

## W S BARRON & SON, MILL ENGINEERS OF GLOUCESTER

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### Introduction

Within recent years, Gloucester has lost much of the engineering base that helped make it famous throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries. Some companies have been subsumed into other organisations and relocated elsewhere, and others have simply closed down as their traditional markets faded. Some of the City's engineering companies produced a wide and changing line of products, whereas others specialised in particular niche areas of the market. For example, for many years, Gloucester had an enviable reputation for mill engineering, producing a diverse range of products for corn milling and associated trades that helped ensure that Gloucester-made products were known throughout much of the industrialised world. At different times, these included companies such as J G Francillon in Llanthony Road, Summers & Scott's High Orchard Works near the Docks, Fielding and Platt, and William Gardner & Sons in Bristol Road. The other important mill engineering company was that set up by William Barron, and this is the subject of the present article. At the moment, the company's final base lies derelict, awaiting redevelopment. When this happens, one of the City's final links with what was once a major local industry will be broken. It seems a fitting time to take an, albeit, brief look at the company's 80-year background and some of its products.

### Early days

The company grew out of the experience and business acumen of Mr William Stephenson Barron, built up during the latter part of the 19<sup>th</sup> century. His background as a peripatetic mill engineer meant that he had significant experience in the field and had travelled widely as part of his job. Deciding to capitalise on this, in 1903, he eventually founded his own company (1). It eventually became one of the country's most prominent mill engineering companies and helped keep the city at the forefront of milling technology in Britain. At its peak, Barron & Co was described (along with its main local rival, Gardner & Co) as having:

*Closely followed or sometimes led the way in vast improvement in milling machinery in the last 40 years' (2).*

In 1904, the company was noted as:

*Having achieved a national reputation, especially in the area of flour milling machinery and appliances (3).*

The early period of the company's existence coincided with times of great change within the milling industry. Particularly from the latter part of the 19<sup>th</sup> century, mills began to increasingly switch from relying on water power, many (both small and large) opting to install steam powered equipment. Furthermore, a huge transition was under way as much of the industry gradually abandoned the use of traditional millstones and turned its attention to increasingly efficient roller mills. In this system grain is reduced in size by passing between various combinations of closely spaced, contra-rotating iron or ceramic rollers. Barron's experience seems to have encompassed these changes as by the turn of the 20<sup>th</sup> century, he was described as having designed both complete water and steam powered mills. His

expertise also extended to roller mills, as the range of products that came to be produced by the company confirmed.

The company's original premises were located in Sweetbriar Street, Kingsholm (4 and Fig.1) where, in 1904, it was described as occupying commodious premises near the GWR and Midland railways (3). By this time, W S Barron had been joined in the business by his son, G S Barron. At this time, Barrons were supplying equipment to mills that still clung to the use of traditional millstones, as well as those that were now relying on the newer roller mills. Under William Barron's direction, many mills were re-equipped and modernised, often taking on board the latest developments in milling technology.

