

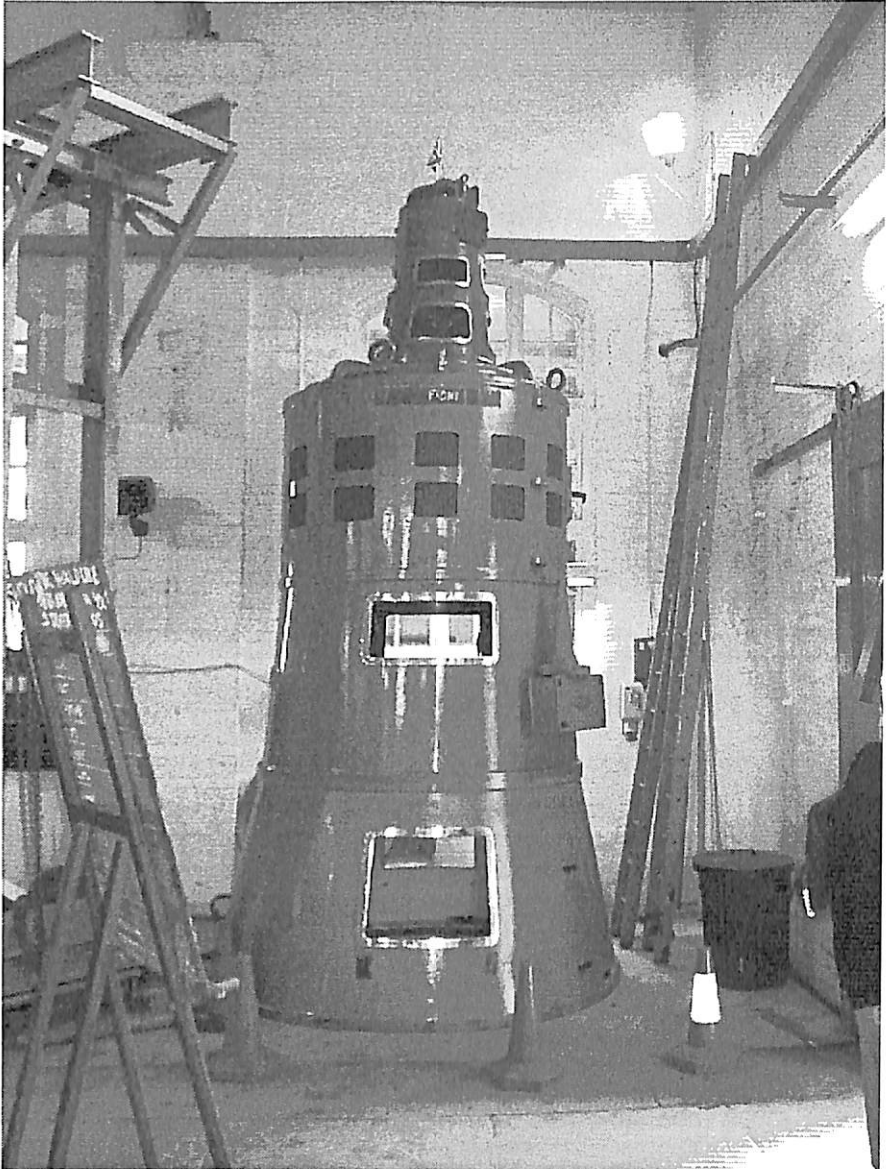


SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY

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The Balsdean electric well pump at Brede Waterworks

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CONTENTS OF NEWSLETTER 127

Officers & Committee	2
Programme July to September	3
From other organisations	4
The making of <i>Milestones</i>	5
A walk around New Town, Chichester	6
Portsmouth and Arundel Canal	9
Book for sale	9
Colonel Stephens	10
SERIAC 2005	12
Brede Steam Engine Society	15

SIAS PROGRAMME TO 30th October Pat Bracher

Saturday 30th July at 10.00 am. Meet at Paradise Park, Newhaven Museum, Avis Road, B2109, TQ 447 023 to see the new Newhaven railway model. Then to the B & Q car park on The Drove Industrial Estate for a walk down the east side of the River Ouse looking at the railways with John Blackwell.

