SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY

incorporating SUSSEX MILLS GROUP

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MAIN CONTENTS

Programme - Autumn 1999
Visit to Sir William McAlpine's railway
Brighton Well-Sinking Records
IA in a public House
AIA Conference Report
Mills Group News
The Lost Mills of Sussex
Minutes of 1998 AGM
King's Standing Radio Station

PROGRAMME - AUTUMN 1999.

Saturday 27th November 2.30 pm. AGM at Haywards Heath Town Hall, Boltro Road. Contact Ron Martin 01273 271330

After the Annual General Meeting there will be a talk by Robin Jones on" Paddles and Piers of the South East".

VISITS FOR 2000

These will be detailed in the next Newsletter (January). Offers and suggestions are still welcome. Please contact either Ron Martin or Bob Allen.

RETIREMENT OF TREASURER

A reminder that we desperately need a new Treasurer and would be delighted if a member would offer to be nominated for that post before the AGM.

SIAS VISIT TO THE FAWLEY HILL RAILWAY Alan R. Brown

Visitors to Open Days naturally come to see what we have on show, but some also bring us enjoyment by arriving in unusual or vintage vehicles or by describing their own IA activities. Such an encounter last summer enabled some fifty SIAS members to enjoy a visit, by special invitation, to the private 'garden' railway of Sir William McAlpine, on June 13th this year.

A member of the McAlpine family of civil engineering contractors, Sir William had a professional interest in railways, with site railways serviced from their Hayes (Middlesex) depot; but his real dedication to steam was demonstrated by his rescue of LNER A3:4472 - 'The Flying Scotsman 'after she was abandoned in the USA after her tour in 1973. Over a period of twenty-two years he ran specials in this country until a cracked firebox finished her career with him. However 4472 never graced the metals of his own standard gauge Fawley Hill Railway, the venue for our trip, its most striking feature being the hill section with a gradient of 1 in 13, albeit relying on adhesion working. All the stations, signal boxes and numerous lineside features have been salvaged from British Rail demolitions.

Train rides were freely available, standing room only, in a 12 ton open goods-wagon or the B.R. (1958) 20 ton goods brake aka 'The Director's Saloon'. A nostalgic rain of smuts was provided by industrial locomotive No. 311 Hudswell Clarke 0-6-0 saddle tank dating from 1913; delivered to Robert McAlpine as a contractor's loco, serving such projects as Wembley Stadium construction, RA.F Boscombe Down and Llanwern Steelworks, and still running in the service of the family.

The ride starts at the top of hill, where the station building is ex GER Somersham (Cambs) in ship-lap with a full length canopy. ticket hall and waiting rooms as enlarged in 1889. The train leaves the station section, passing an American "Railroad Crossing WIG-WAG", complete with bell from the Santa Fe Railroad; then down the hill with a display of architectural remnants from various railways, including the frontage arches from Waterloo Station, removed to allow easier access to the Chunnel terminal; and similarly the facade from Broad Street (North London Rly.) station. Another large item, bearing the full arms of the London Chatham and Dover Railway, is the cast iron capital from Blackfriars Bridge over the Thames. Arrived at the bottom of the hill we pass Bourne End (Bucks) station waiting room made into a rural halt; then into the head shunt, controlled by Star Lane Crowthorne (SR) crossing box. Switched to the low level valley line, there is one further halt, a Midland Railway example, before the end of the line at Fort Invergordon signal box, originally in service on the Highland line. Then the return journey with a rousing exhaust bark up the incline and back to Somersham Station and a cup of tea.

A couple of diesel locos complete the Marine Power Department Rushton and Hornsby Class 48DS 0-4-0, the smallest of their standard gauge shunters and a Class 03 BR 0-6-0 No. D2120, a diesel hydraulic from Swindon Works in 1959. The rolling stock is almost entirely open goods wagons, plus a tank wagon which are formed into demonstration trains and run over the system from time to time. A few examples of main line carriage stock includes one modern coach having

railway connections, but all these must perforce stay at the top of the hill as static exhibits.

Across the road from the sidings is a long concrete building, a carriage shed in appearance but housing the museum. Our members immediately recognised the Platform Indicator Console from Brighton Station, still complete with all the name boards and clock faces.

Upstairs is a breathtaking collection of railwayana: pictures, documents, maps, advertisements, tickets, furniture (passenger and office), lineside equipment and notices, with coach fittings and trimmings all in fine condition and well labelled; plus a kaleidoscope of enamel advertisements ending with a room of models in several gauges and some working layouts. To list the exhibits would more than fill an entire edition of this Newsletter, so we may feel privileged to have had the opportunity to spend a sunny Sunday enjoying it all.

