

#### WALTHAM ABBEY

At the meeting in London in October 1991 it was decided to explore the possibility of a joint meeting between the Group and interested local societies in the Lea valley in spring or early summer 1992, to visit the Waltham Abbey site and discuss its future. Unfortunately a visit is not possible as the area is now closed for reasons of safety. The possibility of holding a meeting is still being explored, on either the 23 or 30 May at the Lea Valley Regional Park Authority's Countryside Centre. However a Planning Forum has already been organised for 29 February which some members of the GMSG have been invited to attend. It may therefore be inappropriate for the Group to hold a separate meeting. Members will be informed of any definite plans.

#### AUTUMN MEETING, BATH, 31 OCTOBER - 1 NOVEMBER 1992

Provisional arrangements have been made by Brenda Buchanan for a meeting based at the University of Bath, including visits to the Woolley and Littleton gunpowder sites, in association with local industrial archaeology groups. The fee for the meeting, including coffee, lunch and buffet supper on Saturday, administration and gratuities, will be between £15 and £20.

It is proposed that members book their own accommodation and that arrangements are made to meet informally on the Friday evening, if enough people wish. We shall meet at the University from 10 am on the Saturday morning for an introductory talk by Brenda Buchanan and possibly others. A ploughman's lunch will be provided at the University and after this we shall visit the Woolley site. Please note that numbers will be strictly limited for this part of the programme.

We shall return to our places of residence at about 5 pm and then meet at 7 pm at the Industrial Museum for a tour of exhibits, a buffet supper and an opportunity to give short talks or slide presentations if members wish.

On the Sunday morning we shall visit Littleton, then meet for a pub lunch before dispersing.

An indication of the number likely to attend is needed before further plans are made. Would those who are interested please write, enclosing a s.a.e. for further details, to Mrs B J Buchanan, 13 Hensley Road, Bath BA2 2DR by the end of March.

#### SPAB WIND & WATERMILL SECTION

**Mills Tour, 3 - 6 September 1992.** This will be based at Lancaster University. It is proposed to include visits to the Gatebeck and Sedgwick gunpowder sites.

**Watermills Meeting, Saturday 14 November 1992.** This will be held at the Institute of Child Health, Guilford Street, London (near Russell Square). The main theme for the afternoon session will be gunpowder mills and it is hoped to include a talk on the RCHM's recent survey of the Oare Works, Faversham. Further details from Clare McLaren, SPAB Mills Section, 37 Spital Square, London E1 6DY.

## REPORT OF 1991 AUTUMN MEETING. Alan Crocker.

On Saturday 12 October the Group held a one-day meeting at Birkbeck College, London. The first speaker was Alan Crocker who described a visit he and Glenys had made during August to the working gunpowder mills at Aubonne in Switzerland. An account of this visit is given on page 4 of this Newsletter. The talk was supplemented by coloured slides of the site including the coppice barn and furnace, the exteriors of many of the buildings and the interiors of the sulphur sifting house, the four incorporating mills, the pressing, corning, glazing and dusting houses and the proving mortar. The main topic of discussion was that the technology and safety arrangements are different from those which were used in Britain.

The talk was followed by members' contributions from Ken Bascombe and Jenny West. Ken reported on the closure and sale of the Waltham Abbey site, where the Group held a meeting in October 1988. He explained the various possibilities for the future of the site and its buildings and for the storage and display of the artefacts and archives relating to the gunpowder industry (see notice on page 1). Jenny explained the background of her book Gunpowder, government and war in the mid-eighteenth century which had just been published. She emphasised supply, distribution, legislation and trade as well as the manufacture of gunpowder. The book is reviewed by Michael Wilks on page 7.

Glenys Crocker brought the morning session to a close by giving an account of a 1753 inventory of the Faversham and Chilworth mills. This contains detailed information about the equipment and is part of a deed of co-partnership which throws light on the firms operating at this period. Subject to permission from the BP Company, who hold the document in their private archive, she plans to publish an edited transcript of the inventory in due course.

