

Transcription of Lammot du Pont annual summary of DuPont company activity, 1803 - 1856

1803\*

On the 22nd day of October the pounding mill in the Upper Yard started, this building after being blown up and knocked down 5 times as pounding mill was converted into a Dust Mill and has been blown up twice since (July 1879)

The largest years fabrication up to date is marked with \*. Then mill the Upper Year since called Brandywine Mills, but owing to Mr J P Garesché calling his mill the Brandywine Mill, we changed ours to the Eleutherian Mills, hence I give them this name from the start.

Eleutherian Mills made --- 161 kegs of 25 lbs each

1804\*

The fabrication of this year was:

Eleutherian Mills

Eagle Powder ---- 35 kegs

Du Pont Powder ---- 1506 kegs

A.F. & Co [Andrew Fountain & Company] --- none

Total --- 1541 - kegs to date 1702

Of the above 102 barrels were for the Government and the mean price for all kinds \$9.81 cents per keg

The above was all natural glazed powder, and excluding Gov the sizes ran as follows:

Fg --- 39%

FFg ---- 28%

FFFg ---- 33%

1805\*

Eleutherian Mills to date 1702 kegs

Eagles gunpowder ---- 64 kegs 10/25 [lbs]

Du Pont powder ---- 3024 kegs

A.F. & Co ---- 3000 kegs

Total ---- 6088 [kegs] 10 [lbs]

Of the above 200 barrels of 100 lbs each was Government powder. The Gov actually got the most of their supplies in 50 lbs barrels, but these are reduced to barrels of 100 lbs as well as, all powder packed in canisters or papers are reduced to kegs of 25 lbs

Mean price of all kinds of powder \$7.69

The above is all natural glaze and called glazed powder but not black leaded

Excluding Government sizes ran as follows:

Fg ---- 16%

FFg ---- 45%

FFFg ---- 39%

This was the year of a big freshet [flood] Jan 20th

(This was the year of the first explosion viz the Dryhouse in upper yard, at 8 o'clock in the evening, no one hurt. Caught fire from charcoal stored in same building...this explosion Aug 15th 1805)

1806\*

Eleutherian Mills to date 7790 kegs 10 [lbs]

Eagle gunpowder ---- 282 kegs 19 [lbs]

Du Pont ---- 4006 kegs

A.F. & Co ---- 2688 kegs

Total ---- 6976 kegs 19 [lbs]

Of the above 99 1/2 barrels were Government

Mean price of all kinds ---- \$6.46 cents

Of the above 80% was glazed and 20% rough, this appears to be the first year rough powder was packed.

Excluding Gov size ran

Fg + r -- 16%

FFg+r -- 54%

FFFg+r -- 30%

[Note: "r" denotes rough | as the summary suggests this was the first year the company sold rough powder]

1807

Eleutherian Mills to date ---- 14,767 [kegs] 6 [lbs]

Eagle gunpowder ---- 65 kegs 1 [lb]

Du Pont ---- 5098 kegs

A.F. & Co ---- 1318

[Total] ---- 6481 [kegs] 1 [lb]

Of the above 142 1/2 barrels were government

Mean price of all kinds ---- \$7.36

Of the above 77% was glazed + 23% rough

Exclusion of govern. sizes ran

Fg -- 31%

FFg -- 55%

FFFg -- 14%

1808

Eleutherian Mills to date ---- 21,248 kegs 4 [lbs]

Eagle Gunpowder ---- 13 "

DuPont ---- 4163 "

A. F. & Co ---- 3756 "

Total ---- 7932

Of the above 301 1/2 barrels were Government

Mean Price of All kinds ---- \$9.30 cts

Of the above 93% was glazed and 7% was rough

Exclusion of government the sizes ran

Fg ---- 28%

FFg ---- 63%

FFFg ---- 9%

1808

During this year and previous Andrew Fountain kept the store, it was at what is called the Boat house, between Hagley and the Upper Yard, the Co. was E I du Pont who sold his interest in it, about 1813 to Mr Victor Du Pont who became the & Co - in 1818 Andrew Fountain still kept the store and up to the summer of 1818 sold whiskey not only to the men but to E. I. du Pont & Co. who allowed 2 jigers = 1 gill to each man, powder men, laborers & all. In 1818 the whiskey

business was broken up by Mr. A. Bidermann and my father who allowed the men molasses & vinegar in lieu, as much as they could drink in lieu of whiskey. In 1850 molasses & vinegar was still allowed the Refining men and Harvesters. In 1851 I broke it up in the Refinery. In 1833 J. R. Shipley & Co had succeeded A. F. & Co but at what date prior I do not know but think about 1827 or 8. The Co was E I du Pont who had taken his father's interest in A. F. & Co. About 1838 J R. Shipley sold out to James Brattan who bought out E. I. du Pont also, and we built him the present store below my house. He in time sold out about 1856 to Victor Sterling -

[The "my house" referred to here is Hagley House which was located above Hagley Yard. Torn down in 20th century. It's on several maps and in numerous photos. LRC]

1809

Eleutherian Mills to date ---- 29,179 kegs 10 [lbs]

Eagle Gunpowder ---- 16 [kegs] 6 [lbs]

Du Pont ---- 6504

A. F. & Co. ---- 1612

[Total ----] 8132 kegs 6 [lbs]

Of the above 260 barrels were Government

Mean price of all kinds \$8.75

Of the above 67% was glazed & 33% rouch

Exclusive of Government sizes ran

Fg ---- 42%

FFg ---- 56%

FFFg ---- 2%

This was the year of the Second explosion on the 21st of October 1809 Saturdy at 6 o'clock the pounding mill blew up on coal & sulphur, the saltpetre not having been added (they ran 2 hours on coal & sulphur before adding the saltpetre) no one hurt and not much damage done, but whether the explosion occurred morning or evening no one knows.

1810

Eleutherian Mills fabrication to date ---- 37,311 kegs 10 [lbs]

Eagle Gunpowder ---- 4

DuPont ---- 7395

A. F. & Co. ---- 16

Total ---- 7415

Of the above 402 barrels were government

Mean price of all kinds ---- \$11.68 cts

Of the above 66% was glazed & 34% rough

Exclusive of government sizes ran

Fg ---- 48%

FFg ---- 51%

FFFg ---- 1%

1811

Eleutherian Mills fabrication to date ---- 44,726 [kegs] 16 [lbs]

Eagle Gunpowder ---- 18 6/25

DuPont ---- 8144

A. F. & Co. ---- none until 1817

Total ---- 8152 [kegs] 6 [lbs]

Of the above 122 barrels were government

Mean price of all kinds ---- 14.96 cts

Of the above 56% was glazed & 44% rough

Exclusion of government sizes ran

Fg ---- 28%

FFg ---- 70%

FFFg ---- 2%

1812

Eleutherian Mills fabrication to date ---- 52,878 [kegs] 22 [lbs]

Eagle Gunpowder ---- 55 [kegs] 18 [lbs]

DuPont ---- 11939 [kegs] 20 [lbs]

A. F. & Co. ---- none

[Total] ----- 11,995 [kegs] 13 [lbs]

Of the above 917 barrels were government powder  
Mean price of all kinds ---- \$12.34 cts  
Of the above 58 1/2 % was rough & 41 1/2 % glazed  
Being the first year that the rough exceeded the glazed  
exclusive of Government the sizes ran  
Fg --- 49%  
FFg ---- 47 1/2 %  
FFFg ---- 3 1/2 %

It was during this year that the Hagley Waterpower was bought and improvements commenced,  
and the Pounding mill started in the fall of the same year, in what is now the Rolling Mill # 3 -  
[sentence crossed out]

1813

In 1813 the Blacksmith Shop Back of old Billy Baldwin (Blacksmith) shows to me very singular  
entries, some 30 or 40 - viz Bauduy & Garesché for work and in October many jobs are marked  
Bauduy & Garesché's Eden Park - Dr - to work done this would look as if Mr. Irene [E. I. du  
Pont] had not objected to the starting of the Edenpark [Eden Park] Mills.

1813

Eleutherian Mills Fabrication to date ---- 64,874 [kegs] 10 [lbs]  
Eagle Gunpowder ---- 81 [kegs] 15 [lbs]  
Du Pont ---- 13345 [kegs] 12 [lbs]  
A. F. & Co. ---- none  
Total ---- 13,427 [kegs] 3 [lbs]

Of the above 1573 1/2 was government powder  
Mean price of all kinds ---- \$16.12 cts p. K[eg]  
of the above 63% was rough & 37% glazed  
Exclusive of government the sizes ran as follows  
Fg ---- 48 1/2 %  
FFg ---- 47 1/2 %  
FFFg ---- 4 %

1814

Eleutherian Mills fabrication to date ---- 78301 [kegs] 13 [lbs]

Eagle Gunpowder ---- none

DuPont ---- 20742 [keg] 1 [lbs]

A. F. & Co. ---- none

Total ---- 20742 [keg] 1 [lb]

Of the above 2340 1/2 barrels was government

Mean price pr keg --- \$14.12

of the above 83% was rough & 17% glazed

Exclusive of government the sizes ran

Fg ---- 69%

FFg ---- 28%

FFFg ---- 3%

There can be no doubt but that a part of the above powder was made in Hagley Yard, but it may have been packed in the Upper Yard. It appears to have been all one kind and no separate account kept of the first years packing in Hagley.

Hagley Yard started in 1814 Because in the 2nd of May 1814 five men were taken from the Upper yard to start the Pounding mill (now rolling mill No. 3) these were

Owen Coxe - Boss

Alexander Martinez

John North

John White

& Peter Johns but in Dec. 1814 his name is changed to Peter Jeans which name he kept as long as in our employment.

In June of 1814 the force was increased to 14 men by drafting from the Upper Yard.

On the last day of June Owen Coxe is docked one day and a note in margin of time book "ought to be two days for not speaking to me." Me was probably Mr. Chas Dalmas - but his name does not appear in July, but on July 1st John Jeans was made Boss.

Apparently the powder was sent to the upper yard to be glazed & dried and this accounts for no packing lists.