2.15 pm. Piddinghoe Kiln, TQ 434 030. Use the car park by the church in Piddinghoe village; space is limited by the kiln. For kiln information see *SIH No.12 1982*.

Please do not climb the bank at the kiln site to look at the river. The bank is very unstable and is part of the flood defences.

There will then be an opportunity to visit Newhaven Fort. Adults £5.20, concessions £4.55. This is not included in the SIAS programme. Contact Pat Bracher 01273 813902.

Thursday 15th September at 10.30 am. A visit to Firle Place to see estate buildings which include the riding school, the gas house and the ice house. Firle Place, TQ 473 071, is 4 miles to the east of Lewes on the A27 Brighton to Eastbourne road.

The restaurant in the house is open for lunch. The house is open from 2.00 pm to 4.30pm. Adults £5.75, concessions £5.25. This is not included in the SIAS programme but it is well worth a visit.

EVENTS FROM OTHER ORGANISATIONS

Malcolm Dawes

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.

27th-29th August. Rudgwick Steam and Country Fair, Rudgwick Showground. 01403 822378.

SIAS/Chichester Ship Canal events - Guided walks along Portsmouth and Arundel Canal

Saturday 10th September 10.00 am. Guided walk to Salterns Lock. Start signposted from Barnham Church. 01243 780192.

Sunday 11th September 10.00 am. Guided walk from Salterns Lock to Chichester canal basin. Meet at Salterns Lock. Also open day at Poyntz Swing Bridge, 10am to 4pm. 01243 780192.

Sunday 11th September. *90 years of Southdown Bus*, Rally. Amberley Working Museum. 01798 831370.

Wednesday 14th September. *Trams from just about everywhere*. A Tramway and Light Railway Society talk by Peter Williams. 7.30 pm. Deall Rooms, Southwick Community Centre, Southwick.

Friday 16th September 7.00 pm. *A picture of Polegate*. A Polegate and Willingdon Local History Society talk by Peter Longstaff-Tyrrell. £1.50. St.Johns Church Hall, High St, Polegate. 01323 485971.

17th-18th September. *Miniature Steam and Model Weekend*. Amberley

Wednesday 21st September 8.00pm. *History of the Forth and Tay Railway Bridges*. A Sussex Transport Interest Group talk by Ted Goodman. £1. Brighton Model Railway Clubrooms, London Road Station, Brighton. 01273 550780.

Saturday 24th September 10.00 am to 5.00 pm. Geology and Building Stones of some West Sussex Churches. Exploring buildings around Chichester with David Bone. Tickets £7.50 from Chichester Museum, 01243 784683.

Sunday 9th October. Vintage Vehicle Rally. Amberley Working Museum. 01798 831370.

22nd-23rd October. Giants of Steam. Bluebell Railway. 01825 720825.

Tuesday 8th November 7.30 pm. *Steam on the big screen*. Kent and East Sussex Railway Group, Westham Village Hall. 01323 845108.

Friday 11th November 8.00 pm. *Magnus Volk and his railways*. A Burgess Hill Local History talk by Ian Gledhill. £2. Cyprus Hall, Cyprus Rd, Burgess Hill.

Wednesday 16th November. *Southern multiple units remembered*. A Sussex Transport Interest Group talk by Keith Carter. £1. Brighton Model Railway Clubrooms, London Road Station, Brighton. 01273 550780.

Friday 18th November 7.00 pm. *My milling family*. A Polegate and Willingdon Local History Society talk by Bertha Terry. £1.50. St.Johns Church Hall, High Street, Polegate. 01323 485971.

'The Making of Milestones' . The joint meeting with Chichester Museum Society, February 2005.

Report by Chris Bryan

The talk was the same subject as one delivered at SERIAC 2004, but this time presented by Gary Wragg who was behind this project to establish Hampshire's living history museum, with recreated street scenes.

Taskers of Andover had built up a large collection of their products which were put into a trust when the factory was demolished. Hampshire County Council eventually took over the collection.

