

# Making pendants from preloved gold – a case study

The original items:

Parent/Grandparent wedding rings.



Ladies 22ct gold ring, 'D' profile and Gents shaped 'signet' style 9ct gold rings. Both hallmarked the Gents ring is quite worn.

The brief was to create two pieces of jewellery for Mum and Daughter, that would incorporate the two rings. For Mum, using the 22ct gold and adding other elements to create a truly bespoke piece. For Daughter to use the 9ct gold to create a young but traditional design.

As the 22ct gold ring was in fair shape and a very pretty plain ring, we decided that the design should incorporate a slightly slimmed down version of the same profile of metal saving as much of the character of the original as possible.

The 9ct gold ring was quite worn and not suited to any particular design we had in mind, so the decision was made to melt it down, adding in as much metal as needed to allow us to create a pretty pendant.

Chosen for Mum:

Found on the internet (artist unknown), this basic design concept:



What draws the eye to the piece is the overall shape, utilising both gold and silver (here the silver is blackened to add contrast). The chain is also blackened (actually it is probably a wire necklet rather than chain). Hanging from the centre is a very shiny single pearl (which is possibly dyed).

To make this our own, we decided to lose the pearl, somehow it didn't really fit and looks slightly odd, spoiling the overall look of the piece. We also decided to use silver on the outside and gold on the inside, the 22ct would fit this purpose admirably. Lastly, a gemstone was needed to sit in between the two curved pieces of metal.

A very pretty pink (Mum's favourite colour I'm led to believe) 1.5ct Moissanite was chosen to be surrounded by a heavy silver setting. The whole ensemble would be completed with a 1.2mm sterling silver snake chain and figure eight clasp.

The construction:

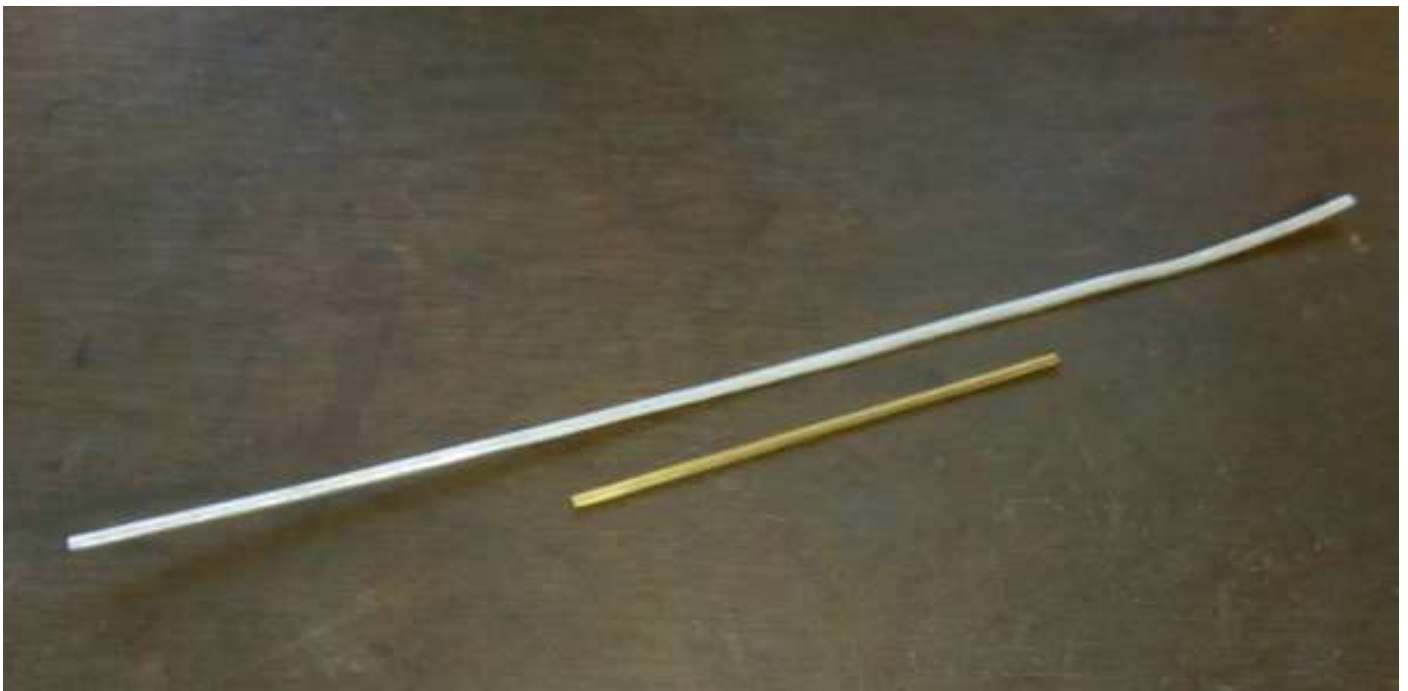
The first task was to find the original solder joint in the 22ct ring, this is achieved by heating the ring using a jeweller's torch until the metal begins to change colour (oxidisation), this is usually fairly slight with such a high carat gold, so the joint wasn't exactly easy to locate.

