



NORTHAMPTONSHIRE INDUSTRIAL ARCHAEOLOGY GROUP



Newsletter 159 – July 2021

***NIAG's newsletter is published four times a year in:-
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Next issue: OCTOBER 2021 for which all copy must be received by **15 August** please.

Articles: around 1200 words please and accompanied by good quality photographs/drawings, etc. where possible. Shorter items always welcome – from one photo with caption upwards – if in doubt please contact the editor who will do his level best to talk you into becoming a contributor!

Front cover photo: *Ebbw Vale Steel Iron & coal Co.'s Irthlingborough mine and calcining plant (iron ore) early 1920s, not long after opening. See Alan Pack's article: 'How I became a Mining Surveyor' on page 19 of this issue for how things had changed by 1965, the plant's year of closure.*

Editorial

Thanks, first of all, to Peter Perkins for holding the reins whilst I hitched up my jodhpurs preparatory to getting aboard, and, subsequently, help freely given by him and Terry Waterfield in the technicalities of production.

Members will already have noticed, I feel sure, one or two changes to layout and style (this typeface being but one example) starting with this edition of the Newsletter. You may well also have detected the fact that committee members' details, etc. and the contents pages have swapped positions.

What you will also become aware of is a different approach to content in that, firstly, a part of each edition will have a theme, this one being iron and steel making and related topics. Secondly, more outside contributors will be in evidence, giving their insights on the various themes.

Visit reports, talk write-ups and members' contributions.....**PLEASE KEEP THEM COMING IN!**will run alongside these themes and, where push comes to shove, will take precedence over them – we are, after all, here for the benefit of the members and the Group's activities.

EXHIBITIONS TO LOOK OUT FOR:-

Shoephoria (opened 18 May)

Showcasing 350 pairs of boots and shoes, many drawn from Bath Fashion Museum's world-class collection, alongside 'star' items borrowed especially for the exhibition, Shoephoria traces the evolution of shoe style over the last 300 years and is scheduled to run into 2022.

Fashion Museum, Assembly Rooms, Bennett Street, Bath, BA1 2QH
Tel: 01225 477789

Northampton Museum temporary exhibition (opened 10 July)

One of NIAG member Clive Hardwick's skills is creating 1:76 scale models of eminent Northampton buildings. He recently wrote about his model of Castle Station in our Winter 2021 Newsletter and has now lent some of his models, including Derngate bus station (Spring 2020 NIAG Newsletter), the Goodyear Shoe Machinery building (now Radio Northampton), the Guildhall and All Saints Church for display in the above exhibition.

Maurice Broomfield (photographer of industrial topics)

The **V&A Museum in London** will be staging an exhibition of Maurice's work from **November 2021**, for one year (More info later)

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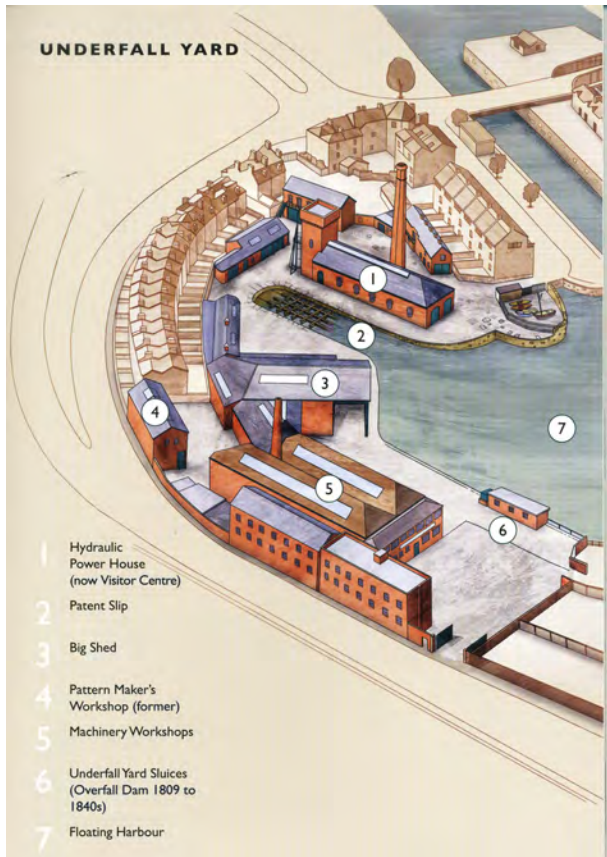
Underfall Yard at Bristol Floating Dock

(presentation given to NIAG via Zoom by Andrew Blayney, Underfall Yard Heritage Manager, on 9 April 2021)

Report by Mike Ringwood

Underfall Yard is at the Western end of the floating harbour, next to the SS Great Britain Experience and includes the sluices, workshops, slipway, covered working area and power house along with the hydraulic accumulator and the café.

The original course of the Avon was tidal through Bristol harbour with water levels varying by as much as 30 feet, twice a day leaving vessels stranded in mud at low tide. In the early 1800's the city approached William Jessop to design a system to ease the plight of shipping and speed up turnaround times. Jessop's plan was brought to fruition between 1804 and 1809. The Avon was redirected and straightened, becoming known as the 'New Cut', and is approximately 1.8 miles long. An overflow weir was constructed inland near Temple Meads to fill the original



course of the river, this becoming the floating harbour. At this site Netham lock provides inland access to the River Avon. Cumberland Basin lock provides entrance from, and exit to, the Bristol Channel at the western end. Nearby was another weir and sluice system to maintain and regulate the water level in the floating harbour. Although intended to improve matters the sluice system was ineffective as a means of removing silt from the harbour.

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Therefore, the harbour needed to be regularly drained and the silt dug out by hand. This was highly disruptive to shipping and trade.

In the 1830s Isambard Kingdom Brunel was invited to propose a solution. His suggestion was to develop the existing overflow weir to a four-pipe underflow arrangement. Pipe 3 was to be the lowest with a silt accumulation sump. In combination with dredging, this system was installed and was effective.

In the 1880s the docks engineer John Ward Girdlestone developed and rebuilt the whole yard. This provided a single site for the workforce, of approximately 400, who maintained the dock complex including, plumbers, electricians, blacksmiths, divers, engineers, fitters and shipwrights and who were previously dispersed in various buildings and yards around the harbour.

