

JOHN BROCKSOPP: YEOMAN IRONMASTER OF HASLAND

By DAVID E. JENKINS

During the second half of the seventeenth century a vigorous ironmaking industry flourished in the upper Rother valley of North Derbyshire with furnaces at Wingerworth, Barlow, Staveley and Renishaw. All used locally mined ironstone, Derbyshire limestone and locally made charcoal, operating the furnace bellows with water power.¹

In the early decades of the following century this industry fell into relative decline but by the 1760s the increasing demand from the burgeoning mechanical and engineering sections of the economy and agriculture, later enhanced by the ordnance and naval demands of the wars of 1793-1815² (though Riden warns not to overestimate this element) provided a stimulus to the iron industry of a magnitude unique in the eighteenth century.³

The response in north east Derbyshire was the development of a series of coke-fired blast furnaces as Figure 1 shows. Along with the well-known local ironmasters, such as Joseph Butler and Ebenezer Smith, who operated in this climate of booming demand, was the much lesser known John Brocksopp, 1753-1812, only son of a Hasland yeoman farmer, who entered briefly into the iron making industry.

Brocksopps had lived in Hasland and Chesterfield for many centuries, and the name, spelled in a variety of ways appears in Chesterfield archives at least as far back as 1582, when Richard Brocksopp was a churchwarden for Hasland, an elongated township with a population in 1811 of 328, stretching nearly from the parish church two and a half miles in a south easterly direction.⁴

John Brocksopp's father owned and worked Grasshill farm in Hasland, and leased out to a tenant the neighbouring farm, Birchill, which he also owned. The elder Brocksopp (Table 1), died while John was still little more than a boy and he spent the greater part of his adult life in partnership with his mother, Mary Brocksopp, in farming and mining. Only after his mother's death did he have a short, but interesting, sally into the iron making industry.⁵

Mary Brocksopp, the daughter of William and Lydia Wragg, had also inherited the freehold (subject to some minor outside interests), of the 148 acres Stretton Hall farm when her bachelor brother died soon after she was widowed.⁶ This property she made over to John, in 1792, although their partnership continued almost until her death in 1796. By her will she provided for her three surviving daughters, so that each had a capital of £1000, made a contribution to the poor, and left the residue and the two farms, Grasshill and Birchill, to her son.⁷

Thus at 45 years of age John Brocksopp became the owner of 275 acres of good agricultural land though he only worked directly the 100 acres at Grasshill where he grew grain and peas, and raised fat cattle and sheep for their wool clip. Despite his abiding interest in farming matters, his principal business interest was increasingly in coal and ironstone mining, documentary evidence of which exists in the considerable Barnes collection at the Local Studies Department of Chesterfield Library.

In 1794 John was working 9 mines and produced 'coal and coakes' at the Hasland mine worth, on average in the years 1801-10, £1304.⁸ (Table 2). Some of the coal worked lay under Grasshill

