

Stick Manufacture in the Stroud Valleys

By Stephen Mills

Amongst the industries that set up shop in the Stroud valleys, perhaps one of the most peculiar was the manufacture of walking and umbrella sticks, plus their associated handles and other fittings. From at least the 1840s, throughout the valleys, sticks were produced, predominantly in redundant woollen cloth mills. The trade was of great importance to the prosperity of the area and in 1923, the following observation was made:

"The Stroud district is noted for the number of industries as well as for the rugged beauty of its scenery...probably the least known of all the Stroud Valley's industries is that of making walking sticks...At Chalford and Brimscombe are several works which employ hundreds of hands turning out thousands of sticks daily. A considerable export trade is done with the Colonies, and India provides a special market as well as being the largest customer". (1)

The attractions of the district were fairly obvious, namely available buildings, in most cases characterised by large open floor spaces. In addition, power source(s) were often still in place in the form of water and/or steam, usually sufficient to drive saw benches and turning machines, plus a pool of skilled labour was available in the district. Other factors that may have increased the attractiveness of the area included access to a region that was now well served with transport infrastructure in the form of roads, canals and railways, plus at least initially, an inexpensive supply of local beechwood.

Over the course of a century or so, more than 20 former cloth mill sites were either partially or wholly turned over to some aspect of stick manufacture (Table 1). The industry thrived for much of the second half of the 19th and earlier part of the 20th centuries. However, the fashion for walking sticks waned and the market gradually decayed although the market for umbrella sticks and fittings may have suffered less during this period. Despite this, the stick manufacturing trade in the region was characterised by a handful of companies of great longevity, perhaps none more so than the manufacturing empire founded by the king of the stick makers, William Dangerfield. He can be credited with, if not introducing the trade to the area, developing it to the extent that at one time he was employing a significant number of local inhabitants.

Dangerfield's beginnings in the trade were noted in a retrospective of 1937:

"About 1845 the late Mr and Mrs Alfred Griffin, who lived at Gussage House, used to see a smartly dressed young man pass their house every Sunday on his way to Eastcombe Baptist Chapel. This was William Dangerfield, and his acquaintance with the end of the Toadsmoor Valley known as Gussage, led him to start a stick factory at Gussage Mill, and to employ Mr Griffin as his foreman" (2).

Dangerfield's first venture met with considerable success and within a few years, the trade outgrew the capacity of the building. At this point, Dangerfield sent Mr Griffin on an errand with the words:

"Thee go up to Bliss Mills, Chalford, and see if it is a suitable place for stick manufacture, and mind thee bring a true report" (3).

The report was favourable and within a short time, both machinery and workers were relocated to the much larger Bliss Mill site. The workforce was led behind flags and banners and accompanied by a brass band on the occasion of the move. This signalled the start of a period of stability and relative prosperity for many local people now employed by the growing Dangerfield empire.

Dangerfield assembled a carefully selected group of key workers to oversee daily operations and under this regime, continued to build up the business to a remarkable degree, both in Britain and overseas. Business in the latter area was found largely through the efforts of a team of commercial travellers, with Mr J A Griffin as the foreman of the Continental Department. Even from an early date, the range of products was diverse (although related), and included bone umbrella handles, umbrella and parasol sticks, bone mounts, buttons and walking sticks. All the work's manufacturing equipment was housed in an assortment of former mill buildings and additional structures erected later. In addition, for a time, Gussage Mill, nearby on the Toadsmoor Brook, was operating as a turnery, presumably supplying components to the main Bliss Mills site. In 1874, John S Dudbridge joined the business as company secretary and two years later, the zenith was reached when the number of employees reached 1006. Such was the scale of the operations at the Bliss Mills site that the various buildings were linked by the company's own tram system.



Bliss Mills site, c 1904.

When Dangerfield died in 1894, the business appears to have faced an uncertain future for a few years. However, in 1903, it was taken over by A C Harrison, himself a third generation stick maker. By now, the site had grown to some 6½ acres and following several serious fires, had been much rebuilt towards the end of Dangerfield's life. The manufactory now consisted of a range of substantial production buildings, some in former mills and others in new buildings erected after the fire of 1888, large warehouses, a saw mill, carpenters and bending shops, turning departments, and a fitting shop in which much of the specialised equipment needed was designed and built. Dangerfield himself was cited on a number of patents related to stick manufacture. Under both Dangerfield's and Harrison's control, constant upgrading and improvement of machinery and facilities appears to have been carried out. Steam heating was used, as was electric lighting, electricity being generated on site. The mills' main power source consisted of a pair of 46 hp steam engines of Gloucester manufacture. The general turning and manufacturing departments were housed in a room 110 x 80 ft, described as "one of the finest workrooms in the country" (4).

