WARWICKSHIRE Industrial Archaeology Society

WIAS

NEWSLETTER

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FROM THE CHAIRMAN

As we have sought to chase a rapidly moving target, the attempts of WIAS to outwit the Covid 19 Virus have been thwarted once more. How many of us expected that we would still be battling with Covid at the start of 2022? I had hoped to present an encouraging prospect to you all, with 'in-person' meetings resumed in the normal pattern of the second Thursday of the month in the Halse Pavilion, Warwick School. Sadly, this will not be the case. With the ever-rising number of cases at the end of 2021, plus the unwillingness of our speaker to attend in-person meetings, we have been forced to convert our meeting on January 13th. into a Zoom presentation.

This has caused a further period of reflection – and several extra committee meetings! What happens next? How far ahead can be plan? Has the WIAS world changed permanently in any way?

One thing that has emerged, of course, is that we have a changing audience and membership. There are various categories included in our 'Circulation List' and 'Postal List', and – without one-to-one conversations – it is difficult to know precisely how they feel about the future. One group that does concern us is the one comprised of members and supporters with internet access who, for one reason or another, choose not to access the Zoom presentations. The most vociferous of the 'non-Zoomers' suggest we should press on regardless, but they do not have responsibility for the decision, something that the leaders of many organisations (including the government!) have found a real challenge. For me personally, although the decisions made are those of the Committee, I will be identified with that decision, which adds a considerable load.

We would really like to involve the 'non-Zoom' group if at all possible, and we have discussed within Committee how this might be best achieved. Perhaps you know one of them and could offer help and encouragement - even the possibility of sharing a session to show how easy it is.

Taking a broader, longer-term view, many societies such as ourselves are thinking in terms of a (permanent?) loss of support with in-person meetings perhaps only achieving half or two-thirds of previous attendances. We sincerely hope we will not be in that position, that we can restore numbers, and will do all in our powers to make the evenings an interesting and enjoyable experience.

The WIAS Survey carried out two years ago placed great emphasis on the in-person meeting, but attitudes may have changed in the meantime. Two years have passed, personal circumstances (such as health, mobility, capacity to drive) may have altered, plus the emergence of a reluctance to join social gatherings - a new phenomenon associated with the Covid restrictions.

So this page would normally carry details of all the meetings to be held January – June 2022. This is currently impossible, and we can only update on a month-by-month basis.

Despite all this, we can still approach the New Year in positive state of mind. The period of Lockdown has seen some major additions to the WIAS website and visits to the site are regularly between 300 and 400 visits a week. A number of articles have been submitted, with John Willock heading the field in this respect. From personal experience, the act of committing ideas to paper can be very rewarding, and those contributions – possibly only very short articles or comments – will arouse interest out there in the wider world via the internet. For three months, August-October 2021, we also experimented with the WIAS MOLE - a **M**onthly **O**n-**L**ine **E**dition, which sought to gather together snippets of news, notices of events etc, together with a Postal Edition for those without access to the internet.

We would like to think that WIAS is not seen as something merely for monthly entertainment and interest, but an opportunity to contribute to the knowledge of the industrial heritage of Warwickshire and beyond on a regular basis. I feel confident that WIAS can emerge from the experience of the past two years with renewed vigour to cope with the challenges ahead, and on that theme, I would like to finish by repeating two paragraphs from my Chairman's report delivered in September:

Season 2020-2021 has been a unique experience for us all, and I want to pass on my thanks to the whole WIAS community for keeping the WIAS engine pumping. I have greatly admired the staying power of the WIAS members and supporters over this trying time. When I read of the experience of other societies, I feel proud that we have maintained activity at such a high level, whether through Zoom Meetings, website entries, articles produced, or e-mail correspondence. The hand of WIAS has also reached out beyond the boundaries of the county both in terms of speakers and Zoom participants.

As the Treasurer will confirm, with an income flow curtailed, but expenses such as speaker fees and various subscriptions still going out, the extremely generous series of donations made to the society enabled us to just about 'break even' over the year, and I cannot thank you enough for the contributions made. A MOST SINCERE THANK YOU TO YOU ALL.

I do hope we can look forward to a successful year for the Warwickshire Industrial Archaeology Society in 2022.

