



Sussex Industrial Archaeology Society Newsletter

Number 146

April 2010



1841 Catafalque at West Norwood Catacombs by Bramah & Robinson
(Martin Snow)

Newsletter 146

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Editorial

So why a hydraulic coffin lift from Surrey on the cover? A recent visit, organised by Subterranea Britannica, to West Norwood Cemetery was a lesson in who's who of the 19th Century, so many names, many would be familiar to anyone with an interest in IA, a few - Henry Bessemer, James Greathead, William Tite, Henry Doulton, Hiram Maxim, Thomas Cubitt, geologist Gideon Mantell and Mrs Beeton. Nearer home there are tours of some Brighton cemeteries as part of the Brighton Festival Fringe in May - www.brightonfestivalfringe.org.uk - This includes a few catacombs and impressive monuments particularly that to John Rastrick.

Paul Sowan has sent details of the initiative for a *Research Framework for the Archaeology of the Extractive Industries in England*, he is requesting input for Sussex and surrounding counties from local experts on locations, condition and known research as well as sites not known or only suspected.

Please see the letter on our website at -

www.sussexias.co.uk/research.htm and contact Paul direct.

Further to the list of museums with IA in the last *Newsletter* Brian Tester has drawn my attention to Cuckfield Museum. www.cuckfield.org click on museum tab.

The British Engineerium recently held an Open Day with the promise of a future re-opening. 'It is not dead, but only sleepeth!'

A bumper crop of events and activities this time, please refer to the section in the *Mills Group Newsletter* detailing events, only the dates appear on the following pages for members benefit when planning days out.

Should we actually get some sunny days in the coming months - I have recently collected details of most of the attractions in Sussex (not just IA - Tut! Tut!). I intend to list these at www.pastfinders.com/walks_&_talks.htm where you will also find links to various societies and their programmes of talks and activities.

In future, please use this address for all email to me:- martin@snowing.co.uk

Forthcoming SIAS Events

Malcolm Dawes

Saturday 24th April. The South East Regional Archaeology Conference will be held in Chertsey Hall, Chertsey, Surrey. Organised by Surrey Industrial History Group. For further information see their web site www.sihg.org.uk

Weekend of 8th-9th May. *National Mills Weekend.*

See *Mills Group Newsletter* for details.

Saturday 22nd May, 10.15am. *Trains and Automobiles but no Planes. Visit to Bexhill and Hastings.* The programme includes Bexhill West Station, which opened in 1901 and closed in 1964, and the recently restored Central Station followed by a visit to the newly refurbished Bexhill Museum where we will look at items of IA interest and Bexhill's motoring heritage. We will break for lunch after the museum visit – there are some nearby pubs or you can eat your sandwiches in the nearby park or on the seafront. In the afternoon we will visit the 'world's first' underground car park and inspect other sea front works by the "concrete king" of Hastings Sydney Little; rounding off the day with a visit to Hastings's History House.

Meet at Bexhill West Station (now Gorrings Auction Rooms),
Terminus Road, Bexhill.

Please notify John Blackwell: Tel 01273 557674

or e-mail johnblackwell@ntlworld.com if you plan to attend.

Thursday 24th June, 10.30am. *Gatwick and Croydon Airports.* Tour of the original terminals built for two of the first airports in Britain – Gatwick and Croydon. We will spend the morning at looking around the first ever circular terminal airport building, constructed in 1936. The Beehive was built for British Airways Ltd and now extensively renovated for office accommodation. The control tower however remains intact. Local historians John King and Richard Whittle will be assisting Orega (owners of the building) for a tour around the building.

In the afternoon we will be having a tour of the terminal building of the old Croydon Airport, built in 1928. The visit will include visiting the main booking hall where there are models and photographs showing the history of the airport. There is also the 1936 Gatwick Airport model made for an exhibition at the RIBA. We will also be ascending to the control tower where there are further displays and historical artefacts from the original airport. Bob Duffet and Frank Anderson from the Croydon Airport Society will be acting as guides.

Arrangements for the day are as follows. Meet at 10.30am at the Beehive which is in City Place an office complex in Beehive Ring Road. From the A23 take the turning to Tisley Green, along Gatwick Road and the Beehive is on the left. (TQ 286 398). We aim to start the visit to Croydon Airport at 2.00pm. This will give adequate time for lunch – there is a wide range of eating facilities at the Croydon site and free parking will be available. Please note that there will be a donation of £2 per person for the Croydon Airport Society at the time of the visit.

Please notify Malcolm Dawes (01273 561867 or malcolm.dawes@btinternet.com) if you plan to attend.

Sunday 4th July, 10.30am. *Guided walk from Birdham Sea Lock along the Chichester Canal to the Canal Basin in Chichester.* Approx. 4 miles. See some of the excavated engineering remains of the canal. Parking at Birham Marina.

Saturday 10th July, 10.00am. *Guided walk along part of the old Portsmouth and Arundel Canal.* Meet at Barnham Court Farm, Church Lane, Barnham for approx. 6 mile walk to Hunston.

See some of the excavated remains of the canal. Bring packed lunch.

