

Sussex Industrial Archaeology Society Newsletter



Number 133

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The disused Brick Kiln at Pitsham Brickworks at Cocking seen during the visit on 20th September 2006. A report starts on Page 8.

Photograph by Ron Martin

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EDITORIAL**Robin Jones**

Due to other commitments, I have reluctantly decided not to continue as Editor of the Sussex Industrial Archaeology Society Newsletter. I shall however carry on editing the Sussex Mills Group Newsletter, and it was because of the satisfaction I had in editing this latter Newsletter that I took over as Editor of the SIAS Newsletter from Bob Allen in the Spring of 2006.

I am pleased to say that Martin Snow has offered to edit the April 2007 Newsletter and subsequent issues. All future contributions should therefore be sent to Martin either at his home address, which is 32 Orchard Avenue, Worthing, West Sussex. BN14 7PY or by E mail to martin@snowing.co.uk I hope that members have found the articles and news items in the four issues I have edited over the past year

interesting, and that the inclusion of photographs to illustrate some of the features has enhanced their appeal.

Finally I would like to thank members for their contributions by providing a variety of subjects on Industrial Archaeology.

FORTHCOMING EVENTS

Pat Bracher

Saturday 27th January 2007 at 3 pm. at West Blatchington Mill Barn. SIAS members are invited to the Brighton Circle Meeting when a talk on *LB&SCR Signalling* will be presented.

Saturday 27th January 2007 at 7.30 pm. at West Blatchington Mill Barn. *Railway Development at Newhaven, a look at the Industrial Archaeology of the area.* A talk by John Blackwell.

Tuesday 13th February at 7.30 pm. at East Pallant House, Chichester. Annual joint meeting with Chichester Museum Society. *Cycling through History.* A talk by Howard Stenning, Director of the Amberley Working Museum.

Saturday 17th March at 7.30 pm. at West Blatchington Mill Barn. A talk by Mike Hearn on *Electrical Power in Sussex, Part 1 – Brighton.*

Sunday 18th March from 10 am. Working party at Coultershaw Beam Pump. Wear old clothes and bring a picnic lunch. Contact Robin Wilson 01798 865774.

Sunday 18th March at Ifield Water Mill, Hyde Road Ifield, Crawley. TQ 245364. The Wealden Iron Research Group are holding an exhibition of Wealden Iron. For times of opening and more information contact Janet Roskilly 01923 524447.

Saturday 21st April. SERIAC at Reading hosted by Berkshire Industrial Archaeology Group. See booking form in this Newsletter.



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.

Wednesday 17th January 2007, 7.45 pm. *Pot pourri of transport around Brighton.* Sussex Transport Interest Group talk by Les Dench. £2. London Road Station, Brighton. 01273 512839.

Thursday 18th January, 8.00 pm. *The leather industry,* with details of tannery sites in and around Sussex, presented by Lawrence Stevens. Wivelsfield Historical Society, Wivelsfield Village Hall. £1 visitors. 01444 233937.

Wednesday 31st January, 7.30 pm. *History of Brighton Station.* Volks Electric Railway Association talk by Jackie Marsh-Hobbs. £2. London Road Station, Brighton. 01273 306838.

Friday 9th February, 7.30 pm. *Bishopstone Tide Mills.* Lecture by Luke Barber, Research Officer. Brighton and Hove Archaeological Society. Unitarian Church, New Road, Brighton. 01903 751662.

Wednesday 14th February, 7.40 pm. *Cine films of trams,* presented by Mike Skeggs. Tramway and Light Railway Society. £1.50. Deall Room, Southwick Community Centre, Southwick Street, a short walk north of Southwick railway station. 01273 512839.

Thursday 15th February, 7.30 pm. *Kemp Town Junction.* Railway Correspondence and Travel Society talk by Derek Osbourne. Brighthelm Community Centre, North Road, Brighton. 01444 253657.

Saturday 24th February, 2.30 pm. *Researching the history of houses.* Brighton and Hove Archaeological Society, Local History talk by Jackie Marsh-Hobbs. United Reformed Church Hall, Blatchington Road, Hove. 01273 307335.

24th-25th February. *Branch Line weekend.* Bluebell Railway.
01825 720800.

Friday 9th March, 7.40 pm. *History of lighting.* Brighton and Hove Society of Miniature Locomotive Engineers talk by Maureen Dillon. West Blatchington Mill Barn, Holmes Avenue, Hove.

Monday 12th March, 7.30 pm. *Railway Films with Jonathan Marsh.* Industrial, narrow and standard gauge railway films. Southern Electric Group. £2. Deall Room, Southwick Community Centre, Southwick Street, a short walk north of Southwick Railway Station.
01273 504791.

Tuesday 13th March, 7.30 pm. *The story of the 'Terror'.* Robert Perry describes the restoration of the last of the Emsworth oyster boats. Chichester Museum Society programme. Committee Rooms, East Pallant House, Chichester. 01243 784683.

Wednesday 14th March, 7.30 pm. *Images of Isambard Kingdom Brunel.* Chichester Local History Society talk by Angus Buchanan. £2. New Park Centre, New Park Road, Chichester. 01243 787592.

Thursday 15th March, 8.00 pm. *Norman & Burt, Burgess Hill builders 1862-1974.* Talk with slides by Fred Avery and Leon Figg. Wivelsfield Historical Society, Wivelsfield Village Hall. £1 visitors. 01444 233937.

Wednesday 21st March, 7.45 pm. *The history of Prague Tramways.* Sussex Transport Interest Group presentation by Ian Gledhill. £2. London Road Station, Brighton. 01273 512839.

Saturday 31st March, 2.30 pm. *Crawley in the 19th Century.* Brighton and Hove Archaeological Society, Local History talk by Claire Denman. United Reformed Church Hall, Blatchington Road, Hove.
01273 307335.

