

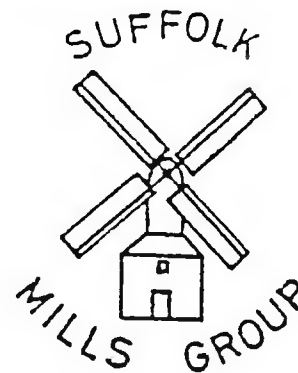
SUFFOLK MILLS GROUP

Newsletter

No. 54
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So far this year our events have enjoyed mixed success. The public film evening in February at the Talk Electric Centre in Ipswich was well attended, although it was fortunate we had several 8mm and 16mm films at our disposal as the Centre's video projector was out of action! Viv Codd's film of the Thelnetham restoration was premiered at that meeting and shown again at the S.P.A.B. Windmill Meeting in March and at our Bury St. Edmunds public meeting in mid May. This last event was very poorly attended indeed, a victim of inadequate publicity, rival attractions and above all a fine end-of-the-working week early summer's evening when the garden beckoned.

Talking of disappointing turnouts, our recent A.G.M. at Buttrum's Mill attracted only 14 souls, exactly the same number that came the last time the A.G.M. was held at the same venue in 1985. Yet for four years between, 1987 to 1990, attendances at the A.G.M. averaged 33. We need to arrest this apparent decline in interest otherwise S.M.G. could go the way of some other mills groups and exist in little more than name. We badly need a new injection of blood on our committee, but at the moment it's difficult to see where this is coming from as the appeal in the January newsletter was not answered.

On a more positive note, we are advising on the future of a number of mills at the moment and may be able to offer small grants in some cases. We have recently purchased a copy of the Simmons Collection historical notes on Suffolk wind and watermills for our archive. And finally, we are anticipating the purchase of a word processor to improve production of the newsletter. So if all goes well this will be the last issue typed on my faithful Imperial. Wait and see!

Mark Barnard

SUFFOLK'S LISTED MILLS

MARK BARNARD

Back in 1979 I compiled a complete list of the Suffolk windmills and watermills protected through being 'listed' as buildings of special architectural or historic interest (see Newsletter 11). At that time the lists were in a most unsatisfactory state, with large areas of the county relying on survey work done in the late 1940's. As a result of the major re-survey of 1982-7, the lists are now much more comprehensive, although there are still omissions. As listing is a continuous process it must be hoped these will be rectified given time.

Listed buildings come in three grades, defined in Appendix 1 of Department of the Environment Circular 8/87.

Grade I Buildings of exceptional interest.

Grade II* Particularly important buildings of more than special interest.

Grade II Buildings of special interest, which warrant every effort being made to preserve them.

About 90% of all listed buildings are in Grade II.

Windmills are listable if they are reasonably complete; a tower alone is listable even if the cap, sails and machinery are missing. Post mill roundhouses and stumps of towers are not usually listable. Watermills with machinery are listable. An empty watermill or one where just the waterwheel survives is meant to be judged as an ordinary building but in practice many are listed for their historic if not architectural interest.

Each entry on the list includes a short description of the building. With mills this can vary enormously in quality from a few lines, with no details of the interior (eg. Buttrum's and Tricker's Mills, Woodbridge) to descriptions with good, concise details of surviving machinery. Mill machinery is protected by listing, although in the past this has been seen as an area where the law is unclear. When the list description of an intact mill ignores the machinery, is it surprising if people conclude that it isn't protected? There is also another reason why machinery should be adequately described: since 1987 the Department of the Environment has directed that an application for the removal of any item which is fixed to a listed building and mentioned in the list description, must be referred to the Secretary of State if the local authority wish to approve it. Circular 8/87 states that if something is mentioned in a list description it is assumed to be of importance. Therefore mill machinery should always be described in enough detail for the main parts and important features to be readily identified. In the lists below I have tried to assess the quality of each list description, with particular reference to the mill's interior.

There are now 74 mills or mill remains standing in Suffolk which are listed, of which 2 are Grade I and 17 Grade II*. This compares with a total of 52 in 1979, of which 3 were Grade I and 7 Grade II*. The 1980's re-survey resulted in four mills - all watermills - being removed from the list, at Raydon, Badley, Weybread (Needham Mill) and Shottisham. All are house conversions, although Raydon contains machinery.

A few mills which are not listed still receive protection from partial or total demolition because they stand within a Conservation Area; examples are Mildenhall (Lark Roller Mills), Barnham tower mill and the base of Nayland watermill in Mill Street. It is also possible that one or two roundhouses and stumps are protected by being sited within the grounds of a listed mill house, as all buildings constructed before 1948 within the curtilage of a listed building receive automatic protection.

Please note that the tables below only include wind and watermills, not steam mills.

