

Geoff Sykes

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Volume 42, No. 1 (March 2021) contains the following articles

Charles and Joseph MacDowall and their helical clockwork, *by Angus Bell and Kenneth Cobb*

Technical Note: An examination of the MacDowalls' helix lever gearing, *by Angus Bell and Kenneth Cobb*

Horological tradesmen and a Victorian directory scam – the *Londoniad*, *by D. J. Bryden*

French carriage clocks and late nineteenth-century decorative arts: Artistry in an era of art reform, *by Larry L. Fabian*

John Kaye of Liverpool – Can his clock predict the time and height of high water at Liverpool?, *by Steve and Darlah Thomas*

'A process superior to any previously known'. The introduction of electro-gilding for watches in mid nineteenth-century England, *by Michael Edidin*

Harrison and Grimthorpe – the missing link, *by Geoff Sykes*

Front cover: Detail of the dial of Joseph MacDowall's regulator at the Yorkshire Museum.

# Harrison and Grimthorpe—the missing link

Geoff Sykes\*

*This article discusses a flatbed turret clock in the parish church of Great Langdale in the English Lake District, installed in 1858 by James Harrison of Hull. A recently discovered letter provides proof that the clock was closely based on the design of a clock by E. B. Denison, Lord Grimthorpe.*

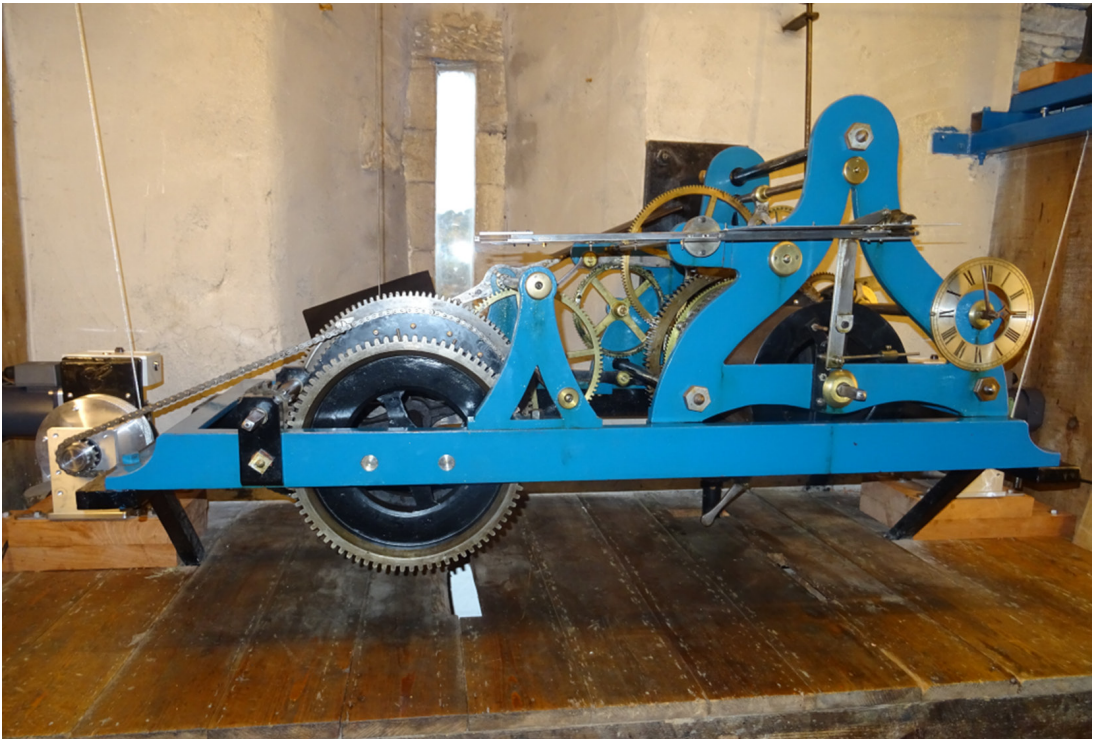


Fig. 1. The Langdale clock by James Harrison, 1858.

## The James Harrison of Hull flatbed clock

The parish church of Great Langdale in the central Lake District contains a remarkable turret clock (Fig. 1). It was made by James Harrison of Hull, and it has been thought for some time that there must be a connection to Lord Grimthorpe. Following the recent retirement of the vicar, Eric Rigg the Churchwarden went through the church files and discovered the ‘missing link’ which had been lying there unnoticed since the clock was installed in 1858.

