



SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY

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GENERAL NOTES AND NEWS

Sussex Industrial History Enclosed with this Newsletter is the 1982 Edition (No.12) of Sussex Industrial History. In spite of its being slightly longer than previous issues, the price has been kept down to £1.00 in the hope and expectation that Members will support the Committee by doing all they can to encourage sales and find fresh outlets for its distribution. Additional copies can be obtained from the General Secretary.

Members are also reminded that copies of early editions of the History (Nos. 2,3,5 and 6) are available from the General Secretary at 30p each plus postage.

Society Archives For some time, the Committee has been concerned that the Society has been neglecting the important function of the collection and storage of Industrial Archaeology material in Sussex. To rectify this state of affairs, the Society has appointed an Archivist, Mr. Peter J. Holtham, of 11 Lark Hill, Hove, Sussex BN3 8PB (Brighton 736931), who will be responsible for collating records and researchwork in progress and assembling archive material to cover all aspects of Industrial Archaeology in Sussex. It is intended to store this material in Hove Reference Library. Any members working on projects or who have material suitable for our records, which they are prepared to donate, loan or have photo-copied are asked to contact Mr. Holtham.

HAVE YOU PAID YOUR 1982 SUBSCRIPTION DUE ON APRIL 1st

If not, please let the Treasurer have it NOW and save him the trouble and EXPENSE of having to send out reminders.

Full Member	£3.00	Junior Member (under 18)	75p.
Family Member	£1.50	Full-time Student	75p.

It would be a great help to the Treasurer, as well as a convenience to yourself, if you would use a Bankers Order (obtainable from the Treasurer, Mr. J.M.H. Bevan, 12 Charmandean Road, Worthing).

(Tel: Worthing 35421)

A similar photographic record is also being prepared and Mr. E.J. Upton, Rowan Cottage, North Trade Road, Battle (Battle 2319) is responsible for this. Any members who have prints, negatives or slides which they are willing to donate or loan to the Society should contact Mr. Upton.

R.G.M.

Chalk Pits Museum, Amberley. The Museum opened for the 1982 season on 3rd April. Additional exhibits this year are - The Working Potter, Sussex Film Makers, and a Narrow Gauge Railway Exhibit; there is also a new Introductory Exhibition and the Wireless Exhibition has been enlarged and rehoused.

Arrangements have been made with the Brockham Museum, Surrey, a working narrow-gauge industrial railway centre established in 1962, to transfer this to the Chalk Pits Museum to create a major centre for the display of narrow-gauge railway equipment.

Members are also reminded that Mr. Ian Dean, Director of the Chalk Pits Museum would be very pleased to receive offers of voluntary help in the day-to-day running and in the general development of the museum.

Burton Mill As most mills seem to have used a flour sifter, and I hope there is still a market for sifted, lighter flour, and because I had the opportunity of buying one, we are installing an Armfields sifter to take out about 10% of the bran. The sifter will run at about 340 r.p.m. and absorb about 2 h.p. It is said that French Burr stones were prized because they could be set to take off the bran in comparatively large flakes compared to other types of mill stones, thereby making it easier to sift out the bran and produce a whiter flour. We shall see.

The mill stones, made by Messrs. W. Tinsley of Ipswich, were dressed in November 1980 by Mr. George Fenn of Havant, formerly a senior employee of a national firm of millers. He mentioned the expense of getting his mill-bills repaired and sharpened by the Sheffield suppliers and hopes he has found a local blacksmith who can draw and harden the plain steel ones.

Trade at Burton is gradually increasing, but in view of the cost of restoration and upkeep, all support will be most gratefully received. It is difficult to persuade bakers of the reliability of a small mill but I believe we sell a good product at a reasonable price.

A further interest to visitors would be the working of the ram pump adjacent to the mill, formerly fed by the pond. It is currently being explored by members of S.I.A.S. - a rather chilly and damp job.

The tiles on the roof on the west side of the mill are in remarkably good order considering the number of rusty 'nail sick' iron nails which broke off in a most alarming way when I was cleaning off the cobwebs hanging inside the roof when we first started the restoration, now nearly four years ago.

Anne Mills

PLEASE NOTE THAT THE LATEST DATE FOR THE ACCEPTANCE OF COPY FOR THE OCTOBER NEWSLETTER IS WEDNESDAY 15th SEPTEMBER
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Glynde Aerial Ropeway. One of our Members, Dr. M.I. Pope, recently came across an old print of an extensive aerial ropeway at Glynde. The purpose and possible remains of this do not seem to be at all well known and Dr. Pope or the Editor would be very pleased if any Member could furnish relevant information.