<u>BABERGH</u>	<u>Grade</u>	<u>Date Listed</u>	<u>Quality of list description, etc.</u>
Bures St. Mary	II	10.1.53	Fair.
Copdock	II	22.2.55	Good.
East Bergholt (Flatford Mill)	I	22.2.55	Good.
Hadleigh (Aldham Mill)	II	22.5.72	Good, but needs up-dating.
Holbrook	II	16.3.72	Fair but surviving gear not mentioned.
Kersey	II*	23.1.58	Poor; 'original mill machinery' acknowledged but no details of it.
Layham	II	24.1.79	Poor; no mention of internal machinery.
Monks Eleigh	II	23.1.58	Adequate.
Nayland (Wiston Mill)	II*	9.2.78	Fair; machinery acknowledged but no details given.
Polstead	II	10.7.80	Fair.
Sproughton	II	29.1.88	Good.
Stoke by Nay'd (Thorington St.)	II	9.2.78	Poor. 'Original mill machinery' acknowledged but no details given.
Sudbury (Brundon Mill)	II	3.3.52	Good.
Sudbury (Highfield Mill)	II	26.10.71	Good. Smock mill base.
Sudbury (Sudbury Flour Mills)	II	26.10.71	Fair. No mention of waterwheel.
<u>FOREST HEATH</u>			
Cavenham	II	16.10.84	Fair. Intact machinery acknowledged but no details.
Dalham	II*	7.5.54	Good. Down-graded from I in 1984.
Newmarket (Exning Mill)	II	26.6.84	Good. Now out of date.
Tuddenham St. Mary	II	14.1.87	Good.
<u>MID SUFFOLK</u>			
Baylham	II*	9.12.55	Good. Up-graded from II in 1986.
Buxhall	II	26.5.76	Good.
Creeting St. Mary	II	9.12.55	Good. Post mill buck at Alder Carr Fm.
Drinkstone (post mill)	II*	15.11.54	Good. Up-graded from II in 1988.
Drinkstone (smock mill)	II	15.11.54	Good.
Eye	II	20.10.71	Fair. Needs up-dating.
Framsden	II*	9.12.55	Good. Up-graded from II in 1987.
Hoxne	II	29.7.55	Good although machinery not detailed.
Mendham	II	29.7.55	Good.
Needham Market ('Bosmere Mill')	II	19.5.86	Good.
Needham Market (Hawks Mill)	II	26.5.81	Good. Needs up-dating.
Oakley (The Old Mill)	II	14.4.88	Good. House incorporating small remains of watermill.
Rattlesden	II	18.4.88	Good.
Syleham	II	29.7.55	Good (revised since Oct. 1987 damage).
Thorndon	II	23.6.88	Good. Roundhouse listed as such.
<u>ST. EDMUNDSBURY</u>			
Bardwell (watermill)	II	14.12.83	Good.
Bardwell (windmill)	II	14.12.83	Good but now out of date.
Euston	II	12.4.84	Good.
Great Thurlow	II*	20.5.74	Poor; no mention of machinery.
Great Welnetham	II	27.1.84	Good.
Haverhill (Mill Hill)	II	9.5.73	Listed in error as base of annular-sailed mill!
Ixworth	II*	14.7.55	Good. Up-graded from II in 1983.
Kedington	II	20.5.74	Poor. Surviving machinery not mentioned.
Pakenham (watermill)	II*	14.7.55	Good.
Pakenham (windmill)	II*	14.7.55	Fair.
Sapiston	II	14.12.83	Good.
Stansfield	II	13.12.91	Good.

<u>ST. EDMUNDSBURY (cont'd)</u>	<u>Grade</u>	<u>Date Listed</u>	<u>Quality of list description, etc.</u>
Stanton	II*	10.6.70	Good but now out of date. Up-graded from II in 1984. Also Ancient Mon.
Thelnetham	II*	27.9.84	Good but now out of date.
Wixoe	II	20.5.74	Poor. Surviving gear not mentioned.
<u>SUFFOLK COASTAL</u>			
Aldringham (Thorpeness)	II	25.10.51	Good.
Burgh	II	31.8.88	Good.
Campsea Ashe	II*	16.3.66	Fair. Complete machinery mentioned but no details given.
Felixstowe (Walton Mill)	II	10.2.86	Good.
Framlingham (Round House)	II	25.10.51	Adequate. Base of smock mill.
Friston	II	25.10.51	Fair.
Hacheston (Gleivering Mill)	II	19.11.84	Good but may need up-dating.
Kelsale	II	27.7.84	Good but may need up-dating.
Letheringham	II	16.3.66	Fair; now slightly out-dated.
Little Glemham	II	22.9.80	Good.
Melton	II	11.6.85	Remains of watermill listed with Old Mill House.
Saxtead	II*	19.11.84	Good. Also Ancient Mon. - just as well as not listed until recent re-survey!
Ufford	II	16.3.66	Good.
Walberswick	II	25.10.51	Good.
Wenhaston (watermill)	II	27.7.84	Good.
Wickham Market (watermill)	II*	16.3.66	Good. Up-graded from II in 1984.
Woodbridge (Tide Mill)	I	21.1.51	Poor. No details of interior & out-of-date.
Woodbridge (Buttrum's Mill)	II*	21.1.51	Poor; no mention of machinery at all. Up-graded 1981.
Woodbridge (Tricker's Mill)	II	13.3.70.	Poor; no mention of machinery.
<u>WAVENEY</u>			
Bungay	II	2.8.72	Fair.
Corton	II	16.6.92	Good.
Herringfleet	II*	27.11.54	Good.
Holton St. Peter	II	1.9.53	Good. Down-graded from II* in 1986.
Homersfield (Wortwell Mill)	II	27.4.87	Fair. No details of machinery.
Reydon (Blackshore Windpump)	II	29.7.76	Good.

Notes

The grade may have changed since the date of listing; up-gradings and down-gradings where known are indicated.

Clare watermill still retains its Grade II entry although believed to be cleared away following its destruction by fire in 1979.

BEARING UP UNDER THE STRAIN IAN CLARK

From April to December 1991 I was employed to undertake an extensive programme of conservation and machinery repairs to Alton watermill at the Museum of East Anglian Life, Stowmarket. The mill, originally situated at Stutton, near Ipswich, lay at the heart of a picturesque valley bottom which had been earmarked for a reservoir to provide much-needed water for the surrounding area. An inquiry held in January 1971 gave final approval for the scheme to go ahead - with one proviso. A suitable stream-side site was to be found so that the mill, house

and cart lodge could be moved and re-erected. Twenty years have now elapsed, a time to reflect on the effects of such a move and indeed many years active service as part of an important educational rôle at the museum.

