Sussex Industrial Archaeology Society Newsletter

Number 204 **October 2024**



Littlehampton swing bridge 1930s toll house, now at Amberley Museum

See Article page 10

Newsletter 204

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Editorial

Welcome to *Newsletter 204.*

Please see the enclosed notice for the AGM

SERIAC 2024

Saturday 12th October 2024
at Chichester College

Full details of programme at
www.sussexias.co.uk

Forthcoming SIAS Events

All the autumn and winter meetings are held at
West Blatchington Mill Barn, Holmes Avenue,
Hove BN3 7LF

Saturday 16th November, 2.00pm AGM followed by presentation on Argos Hill Windmill

The AGM will be followed by Martin Bates, a member of the group that have restored Argos Hill Windmill, who will give a presentation on the history and restoration of the mill.

Restoration of the mill commenced in 2010 and it is now an outstanding example of a Sussex Post Mill. The talk will cover the history of the mill, its decline and restoration and will explain the specific features of the mill which are significant as it retains most of its original machinery. Martin has written a detailed history of the mill, its method of working and its restoration. This can be accessed from the Argos Hill Mill web site www.argoshillwindmill.org.uk

Saturday 18th January, 2.00pm *Brighton Locomotive Works*

Guy Hall will be presenting an illustrated talk of Brighton Engine Works and will explain the history of this once massive factory in Brighton, a walk around the works itself and the locomotives it produced, from the small early locos, to the most unusual steam locomotives ever produced, Bullied's double ended Leader!

Saturday 15th February, 2.00pm *Industrial History of Lewes, c. 1700-1900*

Sue Berry will be covering the development of diverse industries in the county town during this period. It will include an exploration of how a market and administrative centre's, mainly processing industries, such as candle-making and brewing, altered, and why the fortunes of other industries such as iron industries fluctuated.

Saturday 15th March, 2.00pm *Newhaven's Industrial Past – Part 2*

Will Pilfold will be providing a further review of Newhaven's industrial Past – a continuation of his previous well received talk.

Events from Other Societies

Malcolm Dawes

Detailed below are events organised by other societies, which may be of interest to our members. If you have details for future events please send these to:
Malcolm Dawes, 52 Rugby Road, Brighton, BN1 6EB
or e-mail to *malcolm.dawes@btinternet.com*

Sunday 6th October, 10.0am. ***Geoffrey Mead's "Ambles not Rambles"***
Binsted: ancient woodland and wide open fields. Meet Binsted church (nr Arundel) parking in lane. g.mead@sussex.ac.uk

Wednesday 9th October, 7.30pm. ***The Cawleys of Chichester***
Chichester Local Historical Society talk by James McInnes, historian. Visitors £5. New Park Centre, New Park Road, Chichester. 01243 784915

Weekend 11th- 13 th October, ***Giants of Steam Autumn Gala***
Visiting locomotive LNER Class A4 Sir Nigeley Gresley. Bluebell Railway. 01825 720800. www.bluebell-railway.co.uk

Sunday 13th October, ***Open Afternoon at Chichester Model Engineers***
Trains running during afternoon. Blackberry Lane, Chichester. www.cdsme.co.uk

Wednesday 16th October, 7.45pm. ***Railways in the Landscape***
Sussex Transport Interest Group presentation by Andrew Marshall. Visitors £2.50. Brighton Model Railway Clubrooms, London Road Station, Brighton. 07769 294408

Saturday 19th October, 2.30pm. ***An introduction to Portslade Village***
Brighton and Hove Archaeology Society, Local History Forum talk by Trevor Povey. £4 non-members. The Fellowship Room, Central United Reformed Church, 102 Blatchington Road, Hove. www.brightonarch.org.uk

Weekend 19th – 20th October, 10.00am to 5.00pm both days, ***Uckfield Model Railway Club Exhibition*****.** Uckfield Civic Centre. www.uckfieldmrc.co.uk

Saturday 2nd November, 10am to 4pm. ***Open day at the Brede Steam Engines***
Steam and working industrial engines. Situated 6 miles from Hastings on A28 to Ashford. https://bredesteamgiants.co.uk

Sunday 3rd November, ***London to Brighton veteran car run***.

