

# A GERMAN SP

## Part 1: The d

The title of this article was originally going to be 'An Unusual German Alarm', but I decided not to use this as it is only unusual to a non-German horologist and it has many features that are likely to be unfamiliar to most readers of *CLOCKS* magazine. But that is why horology is so interesting and by widening our horizons it is soon realised that there are many different types of clock other than those we often read about.

The timepiece with alarm shown in figures 1 and 2 would have been used in a bedroom to wake the occupant in the morning, and like most alarm clocks it needs winding every day. The original hands are brass. It has many features that would not be found on a British, French, Dutch or American clock, nor from anywhere else other than southern Germany. These features include the repoussé dial, the cow-tail pendulum, the sheet-iron case, an early type of Geneva stopwork and especially the standing spring barrels.

This clock was probably made near Augsburg in the late eighteenth century. The Bavarian city of Augsburg has

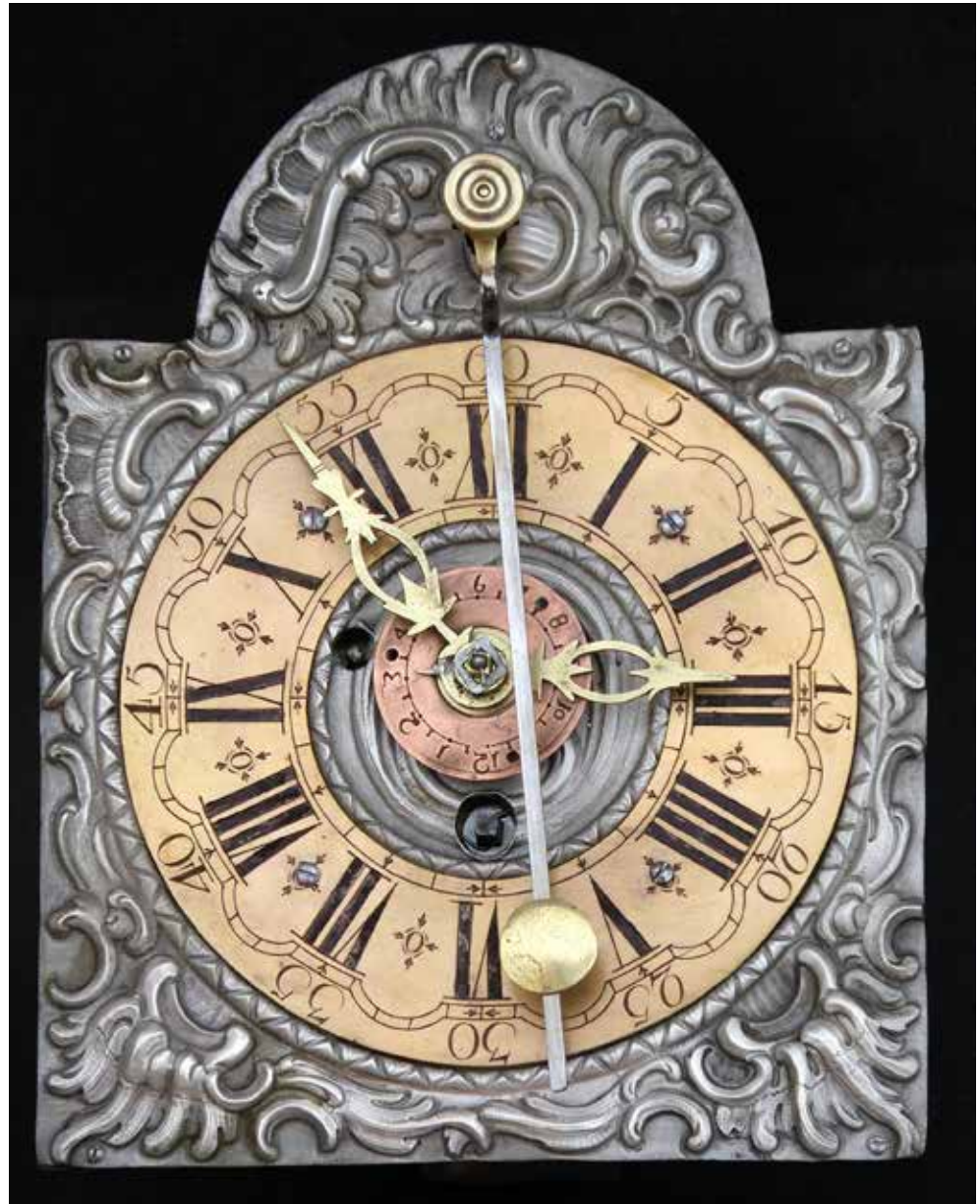
---

by John Robey, UK

---

been a leading centre for goldsmiths and silversmiths since medieval times and was noted for its fine clocks, especially those with astronomical dials in gilt cases. Many clockmakers and watchmakers moved to the nearby small town of Friedberg, yet still signed their work as being made in Augsburg. This was to give the impression that they worked in the much larger city with its reputation for very high-quality work. But more affordable items were also made in the area, and while it is not possible to say with certainty exactly where this clock was made, it is likely to be somewhere in this region.

