

# ***Chesterfield and District Local History Society***

## **HISTORY PAPER NO.9**

### **HENRY PRIESTLEY AND HIS BRICKWORKS**

#### **PETER AND MAEVE HAWKINS**

##### **THE FAMILY AND THE HISTORY OF THE BRICKWORKS**

In the 1940's and 50's, if you travelled on the railway line from Sheffield to Chesterfield, the landmark chimney in the area known as the Brushes told you that you were approaching the town. It bore the large letters HP on the railway side and you may have wondered if this was a sauce factory but it was in fact the site of Henry Priestley's Brickworks, The brickworks had long since closed, probably as early as 1915 but the chimney and some of the buildings remained there for many years afterwards.

The first mention of a Priestley involved in bricks in Chesterfield was in the 1871 census. Thomas Priestley, a master brick manufacturer, aged 43, born in Darfield near Barnsley, was living in Sheepbridge with his wife Mary Ann and four children. All the children had been born in Darfield and the youngest was eight-years-old, so they could not have been in Chesterfield for very long. At this time, Thomas' son Henry was fourteen-years-old. Thomas appears for the first time in a trade directory – Whites of 1872 – as a brick manufacturer. Ten years later Thomas was living in Sheffield Road, Whittington, and was in business as a grocer and draper. Henry, now 24 years of age, was still living with the family and was in business as a brick manufacturer. Perhaps Thomas had become incapacitated in some way, leaving Henry to run the Brickworks. By 1891 Thomas had died and Henry, still unmarried, was living with his mother at 113 Sheffield Road, Whittington. He described himself as a shopkeeper, brick manufacturer and a farmer. In 1891 Henry's sister Myra, who had married William Edward Johnson, a joiner, was living with her family at 197 Sheffield Road. One of her children was seven year old Fred. He later worked for his uncle at the Brickworks, eventually becoming the Manager. Peter was able to talk to Fred during the 1970's. He was then in his mid 90's and very frail but his mind was alert and his memory of those days very clear.

The houses in Sheffield Road were re-numbered following the Borough extensions. In 1925 William and Myra Johnson were living at no. 929. In later years Fred was to live there with his own family. This house is still standing and is lived in today by the owners of the Ashglen Nursery which occupies part of the Brickworks site. Henry Priestley lived at no. 953 Sheffield Road, which was the last house of all in the area and has been demolished.

The Brickworks was only one of five situated in Sheepbridge, Unstone and Whittington. Four of them were very close to the line of the Midland Railway. Here they were taking advantage of the shale of the Lower Coal measures. One was advertised to let in the *Derbyshire Times* 24 February 1866. Perhaps it was this that brought Thomas Priestley to Chesterfield. The description in the advert was not detailed enough to be sure.

The family were involved in the Sheepbridge Primitive Methodist Church which was built in 1874/5. The company supplied the bricks for the construction. Around the main door was an arch of bricks each bearing a name and the date 30 June 1875. A number of the names could still be made out and were as follows;– Sarah Coy; Thomas Allen; Ann Manknell; Jon Windle; Charles Pass;

Elizabeth Allen; E. M. Stockton; and H. Marriott. In recent years the church was in use as a secondhand furniture store but was demolished in 1994.

#### THE BRICKWORKS AND ITS PRODUCTS

When I interviewed Mr. Fred Johnson some twenty-years-ago he was, of course, very old and frail but his memory was extremely good of his days spent at the Brickworks. I wished to glean any information I could concerning a Mortar Mill which Oliver & Co. had supplied to Henry Priestley in 1876 and had wondered if any other items had been supplied by either Oliver & Co., or its successor Markham & Co., but this did not appear to have been the case. However, he was able to give details of the machines which Henry Priestley used.

They were as follows:

A Press Brick machine – made by Thos. C. Fawcett of Leeds.

A Plastic Brick Making machine – made by Bradley & Craven of Wakefield

A Pug Mill – Maker unknown.

All of these were driven by a 10" diameter steam engine of unknown make.