Our thanks have been conveyed to Sir William and to The Hon. Chairman of The Fawley Museum Society, Bob Hatfield for a smoothly organised outing.

THE BRIGHTON WELL CATALOGUE

PAUL W. SOWAN

This article follows the one by Paul Sowan on 'Wells in Sussex' which appeared on page 13 of Newsletter 103. It gives an example of what the records on well-sinking may yield. Copies of this article and the references used in both articles may be obtained from Bob Allen in return for a stamped and self addressed envelope.

The 1964 Brighton sheet well catalogue may be taken as a sufficiently typical sample of what these records may yield. The GSGB's one-inch to one mile Brighton sheet (318) covers an area of over 200 square miles (including, of course, some sea in this case!) The 1964 catalogue lists 441 well sites within this area, some of those sites having anything up to 10 wells.

There are eight pages of introductory explanation, geological notes, literature references, and a list of well-sinkers. The well catalogue itself lists (and distinguishes) dug wells and boreholes, giving diameters and depths. The presence of any adits at depth is noted, and any other unusual geometrical features (such as subterranean connections with adjoining wells.) Locations are given, with national grid references wherever ascertained. The altitude at the well site is given, and the rest water level in the well at specified dates. Details of strata penetrated are often provided, likewise recorded water yields and references to published literature.

The original and current nature of the premises served by the well is also usually given. In the Brighton area, the wells served the following establishments:

Houses and cottages	172
Farms	69
Nurseries	41
Waterworks	33
Laundries	14

Miscellaneous factories	11
Breweries	11
Public houses, hotels and inns	11
Educational establishments	7
Railway establishments (other than cottages)	5
Hospitals	5
Dairies	5
Gas works	4
Electricity works	3
Brick and tile works	3
Chemical works	2
Refrigeration and cold storage works	2
Garages	2
Apiaries	1
Churches	1
Cement works	1
Lime works	1
Workhouses	1
Fire stations	1
Dye works	1
Mineral water works	1
Bakeries	1
Ice cream works	1
Racing stables	1
Brighton Palladium	1

A specific well record: Ross Limeworks Ltd., Newtimber

This is one of the shorter entries in the Brighton catalogue, but indicates the nature and presentation of the data.

Surface +230. Lining tubes: 13 x 6 in. from surface. Water struck at +172. R.W.L. +185. Yield 1,000 g.p.h. (test); 500 g.p.h. (normal). Dando, Aug. 1935. R.W.L. +c. 165. Yield c. 125 g.p.h. Feb. 1940; 500 g.p.h. June 1947.

This somewhat coded entry tells us that Messrs. Duke & Ockenden Ltd., well-sinkers and borers, of Ferry Wharf Works, Littlehampton, sunk the well for Ross Limeworks Ltd. in August 1935. The total depth is 80 feet, sunk through Lower Chalk and Upper Greensand (the individual thicknesses of the two rock beds not being noted.) This is a six-inch diameter borehole (not a dug well), the top 13 feet having lining tubes. The well head is 230 feet above sea level, and rest-water-levels (above sea level) and yields in gallons per hour are given for various specified dates.

The site is at TQ 276135.

IA IN A PUBLIC HOUSE

JOHN BLACKWELL

Finding myself in the attractive village of Hook Norton in Oxfordshire and being in need of refreshment, I repaired to the nearest public house. Having downed a pint of their finest I espied some old photographs on the wall which on closer inspection showed some industrial plant. The landlord, newly arrived from Australia !! was hardly a mine of information but supping in the bay window and studying the Goodwood racing form were Ted and Cyril, venerable lifetime inhabitants of the village, and of course they knew all about the mine for such it turned out to be.

According to Ted, or was it Cyril, whose father had worked there, ironstone was mined , washed, calcined in the kilns shown in the photographs on the pub walls, before being transported by rail to South Wales for smelting. The mining finished before the second World War but Ted could remember his father returning home with bleeding hands from handling the ironstone.

The conversation then turned not unnaturally to railways and Cyril, or was it Ted? recounted the way the railway and station served the community. It was a branch line of the GWR from Banbury to Chipping Norton with a private siding to the ironstone works and remains of the erstwhile viaduct piers could still be seen outside the village. The station has long since disappeared.

