



From Pens to Particle Physics

The story of a Birmingham family business



150
*Years of
Engineering Excellence*

ACKNOWLEDGEMENTS

This is the story of an organisation with a history that spans three centuries. As a sixth-generation business founded by two families, it naturally focuses as much on people as on the Company's products and, without the help and support of colleagues, friends and family, this brief history would certainly have been much less interesting, with fewer illustrations and many more errors and omissions.

First I must thank all those Brandauer employees, past and present, who have contributed their memories and photographs or simply done their best to answer my questions. Had space permitted, I should have liked to have used many more of their recollections. I am especially grateful to David Lloyd for helping to fill so many gaps and to other members of the workforce who have come forward with information.

My colleagues on the 150th anniversary planning group, Linda Heath and Patrick and Suzanna Quirke, have given their time freely month after month on behalf of the family, to help make this important occasion a success. Other family members have very kindly searched their own records for photographic and other material which can now be shared for the benefit of all. I am especially grateful to Dr Ruth E. Hütthaler-Brandauer for her assistance, to Marcus Edwards-Jones and to Marie-Louise McAlister, the Company's Archivist.

Help has come from others with an interest in our industrial past. John Houghton has been invaluable in locating material on the Newtown area and staff at the city's Museum & Art Gallery and the Thinktank science museum, with whom we have been collaborating in support of their own projects, have been most generous with their help. I should also like to express my appreciation to the Birmingham Assay Office, CERN, Coventry Transport Museum, Nick Stockbridge of the Manuscript Pen Co Ltd, Manx National Heritage, the National Trust, Royal Society of Arts and St Peter's church, Harborne. Our very good friends at the Birmingham Pen Trade Heritage Association and volunteers at their Pen Museum in Birmingham's Jewellery Quarter have been a constant source of help and advice and, working together, we hope that *From Pens to Particle Physics* will help shed further light on this all too easily forgotten aspect of the city's past.

Finally, I am indebted to my wife Michèle, a great-great-granddaughter of Joseph Letière Petit, for her constant encouragement and support and her eye for detail. The responsibility for any errors and omissions that remain is mine alone.

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INTRODUCTION

Britain is a nation of family businesses. They form the bedrock of the UK economy and yet only a minority survive beyond the first generation, with even fewer being passed on to the founder's grandchildren. Therefore, as a sixth-generation family business, still wholly-owned by the family that helped to found it back in 1862, Brandauer is something really special.

Anniversaries are important for us all, not only as occasions for celebration but as opportunities to reflect on the past and consider the future. Any family business that is able to sustain itself for a century and a half is fully justified in feeling a real sense of pride in such an achievement.

Many of Britain's oldest family businesses are in traditional sectors such as agriculture and land management, construction, food and drink, publishing etc. Long-established manufacturing firms are much less common.

Brandauer has had to evolve over the past 150 years, adapting in response to changing circumstances and embracing new technologies. However, the heart of the business remains unchanged. The Company was founded on the engineering skills of its workforce, in toolmaking and production, and so it remains today. Without the skills for which Birmingham was once famous throughout the world, Brandauer would not be here to celebrate its 150th anniversary.

This brief history of the family business is dedicated to the hard-working men and women, past and present, who have made it what it is today, a company with a heritage of which it can be extremely proud, a reputation for engineering excellence that now spans three centuries and a vision for the future that is based upon innovation and creativity.



John Berkeley ^{OBE}

Chairman, Brandauer Holdings Limited



The fifth and sixth-generation Brandauer Family Board, comprising (left to right) Steven Webb, John Berkeley, Fiona Alldridge and Paul Rummer

A TALE OF TWO FAMILIES

How the story of a 150 year-old Birmingham family business with a German name all began with a French refugee seeking a new life in Britain



Although this view of Birmingham's Deritend High Street was painted a hundred years after John Petit set up in business there, there will have been few changes. Unlike today, the only traffic will have been horse-drawn carts and sheep and cattle being taken to market.

Warren Blackham, Deritend High Street c1870
Credit: © Birmingham Museums & Art Gallery

Many long-established family firms owe their existence to ancestors who came to this country as immigrants and, with hard work and an enterprising spirit, created a business of lasting value. Brandauer is such a company, founded by a citizen of the German Kingdom of Württemberg, supported by an Austrian and with the help of the grandson of a Frenchman who had fled to London in the 18th century to escape religious persecution.

Although the company founded in 1862 bears the name of Karl Heinrich Immanuel Brandauer, who came from a family of teachers from Salzburg but was born in Stuttgart, our story begins some eighty years earlier with the arrival in Birmingham of Jean Petit, born in the village of Beaurevoir in northern France in February 1748. The Petit family (pronounced Pe-tee, meaning small) were Huguenots, protestant Christians who suffered persecution by the Roman Catholics, up to 50,000 of whom came to Britain as refugees from 1670 onwards.



The same street scene today. Note The Old Crown public house on the right, the only medieval building to survive.

Birmingham was a very different place in 1785 when Jean Petit, with his name now anglicised as John, was working as a 'Toyman' in High Street, Deritend, less than half a mile from where Birmingham's Bullring shopping centre stands today. Now designated as a conservation area, High Street would have consisted mainly of black and white half-timbered buildings, occupied by small tradesmen and shopkeepers, including suppliers of metal goods. The only survivor is The Old Crown public house, built at the end of the 15th century as part of a guildhall and school.

Metalworking had been well established in Birmingham since the end of the 13th century and the town was renowned for producing a wide range of metal goods. By the time John Petit arrived, it was new trades such as gun making and the manufacture of 'toys' that had become most important.

However, reference to John Petit as a 'Toyman' is not quite what it seems.

Although visitors to his High Street premises may very well have been

buying goods from him, he was almost certainly making them himself in a workshop upstairs or in the yard behind and they were definitely not playthings for children. In the 18th and early 19th century, the term 'toy' was used to describe many different metal goods in gold, silver, iron and steel. They ranged from small items such as hinges, buttons, belt and shoe buckles, watch chains and boxes to so-called 'heavy toys' which included metal tools, from rakes and axes to saws, trowels and hammers.

Birmingham was described by the MP and philosopher Edmund Burke as "The Toyshop of Europe" and it was this long tradition of metalworking, with the development by pioneers such as Matthew Boulton of mass production assembly line techniques in large factories, that helped lay the foundations for its future success.

We know that John Petit was married in 1786 at St Peter's church in the village of Harborne, which was then part of Staffordshire, and that he and his wife Elizabeth had six sons. It was the fifth and longest surviving of these, Francis Petit born in 1794, whose son Joseph Letière Petit was to become a toolmaker in the pen trade and help to start a 150 year-old family business.



Cut steel shoe buckles c1780s, a typical product of the Birmingham 'toy' trade

Credit: Birmingham Assay Office

Prior to the introduction of the steel dip pen, the most popular means of writing from about the 5th century was with a quill pen made from a bird's feather. Goose, swan, peacock and turkey feathers were all used at different times and crow quills were regarded as particularly good for drawing fine lines. It is said that in 1832 nearly 34 million quill pens were in use in Britain, mostly imported from Europe. However, they took time to prepare, needed frequent re-cutting (hence the pen-knife) and didn't last very long. Steel pens, dipped into an ink pot, were a major advance although, when they first appeared around 1803, a single pen nib cost half-a-crown (25p), worth about £9.40 at today's prices. Later, with the coming of mass production, steel pens could be produced at a cost almost everyone could afford. Even today, whether we write with a felt tip or ballpoint, the name we use comes from the Latin word for feather (*penna*) and the same word is used for both in French (*plume*) and German (*feder*).

In common with several others who were to become key figures in the Birmingham pen trade, including Joseph Gillott and brothers John and William Mitchell, Joseph Letière Petit was born in Sheffield, in 1827. It also seems likely that he was apprenticed to George Wells, who had set up a pen making business in Birmingham in 1836. Assuming Joseph's five-year apprenticeship started when he was 16, he would have completed his training in 1848 and be working as a toolmaker for what had become Hinks, Wells & Co at its Buckingham Street factory. Hinks, Wells was then one of the largest pen makers, employing more than 500 people and producing an astonishing 262 million pens a year!

Birmingham was now well on the way to gaining another title as 'The Pen Shop of the World', with many more steel pen manufacturers concentrated in just a few square miles than the rest of the world put together.

By the age of thirty, Joseph was already proving to have a talent for invention and, in November 1857, John Hinks and George Wells filed a



An example of the craftsmanship of the early pen makers, the United States pen made by Ash, Petit & Co at its Navigation Street factory

patent application for an improvement to steel pens jointly with "Joseph Letière Petit of Aston, near Birmingham, Tool Maker", the first of many to bear his name.

In 1860, he submitted his own patent for steel pens, this time with Robert Ash, with whom he had gone into partnership, trading as pen manufacturers Ash, Petit & Co with premises at 70 Navigation Street in the town centre. As well as producing pens under its own name, Ash, Petit & Co also made them for other local companies, including George W Hughes in St Paul's Square, Birmingham and A Sommerville & Co in Legge Lane. However, before going any further, we need to leave Britain to acquaint ourselves with the other family in this story.



Carl Kuhn & Co's original factory in Theresianumgasse, Vienna

Carl Kuhn was an Austrian who had travelled widely and begun producing steel pens and pen holders in Vienna in 1843, the very first factory of its kind in the rest of Europe.

It was Carl Kuhn's 29 year-old son-in-law from Stuttgart, who had joined the business in July 1860, who founded the new steel pen business in New John Street West, Birmingham in 1862.

His name was Karl Heinrich Immanuel Brandauer.



THE CHURCH NEXT DOOR

The Presbyterian chapel in New John Street West was a brick building with a chancel, nave, vestries and porch, built around 1853 and capable of seating 450. Although the population of Aston Manor had doubled to over 77,000 between 1871 and 1901, the congregation had dwindled to just 78 by 1892 and it was bought and presented to the Church of England in 1896. Licensed as a mission of St Stephen's in Newtown Row, it was consecrated as St Edward's Anglican church in 1898.

In the 1920s, the church ran a soup kitchen for the very poor of the district, charging a halfpenny a mug for those who could afford it, but free to those who couldn't. The church may have suffered bomb damage in 1942 and Brandauer certainly provided financial support from time to time. In 1943, a donation of five pounds and five shillings was given towards an annual festival at the church and two years later £20 was donated "towards the cost of a tennis court." The parish was merged in 1949 with that of St George's in Bridge Street West. It was closed but reopened in 1959 as St George's church, used as a social centre for the local community and meeting place for cubs and scouts before finally being demolished during the redevelopment of Newtown in the 1960s.

St George's, shortly before its demolition

Credit: The late Keith Berry

WHAT'S IT WORTH?

Back in 1862, a pound was divided into twenty shillings. Each shilling was then divided into twelve pennies/pence, making 240 pennies in a pound.

Today, the equivalent values are as follows:

One shilling = 5p

Tuppence (or two pennies) = 0.83p

One penny = 0.4p

Halfpenny = 0.2p

THE EARLY YEARS

Here we discover how the Company was formed, how pens were made and what working conditions were like in the Victorian pen trade

Carl Kuhn acted as Ash, Petit & Co's agent in Vienna and, when the partnership got into difficulties and supplies of pens from Birmingham stopped, he sent his son-in-law Karl Brandauer to investigate. He was clearly impressed with what he found and offered to finance a new factory, with Joseph Letière Petit providing the necessary technical expertise. A partnership was formed to acquire Ash, Petit & Co, with Karl Brandauer and Friedrich Köhler putting up £5,500 and a loan of £5,000 from Carl Kuhn. This would now be worth around £770,000.¹



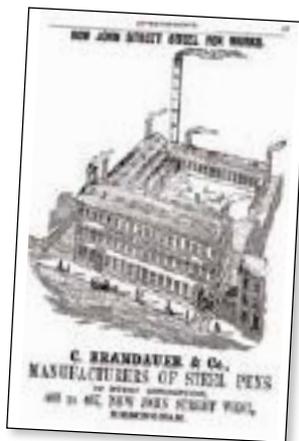
Carl Kuhn & Co's shop in Stephansplatz, Vienna

Thomas Derrington, a rifle and pistol maker of Shadwell Street, Birmingham owned a factory site at 403 – 407 New John Street West which he sold to Friedrich Köhler, acting on behalf of Karl Brandauer. He received one thousand and five pounds, fifteen shillings for the site, a sum which would now be worth around £74,000, the contract being signed on February 12th 1862.



The earliest known photograph of Brandauer's original factory at 403-407 New John Street West

A survey undertaken between 1850 and 1855 by John Piggott Smith, Birmingham's Borough Surveyor, shows a substantial three-storey brick building, with a distinctive circular staircase tower, already on the site. In August 1862, the *Birmingham*



Advertisement in Birmingham Corporation Directory 1862

Journal announced that C Brandauer & Co had moved into its new premises, in what was then part of Hockley, in the Borough of Birmingham in the County of Warwickshire. To the west of the factory was a Presbyterian Chapel and Sunday School, sometimes referred to as the Scottish Church, erected around 1853, and a small brass foundry. To the east and opposite,



The Britannia Inn public house on the corner of New John Street West and Summer Lane, known to all as "Tommy's", to distinguish it from the many other pubs of the same name

Photo: George Fenton, via Bill Wellings

¹This and all subsequent estimates of current worth are based upon the Retail Price Index and taken from the www.measuringworth.com website

there were rows of small 'back-to-back' terraced houses and, on the corner of Summer Lane opposite the factory, the Britannia Inn public house.

