

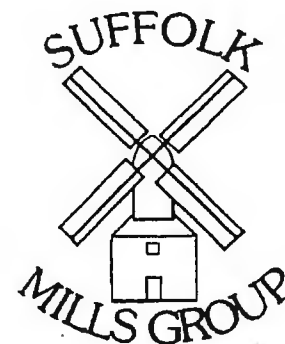
SUFFOLK MILLS GROUP

Newsletter

www.suffolkmills.org.uk

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Once again attendance at our recent events has varied a lot. The public meeting in March, when Peter Filby spoke on Suffolk drainage mills, saw a reasonable turnout, most if not all S.M.G. members, and we had one of our most successful ever National Mills Sundays at Herringfleet, with loads of visitors and the sails turning steadily. What a pity then that hardly anyone came along to Bures mill the following Sunday, when owner Nick Temple laid on refreshments and led a fascinating tour of the mill and its associated waterways. Where were you all?

It is now over 30 years since we published Peter Dolman's survey of Suffolk windmills, long out of print and coveted by mill enthusiasts and collectors alike. Bob Paterson's recent discovery of the demise of the roundhouse walls at Brome (see News item) is a reminder that these minor remains, chronicled in Peter's book, continue to be lost. Just visiting all the sites with remains is a considerable task, but one that has been attempted by our member Peter Greene. It would be nice if we could assist in publishing an updated version of *Suffolk Windmills* as I am sure it would have a ready market. Of course, with the wonders of the internet it is possible to do a 'virtual tour' of these sites without leaving your chair, as Sue Burden reveals in this issue.

Forthcoming events are listed below. Please do make a note of them, especially the A.G.M. coming up very soon.

S.M.G. A.G.M., Thorington Street mill	Sunday July 12th
S.M.G. visit to Bardwell windmill	Sunday August 2nd
Herringfleet windpump open day	Sunday August 9th
Threshing Day, Bardwell windmill	Sunday August 23rd

Mark Barnard

REMINISCENCES OF A COUNTRY MILLER (11)

Harold Hitchcock

We continue the account of country milling written in 1946 by Harold Hitchcock, proprietor of the roller mill at Rattlesden.

Now perhaps it would be well to take a quick glance around the roller floor, the principal floor of the mill and almost always the first floor above ground level because of the very heavy weight of a number of roller mills.

According to the size of the mill, we shall note one, two or three lines of roller mills arranged perfectly symmetrically and in line, clean and polished and neat looking. Each mill will have two, three or perhaps four varnished oblong spouts or trunking

converging onto the top of each mill and through which the various stocks are directed to the rolls from machines on the floor or floors above.

Now each of these mills contain a double set of rolls, made of chilled steel, and varying in different capacity mills from 18-20 inches and 50-60 inches in length and of 9-10 inches in diameter. All modern mills have the rolls of diagonal pattern, though there are still plenty of vertical type at work. The older horizontal type have, I believe, nearly passed out. One advantage of the diagonal type is that the feed to the roll is fed direct into the 'nip' i.e. the line of contact between the rolls, the stock being ground is more easily inspected and other parts of the roller mill are more accessible than in either of the other two types. The vertical type requires a back plate to direct the stock into the nip of the rolls - rather a bugbear and a disadvantage. Whatever type of rolls are used all mills have this in common - the whole roller system is divided into two parts - known as the break and reduction system. In the break system, toothed or fluted rolls are used and in the reduction system perfectly smooth rolls. The one or two sets of 'scratch' rolls which are used in larger mills for the treatment of a small part of the stocks can, I think, be ignored in these very crude jottings.

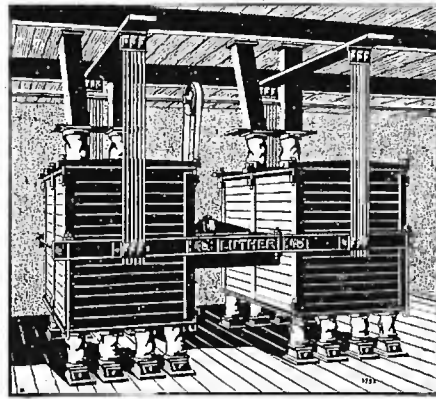
The break system is usually of four or five sets of fluted rolls, each set being progressively fewer flutes than the one preceding as, 1st Break approx. 12 flutes to the inch, 2nd Break 16 flutes, 3rd Break 20 flutes and 4th and 5th Breaks 24-28 flutes to the inch.

Now please do not confuse the action of rolls in a flour mill to mother's mangle! Rolls do not crush or squeeze, but grind, even as millstones grind, although friction is so much less and the area of contact infinitely less in the former. The grinding action is obtained by revolving the rolls at different speeds and, in the case of the fluted rolls, a cutting, shearing action is imparted which opens out the wheat grain and releases the endosperm at each stage. The 4th or 5th Break rolls are used to clean and scrape all adhering endosperm from the bran which, after brushing and dusting, is conveyed and packed in bags for animal feeding purposes - one of the safest and best foods for all classes of stock.