Mathematical Tile Symposium Transcript Copies of the transcript of the Symposium on Mathematical Tiles held at Ewell last November are still available price £1.00 per copy including postage. Please apply direct to:

Maurice Exwood, Esq., 64 The Green, Ewell, Epsom, Surrey, KT17 3JJ.

Institute of Industrial Archaeology In this Institute, formed in 1980, the Ironbridge Gorge Museum and the University of Birmingham co-operate in organising research and course programmes and also offer a one-year full-time course leading to the award of a Diploma by the University of Birmingham. Details may be obtained from Michael Stratton, Ironbridge Gorge Museum, Telford, Shropshire.

Association of Industrial Archaeology (A.I.A.) The Annual Conference for 1982 will be held at Imperial College, Exhibition Road, South Kensington, London S.W.7 from Friday September 10th to Sunday September 12th. Fee £48. The Conference will include field visits on the Saturday afternoon and a range of lectures including the Rolt Memorial Lecture on 'What Should we Keep' by R. Michael Robbins, M.A., F.S.A., C.B.E. President of the Greater London I.A.

Prior to the Conference (September 7th to 12th) a series of visits is being planned to Dockland, the Post Office Railway, the Interior of the Dome of the Albert Hall, Brunel's Thames Tunnel and several other items of Industrial Archaeological interest.

Details may be obtained from Brenda Innes, Conference Secretary, 9a Upper Park Road, Bromley, Kent. (Phone 01-460-1416).

FORTHCOMING VISITS AND EVENTS

The programme of visits for 1982 has now been finalised and is basically as stated in the last Newsletter.

A Programme Card is enclosed with this Newsletter and the Visits Secretary hopes that it will prove useful to Members in this form.

Please note that the Mystery Tour of Sussex Mills on 12th June will start from Polegate Windmill.

D.H.C.

Events on the Bluebell Railway at Sheffield Park

8/9 May	Parade Weekend
16 May	Bus Rally
26/27 June	Cavalcade Weekend. 100 years of History.
31st July/1 Aug.	100th Anniversary Weekend.
14/15 Aug	Maunsell Weekend
11/12 Sept	Vintage Weekend
18/19 Sept	Bulleid Centenary Weekend
30 Oct	Starlight Special
31 Oct	Poppy Special

Further details are obtainable from the Bluebell Railway (Newick 2370).

RECENT VISITS

Circumstances prevented earlier publication of the following account of last summer's Mystery Tour. It is hoped, however, that readers will be encouraged to take part in a similar Tour arranged for this year on June 12th, again to be led by Mr F.W. Gregory. Note that it will start at Polegate Windmill.

Central Sussex Wind and Watermill Tour. Saturday 13th June 1981.

Some 25 members assembled at Outwood Mill (MR 327455) and were met by our guide, windmill enthusiast Mr Frank Gregory. Just over the border in Surrey, this postmill was built in 1665 and is the oldest working windmill in Britain. The sails are of the 'spring shutter' type whereby the shutters in each sail are set to be closed and held in tension by a spring at the heel of each sail. If the wind increases the shutters are forced open to "spill" some of the wind. We were entertained by the "jolly miller" who true to form told some somewhat apocryphal stories from the life of the mill and former millers. (This mill is open on Summer Sunday afternoons and is well worth a visit).

Horstead Keynes watermill (MR 379288) is an example of a small estate mill which had a wooden overshot wheel driving two pairs of stones. It is at present being restored to working order by its enthusiastic owner.

Sheffield Mill (MR 415257) is delightfully situated beneath the bay of a furnace pond and has an interesting arrangement with a wooden lay-shaft drive to two pairs of stones on a hursting. This is obviously a very early mill with remains of a later cast-iron overshot wheel.

Plumpton Mill (MR 363150) has been recently restored to drive one pair of stones, power being provided by an iron overshot wheel. This is an excellent example of how well a restoration can be carried out, and the owner was indeed fortunate to have expert advice from Mr. Gregory.

Upper Mill, Plumpton (MR 363147) is a small mill with two pairs of stones and the remains of an iron overshot wheel. Restoration is in progress by the owner, one of our members.

We then progressed to Jill Mill at Clayton (MR 304135) and saw the restoration work being undertaken by the Jack and Jill Windmills Preservation Society.

