

The Stroud Pin Makers

By Stephen Mills

Background

As the woollen cloth industry of the Stroud region gradually waned during the 19th century, a number of successor industries moved into some of the redundant mills. Many of these were of a general nature, comprising a mixture of corn milling, malting, saw milling, silk throwing, etc. However, several trades came to prominence in woollen cloth's wake that could be viewed as "specialities" of the area. The making of walking and umbrella sticks came to form one such use, and another, the manufacture of pins of various shapes and sizes.

The appearance of some successor industries is easier to explain than others. The introduction of silk throwing into a region so long steeped in textile manufacture is understandable. Likewise, the local availability of cheap beechwood doubtless played an important role during the early days of walking stick manufacture. However, in the case of pin manufacture, there is little to explain why the industry came to thrive in several locations in the region, perhaps most prominently in Painswick. Admittedly, pin making had been established in the City of Gloucester from at least the early years of the 17th century (1) where, allied with wire drawing (2) it continued to form an important industry, initially predominantly under the control of John Tilsby. At the time, pins were being made from drawn brass and iron wire; Tilsby specialised in the former which were considered to be of better quality. From this time, pin making continued to form an important trade in the City, but suffered a serious blow in c1808, with the bankruptcy of an important maker, Thomas Hayes. His failure contributed to the eventual collapse of the Fromebridge Company, who had been supplying him with wire produced at Fromebridge Mill, Frampton (3). In Gloucester, pin making never recovered to its former level although six comparatively minor companies were still producing pins in the City in 1820 (4). By now, considerable practical experience had been accumulated in the manufacture of solid-headed pins although this had remained based largely on hand processes. It was acknowledged that the manufacturing of pins using the techniques then employed resulted in "each pin passing through 25 pairs of hands" (5). Essentially, the wire was drawn and pointed in the manufactory, with the heading being carried out in outside workshops or the homes of outworkers.

The Begining of the Stroud Industry

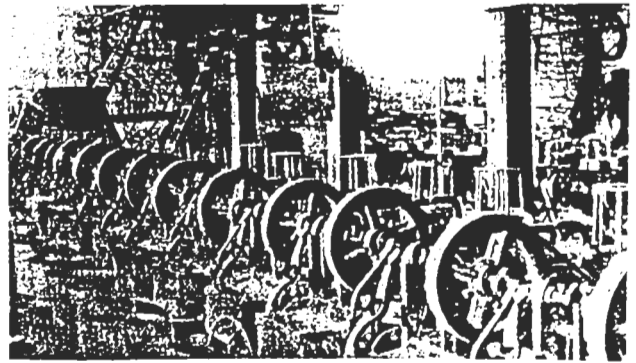
Pin making in the region later emerged in Stroud. In 1824, Lemuel Wright patented a machine for making solid-headed pins; this was subsequently taken up by Daniel Foot Taylor and installed in part of Lightpill Mill (6) where he attempted to produce pins on a commercial basis. Taylor was later declared bankrupt, his machines being taken over by a Birmingham manufacturer who eventually managed to achieve the elusive goal of fully automated production. On subsequently deciding to remove his business back to Birmingham, three of the manufacturer's apprentices decided to set up their own business and the noted local pin-making firm comprising Albert Perkins, Henry Critchley and Joseph Marmont came into being (7), their initial base of operations being Frogmarsh Mill.

France had long been a major competitor to the British pin, however, this was effectively removed during the Franco-Prussian war. In 1870, the Germans destroyed six major French pin factories, allowing the British pin makers to capitalise on this unexpected windfall. The bulk of European pin manufacturing now resided in Britain and Henry Critchley was despatched overseas in order to promote widely the company's products.

Exports increased, with a variety of pin variants being sent to European markets and beyond; one early specialist product comprised large blanket pins, destined for Africa.

Pin making came to occupy several locations within the region with Perkins, Critchley & Marmont dominating production around Stroud. In 1883, following the breakup of the partnership two years earlier, the Critchley component of the company set up what was to become a very successful venture trading as Critchley Brothers, at Wimberley Mills. Henry's sons, Uriah and Francis Edward continued to manufacture pins, the mill being equipped with newly developed automatic pin making machines powered by a 50hp water wheel (8). The product range was wide, ranging from large "Kaffir pins" of 4½ inches in length destined for African markets, to "minikin pins" of ~¼ inch length (9). Over the following decade or so, the mill continued to be modernised and further refinements were carried out to the manufacturing processes. Water power alone was no longer sufficient and a Gloucester-built steam engine was added to supplement the water wheel. Electric light, steam heating, lifts and "speaking tubes" were installed throughout the mill and the brothers continued to develop the manufactory to the point where it was almost entirely self-sufficient. Departments were created to print the necessary pin sheets, packets and labels, and packaging boxes and crates made on site. The raw material for the pins themselves was bought in the form of rough wire, however every subsequent stage of manufacture was carried on within the manufactory.

