



Images: Julia Skupny

ENGINEERING *hallmarks*

By David Beasley



Three stages of punchmaking

In recent years the role of engineering services in the Goldsmiths' Company Assay Office has become increasingly important as costs are squeezed and the quality of customer service is continually raised. The decline in engineering skills throughout the country has been noted in the national press but here in the City of London they are on an upward curve.

The presence in the Engineering Department of Pat Geary and his team of three – Simon Jones, Daniel Love and James Richardson – provides an essential cog in the smooth running operation of the hallmarking services. Some say that Pat

has been here since this Hall was built! He has the steady, resolute and calm air of a man who is used to fixing intractable machinery and to constructing tools and punches from unbending steel. There is no engineering problem that cannot be solved!

In reality, Pat has not been here since 1835. He started a little later, in 1978, when he was apprenticed to the Deputy Master, the late John Forbes, and worked with Frank Salmon. Taken on as the first engineering apprentice, Frank and he were responsible for all of the machinery – marking presses, support tools and balances – in the Office. All

marking was undertaken by press machine or by hand. On Frank's retirement, Dennis McGrath came in and Pat was joined by a second apprentice, Richard Love, in 1980.

Pat's training involved day-release at college in Basildon where he took his City & Guilds Engineering course over a period of three years. Further skills were added with a one-year course in tool making at Dovedale College in Chelmsford. Pat came out of his time and gained his Freedom in 1983. He was in his element having a great passion for working with machinery to create tools. One can readily see the skill with

(Left to right) Pat Geary, James Richardson, Simon Jones and Daniel Love



which he manipulates the hard steel to shape punches and support mounts.

The engineers were housed for a while in glorious isolation in two Portakabins on the roof of Goldsmiths' Hall. The very steep wooden steps and the lack of cover in inclement weather were deterrents to the less hardy. The author remembers going there just once! Two pantograph engraving machines had a cosier existence finding shelter on the second floor. At the time of the major refurbishment of the Hall in 1990, the whole team was moved to the basement area where the great kitchen had been situated and where they remain to this day.

In David Evans' time as Deputy Warden, he recognised the potential in Pat and in the necessity for the Office to build up its level of skills in this area. In the mid 1980s, a Taylor Hobson 2D pantograph engraving machine was purchased and the engineers began to make sponsors' marks in-house. They were trained at the Birmingham firm of Brittain's Marking which made all the Assay Office punches for hallmarking such as the leopard's head and lion

passant. A few years later, as their skill levels increased, a 3D pantograph machine was acquired from Alexander in Mitcham and, in 1989, a die-sinking machine was bought. At this stage they were making the import mark for London – the constellation Leo – in 2D. Changes of personnel and the economic pressures of the early 1990s meant

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that by 1994 Pat was the only engineer remaining. His overtime went up phenomenally and he was under great pressure.

The first laser machines for hallmarking were purchased in 1998 and Pat had to go through a whole new learning curve. Fortunately two years later he was joined by Simon Jones, who became Pat's first apprentice, completing his apprenticeship through the Government's Modern Apprenticeship route. A further apprentice, Daniel Love, was indentured in 2007, and he is following the more traditional route for an apprenticeship.

Although the imported marks had ceased to be used, they were still making sponsors' marks. However Brittain's, which made the Office's official marks, ceased trading in November 2004 and Pat had to travel to Birmingham to ensure that a large vanload of the Office's master patterns were transferred safely to the punchmaker, Birmingham Marking Company, a subsidiary of the firm Frederick Follows. This arrangement was always of concern to the Office because only three of Brittain's engravers, capable of undertaking the skilled work, moved to Follows and there was some doubt as to the long term future. An initial approach to a German firm, H W Pickardt, although

Manager, and Pat began to consider using a laser machine for manufacture of the smaller 3D punches. After a considerable amount of research and development, a state of the art engraving laser from a German firm, acsys Lasertechnik, was purchased.

Installed last autumn, and using Delcam's ArtCam software programme for the design of the punches, the machine is now paying dividends. It is able to produce detail in the smaller punches at a superior resolution to pantograph engraving, and, with a multi-station punch holder, it is capable of working overnight, freeing up precious time in the day to finish the punches. Since January 2012, the Office has

promising, broke down when it became evident that it could not deliver on the quantity, and quality within the required time frame. Pat, in his usual practical way, decided to take on the work himself and from 2009 began to cut the Office punches. He started with the sterling mark – the lion passant - and some gold marks, mostly in 2D. At this time Birmingham Marking was still making the more complicated, smaller 3D punches.

With growing confidence in the success of the in-house process, the Deputy Warden, Dr Robert Organ, Will Evans, the Systems Development

been fully self-sufficient and will provide all the Office's official marks (560 per annum) and some 1,200 sponsors' marks.

Pat and his team have come a long way from their perch on the roof of Goldsmiths' Hall. Firmly ensconced within the Hall and the Assay Office their skills are now being more fully appreciated as we can see the care and attention taken in the making and finishing of these punches. Fashioned by hand from hardened steel, they are miniature works of art but are destined for a life of hard labour under the hallmarker's hammer!