The range of products being manufactured by the early part of the present century consisted

predominantly of varieties of walking sticks and umbrella handles, produced in wood, celluloid or combinations of both. Walking sticks no longer relied on local supplies of beechwood, now being manufactured from a range of woods that included Congo, myrtle, furze, bamboo, cherry, hazel and orange. It was proclaimed that the site's stock rooms held up to 14,000 samples of every conceivable design and that supplies were sent out to branches in London, Manchester, Glasgow and Paris, ensuring that the company formed one of the most important stick makers in the country (5). From 1912, the site, which had been acquired by Sir Alfred Apperley, was occupied by Chalford Woodworkers who continued to produce a range of sticks and tool handles up to c1930.

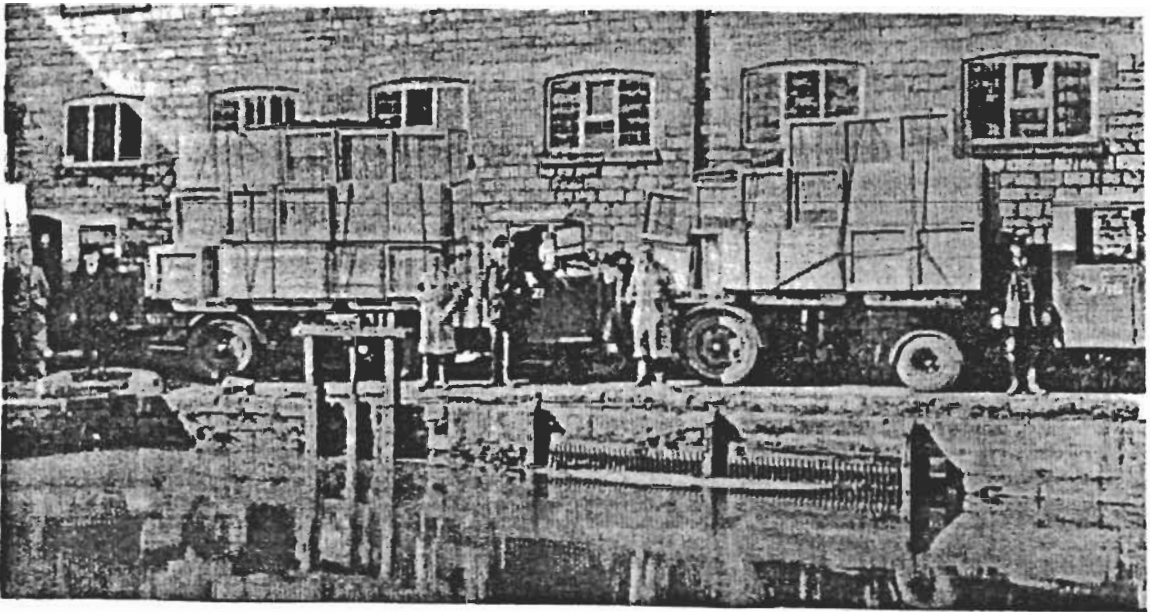
Although the new century was to see significant changes in the market for sticks, the picture was not entirely gloomy. Many of the smaller makers had by now gone to the wall, however alongside Harrisons, at least three other companies were destined to carry on manufacture for a considerable time. These included the Hoopers of Griffin Mill, who operated up to the mid 1930s and Henry S Hack of Bourne Mill, who made umbrella sticks up to the 1960s. In addition, there was the Chalford Stick Company, set up in 1903 in the former St Mary's cloth mill at Chalford, and the Walkers who were at Dunkirk Mills up to 1937. The Walkers' concern coexisted with the family's hosiery knitting enterprise, also operating in Dunkirk Mills, stick-making having taken over from the ailing umbrella and walking stick manufacturing business of Drake & Co. Crucially, the Walkers were in a position to pump capital into the venture with the result that the workforce was quadrupled and the scale of the business expanded greatly. At Dunkirk, various rationalisations were carried out, resulting in seven large rooms housing the various manufacturing departments. Like Harrisons, they came to produce a wide assortment of sticks and were noted especially for their "better quality lines", some of which were hand carved and/or featured gold and silver mounts. Imported woods were used extensively, these including Congo wood, cherry wood from Austria, ebony from Africa, furze and beech. A significant trade was carried on not only within Britain, but also via exports overseas. The business was finally closed down in 1937.