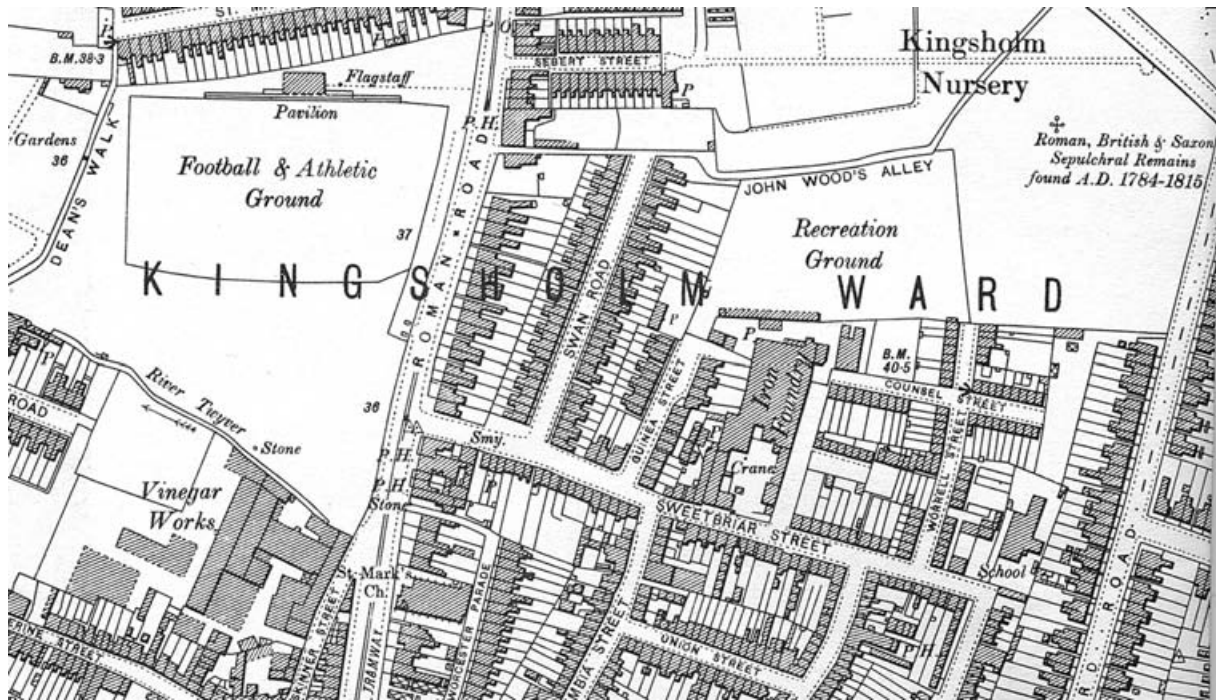


Fig. 1 Map showing location of the Sweetbriar Iron Works in Kingsholm, at the time, located on the edge of the expanding city. From Second Edition Ordnance Survey map of 1902 (Sheet XXXIV.15). Reprint produced by Alan Godfrey Maps, Newcastle-upon-Tyne.

By 1919 the company had further premises in Ladybellgate Street in the City (5 and Fig. 2), from where the company advertised its iron castings, targeted both locally and nationally, at a growing range of trades and industries. A typical advertisement offered (6):

*Castings in Grey Iron and Semi-steel. Any weight from 1lb. up to 3 tons. Specialists in castings for the engineering, chemical, wood working and building trades.*

Other advertisements of the time referring to the Ladybellgate site described the company as 'millwrights, engineers and millstone builders'. By this time, the company's range of mill-related products had expanded to a remarkable degree as discussed below

### **The Bristol Road site**

The range of equipment produced by the company and its growing markets meant that eventually, these early premises were no longer big enough. As a result, between 1932 and 1934, the company moved to a new 7-acre site on the eastern side of the Bristol Road just outside the City (SO 8225 1668). The new site included a foundry and numerous workshops,

<p><b>SPECIALITIES:</b>          Patentees and Makers          of the          "Dreadnought" and          "Super Dreadnought"          Grinder.            "Dreadnought"          Composition Millstones.            BARRON'S          Patent Double Reduction          Pulverizer.            BARRON'S          New "Impact" Grinder.</p>	<p>Telegraphic Address: "BARRON, GLOUCESTER."          Telephone No. 965.</p> <p>Cable Address: "BARRON, GLOUCESTER."          Cable Code: A.B.C. Fifth Edition.</p> <p style="text-align: center;"><b>W. S. BARRON &amp; SON,</b>          (W. S. BARRON. G. S. BARRON),  <b>Millwrights, Engineers and</b>  <b>:: Millstone Builders, ::</b>  <b>Ladybellegate St., GLOUCESTER.</b>  <i>Consulting Engineers. Licensed Valuers.</i></p>
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Fig. 2 From Kellys Trade Directory of Gloucestershire (1919)

used for the manufacture and assembly of a wide range of mixers, crushers, dressing machines and millstones. In 1934, an agreement was reached with the well-known flour milling engineers *Henry Simon* of Stockport, whereby each company co-operated closely on technical and commercial matters, although each retained its independence. This arrangement was to last for nearly three decades.