The hardest task known to an engineer is to accurately lay out and position a series of holes or datums and be able to reproduce them, within working tolerances, to the work piece or site situation required. Let us now imagine moving an entire building, a mammoth enough task on its own, coupled with all the main and auxiliary machinery that makes up a working watermill. The mill, which dates from the 1790's, would have settled and finally rested to suit all of the natural influences and vibration brought on by the act of milling. One of my first observations during the dismantling of the machinery in 1991 was that the original centre line drawn through the vertical shaft had moved $5\frac{1}{2}$ " in a NE-SW direction. This was because the mill had been re-erected in a more perpendicular manner, and although this was not so detrimental to the fabric it had in some cases obviously proved extremely obstructive when repositioning major pieces of machinery. The use of original holding down bolts for positioning machinery and bearings is only valid providing the relationship between machinery and building has not altered from its initial installation.

It is of paramount importance that all machinery is positioned correctly and securely, observing fundamental elements of engineering practice. After all, many famous engineers, led by Smeaton, devoted many years of exhausting studies to improving the efficiency and economical running of mills.

Most mill bearings that we come into contact with, especially from the 1850's onwards, are of cast iron and a non-ferrous material mix. The quality and sophistication of these seems to vary enormously throughout the country and in some cases directly relates to the importance and wealth of a particular mill. Because of the nature of mill machinery most bearings were adjustable in every plane and often had to be because of their relationship with dependant pieces of machinery. A good example of this at Alton Mill is the stone nut spindle footbearings. These are of cast iron and yellow brass construction, held within a cast iron housing. A cup bearing is positioned in a cast iron housing which can be centred to obtain the correct alignment and gear mesh between stone nut and great spurwheel, and stone nut spindle and bedstone neck bearing. The bedstone itself is also adjustable within the hursting. The cup bearing is a good sliding fit in the housing as this is acted upon by a block positioned in a cast iron tentering lever actuated by the governor. Thus when the governor acts or when hand tentering is carried out the cup bearing and stone nut spindle are lifted in a vertical plane, so altering the nip between bed and runner stones. The cup bearings were in good condition, although new oil grooves were cut and adjusting bolts were unsiezed. This type of cup bearing is essentially an oil reservoir fed by an oil can via the oil grooves. The adjusting bolts should be kept clean and well lubricated with a

suitable compound or grease, otherwise future adjustment may be lost because of siezed threads.

A particularly badly worn bearing was the secondary intermediate neck bearing situated on the vertical shaft. Its design and construction coupled with misalignment had resulted in severe

wear. Two pitchpine timbers halved and anchored at either end were rebated to carry a split brass bearing which when brought together in a scissor action supported the top end of the vertical shaft. Unfortunately the shaft was leaning out of true by $1\frac{1}{2}$ " thus wearing on one side of the bearing only. A major original design fault was the lack of any mechanical means of holding the split brass together, other than two pieces of softwood positioned between the pitchpine carriers and the floor joists. As a new brass bearing was needed it was decided to incorporate a mechanical clamp and introduce a lubrication system previously omitted. The design of clamp had to avoid defacing the original timbers and emulating a similar bearing just under the floor providing identical support (see Fig.1). This was also made from two timbers but of oak, bored the correct size through the timber with no inserted split brass bearing. Interestingly this bearing had always been lubricated via a stauffer with lubrication grooves cut into the bearing surface. The timbers were held together with long bolts passing right through and clamped in the normal method, with nut and washer. Unfortunately, when re-erected the fixings holding the bearing timbers to the floor joists above had been built in under a new floor covering and reinforcing mesh for plaster. The removal of this bearing for cleaning proved more difficult than expected. This reiterates the need to completely understand the relationship between building fabric and machinery. Due to the enclosed and inaccessible construction of this bearing and a real need for lubrication, a forced grease system was used via a screw-down cap lubricator or stauffer. The back of one of the bearing halves was drilled and tapped $\frac{1}{8}$ " BSP and a short length of pipe was passed through a hole drilled widthways in the pitchpine. This was coupled to a stauffer just above floor level, enabling the operator to lubricate with ease, knowing that an unseen bearing was receiving lubrication.

Finally, again working on the dust floor, the auxiliary drive shafting and bearings required a complete rebuild. The shafting takes its drive via a large