During the lunch break, members were able to inspect a copy of the transcript of the 1753 inventory and the following three books:

- (a) Poudrerie Federale d'Aubonne, visite des installations, in French and German, 30pp, 28 photos, card cover. Intendance Federale des Poudres, Berne, 1980.
- (b) A Brunisholz, C Hildebradt & H Leutwyler, Poudres, bombes et obus, in French and German, 347pp, many illustrations, hard cover. Lang Druck Liebefeld, Bern, 1983.
- (c) La poudrerie de Pont-de-Buis, 1688-1988, in French, 80pp, many illustrations, 1988.

After lunch Frank Tallett spoke on 'Gunpowder, cannon and the siege of Metz in 1552'. He explained that by 1450/60 better techniques were available for casting guns and cannons resulting in smoother barrels, that iron rather than stone cannon balls were being used, that the optimal length of gun barrels had been established and that corned rather than serpentine powder was widely used. Also the rate at which a gun could be fired was increasing, reaching perhaps eight

shots in an hour in the 17th century. However guns were still not very accurate and were therefore of little use in the battlefield. Nevertheless they could be used effectively in siege warfare in order, for example, to destroy medieval castles. Thus in 1494 Charles VIII of France destroyed in 8 hours an Italian castle which had earlier survived an 8 year siege. This led to military architects and engineers redesigning castles to have low, thick walls of turf, wood and brick, rather than high, relatively thin stone walls. A good example of the new system in Britain is provided by the defences of Berwick-on-Tweed.

In 1552 Henry II of France over-ran the German city of Metz which was near the French border and had a mixture of old and new defences. The Duke of Guise was put in charge and, expecting reprisals, took stock of the available artillery and gunpowder and found the supplies to be low. The gunpowder was up to 30 to 40 years old! However there was a large stock of saltpetre so he ordered the setting up of gunpowder mills to be powered by humans and animals. The attacking army of the Holy Roman Empire, which had over 40,000 men but only six pieces of artillery, arrived in October. They attacked the town and managed to breach the walls but the defenders made good use of their small swivel guns and repelled them. Then on 20 November the Emperor arrived with 114 heavy cannon and in three attacks, each lasting two days, fired a total of over 4,000 shots. Part of the city wall collapsed but the inner defences held. By January 1553 the beseigers were dying of cold and disease and the survivors gave up and left. The defenders on inspecting the attackers' camp were appalled by the squalor.

As a result of this and similar sieges it was realised that it was very difficult to take a fortified city by force, that a more effective method was to starve the defenders, that winter was a bad season to attack a city and that rapid firing swivel guns were very effective. Consequently wars became long-drawn-out affairs. Frank's talk led to a long discussion on the use of cannons, the weight of cannon balls and the amount of gunpowder needed for a siege. The 4,000 shots mentioned above would have needed about 400 barrels of powder!

After Frank Tallett's talk we looked at a set of coloured slides of the ICI gunpowder mills at Ardeer in Scotland. When the Group visited the site in April 1990 (see Newsletter 7) we were not allowed to take photographs. However our member Miles Oglethorpe, who works for the Royal Commission on the Ancient and Historic Monuments of Scotland, was able to return later and took these slides. They show exterior and interior views of the range of four incorporating mills which we visited. In particular several show the iron edge runners with their complex suspension mechanism clearly visible and with the painted red and white crosses on the faces which indicated any slipping. Others show the electrical drive and gearbox in the basement, a self-righting tub and the conical 'extinguisher hole' in the wall of the mill. There are also slides of the blending house, the press house, with the remains of its

hydraulic press, and an outside toilet. Miles has now been able to visit the site on several occasions and has arranged for further recording work to be carried out.

Keith Fairclough, David Hansell and Gerry Moss then gave members' contributions. Keith read a fascinating newspaper account of a court case in 1762 in which a worker at the gunpowder mill on Hounslow Heath was found to have £100 and 103 bags of saltpetre at home (see page 11). David showed an overhead transparency of a photocopy of a page of one of Humphrey Davy's notebooks about the principles of making good quality powder for shooting (see Newsletter 5, p7). It will be remembered that Davy was a partner at the Ramshurst powder mills, Tonbridge. Finally Gerry showed slides of Elterwater, Bassingill, Sedgwick and Lowwood mills taken on the Group visit to Cumbria earlier in the year. He also showed a slide of some of the stencils rescued by Mike Davies-Shiel from Blackbeck.

