



SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY NEWSLETTER

Newsletter No 118

April 2003



Former Coastguard Cottages - Birling Gap

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FUTURE PROGRAMME

Winter Lectures at West Blatchington Mill Barn will take place on Saturdays at 7.30 pm. Contact Peter Hill 01273 776017

Saturday 26th April, Peter Bailey on *The Port of Newhaven*.

Other meetings

Saturday and Sunday 10th and 11th May, National Mills Weekend.

Saturday 17th May, at 2.30 pm. A walk around Newhaven.

Contact Ron Martin 01273 271330. Meeting place and guide to be arranged. Details in the April Newsletter.

Saturday 14th June, at 7.00 pm. A second walk around Lewes led by Graham Mayhew. Meet at the Barbican, Lewes High Street. TQ 414 110
Contact Pat Bracher 01273 813902.

Wednesday 9th July, Mills Group outing. A tour of London mills. Further information in the Mills Group Newsletter.

Saturday 30th August, at 10.30 am. A Wey and Arun Canal boat trip. Meet at the Onslow Arms, Loxwood TQ 041 311. A 2-hour cruise on the canal in the narrow boat *Zachariah Keppell*. Contact R. Jones, 3 Nutley Mill Road, Stone Cross, Pevensey, East Sussex, BN24 5PD, 01323 760595, to whom a cheque for £5.50 made payable to SIAS should be sent. Bookings MUST be in by 31st July.

Saturday 14th September at 2.00 pm A walk round Tonbridge led by Mrs P. M. Mortlock. Meet at the north end of the Medway Bridge in the High Street near the Castle fronting the river near the Chequers. TQ 591 465. Contact Brian Austen 01444 413845

Saturday 22nd November, at 2.30 pm in West Blatchington Mill Barn. SIAS AGM.

MEMBERSHIP MATTERS Peter Holtham (Membership Secretary)

Subscriptions Renewals became due on the 1st of April. There is no increase in the rates which remain at:- full membership £10, £5 for a family member and £2 for a student member. Prompt payment would be appreciated to save the cost of sending reminders.

Non renewable one-off plastic Membership Cards have now been sent out to all members who are requested to keep them safe so as to avoid the cost of replacement. Please contact me if you have not received your card.

Personal Accident Insurance We regret that Members over 77 are not covered by our insurance policy for personal accident. However, our broker advises me that a member is still covered from the date of his (or her) 78th birthday up until the end of the insurance year, i.e. the 31st of March. Although enquiries have been made it appears impossible to obtain cover for older members. Should you know of any company willing to extend the cover beyond 77 please let me know. Cover under our Public Liability Insurance is not affected.

THE BEEHIVE MODEL

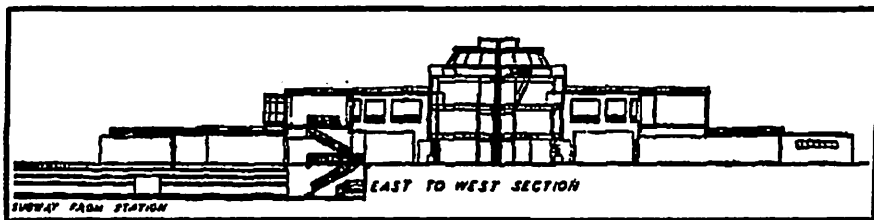
Ted Henbery

It would like to clarify an error on the cover text of *Newsletter 117* and to illustrate how chance can dictate events.

The airport model was actually being stored in Ifield Watermill in the 1980s and came to light in the late 1970s during some demolition work near to the Beehive at Gatwick Airport.

John Gibson-Hill and myself started the restoration at Ifield in 1974 and he already had many contacts through his archaeological work on local

iron working sites. Through these contacts, we became aware of a large display model housed in a small outbuilding, due for demolition, and close to the Beehive Terminal. It was quickly realised that it was the original architect's model from 1936 and it was rescued and transported to the mill. The only suitable space was on the top (bin) floor where it lay for some years. Subsequently it was passed to BA / BAA who intended to refurbish it as a project for their apprentices and probably exhibit it in the new North Terminal. In recent times it went to an international exhibition in Chicago and latterly the splendid restoration of the Beehive itself has now provided a most appropriate site for the model which has a prominent position in the Main Hall.