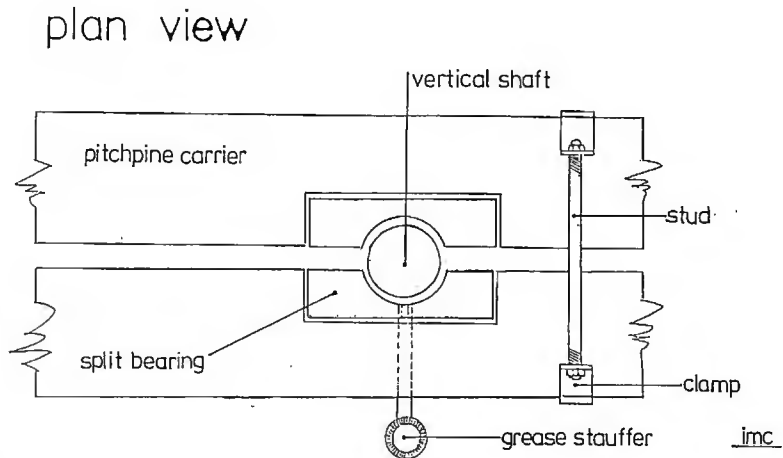


Fig.1 Vertical Shaft Neck Bearing

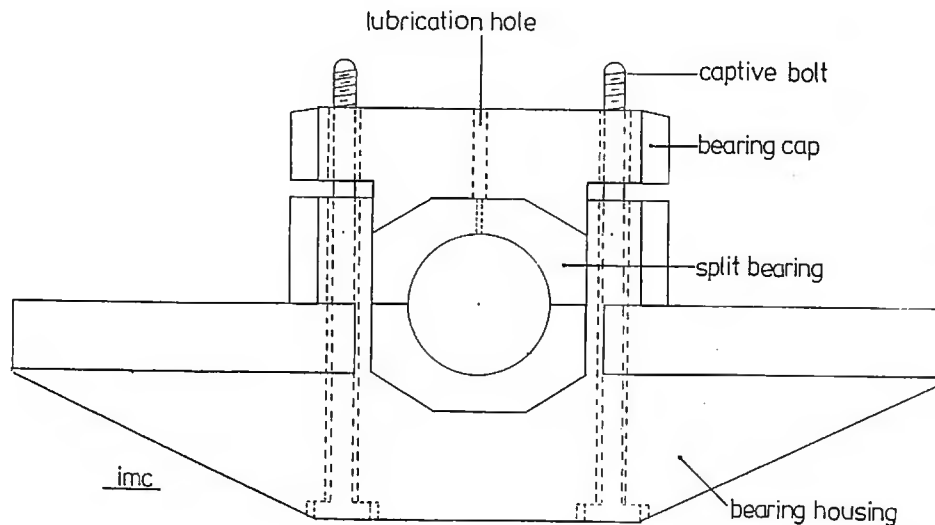


Fig.2 Vertical Shaft Top Neck Bearing

wooden crown wheel positioned on an oak extension to the vertical shaft. The coupling between the shafts is of interesting design, that I have seen often in the South East, where an 'Oldham' type is used, here a system of three wrought iron pins 2" diameter driving into sockets set into the end of the top shaft and a casting in the bottom. After many years of use the drive pins had worked themselves through the side of the casting and a very traditional repair of shrinking a metal band around the circumference had been carried out. The crown wheel probably pre-dates the rest of the main machinery, which according to an inscription on the pitwheel was rebuilt by H & C Collins of Melton in 1867.

Before the shafting could be started, the complete conservation and replacement of missing wedges from the crown wheel was undertaken. A passage from an inventory and valuation document dated September 24th 1879 describes it as 'A wood face wheel 6'0" high with 74 wood cogs and 2 throughshed arms'. I must have been lucky - I counted 76 cogs!

The top neck bearing was again badly worn, resulting in unacceptable movement, with the bearing support timber having to be given extra lateral support to counter-act the misalignment and wear. The support timber, held in position by two captive bolts from above, proved the theory that the machinery centre line had altered from original. The cast iron housing that held the neck bearing brasses, because of its design, had to be recessed into the timber before being positioned by four bolts. During the re-erection, to obtain the required alignment, the recessed slot had to be extended in a SW direction. Due to the poor condition of this timber - peppered with previous fixings - I made a replacement in chestnut. A new pair of split brasses was cast, machined and fitted, again incorporating oil grooves and grease stauffer. Also, because of its position and design, I fitted split pins in front of the bearing clamping nuts when finally installed to prevent any movement caused by vibration (see Fig.2 above).

With the crown wheel finished I began work on the auxiliary and drive shafting and bearings (see Fig.3). The shafting is divided into two parts, supported on four hanging bearings fixed to adjustable timbers and coupled together when required by a dog clutch. In recent years only the first half of shafting was used, to operate the sack hoist. The second part was purely placed in situ as both sets of split bearings and housing caps were missing. The dog clutch situated on this half slides on a back tapered spline, i.e. away from the working position. As it is disengaged, the taper of the

spline increases so that it tightens within the keyway machined through the clutch. This enables one to leave the clutch 'out of gear' but still be able to operate the first half safely. The first stage was to remove all the shafting, hangers and bearings to assess any damage, excessive wear and missing components.

On examining the first half of shafting, I was shocked at the condition of the split brasses. One bottom half had worn clean through with the wrought iron shaft running in the cast iron housing. This had resulted in some of the worst journal damage I have ever seen. The next journal along had suffered similar damage but this had been caused more by misalignment and minimal lubrication. To be able to run this half of shafting a complete rebuild was required. Because of the cost of pattern making it was decided to rebuild both halves of shafting, enabling the outer half to drive auxiliary machines in the future. Whilst machining the first half, the badly scored journal needed reducing by $\frac{3}{16}$ " to produce a new bearing surface. Luckily there was sufficient 'meat' to allow this. The second journal was also machined but needed far less work. When offering the shaft into the lathe, the position of the final drive gear interfered with a comfortable set-up. Unfortunately the key securing this gear had been welded into position making any removal very difficult, so it was left. Fortunately the two journals on the outer half, because of non-running, were in good condition. New housing caps and brasses were cast and machined using grey iron and LB2 bronze.

