

## The Ballard Colwall Ice Works – Andy Ball

For over 20 years, between 1897 and sometime in the 1920s, there was an ice works business in Colwall located on land between Old Church Road and Walwyn Road. This was created and run by Stephen Ballard II (1867-1952) as part of a series of Colwall-based businesses including the Malt Vinegar Brewery (later to become the fruit Bottling Plant and Cannery) and Model Piggery.

Before the 19<sup>th</sup> century the use of ice to chill drinks and foodstuffs was very much the domain of the very wealthy who constructed ice houses on their large country estates to store ice harvested locally in the winter.



This all changed in the 19<sup>th</sup> century with the creation of the *Wenham Lake Ice Company* in Wenham, Massachusetts, in North America. Ice from this enormous body of water was harvested in the winter and was shipped all around the world as a luxury commodity. The ice was renowned for its purity and it was claimed that due to the lack of salts and air bubbles that it could withstand higher temperatures before melting, compared with ice sourced from other places. The company opened an ice store and shopfront at 125 The Strand, in London in 1844 and advertised its product as “*suited for table use, for mixing with liquids, or placing in direct contact with provisions, jellies, etc.*” Their sales gimmick, used to display the purity of the ice, was to put a newspaper behind the ice which apparently was readable from the street through both the shop window and the product.<sup>i</sup>

However, as the nineteenth century progressed imports of natural ice from America dropped off for a variety of reasons including pollution of water supply; ice famines; high cost of transport; increasingly from the development of alternative ice plant technologies that created artificial ice; and competition from other countries. Norway, in particular, became the dominant supplier to Great Britain helped by the growing railway networks here

and by demand for ice to allow transport of fresh fish caught in the northeast of the country, at Grimsby, to London.<sup>ii</sup>

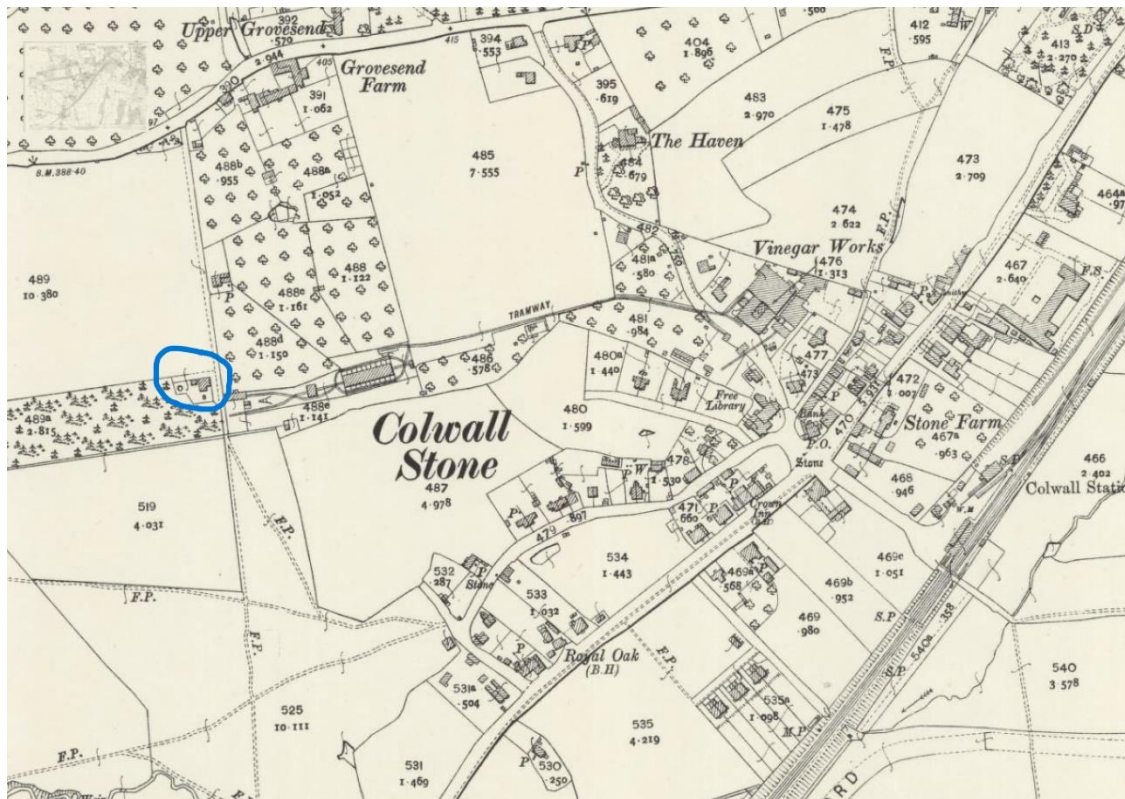
An article in the 'Bromyard Times' from Thursday 21 November 1901 entitled "WHERE OUR ICE COMES FROM" stated that Britain was importing four hundred thousand tons of ice, annually and that "*Nowadays American ice no longer is sent across the Atlantic to this country and practically our whole supply comes from a number of pretty lakes around Drobak, in Norway*".<sup>iii</sup> In an attempt to improve market share in Great Britain the Norwegians had even renamed Lake Oppegard in Norway as 'Wenham Lake' in the early 1860s with the aim of confusing their product with American exports.<sup>iv</sup>