The operation of separating the released endosperm after grinding by each successive break roll is known as scalping (no connection with the Red Indians' impolite treatment) and is carried out on differing machines. A plain reel is much favoured by some millers, this being usually a polygonal cylinder covered with suitable mesh wire cover and revolving at 25-30 r.p.m.. In smaller mills a rotary sieve, suspended by leather straps or bamboo canes and oscillated at a considerable number of strokes per minute, may be used. Probably most of the larger mills use a plansifter which is a multiple rotary sieve or rather number of sieves placed one above the other and enclosed in one (or usually two) large wooden boxes in a strong iron girder frame. This, like the small rotary sieve, is suspended by canes, having drive shaft, balance weights, etc. in the space between the two nests of sieves. The reason is not very plain but every visitor to a mill

LUTHER

improved free swinging Plansifter



No Shaking of Buildings—Divided Sieve—Frames and Collecting Trays.
No interference with smooth working by Storage on Floors.
Driven by a Pendulum without any Shaft. Smooth starting and stopping without any jerking.
A single Bearing only and that oiled automatically.
Simple Fitting, all parts being fixed to the Main Frame.
No upper Suspension Rods with inaccessible Bearings.
No troublesome Crank Drive at starting, hence less Wear and Tear.
No after-balancing as with Crank Drive.
No Ball Bearings.
No Fixing Swinging Weights in the Sifter Frames.

Maschinenfabrik und Mühlenbauanstalt
G. LUTHER, A.G. Brunswick (Germany).

From The Miller February 1914

seems attracted by this machine with its sharp rotary motion and usually a smile of interest and appreciation from the visitor rewards the attendant when attention is called to this particular machine.

I ought to state this rather intricate machine performs much greater service than the plain reel or rotary sieve for the stock it receives from the break rolls is, to the flour miller, a glorious mixture and must be graded and classified before it can be further effectively dealt with. Besides the branny portions of the wheat berry, the broken endosperm is a mixture of granular endosperm (known as semolina) of varying sizes, flour unavoidably made on the break rolls, small bran chips, etc. This machine not only separates the branny flakes from the chop or meal but dresses out the break flour present and classifies the semolina into a fine and coarse grade.

Altogether a fine example of the milling engineers' experiments and skill over a long period and quite an advance from the days when the wheatmeal ground on stones turned by hand, was sifted over a horse-hair sieve supported on two pieces of wood known as the 'temse'. This operation has, I believe, given rise to the saying (now corrupted) "He'll never set the Thames (temse) on fire!". Very active and quick strokes with the sieve may have produced a little heat by friction on the wood 'temse' but it is rather a stretch of imagination to imagine anyone raising heat enough to fire the wood!

To return to present day milling operations, we now have from the plansifter, flour and semolina coarse and fine. The flour is,

of course, spouted to flour worms conveying all flours produced to the sack. Here perhaps is an opportunity of correcting a wrong impression visitors not conversant with flour milling usually have. The common idea seems to be that the wheat is rolled and rolled and rolled again and not until it has passed through the final roll in the mill is it finished flour. This, of course, is quite erroneous. Actual milling practice could be very simply stated as grinding and separating, grinding and separating and, at each stage in the process, flour is produced. Flour produced on the break rolls is of poor quality, that produced from the grinding of coarse and fine semolina, the very best and then with a falling off in quality as the stock proceeds down the system. These various flours are all spouted together into the flour sack (at least since outbreak of war when the term of 'National' flour has come into use) and has been known to the trade for many years as 'Straight-run'.