Extant buildings include the power house which was completed in 1887. The steam driven system was replaced by electrical equipment in 1907. This housed 3 pumps to supply hydraulic power around the dock for such equipment as cranes, swing bridges, lock and sluice gates, the water being pressurised to 750psi. Originally there was an accumulator in its own building. This was so crucial to the operation of the dock that a spare accumulator was prepared and stored during World War 2 in case of enemy bombing. It was not needed for that purpose but replaced the 1907 unit in 1954 when the old unit was no longer viable. The cylindrical body of the accumulator weighs 20 tons and is filled with a further 80 tons of scrap metal to maintain pressure within the system. The system remained operational until 2010. The power house building now accommodates the visitor experience centre and the café.

There has been a slipway since 1850. The current unit was installed in 1890 and fell into disuse in the 1980s. It was refurbished and converted to electrical operation by the Trust, during the 1990s.

The Victorian workshop still has its line shafting, originally with its own boiler and steam engine but in more recent times driven by an electrical / hydraulic system. All necessary machine tools such as, lathes, planers, slotters and shapers are to be found, some of great vintage. Within the workshop building there are three original blacksmiths' forges.

Bristol docks closed to commercial shipping in 1975. In 2014 a successful Heritage Lottery Fund bid was made for £3.5 million to repair buildings and create a visitor centre with learning and engagement programmes. Currently 17 companies are on site including Bristol City Council and 2 boat builders, all renting buildings and space from the Trust.

It remains a working yard which is open to all.

Andrew pointed out that the Zoom presentations have created far more interest than they ever envisaged. Underfall Yard has an informative web site with further details of its history along with tours and equipment demonstrations on offer. Go to: <http://www.underfallyard.co.uk/>

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Ceceil Swann's church belltower visits

CHURCH	VISIT DATE	REPORT IN N/L #
Northampton St. Peter's	08/06/90	39
Northampton St. Sepulchre's	10/05/91	42
Northampton All Saints	15/05/92	46
Hanslope	07/05/93	50
Cransley	13/05/94	54
Kettering	26/05/95	57/8
Rothwell	31/05/96	62
Staverton	02/05/97	66
Fotheringhay	01/05/98	70
Irthlingborough	30/04/99	74
Northampton St. Matthew's	12/05/00	78
Lowick	18/05/01	82
Orlinary	10/05/02	85
Easton-on-the-Hill	23/05/03	(No report)
East Carlton	07/05/04	91
Wadenhoe	01/06/05	96
Gretton	05/05/06	101
Geddington	04/05/07	103
Northampton St. Matthew's (organ)	16/05/08	107

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As can be seen from the above table, member Cecil Swann, sometimes accompanied by his daughter Elizabeth and once or twice by his late wife, arranged a total of nineteen consecutive annual visits to (mainly) Northamptonshire church towers for the enjoyment and education of NIAG members. These were deliberately placed early on (often the first visit) in each summer season so that we lesser mortals were kept away from the sometime inhospitable weather which might have reduced numbers for, say, a canal walk. Instead, Cecil's visits were almost always well attended and allowed members to catch up with each others' doings over the inactive (NIAG-wise) Spring months amongst their other benefits.

Cecil organised our visits to a fairly standard pattern – we would receive a talk from the Tower Captain on the history of his bells, a visit to the belfry, a demonstration of the bellringers' skills, where a team had been able to be got together – Cecil standing in to fill gaps on occasions, sometimes Elizabeth too, and, usually finally, a trip up stone staircases and ladders (some of these, frighteningly lengthy and steep!) to the church tower parapet. Views from here were, as can be imagined, generally splendid. Not infrequently the ringers provided hot drinks for the doughty climbers, which served to calm the nerves of those who needed them calming! Opportunities to take advantage of all of these things are sadly lacking in today's risk-averse climate and we all seem the poorer for that lack. I'm sure that anyone who took part in any of these visits will wish to join me in thanking Cecil for the memory of them, one and all! Two sample visit reports from those times follow.

Hanslope Church Tower – 7 May, 1993

Hanslope church tower and spire dominate the flat landscape south of Salcey Forest and we were most fortunate that the weather was perfect for NIAG's first summer visit of 1993. Twenty-six NIAG members and friends joined Cecil Swann and Roy Keeves (the local bellringer) and initially climbed the one hundred foot tower of St. James the Great church. The steps up the tower had been re-concreted in recent years which made it an easy climb and we were able to walk around the top of the tower. This also acts as the base for the spire which adds a further 86ft. 4Ins. to the overall height. In the evening sunlight the views were exceptional and trying to identify all the other churches seen, as well as a number of buildings in Milton Keynes, proved an interesting challenge for many members. On the way down we went into the bell chamber and inspected the eight bells. Two of these date from 1626. The dates and weights were as follows:-

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1947	Treble	5 cwts.
1947	2 nd	5 cwts.
1906	3 rd	6 cwts.
1815	4 th	8 cwts.
1750	5 th	10 cwts.
1626	6 th	11 cwts. (recast by Bowell, Ipswich 1906)
1626	7 th	15 cwts.
1814	Tenor	22 cwts.

The latter five bells were quarter turned and re-hung by Taylor's of Loughborough in 1891. Roy Keeves, Cecil Swann and Elizabeth Swann answered all the questions on bellringing and we must thank them for organising such a good start to the summer visits. The event was made even more pleasurable by the kind open invitation to join Oliver and Susan Ranson at Gordon's Lodge for refreshments afterwards.

Report by Ron Whittaker

Lowick Church Tower – 18 May 2001

Twenty members visited Lowick. We were met by Len Hallifax, the tower captain and clock winder. We followed him up the narrow, winding stairs to the ringing room to look at the clock mechanism where Len demonstrated how the driving weights were wound up. The clock was made just over 100 years ago, its nameplate proclaiming the maker to have been

JOHN SMITH
STEAM CLOCK WORKS
DERBY

We then continues up the stairs to the bell chamber. The six bells are hung in a heavy oak frame made in 1884 by the local bell hanger, G. Eaton of Titchmarsh. The bells are by various founders, as follows:-

	No.	Founder	Date	Diameter
Treble	1	John Taylor, Loughborough	1896	29.5"
	2	Watts, Leicester	1595	31.5"
	3	Watts, Leicester	1595	33"
	4	Re-cast Taylor, Loughborough	1884	35"
	5	Richard Wood	16 th century	38.5"
Tenor	6	Watts, Leicester	1619	42"

The treble bell weighs about 5 cwts. and the tenor about 12 cwts.

After viewing the bells we continued up a flight of steps, through a small door and out on to the gutter at the base of the octagon to view the

surrounding countryside and have a bird's eye view of the village. We also noticed that the 12 – yes 12 – weather vanes all pointed in the same direction, within a few degrees. (Quite an improvement on national broadcasters' forecasts – ed.)

The visit concluded with a look round the interior of the church and a vote of thanks to Mr. Hallifax.