Wednesday 11th April, 7.30 pm. *Tramways of South London.* Presented by Richard Pennell. Tramway and Light Railway Society. £1.50. Deall Room, Southwick Community Centre, Southwick Street, a short walk north of Southwick railway station. 01273 512839.

14th-15th April. *Goods Train weekend.* Bluebell Railway.
01825 720800.

Monday 16th April, 7.30 pm. *Sussex Branch members show a selection of their slides.* Southern Electric Group. £2. Deall Room, Southwick Community Centre, Southwick Street, a short walk north of Southwick Railway Station. 01273 504791.

Wednesday 18th April, 7.45 pm. *The train now standing, the making of a train enthusiast.* Sussex Transport Interest Group talk by Roger Brasier. £2. London Road Station, Brighton. 01273 512839.

Thursday 19th April, 7.30 pm. *Images from the South Eastern Trackside.* Railway Correspondence and Travel Society talk by Geoff Dunster. Brighthelm Community Centre, North Road, Brighton.
01444 253657.

Sunday 22nd April. *Toy and Collectors Fair.* Bluebell Railway. 01825 720800.

**A WALK AROUND GEORGIAN MIDHURST ON
Wednesday 20th September 2006**

John Blackwell

I have always thought of Midhurst as a medieval town but as our guide for the day Alan Green was to show us, it also boasts a number of very fine Georgian town houses, some of which were originally timber framed buildings; re-fronted as their merchant occupier's wealth increased and needed to be proclaimed to their neighbours.

Our first stop was *The Clock House* in North Street. This is a three bay red brick building with Venetian windows and a full height bay with sash windows and mathematical tiles on timber framing. Repointing to these tiles leaves a little to be desired. Once the vicarage, and now converted to flats, we were able to inspect the splendid cantilever or flying stone staircase, by courtesy of one of the owners. This, Alan explained, is neither cantilevered or flying and its construction defies the calculations of today's structural engineers. Crossing to the *Angel Hotel*, an old coaching inn, we could see how it and the building to the

right had been re-fronted in Georgian times with the jettied upper storey extended straight down and "pinching" some of the pavement. Continuing along North Street we noted shop fronts from a variety of periods and particularly the blue and white faience on the gables of the *Silver Horseshoe* public house from the art nouveau period.

At the top of Sheep Lane is Alan's favourite property *St Ann's* a splendid symmetrical three storey house with a fine Georgian doorcase. Almost opposite is *St Ann's Hill House* with a plain and not very authentic red brick front. All was revealed at the rear or garden frontage which again we were able to view courtesy of an occupier. Apparently the front was badly damaged in a bombing raid and had to be rebuilt but the rear was unscathed, the later rebuilding being a poor reflection of the original. Edinburgh Square made Ron Martin's day when he discovered some previously unrecorded mathematical tiles. On to the *Spread Eagle Hotel*, which is a building of different periods but housing a superb Georgian timber staircase and a panelled meeting room; one could almost smell the tobacco smoke from churchwarden pipes. Finally we walked to Midhurst Wharf, the terminus of the Rother Navigation completed in 1794, and inspected the restored canal bridge before ascending *St Ann's Hill* and returning to *Midhurst Grammar School* to view the present *Memorial Hall* with a neo-classical façade of 1821 inscribed 'Schola Grammaticalis'. Alan's walks are always a joy being well researched and planned and eruditely presented; but you must pay attention at all times!! We look forward to the next.

Following lunch, we assembled at Pitsham Brickworks, and a report on this visit follows this article.

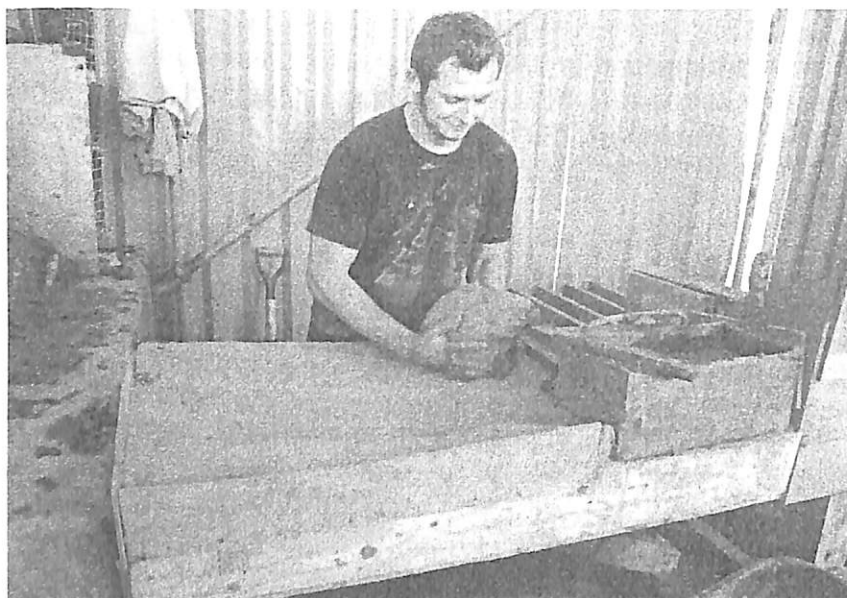
Following the visit we were invited to *Middleton Lodge* the family home of Vic Mitchell and the Middleton Press where we saw how rubbed bricks from Pitsham had been skilfully used in rebuilding two window arches; one could not distinguish them from the originals. After viewing Vic's garden railway and quarter size model of an M-class London tramcar we partook refreshments in the garden, kindly provided by Vic's wife Barbara to whom many thanks - a fitting conclusion to a superb day. (See photographs on rear cover).

A VISIT TO PITSHAM BRICKWORKS, COCKING

Ron Martin

After our morning visit to Midhurst we all repaired to W.T. Lamb and Son's brickworks at Pitsham, where we saw the two processes of brickmaking being carried out on the site.

