



SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY

**Newsletter
No. 106**

**Incorporating SUSSEX MILLS
GROUP**

Price 50p to non-members

APRIL 2000

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PROGRAMME - SPRING & SUMMER 2000.

Saturday and Sunday 13th & 14th May. National Mills Weekend.
Contact Don Cox 01403 711137.

Sunday 21st May at 10:30 am Tour of Shoreham led by Geoffrey Mead. Meet at Norfolk Bridge car park. (TQ211048) Followed at 2:30 pm by guided visit to Shoreham Airport (Charge £3-00) Meet in front of Terminal Building.
Contact Ron Martin 01273 271330

Friday 9th June at 6:30 pm tour of Saltdean Lido (TQ380021)
followed by Members Evening. (We need volunteers to give talks)
Contact Ron Martin 01273 271330

Wednesday 12th July at 11:00 am Mills Group visit to Mappedurham Mill (charge £3-00) & Chiltem Partnership Workshops. Meet at the mill (SU670766)
Contact Don Cox 01403 711137.

Sunday 13th August at 2:00 pm Tour of Royal Armouries Museum at Fort Nelson, Portsmouth (SU664064) Charge £4.50, senior citizens free!
Contact Bob Allen 01323 896724

HAVE YOU PAID YOUR 2000 SUBSCRIPTION YET?

PETER HOLTHAM

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

Revised Subscriptions Rates are:-

Full Member £10.00

Family Member (at the same address) £5.00

Junior Member or full time Student £2.00

Life Membership £ 150.00

Many members paying by Bankers Order have not advised their banks of the new amount to and have consequently paid the old amount. These members are requested, for this year, to remit the outstanding balance to the Treasurer as soon as possible and notify their banks of the increase for future payments.

APPEALS FOR HELP

BOB ALLEN

From: Sam Potter.

Does anyone have any references on the history of ice rinks and roller-skating rinks, indoor and outdoor and in particular the methods used to freeze covered/partially covered outdoor ice rinks in the nineteenth century.

Any specific information about the function of 'Sylvester's Warm Air Apparatus' would also be extremely useful. Please contact Bob Allen.

From: Gillian Beecher.

I am carrying out a national survey of shepherds mobile lambing huts. These four-wheeled wooden or corrugated iron huts were towed out to the lambing fields to provide on site accommodation for the shepherd and were in use until the late 1940s. My register includes details of construction, the manufacturer where known, place and years of use, present use, anecdotes from people who have used them and present site. Any general information or address or map reference of any huts, regardless of condition, anywhere in the United Kingdom will be greatly appreciated. Those I have found in Sussex so far are at Henley Down, Weald & Downland Museum, Seven Sisters Country Park at Exceat, Fishbourne, Sussex Downs Conservation Board, at Falmer, Fairlight, Seven Sisters Sheep Centre, Leconfield Estate, Petworth, Ashdown Llama Farm at Wych Cross, Brinsbury College at Pulborough, Albourne, Plumpton College Outreach Centre at Netherfield, and in Kent, Bottolphs Bridge, Underiver and the Museum of Kent Life at Cobtree.

I have also come across game huts or game larders similar to the shepherds huts in basic design and would appreciate any information on them.

Mrs. Gillian Beecher, 27 Normandale, Bexhill on Sea, East Sussex, TN39 3LU
Tel:01424 216516, gillian@abeecher.freeserve.co.uk

One of the functions of the Society is to record industrial sites in Sussex. To this end in mind, a few years ago we obtained a grant from the Leverhulme Trust to pay for a recorder for two years and our Vice Chairman, Don Cox carried out this task. He covered all the rural parishes compiling some 4000 sheets. The urban areas have not been tackled with the same dedication. To date the following urban areas have been done to a greater or lesser extent:

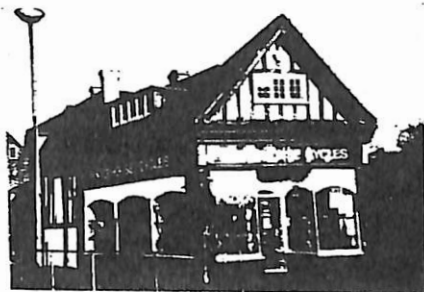
Brighton and Hove, Cuckfield, East Preston, Haywards Heath, Herfield, Lewes, Lindfield, Littlehampton, Peacehaven, Pulborough and Stormington,

This still leaves various large towns unrepresented, viz: Aldwick, Bognor Regis, Burgess Hill, Chichester, Crawley, Horsham, Midhurst, North Horsham, Petworth, Rustington, Shoreham-by-Sea, Sompting, Southwater and Steyning in West Sussex and Battle, Bexhill, Crowborough, Eastbourne, Etchingam, Forest Row, Hailsham, Hastings, Horsted Keynes, Mayfield, Newhaven, Penhurst, Rye, Seaford, Tarring Neville, Uckfield and Waldron in East Sussex.

SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY Record of Industrial Archaeology Sites		SAR NO. 6266	COUNTY WEST SUSSEX
SUBJECT		CONDITION r/a	CLASS Retail
LOCATION SOUTH ROAD, N° 2 & 4. POWELLTOWN COTTAGES		SITE TYPE Shop	
RECORDS		PARISH/TOWN HAYWARDS HEATH	
DATE OF CONSTRUCTION Early 19th C.		OS GRID REF TQ 23 27 2106	
OWNER/OCCUPIER Andrew HORTON		RECORDER'S NAME, ADDRESS & TEL. NO. D. T. HARRIS, 6, THE WILKINSON LEWES, SUSSEX BN16 9JG	
		DATE RECORDED 14-11-85	(C) SIAS
DESCRIPTION			

BICYCLE SALES & REPAIR. This wedge shaped building stands at the corner of South road and Hazelgrove road and extends approx. 14m down each with a 5m wide elevation at the front. Two storey, mock timber framed, painted roughcast infill and painted Flemish bond brickwork. Painted tiled surround to shop windows with timber cills (some rotten), timber glazing bars, painted brick dado below. Windows lead into recessed & glazed timber door. Red tiled pitched roof is hipped and shaped to suit site fall towards road, valleys felt sheeted, gables in stained wood. Three unit painted timber casement in gable; four unit casement window in metal clad dormer in side slope. Plastic gutters and downpipes. Upstairs is used as a clothing showroom; there is a basement with the ancient heating pipes still in situ.

This building was originally a seed merchants. Its rear can be seen on the photograph at No6, South road.



We are anxious to get the recording under way in these urban areas and plea for members with an interest in their own locations to assist in this. The record sheet shown here is a completed sheet, which is a simple document. One only needs a pair of eyes, a camera and the ability to write a simple description. Photographic expenses will be reimbursed by the Society. The extent to which the recorder goes into the history of each site is his own personal choice.

If you would prefer to do typological surveys there are various subjects which could be considered. One that comes to mind is a systematic coverage of all the railway lines and canals in Sussex. These have been dealt with where they meet or cross roads but the lengths between have been largely ignored.

If any member or group would like to carry out any recording, either Don Cox or myself will be willing to talk to you to show you what is required. Please get in touch with me.

SUSSEX BRANCH LINES - A YEAR 2000 SURVEY

JOHN BLACKWELL

It is now over 30 years since many of the rural lines resounded to the "clickety clack" of worn out rolling stock as single coach trains often hauled by vintage engines meandered through the Sussex countryside frequently stopping to pick up one or two passengers, or more often none at all. As the new century dawns it seems appropriate to discover what remains of these long closed branches. Essential guides are an O.S. map (preferably the 1960 edition that shows the lines) and the appropriate volume of the 'Branch Line' series of the Middleton Press, which contain photographs full of interest. This is the first of a series of articles.

1. SHOREHAM TO GUILDFORD

This route comprised two branches constructed by the London Brighton and South Coast Railway; Shoreham to Horsham which opened in 1861 and Horsham to Guildford which opened in 1865. Both succumbed to the Beeching plan, the Guildford branch closing in June 1965 and that from Shoreham in March 1966.