Report by Cecil Swann

(Compiler: RS)

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Upper Dean Windmill

Bedfordshire is slightly better placed than Northamptonshire with remains of windmills in that it has a complete post mill in Stevington – which NIAG has visited on several occasions in the past. There are also the remains of five other windmills in Bedfordshire at Sharnbrook, Shefford, Stanbridge, Thurleigh and Upper Dean.

Upper Dean is interesting in that it is situated only just over a mile south of the Northamptonshire border, near the village of Hargrave. The other interesting feature of the windmill – which is situated in Shelton Road between Upper Dean and Shelton (Grid ref. TL041683) – is that two arms are intact but do not have sails. It is also reported that some machinery remains in the mill.



Upper Dean windmill seen from its approach driveway

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The windmill is situated up a short gravel drive in a small private field but there is a footpath around the field which provides good views of the brick structure. It is Grade 2 listed and stands approximately 40 feet high and originally had three floors.

The current mill was built around 1850 for William N Bliss, although there are references to earlier mills on the same site. Bedfordshire Archives state that the windmill stopped working in 1906. The brick-built tower with a rounded crown then stood 46 feet high and had a diameter of 18 feet at the base, the walls being 18 inches thick. In 1931 it still carried parts of two of its shutter sails and the semblance of a tail-fan. The wooden brake-wheel

was 7 feet 6 inches and the crown-wheel was made of iron. There were three upper floors and it ran two pairs of stones. The names of W Eaton,



J.E Mehew and William Hall are recorded on the milling-floor; Thomas Eaton was there in 1869; millers with the latter two surnames saw the last of the mill's days of usefulness, Charles Hall being the final miller there until 1906.

By the 1980's the cap was missing and the mill building was deteriorating. In 2002 planning permission was granted to restore the windmill - including replacement of the cap - and to erect a nearby house. The repairs and restoration have been carried out well and have produced an attractive heritage asset on Northamptonshire's border.

Article and photos by Ron Whittaker

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Goodbye to Northamptonshire County Council.....

I feel we should mark the end of Northamptonshire County Council, and its archaeological and heritage service, at the end of March 2021 and its replacement by two Unitary Authorities, West Northants and North Northants. Below we will note the impact this will have on the little that is left of a once much larger and more influential voice in the archaeology of the county. There may be some who might say good riddance to the NCC, but you should be wary of doing so until you have seen the effectiveness of

the replacements and what really happens behind the glossy launch advertising that has recently been coming our way.

The appearance of a County Archaeologist in the NCC goes back to Paul Everson in 1973. This period saw the formation of the Sites and Monuments Record, with sites plotted and numbered on paper maps which gave entrance to the more detailed written records. After Paul moved on Alan Hannan was appointed in August 1976 and he oversaw steady growth of the unit into the 1990s. The first major excavation was at Raunds, Furnells Manor, followed by Ashton Roman town and the Raunds Area Project – many more followed.

Through the early years the unit was based at County Hall and, as it grew, the team occupied assorted rooms in and around this hub. In 1988 the unit was relocated to Wootton Hall Park (ending complaints about mud on the County Hall stairways) and finally acquired an equipment storage yard, a dedicated pot-washing room and a finds store. With the advent of digital photography the original dark room was converted to a sample processing room.

In 1990 the advent of commercial archaeology led to the creation of a 'Chinese wall' between the curatorial archaeologists (who determined what needed doing and who maintained and enhanced the now digital Sites and Monuments/Historic Environment Record) and the Field team, who did the field work, if they won the job. Initially, Alan Hannan as County Archaeologist managed both sections.

Staffing levels in the curatorial section were already coming under pressure in the early 1990s as county council funding itself was under greater pressure. After Alan Hannan retired in 1995 it was all downhill as the number of curatorial posts was whittled away. The status of the subsequent heads of the curatorial section was also steadily diminished – whereas Alan Hannan could speak/mix on an equal footing with heads of departments

who made the important planning and policy decisions, later curatorial heads operated at ever lower levels of the council hierarchy.

As NCC made itself into an enabler rather than a doer the field team also came under pressure, kept at bay only by feeding an annual profit into the NCC coffers. However, following the 2008 recession and with many archaeologists around the country losing their jobs through 2009, the writing was on the wall. In 2009 the field team was finally externalised to become MOLA (Museum of London Archaeology) Northampton, with MOLA themselves having been externalised from the Museum of London.

At that point all that was left was the Historic Environment Record (which began life in the 1970s as the Sites and Monuments Record), now within the Record Office, the archaeological planner advisors within the planning department and the potential of developing Chester Farm into a heritage centre, including a much needed archive store, now the Archaeological Resource Centre.

So what happens to these much diminished roles within the new local authority structure? Archaeological Planning Advisors stay with the Minerals and Waste Planning Services team and become part of North Northants authority whilst providing advice to West Northants through a Service Level Agreement; the Historic Environment Record stays with the Record Office within West Northants authority (which includes Northampton); Chester Farm, now glossily re-branded Chester House, will come under North Northants with the hope that plans for its future are economically viable and sustainable in the long term.

So, we now wait to see what the next chapter of public service archaeology in Northamptonshire will bring us.

Andy Chapman NAS/NCC archaeologist [retired]

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From The Kettering Leader of 19 October 1917

Local Jottings: The Fire Engine

The new fire engine, 'Kettering No. 3', completed its tests satisfactorily on the previous Saturday. One steamer was to be retained for emergencies but the motor 'will do all that is required'. It was said that it was possible that the steamer 'may never have to be used again' and that it would be kept with its broken down mate until that was sold. The motor engine would be kept at a local garage.

From The Kettering Leader of 21 December 1917

Kettering Police – Mischievous Youths

James Stanion, an engine cleaner of 64 Melton Street, and three other youths were charged with damaging a brick kiln to the amount of 20/-, the property of James Pain Ltd. At Kettering on 1 December. Vernon H. Piggott, estate agents to James Pain Ltd., said 'damage to the brickworks had been done systematically from time to time'. Total damage done to the kiln was put at about £30. Each of the accused was fined 40s6d.

Both above extracts courtesy of Mick Dix

Edward Harrison Barwell: Northampton Ironfounder



Barwell staircase balustrade at Wrest Park, Beds.

In 2016, I received an email from Martin Green, Chairman of the Warwickshire Industrial Archaeology Society asking about some cast iron railings around houses in Leamington Spa with the maker's name: *Barwell & Hagger, Northampton*. It turned out that the *Barwell* in the name was Edward Harrison Barwell, an ironfounder who ran the Eagle Foundry. This set me off on a journey of discovery to bring together the history of the foundry and to identify any other Barwell ironwork that still remains. The findings were recorded in a book: *Edward Harrison Barwell – 19th Century Northampton Ironfounder*, published by NIAG in 2019. This report on my Zoom talk to NIAG on 12 March 2021 provides a brief overview of Barwell's activities, together with new information that has emerged since the book was published.

