

The Ystradgynlais Tic Toc Factory

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In today's social media savvy world, the name "Tic Toc" is to many people the online phenomenon "Tik Tok" that shares short online videos. For the communities of the Upper Tawe Valley however "Tic Toc" refers to the factories in the Ystradgynlais area, famed throughout the world for the production of watches and clocks of exceptional quality.



"Aberdeen Clock"

One of these amazing clocks, called the Aberdeen, is on display at y Gaer, Brecon. The Aberdeen is a type of Smiths 8 day pendulum strike and chime clock. It has embossed figures on a cream face, held within a walnut finished case. There were in fact two factories at the Gurnos site, Ystradgynlais. The Anglo-Celtic Watch Company and the Enfield Clock Company.

The Anglo-Celtic Watch Company

Denis W Barrett, an Australian born businessman, was a driving force behind the setting up of the Anglo-Celtic Watch Company. It was an autonomous company with shares held equally by Smiths Industries Ltd, Ingersoll Ltd and initially Vickers Armstrong. Vickers Armstrong sold their shares to the other two companies in 1948. On its opening it was the largest watch manufacturing factory in Britain and one of the largest in Europe.



Huw Dalton opens the factory
on March 15th 1947

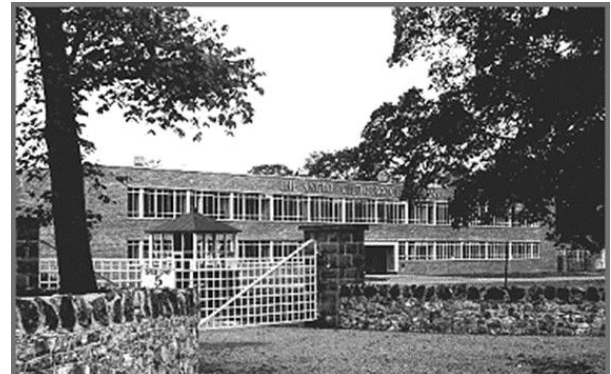
Ground work began in 1945 and work on the factory in 1946. The factory was officially opened on Saturday March 15th 1947 by the Rt Hon Hugh Dalton, Chancellor of the Exchequer. The Chancellor was determined to attend the opening, despite poor weather conditions. He left London by aeroplane only to be forced by snow and ice to land in Gloucestershire. He made the remainder of the trip by road, arriving two and a half hours late in Ystradgynlais.



Official Opening Menu

A luncheon was provided for guests attending the official opening. The menu consisted of a starter of pea soup, followed by roast turkey and ham (with accompanying vegetables) and ending with plum soufflé and peach flan. The Chancellor said, "We shall create up here among the Welsh mountains a new Switzerland, where for so long the watch and clock industry has grown and flourished."

At the height of its production in the mid-1960s, the Anglo-Celtic Watch Company produced 30,000 finished watches per week involving 3 million parts. Products were exported to over 60 countries around the world.



The Anglo-Celtic factory, Gurnos Works

Over 1,400 people at one time worked at the factory. Public transport was available to bring people from the surrounding areas for a working day lasting from 7.30 am to 4 pm, Monday to Friday. The Anglo-Celtic Watch Co. Ltd was unique. It was, at one time, the only company in the world to produce a watch from raw materials to the finished packed product. The only bought in parts were the hairspring and crystal. Switzerland at that time produced parts for watches in factories and local cottage industries which were then assembled in Bern. Australia was later to establish a complete watch factory under one roof.

The factory produced pocket watches, stop watches, 1, 5, or 7 jewel pin lever watches, 7 or 17 jewelled lever watches, calendar models, water resistant watches, pendant and fob models, luminous dial watches and desk clock capsules.



Gents 19 ligne Pocket Watch (Centre seconds) Smiths brand

The Anglo – Celtic Watch factory was 100,000 sq. ft. in area and divided into two main sections; one for manufacturing, design and technical services, and the other for assembly. The assembly building was specially constructed to meet the particular conditions required for watch assembly and was air-conditioned. All employees changed into a special type of overall and shoes before they entered the assembly departments. The maintenance of a high standard of cleanliness was essential, and a 24 hour cleaning shift was worked. The premises were mechanically scrubbed whilst the assembly was air-suction cleaned by mechanical means and the block floors highly polished.



Award Ceremony

The work was highly skilled. The company operated its own extensive Apprenticeship Training Scheme for boys drawn from local schools. Apprentices gained qualifications through day release and evening classes covering National Certificate, City & Guilds and the craft course of the British Horological Institute. The picture shows the Award Ceremony on the 29th Jan 1962 at the Royal Hotel, Cardiff. when Mr Mansel Jones and Mr William Sandbrook were awarded best apprentice awards by the Engineering Employers Association of South Wales.