Products that had previously been sold under the Ash, Petit & Co name, including its United States Pen, suddenly reappeared as part of the new Brandauer range and were advertised in the catalogue for the 1862 international exhibition in London, reported to have been visited by no fewer than six million people!



An advertisement for the newly-formed C Brandauer & Co that was published in the *Official Illustrated Catalogue of the Great Exhibition* that opened in London in May 1862. All the pens shown were previously Ash, Petit & Co designs, but with a new name!



Joseph Letière Petit and his family, around 1882-3

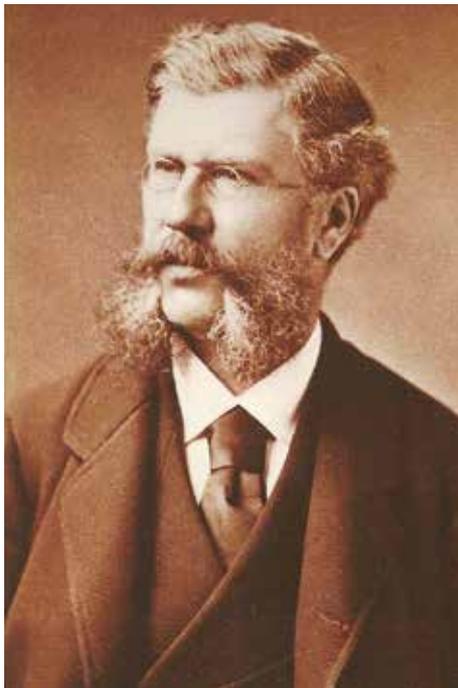
(From left to right: (standing) Emma Lucretia (1853-1918), Nellie Iago (1864-1942), Joseph Henry (1855-1929), Florence (1857 - ?), Charles Frederick Newton (1865-1941), Frances Letière (1862-1963); (seated) Joseph Letière (1827-1914), Martha (née Sheldon) (1831-1923), Amy (1858-1928); (in front) Oliver Stanley (1872-1946), Edith (1869-1928)

Companies such as those founded by Joseph Gillott, Josiah Mason, William Mitchell and James Perry had already become household names, known throughout Britain and exporting worldwide.

Thanks to Joseph Petit's time with Hinks, Wells and Co and his partnership with Robert Ash, C Brandauer & Co could benefit from that experience in setting up its new factory. Although never naturalised as a British citizen, Karl adopted the anglicised form of his name, Charles Henry Immanuel Brandauer. He knew England well, having previously worked here for six years as manager of an export company.

When Carl Kuhn died just twelve years later, Charles succeeded him as the sole owner of the Austrian company and he had less involvement with the Birmingham business that bore his name.

The links between the two companies, C Brandauer & Co and Carl Kuhn & Co, were very significant, with some pens produced bearing the Kuhn-Brandauer name. They even shared the same registered trade mark, almost



C.H. Brandauer



Brandauer's London office and warehouse at 124 Newgate Street, behind the horse-drawn bus on the left, in 1890

Credit: City of London, London Metropolitan Archives

as if the Birmingham business was a subsidiary of the Viennese firm (see box on page 7). The Austrian company supplied Brandauer with pen holders and also bought semi-finished nibs made in Birmingham, which were then completed and packed in Vienna.

Brandauer had various agents in London and Liverpool from as early as 1866 but, by 1889, had established an office and warehouse at 124 Newgate Street in the City of London, close to the Old Bailey, and the office appears still to have been in use 70 years later, being leased to the Boy Scouts Association in 1959. The processes involved in the manufacture of steel pens were already well established by the mid-1800s and the New John Street West factory was ideally suited for the purpose. Long, narrow galleries, with as many windows as possible along both sides, provided the rows of female workers with the maximum natural light for their work.

Steel arrived from Sheffield, delivered from the goods station by horse-drawn wagon, in narrow sheets which were then cut into strips. Before being rolled to the required thickness for each particular pen, the strips were heated in ovens and left for 18 hours to cool, making the steel easier to work, before being 'pickled' in sulphuric acid and water. Finally, they were placed in revolving cylinders filled with small stones to remove the surface scale, leaving the steel bright and clean.

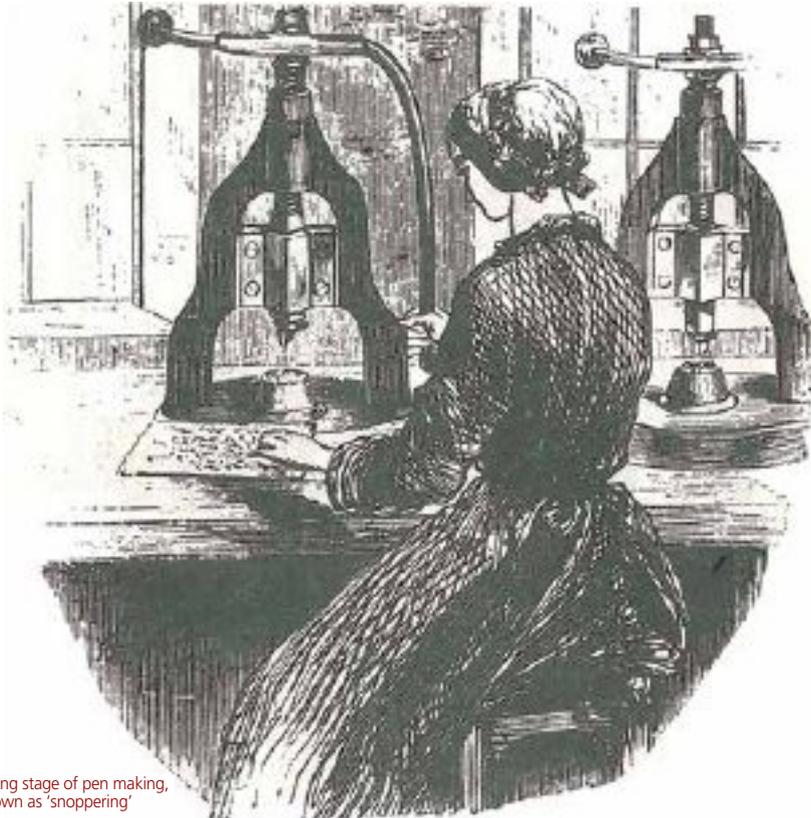


Horse-drawn wagons at Hockley Great Western Railway Goods Depot

The finished strips were taken from the rolling mill to the warehouse, every length was checked for thickness and quality and then stored before being moved to the next stage, at which the flat 'blank' was cut from the steel strip. These were then taken for piercing, making the hole which would hold the ink when dipped into an inkwell. It is said that a skilled operator would have been able to pierce around 75,000 blanks a week!

After a further heat treatment the blanks were stamped with the Brandauer name, or that of the customer for whom they were being produced, and with the particular pattern, name or brand. This was done using a foot-operated press, driven from an overhead shaft, leaving both hands free to position the blank correctly. The noise would have been deafening and yet, unlike today, there appears to have been no attempt to protect workers' hearing. Also, with hundreds of designs, some available in up to four sizes, the number of different dies and embossing tools required would have been enormous.

The next stage in the pen making process, that of raising, created the rounded shape of the finished pen, before further heat treatments to harden the steel. After heating until red hot, the pens were plunged into cold whale oil, making them hard but brittle, easily snapped in



The raising stage of pen making, also known as 'snopping'



The heat treatment process

half. Then, having been cleaned, they were put into barrels containing fine stone grit which, after several hours of shaking, made the pens smooth and bright. After further barrelling with dry sawdust to polish them even more,

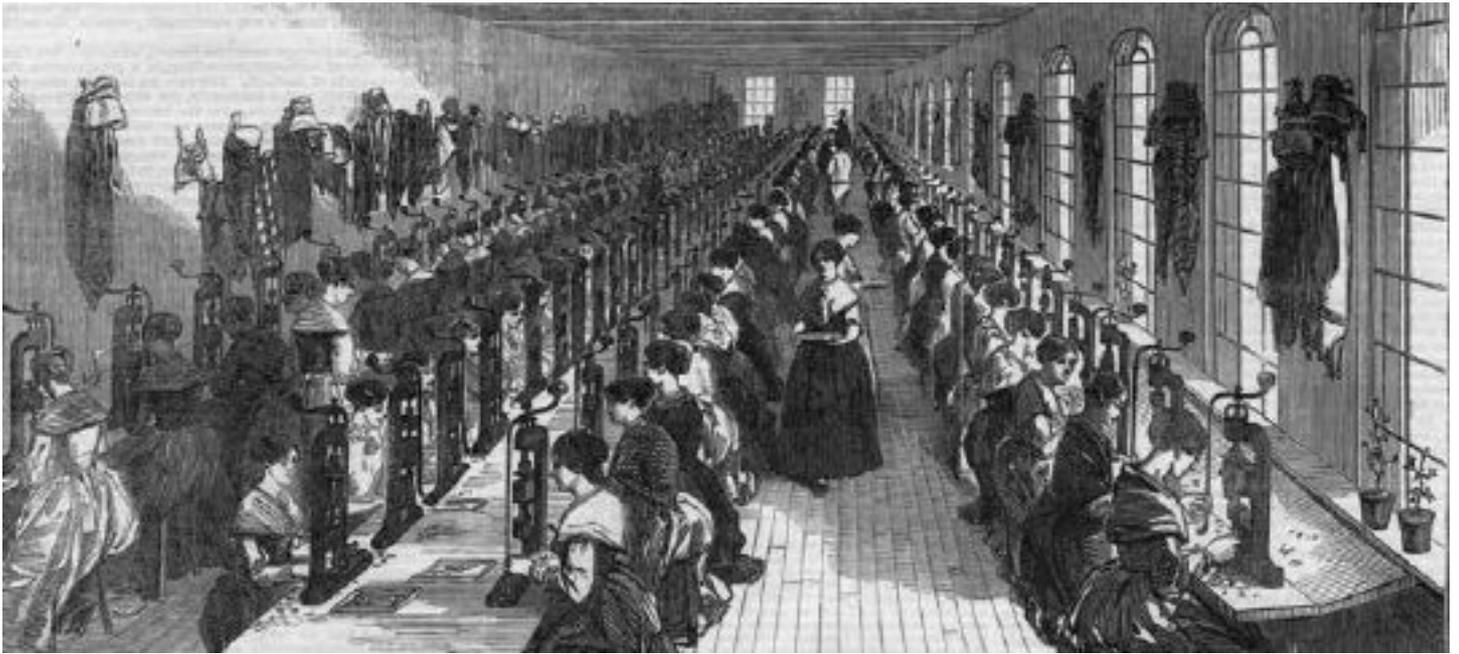


Barrelling batches of pens

they were sent for tempering, yet another heat treatment that produced a flexible but tough pen nib. Next, they moved to the grinding room where the thickness of the pen was reduced by a few thousandths of an inch to make it more flexible, and then on to the most delicate process of all, creating the all-important slit that would turn the pen into a precision writing instrument.



The Grinding Room at Hinks, Wells & Co c1850



The Slitting Room at Hinks, Wells & Co c1850. The factory produced 5 million pens a week

Nevertheless, there were still several more stages before the finished pens could be counted, put into boxes and labelled. Brandauer's famous circular pointed pens had the nib rounded to produce much smoother writing. Some pens were coloured, using a variety of materials to produce, for example, a black finish as in the German Army pen, or various other colours. Others were given a glossy lacquered finish. Finally, there was an inspection to look for any

possible defects in the shape, piercing, slitting or marking of the pen. If thirty-six or more pens were found with any particular fault, these were taken back to whoever was responsible in that department and the exact value deducted from their wages. However, on the positive side, the money collected from these fines was used to pay for a works outing for everyone in the summer!