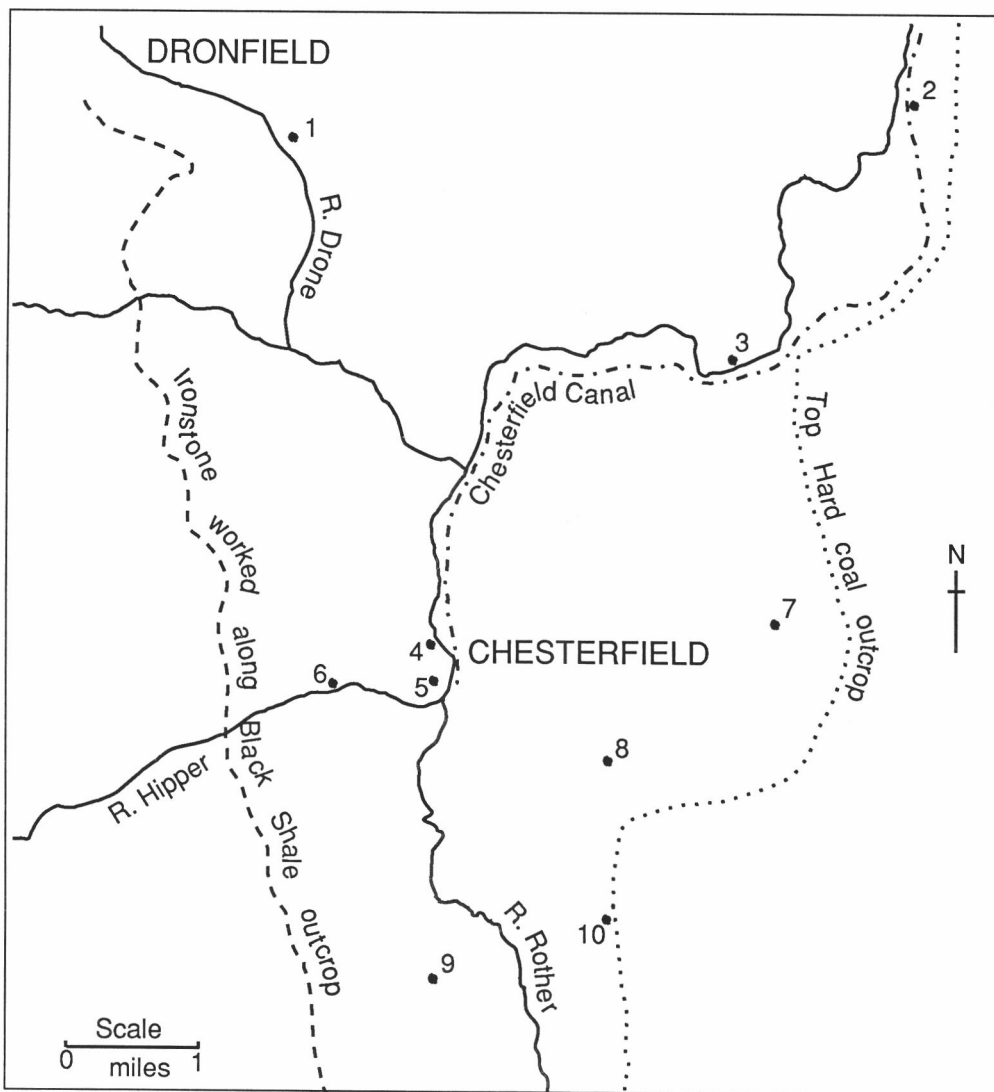
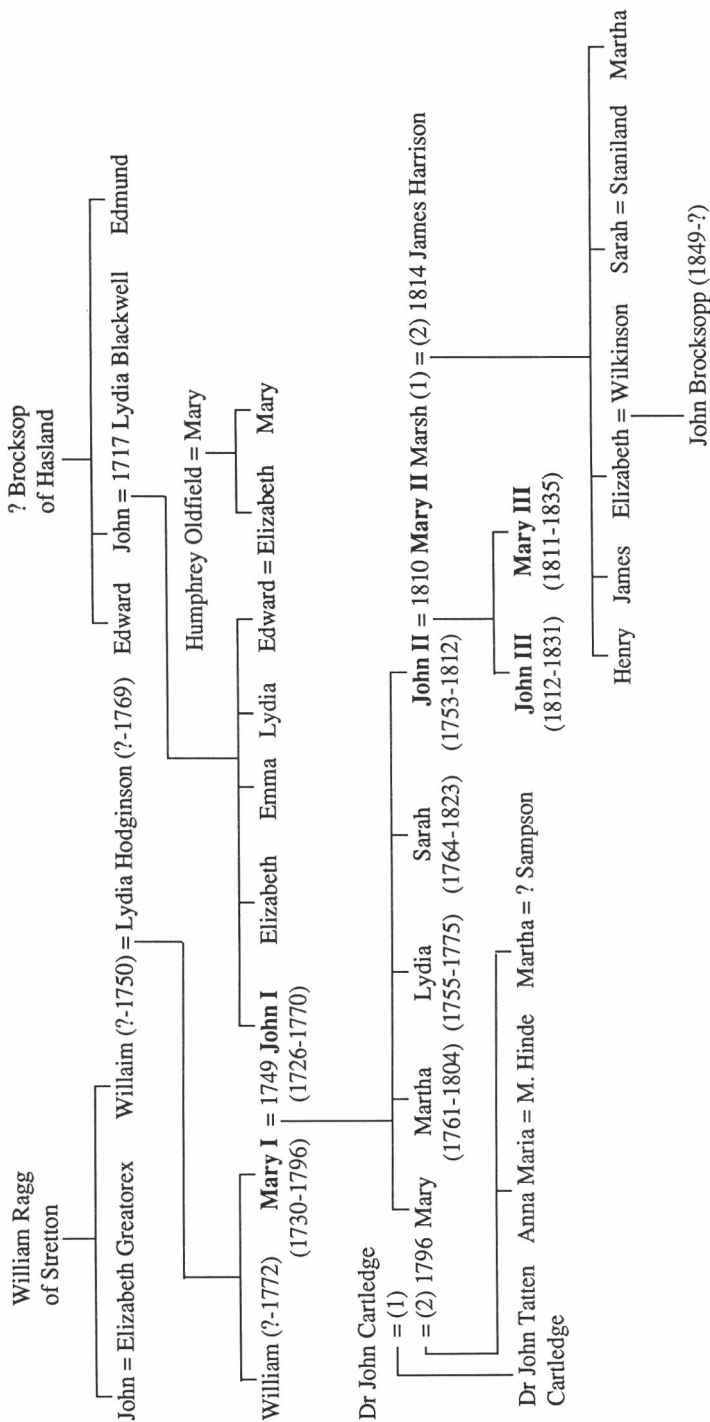