The line diverged from the West Coastway Line just before it crosses the A283 near the Swiss Cottage Hotel. The bridge abutments can easily be discerned and a charming pair of railway cottages (one in very original condition) situated between the main and branch bridges survive. Continuing northwards the line crossed the approach to the wooden toll bridge at Old Shoreham now a footbridge (and in need of repair); but until the opening of the Shoreham bypass a busy vehicular crossing where on summer weekends long delays could be experienced as tolls were collected. The line continued to the disused Beeding cement works where sidings were in use for bulk delivery and despatch until 1981. Here the line crossed the River Adur before proceeding to the first station on the branch, Bramber at TQ186104 the site of which is now at the roundabout. The alignment now follows the Steyning bypass. The site of Steyning station TQ182114 is approached from the village along Church Street, which leads into Station Road. All that remains is a warehouse now converted into flats. This is not the original goods shed, which was a fine two storey structure similar to those surviving at Arundel and Littlehampton. Housing covers the

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SUSSEX MILLS GROUP NEWS

edited by Don Cox

Sussex Mills Group is part of
The Sussex Industrial Archaeology
Society



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Dates of Events.
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Lost Windmills of Sussex - Guestling Mill

DATES OF EVENTS. SPRING AND SUMMER 2000

13/14th May National Mills Weekend. Please help at your mill on that day.

Sunday 18th June. Talk on 'Sussex Mills and Leathermaking' by Lawrence Stevens at Polegate Windmill. The talk which begins at 3:00 pm will explore Sussex mills associated with leathermaking and draw on British and Continental examples. All are welcome. Reservations £1.00 - telephone 01323 734496

Wednesday 12th July Visit to Mapledurham Mill, at SU070766 near Reading. Meet at the mill at 11.00 am. There is a £3.00 entrance charge per person. In the afternoon we have arranged a visit to the nearby works of the Chiltern Partnership.

Sunday 12th October the Mills Group October meeting will be held at Michelham Priory starting at 2.30 pm. See next newsletter for details.

AGM

The Annual General Meeting of the Sussex Mills Group was held at The Barn, West Blatchington Mill, Hove on Friday 10th March. There were 37 people present and the meeting opened with a welcome to all present by the Chairman, Peter Hill.

1. Apologies for Absence

Apologies for absence had been received from P. James and A. Mitchell.

2. Minutes of the last meeting

The minutes of the last meeting held on 20th March 1999 having been circulated to all present and published in the Newsletter for April 1999 was adopted as a true record and signed by the Chairman.

3. Matters Arising

Ron Martin reported that there was nothing to report about the wind powered water pump at Cowfold Monastery and we still awaited news/action from Jonathan Minns.

Regarding the Video the Chairman reported that an unedited version had been seen and that he was meeting the camera man/producer about it.

4. Chairman's Report

1999 had been undoubtedly an extremely successful year for the Sussex mill scene with a considerable amount of restoration work being undertaken at many of the mills throughout the county. Many of the mills also had special events days, which attracted large numbers of visitors, and did much to promote the work that is going on to preserve these important buildings. The Sussex Mills group can be very proud of what it had achieved.

PASSPORTS, which were launched at the National Mills weekend have proved very successful and to date over 900 have been distributed to the participating mills all of whom to a greater or lesser degree have been very pleased with the sales. As yet no completed ones have been received but hopefully the children will take up the trail where they left off last year and we should get a few coming in this season.

TEA TOWELS still continue to sell and the total printed has now reached 3445. Bearing in mind that each one sold raises £1 for the mill concerned this represents a substantial amount we have raised for Sussex mills.

'MILLS OPEN' leaflets are shortly to be reprinted having been updated and revamped. 20,000 are to be ordered and these hopefully will be available for the start of the new season. Thanks to Peter James for his work on these.

POSTCARDS. Our next project being considered for fund raising is

the production of a series of 'collectors' postcards. These will take the form of maybe 5 or 6 multiple scene cards depicting all 20 of the mills on our 'open' leaflet. Costings and minimal quantities are being looked into at present. Thanks to Bob Potts for taking this on board.

FRANK GREGORY PLAQUES

Plaques have been taken round and are displayed in many mills however there are still some left so if you would like one or more please do ask Peter Hill.

H.E.S.SIMMONS COLLECTION

Thanks to an extremely generous donation by Sir Frederick Sowery, President of SIAS and to monies donated to SIAS by Ron Martin the group is very fortunate in having a complete set of the Simmons papers- these are to be encapsulated and mounted in files which will then be housed here at West Blatchington mill. Thanks to Alan Mitchell for his fine work on these.

SUSSEX INDUSTRIAL HISTORY No 29 published by SIAS has been entirely devoted to a previously unpublished document by Ron Pinney entitled 'Sussex Windmills and Their Restoration a 1971 Perspective'. Members of the society will have received their copies but if anyone is interested in extra copies these can be obtained from Ron Martin at £3.95 each plus 50p postage & packing..