The Eagle Foundry, located just north of South Bridge in Northampton, opened in 1823 as a partnership between Edward Harrison Barwell and John Brettell, producing a wide range of cast iron goods. However, the partnership was dissolved in 1826 and almost immediately replaced by a partnership between Barwell and Thomas Hagger. This existed until 1833 when Barwell continued on his own, under the name Barwell & Co. until his death in 1870. As well as the more mundane items of domestic cast iron, some larger items and some very decorative architectural ironwork was produced by the foundry, particularly for the nobility. For example, Barwell supplied most of the ironwork for the rebuilt house and gardens at Wrest Park in Bedfordshire, including a pair of one metre high wyverns cast in iron in 1825, one of which still exists in the gardens. He also supplied the

spectacular decorative cast iron balustrade for the grand staircase in the house.

Fortunately for us, Barwell provided a maker's name on many of his products, as on the 45-foot cast iron bridge still in situ at Luton Hoo, also on the gates at the entrance to Southampton Old Cemetery and on the cast iron brahmin bulls in an Indian Mogul-inspired garden at Sezincote in the Cotswolds. There are also mileposts, a water pump and a weighbridge still in existence after more than 150 years. To date, some forty different items of existing ironwork have been identified over the southern half of England as being produced by Barwell's Eagle Foundry. In Northampton, two sets of railings carry the Barwell name, one in St Giles Terrace, the other bounding the southern edge of the Racecourse. Although virtually none of the company's own records survive, it is possible to glean some understanding of the range of products they supplied from other sources. For example, there are numerous design drawings of fire grates, stoves, kitchen ranges and architectural ironwork in the National Archives and in a copy of a Barwell catalogue in a Norfolk museum.

As well as being an ironfounder, Barwell was also a politician, serving as Mayor of Northampton three years running 1842-1844. He purchased Leamington gasworks, was a director of three railway companies and had an involvement in the lead mining industry in Somerset in his later years. After Barwell's death in 1870, the Eagle Foundry was taken over by Rice & Co who ran the foundry until 1997, albeit on a different site in the twentieth century.

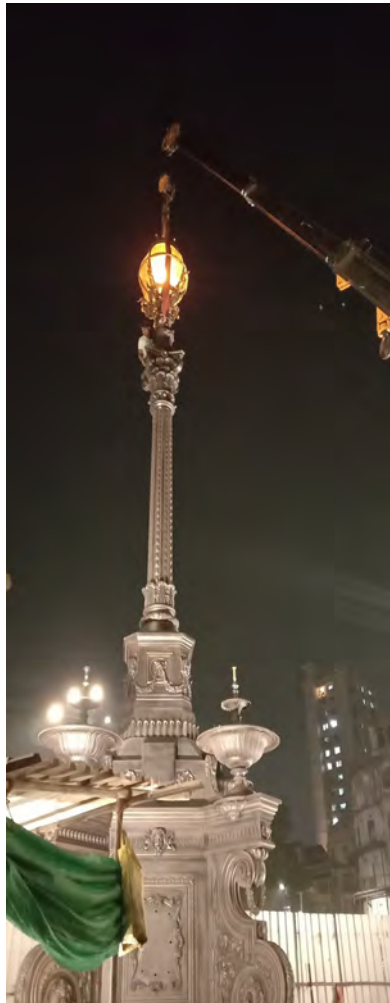
Since publication of the book, there have been new developments in the story of the fountain installed on Northampton's Market Square in 1863. Designed and manufactured by Barwell & Co, it had been paid for by Samuel Isaac, army boot contractor and Captain Commandant of the 5th Northamptonshire Rifle Volunteers and was commonly called the *Isaac Fountain*. However, after 99 years during which time the lamp on the top was changed three times, the fountain was deemed unsafe and was dismantled in 1962.

In June 2018, I came across the Barwell & Co catalogue in a Norfolk museum. On the introductory page was a drawing of the fountain and underneath it said '*designed in 1863 and since erected in India and England*'. After searching on Google, I came across an archived webpage from the Radio Northampton website which said that their presenter Jona Kotnis had lived in Bombay (Mumbai) when she was young and on her way to school had passed a fountain which looked like the one on Northampton's Market Square. She had also discovered it was now in the gardens of a Mumbai museum. The Indian fountain is called the *Fitzgerald*

Fountain, after the name of the Governor of Bombay at the time. I emailed the museum and they kindly sent me some pictures of the fountain for my book. Later in 2018, out of the blue I had an email from some engineers in Mumbai who were dismantling the fountain in order to restore it and move it back close to where it had been originally erected in 1867. They had found a number – 171196 – on various components of the fountain and a lozenge with various letters and numbers inside it. They asked if I could explain what these meant.

I had already discovered an original drawing of the Isaac Fountain in the National Archives at Kew, which had been submitted for the registration of the design. The same number was on the drawing – 171196 – and the lozenge carried a set of numbers and letters identifying the date of registration. So, I was able to send them a copy of the drawing and confirm that their fountain had indeed been designed by Barwell & Co. The design (number 171146) had been registered in London on 25 January 1864 and their fountain's twin had stood on Northampton's Market Square for nearly 100 years. Furthermore, they now had a copy of what may be the only existing original drawing of the fountain. Having the drawing meant they now had sufficient information to be able to reproduce bits of their fountain that were missing.

A few weeks later a local reporter contacted me from India for an interview, resulting in a headline in the local *Sunday Mid-day* newspaper in Mumbai: '**BRIT TWIN SAVES INDIAN SIBLING FROM NEAR DEATH**'. It told the story of how I helped them solve the puzzle of the Fitzgerald Fountain! I continued to receive updates of the progress with the restoration and a week before Christmas 2020, I was



sent a picture from Mumbai showing the installation of the restored Fitzgerald Fountain back near its original location in Mumbai. It is interesting that despite it being a reminder of its British Imperial past, Mumbai now sees the fountain as part of its own heritage. Unfortunately, Northampton Borough Council was not of the same mind in the 1960s regarding the Isaac Fountain!