Martin Green

Meeting Reports

June 2021: Dr David Eveleigh **Report by Chris Barney**

The History of the Kitchen Range.

David Eveleigh began his talk with a 1788 cartoon by Rowlandson showing a party of well lubricated individuals in front of a log fire, and he quoted from William Combe's, 'Tours of Doctor Syntax', "At our last inn they used a wood fire as most of the kingdom did when wood was plenty, a common cook here would not know how to manage a coal fire." This makes clear the distinction between those parts of the country which relied upon coal and those who clung to wood or peat and how this was fundamental to the development of the kitchen range. Hearth cooking survived in parts of the south-west until into the 20th century.

Wood was also the fuel for the brick bread ovens where a fire was lit inside the oven. The smoke came out of the door and, hopefully, went up the chimney. The bricks would retain the heat after the fire was swept out and the loaves inserted before sealing the door.

In areas like the Black Country good coal was available and this had been used for cooking, right back at least as far as mediaeval times. However, coal is a very demanding fuel and cannot be burned on an open hearth, it needs to be kept together in a compact mass and raised above the hearth. Inventories describe forms of iron baskets but, exactly what these were, we do not know, but our speaker was able to illustrate a mid 19th century cottage which, for cooking, had just a simple grate with iron bars set between hobs or low plinths.

In larger houses there were wider grates, sometimes described as roasting ranges, equipped with adjustable cheeks which could be moved inwards to confine the coal while the joint rotated on a spit in front. From the late 18th century local ironmongers were making such grates and adding a closed oven at one end and a hot plate at the other, each heated by its own fire.

We were shown several pictures of such arrangements including from a house in Bristol untouched for many years, a basement kitchen with a lineup of a wash boiler, a range with a side oven, an independent oven and a hot plate; four separate fires.

These were the precursors of the more convenient consolidated kitchen ranges and our speaker speculated whether the development of the tall, terraced town houses in places such as Clifton and Leamington as well as London may have provided the impetus for its development.

The first to patent a kitchen range with an integral oven was Thomas Robinson, in 1780, but Farey, writing in 1813, stated that cast iron ovens were being made by 1778 and set beside the grates to be heated when a small damper in the flue was drawn and how, 10 years later, small iron boilers were also included, an arrangement patented by Joseph Langley in 1782. A clever development of the boiler was to make it L-shaped so that it continued around the back of the grate. Thus even when the fire was compressed, part of it would be in contact with the boiler.

From the 1840s there was a growing interest in ranges for the working classes and several 'cottage' ranges were on show at the 1851 Great Exhibition. Our speaker showed a photograph of a typical Birmingham made range, taken in Bristol, minutes before the house was demolished for redevelopment. Another photo, taken in 1995, showed a small range in use where it was still the sole means of cooking and David recounted how he had been invited to return for a Sunday roast dinner – his only experience of an actual range cooked meal.

In 1799 an American, Benjamin Thompson, Count Rumford, designed a closed stove, criticizing the waste of fuel in British kitchens, "More fuel is frequently consumed in boiling a kettle than, with proper management, would be sufficient to cook a dinner for 50 men." His writing influenced manufacturers such as George Bodley of Exeter who took out a patent in 1802 for a 'closed' range using dampers to direct the heat over and around an oven for roasting on one side and underneath an oven for baking on the other side. This was promoted as being more efficient and generating less smoke.

An advertisement from 1829 showed William Flavel's 'Patent Kitchener' with registers or dampers able to direct the heat to where it was required. As early as 1833, JC Loundon reported that, "open ranges had been entirely laid aside in favour of kitcheners in villas around Leamington." With prizes in 1851 and 1862 the Flavel Kitchener became the Flavel Prize Kitchener, although many other manufacturers were also producing them. Besides economy, an important advantage of the closed range was that the clean space above could be used for drying towels or heating plates. Jenkins', Improved Patent Kitchener allowed the fuel to be fed from the bottom, thus improving the fuel economy and reducing smoke.

This economy had a price; you could no longer sit in front of a cheerful open fire and meat roasted in an oven was described as 'soggy'. Manufacturers such as Harrison of Derby made closed ranges which could be opened to reveal the fire for spit roasting. An example was Benjamin Wright's patent 'Lichfield Range' of 1865.