With one, the clay is dug on site in the autumn from a pit some 1 metre deep and after overwintering it is mixed with coke breeze to provide the fuel for burning. The bricks are hand moulded by a group of Polish workers, using the traditional method by throwing the clay into a mould placed over a stock board to create the frog. The green bricks are then transferred to the drying tunnel - similar to the polytunnels used in horticulture - where they are stacked and periodically turned until they are dry. They are then built into a clamp in the open containing some 80,000 bricks on a bed of overburnt bricks and coke with old or overburnt bricks to the sides and top. The firing takes place over a period of six to eight weeks and the resultant bricks have the variation in colour and texture so characteristic of this product.



Bricks being hand moulded by one of the Polish workers

The other brick manufactured are rubbers. The raw material is clay from the Kent works which is screened and washed in Stoke-on-Trent to remove all impurities. The resultant slabs of clay are then soaked in a pit, put through a mill and then hand moulded. The drying process takes place in long sheds, some 100 years old, but they are fired in a modern gas-fired computer-controlled fibreglass lined kiln. This is located adjacent to the old down-draught kiln which is shortly due for demolition. (See photograph on front cover).

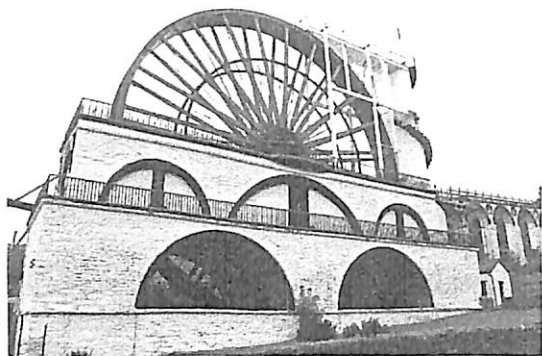
Rubber bricks are made oversize and are then cut and shaped to the required profiles. Formerly this was done on the building site but is now carried out at the brickworks. These are used in very high class rubbed and gauged work and the bricks are bedded in lime putty with a joint of only 2 mm thick. One innovation is the cutting and gluing of bricks to form angle, etc.

A full description of the works by the late John Haselfoot was included in Newsletter No.120, being a reprint of one in Newsletter No. 20.

AIA CONFERENCE IN THE ISLE OF MAN

Ron Martin

This year the Association for Industrial Archaeology's Annual Conference went overseas to Douglas. We were housed in three hotels on the sea front, which was some inconvenience as the distances apart were considerable. However, a morning walk along the promenade with views of the bay and the Tower of Refuge helped to clear the cobwebs away. The Tower was built in 1832 by Sir William Hillary as a refuge for shipwrecked sailors and is in the form of a medieval castle and used to be equipped with food and blankets. He was the founder of the RNLI. For an island of only some 70,000 inhabitants the range of heritage sites is quite staggering. On the transport front alone there is the 3 ft. gauge steam railway of 1873; the Manx Electric Railway from Douglas to Ramsey and the Snaefell railway to the summit, both of 1893; the Douglas Horse Tramway along the front at Douglas of 1876; the Laxey Mine Railway with two 19" gauge replica steam locomotive named *Ant* and *Bee*; and the Groudle Glen Railway which runs a steam locomotive *Sea Lion*, the sister to *Polar Bear* which is at the Amberley Working Museum.



The highlight of the visit was to the Lady Isabella wheel at Laxey (*left, and photographed by Ron Martin*). This is the largest waterwheel in Europe, 22m (72'6") diameter and 1.8 m (6') wide. The water comes from some distance up the mountain and is conveyed by a pipe passing up the

tower at the end, by way of a siphon, to discharge into the leat and on to the pitch-back overshot wheel. The wheel is connected by a crank to a flat rod system mounted on a stone viaduct which formerly operated pumps and a man engine in the mine. Unfortunately the wheel was not working as one of the rocker arms had broken and repairs were being carried out. Another wheel on the washing floor, but not quite so large was working - being a high breast shot and only recently installed. It had come from another site in Wales and replaced one no longer extant.

Driving around the island one was constantly reminded of its use as a TT course and we saw numerous places where walls had been provided with buffers to protect unlucky riders. The island is quite hilly, the highest point at Snaefell being 2,036 ft. high, with the northern part of the island being somewhat flatter. Geologically, there is slate, granite, sandstone, brick earth and in the north a mixture of cobbles which came across as glacial drift when the island was connected with the mainland. All these materials are used for buildings and in the Cregneash Folk Museum, a traditional village, which we visited, there are many examples of these and of the local wheat straw thatch which is laid on a base of turf and held down with a lattice of ropes secured to tie stones. Characteristically, the eaves are left shaggy, unlike most English thatch which is neatly trimmed. I also came across sand lime bricks which were made at Ramsey and Coade Stone.

The Isle of Man possesses three castles - I visited one at Peel (unofficially) which is located on an island overlooking the harbour. In Peel we also went to a Kipper Factory where the herrings are split, suspended on battens and placed in the smoke rooms. Sawdust placed on the floor smoulders, creating enough smoke to cure the fish.

We also visited Tynwald - the chapel and hill where the Manx Parliament meets once a year to promulgate all the legislation passed during the previous twelve months.

The cruise on the MV *Karma* proved some what uncomfortable due to the swell but it did enable us to get a good view of Douglas harbour and the seafront with the Tower of Refuge in the bay. On the final day we visited the utilities - the waterworks, the two power stations, one diesel powered and one with a gas turbine, the waste incinerator and the harbour office.

All in all this proved a fascinating trip to an island which seems to make the most of its financial position and its ability to manage its own affairs, without interference from the UK and the EEC. For an island of only 70,000 inhabitants the care of its heritage was quite outstanding.