The present parish church (Holy Trinity Langdale) was built in 1858 to replace the former chapel which had become too small for the expanding population. The village in Langdale is still called Chapel Stile, even though the chapel was demolished in 1858. The church was paid for by two wealthy benefactors — John Robinson, a local business owner, and Edward Wheatley-Balme who lived partly on an estate he acquired in Langdale, and partly in Yorkshire where his family business, Henry Wheatley & Sons of Mirfield, owned woollen mills.

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Fig. 2. James Harrison of Hull (1792-1875) (Hull Museums).

There is no name on the flatbed movement, and the only information on its maker came from a booklet written in 1958 to mark the building's centenary by Hugh Ellison, the son of the then vicar. He says: 'James Harrison of Hull completed the mechanism in 1858, but refused to install it in the tower until he had tested it for five years in all conditions of heat and cold'. Nothing is known of these tests.

### The origins of the clock

About twenty-five years ago, Chris McKay visited the church on being told that it contained a flatbed turret clock by James Harrison. Chris was doubtful about this, because all known turret clocks by James Harrison are square frame or 'plate and spacer' clocks, and it was thought Harrison never made a flatbed. This is evident from Chris's comprehensive study of James Harrison's turret clocks: *Longitude's Legacy – James Harrison of Hull 1792–1875, Turret Clock Maker, the last of the Harrison clockmakers* (2015), which does include the Langdale flatbed clock. Chris concluded that the clock is undoubtedly by James Harrison of Hull because he identified six features which are found on James Harrison turret clocks:



Fig. 3. E. B. Denison, Lord Grimthorpe (1816–1905).

- Unusual shape of tooth form
- Unusual shape of pinion leaves
- Peculiar concave shape to end of arbors and centres left in
- Harrison's flirt release striking
- Peculiar long clicks
- Dog clutch for setting dial

Chris also pointed out that he had seen another almost identical clock. He was referring to the 1850 clock by Dent at Holy Trinity Church Meanwood, Leeds. An engraving of it (Fig. 4) was featured as the frontispiece of the first edition (1850) of *A Rudimentary Treatise on Clock and Watch Making* by E. B. Denison, Lord Grimthorpe. The book was very successful and ran through eight editions, the last in 1903, and all the later editions had the Great Westminster Clock ('Big Ben') as the frontispiece instead of the Meanwood clock.

The engraving in the book is not a very accurate picture of the Meanwood clock, and the Langdale clock is much closer to the



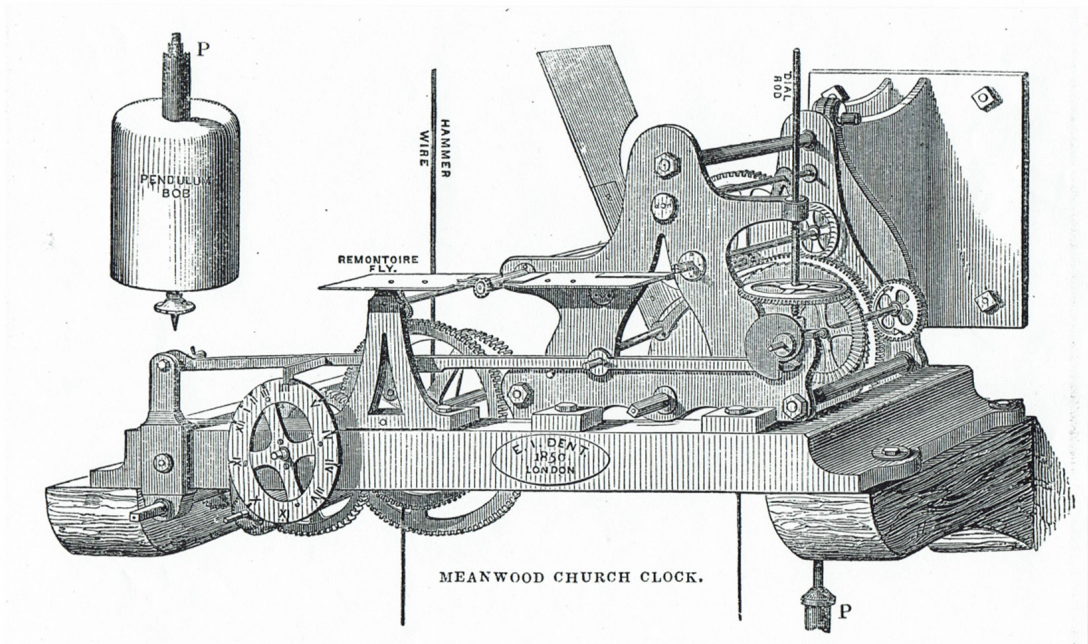


Fig. 4. Meanwood Church clock (1850). Frontispiece from the first edition of *A Rudimentary Treatise on Clock and Watch Making* by E. B. Denison. The pendulum rod ('P') is not shown in full, both to save space, and in order to show the tubular construction.