Sunday 11th July, 10.00am to 4.00pm. *Poyntz Bridge.* The historic canal swing bridge will be in operation for the day. Situated just 200 yards below the canal basin at Chichester at the end of South Bank. Come and see this unique bridge in operation. A display of artefacts and illustrations of the canal and its history will be on site. At 2.00pm there will be a guided walk around the canal basin led by Alan Green featuring the past industrial history that once surrounded the basin.

All of the above are organised by the Chichester Canal Group. For more details contact Adge Roberts (walk leader) at adgeroberts@yahoo.co.uk or 01903 721762.

Wednesday 21st July. *Day tour of Hampshire Mills.*

See *Mills Group Newsletter* for details.

Saturday 21st August 10.00am *Winchelsea Cellars and Rye Harbour.* Opportunity to visit some of the medieval cellars in the 'New' Town and the industrial area of Rye Harbour. Minimum numbers apply, to confirm a place on the cellar tour, please send £5.00 to Ron Martin.

For more details see page 20.

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

Saturday 17th April. *Toy and Rail Collectors Fair.*

Bluebell Railway. 01825 720800.

Saturday 17th April. *Official opening of Devil's Hole Lock on the Wey and Arun Canal.* Near Loxwood. www.weyandarun.co.uk

Saturday 17th April, 2.00pm. *Georgian Midhurst.* Chichester District Museum guided walk by Alan Green. Meet at Midhurst bus stand. Booking 01243 784683.

Sunday 18th April. *Post Office Vehicle Rally.* Amberley Museum 01798 831370

Tuesday 20th April, 6.30pm. *Thomas Hawksley, 1907-1893, Water Engineer.* *Newcomen Society lecture* by Dr Bob Otter. Room 0.27 in the Portland Building of the University of Portsmouth, St James Street off Queen Street, Portsea.

Free parking in adjacent University car parks from 4.30 pm.

Visitors welcome and admission is free. www.newcomen.com/brmeetings

Wednesday 21st April, 7.45pm. *Southern Steam in the 60s.*

Sussex Transport Interest Group talk by Terry Cole. £2.

London Road Station, Brighton. 01273 512839.

Saturday 24th April, 2.00pm. *Medieval Midhurst.* Chichester District Museum guided walk by John Magilton. Meet in Parish Church car park. Book 01243 784683.

Sunday 25th April. *Industrial Trains Day.*

Amberley Museum. 01798 831370.

Sunday 25th April. *East Grinstead Vintage Bus Day.*

<http://freespace.virgin.net/ian.smith/buses/CBR/CBR01.htm>

Friday 30th April, 7.00pm. *Baths and circuses: leisure activities in Roman Chichester.* Chichester District Museum talk by John Magilton. Westgate Leisure Centre, Chichester. Book 01243 784683.

Weekend 1st - 2nd May. *Magnificent Motors Rally.* Classic cars, motorbikes, buses, commercial vehicles and traction engines. Seafront, Eastbourne.

www.eastbourne.gov.uk.

Weekend 1st - 3rd May. *Great K&ESR Gala weekend.* Visting BR Standard Class 4 locomotive. Kent and East Sussex Railway. www.kesr.org.uk

Sunday 2nd May. *Historic Commercial Vehicles Run, between London and Brighton.*

Sunday 2nd May. *Open day at Oldland Mill, Keymer.*

See *Mills Newsletter* for details.

Monday 3rd May. *Special Events Day at Brede Steam Engines.*

Brede Waterworks, Brede. 01323 897310.

Weekend 8th- 9th May. *Southern at war weekend.* Re-enactors, military vehicles, displays and concert parties. Flypast by Dakota. Bluebell Railway. 01825 720800.

Sunday 9th May. *Vintage and Classic Motorcycle Day.*

Amberley Museum. 01798 831370.

Monday 10th May, 7.30 pm. *Selection of photographs taken by J.J. Smith of Eastbourne.* Southern Electric Group, Sussex Branch talk by Tony Hillman.

£2. Deall Room, Southwick Community Centre, Southwick. 01273 462049.

Weekend of 15th- 16th May. *1940's weekend.* Period displays and vehicles.

Kent and East Sussex Railway. www.kesr.org.uk

Sunday 16th May. *Heavy horses and woodland crafts.*

Amberley Museum. 01798 831370.

Friday, 21 May, to Sunday, 23 May *Revisiting New Towns of the Middle Ages*

A Conference and Field Seminar in the Ancient Town of Winchelsea in memory of Professor M.W.Beresford Booking details at www.winchelsea.net/Conference.htm

Weekend of 22nd- 23rd May. *Bluebell open day and 50th anniversary of*

Stepney. Opportunity to see behind the scenes in the workshops,

Pullmans and other parts of the railway not normally open to the public.

Celebrations of *Stepney's* 50 years at the Bluebell Railway. 01825 720800.

Sunday 23rd May. *Lewes Vintage Bus Rally.*

Malling Recreation Ground, Lewes. www.lewesbusrally.org

Sunday 23rd May. *Military vehicle show.* Amberley Museum. 01798 831370.

Friday 28th May, 7.00pm. *17th Century Sussex cottages.* Chichester District

Museum talk by Danae Tankard. Westgate Leisure Centre. Bookings 01243 784683.