1815

Eleutherian Mills fabrication to date ---- 99043 [kegs] 14 [lbs]

Eagle Gunpowder ---- 24

Du Pont ---- 18044

A. F. & Co. ---- none

[Total] ---- 18068

Of the above 945 3/4 barrels were government

Mean price of this powder pr keg \$11.38 cts

of the above 60 1/2 was rough & 39 1/2 % glazed

Exclusive of Gov. the sizes ran

Fg ---- 45 1/2 %

FFg ---- 45 %

FFFg ---- 9 1/2 %

On Thursday June 8th at the 10 o'clock change of Pots the pounding mill in the upper yard blew up making the third explosion since the mills started and unfortunately killing nine men the boss & 8 potmen, among the number was Alexander Miller, father of Isabella Brown nee Miller and grandfather of Samuel B. Brown. Also among the killed was Thomas Quig. The cause of this explosion was probably carelessness of the men. This explosion did not communicate to any of the other buildings.

1816

Eleutherian Mills fabrication to date ---- 117,111 [kegs] 14 [lbs]

Eagle ---- none

Du Pont ---- 22170

A. F. & Co. ---- none

Total ---- 22170

Of the above 968 3/4 was government powder

Mean price for the year \$8.32

1815



In March 1815 the Hagley time book contains the names of 14 men headed by Peter Jeans as Boss but a foot note says "It is to be observed that 5 men have been working at the upper Mills for several days I cannot tell if they did not absent 'themselves.'"

From the appearance of the time book drunkenness appears to have been a common fault until the fall of 1818 when a great change occurred. On the thirtieth of July Peter Jeans was succeeded by James Gilmore as Boss, who lost 5 consecutive Mondays drunk and was discharged, and was succeeded by John White who came from the Upper Yard and the gang was increased to 21 men - It is probable that this is the date at which they announced packing in Hagley. On the first of November John White left and was succeeded John Anderson Boss & Henry Cavender Assistant boss, the gang then consisted of 22 men.

1816

On Feb 2nd 1816 appears to have been the first night work made by 5 men viz

John Blanchet Boss of Pounding Mill

Henry Cavender

Thomas Cavender

Robert Hartley

Robert Miller

On March 30th 1816 John Anderson quit and was succeeded by Robert Miller as boss - We have the following notes - "In July James Mc Bride lost 16 days by being poisoned cutting bushes in Hagley Yard" also on July 30 & 31st Il y a en 6 pourdriens que ont travaillis a la nouvelle Gate 4 ensuite et puis 2 et fait 4.5.6 finis Samedi July 6th 1816 [French translation: "...also on July 30 & 31st there were 6 powdermen working on the new Gate 4 and then 2 and then 4, 5, 6 finished Saturday, July 4th, 1816.]

Of the above 44% was rough & 56% glazed

Exclusive of government the sizes ran

Fg --- 39%

FFg ---- 52%

FFFg ---- 9%

1817

Eleutherian Mills fabrication to date ---- 139,281 kegs 14 [lbs]

Eagle Gunpowder ---- none

Du Pont ---- 28113 [kegs] 6 [lbs]

A. F. & Co. ---- 1344

Total ---- 29,457

Of the above 1470 barrels were government

mean price for the year \$6.42 cts

of the above 35% was rough & 65% glazed

Exclusive of government the sizes ran

Fg ---- 38%

FFg ---- 45%

FFFg ---- 17%

It was during the summer or fall of this year that the Upper Coalhouse burnt down being the first and only Coalhouse that we have completely lost on the Brandywine, while the fires of Greater or less extent have been Legions yet they never get beyond control

It was at this fire that Mr. Peter Samuel du Pont de Nemours, was at and pushed to help put out. My father & Irene du Pont both being absent, the one at college and the other on business in New York.

The A. F. & Co. [powder] made this year was all from sweepings of the mills.

1817

Another note - John Neyth commenced work and made a half day on Jan 2nd 1817 - Ne pas fait grand chose jus qu'on Samedi parcequ'il just battu avec Ian Baurdin[?] [French translation: "Not much quantity Saturday because ?? with Ian Bauodin."]

Robert Miller quit on Dec. 1st 1816 making 1/2 day and was succeeded as boss by Daniel McEver Another row must have occurred on Tuesday 16th of January 1817 as 4 men were dismissed, and at the end of the month Daniel McEver left and no one was appointed Boss until April 1st 1817 when Henry Cavender was made Boss. And was still boss when the time book ended Dec. 31st 1826. Note "Thos. [Thomas] McCelgan lost the key of the carpenter shop, see if you will make him pay for it or no." In Sept. 1817 they appear to have charged the oil to the millmen and issued it at 4 pints at one time to each mill man, they used 120 pints in the month of Sept. 1817.

On the 1st Dec. 8 men worked to midnight and this was the only night work done in Hagley in 1817. The note reads "Ils ont tous travaillé jusqu'à minuit" [French translation: "They all worked until midnight."]

1818

In Feby 1818 we note that only 4 men of 25 made full time, and this is a fair sample of the way the time book ran, and is easily accounted for as all hand bought whiskey to work with them! In Feby we have this note on Oil "Tous cet trois Quarts ont ete pendres le juin du combat entre les Taylers & Weavers" [French translation: "Three quarts were lost in the summer in June because of a conflict between the Taylors & Weavers."] These were two Taylers working in Hagley & the Weavers were probably men working at Mr Victor du Pont's woolen mill.

1818

This is the first year in which the packing of Hagley is separate from the Upper Yard du Pont de Nemours & Co to date ---- 169,738 [kegs] 20 [lbs]

Eleutherian Mills

Eagle Gunpowder ---- none

Du Pont ---- 2153 kegs 20 1/2 [lbs]

A. F. & Co. ---- none

Hagley Mills

Eagle Gunpowder ---- none

Du Pont ---- 11,882 kegs

A. F. & Co. ---- none

Total Brandywine ----- 14,035 [kegs] 20 1/2 [lbs]

Of the above 298 barrels were government powder of which 268 appear to have been packed in Hagley. The mean price for the year was - \$5.98

of the above 43% was rough & 57% glazed

Exclusive of government the sizes ran as follows

F ---- 11%

FF ---- 57%

FFF ---- 32%

It was on Thursday 19th of March 1818 that the Great Explosion occurred by which 33 men & one woman lost their lives, namely Upper Yard men

Wm Allison powderman Single

Hugh Bready powderman Single

John & Hugh were borther and cousins of Pat. Bready Jr.

Wm Dougherty powderman Single

David Flinn powderman Single  
Pat McCarren powderman Single  
John Strain powderman Single  
John Fonay powderman Single  
Philip Dugan powderman Single  
John Bready Jr. Powderman Single  
Pat Brady Jr. Powderman Single  
Dan Dougherty Single powderman  
Thos. Kennedy single powderman  
John Mallory single powderman  
Pat. Fullen single powderman  
David Wilson single powderman  
Michael McLaughlin single powderman  
John Bready Jr. married powderman  
Hugh McCollan single potman  
Michael Mooney single potman  
These 4 last were pounding mill men. John Bready died 2 days after the explosion.  
Edward Bradley married powderman  
Edward Reynolds married powderman  
Hugh Flanigan married powderman  
Michael Fenner married powderman  
Philip Gallagher married powderman  
Peter Tunbury Sulphur millman  
Refining men  
John Dunnery Single  
John O'Brian Single  
Laborers  
John Donahue Single  
Patrick Boyle Single boy  
Hagley Men  
Thos Reynolds single  
Peter Cooney Single  
& Mrs Michael Tonner

My father says that there was a stranger staying with some of the neighbors who ran down to the yard and was killed.

Of the 24 men working in Hagley 9 quit at once, 4 at the end of the month, and 2 were killed leaving the total force of powdermen 4 in the upper yard and 9 in Hagley.

Hagley books show the following note - Michael Bonell commenced work April 6th 1818 and was killed as Boss of the Lower Yard in the Dustmill Sept. 22nd 1843.

July 31st 7 men were docked by A Bidermann 1/4 day each "All these men on the 31st are for having been caught 'idle'"

On Aug. 18th 7 Powdermen were taken from Hagley to the Upper Yard with Archey Hicks as Boss to commence work - this fixes the date of the starting of the Upper yard after the explosion.

1818

Sept. 1818 William Gibbs and his son Stephan Gibbs English powdermakers commenced work in Hagley, these Gibbs were the men who ran the Jennie Gibbs (graining mill) in the upper yard, which blew up with the pounding mill on the 24 of January 1822 but fortunately hurt no one.

On the 12th of November 4 men were taken to Upper Yard from Hagley

Again on the 2nd of Dec. 2 more men were taken from Hagley for Upper Yard.

Mr. Chas Dalmas Brother in Law to Mr. Eleuthere Irene du Pont moved from Hagley house in October 1818, and in November 1818 Mr. Anthony Bedermann occupied the same house. In

Dec. 1818 commences a long series of charges of from one to five days each month of Wm McDermot to Anth. Bidermann as well as of from 2 to 20 lbs of sweepings of powder for blasting.

1819

Du Pont de Nemours & Co. fabrication to date ---- 183,774 [kegs] 15 [lbs]

Eleutherian Mills fabrication to date ---- 171,892 [kegs] 15 [lbs]

Hagley Mills fabrication to date ---- 11,882

Eleutherian Mill ---- Eagle

Eagle Gunpowder ---- 135 [kegs] 14 [lbs]

DuPont --- 1818 [kegs] 12 1/2 [lbs]

A. F. & Co. ---- none

Total ---- 1954 [kegs] 1 1/2 [lbs]

Hagley Mills

Eagle Gunpowder --- none  
DuPont --- 17,724 [kegs] 1/2 [lbs]  
A. F. & Co. --- none  
Total --- 17,724 [kegs] 1/2 [lb]

1818

March 20th 1818 - My father [Alfred Victor du Pont] came home from Phila[delphia] where he had been studying Chemistry with Judge [Thomas] Cooper and on Friday 20th went into the Upper Yard to help. But he must have moved to Hagley towards the end of the year, as in the time book is a note by A. Bidermann as follows "Alfred has made 73 Changes of the pounding mill"

1819

Of the above 619 was Government powder

Mean price for year - \$5.60

of the above 35% was rough & 65% glazed

and excluding government the sizes ran

F ---- 12%

FF ---- 53%

FFF ---- 35%

We note the following:

March 22nd 1819 - Two more men were detached from Hagley for the Upper Yard, and this appears to be the last entry of this kind.