Elevation of the Gatwick Beehive - east to west section

WORTHING'S NEW WATER SUPPLY

Tony Baxter

BROADWATER (HILL BARN) PUMPING STATION

Like most towns in the late 19th century, Worthing needed the spur of a typhoid fever epidemic to jerk the Town Council out of its complacency and into the realisation that no longer was any reliance on polluted well water justified. Worthing's epidemic duly came along in 1893 and 4 years later on 26th April 1897 the Duke of Cambridge alighted from his special train at Worthing Central Station to carry out the less than thrilling chore of formally opening the new pumping station. Having been the Commander-in-Chief of the Army it is perhaps not surprising that he was accompanied by a general, met by 2 generals, 4 colonels and, for good measure, by a retired captain who happened to be the Mayor (A.B.S. Fraser). After the speeches, he inspected a detachment of the 1st Royal Sussex Regiment drawn up outside the station as a guard of honour complete with its Colours and Regimental Band, and then set off in the royal carriage at the head of a procession of 20 carriages, attended by a mounted escort of the Hants Yeomanry Carabineers, through the gaily decorated and crowded streets of Worthing towards Broadwater.

three years or so earlier a geological survey by a Mr Baldwin Lathain, a noted hydro-geologist, had listed eight possible sites for the sinking of a borehole capable of supplying what the town would require for the next 20 years. In the end, the Council, on the advice of James Mansergh their Consultant Water Engineer, selected what is the present site. This lies at the foot of the Downs near the Hill Barn Golf course (Grid Ref: TQ 143055). The requirement was for two pieces of land: 3 ½ acres for the works and 2 acres for the reservoir. All of this lay in what was then Warren Farm and was owned by a Colonel T.F. Wisden who had no objection to its sale to the Council. The decision to go ahead was given in March 1894 and the following month James Mansergh presented the specifications for both the well construction and the pumps, together with the engines to drive them. The contract for the former was awarded to Tilley & Sons and the latter to Hathorne, Davey & Co. The well was to be 119 ft deep with brick-lined headings 150 ft long, 6 ft high and 4 ft wide. To guard against any possible contamination and at the same time to cope with the surprising discovery that the first 50 ft was solid clay, the shaft was lined with flanged iron shields in segments with the joints being made of pitch pine vertically and of yarn and Russian tallow horizontally. Unfortunately no details of the pumps or the engines can now be found other than the fact that the two pumps were each designed to raise 1000 gallons per minute to a height of 215 ft. Each engine apparently developed about 87 hp and with its associated pump, the combinations operating alternately, delivered water to the new 2,000,000 gallon reservoir located about ¼ mile to the north-east, whence it was piped under gravity round the town. The buildings design - elegant red brick with stone dressings - by a Mr F. Roberts M|CE (who became Borough Surveyor in 1897) was accepted in July 1894 with the contract eventually being awarded to Wilkinson Bros. of Finsbury Park, some 10 months later. By that time, the bore hole had been completed and the headings dug but not lined and the engines, pumps and boilers had been delivered and stored in the Worthing railway yard. A temporary wooden shed was then built over the bore hole so that the foundations for the engines and pumps could be laid after which the headings would be completed. At about this time the quality of the water was tested locally and considered by all to be excellent, but to make sure the Mayor sent a sample off to the laboratories of the Lancet in London. Unlike the famous - but probably apocryphal water analysis that recommended that "... this horse should be shot ...", the result of the analysis of the Worthing water pronounced it to be of high quality. Construction of the buildings began towards the end of 1895 but progress was slow owing to Wilkinsons trying

to save money by employing too few bricklayers; threats from the Council proved enough to speed up the work and by August 1896 James Mansergh was able to report completion. A handsome 5 ft brick and flint perimeter wall (£264 by W.A. Churchers), a pair of entrance gates (£19 9s. by Sandells) and a 403 yd "Unclimbable" metal fence round the reservoir (£220 by Bayliss & Co) put the finishing touches to the project. The commissioning process took nearly 6 months before the water works could be put into full service and the stage set for the grand opening.