Weekend of 5th- 6th June. *Open day at East Grinstead station.*

Official opening of the new station platform. 01825 720800.

Sunday 6th June. *Stationary engine working day.*

Amberley Museum. 01798 831370.

Wednesday 9th June, 7.30pm. *The Wealden Iron Industry.*

Chichester Local History Society talk by Jeremy Hodgkinson.

£2. New Park Centre, New Park Road, Chichester. 01243 784915.

Saturday 12th June. *Sussex Vintage Model Railway Collectors Annual*

Exhibition. Knoyle Hall, Knoyle Road, Brighton. 01323 899412.

Weekend of 12th- 13th June. *20th Anniversary of re-opening of the line to*

Northiam. Celebrations at Northiam and vintage bus rides. Kent and East Sussex Railway. www.kesr.org.uk.

Weekend of 12th- 13th June. *Mid-summer steam show.*

Amberley Museum. 01798 831370.

Friday 25th June, 12.00noon. *Chichester Castle; the what, when, where and who.*

Chichester Festival talk by Terry Carlyle. The Guildhall, Priory Park.

Tickets from Chichester District Museum. Bookings 01243 784683.

Saturday 26th June. *Word War II Chichester.*

Chichester Festival walk lead by Chris Butler. Meet at the Market Cross.

Time and further details in Festival brochure.

Tickets from Chichester District Museum. Bookings 01243 784683.

Sunday 27th June. *The geology and building stones of Chichester.*

Chichester Festival walk lead by David Bone. Meet at the Market Cross. Time and further details in Festival brochure.

Tickets from Chichester District Museum. Bookings 01243 784683.

Sunday 27th June. *Open day at Nutley Mill.* See Mills Newsletter for details.

Wednesday 30th June, 1.00pm. *A tale of two Cities; Chichester and Bath.*

Chichester Festival talk by Alan Green. Chichester District Museum. Little London.

Tickets from Chichester District Museum. Bookings 01243 784683.

Weekend of 3rd- 4th July. *Fire and emergency vehicles weekend.*

Amberley Museum. 01798 831370.

Sunday 4th July, 2.30pm. *Georgian Chichester.*

Chichester Festival walk lead by Alan Green. Meet at Ede's House, West Street.

Tickets from Chichester District Museum. Bookings 01243 784683.

Wednesday 7th July, 1.00pm. *The secrets of the Georgian bedchamber.*

Chichester Festival talk by Alan Green. Chichester District Museum. Little London.

Tickets from Chichester District Museum. Bookings 01243 784683.

Wednesday 7th July, 7.30pm. *Past, present and future of the Chichester Canal.*

Chichester Ship Canal Trust talk. Donnington Parish Hall, Stockbridge Road,

Chichester. Further details linda.w@uwclub.net

Weekend of 10th- 11th July. *Railway Gala – steam, diesel and electric locomotives.*

Amberley Museum. 01798 831370.

Sunday 11th July. *Fetes at Polegate and High Salvington Mills.*

See *Mills Group Newsletter* for details.

Tuesday 13th July, 7.30 p.m. *Railways around Newhaven.* Kent & East Sussex

Railway talk by John Blackwell. Westham Village Hall, Pevensey. 01323 845108.

Sunday 18th July. *Classic motorcycles.* Amberley Museum. 01798 831370.

Sunday 18th July. *Fete at West Blatchington Mill.*

See *Mills Group Newsletter* for details.

Sunday 18th July. *Open day at Oldland Mill, Keymer.*

See *Mills Group Newsletter* for details.

Weekend 24th- 25th July. *Toy and Rail Collectors Fair.*

Horsted Keynes Station, Bluebell Railway. 01825 720800.

Sunday 25th July. Worthing seafront bus rally. www.worthingbusrally.co.uk

Sunday 25th July. Classic cars from the 50s, 60s and 70s.

Amberley Museum. 01798 831370.

Sunday 1st August. Eastbourne Vintage Bus Rally.

<http://freespace.virgin.net/ian.smith/buses/CBR/CBR01.htm>.

Friday 6th- Sunday 8th August. 50th Anniversary Celebrations.

Visit of newly built main-line loco *Tornado*. Bluebell Railway. 01825 720800.

3rd- 9th September: Association for Industrial Archaeology Conference in Falmouth.

Details of programme and booking form at www.industrial-archaeology.org.uk.

Do please check details 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.

2010 AIA Conference in Cornwall

The Annual Conference of the Association for Industrial Archaeology is being held this year in the University College of Falmouth between 3rd and 9th September.

The formal Conference take place from Friday to Sunday with lectures and visits for the rest of the period. Visits will be to Falmouth Docks, and harbours at Par, Hayle, Newlyn, Pentuan and Charlestown, mining remains at Rosevale, Pool, King Edward Mine, Wheal Peever, Botallack, Poldark and Levant, China Clay works in St, Austells, The Bodmin and Wenford Railway and The Museum of Submarine Telegraphy at Porthcurno.

If any of you have not been to these conference before they can be thoroughly recommended as being very welcoming and informative and a good way of meeting many interesting people.

Full details and Application Forms can be obtained from the General Secretary

Subscriptions are now due

Unless you are paying by Banker's Standing Order your Subscription became due on the 1st of April 2010.