We had decided to keep the original hallmark, they would be squashed obviously but to keep the inference of the mark on the metal and not try to sand it off smooth.

The metal was annealed and straightened, rolled in the rolling-mill until the metal was approximately 3.5cm longer, the sides were hammered to make them stand out – giving a D profile with flat sides as these would be facing outward we wanted to make the side of the metal prominent.



A strip of sterling silver was given the same treatment, the profiles needed to match and the silver be a little longer as this was going to be the outer and therefore longest section.



Both pieces of metal were then bent into an arch to reach a similar profile. It was at this point we noticed that the stone setting would be perched on the bottom of the two arcs, which looked a little odd, so we mocked it up – having first made the outer bezel in fine silver for the stone and knowing it would sit

snugly inside, and suggested to Ann that we make the profile of the arch such that the stone would nestle between the two pieces of metal centrally and therefore fixed to both. This makes for a much stronger piece and actually looks much better.



After a little reshaping, to get everything lined up we made the stone setting using an outer thick piece of fine silver and an inner tall fine silver strip to make the second layer (this holds the stone in place) and finally an inner band to keep the stone steady. Finally, we begin soldering the three pieces together.





The 'T' pins are pushed into the Jeweller's soldering block allowing us to hold everything steady. Once the first two elements were soldered together, we pushed in the gold using the natural spring of the metal to hold it in place, meaning we didn't need to use the pins this time.



Now we get all the oxides, flux and gunk washed off.

The next job was to fashion a simple bail to hold the chain, ensuring it slid along easily and was firmly fixed to the outer arch. The bail was inset into the metal to give more surface area for the solder and make a stronger joint.



All clean and ready to fit the chain and give it a polish!

The chain was made from a section of 1.2mm round snake chain in sterling silver, the ends were fitted to allow us to add a clasp and closing mechanism. As we didn't have a really suitable place on the actual pendant where we could fit a visible hallmark, we opted for a small patterned tag that sits beside the jump ring closure.



After going to Birmingham Assay Office for a hallmark which depicts our Firedrake Jewellery makers mark (Fd), the mark 925 for Sterling Silver and the mark 916 for 22ct Gold plus a lower case letter for the year (v) 2020, we gave it another polish, patterned the outer rim of the bezel and set the moissanite.

Note: just prior to setting the stone, the original intent had been to chamfer the ends of the wires to a point where they meet. This would have meant a) losing the remains of the original hallmark and b) losing gold. It was decided to leave the ends as is, simply rounded off.

Moissanite: cited from [Wikipedia.org/wiki/Moissanite](https://en.wikipedia.org/wiki/Moissanite)

*“Mineral moissanite was discovered by Henri Moissan while examining rock samples from a meteor crater located in Canyon Diablo, Arizona, in 1893. At first, he mistakenly identified the crystals as diamonds, but in 1904 he identified the crystals as silicon carbide. Artificial silicon carbide had been synthesized in the lab by Edward G. Acheson just two years before Moissan’s discovery.*

*The mineral form of silicon carbide was named moissanite in honour of Moissan later on in his life.*

*Moissanite was introduced to the jewellery market in 1998 after Charles & Colvard, formerly known as C3 Inc., received patents to create and market lab-grown silicon carbide gemstones, becoming the first firm to do so. By 2018 all patents world-wide had expired. Charles & Colvard currently makes and distributes moissanite jewellery and loose gems under the trademarks Forever One, Forever Brilliant, and Forever Classic. Other manufacturers market silicon*

carbide gemstones under trademarked names such as Amora. In many developed countries, the use of moissanite in jewellery was controlled by the patents held by Charles & Colvard; these patents expired in August 2015 for the United States, 2016 in most other countries, and 2018 in Mexico.