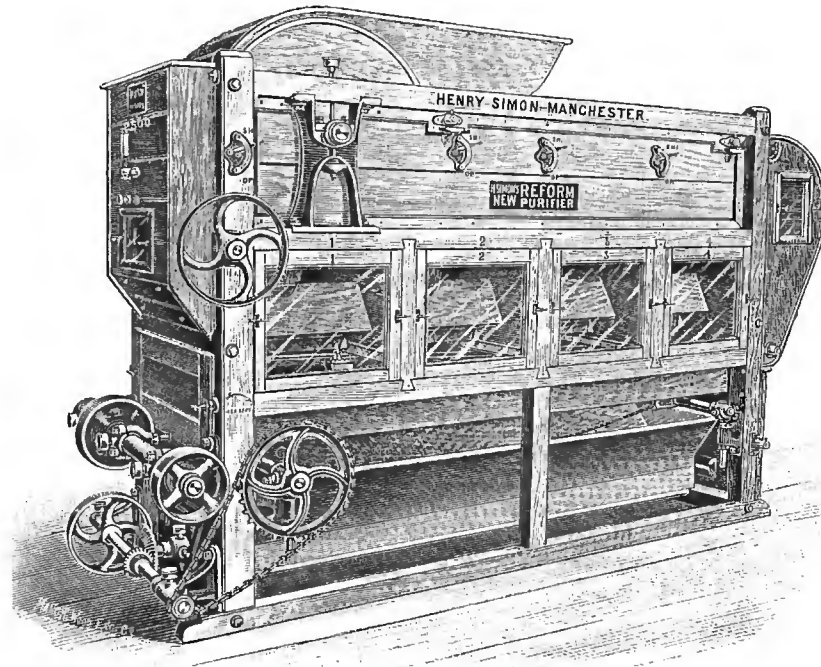
The fine and coarse semolinas as delivered by the plansifter need some further treatment before they are ready for grinding on the smooth rolls, or reductions as they are known. If carefully examined at this stage, not all the granules of semolina will be found pure endosperm. Many will be found adhering to bran snips caused by the action of the fluted rolls in cutting the wheat berry and, if these branny portions are ground with the pure semolina on smooth rolls, bran powder will be produced and the colour and quality of the flour will be lowered.

It is at this stage, what is perhaps the most delicate machine in the mill, the purifier, comes into play. As its name implies, its work is to purify and I will try and describe the machine and its principles broadly in very simple non-technical language.

Two long and narrow sieves are contained in the same frame but are quite distinct and separate. They are clothed with silk bolting cloth of a suitable mesh, but with sections of progressively coarser mesh from the head to the tail of the machine. There is a slight downward slope from the head to the tail and the sieve is caused to oscillate rapidly. This is not all, however, for a plain sifting action would only result in grading the stock but a current of air is drawn vertically through the sieve from the compartment of the machine immediately above the sieve. A large suction fan, which incidentally has always to be used to draw heated air from the rolls, also generally provides the necessary air current for the purifiers.

As the stock is fed onto the head of the sieve, the rapid oscillation of the sieve, combined with the slight slope of same, causes the stock to travel slowly and gently along its length. During its travel the correct sized particles which have small pieces of bran attached are not quite so heavy for their bulk and the upward air current causes these to float along until they are passed off at the tail of the sieve, where another current of air lifts away light fibrous particles. The vertical current of air through the sieve not only causes the bran contaminated particles to float along but also lifts entirely some light flakes and dust, the heavier of which fall back into trays placed above the sieve, from which they are swept to the side of the sieve and are given separate treatment. The heavier particles which have bran adhering

THE "SIMON" PATENT
NEW "REFORM" PURIFIER.



Purifier in Simon's 1892 catalogue

are then given very gentle and careful treatment on a pair of rolls known as scratch rolls, finely fluted and their purpose is to remove bran particles from the endosperm and also to reduce the size of any that are too large for smooth rolls to grind easily, so producing uniform sized endosperm particles after further purifying which removes loosened bran fragments.

I expect all this is as clear as mud to the non-miller mind and, if the above remarks were sent up by a milling student on a correspondence course as an explanation of the work of purifiers in a flour mill, he would probably receive a severe reprimand from his tutor by return of post but, for one who has never had the pleasure of actually using one of these ultra modern makes and has had to try and make an older pattern 'do its stuff', it will have to suffice.

The actual grinding of these streams of nearly pure endosperm prepared by the purifiers is a comparatively simple matter. Perfectly smooth rolls are used for this part of the milling but these again do not revolve at the same speed with each other and so just squash the endosperm. Different sized gears on both roll spindles give a differential in speed and so cause a real grinding action to be given. A strong spring acting on the extended part of the roll bearings keeps the rolls closely engaged and the adjustment of the roll pressure exerted is, of course, in the hands of the rollerman in charge. This setting of the rolls is done largely by the feel of the stock as it leaves the rolls and requires some practice to determine the exact point at which most

flour is produced without undue heating or damage to the stock by over grinding.

On the purer streams at the head of the mill as much as 70% of pure flour is produced at one grinding, this flour by the way being known under the term of 'patent flour'. The actual dressing of the flour is carried out principally on machines known as centrifugals. These are very simple and usually trouble-free machines, consisting of a hexagonal or cylinder barrel (modern preference is all for the hexagonal type) covered with silk sheets of a fineness which varies according to the stock it is planned to dress and also regarding the extraction percentage of flour the mill is planned for. (As most people know the required percentage of all mills at time of writing is 85%.) Revolving inside the barrel, at a much faster speed than the outer part, are sets of beaters which by centrifugal action not only keep the stock agitated but assist dressing of the flour by throwing the stock against all parts of the silk covered barrel. Some of these beaters are provided too with fingers which set at a slight angle help to convey the stock through the machine. That part which does not pass through the silk is elevated at the end of the barrel by simple but ingenious elevator trays into a worm at the tail end and conveyed away for further purification and grinding.