Over tea we had our usual business meeting and thanked Michael Wilks for again arranging the excellent accommodation at Birkbeck College. Unfortunately for us Michael is retiring so that the same favourable arrangements will not be possible in future. Also as the attendance of 15 or so people was rather disappointing this year it was decided to plan a meeting elsewhere in the country next October. It was also decided to explore the possibility of a meeting in the spring or early summer to discuss the future of the Waltham Abbey site, if possible with other relevant organisations. It was agreed that with the publication of the present Newsletter it would be worthwhile producing a booklet based on the significant material published in the first ten issues. Glenys Crocker has agreed to edit this publication. Otherwise it was decided that the Group should continue to be managed in the same rather informal way that seems to have been successful in the past.

#### **VISIT TO THE FEDERAL GUNPOWDER WORKS, AUBONNE, SWITZERLAND. Alan Crocker**

In June GMSG member Ken Major let Glenys and me know that the Newsletter of the International Tools Historical Association had reported a visit by their members to a working black powder mill in Switzerland. We knew of the existence of this mill as a few years ago Ron Grosvenor, a Group member in Australia, had sent us a copy of an illustrated booklet, published in 1980, describing the works. Since then we had not been to Switzerland but the ITHA suggested that the mill might close in the near future so we decided to try to visit it during the summer. We therefore got in touch with Jean-Mario Fischlin who had arranged the ITHA visit. He was very helpful and in August we spent three hours on a tour of the mill, which is at Aubonne, near the north shore of Lake Geneva about 25km west of Lausanne.

The mill was established in 1853, renovated in 1974-6 and partially converted to electric power in 1980. It is operated by the Swiss Army and produces powder for mining, artillery, hunting and fireworks. It also refurbishes old powder from foreign suppliers. M Fischlin took us to the mill and introduced us to M Fiaux, the manager. After a brief discussion in his office, when it became clear that the rumour about the works closing was unfounded, the four of us toured the site together. Most of the buildings are of timber and stone and have pitched shingled roofs. They are located along the bottom of a small valley between the river and a mill stream, the water-powered processes being arranged in series.

Refined saltpetre is imported from Israel but is pulverised on the site. The sulphur is imported from Germany and sifted in a silk dressing-machine. However the charcoal is all made at Aubonne using Swiss alder for coarse powder and Yugoslavian alder buckthorn for fine powder. This wood is dried for up to three years. On our visit a large quantity was being stored temporarily in the open under plastic sheets but was shortly to be moved to a new wood store which was nearing completion. This consists of a series of shuttered barns served by branches of a tramway system. The trams are essentially wheeled iron crates in which the wood is taken directly into a single large furnace. The wood is carbonised at 500 C for 6 hours for black charcoal and at 300-320 C for 8 hours for brown charcoal which is used for fine powder for hunting. After firing, the charcoal in its tram is taken from the furnace, bursts into flames and is cooled in the open using a water spray. The method contrasts with the small but multiple furnaces used in Britain and Denmark. The charcoal is made in batches over a period of two to three weeks and during this time no gunpowder is produced.

Mixing of the three ingredients is carried out in the incorporating mills and not in rotating barrels. There are four of these mills, all very similar except that two individual ones are powered by water and the remaining pair by electricity. The edge-runners, which are suspended, are of iron and weigh 5 tonnes. They rotate at 10 turns per minute and between 900 and 1200 turns are used for the different qualities of powder. We were surprised to find that they were powered from above rather than from below. There is no tank of water above each mill to douse any fire. However a large horizontal disc is placed beneath the crown wheel to prevent items falling on to the charge. No crosses are painted on the edge runners to indicate any slippage. We were able to observe these mills in operation, including, in one of them, a workman removing the mill cake, which contains about 10% water, from the pan.

In the press house we watched the mill cake being broken with wooden mallets, passed through a sieve and then the particles placed on to an endless belt which passed between rollers to produce a sheet of gunpowder between 5 and 10mm in thickness. As it emerged a workman broke this slate-like sheet into pieces and collected them in a box. The corning house was not working but we were able to see the corning machine, which

consisted of an endless belt to carry the broken-up sheets of pressed powder to the top of three pairs of toothed bronze rollers mounted vertically. The resulting granules are sieved in a separate machine in the same room. The grading used is between 1 and 15 grains per gramme for blasting powder to 100,000 grains per gramme for finest hunting powder.