The Boiler House and chimney with one of the smaller kilns in the foreground c 1977

There was also the Mortar Mill or Grinding Machine which Oliver & Co., had supplied in 1876. From the Oliver & Co. order book the details of this were that it was supplied with a 9" diameter steam engine and had a pan of 8ft. diameter. The cost was £185.

On the site were three open brick kilns. Two of these had ten fireholes on each side and the third one twelve fireholes. There was a boiler house/drying shed with a chimney supplied by Murcheson of Dronfield (I have not been able to find any mention of this company in the trade directories of the time). All of the machines were housed in the brickmaking shed next to the

boiler house. When I visited the site of the 1970's the remains of the lineshafting could still be seen. This transmitted the power from the steam engine via flat belts to the machines. There was also a large flywheel with curved spokes of some 8" diameter and I believe the remains of a horizontal rotary sieve.



The largest of the three kilns c. 1977

The clay hole was at the south end of the site. Today it is used by the Ashglen Nursery as a water feature complete with ducks. The fact that the clayhole was close to the railway bank and not very big would suggest that clay was also extracted from another site. I later found that Henry Priestley was also a farmer and perhaps he had land elsewhere but this was not mentioned by Fred Johnson. He did tell me that there was a tramway on the site used to convey the clay from the clayhole to the brickworks. This is not marked on any Ordnance Survey map so may have been a temporary one moved to the different diggings.

The following bricks were produced at the works:

Hand made facing bricks	Pressed bricks
Commons (under and over burnt)	Half moon
Egg ends	Bull nosed
Plain bricks	Pressed plastic bricks

Fred Johnson was proud to emphasise that no wire cut bricks were ever made as these were considered a very cheap brick.

All of the bricks were made by the stiff plastic process. The clay was dug out of the clayhole and may have been partly dried in the drying shed depending on how wet the clay was. It was then crushed and ground down by the mortar mill and passed through the pug mill with water to produce a stiff plastic-type clay. Coal dust may have been added just before passing through the pug mill. After this it would pass to the hand brick maker. A good hand brick maker with a

young boy to help could produce up to 10,000 bricks per week. These bricks would be the green bricks. They would be put outside in racks called hacks to dry. The drying time was two to six weeks, depending on the time of the year and only about twenty six to thirty five weeks were suitable for the drying process. Some hand-made bricks would be passed through a brick press which would force out some of the water and make a much denser brick, these would go directly into the brick kiln saving the drying time and could be made all year round. They made a good facing brick.

Priestley's acquired a stiff plastic brick making machine from Bradley and Craven. With this the clay could pass from the grinding process through sieves and missing out the pug mill altogether would go into a hopper above the machine. It would then feed into moulds automatically and the bricks be put straight into the kilns.

According to Mr. Horace Barnett who worked at the Brampton Brickworks many years ago this type of machine could produce about forty bricks per minute.

The brick kilns at Henry Priestley's were of the up-draught type. This was intermittent and used by smaller yards. They were cheap to build but costly to run i.e; 12cwt. of Langwith slack per 1,000 bricks. The kiln could make 25,000 bricks in a single firing. The alternative kilns were continuous and used by large yards where the fires never went out.

The three kilns were of different sizes and estimating from the Ordnance Survey map appear to have been 32ft x 32ft, 32ft x 16ft and 48ft x 18ft. The largest one was probably the last one built. It seems to have been of improved design by George Durant, which could produce 30,000 bricks at a fuel cost of 8 cwt per 1,000 bricks. This had end walls called wickets 36" thick. The other two had open ends, which were built up with old bricks each time.

The whole of the kiln structure is of brick, the walls being approximately 40" wide at the bottom, narrowing to about 18" wide at the top and about twelve to fifteen feet high. The two smaller kilns had ten fire-holes on each side and the larger one twelve. The fire-holes were about 16" wide by 36" high and would be lined with fire-bricks.

