



SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY



&

SUSSEX MILLS GROUP NEWSLETTER 112

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Programme-Winter

Saturday 17th November at 2.30 pm at West Blatchington Mill Barn. Annual General Meeting with by a talk by Michael Waller on the *Upper Ouse Navigation*.

Contact Ron Martin 01273 271330

Saturday 19th January at 7.30pm at West Blatchington Mill Barn, a talk by P.J.Hill on *Other uses of wind and water power*.

Saturday 16th March at 7.30pm at West Blatchington Mill Barn, a talk by H.E.Roberts on *The Hunston Canal*.

Sunday 17th March from 11.00 am at Coultershaw Pump, pre-season working party. Bring old clothes and a packed lunch.

Contact R.L.Wilson 01798 865774

Tuesday 12th February at East Pallant House, Chichester, a joint meeting with the Chichester Museum Society. A talk by John Blackwell on *The Seaside Holiday 1900-1960, the IA of the Leisure Industry*

Saturday 23rd March at 10.00am at Cranbrook School, *South East Regional Industrial Archaeology Conference (SERIAC)*.

Saturday 20th April at 7.30pm at West Blatchington Mill Barn, a talk by Richard Pennell on *Brighton Tramways*.

It is impossible to compress a full week's activities into one short article. So, here are a few of my personal impressions and comments. The college in Cambridge was comfortable with an extraordinarily tall dining hall. How did they replace defective light bulbs was a constant wonder? The most memorable lecture was one on some of the inventions of Michelangelo illustrated with working models - most of them were really practical although some required minor modification. The other lecture which brought the house down was that which formed the basis of the fertilizer industry between 1850 and 1880, and was the mining of copralite. This consists of phosphatic nodules believed to be derived from fossilized dinosaur dung.

A full range of visits were arranged, which showed us the extraordinary landscape of the fens, where the sky seems never ending and the land at times upside-down, with the land below the level of the rivers. Drainage of the fens has been a concern since the 17th century when the Bedford Level was dug. Continuously since then improvements have been made to the system and the area is dotted with pumping engines and sluices, many of which we visited. One phenomenon which became apparent was that the earlier scoop wheels which were originally wind driven became ineffective as the water level dropped due to the drying out of the peat and modifications had to be made.

We visited two lime kilns at Isleham and Rushford - a source of great interest to me as the East Anglian kilns are nothing like those anywhere else in the country.. They are normally built below ground with an annular vaulted access corridor and several draw holes. They were presumably underground as there were no hills to build them against, but in Sussex we seem to manage with only one draw hole. Having said that it does appear the kilns described by the Rev. Arthur Young in the *General View of the Agriculture in the County of Sussex*, (1813) at Ashburnham was similar to the East Anglian ones.

Two of my other obsessions were also catered for - mathematical tiles were evident in small quantities in Cambridge and on Culford House and I heard of an ice house but did not have the opportunity to investigate it. This was at Euston Hall where we also visited a pretty 17th century water mill, originally built to pump water up to an adjacent tower, giving the site the appearance of a church.

Visits to two cathedrals were interesting - at Ely we went up to view the octagon of 1334 - an amazing timber construction with eight massive posts each 2'6" square and 60 feet high. These are each supported by what is similar to the quarter bars of a post mill and are braced horizontally. At Peterborough, we saw an interesting man engine, comprising a windlass powered by a 10 foot diameter wheel around the perimeter of which are foot staves. This system is far more efficient than the variety with a drum inside which the animal or human would walk.

My interest in building materials was fostered by the proliferation of different materials - bricks, clunch, carstone and a myriad of different uses of flint - far more varied than we find in Sussex. Pantiles were also much to be seen - these occur along the whole of the east coast of Britain but are rarely found south of the Thames estuary, with an enclave around Bridgewater in Somerset.

An unusual visit to a site located in a modern industrial estate, was to the Bulbeck Foundry. Using 18th century moulds the firm produces designs cast in lead mainly using the lost wax process by the method originally used.

All in all this was a very well organized and enjoyable conference, which I wish was better attended by Sussex members. Next year it is to be held in the Heriot Watt University in Edinburgh between 6th and 12th September.

Swanborne Lake Pumphouse, Arundel - Official Opening, 21st June 2001

Tony Baxter

It may seem a bit cart-before-the-horse for this short account of the official opening of the pumphouse to be published three months after the announcement in the last Newsletter of its general opening to the public. The short answer is that whilst the latter was certain the former was not! The need for fine weather was of course a critical factor as was the presence of Lord Arundel - fortunately both were available on the day. The SIAS was represented by our President and Chairman together with the 'workers' - Alan Brown, Peter Holtham, Ron Martin, Michael Palmer and myself. Local people connected with the project also came to witness the great event. Shortly after midday, with our glasses suitably charged, Sir Freddie Sowrey, our President, opened the proceedings and then invited Lord Arundel to declare the pumphouse officially open by the cutting of the tape with a pair of sharp scissors. This was achieved with consummate skill and those present were then free to inspect the premises and machinery from the public viewing platform, aided by the information boards which described both the history and technical operation. Prominently located was the donations box which on examination after everyone had left was found to contain one £2 coin - our thanks to the unknown donor for being the first to help reduce the pumphouse's debt! So ended an historic day; and effectively a very long gestation period which had begun in 1973 when John Haselfoot and Michael Palmer had visited the site and had declared it capable of restoration - some time after they did the same thing at the Coultershaw Beam Pump which in the event beat Swanbourne to it by 21 years!