It seems that many of the designs produced for the Eagle Foundry including the fountain, were the work of one man – Mr Atkinson. He is mentioned in the *Northampton Mercury* a number of times towards the end of Barwell's tenure at the Eagle Foundry. Indeed, he was present at Barwell's funeral and was still at the firm when they were taken over by Rice & Co. In the Barwell book I refer to him as Henry Atkinson, since there are two mentions of the name Henry in early NIAG Newsletters. However, it turns out that the name Henry applied to a descendent of Mr Atkinson rather than Mr Atkinson himself. Unfortunately, someone else made the same mistake that I did, thus reinforcing my supposition that Henry was correct. The *Northampton Mercury* for 9 November 1872 clarifies the correct first name of Mr Atkinson:

Case of distressing suicide – On Wednesday morning, Mr William Atkinson, senior artist, of 8 Albion Place in his 52nd year, committed suicide. ... He had been connected with the Eagle Foundry for the lengthened period of up to 30 years. He had thought that his work at the foundry would be terminated, despite Mr Pain, Manager of the foundry (now Rice & Co) saying it would not. ... Among the many works which have been executed at the Eagle Foundry from the designs of Mr Atkinson, particular allusion might be made to the fountain which adorns our Market Square. A sad end to a talented man.

Where Edward Harrison Barwell was born and lived before he joined up with John Brettell in Northampton in 1823, has so far remained unknown to me. Barwell's great-great-great-grandson Stephen Hatcher has the Barwell family bible which shows that he was born on 16 May 1797, but doesn't say where. For various reasons none of the censuses on which he appears is very helpful, except that he was born in England but, according to the 1841 Census, not in Northamptonshire. Several Barwell family trees appear on the Ancestry website, put there by various family historians. While most of these state that he was born in Northampton, they do not offer any documentary evidence for this. One might think Northampton was likely; his parents were married at Cranford St Andrew in 1794 and living at Hardingstone by 1841, both in Northamptonshire. However, I am grateful to NIAG member Andrew Presland for recently identifying a reference to Barwell's baptism online. Although details are sparse it would seem that he

was christened on 21 May 1797 at Evington parish church, Leicester. The Barwell name is not mentioned again in the Evington parish registers but his mother's maiden name (Harrison) appears a number of times. Perhaps she came from Evington – further research is required when the restrictions permit.



Barwell ironwork at former Potton station, Bedfordshire

Just after the Barwell book was published, NIAG member Roger Warwick spotted on Facebook some pictures of a former station building that still has cast iron platform canopy supports, with the name Barwell & Co at the base of one of the columns. The station was Potton in Bedfordshire which opened in 1862 on the Bedford and Cambridge Railway. In 1865 the line was taken over by the LNWR but closed as part of the Beeching cuts in about 1965. It is now domestic premises but the owners have retained the ironwork and platforms. The website disusedstations.org.uk shows that Sandy station, the next stop on the line towards Bedford, had the same ironwork, presumably by Barwell & Co, but this was demolished after the line closed. This shows there is still Barwell ironwork out there waiting to be discovered, so please keep your eyes open!

Copies of *Edward Harrison Barwell 19th Century Northampton Ironfounder* are still available from Peter Perkins or Terry Waterfield, price £9.00 (£5.50 to members).

Report by Peter Perkins

NELP Co. Marker, Billing Road, Northampton

NGR: SP76992 60671

One happy outcome of Lockdown daily exercise walks was the recognition of a very small piece of Northampton's industrial past located close to home and passed by many, many times. It was only the cutting back of a large, burgeoning privet hedge and accompanying ivy early in 2021 which revealed at pavement level one *in situ* NELP Co. marker.

This Northampton Electric Light and Power Company Limited marker identified the presence of a company cable or cable junction. According to NIAG's second edition '*Guide to the Industrial Heritage of Northamptonshire*' the company commenced operations in 1891. In 1919 it augmented its supply with its Hardingstone Junction generating station (Gazetteer entry 294). The 1947 Electricity Act saw it nationalised and it went on to become part of East Midlands Electricity Board. NELP Co. Ltd supplied electricity to Northampton and surrounds, extending into parts of Buckinghamshire and present-day Milton Keynes. Records of the company are held by the National Archives, Northamptonshire Record Office and the University of Nottingham's Department of Manuscripts and Special Collections.



The marker sits at pavement level close to a modern fire hydrant marker, both set hard against the dwarf blue brick wall which forms part of the original south side boundary to Billing Road Cemetery, Northampton. It is located approximately 80 metres east of the main southern entrance to the cemetery.

The marker stands 300mm high above present pavement level; is 235mm wide and approximately

100 mm deep. It appears to be made of a (cast?) concrete-like material. The marker has a rounded head with short side haunches above vertical sides. An art deco influenced circular relief motif dominates the face. This

comprises four partial arcs embracing the letters 'LTD' and enclosing a small central roundel. These are a stylish rendition of the letters 'E Co LTD' – short for Electric Co Limited.

Cemented centrally in to the base of the main face below the circular motif is a small rectangular (metal?) panel with the letters N.E.L.P. C°. directly above six small information panels or plaques. The first of these reads '33 K.V.' (Kilo Volts) The initial part of the adjoining panel is illegible but ends with 'FL3 - 6.' The remaining four panels are blank.

Was this a NELP Co. designed and made marker or might it have been a generic electric company marker into which were placed details pertaining to an individual company?

The marker is in reasonable condition, all the more so considering its vulnerable position low down at the side of a busy road. Some fine cracking is evident along with a more prominent crack running to the centre of the motif; several chips of material have been lost along the front edges.

Billing Road Cemetery opened in 1847 as the town's municipal cemetery. No date is assigned to the NELP marker though its decoration and location along Billing Road which linked the town to its slowly expanding 20th century suburbs east of the Cemetery and beyond, may hint at an inter-war date?

Can NIAG members more accurately date the marker? Knowledge would also be appreciated of other surviving NELP Co. Ltd surviving markers in and around Northampton. Are they reasonably commonplace or rare survivals?

Graham Cadman

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Northampton Sand Ironstone

Northampton Sand ironstone has its origins in Jurassic times, around 180 million years ago. The landmass of which Northamptonshire was then a part, was moving northwards and at that time was sitting about 20 degrees of latitude south of where it is now, roughly where Gibraltar and Casablanca lie today. Climatic conditions, we are told, were hot and humid in that position at that time. The outline of the British Isles was unrecognisable and palaeo-geographers' best estimate of land/sea division at the time.