Fig. 1 The Upper Rother Valley and its iron works 1810.
Based on Warren, *Derbyshire Iron Industry*, p18

KEY

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|---|------------------------------|
| 1. Unstone Foundry | J. Butler |
| 2. Renishaw Furnace | Appleby & Co. |
| 3. Staveley Furnace & Foundry | Lowe & Barrow |
| 4. Ashgate Furnace & Foundry | Barnes/Tops/Smith & Armitage |
| 5. Stonegravels Furnace & Foundry | Barnes/Tops/Smith & Armitage |
| 6. Brampton. Griffin Furnace & Foundry | Ebenezer Smith and Co. |
| 7. Duckmanton Adelphi Furnace & Foundry | Ebenezer Smith and Co. |
| 8. Calow Furnace | Ebenezer Smith and Co. |
| 9. Wingerworth Furnace | J. Butler |
| 10. Hasland (or Grasshill) Furnace | J. Brocksopp |



SOURCES

- (i) Sheffield Record Office: Jackson Collection, pedigrees JC 1366
- (ii) Lichfield Joint Record Office. Wills Probate 17 May 1750, 15 October 1772, 14 April 1796, 25 April 1813
- (iii) Chesterfield Public Library. Barnes papers 601 822 829 847
- (iv) I.G. Index AO 243
- (v) Sheffield Record Office M D 6428/2

Table 1 Brocksopp Family Pedigree

Year	£
1801/2	1424
1802/3	1193
1803/4	1826
1804/5	1403
1805/6	741
1806/7	1051
1807/8	1381
1808/9	974
1809/10	1743
Yearly Average:	£1304

Year: 25th Dec to 24th. Dec. Pounds rounded. Source Bar. 811b.

Table 2 Value of Coal and Coakes sold at Hasland Mine

farm but leases were also taken from the Duke of Devonshire and from the Lucas and Wigley families.⁹ In addition Brocksopp was extracting and calcining ironstone at Calow and Hady in workings leased from the Cavendishes and Lord Newark, and on a 93 acre site on the northern boundary of Stretton manor leased from William Webster.¹⁰

The market for the ironstone lay in the recently established iron works of Ebenezer Smith at Brampton, Barnes' furnace at Stonegravels and to a lesser extent Joseph Butler's Wingerworth furnace.¹¹

Much of the coal produced was turned into coke near to the pit head and this too found a ready market with the new ironmasters. In this art, Brocksopp was a Derbyshire pioneer, making coke by the 'close' method, covering the coal heaps with 'breeze' from earlier firings, and controlling the rate of burning by chimneys set on top of the heaps.¹² The slack coal was sold to the potters of Chesterfield and the lead smelters at Ashover, the balance travelling relatively short distances to domestic consumers in and around Chesterfield.¹³

