

mark before the report is heard; so that it maketh a noise not by way of warning, but triumph. It is questionable whether the making of gunpowder be more profitable or more dangerous. The mills in my parish have been five times blown up within seven years, but blessed be God, without the loss of any one man's life."

Singular to say there is no documentary statement existing of any fatal explosions of gunpowder in Waltham Abbey mills for nearly a century after the earliest recorded account of their existence. The first fatal explosion is given in the old parish registers, under date October 4th, 1665—"Buried, Tho. Gutridg killd with a Powder-mill;" and on the following day (5th) was "Buried, Edward Simmons Carpenter—so killd." The Simmonses were old residents in the town. The next entry is rendered peculiar by the omission of the word *by*, viz.:—"Buried, Peter Bennet, of y<sup>e</sup> Town, killed y<sup>e</sup> Powder Mills, Nov. y<sup>e</sup> 27—1720."

Two hundred years ago, John Walton, a relative of Izaak Walton, the celebrated angler, resided in Waltham Abbey, and possessed the Gunpowder Mills in this town. On October 20th, 1675, he married, in the Abbey Church, Lydia Freeman. In the time of the local historian, John Farmer, John Walton was a gentleman of considerable substance and influence in the town; this may be gathered from the respect in which he was held by the historian, who was by profession an attorney, and consequently a wealthy man in his day. In the *preface* to the *History of Waltham Abbey*, by John Farmer, 1735, the author says—"I pay my first compliments to John Walton, Esq., to whom I am obliged, as for a long and beautiful series of favours on this and many other accounts, so in particular for his assiduity and goodness in obtaining me the liberty to take copies from the records in the Tower of London, of the

original charters of this once famous Abbey, and of many other authorities and valuable papers which enter more or less into the following history." Farmer also dedicates his *History of Abbees* to John Walton Esq. Of John Walton's powder mills, Farmer writes—"Near the town on one of these rivers, are curious gunpowder mills, which supply the nation with great quantities of gunpowder, being esteemed the largest and completest works in Great Britain, and are now the property of John Walton, a gentleman of known honour and integrity." In this work, Farmer has given an engraving of the Powder Mills as they appeared in 1735. On the head of this engraving, is a list of the various buildings used for making gunpowder, twenty-one in number, viz.:—1, a horse mill; 2, the corning and glazing engine; 3, 4, 5, three horse mills; 6, stables; 7, the coal mill and composition house; 8, the carpenters and millwrights workhouse; 9, the clerk's counting house, and the watchhouse; 10, the loading house; 11, 12, two stamping mills; 13, 14, two dumb mills; 15, the charging house; 16, the old composition house; 17, the store house; 18, the dusting house; 19, the little stove; 20, three sun stoves or drying leads, for drying powder by solar heat; 21, the great stove. The horse mills were probably similar to the incorporating mills now in use. In the *Annual Register*, vol. viii., p. 149, is the following note under date December 3rd, 1765—"Two powder mills blew up at Waltham Abbey, but happily no lives were lost." In 1770 Peter Mailman, an Essex historian, wrote respecting the river Lea and the Waltham Abbey Gunpowder Mills, namely—"Near the town on one of these rivers are several curious gunpowder mills upon a new construction, worked by water, the old ones having been worked by horses. They are reckoned the most complete in England, and will

27.11.1720



27.11.1720

time a minister (a certain Doctor of Divinity who held a special license for preaching both within and without our Established Churches), went several times on the Sunday afternoons and preached among the ruins to large congregations. May the like never happen again to our church, is the heart desiring prayer of the compiler, whose ancestors have worshipped within its walls for many generations."\* The writer may, however, refer in this passage to the inconvenience experienced by the Parishioners a few years later, when extensive alterations were made in the Abbey Church, although it must be mentioned that Mr. Pickthall, the successor of Mr. Mullens, was then in residence.

On the arrival of the Rev. J. Mullens in October, 1801, the new minister proceeded to attend to the Registers which had been neglected during the vacancy. He carefully made good the omissions in the records, from memoranda left by the former Curate and from information supplied by the faithful Parish Clerk, Mr. John Carr. The last entry in the Register of Baptisms in the handwriting of Mr. Colnett is dated 23rd January, 1801. Thirteen baptisms appear to have been solemnized during his last illness, and his successor after recording the particulars added the following statement: "The above copied from the writings of the late curate Isaac Colnett, found subsequent to his death—what follows up to October 18th, 1801, from the handwriting of the Clerk. Various persons during that Period having performed the duty. *John Mullens*, present curate, October, 1801." This memorandum is followed by seventy-one entries, the first of which is dated March 15th, and then follows a similar statement, namely: "The above from May 15th copied from the handwriting of the Clerk on my taking Possession of the Curacy, October 25th, 1801, *John Mullens, A.B.*" The date *May 15th* is a clerical error, as the first of these entries in the Register is dated *March 15th*. Below the entries inserted at the close of the year he also adds the note: "The above have been duly entered as they appeared at my acceptance of the Curacy of Waltham Holy Cross, September 21st, 1801." In the parallel column the records of funerals were inserted and the entries after 28th November, 1800 (when Mr. Colnett officiated for the last time), until the 18th of the following October (when Mr. Mullens took possession), number fifty-six. The new Curate here also appended the note: "All the above copied from the writings of the Clerk found on my arrival October 25th, 1801. *John Mullens, A.B., Curate.*"

Three months after the death of Mr. Colnett a terrible explosion occurred at the Royal Gunpowder Factory, involving the loss of nine lives. The following account of this sad event was published in the *Gentleman's Magazine* of 1801: "April 18th, between three and four in the afternoon, the corning mill, at Waltham Abbey, blew up, with a great explosion which was sensibly felt all round the neighbourhood. Eight men were blown to pieces into the adjoining meadow, and four horses, much mangled, were left near the mill wheels; fragments of a ninth man were found on

the third day. This fatal accident is ascribed to the overheating of one of the gudgeons of the mills, and had nearly happened a fortnight before. Three of the men have left families, and others only widows. One of these men was the substitute for another who had a narrow escape from a former explosion, and on this occasion had obtained leave of absence. The mill was worked the last time previous to a complete repair. The magazine of dry powder was not 200 yards distant and 400 tons (it must mean *barrels*) of powder had been removed from the mill in a boat not long before it blew up. Sixty-two years ago a similar explosion took place in the same buildings, when one of the men was so completely destroyed that only his clothes were found on Galley Hill." This explosion occurred on the Horse Mill Island in Waltham Marsh, and the names of the unfortunate victims were Henry Hodgson, Thomas Bilton, Richard Ricketts, John Bailey, John Lake, John Miles, Joseph Gibbs, Henry Martin and William Mead. It is said that their mutilated remains were interred together under one mound near the grave of the Rev. I. J. P. Colnett, which adjoins the East path of the Churchyard, but only one name is recorded in the Parish Register in an entry evidently inserted by the Clerk and now almost illegible. It reads as follows: "1801, April 22nd. Henry Martin, one of the eight men killed by the explosion in the Powder Mills on the 18th instant." The writer was probably not aware that nine men lost their lives on this occasion. The son and namesake of John Bailey who was born in the following October, six months after his father's violent death, eventually served the Parish as its last Beadle and occupied the office for many years. His grandson James, a young man of exemplary character, was engaged as Foreman at the Cam House, Lower Island, when the fatal explosion occurred on 13th December, 1893, and he and eight of his men lost their lives. The following entries, with reference to earlier explosions, also occur in our Registers: "Burials, 1665, October 4th. Tho. Guttridg, killd with a Powder Mill; Oct. 5th, Edward Simons, Carpenter, so killd"; "1694, March 6th. Robt. Sherbert, killd by ye Powder Mills"; "1720, November 27th. *Peter Bennett of ye Town, killed (by) ye Powder Mills*" "1727, May 8th. Francis Shadwick, accidentally blown up by Gunpowder." We do not however meet with any record of an explosion in 1739 as mentioned above in the extract from the *Gentleman's Magazine*.

(To be continued.)

J. H. STAMP, Curate.

22nd December, 1903.

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The *Daily Graphic* of 7th December, 1903, contained an interesting reference to "*Harold's Minster*, and the dangerous condition of the Tower," illustrated by three excellent sketches. In the opening lines the writer remarks: "If there is in the length and breadth

\* Pages 63-64.



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## EXPLOSIONS AND THEIR PREVENTION

It will be observed that so far little reference has been made to accidental explosions. Their repercussions and the alterations to manufacture made as a result of them are so important that the stories concerning them, as far as they are known, have been brought together.