LECTURE ON GUNPOWDER MILLS

Ron Martin

The first lecture of the season took place on Saturday 21st October 2006, and was given by Professor Alan Crocker on the subject of gunpowder mills. Gunpowder had been invented by the Chinese and was being made in Europe from the mid-thirteenth century. The materials for making gunpowder are saltpetre, 85%, charcoal, 15% and sulphur, 10%.

Saltpetre is potassium nitrate and was at first derived from pigeon droppings. Alan did a calculation which proved that the number of pigeons in an average English county would produce enough droppings per day to make one barrel of gunpowder. The situation changed in the 17th century when saltpetre from India started being imported. The material is put into a furnace, the refined product is skimmed off the surface and the impurities fall to the bottom.

Charcoal was originally burnt in heaps but due to the variability of the product it was later being manufactured in horizontal cylinders. An illustration was shown of two being subsequently used as gate posts on a former gunpowder site in the Lake District. The preferred trees used to produce charcoal, was buckthorn alder and thickets of these can still be found on some sites.

Sulphur is roasted and distilled in a pot with a long spout, to purify it and this comes out as "stick sulphur".

The gunpowder industry was centred in the south-east of England with important sites at Battle, Faversham, Chilworth and Waltham

Abbey.

The materials were mixed together with some water in mixing drums or in stamp mills, but this procedure was made illegal in the 1770s due to its danger. These methods were superseded by mills with edge runner stones rotating in a cast iron pan. The runner stones were made from hard limestone, but they were later made of cast iron and suspended from the shaft to keep them clear of the pan.

After mixing, the gunpowder is pressed to remove most of the moisture, and then "corned" by being forced through sieves using lignum vitae. The grade of powder varies depending on the purpose for which it is used, that for small arms being of finer grade than that for cannon. To prevent water absorption gunpowder is glazed with black lead in a cast iron rotating barrel. Testing is carried out to prove the quality of the product and it is then packed in wooden barrels or canisters. Buildings on gunpowder sites were placed some distance apart to avoid multiple explosions and they were provided with flimsy roofs so that any resulting blast would go upwards. Great care was taken to avoid sparks, with iron tools and footwear being forbidden.

When exploded, black powder creates much smoke and this was a disadvantage when used in baffle, so from c. 1885, German manufacturers discovered how to make smokeless powder using rye straw.

ANNUAL GENERAL MEETING 2006

Ron Martin

The 39th AGM of the Society was held on Saturday, 18th November at West Blatchington Mill Barn, Hove. The Chairman, John Blackwell outlined the benefits of belonging to the Society and noted the full programme of events included visits to Barcombe Mills, Lewes, Midhurst and Pitsham Bnckworks, Cobb's Mill and Oldland Windmill with three winter lectures and a joint meeting with the Chichester Museum Society as well as two mills tours and two meetings organised by the Mills Group.

The four Newsletters and Sussex Industrial History had been well received. SERIAC had this year been hosted by the Society and had been a great success. A grant of £500 is to be given to the Mills Archives to assist in the processing of the Frank Gregory Archive for which a Heritage Lottery Fund (HLF) application is being made.

The Treasurer and Membership Secretary, Peter Holtham gave his

report on the financial state of the Society which showed a healthy balance with no reason for altering the subscription rates. There are currently 403 members, an all time record.

The Editor, Brian Austen reported that *SIH 36* had been published in July with an enhanced format and a coloured cover. Robin Jones, who has been Editor of the *Newsletter* this year announced that he is giving up after the January 2007 issue and that Martin Snow is taking over. The improved format with more photographs was commended.

Peter Hill, the Chairman of the Mills Group stated that many of the mills in Sussex had well attended open days throughout the year and the two tours organised by the Group had been most successful. Restoration work has been carried out to mills at Polegate, Oldland, Park Mill Batemans and at Windmill Hill, which is now open to the public on a regular basis. There are still unresolved problems with Argos Hill and Cross-in-Hand Mills. A Sub-committee is being set up to set out guidelines on the Philosophy of Mill Restoration and Reconstruction.

Robin Wilson reported that at the Coultershaw Beam Pump there had been a successful year with visitor numbers and receipts at about the same level as the previous year. The Project Planning Grant has been received from HLF for the Conservation Management Plan of the Heritage Site. The Society is to assist with an IA assessment of the site.

Tony Baxter reported that at the Swanbourne Pump House in Arundel there have been poor visitor numbers this year due to the water shortage in the summer and ongoing work by Southern Water, which is now complete.

Ted Henbery reported that at Ifield Mill a bid for HLF funding is being made for the maintenance and rebuilding of the water wheel. There have been good attendances but school visits are down this year. Some machinery from Hammond's Mill has now been installed.

Chris Bryan reported that work on investigation and the restoration of various bridges on the Portsmouth and Arundel Canal has been proceeding, with many interesting discoveries being made. Several guided walks along the line of the canal have taken place.

Ron Martin reported that he has completed surveys and reports of the former printing works in St. John's Street, Chichester and of No. 4 Winding Street, Hastings, the Engine Room of the West Hill Lift in Hastings, the Pump House at Lavington Park (Seaford College) and

various buildings at Firl Place, notably the Dovecote and the Riding School. A photographic record of the King Edward VII Hospital at Midhurst has been made.

At the Amberley Working Museum a reasonable attendance had been achieved, bearing in mind the general run down of visitors this year, but there has been more visits made by schools. Various projects are underway, including extending the railway line, completing the Tools and Trade History building, and updating displays.

At the Brede Steam Engines, Southern Water has now removed asbestos from the Tangye engine but the work to the Worthington Simpson engine had been held up due to a dispute with the Contractors. The Haslingbourne pumps are now on site awaiting erection. The Rolls Royce diesel generator has now been sold to an organisation in Australia, and has been removed from the site.

