



SUSSEX INDUSTRIAL ARCHAEOLOGY SOCIETY

**Newsletter
No. 105**

**incorporating SUSSEX MILLS
GROUP**

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JANUARY 2000

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PROGRAMME - SPRING 2000.

Saturday 19th February in West Blatchington Mill barn at 7.30 pm.
A talk by Trevor Povey on 'Local Industrial Archaeology'.
Contact Don Cox 01403 711137.

Tuesday 7th March at East Pallant House, Chichester at 7.30 pm.
A talk by Ron Martin on 'Ice Houses'. (Joint meeting with Chichester
Museum Society)
Contact Chris Bryan 01243 773158

Friday 10th March at West Blatchington Mill barn at 8.00 pm.
Mills Group AGM followed by a talk by Peter James.
Contact Don Cox 01403 711137

Sunday 19th March from 11.00am.
Working Party at Coultershaw Pump. Wear old clothes, bring tools and
picnic lunch.
Contact Mike Palmer 01903 505626

Saturday 1st April at 10.00 am.

South East Region Industrial Archaeology Conference at Chertsey Hall. A booking form is included with this Newsletter. As the capacity of the hall is limited you are advised to book promptly to avoid disappointment.
Contact Bob Allen 01323 896724

Sunday 16th April at 11.00 am. Optional visit to Nutley Mill meeting at the public car park at TQ 454 288. Then at 2.00 pm meet in front of Bridge Cottage in the High Street, Uckfield, near to the river and the station (TQ473209) for a tour of the town led by Brian Phillips. If it is raining there is cover under the canopy of Blockbuster Video. The main car park is further up the High Street on the left hand side. After the walk around town we hope to visit the Ice House at Buckswood Grange School.
Contact Pat Bracher 01273 813902

IMPORTANT NOTICE FOR THOSE WHO PAY SUBSCRIPTIONS BY STANDING ORDER.

The Annual General Meeting of the Society agreed that the annual subscription, due on April 1st, will be as follows :

Full members	£10.00 per annum
Family members residing at the same address	£5.00 per annum
Full time students & junior members under 18	£2.00 per annum
Life members	£150.00

If you pay by Bankers Order it is essential that you send a new form to our Treasurer cancelling the existing order and stating the amount you wish to pay in future. A suitable form for this purpose is enclosed with this newsletter. This may be used to start paying subscriptions by this method if you wish.

If you are unsure about this please contact the Hon. Treasurer, Peter Holtham, 01273 413790.

GOSFIELD HALL DONKEY GIN & BEAM WATER PUMP

TONY BAXTER

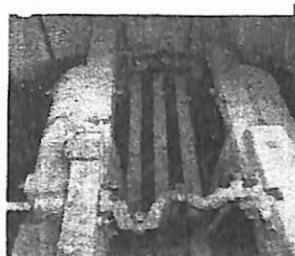
If ever you are down in Essex, near Braintree, spare half an hour or so to visit Gosfield Hall (at GR: TL 77482979) and look at its Gin and Pump installation, which is probably unique. It is a Scheduled Ancient Monument, a Grade I Listed Building, and is included in the Sites and Monuments Record, formally recorded as a "Well House and Donkey Wheel attached to Gosfield Hall". It is reputed to date back to the 17th/18th century, though the present machinery is thought to be only 19th century - presumably an up-dating.. Work to arrest deterioration was undertaken in 1981 but was insufficient to restore it to any sort of working order.

The Hall is owned by the Country Houses Association, which spends its time and money restoring grand old houses and turning them into very comfortable serviced retirement flats for the wealthy. The Hall is Elizabethan in origin but of this only the west range remains, the others were rebuilt in the early and late 18th century. During the 19th century there was a considerable amount of sympathetic restoration. The Hall is open to the public on Wednesdays and Thursdays between 2 and 5 pm May - September with an admission fee. The Administrators (Tel No: 01787-472914) are helpful and will probably let you have a look at the pump at any other time



The gin and pump are contained in two separate buildings located 50 yards or so to the north of the Hall. Both buildings are octagonal and similar in plan size with sides about 8 feet long built of bricks laid in Flemish bond to a height of some 2 feet externally. In the case of the gin

house the pyramidal clay tiled roof is supported on 6 foot timber posts with angled braces, one side being open to serve as an entrance. A few feet away the adjacent pump house has a similar roof built off the top of the external brick wall but with a double wooden trapdoor set in one face of the roof to allow access to the pump machinery.