Coultershaw Celebrates - 18th July 2001

Robin Wilson

Over 100 members, their guests and visitors celebrated the 21st anniversary of the restoration of Coultershaw Beam Pump at a special opening. Lord Egremonit unveiled a plaque to commemorate the official restarting of the pump on 4th July 1980. Sir Freddie Sowrey President of SIAS welcomed the guests and Peter

Jerrome Chairman of the Petworth Society gave a vote of thanks. Rolf Rowling, one of the Coultershaw stewards, who had baked a magnificent cake which had been iced by the local WI with a new Coultershaw logo (designed by Ron Martin).

Many of those involved in the restoration work 1976-80 attended including Gerry Nutbeem and Fred Jay. We were also pleased to see Martin, son of Alan Allnut who started it all.

The Open Day was a fringe event of the Petworth Festival. Guests included many members of the Petworth Society with whom it is proposed to forge closer links through the joint formation of a Coultershaw Trust, which will look after the pump in the future and promote further restoration work.

Four potential new stewards gave 'half a promise' to do half a day's stewarding at Coultershaw next year in exchange for half a bottle of wine. We have already had help from Max Bradley on the desk and John Blamire, director of the Rother Valley

Tanlands Copse Glasshouse, Northchapel

Pam Bruce

The discovery of a forest glass-making site at Tanlands Copse, Northchapel (SU 948 288) was recorded in 1999. Part of this article was published in *Northchapel: A Parish History* (2000).

Northchapel lies in what was once the key area for forest glass-making, which G.H. Kenyon's classic account, *The Glass Industry of the Weald* (1967), showed to be concentrated in the border parishes of the Low Weald of Sussex and Surrey. Little was known about this elusive industry until the pioneering work of Rev. T.S. Cooper at the turn of the last century, and even after subsequent work the story of glass-making in the Weald remains tantalisingly shadowy. Documentary sources are scanty and the industry was monopolised by a few families who kept the skills a trade secret among themselves.¹

Medieval glass was manufactured around Chiddingfold, but it is likely that the industry was then on a very small scale. There is no conclusive evidence of medieval glass-making in Northchapel, although Kenyon notes two 'early' glass sites at Gostrode Farm just over the county/parish boundary, one of which may have been worked by the Schurterres, glass-makers with links in both Chiddingfold and the adjoining parish of Kirdford.

Like the larger-scale Wealden iron industry, glass-making expanded during the sixteenth century in response to wider social and economic changes. The growing demand for window and vessel glass had been largely dependent upon imports, but the native industry was given a crucial boost with the arrival of Jean Carré of Arras in 1567. Carré founded the English crystal glass industry in London, catering for the top end of the market, and he also introduced Huguenot glass-makers from Lorraine

and Normandy who brought with them greatly improved techniques. Settling in Sussex, initially around Wisborough Green, the French glass-makers employed their skills in developing the English glass industry towards a position of self-sufficiency in the home market.

This part of the Low Weald supplied the raw materials needed for glass-making: sand, which is known to have been taken locally from Lodsworth Common, and potash, which was made from fern or wood ash, as flux. The glass was made in clay pots or crucibles, although local clay was not suitable as the crucible needed to withstand extremely high temperatures of around 1200 °C. The source of suitable clay is still uncertain, but probably pipe clay from Nonsuch or Purbeck was used, and it may also have been imported from France. To create and maintain the intense heat needed for glass-making the kilns needed a constant supply of fuel, particularly wood from beech or oak, and it has been estimated that a glasshouse could consume as much as two and a half cords a day. (A cord is 128 cubic feet - Ed) Kilns were constructed within easy reach of water, usually beside a small stream, not only because materials required to be washed, but also so that the glassworkers could cool off while working near the intense heat.

Unlike the large Tudor iron furnaces, which required water power and involved the construction of ponds and dams, glass kilns or 'houses' were modest affairs with the actual furnace perhaps only 9 by 6 feet, so the archaeological evidence for their existence was more easily destroyed. Most sites were looted long ago for their stones, but fortunately at Tanlands Copse firm evidence of a glasshouse has survived. The remains of the kiln have been partly protected by the roots of a large oak tree, which overhang the banks of a stream. Surviving Tudor bricks indicate that the kiln was worked around 1600 when the forest glass industry was at its peak, and substantial pieces of broken crucible and fragments of glass have been found at the site. Fifty yards downstream there is further evidence of glassmaking. This has only recently come to light, as the exceptionally high water of the winter of 2000-01 has washed away part of the bank and exposed more bricks, broken crucible and glass fragments. The glass is a clear pale grey-green colour, and from examination it would appear that the Tanlands Copse site was producing window glass of a high quality. It may have been used locally, or taken by packhorse to its destination. The River Arun was then navigable as far as Pallingham, but the references in the port records for Littlehampton and Arundel showing the shipment for glass are not very numerous and the usual method of transportation was probably overland.