It may be of interest to note the silks used vary from 10 to 100 threads to the inch and that, until the second world war occurred, all silk for the purpose came from Switzerland or France. During the war British manufacturers rose nobly to the occasion and, no doubt after much patient research, they succeeded in marketing a silk bolting cloth that enabled the mills to carry on their milling in spite of all continental imports having ceased.

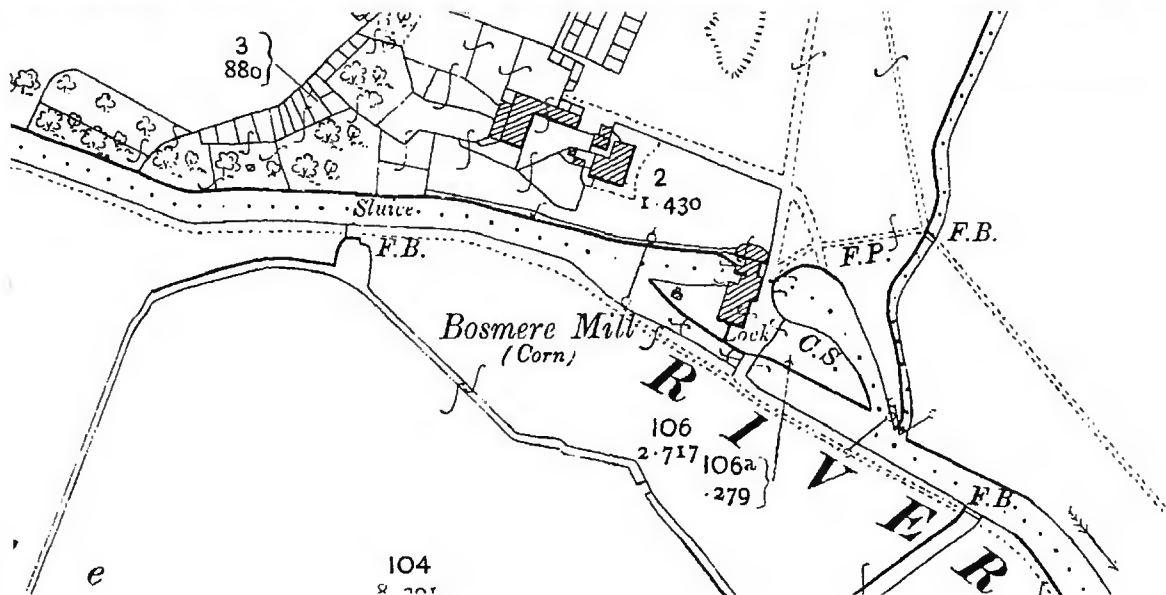
There are naturally many more machines used in a modern mill than I have outlined. Dust collectors, bran finishers, detachers, various feeders and mixers, germinal brush machines, aspirators and a host of other machines all go to make up a modern flour milling plant but it would be wearying to the reader to try and enlarge on these at length. Perhaps what has been written will show flour milling is not quite so simple a job as most people believe.

Even now finality is a long way ahead. Continual research reveals greater possibilities in the future and it may be that, before long, the powers in authority may decree a high standard of vitamin content for all flour produced in this country. Whether it will be possible to attain this standard by the inclusion of that important part of the grain around the germ or whether some 'fortification' by added vitamin will be needed I dare not venture an opinion.

It is to the lasting credit of flour millers generally that so great an improvement has been made in the 85% extraction flour now produced. Although millers did not stand to benefit in any way, they were not satisfied with the first brown and unpalatable flour made at this high extraction but, by continual experiments and long sustained efforts, succeeded in producing a much lighter and nutritious flour still at the required extraction, so that a respectable golden loaf is now provided for all, in place of the former very dark and muddy article.

MILLS ON THE MAP

Bosmere Mill was the first mill downstream of Needham Market, in the parish of Creeting St Mary. A large, presumably much extended building astride the River Gipping, its final form is shown clearly in the photograph (probably from the 1930's) when it stood derelict. It made a picturesque group with the adjacent lock and bridge, both dating from the Gipping Navigation opened in 1793. All is clearly shown on the map, the 1904 25-inch O.S. (n.t.s.); the photograph was taken from where the 'V' of RIVER is on the map.



An insurance policy of 1777 refers to two adjoining mills, one for corn, the other for crushing oilseed, almost certainly in one building. It is likely this would have been rebuilt or enlarged after the Navigation was opened. The mill was gutted in 1945, most of the gear including the iron waterwheel going for scrap. Today the site can just about be made out, with remains of the curved north end wall and the rebuilt brick abutments of the headrace. The bridge and lock have been restored by the Inland Waterways Association and are readily accessible via the Gipping Valley footpath. The mill house, shown on the map to the north-west, also remains. What a pity no record seems to have been made of the mill's interior before demolition.