Inside the gin house, the gin itself has four radial driving beams fixed to the top of a vertical wooden axle post set on a wooden tree in the base of a 10 foot internal diameter circular brick wall some 2 feet below groundlevel. The bottom of the post carries, in effect, a horizontal brake wheel 8½feet in diameter with quarter bars, resting on and driving a wallower giving a 4:1 step-up. The wallower drives an underground shaft which terminates at the crankshaft of the pump.

The pump house is a deep circular well lined with header bricks. The beam pump is suspended from a massive wooden frame set into the well wall. The three 8 foot long beams are pivoted at one end and are driven at the other end by connecting rods from the solid iron crankshaft which is set directly above the beams. The beams in turn drive the vertical pump rods, the top ends of which are secured to the underside of the beams immediately below the connecting rods. The three pump cylinders are mounted on a wooden cross-beam and the piston heads are extant -

approximate bore 4 ½ inches, stroke 12 inches. Presumably intake water was drawn directly from the well below but there is no trace of any delivery system.

This is an interesting pump - quite apart from the fact that, unlike any known in Sussex, it is gin-driven - since the date given of 17th/18th century implies that the original machinery (presumably with a similar configuration) could have predated George Sorocold's London Bridge water-driven beam pumps of 1705, which are the earliest known examples in England. Perhaps this is not too surprising because as Sorocold's installation was for its time remarkably sophisticated, it is most probable that earlier pumps using the same beam principle had existed elsewhere.

VISIT TO TUNBRIDGE WELLS SATURDAY 18TH SEPTEMBER

PETER HOLTHAM

About two dozen members met at the former Tunbridge Wells railway station where the old engine shed now houses the Tunbridge Wells and Eridge Railway Preservation Society's shop, bookstall and model railway exhibition. A member of "TWERPS" showed us round the shed where we looked at the rolling stock awaiting renovation. Next a return trip was taken on the Spa Valley Railway to Groombridge Station where the old station building was inspected.

After a break for lunch we re-convened at the Town Museum and Brian Austen introduced us to the fine display of Tunbridge Ware, explaining the manufacturing process. John Minnis then took us on a conducted tour of some of the Georgian parts of the town where the elegant buildings in Calverley Park and former shop fronts of Calverley Park Crescent were inspected.

Finally, a few hardy members drove to Groombridge to view the unusual inverted footbridge over the railway.

A big thank-you is due to Diana Durden for organising the day and Brian and John for their knowledgeable and entertaining guide to the town.

Report on the 1999 Annual General Meeting Ron Martin

The thirty-second AGM of the Society was held on Saturday, 27th November, 1999 at the Town Hall, Haywards Heath with a good turnout of 35 members under the chairmanship of our Chairman John Blackwell.

The General Secretary Ron Martin gave his annual report outlining the activities of the Society over the past year. Various development schemes

were commented upon including Westhampnett Mill, the Old Steam House at Vine Park, Herstmonceux and the pug mill in Burgess Hill. Various typological surveys of water towers and lime kilns took place and recording was carried out in various places including Worthing and Lewes but more needs to be done. There had been no progress on the Eoliénne Bollee at Cowfold but it is hoped that a restoration course will be set up at Brighton University which would use this site for its first project.

Ron reported that detailed measured surveys had been carried out on various WWII structures including anti-tank defences around Cripp's Corner, some structures at Newhaven Fort and Shoreham Airport. Currently, recording was being carried out at King's Standing, Crowborough the site of the 1940s "black propaganda" broadcasting transmitters as part of the Political Warfare Executive. Endangered sites had been investigated at Battle Hospital, timber storage sheds at Shoreham Harbour, the French Convalescent Home in Brighton, Arundel and Lewes Station.

The Society had attended various public functions including the Downs Steam Fair at Singleton and the Heritage Open Weekend in Brunswick Square, Hove as well as the Association for Industrial Archaeology Conference at Chatham. There is now a permanent display promoting the Society at the Amberley Museum.