The Chalford Stick Company was the second major stick making venture set up early in the present century, formed with the intention of supplying a wide range of products in large volumes, much as the local competition was already doing. As with the Walkers' enterprise at Dunkirk, the inside of St Mary's Mill was significantly remodelled and state-of-the-art manufacturing equipment installed throughout. Under the new management of Messrs Dann, Isaac and Chelt, the manufactory was configured from the outset for rapid and efficient production, featuring a logical layout of the various departments; these included a turning shop, saw mill (steam-powered), bending and cane shop, plus varnishing and staining shops. Also, like the Walkers, a bewildering array of woods came to be used, these including beech, gorse, American birch and maple, scented cherry, Congo wood, orange, olive and myrtle. Much was apparently sourced directly from the various overseas and domestic growers. Alongside the wide range of walking, umbrella and parasol sticks, the company also produced specialities such as gold and silver mounts and celluloid and ivory handles. Much of the factory's output went for export and sticks were held in London, Manchester and Glasgow, with overseas agencies in Paris and Berlin. Remarkably, the company, in various forms, carried on at St Mary's until 1981, when it relocated to Churches Mill at Woodchester. In its latter guise, it continued to produce thousands of walking sticks for the National Health Service up to its eventual demise c1990 - the last survivor finally vanished.

The other enterprise that survived until fairly late in the present century was that of Henry Hack, located in the former cloth mill at the Bourne. Here, the old mill was adapted to house the innumerable manufacturing stages involved in the surprisingly complicated chain of stick and handle manufacture. This process started with sawn timber being stacked in outdoor drying sheds. After seasoning, it was moved to indoor drying rooms for further careful drying. This stage was carried out in a detached three-storey iron-framed fire-proof building which had a large furnace on the ground floor. The drying floors were constructed of perforated steel plates, the numerous holes allowing hot air to circulate

freely throughout the stacks of rough square sticks piled on each floor. By the time the sticks were removed, they were fully dried and seasoned. The next step usually involved turning the rough sticks to shape and adding a taper to the bottom section in order to receive the metal ferrule (6).

The next stage involved the bending of the handle end of the stick. In the bending shop, lengths of prepared wood were placed in trays of hot wet sawdust, then removed and bent around a hot iron mould. They were then clamped in position and allowed to cool for 15 minutes. One man was in charge of 26 bending machines, walking from one machine to the next. In order to avoid splitting, it was important for him to ensure that the grain of the wood was oriented in the correct direction prior to bending. This stage was followed by further preparation of the wood's surface through the use of sandpaper and/or fish skins. The latter were considered to be more durable than sandpaper and came from the dogfish (7). Rough edges and knots on the handle section were subsequently removed using a wheel-cutter, revolving at 3000 rpm, and appropriate holes bored to take the required mount and handle. Like some of the competition, Hacks exported much of their output, carrying on a substantial trade in walking sticks and umbrella handles with New Zealand, Australia, the USA, Ceylon and various British Colonies. Ceylon formed one of the most important overseas markets until political upheaval resulted in its loss (8).



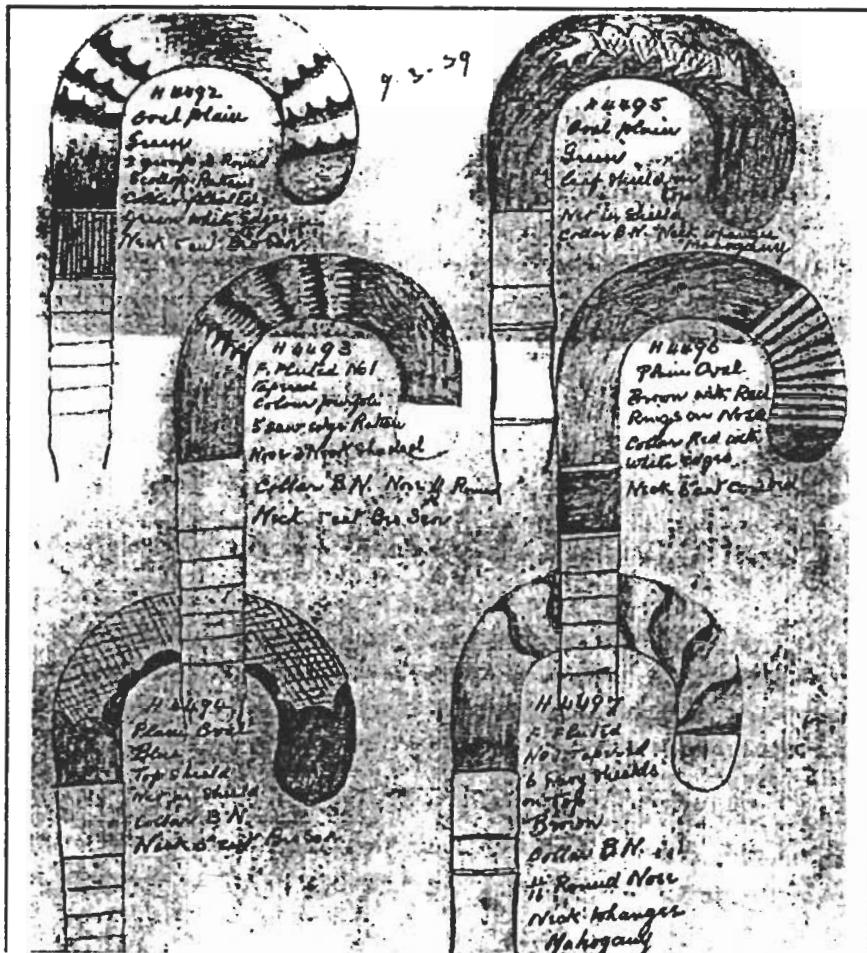
Hacks Stick Manufactory, Bourne Mill, c 1937