March 29 1819 The Hagley Saw Mill started

Joseph McDonald being sawyer.

On Sept. 13th 1819 They commenced sinking the well at Mr. A. Biderman's House, Neil Harlet & McDrake being well diggers, this well is 104 ft deep, and Wm Drake was killed by a blast in it Dec. 14th 1819. The well was finished by Harlet Jany 1820.

Peter Quigley commenced work in Hagley Nov. 25th 1819 - he escaped the explosion of 1847 and died I think in 1862?

1820

DuPont de Nemours & Co. fabrication to date ---- 203,453[kegs] 4[lbs]

Eleutherian Mills fabrication to date --- 173,846[kegs] 16 1/2[lbs]

Hagley Mills fabrication to date ---- 29,606[kegs] 12 1/2[lbs]

Eleutherian Mills

Eagle Gunpowder --- 37 13[kegs]

DuPont ---- 436 12[kegs]

A. F. & Co. ---- none

1820

Hagley Mills

Eagle Gunpowder --- none

DuPont --- 18,609 [kegs] 1/2 [lb]

A. F. & Co. ---- none

Total ---- 18,609 [kegs] 1/2 [lb]

Of the above 910 1/2 barrels were government powder  
and the mean price for the year --- \$5.13

A singular fact presents itself in Nov. of this year appears the first musket powder packed as  
musket viz 64 barrels - Prior to this date it was marked & called Fg, yet no shipments of musket  
occur until 1825 by the shipping book at the office

Exclusion of government the sizes seen as follows

F ---- 15%

FF ---- 48%

FFF ---- 36%

And of the above 27% was rough & 73% glazed

We note that on Aug. 24th 1820 Daniel Foy commenced work and was killed by the Hagley dust  
mill Aug. 25th 1832.

1820

This year appears the first blasting powder and appears to be made of DuPont Powder. All  
marked C and equals 102 kegs

1821

DuPont de Nemours & Co. fabrication to date --- 222,536 [kegs] 16 [lbs]

Eleutherian Mills --- 174,320 [kegs] 16 1/2 [lbs]

Hagley Mills --- 48,216

Eleutherian Mills

Eagle Gunpowder --- 3 [kegs] 5 [lbs]

DuPont --- 4240 [keg] 1 [lb]

A. F. & Co. ---- 1545

Total --- 5788 [kegs] 16 [lbs]

Hagley Mills

DuPont --- 20315 [kegs] 23 [lbs]

A. F. & Co. ---- none

Total --- 20315 [kegs] 23 [lbs]

1821

Of the above 558 barrels were government powder as shipped but they packed 709 viz

Cannon 452 Musket 357 in Hagley

Mean price for the year ---- \$5.20 cts

Exclusive of Government & Cannon & Musket the sizes ran as follows

F ---- 18 1/2%

FF ---- 37%

FFF ---- 44 1/2%

& of the above 33% was rough & 67% glazed

We note as follows:

From Jay 24th to Jay 29th all hands in Hagley except the Boss Henry Cavender were sent home, and credited with board but no wages on account of the intense cold.

In the spring of 1821 4 mens wages were charged to Anth. Bidermann to Plant a Pear & Cherry orchard. This was at the end of his Garden.

1821

This year there was packed in Hagley of blasting saltpetre C powder 282 kegs 2 1/4 [lbs]

Making the total

Blasting to 1822 --- 384 kegs 3 1/4 [lbs]

1822

DuPont de Nemours & Co. fabrication to date --- 248,641 [kegs] 5 [lbs]

Eleutherian Mills ---- 180,109 [kegs] 7 1/2 [lbs]



Hagley Mills --- 68,531 [kegs] 23 [lbs]

Eleutherian Mills

Eagle Gunpowder --- none

DuPont ---- 7263 16[kegs]

A. F. & Co. --- 607 [kegs] 12 1/2 [lbs]

Total ---- 7,871 [kegs] 3 1/2 [lbs]

Hagley Mills

Eagle --- none

DuPont --- 13,237 [kegs] 23 1/2 [lbs]

A. F. & Co. --- none

[Total] --- 13237 [kegs] 23 1/2 [lbs]

1822

Of the above 270 barrels were government powder  
mean price for the year --- \$5.43

of the above 21% was rough & 79% glazed

And omitting government the sizes ran as follows

F ---- 13%

FF ---- 50%

FFF ---- 37%

Notes January 25th & 26th Friday & Saturday the Cold was so intense that all hands in Hagley were sent home and paid board, the thermometer at noon having risen to 2 below zero.

There is no note of the freshet of 1822 on Hagley time book, yet it leveled the upper rolling mills No. 1 & 2 to the ground - For it was in the fall of 1821 that they were commenced, the rollers were cast at West Point foundry and in Feby shipped to Wilmington, but when off Great Egg Harbor in a storm they slid off the deck and were lost and the freshet leveled the walls which were 2 scaffolds high. These mills were not finished until 1824 November.

On the 25th of January 1822 the Jinny Gibbs a granulating mill with 8 circular 2 foot passers driven by a crank, blew up; it stood on the foundations of the saw mill in the upper yard when the little glazing mill now stands, 40 ft North of pounding mill, it fired the pounding mill which blew up also but no one was hurt - Stephan Gibbs says that the pounding mill blew first but, it was intensely cold weather, and all hands were in the Night work house except Gibbs who was a

notorious liar, and the second explosion being the heavy one, it has been generally believed that the Jennie Gibbs blew first.

1822

This year appears the first blasting F powder and the blasting in Hagley was as follows

Blasting to date --- 384 kegs 3 1/4 [lbs]

packed in 1822 C --- 367 kegs

packed in 1822 F ---- 296 kegs

Total in 1822 --- 1047 kegs 3 1/4 [lbs]

Note: It was in this year that the first [illegible] for distilling wood were put in at the upper coal house and the first in America - The idea was imported from Germany and communicated to my father by Farr & Kunzy Chemists of Philadelphia who were afterwards succeeded by Powers & Weyletman[?]. Thos [Thomas] Powers then a young man came down from Phila to collect the Pyrelezneous [?] acid to make [illegible] from, the Distillation improved the charcoal, but they were not successful in the vinegar[?] process.

David Foster Ppwnerman in Hagley and father to Michael Foster commenced work June 27th 1822 and died 1876? being 44 years in the powder [yards]

Chas. Damien commenced July 28th 1822 and was blown up in rolling mill with full charge of 100 lbs of powder and although a drunken fellow is the only man I know of who stood the shock and survived, he was many years [a] Painter on the Brandywine.

1823

DuPont de Nemours & Co fabrication to date ---- 269,750 [kegs] 7 [lbs]

Eleutherian Mills ---- 187,980 [kegs] 11 [lbs]

Hagley Mills ---- 81,769 [kegs] 21 1/2 [lbs]

Eleutherian Mills

Eagle Gunpowder ---- 201 [kegs] 12 1/2 [lbs]

DuPont ---- 6729 [keg] 1 [lbs]

A. F. & Co. ---- 921 [kegs] 23 [lbs]

Total ---- 7852 [kegs] 11 1/2 [lbs]

Hagley Mills

U. S. Government ---- 3949 kegs

DuPont ---- 14543 kegs

Saltpetre blasting ---- 1461 kegs

Total ---- 19953 kegs

The mean price for the year ---- \$5.18 pr keg

of the above 30% was rough & 70% glazed

Sizes of grain excluding Gov. ran as follows

C blasting --- 79%

F blasting ---- 21%

Fg [illegible] ---- 21 1/2%

FFg " ---- 56 1/2%

FFFg " ---- 22%

This year is rather remarkable as not having any note on the time books of any event and we had no explosions or freshets.

1823

Delaney[?] was Chemist and Superintendant at refining, and we note an analysis of Tom Buck as compared to Willow bush by him, and among other information, he gives "1 cord of bark of the kind called 'Spanish Oak' weights 2400 lbs and costs at the tannery \$14.00 pr cord (least 8 x 4 x 4 = 128 cubic ft english) the mill will grind 8 cords in 24 hours, and it takes 400 lbs of bark for 100 lbs of green hides from the Buckenshop[?], and 800 lbs for Dry Spanish Hides." Then follows an analysis of Tan sent up by "Sandran" who no doubt was A. Sandran de Cardon. The firm in the tanning business, which was located in the present coalmills was Cardon, A. Bidermann & Chas Dalmas - and as the above quantity of bark and wood show, the firm broke! and Uncle Bidermann, who was the only one with any money paid all losses of the firm amounting to (with interest) \$100,000.

1824

Du Pont de Nemours & Co fabrication to date 297555 [lbs]

Eleutherian Mills fabrication to date 195832 [lbs]

Hagley Mills fabrication to date 101722 [lbs]

Eleutherian Mills

Eagle Gunpowder --- 420

Du Pont --- 8937  
A.F. & Co. --- 1017  
Total --- 10,375

Hagley Mill  
U.S. Government Navy --- 7066  
Du Pont --- 10,379  
Saltpeter blasting --- 740  
Total --- 18185

The mean price for the year was \$5.23 [per barrel]

Of the above excluding government the sizes ran:

C --- 73%  
F --- 27%  
F [illegible] --- 18%  
FF ---- 42%  
FFF ---- 39%

And 26% was rough and 74% glazed

Note. On Nov 30th 1824 the first Rolling Mill started. Michael Callighan being the youngest hand in Hagley was selected by Mr A. Bidermann as Rolling Mill man and was given potman's wages. This was the first Rolling Mill that ever ran in America.

This mill blew up on or about the 22nd of December 1824 and Michael Callighan was burnt but recovered; the charges were 75 lbs of dust mill dust put on the platform dry and then watered and stirred up with a shovel, and the mill then started on, the powder adhered much to the rolls and Michael was scraping it off when she blew. The mill being new and in good order accounts for her running nearly one month with this treatment before she blew as a cure for this, my father invented the rolling mill scrapers, the last relics[sic] of which are yet to be found on our Eagle Mills.