Virtually all of the successful pin makes in the region depended heavily on machinery invented and/or developed by themselves; this was also the case here, as Francis Critchley was noted as having "designed and built most of the machines and appliances" needed (10). Such was the extent of the company's success that c1900, the mill's manufacturing capacity was doubled and large stocks of products held at centres in London, Manchester, Glasgow, Belfast, Dublin, Amsterdam, Copenhagen and Melbourne. Each week, the company produced around 15 tons of pins and hair pins, the latter having been added to the range in 1900 (11).



Pin machines. Wimberley Mill. 1890s

Wimberley Mill continued to expand and by the 1930s, water power had finally been ousted by steam. On the mill's ground floor, 30 hair pin machines were in operation driven by overhead line shafting; the first floor had over 60 pin machines plus 10 hair grip machines, and the upper floor contained the work's printing department, the company still continuing to produce all of its own packaging material.

The other major centre for pin manufacture was Painswick, pin making having been introduced into the parish in 1796 as a means of providing employment to the poor in the workhouse (12). At this time, this was reliant on hand processes, such as those used in Gloucester. Remarkably, around the same period that Perkins, Critchley & Marmont were starting out, no less than three separate pin manufactories were also being set up in and around Painswick, each settled in a former woollen cloth mill. *Industrial Gloucester* noted that:

"It may not be generally known, and it would scarcely be suspected, that in the village of Painswick...are manufactured more hair pins than in any other one place in the world.

Three large factories employing almost as many hundred hands and equipped with hundreds of automatic machines turning out the product with marvellous rapidity are in constant operation, daily transforming miles of wire into tons of finely finished pins" (13).

At Cap Mill, Peter Watkins began producing hair pins and the Trotman Brothers did similarly at Masons Mill. Downstream, Buck & Holman also began making pins at Rock Mill. Although pin making had earlier been carried out in the Parish Workhouse, precisely why no less than four separate concerns should be established within a 1-2 year period remains a mystery, although in the case of Peter Watkins, there is tentative evidence to link him with the earlier pin making concern at Lightpill Mill during the first half of the 1840s, an enterprise that also spawned Perkins, Critchley & Marmont. Watkins is known to have worked in the trade in Birmingham and Stroud, the Lightpill venture being the only known one in the area at this date. In 1853, Watkins formed a partnership with Mr Okey, their business occupying Cap Mill. Watkins & Okey were later credited with being "one of the oldest hair pin manufacturers in England" and that:

"...the rapid and economical manufacture of hair pins by machinery was probably due as more to Mr Peter Watkins as to any one man in England" (14).

Like the other local pin makers, Watkins designed and built much of the specialised machinery needed. The theme of inventiveness and self-sufficiency was a continuing one throughout the period of pin manufacture in the region. The success of the company through his efforts cannot be doubted and in 1860, expansion resulted in Kings Mill nearby being taken over. The partnership was subsequently dissolved and Watkins carried on alone until his death in 1901, being succeeded in the business by his sons George Price Watkins and C J Watkins. At this time, the works still relied on water power, George continuing to design and refine the manufacturing machinery required for the production of a range of hairpins, some of "exclusive design".

At Rock Mill, the pin-making venture appears to have been comparatively short-lived. Initially set up by Buck & Holmes, in 1856, the Stroudwater Pin Co. (15) was recorded as being in residence. Production ceased in 1859 although a company of the same name later took over and apparently prospered at Howards Upper Mill in Dursley (16).

Meanwhile, the enterprise of the Trotman Brothers at Masons Mill was being taken over by W H Cole & Co. although interestingly, for a brief period it apparently became Trotman & Cole, before reputedly being taken over by E & E W Reed (17). Like the other pin makers in the vicinity, W H Cole & Co. was characterised by production processes that were constantly being improved and updated, machinery being both designed and built on site; doubtless competition ensured that this continued to be on-going situation. In this case, power came from a water wheel, supplemented by a steam engine. At the company's peak, around 100 automatic pin making machines were in constant use, each producing over 70 hair pins a minute. Similarly, hooks and eyes were also being made at the rate of 120 per minute. Alongside these two lines, safety pins were also in production, Cole's being the only factory in the district to do so (18). Finished goods were either electroplated or enamelled. Like several other manufacturers, Cole's were proud of their exclusive patented designs. The company eventually moved to the Zona Works in Cheltenham where they continued to manufacture hooks and eyes for a time (19).