Increasingly, the use of "Erinoid", a locally-produced early form of plastic derived from milk products, was made. This allowed for the manufacture of handle parts in a variety of different colours, the plastic being supplied in the form of sheets and solid rods. In addition, celluloid was supplied by BX Plastics in tubular form. Handles were manufactured from this by heating the tubes in hot water and, like their wooden counterparts, bending around mandrels. A rubber former was inserted inside the tube before bending in order to prevent collapsing or buckling. Once cooled, the former was pulled out. The open ends of the handles were capped in a variety of decorative ways and the outside often sprayed and decorated using combinations of finishes and stencilled patterns.

By 1950, Hack's were employing around 35 workers, a significant trade still being carried on. This had been restarted after the war, the mill having been taken over by Tyler's for the manufacture of glider parts for the duration of hostilities. By now, many of the hand-working stages had been mechanised in various ways although there was still a resident silversmith on site, making specialised

silver mounts and fittings. The range of woods in use at this time were all of British origin and included wych elm, oak, ash, beech, sycamore and chestnut. Some came from Workman's large sawmills at Woodchester and some from Ryeford Sawmills at Stonehouse. Power for the mill was now supplied by electric motors, the surviving water wheel having been taken out for scrap in 1950. Also replaced was the system of overhead line shafting that formerly took power to the various machines on site. At this time, an old locomotive-type boiler provided steam to the works, although this was later replaced with a horizontal tube unit (9).

Interestingly, notes on the diverse range of handles and sticks produced by Hack's were kept meticulously in two large pattern books (10). These recorded details of each order and noted details such as type of wood used, the various designs and patterns added, sizes, plus dimensions and types of fittings. Between 1933-1962, the following woods were noted: maple, beech, elm, imitation palm, mahogany, French Congo, ash, oak, white manilla, chestnut, hazel and sycamore. Equally diverse was the range of finishes that were applied to the wood's surface, this including satinising, staining, spraying, stencilling, scorching, scoring and marbling. Handles were similarly treated to a wide variety of finishes, some also being hand carved. Mounts and fittings were of gilt, silver, zinc, chromed steel, silver, titania or nickelled zinc. Overall, a staggering number of combinations were available.



Entry from Hacks Pattern Book. 1939

A Slow Death

In its day, the stick making trade in its various forms provided a significant amount of employment, especially during the period of the woollen trade's continuing contraction and rationalisation. It was estimated that during the 1870s, up to 2000 hands were employed in the trade, around 1000 of these working for William Dangerfield. By the turn of the century, this had fallen although was still significant; in 1901, 442 men and 264 women were still making a living in the trade, split mainly between the former Dangerfield empire at Bliss Mills and the Hoopers at Griffins Mill (11). Within a few years, a further 100 were taken on by the newly formed Chalford Stick Company and around 1912, Henry S Hack commenced operations at Bourne Mill, taking on others. However, all was not to be plain sailing and in 1923, a local newspaper made a comment that was both ominous and prophetic:

"Unless some steps are taken to prevent the unfair importation of foreign goods, the industry in this country will run the risk of eventually dying out, with the result that a considerable number of families whose livelihood has been gained in the stick factories all their days, and who know no other trade, will be thrown on to the market as unskilled labour, some of them at a greatly advanced age. This, of course, would also greatly affect the industries from which various supplies are obtained". (12)

The newspaper was correct in its prophesy although it was to be many years before the industry's final demise. Rather, it was a long, slow death as local manufacturers gradually gave up the trade in the face of cheap imports coming into a market that was already decreasing as fashions changed and walking sticks were no longer regarded as a necessary part of the well-dressed gentleman. As with so many other industries in Gloucestershire's past, one important trade faded (cloth making), only to be replaced by another which in turn, also disappeared. Apart from some surviving buildings, there is remarkably little surviving to act as a visual reminder of this once-important, but now largely forgotten, trade.