In 1963, Barron & Son merged with the animal feed section of Henry Simon Ltd. After the merger, products continued to flow from the site and during the early 1970s, around 500 people were still employed in the design and production of predominantly, animal feed equipment. This number had fallen to 200 by 1984 (1). During this period, several specialities were developed that included patented technology for blending and extrusion systems for the production of pelletised cattle feed and other materials (for example, US Patents 4022562 and 4702746). However, pelletising equipment was not new to the company as Barron's pelletisers were being installed in many of Britain's mills as far back as the 1950s. For instance, Aylshall Mill in Norfolk was suitably equipped in 1954.

In the 1980s, the Managing Director of Simon-Barrons was Christopher Graham. For part of this period, he was also CEO of Henry Simon, still active in the area of flour mill engineering. Fittingly, this helped to emphasise the strong links that had been forged between the two companies in the 1930s.

### Products

Even from its earliest beginnings, the company was well known for the range and variety of equipment that it produced. In 1904, when referring to Barron's prowess in the field of mill engineering, *Industrial Gloucestershire* noted, in prose typical of the day, that:

*The range of Messrs W S Barron & Son would be best described by saying that they include every mechanical operation directly or indirectly connected with milling. They are equally competent to make or repair a particular machine or part of a machine and to design, manufacture and install a complete system for mills of any character or capacity.*

Advertisements of the period saw the company advertising as:

*W S Barron & Son. Millwrights, Engineers and Millstone Builders.  
Ladybellegate Street, Gloucester. Consulting Engineers, Licensed Valuers.*

*Specialities: Patentees and makers of Dreadnought and Super Dreadnought Grinders,  
Dreadnought Composition Millstones, Barron's Patent Double Reduction Pulverizer,  
Barron's new Impact Grinder (5).*

This was to be a characteristic of much of the company's operations and even up to its eventual demise, a remarkable range of products was available. With the extensive knowledge and experience gained in flour milling, Barrons were able to cater for other industries that relied on similar machinery and equipment, and the range of speciality products came to include:

*Machinery for the manufacture of cocoa, spices, drugs, pepper, ginger, powder sifting  
and blending, colour grinding, sugar grinding and dressing, etc. (3).*

Millstones were supplied to clients ranging from small scale water-powered country millers, through to major milling companies operating with steam power (Fig 3). Different types of millstones were available, the choice depending on the type of cereal to be processed and the throughput required. The company produced different types that included traditional variants such as French burrs and Peak stones. The former were particularly prized for producing high quality flour for human consumption, whereas the latter were more of a general purpose stone. Each was available in a variety of sizes, ranging from 36 to 54 inches in diameter.