Sunday 3rd November, 6.00pm. ***Geoffrey Mead's "Ambles not Rambles"***
Brighton by lamplight: the city after dark. Meet at Brighton Museum. g.mead@sussex.ac.uk

Monday 11th November, 7.30 pm. ***A celebration of Signal Boxes***
Southern Electric Group presentation by Andrew Marshall. £3 non-members. Deall Room, Southwick Community Centre, Southwick. www.southernelectric.org.uk

Wednesday 13th November, 7.30pm. ***Country House developments in the Sussex Weald 1840-1914*** Chichester Local Historical Society talk by Dr Sue Berry, historian and specialist in country house estates. Visitors £5. New Park Centre, New Park Road, Chichester. 01243 784915

15th November to 30th December, ***SteamLights at the Bluebell Railway*** Entire trains bedecked with lights. Lineside Festive Scenes with Sheffield Park and Horsted Keynes Stations adorned with lights and decorations. Timetable and booking procedure on the web site. www.bluebell-railway.com.

Weekend 16th - 17th November, ***Brighton Model Railway Exhibition*** Patcham Community Centre, Ladies Mile Road, Brighton. 10.00am to 5.00pm Saturday. 10.00am to 4.00pm Sunday. https://brightonmrc.wordpress.com/exhibition

Saturday 16th November, 2.30pm. ***The lost theatres of Brighton***
Brighton and Hove Archaeology Society, Local History Forum talk by Chris Horlock. £4 non-members. The Fellowship Room, Central United Reformed Church, 102 Blatchington Road, Hove. www.brightonarch.org.uk

Wednesday 20th November, Steam Excursion from London Victoria to Eastbourne. Steam hauled down the Brighton Line passing through Haywards Heath and Lewes. Steam hauled return from Hastings passing through Crowhurst, Battle, Robertsbridge and Tunbridge Wells. Photographic opportunities in Sussex. www.railwaytouring.co.uk.

Wednesday 27th November, 7.30pm. ***First tram rides: South East London***
Volks Electric Railway Association talk by Chris Warren. Donations towards cost of running the meeting. Patcham Community Centre, Ladies Mile Road, Patcham. www.volkselectricrailway.co.uk/news/events

30th November to 24th December, ***Santa Specials at the Bluebell Railway***
Timetable and booking procedure on the web site. www.bluebell-railway.com

Sunday 1st December, 10.00am. ***Geoffrey Mead's "Ambles not Rambles"***
Firle Park & Charleston: chalk and clay. Meet Firle Village carpark NOT pub carpark. g.mead@sussex.ac.uk

Tuesday 3rd December, 7.30pm. ***Entertaining Sussex Women***
A look at some of the women from the county who have had careers in entertainment, Newhaven Historical Society and Museum talk by Louise Peskett, women's history author, Royal Pavilion Guide and tour deviser. Hillcrest Centre, Bay Vue Road, Newhaven. Free parking next to the Hillcrest Centre. Non-members £5. www.newhavenhistoricalsociety.org.uk

Saturday 7th December, 10am to 4pm. ***Open day at the Brede Steam Engines***
Steam and working industrial engines. Situated 6 miles from Hastings on A28 to Ashford. https://bredesteamgiants.co.uk

Saturday 7th December, 12 noon to 4pm. ***Open Day at Crawley Signal Box***
Brighton Road, Crawley. www.facebook.com/CrawleySignalBox.

Sunday 8th December, ***Open Afternoon at Chichester Model Engineers***
Trains running during afternoon. Blackberry Lane, Chichester. www.cdsme.co.uk

Thursday 18th December, 7.15pm. ***The Seaton Tramway.***
RCTS Chichester Branch Talk by Clement Fallows. Bassil Shippam Centre, Tozer Way, St Pancras, Chichester. https://rcts.org.uk/branches/branch-chr-chichester

Saturday 4th January, 10am to 4pm. ***Open day at the Brede Steam Engines***
Steam and working industrial engines. Situated 6 miles from Hastings on A28 to Ashford. https://bredesteamgiants.co.uk

Sunday 5th January, 10.0am. ***Geoffrey Mead's "Ambles not Rambles"***
Sussex Campus boundary walk. Meet Sports Centre carpark [near A27]. g.mead@sussex.ac.uk

Wednesday 8th January, 7.30pm. Some Chichester MPs and what they did for the city – from Crawley to Chataway. Chichester Local History Society talk by Richard Childs, past West Sussex County Archivist. Non-Members £5. New Park Centre, New Park Road, Chichester. 01243 784915.