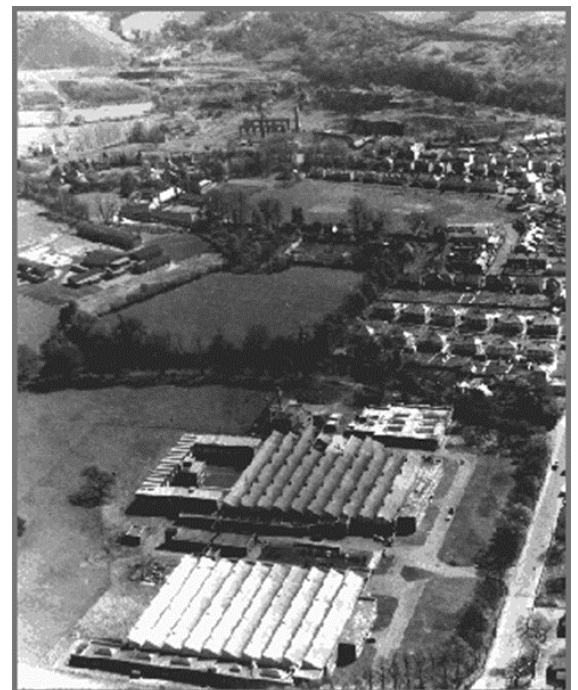


13 ligne gents wristwatch assembly

Women were employed in the highly skilled manufacture and assembly of the approximately 90 pieces that go into a watch. The work demanded a high level of accuracy. Many of the movements were smaller in diameter than an old sixpence.

The Enfield Clock Company

The Enfield Clock Company moved from London to Ystradgynlais, next door to the Anglo-Celtic Watch Company, in 1949. The main part of the factory opened on 24th January 1949. By the early 1950s the factory was making striking clocks, including pendulum time pieces, and the casing of strikes and time pieces. At the height of its activity, the Enfield Clock Company in Ystradgynlais employed 500 people and produced 800 clocks per day.

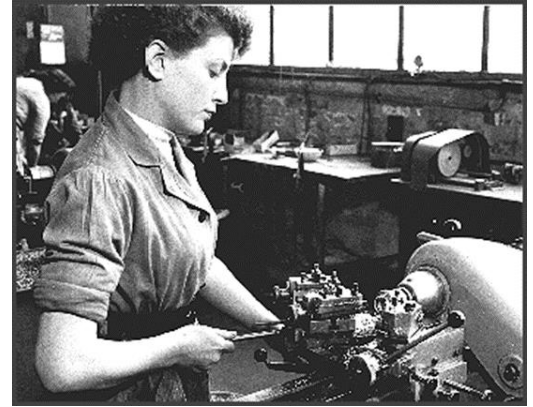


The Anglo-Celtic Watch Factory in the background, the Smith & Sons Enfield Clock Factory in the foreground circa 1953



Machine shop department, Enfield

The company produced a large number of solid watch cases for the use of products from the neighbouring Anglo-Celtic Watch Company using diamond turned techniques. It produced both chromium plated and gold plated cases.



Diamond turning at Enfield

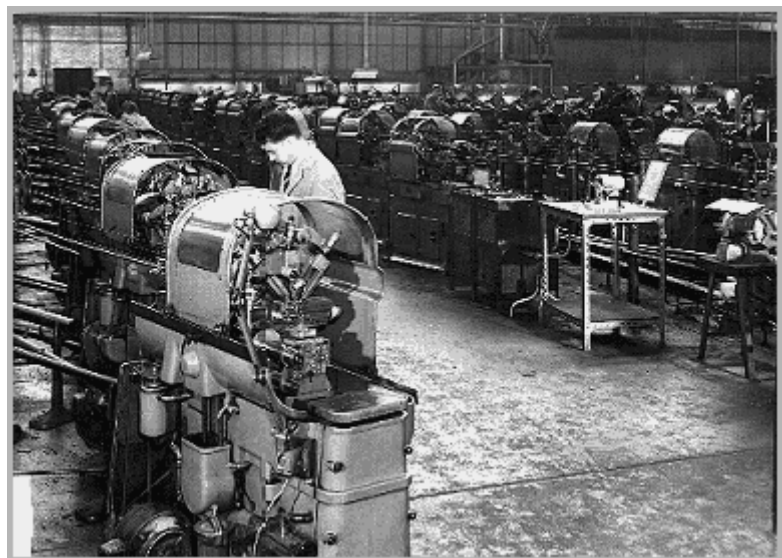
Watchmaking - from design to production

Work on the manufacture of watches began in the drawing office where, for each new calibre being designed, the main features and dimensions were drawn out and every detail carefully considered, not only from the angle of the movement itself, but also from the production standpoint.

When the drawings were finally approved, a model of the calibre was made by hand, and carefully tested and scrutinised to see what further problems it revealed. The drawing office next set to work on the drawings for the tools needed to produce the calibre, which could call for as much work as the drawings of the movement itself.

The basic raw materials required for production in a watch factory are brass and steel rod and plate in a variety of sizes and thicknesses. The Gurnos Works held an ample supply in an efficiently laid-out store, with a continuous stock record. Every consignment of steel or brass received was rigidly sampled and tested before it was approved for storage. This was the first step in the quality control that ran through the whole work of production.

The automatic lathes produced an enormous variety of turned parts: in fact, anything called for in watch production. They could also cut internal and external threads, form flats and slots and even tackle undercutting and freak jobs with the same speed and



Automatic Lathes

precision with which they coped with their more ordinary tasks.