Bronzing, one of several processes for colouring pens

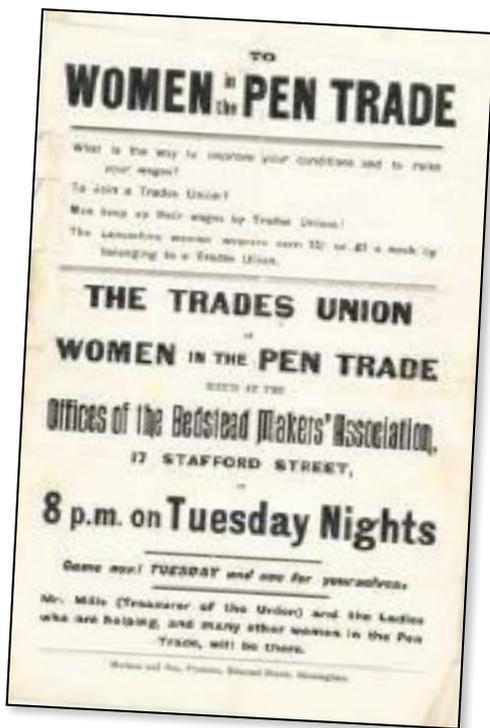


A Brandauer German Army pen

A rare example of a pen marked Charles Brandauer, rather than C Brandauer & Co



The Prince of Wales, later King Edward VII, visits Joseph Gillott's pen factory in 1874



Although the hours were long by today's standards, an average of between 52½ and 57 hours per week in 1865, working conditions for the women and girls, who outnumbered the

men by almost six to one, were generally fairly good. The work was clean, if noisy in some departments, and jobs in the pen trade were highly sought after. When the oldest member of a family retired, there were younger relatives waiting to take their place and the tradition of several generations of the same family working at Brandauer has continued to the present day.

However, some employment conditions were a little different. There were fines for missing half a day's work or for failing to keep the workplace clean, with everyone required to scrub the area at least once a week. There were fires to heat the workrooms in winter....although employees had to bring their own coal! Talking, singing or otherwise making any unnecessary noise was also subject to fines, as was failing to do their share of cleaning the windows every two months. The subject of such deductions from wages remained a source of grievance and was even raised in Parliament in July 1900.

The system of fines operated by the pen manufacturers was undoubtedly one of the factors that led to a Penworkers Union being formed in Birmingham in 1897, one of the very few organisations set up at that time to protect a mainly female workforce although, with a ready supply of new recruits, efforts to organise

the workers proved difficult. Among those who supported the union was Daisy Greville, Countess of Warwick. Following her affair with King Edward VII, she turned to socialism and encouraged the pen workers with speeches at public meetings.



Daisy Greville, Countess of Warwick

At Brandauer, where reports suggest the workforce now totalled around 600, there were allegations that the women were being prevented from joining the union and that those who had done so were being treated unfairly as a result. Protest meetings were held outside the factory and, between April 1899 and June 1900, there were several reports in the local press of the dispute and of the case brought against the Company by the female pen workers in the Birmingham County Court.

Meanwhile, twenty miles away in Coventry, where an astonishing 40,000 people were already involved in the manufacture of bicycles, one of the pioneers of the new motorcycle industry was gaining valuable experience which was to help transform Brandauer in the mid-1930s.

TRADE MARKS AND LOGOS

When Karl Heinrich Immanuel Brandauer came to Birmingham to find himself a factory in which Joseph Letière Petit could produce pens, he brought with him his father-in-law's company trade mark, which took the form of a naked archer, kneeling within a triangle. (image 1) Almost immediately, a crude modified form of Carl Kuhn's trade mark was being used by C Brandauer in some of its own advertising (image 2) and a more refined version on boxes of pens (image 3). In 1876, Gustav Sutorius, on behalf of his partners Charles Brandauer and Joseph Petit, registered a detailed version of the kneeling archer, this time as a cherub with wings (image 4) and it is this that remains the registered C Brandauer & Co trade mark to this day, although it is no longer used commercially.

Various other versions of this and other trade marks and logos have been used over the years, both by Brandauer and Carl Kuhn, (images 5 and 6) and the names and box designs for many pen patterns were also registered, not only for use in Britain but as far afield as Japan and Australia.

After the Second World War, the Company adopted the 'B' symbol as its logo (image 7) and a modernised red and grey version of this remains part of the corporate identity of the family business (image 8).



BUILDING THE BRAND

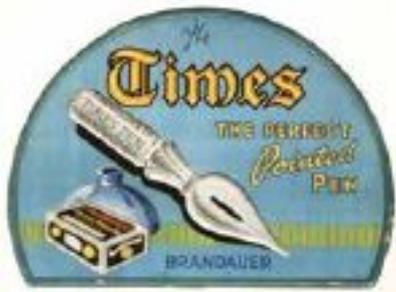
Great international exhibitions and full-page advertisements in the national press helped Brandauer gain a worldwide reputation for quality products

Today, when someone picks up a pen to sign their name or scribble a shopping list, it is almost certain to be a ballpoint or felt tip pen and they won't give much thought to what it looks like or whether it will suit their particular writing style. However, back in Victorian times, things were very different. By April 1890, the Brandauer catalogue contained no fewer than 424 individual pen designs, in different shapes and sizes, some with elaborate embossed images and other decoration. Many of these designs were also available in a choice of colours, widths, hardness and flexibility. There were pens with more than one point, pens produced specially for use with handmade paper, pens for schools and offices; in other words, something for everyone.



The popular 'Times', one of the series of circular pointed pens named after famous newspapers, aluminium coloured and selling for two shillings and fourpence (19½p) for a box of 144 in 1890, the equivalent of around £10 today

Demand for pens had grown rapidly, developing from a product available only to the rich to an inexpensive mass-produced item. Most were sold in boxes of 144 (referred to as a gross) which, in 1830, had cost eight shillings, worth around £32 at today's prices. However, by 1865 when the average wage for an experienced woman working in the pen trade was between fifteen shillings and a pound for a week of over 50 hours, a gross of ordinary pens would have cost from 1½ pence to a shilling (around 48p to £3.80 today).



A shop counter advertisement for the 'Times' pen

With such a wide range of pens from which to choose and competition from all the other Birmingham manufacturers, advertising and promotion was extremely important. Brandauer's most popular pens, such as the 'Mail' and the 'Times', named after the daily newspapers, were very widely advertised in the press, on trams and buses and the London Underground. The Company created beautifully decorated boxes for some of its pens, which included pictures of



Example of one of Brandauer's distinctive box labels

the famous people after whom the pens were named and special boxes were designed for overseas markets such as Japan. Some of these designs were registered, as were the names used for individual pens, in order to protect Brandauer's copyright.

After the success of the first Great Exhibition of 1851 in London, a second was held in 1862, just a few months after the new Company was formed, at which it was awarded an Honourable Mention for its exhibits (although since around half of all the exhibitors received awards, this may not have been quite as impressive as it sounds).



Medal won at the large international exhibition held in the Austro-Hungarian capital of Vienna in 1873



Brandauer won a Silver medal for its display at the Melbourne International Exhibition of 1880/1, the second to be held in Australia. It was visited by 1.5 million people and part of the Royal Exhibition building survives today as a World Heritage site.

Other countries held their own international exhibitions and Brandauer exhibited and won genuine prizes at many of these, from Vienna (1873), Berlin (1878) and Stuttgart (1881) to Sydney (1879), Melbourne (1880), Adelaide (1881) and Liverpool (1886). Exhibits often included elaborate displays of specially-made pens and giant filigree nibs, showing off the



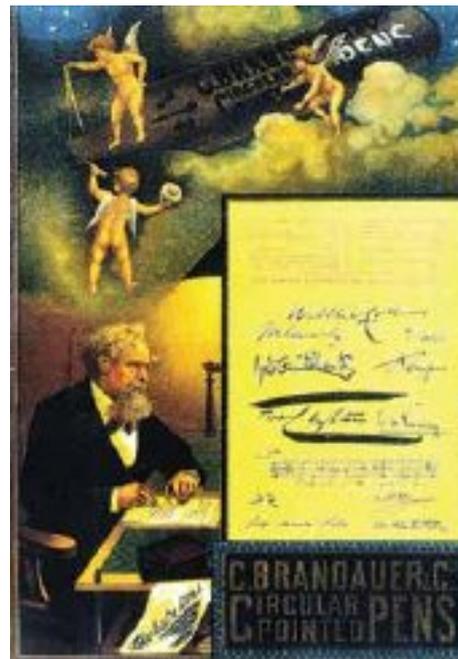
A medal commemorating Liverpool's 1886 International Exhibition of Navigation, Travelling, Commerce & Manufactures, the first of its kind to be held outside London. Opened by HM Queen Victoria, the exhibition is reported to have attracted no fewer than 2.5million visitors!

skills of its expert toolmakers. Pictures of the medals were sometimes used on pen boxes (see page 19), which also carried the Company's 'kneeling archer' trademark.

Newspaper and magazine advertising ranged from simple designs to extremely elaborate full-page engravings. One of these, which appeared in *The Illustrated London News* of January 24th 1885, included a large signed picture of Charles Dickens and the autographs of other famous writers of the time.



An early advertising postcard of 1880-90



A tinted version of an advertisement, featuring Charles Dickens and the autographs of other great writers of the Victorian age including Wilkie Collins, Thomas Carlyle, William Makepeace Thackeray and Anthony Trollope, published in the *Illustrated London News* on January 24th 1885



A special display produced for an unknown 19th century exhibition and now on show at Thinktank, Birmingham's science museum at Millennium Point. It includes giant filigree pens and, along the bottom of the frame, the stages in the steel pen making process.



Another beautiful Brandauer advertising engraving, published in *The Graphic* weekly illustrated newspaper on March 9th 1889

By the end of the Victorian era, Brandauer pens were in everyday use throughout Britain, from the Rothschild family, the richest in the world, to the humblest worker in a Birmingham 'back-to-back' terraced house. They were used in vast quantities in schools, government offices and banks, by lawyers and mapmakers, in different shapes and sizes from the Extra-fine Ladies pen to the 'chocolate-coloured' Zulu pen. And, of course, they were exported throughout the world.



Restored in the 1990's by the Birmingham Conservation Trust, Mr Levy's house is one of several 'back-to-back' houses on the corner of Hurst Street and Inge Street in the centre of Birmingham, now in the care of the National Trust. Mr Levy was a member of a large Jewish community in the 1800s and made hands for clocks which he sold in the Jewellery Quarter. He is using a small sample box of Brandauer pens, cheaper than buying a gross.

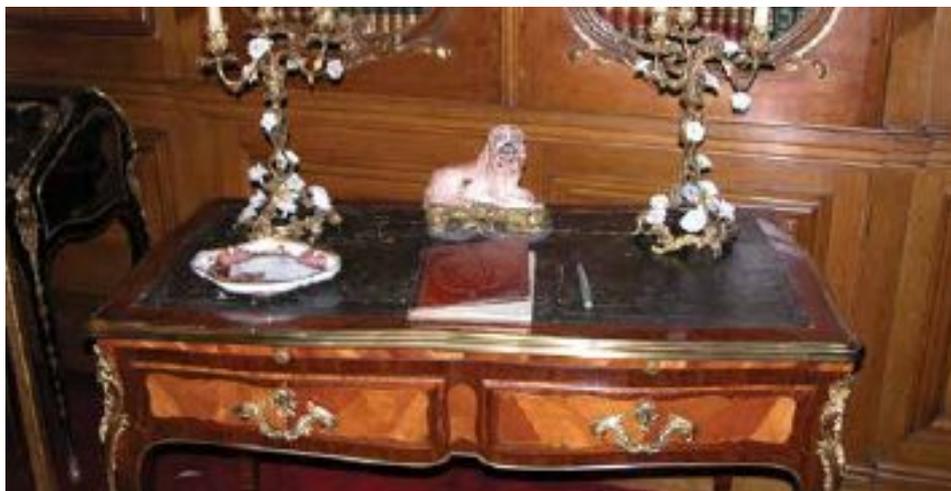


A common scene in classrooms throughout the country. Brandauer and other pens, with slates and inkwells, in the Pit Village schoolroom at Beamish.

Credit: Beamish, Living Museum of the North



Credit: Tortoiseshell pen with Brandauer nib; Waddesdon, The Rothschild Collection (The National Trust). Photography: Mike Fear © The National Trust, Waddesdon Manor.



Waddesdon Manor, Baron Ferdinand de Rothschild's magnificent Renaissance-style château near Aylesbury in Buckinghamshire, must be the finest place in Britain to display Brandauer pens. Amongst this outstanding collection of art treasures, a pair of gilt 'J' pattern pens can be found on a desk in the Small Library, one of which is fitted to a fine tortoiseshell penholder. One can imagine Baron Rothschild, at his desk, signing some of his many letters using this beautiful writing instrument.

Credit: The Small Library, Waddesdon Manor, John Bigelow Taylor, 2007 © The National Trust, Waddesdon Manor

Brandauer products can also be seen on display at other National Trust properties. These include **Ormesby Hall** in Yorkshire, the National Trust Museum of Childhood at **Sudbury Hall** in Derbyshire, **Snowhill Manor**, near Broadway in Gloucestershire and at **Tyntesfield** in Somerset.

FOR HIRE!

TO STEEL PEN TOOL MAKERS - WANTED, a First-rate Piercer. - Apply to Ash, Petit and Co., 70 Navigation Street, Birmingham.

July 30 1859

STEEL PEN TRADE - Wanted, respectable Girls for the Warehouse. Must write well. Also Lookers-over. - C.Brandauer, 401, New John Street West.

February 18 1875

Girl (intelligent Wanted), to Gauge thin Metal. - Apply, 401, New John Street West.