In the early days of the factory and, indeed, of all gunpowder factories, explosions were frequent. They seem to have been regarded as inevitable and little effort was apparently made to enquire into causes or take steps to prevent a recurrence until the Government took over the factory. The lack of scientific control or understanding of underlying causes of explosions as well as the somewhat unpredictable habits of gunpowder encouraged a fatalistic attitude. Such explosions as we know of seem to have been slight, e.g. Tom Fuller's reference to the mills having been five times blown up within seven years, without loss of life, and an entry in the Annual Register dated December 3rd, 1765, "Two powder mills blew up at Waltham Abbey but happily no lives were lost."

More serious explosions undoubtedly did occur, for in an account of a Corning House explosion in the "Gentleman's Magazine" for 1801 there is brief reference to a similar explosion which had occurred sixty-two years earlier (1739) when one of the men killed was "so completely destroyed that only his clothes were found on Galley Hill".

From the time the Government took over in 1787 the records of explosions seem to be fairly complete. There were many explosions of "green" or partly milled charges in the mills and they were usually without very serious results and the following examples show:

"Sept. 9th, 1789. This morning, at 11 o'clock, the two new or iron mills blew up. Tho. Runball, the millman on duty, had just liquored the charge, and happened to be outside; he received no hurt. The Master Worker says this mill has frequently blown up."

"Feb. 4th, 1790. This morning, at 1 o'clock, one of the Queens Mead mills blew up, which entirely unroofed same. The charge had been worked an hour. Thos. Graylin, millman on duty, set fire to his jacket; but he received no bodily harm".

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Explosions were, in fact, so frequent that we can only refer to a few of the more serious ones or those possessing features of special interest.

In 1793 it would appear that steps began to be taken to tighten up regulations and made the manufacture safer. On Feb. 23rd, for instance, an order was issued that no beer admitted to be drunk at any part of the manufactory, nor any dogs admitted "up the Bank". On Feb. 27th, gravel was discovered "at the bottom of a shoe belonging to a labourer at New Corning House", and the master mixer was instructed to go and examine the shoes at frequent intervals. Following this instruction we note many references to men being stopped a day's pay for not obeying orders with regard to shoes.

On May 28th a piece of hard flint was found on the sieves at the Old Corning House, having gone through the press and corning frame sieves. Orders were issued that the charges should always have covers on them when removed.

On May 29th two Engineer Officers arrived "to set out the proposed traverses". This appears to be the first mention of the traverses now so universally used to confine the effects of accidental explosions. No record elsewhere at an earlier date is known to exist.



Sunday the powder-mills at Waltham Abbey  
blew up; the explosion greatly alarmed the  
neighbourhood. A man that was at work in  
the mill was burnt in such a manner that it is  
thought he cannot recover.

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1758



27. A dreadful explosion took place this morning about eleven o'clock, at the government powder-mills, at Waltham Abbey. The concussion was distinctly felt in and around the metropolis, more particularly in Stepney, Hackney, and Blackwall. Two mills, together with a corn-mill-house, and other buildings, were blown to atoms, and we lament to say, eight valuable lives were involved in their destruction. The following are the names of the sufferers:—Parker, Stevings, Grapes, Goates, Betcher, Wakeling, Chappell, and Wilshe. The only surviving person, Thursday night, was Wilshe, but he was not expected to live. They were all married men with families, except Goates.

511

On Saturday morning one of the powder-mills at Waltham Abbey blew up; one of the workmen was killed, and another wounded.

760

13. At Waltham Cross, Mr. William Marchant, Surgeon to his Majesty's Powder Mills.

774

1760

1338



On Monday evening, about nine o'clock, three of the powder-mills at Waltham blew up, but happily no lives were lost.

1762



WYSC 11

3.12.1765

original charters of this once famous Abbey, and of many other authorities and valuable papers which enter more or less into the following history." Farmer also dedicates his *History of Abbees* to John Walton Esq. Of John Walton's powder mills, Farmer writes—"Near the town on one of these rivers, are curious gunpowder mills, which supply the nation with great quantities of gunpowder, being esteemed the largest and completest works in Great Britain, and are now the property of John Walton, a gentleman of known honour and integrity." In this work, Farmer has given an engraving of the Powder Mills as they appeared in 1735. On the head of this engraving, is a list of the various buildings used for making gunpowder, twenty-one in number, viz.:—1, a horse mill; 2, the corning and glazing engine; 3, 4, 5, three horse mills; 6, stables; 7, the coal mill and composition house; 8, the carpenters and millwrights workhouse; 9, the clerk's counting house, and the watchhouse; 10, the loading house; 11, 12, two stamping mills; 13, 14, two dumb mills; 15, the charging house; 16, the old composition house; 17, the store house; 18, the dusting house; 19, the little stove; 20, three sun stoves or drying leads, for drying powder by solar heat; 21, the great stove. The horse mills were probably similar to the incorporating mills now in use. In the *Annual Register*, vol. viii., p. 149, is the following note under date December 3rd, 1765—"Two powder mills blew up at Waltham Abbey, but happily no lives were lost." In 1770 Peter Maillman, an Essex historian, wrote respecting the river Lea and the Waltham Abbey Gunpowder Mills, namely—"Near the town on one of these rivers are several curious gunpowder mills upon a new construction, worked by water, the old ones having been worked by horses. They are reckoned the most complete in England, and will

3.12.1765



EXPLOSIONS AND THEIR PREVENTION

WASC 158  
3.12.1765

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From the time the Government took over in 1787 the records of explosions seem to be fairly complete. There were many explosions of "green" or partly milled charges in the mills and they were usually without very serious results and the following examples show:

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"Feb. 4th, 1790. This morning, at 1 o'clock, one of the Queens Mead mills blew up, which entirely unroofed same. The charge had been worked an hour. Thos. Graylin, millman on duty, set fire to his jacket; but he received no bodily harm".

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1392.

Royal Powder Mills  
Waltham Abbey 12 Feb. 1789

My Lord Duke &  
Rt Honble & Honble Gent.

We beg leave to report that last  
Night at 6 o'clock the R of the No 16 Head Mills blew  
up: the Charge had not been upon the Bed, <sup>more than</sup> 5 minutes;  
as the Mill did not receive any injury it was set again  
to work this day at 10 o'clock.

We are  
My Lord Duke &  
Rt Honble and Honble Gent.  
Your most Faithful Obed. Servants  
Jas. Wright Jas. Clowdesley

His grace the Duke of Richmond & Honble Bro. Bro.

Royal Powder Mills  
Waltham Abbey 12<sup>th</sup> Feb 1789

Sir

We beg leave to report that last night, at 6 O'clock the 2<sup>d</sup> of N<sup>o</sup> 16 Head Mills blew up; the Charge had not been upon the Bed more than 5 Minutes, as the Mill did not receive any injury it was set to work this day at 10 O'clock.

The Master Worker has removed James Pennell and Stephen Cook out of the Mills as he found them ignorant and incapable of doing their Business, we therefore desire to know if you would have them discharged, we have given Notice to Rich<sup>d</sup> Stevens & Tho<sup>s</sup> Wright that they are not to be employ'd after the 20 Instant which we hope will meet your approbation.

We are

Sir

Your most Obed<sup>t</sup> Humble Serv<sup>t</sup>

Jas Wright

Maj<sup>r</sup> Congreve



R. Hudson, Benj. Archer, W. Dyer, Tho. Mitchell. Sieve puncher and labourer, Geo. Hicks. Occasional labourers, W. Fuller, Edm. Heddy, W. Joramane, Jas. Haynes. Warder at Refinery House, James Turnham.

1789.

Wages per week—Mixing House, 21s; Millwrights, 21s; Carpenters, 17s 6d; Coopers, 17s 6d; *Labourers*, 10s 6d; *Refiner of Saltpetre*, 17s 6d; apprentice, 7s. Signed, Richmond. In another place wages per day are given—Mixing House man, 3s; Millwright, 3s; Carpenters, 2s 6d; Cooper, 2s 6d; Storehouse man, 2s; Millman, 1s 6d; Labourer, 1s 6d; Bargeman, 1s 6d; Assistant ditto, 1s 6d; Wardor, 1s 6d.

Feb. 22nd.—Please to convince the proprietors of the Wood, we have many offers for supplying wood in Kent; but I wish to give the county of Essex the preference, both for our own convenience and that of our neighbours. Feb. 29th.—Order to purchase Mr Patmore's *Poplar*, at 15s per cord; also Mr Brown's *Black Birch*, provided it should be found upon experiment to make as good coal as Alderwood.