Very few substantive innovations in the kitchen range took place after this although, particularly in Scotland, smaller 'portable' ranges were manufactured which did not require building in; thus making them tenants' property.

Besides the major manufacturers selling ranges country wide and exporting them, particularly to English speaking countries, our speaker emphasised there were numerous small foundries supplying local markets and there were distinctions such as Black Country ranges which did not have a boiler and needed a kettle or an urn on the hotplate, while the 'Yorkshire' ranges always had an oven higher than the fire which even allowed the floor of the oven to be used for frying.

David finished by showing an example of an early 20th century Cornish range which he described, enthusiastically and justifiably, as exquisitely decorated.

With the introduction of gas, the market for ranges diminished rapidly and was finished by 1939.

September 2021: Martin Green *The Diversity of Warwickshire's Industrial Heritage: Chains, Caravans & Corsets.*

After chairing the AGM, Martin Green moved on to explore three industries that have made their mark on the history of the county, but thus far had escaped the attention of the lecture programme of WIAS. They proved to be fascinating, occasionally surprising, stories that fully merited the Chairman's research.

The manufacture of chains is the best known of the three, and much has been written about the development of Coventry Chain and its eventual absorption by Renold Chain. The best source for material on this history can be found in Basil Tripp's *'Renold Chains: A History of the Company and the Rise of the Precision Chain Industry 1979-1955'*.

Martin preferred to concentrate on the origins the industry in Coventry, and it is perhaps no surprise that these lay in another of the city's famed industries, that of watchmaking. The Hill family were a renowned watchmaking family business, founded by William H. Hill, but his grandson Alick Sargeant Hill joined the Coventry Machinists, a fledgling bicycle company in Coventry. Sent to oversee operations in Philadelphia, Alick met his American bride, but also realised the potential in the bicycle chain business and purchased some machine tools appropriate to the task. On returning to the UK he set up Coventry Chain in Dale Street, Coventry in 1896.

The years at the turn of the century were times of much innovation and experiment and the block chain, bush roller chain and inverted tooth chain came onto the market, with intense competition from Renold Chain in Manchester and Brampton Bros. in Birmingham. Chains were being utilised in a wide range of activities – cycles, motorcycles, motor vehicles, aircraft, and a host of industrial applications requiring transmission of power or conveying.

Business success encouraged Hill to seek larger premises, and he moved the company to Spon End early in the 20th. century and expanded the works in 1907. The Spon End site became a well-known landmark, and remnants of that site can still be seen today, including the War Memorial.

The First World War necessitated co-operation in production amongst previously competing firms, and again a major injection of capital (partly funded by Daimler) boosted Coventry Chain's capacity to supply war needs. The company was facing up to some of the realities of the post-war world when sadly Alick Hill died in 1921.

Alick Hill (like his father and grandfather before him) was Mayor of Coventry, and took on senior roles on the Boards of other well-known local firms – Thomas Smith Stamping Works and Bluemel Bros. There is no doubt that the success of Coventry Chain relied heavily on the entrepreneurial skills and personality of its founder. Other factors identified by Martin as contributors to success included readily available capital and the utilisation of business connections; careful monitoring of materials used and standards of workmanship; and effective advertising in a buoyant growing market.

Secondly, Martin explored the caravan industry It, too, had origins in one of Coventry's better known trades. Brothers Leslie and Clifford Dawtrey both worked for SS (later Jaguar) Cars. Younger brother Clifford was something of a restless, unorthodox, imaginative innovator with Leslie the more dedicated technical designer. In his spare time whilst working at SS Cars, Clifford began designing caravans, and managed to persuade a few colleagues to help him. This began to occupy too much of Clifford's time, and he was dismissed from the company.

Undeterred, Clifford launched his own Caravan Company and embarked on a career that saw a whole series of innovative designs covering materials used, production techniques, suspension, exterior appearance and internal fittings. Some of the models produced became iconic examples of British caravan design. Indeed, the front cover of Roger Ellesmere's *'British Caravans Volume 1: Makes Founded before World War II'* is illustrated with three of Dawtrey's designs.