Although much of the land in Northchapel, then part of Petworth parish, was owned by Petworth manor, as Ralph Treswell's famous map and survey of 1610 illustrates, Tanlands Copse lay on the adjoining manor of Diddlesfold.² Diddlesfold and 'Tannerland' were then held by the Lickfolds, local yeomen who may well have been able to lease their woodland to profitable advantage.³ We know that the Strudwicks, yeoman landowners in the adjoining parish of Kirdford, were also native glass-makers and that they almost certainly managed sites at Frithfold, on the Northchapel-Kirdford border, but there does not appear to be any evidence to

suggest that the Lickfolds were directly involved in the industry. Kenyon suggests that the two other glass sites bordering Northchapel, one at Stag Park and another at Lower Roundhurst, may have been managed by Edward Hensey, one of six brothers. The Henseys were descendants of the Lorrainers, the '*gentilhommes verriers*', who came to Wisborough Green to work with Carré, as did the Tyzacks, another French glass-making family who appear to have had links with Northchapel.⁴ It is possible that either family managed the Tanlands site, but, as Kenyon points out, passing migrant families can rarely be linked to the furnaces they used with any certainty. Both the Henseys and Tyzacks left Sussex to work for Sir Robert Mansell's new glass industry in Newcastle following the development of coal fuel. In 1615 government legislation targeted Wealden glass-makers over the destruction of woodland, and with the development of new techniques enabling the substitution of coal for wood fuel, the industry moved to areas like Staffordshire and Newcastle where plentiful supplies of coal were available.

It is not known just how many glasshouses were once worked in the Weald, some of which may still be awaiting discovery. Old field names such as 'Verings' and 'Gastons', near Fisherstreet in Northchapel, may provide a clue to sites now long gone. Crucibles and glass have been found at Sussex Oak, Northchapel, and at Diddlesfold Farm, but with no trace of a kiln.⁵ Kenyon lists 42 Wealden sites, 16 of which are not conclusively proven, and suggests that up to 10 sites were operating in 1600. The confirmation of a site at Tanlands Copse in Northchapel provides further evidence of local involvement and an additional glimpse into this fascinating, but elusive industry.

1 Cooper, Rev. T. S. *The History of Chiddingfold* (unpublished copy in Haslemere Museum); Kenyon's work *The Glass Industry of the Weald* (1967) remains the standard text, but research into Wealden glass-making continues. I am much indebted to Colin Clark for all his advice and interest.

2 PHA 5417, PHA 1471, Treswell 1610 map and terrier.

3 WSRO, STC/II/ M.Dean. (f.28), Will: John Lickfold, 1615. With thanks to Dr.

Horam Manor Farm Museum

Robin Jones

At Horam Manor TQ 576174, behind the Merrydown Wine Centre, is a complex, which provides much of interest to the industrial archaeologist. Currently the area provides a variety of outlets to see and activities to enjoy. There is a tea room, lakes for fishing, horse riding and a small zoo farm and pets corner catering for children. A number of craft outlets exist here where skilled craftsmen and women make furniture, saddles and hats. There is also an armoury museum and a number of farm waggons, ploughs and carts on display. In the barn as well as the armoury, there is a display devoted to the village carpenter, where tools for making waggon bodies and carts can be seen. Also in this area is a stage coach from the 1890s.

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Sussex Mills Group

Edited by Robin Jones

**Sussex Mills Group is part of the
Sussex Industrial Archaeology Society**

Newsletter 112 Sussex Mills Group

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EDITORIAL

Robin Jones

The first of a new series of five articles starts in this issue, where Michael Yates describes early postcards of windmills and watermills.

On behalf of the Sussex Mills Group, I would like to thank Martin Snow for setting up the web site [http:// www.sussexmills.co.uk](http://www.sussexmills.co.uk) for the Group. I hope members who are on the Internet will find it useful.

GB2PW 2001 Special Event

John Vaughan (G3DQY)

This report by John Vaughan is from the Southdown Amateur Radio Society who was in attendance at Polegate Windmill during National Mills Weekend of May 12th and 13th. The abbreviations and Radio Call signs used in the text, may not always be fully understood.

I am pleased to report the above two days at Polegate Windmill for the club went very well. Unfortunately the number of mills on the air was not as many as last year due to the foot and mouth crisis, but we had many interesting contacts.

A special feature on 20 metres was a contact with Mike EA5/MOAO who used the occasion to be operating from the Spanish windmill at Javea (Xabia), also we had a QSO with an aeronautical mobile (SV1EHG/AM who was over the Alps and bound for Schiphol and Heathrow). On Sunday, QRN was very tight due to the WAB

contest being on at the same day, but our signal on 40 metres was strong enough to combat QRN. 80 metres was not possible due to high QRN and bad propagation. We had quite a few local mills on the air with Michelham Priory, Stone Cross, Nutley and West Blatchington, several of our younger visitors (and older) were able to pass messages over the air. I would like to thank all those who helped during the two days G0UAI, G0NQZ, M1DAI and Lawrence Stevens (Miller Man). We were also visited by G0TYJ, Steve VK6VZ and family. This event is now a firm favourite (Mills Weekend) in the year's calendar.