March 11th.—George Mitchell and Donald McLean, soldiers, appointed as Wardens, at Waltham Abbey. March 12th.—Storekeeper reports the difficulty he had in obtaining Cord Wood. 10 pairs of Runners were worked at this time, the old mills worked 30 to 36lbs. charges with 6 revolutions per minute for 4 hours.

A Corning House stood on the Horse Mill Island at this time, opposite the Little Hoppot. Storekeeper much employed in collecting wood for charcoal.

Expenditure from time of purchase of works to March, 1789, £5,563. Nov. 1789, Artificers and Labourers per day:—W. Sutton, Millwright, 3s; Paul Gibbs, Carpenter, 3s; C. Stewart, mixer, 3s; R. Burr, Storehouseman, 2s; Walter

Creek, Cooper, 2s 6d; J. Jenkins, Foroman, Corning Houses, 1s 6d; Stovemmen are to have 6d per night extra. Wardens are not to be allowed any extra for Sunday, or for Breakfast time, but are to think themselves well paid with 10s 6d per week. The workmen did not feel grateful! April 7th.—Refining-Housemen: *Refiner*, John Baker; *Labourers*, Wm. Bowles, Jas. Somerville, Matt. Silcock, Henry Daws, John Mason, Daniel Bouuer.

During the years 1789-1790, John Carr furnished the factory with magazine shoes; Thos. Thompson, with oil and lamps: John Beard, with hair brooms, &c.

*Watchmen*.—All the labourers who are not millmen will take this duty alternately, six each night. Two Horses used for Charcoal, Sulphur, and Saltpetre Mills; 1 stable keeper. India-rubber bottles used for ink. Men worked 7 days per week. Difficulty of procuring wood for charcoal. Small Islands by the Barge River, let for 5s per annum. Upper Fishery, let to Mr Scott, £8 per annum; Lower Fishery, let to Mr Wolstonholm for £5 per annum.

Sop. 9th, 1789.—This morning, at 11 o'clock, the two new or Iron Mills blow up. Tho. Rumball, the millman on duty, had just liquored the charge, and happened to be out side; he received no hurt. The master worker says this mill has frequently blown up.

1790.

Feb. 4th.—This morning, at One o'clock, one of the *Queen's Meads* Mills blow up, which entirely unroofed the same. The charge had been worked an hour. Tho. Graylin, millman on duty, set fire to his jacket; but he received no bodily harm.

April 2nd, 1790.—Explosion of two mills, at 11 o'clock. No one hurt.

MS C 11  
9.9.1789



EXPLOSIONS AND THEIR PREVENTION

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1789.

Wages per week—Mixing House, 21s; Millwrights, 21s; Carpenters, 17s 6d; Coopers, 17s 6d; *Labourers*, 10s 6d; *Refiner of Saltpetre*, 17s 6d; apprentice, 7s. Signed, Richmond. In another place wages per day are given—Mixing House man, 3s; Millwright, 3s; Carpenters, 2s 6d; Cooper, 2s 6d; Storehouse man, 2s; Millman, 1s 6d; Labourer, 1s 6d; Bargeman, 1s 6d; Assistant ditto, 1s 6d; Warder, 1s 6d.

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March 11th.—George Mitchell and Donald McLenn, soldiers, appointed as Wardens, at Waltham Abbey. March 12th.—Storekeeper reports the difficulty he had in obtaining Cord Wood. 10 pairs of Runners were worked at this time, the old mills worked 30 to 36lbs. charges with 6 revolutions per minute for 4 hours.

A Corning House stood on the Horse Mill Island at this time, opposite the Little Hoppot. Storekeeper much employed in collecting wood for charcoal.

Expenditure from time of purchase of works to March, 1789, £5,563. Nov. 1789, Artificers and Labourers per day:—W. Sutton, Millwright, 3s; Paul Gibbs, Carpenter, 3s; C. Stewart, mixer, 3s; R. Burr, Storehouseman, 2s; Walter

Creek, Cooper, 2s 6d; J. Jenkins, Foreman, Corning Houses, 1s 6d; Stovemenu are to have 6d per night extra. Wardens are not to be allowed any extra for Sunday, or for Breakfast time, but are to think themselves well paid with 10s 6d per week. The workmen did not feel grateful! April 7th.—Refining-Housemen: *Refiner*, John Baker; *Labourers*, Wm. Bowles, Jas. Somerville, Matt. Silcock, Henry Daws, John Mason, Daniel Bunner.

During the years 1789-1790, John Carr furnished the factory with magazine shoes; Thos. Thompson, with oil and lamps: John Beard, with hair brooms, &c.

*Watchmen*.—All the labourers who are not millmen will take this duty alternately, six each night. Two Horses used for Charcoal, Sulphur, and Saltpetre Mills; 1 stable keeper. India-rubber bottles used for ink. Men worked 7 days per week. Difficulty of procuring wood for charcoal. Small Islands by the Barge River, let for 5s per annum. Upper Fishery, let to Mr Scott, £8 per annum; Lower Fishery, let to Mr Wolstonholm for £5 per annum.

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4.2.1790  
MS C 11



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2.4.1790

MS. C. 11



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WAS C 11  
22.5.1790

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Oct. 5th.—200 barrels of old powder sent to be dusted and restored, as the water was very low. Nov.—The powder not so clean, worked with 40 lbs. charges by the old mill instead of 33 lbs. Dec. 8th.—Royal Warrant directs that all proof shall be carried on in presence of Comptroller of laboratory.

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DEW

29. 4. 1792.

11



**J. Davy** was working as a Labourer in the Royal Engineers' Department in May 1840 and living in a cottage owned by the Board located in the old Tanyard, on the south side of High Bridge Street (WO44/133). In 1841, the cottage was occupied by Jeremiah Betts (see notes on Betts). It is possible that J. Davy is the same man as Joseph Davy detailed in the previous note.

**J. Dawson** had worked in the Corning Houses for a year in January 1806, when he was paid 2/2d per day (Supply 5/224).

**Henry Dewes** was born circa 1744, and in April 1789, he worked in the Refining House earning 1/6d per day (Supply 5/213). A List of Employees for September 1789 notes that he was 45 years of age, and employed as a Labourer, refining saltpetre under John Baker (Supply 5/214). This was also the case in January 1792 (Supply 5/215).

On the 29<sup>th</sup> April 1792, Henry Dewes was involved in an horrific accident in the Saltpetre Refinery. Messrs. Wright and Clowdesly reported the accident to the Board in their letter dated the 2<sup>nd</sup> May. It stated that Dewes was standing in the Refining House between two coppers with the intention of removing a pump from one of them with a block and tackle, but he apparently forgot to hook the tackle to the pump, and that "he took hold of the fall, and not making any resistance, fell backwards into the copper of boiling Salt Petre." Although other Labourers pulled him out, he only lived for another 24 hours, and died on the 30<sup>th</sup> April. He resided with John Baker, the Foreman Refiner, and had no living relatives. Before he died he requested that his effects were left to Baker. Wright and Clowdesly, therefore, requested that the Board paid Henry's April earnings of £2.18.6d to Baker and permission was granted to that effect (Supply 5/216).

**Francis Dimmock** was employed as a Labourer in the Corning Houses in 1805. In January 1806 he was earning 2/2d per day, in addition to which, he was allowed to "watch in turn" for which he received 1/-d (Supply 5/224), and this was also the case in June 1807 (Supply 5/226). In July 1809 he was working as a common Labourer with the Engineers' Department, and was paid 17/-d for work carried out within the Manufactory between the 15<sup>th</sup> and 21<sup>st</sup> July 1809 (Supply 5/228). He had returned to the Mills as a Saltpetre Refiner by August 1812 at 2/8d per day and was allowed to watch when not working extra (Supply 5/229). The same details also applied in February 1814 (Supply 5/230).

**Jeremiah Dimsey** was working in the Corning House earning 2/2d per day in January 1806, and by that date, had been employed by the Ordnance for one year (Supply 5/224).

**Gray Dixon** was initially employed in the Corning House on the 1<sup>st</sup> April 1792, receiving pay of 1/6d per day (Supply 5/216). By February 1793, he was refining and melting saltpetre (Supply 5/216) and continued as a Refiner until at least July 1795, on the same daily pay (Supply 5/217). Dixon enlisted as a Private in the Military Volunteer Company on the 7<sup>th</sup> May 1794 (Supply 5/219). On the 23<sup>rd</sup> April 1793, Robert Coleman recorded in his Minute Book, "Gray Dixon having left his watch for half an hour, chequered (fined) one day (sic. one day's pay) and ordered off the watch for the present" (Winters, op.cit. p.38). On the 24<sup>th</sup> January 1795, Coleman noted in his Minute book that "Gray Dixon, watchman, reported he saw 2 men on the New Corning House Platform this morning at 4 o'clock [but] he could not get over, the water being low and the punt froze. He called to them and they, he supposed, went away, as he saw no more of them." (Winters, op.cit. p.45).