EVENTS DURING 1999.

THE NATIONAL MILLS WEEKEND went very well throughout the county with some mills opening for both days and others just for one. Undoubtedly the efforts of Lawrence Stevens in contacting every local newspaper in the county with publicity material contribute greatly to the success of this event and we thank him most sincerely for his hard work.

THE DAY TOUR took place on 17th July, with visits to Stonecross, Michelham Priory and Polegate mills. Numbers could have been better but those who went thoroughly enjoyed the day and I would like to re-iterate our thanks to our hosts.

THE OCTOBER GET TOGETHER at High Salvington proved very successful with a good attendance and a most enlightening talk given on his database of millers by Tony Yoward ably assisted by his wife Mary. This has proved to be a popular annual event giving mem-

bers and non-members a chance to get together and discuss milling matters

FETE DAYS etc. held at Polegate, West Blatchington & High Salvington, plus ALTERNATIVE POWER DAY at Jill and an OPEN DAY at Oldland Mill all proved very successful and beneficial to the finances of the mills!

ARGOS HILL MILL. As a result of several meetings between members of the committee and council officials, Brian Pike has succeeded in setting up a 'Friends of Argos Hill Mill' and regular working parties are now in progress, carrying out essential repairs to the mill. Our congratulations to Brian for his success.

The Chairman then gave a brief report on 20 mills throughout Sussex. He concluded that he felt the Group could be very proud of what had been achieved. He thanked Don Cox for all he had done for the group as Secretary and general dog's body, and thanked all members of the committee for their effort and support.

5. Secretary's Report

The Secretary commented that events of the group had been covered by the Chairman. He reported that he continues to receive letters from people researching their milling ancestors and that he helps where he can with some people being passed onto Tony Yoward for information from his database of millers.

6. Election of the Chairman

Don Cox took the Chair and thanked Peter Hill for all his work over the year- Peter Hill was proposed as Chairman by Ron Martin. This was seconded by Simon Potter and carried unanimously.

7. Election of Secretary

It was proposed by D. Jones and seconded by R. Potts that Don Cox be elected secretary. This was carried unanimously.

8. Election of the Committee Members

It was proposed by R. Jones and seconded by R. Martin that the following be elected to the committee:-

A. Brown, M. Chapman, P. Hicks, P. James, T. Martin, A. Mitchell, S. Potter, B. Pike, R. Potts, T. Ralph, K. Stretton-Smith.

9. Any Other Business

9.1 Peter Holtham reminded members to change their standing orders for the membership fee now that this has been increased. Those not changing theirs will cause him a lot of extra work.

9.2 Brian Pike informed the meeting that the planning application for the house adjacent to Argos Hill Mill had amended the application so as not to alter the track of the fantail any further.

9.3 Tony Yoward informed the meeting that his database will now cover all of England and Wales. This was due to the ill health of the person who had been covering East Anglia & the northern areas.

9.4 Ron Martin stated that he had been commissioned to produce drawings of the buck of Windmill Hill Windmill.

9.5. R. Hawksley commented that mill restoration should be carried out using as much original material as possible.

There being no further business that part of the meeting finished at 8.40 pm.

After refreshments Peter Hill apologised that Peter James had recently realised that he could not give a talk to the meeting. Thus Peter Hill showed some slides and talked about the windmills of Guemsey and Don Cox showed his slides of the collection of the paintings of Arthur Foord Hughes that are in the Hastings Art Gallery & Museum.

NATIONAL MILLS WEEKEND

Please see the enclosed leaflet, prepared by Laurence Stevens, giving details of mills that we believe will be open.

IFIELD WATERMILL

TED HENBERY

After strenuous efforts in the past year or so funding of £10,000 has been secured for the installation of the final drive to one pair of millstones. One of the initial aims of the restoration, began in 1974, was to be able to once again grind flour, the mill having ceased production in the late 1920s.

The funding comes from four sources, namely Crawley Borough Council, Courage Dyer Trust, Crawley Museum Society and project funds held by the Sussex Industrial Archaeology Society. The work will be undertaken by IJP Building Conservation Ltd (now incorpo-

rating The Chiltern Partnership and it is hoped that work will commence in the Spring and be completed during the Summer. The year 2000 could see the two mills in the area, Lowfield Heath Windmill and Ifield Watermill, both back in operation—some cause for celebration!