A VIRTUAL TOUR OF SUFFOLK Sue Burden

Although I am not online at home, I look a lot at the excellent website 'Windmillworld', which lists windmills by county and gives aerial views of the sites listed (from Google Earth and Microsoft Virtual Earth). Some aerial views are out of date, for example in Sussex Argos Hill is shown complete and Herstmonceux is shrouded in scaffolding. For some parts of Britain, Microsoft have 'bird's eye', as well as top down, views.

In Suffolk I looked at a lot of sites, including ones not listed on Windmillworld, with the help of my Ordnance Survey maps which cover the whole of Suffolk. Combs roundhouse has an octagonal roof; the ruined ground floor of the roundhouse at Eyke still stands, behind the houses; Cranley roundhouse near Eye is now part of a house; Honington roundhouse has a large semicircular extension around it rather like the tower mill stump at Cottingham, Northants. The smock mill stump at Laxfield still stands, and has been renovated; the two storey tower mill stump at Metfield can still be seen in the trees in the garden of Office Farm; Occold smock mill base stands as a shell reduced to one storey; the roundhouse at Sibton is roofless, as I believe it has been for many years; Stradbroke roundhouse now has a new roof. At Yoxford, I had always assumed that the big roundhouse here formed a semicircular feature on the front of a house. In fact the roundhouse has large extensions to north and south. The site of an older post mill can be made out to the south, on the ridge.

Many of the aerial views are very clear, enough to show minor remains such as foundations and brick piers. At Worlingworth there can be seen very clearly the foundations of the New Mill as well as the roundhouse of the Old Mill. Foundations, or brickwork a few courses high, can be seen at Dennington, Preston, Ubbeston and Wenhaston (Blackheath). At Westleton, items are visible that could be the piers of Rouse's Mill; when I visited the site c.1994 these were hidden behind thick gorse - a gorse fire destroyed this mill around 1880. Overgrown remains are harder to spot, although some of the views have been filmed in winter. You can just make out the minor remains at Stanningfield (Little Welnetham) and Wickhambrook, but there is nothing obvious at Hartest (I assume the piers are under the vegetation). Chattisham smock mill site is hard to make out, as is the stump of Gedgrave drainage mill, Chillesford Lodge, in the middle of nowhere. It's also hard to

make out anything obvious at Thornham Magna, a post mill site.

In the late 1980's, a lot of the roundhouses that Peter Dolman recorded in his *Suffolk Windmills* book were demolished, many to make way for houses in the Yuppy boom (apart from Darsham, which became a house, raised in height). Not all was lost. At Stonham Aspal (where there was a little roundhouse with a steeply pointed roof) a house on the site has a semicircular end to its patio. I assumed that this is formed using the footings of half the roundhouse. At Huntingfield, where there used to be the jagged remains of roundhouse walls, there is a house on the site, but right next to it can be made out a circular shape in the ground next to a corner of the house. Circular 'cropmarks' can also be made out at Bedingfield and All Saints South Elmham. I wonder if the site of the very fine 12-sided smock mill at Wangford is visible, as there is a circular feature on a grassed area at around the right place (TM468790). It was a saw mill as well as a corn mill, on a very low base, and was burnt in 1928.

The views reveal that some minor remains have completely gone: Alderton smock mill floor; the small smock mill base at Freckenham (the one at TL662716); Fressingfield roundhouse; both Mendlesham post mill sites; Nedging Tye roundhouse foundations; the plinth of Ralph's smock mill, Westleton. At Stanstead (in Suffolk) two large houses were built on the mill plot. I could have sworn that I could see the post mill piers forming a garden feature on the south side of the site, when seeing the houses from a distance on a walk c.2002, but there is nothing of the kind visible on the aerial view.

The aerial views are also good for searching for mill hedges, the circular hedges round windmill sites. A mill hedge, although not complete, can be seen at Chelmondiston near Pin Mill. At one time this post mill's fantail track was visible, but now there is just plain lawn.

I am puzzled looking at the site of Ilketshall St Lawrence, a little tower mill demolished in 1981. In the back garden of the house on this site is a circular feature. Is this a circular pond, or are these the mill footings?

Finally, as well as any complete mill looking impressive from the air, some sites with remains or mounds can look rather impressive as well. These include the Sweffling mills, the mound at Barking Tye (where I believe there are foundations left), Brettenham mill mound, and the bushy site of the post mill at Chippenhall Green, Fressingfield (TM287759) where there is a horseshoe shaped ditch.

NEWS

HOLDING WORK AT FRISTON

We plan to carry out some holding work at Friston post mill this summer but not as much as I had hoped earlier in the year. However I think I can do enough to halt the now rapid deterioration in the buck. There is some rot in the boards and ribs at the very top of the head. This means that the very vulnerable wooden brakewheel

becomes wet after a good rain. When the buck was repaired over 30 years ago the top side rails which project a little beyond the tail gable were not properly weathered. If the mill had commenced turning to wind this would not have mattered but as it did not, water penetration here has become serious.

