

HAMMER MARKS AS A DIAGNOSTIC METHOD IN HOROLOGY



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DUE to the lack of evidence, documentary or otherwise, much of what is written about horology, especially the clock trade and who made the dials, movements, etc., is speculative, often based on very sparse information. One important question is: who made the brass dials for longcase and bracket clocks? It is sometimes said to have been the maker of the movement, while during the second half of the eighteenth century specialist dialmakers are likely to have supplied them to clockmakers, but firm confirmation is lacking. Evidence has recently been seen that positively identifies the maker of a seventeenth-century dial as the same person who made the movement. As the investigative technique used has not been recorded before, it is presented here as another method of furthering horological knowledge.

Although the dial (Fig. 1) is unsigned, it can be dated on stylistic grounds to about 1680, and is probably London work. The front plate of the movement (Fig. 2) has been heavily planished, with the hammer marks not filed or smoothed off. As the front plate was not readily visible once the dial was in position, it

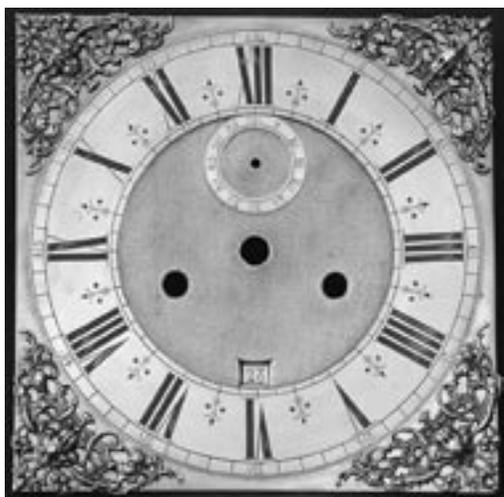


Fig. 1. Unsigned dial of an eight-day clock of about 1680



Fig. 2. Front of the movement with hammer marks clearly visible.



Fig. 3. Detail of two of the marks made by a hammer with a chip or other fault on its working face, on the top left-hand corner of the movement.

was often left in this unfinished state, although the best clockmakers fully finished all surfaces of the plates.

Close inspection of the front plate shows small raised marks, approximately oval in shape about 5 x 2 mm, distributed at random over the surface (Fig. 3). As well as at least twenty-seven examples of this mark on the front plate (Fig. 4), it also occurs more than eighty times on the rear of the dial sheet (Figs 5, 6, 7), and about twenty times on the rear of the chapter ring (Fig. 8). It only appears three times on the date ring, as half of its width has been reduced in thickness by filing. There are no marks on the rear of the seconds ring, as this has also been reduced in thickness by filing. These marks have been caused by a pit or other fault on the face of the planishing hammer, which has left an

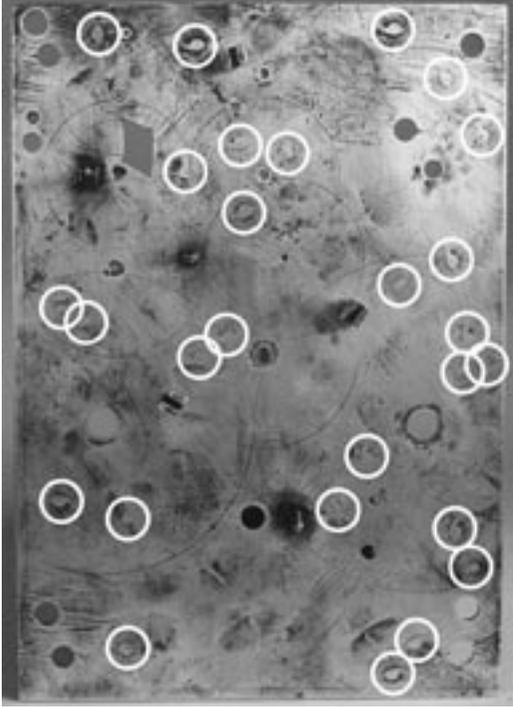


Fig. 4. Movement front plate with at least twenty-seven examples of the hammer impression, each marked with a white circle.

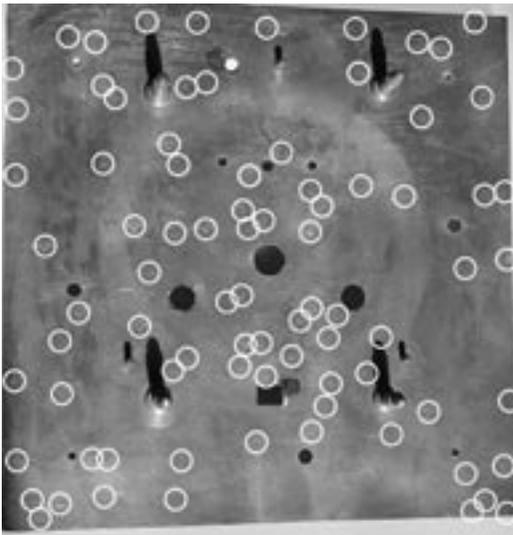


Fig. 5. Although difficult to distinguish on the photograph, the dial sheet reveals over eighty examples of the same hammer mark as that found on the movement.

identifiable impression at every blow. They *prove* that the same hammer was used to planish the movement front plate, dial plate, chapter ring, and date ring. This tells us that:

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Fig. 6. Detail of hammer marks near the left-hand edge of the dial.