The green bricks would be set out in the kiln in patterns to allow the heat from the fire-holes to pass into the bricks. This was done by building a flue from a fire-hole on one side to its pair on the opposite side. The flues were about 8" wide by 2 – 3 ft high. Bricks could be set out in rows with 3/4" between rows. Of course, some bricks would then receive more heat than others and this was the main disadvantage of this type of kiln.

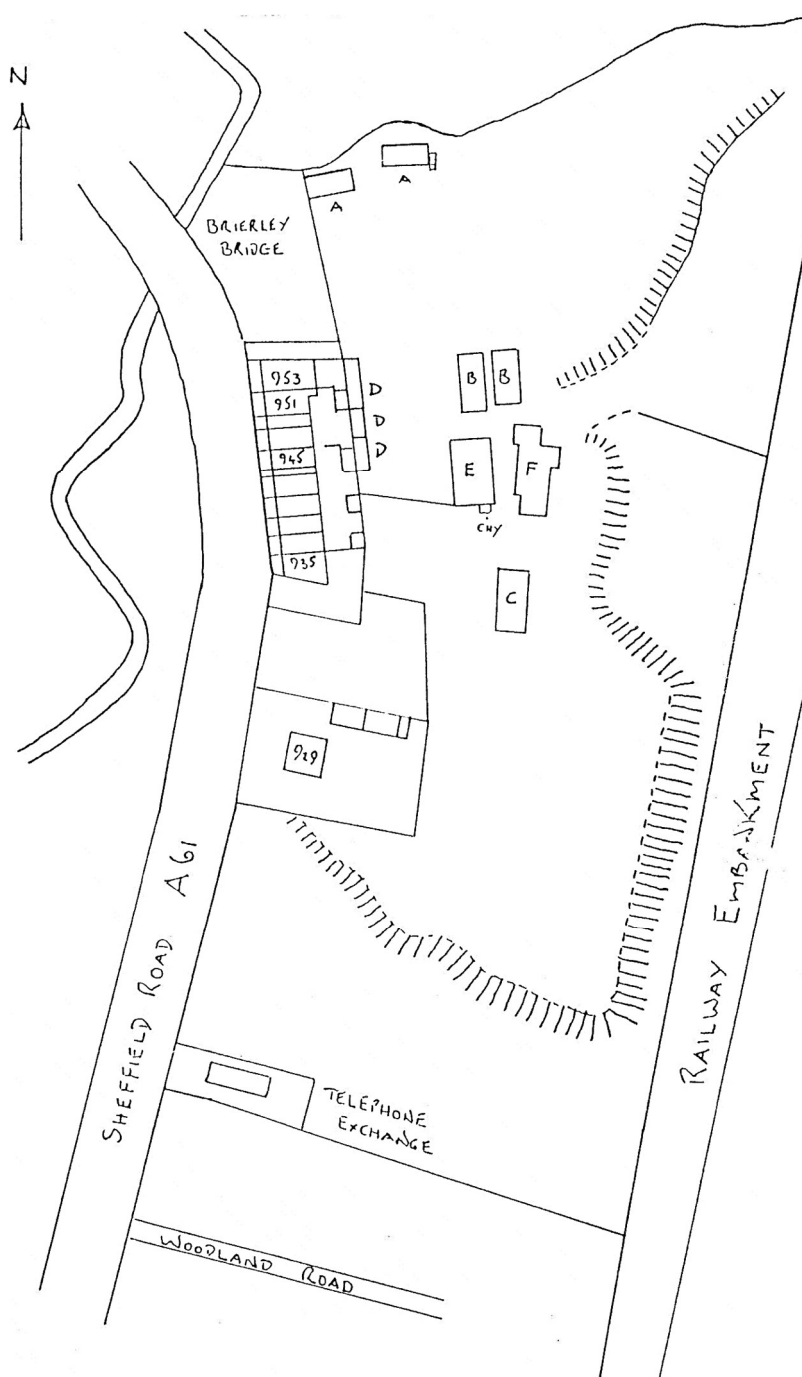
Fred Johnson told me that it would take six to seven weeks to make each batch of bricks. The first three to four weeks in the manufacturing and drying of the green bricks and the remaining time in the kiln. After the bricks had been laid out the ends were bricked up with old under or over burnt bricks. The top of the kiln was covered with broken bricks, old clinker from the fireholes and finally a covering of soil, old clay and ashes. The fire were lit and a very low heat was maintained for five to seven days. During this period steam could be seen coming from the top of the kiln. This was called the baking period. As soon as the steam stopped full heat was applied for a further five to seven days. This was the burning period. The fires were then allowed to die down and the kiln to cool before the bricks were removed. The temperatures would be around 900 - 1140c, for the coal shales.