August 9 1879

OFFICE-BOY (gentlemanly), about 16, Wanted, at once. - Address, in own handwriting, C.Brandauer and Co., 401, New John Street West.

October 11 1897

APPRENTICE Wanted, for Manufacturer's Office, age about 15 years, with good handwriting - Apply, any afternoon, between 4 and 6, to C.Brandauer and Co, 401, New John Street West.

December 30 1899

WORKING AT BRANDAUER

Although the lives of those who worked for Brandauer in the past were very different, training was just as important then as it is now

In Birmingham today, we cannot imagine having an eight year-old child working in a factory for ten hours a day, but it was commonplace in the mid-1880s and almost certainly occurred in the early days at Brandauer. According to records of a factory inspection in 1864 at Hinks, Wells & Co, where Joseph Letière Petit had learned his toolmaking skills, a boy aged just 9½ who had already been working for a year was employed in a rolling mill, carrying steel coils around the factory. Girls of a similar age were also working in the pen trade, in piercing, raising and slitting departments, in sorting waste and in the warehouse.



A young boy working in the rolling mill at Hinks, Wells & Co

Few of these children had ever been to school, except perhaps on Sundays, although some could read a little and several had already worked in other trades, such as button making, before moving to pen manufacture. Hours of work were typically from eight o'clock in the morning until seven in the evening, with an hour for lunch, all for as little as three shillings (15 pence) a week, worth about £11.50 at today's prices.

Although piecework rates were very low by modern standards, some of the pen manufacturers looked after their employees in other ways, such as days out in the country. Joseph Letière Petit will almost certainly have



Hagley Park in the summer of 1857, looking towards the parish church and Hagley

Credit: Hagley Community Association

taken part in a Hinks, Wells & Co works outing on Saturday 21st July 1849. According to a detailed report in the *Birmingham Journal* newspaper, 340 employees, plus their employers, spent the day in the grounds of Lord Lyttleton's mansion Hagley Hall, enjoying dancing and other amusements, "before dinner at the Lyttleton Arms, accompanied by their band of music". There were speeches of thanks from the workers and the outing ended without "one single disaster to mar the day's enjoyment".....and no drunkenness!

Brandauer's Board minutes for January 7th 1902 refer to £512 (now worth a massive £43,100) being spent on a "Summer Gift to Girls" the previous July, although there's no detail of what the 'gift' might have been and one wonders how much of the money might have come from the many fines imposed for breaking the rules! In March 1905, a payment of over three hundred pounds was approved for "Gifts to Work People" through a Benevolent Fund but, once again, we don't know how this was used.

Outings were still taking place up to the start of World War 2 and, in 1938, a trip to Blackpool was organised, with employees travelling in a reserved train carriage, followed by another the next year, this time to Brighton.

Apprenticeships have played an important part in the Brandauer story, from the very beginnings of the business, with Joseph Letière Petit putting to good use his training as a toolmaker, to the present day where the Company's current Managing Director David Spears is an ex-Brandauer apprentice.

In the past, apprenticeships were very different from the current version. Working alongside a skilled person, the apprentice would learn every aspect of the particular trade or profession, undertaking increasingly difficult and more complicated work until reaching the required standard. Although, in earlier times, apprentices had to serve seven years before being allowed to practise their trade, by the mid-1800s the norm was five years and the document, known as an Indenture, signed by John Hardie on September 24th 1890 is a good example of what was expected of an apprentice at Brandauer.



John Hardie's apprenticeship agreement of 1890, signed by Charles Brandauer and Joseph Petit

John was the 16 year-old son of Thomas Hardie of Dudley Road, Birmingham and he had been offered a 4½ year apprenticeship “to learn the art of business of a commercial clerk”. His father had to agree to provide him with “sufficient meat, drink, clothes, mending, washing, lodging, medical attendance, medicine and all other necessities”. In those days, apprenticeships were still clearly defined as a ‘master and servant’ relationship, much as they would have been in the Middle Ages, but John did get paid, receiving 10 shillings a week (now worth around £43) at first, rising to 18 shillings a week (around £76) when he was twenty-one.

Just as in the factory, there were strict rules for an apprentice in the Company's offices. John Hardie had to agree not to “play at cards, dice tables or any unlawful games”, nor to “haunt taverns or ale houses” but, unlike many modern apprenticeships, John was guaranteed that his would continue, even if there were changes in the firm. Today, Brandauer still has four-year apprenticeships, after which there may be the opportunity to undertake higher education qualifications as part of an employee's longer-term development.



A little different from today's employment contracts, this is what Joseph Davis of 38 Prestbury Road, Aston was given when he was promoted from a toolmaker to Assistant Works Manager in May 1936

Like Joseph Letière Petit, who had begun his career as a toolmaker, others sometimes had opportunities for promotion. In March 1905, advertisements for a Works Manager had appeared in the *Birmingham Daily Post*. When no suitable candidates applied, the Directors agreed that one of the Company's toolmakers, a Mr Joseph Davis, “might by degrees be coached” to take on the job and the following year he was ready to become Assistant Works Manager.

Long service was the norm, rather than the exception. A toolmaker retired in August 1935 after *sixty-three years* and even that wasn't to be the longest on record! The directors agreed to pay him a pension of one pound a week and the Chairman, Charles Petit, added a further five shillings, making a grand total of around £3,500 per annum at today's prices. When Mr Batchelor retired as Chief Ledger Clerk in October 1940

with 34 year's service, the Directors gave him six month's salary “as a parting present” and there were many other examples of employees spending a lifetime working for the Company.

Another feature of life at Brandauer was the long tradition of employing whole families within the business. Throughout the 1930s and '40s there would often be three generations of the same family in many of the departments, sometimes with other extended family members too, with aunts, uncles and cousins working for the firm.

However, by all accounts, facilities for employees remained fairly limited. It took until June 1945 before it was agreed to provide a canteen, although in 1947 the Board did approve £130 for the purchase of a billiard table and, nineteen years later, was considering installing a one-armed bandit slot machine in the canteen!

JOBS FOR LIFE!

Today, no-one expects a job for life. However, in the past, some Brandauer employees achieved remarkable records of long service.

In October 1961, preparations were made for a presentation to Mrs Fanny Phillips who was retiring at Christmas having worked for the Company for *seventy-one years*! She was given a television and a pension of £3.00 per week. Earlier the same year, Mrs LM Tibbins aged 74, who had worked for Brandauer for 43 years, decided she was “unable to continue” and left with a £1 per week pension.

In 1962, Miss M Lane retired after 52 years service, together with Mrs A Berry, employed at the Company for 43 years. Five years later, Miss Hilda Jameson had to retire due to ill-health at the age of 63 having worked for Brandauer since the age of 20. Mrs Edie Daniels was another stalwart who served for more than half a century. Those who knew her will always remember her long blue overall which she protected from getting dirty by wearing an apron of folded brown paper, tied with string around her waist to keep it in place.



Mary Ann Cottrill (top) and Mrs Fanny Phillips

CHANGING FAMILY FORTUNES

The Brandauer and Petit families worked together successfully for over 50 years until the First World War brought their partnership to a tragic end



A drawing of the extended factory during the 1890s, with horse-drawn Great Western Railway wagons, men in top hats and women in long skirts. This was the final form of the original Brandauer building and remains unchanged to this day.

Throughout the late 1800s, C Brandauer & Co expanded. From the outset, the factory was the private property of Charles Brandauer for which the Company paid rent. When four adjoining houses, number's 411-414, together with eight 'back-to-back' terrace houses behind came up for auction, he bought and demolished these to enlarge the factory still further, doubling the frontage along New John Street West with a four-storey extension. Then, with effect from November 9th 1901, the company which had previously been a partnership became C Brandauer & Company Limited, the name under which it has traded ever since.



A Petit family group from the start of the 20th century, with everyone in the same positions as in the earlier photograph on page 4

Originally, Joseph Letière Petit had been employed by the Brandauers as Superintendent of what was then referred to as 'the manufactory' (from which the modern term 'factory' is derived). However, by 1875 he had become one of two so-called 'Birmingham partners' in the business, together with Gustav Sutorius, a German who became a naturalised British subject in 1868. With the subsequent formation of the limited company, Joseph not only became a director but one of eight initial shareholders, comprising four members of the Brandauer family and an equal number of Petits.

Business was booming and, in its very first financial year, the limited company paid its directors and shareholders £13,200, the equivalent of over a million pounds today!

The Brandauer and Petit families prospered, living in great style, with large houses and many servants. They traded with other wealthy family businesses, including Mallat in France, for many years one of the Company's biggest customers. Count Revelliere, who owned Mallat, was a friend of the Petits and the two families would visit one another.

Although Joseph retired as a working director in March 1903 at the age of 76, he continued as a member of the Board, together with his sons Joseph Henry and Charles Frederick Newton, then aged 48 and 38 respectively. Unfortunately, Charles found his elder brother "an impossible man to work with" and the problem was eventually resolved by Charles being moved to run the London office in Newgate Street.



Charles Frederick Petit and his wife Maud (née Harrison)

The newly-appointed Board dealt with a wide range of issues. At their meeting on July 2nd 1906, the directors decided against having a telephone installed at the 'manufactory' because it was thought it might represent a fire risk. Four days later....there was a fire in the Hardening Shop, causing twenty-five pounds worth of damage to the building and a loss of stock worth £131.

One wonders how, without a telephone, they were able to summon the fire brigade! It is worth noting that internal 'phones were not introduced until 1946.

Whilst we take mains water and electricity for granted today, back in 1907 the Company had to resort to sinking a deeper well in order to improve the water supply and, two years later, the directors agreed to install electricity to replace the original steam engine as the principal source of power.

1911 saw a third generation of Petits join the management team when Joseph Henry's 22 year-old son Joseph Paris Sydney, who had been gaining experience there for two years, was made Assistant Manager at a salary of £250 per annum, rising to £500 over the next five years (worth around £27,000 today). However, although Sydney became a director in 1921, his involvement was shortlived and he left for Southern Rhodesia (now Zimbabwe) sometime after June 1924.



Joseph Paris Sydney Petit

Life at Brandauer was not without the occasional problem. Unrest amongst the workforce came to a head in March 1913 with a strike in the Raising Room in support of demands for a tuppence a week pay increase (around 65p today). They settled for a rise of a penny a week but other departments wanted a similar increase.

Then, in May 1914, Joseph Letière Petit passed away at the age of 87 and, just four weeks later, the assassination of Archduke Franz Ferdinand led to the outbreak of the First World War, with disastrous consequences for the Brandauer family.



Charles Johannes Brandauer and his family

Charles Brandauer, the company's founder, had died back in December 1899 and it was his sons Charles Johannes Immanuel and Frederick Charles Immanuel who continued to be actively involved in the business and, with Joseph Letière Petit and his son Joseph Henry, established the limited company.

In May 1911, Charles Brandauer also passed away and, after Joseph Letière Petit's death, his son Joseph Henry Petit was elected as the Company's 'permanent chairman' on July 6th 1914, with Charles Brandauer's son Hermann becoming the only third-generation Brandauer to serve, albeit briefly, as a director.

According to William Bruton², who worked at Brandauer for many years before setting up his own pen firm of W R Bruton Bros. after the Second World War, Joseph Henry Petit was a strict disciplinarian. "Every morning, he would come out of his office having dealt with the post by 9.30am and tour every department. As he was seen approaching, the latch of the next department on his tour would be rattled to give warning of his movements so as to prepare them. If, when passing through, he found a pen nib on the floor in the gangway he would stop, tap the female operator on the shoulder, saying "if that was your penny you would pick it up."



Joseph Henry Petit

²The Brutons were another 'Brandauer family'. In addition to William Bruton, two of his four brothers, Leonard and Reginald, both worked for the Company before forming a pen business themselves. They were followed by Alex Bruton who, having worked in the Four-slide Department, later became Works Manager and, later still, Works Director, and by his cousin Richard, who worked at Brandauer from 1965 to 1978, first in the Toolroom and then in the Drawing Office.

Just four months after Joseph Henry became Chairman, Britain declared war on both Germany and Austria-Hungary and the Government passed the first of several Trading with the Enemy Acts, effectively dispossessing those now regarded as 'enemy aliens'.

Both Frederick Brandauer and his nephew Hermann were removed as directors and their shares, and those of the other members of the Brandauer family were confiscated by the Board of Trade. Matters came to a head in mid-1917, with accountants appointed by the Government spending a month examining the Company's books and Joseph Petit being summoned to appear before a House of Commons Committee that apparently believed Brandauer should be sold. Thankfully, Joseph managed to convince the Committee that the Company was conducting itself in a proper manner and no further action was taken.

Nevertheless, the war had tragic consequences for Frederick Brandauer, who had lived in England for at least thirty years and became a naturalised British subject in 1894. Unfortunately, he allowed his naturalisation to lapse in 1900



The Lee-Enfield bolt-action rifle was the main firearm used by the British and Commonwealth military from 1895 and is still in service in some countries. It uses a .303 cartridge, either loaded one round at a time or by using these five round chargers. During World War 1, contracts were placed with many of the Birmingham pen makers, including Baker & Finnmore, Perry & Co Ltd., M Myers and Sons and Brandauer. Contract prices were around four shillings per 100 or £2 per 1000.