Wednesday 29th January, 7.30pm. ***Railways and tram systems of Paris***
Volks Electric Railway Association talk by Tony Gwyther. Donations towards cost of running the meeting. Patcham Community Centre, Ladies Mile Road, Patcham. www.volkselectricrailway.co.uk/news/events

Local Exhibitions of interest

Brighton Toy and Model Museum, Trafalgar Street, Brighton

Age of the Atlantic, *12th October. Special Atlantic running day inspired by the Bluebell Railways launch of Britain's newest steam locomotive. Other special exhibitions and events during the year. www info@brightontoymuseum.co.uk*

Novium Museum, Chichester

A small exhibition on Selsey Tramway. Until end of 2025

Do please check details with societies web sites before travelling

The details of these meetings and events organised by other groups are only included as a guide and as a service to members: inclusion here is not intended to be seen as an endorsement.

Look out for our new website - www.sussexias.co.uk
This is now live

SIAS visit to The Keep 21st August

Geoffrey Mead

On a bright and breezy afternoon 14 SIAS members, including three committee members, met at 'The Keep' Falmer. The Keep is the county archive for East Sussex, but also holds the University of Sussex Special Collections and Brighton & Hove collections. Drew Bolton, a senior archivist, gave us a fascinating tour of the building, where we saw the 'front of house' that researchers use, but also behind the scenes where the documents are archived and the various specialist rooms that are all part of the ESCC archive service.



The building, which was opened by Queen Elizabeth in October 2013, replaced the former ESCC archive at The Maltings, Lewes and the disparate holdings of Brighton & Hove plus the University material sites; it is an Eco-friendly structure where the rain water is collected from the roof for the toilets, the roof is a grassy meadow and the heating is by a bio-mass boiler held in a distant building. The entrance way takes us into an airy foyer which holds the commemorative plaque of its royal opening; the plaque was carved by Helen Mary Skelton a member of the Ditchling School of arts and related to Ditchling sculptor Eric Gill. The wall of one side of the foyer has a long frieze designed to represent the county of East Sussex, and the images run from Hastings with its distinctive net shops, through hops and ironworks to the Long Man of Wilmington and on to Brighton with its Preston Rd viaduct, terraced housing and swirling seabirds. The far end of the foyer has a 'Wonky Wall'! This is a series of erratically hung, framed images chosen by the staff to show the wide range of material held. So here are amongst many others the Old Steine tram shelters plans and a garish watercolour of a large office block planned for the Royal Pavilion Gardens. From there we entered the Reference Room, somewhere I have used extensively over the past decade, this holds the parish registers, street directories, books on towns and villages of the county, the Mass Observation holdings and the various Sussex cuttings boxes. It also has a range of computer terminals, microfilm and micro-fiche readers. This is free to use and requires no ID documents. On into the hallowed



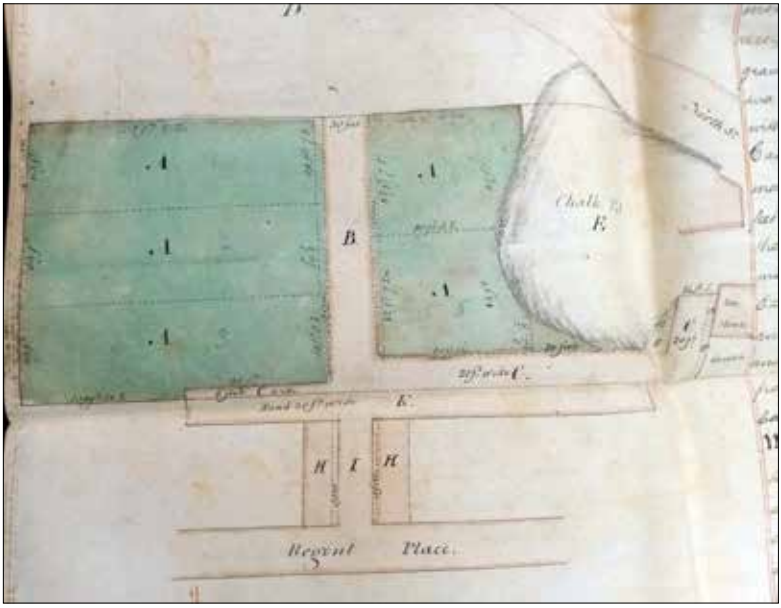
The Search Room

ground of the Reading Room, this is where you do need a security pass and where you can consult the original documents; it has a huge map table and a cabinet with all manner of cartographic material, with the tithe maps now digitised. Drew emphasised that a vast amount of the archive is now digital and is expanding all the time, making it easier to request and consult documents