A full programme of events had been arranged for the year including visits to Tunbridge Wells, various mills, and a highly successful visit to the McAlpine Railway at Fawley attended by more than 60 members and guests. The joint meeting with the Chichester Museum Society and an additional visit to the gypsum mines at Mountfield was arranged.

The Treasurer, Michael Bevan, who had just resigned, gave his report for the year 1998-99 and commented that the general fund showed a serious depletion due to various circumstances. It was agreed that the subscriptions be raised to £10 for full members, with all other categories pro rata. Our President, Air Marshal Sir Freddie Sowrey, presented Michael with a set of prints of Worthing and a cheque contributed by the Committee and Members to commemorate his 20 years service as Treasurer.

Brian Austen, the Editor reported that *Sussex Industrial History* No.29 would be issued in January, 2000 on the subject of *Sussex Windmills and their Restoration - a 1970s Perspective*, but pleaded for more articles for issue No.30.

Peter Hill gave his report in writing on the activities of the Mills Group outlining the work being carried out at various windmills: Stone Cross, Barnham, West Blatchington, Rottingdean, Polegate, Argos Hill, Jill at Clayton, High Salvington, and Lowfield Heath. The passport scheme had proved to be a great success and the activities of the Mills Group were much to be commended.

Chris Bryan reported on the various public visits to Poyntz Bridge on the Chichester Canal & noted that no engineering work had taken place. Michael Palmer commented on the successful year at Coultershaw, pleading with members to support the working party to be held in March. Tony Baxter informed us that at the Arundel pump house the roof had now been re-built by the estate and that a public viewing gallery is proposed

The election of the Principal Officers and Committee took place and these are all listed on the back cover of this Newsletter.

After the formal business of the AGM, Robin Jones gave a lively illustrated talk on the piers and paddle steamers of Sussex. We must consider ourselves lucky in Sussex having so many survive and possessing the only Grade I listed pier in the country in the form of the sad West Pier in Brighton, but hopefully, eventually to be restored to its former glory. Robin gave a very informative explanation of the various structures and the paddle steamers which served them.

SERIAC BURSARY

RON MARTIN

SERIAC invites applications for a small bursary, funded from the surplus accumulated from the conferences over the years. Its purpose is to support an industrial archaeological project in the region which might otherwise not proceed through lack of resources. The bursary may support fieldwork, research or the publication of results. Applicants need not live in the region, but the work must relate to a site or activity within it. The value of the bursary will be up to £250.

Further details and an application form may be obtained by sending a stamped and addressed envelope to:

Mr R. G. Martin
42 Falmer Avenue
Saltdean
Brighton BN2 8FG

01273 271330



SUSSEX MILLS GROUP NEWS

edited by Don Cox

Sussex Mills Group is part of
The Sussex Industrial Archaeology
Society



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News of Mills - Barnham Mill - Burton Mill - Chailey Mill - Coultershaw Pump - High Salvington Mill - Ifield Mill - Jill Mill - Lurgashall Mill - Rottingdean Mill - Stone Cross Mill - Windmill Hill Mill.

The Lost Mills of Sussex - North Street Mill, Hellingly.

DATES FOR YOUR DIARY.

Friday 10th March at 8.00 pm. Mills Group AGM at West Blatchington Mill barn. followed by a talk by Peter James.

Saturday/Sunday 13/14th May - National Mills Weekend. Support your mill - they will need help for this.

Wednesday 12th July 11.00 am (to be confirmed)- Visit to Mapledurham Watermill, near Reading at SU 69 768 and to the Chiltern Partnership's workshop.

Sunday 12th October 2.30 pm - Mills October Meeting to discuss milling matters. Venue to be announced.

NEWS OF MILLS.

As promised in the last newsletter, this edition is largely taken up with news of mills in Sussex. There has been a lot of restoration activity this summer with three mills having had their caps restored and replaced onto their towers.

BARNHAM MILL

PHILIP HICKS

At Barnham Tower Mill, the renovated cap together with rebuilt fantail was lifted into position by crane in early June. Work on the cap had taken about one and a half years to complete. The copper sheeting dating back to 1958 has been replaced by lead, which is how the cap was originally covered. The canister, finial and fan star have been painted red - the authentic 1890 colours. Those who have seen it will agree that it now looks quite splendid. The cast iron curb was found to be in sound condition and only needed wire brushing and greasing. There is a nice feature in that the curb has been marked in Roman numerals at the end of each section. Attention has now been given to getting the cap to become self-winding and preparations are in hand for making the sweeps.