From January 1917, Joseph Henry's son-in-law Capt. Stanley Preston, who was to become a director of Brandauer in 1940, was flying Armstrong Whitworth FK8s with 35 Sqn Royal Flying Corps over the Western Front. Before the First World War, he had worked for silversmiths William Neale & Son Ltd of St Paul's Square in Birmingham's Jewellery Quarter, less than a mile from the Brandauer factory.

and, on January 24th 1917, he was arrested at his home, Horton Grange in Maidenhead, taken to Alexandra Palace and transferred to the Douglas Aliens Detention Camp on the Isle of Man on April 19th 1917 where he was interned. The camp records describe Frederick, internee no. 4851, as a bachelor who was stone deaf and unable to walk unassisted.



Frederick Brandauer, seen here seated in the front of his 1903 12hp Lanchester, built in Birmingham

Cunningham's Holiday Camp, which had opened in 1894, was the very first of its kind and was converted to house those regarded as enemy aliens during the 1914-18 war. Frederick would have been held in the privileged section of the camp, for those who could afford to pay a weekly subscription for extra facilities. This included employing a servant, a German named Frank Raab who had previously worked as an orderly at Alexandra Palace. It was he who found Frederick unconscious on the morning of Sunday 28th April 1918, having taken an overdose of Veronal and he died at 2.40pm. About three weeks earlier, he had been given notice that he was about to be repatriated and had made it



Prisoners gather for roll-call at the Douglas Aliens Detention Camp
Credit: Manx National Heritage – Image reference no. PG-2402

quite clear that he would rather die than be sent back to Germany. Reports of Frederick's suicide, describing him as "the millionaire steel pen manufacturer", appeared in newspapers around the world, from the USA to Singapore and New Zealand, and the subject of his death was even raised in Parliament.



The privileged section of the camp, in which Frederick Brandauer would have been detained

Credit: Manx National Heritage – Image reference no. PG-2407

In a letter to the Camp Commandant, written the day before he died, Frederick had said that if he were to be repatriated he would "arrive absolutely helpless with nobody to look after me", concluding that "I will be better dead and at rest" and adding his thanks to the Commandant for his kindness.

Shortly after, Frederick Schramm, a 54 year-old naturalised German who had lived in Britain for 35 years and worked as a 'foreign correspondent' or agent for Brandauer, living in Birmingham at Linwood Road, Handsworth, also took his own life, shooting himself in the heart. A close friend of Frederick Brandauer, he was reported to have been greatly affected by his suicide.

This very sad episode brought to an end the Company's links with the Brandauer family as owners, with the Petit family eventually acquiring all the remaining shares in 1925. However, the reputation it had built during that fifty year partnership was firmly established and the name remains unchanged after a century and a half.

ADAPTING TO NEW CONDITIONS

The years between the end of the First and Second World Wars saw many changes at Brandauer, with the Company diversifying into new products

The 1920s and '30s saw many important developments, some of which were to have a significant impact on the family business. Following the First World War,

manufacturing output declined sharply and the situation worsened with the worldwide slump after 1929. Brandauer had always concentrated on the quality end of the pen market and the international export trade, with agents all over the world, from South Africa to Turkey, India, Scandinavia and South America. Pens were specially designed for some countries, such as Japan. However, as more became self-sufficient, some of the most profitable business began to decline.

Whilst the minutes of Brandauer Board meetings continued to be handwritten with a pen until December 1949, the use of typewriters was already widespread

in many organisations, including Government offices which had previously been an important source of business for the pen trade.

László Bíró presented the first version of his ballpoint pen at the Budapest International Fair in 1931, later patenting his invention in 1938 but, between the wars, although Britain may have lost its virtual monopoly, there was still demand for Brandauer's traditional products.



A fountain pen, probably from the 1920s, fitted with a Brandauer No.1 nib



Colin Petit, the youngest of Charles Frederick's four sons, who at the age of 28 was appointed a director in 1930, was the last member of the family to be involved with the pen trade throughout his entire career with the Company. He worked for a while in the London office and remained a director, still dealing with pens and handling the occasional correspondence, for the next 58 years until his death in 1988. It is largely thanks to him that so much early material survives in the Company's archives.

There was little automation until May 1935, when the directors approved the purchase of the first of a number of three-process presses for pen manufacture. By 1938, it is reported that there were eight electrically-powered, roll feed presses that combined the first three stages of blanking, marking and piercing in one operation, anticipating today's multi-stage progression press tools. However, everything else continued to be done by hand, just as it had in the mid-1800s and an electrically-powered lift wasn't installed until 1947.

Although the Company had a largely female workforce ever since it was first formed, the Directors' attitude towards female family members owning shares was rather different. As late as September 1932, the Board reiterated that it had "always refused to have females on the Ordinary Share Register." It was not until March 1940 that, following a proposal by The Reverend Canon Oliver Petit, they agreed to



Brandauer used every opportunity to advertise its products, including this letter to Germany, posted in December 1922

"the holding of Ordinary shares by ladies". However, it took another 56 years before the Company appointed its first female director, with Marie-Louise Petit, a great-great-granddaughter of Joseph Letière Petit, joining the Board in 1996, followed by her mother Carroll in 2001.

By a remarkable coincidence, Oliver Stanley Petit, the youngest son of Joseph Letière, served from 1923 to 1933 as Vicar of the very same church, St Peter's in Harborne, where his great-grandfather John Petit had been married back in 1786. In addition to being an Honorary Canon of Birmingham Cathedral, he had a secret life as an author,

writing a novel with religious themes entitled *Youth Shows But Half*, published in 1935 under the nom de plume 'Oliver Carfax'. He was one of two new directors appointed in 1934, the other being Joseph Henry Petit's son-in-law Edward Augustus Gorton and it was he who was to take the lead in developing Brandauer's wider potential as a manufacturer of precision presswork.



The Reverend Canon Oliver Petit, seen here with HM The Queen's grandmother, Queen Mary



The Gorton Cycle Works in Coventry, part of which survives as the Ibis Coventry Centre Hotel

Photo: via Coventry Transport Museum

In 1890, Edward and his father Samuel Gorton had formed the Gorton Cycle and Motor Company at Whitefriars Cycle Works in Coventry. This was later purchased by motor industry pioneer Harry Lawson in 1896, the same year in which he also set up the Daimler motor company. The business became part of the Beeston Cycle & Motor Company, with Samuel Gorton appointed to manage production of motorised tricycles and light cars. By 1911, Edward Gorton had moved into electroplating and polishing and, with his early experience of the rapidly expanding automotive industry, would have been very aware of the opportunities for Brandauer to broaden its scope.



Coventry Motor Cycle Club in 1911

Photo: via Coventry Transport Museum

At his very first Board meeting, it was recorded that "Mr Gorton is doing some pioneering work" in seeking out opportunities for what was referred to as 'light presswork'. Exactly what this was is not entirely clear but, two months later, the Directors were already discussing the orders and enquiries they had received, considering the new equipment that would be required and agreeing funding for an extension to the factory.

Over the next five years, the Light Pressings Department was extended, with the purchase of further presses and, in June 1938, the Board "congratulated Mr Gorton on his successful results". The records suggest that customers included the Lockheed Hydraulic Brake Company and Borg & Beck, both parts of the Automotive Products group in Royal Leamington Spa, and Rubery Owen, another Midlands automotive manufacturing business that was to become one of Britain's largest privately owned engineering groups in the 1960s.

However, political events in the rest of Europe were once again about to have a major effect on life and work at Brandauer. In June 1939, plans were being made for constructing air raid shelters at the factory, with Air Raid Wardens appointed and tooling being removed to a place of safety. A year later, with the Second World War well underway and a week before the start of the first phase of the Battle of Britain, authorisation was given to purchase new presses specifically for what was described as "aeroplane work".

The Company was already approved by the Air Ministry to produce aircraft parts and it is possible that the earlier work for the Lockheed Hydraulic Brake Company in Leamington may have led to sub-contracts being placed by them for a range of components and assemblies that

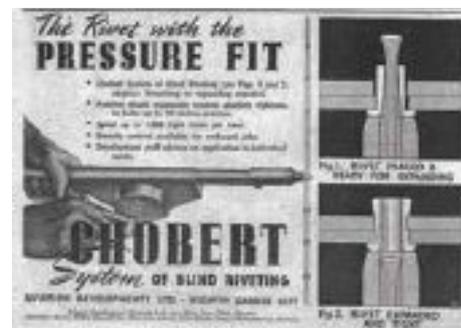


Amongst a variety of other small pressings produced by the Company were pointers such as these for aircraft gauges made by Barnet Instruments Limited



As well as parts for full-size aircraft, Brandauer also supplied the model trade with these propellers in brass and aluminium

they were manufacturing. As well as supplying the armed forces with brakes and clutches for fighting vehicles, 'the Lockheed' as it was always known locally, also produced over two million parts for aircraft, including undercarriage units, controls such as rudder pedals and other items. Amongst the types to which these were fitted was the Airspeed Oxford, many of which were produced by the Standard Motor Company in nearby Coventry. It is believed that Brandauer-made components were also used in Westland Lysanders, Bristol Beaufighters and Vickers Wellingtons and in Supermarine Spitfires and Short Stirlings, both of which were built in Birmingham. Although small-scale pen production continued for the home market, it is thought around 150 employees were engaged on work for Lockheed, including Colin Petit who worked on a press producing the roller cage for undercarriage bearings.



There are also references in the Company's archives to a contract with Messrs. Aviation Developments Ltd of Welwyn Garden City for work associated with the Chobert system of blind riveting. This was already widely used in aircraft manufacture, including that of the Spitfire, and four female employees were moved from other work in March 1943 to meet the required output. Whether this involved producing the rivets themselves or parts for the Chobert rivet gun is unclear, although it seems most likely to have been the former. However, it must have been quite extensive as the Chairman, Russell Petit, and Garth Petit, who had been appointed Managing Director in 1942,



Charles Frederick Petit's son Russell, who served as Chairman from 1942 until 1959

continued to negotiate with the Ministry of Aircraft Production in the hope of obtaining more workers.

In addition to its wartime aircraft contracts, it is understood that Brandauer manufactured parts for tanks and armoured cars and also produced watch cases.

Discussions had already taken place as to what to do "should the Works be damaged or destroyed through enemy action" and reciprocal arrangements were agreed in February 1941 with Perry & Co, the largest of the pen manufacturers, to transfer production to their Lancaster Street Works. Birmingham was, after all, the most heavily bombed British city after London. It is said that, during air raids, local residents would take shelter in the factory's cellars, allegedly in the belief that the Company's German name would ensure their safety!

Given the circumstances, it is hardly surprising that letters were sent to retailers in September 1941, apologising for the difficulty in maintaining pen supplies and, in June 1942, the Government's Manpower Board declared "the manufacture of steel pens and stationers' sundries to be non-essential work, directing the transfer of all labour engaged in the production thereof to essentials of war". Nevertheless, by the end of 1943, the Brandauer Board was

WAR TIME MEMORIES

Even when Britain was at war, Brandauer still maintained its commitment to train apprentices. In 1996, Mr D Blunston recounted the following memories of working at the factory to Professor Carl Chinn:

"I myself worked in the pen trade, as an apprentice toolmaker. I started in 1944 at C Brandauer & Co, New John Street West. As you know it is still going strong, a very fine firm and going since 1862.

My weekly wage for a 49 hour (week) was 11/9p (eleven shillings and nine pence, now 59 pence and worth £20.10 at today's prices). I loved every day of my life working there. The manager at the time was Mr Eastwood and a very nice man to get on with. Every person in the firm were very hard working. A pen nib was a piece of precision on its own. A lot of hard work went into it to produce it.

All my mates and foreman throughout the factory taught me a lot about toolmaking of which I have not forgot. In those days when you were given the order to make a press tool, you made everything yourself, shaping, grinding, milling, turning, filing on the bench to a very fine finish. Then when the tool was made, you did your own hardening and tempering of it on an open fire blown up by a large pair of bellows operated by hand. Afterwards you tempered tools to the correct colour and hoping that the tool did not crack in the meantime."

already discussing post-war production of pens, although the Company was experiencing difficulties with recruitment, with a need to increase wages. They also agreed to consult an architect and plan for the reconstruction of the factory.

With the war over in Europe, it was decided in June 1945 that, "in the interests of pen production and having regard to the present labour shortage, the light pressings side of manufacture be wound up at the earliest possible moment and all labour transferred to pen manufacture." This apparently met with strong opposition from Lockheed but, after further negotiation, it was eventually agreed to bring work to an end in mid-September.

Employment problems were apparently a major concern as there was discussion as to whether it was best to invest in reconstruction of the New John Street West factory or "to seek premises or to build in an entirely new area where labour conditions were easier". By October 1945, a packing department had been



Salute the Soldier Week in 1944, to which the Company contributed

set up in Wrexham, the largest town in North Wales and, shortly after, the Managing Director announced his intention of bringing Welsh girls to Birmingham with a view to training them for inspection work. However, the idea of setting up an entire factory elsewhere was eventually abandoned in April 1946.