*British Isles (and Northamptonshire) c.180M years ago showing land/sea division
(N = Northamptonshire)*

It can be seen that a stretch of land existed across much of present day south-eastern England with its northern coastline running through Northamptonshire, largely in line with the southern side of the present Nene valley. A relatively narrow stretch of sea, thought to have been quite shallow, separated us from the Pennine landmass. Rivers flowing into this narrow seaway from north and south deposited eroded material into this sea and these built up to form the Northampton Sand beds. What geologists have so far been unable to provide us with is a definitive answer to is where these beds' concentration of iron came from. It seems possible that it would have been a combination of the effects of specific climatic factors prevalent when the beds were laid down along with a process of differential leaching and/or erosion favouring the survival of iron and thus its concentration from the average 5% distribution of the element in the earth's crust to the 35% or so iron found in the Northampton Sand beds in Northamptonshire.

Other explanations have been postulated – if readers have their own theories your editor will happily set up a letters page to bring any such to the attention of the membership at large!

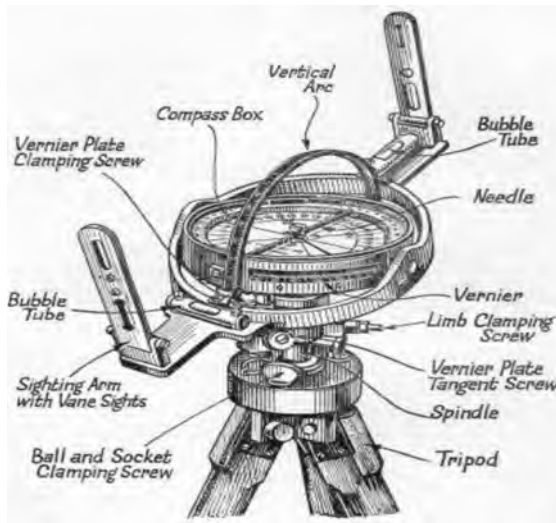
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How I became a Mining Surveyor – A. J. Pack

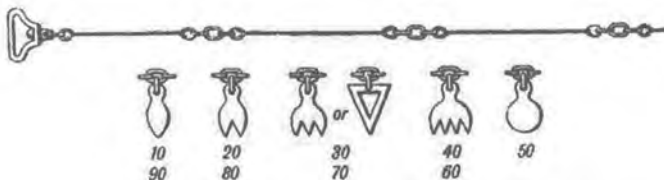
In today's world, to become a registered mining surveyor requires, I believe, a minimum of a three year university education ending with a degree, minimal mining surveying experience and the need to pass a number of assessments some of which would include the completion of a specified project. In 1947, however, when I first considered applying to work in the drawing office of Richard, Thomas & Baldwins iron ore mine at Irthlingborough there were no such requirements. It was even possible, in fact, to secure a post with no school leaving certificate.

I was interviewed by the general manager, the mine manager and the surveyor of the mine. When asked whether I had ever been underground I replied "No, not yet". The general manager, roaring with laughter, said "so you believe you've got the job?". I think that was what secured my employment. Little did I know, when I began, what was involved. I soon discovered that I would be required to pass a coal mining examination because most iron ore mines were classed in the same category as coal mines. I began on a very low wage because, of course, I knew nothing of what was involved. It was the equivalent of being 'articled' which could have required my parents to pay for my training. I was not prepared to go along that route.



My first impression was that the survey department was responsible for all the jobs that fitted into no other categories of the day-to-day running of the mine, many of which had nothing to do with surveying. I was taught

draughtsmanship, the use of levelling instruments, taking of accurate measurements over long distances, the use of a theodolite and a less accurate instrument called a miner's dial. I was also taught how to use a Gunter's Chain. Excellent for measuring over rough terrain and used, in the past, by surveyors measuring fields round villages under the enclosure acts. I must have been one of the last people in England to use such a device as it was fast becoming obsolete.



Gunter's Chain: 66 ft. / 100 links in length (designed 1620)

Achieving proficiency in surveying and drawing office skills took some time to acquire and before I was able to sit the necessary examinations I had to have spent a fixed number of hours in a drawing office and some

considerable time surveying underground. Usually one could not sit the examination before the age of twenty. In my case, as I had to do two years military service, (not required by lads in coal mines), I took the exam a little later.

I joined the Royal Artillery and luckily secured a place in a survey unit where I learned many useful skills that I employed later. I eventually qualified as a mining surveyor but I did not become fully fledged until I had completed a further three years under probation. Luckily, when I was finally able to apply to become a qualified surveyor of a mine, my predecessor, who had trained me, was himself offered promotion in the company so I stepped conveniently into his shoes. In fact my certificate number was first presented to the Mines Inspector who officially appointed me but my salary was paid by the company.

Before my appointment, and soon after I left the army, much of my time was taken up in the preparation of a new mine plan. It eventually formed the basis of the Abandonment Plan. This was required to be presented to the Mines Inspector after the mine closed, along with all the survey records appertaining to the mine. Later the survey records were unaccountably destroyed but, luckily, the Abandonment Plan has survived and now resides in the Northamptonshire Record Office for all to see. By law there were several other plans of the mine which were required to be held in the office showing different aspects and it was necessary that they all be kept up-to-date on a quarterly basis.



Richard, Thomas & Baldwin's Irthlingborough site in September 1965 immediately prior to closure. (Photograph © Ian L. Wright)

Now a few words about the Mining Qualifications Board examination which I would be required to pass if I was to become a mining surveyor. This was divided into two sections. Firstly, two written papers to be taken in Doncaster on a particular day. These had to be passed before being allowed to proceed, Secondly, a practical exam which was a three day affair to be taken at a coal mine. It consisted of one day levelling, or surveying, on the surface, another working underground with a theodolite and a final day working in the drawing office, during which one would be called for an oral exam. This was mostly regarding requirements written into the surveying regulations of the Mines and Quarries Act. Even those who had gone through university or become chartered surveyors were required, at that date, to take this practical exam which were held twice a year. In my day, if one passed the written exam but failed the practical, the written exam had to be retaken. This imposition was later lifted, but not before I had passed the written exam and failed my first practical test due to the fact that there were accepted practices in coal mines of which I was unaware. There was no 'day release' in those days to acquaint myself of these shortcomings, so I took a fortnight's summer holiday in the drawing office of a coal mine in Leicestershire and also got friendly with a prospective surveyor in Yorkshire. Both approaches proved invaluable. As to the written exams I didn't find them too difficult although it was acknowledged by all candidates that it was virtually impossible to complete all questions in both papers. I finally passed on the second attempt by using a slide rule for the computations and stating so at the top of my paper. I had learned to become proficient in the use of a slide rule in the army and this allowed me to complete the paper and re-work one of the questions using logarithms. The papers required the memorising of more than seventy complicated formulae, only some of which would be required, but of course no-one was allowed to bring any 'cribs' into the examination room. We were only allowed to provide writing materials, a log book and a slide rule. Hand calculators had not yet been invented. The invigilator circled the room checking that no formulae had been smuggled in inside the log books. When I eventually took over the running of the survey department one of my principal occupations was to train young school leavers in the art of becoming surveyors. Unfortunately, none of my staff were able to take the mining exams because the mine closed before this was possible. It should be borne in mind that I ceased to be a mining surveyor soon after the mine closed in 1965 so what I have described is my impression of facts which existed a long time ago and any errors or omission should be accepted.