The polishing and glazing house was working. It contained eight large wooden barrels, each capable of holding 200-250 kg of powder, which rotate 20 times per minute. Four of these barrels were water powered and four very new ones were electrically powered. The corned powder, which now contains about 8% water, is rotated in these barrels for between 4 and 24 hours, depending on the quality, to remove the rough corners from the grains. It is then dried for 24 hours at 40 C in the stove, which is heated by steam pipes from a remote furnace. We did not see the interior of the stove. The powder is then returned to the barrels and turned for a further 5 to 20 hours for polishing with graphite. Finally it is sieved to remove dust. In this building we were able to put our hands in barrels of gunpowder and let it trickle through our fingers! The oldest equipment at the works, probably dating from the 1850s, is a dusting machine through which the finest hunting powder is passed. This consists of a near horizontal cylindrical screen which rotates about its axis. The dust is extracted by an overhead fan system. At the entrance to the site is a testing eprouvette, much smaller than the mortars we know in Britain.

At the end of our tour we had a glass of wine with M Fiaux and M Fischlin and looked through a wonderful collection of historic drawings of buildings and equipment at the site. These have been rescued by M Fiaux and deserve detailed study. We also acquired one of the few remaining copies of a book entitled Poudres, Bombes et Obus on the history of gunpowder, bombs and artillery in Switzerland and in particular of the three mills at Worblaufen (1762-1919), Coire (1858-1976) and Aubonne (1853-present). We were also given a copy of La Poudrerie de Pont-de-Buis, 1688-1988, commemorating 300 years of powder making at a mill in western Brittany. In return we presented our hosts with copies of the GMSG Gazetteer and The Gunpowder Industry Shire Album. So, it was a very exciting and instructive visit and we encourage all GMSG members to try to see the Aubonne mills. Perhaps we should arrange a formal GMSG meeting in Switzerland?

Jenny West, Gunpowder, government and war in the mid-eighteenth century. (Royal Historical Society Studies in History 63: The Boydell Press, Woodbridge, 1991). pp.242 + xiii. £35.00. ISSN: 0269-2244.

Dr West needs no introduction to members of the GMSG, and it will come as no surprise that her latest book is essential reading for all members of the Group. After a useful survey of the history of the gunpowder industry in England from the time of the earliest known gunpowder mill at Rotherhithe in 1555 and the development of the Ordnance Office, her main concern is the supply of powder under government contracts during the years between 1740 and 1775, but concentrating on the situation during the Seven Years War (1756-63) which created greater demands and therefore greater problems than the industry had to face than at any previous period. Although rivalry with France and her allies was a permanent feature of the century, the alternation between times of peace and war meant a sharply fluctuating demand for gunpowder with which the industry could not cope efficiently. Unlike the guns themselves, the powder could not be saved up and stored for long periods: demand accordingly dropped drastically during peacetime, and the resulting unemployment left the contractors ill-prepared to meet the sudden increases required when war broke out. Meanwhile the manufacturers had to rely on the supply of markets in places like North America and Germany and domestic non-military users. Although much more work remains to be done on the supply of powder to other bodies such as the East India Company, the book makes a major contribution to the history of the subject by its highly informative analysis of the system of distribution to the Army and the Navy both at home and abroad, and the government's attempts to control private production and export by means of legislation, licences and financial incentives. The production of gunpowder was always a very risky financial enterprise. Quite apart from the physical hazards of fire and explosion (which made it virtually impossible to insure the mills), there was very inadequate quality control, highly erratic proofing and testing standards, constant complaints about bad powder and worse distribution, and an urgent need for extensive reprocessing at the very time when the demand for new powder rose dramatically - and the longer the war went on, the more serious the position became. Jenny West's extremely detailed assessment shows that shortages continued throughout the war, with little more than half the powder demanded actually being supplied. One wonders how Great Britain survived at all. That it did so is a tribute to Pitt's leadership, however much his aggressive policies exacerbated the difficulties of gunpowder supply. The consolation was that the French gunpowder industry appears to have been in no better condition.