**Frederick Drayson**, the son of William and Ann Maria Drayson, was born at Waltham Abbey on the 14<sup>th</sup> July 1810, and wrote *A Treatise on Gunpowder* when he was only 20 years' old. He had extensive knowledge of the manufacture of gunpowder, was a first-class draughtsman, and clearly had formal training, possibly as a 'superior apprentice' at one of the government's establishments such as the Tower of London. However, Frederick's name does not appear in the records relating to the Powder Mills at Waltham Abbey. Sally Wilks, a descendant of his brother Alfred Wilks-Drayson, believes he died on the 7<sup>th</sup> May 1854 at Framfield, Sussex, and that he worked as a Surveyor preparing parish maps in the area.



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11.2.1793

6.5.1793

WBC 11

April 2nd.—Returned from purchase of wood. Wrote letter to *Mr Walford*, at Caius College, Cambridge, respecting the wood at Fruton. [Mr Walford was then master of Caius College.]

April 11th.—Several men having reported that John Haynes, millman, had secured coal at several times, proceed to examine the men, the substance of whose information is as follows:—Benj. Wall, sen., and C. Edwards saw him take up coals and put them in his pocket, in the Watch House, at 12 o'clock. J. Ferguson, A. Gordon, W. Dugard, and J. Cass. J. Haynes denied that he put coals in his pocket; says he only took them to admire them, and what 2 or 3 small coals he took in the mill was on the same account. Agreed to discharge Haynes and enter B. Camp in his stead. [The officers of that period did not quite fall in with Haynes' idea of *admiring* the "black diamonds." He may have had some knowledge of geology. "Old Ben. Wall" is remembered to-day by some few aged townsfolk.]

20th April.—Recd. letter from Major Congreve of his being Hon<sup>d</sup>. with the Command of the Artillery under the Duke of York. [Major Congreve appears to have been called at this time into active service. The French Convention had just before declared war against Great Britain and Holland, and on April 14th a convention took place between Great Britain and Prussia and France, when Tobago was taken by the English.]

23rd April.—Gray Dixon, having left his watch for  $\frac{1}{2}$  hour, chequed him 1 Day, and ordered him off watch for the present.

May 6th.—Wm. Mold, millman, being at duty with nailed shoes, chequed 1 day.

This morning, at 7 o'clock, the Lower Smeaton's Mill\* blew up. Set to work again May 13th.

\* Mills were called after the names of the men who originally worked them.

Not correct Mill was named after



WASC 11

2

16. 5. 1793

works. Also against John Goodfellow, master mixer, John Ashwood, and John White. The complaints were without foundation. Some difficulty in obtaining charcoal. 7830 Barrels of powder made this year, 8150 could have been, had all the men been at work; 9500, Do. with Sundays. April.—Estimated cost of Barrel 100lbs., Brimstone, Charcoal, manufacturing of and including every expence of ~~the~~ Establishment, Refining Saltpetre Establishment, £1. 2. 11½; Saltpetre, £1. 18. 3. Total, £3. 1. 2½.

May 1st.—On Monday last Henry Dew, a labourer in the Refining House, was standing between two coppers with the intention to leave a pump out of one of them by a tackle, but had forgot to hook the tackle to the pump. When he took hold of the fall (not meeting with any resistance) he fell backward into the copper of boiling saltpetre liquor. He was immediately taken out by the other labourers, and continued alive 24 hours, but died yesterday afternoon. He was very sensible until a short time before his death, and desired that John Baker, with whom he lived, might have what property he had if any remained after his funeral, as he had not any relatives living. Order to pay John Baker £2. 18. 6., being Henry Dew's pay for the month of April. Sept. 3rd.—3000 sacks of Charcoal ready to be sent from Dorking.

1793.

Feb. 11th.—Lambs Mill blow up, Bedstone blistered. Feb. 23rd.—Gave orders that no beer be admitted to be drunk at any part of the manufactory, or any dogs admitted up the bank.

May 16th.—Report.—This morning, at ½ past 8 o'clock, the Lower 15 Hand Mill blew up. The charge had been on about 5 minutes. Although only a green charge, it unroofed and blew out the sides of the mill and split the shaft in two. No one hurt.



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May 15th.—Hon. Hodgson coming to work in liquor, chequed him, and ordered him off his watch. Set to watch again June 1st.

16th May.—No. 15 Lower Head Mill ( $\frac{1}{2}$  past 8 this morning) blew up, and this a green charge split the shaft in two and unroofed the mill and blew out the sides. [It was then thought that some of the millmen were guilty of putting on double charges.]

May 28th.—This day a piece of hard flint stone was found in the sieves at Old Corniug House, having gone thro' the press and Corniug frame sieves. Gave orders that the Charges shall always have the Covers on them when removed. [A great blessing no accident occurred through it. It is impossible to account for such a thing passing through the sieves.]

May 29th.—Col. Spry and Major Hardecup came and set out the proposed Traverses. [A very excellent invention. Some of these old Traverses are still standing.]

July 4th.—Ordered mills to work on Sundays to keep the Manufactory in as much work as possible, we being very short of water. [England and Naples were then at war with France.]

July 5th.—Clerk of Cheque went to Colliers in lower part of Essex. On the 12th at Navestock. [Colliers were buruers of pit coal.]

July 29th.—Upper 16 Head Mill blew up, small damage.

Wm. Carter, Wm. Dunn, C. Davie, John Brown, Job Godwin, Hen. Knowler, and T. Bilton having gone across the Hoppit contrary to repeated orders, Chequed them 1 day each for the same.

Aug. 11th, Sunday.—Brookland Mill being stopd.

16.5.1793

WMS 11



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June 24th., Period of Service. — John Ashwood, master mixer from 7th April, 1771, to 1st May, 1781, in the Artillery; Charles Jones, Millwright, 13th June, 1793; D. Cornish, Carpenter to the Walton family since 1780, Rd. Todd Cooper, at Purfleet, 1st July, 1779, to July, 1783; Cooper, at this place, from 20th April, 1792. Henry Camp, Storehouseman. Conductor of Artillery stores during the American War, office keeper of this place, June, 1788: Storehouseman, 12th July, 1792. Henry Jones, office keeper, from May, 1784, to Jan., 1790, in the Artillery. Jas. Ridpath Pantman, 11th Nov., 1793. [Mr Ridpath lived at "Newton's Pool," in Edmondsey, and cultivated a certain class of winter kale, since called "Ridpath Greens."] S. Knowlton, lab., Faversham, 1st Nov., 1787; and here, Feb. 7th, 1789.

July 7th.—Complaint that the Powder is bad.

2nd August.—We beg to transmit you the particulars respecting the Volunteer Company formed at this place, as per Mr Forinan's letter of yesterday's date, which are as follows:— James Wright, storekeeper, captain; R. Coleman, clerk of cheque, 1 lieutenant; Henry Dugleby, 1 clerk, 2 ditto; John Ashwood, Geo. Rittenburgh, and R. Jameson, sergeants; Hugh Jones, Jas. Fergusson, and Geo. Mitchell, corporals; privates, 50; drummer [James Cornish], 1—total, 60. The officers receive no pay. They were allowed by the Board expenses for equipping themselves. The privates and non-commissioned officers were allowed £1 1s on being enrolled, and a uniform dress, but nothing more, until yesterday, the Board's order came saying that once a week would be sufficient to exercise, and that the men were to be allowed 9d for such attendance. At the time of the Faversham and Waltham Abbey companies being formed, Lieut. Finlay, had a captain's commission to command both companies.

9.12.1794

Wtsc 1



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WALC 11

29.7.1793

WALC 11  
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Nov. 9th.—Wrote to Capt. Finlay respecting allowance for officers of Volunteers Company.

Dec. 1st.—All work stopt on acct. of a most astonishing Flood. Could not load powder, Bridge destroyed by flood.

December 25th.—Xmas. day. All at work. Guinn and Essex millmen coming drunk to duty, agreed to cheque them each 2 days. [At this period, the Reign of Terror was in its full vigour, and especially in Paris. At Grenelle, near Paris, an explosion of Gunpowder Mills proved fatal to 3,000 persons and destroyed several buildings. Earthquakes were experienced in Naples. England and America at war.]

1795.

Jan. 4th.—Sunday. Bds. Order to pay 20 guineas to each Officer of Volunteer Corps as a gratuity for his trouble in disciplining the men, etc.