The arched dial is only 135mm (just over 5¼in) wide and 174mm (6¾in) tall and has a composite construction. It is made of a thin silvered brass sheet about 0.6mm (0.023in) thick with a thicker supporting iron backing sheet that varies from 0.6mm to 1.1mm (0.023 to 0.043in) thick. A similar but larger version of this alarm is shown in figures 3 and 4. This has a more elaborately shaped rococo



dial and is 270mm (10½in) tall. The movement, which is without a cover, is almost identical, just scaled up in proportion to the dial. It may date from the mid-eighteenth century, but this design was made over a long period, even into the nineteenth century, so it is wise not to be too specific when dating it.

This type of dial and movement was also fitted into bracket clocks. The one shown in figures 5 to 7 is in a small ebonised case 38.5cm (15in) tall,

*Figure 1. Small German timepiece alarm with a silvered repoussé dial, a gilt copper chapter ring and a cow-tail pendulum.*

including the handle, and 23cm (9in) wide. The small dial has a one-piece silvered chapter ring and centre engraved with a star pattern, while the same type of movement is used, this one being just a timepiece without an alarm. Repoussé dials were not only fitted to these rather

# SPRING ALARM dial and case



Figure 2. The movement is enclosed in a tinplate box leaving the crownwheel and verge escapement exposed.

basic timepieces but they were also used on quality three-train bracket clocks, where the dials can show a great deal of fine detail and may be gilded as well.

The arched dial of **figure 1** has a brass sheet covered with repoussé rococo C-scrolls and acanthus leaf decoration.

This type of repoussé dial was initially used on *Telleruhren* or plate clocks, which have very large round, oval or shaped dials, often with very small simple spring timepiece movements. These wall clocks first appeared just after the introduction of the verge pendulum about 1660 and are another type of clock that is rarely seen outside Germany. The earliest of these dials were made by hammering from the rear using punches, with the metal being supported on a block of pitch.

Great artistic and metalworking skill was needed and no doubt they were very expensive.

During the eighteenth century the design was produced using two-part male and female dies, probably in conjunction with a large fly press, in a similar manner to the mass production of the dials for French Comtoise clocks. Since these dies would not be cheap to produce, one would expect to find several examples of each design to have survived, but virtually every dial illustrated in various publications appears to be different.

The small dial of this alarm was rather tarnished as the original silvering had been polished off, but removing the chapter ring confirmed its original silver finish. The process used would have been fire-silvering with an amalgam of silver metal dissolved in mercury. The amalgam paste would have been rubbed into the dial's surface then heated to drive off the mercury to leave a coating of silver.

This is exactly the same method as employed for fire gilding using silver rather than gold. The fatal consequences

---

## Part 1 of 3

---

of working in an atmosphere contaminated with mercury fumes are now more fully appreciated—gilders did not live to a ripe old age—and nowadays the process can only be carried out legally under very strictly controlled conditions. In view of this the dial was carefully cleaned using abrasive rubber blocks (available under the trade name of Garryflex) of various grades. They can be shaped with a sharp knife to get into the nooks and crannies of the raised design. The cleaned surface was then chemically silvered using the same method used for the chapter rings of longcase and other clocks.

The chapter ring and the repoussé dial are held on to an iron supporting sheet with small screws, as is usual on Continental clocks. The chapter ring has an arcaded minute band, often regarded as a Dutch feature, but it is commonly found on German dials and sometimes on English ones as well. The copper ring had been gilded, but since some of this had been worn away it was cleaned



Figure 3. A larger example with an elaborately shaped rococo dial.



Figure 4. The movement is almost identical, but larger.

and electrolytically re-gilded. **Figure 8** shows the finished dial.

Removal of the front of the dial during its restoration revealed a surprise: the hidden surface of the iron support plate appears to be part of a painted dial, **figure 9**. The painted surface is quite badly damaged, probably done before it was re-used on this clock, rather than due to deterioration over the last two centuries or more. As a result it is not easy to see exactly what is depicted, despite some digital enhancement of the image.

It is the lower left-hand corner of a dial, with a yellow border along the bottom edge and a wider one with a narrow green stripe on the left. In this corner is a small subsidiary dial only 42mm (1<sup>5</sup>/<sub>8</sub>in) diameter with 5-60 round the outer edge and I-XII on the inside. At the top is an off-white circular area with only a 40-minute numeral surviving, bordered on the inside by a red circle and a smaller one towards the centre. There is yellow and red paint between these two circular areas, but it is not possible to discern any pattern or decoration.