The rates remain unchanged at £10 for full membership, plus £5 for a Family membership and £2 for Junior and Full Time Student membership.

Cheques payable to S.I.A.S. should be sent to me - Peter Holtham, 12, St Helens Crescent, Hove, Sussex BN3 8EP.

Early payment would be appreciated.

IA and Me

Our President **Sir Freddie Sowrey** has contributed the second article in this series.

My interest must have started at school in the 1930s with the Great Western Railway running in a cutting past the school buildings. I was quickly hooked on the magnificent Kings, Castles, Halls and Bulldogs as well as the lesser Prairie and Pannier tanks and the basis was laid for a fascination with all things mechanical. A 5/- (25p) excursion from Acton to the Great Western works at Swindon and another to the sheds at Old Oak Common gave a smattering of knowledge of “God’s Wonderful Railway”. The next step was for my father to pay for metal working as an extra at school. Run by patient instructors and using ammunition lathes from the 1914-18 war culminated in machining a Stuart Turner 30cc petrol engine from castings – taken proudly to Brede on a recent open day. An indulgent grandmother paid the 10/- (50p) subscription for schoolboy membership of the Brooklands Automobile and Racing Club, giving 365 days entry to the track, and the opportunity to spend school holidays learning about highly stressed machinery. World War II involved volunteering for the Royal Air Force, and after 40 years of being propelled by engines going up and down and later those going round and round, I defy anyone not to be interested in where it all started.

However a conversion to IA needs more than a passing interest in a range of mechanical subjects and this catalyst was Ironbridge. A two day visit showed the interaction between raw materials, manufacture, distribution and use, as well as an introduction to preservation and restoration. This then linked to a sparse knowledge of the Sussex iron industry and involvement with the Wealden Iron Research Group, recently put to good effect in clearing and opening up an iron ore and clay quarry in woodland. Incidentally, ground features in woodland can now be recorded through the canopy using LIDAR which provides an extra dimension.

Other aspects from the past like old motor cars and advertising enamel signs – particularly with a motoring theme, showed periods when inflation was nil; the price of petrol being set in vitreous enamel! Joining SIAS some 35 years ago coincided with restoring a range of very run down Victorian farm buildings at Home Farm, and inviting members of the Society to visit with the theme of “Family Farm – IA”. Climbing over the roof structure of the 17th century barn with its later shafting for a Ruston Hornby engine, piggeries with cast iron doors and feed troughs and former carthorse stables produced many helpful comments from members. After a decade as your Chairman, and now as President I now much enjoy reading and seeing the fantastic range of achievements of members in so many aspects of IA. Long may you continue to flourish.

Southeast Bridge - Restoration

Work has started on restoring the swing bridge over the Ouse, as previously featured. It is to be closed to all traffic and the moveable span lifted onto the bank for major work on the superstructure and the piers. A temporary footbridge will be in place for South Downs Way walkers.

This is not the first time that a temporary bridge has been on site, the following letter appeared in the *Sussex Express* on 9th October 2009.

Crew of tank nearly went a bridge too far

I REFER to your article on the Southeast Bridge (October 2).

Your readers may be interested in a little-known incident regarding the Southeast Swing Bridge that occurred during the Second World War in 1941.

The story is reproduced verbatim from the wartime memoirs of Colonel F. H. Foster RE, DSO, OBE, TD, DL, RIBA as held in the RE Museum entitled (*Recollections of an Amateur Sapper Two Ten at War - Fireworks Galore!*). He also designed the 'Secret Tunnels of South Heighton' (later known as *HMS Forward*). "It was realised by the 'Top Brass' that if Hitler invaded, that we could not counter attack with 40-ton Churchill tanks from east to west in Sussex (and vice-versa) over the River Ouse except over the bridges at Newhaven or Lewes. I was therefore to build Class 40 bridges at Southeast and Barcombe.

"It should be remembered that the Bailey Bridge which was to play such an important part in bridging operations during the war had not yet come into use.

"The site chosen for the bridge at Southeast was immediately to the north of the existing three-ton limit bridge, so we used the only 40-ton prefabricated equipment available at that time -The Hamilton Bridge. This consists of many steel trusses and fittings all of which have to be bolted together as the bridge is built and gradually rolled over the gap. This is a slow business. An important factor which much-affected the speed of construction was that the River Ouse has tidal banks or 'bunds' which could not be cut into without flooding the countryside. We therefore had to transport a great deal of excavated earth or spoil from the mile-distant cement works or from South Heighton to construct the launching plane and the two ramped approaches to the bridge. The whole project took about three weeks.

"At the same time as the two bridges were being built, I was made responsible for constructing a new underground HQ at South Heighton, near Newhaven. One of the problems was the disposal of the hundreds of cubic yards of chalk spoil, much of which was transported away to assist in forming the embankment approaches to the bridge at Southeast. Much care had to be taken to avoid dropping lumps of

chalk on the tarmac main roads as this would show up badly on German aircraft reconnaissance photographs giving away the position of the HQ.

“When the bridge was ready for traffic, I went to Seaford to ask the commander of the Churchill tank squadron to ‘test out’ the bridge. The next day we went together to see the squadron of 20 tanks (each 40-tons) make a successful crossing.