The election the Officers and Committee took place and these are listed on the Page 27 of this Newsletter.

LECTURE ON ICE HOUSES

Robin Jones

Following the AGM of the Society reported earlier, when 43 members were present, Ron Martin gave an illustrated lecture on Ice Houses. As many members know, Ron is an expert in recording and creating drawings of buildings he surveys and a selection of Sussex Ice House drawings were available for inspection at the meeting. After Ron discussed how ice was produced, the question of storage was covered. The best place was in a cave or a specially designed ice house allowing the ice to be kept at a constant temperature of 50 degrees F. for up to 13 months to prevent it from melting.

Ice houses were first built 4000 years ago in places like Mesopotamia and Petra, where the climate was hot and where there were mountains nearby allowing ice to be collected, to be conveyed to an ice house. Ice houses were built for the storage of ice, not food, the ice being used in kitchens of the large houses to keep food fresh. Ice Cream was also mentioned at this stage of the lecture and an Ice Cream machine from Preston Manor was shown.

Ron has identified some 80 Ice Houses built in Sussex and the method of collecting ice from lakes using mallets and rammers was described. 30 cubic metres would fill a typical ice house and most structures were built of brick, circular and tapered at the base. Ron

then showed a number of examples describing differences by referring to his excellent drawings. The structure at Battle was built with an entrance to the north. Internal views were shown of the one at Goodwood, while there were two ice houses at Uppark, one of which was fitted with a sump. Framfield Place ice house had five doors along the access corridor and there was a large ice house at Combe Place, Offham. Hotham Park ice house at Bognor is easily accessible. The majority of ice houses were fitted with dome roofs, but there was an oval ice house built in Upper North Street Brighton. Other ice houses covered by Ron included those at Newick Park, Lancing Manor, Petworth House and The Rocks, Uckfield, the latter built into solid rock. The ice house at Searles, Fletching was octagonal and the one at Buxted Park had a thatched roof, showing how varied ice houses can be.

Ron then spoke about Frederick Tudor, known as the Ice King. He came from Boston in America in the early 1800s. An explanation of how rectangular blocks of ice were cut from lakes was given and the Kennebec River in Maine was a good source of ice. Ice was not only used in America and the Caribbean, but exported to India. Britain imported ice from Norway, some of it coming into the ports of Shoreham and Newhaven. Finally Ron mentioned Carlo Gatti who became famous as an ice importer and ice cream maker. He came to England in 1847 and had the Ice Warehouse near Kings Cross, London, built around 1863 for storing ice imported by ship from Norway. Located at Battlebridge Basin on the Regent's Canal, it now houses the London Canal Museum.

This was a very interesting and comprehensive lecture about Ice Houses, which has now been replaced by refrigerators to keep food fresh in the home.



**THOMAS HARRINGTON LTD., MOTOR COACH BUILDERS AND
AUTOMOBILE ENGINEERS OF HOVE, SUSSEX**

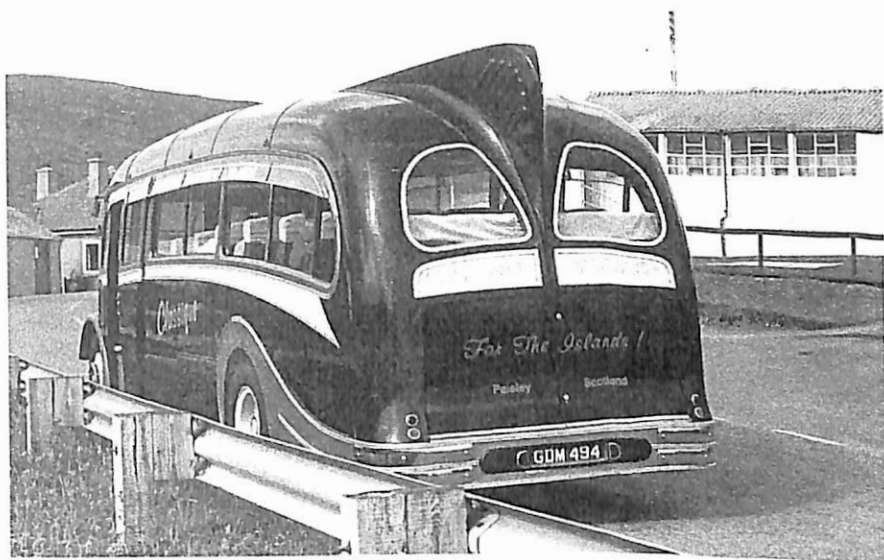
Robin Jones

In 1897 Thomas Harrington started building light horse drawn passenger wagonettes, flies and landaus at his premises in Church Street, Brighton. Within three years the original works was expanded and new showrooms were acquired in King Street. The increasing popularity of the motor car meant that this became the mainstay of the business, although commercial vehicle bodywork remained as a sideline.

Unlike many, Harrington adapted well when standardisation of body designs by private car manufacturers in the twenties caused the decline of that part of activities. What work there was tended to be for bespoke bodywork on chassis such as Bentley and Bugatti, and this perhaps led to the upmarket image that Harrington continued to foster throughout their existence. In fact, cars continued to be a feature of Harrington work right up to the closure of the company, but they were very much the minority. Production of luxury coach and bus bodies became the major occupation of the firm, with commercial vehicle bodies a smaller but significant proportion of the output.

Once production resumed after the WWI, the construction of luxury coaches plus a few buses made up the majority of the firm's output. In 1930, a purpose-built factory known as Sackville Works was constructed in Old Shoreham Road, Hove. Not as bold as some new factories at the time the cement rendered façade could be described as falling somewhere between art nouveau and art deco. The factory may have seemed grand at the time, but from the start there was no room for expansion. There was the Brighton to Worthing railway at the rear, the Dyke railway on the east, Old Shoreham Road along the north and a graveyard on the west. The front of the factory was the narrowest part and the production area, of conventional construction spread out behind, on a triangular site. The factory occupied seven acres and by the late 1940s over six hundred employees staffed the works.