Jan. 6th.—Letter from Col. Congreve respecting the blow at Dartford and Fire at Faversham. Care taken to charge Watchmen and Rounders to be on the alert. [Extra watchmen were then engaged in the works, showing that the fire was the work of an incendiary.]

Jan. 15th.—All stopt by Frost. Dyer and Mold sent with two loaded waggons to Purfleet.

Jan. 18th.—No work done on account of Frost.

Jan. 22nd.—Grough Petre sent by land carriage during the Frost.

Jan. 25th.—No work done on account of Frost.

Recd. Bds. Order to lend Messrs. Preston and Newman Coals to sell to the poor. [Barges stopped by the frost affected the whole parish, thus it was very kind of the Board to lend coals in the time of need. The railway engines now-a-day defy the frosts.]

Jan. 27th.—This afternoon C. Rooke fell into the Gully Stream at the Head Mills when assisting to move the gate and was unfortunately

PARIS  
POWDER MILLS

drowned. (On 28th April, 1796.—Bd. Order to pay Rooke's widow 1s. per day from his death.) The water broke the banks away.

Jan. 24th.—Gray Dixon, watchman, reported he saw 2 men on the New Cornning House Platform this morning at 4 o'clock; he could not get over, the water being low and the punt froze, he called to them and they, he supposed, went away, as he saw no more of them.

Feb. 1st.—Sunday. No work done on account of flood.

Feb. 3rd.—Recd. 9 waggon loads of Grough Petre from Cook Hill.

Feb. 8th, Sunday.—All at work except refiners, who could not on account of pumps being froze. This was a long and severe frost.

Feb. 9th.—Mills partly stopt by flood.

Feb. 9th.—The greatest flood ever known, six inches deep in Master Workers House and Mixing House, five inches in Timber Storehouse, and had great difficulty in keeping it from stoves, etc.

Feb. 11th.—Sent 10 ammunition waggons loaded with Fine Grain to Woolwich.

Feb. 19th.—Wrote to Bd. for an imprest of £100 for Volunteer Corps.

Feb. 20th.—Two Mills blew up on Charcoal. [This kind of explosion occurred but rarely.]

Feb. 21st.—Chequed Mason for insolence to the Clerk of Cheques and not going to Cornning House when ordered.

March 9th.—Rounder found W. Wines, watchman, and Tho. Graylin, millman, asleep on duty, chequed. [The latter was father of the once well known local celebrities, "Georgie and Billey Graylin."] 27.1.1795

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12 Clark

Rook (also spelt R M

Married

Waltham Abbey

00/00/1751

Personnel Record

27/11/1788

Supply 5/212

1. Clark Rook (Rooke), transferred from Faversham in October 1787 (Supply 5/212 dated the 27th November 1788). He had been working as a Labourer in the Corning House at Faversham, and on the 4th January 1788, he expressed a wish to be transferred from Faversham to Waltham Abbey (Supply 5/113). He was still a Labourer in the Faversham Corning House when he transferred to Waltham Abbey on the 8th March 1788, and at Waltham his name was recorded as Rooke.

However, there seems to be some confusion as to where this man did actually come from, because on page 31 of Winters' Centenary Memorial (published in 1887) it was recorded that on the 27th November 1788, Clark was a Millman lately employed by Mr Walton, from whom the Government purchased the Waltham Abbey Powder Mills.

2. A Return of Employees working in the Storekeeper's Department dated the 21st March 1789, recorded that Clark Rook was in the Corning House and was earning 1/6d per day (Supply 5/212).

3. Rook(e) is described as "cutting and planting willow trees, cutting of canal at the new Corning House, removing earth to the Store, unloading barge of coals & charring wood" in Supply 5/213 dated the 18th April 1789.

4. In September 1789, Mr. Rook is described as "Corning gunpowder", and at that date he was 38 years of age (Supply 5/214). From March to September 1790, Rook was still working in the Corning House (Supply 5/215).

5. In December 1790, he, together with Sam Ellenthorne, was recorded as "sick but receiving their pay." (Supply 5/215).

6. In April to June 1791, he was recorded as being "at the Corning Houses" (Supply 5/215).

7. On the 31st January 1792 (Supply 5/215) he was described as a "Millman" earning 2/-d per day, as was also the case in July to September 1792 (Supply 5/216 dated the 31st July 1792), February 1793 (Supply 5/216 dated the 28th February, 1793), August to September 1793, January 1794 and August to December 1794 (all Supply 5/216).

8. A letter to the Board dated the 28th January 1795 (Supply 5/217) referred to the death of Clark Rooke and stated "we are sorry to inform your Honors that yesterday afternoon as the Millwright (Edward Jones) and several Labourers were endeavouring to disengage the water gates at the mill head from ice, a great quantity of water which came down was let off to prevent the several buildings from being overflowed; in these endeavours Clark Rooke one of our millmen fell into one of the Gully streams (which was very rapid) and carried him under the ice of the Tail Stream at the Refining House, when he was taken up and every endeavour used by the surgeons to restore him, but without effect."

9. In his Centenary Memorial (p.58), Winters recorded that on the 28th April 1796, the Board agreed to pay Rooke's widow 1/-d per day from his death.



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20.2.1795

Wase. 11



May 24th, Sunday.—All employed.

June 11th.—Capt. Finlay exercised the Volunteer Corps.

June 14th, Sunday.—Upper 16 Head Mill blew and unroofed same; sent Jas. Cornish (an apprentice) to Woolwich to be perfected in the Drum.

June 30th.—Discharged Mold for sleeping on duty and abuse, etc., to E. Jones Rounder. Mold re-entered Factory July 7th.

June 29th.—Comptroller gave directions for trying experiment with *New Steam Stove*, and to report our opinion thereon. [The power of steam was then to a considerable extent unknown. The first steam flour mill at Southwark had only been erected about a year, and at which time James Watt flourished.]

July 31st.—Reed. Bd's. Order to pay 9d to each man of the Volunteer Corps for exercise once a week.

Aug. 1st.—Reed. Letter from Col. Congrove to know the particulars of our Volunteer Corps, a similar one about being formed at Purfleet.

Letter from Capt. Finlay on allowance to Volunteer Corps. [This gentleman was certainly a working man's friend.]

8th.—Reed. orders to pay Volunteer Corps arrears of pay for exercise.

16th, Sunday.—All at work. Lamb's mill blew.

Reed. Order from Bd. for Mr Moore to have Horse-Contract at 13s 6d per week and two stable keepers.

Sept. 4th.—Wrote to Faversham for information how they pay the Volunteer Corps.—Letter recd. on the 9th.

Sept. 12th.—Order for Moore to find Bond.

15th.—Wrote on Moore finding Bond. Signed on 17th.

18th.—Charge provisionally (on 4th) made against Ashwood, the master mixer. Order to

discharge Fulham and Mason, not having made good their charge against Ashwood.

Oct. 25th, Sunday.—Sent Holmes and Jameson to Faversham.

Nov. 25th.—Erected Cylinders at Sussex.

Dec. 11th.—Mr Sumpter came to assist in his opinion on Steam Stove. Stovemou to have 1s per night.

Dec. 27th, Sunday.—All at work. Reed. Bd. Order to pay Chick 3s 6d per week for loss of his contract for twelve months. [This refers to a contract for supplying the Factory with horses for the Mills.]

Dec. 30th.—Geo. Hicks taken up for stealing saltpetre. Reported it to the Board.

1796.

Jan. 1st.—All manufactory employed on Sunday when weather permitted.

Jan. 2nd.—Storekeeper went to London to attend Hicks' examination.

3rd.—Reported Hicks' affair to Board of Comptrollers.

6th.—Reed. Letter from Bd. to know if Hicks went to London with leave. [He must have stolen a quantity of saltpetre as a cart was required to convey it back to Waltham after the trial at Chelmsford.]

March 1st.—Reed. Bd. Order that our men cannot have an advance of pay, as they have 10s 6d per week. [They were as well off then with 10s 6d per week as men are to-day with £1 a week.]

March 8th.—Wrote to Bd. for two Guns for to put down at the Angles of New Bridge and placed at the Refinery Bridge. [These guns came from Woolwich.]

March 12th.—Wrote to Bd. of Hicks being found guilty and sentenced to be Transported seven years. [Sent across the seas.]

March 19th.—Reed. Letter from Bd. Order

14.6.1796  
WASC. 11



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WMS C 11  
14.6.1795



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1795.

Jan 16th.—Severe frost. Powder sent to Purfleet by the Waggon. 1s 6d per week to be paid to men acting as Foremen in the Corning Houses in addition to labourer's pay.