John Brocksopp through his ironstone and coke trade in the upper Rother valley had at least a passing acquaintance with the iron trade. He was clearly attracted by the seemingly endless possibility of high profits in an industry underwritten by the embryonic civil engineering industry and bolstered by the ordnance demands of the wars with France at the end of the century. So, taking the advice of John Bargh, an established Chesterfield engineer, who estimated the cost for producing a ton of soft pig iron at £5 10s. (Table 3) when the selling price was at least £6 a ton, Brocksopp decided to enter the iron trade on his own account building his furnace a quarter of a mile to the east of the Grasshill farmhouse on a small rise shown as Furnace Hill on the Hasland poor law assessment map of 1825.¹⁴

The exact date at which the furnace was commissioned is not recorded but by the end of 1801 it was in continuous blast and was directly managed by John Bargh. In design it was probably very much like those built by Hurt, at much the same time, at Morley Park, Heage, (and which can still be seen alongside the Ripley by-pass), although detailed variation in design was the subject of debate amongst ironmasters.¹⁵ The dimensions of the Brocksopp furnace are not known but there is a record of hearth stones (paid for in 1812) which may have been held for repair, or possibly for the erection of a second furnace that was never blown-in. These stones, which were quarried locally, were 6 feet long, 2 feet 6 inches wide and 14 inches thick, designed to form a bench 6 feet square.¹⁶ No record of the design of the blowing engine survives but it

	£	s	d
12 Charges of coakes and carriage	2	4	0
Ironstone 4 ton at 5s.	1	0	0
Workmen's Wages		13	4
Lime stone 15cwt. at 7s. per ton		5	3
Interest of two thousand of sunk capital at 10per cent and interest of two thousand pounds floating capital at 5 per cent		8	0
Ware and tare of the engine, furance etc.		3	5
Royalty of Stone		4	0
	4	18	0
Slack and carriage		12	0
Total	5	10	0

Source. Bar. 896.

Table 3 Formula and costing for making a ton of soft pig iron. Prepared by John Bargh, 18th July 1799.

weighed over 3 tons and had a cylinder weighing 31 cwts.¹⁷

Ironstone, mined and calcined by Brocksopp at Hady and Calow, was now not only sold to other ironmasters but was also smelted at his own furnace, being brought daily, including Sundays, by carter Thomas Brelsford for 2s.6d. to 2s.9d. a ton to Grasshill or 3s.2 $\frac{1}{4}$ d. to 3s.5d. a ton to Chesterfield, 927 tons being carried in this way in 1811. In addition Webster's Clay Cross delph provided 1,080 tons in 1808, 1,370 tons in 1811 and 1,800 tons in 1812.¹⁸

Brocksopp's mines produced the coal to make the coke he required and also still provided three loads daily, in 1812, to the Wharf Furnace in Chesterfield at 18s.6d. a load (a quantity in excess of a ton) and at 16s. early in 1813 when the trade was depressed (but when coal only fetched 5s.10d. at the pit-head).

The exact source of the limestone used is undocumented but a small limestone quarry existed just south of Temple Normanton, under a mile from Grasshill.¹⁹ But a more likely source is Crich or Ashover, with the supplier being the lime-burner George Allen who would have sent lime as a return load for coal despatched to the lead boles.²⁰

From the surviving records it is not possible to pick out the labour force but if it followed the Staveley furnace pattern it would have been small in numbers possibly only nine, including two limestone burners, two cokers and some casual labour (one of whom may have been the unnamed Irishman listed in the 1811 Hasland census as 'working at the furnace'), paid to break limestone and stack coal.²¹

Once the furnace was in blast it was kept going until accident, the need for repair or a loss of markets closed it down. Brocksopp was moderately fortunate, the records for the years 1801/2 to 1809/10 showing the furnace being 'down' for eleven and a half weeks in the first year, fifteen weeks in 1804 and eight weeks in 1806, when it was relined, using 1,600 bricks at a cost of £154 15s., well inside Bargh's cost estimate.²² To ensure the furnace never went 'down' for want of essential materials, considerable stocks of raw materials and repair equipment had to be kept on hand, while a fluctuating market also led to stocks as high as 78 tons of pig iron being held, all