References:

- 1 Western Daily Press. 29 March 1923.
- 2 Stroud News. 18 June 1937.
- 3 *ibid.*
- 4 Industrial Gloucestershire. 1904. Published by Chance & Bland.
- 5 *ibid.*
- 6 Western Daily Press. 29 March 1923.
- 7 Pers. Comm. Mr & Mrs R Vaile.
- 8 *ibid.*
- 9 *ibid.*
- 10 Hack's order/pattern books in the possession of Mr & Mrs Vaile.
- 11 Victoria County History. II. 26.
- 12 Western Daily Press. 29 March 1923.

The author would also like to express his particular gratitude to the kind assistance given by Mr and Mrs R Vaile and for allowing access to pattern books from the Hack's works. Mrs Vaile is the daughter of Henry Hack and Mr Vaile was the manager of the company at the time of the company's closure.

Table 1
Stick Making-Related Enterprises in the Stroud Region

Site	Date	Occupier	Products
Bliss Mills site comprising: Woods/Randalls/Spring, Mugmoor/New and Bliss Mills	1840 - c 1930	<ul style="list-style-type: none"> ■ 1840 William Dangerfield ■ 1903 A C Harrison & Co ■ 1912 Chalford Woodworkers 	<ul style="list-style-type: none"> ■ Bone umbrella handles, umbrella and parasol sticks, bone mounts, buttons, walking sticks ■ Umbrella sticks and handles ■ Sticks and tool handles
Gussage		William Dangerfield	Wood turning
Griffins	1856 - 1935	<ul style="list-style-type: none"> ■ Henry & Richard Hooper ■ Charles Hooper ■ Samuel Richard Hooper 	Walking and umbrella sticks
Dunkirk (part)	<ul style="list-style-type: none"> ■ 1903 - 1937 ■ c 1900 - 1950s 	<ul style="list-style-type: none"> ■ Walkers Sticks ■ Wright, Bindley & Gell 	<ul style="list-style-type: none"> ■ Walking sticks ■ Umbrella fittings
Southfields	1920s	Southfield Stick Mills Ltd	Walking sticks
Nodes	c 1880-90s?		Walking sticks
Lightpill (part)			
Horsley	c 1885	E Beard & Co	Walking sticks
Wimberley	c 1879	Felix A Liddiat & Co	Parasol, umbrella and walking sticks; also saw mill
Iles	c 1863 - 1865	Richard & Joshua Jones	Walking sticks
Dark (part)	c 1885 - post 1919	James Harrison & Co	Umbrella and parasol sticks
Workmans (part)	c 1870 - post 1919	Henry Workman	Saw mill and walking sticks
St Mary's	1903 - 1981	Chalford Stick Co	Umbrella, sunshade and walking sticks
Bourne	1912 - c 1967	Henry S Hack	Umbrella sticks
Churches	1981 - c 1990	Chalford Stick Co	Walking sticks
Brookhouse	c 1840	William Clark	Umbrella sticks
Smalls (Painswick)	<ul style="list-style-type: none"> ■ c 1853 - 1857 ■ c 1879 	<ul style="list-style-type: none"> ■ William Clark ■ Thomas Hooper 	<ul style="list-style-type: none"> ■ Umbrella sticks ■ Umbrella sticks and umbrella furniture
Pitchcombe	1842-c 1846	Ebenezer Durdin	Umbrella sticks
Dudbridge (part)	c 1899-post 1931	<ul style="list-style-type: none"> ■ Stroud Metal Company ■ Stroud Metal & Plating Company 	Umbrella furniture
Inchbrook	c 1889-post 1919	Marmont & Taylor	Umbrella furniture
Doreys	c 1867	William Birt	Umbrella and parasol sticks
Upper Doreys	1863	King & Co	Fancy umbrella and parasol sticks

Major Sources for the above table included:

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Cloth Mills along the Painswick Stream. C Haine. A series of articles in GSIA Journals.

Notes and Recollections of Stroud. P H Fisher. 1986 reprint.

Mills of Gloucestershire. Mills & Riemer. 1989.

Industrial Gloucestershire. 1904. Published by Chance & Bland.

Trade directories - various.

Deeds - GRO D1159. Dangerfield deeds 1803-67, GRO D1241, GRO D1347.