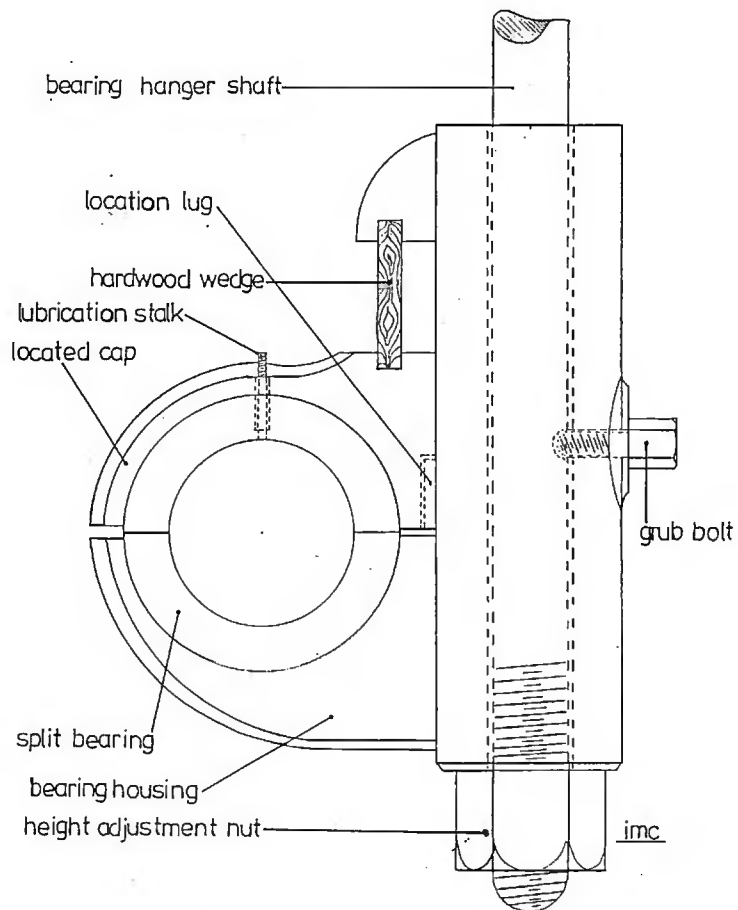


Fig.3 Auxiliary Drive Shaft Bearing

The brasses are held within the housings by a cast cap with a parallel slot across it. A hardwood tapered wedge is used to bring the bearing halves together. The design of the hanging bracket, with adjustable housing and cap, is not a very sophisticated design but has been rebuilt as original.

Here grease stauffers have been used for lubrication as these bearings absorb much turning motion and considerable torque as well as the entire weight of the shafts.

The mounting of the first half of shaft was very important, providing all the information for the second. The main criterion to be considered was the drive gear mesh in relation to the wooden crown wheel.

Due to the original fixings for the hanging brackets (2 captive bolts then 4 coach screws) the distance between the first bearing centre line and the final drive gear centre line keyed to the shaft was already set. My main consideration would be the root clearance between shaft gear and crown wheel when in mesh. To my horror, when the shaft was mounted it became clear that the final drive gear was out of mesh laterally by an inch. This was borne out by the wear produced by many years of running on the wooden crown wheel cogs. This wear must determine the original position of the final drive gear, so the shaft gear needed to be moved that inch. There was no choice this time, the gear key had to be removed, welded or not. After several hours of careful chiselling and two good hits with a hammer and bronze drift, it finally moved.

The height of the shaft was obtained by setting the shaft gear and crown wheel cogs at a start point to a correct root clearance, dividing the crown wheel circumference into eight equal segments, and then slowly turning the crown wheel and recording the clearance at all eight stations. Obviously the consistency of a cast gear wheel and that of a hand built crown wheel will alter, but not by very much. The differences are shared out to arrive at a happy working clearance. With the first half of the shafting set, the second was hung to it, making sure that the sliding dog clutch worked efficiently.

Another good example of the changed relationship between building and machinery was that the pulley working the sack-hoist was no longer in line with the chain drum pulley on the bin floor. Luckily an unused pulley within the cluster can be used.

Perhaps the only conclusions that can be drawn from all this is that like humans, machinery needs to be understood, looked after, and well lubricated!

A.G.M. REPORT

The 1992 Annual General Meeting was held at Buttrum's Mill, Woodbridge on Sunday June 21st. 14 members were present. Apologies were received from Chris Armour, Phil Bailey, Len Ball, Mr. Cauthery, Peter Dolman, Ed Goatcher, Alan Loasby, Douglas Pluck, John Snowdon, Peter Steggall and Alan Willmott.

The meeting commenced at 11.35am with an introduction from Chairman Chris Hullcoop. He said that Peter Dolman's second son had been born a few hours earlier so at least someone was taking the membership drive seriously! The minutes of the last A.G.M. were accepted as a true record (proposed Chris Wilson, seconded Des Codd).

Brian Flint then presented his last report as Treasurer. Receipts were slightly up and payments slightly down on 1990-1. The balance was approximately £3200 as of now. A grant of £125 had been made towards the removal of the post from Eye mill roundhouse for preservation, and £80 spent on copying the Suffolk mill notes from the Simmons Collection at the Science Museum library. Brian thought there was no need to increase subscription rates. Michael Roots asked why our public liability insurance premium had increased by 40% to £70. This was the first increase for a number of years. Chris Hullcoop stressed that we prefer to give our grants to people doing work themselves, rather than contribute what would be an insignificant amount towards a professional millwright's bill. The accounts were accepted as a true record (proposed Richard Duke, seconded Cliff Lovett).

Mark Barnard, the Editor, reported that he had produced two newsletters since the last A.G.M., although the average was still three a year. It was hoped to soon purchase a word processor to make the newsletter and other written work easier and quicker to produce. The A4 format of the newsletter was liked and would not be altered. The County Council leaflet on mills open, to which S.M.G. had contributed background material, would not now appear until 1993.

In the absence of Peter Dolman there was no report from the Secretary.

Election of the committee followed. Chris Hullcoop thanked Brian Flint for his 13 years as Treasurer. Brian was prepared to stay on the committee. As another Treasurer had not come forward Peter Dolman was to take on the role for the time being. Two members who might be candidates for the committee would be contacted. As the existing committee was prepared to soldier on, its re-election en bloc was proposed by Richard Duke and seconded by Quentin Garlic.