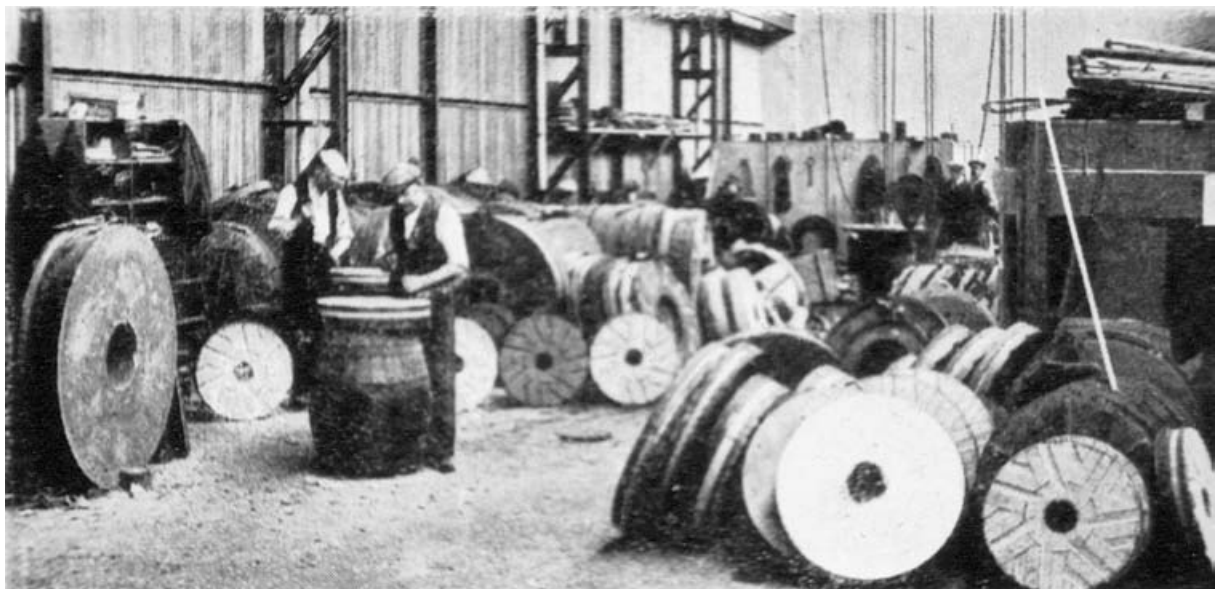


Fig. 3 A 1920s view of the millstone manufacturing shop at the Sweetbriar Works showing various sizes of stones being assembled (9).

The other type of millstone that the company became well known for was its range of *Dreadnought* composition stones. These are perhaps one of the best remembered of its products as at their height, over a 1000 pairs a year were being produced and sold. These stones were manufactured by grinding French burr or emery down to a particle size of around 0.3 cm or less, embedding them in a strong cement, then applying the mix to a circular mould

of appropriate dimensions. Stones were available in sizes ranging from 6 to 60 inches in diameter. By changing the composition of the mix, it was possible to alter the stone's final properties, making it suitable for a variety of applications. Unlike conventional millstones that required dressing at frequent intervals, Dreadnought stones required very little attention, leading to a claimed reduction in labour costs of up to 75%. The stones proved immensely popular and were claimed to 'do more and better work than any French burr millstone, and equal Peaks as to the quality of the work done'. Many local mills relied on Barrons for their stone. For instance, during the 1930s, Ebley Oil Mill near Stroud was equipped with both French burr stones and composition millstones. At the time, the mill was producing both flour and animal feed (7). Examples of both types of stones survive.

Alongside its range of millstones, Barrons also came to develop and manufacture a bewildering variety of mill-related equipment that included a range of vertical milling machines. For instance, their Dreadnought grinders relied on a vertical millstone system suitable for a wide range of operations that included grinding numerous types of grain, chalk and coffee. Many machines ran virtually trouble free for decades, the machines proving to be a great success for the company.

Ancillary equipment such as grain cleaning equipment, elevators for transferring grain within a mill, hoists, lifts, separators, dust collectors, motors, engines, water wheels, gearing and shafting was also supplied.

Later came the Under Runner Hursting Machine, designed to grind maize and other cereals in the wet state. This was joined by a variety of 1, 2, 3 and 4 pair-high roller mills that were capable of milling grains, beans and oats. These relied on combinations of chilled cast iron rollers to reduce the grain to the required size and consistency. This type of system essentially usurped the traditional millstone from the position it had held for centuries, particularly for large scale milling operations. Many were exported around the world (8). Throughout the company's long life, markets remained both national and local.

### **Concluding Remarks**

Like many other local engineering companies, Barrons grew and prospered, eventually being amalgamated with another long established engineering company. The company finally disappeared from Gloucester in the 1990s.

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