

Backbarrow Furnace – was it the first?

Alfred Fell's book "The early iron industry of Furness and District" was published in Ulverston in 1908. It is a comprehensive 450 page history of the local industry to the end of the 18th century, when charcoal was the fuel of choice.

On page 207 Fell describes how the two principal ironmasters – William Rawlinson and John Machell – founded The Backbarrow Company in response to a threat to their trade from "a party of adventurers" from outside the area and "built a furnace at that place, which was the first to begin work".

Then, on page 208, he goes on to make the following statement and a far more extensive claim:- "The village of Backbarrow, already noted for the erection within its bounds of the first smelting furnace in the North of England and Scotland, has the further distinction of possessing the last survival of the charcoal furnaces in Great Britain". Now the latter part of the statement may well be true (although worthy of further research) but I doubt that the first part is correct. Not just the first in Furness but in the whole of the North? How was Fell confident enough to make that claim? Do we know more now than he did then?

What is the North? You would probably include Derbyshire, but let's just look at a selection of the earliest charcoal fired blast furnaces in Yorkshire, Northumberland and Durham, Cheshire, Lancashire and Cumbria.

For Scotland, Lewis (1984) reviewed the results of recent research which points to the earliest example of a blast furnace operating c.1621 at a location on Loch Maree in Wester Ross. (This is well before the Backbarrow Company's venture at Invergarry in the 1720s).

In 1939, Arthur Raistrick published the results of his research into "the iron masters of Yorkshire" which had uncovered documentary evidence of the construction and operation of a number of charcoal furnaces in the county. They were mainly in the area between Huddersfield and Sheffield – Bank (1640 to mid 1700s), Barnby (pre 1650 to mid 1700s), Chapel (1628 to 1760s), and Rockley (1652 to mid 1700s). The remains at Rockley have been the subject of archaeological investigations to confirm the dates when it was active.

In the North East, the charcoal furnace at Allensford near Consett, on the border between Durham and Northumberland, was leased in 1692 until 1740, although it was probably not in blast beyond 1715. The Historic England listing dates it to late 17th or early 18th century. It too has been the subject of archaeological investigation.

About 1700, the first blast furnace in Lancashire was built at Holme Chapel, between Todmorden and Burnley, with a documentary record of it supplying forges with small quantities of pig iron from 1702-3 onwards. Awty mentions the supply of 22 tons of pig iron from there to Colnbridge Foundry in Yorkshire in 1714/15. He also confirms that there were four blast furnaces at work in Cheshire in the 1690s – at Vale Royal, Lawton, Street, and Disley.

And closer to home? Phillips begins his article with the following statement: "Measured by the number of blast furnaces working, Cumbria was the least important region of the iron industry in the seventeenth century: in Cumbria there was just one in existence in the 1690s".

The first mention of a furnace at Cleator in West Cumbria was in the Transactions of the CWAAS for 1881 in an article by H.A.Fletcher on 'The archaeology of the West Cumberland iron trade'. He says that "in what may be called the Whitehaven district we find the remains of one [charcoal furnace] hidden within the corn mill at Cleator, near to Ehen Hall", and – after a brief description of the site – concludes that "I am inclined to place its date at the early part of last century", that is the early 1700s. Caesar Caine repeats this description in his book on Cleator and Cleator Moor and adds that "Part of an old smelting furnace which preceded the mill is built into the miller's house. The remains of this furnace form a kind of ingle-nook or alcove for the fire-place in the room on the right on entering the house. It is built of massive stones and is still imposing". Fletcher gave a measurement of a ten foot span for this arch, which would indicate a substantial structure, but - since the masonry was little worn and the slag heap comparatively small – suggested a short working life. The furnace would appear to be the result of investment by Richard Patrickson according to R.P.Littledale in 'Some notes on the Patricksons of Ennerdale' in the 1925 volume of the Transactions. The notes run to 118 pages but include the following statement:

"Richard Patrickson worked iron mines in Cumberland and Westmorland, and tried smelting at Cleator, experimenting there with open and closed furnaces, and with coal, charcoal, and coal and charcoal mixed, as fuel. But his ventures do not seem to have been very successful, and they involved him in law suits with his partners, his manager, and his customers".

Marshall and Davies-Shiel say that "it is known that pig iron was exported from West Cumberland by Richard Patrickson of Cleator in 1700-01". This presumably comes from Awty's research, who says that "38 tons of Cumberland metal were supplied to Bodfari Forge [*in Flintshire*] in 1700/1 by Richard Patrickson, presumably from Cleator Furnace".

Phillips, writing about the Cumbrian iron industry, tells us that "Perhaps the most adventurous entrepreneurs were Richard Patrickson, of Calder Abbey, esquire, and Thomas Addison, of Whitehaven. Patrickson built and operated the first known blast furnace in the area, at Cleator. Perhaps Patrickson, and certainly Addison, experimented with coal for smelting; neither achieved commercial success".

Backbarrow, on the other hand, did achieve long lasting commercial success. Perhaps that is partly down to the employment of experienced men in its construction in 1711, and a series of skilled operators including Isaac Wilkinson, father of the more famous John.

So where does that leave us with Fell's assertion that Backbarrow was the first smelting furnace in the North of England and Scotland? The evidence for Scotland, for Allensford in Northumberland, and the Yorkshire furnaces came later. Holme Chapel in Lancashire has a question mark over it, and there are no physical remains (The AIA Guide describing Leighton Furnace as the only one in the county). There were a number in Cheshire, but that was only confirmed by Awty's research into the Foley family papers, 50 years after Fell.

So that brings us back to Cumbria. The evidence for Cleator was there before Fell's time, and the CWAAS Transactions are included in the list of 'Principal Works Consulted' in his book. Did Fell miss that article? I doubt it. Did he decide that Cleator was too experimental for his liking? Maybe, but it should not have been ignored. John Marshall queried Fell's authority for his statement, suggesting that he either had access to sources that could not now be ascertained, or was guessing. I think the

latter is most likely, and has unfortunately since proved to be inaccurate. Backbarrow was certainly not the first in the North of England and Scotland, not even in Cumbria.

Sources of information

Much of the information about furnaces around the country can be found in Philip Riden's book, which itself is built on earlier lists, mainly produced by the Historic Metallurgy Society. Peter King's is the latest.

A gazetteer of charcoal-fired blast furnaces in Great Britain in use since 1660: Philip Riden, Merton Priory Press, 2nd ed. 1993

Peter King's spreadsheet can be found by searching on-line for "list of blast furnaces with dates"

Charcoal ironmasters of Cheshire and Lancashire : Brian Awty, Transactions of the Historic Society of Lancashire and Cheshire, 1957 (*available on-line*)

Archaeology of the West Cumberland iron trade : H.A.Fletcher, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, 1881(*available on-line*)

The Cumbrian iron industry in the seventeenth century : C.B.Phillips, in Trade and Transport – essays in economic history : W.H.Chaloner, Manchester University Press, 1977 (*copy in the Whitehaven Record Office*)

Some notes on the Patricksons of Ennerdale : R.P.Littledale, Transactions of the CWAAS, 1925 (*available on-line*)

Cleator and Cleator Moor : Caesar Caine, Titus Wilson, 1916 (*copy in the Whitehaven Record Office*)

A guide to the industrial archaeology of Lancashire : Michael Nevell and David George, Association for Industrial Archaeology, 2007

Industrial archaeology of the Lake Counties : J.D.Marshall and M.Davies-Shiel, David & Charles, 1969

Furness and the Industrial Revolution : J.D.Marshall, Barrow-in-Furness, 1958

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