Stimulating both Ted and Cyril's reminiscences with a mild and bitter and a light and bitter we stumbled upon the fact (which I really ought to have realised as I was drinking their eponymous ales) that Hook Norton still boasted a brewery and that the full range of five draught beers was available within literally an arms length. The conversation moved a little away from IA to land army girls and the blackout and back to the fascinating fact that the hostelry in which we were imbibing was originally two different pubs next door to one another.

Later, I strolled(?) up to the brewery which is a fine late Victorian building, in a Chinese style of architecture, with a steam engine providing the motive power and surrounded by those delicious aromas associated with the brewing process.

Feeling in need of some sustenance, after such an exhausting morning, I entered the village's other temple of refreshment and surprise surprise who should be there regaling themselves with game pie and a pint of "Old Hooky" were Ted and Cyril.

On a more sober note, the recording of oral industrial archaeology is an essential task for the Society and it is encouraging to note that Amberley Museum is organising such a project to mark the year 2000. Any member with either a contribution or who knows of a possible source should contact either Robert Taylor at the Museum or a committee member. As Cyril and Ted said as I left "pleeshed to help" and they were, and did.

AIA CONFERENCE 1999 AT CHATHAM

RON MARTIN

This years conference was held in the University of Greenwich at Chatham in what was the naval barracks, built in 1903. Chatham is a fascinating town with its associations with the navy, the army and the Royal Dockyard, now a Heritage Centre. After an introductory lectures on Kent we had one on the development of the dockyard, from its early days until its use to build submarines in the 1970s. The visits on Saturday were to the Dolphin Sailing Barge Museum at Sittingbourne, to the Crockenhill Foundry Garage Engineering Workshop and to the Chatham Dockyard, which was my chosen option. Although I have seen it before I am always amazed at the sight of the 378 yard long rope walk, still being used and the covered slips, the oldest being of wooden construction and dating from the 1830s. The Rolt Memorial lecture was given by Alan Crocker on "Early Water Turbines in the British Isles", in the course of which he mentioned the Sussex example at the Arundel Pumping Station. The Sunday afternoon visits were numerous and I opted for the visit to the Brook Pumping Station and Fort Amherst, a largely complete 18th century fort with underground tunnels.

Monday was occupied with visits to Shepherd Neame Brewery and a walk round Faversham, the Oare Gunpowder works, largely overgrown and to the Abbey factory manufacturing "explosives" using the Cardox method with a charge of carbon-dioxide activated by a chemical energiser. The factory consists of some 50 sheds in an open area and looks more like a chicken farm, with a 1 m gauge railway with two trucks man-powered. The system was in its heyday between the 1930s and 1940s and was used extensively in coal mines. I have never been to an IA visit more hilarious! We kept asking ourselves "Is this a hoax?"

Tuesday was wet and cold. We had a busy day looking at the south end of the tunnel on the Whitstable and Canterbury railway, the remains of the Kent coalfields and the tunnels underneath Dover Castle, with lunch at Crabble mill, a restored water powered mill just outside Dover. The afternoon was passed with a short visit to the Western Heights defences of Dover and a trip on the Romney Hythe and Dymchurch railway, built in the 1920s by Captain Harvey, a millionaire. The engines are $^1/_3$ full size and are loosely based on the design of full sized locomotives. A regular service is run daily throughout the year on the 13 ½ mile track from Hythe to Romney with a loop to Dungeness.

The visit to the paper mill at Snodland proved interesting, particularly the finished product with rolls of paper 3 m wide and about 2 m in diameter awaiting cutting up into sheets. The Royal Engineers Museum completed the days visits. This is an fascinating museum containing some extraordinary exhibits including the Brennan Torpedo. (See next Newsletter for a description).

On the final day we went to Woolwich Arsenal, currently being redeveloped and largely a building site but we were still able to see some very fine buildings. In the afternoon we went to David Evans World of Silk which is a factory where silk printing is still carried on with a museum of earlier processes of block and screen printing

All in all this was a good conference, well organised and with a wealth of interesting places to visit. Next year the conference is to be held in Manchester and when I have more details of this I will include these in the Newsletter. I hope to see a few more of you there

CONTENTS SEPTEMBER 1999

Meetings
The International Molinological Society Mid Term Excursion
Internet
Tour of German Mills
The Lost Mills Sussex

MEETINGS

Friday 10th March 2000 - Annual General Meeting of Sussex Mills Group at the barn, West Blatchington Mill, Hove.

