THE MONUMENT

A Brief History of the Clock
and Lighting by Alan Brundrett

INTRODUCTION

When invited to a meeting in October 2004 by Councillor Steve Povey to discuss his proposal that the eightieth anniversary of the unveiling of the Nicholson War Memorial should be commemorated, I realised that as I had been responsible for the clock's maintenance since 1970, I was probably the only person who had experience of all the changes made during this period, most of which were only committed to memory.

It seemed a good idea to me to list these changes before these memories faded and to put a copy on file at the Town Clerks office.

The list soon became a narrative, and I then found some old photographs and other photographs more recently taken were included, and so we had the making of a booklet that I hope may be of interest to some. It is not intended as a technical publication but more an anecdotal record of the events as I remember them.

The front cover is taken from an original pen & ink drawing by Brian Crombie.

Revised 2008

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The Monument was built in 1924-25 at a cost of £16000 of white Portland stone. It was paid for by Sir Arthur and Lady Nicholson whose son was killed in action at Ypres, Belgium in 1915 at the age of 24. It was designed by Messer's Thomas Worthington & Sons, Manchester, and stands some 80 feet high.

The clock mechanism and bells were by Gents of Leicester, the clock face is 6ft 9in in diameter and the 5 bells weigh 25.5cwt in total.

The clock was first started by Mr.W.E.Beecham, Surveyor to Leek Urban District Council in 1925.

The clock system was known as the "Gents Pulsynetic System" manufactured by Gents of Leicester and would have been at the cutting edge of technology for its day. It consisted of the following.

1. The "Master Clock". An electro-mechanical device of reasonable accuracy and capable of driving or controlling other devices. This was located on the first floor in the tower.

2. The "Chiming and Striking" timer. A switching device driven from the master clock that controls the chiming and striking mechanism, located alongside the master clock on the first floor. This was not very reliable and could give rise to missed chiming or striking, but was probably typical of the technology at the time.

3. The "Chiming and Striking" mechanism. A mains electrical driven mechanism which operated the hammers on the bells, controlled by the chiming and striking timer and located on a balcony below the belfry. This was also not very reliable but again was typical of the technology of that time. The original motors would have been DC motors as the mains supply would have been DC in Leek at that time. They were replaced by AC motors in the 1950's.

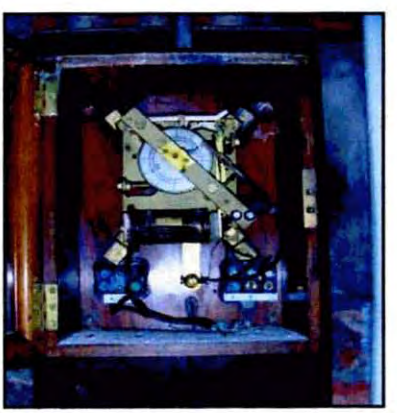
4. The "Waiting-Train Turret Movement". A mechanism situated behind the dials that drives the hands, it's time keeping controlled by the master clock and containing contacts that synchronizes the chiming and striking timer with the hands. It derives its name of "Waiting Train" from the fact that having turned the hands a half minute division on the face in less than 30 seconds it would then "wait" for a signal from the Master Clock before continuing. This mechanism was powered by a short pendulum, driven by a solenoid controlled by a set of electrical contacts. These contacts could be a problem at times due to the arcing created as these contacts operated caused pitting and burning to their surfaces.

5. The "Bells", five in number, are located in the Belfry immediately below the clock face chamber. The Hour Bell is 37inches in diameter and weighs 10cwt and is G sharp. The other bells are 32inches 6.5cwt B flat, 26inches 3.5cwt D sharp, 24inches 3cwt E Sharp and 22.5inches 2.5cwt F Flat. They bear the name Gents of Leicester but it is unlikely they were actually cast by Gents.

6. The "Power Supply". The whole of the timekeeping mechanism was powered by lead acid batteries in two banks giving 30 volts per bank. These banks were run alternately, one bank in operation the other bank charging. This was controlled by a panel, consisting of switches and meters, with lamp holders into which carbon filament lamps could be inserted to vary the charging current. This was a unique system only found on DC supplies. A trickle charger later replaced this when the supply became AC.

The Master Clock and the
Striking & Chiming timer.

Close up of Master Clock.



Close up of Timer.