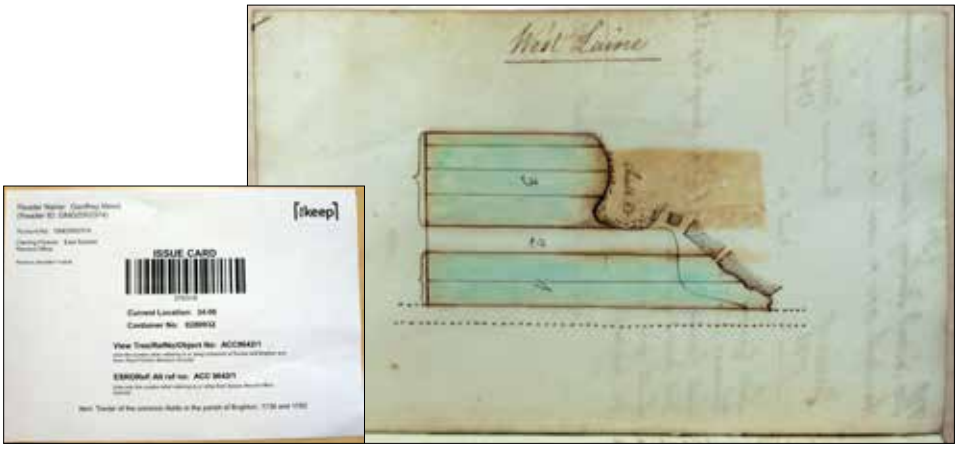
Then into the area 'behind the scenes' where the archive material is stored; this at a low temperature and has a huge set of storage shelving in moveable racks. On upstairs to the Quarantine Room where newly arrived documents are brought into the building, here they are cleaned and Hoovered, vacuum packed and then frozen at -35° C to destroy any pests resident in the documents. There are two freezers, named Jennifer and Brian! after two of The Keep volunteers. Before the move to Falmer, Jennifer was a mainstay of the archive then at The Maltings, and I recall her as always cheerful and very helpful to bewildered researchers. After de-frosting, documents are air-dried, sorted and catalogued; The Keep has the only fully digitized system in the UK making the tracking of documents more efficient. It was explained that with local government funding in decline they were now unable to accept any but official documents in the archive, staff numbers have been cut and without full-time staff guidance, volunteers cannot be used as they were extensively in the past. The situation was exacerbated in the Covid lockdown where many people had a 'clear-out' and deposited large numbers of items at archives across the country. In the same corridor was the Conservation Room where repairs and stabilisation was applied to documents. This area had the largest guillotine anyone had encountered and some impressive presses for flattening documents; the Digital Room had a number of large devices to digitally copy material of all sizes.

A much valued tea-break took place in the foyer… with biscuits! And fine bone china cups and saucers! Drew had assembled a wide range of maps, images and documents in an Education Room, material that would be of interest to SIAS members… and what a collection! Half a dozen tables were loaded with all manner of local material that had the party groaning with delight! The Brighton Old Steine tram shelters 1930s plans, early 19th century detailed coloured maps of Rye Harbour,

a planned but never executed canal to run from Brighton to Lewes, the Meeching chalk quarry at Newhaven photos, and photos of school construction in 1948 Bevendean and 1920 railway carriages converted to housing at 'Brighton Downs Estate' [now Woodingdean]. A whole set of large legal documents with a detailed map showing the location of the early 19th century ice house behind what is now Western Rd Brighton [see *SIH* #52 & 53 'the Chalk Pit Furlong' for more details]. All agreed that it had been a most enjoyable visit and most had not realised the extent and value of the holdings; with a masterly guided tour thanks to Drew Bolton.