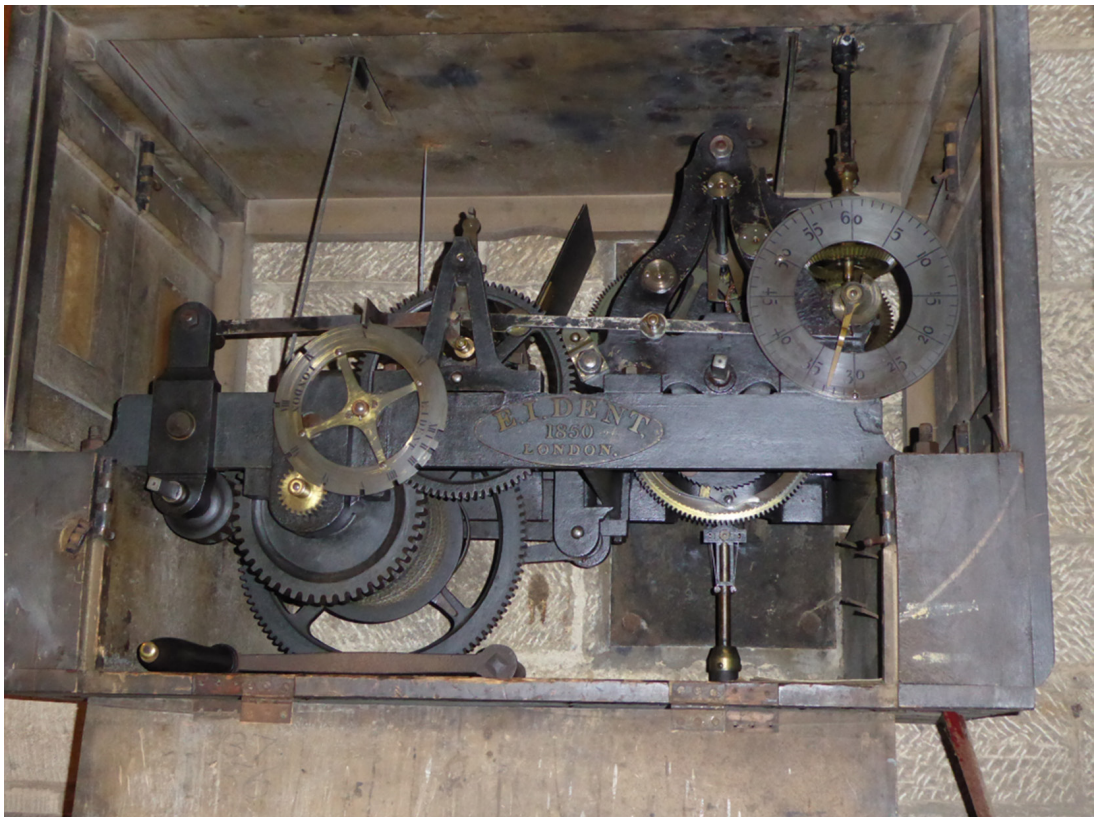


Fig. 5. The Meanwood clock by Dent, 1850.

picture in the book than is the actual Meanwood clock (Fig. 5). This may be because Harrison never visited Meanwood, but worked on the basis of the illustration in the book. The Meanwood clock exhibits Dent workmanship, but it was not very successful, and it has been altered over the years, including removal of the spring remontoire and fly, whereas the Langdale clock has been carefully preserved.

**The discovery of the letter**

It seemed clear that the Langdale clock was closely based on Lord Grimthorpe's Meanwood design, but it was only very recently that the 'missing link' was finally discovered. It is a letter dated 9 November 1858, written by James Harrison to the benefactor paying for the clock, Mr E. B. Wheatley Balme.

Transcription of the letter

Hull Nov. 9th 1858

Sir

The new clock at Langdale Church was completed and put in motion last June its management left to Mr Walker, Smith to J. Robinson Esq<sup>r</sup>. it is made to the plan of E. B. Denison Esq<sup>r</sup>. and is expected to excel the usual method of Turret Clock Making. The pendulum (which is the instrument that measures time) is so accurately adjusted in its compensation I think few if any equal to it. The impulse or maintaining power is given through the escapement and is so constructed that any amount of recoil may be given to it which is found to be necessary. Near the bottom of case is a small pointer used to ascertain the swing of the pendulum.