Sussex Mills Group 2001 Tour of Kent

Michael Chapman

On Wednesday 11th July the Mills Group annual tour took us to Kent. To start the tour we all met at Crabble Corn Mill, a watermill located NW of Dover. Crabble Mill, now run by The Crabble Corn—Mill Trust, was built in 1812 but closed commercially in 1893. The large mill building, which is alongside the mill pond, is rectangular with six floors including the basement. The upper three floors are clad externally in white weatherboarding, while the lower floors are of brickwork. Of particular interest is the interior containing five levels of machinery based on a design by the early 18th century American engineer Oliver Evans. He is famous for his concept of the fully automatic mill where 'the grain came in one end, and came out as flour - without being touched by human hand'. The system consists of a series of screw conveyors and similar devices to move the grain/flour from machine to machine. Most of the original machinery is in place and available to view although, when milling today, not all of the machinery is driven. Basically, as in most mills, the grain was hoisted to the top of the building where the sacks were emptied into a dirty grain bin to be cleaned in a 'Eureka Smut Machine'. The cleaned grain then fell under gravity into clean grain bins on the fourth floor and from there is routed to a hopper selected for one of the five pairs of underdrift millstones mounted on the third floor. The wholemeal flour from the stones can be bagged up on the second floor or elevated back to the fourth and fifth floors to large lengthy cloth sieving machines to extract white flour and to grade the resultant bran. The shaft of the steel waterwheel, which carries the pit wheel, is located at a level between the first and second floors with the wallower and great spur wheel on the second floor. This floor is the overall control room for the mill and includes a most interesting patent governor system which automatically adjusts the position of the sluice gate to establish a constant speed of the waterwheel. The mill was run during our visit and members were able to watch the overall operation.

The tour then took us to Herne Mill taking lunch en route. Herne is a typical black tarred eight-sided Kentish Smock Mill, covered with horizontal weather boarding above the brick base. It was built by John Holman in about 1789 on high ground overlooking the town of Herne Bay to the north. This is not the first mill in this area but is the only one remaining and has been owned by Kent County Council since 1984. After the mill was built, surrounding trees screened it, so in 1858 the

wooden structure was raised 17 feet and two floors of brickwork were built underneath so that the mill could again take advantage of the prevailing SW winds. The mill ceased commercial operation under wind power in 1952, but since the original construction, further developments have taken place. A steam engine was added in 1904, and a 'Mogul' tractor and drive in 1925. The original engine house collapsed in the gales of 1987, and has been rebuilt. The latest phase of major restoration occurred between 1996-1999 and the mill is now open to the public although not yet milling. The cap is of the typical Kentish boat shape and rests upon a dead kerb, i.e. no rollers or wheels, and is moved by the fan. At the top of the mill body is the bin floor to which the sack hoist raises the bulk grain, and overhead can be seen the windshaft, brakewheel, and wallower. The brakewheel is interesting in that access is provided to enable five teeth to be removed to prevent turning of the sweeps when auxiliary power is used. Below, is the stone floor housing two sets of French burr stones and one set of Derbyshire Peak stones. Continuing downwards the next floor is the tenting floor giving access to the controls for adjusting the stone gap and the exit door onto the reeving stage for adjusting the striking gear position. The next floor down is the meal floor (or the spout floor) where the flour was sifted, graded, and bagged before being lowered through the outer door. On the ground floor are displayed photographs, a small museum as well as an electrically driven 'Hammalnac' flail mill. This was installed in 1952 and replaced an earlier machine providing an alternative source of income. Overall a very smart clean looking restoration for which "The Friends of Herne Mill' and Kent CC should be justly proud.

Finally we moved on to Sarre to explore a further example of a typical Kentish Smock mill, this time six-sided but like Herne a five floor structure, again built by John Holman, but this time in 1820. As with Herne this had also been raised from the original height, albeit some nine feet in this case, and the brickwork adjusted to suit. This is one of the few mills in England still working commercially and its history readily reflects the need to mill grain whatever the wind conditions. In 1861 an auxiliary steam engine was installed, then in 1907 steam was replaced by a gas engine but after a further 13 years the mill ceased working and was finally boarded up in 1940. The windmill was virtually derelict until purchased by an enthusiastic local builder in 1985 and by 1991 the mill was restored to working order with most of the original machinery. Electricity has replaced the gas engine (still available to view) as an alternative power source and as at Herne cogs can be removed from the brakewheel to enable the mill to grind on windless days without driving the sweeps. The mill is fitted with one set of French burr stones and one set of Derbyshire Peak stones and electrically driven sieves are used to produce the various grades of flour. The mill was working during our visit helping to produce an output of some one ton of flour per week for resale. Today the windmill is a part of a complex of buildings housing a mill shop, museum, and children's farm.

So after a long, interesting, and extremely enjoyable tour it was only left for most of the 35 members on the tour to explore the tea room and sample the marvellous home-made foods before hitting the road for Sussex. I must express, on behalf of

everyone on the tour, a very sincere thank you to Peter Hill whose hard work (not to mention his phone bill) in making the arrangements made it possible for us all to have such a successful tour.