What made the position more precarious than it might have been was the government's exclusive reliance on the capacities of ten mill-sites, all in South-East England and relatively close to London. One of the most valuable aspects of this excellent book is the thorough investigation of the mills at Bedfont, Dartford, Ewell, Molesey, Oare, Waltham Abbey and Worcester Park, all operational in 1756, with Hounslow and Chilworth added to the list of government suppliers during the next

three years (and in fact a good deal is said about mills in many other places). After Dutch supplies stopped in 1759 the government thought it could meet the situation by purchasing Faversham, which has a whole section of the book to itself. In practice this did nothing to ease the crisis, and simply rubbed in the point that the more gunpowder that was produced, the more was going to fail: "Faversham mills fared no better under direct government administration than under private ownership, no better than other mills and, in this war at least, brought more problems than relief". One of the most important questions asked by this study is why no attempt was made to use other mills or to revive earlier ones. The answer, or at least part of the answer, seems to be simple miscalculation about both the scale of the conflict and the ability of the existing mills to provide what was needed. But there was also very little thought given to improved methods of production and new techniques: "War", she writes, "was not the best time for that sort of change, while peace usually eliminated the immediate need for it." Nevertheless crown ownership of Faversham opened up the way for Congreve's reorganisation of the whole gunpowder business later in the century, and Jenny West has some illuminating remarks to make about such matters as the changes from stamp mills to edge runners, horse power and water power, the use of steam and better drying methods, and revised proportions of saltpetre to the other ingredients. It is this sort of combination of technical expertise with historical scholarship which makes the volume an outstanding one. It is all the more a pity that the index is so far below the high standards of the rest of the book.

Michael Wilks

**K R Fairclough, Temple Mills as an industrial site in the 17th century, Essex Archaeology and History, 22 (1991), 115-121.**

Keith Fairclough is well known to members of the Group for his work on the Lea Valley mills in Essex. His latest article deals with the various industries which were carried on at the Temple Mills site. Temple Mills were probably corn mills originally but from the early 17th century onwards were used for other industries including oil and blue starch. They were converted to gunpowder manufacture after they were leased in 1642 to John Berisford, one of the major suppliers to the parliamentary side at the beginning of the Civil War. The mills were associated with several different gunpowder makers in subsequent decades, though evidence for gunpowder manufacture on the site is at some periods inconclusive. By the 1690s new mills had been erected for dyewoods. Later industries included lead mills, twining and twisting yarn, silk and calico printing and flock manufacture.

**Report from the Select Committee on Explosive Substances, together with the Proceedings of the Committee, Minutes of Evidence and Appendix, 1874.**

A copy of this important document in the history of explosives legislation appeared in catalogue 71 (autumn 1991) of the bookseller William Duck, The Glebe House, Brightling, East Sussex, TN32 5HE (tel. 042 482 295). Price £150.00



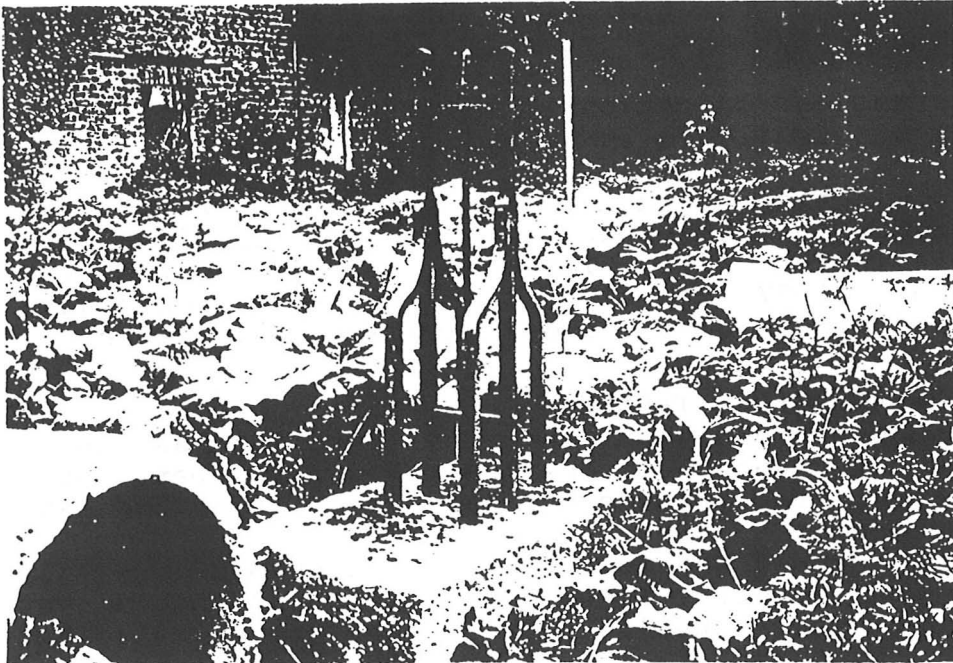
W S Curtis, Black powder, the propellant, Target Gun, part 1 December 1991, 47-52; part 2 January 1992, 61-3.