In 1995 a Heritage Lottery Fund application was made to get some 80 vehicles under one roof. The collection also includes products of Thornycroft and Wallis Stevens, both of Basingstoke. The HLF came up with £6.4 million with local and county council contributions bringing the total to £11 million. Some 21,000 objects had to be sorted and prepared for display. It was fortunate that a number of objects turned up just when required; granite sets and metal windows from Reading tram depot which was being demolished, 19,000 wood blocks from Southampton gas works, the frontage of a parade of 1930s shops from Fareham and the 1902 overhead crane from the Thornycroft factory.

Some of Milestones is artificial. Gary described the task of gluing 2400 plastic rivet heads to MDF then creating a rust effect for a girder bridge. Gales of Horndean were persuaded to sponsor a public house within the museum.

Thank you, Gary, for a very informative and entertaining talk.

Industry in a Quiet Corner - A walk around New Town Chichester Saturday 28th May John Blackwell

Around a dozen of us met our guide, Alan Green, SIAS member and author of the Society's publication "*The History of Chichester's Canal*" of which copies are still available from Ron Martin. Today's walk was in another area of Chichester - New Town - a late Georgian development of grand houses for the professional classes. Situated between Market Road and the Pallants and bounded by East Street to the north restrictive covenants in leases banned noisy and smelly trades being carried out in order to keep the development exclusive. It was hardly the place one would expect to find any industry; however, as we found out, some did manage to creep in.

What was to become a large industrial complex had small beginnings in a foundry at the rear of 20 North Pallant. Halstead & Sons, iron-founders and engineers, was founded by Charles and Henry Halstead in the 1840s. Seeing a business opportunity they bought the house opposite, 1 North Pallant, which had a large garden that allowed (no planning

regulations in those days) the business to expand production to include kitchen ranges and hot water systems as well as stationary engines and agriculture equipment. The foundry closed in 1932 but the buildings remained until demolition in 1960. Alan is preparing an article for SIH based on his original research.

A short walk took us to East Street and to the Corn Exchange, erected in 1831 to the design of George Draper. A classical trading hall, with a portico supported by cast iron columns, to the rear of which was warehousing for the grain; the remains of sack hoists can still be discerned. In 1871, in St John's Street, additional storage was built with cast iron columns, supplied by Halsteads, supporting the first floor and linked to the original building by a footbridge. From 1905 this later building was used as a garage (one of the first in the City) with a gas fitting workshop on the first floor.

Opposite is Cooper's Yard. Charles Cooper was a builder and coal merchant. This yard was seized by the bank along with other assets in 1827 to pay off debts of £1,100. It became Johnson's timber yard. In 1908 the northern part became another garage and the south side J.W. Moore's printing works. The garage prior to redevelopment became Adcocks, with a show room fronting East Street; all that now remains is a large vehicle turntable.



East Street, Chichester in the 1890s showing the Corn Exchange

Moore had established his printing business in Chichester in 1875. Over the next 95 years he converted and extended the former timber yard, merging with another printer Tillyer in 1945. Through the kind offices of Mark Penfold of Provincial & Western Homes we were able to view the premises. Ron Martin and Alan are recording the complex evolution of the buildings, prior to demolition.

We then went next door to St John's Chapel, a hidden gem of a Georgian church complete with a 'three decker pulpit' (the workings of which were elegantly demonstrated by Alan) and box pews in the gallery. Built in 1812/13 to the design of James Elmes as a proprietary chapel, to ease the overcrowding in parish churches, it was a commercial venture with pew rents. Many invested in both the New Town and the chapel including William Dearling, a brewer turned property developer, who had to flee the country in 1816 leaving a trust to sell his property to clear his £88,000 debts – £5.4million in today's terms. Charles Cooper undertook the brickwork and members of the Halstead family worshipped here.

All the above was contained in an area little more than 100 metres square which had been thoroughly researched and was entertainingly presented by Alan.

After lunch we had a look behind the scenes at the West Sussex Record Office viewing the storage methods and cabinets. It was unfortunate that on a Saturday we were unable to see the work of the conservators. Alan had a selection of items relating to the morning's walk made available. A memo book of C.T.Halstead with business notes, fabrication drawings, competitors pricing (his own pricings were in code in case he lost the book) was of particular interest. He was obviously a practical engineer and businessman

Many thanks to Alan for a fascinating day. I hope he can be persuaded to find another corner of Chichester for a future visit.