This explosion caused a great mistake to be made namely that it was required to keep the rollers clean, and accordingly they stopped all the rolling mills at 11 o'clock and cleaned them with copper picks and hammers, which was the cause of burning more men than a few.

In 1860, Saml Hammond blew up the rolling mill at Wap[walopen] cleaning, and I took away all hammers and issued an order that if any one cleaned his rollers they would be discharged.

In 1861, a rolling mill was blown up in Hagley in the same way, so on Sunday I went down and secured all hammers, since then we have had but few and these were done with scrapers.

Francis Jeandille mill boss in the upper yard and Henry Cavosier[?] in Hagley.

Gilbert Matthewson powderman in upper yard on the 25th of June 1824 injured his back and was off work 3 years and then appeared in the refinery to stir the cooler [?] as a cripple.

It was the same G Matthewson, the father of the present G Matthewson who eloped or tried to with his wife, who tried to back out of the 2nd story window, and whose clothes caught around her waste[sic] [illegible] her till they had to send for Mr Bruce to have her cut out of the window fraime[sic]

In 1824, there were 5 men in the refinery and Delaag who refined as follows:

Jany --- 5 kettles ---- 6997 lbs Crude

Feby --- 3 " ---- 4296 lbs "

March ---- 2 " ---- 2201 lbs "

April ---- none

May ---- 4 " ---- 6171 lbs "

June ---- 4 " ---- 5960 lbs "

July \* ---- 4 kettles - 1 large kettle --- 8990 lbs "

Aug ---- 3 kettles - 1 large kettle ---- 8597 lbs "

Sept ---- 6 kettles - 2 large kettle ---- 10171 lbs "

Oct ---- 8 kettles - 2 large kettle ---- 12716 lbs "

Total for 10 months ---- 66087 lbs

This is all mentioned but as the powder packed required 570,000 lbs to have been refined, I think Delaag was drunk and did not put down all refined

\* Put in a new copper boiler with a capacity of 6000 lbs

[Note: The star denotes that this occurred in July, see above]

1824

Jonas W. Miller - His father was born in North Ireland an illegitimate son of a [nobleman?] wealthy man and was sent to this country with his father or rather the husband of his mother - and [grew] up to be quite an able man and of all the millers of this part of the world was the only bunch that were worth much. His son Jonas William first appeared on the Brandywine March 18th 1818 where he attracted attention at putting out the fire and carrying powder to Hagley, he learned his trade with William Murphy then Ben Millwright and left for 2 years, and then came back Feby 14th 1824 as a journeyman, and became William Murphy's successor and died July 6th 1873 partly from effects of blowing up 6 glazing barrels he was repairing in Hagley shop through gross unthoughtfulness as had been shipped the staves off one barrel and as he passed along with a hammer in his hand struck the spindle for no use causing fire which communicated to the barrels which were not shipped of their staves which burst and wounded him.

1825

DuPont de Nemours & Co fabrication to date 326,116 20 1/2[lbs]

Eleutherian Mills --- 206207 12[lbs]

Hagley Mills ---- 119909 9[lbs]

Eleutherian Mills

Eagle Gunpowder --- 423 8 1/2[lbs]

DuPont ---- 5183 3 3/4[lbs]

A. F. & Co. ---- 1759 13 1/2[lbs]

Total ---- 7366 3/4[lbs]

Hagley Mills

C Blasting ---- 590

F blasting ---- none

DuPont ---- 17618 22 1/2[lbs]

U.S. Government --- 1554

Total ---- 19762 22 1/2[lbs]

1825

Mean price for the year of all kinds -- \$5.23 1/10

of the above 23% was rough & 77% glazed

sizes of grain ran as follows

C blasting --- 100%

F blasting ---- none

F sporting ---- 9%

FF sporting ---- 45%

FFF sporting ---- 46%

It will be noted that this is the first year in which the FFFg equaled or exceeded the FFg. Rolling mill No. 1 started in May 1825 is mate or No. 2 having started in the fall before. We number rolling mills from 1 up and commence up stream thus the block below the dryhouse in Hagley are No. 1 & 2 - the block below the upper glazing mill are 3 & 4 - the block at the sawmill are Nos 5 & 6 - the block below the coalmill are Nos 7 & 8 - the block opposite Rumford Dawes house is No. 9 & 10. this is the Eagle block & Nos 11 & 12 are the two lower ones opposite the lower press room Hagley while 13 & 14 are in the lower yard.

Note. The upper yard was again unlucky this year. The glazing mill at the headgates of the race blew up on the 18th of Sept 1825 caused by the powder cart horse called Bob locking the wheel of the cart against the scraper that the men cleaned their feet on and the fire spit across the porch into the building, no one was killed, although Wm Green and Francis Casey were hurt with stone falling on them.

Again on the 27th of October 1825 at 8 o'clock in the evening, the Dryhouse which stood in the middle of the road between the Rebel shanty and the race blew up, probably due to a branch of a tree being blown against the window and breaking it when the wind blew powder of the trays on to the red hot stove, as there was a violent storm blowing at the time. The dryhouse fired the dust mill, which stood where the graining mill now stands, which in turn fired the pounding mill. But fortunately no one was hurt in any of these buildings it being night

1825

Jany 25th 1825 all hands in the upper yard lost 1/2 day, this might have been from intense cold. On Sept 12th 1825 10 men lost 3/4 day and the time was very irregular for a week or so, this is singular as the date of the glazing mill explosion is the 18th of Sept which, is hardly possibly wrong.

From 1821 & before Delaney[?] was Superintendent at the refinery and left (was discharged in May 1832). In June 1832 Chas L. Carpenter was Superintendent and [illegible] until April 1st 1850.

[note attached to page: "Acquired from Titus Mousley, one cord three eighth of wood, 1st January 1825, Delaney[?]" ]

In 1825 there were 6 and sometimes 7 men in the Refinery who made from 140 to 144 days each month. March 16th 1818 the old handwriting in the Refining time book stops, and no entry is made until June 2nd 1818 when my father's writing appears, also Jan 20th 1820 what I think (Delaags) appears - Nov. 1st Uncle Henry handwriting appears for 3 months - when Carpentier appears and continue till 1850.

1826

DuPont de Nemours & Co. fabrication to date ---- 353,245 [kegs] 18 3/4[lbs]

Eleutherian Mills ---- 213,573 [kegs] 12 3/4[lbs]

Hagley Mills ---- 139,672 [kegs] 2 3/4[lbs]

Eleutherian Mills

Eagle ---- 375 [kegs] 16 [lbs]

DuPont --- 5711 [kegs] 13 3/4 [lbs]

A. F. & Co. --- 1122 [kegs] 22 1/2 [lbs]

Government ---- 1147

Total --- 8357 [kegs] 2 1/4[lbs]

Hagley Mills

C Saltpetre blasting --- 843 kegs

F saltpetre blasting --- none

DuPont --- 16,247 [kegs] 12 1/2[lbs]

Government Navy ---- 1750

Total ---- 18,840 [kegs] 12 1/2[lbs]

Mean price for the year --- \$5.24 1/2 cts

Of the above sporting 26% was rough & 74% glazed & excluding government and blasting as well as Eagle & A. F. & Co. the sizes ran as follows

1826

Fg ---- 9%

FFg ---- 46%

FFFg ---- 45%



Notes - Feby 1 & 2 1826 - 13 men lost 1/2 day each but board was allowed them, this may have been a funeral of one of the family, but most probably on account of the cold weather.

Henry Kyle who was killed in the graining mill in 1834 commenced work in the powder [yards] on the 19th of August 1826.

On Feby 26th 1826 - The dustmill (upper) started with 8 dust barrels in her (this was the mill that blew up with Danl Toy & Pat Holland in 1832, that she started in Feby 26th 1826 is so, for the fabrication book of Hagley shows she made 8 barrels one day & 16 the next day alternating right along for the whole year. Yet the footnotes of the Fabrication book of 1827 gives the following footnotes

Dust barrel No. 1 put to work Feby 1st 1827

Dust barrel No. 2 put to work Feby 20th 1827

Dust barrel No. 3 put to work March 24th 1827

Dust barrel No. 4 put to work April 20th 1827

Dust barrel No. 5 put in May 3rd 1827

Dust barrel No. 6 put in May 12th 1827

Dust barrel No. 7 put to work June 20th 1827

& Dust barrel No. 8 does not appear to be mentioned. Now this could not have been the dustmill that stood where the lower glazing mill now stands as it was only built in 1838. Edw. Daugherty afterwards boss of Hagley commenced work Dec. 1826.

1827

DuPont de Nemours & Co. fabrication to date -- 380,443 [kegs] 3 1/4[lbs]

Eleutherian Mills --- 221,930 [kegs] 15[lbs]

Eagle --- 469 [kegs] 22[lbs]

Government --- 453 kegs

DuPont --- 9814 [kegs] 21 1/2[lbs]

A. F. & Co. ---- 822 [kegs] 10[lbs]

Total ---- 11560 [kegs] 3 1/2[lbs]

Hagley Mills fabrication to date --- 158,512 [kegs] 15 1/4[lbs]

C saltpetre blasting ---- 378

F saltpetre blsating ---- none

DuPont ---- 12150 [kegs] 12 1/2[lbs]

Government ---- 4249

Total --- 16777 [kegs] 12 1/2[lbs]

Mean price at which powder sold all kinds -- \$5.08

August 25th 1827 the first 10,000,000 of pounds of powder was packed!

Of the above DuPont 17% was rough & 83% glazed & 5 2/10% was blasting & A. F. & Co. 94 8/10 being sporting. Of sporting DuPont the sizes ran as follows

F --- 5 3/4%

FF ---- 41%

FFF ---- 53 1/4%

In August 1827 we find the following proof of Powder

OP #1 - 244 yds - 247 yds - 225 yds		
OP #2 - 251 yds - 250 yds - 225 yds		FF #1 - 76 - 77
OP #3 - 252 yds - 247 yds - 225 yds		FF #2 - 74 - 73
NP #1 - 237 yds - 247 yds - 229 yds		FF #3 - 54 - 52
NP #2 - 235 yds - 253 yds - 226 yds		
NP #3 - 240 yds - 259 yds - 236 yds		

No 1 = Dustmill dust 2 hours under runners

No 2 = dustmill dust 1 hour under runners

No 3 = pounding mill powder 14 hours under stamps

[Note: 'Proofing' powder meant testing it, usually with an eprouvette which was a small mortar, for qualities such as strength and quickness of burn.]