The prize crossword was then drawn (see News item below).

Under Any Other Business, Chris Hullcoop said subscription rates should remain unchanged for another year. He then gave an illustrated report on S.M.G. and other mill activity in Suffolk in 1991-2, highlighting work at Eye roundhouse, Thorington Street and Drinkstone smock mill. The meeting finished at 1.20pm.

In the afternoon several stayed to help carry out adjustments to the striking gear of Buttrum's Mill.

VANISHED MILLS PETER DOLMAN

DARSHAM POST MILL

The mill at Darsham is shown on maps of 1736 and 1783 as standing at 'Mill Hill', on the Yoxford to Westleton road at about Grid Ref. 421691. This mill is reputed

to have been moved to the later site (415702) in 1801, although Jesse Wightman, who knew the mill well, reckoned it to be fairly 'new' in construction. The mill contained an inscription 'July 6th 1801' and on its demolition the piece of wood on which it was inscribed was given to Rex Wailes by Robert Martin.

James Martin, farmer and miller, insured with Royal Exchange his 'Wind Millhouse timber built' for £125 and 'standing and going geers therein' for another £125 in March 1805. In July 1809 a notice stating the prices for milling (1/- a coomb) and dressing (1/- a coomb) was put up in the mill - it survived long enough to be quoted in 'Milling' in the 1930's. In November 1809 the 'new' post windmill, with 2 pairs of French stones and flour mill was offered for sale. In 1831 George Smyth was miller; he is listed until 1858. The mill then entered the Robinson family, of whom four generations are said to have held it (perhaps Smyth was related through marriage).

William Robinson is listed in 1864 and after 1879 William Robinson junior is listed. An 1874 directory lists a second miller, William Clarke, possibly occupying the period between father and son? William junior died in October 1907 and Mrs. Rose Robinson is subsequently listed, although a Mr. G. Holmes actually worked the mill, carrying it on in his own name after 1921, when it was bought by Mr. F. Simpson of Yoxford.

Work ceased on November 19th 1929 through storm damage (the swing pot bearing fell over while running in a gale and scored the windshaft badly) but the adjacent steam mill kept going, at least until the mid 1930's. The sails were removed in mid 1937 and the buck soon followed, dismantled by Robert Martin, the Beccles millwright. The roundhouse survived in good order, with the other buildings, until sometime in the 1980's when it was transformed into a rather ugly house, losing all its original features and doubling in height (although the trestle is reputedly still preserved, now at a higher position than when a windmill).

Darsham mill was a large-bodied post mill, originally open trestle, with the cross-trees (which were naturally cambered) at first floor level in the brick roundhouse, which had two floors squeezed into it, the upper one reached by a staircase. The buck was not lit by the usual large windows but had small shutters



Darsham mill in 1921

on the stone floor and proper windows on the spout floor. The buck was extended upwards to a purlin before the roof started its curve, a feature often signifying an old two-floor mill being converted to three floors. The roundhouse roof was tiled and the side boards remained at the level at which an open trestle would be boarded to; the effect was to give the mill an unusual appearance compared to the usual east Suffolk type of mill.

In one other respect it was very unusual (and possibly unique). In addition to two pairs of stones in the head it had a third pair on the centre line at the head of the spout floor, driven off a second spurwheel. The brakewheel was of wood, 10ft 6ins diameter, with heavy iron teeth (4ins. pitch) bolted on. The windshaft was exceptional, being an iron replacement for a wood shaft (nothing remarkable in itself) but keeping the same neck bearing size, at 22ins. the largest known for an iron shaft. It was put in by Simon Nunn of Wenhaston at the end of the last century and was cast by Garretts of Leiston.

The principal stones were both 4ft 6ins French stones and were driven by iron wallower, spur gear and mortise stone nuts. The neck box in one of the bedstones was a hexagonal wooden one, fitted by Simon Nunn, one of his odd specialities. The stones on the lower floor were 3ft 6ins French, on a wooden hurst frame. They were also overdriven with an iron spurwheel and mortise nut. Each pair of stones was separately regulated. The mill also contained a flour dresser with associated jumper across the back of the buck.

The sails were struck from inside and were normal double-shuttered patents of nine bays. The mill was winded by an eight-blade fly with the blades more square than usual and drove both wheels of the carriage through Whitmore-type bevel gearing. The fly posts were circular and believed to be salvaged ships' masts or yards. They (and perhaps the whole fly tackle) had previously been on Bramfield post mill. The tailpole remained, cut off where it passed through the steps. The buck contained one other surprise; the brake lever was on the lower floor, connected to the brake by a long iron strap. Altogether a most interesting mill, and being close to the main Lowestoft road one that attracted much attention from mill-lovers in the 1930's, for which we are grateful for the detailed records they have left us.

NEWS

SIMMONS COLLECTION

We have recently obtained a copy of the Simmons Collection of papers relating to Suffolk wind and watermills from the Science Museum, where these are deposited. Sid Simmons was a friend of most of the pre-war and immediately post-war mill enthusiasts such as Rex Wailes, Stanley and Cyril Freese and Denis Sanders. He travelled the county extensively in the 1930's photographing mills. His astonishing aim was to put in writing everything to do with mills in the British Isles - an unrealistic aim as it turned out but in the 30 years or so that he

devoted to the task up to his death in October 1973 he collected a huge amount of material. His favoured areas fared best - Sussex (his home county), the South East, East Anglia and Lincolnshire - but there are also files on other regions. Suffolk is covered in five volumes, four on wind and one on water, a total of nearly 900 pages. The material is patchy in coverage; maps are fairly well covered, old newspaper and insurance company records are more sparse. He tended to 'pick' on a year rather than do blanket coverage, due to the vast amount available, so what might appear to be comprehensive at first glance isn't necessarily so. The best material is the descriptive notes of mills and machinery derived from his own fieldwork and that of others, and notes of reminiscences of old millers and millwrights. One of the least satisfactory parts is the lists of millers from old directories, for without detailed knowledge of the counties he tends to put millers' names against the wrong mills in cases where more than one mill existed in a parish. The other historical references also suffer from this to a large extent.