On the other side I have given the bill of the whole of my expense which will be found correct.

I am Sir

Your obed<sup>t</sup> ser<sup>v</sup>ant

Jas. Harrison

E. B. Wheatley Balme Esq<sup>r</sup>

To Jas. Harrison

A Turret Clock for Langdale Church including attendance &c. putting up as per agreement £150

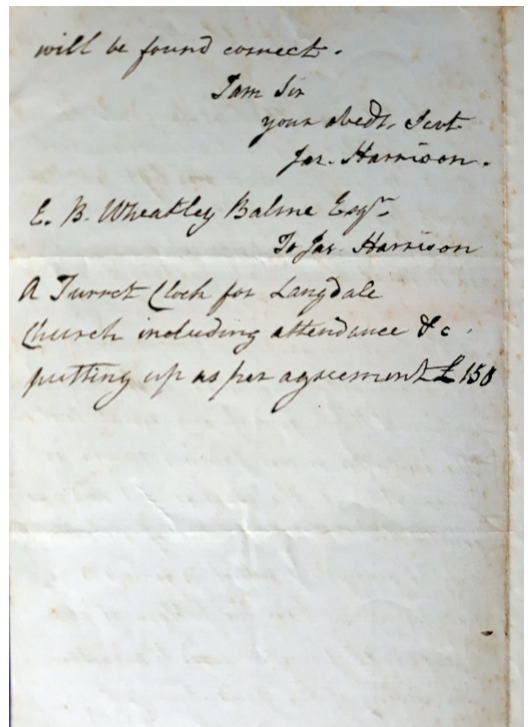
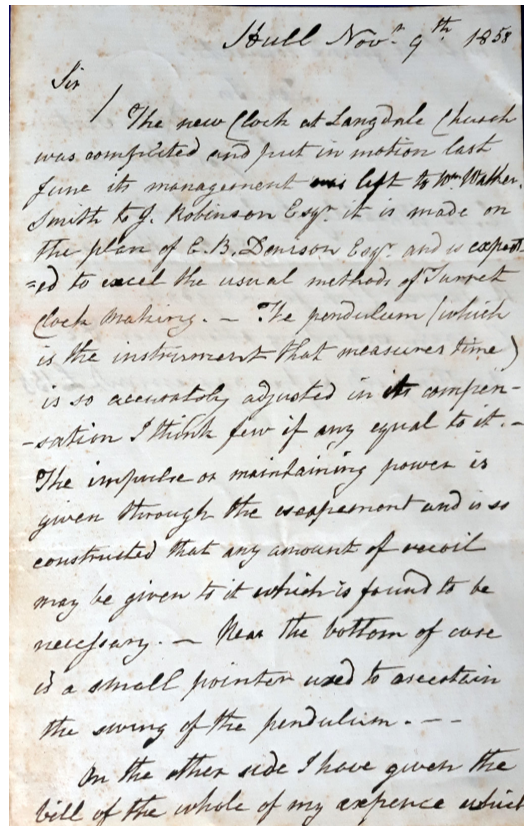


Fig. 6. James Harrison's letter front and back.

The wording in the letter which says the Langdale clock is ‘made to the plan of E. B. Denison Esqr. and is expected to excel the usual method of Turret Clock Making’ seems to be a way of saying it is closely based on the Meanwood clock. The Langdale clock has the key features of the Meanwood clock, including the spring remontoire with a large remontoire fly, and a tubular compensation pendulum similar to that on ‘Big Ben’.

We still do not know anything of the ‘five years of testing’ mentioned in the 1958 booklet. However, there is an eight-year gap between 1850 when the Meanwood clock was completed, and the book was published by Lord Grimthorpe — or E. B. Denison as he

then was — and 1858 when the Langdale clock was installed. A possible explanation is that Harrison, having never made a flatbed, decided to start by making a copy of the Meanwood clock, as shown in Lord Grimthorpe’s book, for his own research, and then experiment with it for five years. It seems he found someone wealthy enough to pay £150 for it — Mr Wheatley Balme, who we think he knew because Mr Wheatley Balme lived part-time in an area of Yorkshire where Harrison had installed turret clocks. This connection would explain why a clockmaker based 150 miles away in Hull came to install a remarkable turret clock in a remote corner of the Lake District.