It is not to be wondered at that proofs like the above of the Eprouvette master should have fooled them & yet they had the best in the Brandywine Eprouvette, which showed the great advantage of rolling mill powder, which with wages for per finally turned the scales, and caused Mr. A. Bidermann reluctantly to agree to the replacing of the Moulin a Pilon [French for pounding mill] by the English wheelmills.

Maurice Frankhouse commenced running the Sawmill in Hagley this year.

On 18th 19 & 20 of Jany 1827 all hands are docked 1/4 day on 18, full day 19 & 1/4 day on the 20th for some cause.

July 10th 1827 Daniel Meenan commenced in the upper yard.

Aug. 30th 1827 all hands lost 1/4 day.

1828

DuPont de Nemours & Co. fabrication to date 408,780 [kegs] 18 1/4[lbs]

Eleutherian Mills ---- 233,490 [kegs] 18 1/2[lbs]

Hagley Mills ---- 175,290 [kegs] 2 3/4[lbs]

Eleutherian Mills

Eagle Gunpowder --- 647 [kegs] 16 1/2[lbs]

Government powder ---- 911

DuPont ---- 1605 [kegs] 21 1/2[lbs]

A. F. & Co. ---- 882 [kegs] 8[lbs]

Total ---- 4046 [kegs] 14[lbs]

Hagley Mills C blasting ---- 293

F blasting ---- none

DuPont ---- 14182

Government ---- 3309

[Total] ---- 17784

1828

Jany 1st 1828 all hands in upper yard lost 1/2 day

June 2nd 1828 all hands in upper yard lost 3/4 day

Aug 28 1828 8 men lost in upper yard 1/4 day

Sept 17 & 18 1828 12 men lost in upper yard 1/4 & 1/2 day

& Feby 26th 1828 The 8 oldest hands in upper yard lost 1/2 day

Jany 1st may be due to cold but the rest look more like funerals.

1828

Mean price of powder for year --- \$6.87 cts

of the above 13% was rough & 87% glazed

& excluding government & A. F. & Co the sizes of grain ran as follows

F --- 6%

FF ---- 38%

FFF --- 56%

Notes - Hagley time book shows the following notes Monday Feby 11th 1828 stopped pounding mill to put in new Pot Legs and started again Feby 20th June 28th 1828. Rolling mill No. 2 blew up at 5 o'clock in the morning, no one hurt.

From Aug. 16th to Aug. 20th 1828 Hagley stopped no saltpetre.

1829

DuPont de Nemours & Co. fabrication to date 430,611 [kegs] 13 1/4[lbs]

Eleutherian Mills --- 237,537 [kegs] 12 1/2[lbs]

Hagley Mills ---- 193,074 [kegs] 1 2/4[lbs]

Eleutherian Mills

Eagle Gunpowder --- 641

Government ---- 397

DuPont ---- 9100 [kegs] 2[lbs]

A. F. & Co. --- 756 [kegs] 8[lbs]

Total --- 10894 [kegs] 10[lbs]

Hagley Mills

Saltpetre blasting C --- 322

Saltpetre blasting F --- none

DuPont ---- 17211

Government --- 73

Total --- 17,606

Mean price for the year --- \$4.99

Of the above 14% was rough & 86% glazed.

And excluding Gov. & blasting the sizes ran as follows

F ---- 5 2/10

FF ---- 38 3/10

FFF --- 56 1/2

Note on Dec. 6th 1829 Hagley Pounding Mill struck her last blow having run from 1814 that is 15 years without an accident, during which time the upper yard pounding mill blew up 4 times, such is management in powder!

She was turned into rolling mill No. 3 and at this time making 5 rolling mills in Hagley viz 1 & 2 or upper rolling mills - No 3 old pounding mill 4 & 5 saw mill block -

Nov 11th 1829 Freshet [flood] that stopped Hagley 1 1/2 days.

1830

DuPont de Nemours & Co. fabrication to date --- 459,111 [kegs] 23 1/4 [lbs]

Eleutherian Mills --- 248,431 [kegs] 21 1/2 [lbs]

Hagley Mills ---- 210,680 [kegs] 1 3/4 [lbs]

Eleutherian Mills

Eagle Powder --- 588 [kegs] 5 [lbs]

Government ---- 435

DuPont ---- 12375 [kegs] 19 [lbs]

A. F. & Co. ---- 405 [kegs] 21 [lbs]

Total ---- 13804 [kegs] 20 [lbs]

Hagley Mills

Saltpetre blasting C --- 336

Saltpetre blasting F ---- none

DuPont ---- 19514

Government ---- 225

Total ---- 20,075

Mean price of powder --- \$4.98

1830

This is the first year Eagle Rifle is packed under that name. Doubtless this size was packed before, but it is only in this year that it appears in the packing lists under that name.

1830

Of the above excluding gov. & blast. 13% was rough & 87% glazed

And excluding Gov. & blasting the sizes of grain ran,

F ---- 4 4/10%

FF ---- 36%

FFF --- 59 6/10%

Note - Jan 11th Freshet [flood] that stopped Hagley one day. On the fly leaf of the packing house book we find the following

Lt. S. F. DuPont

U.S. Ship Ontario

Care Messr. hill & Blodget

Gibraltar

Dr [debited] Wiley U.S. Navy Brooklyn

This was the address of the unfortunate powder that we sent to the Emperor of Morocco which was tested by the Emperor before the officers among whom was Uncle Frank, his test was to order a file of 6 men to load their muskets with powder until they could touch the powder in the muzzle with their finger and then fire off the muskets, result 6 men mutilated!

1831

DuPont de Nemours & Co. fabrication to date 492,991 [kegs] 18[lbs]

Eleutherian Mills --- 262,236 [kegs] 16 1/2[lbs]

Hagley Mills ---- 230,755 [kegs] 1 3/4[lbs]

Eleutherian Mills

Eagle Powder ---- 683 [kegs] 1[lbs]

government --- 252

DuPont ---- 10,812 [kegs] 14[lbs]

A. F. & Co. ---- 194 [kegs] 15[lbs]

Total ---- 11,942 [kegs] 5[lbs]

1831

Hagley Mills Packing

Saltpetre blasting C --- 243

Saltpetre blasting F --- none

government --- none

DuPont --- 19,405

Total ---- 19,648

Mean price of powder this year --- \$5.06 cts  
of the above 12% was rough & 88% glazed  
and omitting government & blasting the sizes ran

F ---- 3 4/10

FF ---- 32 4[lbs]

FFF ---- 64 2[lbs]

Notes from Hagley books:

Jan 14th to 19 1831 Hagley stopped on account of the Great Snow Storm and noted as follows

Jan 15 Heavy snow storm

16 cleaning roads with all hands

17 cleaning roads with all hands

18 cleaning roads with all hands & waterwheel

I have heard Uncle Bidermann and my father say that it fell between 5 & 6 ft and after it settled you could run a sleigh to Wilmington over the tops of the fences anywhere.

Feb 17th Freshet [flood] too high to run

July 2nd Freshet too high to run

July 7th Freshet too high to run

July 9th All hands went to the "Funeral" this must have been some one hurt, but who does not appear. Aug 9th & 10 Freshet too high to run, headgates swept away. Aug 27 stopped for repairs, water cut of race to put in head gates. Sept 8th let water in race in the evening.

Sept 1st 1831 repairing dust mill Upper Hagley and got her started on Oct. 31st 1831, if this was an explosion it was the one that blew as the mill started, as I have heard my father say one fired off just as the men left her. On the 15th of January 1831 all hands were docked one day in the Upper Yard.

1832

DuPont de Nemours & Co. fabrication to date -- 524,581 [kegs] 23[lbs]

Eleutherian Mills --- 274,178 [kegs] 21 1/2[lbs]

Hagley Mills --- 250,403 [kegs] 1 3/4[lbs]

Eleutherian Mills

Eagle Powder --- 701 [kegs] 4[lbs]

Government ---- 1120

DuPont --- 13174 [kegs] 12[lbs]

A. F. & Co. --- 250 [kegs] 15[lbs]

Total --- 15246 [kegs] 6[lbs]

Hagley Mills

C Saltpetre blasting --- 1099

F Saltpetre blasting --- none

Government powder --- 240

DuPont ---- 19,852

Total ---- 21,191

Mean price for the year --- \$4.93

Of the above 16% was rough & 84% glazed

& excluding government & blasting the sizes ran as follows

F ---- 4 2/10%

FF ---- 38%

FFF ---- 57 8/10%

Notes - Jany 1st William Baldwin & Moses James were blacksmiths. Jany 1st John Mealey afterwards boss of the Upper Yard commenced work.

1832

Sept. 1st Henry Cavender Boss of Hagley from 1818 quit and John McDermot was made boss by A. Bidermann. & the time book shows he was still boss in 1834

1832

On Nov. 17th 1832 - 7 laborers quit work

Jany 9th & 10 High Freshet [flood]

Feby 13th High water stopped the wheels in Hagley

Aug. 25th 1832 - Saturday at 2 o'clock upper dust mill blew up killing Danl [Daniel] Toy & Patrick Holland. One end had 6 barrels in it and the other 2 Eagle barrels, there had been fully charged with new brass ball which I believe was the true cause of the explosion - she was rebuilt and started again Saturday Dec. 29th 1832.