“The next day I received an irate telephone call from an official of the Ouse River Board that a tank had broken the timber ribbons on their three-ton limit swing bridge. It later transpired that we saw only 19 tanks cross the Hamilton Bridge. Tank number 20 had broken down some miles back and had to leave the column. When the crew complete their repairs the tank carried on, and through lack of instructions (because the temporary military diversion signs had been recovered), crossed the three-ton limit swing bridge instead of our new one. The crew were certainly lucky! The construction of the Hamilton Bridge was carried out by 578 Corps Field Company RE (Major Stewart). We impressed sundry ‘tippers’ and ‘dumpers’ and even two steam rollers. The latter by kind permission of Major Lunn, the County Surveyor who was an old friend of mine (We fixed up the ‘deal’ over a lunch he stood me in Lewes!)”

Geoffrey Ellis, author of *The Secret Tunnels of South Heighton*
www.secret-tunnels.co.uk

Brickmaking in Sussex

Ron Martin

This excellent publication by Molly Beswick has just been reprinted by the Society and copies are now available from the General Secretary at a cost of £12.95, post free.

Wealden Cave and Mine Society

Reigate Cave Days 2010

There will be guided tours of the Barons’ Cave at Reigate Castle,
and the Tunnel Road (east and west) silver-sand mines
on the following Saturdays in 2010 - (10.00 to 16.00):

May 8th - June 12th - July 10th - August 14th - September 11th

A charge is made for admission to the guided tours - but
the Barons’ Cave is free on 11th September, this being a Heritage Open Day

Further information may be had from Wealden Cave and Mine Society,
on 01737-243912 or 07974-748403 or at andy.belcher@wcms.org.uk
and see the website <http://www.wcms.org.uk>

Group visits can also be arranged at other times

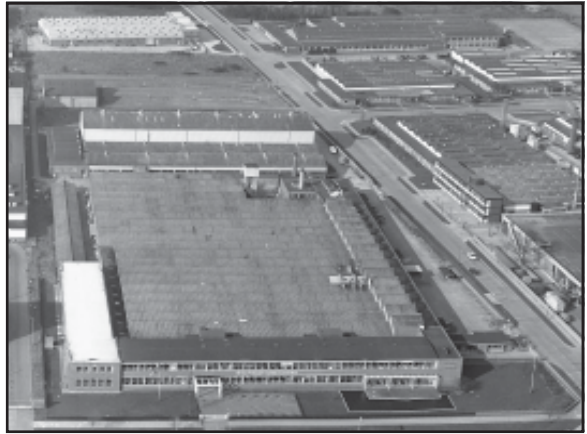
Edwards High Vacuum

David Jones

With the recent news that Edwards is to move the last of its manufacturing activities overseas, another largely Sussex firm will cease to be part of the industrial scene in our county, except for research and development.

The company was founded by Mr. Frederick D. Edwards in 1919, based in Allendale Close, Camberwell, South London with just £20 of capital, initially importing vacuum equipment for resale. 20 years later they started manufacturing their own vacuum pumps and other equipment such as gauges, eventually moving to Lower Sydenham.

In 1953 the firm moved out of London and established itself as Edwards High Vacuum Ltd. in Manor Royal, Crawley, which was one of the eight designated New Towns within a 20 to 50 mile radius of the capital set up by the government under the 1946 New Towns Act to provide housing and employment opportunities outside the main overcrowded conurbation, following the ravages of the war. Others that moved into Crawley from south London included the Aluminium Plant Vessel Co. (APV), Redifon, Stones, W. C. Youngman Ltd., Vitamins Ltd., MSE., Telcon Metals, Mullard Equipment Ltd. (MEL), Silentbloc and VentAxia, this latter company being the only one still there retaining its original name. Acquisition by Edwards High Vacuum of firms such as machining company J. H. Holmes and Son Ltd. of Shoreham in 1963 enabled factories to be established in other parts of Sussex, including a new separate instrument division in Hampden Park, Eastbourne opened in 1957, and later a presence in Burgess Hill, so becoming a truly Sussex company. In 1968, following the death of Mr. Edwards, the firm became part of the British Oxygen Company, initially retaining the same name, but eventually in 1997 becoming BOC Edwards, although most people still referred to it as Edwards High Vacuum. BOC themselves were bought out in 2006 by the German gas products company Linde AG but, not being interested in the vacuum side of the business, sold off the Edwards part to private equity groups CCMP Capital and Unitas Capital, whereupon the name reverted back to Edwards on 17th July 2007.



The main factory in Manor Royal as built.

(photo courtesy of Edwards High Vacuum International)

Although traditionally known for its rotary vacuum and diffusion pumps, the past 50 years has seen an expansion into other products that utilise these pumps, with systems such as coating units, freeze dryers, leak detectors and electron microscopy preparation units being developed, leading eventually to dedicated specialist coating systems for the semi-conductor and TV screen industries; now the main market. This is what has prompted the move of manufacturing to South Korea and the Czech Republic where the majority of customers in these fields, particularly the increasing business of LED devices, are located. The manufacture of diffusion pumps had already been moved from Crawley to India some years ago, although these have now largely been superseded by more up-to-date technology such as the dry claw and the turbo-molecular pumps.