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No 5 Blast Furnace – John Lysaghts, Normanby Park Steelworks, Scunthorpe by Mick Pendry

On leaving school in Coventry during 1953 I became an indentured quantity surveyor with a civil engineering construction company in Warwick, namely Turriff Construction Corporation (TCC). The company was engaged in a number of large projects in the UK and overseas including major infrastructure contracts for the Central Electricity Generating Board, Metropolitan Water Board, United Kingdom Atomic Energy Authority along with works for major companies and bodies in Iraq, Syria, Pakistan, Saudi Arabia, etc. Following a period assigned to head office we new entrants were expected to further our experience by being assigned to contracts at home and abroad.

My first experience away from head office was close to home in Coventry, a contract to extend Finham Sewage Disposal Works followed by a long stint on a large contract constructing a new sewage works for Oxford in Littlemore (a pattern seemed to be developing here!).

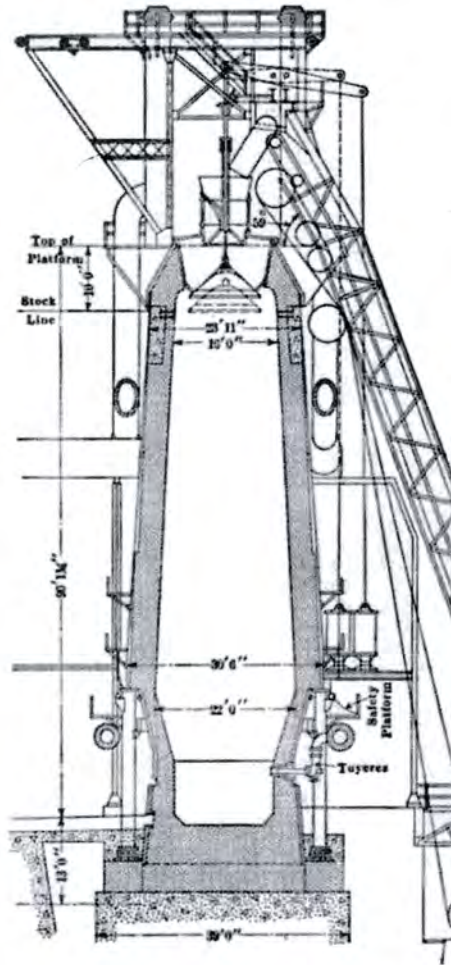
During 1958 / 1959 Lysaghts embarked on the construction of their No 5 blast furnace. My involvement was as a member of the civil engineering construction team employed by TCC. The contract comprised the construction of the main reinforced concrete foundations, and enabling works for the furnace. The structure, furnace installation, cooling towers, etc. were carried out by specialist contractors under separate contracts. However there needed to be a great deal of co-operation and liaison between all contractors and the design teams.

I arrived in 'sunny Scunny' and was helped by the site staff already there to find lodgings, I found a place nearby with an old couple who were very welcoming but, during my first two weeks with them, every meal was cooked in the frying pan in what I can only describe as Fat with a capital F, and accompanied by a lot of baked beans. As much as I enjoyed the company of the couple it became necessary to move on for the sake of my health! With the help of a colleague I found new lodgings with a lovely couple and enjoyed fine, varied and proper food for the remainder of my time in Scunthorpe.

However I digress, No 5 blast furnace comprised the furnace itself along with all the ancillary structures necessary for the supply of raw materials, fuel supply, furnace gas extraction systems, slag removal, removal of hot metal, etc. The overall height of the structure was in the region of 250 feet

and the main foundation approximately 200 feet square by 15 feet deep and heavily reinforced.

In order to prepare the foundations we had to demolish a number of existing structures and foundations. The task of breaking out unwanted concrete was somewhat more laborious then than it is today. The method used by us utilised a drill to penetrate the concrete and a hydraulic burster (essentially a tube with rams) inserted into a pre-drilled hole and connected to a hydraulic pump which was then pressurised to 'burst' the concrete – long-winded but effective. Once the area was clear excavation commenced. We used a Ruston Bucyrus 22RB dragline to remove about 17,000 cubic yards of soil and take off-site from a congested area – and on a working steel site this was a major task. One advantage we had was the dragline operator, Danny Banbury, and his banksman. I remember they were a team who had worked together for quite some time. Danny was the best operator of a dragline I ever saw – he was accurate and quick and so dedicated. I recall when he had finished his lunch in the canteen he would jump back in his machine and practise landing his bucket on an exact spot. He was so precise he could flatten a penny – obviously a bigger coin than current ones, and bigger than that by the time he had finished with it! One thing Danny taught me was to drink barley wine, a potent brew popular in the area but not a drink I would recommend! After a few sessions out drinking with Danny I reverted to mild and bitter.



A smaller furnace!

The excavated area was then covered with 'blinding' this being a layer of

weak concrete, three to four inches thick, to form a base on which to construct the reinforced concrete furnace foundation. Shuttering (or formwork) was erected to form and contain the concrete, steel reinforcement was assembled in accordance with the predetermined schedules and finally concrete poured. This was a massive undertaking and done in sections. Bolts had to be cast in to enable the structure to be fixed to the base, and these had to be very accurately located, though the sleeves they were in gave a degree of tolerance.

To give an idea of the quantities involved, approximately 22,000 cubic yards of concrete was poured and over 2,200 tons of steel reinforcing bar used. TCC installed a temporary concrete batching plant on site with the materials – cement, sand and aggregate – being delivered in bulk. A by-product of iron making is of course the slag. At Scunthorpe this was transported from the furnaces in its molten state by rail in special cauldron wagons to a tip adjacent to the plant which, from memory, was operated by Tarmac. It was poured in its molten state and left to cool, later being crushed and used to provide the raw material for concrete, possibly slag aggregate.