The material needs to be treated with care therefore, and references must be checked against other sources (such as tithe maps and census returns) rather than taken at face value. Some of the field notes are dubious, too, with errors of assumption and interpretation sometimes being obvious, sometimes not! The Simmons Collection needs a 'health warning' on it - other counties have already suffered from too strong a reliance on Simmons by modern writers.

I will be incorporating the Simmons material into my own files, and correcting Simmons where I find errors as I go. The intention is to create a single 'database' for Suffolk mills. Much material is held currently by Brian Flint and myself, with considerable overlap; but access by other researchers is difficult due to the material being in private hands. S.M.G. would like to see the records being kept on computer files so that they can be made available to all. While this is still a long way off, the Simmons Collection and my own material can be seen by prior arrangement. If only one mill or parish is to be studied then copies could probably be supplied. The collection is not available on loan! (P.D.)

PROGRESS AT THORINGTON STREET WATERMILL

The Spring working week-ends have resulted in the hurst frame being considerably strengthened and the floor adjacent to it being renewed. As some jacking up had occurred, the wallower (which was loose on the shaft) was realigned and re-wedged. After a thorough clean out the mill is now looking very tidy and can once more be allowed to turn. The water supply is very low, with the prolonged drought, not helped by abstraction for farm irrigation. Recently the mill was visited by two N.R.A. hydrologists to ensure that no 'abstraction' was taking place while the mill was running. As the tailrace re-joins the main river after a few yards there was no problem, but they said that if the river bank between the mill and the end of the tailrace had belonged to a different owner then a licence may have been required!

Plans for further work at the mill include completion of external redecoration and minor repairs, and the setting up of one or two pairs of stones to working order. Dates are August 1st & 2nd, September 12th & 13th and October 10th & 11th. If you can help please contact Peter Dolman on Ipswich 742388.

WALTON MILL FIRE-DAMAGED

Walton smock mill in Felixstowe narrowly escaped destruction by fire on the evening of Thursday 18th June. It was only saved by the prompt and courageous action of Mr. Bloomfield, the owner. He saw smoke coming from the mill and after calling the fire brigade, fought the fire with buckets of water, climbing up into the smoke-filled tower. The brigade soon had the fire extinguished and the mill damped down. How it started is a mystery as there is no electricity in the mill and no inflammable substances or machines are kept there.

No machinery survives in the mill but it is a nice little smock tower and the rarity of smock mills in Suffolk is recognised by its listing. A good roof was fitted about 10 years ago but now the corrugated steel sheets which covered the old boarding and kept the weather out for so long have mostly blown off and the eight sides have gaping holes in them. We plan to meet Mr. Bloomfield and hopefully if he is willing to carry

out repairs we could offer a small grant towards purchase of covering material.

I recall old Sam Wall of Felixstowe, a retired clock and watch repairer and keen local historian who passed on aged about 100. Many years ago we were looking at a copy of the superb photograph of Walton mill taken by Mr. Emeny in 1893. It shows it in full working order and also the house, the miller's family and a horse and cart. Sam Wall told me he was there with Mr. Emeny when he took the photograph! (C.H.)

S.M.G. PRIZE CROSSWORD

This year's crossword attracted 11 entries, all of which were correct. The winners



Walton mill after the fire, showing badly charred cant post & boarding

were eventually drawn at the A.G.M.. First prize of a framed watermill print went to Russell Jones and second prize (£10 book token) to Brian Flint.

The solution is as follows. Across 1.Bures 4.Drapers 9.Raydon 11.Girt 12.Nayland 13.Hooper 14.Set 16.ReinIron 17.Quants 20.Eyes 21.Thaxted 22.Fylde 25.Acle 26.Floor 28.Roding 32.Icklesham 33.Chain Down 1.Bircham (or Burnham) 2.ReydonQuay 3.Stone 5.Rollers 6.PlanSifter 7.Spider 8.Titt 10.Nar 14.Side 15.Tower 18.Aythorpe 19.Tadworth 21.Trefriw 23.Lag 24.Deben 27.Oaks 29.Dome 30.Neck 31.Cap.

CORTON MILL LISTED

The tower mill at Corton, near Lowestoft was listed by the Department of National Heritage on June 16th 1992. Dating from around 1840, the mill was out of use by the First World War. It has long been stripped of machinery and the tower has been reduced in height by one floor. The original upper floors remain and bearers can be seen for four pairs of stones although it is believed that only two pairs were ever fitted. There is consent for house-conversion (see Newsletters 45 and 46) but work has yet to commence. (M.B.)



LAST REMAINS OF EYE MILL

Early this year all the debris in the roundhouse was cleared out by Ben Platts-Mills, contracting for Persimmon Homes who are developing the adjoining $3\frac{1}{2}$ acres of land with 48 houses. A few interesting parts came to light, including the neck block which held the cast iron chair in which the swinging pot neck bearing swivelled. In 1967 Vincent Pargeter and I searched for this in vain as we wished to use it to replace the broken one at Framsdan mill which we subsequently repaired. Also found half buried was the wooden bridge tree with bridging box and footstep bearing for the single pair of overdriven stones in the head. We rescued these pieces together with a crusher made by Turners of Ipswich which Richard Seago and I had dragged out earlier. All the timber and iron had been placed in neat heaps and the elder and brambles cut down and burned. Most of the pieces although decayed could be recognised and we felt rather like forensic investigators at a post mortem (post mill mortem!) trying to piece together the remains of what was once a fine mill.