In December of that year, the Barrelling Shop was forced to close while the walls were whitewashed...on the instruction of the Factory Inspector! Although production of fountain pen nibs was accounting for most of what little profit the Company was making, it was decided that it could no longer produce school pens for the Government's fixed price of two shillings a gross.

Also in 1946, there was a new arrival at the factory who was to play a key role in the later development and success of the business. Aged just 17, he joined Brandauer as a 'temp'. "I was really just looking for a holiday job to see me through the summer, but things didn't work out the way I expected."

That temporary job was to last the next fifty years! The new employee's name was Henry Samuel Courtney Elliot Edwards-Jones, known to everyone as 'Tony' and he was to become the Company's Managing Director from 1959 until his retirement in 1996.

MOVING ON

The electronics age opened up entirely new opportunities for Brandauer and 100 years of pen production came to an end

Post-war conditions were already proving quite challenging for the business, with labour shortages causing particular problems and the harsh winter of 1946-47 made matters much worse. Heavy snowfalls blocked roads and railways, making it difficult for employees to get to work. The transport of goods to and from Wrexham was severely disrupted, as was production with so many on sickness absence. There were power cuts and, by January, the Company's lack of coal was affecting heat treatment operations, with employees being laid off. It was also in 1947 that Arthur Charles, who had been in the pen trade since 1930 and had recently founded the Highley Pen Company, later to be merged with the long established firm of D Leonardt & Co, first approached Brandauer with a view to taking on some of the Company's pen production. In due course, this led to the transfer of tooling and equipment and



Compare this lower part of an early raising tool with, below...



...the modern tool for making blanks for the No.518 lithographic pen

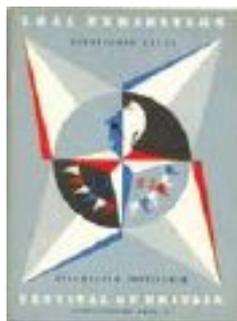


A modern Drawing & Mapping Set from the Manuscript Pen Company Ltd, with Brandauer's No.518 pen second from the bottom

a relationship that has lasted over 60 years. The very last Brandauer pen still on the market is the tiny No.518 lithographic nib, made at the factory in Highley, near Bridgenorth in Shropshire. It is available as part of a drawing and mapping set, together with four Leonardt nibs and a pair of pen holders.

Many manufacturing businesses much prefer to produce and market their own products rather than make things for other companies, not least because it is likely to be more profitable. So, although the Chairman Russell Petit was forced to acknowledge in April 1953 that penmaking was a "largely redundant trade", the Directors were understandably still very reluctant to abandon the products upon which the Company's worldwide reputation had been built.

Just two years earlier, in 1951, the Festival of Britain was intended to present a new, vibrant post-war image, with futuristic architecture and the very latest technology. However, when the Festival's travelling exhibition came to Birmingham, instead of the 76,357 visitors being treated to a display of exciting new Brandauer products from the fast-growing world of electronics, it was the Company's early barrel pens and others from the 19th century that were showcased alongside ancient Roman and Egyptian pens and modern fountain and ball-point designs. By coincidence, Brandauer was also supplying pen nibs to two of the other exhibitors, Summit Pens and Mabie, Todd & Co Ltd, a long-established pen maker that originated in the USA.



Nevertheless, some important changes were now underway. 'Tony' Edwards-Jones was promoted to Production Manager and the Board agreed to approach Sydney Petit's son Adrien with a view to being employed as Works Manager. The following year the Company appointed its very first non-family director when John Mortimer joined the Board, having previously been a director at Joseph Gillott & Sons Ltd., one of the very first pen manufacturers.

Although a recession was affecting the business as a whole, presswork sales were increasing with customers from a variety of sectors, ranging from parts for GKN Screw Division in nearby Heath Street in Birmingham and hinge springs for Joseph Lucas, another major local company, to a wide assortment of components for a firm called Birmingham Sound Reproducers or BSR, based at Old Hill in Staffordshire.



One of the very popular small Dansette record players, fitted with the widely used BSR Monarch deck

BSR photos: via fosteraudiovisual.co.uk

In 1951, after producing various electronic products, BSR Limited of Great Britain began to design and manufacture automatic and manual turntables and changers for record players. They soon became the leading manufacturer in the world and expanded rapidly during the 1960s and 1970s. At its peak in 1977, BSR was

producing a staggering 250,000 units per week. About 90% was for export because they enjoyed a more than 85% share of the market, producing auto-changers for all the world's leading record player manufacturers.

Brandauer became an important supplier to BSR, the early components including switch inserts, cartridge contacts, flat stylus arms and many others and this continued for many years. Some BSR sub-assemblies, such as autochanger spindles, were put together by outworkers, employed in their own homes. According to the August 1969 issue of *Brandauerama*, the Company's employee newsletter, record players containing Brandauer components had just been despatched for an 8,000 mile journey overland to the Sony factory in Japan, travelling through Belgium, Germany, Switzerland, Austria, Hungary and Russia, using the Trans-Siberian Railway right across the then Soviet Union to the port of Nakhodka and then by ship to Yokohama, a journey that took 40 days!

From 1947 to the mid-1950s, turnover had fluctuated with small profits one year and small losses the next but improved sales promotion began to produce some increased business and in 1956 the Company was appointed as an official manufacturer for a range of pen patterns to Her Majesty's Stationery Office.



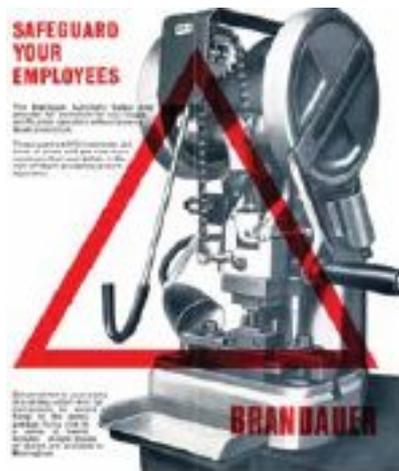
Major H P Rushton TD, JP, who became Chairman in 1959

Following the death of Russell Petit, Major Harold Petit Rushton took his place as



Brandauer's 'Berinkle' brand safety spanners made from beryllium copper

Chairman in February 1959, with 'Tony' Edwards-Jones appointed as Managing Director. Although 1958/9 had seen a drop in turnover compared with the previous year and orders from BSR and some other electronics customers were down, there were plans to open a small factory in Atherstone in North Warwickshire. There was also a possible order for pens from Woolworths, preparations being made to produce an entirely new product in the form of beryllium copper 8BA and 10BA instrument spanners and an order for spring clips for mouse traps. No-one could say there was a lack of variety at Brandauer!



Another of Brandauer's own products from this period was a safety arm for fitting to fly and toggle presses, such as those used in the factory

By the start of the 1960s, the Atherstone factory was in production, with pen output running at 144,000 a week and ambitious plans for new plant and equipment. W R Bruton Bros offered to rent part of the factory but, with business beginning to improve, this was rejected. The Board was more concerned with planned development of the Newtown area by Birmingham City Council, hoping this might create opportunities for the Company to benefit

from compulsory purchase, enabling it to move elsewhere. The idea of exchanging the freehold of the site with a property developer for a new 'greenfield' site was explored and continued to be discussed until mid-1961, when it was eventually dropped. The Atherstone factory took on presswork as well as pen production and, after a long period of development, the Company began to produce iridium-tipped fountain pen nibs, although it was not until late 1962 that the first order was obtained, from Poland.



The 1960s saw great changes in the area around the factory. Old Victorian houses were demolished and rows of tower blocks erected in their place.



Credit: The late Keith Berry

However, time was fast running out for traditional pens and, with the pen department already down to a two-day week in May 1961, it was decided to bring production at New John Street West to a close in December, with the remaining, mainly elderly, employees being pensioned off just two months before the Company's 100th anniversary.

A NEW ERA FOR **THE FAMILY BUSINESS**

Over the last fifty years, Brandauer has developed into an advanced presswork specialist, supplying everything from Concorde to computers

FIRSTLY, WE HAVE A SHREW D LEVEL HEADED BOARD OF DIRECTORS, WHOSE TASK IS TO GUIDE AND SUPPORT A FORMIDABLE TEAM OF EXECUTIVES AND TECHNICIANS



ALL OF WHOM ARE PRESIDED OVER AND GUIDED BY A YOUNG ACCESSABLE AND CREATIVE MANAGING DIRECTOR



IF REQUIRED WE PLATE THEM WITH GOLD OR SILVER OR BOTH BY OUR EXTENSIVE AUTOMATIC FULLY IMMERSED AND INSTRUMENTED PLATING PLANT



HERE TOOLS ARE PRODUCED FOR THE ACCURATE COMPONENTS FOR WHICH WE ARE SO FAMOUS



To mark the Company's 100th anniversary in 1962, the Directors published a book of humorous, self-mocking cartoons that poked fun at the Board, the Managing Director and, amongst others, the toolroom and the metal finishing department. It was distributed to customers and suppliers and, in a letter that formed part of the booklet, the then Chairman, Harold Rushton, described the Company's policy as simple – "to supply to the electronic and electrical industries components in the greatest quantities, of the greatest accuracy and the best possible finish, so that our customers may have to spend the minimum of inspection and assembly time." Today, the Company's vision is much broader and certainly not limited to supplying just one or two sectors.

The Company's centenary year began with BSR, previously its largest customer, moving most of its production in-house, but the news was not all bad. Not only was an order placed for the first Schuler power press, but Brandauer also bought its first electric typewriter! There were prospects of work from Texas Instruments and IBM and plans to invest in the first spark-erosion machine, which would cut toolroom machining times dramatically.

Sales of beryllium copper crinkle washers had enjoyed considerable success for some years but, with a drop in demand, the Board agreed to promote its own line of steel crinkle washers and encourage production of more of the Company's own products. There were still considerable stocks of pens and John Heath & Co Ltd was appointed to handle future distribution.

There were several approaches from other companies, suggesting collaboration of one kind or another. In March 1963, it was The Lewis Spring Co Ltd of Redditch trying to interest Brandauer in a 50/50 joint venture to set up a small factory in Northern Italy as a means of expanding European business. The following year, Brush Beryllium Ltd proposed creating a joint die and tool making facility and, later that year, Telcon Metals Ltd, part of British Insulated Callenders Cables, indicated it would like to take a financial interest in the business. None of these were encouraged although the Directors were certainly keen to develop the business and, at the end of 1964, the Chairman even expressed "the hope that the Company might ultimately be able to obtain a Stock Exchange quotation for its shares."

Meanwhile, the area around the factory was changing fast. The Britannia Inn on the corner of New John Street West and Summer Lane had already been demolished and, when David Lloyd began his 48-year career with Brandauer in the Quality department in 1963, he and a group of others would play football on the flattened site during their lunch breaks. This was long before the road became a dual carriageway and the top surface was so worn that the cobblestones could

be seen coming through the tarmac, making it very dangerous for cyclists.

Moves were also afoot from late-1961 to restructure the business, with a new company to be called C Brandauer & Company (Pressings) Limited, and this remained under discussion until May 1964 before being dropped in favour of a different approach. However, when Major Harold Rushton announced his retirement that year and Adrien Petit took his place as Chairman, this clearly marked the beginning of a new era for the family business.

Unlike Joseph Letière Petit, who had trained as a skilled toolmaker and was a prolific inventor and innovator, many of those who followed in his footsteps were untutored in engineering or manufacturing management and had little or no experience of the pen trade prior to joining the family business. Charles Petit practised as a dentist in Southport for 15 years before being appointed a director, Garth Petit was described as a farmer and Oliver Petit was an Anglican clergyman. Harold Rushton did serve as a director of Ansell's Brewery following its acquisition of Rushton's Brewery in 1923 and was High Sheriff of Worcestershire in 1943, but his entry in the Register of Directors simply refers to him as "a Gentleman".



Joseph Adrien Letière Petit, who was Brandauer's Chairman for thirty-six years, from 1964 until his death in 2000

However, Joseph's great-grandson, also Joseph Letière Petit but known to everyone by his second name Adrien (or Ian), was to change all that, bringing a more professional approach that was to lay the foundations for the modern business. Although he first started working at Brandauer back in 1938, learning tool making skills from Philip Gill and others, once the Second World War was over he chose to go to university.

Having been working as Progress Manager in 1946, he went to Nottingham to study mechanical engineering from 1948 to 1951, with a post-graduate year in production engineering at Birmingham. He then gained valuable experience as a management consultant, spending 20 years with the PE Consulting Group.



A small selection from the Cable Clips range

He became a director of the Company in 1958 and shared his great-grandfather's talent for invention, devising a simple self-adhesive clip for securing cables and many other uses that has been manufactured by the Company since 1972.