1833

DuPont de Nemours & Co. fabrication to date --- 561,019 [kegs] 4 [lbs]

Eleutherian Mills --- 289,425 [kegs] 2 1/2 [lbs]

Hagley Mills ---- 271,594 [kegs] 1 3/4 [lbs]

Eleutherian Mills

Eagle Powder --- 899 [kegs] 6 [lbs]

Government ---- 2070

DuPont ---- 18126

A. F. & Co. ---- 560

Total --- 21655 [kegs] 6 [lbs]

Hagley Mills



Blasting saltpetre C --- 379

Blasting saltpetre F --- none

Government --- 4674

DuPont --- 17762

Total ---- 22,815

Mean price of powder for year -- \$4.92

This is the first year's packing which was over 1,000,000 of lbs of all kinds of which over one half was FFFg

1833

Of the above 11 2/10% was rogh & 88 8/10% glazed  
& omitting government & blasting the sizes ran

F ---- 4 2/10

FF ---- 30 5/10

FFF ---- 65 3/10

Notes. April 6th Every man in Hagley lost 1/4 day

Sept 2nd John Fitzgerald ran away

July 8th Peter Boisson commenced work in Hagley

May 21st Back water in Hagley

Oct 22nd Back water in Hagley

1834

DuPont de Nemours & Co. fabrication to date --- 605,489 [kegs] 10 [lbs]

Eleutherian Mills ---- 311,080 [kegs] 8 1/2 [lbs]

Hagley Mills --- 294,409 [kegs] 1 3/4 [lbs]

Eleutherian Mills

Eagle Powder --- 709 [kegs] 13 1/2[lbs]

Government --- 306

DuPont --- 17825 [kegs] 23 1/2[lbs]

A. F. & Co. ---- 391 [kegs] 15 1/2[lbs]

Total --- 19,233 [kegs] 1 1/2[lbs]

Hagley Mills

Blasting C --- 290

Blasting F ---- none  
Government ---- 196  
DuPont ---- 24288  
[Total] ---- 24774

Mean price of powder for year --- \$4.92

Of the above 9 4/10% was rough & 90 6/10% glazed

And the sizes of grain omitting Government & blasting - That is of DuPont sporting ran as follows

F ---- 3 2/10%

FF ---- 25%

FFF ---- 71 8/10%

Notes - An inventory of stock was taken Nov 1st 1834 due to the Death of Mr. Eleuthere Irenee du Pont Oct 31st 1834. The amount of powder manufactured during his connection with the Firm was 627,161 kegs. The packing book of Hagley yard of 1834 appears in the handwriting of Uncle Alexis I. du Pont, while in 1833 it is in that of Anthony Bidermann, Uncle Alexis commenced in 1835 and wrote out the packing for Uncle Bidermann from the Blotters into the packing book for the year previous. I have often heard Uncle Alexis say the first work he did on coming[?] to the Brandywine was building the lower graining mill Hagley. This was in '35. June 30th 1834 - 13 men quit work on the labor time book this was due to a reduction of force[?].

Sept. 1834 The whole gang of laborers was suspended for the whole month (this was due to the death of my grandfather and settling affairs?). April 14th 1834 Hagley stopped to put in wastegates and started again on the 22 of April.

May 6th 1834 Lower dust mill Hagley now the lower glazing mill started having been just finished with 6 barrels but 2 days after 2 men were added making 8 which ran 2 changes pretty steadily for some years.

In October 1834 the handwriting of Mr. A. Bidermann disappears and Uncle Alexis appears and the first note by him is on the 15th of Dec. namely "thermometer 10 Fah [fahrenheit]" and from his handwriting should think he was correct.

1834

Oct 31st 1834 - Eleuthere Irenee duPont died in Phila[delphia] at the U.S. Hotel opposite what was then the U.S. Bank new Custom House in Chesnut [Chestnut] Street the Funeral was on

Tuesday Nov. 4th 1834 General election day and when the body passed the buck tavern where the election was being held they closed the poles [polls] and all joined the funeral.

1834

June 20th |22nd 1834. The graining mill in the upper yard blew up killing Henry Kyle at 7 o'clock Friday afternoon, it was the Eagle end that blew first as the other end was stopped.

June 24th 1834 at 9 o'clock in the evening a rolling mill in Hagley blew up which one or cause unknown.

July 11th 1834 The Dust mill in the upper yard blew up at 3 o'clock in the afternoon, by Andrew Boyd who was boring a hole with an auger through the roof, this is the first of a series of explosions due to mechanics.

July 30th 1834 at 9 o'clock in the morning a rolling mill in Hagley blew up charge 75 lbs no one hurt but which mill uncertain.

Oct 3rd 1834 at half past 10 o'clock AM a rolling mill in Hagley, no one hurt, which one unknown.

Nov. 3 - 1834 at 5 o'clock in the afternoon rolling mill in Hagley blew up, no one hurt cause and mill unknown.

This makes 4 rolling mills, one graining mill, and one dust mill or 6 buildings in 6 different explosions lost in 1834.

In this year also occurred the Death of Mr. Eleuthere Irene duPont in Philadelphia of Colera [cholera] on \_\_\_ day of August.

1835

DuPont de Nemours & Co. fabrication to date --- 649,496 kegs 11 1/2 [lbs]

Eleutherian Mills --- 330,313 [kegs] 10[lbs]

Hagley Mills ---- 319,183 [kegs] 1 3/4[lbs]

Eleutherian Mills

Eagle Powder --- 858 [kegs] 5 3/4 [lbs]

Government ---- 552

DuPont --- 17,884 [kegs] 10 [lbs]

A. F. & Co. ---- 1967 [kegs] 20 [lbs]

Total --- 21262 [kegs] 10 3/4 [lbs]

Hagley Mills  
Blasting C --- 161  
A. F. & Co. F --- 26  
Government --- 3044  
DuPont ---- 24,318  
[Total] ---- 24549

Mean price for the year --- \$4.73 1/2

Of the above DuPont 9% was rough & 91% glazed

And sizes of grain was

F ---- 2 6/10

FF ---- 29

FFF --- 68 4/10

Notes - Upper yard. Francis Jeandelle discharged for being drunk Jan 12th 1835. And William Green made boss April 1st 1835 Henry duPont commenced keeping the time of Upper yard and stopped keeping it on Jan 1st 38 when John Peoples took the book.

April 1st 1835 John King made boss of the laborers.

Hagley Tuesday April 23rd 1835 - Freshet [flood]

Thursday May 14th 1835 Rolling mill No. 3 blew up at 1 PM having run 10 min on Eagle grain and was repaired in 24 hours.

Aug 7th rolling mills No. 1 & 2 stopped to repair waterwheel

Aug 14th lower dust mill stopped to repair and close leak in race bank

Oct. 7th 1835 upper dust mill Hagley stopped to put in granulating machine & did not run again during the year as a dustmill.

Sept 28th 1835 the upper graining mill blew up at half past 8 o'clock in the morning killing Lance & Green, cause unknown.

Sept 17th rolling mill No. 5 & 6 blew up \*John McGinnis cleaning with two charges in his mill.

This was the saw mill block. This makes the list of killed to date as follows.

1815 ---- 9 men

1818 --- 33 men

1832 Dan Toy & Pat Holland --- 2 men

1834 Henry Kyle --- 1 man

1835 Graining mill Lance & Green --- 2 men

1835 rolling mill John McGinnis --- 1 man

Total to date --- 48 men

\*John McGinnis commenced work on the 25th of September 1832 in Hagley.

Peter McCabe commenced Oct. 26th 1835 and died a natural death in 1879.

James Tanny commenced work Feby 25th 1836 & was killed after making 6 days such as March 3rd 1836 by the bank at lower press room where they were excavating, caving in and falling on him.

1836

DuPont de Nemours & Co. fabrication to date -- 695,307 22 1/4

Eleutherian Mills ---- 351,575 20 3/8

Hagley Mills ---- 343,732 1 3/4

In 1835 both Uncle Alexis & Uncle Henry came home to the powder [yards]. Uncle Alexis in September and Uncle Henry in the Spring of 1835.

1836

Eleutherian Mills

Eagle Powder --- 1318 [kegs] 8 1/4 [lbs]

Government ---- 1827 [kegs] 12 1/2 [lbs]

DuPont --- 20000

A. F. & Co. ---- 1597 [kegs] 15 1/2 [lbs]

Total ---- 24,743 [kegs] 11 1/4 [lbs]

Hagley Mills

Saltpetre blasting C

Saltpetre blasting F

Government --- 5000

DuPont ---- 29006 [kegs] 17 [lbs]

A. F. & Co.

Total --- 34,006 [kegs] 17 [lbs]

[Addendum attached to the above] The sum of the figures are correct but are not certain of the division between Hagley & upper yd. Saltpetre blasting being 76\_15\_10 is counted among DuPont.

Mean price of powder for year --- \$4.93 1/2 cts

Of the above DuPont 10% was rough & 90% glazed  
& omitting Gov blasting & eagle sizes ran as follows

F --- 2 1/2%

FF --- 25 3/10%

FFF ---- 72 2/10%

Notes. On 17th of March Smiley King commenced work he was afterward for a short time boss of the laborers.

Saturday Jany 9th 1836 snowed too bad to work in Hagley all hands quit.

Wednesday Jany 27th Dustmill waterwheel from up the thermometer being +6 degrees Fah  
[Fahrenheit] and on Thursday + 5 1/2 degrees Fah.

Feby 2nd Dustmill frozen again Thermometer ran as follows

Tuesday 2nd Feby --- -2 Fah

3rd Feby ---- -1

4th Feby --- 0

5th Feby --- +2

6th Feby --- +4

During which time the dustmill did not start.

1836

Refinery Time Book shows James White boss & Gilbert Mathewson at Cooler

Peter McCabe commenced in Refinery March 1st 1836. & Hugh Reed Sept of same year. The year commences with 11 men in Refinery and ends with 16 men in Refinery and averages 12 2/3 men, but three men filled part of the cylinders for burning coal.

1836

Tuesday, May 17th 1836 rolling mills No. 1 & 2 blew up at 1/2 past 4 o'clock pm. No. 2 started at 5 o'clock pm Thursday and No. 1 at 3 o'clock Saturday 21st the spindle of No. 1 was broken.

Monday May 23rd rolling mill No. 4 \*blew up at 11 1/2 o'clock am. cleaning only cake under castings started 5 o'clock am Tuesday morning.

