoon, (unless previously disposed of by Private Contract, of which due notice will be given;) subject to Conditions then to be produced;

An Excellent and Complete WATER CORN MILL, called SHIRLEY MILL, with a capital Dwelling House and suitable Outbuildings adjoining the same; a good Cottage for the residence of a Miller within convenient distance; and 37A 1R 17P, of Land, chiefly in turf, lying within a ring fence; and immediately adjoining the Mill, and upon which a considerable sum had been expended within a few years, in draining, rearing new Fences &c;

Shirley Mill is situated within a mile and half of the Turnpike Road leading between Derby and Ashbourne, and within about five miles of the latter place. The Mill which is of the most complete kind, was newly built about 16 years ago, by Mr. Lowe of Nottingham, upon an old scite. The Water Wheel is 15 feet diameter; and 6 feet 5 inches broad; with a fall of Water of about 10 feet. The heavy Gearing is of cast iron; the floor of the drying kiln is also of cast iron plates, supported by iron. The Mill contains one Pair of French Stones, and three Pair of Grey Stones, and a Dressing Machine.

To the old part of the House, great additions have been made within 8 years, viz. two Parlours, (one about 13 feet by 12 feet, and the other about 16 feet by 15 feet,) with two Chambers and two Attics over the same.

The detached Cottage consists of two Rooms and Pantry on the lower Storey, and two Chambers; built only ten years ago.

The whole is Freehold; and the Land has been purchased at great prices, at different times, as an accommodation to the Mill; and is particularly eligible on account of its contiguity thereto,

For any further information apply to Mr. ROBERT MASON; on the premises; or to Mr. BENNETT, Surveyor, Tutbury, near Burton-on-Trent.

Tutbury, May 1st, 1816

Derby Mercury, 9 May 1816