May 2000 - National Mills Weekend. See the next Newsletter for more information on meetings and events.

NOTE FROM THE SECRETARY/EDITOR.

I thought that it worth while publishing the report from Peter Hill on his visit Germany and leaving detailed reports on the mills for the next Newsletter. In Sussex it has been a interesting time of "caps on", with three mills having their caps replaced in the last few months. This will be fully reported in the next Newsletter.

INTERNET WEB SITES FOR SUSSEX MILLS

Stone Cross Mill :- WWW.SCMT.SWINTERNET.CO.UK

Findon Windmill - Valerie Martin, a local historian, has put some information about Findon Windmill on - WWW.FINDON.FORCE9.CO.UK

TIMS MID TERM EXCURSION 30TH MAY - 6TH JUNE 1999 BY PETER HILL

The TIMS mid-term excursion is held this year in East Germany and covered the southern and central regions of the former DDR. Organised by Erhard Jahn, an expert on the mills of Germany and ably assisted by Yolt Ijzerman, Chairman of TIMS the choice and variety of the mills we saw is extremely well balanced.

Thirty six participants from six countries enjoyed seven action packed days, in all visiting 46 mills, travelling by coach or minibus a distance of 1800 km and staying in seven truly excellent hotels. The fact that everything ran so smoothly is a tremendous credit to Erhard's impeccable planning and for those of us with no knowledge of the language, having Yolt there constantly to interpret and translate is extremely helpful and reassuring. The only problem now is the cataloguing of the innumerable photos and slides !

Post mills, paltrock mills, tower mills, one smock mill and a barn mill well represented the use of wind power. However the variety of uses of water power is remarkable with examples of oil mills, forge/hammer mills, flour mills, a paper mill, a pearl barley mill, a boat mill, a panster mill and a brine concentration complex plus an archaeological excavation and interpretation of a 12th century site where two water mills were employed for corn milling and oil production.

Here is a brief account of some of the more notable mills seen.

The majority of the windmills seen were of wooden construction, being either post mills or the more unusual paltrock mills where the whole body of the mill revolves on a series of small iron wheels around a curb at ground level. The size of these is incredible and the dimensions of the major timbers, enormous. Winding is done by means of either long downward-curved tail poles or by fantackle. Internally the layout is 'overwhelming' with machinery packing every available space... stones, rollers, dressers, elevators, shelling machines and plan sifters to name but a few.

A notable feature of the post mills is the extension of the corner posts to almost ground level thereby affording greater stability. In many, two pairs of stones were driven from the head wheel with one pair in front and one pair behind. At the six sided post mill at Kottsmarsdorf, the ground floor is boarded over the cross trees and a most unusual 'hopper boy' type cooling system is seen.

Several tower mills were visited, the one at Eckartsberga being the only remaining example of an annular sailed mill in Germany. Built as a conventional four sailed mill in 1830, the annular sails were fitted C1880 and the mill worked until 1932. A full restoration is undertaken in 1993 but 3 months after completion a storm blew off the sails and now once more these are being restored and are just awaiting the shutters.

At Weissensee the tower is 16 sided externally but completely circular internally and the mill can be operated by wind, electricity or diesel engine. Undoubtedly the giant brick tower mill at Straupitz is the most interesting as although lacking sails and operated by electricity, it is still used regularly for sawing, flour milling and the production of linseed oil for culinary use.

The barn mill at Saalow is an incredible sight and not easy to describe ! Brought from its original site near Dresden and reconstructed here in 1992/3 the building comprises a small barn-like construction with two large octagonal doors which when folded back reveal two vertical wooden annular sails. The doors being located at the end of the building and at one side. A through draught causing the sails to revolve, one to drive a small pair of stones and a bolter and the other to operate the sack hoist. Doubts were expressed amongst those assembled as to the efficiency of such a device but it is fascinating to see this unique example of one man's interpretation of the use of wind power.

The paper mill at Zwonitz is extremely well presented and clearly demonstrated the use of water power for the production of cardboard (used in making shoe boxes) from old papers and books. These are steamed in a gigantic revolving metal boiler for up to 24 hours before being transferred to edge runners and thence to baths

before being rolled into large sheets which are then hung and dried in the well ventilated lofts and then finally pressed ready to be cut and folded.

The pearl barley mill, Heiligen Mühle at Erfurt, showed how the barley is husked, crushed into small pieces then rolled in a vertical casing containing a vertical stone rotating against the sides of the casing which is coated in fine stone. The final product is then polished between a pair of sandstones for 12 minutes, an ingenious water powered timer accurately governing the process.