The watermill sits on the newly established Greenway Path to be inaugurated on the 1st May by CBC and this should prove to be of mutual benefit and lift the profile of the mill.

Quite uniquely there is a third mill premises close by at Ifield Green, being the Ifield Steam Mill. This was built about the 1850s close to the Ifield Green Windmill the remains of which were demolished in the 1950s. The building contains no internal workings and suffered fire damage in January 2000 due to vandallism. Interestingly, the original steam engine was removed many years ago and donated to the Science Museum by the Newcomen Society. Subsequently it is said to have been loaned to a Museum in Berlin where it thought to remain to this day.

The Ifield Village Conservation Area Advisory Committee have recently prepared a brief report on "Flour Milling on Ifield Green" and interest is being shown on ensuring that the building is retained with the possibility of the engine being returned.

LOST WINDMILLS OF SUSSEX.

GUY BLYTHMAN

Guestling - Jenner's Mill (TQ 843 124)

Hill, the millwrights of Ashford, Kent, built this smock mill in 1859 for William Crisford. It was a comparatively late addition to the ranks of Sussex windmills. Crisford owned it until around 1830, the mill being up for sale in June 1881 when occupied by Peter Dulvey Stonham, who was responsible for all repairs. Stonham's tenancy was to end at Christmas 1883. The property was still for sale, or was being resold, in 1882. A bakehouse had by then been added to it. By 1887 Caleb Jenner, whose family was to operate the mill for the rest of its active life, was in possession. A William Caleb Jenner ran it from at least 1895 until 1915 when Gordon Caleb Jenner took over. Shortly afterwards the miller, a Mr Weston, died and his successor soon departed for the war. The wartime conditions made it difficult to find a suitable replacement, and for most of the time the mill stood idle, with the result it was partly tail-winded, one man nearly losing his life in the attempt to avert further damage. Gordon Caleb Jenner now decided that it should be demolished. For the most part the structure was in perfect condition and for this reason its demise was seen by some as most regrettable, one miller friend of H.E.F. Simmons going so far as to call it a crime.

The mill was a white one, large and roomy with five floors and able to accommodate four pairs of stones, two of which were overdrift while the others were underdrift and capable of being disconnected and driven independently by a steam engine. Unusually for a smock mill of its size it stood on only one foot of brickwork. The sails were double-shuttered patents and the Kentish-type cap was winded by an eight-bladed fantail. The mill was considered to be one of the finest in the area.

It was known by a variety of names during its life, apart from the usual one [stated in the heading]. Originally called simply Guestling Mill, it later became Down Mill, after nearby Down Farm, and then Fairlight Mill after the mill at that place had been burnt down.

MILL FETES 2000

16TH JULY



HIGH SALVINGTON

16TH JULY



POLEGATE

23RD JULY



WEST BLATCHINGTON

30TH JULY



JILL

6TH AUGUST



OLDLAND

24TH SEPTEMBER



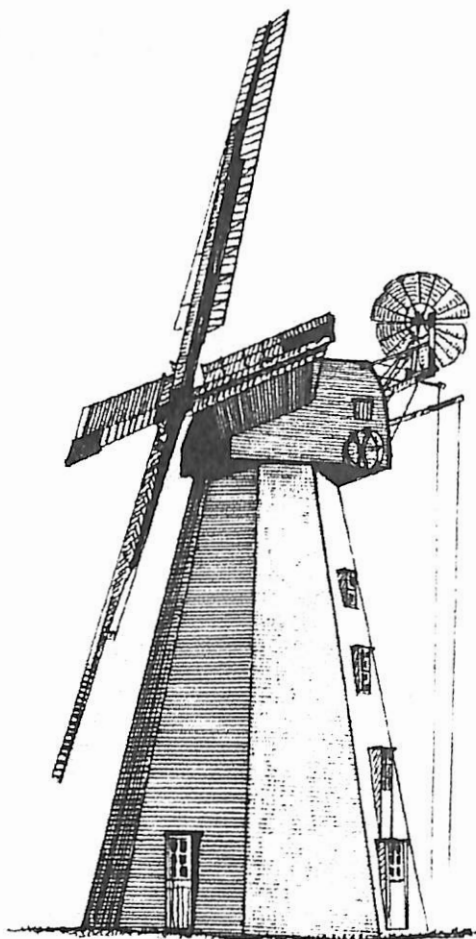
LOWFIELD HEATH

DUSTY MILLER

The Dusty Miller Scheme is now up and running well. So please support this scheme to make our mills better known by all and to persuade children to buy the passport and thus get their parents to take them to other mills. Do all people that welcome visitors at mills know about the scheme?