The bricks would also shrink during the drying time and in the kiln. This is why you will find many old local bricks of different sizes. There would also be many bricks over or under burnt, cracked

or distorted but nearly all could be used in one way or another. The worst would help with the making of the next batch of bricks by bricking up the kiln. Some better over and under burnt bricks could be sold as commons. The broken ones could be crushed and sold as brick dust for tennis courts.

The Henry Priestley bricks were reddish-brown in colour. Some lighter and darker shades were selected out and sold at a higher price for fancy relief work in building.

- A. Office/Store – two storey building.
- B. Small Kilns
- C. Large Kiln
- D. Sheds Brick
- E. Boiler House - Drying Shed.
- F. Machine shed –Brick built.



When the interview with Fred Johnson took place I knew little of brickmaking. My interest then was in the machine provided by Oliver and Co. Since that time I have talked with Mr. Horace Barnett about the methods he recalled at the Brompton Brickworks. My knowledge has been

added to by the reading of two excellent books concerned with brickmaking and its history. I have taken into consideration the machines being used along with all of this information and endeavoured to show how the bricks at Henry Priestley's were produced.

In the 1970's The Brushes area had become very run-down and Chesterfield Borough Council, anxious to improve this approach to the town instituted a slum clearance programme. Many properties were demolished and they encouraged agriculture and leisure use of the land. Today Ashglen Nursery and a boat building firm operate on Henry Priestley's Brickworks site. In the last few months some of the buildings remaining from the Brickworks and recently used by the Nursery have been demolished.

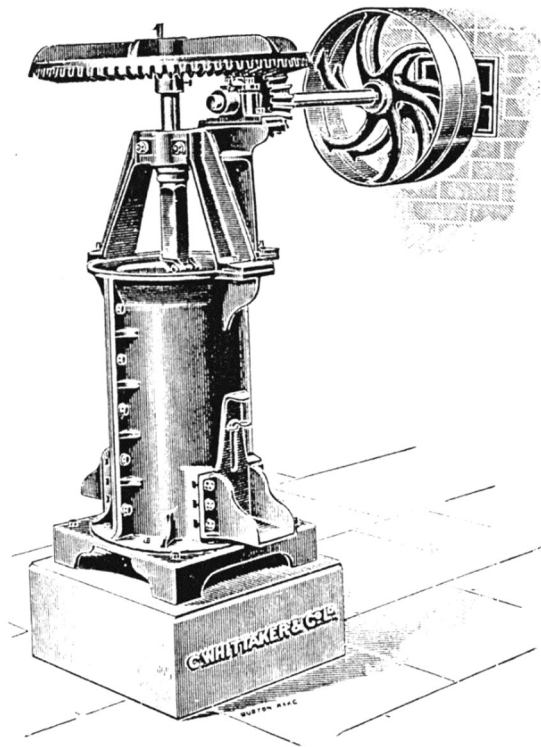


The site in 1993

A number of bricks bearing Henry Priestley's name still lie in piles around the land but maybe these too will soon disappear, taking with them the tangible evidence of one of the many small brickworks which were so numerous in Chesterfield and the surrounding area.



The bricks bear the word PRIESTLEY on one side and WHITTINGTON on the other.



VERICAL PUG-MILL FOR SMALL WORKS  
(By courtesy of C. Whittaker & Co. Ltd., Accrington)

Anyone wishing to discover more would find *Bricks to Build a House* by John Woodforce full of fascinating facts concerning this most ancient of crafts.

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