The period after WWI was notable for two design features; firstly an attractive coach incorporating a stepped waist rail and secondly the famous dorsal fin which was almost the firm's trade-mark for many years.



The rear dorsal fin can clearly be seen on this Harrington bodied 1950 Leyland Tiger PS2 half cab coach on the Isle of Scalpay, Outer Hebrides.

During the Second WWII, only work associated with the war effort was carried out, where a number of special vehicles were constructed for the Army, Navy and RAF. In the 1950s, a greater use of glass fibre was successfully applied to their products, thus saving on the costly panel beating process. This improved method of producing coach bodies allowed Harrington's to develop a number of full fronted coaches for underfloor engined chassis. The first body was named the *Wayfarer* followed by the *Contender* and *Crusader*. However the two most well known Harrington coaches were the *Cavalier*, introduced in late 1959 and the *Grenadier* announced in 1962, a restyled version of the *Cavalier*. Demand for both types of coaches was very good with most British operators purchasing them. The graceful lines and excellent passenger visibility of the *Cavalier* soon made it a favourite for coach touring, both in Britain and throughout Europe. From 1962 until the demise of Harrington's in 1966, the *Cavalier* and *Grenadier* were produced side by side. However as the side profile of the *Grenadier* was at first glance identical to that of the *Cavalier*, some

operators chose a mix of the two styles. Southdown's for example had a short 31 ft. 5 in. version of the *Grenadier* with *Cavalier* front panels, while Grey Cars and Greenslades of Exeter had 31 ft. 5 in. versions of *Cavaliers* with *Grenadier* front panels and specially built to 7 ft. 6 in. width for use on the narrow lanes of Dartmoor. Other operators who bought coaches with Harrington bodies included Surrey Motors of Sutton, Timpsons of London and Charlies Cars of Bournemouth. Maidstone & District also built up a large fleet of *Cavaliers* and *Grenadiers* in their smart livery of Brunswick green and cream. The bodies were mainly fitted to Leyland Leopard and AEC Reliance chassis. The very last coach built by Thomas Harrington was a 31 ft. 10 in. *Grenadier* fitted on an AEC Reliance chassis for Greenslades Tours of Exeter, Registration Number FFJ 13D, which was completed just in time for the 1966 Brighton Coach Rally.



A 1964 A.E.C. Reliance coach with a 7' 6" Harrington 41 seat body for Greenslades Tours of Exeter, seen at the Amberley Working Museum

Unfortunately on the closure of the works, most of the archive material relating to bodies built and photographs and drawings, were destroyed. Later it was reputed that Harrington's official photographer lost much of his saved material in a house burglary. It is unlikely that it will ever be possible to compile a complete record of all the vehicles that left Sackville Works, although a pictorial history of the *Cavalier* and *Grenadier* has been produced by Roundoak Publishing.

The factory passed to British Telecom as a motor fleet service centre and was finally demolished in 1999. The site is now a retail park with PC World (*right*) on the area occupied by Sackville Works.



Members may be interested to know that on 10th June this year, a special Harrington Gathering Day will take place at the Amberley Working Museum when many preserved Harrington bodied buses and coaches will be on display.

(I would like to acknowledge that the source of this material is from the Harrington History web site www.thcoachwork.dsl.pipex.com).

THE 125th ANNIVERSARY OF THE BRIGHTON ELECTRICITY SUPPLY

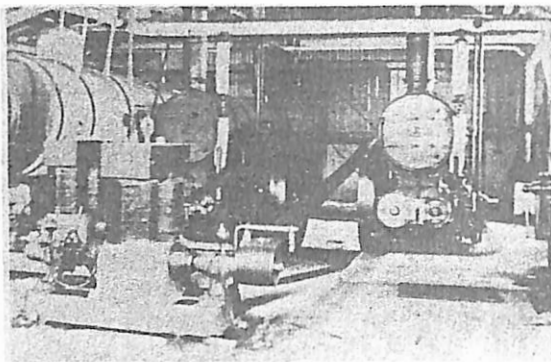
Mike Hearn

The 27th February 2007 sees the 125th Anniversary of the first electricity supply in Brighton. Interestingly, of all the early electricity supply systems that provided supplies to shops and private consumers, only Brighton has enjoyed the existence of a supply system that has not only survived, but has the distinction of providing a continuous electricity supply since February 1887, although the supply was not available on a 24-hour basis in the early days.

It was Robert Hammond who, in December 1881, visited Brighton and exhibited the new Brush Arc lighting. The exhibition attracted considerable local interest amongst affluent residents of Brighton, so Hammond broadened the display and a circuit was run along some of the main streets allowing local shop owners to consider the advantages of the new light.



Robert Hammond.
(1850-1915)
Noted pioneer of early
electric lighting.



The Reeds Iron Foundry Generating Station
in Gloucester Road in 1890.
In the middle of the photograph, a belt can be
seen being driven by a Robey Engine
connected to a Brush Generator.

The circuit itself was about two miles long and had sixteen arc lamps connected to it in series. It was shown for a week beginning on 21st January 1882, and the ensuing success of this display resulted in a number of applications from those willing to have their premises lit and they paid 12s (60p) per lamp per week for the privilege! With this adequate response a month later the Hammond Electric Light Company began on 27th February 1882, and supply was provided from dusk to 11 pm daily.