Portsmouth and Arundel Canal

Chris Bryan

Work has stopped for a few months on the brick arch bridge at Merston. All the tree roots that were liable to damage the bridge structure have been removed. The roadway of the bridge produced some unusual archaeology. While removing tree roots and surplus soil to eventually cover the extrados of the arch with a watertight membrane, numerous tin cans were exposed. The cans measure approximately 300 mm (12 inch) square and were so fragile with corrosion that only the handle of each could be recovered. They were buried in line with the tops cut open and filled with soil along the roadway of the bridge with a row of bricks with steps leading up to them. The bridge was put to some good use during World War II, but quite how has not yet been worked out. A lookout tower was positioned nearby which was remembered locally, but no recollection of what the bridge looked like at the time. World War II aficionados inform us that the cans were probably petrol cans known as 'flimsies' – but why bury them in the top of a canal bridge ?

Adge Roberts is now organising the reinstatement of some brickwork and coping stones at the Stewart Bridge site in Barnham. Hundreds of bricks of canal origin have been recovered from other canal sites locally where the original canal structure has been demolished or partly collapsed. The bricks have been carefully cleaned washed and sorted. Ken Holmes who does brickwork as a volunteer at the Weald and Downland Museum, Singleton, will be joining the team at the end of June to do the bricklaying while the rest keep him supplied with lime mortar.

Book for sale.

Readers are reminded that *The History of Chichester's Canal* by Alan H.J. Green is still available from the R.G.Martin at 42 Falmer Avenue, Saltdean, Brighton, BN2 8FG at a cost of £7:50 inclusive of postage and packing. This book was reviewed in *Newsletter 126*.

Colonel Stephens - The Man and His Railways

John Blackwell

Having completed my survey of Sussex branch and main lines I now want to look at the smaller lines in the county the Rye and Camber, the Hundred of Manhood and Selsey Railway and the Rother Valley Railway. These were all engineered by Colonel H.F. Stephens a fascinating character about whom I have written this biographical note

Holman Fred (not Frederick) Stephens was a man of his time, confident in his abilities, diligent in his duties; a competent but not brilliant engineer who has since become a cult figure. His railways have an enduring image of rotting rolling stock in overgrown sidings, with time expired locos running services that bore little relationship to timetables; indeed one commentator remarked, "Previously no time of arrival was stated; to do so now I fear is an overbold policy". But Stephens was more than the manager of a crumbling and disparate collection of railways.

He was the only son of George Frederick Stephens, a founder member of the Pre-Raphaelite Brotherhood, a group of seven art students which formed a back to basics art movement. They thought beauty had supplanted truth and that naturalistic images painted in bright colours showed the way forward. George Frederick was not to become a noted artist, he turned his hand to writing on the aims of the Brotherhood and later as an influential art critic.

He and his wife Rebecca were typical middle class Victorians. On the 31st October 1868 their son Holman Fred Stephens was born. Known as Holly, his parents never forced him into an artistic way of life and from an early age he had an interest in railways. After studying civil engineering at London University he joined the Metropolitan Railway at Neasden, studying as a pupil under J.J.Hanbury, the locomotive superintendent. Using family influence he obtained the position of resident engineer on the Paddock Wood and Hawkhurst Railway, a branch from the SER Tonbridge to Ashford Line, at the age of only 22. Opening in stages between 1892 and 1893 it epitomised the features Stephens would utilise for his railways: sharp curves, steep gradients, many level crossings and corrugated iron buildings. The line closed in 1961 and the sole surviving station building is now a motor repair shop. Fortunately the owner is aware of its history.

In May 1894 Stephens became a member of the Institute of Civil Engineers. As a Chartered Engineer he could undertake projects of his own. He had formed an affinity with the county of Kent where he remained all his life. The passing of the 1896 Light Railway Act was intended to provide rural transport to aid British agriculture which had become depressed due to cheap foreign imports of grain and produce (which were quickly transported by the main line railways from the port of entry). No Act of Parliament was required and the lines could be built to a lesser standard but with a low speed limit, often set at 25 mph, and light axle loading. Stephens was enthused by the possibilities of this act and in the next 35 years spent as much time surveying planning and promoting light railways as he did building and managing them. Only a very small number were actually built.