One of his many stories about the Company's past concerns the preoccupation with secrecy that seems to have existed amongst the pen manufacturers. A Board minute from May 1946 refers to three of the directors being "initiated into the process of plating in the No. 4 department". Apparently, Brandauer had its own special plating process known as 'number four', situated in the factory yard, the formula for which was a closely guarded secret known only to the directors. "They had to go down and unlock large chests which contained the chemicals." Pens were placed in braziers with gas jets underneath. "It was like a witch's cauldron down there with all these things bubbling away and the magic of the locked door." The formula was passed on like a secret recipe and he was the very last of the Petits to be entrusted with it!



Before the days of computer-aided design, toolroom staff would often do their own layout drawings. In this late-1960s photograph we see (far left) optical profile grinder Eric Bushill 'on the board' in the Drawing Office, with the Manager Tom Palmer to his right. Behind him are Drawing Office trainee Graham Turton, Bob Din who was later to become Technical Director and (far right) John Jones, also from the Toolroom.

He became Chairman in May 1964, a position he held until his death in December 2000, shortly before the Company left the old factory and moved less than 200 metres to its current premises in Bridge Street West. For many years he also served as Joint Managing Director with 'Tony' Edwards Jones and as Company Secretary.

As soon as Adrien Petit took over, there were fresh proposals for restructuring the business, creating a new two-tier organisation. The shares would be held by a holding company, with a Board of family members to set the overall direction of the business and its long-term strategy. The original company, C Brandauer & Co Ltd, would become a wholly-owned subsidiary, responsible for day-to-day management of the business and its design, manufacturing and sales operations, with a mix of family and non-family directors. Brandauer Holdings Limited was formed in 1965, a year that saw the main chimney demolished to make way for an extension to the press shop, new

employees for the toolroom and more than thirty female operators from the Atherstone area being brought in by coach to Birmingham every day.

The remaining fountain pen sales were being severely affected by overseas competition and, in June 1965, customers were advised that all pen production would cease, with the exception of lithographic pens. However, on the positive side, more Schuler power presses were required to meet increasing demand from Honeywell, BICC, IBM and Bonnella.

Many of the Company's components were going on to be incorporated in plastic mouldings of one sort or another and, in 1967, it was decided to set up Brandauer's own transfer moulding department for compression moulding and encapsulation.

The idea of obtaining additional premises, or relocating altogether, was never far from the directors' minds. In 1965, a Scottish factory was being discussed and, the following year, additional premises in Atherstone, Perry Barr,



A mid-1960s publicity photograph of the Four-slide Department, featuring (in the middle) Gerry Wade, who worked for Brandauer from 1960 to 2001 and, furthest from the camera, Alex Bruton, one of several members of his family to work for the Company and who later became Works Director



Immediately above the Four-slide Department was an area known to everyone as 'The Blue Room'. Originally set up to put together keyboard assemblies for IBM, the department was run by Bill Boyd (on the right) and Fred Baston (on the left).

Sutton Coldfield or Tamworth were being considered. Eventually, the purchase of a small factory in nearby Brearley Street was agreed in November 1969. More ambitious schemes remained under review, with 'Tony' Edwards-Jones proposing opening a factory in Malta and, a little nearer home, a property developer offering £39,000 for both the New John Street West and Brearley Street premises, in return for the Company renting a 30,000 sq ft building in Aldridge.

A new London sales office was opened in 1969, this time in Brixton Road, Watford, with Marketing Manager Bob White, Sales Representative Jim Whittaker and Mrs May Follett as the secretary. Brandauer components for Hellerman Deutsch, which were used in their hermetically sealed relays for the military and aerospace market, were being fitted to the new Anglo-French Concorde supersonic airliner that first flew in March 1969, the Hawker Siddeley Harrier vertical take-off and landing fighter for the Royal Air Force and many other civil

and military aircraft. In complete contrast, the Company was also producing the foot pedal actuating arm for Singer sewing machines which were still very popular and being manufactured in large quantities.

During this period, those working at Brandauer enjoyed a wide range of social and sporting activities. For example, on July 17th 1969, there was a social evening, held at the Birmingham Unity Club, attended by no fewer than 180 employees and their friends and relatives, with dancing to a band called the 'Four Aces'.

A Brandauer Football Team from 1968/9 featuring, left to right on the back row, Joe Patrick (Press Shop), Jim Addison (Purchasing), unknown (Plastic Moulding), Brian Stringer (Toolroom), Graham Pearman (Toolroom), unknown (Plastic Moulding) and, on the front row, Terry Watson (Inspection), Dave Payne (Toolroom), Mick Allcock (Inspection), unknown, Andy Slater (Inspection) and Rob (last name unknown) (Plastic Moulding)



People ask how long a Brandauer pen would have lasted.

This story from 1969 provides one possible answer.

A Mr C V Cannon recently appeared on BBC TV having produced a complete handwritten copy of the New Testament from the New English Bible. The finished work totalled 848 pages and took 580 hours to complete. For this mammoth project, Mr Cannon used just four Brandauer 'Arctic' pen nibs, suggesting that one pen could last for up to 145 hours of continuous writing!

Apparently, the highlight of the evening was the presentation of prizes for the Darts League by the Managing Director 'Tony' Edwards-Jones, with the winners' shield going to a team from the Toolroom, each member of which also received 'an inscribed medal and 100 cigarettes'!

There was a Social Activities Committee, chaired by the Works Manager Alex Bruton, that organised an annual children's Christmas party, complete with volunteer Father Christmas, dances in the summer and winter, a darts tournament, ten-pin bowling and other events, including cricket and football, with matches against teams from other companies. There was also a Ladies Keep Fit on Thursday evenings and an Angling Club.

Back in the 1930s, many of the Company's employees apparently came from the Black Country and, in those days, would have walked to and from work every day. However, according to Joe Patrick who worked at Brandauer from 1965 until 2009 and was press shop supervisor in 1983, there was still a group of Black Country employees in the metal finishing and plating departments in the mid-1960s who were woken every morning (or 'knocked-up') by one Jack Aston, known to all as "The Rapper". Just as Adrien and Colin Petit had served as 'fire watchers' during the bombing raids of the Second World War, Joe Patrick recalls that he, together with David Lloyd from Inspection, Les James from the Hand Press and Roy Hayward from the Toolroom, formed a Fire Team on Bonfire Nights to deal with any fireworks landing on the factory, for which they were paid an extra £20!

Another six of Joe's extended family worked at Brandauer at one time or another and his wife Diane remembers working at home, soldering parts for Reliance Controls Limited of Swindon that were used in sophisticated potentiometers for aircraft and computers, at a piecework rate of £3.00 per 1000 parts.



Prior to the redevelopment of the Newtown area around the factory, there were still several Victorian 'back-to-back' courts of small terraced houses, with outside lavatories and a 'brew house' for communal washing, between the factory and Summer Lane. Bill Wellings,

Team Leader in the Lower Press Shop recalls that, in the early 1960s, between the factory and the junction with Summer Lane, there was a bicycle repair shop and a Post Office on the corner, dating back to the 1930s.

In 1887, the Company had produced a special pen bearing the Royal coat of arms to mark Queen Victoria's Golden Jubilee and, ninety years later, this was repeated to commemorate HM The Queen's Silver Jubilee in 1977. A limited edition pen set comprising ten silver nibs and a specially marked pen holder was produced, with a retired toolmaker reportedly brought in to make the necessary tooling.



Special pen set produced for HM The Queen's Silver Jubilee in 1977

The last of the older generation of the family to join the Board was Charles Frederick Petit's son-in-law Clifford Hailey Ives, known to everyone as 'Bunny'. Appointed in 1984 at the age of 64, he was a highly individual and eccentric character and served as a director for the next twenty years.



Clifford Hailey Ives, a Brandauer director from 1984 to 2004

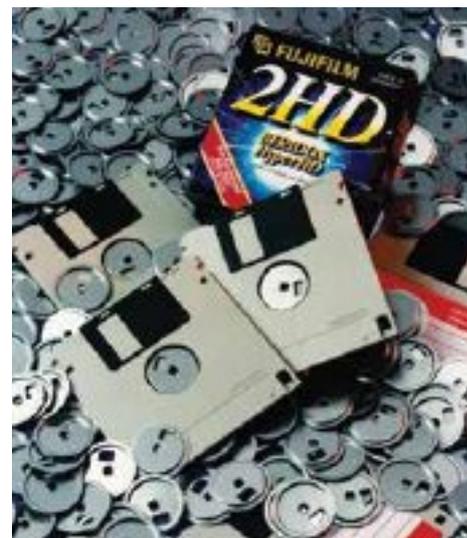
Throughout the 1970s and 1980s, developments in technology presented new opportunities for Brandauer. Just as the explosion in record sales and the introduction of the auto-changer record player had led to major long-term contracts, now the expansion of electronics was



In the early 1980s, the company developed its own central processor unit board for computers but the product never progressed beyond the experimental stage

opening up entirely new products and processes, although the start of the 1980s proved to be a very difficult period. The Company had been forced to make drastic reductions in the size of the workforce and was down to 110 employees by mid-1983. However, led by its irrepressible Managing Director 'Tony' Edwards-Jones and with a £250,000 investment programme (the equivalent of £660,000 at today's prices), intensive marketing and the support of a committed workforce, the Company's fortunes were revived.

One of the major sources of new business came from the rapid growth of personal and home computers, especially the floppy disks then used to distribute software, transfer data and for backup storage. Brandauer has always excelled in producing high-quality components that are required in vast quantities and the hubs and shutters for computer floppy disks were an ideal product for the Company. By the early 1990s, the increasing size of many software packages required a dozen disks or more and, in 1996, it was estimated that there were at least five billion floppy disks in use. Production of floppy disk shutters began in 1989, followed by hubs in 1991, of which more than 546 million were made.

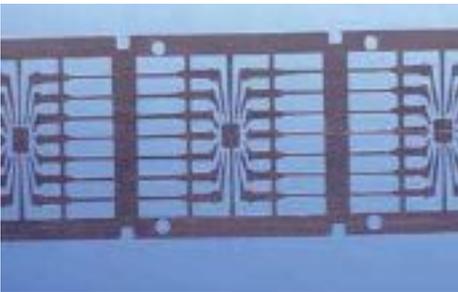




Managing Director 'Tony' Edwards-Jones with Lord Young, Secretary of State for Trade and Industry

Photo: via Marcus Edwards-Jones

Slowly but surely, although small in size, the Company began to raise its profile, becoming involved in Government trade initiatives during Lord Young's term as Secretary of State at the Department of Trade & Industry in 1987-89. Brandauer became the first company in Britain to produce a standard integrated circuit frame in the form of a pressing and the largest user of beryllium copper strip in the UK. Exporting to Japan, Hong Kong, the Philippines, Germany, Switzerland and the USA, output was up to 25 million parts a week by 1987.



Brandauer's integrated circuit frame

Given the use of advanced manufacturing methods and equipment and the nature of its products, it is quite remarkable that Brandauer was still occupying the original Victorian factory in which it began life in 1862, complete with cast-iron spiral staircase, wooden floors and, in places, the remains of overhead belt drives that would have dated back to the days of steam power. By the time the Company celebrated its 125th anniversary, the workforce was down



A photograph of the C Brandauer & Co board, which appeared in a special 125th anniversary supplement in the *Birmingham Post* newspaper. Standing, from left to right, are Michael Doughty (Commercial Director), Colin Petit, John Woodward (Finance Director) and Robert Din (Technical Director) and seated are Adrien Petit (Chairman) and 'Tony' Edwards-Jones (Managing Director).

from 107 in 1984 to around 80 employees, a fraction of its size in the early 1900s, partly due to the increased use of automation. By 1991, it had dropped still further to just 63 although, ten years later, it was up to 159.

Changes in technology can have a major effect on any business that makes parts for other companies. In 1998, a production line was set up in nearby Brearley Street for Hewlett Packard, manufacturing parts for toner cartridges used in printers. However, when the product was redesigned, the Brandauer component was replaced with plastic foam and the factory was closed.



'Tony' Edwards-Jones, seen here celebrating his retirement after 50 years, with Quality Assurance Manager David Lloyd, who joined Brandauer in 1963 and only retired himself in 2011 after 48 years service with the Company

Businesses have to anticipate other changes too and discussion began in late-1991 as to who would replace 'Tony' Edwards-Jones as Managing Director when he retired. Adrien Petit's son Adam had, just like his father, also trained as an engineer and he joined the Board and was appointed as Production Director in May 1995 and then as Joint MD from January 1996 before taking over altogether a few months later, the latest member of the Petit family to serve in this capacity and the first from the fifth generation.



Adam Vivien Letière Petit, first of the fifth generation to take the helm as Managing Director

Adrien Petit's death in December 2000 marked another watershed for Brandauer. Not only had he devoted many years to the development of the family business but his passing coincided with the transfer of operations from the Company's original 1862 factory to more modern premises in nearby Bridge Street West. It had long been recognised that this was essential for the future and, under Adam Petit's leadership, the move was completed in January 2001.