1836 Chalk Pit & ice house



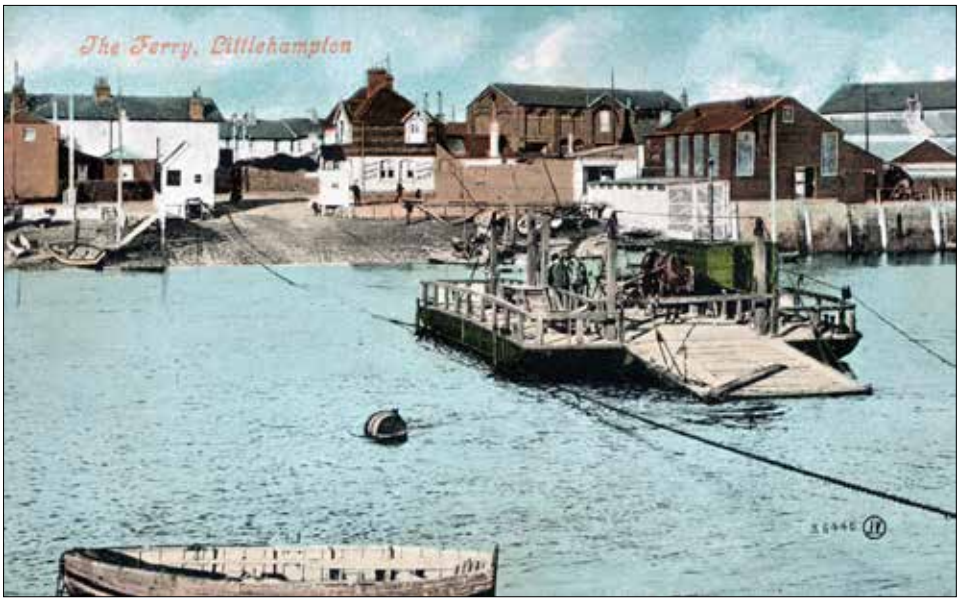
Brighton Terrier map 1792 Chalk Pit

The Swing Bridge at Littlehampton

John Blackwell

Rivers in Sussex have been important highways for trade since the Norman Invasion with ports established at Lewes and Arundel. Crossing points were sometimes provided by local landowners or the church. During the nineteenth century with rivers being improved or canalised and railways spreading across the county many more bridges were constructed but often had to comply with the requirements of the river authorities such as where the railway from Brighton to Chichester crossed the River Arun in 1846, (to the west of the later,1863, Ford station). Here the river authorities stipulated an opening bridge to allow tall masted ships to access the port at Arundel, hence the wonderful wooden structure, where a section of the approach track was rolled up the river bank, allowing part of the main structure to be retracted into the space provided, giving the required opening.

At the river's outfall at Littlehampton a ferry boat had been in operation since the middle of the seventeenth century (horses had to swim tied to the boat). By 1824 a wooden chain hauled pontoon was in operation capable of carrying a coach and four, plus foot passengers. The ferry was hand operated with winding gear by Joseph Bramah of London. In 1837 Stephen Oliver established a ropewalk and boat building yard on the west bank and with the arrival of the railway in 1863 the need for a permanent crossing of the river here, rather than the lengthy route via



Chain Ferry



Chain Ferry

Arundel, was obvious. By the 1870s the pontoon was becoming waterlogged and was replaced by a iron hulled pontoon, also hand operated, in 1873.

The population of Littlehampton rose from 584 in 1801 to 5,954 in 1901 and at last in 1905 a bill was passed in Parliament for a swing bridge the (final) cost of £26,000, to be borne by Littlehampton rural district council. Following test boring in the river bed by Duke and Ockenden (Dando's)[1] it was decided the opening section of the bridge should be on the eastern side of the river on the firmer ground. The firm of Alfred Thorne & Sons of Westminster[2] were awarded the construction contract and the bridge opened on 27 May 1908. "The bridge's opening mechanism was a direct mechanical drive from a Gardner petrol engine (replaced in the 1930s by a 20hp Gardner diesel) through dog clutches, gearing and shafting to a pinion which engaged with a 19ft diameter gear rack on the bridge's central pier. The swing span revolved on twenty four 14" diameter rollers, running between 16' diameter upper and lower roller paths. Provision was made for manual operation in the event of engine failure. The ends of the swing span rested on adjustable wedge blocks, actuated from the engine house, which was situated on top of the swing section. These locked the bridge in the closed position for road traffic"[3]. There was a booth for collection of tolls believed to be one or two old pence until 1953, when tolls ceased and responsibility for the bridge was transferred to WSCC.



1846 LBSCR wooden rail bridge at Ford

A 1968 article in the Littlehampton Gazette noted the retirement of the bridge's engineer, Mr Alfred Bridger (it is odd how a person's name sometimes reflects their occupation). He had been opening and closing the bridge since 1940 and described the procedure. The traffic was brought to a stop by use of red traffic lights at either end of the bridge, the gates at each end were closed, and he then climbed to the control room on top of the bridge and started the engine to operate the turning mechanism.

The bridge closed to road traffic in 1973 after the new pre-stressed concrete road bridge was built further upstream. Foot passage continued until 1979 when the bridge was demolished. It was replaced by the present footbridge (The Red Bridge) at a cost of £500,000 which opened in 1982. This has a 120 ton retractable centre section giving access for vessels under pilotage and for masted craft to moorings north of the footbridge and to the Littlehampton Marina. The toll booth, a 1930s replacement for the original basic box, and the Gardner diesel engine are now at Amberley Museum with the booth on display and the engine awaiting refurbishment.

