FROM LANTERN CLOCK to longcase



rom about 1590, when the first prototype domestic locks were made in Britain, to about 1660, when the pendulum was introduced to clockwork, the only clocks available were lantern clocks. Then the first longcase clocks and spring-driven clocks appeared, and like most new innovations they were aimed at the wealthy. Those of more modest means could have their lantern clocks converted to use a pendulum, though still using a verge-and-crownwheel escapement.

With a short pendulum of about 0.5 second beat, timekeeping was transformed from daily variations of about 10-15 minutes a day to a few minutes a week. When the anchor escapement and a long pendulum were introduced in the 1670s by William Clement in London, timekeeping to a



Figure 1. Simple oak and elm 'coffin' case, made about 1710.

minute or so a week was possible, and a longcase clock became the must-have item in fashionable households. Lantern clocks were regarded as out of date by the start of the eighteenth century.

Those who could not afford a new longcase clock had an alternative convert the escapement into an anchor with a long pendulum, replace the dial and fit them into a purpose-made case. The quality of the new dial and case depending on the depths of their owner's pockets. This is exactly what has happened with the clock discussed here. The new dial and case show little of the sophistication of a longcase clock made for a prosperous merchant in a large city, but for a trader in a small market town or even a yeoman farmer, though certainly not an agricultural labourer.

The slim rustic oak and elm 'coffin' case is 6ft 9¹/₂in (2.07m) tall, with ••••



Figure 2. The simple hood has no mask for the dial and iron butterfly hinges on the hood door. The original iron H-hinges on the trunk door pass underneath the D-section moulding and are fixed using nails.



Figure 3, The movement hangs by its original hoop and spikes from a very sturdy forge iron hook fixed to the thick backboard. The trunk sides stop below the top moulding and there is nothing to stop the hood toppling forward when the glazed door is opened.



Figure 6. Unusual movement bars with T-shaped ends to the arms and standing on two legs.

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Figure 4. Unsigned dial engraved with naïve flowers and leaves.

Figure 5. The striking greatwheel arbor and the pinion-of-report.

the trunk 11in (28cm) wide and 7¹/₄in (18.4cm) deep, with the very long door extending almost the whole length of the trunk, **figure 1**. The door has a D-section moulding along all its edges. The H-hinges and door sliding latch are all made of wrought iron. The hinges pass under the D-moulding and are fixed to the door by their original nails, whereas there are later screws where they are attached to the trunk.

As the movement plates are 6½in square, about ½in larger than a normal lantern clock, the case has had to be even deeper than one made for a regular posted-frame 30-hour longcase clock. The original hoop and spikes were used to hang the movement from a very hefty forged iron hook fixed to the thick backboard. To avoid the case being excessively deep the hoop was moved forwards on the top plate, but the spikes were not reduced by the same amount.

So that the dial and movement hang vertically, blind holes were drilled in

Since there are no side cheeks where retaining strips are usually fixed, there is nothing to stop the hood from toppling forward.

the very thick backboard. It would have been so much simpler and easier to saw off part of the tips of the spikes. The sides of the trunk do not extend upwards to form the usual cheeks to support a seatboard, but they stop short below the top section of moulding. These features all confirm that the case was purposemade to suit this movement.

The hood construction has many characteristics of a rustic case, figure 2. There is no mask round the dial, and the sides are only prevented from splaying out by a wooden strip below the dial. There are very simple concave top mouldings, and there is no frieze. Since there are no side cheeks where retaining strips are usually fixed, there is nothing to stop the hood from toppling forward when the glazed door is opened, figure 3. The casemaker was probably a local joiner who had seen a longcase clock but had not seen it with the hood removed. So when he made his first one he had not foreseen some of the ----

Figure 7 (right). Chain pulley with double spikes.

Figure 8 (centre). Rear of the hour wheel and starwheel with an unusual shape.

Figure 10 (below left). Front of the movement with the integral finials and feet cut off. Later 12-hour and 24-hour wheels to operate the calendar ring. Note the gap in the right-hand pillar to clear one of the lugs supporting the calendar ring.

Figure 11 (below right). Movement rear showing the iron countwheel, the original hoop and spikes, and later iron bell stand.

practical details that have to be considered.