Adrien Petit was succeeded as Chairman for a short period by John Berkeley, who had joined the Company for three years in the late-1960s as its first personnel and training officer. When Adam Petit resigned later that year, Operations Director David Spears took over as Managing Director, having begun his apprenticeship at Brandauer back in 1974.

To help prepare for the future, the Board had appointed its very first non-family Chairman David Abel Smith, who served until John Berkeley returned in 2005.

BRANDAUER IN THE 21ST CENTURY

After 150 years of family ownership, Brandauer looks forward with confidence to a future based on investment, skills and a commitment to engineering excellence



The original 1862 factory is now a Listed Building, in recognition of its importance as an original 150 year old Victorian pen factory and offering some protection for the future. Hopefully, new uses can be found which justify the cost of re-development and help give it a new lease of life.

Credit: English Heritage National Monument Record; photographer James O Davies, 14.8.03

Although less than two hundred metres away, moving to the Bridge Street West factory represented a fundamental step change in the Company's capability and potential. The old factory was simply no longer fit for purpose. It was vital for Brandauer to adopt modern

manufacturing standards and, with David Spears at the helm as Managing Director, it did so with the commitment of everyone concerned. Instead of the three- and four-storey layout of the old factory, with individual offices and departments scattered throughout the building, a new open-

plan approach transformed both manufacturing and management.

Brandauer was able to introduce the principles of so-called lean manufacturing, setting rigorous standards for a clean, well-organised workplace in complete contrast to previous practice. The Company also pioneered collaboration with other small and medium-sized manufacturers, promoting their services to major customers and achieving cost-savings by jointly exhibiting at international trade shows. The MAN Group now comprises ten Midlands companies and has attracted considerable interest from Government and elsewhere.



Toolmaker Ray Whitehouse with a modern Brandauer progression tool

Today, this 150 year-old Birmingham family business is, at one and the same time, exactly the same as it was when first formed... and yet also completely different.

From 1862 to the present day, the Company has been in the business of making high precision metal pressings, in enormous quantities. This is what Brandauer is known for and upon which its reputation has been built. However, the 21st century Brandauer now supplies a very wide variety of industrial sectors, from construction to medical and healthcare, with a diverse range of components, large and small.



Rows of modern presses produce millions of high-precision components

For example, the Company is the leading manufacturer of metal components for push-fit plumbing systems that will, eventually, revolutionise the building industry in Europe and beyond. In complete contrast, there are

medical products that range from specialist parts, including surgical implants and components for medical scanners and cardiac pacemakers, to more familiar objects like the cutters on the top of dental floss packs. One of the other healthcare products that has been in continuous production for over twenty-five years is a soft metal strip, known as a nose clip, that is used in making protective face masks. To date, more than two and a half *billion* of these have been made (2,637,000,000), helping to provide protection during countless natural disasters and outbreaks of infectious diseases.



A selection of parts for advanced push-fit plumbing systems



State-of-the-art wire EDM machines play a key role in Brandauer's toolroom

The automotive industry uses a wide variety of Brandauer components, from those used in automatic dimming rear view mirrors, airbag sensors, motor vehicle instruments and hydraulic braking systems to clips for retaining interior trim panels. In addition, there are many different types of connectors

including those used in battery chargers, satellite navigation systems and wiring connector blocks. Other electrical parts can be found in engine management systems, as well as domestic and industrial power tools and printed circuit boards.

Telecommunications is another important sector, with the Company producing telephone wiring connectors for large networking systems, Ethernet connectors and parts for wall-mounted telephone sockets and mobile phones.



Complex components are a Brandauer speciality

Brandauer parts can also be found in countless millions of electric kettle bases, in washing machine and tumble dryer motors and even in model train layouts and over half a billion of the self-adhesive CB Cable Clips have been made since 1973.

Exports represent a very significant proportion of Brandauer's business, with 70% of output going abroad, much of it to China but also to North and South America, Europe, Africa and the Middle East, Asia and Australia.

As for the future, the development of alternative sources of power, such as hydrogen fuel cells, offers considerable opportunity for the Company to diversify into entirely new markets, at home and abroad. There is also enormous scope for



expansion in the medical, healthcare and assisted living fields and in micro-machining.

When it comes to managing the business, with well over a hundred fifth and sixth-generation descendents of Joseph Letière Petit, Brandauer faces many of the same challenges as other long-established family firms. However, when a company's entire raison d'être is based upon highly specialised skills and knowledge, it can prove impossible to rely upon the family alone to provide its key manpower resources.





Representatives of the 3rd, 4th, 5th, 6th and 7th generations meet for their annual Family Circle gathering

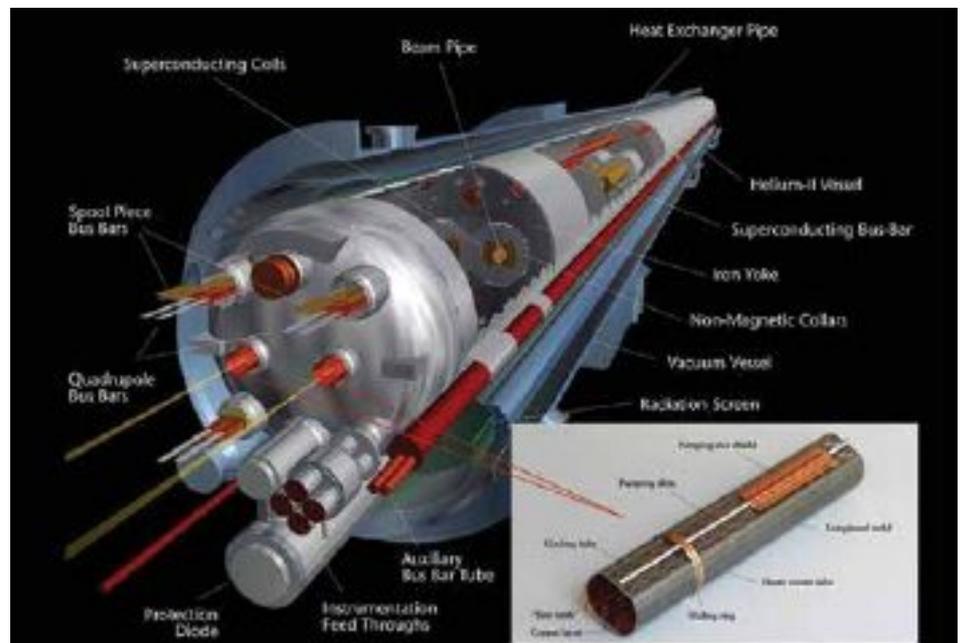
Brandauer accepted this long ago, with its first non-family appointment to the Board back in 1952. Today, the need to separate family ownership from professional operational management is exemplified by its two-tier structure. It is an arrangement that seems to suit Brandauer, recognising the distinction between responsible family stewardship and operational effectiveness, with the Family Board defining the overall vision and values of the Company, whilst leaving the executive directors free to manage the business as efficiently as possible and accountable for delivering on the key measures of performance.

When the Company was first formed, it was agreed that it should be "governed by the principles of frugality, order, confidentiality, carefulness in granting credit, the prompt demand of outstanding amounts and the similarly prompt satisfaction of received liabilities." Whilst those founding principles may have served the business well and contributed to its survival, the current statement of Vision, Values and Strategic Goals was arrived at by a process that would probably have been anathema to the founding fathers, with the emphasis very much on consultation and consensus, both across the family and amongst the workforce.

Communications have been transformed. If the business is to engage with a widely dispersed range of current and future shareholders, in order to secure their interest and involvement and, for some at least, their active participation in the future of the Company, then it is vital to communicate on an equal basis with everyone concerned.

Regular newsletters for shareholders, the wider family and the workforce alike, help to demonstrate a commitment to a genuine partnership approach, as well as keeping everyone informed. But communication must be two-way and there is an annual 'Family Circle' gathering, open to any family member of any age, designed to encourage discussion and debate on current and future business issues. These provide an opportunity for family members to express their views in an open forum and to question the Family Board and executive directors. The introduction of these sessions has encouraged much wider participation than in the past and having well-informed family members undoubtedly improves the prospects for recruiting future Family Board directors and avoiding any potential internal conflicts.

Keeping a family business alive in the modern world is no easy task. However, with a highly skilled, loyal and committed workforce, an outstanding management team and the support of family owners, Brandauer can look forward with confidence to an exciting future in the years ahead.



However, perhaps the proudest and most significant achievement of recent years has been the Company's involvement with the Large Hadron Collider at CERN, the European Organisation for Nuclear Research, one of the world's largest and most highly respected centres for scientific research. Its business is fundamental physics, finding out what the Universe is made of, how it was formed and how it works.

The Large Hadron Collider (LHC) is a gigantic scientific experiment, the world's largest machine, buried 100m beneath the mountains on the border between France and Switzerland, a particle accelerator designed to study subatomic particles, the ultimate building blocks of all things.

At the heart of the LHC are a pair of ultra-high vacuum beam tubes, running around the entire 27km circumference of the machine and along both sides of these two tubes are pumping slot shield strips produced by Brandauer (see picture left). They act as electron shields, protecting the LHC's 9300 superconducting dipole magnets



The largest of the 2,800 pressure relief springs produced by Brandauer and fitted to the Large Hadron Collider

from electron cloud effects inside the tubes. Without the pumping slot shields, it would not be possible to maintain these magnets at their operating temperature of an astonishing minus 271°C!

Following an incident in 2008, CERN engineers commissioned Brandauer to produce 2800 pressure relief springs. These are essential to protect the 27kms of LHC cryostats from over-pressure. The springs have two main functions. Firstly, they ensure that the flanges on the vacuum vessels remain tightly in place during



Brandauer's executive team (from left to right) Theresa Williams – Finance Director, Rowan Crozier – Sales & Marketing Director and David Spears – Managing Director

LHC operations. Secondly, they prevent the 1m diameter cryostat vessels from exceeding their internal design pressure in case of an accidental release of helium from the superconducting magnets.

Brandauer and CERN engineers worked together to design and test the springs before the four different designs were manufactured. The majority of springs are already installed and the remainder will be in place during the machine's shutdown in 2013.

The last word in this story of the first 150 years of a Birmingham family business, from pens to particle physics, can therefore be left to the most important person of all....a truly satisfied customer!

“Brandauer is one of very few high-precision presswork specialists in Europe with the necessary skills and technical capability to produce components that meet CERN's extremely demanding specifications.

The Company's contribution to the Large Hadron Collider demonstrates that small and medium-sized specialists such as Brandauer continue to offer world-class design and engineering services at the highest level and CERN congratulates Brandauer as it celebrates its 150th anniversary as a family business in 2012.”

Paul Cruikshank, CERN

Charles Brandauer and Joseph Petit would be very proud indeed to see how their partnership has evolved into a world-class, sixth-generation Birmingham family business. Hopefully, future generations will wish to make their own contribution, seeking new opportunities to develop the Company's potential.

Company Chairmen 1901 - 2012

Frederick Charles Brandauer
Joseph Letière Petit
Joseph Henry Petit
Charles Frederick Petit

Garth Petit
Charles Russell Petit
Harold Petit Rushton
Joseph Adrien Petit

David Abel Smith
John Patrick Berkeley

Directors 1901 – 2012

Charles Johannes Brandauer
Frederick Charles Brandauer
Joseph Letière Petit
Joseph Henry Petit
Charles Frederick Petit
Hermann Charles Brandauer
Joseph Paris Petit
Colin Petit
Garth Petit
Oliver Stanley Petit
Edward Augustus Gorton
Charles Russell Petit
Stanley Preston

Harold Petit Rushton
Anthony John Sheldon
John Karslake Mortimer
Henry Samuel Edwards-Jones
Joseph Adrien Petit
Ivor John Randell
Horace Tompkin
Michael Doughty
Alexander Walter Bruton
John Christopher Woodward
Clifford Hailey Ives
Robert Hasan Din

Adam Vivien Petit
Christopher Michael Griffith
John Patrick Berkeley
Marie-Louise Adrienne Petit
David John Spears
Carroll Foster Petit
David Abel Smith
Fiona Anne Alldridge
Paul Rummer
Steven Philip Webb
Theresa Wendy Williams
Rowan Edwin Crozier



Almost seventy-five years after the Brandauer family's involvement in the business came to an abrupt end with the outbreak of the First World War, Charles Brandauer's great-grandson Ernst was welcomed to the old factory by Joseph Letière Petit's great-grandson Adrien.

Seen here in the boardroom are (from left to right) Technical Director Bob Din, Chairman Adrien Petit, Ernst Brandauer, MD 'Tony' Edwards-Jones and Commercial Director Mike Doughty.

This historic photograph was kindly provided by Mrs Audrey Middleton, who worked for Brandauer from 1963 to 1993, first as secretary to Sales Director John Mortimer and subsequently as the Chairman's secretary.

In yet another Brandauer family link, Audrey's husband Norman recalls that his mother Beatrice Berkenhead, born in 1895, also worked for the Company as a young girl, probably around 1910 – 20 and lost the tip of one of her fingers in an accident with a hand press!

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