LOST WINDMILLS OF SUSSEX

Guy Blythman

1. SEA FIELD MILL, RUSTINGTON (TQ 052014)

As its name indicates, this mill stood very close to the sea, east of a road leading to it from the church. It is first heard of in 1805, when the owner Thomas Richardson took out a fire insurance policy for it. At one point two brothers named Graves tenanted it from Richardson; one of them, George, was still at the mill in September 1820 when it was being offered for sale, but the advert in the Sussex Weekly Advertiser states that he has been given notice to quit the following year.

However the Tithe Map of 1839 gives George Graves as owner, suggesting that he remained at the mill after all and eventually came into possession. It appears to have passed to his family on his death, for William Graves was miller in 1851, 1855 and 1858. In 1865 the mill, then being run by Graves' widow, narrowly escaped destruction when tailwinded; the brake broke, three of the sweeps were destroyed and the mill nearly set on fire. This was a blow to Mrs. Graves, who had only recently been bereaved and had a very large family to support. (The report of the incident in the West Sussex Gazette of 8th June gives her name as "Greaves").

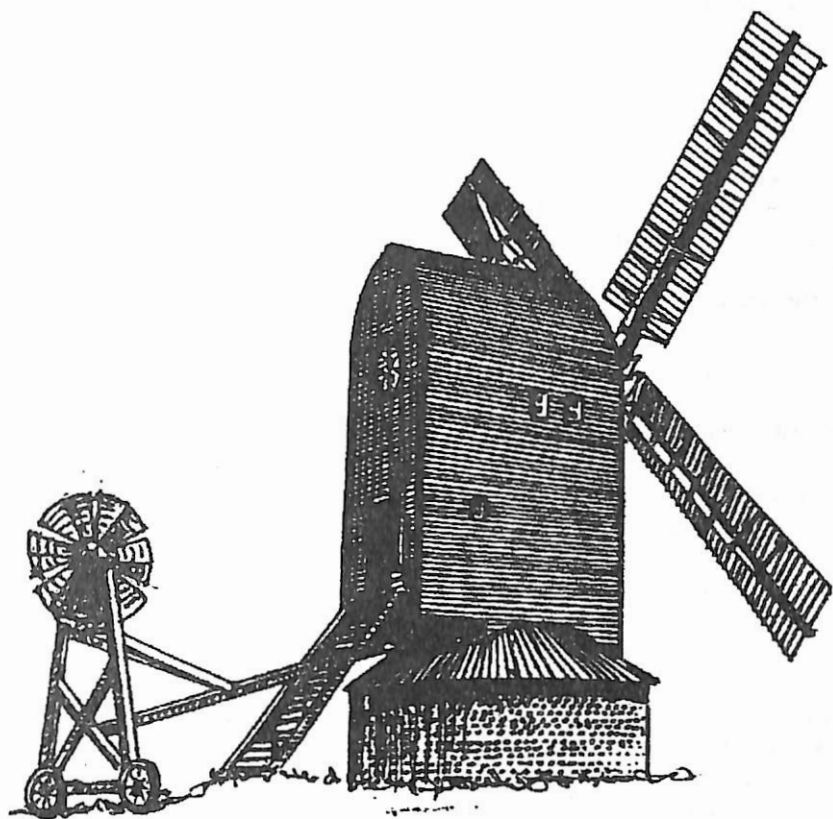
At some point in the 1850s Charles Albert Bailey, who also worked the tower mill at Littlehampton, became miller, remaining in the post for forty years or so up to 1908, when a firm named Messrs. Ashby and Son took it over.

In 1910 the property was acquired by the Metropolitan Asylums Board and the mill, which had recently ceased work following storm damage, was pulled down and the "Millfield Seaside Home", a childrens' convalescent home, built in its place. The damage appears not to have been too severe (all four sweeps were still on at the time of demolition)¹ but it was not repaired due to a slump in the mill's trade.

Said to have originally been painted white, Sea Field was a tarred post mill with a single-storey roundhouse, four double-shuttered patent sails with the weight wheel and box on the right side of the tail and a six-bladed fantail mounted on the tailpole. It drove two pairs of stones. An oil painting of the mill, whose current whereabouts I do not know, by Maurice Russell of Walberton, provides an interesting example of how artistic licence may mislead researchers. The painting shows wheels on the fan carriage, and one on the tailpole to give it extra support, but there are none on the steps, which are instead provided with a lever for lifting them as in a manually winded post mill. This seems highly unlikely to me, as the weight of the fan carriage and its wheels would make raising the whole assembly an arduous process, and the fan could not work in any case if the steps were levered up.

2. BRIDGE MILL, RUSTINGTON (TQ 055029)

This mill stood close to a railway bridge on the north side of the road to Littlehampton, on a site, which in the 1930s was occupied by nurseries, with the Windmill Inn on the opposite side of the road commemorating its former existence. At one time erroneously thought to have been brought from Angmering, where it was known as the Jerusalem Mill, in 1855. Bridge Mill was built for a family of millers named Humphrey. According to the Tithe Map of 1839, James Humphrey was the owner and Peter Humphrey the miller. Peter is listed in directories up to at least 1862, but by 1866 Mrs. Ann Humphrey, probably his widow, was running it. Another James Humphrey is listed in 1878 and 1882. It was put up for sale in September 1885, and may have been bought by Charles Bailey, who is said to have at one time been running it in conjunction with the Sea Field Mill. The mill ceased work in 1894 and was subsequently demolished; it is believed Mr. Bailey's miller, Lewis Goacher, then



SEAFIELD MILL RUSTINGTON
(Tail-pole fantackle conjectural)

R. G. Martin

moved to Sea Field. Probably Bailey had decided there was insufficient trade for both mills and so transferred the whole of the business to the Sea Field Mill. Like its fellow by the coast, Bridge Mill was a tarred post mill with a roundhouse, four patent sails and a fantail, working two pairs of stones.