The Tobias Hammer at Ohrdruf has three overshot wheels each used for a different purpose. One is for the five drop hammers which are powered by cams on the wheelshaft. The second operates a rare 200 year old roller for the production of copper sheeting to 0.4 mm thickness and a third wheel drives three wooden stamps which move up and down in a frame, dropping under their own weight to crush the material under them in a steel trough through which water flows to wash away the lighter, unwanted residue.

The oil mill at Thalheim is again powered by a small overshot wheel to produce cold pressed linseed oil. Each cup (situated below each stamp) is stamped for ¾ hour, scooped out, mixed with a critical amount of water and heated to 70°C in a manually stirred pan. The resultant 'mash' is then pressed. The cake (after the oil is extracted) is then crushed under the stamps for animal feed. 300 kg of linseed being treated thus each day producing 75 kg of oil primarily for cooking. Bones are likewise stamped and crushed for fertiliser or sieved and added to the animal feed.

The water powered oil mill at Pockau is similarly operated.

The water mill at Schulpforte was built in a building originally designated for a church as part of the monastery which is located here. Everything about the set-up is enormous in particular the hursting on which the two pairs of stones are situated. Known as a 'panster' mill the wheel and shaft can be manually hoisted by chains according the the height of the river: again this is a mill that needs to be seen to fully understand the operation involved.

Saw mills were seen at Drewitz and Thallwitz, the former powered by a 4 m diameter overshot wheel and the latter by electricity since the original wheel is now derelict. Both operate horizontal bladed saws with rack and pinion operated sledges to move the logs forward.

Unquestionably the 'pièce de resistance' of the whole tour is the desalination or brine concentration plant (a Gradierwerk) seen at Bad Kosen. Powered by a large water wheel in a building in the lower part of the town, pump rods mounted in wooden troughs on tall 'A' frame supports, travel several hundred metres up through the town to the pump house where brine is pumped up from a salt mine and again over a considerable distance to a 320 m long trough mounted on poles 18-20 m high. From here the salt solution filters down through 200,000 sloe (blackthorn) bushes which are tightly packed between the poles. As the brine trickles slowly down, unwanted salts crystalise out and are deposited on the bushes whilst the remaining solution is gathered in a trough at the bottom. This is recirculated and the final concentrated solution is evaporated to produce table salt. Because of the salt laden atmosphere around the plant, it is considered highly

beneficial for health and many 'pilgrims' would (and still do) visit the town to promenade around the massive construction and inhale the vapours!! Certainly, if not my health, my molinological education benefited greatly from the opportunity of seeing such an incredible use of water power!

To complete our milling experiences, we visited two industrial water powered sites, one at Meisdorf where electricity has replaced turbines and both wheat flour and rye flour are produced using restored steel rollers. The other at Sommerda has a 7.3 m diameter by 3 m wide float wheel used to produce up to 30 tonnes of flour per day. Entirely water powered until 1960, now both water and electricity are used with a large number of rollers and with a wide variety of cleaning, dressing and sifting machinery to be seen.

Wherever we went, large numbers of modern wind turbines could be seen feeding power into the national grid system and so by the end of our tour, one felt that we had seen the full gamut of the use of alternative power.

For some, this report will appear too short and lacking in sufficient technical details, for others it will be enough to show just what a marvellous time we had. To both groups I would have one answer... join TIMS and see for yourselves these mills 'in the flesh'. The hospitality of the host country, the companionship of fellow enthusiasts and the opportunity to visit otherwise 'unvisitable' mills makes membership of this truly international group well worthwhile.

A full list of mills visited is available from Peter Hill.

THE LOST WINDMILLS OF SUSSEX

GUY BLYTHMAN

FRAMFIELD, BLACKBOYS POST MILL

TQ 520 206

This mill is originally situated at Glynde, near Lewes, where it is erected in 1807. It is dismantled and moved to Blackboys in 1867 or 1868 by Henry Garnett for Mr Hobden of Sapperton Farm, Heathfield, who had bought it some time prior to the removal for his son Luther John Hobden. Hobden is running the mill in 1874, but in September the following year it is advertised to be let or sold. It remained within the Hobden family, Mrs E. Hobden being given as miller in 1878 while Luther John Hobden is listed again in 1887 and 1890, although in a notice in the Sussex Advertiser in 1888 he had stated that he is giving up the business and "suing William Farrant and others for flour supplied" (that is, trying to recover debts in connection with the same;[1]). Mrs R. Hobden is miller in 1895. The Paris family took on the mill in 1896 and were to work it for the remainder of its active life. Among the grinders employed were Solomon Diplock and George Tree. From them it passed to a firm called Stricklands in 1934.