BURTON MILL

STUART HALLS

The mill had a good number of visitors during the summer months. We have had lots of young millers visiting to stamp their passports. £360 has been raised for the

BBC's Children-in-Need appeal from entrance fees to the "Groundforce" garden and various stalls.

CHAILEY WINDMILL

JOHN SMITH

Chailey Mill is in excellent condition following its extensive renovation by the Chiltern Partnership. Internally the exhibits of the Rural Life museum have been displayed to good effect and the many photographs of Chailey from the beginning of the century have created considerably interest. The main feature of the museum is the clock from St Peter's Church, Chailey. This was made in 1856 and has now been restored to full working order. The mill has attracted an encouraging number of visitors throughout the summer.

COULTERSHAW BEAM PUMP.

MICHAEL PALMER

1999 has been a reasonable year, but with many other attractions available, visitor numbers were down (by 13%) on 1998. With one exception there was always enough water for full operation of the pump on open days. In June we experienced the first breakdown in 20 years in the form of a fracture of one of the wrought iron pump rods at the clasp joint. Interestingly there was evidence of a previous repair by gas or electric welding, which is inappropriate for wrought iron. Repair has been generously carried out by Messrs Thomas Keeting of Billingshurst, in the form of a new piece in mild steel being tenoned into the rod. Meanwhile the affected pump cylinder was blanked off, resulting in an eye-catching leaping action to the fountain. The passport scheme is well under way with 25 issued, but only 3 were brought in for stamping.

HIGH SALVINGTON MILL

(Information taken from the mill Newsletter)

The major problem of the year was to replace the split stock holding the common sails. The sails were removed using a block and tackle but the stock was not so easy and required a crane and chain saw. Wenban Smith Ltd kindly helped us to obtain a 40 foot long laminated larch beam from Holland and roughly shaped it on their band saw. The volunteers were then able to complete the shaping and painting on their premises. The new stock was assembled and balanced at the mill before being lifted into place. At the same time the shutters were put into the other sails and repairs carried out on the rotten shutter bars. Sales of the passports have gone well with us outselling any other mill.

IFIELD WATERMILL

TED HENBURY

There has been a steady attendance on the open days of about 100 people. Attendance by school parties has not been maintained due to changes in the National Curriculum. Additional milling equipment has been installed, with the Provender Mill and Flour Grader from Haxted Mill now on display and complementing the Eureka Grain Polisher previously acquired from Jenner & Simpson at Battle. Currently the Belt and Bucket Grain Elevator from Haxted is being set up for demonstration purposes. The Crawley Council has carried out the exterior painting of the mill together with brick cleaning and repairs. Extensive maintenance work is also being undertaken on the retaining dam to the rear and we are monitoring the

effect this may have on the mill site. Funding for the final stages of restoration to enable grinding of corn to take place is being pursued and a special meeting with Crawley Museum Society was arranged for early December 1999.

JILL WINDMILL

SIMON POTTER

We have had another busy season at Jill Windmill. The mill was open on both days of National Mills Weekend but, despite the publicity, visitor numbers on the Saturday were disappointing. Our "Alternative Power" Event proved as popular as ever, and we were blessed with good weather. Following many requests from visitors, we have now purchased one ton of organic wheat, which was cleaned at our "A. T. Ferrell" seed cleaner, powered by a motor from a concrete mixer. This task took three mornings to complete and, in the absence of wind, we hoisted some grain to the bin floor with ropes. We now await favourable milling weather. Routine maintenance continues most Saturday mornings throughout the year. This September we celebrated our 21st birthday and we look back with pride at what we have achieved. By the Spring, Jill should have a new set of rear stairs, whilst next Summer our volunteers plan to paint two of her sweeps.

LURGASHALL MILL

(at the Weald & Downland Museum)

K. BICKMAN.

This year we have seen an unprecedented rise in sales of mill ground wholemeal flour which may be a reflection of the care some people now take in the choosing their foodstuffs.