PASSPORT



GUESTLING MILL R.G. Martin

Sussex Mills Group

Chairman	P.J. Hill	97 Holmes Avenue, Hove, BN3 7LE (01273 776017)	
Secretary	D.H. Cox	3 Middle Rd, Partridge Green, Horsham (01403 711137)	
Committee	A. Brown	M. Chapman	P. Hicks
	P. James	T. Martin	A. Mitchell
	B. Pike	S. Potter	R. Potts
	T. Ralph	K. Stretton-Smith	

(Continued from page 4)

rest of the site. As at Steyning nothing remains at Herfield at TQ161206 other than the names Station Road, and Beechings marking the site. Even the Station Hotel has changed name to the Cat and Canary.

At Partridge Green at TQ190189 careful inspection of the site, again covered by housing, reveals a short length of typical Southern Railway reinforced concrete fencing and the overbridge carrying the road to Small Dole. A remarkable survival is a bridge across the B2135 at TQ183207 which has carried no rail traffic for almost 35 years.

At West Grinstead at TQ184225 a transformation has taken place with the undergrowth having been cleared and the trackbed and platforms revealed. Here one can join the Downs Link, a path that follows the old railway from near Steyning to Cranleigh; an information coach of Buileid vintage stands on reinstated rails. From the platform and looking towards the road overbridge it is easy to envisage the stairs leading down from the station building, still there, as passengers rush for the 5:17 p.m. all stations to Horsham. A clearance has also taken place at Southwater at TQ157263 revealing its platforms but the buildings that graced them were demolished years ago.

Christs Hospital at TQ148293 the next station is where one would have changed for Guildford. A magnificent interchange station comprising seven platform faces with glass and iron canopies was constructed here in 1902, when the Bluecoat school relocated from London, in anticipation of further development that never materialised. Sadly the facilities were destroyed in one of the last acts of vandalism by British Rail in 1972. A sad remnant serves the Mid Sussex line to Littlehampton, and by crossing under this line by the truncated white tiled subway and passing through a gate to the rear of the up platform one can discover the overgrown remains of the Guildford line platforms. The contemporary large goods shed survives, now in industrial use, as does some attractive railway housing.

Stinford at TQ113310 is now a private residence that is not easily approached by car and at Rudgwick, a health centre at TQ086334 stands on the station site. From here access is available on to the Downs Link and by walking back towards Stinford one can view the two arched bridge which carried the line across the River Arun. The Board of Trade Inspecting Officer refused to allow the line to open with a 1 in 80 gradient at Rudgwick station. To reduce this to 1 in 130 necessitated raising the embankment and building a girder bridge above the original brick span.

Shortly after Rudgwick the line crossed the county boundary into Surrey but it well worth continuing the journey to the next station Baynards at TQ077351. This is a splendidly restored example now in private hands of the type of facilities provided by the LB&SCR at such an out of the way spott, the only missing items from the ensemble being the signal box and level crossing gates. A welcome stop for refreshments can be made at the adjacent pub, the Thurlow Arms, named after the Reverend Thurlow the then owner of Baynards Park who donated land for the railway in consideration of the station being built, mainly for his use. A nice historical link unless the hostelry is renamed the Slug and Lettuce or similar.

The 'De Witt' kiln in the Amberley Museum is a central but sadly neglected monument within the site. Although a Scheduled Ancient Monument, it is known not to have been a success as built, and it was soon abandoned as a functioning structure, being retained as a charging platform and retaining walls for later inserted mixed-feed vertical draw kilns. It has been suggested that the kiln's failure to perform satisfactorily was related to its being positioned at a low level in the chalk pits, and consequent insufficient draught. I am making a study of De Witt and his kiln, with a view to detailed publication. Meanwhile, here are some preliminary results and thoughts. The root cause of the problem seems to have been a question of ignorance on the parts of Peppers, at Amberley, and De Witt and Linard, in Brussels, of how a horizontal 'ring' or Hoffmann-style kiln ought to be charged for firing.