In the mid-1890s, Stephen Ballard II began to consider the creation of an icemaking plant in Colwall to complement his existing Malt Vinegar Brewery business located in Stone Drive. He had previously seen the display stand of an artificial ice maker at one of the trade exhibitions where he was marketing his vinegar brewery products and decided that this was a commercial venture worth exploring.<sup>v</sup>

Stephen Ballard II employed George 'Malcolm' Yeats (1869 -1945), the son of the local Malvern-based artist George Paterson Yeats (1823-1901), to do some market research in Malvern. From the 1896 'Kelly's Directory of Worcestershire' it seems that Malcolm Yeats was living at a property called 'Keswick' in Court Road, Great Malvern. He spent a day canvassing local Malvern businesses to see whether they might become customers. In doing so he visited butchers, fishmongers, hotels and confectioners to see whether they might be willing to use a more local supply than the 'Wenham Ice' [likely to have been of Norwegian provenance] that they were using at the time. Malcom Yeats's enquiries yielded promising results and Stephen Ballard II committed to setting up an artificial icemaking business in Colwall.<sup>vi</sup>

Land for the new business was readily available and a site was chosen at the eastern end of a plantation on the Grovesend estate immediately to the west of the Ballard Model Piggery site and the Ballard Malt Vinegar Brewery. This site may have been chosen due to its shaded location and the availability of water at the site.

A well was dug to provide a source of cooling water and the existing Ballard spring water supply, already serving the Malt Vinegar Brewery and many other dwellings in the village, was extended to provide an excellent source of clean Malvern spring water to turn into ice. A new building was erected by the estate bricklayer - Charles Chamberlain.<sup>vii</sup>



***Extract from 1905 25" to 1 mile Ordnance Survey map showing position of the Colwall Ice Works (circled in blue). Not to scale.***

In funding the new venture Stephen Ballard II obtained £800 from his wife Ethel and £500 from Joseph Purser.<sup>viii</sup> In the 1901 national census for Colwall a Joseph S Purser, then aged 45, was listed as staying at the Ballard's 'Grovesend' house as a visitor. His profession was a 'Mining Surveyor'.

The new icemaking premises required equipment and Stephen Ballard II wrote to Linde for a quotation for icemaking plant. Their quote for a two-ton icemaking plant costing £1600 was acceptable and the equipment was purchased.<sup>ix</sup>

As a source of power Stephen Ballard II opted for a "Hornsby oil engine" for £217.<sup>x</sup> This is likely to have been the enhanced version of the Hornsby-Akroyd oil engine design developed by T.H. Barton at Hornsby's in 1892. It was a very popular and reliable machine, cutting edge technology at the time, and during the period from 1891 through to 1905 32, 417 engines were produced and shipped worldwide.<sup>xi</sup>





***Colwall Ice Works complex viewed from the south. Date unknown.***

Stephen Ballard also commissioned the construction of two insulated horse drawn delivery carts of which unfortunately no further details or images have been found.<sup>xii</sup>

Everything was in place for the launch of the business. The first customer was Cridlan and Walker, a firm of butchers based at the Abbey Gateway, Great Malvern. Stephen Ballard II claimed that the first delivery of ice was made on 5<sup>th</sup> June 1897, 69 days after the first brick had been laid at the new works. The entire cost of the new business setup was £1,142 13s 6d, which included the equipment.<sup>xiii</sup> That is roughly equivalent to £175,000 at 2023 prices.

The following year the business went into full production with demand buoyed by a hot summer. The staff - comprising a day man, a night man, two delivery drivers and Malcolm Yeats as an overseer - were all kept busy and at one stage the Hornsby oil engine was run continuously for thirteen days and nights.<sup>xiv</sup>

Seeing how lucrative the icemaking business could potentially be Malcolm Yeats gave in his notice with the intention of creating his own rival business in Malvern. According to Stephen Ballard II he did this with the backing of several people including some local doctors. The exact date when all of this happened is a little unclear from Stephen Ballard II's notes. It is likely to have been in 1898.<sup>xv</sup>

Malcolm Yeats established a new company called *The Malvern Crystal Ice Company Limited*. This was based in Cromwell Road, Malvern Link and was listed in the Kelly's Directory of Worcestershire for 1900 and in a Malvern (Midlands) Telephone Directory for 1902.<sup>xvi</sup> In the 1901 national census George Malcolm Yeats was recorded as living at 'Glenmore', Church Terrace, Malvern Link. His occupation was listed as 'Manager of Ice Factory'.