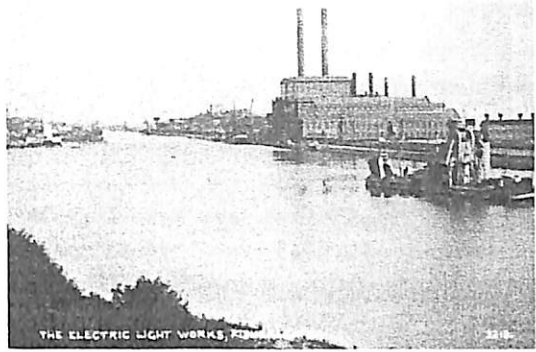
The first Power Station was located in a shed in Reeds Iron Foundry in Gloucester Road, where Brush generators were powered by Robey steam engines. As supply grew, another generator was installed in the spring of 1883. The tariff was changed to 6s (30p) per lamp per week plus 1s 6d (7.5p) per carbon used. There were a number of innovations applied to the supply system by Arthur Wright who was the Engineer-in-Charge.

At the end of 1885 there were 1,000 lamps connected, which has risen to 1,500 lamps at the end of 1887, in addition to 34 arc lamps. These were all supplied from five Brush generators connected to some 12.5 miles of bare overhead mains. Also in 1887 it was decided to give a continuous supply i.e. 24-hours a day and the system was then

converted to an AC distribution system at 1.8 kV, which was reduced to 100 volts at the customer's premises by a transformer.



Arthur Wright
(1858-1931)



Southwick Power Station in 1938

Curiously the Hammond Electricity Company had a very short lifetime dissolving in 1885 merely three years after its inauguration. It became the Brighton Electric Lighting Company, later known as the Brighton and Hove Electric Lighting Company, as it extended its electrical network. Eventually a major competitor was to emerge; Brighton Corporation, who on 14th September 1891 opened its own Power Station situated in North Road. It was in 1894 that the smaller Brighton and Hove Electric Company sold out for £5,000 to its larger rival the Brighton Corporation.

Once the Brighton Corporation had acquired the business of its smaller rival it continued to grow. In 1899 it became apparent that a new site for a much larger Power Station was required as North Road had been extended so much that further extensions were not possible. So a new location at Southwick was suggested by Arthur Wright, and an article on this appeared in the October 2006 SIAS Newsletter.

Growth continued and it was not until the end of WWII and the subsequent nationalisation of the electricity supply industry that both Power Stations at Brighton were vested with a new owner, the British Electricity Authority. Much later in 1956 it became the Central Electricity Generating Board. Brighton Corporation became one of the

fifty-two different electricity undertakings being vested in the South Eastern Electricity Board (SEEBboard). In 1990 the whole of the electricity supply industry was privatised and since this time SEEBboard has had three overseas owners, Central South Western, an American company, who later sold it to the American Electric Power Corporation. Then in 2002 it was sold again to the French state monopoly EdF, who are the present owners.

[The author is indebted to John Narborough the Curator of the EdF Milne Museum at the Amberley Working Museum for the material used in the preparation of this article].

MOCATTA'S STATIONS FOR THE BRIGHTON LINE

John Blackwell

For some time I have been intending to view Mocatta's drawings for the London and Brighton Railway (L&BR). These are part of the RIBA archive and can now be viewed upon application at the V&A Museum at South Kensington.

David Mocatta (1808-1882) was appointed architect to the L&BR in 1839 and was responsible for the principal station buildings from Croydon to Brighton, and the same for the branch to Shoreham. With the line opened there was shareholder dissatisfaction with the final costs against the estimates and luxuries such as an architect were dispensed with. The drawings are to a high standard and colour washed similar to those exhibited by Ron Martin at various Society events. They are probably not complete for every station and there are several attractive large watercolours showing how the completed building would look.

There is a complete folder of working drawings for the terminal building at Brighton, which of course still exists although largely hidden by porte-cochere at the front as well as a much smaller folder of preliminary schemes (really variations on the treatment of the façade with and without the colonnade). The full story can be found in *SIH* No 28 1999. One little mystery remains unsolved as to whether when the line opened in 1841 a clock in a stone surround (as today) was mounted on the parapet, or was it the arms of London and the Dolphins of Sussex in two shields. Both versions are in the drawings.

The other stations on the main line were all of a classical design (except Horley) built of brick with wooden sash windows and a slate roof which extended to provide a platform canopy, supported by brick columns and closed off at each end. The exterior including the platform columns were rendered. The structures were all single storey fifty three feet long by eighteen feet wide with a platform canopy giving a sheltered area running the length of the building and six feet nine inches wide. Internal arrangements were a booking room, a waiting room and both ladies and gentlemen's conveniences.

Hassocks Gate is illustrated in *Southern Main Lines - Three Bridges to Brighton* published by Middleton Press and survived unaltered until rebuilding in 1880 and even then the northern half was retained as a staff bungalow which survived into the 1980s. Haywards Heath had an identical covered area on both the road and platform side and was presumably erected on the down side as no stairs to the platform are shown as would have been required if on the up side. Its date of demolition is unknown but it probably lasted only a few years.

Crawley (now Three Bridges) was also erected on the down side and required substantial foundations as the station was on an embankment approached from road level by a steep slope. The building later had a second storey constructed and survived until the 1980s.

Horley also on the down side was in Tudorbethan style with flattened door and window arches with drip moulds above. This too had a second storey added in 1862 with distinctive pointed gables at each end. Following the building of a new station three hundred yards to the south in 1905 the original buildings became staff accommodation and survived into the 1960s.

Redhill is the only station shown with an overall timber roof (covering both platform and tracks) and apparently lasted only until 1844 when a joint station with the South Eastern Railway was constructed.

Unnamed drawings have been attributed to Stoats Nest (Coulston North was built a quarter of a mile to the north in 1909 and closed in 1983). I was not aware of any involvement of Mocatta in this station (an allegedly contemporary print shows it to be similar to Burgess Hill, a trackside halt)

Croydon (East) is the final drawing. This station was completely rebuilt in 1894.