Year	Tons Cwts	
1801/2	467	7
1802/3	645	-
1803/4	427	10
1804/5	715	15
1805/6	638	19
1806/7	796	
1807/8	478	10
1808/9	834	5
1809/10	863	-
1810/11	914	-
Total	6780	6
Mean Annual Output	678	-

Year 25 December to 24th December. Source: Bar. 749 and 915.

Table 4 Output of Pig Iron at Hasland Furnace 1801-1811

of which took up circulating capital funds.

The detailed metal account book for 1811 shows that production of iron was mainly divided between 'soft' and 'second' qualities with occasional tonnages of 'forge quality'. Every third day an extra charge was added to the furnace, a regular 2 tons of soft metal being made on 'normal' days and 3 tons (in two tappings) on the third day.²³ During these first nine years output of pig iron rose from 467 tons in 1801/2 to 914 tons in 1810/11, (Table 4) an average of 678 tons, of which 73 per cent was of soft quality.²⁴

Brocksopp, unlike many of his competitors, did not build a foundry or forge and faced the constraint of poor distribution systems for his production of pig iron, the upper Rother valley being very much isolated from Yorkshire or the East Midlands regional markets despite the opening of the Chesterfield and Erewash canals. Low value heavy products like coal and lime only sold in markets under 10 miles from the source of supply, the cost of transport from Hasland to the Chesterfield canal wharf over toll roads almost doubling the price of coal.

Pig iron, with a better weight value ratio, enjoyed a wider though, still constrained market, and was initially sold by Brocksopp to customers in Derby. The price was fixed at the furnace, the customers paying delivery to Buckland Hollow for onward movement by canal. Iron was also despatched, at various times, to Nottingham, Tuxford, Skegby, Gainsborough, Blidworth and Lincoln.²⁵

By 1809 the pattern of deliveries had changed, 52.8 per cent going into Sheffield foundries and forges, on a delivered price basis, principally being taken by three large customers, Gregorys at the Phoenix works, Samuel Harmor Co of Spring Gardens, and Scholfield at Gibraltar iron works. Booth and Co of Park ironworks and other Sheffield works, took smaller quantities. A further 100 tons (12.8 per cent) was sent to Richard and William Crawshay, London agents, who sold the parcel over a six months period.²⁶ Iron works at Dronfield regularly took 10.2 per cent with similar quantities being sold to works at Unstone. Mansfield and Leicester customers regularly split 14 per cent of output evenly between them, while 6 per cent went to Lincoln and Nottingham. Only small parcels were sold to Alfreton, Tuxford, Blidworth, Duffield, Derby and Chesterfield. Interestingly these sales southwards, principally to cast-iron producers, where the rise in demand was greatest, were unmatched by sales north-ward from the Erewash valley furnaces.

Year	Qtr	Ironmasters' Price		Credit Terms Months	Brocksopp's Price	
		£	s		£	s
1807	4	8	15			
1808	1	-				
	2	-				
	3	-				
	4	-			8	10
1809	1	-		8 & 10		
	2	8	15	6	8	15
	3	9	0	6	9	0
	4	9	0	8	9	0
1810	1	-		-	9	0
	2	9	10	8	9	10
	3	-		-	-	
	4	10	10	8	9 & £10	
1811	1	-		-	10	0
	2	-		-	-	
	3	9	10	6	-	
	4	-		-	9	0
1812	1	9	0	-	8	10
	2	-		-	-	
	3	9	0	-	-	
	4	-		-	9 & £9	10s
1813	1	-		-	-	
	2	9	0	-	-	
	3	8	0	-	-	

The ironmasters' prices quoted above relate to 1st. quality soft melting pig iron delivered at Sheffield, Hull, Nottingham, Selby, and York at defined credit terms or 5% discount for ready cash. 2nd quality 10s below 1st and 3rd quality 10s to 20s below 2nd at the blast furnace. Brocksopp price to Dronfield 10s lower than to Sheffield. A dash '-' means no change in the quarter.