In common with many others, the mill ceased to produce flour during the First World War. It continued to work commercially milling animal feed, and in fact is one of the last windmills to do so in Sussex. It finally ceased operation on 1st March 1935, the sweep frames being removed three days later by Neves of Heathfield. The Society For The Protection Of Ancient Buildings sought to keep it

functioning and in January 1936 instructed the millwright Thomas Hunt of Soham in Cambridgeshire, to contract for repairs, but these proved to be too expensive and no work is undertaken. The mill is demolished in late 1944 or early 1945 as it is considered unsafe and a danger to children who played inside. In fact, although it had been sadly mutilated during the war by soldiers who ripped off much of the boarding for use in camouflaging their tanks, the main timbers were fairly sound. The foundations of the brick piers supporting the trestle were still evident in 1978 [2] [Ed- but not in 1999].

The mill is a small one, painted white with a metalled roof and breast and a tarred single storey wooden roundhouse. As at many other Sussex post mills the metalling is added quite late in the mill's active life, several photographs showing it without it [3]. It ended its working days with four spring sweeps, after working for a time with two springs and two commons. On an iron windshaft were mounted a wooden brake wheel and an 8-spoke iron tailwheel in two sections. There were two pairs of stones, one peak and one burr up to about 1915 when the burrs were replaced with peaks on cessation of flour production. A photograph of the interior in the National Monuments Record at Swindon shows a pair of wire machines.

References :

(1) Michael Yates, in a letter to the author in 1998.

(2) Martin Brunnarius, "The Windmills of Sussex".p165

(3) "Around Heathfield in Old Photographs" Alan Gillet and Barry K Russell, Alan Sutton 1990.

Sussex Mills Group

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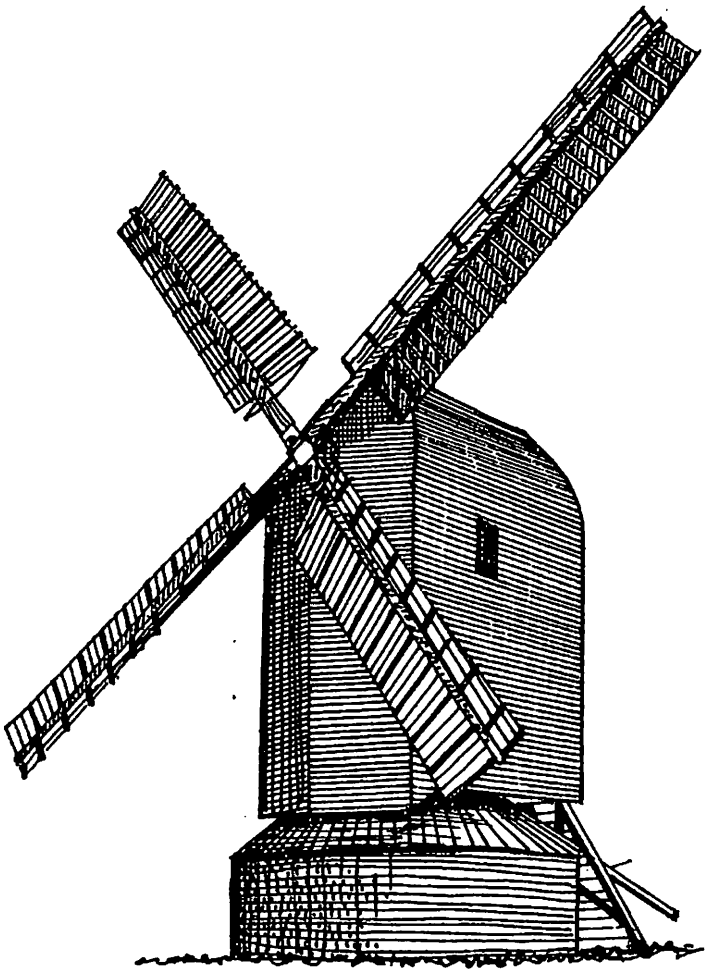
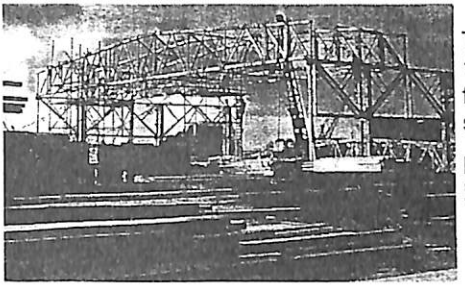
	P. James	T. Martin	A. Mitchell
	B. Pike	S. Potter	R. Potts
	T. Ralph	K. Stretton-Smith	