The Duke of Cambridge and his entourage duly arrived at the pumping station where, once inside the engine house, he formally set each engine in motion naming one 'Victoria' and the other 'Cambridge' by the customary breaking of a bottle of champagne over each. The day was appropriately rounded off with a civic reception leaving everyone with the cosy feeling of a job well done.

Postscript. The steam engines and pumps continued on their own to deliver most of the water needed by Worthing for over 20 years, but by 1920 the growth of the town population had outstripped supply and consequently, in 1932, two new bore holes with electric pumps were provided with the creation of a second reservoir about ½ mile further up the hill. In 1939 it was planned to instal a new electrically driven 48" pump (by Sulzer Bros) in a special pumphouse but the war delayed the work until 1945. The following year the decision was taken to replace the old steam plant - by now inefficient and expensive to maintain and operate - with a new electrical plant and pumps supplied and installed by Sulzer Bros. During the last 3 months of 1948 the boilers and engines were dismantled to make way for the new plant and sold for scrap - engines to T.W. Barnes & Co of Brighton for £587 and the boilers to A.H. Kimmins of Worthing for £105. A sad ending for the once mighty "Victoria" and "Cambridge"!

POYNTZ AND HOLLINSWORTH SWING BRIDGES **Chris Bryan**

The Chichester Canal Society held a 'Work Weekend' over 22/23rd February. The SIAS bridge team joined in by clearing the Poyntz Swing Bridge site, having been given the use of a barge for the weekend. We managed to fill it! This included felling a tree straight into it. The cleared area will soon be suitable for displaying the original girders removed during restoration of the bridge. The Canal Society were assisted on other tasks over the weekend with a turnout of volunteers from Sustrans and the Inland Water Agency.

The bridge team were busy the following two weekends at the Hollinsworth Swing Bridge site near Barnham. This has been a job of clearing undergrowth from the site and careful digging out the canal bed and surroundings to recover bricks from the partially collapsed sidewalls. This bridge site is now of interest as it reveals the massive size of the in situ stone block on which these early cast iron swing bridges pivoted.

CENTENARY OF EASTBOURNE BUSES

John Blackwell

Eastbourne was the world's first municipality to operate motor buses. The first service was run from the Railway Station to Meads on 12th April 1903. The journey will be re-enacted on 12th April this year. The 1950 AEC Regal single-decker will leave the station at 10 am.

BRIGHTON TO SHOREHAM WEST COAST RAILWAY LINE

John Blackwell

Our honorary auditor Mike Slamo got the first of our 2003 winter lectures off to a fine start with his talk. Mike, a native of the West Midlands, moved to Shoreham in the mid 1980s, a time of the signalling modernisation programme. He amassed a large collection of slides that covered every aspect of the works whilst travelling to work in Brighton every day, carrying his camera. Now some twenty years later these provide a fascinating historical record. Starting at Brighton, where the station was closed for a time whilst the approaches were re-laid, the Montpelier Bridge strengthened and the concourse modernised we journeyed via all the intermediate stations to Shoreham. The greatest losses were the many fine signal boxes but many almost imperceptible changes were also made and recorded. The talk was an object lesson in how recording the present creates an historical archive and I am sure such images will be highly prized by the railway researchers of the future. The large audience was most appreciative of Mike's presentation and we look forward to a reprise on the east coast line in the future.

SUSSEX MAIN LINES – A YEAR 2003 SURVEY John Blackwell

5 Lewes to Eastbourne

On leaving Lewes the line curves sharply to the south to cross the River Ouse on Southerham Bridge. A requirement when the line was built in 1846 was that the river was to remain navigable to Lewes and hence the

bridge had to be capable of being "opened". There has been a suggestion that the earliest bridge was telescopic, similar to that across the Arun at Ford but this has not been substantiated.