Stephen Ballard II was suitably irked by Malcolm Yeats's actions and decided, in conjunction with his brother George, to drive Yeats out of business. In around 1898 the Ballards purchased the St Johns Corn Mill in Bromyard Road, St Johns, Worcester then trading as 'Hadley's Flour Mill'.<sup>xvii</sup>



## TO THE TRADE. THE . . . **Malvern Crystal Ice Company, Ltd.**

**The Malvern Crystal Ice Company Limited,** beg to submit their prices for Hard Crystal Ice, frozen from pure Malvern Hill Spring Water.

At Ice Works.		Delivered in Malvern.		Packed in Returnable Bags Free on Rail at Malvern Link.	
Per Ton.	Per Cwt.	Per Ton.	Per Cwt.	Per Ton.	Per Cwt.
<b>30/-</b>	<b>1/6</b>	<b>32/6</b>	<b>2/-</b>	<b>30/-</b>	<b>2/-</b>

Special Quotations for 4 Ton consignments.

**Works: MALVERN LINK.**

This was a former corn mill on a site adjoining the Laughern Brook, used for milling since the time of the Domesday Book. In the 19<sup>th</sup> century a sturdy 6 storey, brick-built mill building was constructed and John Hardber was listed as a 'Journeyman Miller' at the site in 1897 (source: 'Littlebury's Directory').<sup>xviii</sup> The Ballards bought the site and buildings for £1800 and all of the existing plant and fittings were sold save for two Lancashire steam engines and the 20 foot diameter water wheel that could generate 20 horsepower.<sup>xix</sup>

The site was run as the *Worcester and Midland Ice Company Ltd* and in the next year work started adapting the site for new icemaking and cold storage needs with alterations to existing structures and with the addition of a new building.<sup>xx</sup>



The squeeze was now upon Malcolm Yeats's Malvern Link based icemaking business with competition from the Ballards in both Colwall and Worcester. Yeats continued with his icemaking ventures and registered a patent for 'Improvements in or relating to Ice Lifters' with a patent date of 24 March 1905 and a publication number of GB190506268A.<sup>xxi</sup>

However, at some stage between 1901 and 1911 he moved to 'Rockleigh', Hucklecote, Gloucester and is recorded as living there in the 1911 national census with an occupation of 'Managing Director' in the 'Refrigeration' sector. This may have been at the *Gloucester Ice Company Limited* listed in adverts from the '*Gloucestershire Chronicle*' in 1909, and in the 1914 edition of the '*Kelly's Directory of Gloucestershire*' where the business was listed as being in Hatherley Road.

Meanwhile the Colwall ice works trading as *The Malvern Pure Water Ice Company* continued to run as a small but profitable business producing ice packed in one hundred weight boxes. These sold at 3s.6d. per cwt. It appealed to a wealthy clientele over a wide area.<sup>xxii</sup> The ice sold at a slight premium to other sellers – for example, other provincial newspaper adverts at the time advertised 'Wenham Lake ice' for sale at 3s per cwt.

Stephen Ballard II colourfully described the operations of the Colwall ice works in a piece entitled "MEMORIES OF THE ICEWORKS".

*"The Works were built in the corner of a wood and was partly surrounded by trees. On entering through the main door there was on the right a large tank filled with brine, which was cooled below freezing point by the ammonia compressor on the left. Cans filled with Malvern water were lowered by crane into the freezing brine, when frozen they were pulled out and lowered into a tank of hot water, heated by the engine. After a few minutes the block of ice, weighing a hundredweight, was loose and the can was again hoisted and tipped on its side and the block slid out and went into the ice store. These blocks stood about 3 feet high and the ice was so clear that a newspaper could be read through the three feet of ice. When all was running well the tank could make 40 blocks of ice in 24 hours. The engine room lead off from this main room. In 1910 the Hornsby oil engine was replaced by a Crossley suction gas engine. This was supplied with gas from a suction gas plant outside in the wood. The section gas plant made water gas from anthracite. About every half hour a small bucket full of anthracite had to be tipped into a hopper on the top of the plant, otherwise the engine slowed down. When there was plenty of gas the engine was able to miss some of its firing strokes. At bedtime at Grovesend we used to go out into the garden and listen to the exhaust over half a mile away to be sure that all was running well down in the wood. The night engine driver, who had no time to sleep, otherwise his engine stopped, had only small fishtail gas burners to see by and used to carry a small Roman type lamp with a bit of wick in engine oil to enable him to climb into the roof and oil the shafting from time to time. There were eventually three wells and a water-cooling tower over one of them to try and keep the cooling water from getting too warm.*