March 14th Freshet [flood]

March 23rd 1836 moved the graining machine from the dustmill to the new graining mill (upper graining mill Hagley)

Monday June 27th Freshet all mills stopped in Hagley. Friday July 15th new race bank burst about 50 yards above the lower graining mill. Dec. 14th race bank burst at waterwheel head of lower graining mill. The graining mill had not been started yet.

\*No. 5 by our present count, that is the upper one of the sawmill block

1837

DuPont de Nemours & Co. fabrication to date -- 754,057 [kegs] 18 1/2 [lbs]

Eleutherian Mills --- fabrication to date -- 376,319

Hagley Mills ---- fabrication to date -- 377,738 [kegs] 18 3/4 [lbs]

Eleutherian Mills

Eagle --- 1160 [kegs] 22 1/4 [lbs]

Government --- 2972

DuPont --- 15895 [kegs] 6 1/2 [lbs]

A. F. & Co. --- 2208 [kegs] 8 3/4 [lbs]

[Total] --- 22,236 [kegs] 12 1/2 [lbs]

Hagley Mills

Blasting

Government --- 8000? |

DuPont --- 20,000? | see note 1836

[Total] --- 28,000

Of the above DuPont 8% was rough & 92% glazed

Mean price of all kinds for year --- \$496

Of DuPont the sizes rans as follows

F --- 2 3/10%

FF --- 24 7/10%

FFF --- 73%

Notes - Feby 17th 1837 Freshet [flood]

April 12th 1837 Wednesday rolling mill No. 4 blew up at 2 o'clock pm

May 26th 1837 spindle of rolling mill No. 6 \*broke and was sent to town to be welded - June

19th started rolling mill No. 6 with welded spindle, broke again at 9 am Thursday 22nd

June 13th 1837 - 14 laborers quit

Thos Roc, afterwards boss of the farm commenced July 1st 1837

Tuesday Nov 7th 1837 Stopped the mills until 9th on account of the death of Mr. Irene duPont

\* No. 7 by present count next below Coal Mill

1837

As an illustration of how hard it is to break up old rules. When my father & Uncle Bidermann broke up giving jiggers of wiskey and prohibited wiskey being brought in the yards, they allowed the men as much molasses and vinegar as they wanted to mix in drinking water this was in 1818. The following is from the refining store book.

June 1837 - 13 one half gals of molasses \$4.25

June 14th 5 lbs of putty .30

July 1837 49 half gals of molasses \$12.25

July 15th 5 lbs of putty .30

July 30th 1/4 lb of black lead .06

Aug 1837 25 1/2 gals of molasses \$6.25

Aug. 13th 2 oz camphor .30

Aug. 17 4 lbs of putty .25

Sept 1837 27 1/2 gals of molasses \$6.75

Sept 9th 1837 1 file 12

Oct 1837 22 1/2 gals of molasses \$5.50

Oct 14th one 1/2 gal jug[?]

& so it runs on stocking up a little in winter months - 1 1/2 gal of vinegar is used with 7 1/2 gals of molasses.

There were purchased from I. R. Shipley & Co.

1837

Dec. 15th 1837 Saturday spindle of No. 4 broke and sent to be spliced.

March 14th 1837 Finished the new graining mill (Lower Hagley) and started her on powder. This was the first building built by Uncle Alexis. It was commenced in 1835, but was stopped building due to the explosion of graining mill killing Lance & Green.

This practically finished the mills in Hagley and it is a noteworthy fact, that the very year that Hagley was finished, they commenced the lower yard and commenced the Butments [?] of the drum June 1837.

Hugh Reid commenced 3/4 day on 14th of November 1837 and is still at work Feby 1879.



1838

DuPont de Nemours & Co. fabrication to date --- 804,294 [kegs] 6 [lbs]

Eleutherian Mills --- 398,555 [kegs] 12 1/2 [lbs]

Hagley Mills --- 405,738 [kegs] 18 3/4 [lbs]

Eleutherian Mills

Eagle Powder ---- 1288 [kegs] 21 3/4 [lbs]

Government ---- none

DuPont ---- 17973

A. F. & Co. ---- 7478 [kegs] 4 [lbs]

Total ---- 26740 [kegs] 3/4 [lb]

Hagley Mills

Saltpetre blasting --- none

government --- 354 [kegs] 12 1/2 [lbs]

DuPont --- 30000

[Total] ---- 30354 [kegs] 12 1/2 [lbs]

Mean price for the year -- \$4.69 1/2

of the DuPont 7 9/10% was rough & 92 1/10% glazed

and the sizes of grain of DuPont ran as follows

F ---- 2 2/10

FF ---- 20 6/10

FFF --- 77 2/10

Notes - Monday March 5th 1838 Freshet [flood] "the highest since 1822"

Michael Quick commenced work April 3rd 1838

Wednesday Aug 29th 1838 rolling mill No. 1 blew up at 6 o'clock am, no one hurt.

Wednesday Oct 11th 1838 upper dust mill Hagley blew up at quarter of 4 o'clock pm. She had been charged with new brass balls at 2 o'clock that pm, and blew in 1 3/4 hours afterwards, Uncle Henry or Uncle Alexis was with my father between the Pumphouse of upper press & saw mill on the road, having just left her - Uncle H asked what is the use of two sharp walls on each

side of the waterwheel, as one will blow the other? My father replied, if no walls are there it will make one heavy report, but as it is it will make two supports and clapped his hands together to show the time between them when off went Bang Bang the two ends!

I will note here that 30 years afterwards one end blew without the other!

Nov 19th John F. Alland was sent to the lower new works from the Upper Yard this was to the Lower Yard. This man & Peter Boisson were sent from here to put up the machinery of the mills in Yucatan.

Anthony Bidermann retired from the firm this year, the fabrication during his connection with the firm was 691,650 1/4 and Eleuthere Irene duPont was 627,161 kegs.

1839

DuPont de Nemours & Co. fabrication to date --- 861,388 [kegs] 19 1/4 [lbs]

Hagley Mills --- 436,093 [kegs] 6 1/4 [lbs]

Eleutherian Mills --- 425,295 [kegs] 13 [lbs]

Hagley Mills

Blasting C -----

Blasting F -----

Government ---- 7478 [kegs] 7 [lbs]

DuPont --- 30000 [kegs] 4 [lbs]

[Total] ---- 37478 [kegs] 7 [lbs]

This includes the 7860 kegs of lower yard packed in Hagley

Eleutherian Mills

Eagle Powder --- 1253 [kegs] 7 1/4 [lbs]

DuPont --- 28654 [kegs] 17 [lbs]

A. F. & Co. --- 3523 [kegs] 17 [lbs]

[Total] --- 33431 [kegs] 16 1/4 [lbs]

Mean price for the year of all kinds \$4.79

Of the above DuPont 5 8/10% was rough & 94 2/10% glazed

and sizes ran as follows

F --- 16 8/10% \*

FF --- 16 9/10%

FFF --- 66 3/10%

\* This is due to 200,000 lbs of musket this year being classed as F if it was omitted it would bring F down to 3%

Notes - Jany 26th 1839. The Great Freshet, Hagley book says Creek rose 25 ft. While in the Upper Yard the rain was 22 ft. This was the largest freshet since 1788. And as freshets effect the fabrication of powder on the brandywine as well as explosions, and this being the worst, it may be well to give a description of it. First we will describe the cause, and then the effects of this Freshet.

Causes - There had been an old theory that the Brandywine was effected every 17th year by a great Freshet. When Mr. Irene duPont commenced improving the waterpower he naturally enquired of the height of Freshets, and the old [illegible] on the Brandywine showed the height of the freshet of 1788 which was a January freshet. The mark shown to me is about 4 ft deep on the road at the corner at the old Dam. There was in the Upper Yard near the Middle Magazine. In 1846 old Mr. Jessie Gregg, my father, and myself were at the Middle Magazine, my father having just bargained for a price of land from him and he told us, that he remembered this freshet that he was a boy of 13 years of age and that he came down to where we were standing, and "that the creek got so full that the water could not run out and so turned back and ran up creek." My father smiled, but the old man believed what he said, now if you look at the shape of the bank of the Brandywine you will see that if the creek was 4 ft on the road that the whole cove along the magazine would be 8 to 12 ft deep with water and the point of land at middle magazine would cause an enormous eddy, and that an uneducated boy seeing logs floating up stream when he thousands of times had seen them float down would try to account for it as above. At any rate if the height of this freshet is exaggerated yet the fact remains that in Jany 1788 there was a large freshet. The first large freshet after we came to the Brandywine was in 1805 - or 17 years after - Then in 1822 or 17 years more we had the Great Freshet of 1822 which is represented as having been 20 ft at the upper yard. Again in 1839 or 17 years more, was the "Great Freshet" so in 1856 I looked anxiously for the result but no freshet came yet that year should be called the "Year of Freshet as there were 6 high Freshets and nearly every month backwater. Yet 1873 came and was not remarkable for ether the number or height of the freshets.

True cause of this freshet, was a combination of circumstances. Thus no snow fell in the early winter and during Christmas week it commenced freezing hard which continued until about the 15th of Jany when the ground was frozen 4 ft deep and the ice on the Brandywine averaged two feet thick and blocks were measured that were 38 inches thick. On the 15th very heavy fall of snow fell of over 3 feet on a level, at midnight of the 24th it commenced a hard rain and rained nearly two day pretty steady, this appeared to all soak into the snow and although it made slush two ft deep, the water ran in the gutters but slightly, but on Friday night the wind suddenly shifted from the East to South and brought a very heavy fall of warm rain, the ground was frozen and nothing could soak in, the snow saturated with water, the result was all moved off rapidly. The enormous thickness of the ice blocks formed ice dams and the swell has the freshet of 1839. As an illustration I remember well the effect on the orchard in front of our house, in the morning it was apparently 3 ft deep with snow, and at 10 o'clock I went out on the hill going to Uncle Henry and the water, snow, slush, or call it what you will, for it was thick came foaming out of the orchard between the top and their soil and often splashed over the top soil at the foot of the Hill! and at dinner time not a flake of snow was visible in the Orchard.