(1) Photograph in Mary Taylor, "This was Rustington", a booklet in the "Do You Remember" series (n.f.d.)

WINDMILL AND WATERMILL POSTCARDS – PART 1

Michael Yates

One of the most rewarding parts of collecting old postcards of wind and water mills is that every now and then you find a card at a postcard or antiques fair or shop that appears to have more to it than just being a "run of the mill" picture. When you can finally examine the postcard in detail with a hand lens in the peace and quiet of your own home, many interesting features may be seen on it. These can relate to the mill's history as well as to social history, fashion, transport, advertisements and other points not related to mills. Often the mill machinery that can be seen (e.g. sweeps, fantail) supplements the recorded data on the mill. An excellent example of this type of postcard, which is reproduced on Page 14, is described below.

This high quality real photograph postcard is of Earnley Smock Mill in West Sussex. It dates from before 1905 and carries no producer's name although it has the reference number 58 on it. The old smock mill dominates the picture and it appears to be in a fairly good state of repair. Some weatherboarding on the cap is missing and some on the sides of the body is covered with tarred canvas. The cap is topped with a double ball finial. The six bladed fantail and its supports are white-painted and are in good condition. The cap winding gear can just be seen, protected by vertical boarding from the fan stage. The sweeps are also in good condition with all the shutters present in the pair of spring sweeps and the cloth on the commons is wrapped around the whips. The stage at the top of the brick base has no hand rail and is supported from the ground by vertical timbers. The two doors above the stage are open and just inside the upper door, a millstone is leaning against the door frame. Part of the winnower and the auxiliary drive to it can be seen through the lower door. The miller (is this Mr. Ellis, the last miller?) is standing by the door below the stage and is holding a trolley with a sack on it. The sack has printed on it "Stevens, Earnley Mill". There are three other people in the mill yard. To the left of the picture, there is a well dressed man, wearing a jacket and a straw boater, holding a bicycle (Mr. Stevens?). There is a young man in a jacket, waistcoat, trousers and cloth cap holding the reins of a horse that is harnessed to a baker's delivery van with a wicker basket on its seat. To the right of the mill, there is the third man who is wearing a white canvas jacket, cloth cap and trousers tied with string below knee level. He is standing by two workhorses harnessed to the mill cart. The mill cat is strolling across the yard. There are the ends of flint and brick buildings to the left and to the right, a brick building under the stage extending outwards, an open sided timber framed and thatched building

and a second one of brick and flint construction. Some heavy baulks of timber can be seen in the yard.

Although this postcard of Earnley Mill is obviously a very carefully posed photograph, it is a superb example of the type of record, historical and social, that can be found among the millions of cards that were produced in the early 1900s. It shows how one of the still existing windmills in West Sussex looked when it was operating as a successful milling and baking business that was serving the local community in days that are now long gone.

Letter from Robert Fry of Pett Level

With reference to Michael Yates's 'Sussex & Surrey Mills - Some Comments on the Literature' in the July Newsletter, I think that I can offer some enlightenment regarding the small metal wheel on the gable end of Horsted Keynes watermill, if I cast my mind back some 70 years or so and rely a bit on memory. The wheel was a source of auxiliary power as suspected and was used to drive a sawbench through a flat belt drive, the bench being used to cut logs from cordwood. This was when the mill was occupied after David Friend's time, by Robert Chalmers (I have a postcard somewhere which shows a pile of cordwood outside the mill by the 'office' which was a hut by the old oak, which still stands, with Mr. Chalmers in his car) however I cannot recall the wheel being used to drive any other piece of machinery, although it could well have powered a chaff cutter or root shredder. Robert Chalmers and his wife were good friends of mine and I know the mill well. During, and just after WW2, the mill was in use and David Friend's son George was the miller for a time, and now thanks to Alan Hancock it has been my pleasure to see it working again.

Sussex Mills Group

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	R. Potts	L. Stevens	T. Ralph	



EARNLEY, W. SUSSEX EARLY 1900's

Photograph of Earnley Windmill, West Sussex, described in the article by Michael Yates

(continued from page 6)

However it is the farm museum, and the ironwork and brick display within the tea room that will appeal to the industrial archaeologist and historian. In the farm museum, all aspects of farming and early domestic life is depicted including displays covering country pursuits, farmers' tools and the victorian kitchen. In the centre cabinets, displays about photography, early writing implements and children's games of the 1920s can be seen. Old cameras, vacuum cleaners and pressure cookers are also on display. A small photographic display at the entrance to the museum covers the Sussex hop industry.