ROTTINGDEAN WINDMILL

PHILIP HICKS

In July structural work began on Rottingdean Smock Mill. Since the 1930s a lean and a twist has crept into the smock mill, which is most apparent inside where the upright shaft is no longer vertical. In 1974 a steel frame was erected inside the mill to help carry the weight of the cap and sweeps and to arrest any further movement in the tower. There is little doubt that the steel frame has saved the mill from collapse. Nevertheless, the smock tower is approximately 12 in. out of plumb. A contributory factor is the decay of the lower ends of some of the cant posts (corner posts).

Plans to straighten the twist (with the cap and stocks in situ) were abandoned given the weakened state of the curb and the cap frame as the disturbance would risk some form of collapse. The carpenters have replaced three south sides and the cant posts. To avoid further weakening of the tower, each side of the mill and respective posts were stripped out and replaced, one at a time. The cant posts had decayed to less than half their original thickness in places. The first side practically fell out; the severely decayed joints being held together only by iron brackets. Authentically, oak has been used throughout. Stainless steel bolts have been used in place of the original iron and mild steel, which have corroded to less than one-quarter of the original diameters (a problem caused by the mills's exposed position close to the sea). The carpentry has been carried out quickly and to a very high standard. The second side was rebuilt from scratch within two weeks !!.(Editor's comment : this is obviously an ongoing project and I look forward to further reports. Also I see from the Evening Argus of 3rd December that an original painting of the mill has been donated to the mill and copies are for sale in aid of restoration).

Phase 1 of the restoration project to restore the tower and the machinery is virtually complete. The cap, fanstage, fan and windshaft/brakewheel have been installed, the rebuilt sweeps are hung, and the shutters (some of which are original ones) have been linked up to the striking gear. Inside the French burr stones have yet to be balanced, the tuns assembled, and the grain chutes and meal chutes installed ready for overall commissioning of the mill operation. Phase 2 of the project, to rebuild the roundel, had commenced and was due to be completed before the start of phase 3, the rebuilding of the oak-framed storehouse which in turn was due for completion by the end of 1999. That was the plan but the local builders working on the roundel have ceased trading having completed the circular foundations and starting the floor foundations. So now the search is on for someone to complete that work. We envisage that with the winter upon us, the Trust will spend the early months of 2000 cleaning up the site and preparing the mill ready for what will be the first open season in 120 years. The restoration work over the last six months has created much interest from far and near. Aspects of the work have been filmed by three TV companies with local radio and newspapers also providing much advertising. We have set up our own website on the Internet. Trust membership has increased dramatically and is now approaching 350, a feature which is essential if we are to cover our costs to maintain and preserve the tower mill for the future, and two schools have already become corporate members. Opening on Heritage Days in September saw at least 350 people visit the mill that was not restored at that stage.

Editor's comment - The quote of the millennium was said by David Nicholls of Chiltern Partnership to Michael Chapman when debating the completion of their contract to restore the mill to working order. "You do not expect this mill to work do you?". Thus said it is pleasing to see the mill now with four sweeps and the fantail rotating the cap into the wind.

The Trust has obtained financial help from English Heritage for 80% grant towards the first stage for an exploratory examination of the mill structure to ascertain what is required for its restoration. Part of the money (approximately 50%) will be used in a deal with a scaffolding company where the Trust will buy the scaffolding and have it erected around the mill. On completion of all work (hopefully in about 3 years time) the company will buy back the scaffolding. Initially the scaffolding will allow access to the mill for the close examination to see exactly which timbers need to be either repaired and reused or replaced. On completion of this stage an estimate can be obtained to see what the work will cost. The Chiltern Partnership have been engaged to advise and an architect has been appointed.

HELLINGLY, NORTH STREET POST MILL

(I am not able to give a Grid Reference at present but according to Simmons 'the mill stood one mile and five furlongs north of the church, halfway along a road running between Horsham Road and the village, on the western side').

It is not clear whether a windmill standing in Hellingly parish in 1871, when it was offered for sale, was the North Street Mill. The latter only begins to appear on maps after 1813, and the position of the 1781 mill is not indicated in the sale notice. The 1781 mill had formerly 'been in the possession of John Brown, and was now apparently owned by William Washer of Seaford, from whom 'further particulars could be had.'