This article provides a short account for those interested in shooting with black powder of the history, manufacture, ballistic qualities and current availability of the product. The illustrations include line drawings of machinery, portraits of members of the Curtis family, photographs of grain sizes, labels and canisters and of a firing of the mortar which was formerly used by the Birmingham Proof House.

#### CORKAGH PARK POWDER MILLS

Vincent Conaghan has recently prepared a feasibility study for Dublin County Council for a reconstruction and display of the powder mills at Corkagh Park near Dublin. The mills were operated in the early 18th century by members of the Grueber family, who were also active at Faversham and Chilworth, and they closed in the early 19th century. Corn milling was also carried out on the site.

Among the remains is the piece of equipment shown below. Can anyone suggest what this was used for?



#### KINTERBURY POWDER WORKS

Charles Trollope has noted Kinterbury Powder Works marked on a naval chart of Plymouth of 1893. The site, which has now been developed for housing, is at SX 444 573. Does anyone have any knowledge of this?

## BLACK POWDER PLANT AT ARDEER: SURVEY BY THE ROYAL COMMISSION ON THE ANCIENT AND HISTORICAL MONUMENTS OF SCOTLAND.

Following the Group's visit to Ardeer in April 1990, member Miles Oglethorpe was able to return to record the remains of the black powder plant for the RCAHMS. Some of his colour slides were shown at the London meeting in October 1991 and since then he has provided the Group with a set of 48 black and white photographs with descriptive captions. These include general exterior views of the incorporating mills and views along roads and tramways showing steam pipe-lines, interior views of the incorporating mills and associated electric motors and switchgear units and many other details.

## NEWS FROM AUSTRALIA

It was reported in the News-sheet of January 1991 that member Ron Grosvenor's Tamworth Gunpowder Company Limited had been registered in New South Wales and that he had retrieved a lot of equipment from the ICI black powder works in Melbourne. An earlier report on his project appeared in Newsletter 5, p2.

Last September he reported that he had been digging and, to the discomfort of his neighbours, blasting the rocky ground to put in the foundations for his mills and that the concrete block walls would be going up shortly. By the beginning of 1992 these were well advanced. He has also been continuing his search for information on charcoal woods world-wide and on species probably not available in Europe.

Ron is also collecting black powder method books and has provided the Group with copies of those for the ICI Deer Park works in Australia for 1971, 1954 and 1935-46 and for the Ardeer works for 1967 and 1953. He is also obtaining information about current black powder manufacture in Japan.

## PENNYROYAL GUNPOWDER MILLS, TASMANIA

The Shire Album on the gunpowder industry lists this as one of the few museums of gunpowder in the world. We have just received a postcard from friends who have been there and make the following comments:

'... a Disney-like spoof and tourist trap in an old unsightly quarry near the town centre! Glass fibre crushing wheels (but real wooden 1980s water wheels) all in one stone building! Diesel powered 'restored' tram, Volvo diesel powered steam paddle boat with single screw and dummy beam engine with shaft actually rotating backwards ... superb scenically ... very friendly ... having a marvellous time.'

## WELSH NATIONAL SLATE MUSEUM, DINORWIC

Ken Major notes that this museum holds a narrow gauge black powder waggon and also has a display of powder management which contains several artefacts.