References

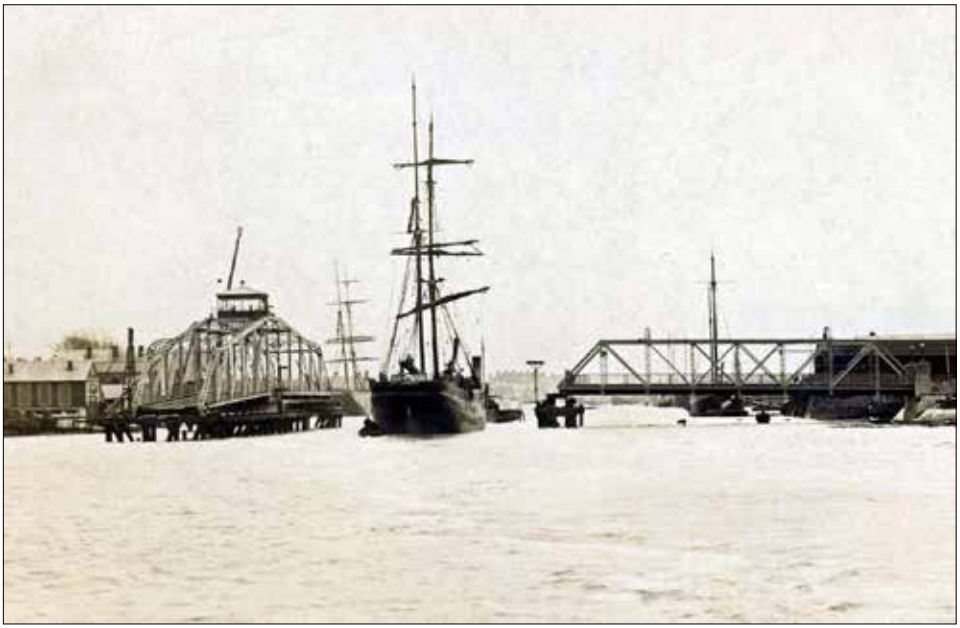
1. A Littlehampton company who bored artesian wells and manufactured wind pumps

2. Also constructed Newport transporter bridge 1906 and Warrington Bridge 1911 (not the transporter one).

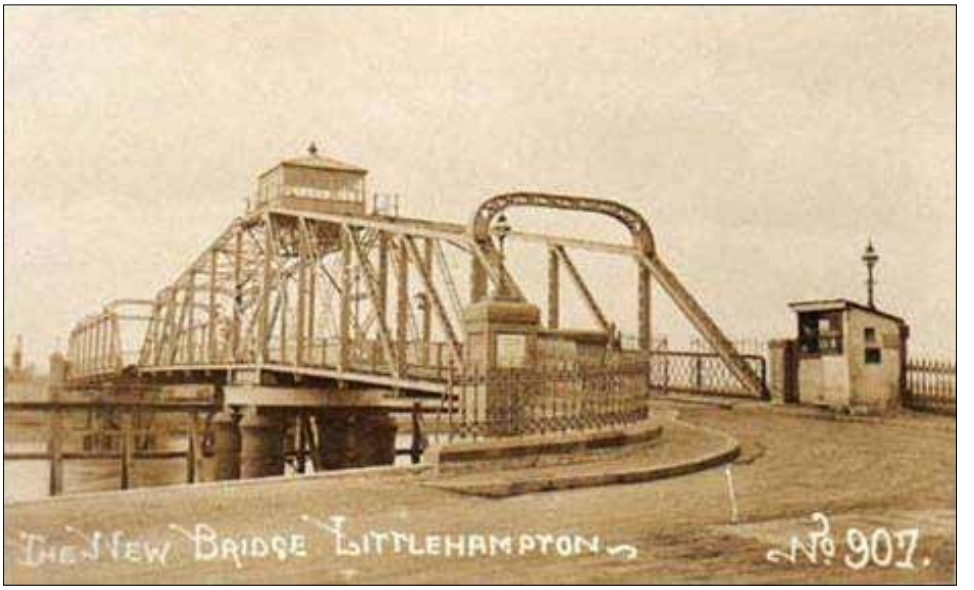
3. Littlehampton Swing Bridge A.G. Allnutt Sussex Industrial History *No 12 1982.*



Littlehampton new bridge and iron pontoon



Bridge open with tall masted vessel



1908 view with original toll booth



1930s view (with later toll booth)