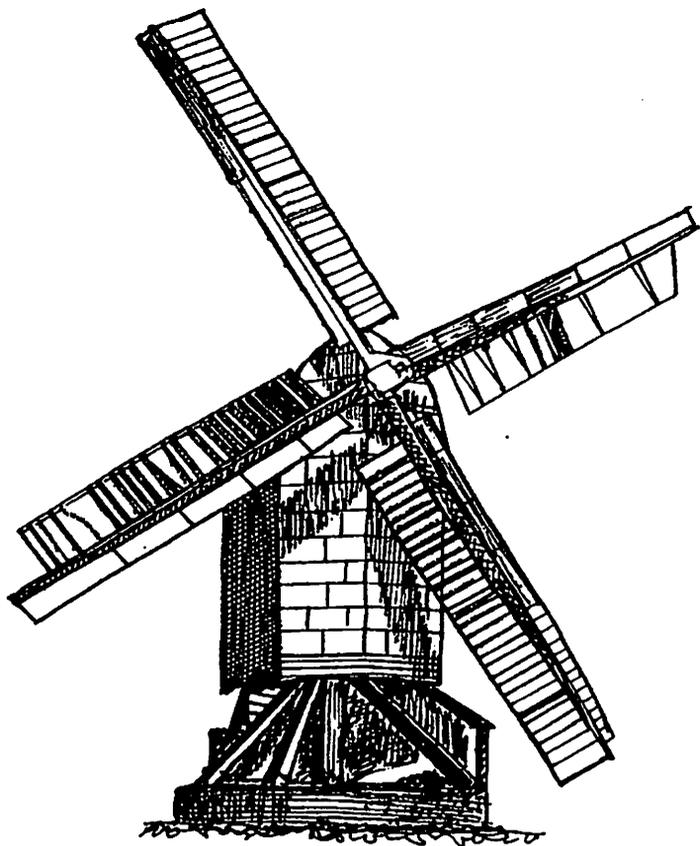
North Street Mill was offered for sale in 1824, and advertised to be let in 1830 and 1831. In 1831 the lease included a newly erected house and 20-100 acres of land. Directories of 1834 and 1838 give George Clapson as miller, and the Tithe Map Schedule of 1840 showed him to have been still in occupation in that year. George Wickens had succeeded him by 1851, and was there in 1855 and 1858. An I. Wickens, presumably a relative of George, was listed in 1862. The mill was again advertised to be let in 1863, along with 18 acres of arable and meadow land, and was presumably taken by W. Heath, for he was running it in 1866. By 1870 it was being worked by Thomas Woodhams, whose family remained in harness for the next twenty years or so. Thomas Caleb Woodhams was listed in 1874, Caleb Woodhams in 1878 and Mrs Frances Woodhams in 1882 and 1887. The last miller was Edward Budgen who was listed in 1895; he was said to have last used the mill in 1898, but directories still gave him as miller, not necessarily correctly, in 1899 and 1903. Nor is there absolute certainty regarding the date of the demise of the mill; it was said to have been blown down in 1908, but is on the 1910 6 inch Ordnance Survey map marked as 'disused'. Certainly there is no evidence of its survival after the latter date. Towards the end of its working life the mill was in poor condition and frequent repairs were necessary. It was said that while Luther Pearce, the millwright usually employed there, was tacking pieces on one side, bits used to drop off of the other! The decay continued after the mill ceased work. A photograph of the derelict structure shows it still with four sweeps, but the wooden roundhouse had collapsed exposing the trestle to view ⁽¹⁾.

The mill was a small white one, with a metal breast and a single storey roundhouse ⁽²⁾. It finished work with four spring sweeps, and according to the sale notice of 1824, drove two pairs of stones plus flour dressing machinery. As with many other mills it was latterly in only occasional use, partly due perhaps to its bad condition, and had ceased to produce flour.

(1) Photograph in the National Monuments Record, Royal Commission on Historic Monuments, Swindon.

(2) Ditto.

(Editor's comment : the above dating shows the problems with dating using directories and maps)



NORTH STREET MILL HELLINGLY

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 RH13 8JA (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	

On Tuesday June 29th, seven members of the Society met at the British Gypsum Works at Mountfield, near Robertsbridge in East Sussex. On arrival we joined our guide for an introduction to the day's events, as well as being served with coffee and biscuits. The plan would be to visit the Gypsum Mines at Brightling in the morning, and following lunch at the Mountfield works see the plasterboard production in the main buildings there.