## SOME 18th CENTURY RECORDS

Keith Fairclough has contributed the following items which he has noted while searching for information on the Lea Valley:

John Rule in his book The experience of labour in eighteenth century industry (1981), p125, notes an incident reported in the Sherborne Mercury & Yeovil Advertiser, 21 February 1762:

'In 1762 the house of a labourer earning nine shillings a week from the gunpowder mill on Hounslow Heath was searched. In it were found more than £100 in cash, almost a cart load of matches, a large number of deal boards, a great quantity of candles, 70 bottles of lamp oil, two bushels of new nails and 103 bags of saltpetre. Such booty pointed to systematic embezzlement over a long period, but the newspaper account accepts that some of it was legitimate. Some workers at powder mills had "liberty at their leisure" to split deal and dip it into the brimstone ... thus supplementing their wages by the sale of matches'.

In August 1719 an inventory was made of the estate of Richard Cosbourne of Shoreham in Kent, gunpowder maker [PRO, PROB 3/18/231]. In the woodhouse next his house were 'twenty old powder Barrells' valued at one guinea, whilst in the warehouse at the powder mill were 'Six score barrells of gunpowder £275; working Toolles for the Stove and houses 5/-; charcoles £1 5/-'. There is also an item described as 'bricks at the New Mill' valued at £1 8/-. Nothing else is relevant to a powder business, but amongst the debts due to him were £200 from several pensioners at Chelsea and £60 from several mariners and other seafaring men.

Did Cosbourne work a powder mill at Shoreham, or was his mill elsewhere in Kent? His name never appears as a supplier to the Ordnance Board.

In January 1722 an inventory of the estate of Tannaguy Azire of Fulham was presented by his widow Hester [PRO, PROB 3/21/17]. No hint of a gunpowder business is given in the goods appraised, but a note at the end states that the 'deceased at his death was possessed of a Lease of some Powder Mills in the parish of Fulham which went at a much higher Rent than the same is worth and therefore of no value but a loss to this Exhibitant'. Azire appears as an supplier to the Ordnance Board between 1707 and 1715 [PRO, WO 48/46-53, passim] and was probably related to the Paul Azire & Co who supplied powder between 1705 and 1707 [PRO, WO 48/44-45, passim] and the Peter Azire, a Huguenot refugee, who was at Faversham mills between 1685 and 1694 [London Gazette no 2092, no 3001; PRO, WO 49/220] and who supplied the Ordnance in the early 1690s [PRO, WO 48/29,31 passim].

POWDER MILLS AT TONBRIDGE, KENT. David Hansell.

Following the note in Newsletter 9, p8 it would be helpful to distinguish between the two sites both commonly referred to as 'Tonbridge Powder Mills'. The confusion between them is primarily due to Hasted in his History of Kent.

The earlier mills were at Old Forge Farm near Southborough (TQ 5943), then in the parish of Tonbridge, and lasted from 1771 to about 1820. The site is now agricultural. For the following account, I am largely indebted to Mr H Bennett of Southborough who has researched the Kent Archives.

A partnership was formed in 1771 between William Moon, carpenter, and Thomas Moon, yeoman, Richard Hooker, and Samuel Croft, gunpowder maker of Battle (head-hunted or ambitious?). They leased part of a hop garden, two orchards and a pig sty at Old Forge Farm, with the use of a dwelling there, for £10 p.a. ground rent, and raised capital of £850 (from the Moons and Hooker). 'Common and double proof powder' were to be made. Profits were to be divided, a half share to the Moons, a quarter to Hooker and a quarter to Croft.

In 1772 Thomas Swayne purchased a third of Croft's quarter share and Croft agreed to teach him the 'art and mistry of Gunpowder making' Croft's share in the partnership had been to supervise the manufacture, weighing the charges, and he was not required to give his constant attention to routine matters.

The enterprise does not seem to have been a financial success. Further capital had to be raised following an explosion in 1774, and interest payments were not made owing to the cost of raw materials and wages. Because pestle mills were used, a special Act of Parliament was needed - George III, CAP xiii, passed 26 November 1772 - extending to Old Forge Mill the exemption already given to Battle, Crowhurst, Seddlescombe and Brede in Sussex.

By 1807 the business belonged to Thomas Hewlett who was granted permission to install six more mills. It is not known whether these were in fact built. The last reference I have found is the Tithe survey of 1809 where Hewlett is paying £84 on a site of 94 acres. By 1838 the site had reverted to agricultural use.