In the exhibit relating to the brick industry, which is in the tea room barn, a variety of bricks, some brick moulds and a bearing off barrow used for transporting bricks around the brickfield, can be seen. A hack cover, which protected the bricks from rain and wind during the drying process, is also on display. A photographic display about the brick industry covers moulding, tile making, drying and the brick kiln. Also in this area of the barn is a feature on Jasper Sprange who was a country printer, a selection of Sussex clay pipes and examples of different types of wood ranging from alder to willow.

Adjacent to the brick display is a small ironworking display. Here one can see a section of iron railing which used to surround St. Paul's Cathedral, which was cast in Sussex in the 17th Century and dismantled around 1900. There are also information boards covering the blast furnace and forge, Saxon and medieval ironworking and the bloomery process. On the subject of ironworking, proposals are being considered to cover the story of the Wealden iron industry by setting up a historic ironworking centre on this site. See my separate article for further information.

Horam Manor Farm Museum is open to the public daily in the summer months from 10 a.m. to 5 p.m. and admission is free. It is approached from the A267 road south of Horam village. Turn off the road and pass the recreation ground and village hall on the left, then turn right through the Horam Manor Touring Park and down into the complex. Parking is available by the lake and at other nearby areas.

Proposals for a Historic Ironworking Centre at Horam Manor Robin Jones

The setting up of a Historic Ironworking Centre at Horam Manor TQ 576174 is gaining momentum. The area is ideal for a centre of this nature, as it possesses a landscape in which elements of the industry already exist, a history of ownership, which includes one of the main iron founding families of the area, and an established visitor attraction.

It is proposed that the Centre be developed in two phases.

Phase 1

It is planned that the centre should comprise of the following elements:-

1. Full sized replica blast furnace
2. Charging house

3. Blowing house with bellows mechanism
4. Casting house
5. Charcoal shed
6. Ore shed
7. Calcining hearth
8. Coppicing/charcoal burning exhibit and demonstration
9. Ore mining exhibit and demonstration
10. Primitive bloomery furnace exhibit and demonstration
11. Visitor Centre and museum

A full sized replica of a typical blast furnace of the 16th century Weald will be constructed, together with its associated buildings. The structures will be made of traditional materials and be consistent with the ironworking structures of the Tudor period. The complex will be on two levels: the furnace and casting house, together with the blowing house, bellows and mechanism will be on the valley floor; the charging house, charcoal and ore stores will be above the valley side, level with the top of the furnace – about seven metres above its base.

To complement the furnace complex there will be exhibits demonstrating ore mining. Similarly there will be exhibits demonstrating woodland management and charcoal burning. It will also be possible to reconstruct a replica of a primitive bloomery, smelting furnace. Other rural industries, including brick making and lime burning, may also be a feature of the ironworking centre. A visitor centre and interpretative museum would be an essential element at the ironworking centre, to give an introduction to this Industry.

Phase 2

This will be in the form of a forge complex to demonstrate the second stage in the iron making process whereby the cast iron produced in the furnace is refined to make wrought iron.

A study centre with a library and facilities for meetings and lectures would complete the Historic Ironworking Centre at Horam Manor.

At a meeting on Thursday September 6th 2001, a discussion took place to move this project forward. It was stated that the detailed planning application was approved on 25th July 2001, subject to certain conditions. Other aspects that were discussed included plans for an acceptable sewage treatment plant, which is necessary for the additional buildings that would be erected on the site, and an adequate road access. Funding for the project was also mentioned and various fund raising initiatives were put forward. The charcoal burning exhibit is now at an advanced stage, the first of the many elements, which will make up the centre. Also the setting up of a brick making demonstration is nearing completion. It was felt that the current display on the brick Industry and ironworking located in the tea room could be greatly improved, as the aim is to display the total industrial history of the area, not just the ironworking industry. Various drawings and plans have been prepared providing a general layout of the area detailing where most of the exhibits would be sited. The only other point of significance that was discussed at the meeting was that an

Whilst on holiday in Italy, my family and I stayed just outside Carrara, near the coast, in the Tuscany region, and spent some time visiting the marble quarries. Carrara marble is world-famous and the end-product can be seen in churchyards, where headstones are fashioned from this richly-veined extraction, as well as civic buildings adorned with statues.