Hove Station is a totally different design although still classical with deep eaves providing shelter, similar to Brunel's wayside stations for

the Great Western Railway. This station was situated on the downside east of Holland Road and was reached down two flights of steps. It closed in 1880, following the opening in the previous year of the Cliftonville curve between Preston (Park) and the present Hove station, and was subsequently demolished. There are no drawings of Shoreham (the other Mocatta station on the branch) which was of similar design to Hove. Similarly there is nothing in the drawings to connect Mocatta with the pavilions on the Ouse Valley Viaduct at Balcombe.

HISTORIC 1820 CAST IRON BRIDGE GIRDERS FOUND AT WALBERTON

Chris Bryan

The SIAS team, who keep busy every Saturday working on historic features of the Portsmouth and Arundel Canal, have had the privilege of identifying the best find so far. Late afternoon on Saturday 30th September 2006, as the team were just finishing off some pointing on the brickwork to a swing bridge at Barnham Court Farm, the land owner Mr Bill Forse, arrived and suggested we followed him to a farm at Walberton to look at some metal girders. Within a clump of trees between two fields and laid across a stream were two complete, perfect centre girders of a canal swing bridge. The two significant pieces of historic ironwork, though not marked, were obviously cast at the Tickell foundry in Southampton in 1820. This survival is due to their removal from the canal and re-use as a static bridge between fields over a stream, one mile away from the route of the canal. As the swing bridges on the Ford to Hunston section of the canal were smaller than the bridges between Birdham and Chichester, the first task was to measure the length. At 32 ½ feet (9.9 metres) long the girders were the shorter version from a Barnham swing bridge. This is the most substantial piece of a swing bridge on this part of the canal now known to survive.

The following Saturday, the team spent a full day digging out the buried ends of the girders. The worst task was removing 50 years of tree root growth from around the end of a girder. On Saturday 14th October a large tractor was used to remove the girders with great care and put them on a trailer and take them to the Stewart Bridge site at Barnham Court Farm.

The Poyntz Swing Bridge has, out of sight, scratched into each casting the letters 'PO'. So the recovered girders have been carefully surveyed for any signs of lettering scratched into them. The only lettering found so far is the letter 'E' above a letter 'I' on one of the girders. The letter 'I' could be Roman numeral one. Of the seven swing bridges that were on the Ford to Hunston section of the canal the only two names known are 'Stewart' and 'Hollinsworth'. It was expected to find the letter 'S' or 'H', so at the moment we have no evidence as to which bridge the girders belonged to.

The two equivalent centre girders in Poyntz Swing Bridge were discarded as part of the restoration because each was broken in two places and they were replaced with modern steel girders; this is the reason why the bridge is not listed. English Heritage, who made a considerable financial contribution to the restoration, stipulated these broken girders were displayed near the bridge.

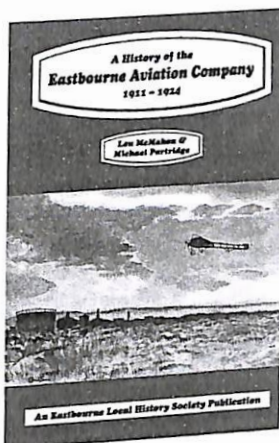
 **BOOK OFFER**

Peter Longstaff-Tyrrell

A History of the Eastbourne Aviation Company 1911-1924
by Lou McMahon & Michael Partridge

The growing popularity and success of Eastbourne Airbourne in recent years has echoes of the resort's role in pioneering aeronautical activity almost 100 years ago. From 1911 some 50 acres of the Willingdon Levels pastures, bordered by St Anthony's Road and Lottbridge Drove, were the home of the Eastbourne Aviation Company which during WWI became the RNAS St Anthony training school. The aerodrome developed into a premier RNAS training base, with a large range of aircraft types in use.

In 1920 the airfield and buildings were passed back to Major Fowler, the original owner. By 1924 the post war repair contracts and the flying school had ceased and the airfield reverted to agriculture. Just a few physical artefacts of that intriguing era remain extant. However the whole episode of the Eastbourne Aviation Company has been excellently recorded in hardback book



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form by two leading members of Eastbourne Local History Society.

A postscript includes details of how Major Fowler, the founder, in 1921 joined the Semphill Mission to Japan which, with others, trained the embryonic Japanese Imperial Air Force in modern warfare techniques!

The book: *A History of the Eastbourne Aviation Company 1911-1924* examines the background and careers of the early aviators who learned to fly at the aerodrome both in peace and war as well as those who lost their lives there in flying accidents.

There are over a hundred first class half-tone illustrations and diagrams of the aircraft that were built and flew from St Anthony's. There are also details of the local people who worked at the airfield and at the nearby Seaplane Base. Numerous appendices and footnotes provide ample evidence of the authors' considerable research effort and give the reader explanations and information about this important contribution to British aviation development.

The hardback book with over 170 pp, 5.5 inches by 8 inches, is printed on quality coated art paper. It was originally priced at £15.95, but it is now on offer to members of the Sussex Industrial Archaeology Society at less than half price, just £5.00 inc. UK postage. Cheques should be made out to Eastbourne Local History Society and orders sent to Gote House, PO Box 169, Polegate BN26 6AA, East Sussex. Please mark your order 'E/B Aviation Book offer'.

This Newsletter is published quarterly in January, April, July and October and contributions for the next Newsletter should be sent to the new Editor Martin Snow by the 10th March 2007.

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

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The Sussex Mills Group also produces a Newsletter that is sent to members with this Newsletter.

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VISIT TO MIDDLETON LODGE ON 20th SEPTEMBER 2006



Members gather around a quarter size model of an M-class London tramcar at Middleton Lodge, Midhurst, the family home of Vic Mitchell.



Members enjoy refreshments in the garden. See report on Page 6.

Both photographs were taken by Norman Langridge