A brief summary is worthwhile here to understand what Gypsum is, and its uses. Gypsum is a white naturally occurring mineral and chemically is calcium sulphate dihydrate. It is mainly found in the Midland counties of Nottinghamshire, Derbyshire and Staffordshire although important deposits also occur in Cumbria, Sussex and Yorkshire. Most of the gypsum was formed 180 million years ago by the evaporation of sea water. This evaporation was a slow process lasting thousands of years, eventually accumulating to form a thick layer and becoming a seam. The mined gypsum is mainly used in the production of plasters and plasterboard for the building industry, and in the production of cement.

After the introduction we went by car to the Brightling Mine about 3 miles from Mountfield, where we donned white overalls and a safety helmets. Straps were also tied around our waists to carry the battery for the miners lamp and the emergency oxygen supply. Now with a different guide, we boarded a Land Rover and drove into the mine for about a mile to the working face. Gypsum is mined by a room and pillar method where at least 25% of rock is left as large pillars to support the roof, thereby preventing subsidence. During our journey in the Land Rover, this method of mining was clearly seen. We were first taken to a working face where the strata of the seams were explained. We then walked to another working face which was being prepared for drilling. In most gypsum mines the rock is extracted using explosives after being carefully drilled so that the explosives can blast the rock efficiently. Blasting had already taken place and during our visit we witnessed the movement of special low height bucket loaders called 'Scooptrams' transferring the rock from the face to a mobile crusher which we observed producing small pieces of rock before being transported on a belt conveyor to the surface. The gypsum mined at Brightling is transported to Northfleet for use in cement manufacture.

Following lunch we were taken round the works where we first observed the homogeniser in a large circular building where de-sulphurised gypsum derived from limestone used in the scrubbing of flue gases from Drax power station is continuously graded to ensure consistency. Moving on to the board production line, we entered a large long building and observed the whole manufacturing process. To make plasterboard, which can be of varying thicknesses averaging 16mm thick, the plaster mix is encased in strong durable paper liners. One roll of paper was seen feeding on to the conveyor belt with the plaster mix spreading over the surface from a nozzle. A second roll of paper is fed on to the top of the plaster mix after it has spread over the whole width. Long lengths of this plaster sandwich' were seen moving quickly over 230 metres of forming conveyors covering the complete length of the plant. During this time the plaster core sets before being cut to length. Sets of boards were then seen returning along an adjacent conveyor system, but on the return journey passed through massive dryers. Once the boards

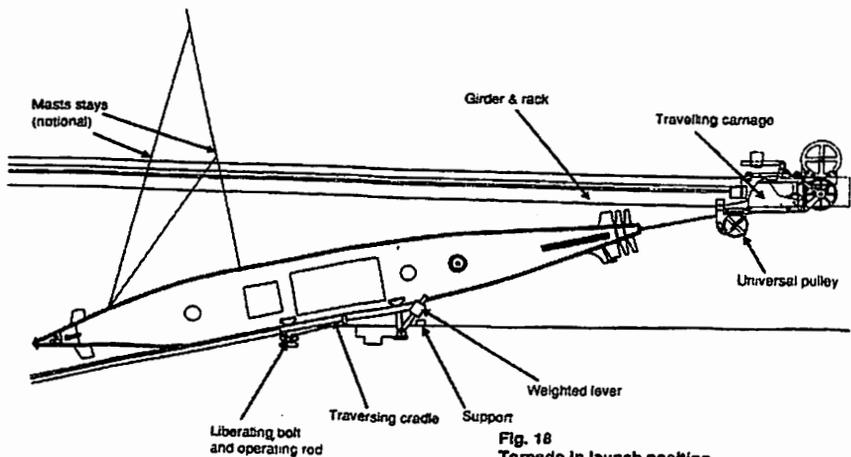
have reached the end of the production line, the cut edges are bound with tape. At the end of the production line many pallets of different types of plasterboard were observed, while fork lift trucks were seen loading the finished product on to lorries for transporting to the building trade.