The large factory in Manor Royal is still extant but up for sale or let, so no doubt will be demolished and rebuilt, as have most of the others in the Crawley industrial area from the original build of the 1950s. The units in Dolphin Road, Shoreham-by-Sea are due to be vacated over the coming months as production is relocated overseas, but the instrument division in Marshall Road, Hampden Park seems to be unaffected, although there has been some contraction of staff there in recent times.

It is understood that Crawley Museum are considering setting up a special temporary exhibition in the near future covering the history of the industrial area of Crawley which would include the companies mentioned above.



The Edwards IBMA1 Ion Beam Machining Apparatus, designed and manufactured in Hampden Park in the 1970s. This uses argon gas to provide high tension ion beams that impinge on rotating samples within the vacuum system in order to thin them down for inspection in a transmission electron microscope. (photo courtesy of Eastbourne Gazette and Herald)

Early Coach Tour

John Blackwell

The Worthing Herald of 18th and 25th June 1913 describe a coach trip operated by Sussex Tourist Coaches¹ covering seven counties in seven days. The report states an excursion to the Lake District had been contemplated but failed to materialise, this alternative trip to Devon and Cornwall “met with prompt and general acceptance. For three guineas the directors have undertaken to provide a journey of 610 miles to just beyond Clovelly. Passengers are expected to dress for dinner in the evenings. It is hoped that ladies will wear hats and caps as small as possible so as not to impede the view of other passengers. Several ladies have stated a motor veil will be quite sufficient head covering for the whole trip”. The journey with 24 passengers set off at 9.30 a.m. on the Saturday 14th July, arriving at Bournemouth, 92 miles, in the evening. Sunday on to Exeter 96 miles, Monday Plymouth 72 miles, Tuesday Hartland 86 miles, Wednesday Minehead 74 miles, Thursday Shaftesbury 92 miles; returning to Worthing 98 miles on Friday. The trip is reported to have been trouble free but Colin Morris in his definitive history of Southdown² tells us the journey was full of incident: “Passengers had to walk up some steep hills; the coach jammed under the entrance to the Bude Hotel at Exeter and when the passengers got out, the springs went up and lifted the floor of two old ladies’ bedrooms above. The Rivers Dart and Tamar were crossed by ferry and barge; planks placed over a shingle beach were used to get the coach safely ashore; the brakes failed on Paracombe Hill and eighteen Lynmouth fishermen were recruited to lift the back end around an impossible corner. When the coach was being driven empty up Combe Hill a stake protruding from the hedge smashed a side window”. The coach used was a Daimler CC with “slipper” bodywork (the rows of seats were stepped towards the rear) with a fixed roof and six windows each side, two of which opened. The driver was only shielded by the roof with no windscreen or side protection and of course the coach ran on solid tyres on poor roads. Notwithstanding, the trip was an unqualified success and further tours were undertaken to the New Forest in July and mid-Wales in September. In May 1914 the trip to the Lake District set off followed by those to the New Forest and Kent before the events of August put paid to such excursions until 1925.

References

- ¹ Sussex was the coaching arm of Worthing Motor Services which in June 1915 amalgamated with three other operators to form Southdown Motor Services which with their familiar cream and green livery provided much of Sussex with bus and coach services until the 1970s.
- ² Colin Morris, *Southdown Volume 1 The History*, (Venture Publications) 1994.

Tiling in South-East England - Why No Pantiles?

Ron Martin

Recently I was told by an archaeologist who is carrying out some excavations at Bishopstone Tide Mills that a building has been found which was covered with clay pantiles. I commented that this was an unusual occurrence and began speculating about this.

Building materials are heavy and difficult to transport so, prior to the advent of the railways they were normally sourced locally. Most trades required a considerable length of time to train apprentices and this meant that traditions of building tended to be conservative and innovation was resisted.

Tiles are a manufactured from clay, moulded and fired in a kiln. They have been around since Roman times, their tiles comprising *tegulae*, a flat troughed tile with shallow upstands and *imbrices* which are half round tiles covering the joints between them *tegulae*. They were single lapped tiles lapped at the horizontal joints.¹ After the Romans departed these tiles were no longer made and the use of tiles was replaced by other materials such as thatch and shingles.

“Plain” tiles came into use in the 14th. century² and became the norm in south-east England. These are made of a flattish slab of clay about ½” thick,, the size of which varied in earlier times but eventually standardised at 6½” x 10½”. As the tiles are not dead flat due to the firing process, they are always made with a slight camber from top to bottom so they the bottom edge of the tile fits snugly onto the course below. They are laid with the sides of the tiles in each course butted and in order to ensure a watertight roof the courses are lapped so that there are always two layers and at the lap there are three layers of tiles. They are normally laid to a 4" gauge



Glazed Pantiles

Plain tiles with
bonnet hips



and a 2½” lap. Because the tiles are not even there is a tendency for rain to drive up, so that plain tiles are normally laid to a pitch of not less than 40°. Early tiles were holed and hung from battens with oak pegs, but later they were nibbed and nailed every fourth or fifth course. Because each tile is comparatively small and flat, they can be easily cut and they are admirably suited to complicated roof shapes with hips, valleys and dormer. One very attractive feature of plain tiled roofs is the treatment at hips using arris tiles or bonnet hip tiles. The latter are shaped like the old fashioned poke bonnet and are bedded in mortar. Prior to the introduction of tiling most roofs were covered with thatch, in the South-east this being derived from long straw. This is an expensive product and not particularly durable and when plain tiles became available in the 14th century these began to usurp thatch as the preferred option. Due to the multiple thicknesses and steep pitch of plain tiled roofs their weight was considerable.