It won't be long now before the houses are finished and already some are

occupied. The developers will then attend to the roundhouse. Persimmon have said they are willing to retain the roundhouse walls up to the tops of the piers but not fit a roof. The original proposal from the architect was demolition leaving just a raised ring of bricks to mark the site. We feel the walls should be retained to their full height or a little less, and a shallow conical roof fitted. We have sent full details to Persimmon and to the District Council, who have yet to decide the listed building application submitted in January.

Some years ago I spoke on mills at a gentlemen's club dinner and mentioned the demise of the 'romantic old ruins'. 'There's one' said the chairman, pointing to a member of the committee! They are nearly all gone though, either demolished, house-converted or restored in some form. What a wonderful experience it was to explore a derelict mill, treading carefully on half-rotten floors and quietly as if not to disturb those who might be watching unseen. Those old ruins often gave a last opportunity to see original details in a mill - everything was either as built or modified in the mill's working life, no threaded rod or builder's deal boards anywhere. While abbeys and castles can survive and be maintained as ruins, most mills cannot, except perhaps as tower shells as at St. Benets Abbey in Norfolk. Post mills certainly can't and Eye was one of the last. (C.H.)

WORK ON WAVENEY WINDPUMPS

Reinstatement work has recently commenced at Caldecott Mill, Fritton which was gutted by fire early last year (see Newsletter 51). The fire damage was so severe that little more than the brick shell was left in situ. The tower is receiving extensive repair (see photograph opposite) followed by new floors. Millwright Richard Seago is renewing the machinery, re-using salvaged ironwork wherever possible. Fortunately the windshaft is intact. The intention of the owners, a Great Yarmouth-based company called Venture Forth, is to build a proper boat-shaped cap (before the fire there was only an aluminium roof on the original cap frame), and possibly a working fantail. Work is expected to be





completed by 1993.

The next drainage mill down-river, Black Mill at Belton, is the latest to be the subject of the Norfolk County Council / Broads Authority windpump protection programme, aimed at simply conserving what is left rather than restoring. This mill was rebuilt in 1907 using Fletton bricks which had eroded badly, allowing vegetation to take hold and give the tower a 'hairy' appearance. The tower has now been re-faced and tarred, and new doors and windows fitted (see photograph opposite). Later this year the cap and windshaft will be removed and a temporary roof fitted. (M.B.)

DEVELOPMENT AT BURES MILL

Plans are afoot for the residential conversion of the watermill at Bures, recently vacated by Hitchcocks (see Newsletter 48). An application to demolish the 20th. century additions to the watermill was made earlier this year. Even without these additions the mill is still a large building, mainly 18th. and 19th. century but also incorporating part of a 16th. century structure. Nothing of the water-driven machinery is thought to remain.

We hope to publish more on this mill, and the other mills in Bures (yes, TWO others also survive!) in future newsletters. (M.B.)

EVENTS

'WORK-INS' AT WICKEN SMOCK MILL, CAMBRIDGESHIRE: JULY 25th - AUGUST 2nd & AUGUST 22nd - 31st.

This year Wicken Windmill Preservation Group are concentrating on all the work required to get the cap lifted back into place. We will be completing tasks on the cap frame (new 'windshaft tail beam', restraining straps for the neck bearing, etc.), fitting the fan gearing, completely 'nogging up' the roof framing, and boarding the roof. At the same time Chris Hullcoop and Cliff Lovett will be finalising the new wooden curb ring.

We plan to lift the cap on in the autumn (watch this space for the actual date!), but the timing is critically dependent on how much time our volunteer supporters can make available. If any readers would like to spend some time working on the restoration (ranging from an hour or two to days) do please come along. Either turn

up 'on spec' in the work-ins, or preferably telephone Dave Pearce on 0664 822751.

VISIT TO POST MILL BUCK AT ALDER CARR FARM, CREETING ST. MARY: SUNDAY AUGUST 9th from 2.30pm.

This large re-used windmill buck is thought to be the last such example in the country. It was moved here whole sometime before 1880 and converted into a dovecote, being given an attractive hipped and gabled tiled roof. Long disused, the roof has now gone and the original boarding is starting to fall off. It has no future on its present site as it is right beside the converted barn where the owners, Mr. and Mrs. Hardingham live. Over the last ten years the farm has been developed into a successful 'pick your own' enterprise, with many of the buildings repaired and put to good use. It is now proposed to move the buck to a new site within the farm complex, where it will be repaired and used once again.

Members are invited to come along, take a good look over the buck and then suggest ways in which it can be safely moved the short distance without being dismantled.

Alder Carr Farm is at Grid Ref. 091553. From Needham Market take Hawks Mill Street; after passing Hawks Mill and crossing the second river bridge, turn right (down a track) just as the road bends sharply to the left.

OPEN DAY AT HERRINGFLEET MARSH MILL: SUNDAY SEPTEMBER 20th from 1pm.

This will be the third and possibly last opening of Herringfleet in 1992, so let's hope we'll be luckier with the wind than we have been on the last few occasions!

FUTURE VISIT TO JORDANS, HOLME MILLS, BIGGLESWADE

We are hoping to arrange a visit to millers Jordans at Biggleswade in Bedfordshire for later this year. This may have to be during the working week to ensure the mill will be operating. If you are interested please contact Chris Hullcoop on Felixstowe 671462.