Like many young gentlemen of his day military duties with the Volunteers was a way of life - as officers of course. Stephens had attained the rank of major by 1914 with postings at Eastbourne and in Kent. Following the outbreak of war he raised 1,200 volunteers and by 1916 was promoted to Lieutenant Colonel. Henceforth he was always known as 'The Colonel' on his railways. He continued his military duties with what had become the Territorial Division (later Territorial Army) until 1925. By now his railway empire had expanded.

It was said of him "he collected railways like another would grocers' shops". By 1925 he was associated with some 16 railways as either engineer, director or both. He managed eight railways from an office which he had opened in 1900 at 23 Salford Terrace, Tonbridge namely :-

West Sussex
Kent & East Sussex
East Kent
Shropshire & Montgomery
Weston Cleveland & Portishead
Snailbeach
Festiniog
Welsh Highland

One can imagine him in his office firing off memos to the outposts of his empire. In 1923 when he was appointed manager to the ailing Festiniog and Welsh Highland Railways he made a decision worthy of today's railway management, to transfer the engineering management to

Tonbridge a move hardly calculated to inspire the Welsh. Nevertheless it can be fairly stated that without Stephens the Festiniog would have closed within a few years and would not have been able to be resuscitated by the volunteers of the fifties. An arrogant and autocratic, but apparently lonely man, who spent most of his non-working life in gentleman's clubs and hotels rooms, he was respected by his staff and was capable of kindness.

Stephens was an early experimenter with petrol railcars not only to reduce costs but also to increase rail miles run in the hope of attracting more passengers. For about 10 years from 1923 they provided the main passenger service on many of his lines but as most carried a considerable goods traffic steam services were still required. They were not that popular with passengers: the roar of the engine, the exhaust fumes and the bumping and swaying as the car passed over the uneven track all combined to impress the journey on the memory.

Stephens never lost his faith in light railways. In the years before his death he was involved in planning and promoting the Southern Heights Light Railway which would have run between Orpington and Sanderstead and been worked by Southern Electric with the third rail system. The scheme was ultimately thwarted by plans for the formation of the London Passenger Transport Board in 1928. Stephens died on October 23 1931 at the Lord Warden Hotel Dover and was buried in West Brompton Cemetery on what would have been his 63rd birthday, by this time his railways were invariably impecunious and tottering towards bankruptcy. In his will he left his estate of £30,000 to his loyal staff at Salford Terrace.

SERIAC 2005

Bob Allen

The South East Region Industrial Archaeology Conference took place this year on Saturday 23rd April at the Chertsey Hall, Chertsey.

The welcoming address was given by Gerry Moss, the chairman of our hosts - the Surrey Industrial History Group.

The first speaker, Paul Sowan, seemed to be straying from his usual areas of geology and that which is underground to talk about the Croydon, Merstham and Godstone Railway. We were soon aware of the link with geology since the Croydon, Merstham & Godstone Iron Railway was seen as a new solution (in 1805) to an old problem, that of dragging supplies from the Weald to London. At various times, from the days of the Romans onwards, Wealden iron, building stone, fuller's earth, timber, agricultural

produce, bricks and tiles, lime, and glass-house sand had been hauled through the Mole river gap, through the gaps at Godstone or Merstham, over the crest of the escarpment, or through railway tunnels under the hills.

In its construction through the Merstham Gap and Smitham Bottom, the dry valley northwards to Croydon, the Iron Railway demonstrated an advance in civil engineering terms over the 18th century turnpike roads to and through Reigate.

Revolutionary as the Iron Railway was in 1805, it was overtaken within 40 years by the technically far more advanced London Brighton & South Coast Railway taking a similar route.

Chris Ellmers was the next speaker. His talk covered the development of the Port of London from the start of the 18th century to the start of World War II. He examined the ways in which the Port was radically transformed from overcrowded early river wharves and warehouses to one of great purpose-built Georgian and Victorian enclosed docks. Unfortunately the hall projector broke down at the start of Chris's talk which had to cover the economic, financial, engineering and social history aspects of the changes without using the slides he had brought with him. Luckily our chairman just happened to have a spare projector in the boot of his car in time for the next speaker.

