

Key-wound Thirty-Hour Clocks

Brian Loomes ponders the origins of some unusual variants of a provincial standby



1. The John Beech key-wound thirty-hour clock in its original oak case, made about 1730.

THIRTY-HOUR clocks from the earliest times were wound by pulling up a weight on a rope or chain – even the very earliest chamber clocks and lantern clocks, and, later, longcase clocks. The pull-wind system was simple and efficient – no key to search for or lose, so simple a child could wind it, in fact virtually customer proof. Initially a single rope and weight (with a counter-weight at the other end to keep the rope under tension in the ratchet groove) was used for each train – going and striking. By the time the pendulum was introduced (1658) the Huygens continuous rope system had also arrived, which meant that both going and striking trains could be wound simultaneously with the one pull.

But Huygens pull winding also achieved a built-in maintaining power, which kept the clock running during winding. With a key-wound clock the drive action is temporarily removed during winding, and some key-wound longcase clocks can be seen to tick *backwards* during winding, something which can be very disturbing the first time a novice notices it, but in fact does no harm to a normal anchor escapement.

Even after the arrival of the continuous rope system a few clockmakers opted to keep two separate ropes for thirty-hour clocks, especially for lantern clocks. There were one or two possible reasons for this. One was to keep the weights balanced equally at either side, when a single badly positioned weight might cause a hanging wall clock to slew to one side, though this was a minor problem as the single weight in a continuous rope system would tend to hang pretty well centrally. The other was to enable the striking side to be left unwound if it was desired to run the clock without the strike-work. This could be achieved by leaving the strike weight unwound, an option not available with the continuous rope system, which forced both

trains to be wound simultaneously.

A really eccentric few, only a very few, decided on separate trains which wound with a key, just like an eight-day clock. Why was this? What possible benefit was there in key winding for a thirty-hour clock? Well, I can't see any at all, other than the fact that the two separate trains left the owner with the option *not* to wind the strike, and so to run the clock as a non-striker whenever required. But then rope-winding with two separate ropes would do the same.

Very few clockmakers made key-wound thirty-hour clocks. Those who did worked mostly in the late seventeenth and early eighteenth centuries. Even counting illustrations in books I don't think I've seen more than eight or ten such clocks in total in my life.

A well-known example exists dating from the third quarter of the seventeenth century by Jonathan Chambers of Shefford in Bedfordshire, a provincial maker but with London connections and perhaps London influence. Three or four late seventeenth century London makers are known to have done the same thing, but probably all known makers of such clocks in the seventeenth century could be counted on the fingers of one hand.

Peter Hatton of Stafford, who worked from about 1710 to about 1740 also made



2. The eleven-inch square brass dial of the John Beech clock, looking for all the world like an eight-day single-hander.

Photographs by the author

key-wound thirty-hour clocks, which had *wooden* barrels and very eccentrically shaped plates, which were also a feature of his eight-day clocks. This clock, and two or three other key-wound thirty-hour clocks of the earliest periods are illustrated and discussed in *English Thirty-hour Clocks* by Jeff Darken and John Hooper. The authors comment on how unusual such clocks are, but, although both these chaps are deeply into mechanics, they offer no opinion on the purpose behind key-winding. What was the point? If there was some sort of benefit, either to the clockmaker in terms of simplicity of manufacture or economy, or to the customer in the running of the clock, or a cheaper price, I just can't see what it was.

It may be that Peter Hatton started some sort of local fashion. He worked from about 1710 to about 1740. George Clayton of Marple in Cheshire, not far away, worked from about 1675 till his death in 1716, and Clayton used similarly eccentrically shaped plates to those of Hatton, though not, so far as are known, on key-wound thirty-hour clocks. It is possible that Hatton trained under, or was influenced by, Clayton.

Clayton worked at Marple in Cheshire, Hatton at Stafford, both in the same region of England and in close proximity to each other. The only later thirty-hour clocks I know which adopt this key-wind system are those by makers from that part of the country.

An example by John Beech of Newcastle under Lyme, Staffordshire, is pictured here, 1, 2, 5. Another very similar one is known, illustrated in the pages of *Antiquarian Horology* in 1978 in an article by Alan Treherne. John Beech was born in 1707, would have been apprenticed in 1721 to an unknown master, was freed at Newcastle in 1728 and died in 1782. He had a namesake son, who also followed the trade, but the two key-wind thirty-hour clocks we know of were evidently made by the father, about 1730-40. The barrels are of smaller diameter than on eight-day clocks and their centres are made of *wood*, just as those of Peter Hatton were. Beech cannot have trained under Peter Hatton, and probably not under George Clayton, so either he was just influenced by them, or trained under some intermediate clockmaker, some missing link.