Five years ago English Heritage had a steel frame erected to support the buck as the substructure was close to failure. There are substantial leaks where the supporting RSJ's pass through the buck, and these have already caused rot and need to be sealed. We hope that one day Friston mill will be restored, but until then we need to keep the wolf from the door. (C.H.)

HERRINGFLEET REPAIRS

At our Herringfleet open day last October we suffered a mishap. The mill was running well in a steady to strong wind and with hindsight we should have shortened down the four fully spread cloths. A sudden squall speeded up the sails and unfortunately the scoopwheel could not keep pace. Something had to give and a dozen



Fitting the repaired cogs. The light areas are resin repairs.

or so wooden cogs in the cast iron pitwheel were damaged as the wallower jumped over the cogs rather than driving them.

Our first plan was to replace whole cogs but this would be a very time consuming job as there is no electricity at the mill. The blanks could have been quickly sawn out in the workshop but that's only the start. Each cog has to be fitted individually involving much trying, whittling and trying again many times. We eventually decided to remove the damaged cogs from the wheel and make good the broken areas with epoxy resin. On the faces of the broken areas we fitted small screws to help the resin to key on. The resin consists of two liquids which are mixed together and some powder added to thicken it to a putty like paste. The mix becomes quite hot at this stage. They were made a little oversize and trimmed down with surform and sandpaper.

On our first open day this year we arrived early to fit the cogs. When cogs are re-fitted some form of shim is required and Clive Bamburger of Saxon Upholstery in Felixstowe had kindly given us some offcuts of a splendid William Morris pattern upholstery material. When fitting cogs with a cloth shim it is important to use strong new material. Old material will tear away and not follow the shank into the wheel. The work was completed as people began to arrive in the afternoon and some 100-150 walked down to the mill. We managed to put the wallower a little closer in mesh with the pitwheel and the repaired cogs ran just as well as the undamaged ones. Quite a good breeze enabled the mill to pump well without any danger of loss of control, a good day. (C.H.)

BROME POST MILL

After months of suspecting that the roundhouse walls of Brome post mill in the north of the county have been cleared, I decided to visit the site on Sunday 30th May. I drive past Brome on the A140 on a regular basis and I thought recently there had been something missing from the rather dilapidated site. The roundhouse had a conventional pitched roof until the early 1990's. Since then the whole site had become overgrown and fenced off from the neighbouring playfield and the adjacent house. The playfield is now part of the Airfield Industrial Estate and has now been turned into a mobile home site (Country Homes) and the fenced off area where the windmill once stood has been totally cleared of vegetation. There was no sign that there had been a windmill there. The site is marked by a pile of rubble, loose tarmac and soil. A half-demolished building and a derelict building remain along with an iron storage unit.

The post mill was built in 1818. It was demolished c.1900 and I have never seen an old photo of the mill when it was complete. It is a shame to lose yet another windmill, albeit minor remains of a windmill. (Bob Paterson)



Brome roundhouse in 1977

PLANS FOR BURES MILL

During our visit to Bures mill in May, owner Nick Temple outlined his ambitious plans to fit a new waterwheel for electricity generation. The old wheel was removed in 1932, since when the river levels have been lowered, controlled by an automatic sluice gate built in 1937-8. The headwater and tailwater were infilled in the 1960's, although underground conduits maintain some flow of water through the mill. To be worthwhile, a hydro plant needs to run as much as possible; here river flows vary between 0.6 and 25 cubic metres per second, giving a theoretical potential output of 100,000 kW hours, less any residual flows required by the Environment Agency. The plan would be to dig out the head and tail races and get water back to the original wheel chamber. The calculations are based on a waterwheel of modern design, with wooden paddles (easy to repair), such as the Zuppinger wheel installed at Lemsford mill, Hertfordshire in 2005. Sizewise, at least 18ft diameter by 10ft wide. A lot more detailed investigation is needed, but if successful the project would not only produce 'green' energy, it would generate money for the mill's future maintenance and greatly enhance its setting.

Since the removal of the ugly modern mill buildings in the mid 1990's, the truncated and unbalanced appearance of the older timber mill has become apparent. This results from the much lamented loss of almost all of the late 16th century mill building in the 1960's. Nick would like to rebuild this part of the mill, using evidence from the surviving fragment to create a convincing timber-framed and boarded replica. With careful attention to detail, this new work could be of interest in its own right, as well as returning the old mill to something like its pleasing early 1960's appearance. (M.B.)



Bures mill in November 2008. The cut-off end of the late 16th century range is clearly visible.