Once the foundations were ready the work of erecting the furnace and ancillary structures could commence but as a pre-cursor to this operation it was part of our contract to construct the foundations for the crane to be installed to carry out the erection. Again from memory, this was called a Gabbard Crane. It comprised three legs supporting a platform onto which the crane itself was installed - a forerunner of today's tower cranes but more like a dockside crane. One day during erection of the furnace I was invited by the engineers to go with them to the top of the structure. The method of getting there was to climb into a crude cage hooked onto the crane and be hoisted up. On arrival at the top, now 200 feet high, the engineers invited me to step out of the cage onto the working platform comprising boards on a rough scaffolding, at which point they signalled the driver to pull the cage away leaving me alone, swaying in the breeze!!! To say I was scared was an understatement! They left me there for some time to take in the view – hilarious they thought, but it wasn't so funny for a 21 year old still wet behind the ears! In fairness they did take me to the pub that night.

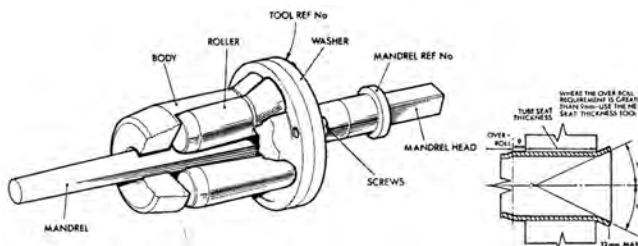
An interesting project for a young indentured surveyor. The final irony - in the mid 1980s I was returning from Beverley and thought I'd divert and drive past Lysaghts for old times sake, only to find they were in the process of demolishing No 5 blast furnace!

Wicksteed Engineering

Ron Hanson records the history of the Kettering engineering works.

Last summer (2020) there was an announcement in the press about the financial problems of Wicksteed Park in Kettering, brought about by its lack of income during the coronavirus lockdown. This set me thinking that non-Ketteringites may well think of the name Wicksteed purely in terms of childrens' playground equipment and the park, and rarely of the engineering company. In fact, Wicksteed Park was Charles Wicksteed's *hobby* and was eventually given in trust to the people of Kettering on its founder's death in the early 1930s. Wicksteed Engineering, on the other hand, was his *business*, founded in 1876 in Digby Street Kettering to make tooling for the manufacture and repair of steam engine boilers.

A steam engine boiler consists of numerous tubes connecting two boiler plates. In operation, the tubes are immersed in the boiler water and the furnace gases passed through the tubes, thus heating the water and making steam. In such harsh working conditions, boiler tubes have to be changed regularly during the life of the boiler. Wicksteed Engineering made (and still make) portable units and tools which would be inserted into the, typically, one to two inch bore tubes to cut them out. New tubes would then be inserted and to make a steam-tight seal between tube and boiler plate, a Wicksteed patent tube expander tool would roll and squeeze the tube outwards to fill the hole. These expanders became the firm's core business



Typical tube expander

An expander consists of a casing with three (sometimes five) tapered roller slots, set at a slight angle to the centre line of the body so that the rollers, when turning, feed the whole unit into the tube. To provide this turning motion, a tapered mandrel (*a shaft or spindle in a lathe, to which work is fixed while being turned*) is fed and rotated between the rollers. This motion pushes the rollers outward thus squeezing the tube against its hole in the boiler plate.

In the 1920s a hydraulic hacksaw was developed for sale, in different sizes, to cut steel bar up to 16 inches in diameter. These machines were in production up until the 1980s.

Also during the 1920s, Charles Wicksteed started setting out his park with play equipment and facilities for children. Whatever he required, would be made up in his engineering works. That is why the Wicksteed swings and slides looked as though they had been made up using a few castings and some boiler tube – they actually had been! After enquiries from councils around the country, Wicksteed started making playground equipment on a business footing.

Manufacture of boiler tube repair equipment, hydraulic hacksaws and playground equipment were the three main items which made up the output from Wicksteed Engineering works in Digby Street in equal measure for most of the 20th century. Nowadays, however, the playground equipment is mainly brought in from China.

From time to time, Wicksteed Engineering ventured into more quirky sidelines. For instance, in the early days of motoring a synchronised gearbox was developed for motor cars. Apparently Charles Wicksteed insisted that any manufacturer wishing to use the gearbox in his vehicles would have to part-build the cars and then send them to Wicksteed Engineering to have the gearboxes fitted! At a time when motor repairs were primarily carried out by the local blacksmith Wicksteed's plan was not a working proposition and came to nought!

Another venture was a bread slicing and buttering machine. Quite a few of these were made and supplied to users including the Royal Navy. Two machines were also in use at Wicksteed Park pavilion for some years.

Charles Wicksteed's park had developed from an original vision (about 1914) of a cluster of social housing around a central open park area. This did not win the approval of Kettering's council, so after WW1 he proceeded to build housing for park workers, starting with what is now Spinney Lane in Kettering. These houses were of prefabricated construction and manufactured in the wood shop at Digby Street but with no intention of commercial production.

During both world wars Wicksteed Engineering produced heavy artillery shell cases mainly using female labour on day and night shifts. During

WW2, this drew the attention of many U.S. airmen from the nearby Grafton Underwood airbase!

In its heyday the works consisted of an iron foundry, brass foundry, pattern shop, two machine shops with machines for planing cast machine beds, shapers, slotting machines, grinders for expander mandrels and rollers working to tolerances of one ten-thousandth of an inch, as well as all manner and size of lathes, mills and drills. There were also fitting shops for construction of hydraulic saws and for playground equipment.

Later in the 20th century, with both the hacksaw and the playground equipment designs becoming outdated, Wicksteed Engineering management made efforts to add to its product range. They purchased the rights to supply spare parts for Taylor Stoker who built automatic coal-feed systems for power stations. A development department was set up to design a new family of circular metal cutting saws. They purchased a company called Sound Engineering in Rushden, an approved supplier of aircraft components.

The Sound Engineering project would seem to have been the company's saving grace to a large extent as the serious engineering part of the company has since moved out of Digby Street and now operates from the Rushden site. The Digby Street premises are now used as a painting and storage facility for the playground equipment business.

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Christine Sanderson gave a talk to NIAG in March 2020 and has now written two books on aspects of the company's business activities in Northampton, both available from 78 Derngate by calling in or by post (extra to pay!). The books are:-

'Bassett-Lowke Ltd: Art'

84 pages, A5 sized softback and priced at £7.50

'Bassett- Lowke: War Work'

95 pages A5 sized softback, priced at £9.99

High production standards, well illustrated and both are good reads

D 15 Kettering



Abb. 1 Kettering, der regelmäßig gebaute Nordteil der Stadt, b Eisenwerk, c Tagebauten

This is a 1930s Luftwaffe reconnaissance photograph of Kettering ironworks to assist bombers to pre-select their targets - a chilling reminder of the fact that everywhere was a potential target in those grim times. Thankfully, no bombing raids took place on Kettering ironworks during the war.

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