theInterview

Gary Long of Class Glass

Gary Long is the proprietor of 'Class Glass, a long-established small family-run business headed by Gary with founder Laurie Wallace as consultant. They supply hand-crafted bespoke bevelled clock and instrument glass, barometers being a specialty. Glass is cut to size and shape and ground to a polished edge finish. Each order receives Garry's individual attention.

Q How long have you been cutting glass?

A Since 2001 when I agreed to buy Clock & Instrument Glass from my (now late, sadly) stepfather Laurie Wallace. I changed the name some years ago to Class Glass, believing to be less of a mouthful. I'm not totally convinced I was right though.

Q How did you become involved in the skilful art of cutting and shaping glass?

A I did an apprenticeship in engraving and die-sinking straight from school, starting in 1976 and qualifying in 1979 for Selman & Son in Old Street, London. The business was situated on the top floor of a four-storey building and was like a working engineering museum. There were bare floorboards and long axles mounted from the ceiling with belt driven machines. I started as the 'boy' so had to make tea, sweep up, and run errands. I learned from some very skilful and interesting characters with bags of experience. I was tutored in the art of hand engraving and die-

sinking letter heads and soap moulds, amongst other things. The skills I learned there were ideally transferable to glass bevelling.

Q What tools do you require to cut glass?

A A good quality hand glass cutter for straight and shaped cuts and circle cutters for round glass. Setsquares, cutting fluid, running pliers, and a solid cutting table are also essential. Keep plasters within easy reach too! I can go for months without a single injury but can also cut myself three times in an hour occasionally.

Q How do you bevel the edges of glass?

A I use several vertically mounted diamond wheels for roughing out my pre-cut blanks. These could be straight edge, round, or even shaped. I then move on to several diamond discs, of varying abrasive grades, laid on a 600mm diameter horizontal rotating wheel. The final process involves rotating wool discs covered in cerium oxide for polishing.

Q Is a lot of the work done by hand, what machinery do you use?

A All my work is hand crafted, that is to say, hand-held on machinery. This is where my initial training in hand engraving and die-sinking helps. The roughing out wheels are vertically mounted on an axle which is attached to a belt driven motor. Laurie built a few bespoke machines which I still use today. The finishing machine was purchased from Bohle. It's a purpose-built heavy-duty machine which I simply couldn't be without. I've adapted it so I can use a couple of different grades of abrasive discs of varying diameters at the same time, rather than having to change discs all the time.

I have two polishing machines. One is like a potter's wheel and the other is another contraption Laurie made up many years ago. It's still going! I'm training my youngest son with a view to him taking over from me at some time. He's already my master polisher on account that he's able to apply more pressure than myself to obtain a better finish.

Q How do you produce convex glass?

A Well, in a nutshell, you cut a piece of over-sized flat glass and bend it in a kiln. I used to buy in convex glass from material houses but often found them to be not deep enough. Then I learned of a chap that could make them so I got them from him. One day he phoned me to offer his hand-built kiln to me with tuition on how to bend glass. So I started producing my own convex and curved glasses but found that 50 percent of them came out with a milky hue to them. After some research, I discovered the reason for this and purchased an ultra-violet lamp which identifies the 'tin side' of float glass. Problem solved. I then purchased a new purpose-made kiln by Narbertherm which I still use today. I have had to make many repairs to the lid containing the element but it's a brilliant bit of kit.

Q Do you fit more glass to clocks or barometers. Which type seems to get broken more frequently?

A Flat and curved carriage clock glass is the most popular item I produce by virtue that there are normally five panes in each frame I suppose. I also make and fit a large number of barometer glasses to bezels and refit the original index hand. It seems so many people leave them behind doors! I once had the same one back three times in short order!

Q How do you drill glass?

A I use diamond-coated tubular drill bits. Nothing else will do. You have to drill from both sides to prevent chipping. They range from 1mm to 50mm diameter and fit into a pillar drill. It's best to use water as a coolant and adjust the speed depending on the size of bit used.

Q How do you measure and fit glass into a clock bezel?

A With the use of a steel rule or a Vernier gauge for smaller bezels. I cut the glass a little too big, grind, bevel, and polish (if required), then warm the bezel so it expands a little for the glass to 'snap' into place with an interference fit. This is the most delicate and dangerous procedure in the whole of the manufacturing process. I have broken dozens of finished glasses trying to 'heat shrink' them in. However, that's the proper way to fit a glass to a bezel, so I'll keep doing it where possible. Sometimes the bezel is just too untrue or warped to achieve this though.

Q What is the largest diameter of glass you can cut?

A The largest round glass I can cut is dependent on the limit of my circle cutter which is around 600mm diameter. In reality, bevelled glass for clock bezels of large diameters are few and far between, thankfully.

Q What has been the most difficult job you have been asked to do?

A Shaped bevelled glasses with inside curves are the most challenging. Shaped convex glass is also difficult especially if they need fitting to a frame. And, although I've seen YouTube videos of glass domes being reduced in height, I've never been successful in achieving this. Laurie used to tell me tales of his grandad and great grandad working under gas light producing dressing-table tops with 1in wide bevelled edges. I can only marvel as to the skill of these real craftsmen. I'm just an amateur compared to them.

Q Do you outsource at all, or do all the work yourself?

A I have outsourced work such as four-glass panels, requiring wider bevels than I'm comfortable doing by hand, to glass processors but usually I have to adjust their work so it will fit. I'm told the glass industry standard tolerance is up to +/-1.5mm which is completely useless when I'm dealing in tenths of a millimetre!

Q What are your hobbies and pastimes?

A I'm a racket sports player. I play league badminton, tennis and table tennis and I'm a qualified badminton coach. I love a good movie and I occasionally cycle—but not nearly enough. And walking the dog. I'm a bit of a fixer too. There's always something that needs fixing.