Jan. 22nd.—Long and severe frost stopped navigation on the Lea. Grougk Saltpetre sent by land carriage to keep the refiners at work.

Feb. 11th and 12th., Report.—Injury done by a flood.

June 14th.—At 3 o'clock in the morning the Upper 16 Mill Head blow up. No one injured.

June 23rd.—Steam Stow (Stove) finished. Same day blow at No. 16 Head Mill.

June 24th., Period of Service. — John Ashwood, master mixer from 7th April, 1771, to 1st May, 1781, in the Artillery; Charles Jones, Millwright, 13th June, 1793; D. Cornish, Carpenter to the Walton family since 1730, Rd. Todd Cooper, at Purfleet, 1st July, 1779, to July, 1783; Cooper, at this place, from 20th April, 1792. Henry Camp, Storehouseman. Conductor of Artillery stores during the American War, office keeper of this place, June, 1788: Storehouseman, 12th July, 1792. Henry Jones, office keeper, from May, 1784, to Jan., 1790, in the Artillery. Jas. Ridpath Pantman, 11th Nov., 1793. [Mr Ridpath lived at "Newton's Pool," in Edmondsey, and cultivated a certain class of winter kale, since called "Ridpath Greens."] S. Knowler, lab., Faversham, 1st Nov., 1787; and here, Feb. 7th, 1789.

July 7th.—Complaint that the Powder is bad.  
2nd August.—We beg to transmit you the particulars respecting the Volunteer Company formed at this place, as per Mr Forinan's letter of yesterday's date, which are as follows:— James Wright, storekeeper, captain; R. Coleman, clerk of cheque, 1 lieutenant; Henry Dugleby, 1 clerk, 2 ditto; John Ashwood, Geo. Rittenburgh, and R. Jameson, sergeants; Hugh Jones, Jas. Fergusson, and Geo. Mitchell, corporals; privates, 50; drummer [James Cornish], 1—total, 60. The officers receive no pay. They were allowed by the Board expenses for equipping themselves. The privates and non-commissioned officers were allowed £1 1s on being enrolled, and an uniform dress, but nothing more, until yesterday, the Board's order came saying that once a week would be sufficient to exercise, and that the men were to be allowed 9d for such attendance. At the time of the Faversham and Waltham Abbey companies being formed, Lieut. Finlay, had a captain's commission to command both companies.

WASC 11  
23.6.1795



May 24th, Sunday.—All employed.

June 11th.—Capt. Finlay exercised the Volunteer Corps.

June 14th, Sunday.—Upper 16 Head Mill blew and unroofed same; sent Jas. Cornish (an apprentice) to Woolwich to be perfected in the Drum.

June 30th.—Discharged Mold for sleeping on duty and abuse, etc., to E. Jones Rounder. Mold re-entered Factory July 7th.

June 29th.—Comptroller gave directions for trying experiment with *New Steam Stove*, and to report our opinion thereon. [The power of steam was then to a considerable extent unknown. The first steam flour mill at Southwark had only been erected about a year, and at which time James Watt flourished.]

July 31st.—Reed. Bd's. Order to pay 9d to each man of the Volunteer Corps for exercise once a week.

Aug. 1st.—Reed. Letter from Col. Congreve to know the particulars of our Volunteer Corps, a similar one about being formed at Purfleet.

Letter from Capt. Finlay on allowance to Volunteer Corps. [This gentleman was certainly a working man's friend.]

8th.—Reed. orders to pay Volunteer Corps arrears of pay for exercise.

16th, Sunday.—All at work. Lamb's mill blew.

Reed. Order from Bd. for Mr Moore to have Horse-Contract at 13s 6d per week and two stable keepers.

Sept. 4th.—Wrote to Faversham for information how they pay the Volunteer Corps.—Letter reed. on the 9th.

Sept. 12th.—Order for Moore to find Bond.

15th.—Wrote on Moore finding Bond. Signed on 17th.

18th.—Charge previously (on 4th) made against Ashwood, the master mixer. Order to

discharge Fulham and Mason, not having made good their charge against Ashwood.

Oct. 25th, Sunday.—Sent Holmes and Jameson to Faversham.

Nov. 25th.—Erected Cylinders at Sussex.

Dec. 11th.—Mr Sumpter came to assist in his opinion on Steam Stove. Stevenson to have 1s per night.

Dec. 27th, Sunday.—All at work. Reed. Bd. Order to pay Chick 3s 6d per week for loss of his contract for twelve months. [This refers to a contract for supplying the Factory with horses for the Mills.]

Dec. 30th.—Geo. Hicks taken up for stealing saltpetre. Reported it to the Board.

1796.

Jan. 1st.—All manufactory employed on Sunday when weather permitted.

Jan. 2nd.—Storekeeper went to London to attend Hicks' examination.

3rd.—Reported Hicks' affair to Board of Comptrollers.

6th.—Reed. Letter from Bd. to know if Hicks went to London with leave. [He must have stolen a quantity of saltpetre as a cart was required to convey it back to Waltham after the trial at Chelmsford.]

March 1st.—Reed. Bd. Order that our men cannot have an advance of pay, as they have 10s 6d per week. [They were as well off then with 10s 6d per week as men are to-day with £1 a week.]

March 8th.—Wrote to Bd. for two Guns for to put down at the Angles of New Bridge and placed at the Refinery Bridge. [These guns came from Woolwich.]

March 12th.—Wrote to Bd. of Hicks being found guilty and sentenced to be Transported seven years. [Sent across the seas.]

March 19th.—Reed. Letter from Bd. Order

MS. C. 11  
16 8 1795



August 14th.—Setting up cylinders for making charcoal.

August 16th.—One of Lamb's mills blew up; no damage.

August 19th.—Contract price, hire for horses, 13s 6d per week, and 8s allowed for each stable keeper. [The Government worked their own horses for many years, and the stables for sick horses are still standing on the "Horse Mill Island" in the Marsh, and were used in after years for storing of grough sulphur.]

August 26th.—Curious letter of complaint from one of the workmen of the conduct of John Ashwood, master mixer. Two men discharged, Fulham and Mason, the charge being non-proven.

Sept. 15th.—Drying stoves to be erected at Portsmouth and Plymouth.

1796.

Jan. 1st.—The Board directs that each officer at Faversham and Waltham are to have 20 guineas a quarter for the trouble of forming their men into forceable companies.

Feb. 13th.—At 4 o'clock the Upper 15 Head Mill blew up; John Brown, millman. His clothes caught fire, but did not injure his person.

Feb. 19th.—Major Congreve finds fault with the powder sent from Waltham Abbey for proof at Purfleet, that it is not so strong as pit powder. [Cylinder coal is much cleaner and preferable than pit coal.]

April 5th.—Received 12 Millstone Runners and 6 Bedstones.

May 7th.—Cylinder Works at Fisher-street, Sussex. Travelling expenses from Waltham Abbey 9d per mile.

May 7th.—No. 15 Head Mill blew up, John Smith, millman. He threw himself down, by which he escaped injury.

May 9th, 1796.—Frogmorton-street. Protest

of Contractor against the sample of powder being made from anything but common Pit Alder Coal. Propose a standard range not to exceed 140 feet, price paid for working 40s. Major Congreve considers the price very great, and states that the purchase of Waltham Abbey new erections and repairs, amounting to £23,449 7. 6., had been wholly liquidated by proper skill 1787.

May 9th.—Cylinder Houses erected in Sussex for charcoal.

1797.

[The following robbery with attempt to murder occurred this year, at the *Compasses* public-house, Sewardstone-street. (It is not, of course, noted in the Government books.) "May 6th, 1797. This night, between eight and nine o'clock, three fellows went into the Throo *Compasses* public-house, at Waltham Abbey, kept by Mrs Gray, a widow, where they continued drinking till past eleven o'clock, every person being then gone except a young man, a carpenter, was desired by the landlady to sit up while they stayed. This young man seeming to be asleep, the fellows went up to the bar and demanded the landlady's money. Mrs Gray making some resistance, one of the villains drew forth a pistol and shot her through the left breast, the ball coming out at her neck. The carpenter, struggling with one of the men, a second pistol was discharged at him, the ball from which entered the sleeve of his coat and came out near the elbow without doing him any material injury. The woman is not yet dead. A man and his wife who lodged in the house jumped out of one pair of stairs window, and Mrs Gray ran into the street. But notwithstanding an alarm made, they made off without effecting their intention of robbing the house and have not yet been taken."]

[This person died shortly afterwards. The annexed entry occurred in the Parish Register

WASC 11  
16.8.1795



August 14th.—Setting up cylinders for making charcoal.

August 16th.—One of Lamb's mills blew up; no damage.