Fig. 7. A group of hammer marks at the bottom left-hand corner of the dial.

A the dial originally belonged with the movement (not that there is any doubt in this instance)

B the same person (or at least men in the same workshop) hammered the movement plates and dial, and this was probably the clockmaker, as yet unidentified. It also infers that the workshop was small with only one hammer for planishing both dials and movements.

In this instance it can be said with certainty that the clockmaker also made the dial. He probably also matted the centre, using a spiked roller tool (the marks can be seen under the chapter ring, Fig. 9), although there is no *proof* of who actually did the matting. The engraving of the chapter, calendar and seconds rings may have been done by a specialist engraver, rather than the clockmaker, but as usual, there is no means of confirming this.

Due to the use of an imperfect tool the clockmaker has left his 'thumbprints' or



Fig. 8. The same hammer mark on the rear of the chapter ring. As well as the flat-faced hammer with its fault, the chapter ring has also been heavily beaten with a narrower peening hammer.

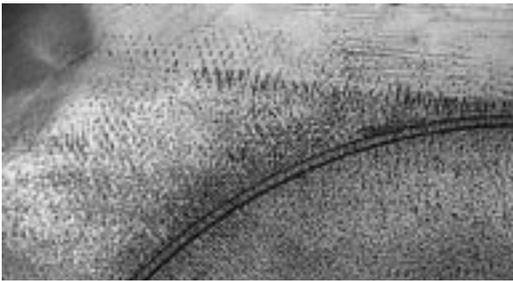


Fig. 9. Marks on the front of the dial made by the overrun of the matting roller underneath the chapter ring.

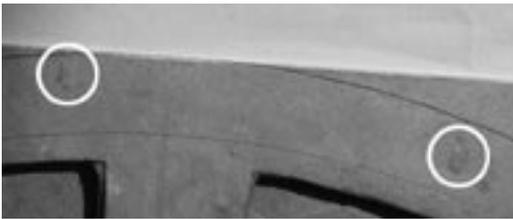


Fig. 10. Rear of a dial by John Dumvile of Alderley, Cheshire, showing two impressions from a fault on a hammer head.

'signatures' on some of the components of his clock, which, fortunately have not been removed by subsequent finishing. Close inspection should be made of other dials and movements where the hammer marks are visible, to see if faults on the hammer face are present. Positive evidence of the same marks on the dial and movement (as in this instance) prove that the clockmaker also prepared the dial. Negative evidence, where characteristic hammer marks appear on one, but not on the other (provided that both have visible hammer marks that have not been smoothed off, and there is no evidence of a marriage of dial and

movement) is equally revealing. This indicates that the dial and movement were planished by different hammers, and by inference the dial was made by a different worker, who might be one of a number of men in a large workshop, or more likely, a specialist maker of dials.

The discovery of these same hammer marks on a signed dial or movement (admittedly a remote chance), would identify the unknown clockmaker. This would vindicate the use of hammer marks as a diagnostic method, not only to discover more about trade practices in the seventeenth and eighteenth centuries, but also as a means of identifying an otherwise anonymous clock. At present reliance has to be put on stylistic features of the dial and movement, which are typical of the period, but if these hammer marks can be attributed to any particular clockmaker the author would be pleased to learn of his identity.

Although not every dial and movement with hammered plates is likely to show identifiable hammer marks, this example is not unique. A dial signed by John Dumvile, Alderley, Cheshire, about 1760 has similar but slightly smaller hammer marks (Fig. 10) on the rear of the dial sheet and chapter ring. Despite the fact that the movement is not the original one, some conclusions can be drawn, in particular the fact that the same worker prepared the dial sheet and chapter ring. The chapter ring was not, in this instance, supplied as a separate item to be added to a dial sheet made by the clockmaker, as is sometimes suggested.

The hammer faults on the Dumvile dial stand proud of an otherwise flat and smooth surface. Hence the rear of the dial and chapter ring have not been filed or abraded to give a smooth surface, which has been achieved simply by skilful hammering. The chapter ring has 'twisted leaf' half-hour markers, typical of dials from the Manchester area, where this one was probably engraved. The discovery of similar marks on the rear of other brass dials from this region would indicate specialist makers who supplied them to clockmakers.

An examination of hammer marks show that the dial of the seventeenth-century clock was made (but probably not engraved) by the clockmaker. The dial of about 1760 may have been bought from a specialist maker, but further examples need to be studied before any general conclusions can be drawn.