Unfortunately, innovative design did not always bring business success, and Dawtrey had a succession of different operations, re-inventing himself several times. He began in the old Meteor Works in Coventry with Airlite Cravans but this failed in 1938, only for Coventry Steel Caravans to rise from the ashes in Quinton Road, Coventry. War damage forced him to move out of the city, temporarily to Leek Wootton, and then after the war to Warwick, where he occupied the old Corn Exchange building (long since demolished). This was to be the home of Coventry Knight Caravans, which went through a number of models, with potential uses for the mobile home explored to the full (e.g. shop, bank, surgery). Much coveted remaining examples of these models have now achieved iconic status.

In later years, he was keen in developing the facilities of the mobile home. The complex internal fittings and facilities of the Falstaff Knight 1950 were described as "making other mobile homes look like empty furniture vans".

The Warwick business moved to Newport Pagnell, but Dawtrey stayed in the area, ever eager to launch new models. Very sadly, the stress of running the business ended in him committing suicide, such a tragic end for a wonderful innovator, justifiably earning his reputation as 'The Caravan King of the Midlands'.

Thirdly, Martin looked east to Leicestershire, although there were important Warwickshire connections. William Symington moved from Lanarkshire to Market Harborough in 1830 to set up a grocery business, and three years later brother James established a draper's shop in the town, next door to brother's store. James met Sarah Gold of Warwick, the two were soon married at St. Mary's Church, Warwick, and Sarah moved to Market Harborough to share the drapery business with James and to add 'corset stay manufacturer' to the list of services provided.

It was James's son Robert who really developed the business and with his brother, William Henry, established 'R & W.H.Symington'. Corsets became a real speciality, and the business grew from strength to strength, with the firm's buildings eventually coming to dominate the centre of the town, many of which survive today. The fine main building in Adam & Eve Street has been converted into a hub for Harborough District Council, and houses the Symington collection of artefacts.

Symingtons manufactured corsets both under their own name and for others, and had great success with the 'Liberty Bodice'. Expanding demand meant that satellite factories were deemed necessary, and this is where the Warwickshire connection is made. After considerable local debate, it was agreed that the firm could set up in the town of Rugby. The corset factory was established in Spring Street in 1881, and the frame of the building exists to this day. It has recently been renovated and converted into housing under the name of 'Symington House'.

With the shifting pattern of demand and fashion, the development of new materials, and the challenge of overseas competition, times became very tough for the UK textile industry, and Symingtons were taken over by Courtaulds in 1967, and the Rugby site was eventually closed, finishing its days manufacturing ladies' swimwear.

Martin managed to squeeze a great deal in the time available, but revealed to us all that his time under Lockdown had not been wasted, and gave us fascinating insight into three Warwickshire industries.

October 2021: Roger Cragg
The Oxford, Worcester & Wolverhampton Railway.

Roger Cragg has entertained us on many occasions with clear explanations of engineering achievements – and some disasters – and the personalities behind the events. But the extraordinary, convoluted and arcane events surrounding the Oxford, Worcester and Wolverhampton Railway may well have eclipsed those earlier talks.

As Roger said, the planning, construction and early operating days of this short railway includes intrigue, double-crossing and generally nefarious dealings that involved some of the most famous names in railway history.

The depressed conditions in the 1830s and 40s had caused a considerable decline railway expansion. In particular, a gap had opened up between the lines to the West and the North although some proposals for filing the gaps had been made. The GWR reached Oxford in 1844, reviving interest in schemes for northern routes which it actively pursued.

This was also the time of the "Gauge War" and several competing schemes were put to Parliament including the Oxford & Rugby, the Oxford, Worcester & Wolverhampton (both Broad Gauge) and the London, Worcester & South Staffs Junction railway (Narrow Gauge). The O&R and the OWWR were approved but the L&SSJR was rejected; a victory for the Broad Gauge.

The four lines authorised, with their varying gauges, and receiving their Acts, were: The Oxford and Rugby, The Birmingham & Oxford, The Oxford, Worcester & Wolverhampton and The Birmingham, Wolverhampton, and Dudley.

No gauge was specified for the B&O and the BW&D and therefore under the Gauge Act they would have had to be of narrow gauge but in 1847 the GWR obtained an Act to purchase both Companies and to use the Broad gauge. The LNWR attempted to frustrate this by buying up large numbers of B&O shares and allocating them to its employees in small packets enabling them to pack the shareholders' meeting. However, the subsequent protracted court proceedings ended in victory for the Great Western.