An alternative to this was the single lap tile which was introduced from Holland in the 17th century and East Anglia, being located just across the North Sea from Holland, began to use them.³ The earliest form was the pantile which was sinuous in cross section and when laid the concave part of the tile was covered with the lip at the side of the convex edge. They were usually 9½” x 13½” and laid to a 12” gauge to a pitch as low as 30°. Plain tiles had never become as popular there as thatching with Norfolk reeds which proved far more satisfactory than the long straw thatching of the South-east and pantiles subsequently became the standard form of tiles in the whole of eastern England from Essex and right up to Scotland. Due to their curved section, pantiles are difficult to cut and use on complicated roofs and the simple gabled roof became the preferred style and because of the single lap and the lower pitch were considerably lighter than a plain tiled roof. The

other area of England where single lap tiles are found is in the area around Bridgwater in Somerset. The reason may be that the marshy area of the Somerset Levels favoured the use of reed thatching and inhibited the use of plain tiles in the same way as in East Anglia. In the middle of the 19th century Bridgwater became the largest producer of tiles in the country and they produced many different patterns of the single lap tiles and exported to many parts of the country and these including pantiles and Patent single and double Roman tiles. Another pattern was described as “Triple Angle” and in section was a series of zigzags. I was quite surprised to find a roof covered with these tiles on the former printing works in St. John’s Street, Chichester. How they came to be use there is a mystery. I also noticed some on TV in a recent episode of *Lark Rise to Candleford* which was, presumably, filmed at Lacock, which is in the distribution area for Bridgwater tiles.



Triple angle tiles on former printing works in St. John’s Street Chichester

In view of the rarity of pre-20th century pantiles in Sussex it would be interesting to locate examples of these and, if possible, to ascertain their source. Would members let me know of any sightings. Incidentally, the Pantiles in Tunbridge Wells has no connection with roofing tiles. This was erroneously applied to Dutch or Flemish paving tiles when built in 1774⁴.

References

- ¹ Alec Clifton Taylor *The Pattern of English Building* (1972). p.274
- ² *Ibid*, 269
- ³ *Ibid* 275
- ⁴ *Shorter Oxford Dictionary Third Edition* (1944)

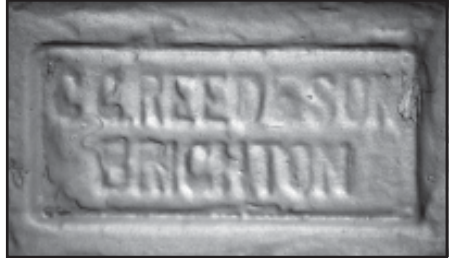
BLEECO - A Cautionary Tale

John Blackwell

The internet can be a wonderful source of information but it is also full of assumptions and inaccuracies. Whilst looking at a nearby conservation area's website I came across the following in a report concerning replacement of period lamp posts:-

"They are like gold-dust! They were cast in the 1880s as columns for gas lamps by J. Every, the largest traditional iron and steel foundry ever to be based in Lewes, East Sussex. The street lights were later powered by BLEECO, the Brighton Lancing and Eastbourne Electricity Company".

This comment has allegedly been made. Every's it needed investigation. The images shown looked like the well known design cast by C.J. Reed at the Regent Foundry situated at the top of North Road Brighton (the site now occupied by the postal sorting office) and so they turned out to be; they even had the makers name cast into them.



C. J. REED & SON Casting

Turning now to BLEECO the correct interpretation is somewhat more prosaic being Brighton Lighting & Electrical Engineering Company. This company was formed in the 1921 and occupied premises in St Martin's Place Brighton eventually expanding into the adjacent Wellington Road. Formed principally to modernise street lighting in the town they were responsible for adapting gas lamp posts for use with electric lighting and the cast iron boxes bearing their initials, which contained time clocks, are a common sight fixed to the top of the old gas lamp post. Swan necks led from this box to the lamp and reflector. The company prospered and as new estates developed along the south coast their distinctive slender columns with circular bases containing the control gear and with BLEECO Brighton cast into the access door, enhanced the streetscape. I know little of this company other than it was founded by Ernest Henry Heaps the first works manager of Allen West and that he designed and erected the first electrically operated semaphore traffic signals in the UK at the junction of West Street and Kings Road in Brighton. When Heaps retired in 1961 the company was allegedly taken over by Haven Foundries of Newhaven (whether this had any connection with the Haven Foundry in New Road, Newhaven which closed few years ago is unknown). A scheme to convert the gas lamps at Ditchling was prepared by BLEECO in 1963 but by 1966 they were no longer recorded in the Brighton street directories. I was of the opinion that being electrical engineers the lamp posts were not cast in house but contracted out merely bearing the name on the control door casting; this could be the connection with Haven Foundries.