Nigel Smith spoke of the history of the tramway system in Southampton from 1879 until its closure at the end of 1949. He described the establishment of the 'street railway' in the UK from its origins in the USA and put the timing of the Southampton system into context. Nigel briefly covered the days of the horse cars up to the turn of the century, which brought municipal ownership. He then dealt with the conversion to electric power. This produced a rapid expansion prior to World War I. The slides showed the rolling stock used in Southampton during this period. We then saw pictures of the vehicles used in the consolidation years of the 1920s and 1930s.

Finally Nigel deal with the post closure period up to the present day and focussed on preservation efforts, which have lead to the survival of a number of vehicles. These included car 45 at Crich Tramway Museum and the Tram 57 Project in Southampton.

John Blackwell then delighted us with his talk on *Colonel Stephens, the man and his railways*. The railways will be the subject of a series of articles in future *newsletters*.

Moving onward and upward, Frank Anderson described how Croydon Airport came into being in 1920 as a result of the amalgamation of two airfields, which were established on agricultural land, west of Croydon, during World War I. The first of these, Beddington Aerodrome, had been set up in 1916, as a base for Royal Flying Corps aircraft, the task of which was to intercept enemy airships and aeroplanes attempting to bomb London. The second airfield was named Waddon Aerodrome, and was established in 1918, to the west of Beddington Aerodrome, as a test flying ground for aircraft constructed in a large factory, the National Aircraft Factory No 1, which had been set up to construct military aircraft use during the war. Following the end of the war, in 1920, the two airfields were amalgamated and were renamed Croydon Aerodrome, thus becoming London's major civil airport. Four small independent British airlines operated from the site, but were later amalgamated into Imperial Airways, the pre-World War II British national airline.

The layout of Croydon Aerodrome was not entirely safe or satisfactory and in 1928, the original administrative buildings were demolished and replaced by a re-sited complex on the eastern edge of the airfield. The 'new' airport flourished until the beginning of World War II, when it was taken over as a Royal Air Force station. Following the end of hostilities, major airlines returned to Croydon, but after a flurry of activity in the 1946-1947 period, they gradually transferred their operations to the larger London Heathrow and Gatwick Airports. From the late 1940s, Croydon effectively reverted to the status of a small regional airport hosting services to the near continent and the Channel Islands, and flying club activities. In September 1959, Croydon Airport finally closed because of governmental concerns over safety.

We were now brought back to earth by Gordon Knowles who described how Surrey had been involved with the motor for over 100 years. Development of its road system had been in response to the internal combustion engine and to government legislation and assistance. The county provided a pioneering motoring inventor, John Henry Knight of Farnham, who at one time was thought to have put the first British car on the road. Both the RAC and the AA had origins in the county and repeal of the notorious Red Flag legislation was largely brought about by the actions of Knight.

Brooklands race track forms a major part of any history of Surrey and the motor and it stimulated a number of significant designers, builders and drivers of record-breaking cars. There had been over 100 manufacturers of cars and commercial vehicles in Surrey, most of them in very small numbers, but two significant ones, Dennis and AC, have celebrated their centenary and are still in business today alongside builders of specialised off-road vehicles, sporting and racing cars.

SIHG have recently published Gordon Knowles' book, *Surrey and the Motor*.

Brede Steam Engine Society

Bob Allen

The Society have decided to open the site to visitors from 10.00 am until 4.00 pm on every Sunday during July and August. This is in addition to the open days on the first Saturday of every month and the Summer Bank Holiday Monday.

The enormous electric well pump from Balsdean, east of Brighton, has now been transported to the site. The construction of a giant gantry has allowed the reassembly of the main external parts, each weighing several tons. It is intended to display the internal working parts adjacent to the giant Dalek-like casing.

The Brede Steam Amateur Radio Society are transmitting from the Cold War bunker on open days. They are also assembling a collection of marine and military radio equipment as used in Sussex. This will form the core of a radio museum on the site.



Colonel H. F. Stephens
The light railway man