These are the only two key-wound thirty-hour clocks by John Beech that I have come across. I have seen other clocks of Beech's making, which have normal pull-winding, like those of any other contemporary maker. Is this eccentricity confined to certain parts of Staffordshire? Why do it on some cocks and not on others?

It must be admitted that the mechanism

of key-wound clocks is a far more professional than the 'bone-shaker' of a splitting ratchet system used on most thirty-hour clocks, which is a bit clunky at the best of times and, after two or three hundred years can be really rattly enough to jar the nerves. A sweet-running key-wind ratchet system is a pleasure to wind and purrs as nicely as a sewing machine. It may be that key-winding was an option for those who were willing to pay more for a deluxe version thirty-hour clock.

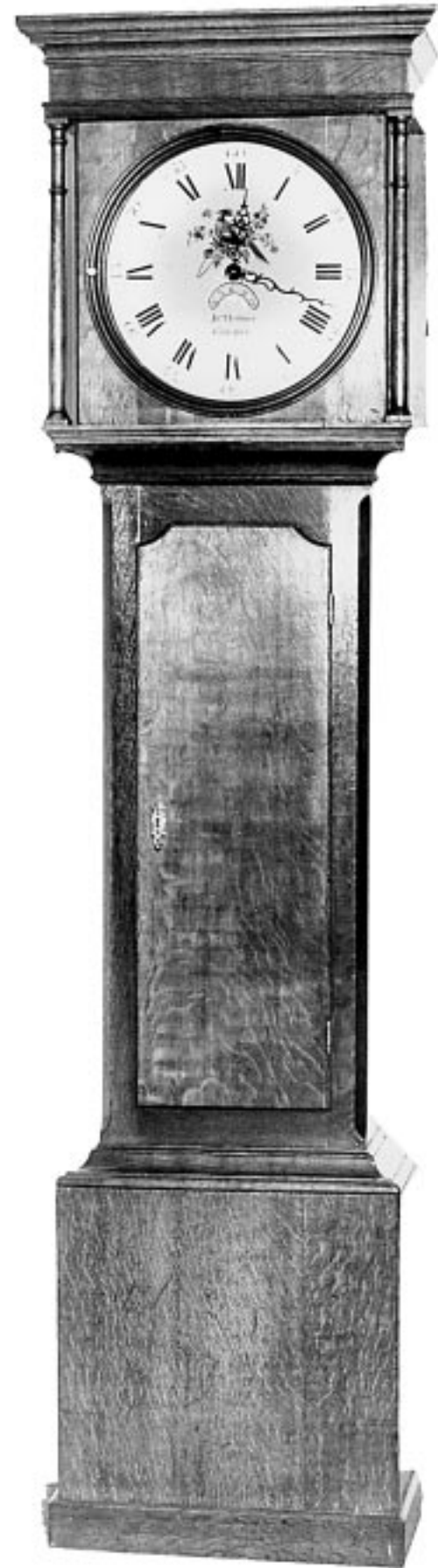
Another factor might have been that the presence of two winding holes made the clock look like an eight-day. Perhaps this would impress the neighbours in the same way that dummy winding squares appear on some thirty-hour clocks later in the eighteenth century. Certainly the clocks by John Beech could be mistaken at first sight as eight-day single-handed clocks – which do exist as quite a rarity, though not so rare as a key-wound thirty-hour.

The only other clock I can think of which was key-wound and not an eight-day was a clock by James Gandy of Cockermouth in Cumberland dated 1761, and this played a tune on six bells every third hour. In that instance I suspect the clock ran for three days because of the difficulty of storing enough power in one wind to run the musical barrel for eight days. It is therefore not really in the same category as a key-wind thirty-hour.

I am reminded by this John Beech clock of a similar sort of eccentricity I have seen in one or two thirty-hour longcases with barrels but catgut winding. In particular I can think of two examples by John Holmes of Cheadle in Staffordshire, 3, (again in the same locality), which were thirty-hour clocks running on gut lines over small-diameter wooden barrels, but these were pull-wound, not key-wound.