Further information would be appreciated. As to websites

Heathfield Mystery Photograph

This photograph has recently been received by the Society. It is believed to show a derrick above a borehole in Ghyll Road Heathfield at TQ 581206. Drilling for Natural Gas commenced here in 1902 but was not commercially viable and was soon abandoned other than a supply at Heathfield Station. The derrick in the photograph which was taken in about 1970 is unlikely to have survived from the early 1900s so what was happening here in 1970. If any members know your editor would be pleased to hear.



Winchelsea : An Old 'New' Town

Martin Snow

New Towns - a 20th century invention, Crawley springs to mind, however there is nothing new. In the 13th Century when the ancient Cinque Port - Winchelsea was threatened with destruction by the sea, its' important position at the shortest crossing from Normandy lead to it being relocated to a cliff top site overlooking what became a bay where 'Old' Winchelsea was located on shingle banks that extended from Fairlight to close to New Romney.

Think Shoreham Beach, the spit of shingle extending from Lancing to Hove, now breached at Kingston for the outlet of the Adur and entrance to the harbour, without the wooden and now Norwegian granite groynes and concrete defences, just how many large storms would it have taken to see an end to the 'solid' foundations of the housing, power stations and harbour structures.

Winchelsea was a major wine port in the 13th to 15th centuries, the 'New' port was along the northern shore of the relocated town, where the A259 now runs at the foot of the hill beside the much diminished river Brede. The New Town was a planned one, with a rectangular grid of roads around regular shaped plots. Under many of the plots there are cellars, 31 of which are open, 18 proven but not currently accessible. These cellars mostly occur in the northern part of the town, many under more recent replacement buildings. It is generally accepted that their purpose was to store the wine which came in to the quays below, until it was sold and moved on to London and further afield. The merchants would have had their living accomodation 'over the shop'.

These solid, mostly vaulted cellars are a fascinating survival from medieval times of a major import industry.

The Society has arranged an opportunity to visit a selection of the cellars with a local guide. One of the cellars has only recently been cleared by the local archaeology group. This is to be on the morning of Saturday 23rd August.

Rye Harbour Tour

In *Newsletter 139*, Ron Martin gave a taster of the area known as Rye Harbour, this has grown up on the shingle south of the Cinque Port, Rye, and now has a spread of industry along the river side from Rye to the sea, as well as housing closer to the mouth. The present mouth is thought to be close to the location of Old Winchelsea, of which nothing remains.

On the afternoon of 23rd August, after the tour of Winchelsea cellars we will visit this area to see the modern industries that have replaced the shingle extraction that criss-crossed the banks with narrow gauge railways feeding the standard gauge branch from the main SECR line at Rye.

Archaeological Research

There are a number of ongoing archaeological projects in Sussex which often have an IA content either by design or as a by product.

These include -

The River Ouse Project, this is currently planned to cover only up to 1500 AD
Leader Dudley Moore - dmoore@studygroup.com

Investigation of sites in the Lower Cuckmere Valley lead by Peter Bidmead, including a site marked as ancient chappel on a 17th century map, but is aligned N-S rather than E-W. It may be related to a medieval leper hospital recorded in the area.

From his parallel research Peter Longstaff-Tyrell has unearthed an error in a map included in Horsfield 1836, that suggest two additional bridges above Exceat Bridge. This map was relied upon by Richard Gilbert in articles in *Sussex Notes and Queries* in 1963 that interpreted certain features in the river bank as support for the two crossings. However even a cursory glance told me that the surveyor/engraver simply joined the dots for the river on the wrong side of the valley, it not then being checked. This is particularly evident as the first series of the Ordnance Survey 1" published some years before shows the correct orientation of the river and road.

This highlights the problem when mistakes have been made in published research, how does the error get corrected - OK a later printed correction in the same or related publication can be made, but it cannot be directly linked.

In the case of the Piltdown Man, the volume of publicity should have made anyone with an interest aware of the 'mistake'! However nothing else receives quite the same attention of the media etc.

I should not be surprised if items have appeared in our own society's publications which although 'correct' at the time have been superceded by later work. A future researcher might rely on the earlier work, missing later corrections.

I don't know the answer, particularly where a correction has not been published.

The advent of the Internet makes it easier for anyone to publish anything without any real control, so deliberate errors can compound the problem. At least for all it's shortcomings *wikipedia.org* is peer reviewed and corrected - to a point.

Street View and IA Recording

This is an extra to Google Maps, it gives a 360° view from about 12 feet above the road of most public roads, allowing zooming etc. Faces and number plates are blurred out for privacy. Apart from not covering pedestrian precincts etc it is a most useful tool for the Industrial Archaeologist when noting the use of buildings/properties. The society made a photographic record of much of Sussex 20 years ago, it would be possible to sit in the warm, updating the record from Street View!

Photograph Quiz

A recent donation of some 700 negatives included these two images from 40 years ago. I thought members would like to test their knowledge of Sussex waterways, no prizes! One should be easy, the other has changed considerably since the photograph was taken.



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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.

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BLEECO cast iron lamp post and control box (John Blackwell)



Just a little TLC required ?
The Bramah catafalque hydraulic pump (Martin Snow)