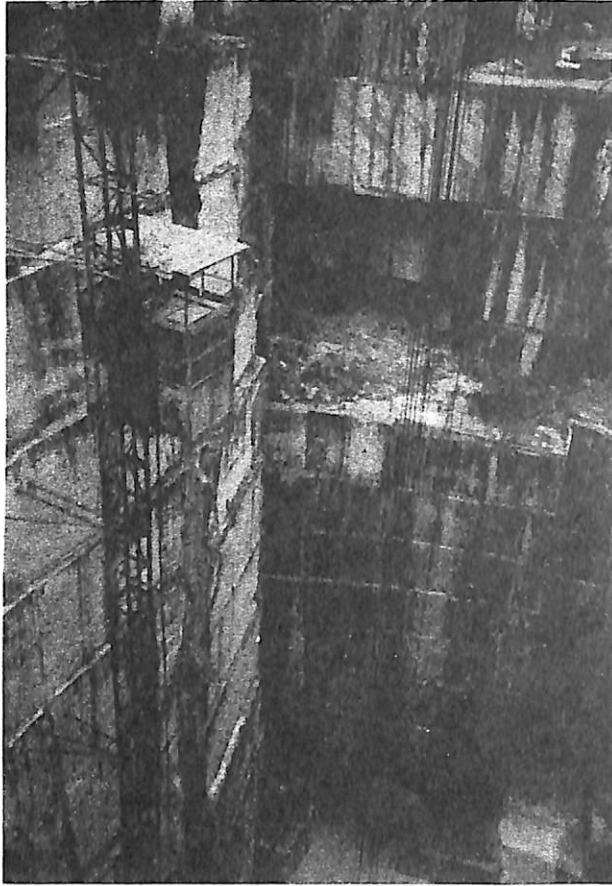
Visiting one of the quarries surrounding Carrara - and there are at least three major quarrying areas in valleys above the town - is a remarkable experience, following the road as it winds its way past great outcrops of marble, vast blocks of it lying by the roadside for the taking - rather a heavy souvenir for a plane journey, though! (Even the paper-weights we bought at one of the many roadside souvenir shops weighed down our hand-luggage!) The narrow access roads zigzagging steeply upwards reminded us of Cheddar Gorge on a much larger scale - *and* minus the cheese, caves and coaches!

We also stopped to look down into the vast depths of one of the marble workings and watched the vertical lift cage take men down into what seemed to be the bowels of the earth (see photo). The remarkable thing about the mountains above the town is that what seems like snow on them is actually white marble!

Even though Carrara exports half a million tons of different marbles a year, there is little danger of it running out soon; one wonders if they're joking when they gravely mention that there are only a few cubic kilometres of good stone left (information from 1998 guide-book). *Carrara* means marble; its name is believed to come from 'kar', the Indo-European word for stone.

The Romans were the first to extract it 2000 years ago; they drove wooden wedges soaked in water into the natural cracks in the stone, and when the wedges swelled, the marble would break off and was rolled away on iron balls and sent to Rome to be used for creating columns. The Roman beginnings make this one of the world's oldest industrial sites in continuous use. Michelangelo was a familiar figure here in the 16th century, spending days clambering around the quarries looking for the perfect stone for his sculptures. In the 19th century, gunpowder was used as a method of extraction, with harmful effects on the stone - as shown by the deterioration of the facade of Florence Cathedral. Today, the stone is cut with a continuous wire band saw, hundreds of metres in length, which moves slowly forward on pulleys.

The Museum of Marble gave an instructive finish to our visit, with photographs of the marble workers of a hundred years ago and halls of polished slabs, showing the amazing variety of marbles from the area. The cruet set which now graces our dining room is a reminder of our visit to this fascinating industrial site.



Carrara Quarry

Brickmaking in Sussex (Revised Edition)

Ron Martin

Molly Beswick's revised edition of *Brickmaking in Sussex* has now been published and is available from Ron Martin.

Remittances for £12.95 (inclusive of postage) should be made payable to SIAS

The harbours and seaborne trade of Sussex 1700-1950 **John Farrant**

In the 1970s I published several booklets and articles on the harbours of Sussex and trade across its coast. They are listed at

<[http://www.sussexpast.co.uk/research/hist8.htm#Harbours and Seabourne Trade](http://www.sussexpast.co.uk/research/hist8.htm#Harbours%20and%20Seabourne%20Trade)>.

Other than the article in Sussex Archaeological Collections, they were in rather ephemeral forms, refugees from a book which David & Charles commissioned but abandoned. I intend now to revise them, possibly to extend the timescale to 1950 and the coverage to include fishing and shipbuilding, and to publish them in one volume, along with my article on Cater Rand (Sussex Industrial History 6 (1973/4)) and on Brighton as a seafaring town 1550-1750 (Mariners Mirror 75 (1985)). Please let me know of any errors in what I published; of any subsequent publications which I may miss; and of any relevant recent archival deposits.

John Farrant 75 Paddock Lane, Lewes, East Sussex, BN7 1TW 01273 478133

Watch These Spaces

Bob Allen

The use of the plural is deliberate. Great developments are to happen at Amberley Working Museum after the museum is closed to the public at the end of October. The main development will be the new building for housing part of the 'Connected Earth' collection. 'Connected Earth' is the name to be given to the BT museum on the internet. Amberley Working Museum has been chosen to house those parts of the BT collection which relate to the social and industrial history of the telephone and telegraph since the earliest days. Amberley will be able to use the expertise of the volunteers at the Steyning Telephone Museum, which is to be absorbed into the collection.

Also at Amberley, work will start on a new restaurant/meetings centre. It is hoped that this will provide conference facilities which can be used during the winter and in evenings throughout the year.

At Brede Waterworks the Brede Steam Engine Society is well advanced in its plans to reintroduce steam to at least one of the giant steam pumping engines. Thanks to the hard work of a few volunteers several steam engines from the Folkestone and Dover Water Company are now installed and can be seen turning, albeit with compressed air at the moment.

If you can get to the waterworks on a Saturday at 10:00 am and have any basic engineering skills volunteers are needed to continue the work of re-erecting the new acquisitions.

The Sussex Industrial Archaeology Society

registered Charity No. 267159

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