NEWS FROM BUTTRUM'S MILL

In view of concerns about the condition of the neck bearing (see last Newsletter), Chris Hullcoop carried out an inspection in early March. Although considerably worn and repaired in the past, it is considered safe to allow the sails to turn on the limited number of days the mill is open. The groove in the neck is probably old, but to be on the safe side it will be inspected again after a few hours of turning for any increase in depth.

The condition of the fantail is causing concern, and it really needs a coat of paint before next winter to prevent the onset of rot in the blades.

Late last year Sunshine Harvey, an eleven year old girl from the town, donated £50 to the mill after reading about it in the local newspaper. This money has been used to purchase a large banner which can be draped from the top of the mill to advertise that it is open. In recognition of her generosity, S.M.G. has presented Sunshine with a copy of Brian Flint's *Suffolk Windmills* and one year's honorary membership. (M.B.)

HOXNE MILL

Over several years now farmer and engineer Keith Hawes has been steadily working to bring the River Waveney's last complete watermill to a condition when it can grind a little flour for owner Ray Wheeler.

The cast iron gates have been repaired and set in a threshold made of greenheart wood. The wheel required extensive repair with many new starts cast at Thurton foundry near Yarmouth. The buckets have been replaced with Corten steel. This special steel is very expensive but like cast iron it rusts on the surface only and then becomes passive. Standard modern mild steel would rust continually through the whole section. Corten is particularly suitable for old (or new) waterwheels as it is very long lasting and keeps that authentic 19th century look. A waterwheel can't be painted and large components made from galvanised or stainless steel don't blend with a very old machine.

The pitwheel and wallower are cast iron while the great spur wheel is iron with wooden teeth. Keith has replaced all 140 cogs in applewood, a formidable task. He has now started on setting up a pair of stones to working order and making a new stone case and stone furniture. There is the remains of a stone crane and he is now designing and making the missing parts.

Congratulations to Keith and Ray on splendid work at Hoxne mill and we look forward to some of the first flour to be ground there for many years. (C.H.)

NEWS FROM BARDWELL WINDMILL

There has been great progress in the restoration programme of Bardwell mill during the past year. All the shutters have been sponsored giving a great boost to the funds. Thanks to all who have contributed. St Edmundsbury Borough Council has made a repair grant of £5000 to the Friends of Bardwell Windmill, which means much of the important repair work to windows, doors and painting

the cap can be carried out in due course. S.M.G. has also made a further grant of £400 towards the new sails.

Meanwhile, Jonathan and Tim have been working hard and have completed one pair of sails, shutters, whips and stocks, all at ground level. Jonathan has been busy making new ironwork for the shutter operating mechanism and engineer Michael Garrod has been helping Jonathan to make and fit new rollers and bracing stays to make the cap safe and ready to accept the first pair of sails. It is hoped to fit these later in the summer. A new set of windows has been made by one of our loyal supporters. At every stage, the restoration project is supervised and checked by consultant millwrights Luke Bonwick and Adam Marriott, not only ensuring work is carried out to the highest standards but also to help prepare the mill for the often harsh conditions to which it will be exposed. After each consultation, guidance is given for the next stage of work. Of course all this expertise has to be paid for, and your continuing support will be greatly appreciated to ensure that our fundraising is once again successful.

Our fourth annual threshing day will be held on Sunday 23rd August from 10.30am to 4.30pm. in the field opposite the mill. Come and see the corn being threshed using steam power, just as it would have been one hundred years ago. Refreshments and freshly baked bread will be available at the mill.

The mill will be open all weekend during Heritage Weekend 12th-13th September and we will be serving tea and refreshments on the Sunday. We are hoping to hold our regular art exhibition again in 2010. For further information on our events please phone Enid Wheeler on 01359 251331. (Friends of Bardwell Mill)

PROGRESS AT WICKEN WINDMILL

Maintenance

2008 was a very busy year at the mill, and 2009 promises to be every bit as busy. In August last year we hired a 'cherry picker' or mobile hydraulic lifting platform for five days. This was used to hoist our volunteer millwrights up to the level of the sail hub, so that we could paint the rear faces of the sails, and work along a horizontal sail. The backs of the sails are notoriously difficult to paint from ladders, but the job needs doing every three to four years. The painting work protects the wood from rot, as well as allowing us to detect weak spots.

For the August work-in we bought lead carbonate paste, cold pressed linseed oil and pure turpentine spirit, the principal ingredients of white lead paint. This purchase and hire of the cherry picker was assisted by a 25% grant from the SPAB Mill Repair Fund. We persist in using lead paint on the white upper works of the windmill partly because this was what was used during the mill's commercial working life, but also because of the good protection given to all the exposed woodwork and joints. It is good for the same reasons that it is poisonous: it is unhealthy for wood rotting agents.