This was a worthwhile visit where members gained an insight into the mining and uses of gypsum. There appears to be large deposits of gypsum still waiting to be mined in the area, so this industry will continue in this part of East Sussex for some years to come.

For members of the Society who have not visited the mines and the production plant, should a future event be organised, a tour of the complex is highly recommended.

The Brennan Torpedo

PALMERSTON FORTS SOCIETY



THE BRENNAN TORPEDO

MICHAEL BEVAN

It is said that in the mid 19th century a young man, Louis Brennan, observed that pulling a thread on a cotton reel towards him resulted in the reel moving away from him. He developed this idea and in the 1870's produced a design for a torpedo propelled and steered by wire - the forerunner of today's wire guided missiles.

The Brennan torpedo was 22 feet long, weighed just over a ton and carried a warhead of 220 lbs. of wet guncotton. It contained two counter rotating drums each holding 2000 yards of fine wire and each driving a screw propellor. Launched on rails from a land site and with a steam engine to draw the wires the torpedo had a small mast so that it could be observed to its target.

It travelled at approximately 30 knots at a controlled depth and by varying the tension on the wires could be steered. In its developed form it was claimed that it could hit a rowing boat at 2000 yards.

This device was of great interest to the War Office for estuary defence and from 1887 onwards it was installed at various sites across the Empire, in the Thames estuary (Cliffe and Sheerness) the Isle of Wight, Plymouth, Milford Haven, Cork, Malta, and Hong Kong.

By 1905 improvements in artillery and in particular the slow rate of fire of the Brennan led to its gradual abandonment for coastal defence, although some sites continued in operation until 1910. But in its day the Brennan Torpedo was the British Empire's most secret weapon for the defence of estuaries and straits.

What is believed to be the only remaining example is in the Royal Engineer's Museum at Chatham.

HAILSHAM PAVILION CINEMA REOPENS

ROBIN JONES

On Wednesday December 1st 1999 the Pavilion Cinema in George Street, Hailsham, East Sussex reopened its doors to the public after a grant towards its restoration of £274,500 was awarded by the Heritage Lottery Fund.

The Cinema first opened in November 1921 and a glance at the Souvenir Programme of the opening, shows that on three days commencing Monday November 28th, the main film was 'The Kid' starring Charlie Chaplin, preceded by Pathé Gazette and Pathé Pictorial features. The Cinema was owned by Shipman and King, the owner of 35 cinemas in the British Isles, and was used continuously as a Picture House until May 1965. It reopened as a Bingo Hall in 1967 and continued in this role until 1987 when it closed and its condition deteriorated. The Hailsham Old Pavilion Society (HOPS) was set up in 1993 to raise funds for its restoration as a Living Arts Centre.

The first event in this newly restored 220 seater cinema was an audio visual colour slide show, which took place on the opening evening. It should be pointed out that when the cinema was built it had a seating capacity of 475, but due to Health and Safety restrictions and for the need to provide wheelchair access, the number of seats has been reduced. Saturday December 4th was the day the first films were shown since May 1965, when the animated Family Spectacular 'The King and I' was presented in the morning for children, while at the afternoon and evening performances the blockbuster film 'Titanic' starring Leonardo DiCaprio and Kate Winslet was shown. Other events also took place in the Hailsham Pavilion during December including a cabaret performed by the Dicker Players and a selection of Christmas Music presented by the Hailsham Choral Society.

During 2000 it is envisaged that a programme of films will be shown on Thursdays, Fridays and Saturdays each week featuring new releases about a month after being shown in the major towns like Eastbourne and Brighton. Other live shows featuring local talent, musical events and other suitable productions will take place during the beginning of the week on the stage in front of the screen. Hailsham Pavilion incorporates the latest sound systems, and a refreshment kiosk. The quality of workmanship achieved during the restoration is outstanding, with brass fittings particularly noticeable. Details of events and further information can be obtained from Robin F. Jones, address on the back page of this newsletter.

AN APPEAL FOR INFORMATION**VIC MITCHELL**

I would like to seek more information through the Society on the subject of "The Cylinders", which a Midhurst guide of about 1870 stated was producing pyroligneous acid at Fernhurst. There is still a house of that name there. The term also occurs in Northchapel.

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LATEST DATE FOR COPY FOR THE APRIL NEWSLETTER IS MARCH 14th.

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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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