The 'new' 9½ in (240mm) square brass dial, **figure 4**, is unsigned and has engraved bold flowers and leaves in a charmingly naïve style, cast brass



twin-cherub-and-crown spandrels, with the chapter ring held by two small rivets. The half-hour markers are of the meeting arrow heads design, and there is a square aperture for a daily calendar—all this confirming a date of about 1710. Despite its apparent naïvety it is well proportioned and eagerly sought after by those who appreciate and collect early rural clocks. The frame of the movement clearly

shows that it had been made in





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the West Country, probably in Bristol or Somerset. Lantern clocks made in other parts of England have separate finials and feet that screw on to the ends of the pillars, whereas West Country clocks have the finials and feet cast integrally with the pillars. So instead of the plates being sandwiched between the pillar and finial or foot, they fit into slots cut in the square bases of the pillars and are held by taper pins. This method was used on some early London lantern clocks and Figure 9. Front of the hour wheel with a steel friction spring for hand setting, and a 12-hour wheel to drive a 24-hour calendar wheel.

Figure 12 (below left). Left-hand side of the movement, showing the undecorated hammer spring and a simple stop.

Figure 13 (below). Right-hand side showing the striking arbors and the later anchor escapewheel.

adopted about 20 years later by Bristol and Somerset clockmakers. Whereas integral finials, pillars and feet were soon abandoned by London clockmakers, they became the standard construction in the West of England.





When it was originally made as a lantern clock, probably about 1680, it had a verge escapement and a short pendulum. About 1710 it was converted to an anchor escapement and long pendulum. Lantern clocks with a balance escapement often also had the twicedaily winding increased to a full day duration. This involved changing the four-pronged pinions-of-report to eight leaved pinions, with an extra slot cut in the locking hoop and the number of hammer pins doubled.

At the same time a Hygens endless rope or chain was usually fitted. But since this clock started life with a verge escapement and a short pendulum it already had a 30-hour duration and a Huygens endless chain, so no further conversion was necessary. The conversion to an anchor escapement would have taken place when it was housed in its present case

The feet and finials were sawn off and the bell strap and side doors removeduseful scrap brass for remelting-and an iron bell stand fitted. A once-a-day calendar was added, though calendars of any type are very unusual on lantern clocks, and not particularly common on other English posted-frame movements. A cut-out in the right-hand front pillar was necessary to provide clearance for one of the calendar ring supports.

There are several other interesting and unusual features, such as the shape of the movement bars. The arms of the front and rear bars have T-shaped ends to support the strikework and hammer arbors, figure 6, rather than the more usual upturned and downturned ends. The lower ends of all three bars are shaped like short legs. Similar bars were used by some Somerset clockmakers, such as Thomas Veale of Chew Magna, but they are not exactly the same as these.

An empty square hole can be seen

in the upper front bar; this is where an extended chapter ring lug was once pinned to hold the original dial. This is another feature that was used on some early London lantern clocks for a short period, and later used by some West Country clockmakers. Another West Country feature is the method of fitting the bars to the top plate. Instead of the more usual wedge, a small slot in each bar slides over a brass block with an end stop, riveted underneath the top plate, and held by two taper pins.

When the movement was converted to an anchor escapement the crownwheel of the original verge escapement was removed, and the contrate wheel replaced by a 45-tooth escapewheel—50 per cent more teeth than usual. The pallet arbor of the anchor escapement pivots between iron cocks, while the pendulum hangs from small brass chops fixed to the backcock.

The starwheel to let off the hourly strike has an unusual shape, with

straight arms instead of the more usual curve on the lifting side and an undercut straight dropoff side, figure 8. On the front side of the hour wheel a 20-tooth wheel has been added to drive a 40-tooth wheel, to advance a once-a-day calendar ring behind the dial, figure 9. The complete movement is shown in figures 10 to 14. where some of the details mentioned can also be seen. This clock is

a good example of how the movement from an old-fashioned lantern clock was re-purposed to turn it into a longcase clock for a rural customer who might not have



Figure 14. Top plate with the later bell stand, anchor escapement and iron cocks. Empty holes indicate the positions of the lantern clock frets, side doors, and the original position of the hoop.

The striking train is unaltered and has its original six-pronged pinion-of-report filed from the greatwheel arbor, **figure 5**, and an iron countwheel. The clock is driven by a Huygens endless chain, with double spikes on the pulleys to hold the outside of the links, rather than the more usual spikes passing through the links, **figure 7**. been able to afford a completely new clock. It also shows that conversions are often more interesting than the original lantern clock and frequently have a fascinating story to tell.

The different methods that have been used to improve the timekeeping of both balance lantern clocks and those with verge pendulums is an interesting study, with further details in an article 'Lantern clock conversions—a technical survey', *ANTIQUARIAN HOROLOGY*, March 2025, with a free download on the Mayfield Books website: www.mayfieldbooks. co.uk.