We mix our own lead paint to a recipe obtained from Chris Wilson of Over windmill. The reason for mixing our own is to ensure that we have paint of a known high quality. For future

millwrights, the recipe is recorded in the Millwright's Data Book for Wicken Windmill, one copy of which is kept at the mill.

We hope to continue protective maintenance of the mill as funds permit. The next step would be to re-tar the northern six sides of the smock tower, again hiring a cherry picker for safety and speed. This work will be dependent on obtaining further grants.

Increased use of the mill

A very good way to ensure that the mill is in good running order is to work it frequently. This shows up imperfections, and curing them makes the difference between a 'stuffed and mounted' preserved mill and one which recaptures the feel of a genuine working windmill. There has been a gradual increase in sales of flour over the past few years, since the windmill ground its first bag of wholemeal following restoration in October 2001. We now sell three principal grades of flour: wholemeal, white, and a very fine white. The flour provides the windmill with a small but important income towards restoration and maintenance, and helps to publicise the mill. The flour is of high quality, and makes good bread. Let me encourage all mill supporters to experiment with making bread and cakes, and to share successful recipes. This not only helps the mill funds by increasing sales of flour, it also encourages the use of the mill for its original purpose, and helps maintain the atmosphere we are seeking, of a busy 19th century country flour mill.

2009 work session

At Wicken mill we continue the time honoured tradition of holding volunteer work-ins. These are a chance for our spare time millwrights to carry out major work, and for would-be millers to run the mill of an evening.

The wish to maintain contact with our volunteers, not to mention the endless effort and cost of keeping the mill in working order, have prompted us to set up a Friends of Wicken Windmill Association. Anybody interested in this, please contact me. The benefits consist of a newsletter, and the guarantee that you will not be pestered to buy flour!

The next Wicken work-in is August 29th-September 6th. During the work-ins people are welcome to be with us for anything from a few hours to all week! Planned work this year centres around commissioning the second set of millstones: this will allow us to take the other set out of service temporarily as the stone nut needs re-cogging. Voluntary help is still needed as much as ever, as we continue the mammoth task of maintaining, protecting and working the mill. If you would like to help (and assistance is by no means limited to skilled repair work) please contact me on 01664 822751. (Dave Pearce)

FURTHER SETBACK AT WOODBRIDGE TIDE MILL

After being turned down by the Lottery, the tide mill has been dealt another blow. For some years now the large wooden waterwheel has been deteriorating. Many of the paddle boards have been replaced and with a mixture of old and new boards not evenly distributed, the wheel has become out of balance. Now the wedges

securing it to the wooden wheelshaft have fallen out and it no longer turns.

The Trust will need to decide whether to repair the wheel or have a new one made. At such times there are thoughts of making a longer lasting wheel. Could modern materials such as plastic or fibreglass be used? The wheel is an important part of a Grade I listed historic mill. At Hoxne the repairs to the iron waterwheel with Corten steel have been carried out so they blend in with the old machinery. For the tide mill's wheel, only wood could blend in well while modern materials would not. I'm not at all sure of the best timber to use today. Would a tropical hardwood be more long lasting? With economic difficulties stretching ahead for endless decades, a new wheel every 20-30 years just can't be afforded. Times have changed and they just don't favour old mills. (C.H.)

EVENTS

S.M.G. ANNUAL GENERAL MEETING: SUNDAY JULY 12th commencing 11am at THORINGTON STREET WATERMILL, STOKE BY NAYLAND

This year's A.G.M. venue is the delightful watermill at Thorington Street near Stoke by Nayland. We visit by kind permission of the tenant, Bob Starling. The mill is complete and in working order, in fact little altered since it stopped commercial work in the winter of 1962-3. There is an internal iron wheel and three pairs of millstones. The late Peter Dolman carried out much repair work as tenant from 1987 to 1996.

Full details of the meeting including a location map are enclosed with this newsletter. It would be great to have a similar turnout to last year's A.G.M. at Kersey mill.

VISIT TO BARDWELL WINDMILL: SUNDAY AUGUST 2nd from 2.30pm

S.M.G. has a long association with Bardwell mill as we held a work-in there as long ago as 1979 when we built a new metal clad domed roof in nine days. The mill was subsequently purchased by James Waterfield who returned it to working order. The Wheeler family bought it a few months before the terrible storm of October 1987 when the mill's sails were blown down after the winding mechanism failed. Since then there has been a slow but steady renaissance, culminating with the fitting of a new winding cap in 2002. The visit will provide an opportunity to see the new work, including the sails presently under construction beside the tower.

The mill is easily found as it is right in the centre of the village, just round the corner from the parish church.

HERRINGFLEET WINDPUMP OPEN DAY: SUNDAY AUGUST 9th, 12 noon-5pm

This will be our second opening of Herringfleet windpump, the last regularly worked drainage mill on the Broads. See it while you can! Park in the car park beside the B1074 (signposted 'Mill Open') and follow the waymarked path down to the mill.