This was an extraordinary system with each of the barrels divided halfway along its length by a barrier plate, 4, and each half containing a gut line and a weight or counterweight. Pulling the counterweight down and, thereby emptying the gut line from the front half of its barrel, caused the other line to wind up and its weight to lift until the rear half of its barrel was full of gut line and the weight was fully wound. This is a really eccentric system and it is difficult to see the point of it.

I've seen two such clocks, and when the first one passed around the trade a few years back, nobody was quite sure what it was supposed to do, that is how long it was supposed to run. I remember seeing dealers using eight-day brass line-pulleys and constructing all manner of cats' cradles and ingenious loops in the assumption the clock would run for four or five days, only to get into a terrible tangle again at the next winding time.

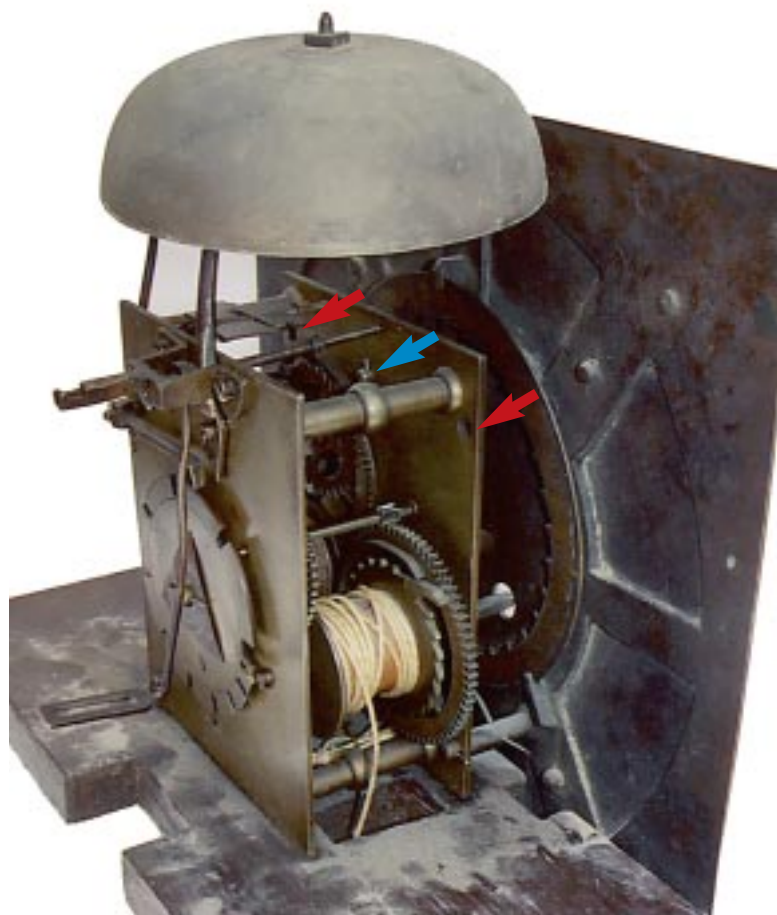


3. Thirty-hour painted dial clock c.1780 by John Holmes of Cheadle, Staffordshire, externally just an ordinary clock.

It occurs to me that this type of split-barrel thirty-hour clock, as practised by John Holmes, has each train independently wound, and therefore such a clock could be run without the strikework operating, if the owner so wished. So, were the key-wound thirty-hour and the split-barrel thirty-hour, two different methods of achieving the same result; a clock which was capable of being run without striking? I don't know, but it may be significant that both systems were used in the same locality in Staffordshire.

The dial of the John Beech clock has ringed winding holes and looks indistinguishable from a single-handed eight-day clock. Single-handers are almost always thirty-hour clocks, but oddly enough a few are known (only a handful) which run for eight days. Those few which are known (I've only seen maybe half a dozen) tend to come from this part of the world too - Shropshire and Cheshire. Could it perhaps be that one reason for the key-wound thirty-hour clock was to impress the neighbours by letting them think you had bought a more expensive, and very unusual, eight-day single-hander?

The deception of making thirty-hour clocks with 'dummy' winding holes, and even sometimes with 'dummy' winding squares, was also centred on this part of the country - Lancashire in particular. Were key-wound thirty-hour clocks just an extension of this practice, having not 'dummy' winders but winders that



5. The movement of the John Beech clock showing two small diameter wooden barrels, and two spare holes in the upper frontplate, where he made a mistake with his dial feet positions (red arrows) which would foul the calendar ring. Note the single, centrally placed, upper dial foot, (blue arrow)

really did wind with a key?