The first bridge was replaced by one where the centre section could be rolled back to allow passage; the operation requiring thirty men to remove the rails and signal connections and turn the capstan winch. By the 1930s, traffic to Lewes was occasional but cement was carried down to Newhaven from a wharf just above the bridge, the remains of which are still visible. By transporting the cement by rail free of charge to Newhaven, the expensive and time consuming operation of opening was eliminated. A concrete replacement was built in the 1980s. The cement works of Eastwoods were to the east of the road leading from the Cuilfail Tunnel to the A27 roundabout. In the 1950s this was the main A27 road to Eastbourne along which could be seen the evocative road sign of a small locomotive belching smoke which signified an ungated level crossing. To a small boy travelling by bus or car there was always a chance of an industrial locomotive crossing the road with wagons of cement. The works closed in 1981 and with the opening of the Lewes bypass and associated road works it is almost impossible to trace the crossing and transfer sidings. The site of the works is now an industrial estate.

Crossing the A27, at Beddingham by one of the many level crossings on this stretch of line, one arrives at Glynde Station. Opened with the line in 1846 the view from the entrance to the station yard is unchanged from that in 1902, except for the cars. The white painted station house is an early example of LB&SCR architecture with casement windows, hood mouldings above and a slated porch and may date from the opening of the line. The single storey brick extension dates from 1874. In the yard was a steam corn roller mill, the building of which remains. On the platforms all of interest has been swept away. Behind the up platform can still be made out a siding and the tunnel that ran under the road into Balcombe Pit where lime was produced until about 1970.

On 17th October 1885 a Telpher line or aerial railway was opened from transfer sidings in Glynde goods yard to a clay pit, believed to be Caburn Pit, about a mile away. The clay was to be used in the cement making process at the newly established Sussex Portland Cement Company works at South Highton near Newhaven. Telpherage differed from aerial ropeways in that instead of hauling the suspended wagons by a continuous moving cable the wagons themselves were powered by electric motors, taking their current from the aerial lines. It was the

invention of Professor H.C. Fleming-Jenkin who patented the system in 1882 and so dates from the earliest days of the commercial exploitation of electric power. The system at Glynde was the first electrically powered aerial railway in the world. The line used steel rods as running rails supported about 18 ft above the ground by wooden frames about 66 ft apart. How successful the system was is unknown but the 1899 Ordnance Survey shows it replaced by a tramway crossing Glynde Reach by a bridge. The clay pit and tramway ceased to be used about 1915. If one walks a quarter mile west from Glynde Bridge a small embankment can be found either side of the long vanished crossing at TQ455086. A bridge can also be found under Ranscombe Lane at TQ452087

At Ripe crossing TQ492085 is the only surviving original crossing keeper's cottage on the line. Built in brick and flint the single story building is now in residential use. Berwick station building is almost certainly the 1846 original although possibly extended. Behind the up platform is some early company housing whilst on the opposite side behind the 1876 Saxby and Farmer signal box are later 1890s examples. The canopy, on the up platform shelter, has the very ornate valence that the LB&SCR occasionally used; surviving examples are now rare.

Polegate has an interesting railway history, the original station at TQ583048 was similar to Berwick and with some early railway cottages adjacent; surprisingly these survived until the late 1960s. Branches to Eastbourne and Hailsham were opened on 14th May 1849. A second station with an overall roof was opened in December 1860. On 3rd October 1881 a new station some quarter mile east of the first and second stations at TQ 586047 was opened following realignment of the branches to allow through running between Eastbourne and Tunbridge Wells via Hailsham and Heathfield (the Cuckoo Line). The station house was similar to those at London Road Brighton and Portslade and a subway and stairs led to two island platforms. Services to Tunbridge Wells ceased on 14th June 1965 but continued to operate to Hailsham until 9th September 1968. The station became very dilapidated and on 25th May 1986 the present station opened on the site of the original. The platforms of the 1881 station were demolished but the station building has been converted to a pub restaurant and looks very fine, especially in comparison with the crossing signal box, opposite the present station, which now sports UPVC windows! Wandering about in the car park, which was the old goods yard, the trackbed of the 1849 and 1881 alignments of the Hailsham branch can still be traced. In Station Road they are more easily discernable, with that of the earlier

alignment leading to the Cuckoo Trail, for walkers and cyclists, which follows the route of the old line to Heathfield.