Hippolyte De Witt

Standard and readily available published sources, both British and Belgian, examined so far, have little or nothing to say about De Witt. In fact, all I know about him so far is his UK Patent of 1902, his 1904 drawing (held in the Museum archives) for the kiln at Amberley, and two technical communications published in Belgium in 1925. Apart from the Amberley kiln, all we know concerning De Witt suggests his primary interest was not lime-burning, but the manufacture of fired earthenware.

De Witt's patent

The 1902 patent is for an especially elaborate version of the Belgian derivative of the Hoffmann kiln, the original patent for which (from the 1850s) was for brick manufacture. In the 1860s the first Hoffmann kilns erected and fired in England for lime-burning commenced operation at the Dorking Greystone Lime Co. Ltd's works at Betchworth (Surrey.) Whether used for burning bricks, earthenware goods, or chalk / limestone, these continuous horizontal kilns required to be very carefully stacked by hand, and were thus very labour-intensive, although they were thermally very efficient and yielded significant savings on fuel. The 1902 patent is for a more or less standard Belgian variant of the Hoffmann kiln, with the provision of a multiplicity of movable iron dampers for controlling the flows of cold intake air, and hot exhaust gases, allowing maximum thermal efficiency. In particular, air drawn through fired goods (to cool them) was subsequently used to dry and pre-heat unfired materials awaiting 'burning.' As little heat as possible was allowed to escape to atmosphere. The particular points of De Witt's 1902 patent were additional provisions, using further movable iron dampers, to regulate the rate of heating or cooling of the kiln contents, and the oxygen content (or oxidising quality) of the kiln gases, which in turn determined the final colour of the finished earthenware. High-oxygen kiln gases led to red earthenware, whereas a relatively non-oxidising atmosphere led to darker purple or black goods.

The De Witt kiln

Neither the rate of heating or cooling of the kiln charge, nor the percentage of oxygen in the kiln gases, is of any significance in the production of quicklime from chalk or limestone. Indeed De Witt's drawing, and the kiln as built at Amberley, lack the complicated array of movable iron dampers called for in the patent. Similarly, each of the firing chambers as built contains a large circular hole in its roof, which is not a

feature of the patent, and an unprecedented thing to find in any variant of a Hoffmann kiln. These differences between kiln and patent make it quite clear that the 1902 patent is quite irrelevant to an understanding of the Scheduled Ancient Monument we have on our hands! The kiln as built is simply another standard Belgian (separate gate) variant of the Hoffmann kiln except that the large circular holes in the roof demand explanation! Fred Aldsworth's (1979) booklet interpreted these large circular holes as charging-points for raw chalk to be shot into each firing chamber. Indeed, it is difficult to see what else they might have been intended for!

Charging horizontal kilns

However, as Alfred Searle's *'Limestone & its products'* (1935) makes clear, a Hoffmann kiln used for lime-burning had to be very carefully stacked by hand, just as much so as if bricks or pottery were to be fired. This was to provide for optimum circulation of hot kilns gases around and through the mass of material to be fired. Simply tipping raw chalk into the kiln from above, whether or not mixed with coal, was no more likely to be successful than tipping green bricks or earthenware into the chamber in a similar way!

Conclusions

It appears, therefore, for whatever reason Hippolyte De Witt (and the enigmatic Linard) was asked by Pepper & Sons to design a limekiln; that De Witt and Linard assumed (as producers of earthenware goods) that it would be quite acceptable simply to tip raw chalk in from above; and that Pepper & Sons knew no more about the management of horizontal kilns for lime-burning than these two particular Belgians appear to have done! If only Peppers had consulted the Dorking Greystone Lime Company Limited, with experience of operating two Hoffmann kilns only 30 miles away, they would have been saved the embarrassment of an expensive mistake!

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LOTTERY GRANT

TONY BAXTER

The Millenium Festival "Awards for All" Committee has awarded a grant to the Sussex Industrial Archaeology Society for £1,200 from the Heritage Lottery Fund for the materials and fabrication of a viewing platform at the Swanbourne Pump House. at Arundel

ROBERT TAYLOR MOVES ON

BOB ALLEN

Robert Taylor is leaving his post as Director of Amberley Museum to take up a senior appointment at the Waltham Abbey Gunpowder Mills. He has stated that he wishes to remain in touch with the SIAS. He has been an ex-officio member of the SIAS committee for some years and has been a staunch supporter of our society whenever we have sought the cooperation of the museum. He will be replaced by Howard Stenning until such time as a permanent appointment can be made.

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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.)

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