Moissanite is regarded as a diamond alternative, with some optical properties exceeding those of diamond. It is marketed as a lower price alternative to diamond that also claims less exploitative mining practices. Some of its properties are quite similar to diamond. Testing equipment based on measuring thermal conductivity in particular may give deceiving results.

On the Mohs scale of mineral hardness moissanite is rated as 9.5, with diamond being 10 (by definition). In contrast to diamond, moissanite exhibits a thermochromism, such that heating it gradually will cause it to change colour, starting at around 65 °C (150 °F). A more practical test is a measurement of electrical conductivity, which will show higher values for moissanite. Moissanite is birefringent, which can be easily seen, and diamond is not.

It has ultraviolet fluorescence of orange-red and will decompose at 2730 °C. It is not radioactive and not magnetic.”

The finished piece.



Chosen for Daughter:



This design, actually a Firedrake made stud earring in Britannia silver where two same sized pieces of sheet metal are cupped and soldered together to form a cushion design, with a small tube attached at the bottom for a stone setting. Shown here with the stone chosen for the pendant.

For this piece, the cushion size was increased to 1.7mm approx. The bail would be inset into the back of the pendant so it looks as though the cushion is floating in the fine 9ct gold chain chosen for the piece.

The design intent was to use the same overall design but a different and more organic pattern, simply because it is not possible to roller pattern 9ct gold as this Britannia has been.

The first task was to melt down the 9ct gold ring and add a little extra 9ct gold to make sure we had enough to work with.

So, melted into a rectangular divot in our hard-charcoal block.



You can still see the heat halo around the metal, which has been covered with flux to assist the melt.



Cleaned up ready for some hammering and rolling.



Now the fun part, rolling it until it fits the size we need.



Have cut, shaped and patterned using a ball peen hammer, the metal was annealed again so we could gently cup it to give it a cushion profile. Then all soldered together – well at the four corners!



To hold the bail, we created a channel in the back where a piece of 9ct gold tube could be fitted. This was also soldered in.

Back



Side view showing half of bail



Turning our attention to the stone setting, we made a channel at the bottom corner and made a tube setting for the topaz.



Soldered, now before pickling – showing how black 9ct gold gets when it's been heated (that's the copper content to blame)



Now, it's off to Birmingham Assay Office for a 9ct hallmark (reads 375), our makers mark (Fd) and the year (v) 2020.



After being returned, we give it a good polish and fit the blue topaz stone

Topaz: cited from [Wikipedia.org/wiki/Topaz](https://en.wikipedia.org/wiki/Topaz)

*“Topaz in its natural state is a golden brown to yellow – a characteristic which means it is sometimes confused with [citrine](#), a less valuable gemstone.<sup>[5]</sup> A variety of impurities and treatments may make topaz wine red, pale grey, reddish-orange, pale green, or pink (rare), and opaque to translucent/transparent. The pink and red varieties come from chromium replacing aluminium in its crystalline structure.*

*Imperial topaz is yellow, pink (rare, if natural) or pink-orange. Brazilian imperial topaz can often have a bright yellow to deep golden brown hue, sometimes even violet. Many brown or pale topazes are treated to make them bright yellow, gold, pink, or violet coloured. Some imperial topaz stones can fade on exposure to sunlight for an extended period of time.*

*Blue topaz is the state gemstone of the US state of Texas. Naturally occurring blue topaz is quite rare. Typically, colourless, grey, or pale yellow and blue material is heat treated and irradiated to produce a more desired darker blue.*

Add the chain. All finished!