Source: Sheffield Records Office: Jackson Papers, Minutes, J.C.1297 and Bar.893 and 899.

Table 5 The Price Fixed by Yorkshire and Derbyshire Ironmasters and John II Brocksopp's Selling Price, 1807-1813.

The prices to be charged, on a delivered basis, for the pig-iron, after 1807, were 'secretly' fixed monopolistically, for each of the four qualities, by a cartel of South Yorkshire and Derbyshire ironmongers. Although Joseph Butler was an active member of the cartel John Brocksopp was not, but did adhere to the recommended price schedule, although he circumvented it, in part, by granting very much longer credit terms than those prescribed by the price fixers.

When Brocksopp entered the market prices were around £6 a ton, but they soon rose to £7 10s. for pig iron delivered into Chesterfield, and by a further 10s. by 1803. Such prices proved very profitable, the cost of iron stone, coal and lime being fixed by long leases with labour and capital

costs being relatively constant. The war demand-inflated prices of the early years of the nineteenth century fell back to between £5 15s. and £6 13s. in the latter part of 1805 rising again in 1808 to £8 10s. for metal delivered to Sheffield, yielding a profit of around £2 a ton. (Table 5) Brocksopp's output, however, appears to have been unaffected by these changes. Carriage costs did not vary widely running at £1 for a 1½ tons load into Sheffield from Grasshill and 5s.6d. a ton to the Chesterfield canal wharf.

Without comparative labour and material costs there is no basis for a comparison of the efficiency of Brocksopp's furnace. His raw materials, coal, ironstone, and lime, were as accessible to him as to other works. And if there was a significant disadvantage he shared it with the Wingerworth furnace, by being some 2½ miles further from the new canal, and twice as far from Sheffield, as some of his competitors. As margins declined at the end of the war period these differences may have been critical, but they do not appear to register adversely in Brocksopp's accounts. Indeed there is nothing in Brocksopp's sale records to substantiate the complaint of Ward, at Staveley, that trade was so bad in 1811 that withdrawal from the industry was the only course for economic survival.²⁷

Finding finance for his various industrial activities does not appear to have presented any great difficulty. The coal and iron stone mining accounts suggest only small profits, (or even slight losses) but the willingness to take up new mining leases as old ones fell in, suggests that the activity overall showed a reasonable rate of return.

In the case of the iron making activity the finance was raised by mortgage and loan in a way that transformed static capital, locked into land, into mobile generative capital. This mobilising of capital is, perhaps, the greatest contribution made by yeomen, like Brocksopp, to the initiation of the industrial revolution. The Miss Wilkinsons, sisters of the Chesterfield banker, advanced £4,000 on mortgage at 5 per cent, secured against Stretton Hall farm. Other lenders advanced smaller sums. John Bargh, on being made manager, advanced £600, Brocksopp's sisters, Sarah and Mrs. Cartledge put in £1,700, Thomas Clay, a more remote relation, £500, and John Gorrell Barnes' wife, Elizabeth Clay Taylor (who caused confusion by losing her promissory note) £160 and two associated traders, Joseph Townlow and George Allen, lent £1,000.

Most of these debenture-like advances were for long periods, often in excess of six years, and were used to cover the cost of building and equipping the furnace. A considerable sum was also required for circulating capital to cover raw materials held in stock, materials required for repairs, finished unsold iron, and outstanding debtors. In October, 1812, by way of example, there was an unsold stock of 78 tons of pig iron valued at £615 2s. 3d., together with 1,000 tons of ironstone worth 5s. a ton and 260 tons of limestone at 6s. a ton.

At the same time Brocksopp had book debts, for products he had sold, of £9770 9s. 2½d. The largest of these was the debt of Scholfield of the Gibraltar Foundry, Sheffield, followed by a debt of £1554 9s. 4d. due from Hamar & Co. also of Sheffield.²⁸ Many of these debts were normally discharged by a rolling process, so much being paid by bill of exchange each month or quarter. An event, such as death of a proprietor which precipitated a need to call in all the outstanding debts had a domino effect on other companies. Thus, when Brocksopp died it became necessary to call in the debt of W. Thomas Copland of Lincoln amounting to £640 16s. 6d. The call in of this debt financially embarrassed the company which pointed out its inability to pay, because it could not gather in money due to it. A token payment was made, but Copland was then declared bankrupt.