The Ramshurst (Leigh) Mills were those established by Burton, Children and Davy in 1807, sold to the Curtis's in 1859. The site (TQ 5747) is still industrial and is owned by Smith Kline Beecham. I described them to the Group at our Faversham meeting in 1987. I still have a few copies of the booklet on Humphrey Davy and Tonbridge available if anyone is interested.

The ICI Archives have provided a print-out on the Tonbridge mills - this also confuses the Old Forge and Ramshurst sites!

A SCARBOROUGH IRONMONGER AND GUNPOWDER DEALER IN THE EARLY  
19th CENTURY

Geoffrey Boothroyd has provided some details from old business records of correspondence between a Scarborough ironmonger, Simeon Lord, and his various suppliers of gunpowder during the period 1810-14. These are among a collection of bygones and documents which was presented to the town of Scarborough by a member of the Lord family in 1965, as reported in the local newspaper The Mercury on 25 November of that year. The material is now in Scarborough Museum.

Simeon Lord left his alum mines at Peak (Ravenscar) in 1790 to set up an ironmongery business at Newborough with his partner George Hawson. In addition to hardware, the firm sold guns, powder, flints and shot. The following are examples of orders for gunpowder:

Pijon, Andrews & Wilks. 24th July 1810.  
34 Throgmorton Street, London.

½ bbl. Canister gunpowder £8-5-0d

½ bbl. Paper gunpowder £7-10-0d

Messrs. Joseph Harrison & Joseph Ellis. No. 30 Tooley  
Street, Southwark, London.

1 Firkin patent shot.

Charles Laurence (Late Hammonds)  
Gun Powder Mills, Battle, Sussex.

22nd May 1811.

100 Super Treble Strong Gunpowder in canister @ 1/2½d per lb.

By The Albion, Captain Wilson. £16.10.0d.

Teakens & Love, Battle. 31st July, 1811.

100F Gunpowder in 4qr. barrels. £8-0-0d.

Powder bought from Pijon Andrews and Wilks,

½ bbl. S.T. Corner, Gunpowder 10-10d

½ bbl. D.3. Paper ditto. 11-10d

Chas. Lawrence & Co., Battle. 14th March 1812.

50 lbs. canister gunpowder with your name, (]lb) @ 330/-d £8-5-  
0d

Teakin & Love, Battle. 28th May 1813.

25lb. Treble Strong gunpowder. @ £15

25 lb. Canister -do- @ £16-10-0

at per 100 lb.

Agreeable to your esteemed order the above was this day forwarded to London and shipped 7th June in board the Spring, Thos Briggs for York. Hope it will arrive safe and merit a continuance of your favours.

Pijon, Andrews & Wilks, 34 Throgmorton St., London 15th October 1815.

½ barrel Tower strength gunpowder. £8-5-0d

Shipping 2/6d.

### Notes

What was paper gunpowder?

'Pijon, Andrews & Wilks' is clearly Pigou, Andrews & Wilks, who operated at Dartford, Kent.

'Teakens' is probably the Jeakens of Durrant & Jeakens, and later John Jeakens, at Brede, Sussex (see GMSG Gazetteer). However there was a Brook, Jenkins & Co recorded in 1787 at the Sussex mills and it is possible that either Jenkins or Jeakens is a mis-spelling. Love is not recorded in the Gazetteer.

'Charles Laurence (Late Hammond)' is interesting as Hammond was active in the late 17th and early 18th century and according to the information in the Gazetteer, W G Harvey was at Battle in the early 19th century.

Is anyone interested in following up this information and clarifying the history of the Sussex mills? - Ed.

A further note on the Battle powder mills - John Upton has reported that he led a party around the site late last summer and found that, apart from the ponds, there is virtually no evidence now of this large active complex ever existing.

### CHANGE OF ADDRESS

Jenny West, Hilldown, Saville Road, Stoke Bishop, Bristol BS9 1JA (tel. 0272 685526)

David and Elizabeth Wood, 11 The Embankment, Twickenham TW1 3DU (tel. 081 892 3039)

11/11/11 11/11/11 11/11/11