August 19th.—Contract price, hire for horses, 13s 6d per week, and 8s allowed for each stable keeper. [The Government worked their own horses for many years, and the stables for sick horses are still standing on the "Horse Mill Island" in the Marsh, and were used in after years for storing of grough sulphur.]

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[This person died shortly afterwards. The annexed entry occurred in the Parish Register

132 1796

MS C 11



for all Artificer and Labourer to have 10s 6d from 1st January last.

March 22nd.—Replied to Bd. for a reward to the man who apprehended G. Hicks. Bd. ordered £10 10s.

22nd.—Wrote to Faversham to send Jameson and Holmes home.

28th.—Recd. letter from Comptroller of a few Lights being in our Powder.

April 15th.—Sent Cart to Cholmsford for y<sup>e</sup> stolen petre.

18th.—Barge went for Guns to Woolwich for Bridge.

May 6th.—The 2.15 Head Mills blew up & Green Charge.

7th.—Same mills worked again.

May 9th.—Demanded £10 for Volunteer Corps.

June 17th.—Discontinued the minutes, for it is impossible to keep them with accuracy in consequence of my frequency of going from home, after the Cylinder Works and Charcoal Wood. R. COLEMAN.

#### [EXTRACTS FROM LETTERS, ETC.—

*Continued.*]

1794.

Jan. 14th.—Two gloom stoves which appear to have been near each other, not to be worked at the same time, confirming order of Major Congreve.

Jan. 28th.—Government Merchants propose to make powder by mixing ingredients and bodies. Experiments made to manufacture it.

Feb. 27th.—The Hon. Board appears to have had only one barge constructed for navigation. Only 200 Barrels sent away weekly from 8th Feb. to April 26th (12 weeks); 3,011 Barrels made. Proposed to make as much powder as possible.

April 29th.—Letters. Men instructed in Gun drill.

3rd May.—Orders for the men employed in the Royal Powder Mills, Waltham Abbey, to learn the management of field pieces in order that they may be serviceable as Artillerists in case of an invasion or any internal commotion. [At this time England was in a state of great excitement. A decree of the French Convention being made forbidding any quarter to be given to the English or Hanoverians. On the 29th Decembar this decree was repealed, which gladdened the hearts of this country.]

Orders.—The men to learn drill voluntarily, after working hours *without pay*! They all unanimously declared their willingness to learn drill on the above conditions. It was also considered when the matter became known in the town, many of the parishioners would like to join them. Permission is desired to fire three rounds of powder from 6 guns, at 1lb. per charge on a Saturday evening. We presume it would be a great inducement for the neighbouring young men to attend, who, in general, never saw a gun fired. [Many gentlemen of this parish joined the Waltham Abbey corps at the time, which led to the establishment of various other local military bodies, most of which have long since been disbanded. Several Waltham Abbey men fought in the famous battle of Edge Hill, in the stormy days of King Charles the First, and were forced, after the battle, to return to this town and to appeal to the churchwardens for help. A century later other Waltham worthies performed considerable service under command of the Duke of Albemarle. We have seen an old tunic, which is now in the possession of Mrs Izard, in Church-street, and was worn by her late respected father, Mr John Clark, when an *ensign* in the Waltham Abbey Volunteer Corps. This tunic is elaborately ornamented with gilt dressing, and with

WRC 11  
6.5.1796



August 14th.—Setting up cylinders for making charcoal.

August 16th.—One of Lamb's mills blew up; no damage.

August 19th.—Contract price, hire for horses, 13s 6d per week, and 8s allowed for each stable keeper. [The Government worked their own horses for many years, and the stables for sick horses are still standing on the "Horse Mill Island" in the Marsh, and were used in after years for storing of grough sulphur.]

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[This person died shortly afterwards. The annexed entry occurred in the Parish Register

MS. C. 11  
7.5.1796



of her burial. "1797, June 12th. Buried Ann Gray, murdered by some person unknown."]

August 19th, Major Congreve, the comptroller, informs the Rex Officers that the powder is not sufficiently free from dust.

Sept. Inferior quality of powder said to arise from the damp situation of the pit in which the coal is made.

Dec. Trial made with different cleavings of wood to improve the powder, without success. [An untold number of experiments in burning charcoal have since been made with the same result.]

1798.

Feb. 13th.—No. 15 Mill, Upper Head, blew up; little injury.

August 28th.—Letter reporting about total stoppage of navigation of the River Lea.

Dec. 3rd.—Lower Queen's Mead (lower part of Edmondsey) Mill blew up. It was violent, much injury done. The shock was felt all over the town, and gave greater alarm than was ever heard of before. It was supposed that more than the ordinary quantity of powder had been put into the mill.

Dec. 4th.—Letter from Major Congreve directing the mill charges to be reduced to 38lbs. and 40lbs. Suspicion that millmen have added to the charges, and this caused great injury at the explosions.

Dec. 5th.—Mill blew up. Very violent. Caused by a practice of putting more powder on the beds than allowed. Millmon, Smith and Wright.

1799.

May 16th.—Powder barge sunk at Bow by accidently running against the pier. Some of the powder saved dry. [Where were the barge-men, on land or in the water? Both, if at the bottom of the river!]

May 17th.—When the navigation of the River Lea passed through the town of Waltham Abbey the calico grounds had the advantage of the whole run of the river for cleansing their linen. An Act of Parliament passed to make sundry new cuts in a direct line and to discontinue the old navigation. Parliament allowed the said calico grounds a bore, which was to be made in a brass plate for the purpose of filling their canal junctions. This circumstance shows how tenacious the owners of mills, etc., are as to the right of water.

In 1788 nearly all barges navigating the Lea were called "Ware Barges," carrying from 30 to 40 tons. Coal barge of Mr Tho. Mitchell carries 10 tons. Price of a barge 72 feet long, 12.6 wide, 3.6 deep, cost 100 guineas, with furniture. Flat bottom. One decked for carrying powder; and open for coals.

Old barges and their masters employed in the Government Works, Waltham Abbey:—

1789.—*The Resolution*, Joseph Mitchell, master. *The Endeavour*, Edward Haddy, master, was then also in use. In this same year, J. Mitchell and James Newton were barge masters.

1790.—*The Amherst*, Michael Stokes, master.

1794.—Only one barge constructed for navigation.

1796.—*The Bengal*, John Cook and John Goodwin, masters.

1796.—Barge master, Wm. Boyd.

1797.—Barge masters, John Cook and John Turnham.

1799.—*The Wheatsheaf*, Thomas Dane, master.

1799.—Barge sunk on May 16th, at Bow. Some of the powder saved dry.

1802.—*The Hunter*, Wm. King, master.

1802.—*The Betsey*, Seering Hall, master.

1802.—*The Peggy*, John Piorcoy, master.

18.2.1798

WASC 11



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WASC 11  
3.12.1798



3.12.1798

In the following years the factory was working under considerable pressure owing to the Napoleonic wars and a practice seems to have grown up among the millmen of increasing the mill charge. Several explosions were ascribed to this cause and steps were taken to decrease the charge. The following extracts from factory records on three successive days seem to be last on this topic:

Dec. 3rd, 1798: Lower Queen's Mead Mill blew up. It was violent, much injury done. The shock was felt all over the town, and gave greater alarm than ever was heard of before. It was supposed that more than the ordinary quantity of powder had been put in the mill."  
Dec. 4th: "Letter from Major Congreve directing the mill charges to be reduced to 38 lbs. and 40 lbs. Suspicion that millmen have added to the charges, and this caused great injury at the explosions." Dec 5th: "Mill blew up. Very violent. Caused by practice of putting more powder on the beds than allowed."

The first serious explosion after the mills became Government property occurred, as already mentioned (Chap. VI), on April 18th, 1801. The new Corning House on Horse Mill Island blew up, killing nine men and four horses. The official view was that it was impossible to say the cause and that there was no powder in the buildings except what was in process of graining. The account given in the "Gentleman's Magazine" however goes into more detail -

"April 18th, between 3 and 4 in the afternoon the Corning Mill at Waltham Abbey, blew up, with a great explosion which was sensibly felt all round the neighbourhood. Eight men were blown to pieces in the adjoining meadow, and four horses much mangled were left near the mill wheels; fragments of a ninth man were found on the 3rd day. This fatal accident is ascribed to the overheating of one of the gudgeons of the mills, and had nearly happened a fortnight before. Three of the men have left families and the others only widows. One of them was substituting for another who had narrowly escaped in a previous explosion and was on leave. The mill was being worked for the last time previous to a complete overhaul. The magazine of dry powder was not 200 yards distant and 400 barrels of powder had been removed from the mill in a boat not long before it blew up.