Hampden Park was opened as Willingdon on 1st January 1888. It was named after Lord Willingdon, a major local landowner, who lived at nearby Ratton Park. At the turn of the last century he created a large public park and gave it to the people of Eastbourne. The park was named Hampden Park, after Willingdon's father-in-law Viscount Hampden of Glynde Place. The Corporation persuaded the LB&SCR to change the name of the station to Hampden Park which took effect from 1st July 1903. There is little of historic interest remaining except the signal box.

Eastbourne is another interesting railway location there have been four stations since the branch from Polegate opened in 1849. The first station, little more than a wooden hut, was sited where the Post Office now is on the west side of the road. The coming of the railway allowed the town to be developed and Upperton Road was laid out to facilitate access for housing to the north of the railway. This caused the station to be re-sited to the current site in 1866. This station was allegedly altered or rebuilt in 1872 and again in 1886 to the present design, other than the addition of the new booking hall on the north side in the 1930s. I have not come across any prints or photographs of the second station and only a couple (not particularly informative) of the third. Any information would be gratefully received.

To be continued

Further information on the Glynde Aerial Railway can be found in Sussex Industrial History No17 published in 1987

AIA CONFERENCE

Ron Martin

The AIA Annual Conference this year is taking place in Cardiff at the University of Wales Institute between 16.00 on Friday 5th September until 17.00 on Sunday 7th with an additional programme running though to Thursday 11th There are many interesting lectures and places that will be visited including the Newport Transporter Bridge, the Big Pit at Blaenavon, the Museum of Welsh Life at St. Fagans, Cardiff Docks and Barrage, the Barry Railway and the valleys of the Taff, Ebbw, and Rhymney. Full details and application forms are available from me.

CURRENT RECORDING -

Birling Gap Coastguard Cottages

Ron Martin

I have recently visited the former Coastguard Cottages at Birling Gap located at TV 554 959 which have been the subject of controversy as the National Trust, who own most of them, do not wish to have any revetment or sea defences erected to safeguard the remaining cottages.

The two storey cottages were built in 1876 and originally comprised eight properties seven of which were for the men and No.8 was for the Superintendent. They were located at right angles to the cliff edge and already Nos. 6,7 and 8 have been demolished.

Of the terrace of seven cottages Nos. 1 and 7 at each end and No.4 in the centre of the terrace are one bay wide with the front wall set slightly projecting with a hipped roof. Nos. 2,3,5 and 6 are all two bays wide and No. 4 has a projecting cant bay to the ground storey. There is a rear extension to each property containing a scullery with toilet and larder.

The construction is interesting as the walls are of "no-fines" concrete - i.e. in situ concrete using cement and coarse aggregate only. The external walls are 12" thick for the ground storey and 9" thick for the first storey, roof and rear extensions, all rendered externally. Similar construction was used for the boundary walls which have a concrete plinth and capping with pillars, the panels between the concrete being infilled with field flints.

The roof is also unusual. The normal construction for small houses like these would be with rafters supported by one purlin on each slope strutted down to a load bearing internal wall. The cottages at Birling Gap have internal walls of timber studding and to get over this a king post roof truss has been placed centrally between the party walls to support the two purlins in each slope. The slate roof covering is supported on thick plain edged boarding fixed directly to the purlins.

N.B. No rafters !

The Sussex Industrial Archaeology Society

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Visit our website : www.sussexias.co.uk

LATEST DATE FOR COPY FOR THE July NEWSLETTER IS 14th June. Copy for the Newsletter should be sent to:

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e-mail footprints@tesco.net

(Copy for the Mills Group section should be sent to the editor of the Mills Group Newsletter, R.F. Jones, whose address is above.)