West Blatchington windmill (MR 278086) was the final destination. This six-sided smock mill, c1124, has been partially restored. The driving machinery remains intact but there is no milling gear. An interesting milling museum is being assembled.

Our thanks are due to Mr. Frank Gregory for another fascinating day and to the owners who kindly allowed us to visit their mills.

J.S.F.B.

Newhaven Fort, Saturday Morning 20th March 1982

Although this was a last minute addition to the programme, some 30 members and friends assembled for this visit arranged by Ted O'Shea.

The fort is a fascinating complex of rooms and tunnels all brick built and underground, although sited on the top of the hill on the approaches to Newhaven Harbour.

Work is in hand to open the fort to the general public on 7th April 1982. It is being restored as a museum/leisure complex specialising in warfare since the beginning of this century.

A very interesting visit and a place to watch and see how it is developed in the future.

D.H.C.

Piddinghoe Kiln, Saturday Afternoon 20th March 1982.

18 people came to hear Ted O'Shea talk about and be shown the kiln at Piddinghoe which has been restored by a joint SIAS/Lewes Archaeological Society effort.

After the illustrated talk in the Meeting Hall at Newhaven, the party went to Piddinghoe to examine the kiln. This really showed the tremendous effort that was put into the difficult task of restoring a complex shaped building. Congratulations to all its team. Full details of the kiln are in the latest Sussex Industrial History.

Note: The change of venue of the Piddinghoe talk and the extra visit to the Fort showed the value of letting the programme secretary know beforehand your intention to attend a visit.

D.H.C.

PUBLICATIONS

Sussex Bibliography, 1980. Price £1 + 20p postage from County Library HQ. Southdown House, 44 St. Annes Crescent, Lewes, BN7 1SQ., or main Libraries in East and West Sussex.

The booklet contains over 500 entries admirably indexed according to author, subject and location.

LECTURES, COURSES, ETC.

Inst. of Electrical Engineers, History of Technology Group. The Annual Conference will be held at the University of Sussex, Brighton from Friday evening to Sunday lunch-time, 2nd - 4th July 1982. Fee £52.00 for residents and £32.00 for non-residents. Visits to the Applied Science Laboratory of the University, Volk's Railway and the Engineerium are included together with a series of short lectures. Guests will be welcome subject to available space. Details from the Editor.

Sussex Archaeological Society, Saturday 24th April. A Conference on Sussex Towns, 1840-1940 will be held at Priory Middle School, Mountfield Road, Lewes, (near Railway Station) from 11.00 a.m. to 4.15 p.m. Admission by Ticket, which will be sent on receipt of Conference Fee of £2.00 together with stamped addressed envelope to Dr. Sue Farrant, 36 Brangwyn Drive, Patcham, Brighton, BN1 8XD. Cheques payable to Sussex Archaeological Society.

METHODS OF BRICK BURNING IN SUSSEX

W. R. BESWICK

The following is a Brief Resume given at the Annual Meeting of the S.I.A.S. Brick Study Group on 28-11-81.

Broadly it can be stated that Sussex has used all the main kiln types and this will become apparent when the work of the Study Group is published. They range from the underfired, up-draught and open-top kiln built as a single or double unit to use wood fuel, up to the multi-chamber Hoffman kiln fired with coal or heavy oil at the top and provided with connected cross draught from chamber to chamber.

Some caution is needed in regard to very early kiln types and it may ultimately prove to be far from the case that very early brick burning was carried out only in "simple clamps". Attention is drawn to the recent excavations at Graufesenque near Millau in central France, where a first century Roman pottery kiln showed features very similar to the open-topped brick kilns widely used in Sussex and East Anglia until the present time. These features include flared ports from the elongated fireing hearth up into the burning chamber, brick internal lining and removable top cover; the dimensions are also comparable. In any case, it must be kept in mind that clamp burning as we know it today is a highly sophisticated technique and, for instance, the admixture into the green brick of coke breeze or coal dust would not have been available to the very early brickmaker.

One of the quite early brick structures remaining in East Sussex is the brick tower of Laughton Place, recently restored by the Landmark Trust. Quite close is a field with the name "Brick Oast Field", shown on the earliest maps available. This implies something more than a clamp.