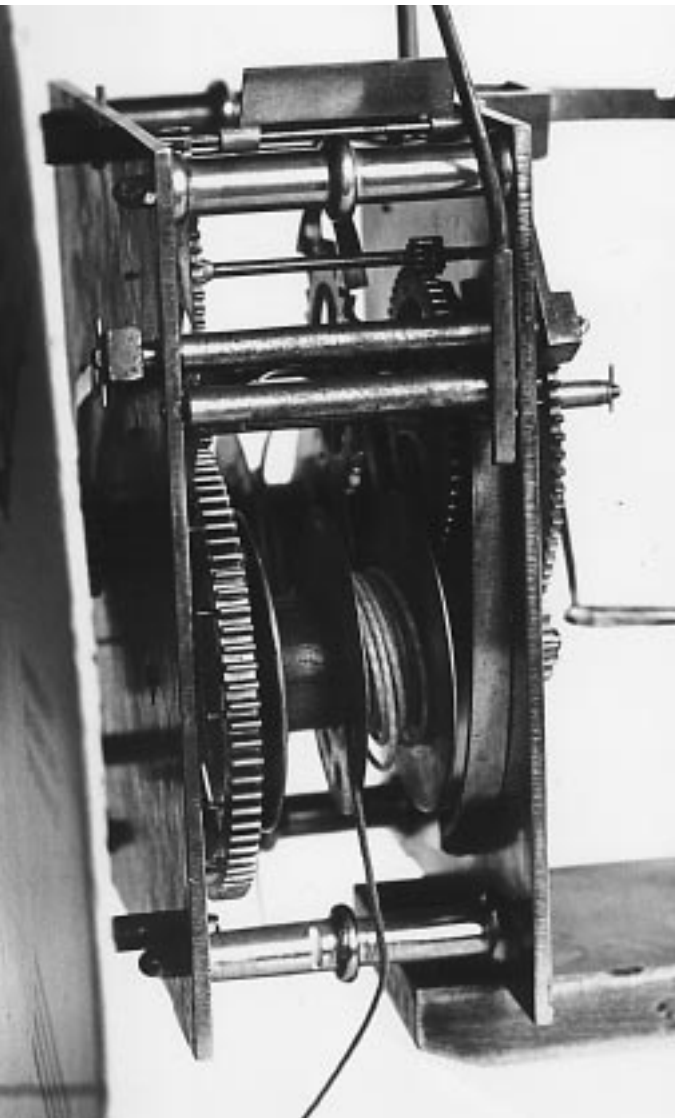
Apart from key-wound wooden barrels, the movement of the John Beech clock is a conventional thirty-hour clock. But interestingly we can see that he made a mistake, 5. Such things do happen from time to time, and we can imagine the clockmaker's concentration being less than perfect, perhaps one Monday morning or one day when he was working through a hangover. The other of his key-wound thirty-hour clocks has a dial very similar to the present one but with no calendar. It has the conventional four dial feet, each foot sitting neatly into a corner of the movement front plate. This present clock pictured here has a box calendar, like an eight-day clock. Beech set about making it with the usual four dial feet and drilled the movement frontplate in each corner to receive them.

But then he realised, when he set the two together, that the top two dial feet would fail to reach the frontplate because the calendar disc was in the way! He was forced to take out the top two dial feet and replace them with a single one, positioned in the centre, where it would pass below the highest part of the calendar disc arc.

Maybe this came about from a last-minute change of mind by the customer, who suddenly decided he would have a calendar. Maybe it was just a bungled job on the part of the maker, but such little incidents show us that clockmakers were as fallible as the rest of us. As someone who once installed a pre-fabricated kitchen and ended up with one cabinet too many, despite the most careful measuring, I can sympathise with John Beech. But I bet the air was just as blue in his workshop as it was in my kitchen.

One factor that stops the study of old clocks from becoming repetitively boring is that there is always something new cropping up, some aspect we don't understand or haven't seen before – and key-wound thirty-hour clocks are another such aspect.

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4. The movement of the John Holmes clock showing split wooden barrels divided by a brass collar to separate the pulling section of gut line from the falling section.