The mid 1870s saw the start of an association between the pin-making Savory family and Painswick that was last for almost exactly a century. Around 1876, Harry and William Savory set up their pin making enterprise in the former woollen Brookhouse Mill (20). Under the control of various family members and their senior employees, the company

continued to produce hair pins up to 1982. The company apparently chose its employees carefully and in 1904 it was noted that the Managing Director was Mr M O Phipps, a man who had been involved in the trade for the previous 24 years. Like their immediate competitors, Savory's manufactory and machines were constantly improved and upgraded. The mill was heated with steam, lit with gas lighting and had been equipped with lifts. The machinery therein was considered to be fully automatic and to require little attention when in operation. The



Brookhouse Mill. c1900

workforce was carefully segregated, with women used exclusively for sorting, counting, weighing, wrapping and labelling, all considered to be "clean" duties. The works was almost fully self-sufficient, even to the extent of drawing their own wire, one of the few in England to do so. Like some of the competition, Savory's printed all of their own packaging and made their own japan and cardboard boxes and crates on site. The range of hair pins produced in the idyllically-situated factory was wide, with stocks being held in London depots and other agencies throughout the country; from these, much went to export. In 1910, the company took over the pin-making concern of G P & C J Watkins at Kings Mill. Kings Mill was still reliant on an overshot water wheel for its power.

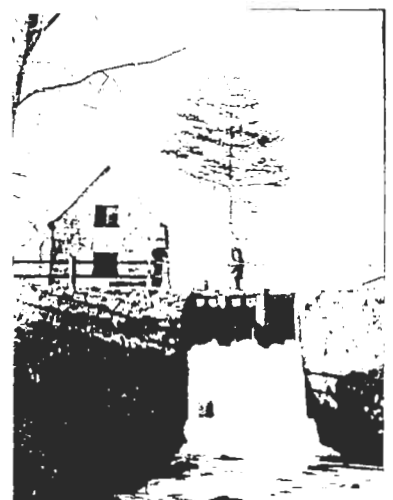


Kings Mill. 1985.

Remarkably, up to 1962, the main manufacturing site of Brookhouse Mill relied on the combination of an ancient gas engine and a single water wheel for its power. As a result of the gradual silting up of the mill pond, the wheel had been used on a half time basis with the engine. Ironically, it was the eventual demise of the latter that was to see the introduction of electrical power. The company eventually succumbed in 1982; it had been the last and longest-lived of the Painswick

pin makers. In 1928, Hyett noted that Brookhouse Mill was "...the only pin-mill left in Painswick" (21), their competition having closed down some years earlier.

Elsewhere within the region, pin making had been carried on with varying degrees of success. There is some evidence to suggest that both Pitts and Frames Mills at Inchbrook may have been associated with the trade (22) and Howards Upper Mill at Dursley certainly saw nearly two decades of this type of manufacture. In addition, Tubbs & Lewis's New Mills at Kingswood was being similarly used, manufacture carrying on in the basement section of the mill, elastic fabric being manufactured in the upper storeys. Tubbs & Lewis gathered together a variety of trades, buying up the old established pin-making firm of Perkins & Marmont of Frogmarsh Mill and establishing it in one of the existing buildings forming the Charfield Mill site, a few miles from New Mills (23).



Kings Mill sluices. c1900

Manufacturing Processes

Processes used to manufacture conventional pins and hair pins clearly differed in detail however in both cases, various mechanical arrangements were developed to carry out the successive stages of production; many of these machines were designed and/or built at the particular mill, taking on special features often designed by the owner himself. In both cases, initially wire of the appropriate gauge was bought in from outside sources; Savorys were the one exception to this, buying in "rough wire" and drawing it down themselves. In general, pin-making machines drew stiff wire from a hank or cylinder and wound it onto a drum. From here it was pulled off by a set of powered rollers, being straightened in the process. A pin length of wire was then extended by a set of jaws and the one end struck several times by a header-die, thus forming the head of the pin. This was then cut off and carried along, passing over a set of files or cutters designed to produce the point. Following this, the pins were usually tumbled in sawdust or similar in order to clean them prior to electroplating to give a surface layer of tin (24).

Production of hair pins (and hooks and eyes) shared a number of similarities in their manufacture in that a length of wire was drawn from the drum and fed into the appropriate machine; this duly cut off the required length of wire which was then bent to shape around mandrels and guides of the appropriate form. The final stage of manufacture usually encompassed some form of japanning or the application of a lacquered finish prior to packing, etc. As noted already, virtually all such machines were custom-made to the specification of the owner, often in the mill's own workshops.