*The Works were noisy and smelly. The compressor valves made a pleasant clicking noise, the numerous belt fasteners clattered away on the numerous pulleys, the air pump, used to agitating the freezing water, used to suck and blow like a large dragon breathing and the*

*gas engine made a variety of noises. Outside the water cascading over the condenser and cooling tower was pleasant to hear.*

*There was always a strong smell of ammonia in the compressor room, the engine room used to smell of hot oil and everywhere were the anthracite fumes from the exhaust.”<sup>xxiii</sup>*

The Ballard’s plan to drive *The Malvern Crystal Ice Company Limited* out of business worked and there were no ice makers listed in Malvern Link in the ‘*Kelly’s Directory of Worcestershire*’ for 1912. *The Worcester and Midland Ice Company Limited* continued to thrive in the first couple of decades of the 20<sup>th</sup> century and the business expanded to a premises in Bank Street in Worcester, and also to Stourbridge, Kidderminster, Cheltenham and Gloucester. In Gloucester the company bought out Malcolm Yeats whose business interest had failed and he sold for just £1000.<sup>xxiv</sup>

The *Worcester and Midland Ice Company Limited* continues to trade as *Worcester and Midlands Cold Stores Limited*. The Colwall ice works probably became too small to be viable, and also, once again, technology moved on - this time towards domestic and commercial refrigeration making the old ice making technology redundant. At some stage the Colwall ice works closed in the 1920s,<sup>xxv</sup> although the building remains, and is currently used for storage.



***The Colwall Ice Works, pictured from the north in 2003. The building is now little changed except that the roof has been replaced.***

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- <sup>i</sup> Wikipedia (2023) *Wenham Lake Ice Company*. Available at [https://en.wikipedia.org/wiki/Wenham\\_Lake\\_Ice\\_Company](https://en.wikipedia.org/wiki/Wenham_Lake_Ice_Company) (Accessed: 15/11/23)
- <sup>ii</sup> Wikipedia (2023) *Ice trade*. Available at [https://en.wikipedia.org/wiki/Ice\\_trade](https://en.wikipedia.org/wiki/Ice_trade) (Accessed: 15/11/23)
- <sup>iii</sup> Unknown (1901) 'Where Ice Comes From', *Bromyard News*. Thursday 21 November, p.6.
- <sup>iv</sup> Wikipedia (2023) *Ice trade*. Available at [https://en.wikipedia.org/wiki/Ice\\_trade](https://en.wikipedia.org/wiki/Ice_trade) (Accessed: 15/11/23)
- <sup>v</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>vi</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>vii</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>viii</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>ix</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>x</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xi</sup> Wikipedia (2023) *Hornsby-Akroyd oil engine*. Available at [https://en.wikipedia.org/wiki/Hornsby-Akroyd\\_oil\\_engine](https://en.wikipedia.org/wiki/Hornsby-Akroyd_oil_engine) (Accessed: 15/11/23)
- <sup>xii</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xiii</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xiv</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xv</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xvi</sup> Angus and Rosemary's Miscellany of Malvern – Local History (2018) *Transcription of Malvern (Midlands) Telephone Directory 1902*. Available at [http://www.the-malvern-hills.uk/other\\_history\\_tel\\_dir\\_1902.htm](http://www.the-malvern-hills.uk/other_history_tel_dir_1902.htm) (Accessed 15/11/23)
- <sup>xvii</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xviii</sup> Cornah, T (2019) *Building Recording at the former Ice Works 174, Bromyard Road, Worcester*. Worcestershire Archaeology for JJS Developments.
- <sup>xix</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xx</sup> Cornah, T (2019) *Building Recording at the former Ice Works 174, Bromyard Road, Worcester*. Worcestershire Archaeology for JJS Developments.
- <sup>xxi</sup> Ancestry (2023) *George Malcolm Yeats in the International Patents, 1890-2020*. Available at <https://www.ancestry.co.uk/discoveryui-content/view/50616782:62216?tid=&pid=&queryId=3da5cd71ba05d194513789548c510645&phsrc=UGt1&phstart=successSource> (Accessed 15/11/2023)
- <sup>xxii</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'
- <sup>xxiii</sup> Ballard, S (Unknown) 'Memories of the Ice Works'



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<sup>xxiv</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'

<sup>xxv</sup> Ballard, S (1948), 'Colwall Ice Works 1897/8'