The re-use of this painted iron sheet raises several questions with few answers, and, as often the case in horology, we have to rely on speculation. First, we have to consider the supply

chain for the different components that make up this type of dial: the repoussé work, the chapter ring and the support plate. Repoussé work was not only used for clock dials, but was a popular form of decoration for a wide range of objects: containers of all kinds, mirrors (both wall and hand), clothes and hair brushes, wall plaques and all manner of items where a bold design was needed. The sheets of repoussé decoration would be made by specialist manufacturers who supplied the makers of the various types of items, including dialmakers.

The chapter ring of this clock is very thin, only 0.2-0.6mm (0.008-0.024in) thick, so it would have been cut from sheet copper not a casting. The variable thickness suggests that it had been beaten from a slab rather than being rolled, which would have produced a much more uniform thickness. After engraving the chapter ring both it and the repoussé sheet were then sent to be gilded or silvered, as appropriate. In cities such as Augsburg there was a clear demarcation between the various trades and a member of one guild could not infringe on that of another.

It is tempting to think that a clockmaker (or any other craftsman) made everything himself, but this romantic situation was not the reality. For instance, the elaborate

gilt-brass case of a Renaissance clock was never the work of the clockmaker, who, apart from specifying the size of the dial and movement, played little part in its actual production. Instead it was the work of the pattern maker, brass founder, chaser, engraver and gilder, and each of these would concentrate on work related only to clocks. So one founder would specialise in casting parts for clock cases, while another would produce castings for door handles, and so on. And the same applied to engravers; clock engravers would be familiar with the designs required on chapter rings and clock dials, while others would engrave fine silver wares. This was not confined to Germany and in 1747 R Campbell's book *THE LONDON TRADESMAN* stated:

*'There are various sorts of founders: founders who only cast for the braziers; founders who only cast for the coach-makers; and those who cast buckles, studs, and bars for sadlers; and several other sorts of founders, who all work after the same manner and upon the same principles; but apply themselves to particular branches, for no other reason, but they are not furnished with moulds for other articles; thus the founder who casts candlesticks and brasses for stoves, &c. is furnished with moulds and*



Figure 5 (above). Ebonised bracket clock with a repoussé dial.



Figure 6 (above right). Dial of the bracket clock with a silvered chapter ring.



Figure 7 (above far right). Timepiece movement of the bracket clock without an alarm.



Figure 8 (right). The dial of the bedroom alarm after cleaning and silvering and with the chapter ring re-gilded.

*instruments proper to these articles, and if he is desired to cast a buckle in the coach-maker's way, he cannot do it; not that he is ignorant of the manner, but because he must make a mould for that purpose, which is not worth his while, unless he had several customers in that branch.'*

It is actually not the mould that was specific



Figure 9. The iron plate supporting the repoussé dial has been painted to resemble a clock dial.

to each type of item, but the pattern from which the mould was made in sand. In the nineteenth century this specialisation increased to such an extent that individual founders in Birmingham specialised in items such as buckles, ink pots and even brass dog collars.

Which brings us back to the painting on the back plate of the dial. Close inspection reveals that the painting does not appear to be part of an actual dial. While the large chapter ring looks convincing enough, the small one in the corner is a different matter. Firstly, there is no hole for hands, and secondly why would any dial as small as this show what are ostensibly hours and minutes? I know of no German painted dial that has a subsidiary dial in this position.

Could it have been used as a test piece or practice painting? If so is it likely that the dialmaker would be supplying both repoussé and painted dials? Even if the painting had been done as part of an actual dial (which seems unlikely) there would not have been a ready supply of scrap dials waiting to be re-used. It is most likely to be an isolated example. If it is a practice piece, as suggested, then this would imply that the dialmaker was also producing painted iron dials as well as repoussé dials and no doubt more conventional brass dials having cast-brass spandrels and other ornamentation as well. But now we are encroaching into speculation without much real evidence.

The case protecting the movement is a simple tinplate box with soldered seams, glass side windows and a single strut at the back to allow the clock to sit upright on a table, **figure 10**. Two small tabs hold the case to brass posts on the iron back plate with taper pins, so that it is easily removed. There is a hole at the rear in line with the screw that holds the hammer support to the back plate, but there does not appear to be any reason why this screw needs to be accessed with the case in position. A cut-out in the top allows the supports for the verge escapement and the alarm hammer to sit outside the case, protected only by the small bell.

In Part 2 of this article I will look at the movement and describe the features that are quite different to what would be found on a British night-time alarm clock. 🏠



Figure 10, The tinplate case with glazed side windows and a single foot.