Littlehampton swing bridge dismantling - last days 1980, note floating crane



1906/7 River drilling by DANDO

The Engineer
April 26, 1957

Strolling around the large car boot sale that takes place each Sunday at Brighton Marina carpark top deck, I espied a series of boxes overflowing with a large number of old books and magazines. Now, as Mrs Mead will attest to, it is nigh impossible for me to go to a car boot sale and not buy some form of literature! For the princely sum of 50p I purchased an A3 sized glossy magazine *The Engineer*. I have absolutely no engineering experience, so a topic such as this will be like reading in a foreign language, it is the advertisements that appeal to me and this copy was no exception. It contained some learned articles *'The Australian copper industry', 'Civil engineering in heavy industry', 'High temperature vacuum furnace'*; but a great many evocative adverts for companies large and small and all I suspect, now long gone. The sheer volume of heavy industry in the UK at that period and its listed factories brought back memories of Brighton & Hove Grammar School 'O' level Geography, no great hardship for me as that topic was the only 'O' Level that I achieved a Grade One for! Here was the vast spread of metal based trades that was the Black Country, *Guest Gland & Plug Cocks* in Dudley; *Charles Washers* at Wednesbury; *Kennametal Form Tools*, West Bromwich; *Carrs non-ferrous castings*, Smethwick; *Harper Castings*, Willenhall. Here also the great steel works of Port Talbot, Scunthorpe, Middlesbrough, Rotherham, Sheffield, with a myriad of much smaller peripheral workshops as example *Tonks Central Spring Works*, Furnace Hill [great IA address]; *Osborn Fine Files* established 1864*; Nitralloy Special Steels* Atlas Works, Sheffield.

The railway works provided a range of allied trades *Edward Sisterson* Newcastle upon Tyne *'railway sidings schemes designed, steel rails, all sections, points and crossings'; Sheffield's Wire Rope Co* makers of the 'Ram' railway wagon pinchbar. *Tru-Wel Steel Tubes* for London Midland Railway and shades of things to come *Bullers* of Stoke on Trent supplying insulators for BICC railway electrification schemes.

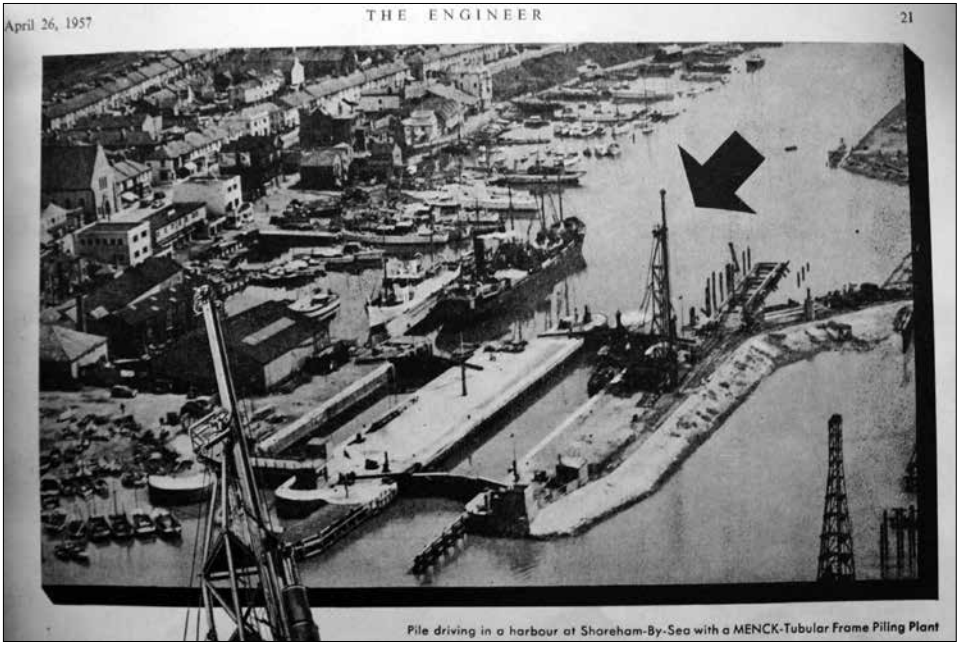
This was what was termed in Geography circles RSI [Regional Specialisation of Industry] thus Glasgow with its famous shipyards had a swathe of feeder industries feeding into the slipways along the Clyde; *Marshal & Anderson* boilers in Motherwell, *Buchanan Brothers* Clyde thermometers, *Dawson & Downie* pumps, Clydebank; *St. Mirren Engineering Works*, Paisley.