The long rows of machines in the press and automatic shops were like a strange orchestra of industry, in which the machines have their little solo piece, such as the cutting of a slot, or the shaping of a groove, carried out by some special attachments coming into action at the right instant every time. Precise results were only attainable by rigidly enforced maintenance in spotless surroundings.

The other basic process of watch manufacture was pressing, carried out on a group of presses of several types and of very different sizes. Indeed, some seemed surprisingly large for work on watch components. The presses produced the rough blanks from which the main plates were made. Blanks were then transferred to a further pressing process called "repassing". This consisted of passing them through a press-tool that was slightly smaller than the one originally used to press out the blank from the strip. Shaving a further 0.1 mm or so off the edges removed any roughness left by the first, or blanking tool and improved the contour.

The next process was recessing, the cutting of sinks in the main plate blanks to accommodate the train and other parts. Two blanks were set up on two identical heads on a recessing machine. They were clamped and the machine started up and metal was rapidly cut away to provide the exact sinks and recesses needed. It is now well on the way to becoming a watch plate.

Centre dotting is the next vital process. The whole accuracy of the future movement was built on the accuracy of this stage and each dotting point was precise to a tiny fraction of a millimetre. After centre-dotting, the holes for pivots, steady-pins, and similar items were drilled by hand using sensitive drilling machines.

There are many other fascinating parts of the watch making process, including seeing a batch of wheel blanks gradually acquiring their teeth and the swift and accurate pressing in of the jewel into a watch plate.

Careful inspection was carried out at every stage of production. Special inspection benches were located at strategic points in the factory, and every batch of parts was checked and examined by a specially trained staff armed with accurate gauges and very high magnification optical instruments.



Inspection of watch movements under the microscope

Everything came together in the assembly department. Everyone working here had to wear overshoes to prevent any dirt from reaching the spotless floors. Here the balance and hair-spring were attached before going to the assembly line. Assemblers sat at benches arranged at right angles to the direction of travel of the central conveyor belt. Supplies of parts were held in containers which were arranged in nests facing the assembler. Barriers spanning the conveyor belt halted these containers at the appropriate point of assembly.

Finally the movement was wound and started for the first time. It once more underwent a strict inspection and tests before the dial, hands and case were fitted and the final product of exceptional quality was finished.

Social Activity

A Social and Recreation Club, appropriately named the "Tick-Tock Social & Recreation Club" existed for employees. The Club House was situated in the beautiful surroundings of the Ynyscedwyn Estate. A Secretary and an Executive Committee organised sporting activities, concerts and many other activities.

A large canteen, which could accommodate over



"Tick-Tock" cricket team in the 1950's



Enfield employees around the Christmas tree 1960s

800 people seated, was also used for social functions. The factories had a real community feel. Some of the many women who worked there describe their happy times in People's Collection recordings.

Meriel Leyden <https://www.peoplescollection.wales/story/575504>

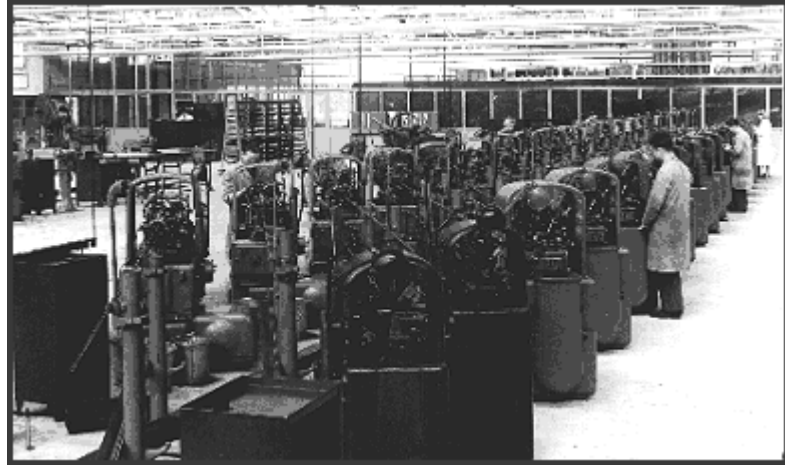
Joyce Evans <https://www.peoplescollection.wales/items/550086>

Health and Welfare

An extensive welfare programme was provided for employees including Sickness Benefit Scheme, Pension Schemes, and Healthcare. There was a staffed First Aid department which included a surgery with a factory doctor in attendance every other day.

Later Years

Competition from developing countries with lower labour rates started to impact on the Ystradgynlais factories. Clock and watch activity ceased in 1980 and Smiths Motor Accessories (Vehicle Instrumentation) took over the site. In 1983 the business was sold to Lucas Industries. In 1999 Lucas moved all production to Poland. The factories were demolished in 2012 and the site is now the home of a large supermarket and a public house.



In remembrance of the author's father, Mr W.B. Jones' Automatics Department, Enfield works

Acknowledgements

Mr J.A.Delaney, Mr C.J. Prior –Clarke, Mr T.R. Robinson. Some of this information appears on line at <http://history.powys.org.uk/history/ystrad/anglo1.html>