On June 16th of the same year when this Corning House was under repair a fire occurred and seven men were badly burnt. It was ascribed to the blow of a copper hammer on a pit wheel. The fact that it was a copper hammer seems to show that some precautions were taken, but later it was discovered that many of the copper implements were contaminated with iron. It sounds too as if the precautions of thorough washing down and wetting down had not been carried out effectively.

Compensation in the case of this accident seems to have been on a comparatively generous scale; the widow of the foreman received half her husband's pay of 13/6 a week (she had two children). The widow of a labourer with seven children and disabled from earning her living received his full pay of 12/- a week and another widow, who was about to have her first child, 6/- a week. Nearly a hundred years later, in 1894, it was stated in the House of Commons, in reply to a question, that regulations permitted a maximum grant to a widow with one child of £10 a year with £15 in respect of the child.

Safety seems to have been given a good deal of consideration about this time for on July 15th, 1801 a committee of the Royal Society visited Waltham to investigate matters which the Board of Ordnance had referred to them regarding the floors of the Powder Magazines. On July 24th they reported that no danger was to be apprehended from electrical excitation in rolling barrels of powder on leather covered floors in magazines but that painted floor cloth was more suitable for other buildings. Such floor cloth was delivered to the factory in May, 1803.

On November 27th, 1811, No.4 Press House on Lower Island exploded and the ensuing fire communicated to the Corning House and Reel House which also went up. Eight men were killed in this disaster. The Board of Ordnance was appealed to for funds to bury the dead in a plain, decent manner, and for some mark of merit to be granted to Wm. Peyton, Carpenter, who, after the explosion, extinguished a fire brand which fell near the door of the Magazine which had a quantity of powder in it. The door of the Magazine had been forced open by the explosion.



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1796.—*The Bengal*, John Cook and John Goodwin, masters.

1796.—Barge master, Wm. Boyd.

1797.—Barge masters, John Cook and John Turnham.

1799.—*The Wheatsheaf*, Thomas Dane, master.

1799.—Barge sunk on May 16th, at Bow. Some of the powder saved dry.

1802.—*The Hunter*, Wm. King, master.

1802.—*The Betsey*, Seering Hall, master.

1802.—*The Peggy*, John Piorcoy, master.

WASC 11  
4.12.1798



4. 12. 1798

In the following years the factory was working under considerable pressure owing to the Napoleonic wars and a practice seems to have grown up among the millmen of increasing the mill charge. Several explosions were ascribed to this cause and steps were taken to decrease the charge. The following extracts from factory records on three successive days seem to be last on this topic:

Dec. 3rd, 1798: Lower Queen's Mead Mill blew up. It was violent, much injury done. The shock was felt all over the town, and gave greater alarm than ever was heard of before. It was supposed that more than the ordinary quantity of powder had been put in the mill."

Dec. 4th: "Letter from Major Congreve directing the mill charges to be reduced to 38 lbs. and 40 lbs. Suspicion that millmen have added to the charges, and this caused great injury at the explosions." Dec 5th: "Mill blew up. Very violent. Caused by practice of putting more powder on the beds than allowed."

The first serious explosion after the mills became Government property occurred, as already mentioned (Chap. VI), on April 18th, 1801. The new Corning House on Horse Mill Island blew up, killing nine men and four horses. The official view was that it was impossible to say the cause and that there was no powder in the buildings except what was in process of graining. The account given in the "Gentleman's Magazine" however goes into more detail -

"April 18th, between 3 and 4 in the afternoon the Corning Mill at Waltham Abbey, blew up, with a great explosion which was sensibly felt all round the neighbourhood. Eight men were blown to pieces in the adjoining meadow, and four horses much mangled were left near the mill wheels; fragments of a ninth man were found on the 3rd day. This fatal accident is ascribed to the overheating of one of the gudgeons of the mills, and had nearly happened a fortnight before. Three of the men have left families and the others only widows. One of them was substituting for another who had narrowly escaped in a previous explosion and was on leave. The mill was being worked for the last time previous to a complete overhaul. The magazine of dry powder was not 200 yards distant and 400 barrels of powder had been removed from the mill in a boat not long before it blew up.

On June 16th of the same year when this Corning House was under repair a fire occurred and seven men were badly burnt. It was ascribed to the blow of a copper hammer on a pit wheel. The fact that it was a copper hammer seems to show that some precautions were taken, but later it was discovered that many of the copper implements were contaminated with iron. It sounds too as if the precautions of thorough washing down and wetting down had not been carried out effectively.

Compensation in the case of this accident seems to have been on a comparatively generous scale; the widow of the foreman received half her husband's pay of 13/6 a week (she had two children). The widow of a labourer with seven children and disabled from earning her living received his full pay of 12/- a week and another widow, who was about to have her first child, 6/- a week. Nearly a hundred years later, in 1894, it was stated in the House of Commons, in reply to a question, that regulations permitted a maximum grant to a widow with one child of £10 a year with £15 in respect of the child.

Safety seems to have been given a good deal of consideration about this time for on July 15th, 1801 a committee of the Royal Society visited Waltham to investigate matters which the Board of Ordnance had referred to them regarding the floors of the Powder Magazines. On July 24th they reported that no danger was to be apprehended from electrical excitation in rolling barrels of powder on leather covered floors in magazines but that painted floor cloth was more suitable for other buildings. Such floor cloth was delivered to the factory in May, 1803.

On November 27th, 1811, No.4 Press House on Lower Island exploded and the ensuing fire communicated to the Corning House and Reel House which also went up. Eight men were killed in this disaster. The Board of Ordnance was appealed to for funds to bury the dead in a plain, decent manner, and for some mark of merit to be granted to Wm. Peyton, Carpenter, who, after the explosion, extinguished a fire brand which fell near the door of the Magazine which had a quantity of powder in it. The door of the Magazine had been forced open by the explosion.



of her burial. "1797, June 12th. Buried Ann Gray, murdered by some person unknown."]

August 19th, Major Congreve, the comptroller, informs the Rex Officers that the powder is not sufficiently free from dust.

Sept. Inferior quality of powder said to arise from the damp situation of the pit in which the coal is made.

Dec. Trial made with different cleavings of wood to improve the powder, without success. [An untold number of experiments in burning charcoal have since been made with the same result.]

1798.

Feb. 13th.—No. 15 Mill, Upper Head, blew up; little injury.

August 28th.—Letter reporting about total stoppage of navigation of the River Lea.

Dec. 3rd.—Lower Queen's Mead (lower part of Edmondsey) Mill blow up. It was violent, much injury done. The shock was felt all over the town, and gave greater alarm than was ever heard of before. It was supposed that more than the ordinary quantity of powder had been put into the mill.

Dec. 4th.—Letter from Major Congreve directing the mill charges to be reduced to 38lbs. and 40lbs. Suspicion that millmen have added to the charges, and this caused great injury at the explosions.

Dec. 5th.—Mill blew up. Very violent. Caused by a practice of putting more powder on the beds than allowed. Millmon, Smith and Wright.

1799.

May 16th.—Powder barge sunk at Bow by accidentally running against the pier. Some of the powder saved dry. [Where were the barge-men, on land or in the water? Both, if at the bottom of the river!]

May 17th.—When the navigation of the River Lea passed through the town of Waltham Abbey the calico grounds had the advantage of the whole run of the river for cleansing their linen. An Act of Parliament passed to make sundry new cuts in a direct line and to discontinue the old navigation. Parliament allowed the said calico grounds a bore, which was to be made in a brass plate for the purpose of filling their canal junctions. This circumstance shows how tenacious the owners of mills, etc., are as to the right of water.

In 1788 nearly all barges navigating the Lea were called "Ware Barges," carrying from 30 to 40 tons. Coal barge of Mr Tho. Mitchell carries 10 tons. Price of a barge 72 feet long, 12·6 wide, 3·6 deep, cost 100 guineas, with furniture. Flat bottom. One decked for carrying powder; and open for coals.

Old barges and their masters employed in the Government Works, Waltham Abbey:—

1789.—*The Resolution*, Joseph Mitchell, master. *The Endeavour*, Edward Heddy, master, was then also in use. In this same year, J. Mitchell and James Newton were barge masters.

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1802.—*The Peggy*, John Piercey, master.

WASC 11  
5.12.1798



WASC 158  
5.12.1798

In the following years the factory was working under considerable pressure owing to the Napoleonic wars and a practice seems to have grown up among the millmen of increasing the mill charge. Several explosions were ascribed to this cause and steps were taken to decrease the charge. The following extracts from factory records on three successive days seem to be last on this topic:

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