

The inner workings of the the Tower Clock

How the tower clock ticks

The turret clock at St Mary's Church was installed in the tower in 1877. Turret clocks at this time were enjoying a renaissance of interest following the installation of the Great Clock in the Palace of Westminster - commonly known as Big Ben - in 1854.

In fact the clock at the Palace of Westminster and St Mary's clock were both built by E.J. Dent & Co of 61 The Strand, London, a company with a widespread reputation for the precision of their timepieces.

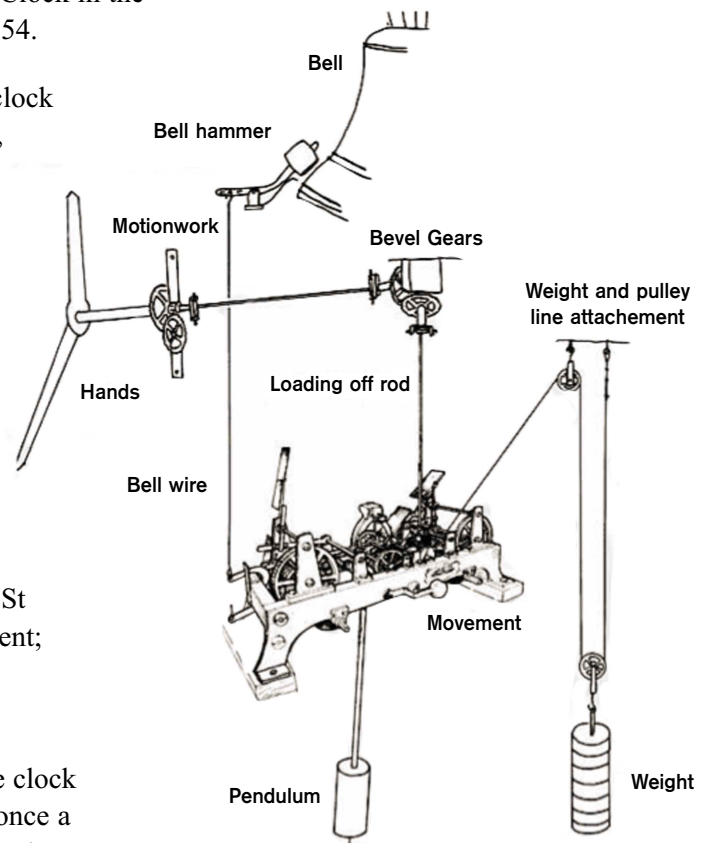
The clock at St Mary's is mentioned in a catalogue published by E.J.Dent & Co in 1877:

'St. Mary's Kilburn, A clock having one square dial 4 feet in diameter, striking the hour on a bell of 12 cwt, and the four quarters upon two bells of proportional weight – Power No.3'.

The power size relates to the great wheel and dial diameter, and the size of the bell to be struck. The Vestry Committee at St Mary's selected for the clock an eight day, three train movement; striking the hour and a 'ting tang' quarter chiming, and time keeping train.

The clock was weight powered, the weights hanging from the clock room down through the tower and had to be wound by hand once a week - a very laborious task. The tower has 45 steps to the clock room!

The design of the clock can be concisely described as 'flat bed, ding dong with pinwheel anchor escapement.'



Like clockwork

The escapement - a wheel with pins sticking out from it - drives the pendulum using the energy stored in the raised weights. Without the escapement the system would simply unwind

continuously, but the escapement makes a periodic rocking motion controlled by the pendulum.

The pendulum rocks the pin wheel escapement back and forth, and makes it change from a "locked" state to a "drive" state for a short period that ends when the next tooth on the gear hits the locking surface on the escapement.

It is this periodic release of energy and rapid stopping that makes a clock "tick"; it is the sound of the gear train suddenly stopping when the escapement locks again.