BLACKBOYS MILL R.G.Martin

TIMBER SHEDS AT SHOREHAM BEACH: **ROLF ROWLING**

An update on the article by Ron Martin. (Ref. Newsletter No 102 April 1999)



Timber sheds under construction at Shore-

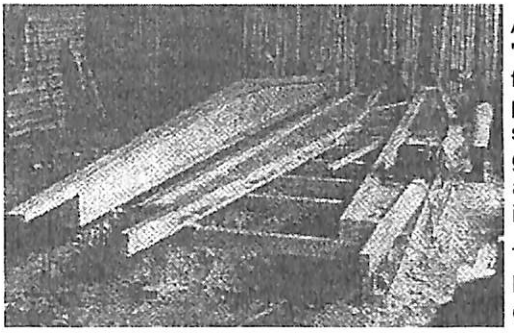
The sheds were built between 1963 and 1965 by Beeves Manufacturing Limited for their own use to a Scandinavian design.

Mr Hilding Brosenius, whose initials it bears, invented the HB system of timber construction. The system has received wide application in Scandinavia during the past thirty years, whilst in the last ten years production has begun in Belgium, Canada and the USA.

Nailing of portal frame joint on site

Some noteworthy structures based on the HB system are the Brussels World Exhibition 1958 includes the Vatican Church, the Heliport Terminal, United Nations Pavilion and the Norwegian Pavilion.

Beeves and Company Limited were appointed sole licensees for the manufacture and sale of structures designed on the HB system throughout the United Kingdom and Republic of Ireland.



HB beams during manufacture

A basic element in the system is the 'HB Beam' which is an I beam. Built up from relatively small sizes of timber to produce the desired section and strength the paired flanges are of glued laminated boards of a number and size calculated to meet the bending stresses.

The web consists of two layers of boards, laid diagonally to the lengths of the beam and at right angles to each other.

The flanges are placed with the halves of each face on either side of the web and then through-nailed to a pre-determined pattern. The nails are of a special section and of sufficient number to transmit all stress. A system of stiffeners is applied to restrain buckling in deep beams.

The permissible load transmitted by each nail, is a function of its bearing area and the compressive strength parallel to the grain of the timber within the limits of strength of the particular nails.

HB structures resistance to fires is considerable. Unprotected steelwork will collapse as soon as the temperature of any part reaches 600°C. Timber burns at the rate of one-fortieth of an inch per minute, regardless of the temperature, on each surface exposed to flame.

By reason of the various safety features incorporated in design calculations, a loaded timber structure having components of a minimum thickness of 2" nominal, or $1^{3}/_{4}$" finished, cannot collapse in less than half an hour from thestart of fire.The half hour delay period allows evacuation of personnel removal of valuables and access for fire fighting.

I am indebted to Mr R Baker, retired technical representative of Beeves Manufacturing Limited, for the information supplied.

MINUTES OF THE THIRTY-FIRST ANNUAL GENERAL MEETING OF THE SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY HELD AT 2.30 PM ON SATURDAY 28TH NOVEMBER AT THE TOWN HALL, BOLTRO ROAD, HAYWARDS HEATH.

There were 28 Members present whose names were recorded and the chair was taken by J.S.F.Blackwell.

1. Apologies for absence were received from Mr. & Mrs. R.E. Allen, S.A.Boakes, Mr. & Mrs. D.H.Cox, J.Day, D.D.Drea, R.Fry, E.T.C.Harris, N.Kelly, Mrs. G.K.Martin, P.R.Saulter, Capt. A.G.Smalley, Lady Ann Sowrey, Mrs. J. Thomerson and Ms B.J.Young

2. The acceptance of the Minutes of the previous AGM was agreed unanimously as a true record . The acceptance of the Minutes was proposed by G.G.Thomerson, seconded by A.E.Baxter and agreed unanimously.

3. There were no matters arising from the previous Minutes.

4. The General Secretary gave his annual report outlining the activities and achievements of the Society, which was accepted by the meeting.