Despite his varied industrial activities John Brocksopp, unlike Joseph Butler, appears to have played no active role in local commercial affairs and lived a relatively low profile, private life.

He remained a bachelor until after his mother died and married Mary Marsh (whom he had recently engaged as a young house maid) when he was in his early fifties.²⁹ Two children were born of the marriage before Brocksopp died suddenly, only five weeks after the birth of his son. His widow soon re-married and the Brocksopp children were boarded at school from their infancy being brought up by their aunts, cousins, and in later years, their father's sole executor, John Gorrell Barnes.

By his will, only partially written because of the suddenness of his death, he directed that the children should not be allowed to be idle but should be put 'to school as early as possible and to be given a plain and useful education', and that his son should after formal schooling be 'instructed in agriculture and knowledge of coal mines etc. and be actively and industriously employed until he becomes of age'.³⁰ The mines were to be closed down and if the furnace was unprofitable it was to be 'mothballed' so that it could be re-commissioned when the young Brocksopp reached his majority.

In accordance with the will the mines were closed and the furnace blown-out, but in the event Brocksopp's son, never a strong child, died just before his majority. The property then devolved on his sister Mary. She was of a petulant nature, more given to enjoying the delights of shopping and living in Cheltenham Spa than applying herself to the business affairs. She granted a power of attorney to Barnes who made the necessary decisions about running her farms and financial affairs.

Sadly she too died when she was only twenty-three years of age and this branch of the Brocksopp line came to an end. By her will she left small sums to her mother, cousins and former school teacher and some local charities, and in this way felt she had adequately benefited those who had been supportive to her. The farms she saw as only difficult encumbrances and was happy to leave them, with the residue of her estate, to her friend and father's executor, John Barnes. The coal lying under Grasshill and Birchill farms which was ripe for exploitation in the ensuing decades, when railways opened up new markets for north Derbyshire coal, was the basis of the fortune of Barnes' son, Alfred, 1823-1901, who developed the Grassmoor Colliery Co.

When John Farey surveyed the Derbyshire scene in 1810 he noted the furnace capacity for the production of pig iron in the upper Rother valley at 6413 tons annually from eight operating furnaces, of which Brocksopp's single furnace contributed 11.3 per cent. A further 3916 tons was produced in the mid-county furnaces, where the Butterley works was in the ascendancy,³¹ bringing the total up to 10,329 tons annually. But this was only one twenty-fifth of the output of England and Wales, and although Derbyshire was largely insulated from competition from outside the region it was already falling behind, with only half the rate of expansion for England and Wales as a whole.³² Despite the industry still not being economically integrated at national level, being rather a series of loosely integrated industries serving local markets, the iron industries of South Wales, Shropshire and Staffordshire were already playing a dominant role.

John Brocksopp may be seen as a small cog in the industrialisation of the upper Rother valley: an opportunist, who, by mortgaging the property he had inherited by good fortune from his mother, recycled capital tied up in land, and made quick profits from the developing iron industry, which was stimulated by the new industrial, civil, and war demands. His sudden death, and lack of an adequate heir, coupled with a general decline in demand after 1815, led to the collapse of his industrial businesses, but provided important resources for the rise in fortune of the Barnes family.

In the quarter of a century after Brocksopp's death the iron industry of north Derbyshire almost disappeared: Butler blew out his furnaces in 1816, the Smith's Griffin works failed in 1835 and

Staveley operated at a much reduced level as the supply of local ironstone declined. Enough sparks, however, stayed alight to be blown once more into life with the opening up of the region by the railways so that 'foreign' ore could flow in and iron products could move out.

How the iron furnace at Grasshill, which had carved out no special market niche, might have performed had Brocksopp lived longer, or had an effective heir, can only be speculation.

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NOTES

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