It is often forgotten that the biggest concentration of industry in the UK was in Greater London with industries of all sizes *Gwynne's Pumps* Hammersmith, *Globe Pneumatic* air winches, Romford, *John Swain* electropower gears, Kingsbury,

Gallier Bearings, Wembley, *Offset Plate-Making*, Barnet, *Visco Engineering*, Croydon, *Black & Decker,* Harmondsworth.

1957 was one year after the first nuclear power station had opened at Calder Hall and there were many mentions of the firms involved in that wave of new energy at Dounreay, Berkeley and offers of employment at Harwell and Aldermaston.

These were different times; a topic that suffers much derisory [and ill-considered] comment today is 'Health & Safety' and the illustrations in *The Engineer* would make a 21st century H&S person faint with shock…not a single hard-hat in view [but plenty of cloth caps] no safety glasses other than NHS spectacles, and precious few gloves. 99% of personnel shown are male with just two young women in adverts for office storage, both modestly attired!



Pile Driving at Locks at Shoreham Harbour 1957

Now you are thinking where is Sussex in all this…well I found a single image showing a Sussex location; Shoreham Harbour lock gates with pile driving, an aerial view; this was an advert for Menck pile driving plant [a German company from Hamburg] and shows the initial stages in the construction of what would become the Prince Philip lock. There is a place name connection that has local industrial association *TS Forster & Sons Ltd* forge masters and engineers at Copperas Bank Forge, Sunderland. Copperas is the mineral Ferrous Bi-sulphate that is washed out of the London Clay, local deposits give their name to Copperas Point in Chichester Harbour and Copperas Gap, Portslade by Sea; as Sunderland is a long way from any London Clay deposit, their address most probably is linked to their then use of copperas in the chemical industries.

Reading through this 1957 Engineer magazine was looking into a now mainly lost world, the workshop of the world but one living on borrowed time. The future was hovering there with railway electrification and nuclear power plants and the threat of foreign competition just emerging. The shipping world is still one of cranes built by Stothert & Pitts of Bath unloading sunlit shipping along quaysides, no thought of the containerisation that would decimate the Port of London and invigorate ports such as Felixstowe. Having noted a German company working at Shoreham Harbour, little of European industry, no thought then also of the emerging engineering might of Japan or China and no inkling of the Beeching railway reforms and little to indicate the rising industrial conflict with the unions that would figure so much in UK industry in the 1960s and 70s.

See illustrations on back page

Geoffrey Mead

NOTE

Please let me have your images and memories for the next* Newsletter *(or two!)
It may be it something you pass every day, but the rest of us may be unfamiliar with.
Social media , Facebook, YouTube, etc are growing with increasingly interesting groups that I find impossible to keep up with, if you spot one please let me know.
I am always looking for examples of our IA heritage.

Sussex Industrial Archaeology Society

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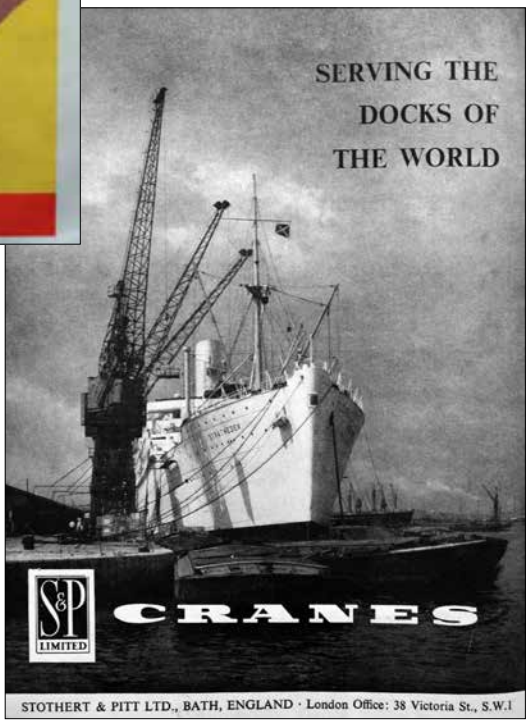
Opinions expressed are those of the respective authors and do not necessarily reflect the views of the Society unless specifically stated

Subscribing to the Sussex Industrial Archaeology Society
gives automatic membership to the Sussex Mills Group
The Sussex Mills Group also produces a *Newsletter*
that is sent to members with this *Newsletter*

The Engineer - see article on page 16





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