The fuel consumption of various kiln types shows that clamp burning with breeze admixture is probably the most efficient where large outputs of stock bricks are to be made. For smaller quantities of higher quality goods, it has been interesting to note the repeated use of liquid petroleum gas in round kilns designed to give an upward and circumferential combustion flue and then a down-draught passage through the burning chamber. Highest in weight of fuel to burn a unit weight of brick, is the simple open top wood fired kiln. It uses a cord of wood (approx. 3,300 lbs) per 1000 bricks. As a general figure, it so far appears that brick burning requires from 13 to 15 per cent by weight of solid fuel, per unit of burnt product. No doubt a closer analysis will be made of relevant fuel and total energy requirements as the study proceeds.

BRIGHTON'S ELECTRICAL POWER SUPPLY 1882-1905 (Part I)

J.S.F. Blackwell

On February 27th 1882 a notable centenary was reached for 100 years ago was inaugurated in Brighton the first public power supply in Europe, and possibly the world. Why Brighton; far removed from the "dark satanic mills" of the north. Brighton, part residential, the premier Victorian holiday resort, with its many hotels, boarding houses and service industries was ideal for electrical pioneering which in those early days was largely concerned with lighting (the incandescent lamp having been invented in 1878). Lamps costing £1.5s.0d (£1.25) and current at 1s. (5p) per unit, made lighting a luxury for the middle and upper classes. Early suppliers looked for compact and wealthy places to introduce their new systems; Brighton was an obvious choice.

In 1881, Robert Hammond, the agent for the Brush Arc Lighting system, staged a demonstration with a $1\frac{1}{2}$ mile circuit carrying 16 arc lamps in series to illuminate the business of local shopkeepers. The fizzling arc lamps gave off a rather sickly mauvish-white glare but obviously impressed as Hammond formed his own company, The Hammond Light and Power Company, which went "on circuit" on February 27th 1882 and the consumers were delighted to pay 12 shillings (60p) per lamp per week.

Shortly after, a method for running incandescent lamps off the arc circuit was devised, and the demand grew from the original 16 arc lamps to 40 at the end of March and by 1887 there were 1500 incandescent lamps, 34 arc lamps, 15 miles of overhead cable and a cost to the consumer of 1 shilling (5p) per kilowatt-hour. The original customers were supplied from dusk to 11 p.m. daily, extended to 1.00 a.m. in 1885 and round the clock in 1887.

The original power station, if such it can be called, was erected in the yard of Reeds Foundry at the top of Gloucester Road and consisted of a portable boiler and engine set driving a Burch arc-lighting dynamo, which had an output of 10.5 amps at 800 volts. As demand increased a new power station, with three Brush arc-lighting dynamos designed to serve forty lamps in series operating at 10.5 amps and 1800 volts, was built next door to the original. The motive power was supplied by a semi-portable compound Fowler engine with cylinders underneath the front end of a locomotive boiler, capable of developing 200 h.p. By the time the new station was operational, Hammond's company had gone into voluntary liquidation and was acquired by the newly formed Brighton Electric Light Company Ltd. (to which title Hove was added in 1888) with a registered capital of £25,000.

One of the outstanding assets of these companies was Arthur Wright who as Engineer/General Manager presided over electrical supply in Brighton from 1882 to 1905. Apart from devising the system whereby incandescent lamps were run from the arc circuits he developed a number of features which have since become standard practice.

In the early days voltage control, whereby consumers receive a steady flow of power at an unvarying voltage, rested in the hands of a "volt boy" who watched the meters and controlled the voltage by operating a carbon resistance connected as a shunt across the field of the dynamo; if the lad "dozed off" on the job the fluctuations often burnt out the lamps! This human method of control was found to be too imprecise for the incandescent lamps and Wright developed an automatic voltage control. In 1884 Wright designed the first current-measuring meters for use in the consumers premises. Before that the consumer had to rely on the staff weighing the zinc plates of the Edison Electrolytic meter cells installed there, in order to calculate the ampere-hour consumption. With the D.C. system proving inadequate for the expanding consumption Wright decided to change (by 1888) to A.C. generated at 2000 volts by Lowrie Hall single-phase machines. Voltage reduction, for the 200 consumers, was achieved by means of transformers which were placed on the roofs of the house, in cellars or in street boxes.

To be continued.

MEMBERSHIP CHANGES

New Members

R. Harris	53 Chalcott Square, London N.W.1. (01-586-3177)
M. Harvey	21 Dearswood Lane, Bexhill on Sea TN39 4LT (04243-3156)
D.O. Russell	The Old House, Ashurst (Partridge Green 710408)