5. The Treasurer and Membership Secretary gave his report and presented the accounts. The acceptance of this was proposed by R.G.Martin, seconded by R.M.Palmer and passed unanimously. The sound financial status of the Society and the steady increase in membership was noted.

6. The Editor gave his report and commented that S.IH 28 is to be published in January, 1999 and pleaded for members to produce more articles for the next issue. The book of Frank Gregory's drawings of Sussex Watermills had been delayed but was published in early 1998. The work on the revision of the *Field Guide* was under way. Newsletter No.100 had been published as a bumper edition.

7. P.J.Hill, Chairman of the Mills Group gave his report in writing on the activities of the Mills Group. He commented on the restoration work on many of the mills in Sussex and on the hosting of the SPAB visit to Sussex mills in May.

8.1 R.M.Palmer reported that at Coultershaw Beam Pump had had a successful year with slightly lower numbers but a greater income than the previous year.

8.2 C.Bryan reported that at Poyntz bridge some works had been carried out to eliminated the twist in the bridge structure and that they had been presented with a Heritage Award from the City of Chichester.

8.3 E.W.Henbery reported that at Ifield Watermill work had been carried out in re-boarding the wheel. A grant of £1,000 had been received from the British Airports Authority.

8.4 N.Kelly reported in writing about the Eolienne Bollet , a unique wind pump located at St. Hugh's Monastery at Cowfold. Its condition gives some cause for concern and it is hoped that restoration can be achieved.

9. The election of the following principal Officers and Committee Members was proposed by W.B.T.Pike seconded by H.P.Browne and passed unanimously:

Chairman	J.S.F. Blackwell
Vice Chairman	D.H.Cox
General Secretary	R.G.Martin
Editor	Dr. B.Austen
Treasurer and Membership Secretary	J.M.H.Bevan

Committee:
R.E.Allen, Brig.A.E.Baxter, Mrs. P.Bracher, C.Bryan, M.H.Dawes, Mrs. D.Durden, E.W.Henbery, P.J.Holtham, R.F.Jones, R.L.Wilson

The Chairman announced that the following Members would be co-opted onto the Committee:

P.J.Hill (Chairman of the Mills Group) and R.Taylor (Director of Amberley Museum)

10. The Appointment of P.A.Tye as Honorary Auditor was proposed by R.G.Martin seconded by G.G.Thomerson and passed unanimously.

11. Any other business - none.

The meeting closed at 3.40 pm.

KING'S STANDING **RON MARTIN**

On my way to the Chatham Conference I visited the former radio station at King's Standing on the Ashdown Forest near Crowborough. This was built in 1941-42 to transmit subversive broadcasts to the Germans as part of the PWE (Political Warfare Executive). This had been set up earlier and planned to broadcast on German wavelengths and feed misinformation and in some case pornographic material to try to unsettle the Werhmacht and the German people. The transmitter installed at King's Standing was obtained from New Jersey and was a 500 kilowatt medium wave monster. It was the most powerful transmitter in the world and was referred to as "Aspidistra" in reference to the song made popular by Gracie Fields. This was shortened to "ASPI 1". There were three 300 feet high masts but the other works were all underground in a bunker. Subsequently other buildings were built on the site including a short-wave transmitter building designed by Cecil Williamson in the style of a cinema of the 1930s.

The transmitter was subsequently used for the World Service and the BBC European Service and when that closed the bunker was refurbished as No.6 Regional Seat of Government. The site is now occupied by Sussex Police.

Officers

President	Air Marshal Sir Frederick Sowrey, Home Farm , Heron's Ghyll, Uckfield	
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Vice-Chairman	D.H. Cox, 3 Middle Rd, Partridge Green, RH13 8JA	01403 711137
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Northern Area	E.W. Henbery, 10 Mole Close, Langley Green, Crawley,	RH11 7PN 01293 406132

COMMITTEE MEMBERS

R.E.Allen, Mrs P.M. Bracher, C. Bryan, M.H.Dawes, Mrs D. Durden, R.M. Palmer, R Taylor, R.L. Wilson.

LATEST DATE FOR COPY FOR THE JANUARY NEWSLETTER IS DECEMBER 14th.

Copy for the Newsletter should be sent to:
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(Copy for the Mills Group section should be sent to the editor of the Mills Group Newsletter, D.H. Cox, whose address is above.)

SIAS website : www.fastnet.co.UK/SIAS