Pin Manufacturers

Site	Dates	Occupier	Products
Brookhouse	<ul style="list-style-type: none"> ■ c1876 ■ 1879 ■ 1889 ■ ?-1982 	<ul style="list-style-type: none"> ■ Harry & William Savory ■ H B Savory ■ Frank Savory ■ Savory & Sons 	Hair pins
Cap	<ul style="list-style-type: none"> ■ c1851 ■ 1853-c1867 	<ul style="list-style-type: none"> ■ Peter Watkins ■ Watkins & Okey 	Hair pins
Masons	<ul style="list-style-type: none"> ■ c1850 ■ ?-c1869 ■ 1870-post 1904 ■ ? 1920 	<ul style="list-style-type: none"> ■ Trotman Bros ■ W H Cole & Co ■ Trotman & Cole ■ E & EW Reed 	Hair pins Hooks & eyes Safety pins
Kings	<ul style="list-style-type: none"> ■ 1860 ■ 186?-1901 ■ 1901-1910 ■ 1910-1919 	<ul style="list-style-type: none"> ■ Peter Watkins ■ Watkins & Okey ■ G P & C J Watkins ■ Savory & Sons 	Hair pins Safety pins Hooks & eyes
Pitchcombe Upper	<ul style="list-style-type: none"> ■ c1851-2 	Thomas Trotman	Hooks & eyes
Rock	<ul style="list-style-type: none"> ■ c1850 ■ 1856-1859 	<ul style="list-style-type: none"> ■ Buck & Holmes/Peter Watkins ■ Stroudwater Pin Co. 	Pins
Wimberley	1883-post 1935	Critchley Brothers	Pins & hair pins
Frogmarsh	<ul style="list-style-type: none"> ■ c1851 ■ c1881-1934 	<ul style="list-style-type: none"> ■ Perkins, Critchley & Marmont ■ Perkins & Marmont 	Pins
Lightpill	<ul style="list-style-type: none"> ■ 1834-? ■ c1842-1846 	<ul style="list-style-type: none"> ■ Daniel Foot Taylor ■ ? 	Pins
New. Kingswood		Tubbs & Lewis	Pins
Howards Upper (Dursley)	1870-c1898	■ J Hemmings/Stroudwater Pin Company	Pins
Charfield		Tubbs & Lewis	Pins

Pins were also manufactured by several other manufacturers not necessarily located in former cloth mills. These included Charles Lambert & Sons of Kingswood (pre 1889-post 1935) and H R Heaven of Brimscombe (?-post 1935).

References:

- 1 VCH. Glos. (1907). II. 207
- 2 Fosbrooke. Hist. of Gloucester. 424
- 3 A Chatwin. Some Gloucestershire Ironmasters. Proc. Hist. Metallurgy Soc. 1982. 10
- 4 Gell & Bradshaw Dir. Glos. 1820. 105
- 5 VCH. Glos. (1907). II. 207.
- 6 Glos. Journal. 15 Feb 1834. Pin making was carried on in the South Mill
- 7 Stroud News & Journal. 19 May 1983. Special Critchley Brothers centenary supplement
- 8 ibid
- 9 VCH. Glos. (1907). II. 207
- 10 Industrial Gloucester (1904). Chance & Bland. 20
- 11 SN & J. 19 May 1983. Critchley centenary supplement
- 12 Vestry Min. Book. 1784-1800. 79
- 13 Industrial Gloucester (1904). Chance & Bland. 19
- 14 ibid. 18
- 15 Slaters Dir. Glos. 1852-3. 152; Kellys Dir. Glos. 1856. 341
- 16 A Sutton. Uley, Cam & Dursley. 1991. 56; Tann. 1967. 127. This was Howards Upper Mill in Water Street.
- 17 F A Hyett. Some Glimpses of the History of Painswick. 1928. 108
- 18 Industrial Gloucester (1904). Chance & Bland. 18
- 19 Kellys Dir. Glos. 1939. 515
- 20 C Haine. GSIA Journal. 1992. 17-19; VCH Glos. XI. 73
- 21 F A Hyett. Some Glimpses of the History of Painswick. 1928. 108
- 22 Mills & Riemer. The Mills of Gloucestershire. 1989. 54
- 23 Perry. Wotton under Edge. 1986. 128
- 24 Mills & Riemer. The Mills of Gloucestershire. 1989. 18-19

S J Mills