Consequently, the Broad Gauge was set to obtain two separate routes from Oxford into the West Midlands (and possibly beyond) via the O&R/B&O/BW&D and also via the OWWR, both routes ending up at Wolverhampton from where the Great Western was poised to extend the Broad Gauge to Shrewsbury and the Mersey.

Turning to the Oxford, Worcester & Wolverhampton Railway, Roger highlighted a few points from the 1845 Act authorising the railway which were to have severe repercussions. These were: powers to lease or sell the railway to the GWR who was to appoint six out of the 16 Directors, the gauge was such as to permit the railway being operated continuously with the GWR i.e. Broad Gauge, the railway was to be built to the satisfaction of the Engineer to the GWR i.e. Brunel and if the OWWR failed to complete the line within the time allowed then the GWR was empowered to take over the line and complete it, exercising the functions of the OWWR Company and furthermore, must do so if called upon by the Board of Trade. The cost of the line was estimated by Brunel at £1.5m, raised to £2.5m in 1846.

The route of the OWWR as proposed in 1844 started at a junction with the GWR route north of Banbury but it was soon agreed that the junction should be nearer to Oxford at Wolvercot. The route then runs generally north-west, following the valley of the River Evenlode through Charlbury, Shipton under Wychwood and Adlestrop to Moreton in Marsh. After Moreton the Cotswold escarpment is pierced by a half mile tunnel at Mickleton, near Chipping Campden. At Evesham it crosses the River Avon three times in the space of 3½ miles before turning North to Worcester, Droitwich, Kidderminster, Stourbridge, through the Dudley tunnel to Tipton, Coseley and finally, to Wolverhampton. A total distance of 89 ¼ miles ending in a very complex arrangement of junctions.

Apart from the two major tunnels at Mickleton and Dudley and two large viaducts at Kidderminster and Stourbridge the OWWR was not a particularly spectacular railway - its fascination rests in the political machinations which accompanied its construction and early days of operation: always under the, sometimes baleful, presence of the GWR.

Work, under Brunel's supervision, and to his revised £2.5m estimate, began in 1846 with the tunnels at Dudley, Worcester and Mickleton and by the next year it was reported that the whole line was under construction from Tipton to Charlbury. However, financial problems arising from under-capitalisation soon arose. A further £1m was approved but was difficult to raise.

By 1849 all the money had been spent but not a mile of railway opened. Work was suspended and a Committee of Investigation reported that a further £1.5m would be required. Eventually, the Commissioners of Railways stepped in and ordered the GWR to complete the line but this ended in Court. And this was only the beginning: if the engineering of the line had been complex, it was nothing to the legalities that followed.

Some of the events turned comical. For example, the Commissioners' report included the comment that much needed to be done but between Evesham and Stourbridge the railway was nearly ready except for the provision of track and stations!

Despite new Directors and even more capital raising, progress was slow. There were seemingly interminable disputes, often in court, over the gauge to be built on different sections of the line. Eventually, to the chagrin of the GWR, only a small amount of broad gauge was laid down. OWWR often hiding behind a promise to '*eventually*' build broad gauge as stipulated in their original Act.

Another event was the notorious 'battle of Mickleton tunnel'. Disputes with the contractors led to the occupation of the site whereupon Brunel arrived with an 'army' to evict the occupiers. Magistrates read the Riot Act which cooled matters for a few days until the losing contractor's men clashed violently with Brunel's. After much fighting, arbitration by Robert Stephenson and William Cubitt succeeded just as troops sent from Coventry arrived to restore order.

Eventually the line was completed but no money was left. Rolling stock had to be assembled from wherever possible and the soubriquet 'Old Worse and Worse' was swiftly earned. The cautionary tale of the Round Oak accident; described by the investigator as 'decidedly the worst railway accident that has ever occurred in this country' tells it all.

After further management and name changes and mergers what had become the West Midlands Railway amalgamated with the Great Western thus turning full circle. Congratulations are due to Roger for unravelling such a complex and long drawn-out saga in so entertaining a way.