Effects of this Freshet. The Bridge at Youngs (Rockland) lodged on top of the glazing mill in the upper yard but fortunately as the water fell it broke in two and went away. The upper yard dam was carried away and much less of willow along the creek in the upper yard but owing to the frost the marking of the race bank was not much, but the road from Hagley to the upper yard was entirely destroyed from the upper dry house. Hagley to the (press room) then dust mill in the upper yard, and a new road had to be built, so Uncle Henry built the present road and supposing the level of the water to be level made the present road from the Gate of the upper yard to Hagley Gate at the level of the debris left by this freshet!! But the survey for the railroad shows 7 ft fall in this distance say 250 yards, this gives a very good idea of the velocity of the current in the Brandywine for if the water fell 7 ft in 250 yards it would be 49 ft to the mile - but we know that 6 inches to the mile will give a velocity of 4 miles per our and that the velocity is as the square root of the fall in as 7/10 to 7 or 10 times 4 miles or 40 miles, this in open straight channels with smooth sides, and if 6/10 be taken as the coefficient [sic] of resistance it would give 24 miles per hour, but if allowance made for the resistance of ice against trees and the conservation of the creek which thought the water to its maximum height at the upper gate and the reverse cause which through the water to the opposite side of the creek at Hagley dam, the coefficient [sic] could be increased nearly 50%, so it is impossible that at mid current the velocity could have been less than 12 miles pr hour at this point.

Of our dams Hagley alone stood this freshet, and of the bridges the "Ninepin" or "New Bridge" or the one at the Lower Yard alone stood this freshet, from Coatsville to the Delaware every bridge went except this one alone, and for 2 weeks the U.S. Mail from Washington to Philadelphia crossed at this bridge, and it is estimated, that if Mr. Irene du Pont had not put the Arch through the Butment it would have gone also, as the waves repeatedly wet the floor.

A breach was made in Hagley Race bank at the Sawmill about 200 ft long, the Keg mill which was then level with the 2nd story windows was knocked down level with the ground, and considerable damage done in the lower yard, Henry Clay Dam, Squirrel Run dam and Brecks Dam gone. It was a heavy loss, and yet if you look at the packings the falling off was not as great as would be thought. Due to all the partners[of DuPont Company] being young men with immense energy. Temporary dams were built and the mills started as soon as possible. Thus Hagley stopped on Jany 26th 1839 and the lower dust mill started July 21st and made 16 barrels.

The lower yard started May 13th 1839 (dustmill) and the rolling mills May 14th 1839 and made as follows

May 117

June 199

July 198

Aug 200

Sept 208

Oct 151

Nov 129

Dec 38

[illegible] 922

total 1240

1240 @ 160 lbs = 198400

less 1 % 1984

25 / 196516

Kegs 7860 16

1839

Aug 28th 1839 Michael Quick went into the powders in the Upper Yard.

March 6th 1839 Henry Kane afterwards boss of the Upper Coal house commenced work March 6th 1839

Dec. 13th 1839 Rolling Mill No. 2 Lower Yard blew up at 11 1/2 o'clock by John Cale cleaning, he was badly burnt and died. This is the first explosion in Lower Yard and adds one man to the Death roll.

[illegible] from before --- 48 men

John Cale --- 1

Total --- 49 men

1840

DuPont de Nemours & Co. fabrication to date --- 940,159 7 1/2

Hagley Mills --- 473,571 12 1/4

Eleutherian Mills --- 458,727 4 1/4

Lower Yard Mills --- 7,860 16

Hagley Mills

Blasting C --- 1892 4 3/4

Blasting F --- 447 18 3/4

Blasting FF --- 685 21 1/4

Blasting FFF --- 225 10

Government --- 696 5

DuPont --- 18978 15 1/2 = 22926 1/4

Eleutherian Mills

Eagle Powder --- 840 17 1/4

DuPont --- 18978 15 1/2

Government --- none

A. F. & Co. --- none = 19,819 7 3/4

Lower Yard

DuPont --- unknown

Total packed in all 3 sets of mills --- 42,745 8

Mean price of all kinds for year -- \$4.91

Of the above 6 2/10% were rough & 93 8/10% were glazed

And sizes of DuPont ran

F --- 2 9/10%

FF --- 18 9/10%

FFF --- 78 2/10%

Notes March 23rd 1840 all hands lost 3/4 day

Sept. 8th & 11th 1840 all hands lost 1/2 & then 3/4 day

Oct 1st 1840 all hands lost one day

These three lost are no doubt due to political meetings as then politics ran very high.

Christopher Gowen went to work Dec. 1st 1840

This was a bad fellow and worked as long as he could be stood as fence maker, and then was sent to Hagley as a powderman by Uncle Henry, when he blew up his mill and killed three men with their bucket[?] in March 1853 and he afterwards hung himself at the Rising Sun.

October 26th 1840 at 2 o'clock pm Rolling Mills Nos 5 & 6 (Saw Mill Block) cause unknown & no one hurt.

1841

DuPont de Nemours & Co. fabrication to date --- 982,904 15 1/2 kegs

Hagley Mills --- 496,497 13 1/2 kegs

Eleutherian Mills --- 478,546 12

Lower Yard Mills --- 7860 16

Hagley Mills

C Saltpetre blasting --- 1530

F saltpetre blasting --- 1230 16 1/4

FF saltpetre blasting --- 1692

FFF saltpetre blasting --- 846

[Sub-Total] --- 5298 16 1/2

DuPont --- 17003 14 1/4

Government --- 393 9 3/4

[Total] ---- 22696 15 1/2

Eleutherian Mills

Eagle Powder --- 1045 1 1/4

DuPont --- 15000

government --- none

A. F. & Co. --- none

[Total] --- 16045 1 1/4

Lower Yard

DuPont --- 10,000

Total fabrication for the year --- 48,741 16 1/4

mean price for the year --- \$4.02 1/2 cts

This is so remarkable that I thought I had made a mistake as there is no apparent reason for so sudden a falling off in price, but  $\$234044.09 / 58147 = \$4.02\ 1/2$

But the falling off in price was on examination found due to two causes. Although sporting continued to be sold at \$5.00 pr keg yet blasting increased this year from 3250 in [18]40 to 5300 in 1841 and the price of blasting fell from 15 to 12 cts pr lb, this was the cause of the decrease of price.

Of the above amount 5 1/2% was rough & 94 1/2% glazed

And of the DuPont the sizes ran as follows

F ---- 1 5/10%

FF ---- 20 3/10%

FFF --- 78 2/10%

Notes - Feby 11th at 1 o'clock Rolling Mill No. 6 blew up, no one hurt, cause unknown.

In the early part of May this year the first million of kegs were packed.

1842

DuPont de Nemours & Co. fabrication to date --- 1,031,646 7 1/4

Hagley Mills ---- 519,194 4

Eleutherian Mills --- 494,591 11 1/2

Lower Yard --- 17,860 16



Hagley Yard

C powder --- 2013 16

F powder --- 1256 5

FF powder ---- 1497 8 1/2

FFF powder --- 784 22 1/2

Government --- 2921 12

DuPont --- 8748 8 = 17220 22

Eleutherian Mills

Eagle Powder --- 723 20

DuPont --- 8747 8

[Total] --- 9471 3

Lower Yard Mills

DuPont --- 8747 9

Of the above 8% was rough & 92% glazed

Mean price of all kinds for the year -- \$4.56 1/2 pr keg  
sizes divided as follows

Fg --- 1 8/10%

FFg --- 18 3/10%

FFFg --- 79 9/10%

Note: May 1842 was the commencement of contracts for fused saltpetre for the government. The first bit was packed in casks in 1840 and so was bit 2nd then casks were Cornmeal casks and held 825 lbs

1842 Set No. 4 3662 Boxes of about 420 lbs each

1844 Set No. 5 3663 to 4817 of about 427 lbs each

1845 Set No. 6 4818 to 5905 of about 425 lbs each

The saltpetre after being refined was fused and cast into moulds 12" x 12" x 6" & 6 of these packed in a box. No accident happened in this operation.

[Don't know what fused saltpeter is or what it is used for. LRC]

1843

DuPont de Nemours & Co. fabrication to date -- 1,067,085 16 1/4

Hagley Mills ---- 536,415 1

Eleutherian Mills ---- 504,062 15 1/2

Lower Yard --- 26,608

Hagley Mills

C --- 2545 19

F ---- 2223 18

FF ---- 2737

FFF --- 1808 10

Government --- 444 15 Rocket Composition

DuPont --- 14536 19

Total --- 24,296 6

Eleutherian Mills

Eagle Powder --- 816 20

DuPont --- 14536 19

[Total] --- 15353 14

Lower Yard Mills

DuPont --- 14536 19

Of the above 4 1/2% was rough & 95 1/2% glazed

Mean price for the year --- \$4.59 cts

Sizes of DuPont ran as follows

Fg --- 1 6/10%

FFg --- 16 1/10%

FFFg --- 82 3/10%

Note - Sept 27th at 12 o'clock noon the dust mill at the lower yard blew up killing Michael Borrel Boss. Two theories were given by my father & Uncles, one that he had been suffering with toothache and had just come from the house where he had been holding his head to the stove - and it is supposed that he carried fire in his clothes - 2nd is that he tried to throw a barrel out of gear and let it fall in. Now we know almost to a certainty, he was opening a barrel, cause damp saltpetre.

Oct 20th Rolling Mill at Saw Mill blew up at 9 o'clock at night (Rolling Mill No. 6) probable cause loose spindle.

The loss of Borrel makes the list of killed

From 1835 --- 48

1839 John Cale rolling mill --- 1

1843 Michael Borrel --- 1

Total to date --- 50 men

1844

DuPont de Nemours & Co. fabrication to date --- 1,121,272 5 1/4

Hagley Mills --- 560,711 7

Eleutherian Mills --- 519,416 4 1/2

Lower Yard Mills --- 41,144 19

Hagley Mills

C --- 5563 23

F --- 6052 16

FF ---- 3423 24

FFF --- 1777

government --- 3075

DuPont --- 13188 22

Total --- 33081 10

[note on side:] "total for year 60,255 10 1/2"

Eleutherian Mills

Eagle --- 796 6

DuPont --- 13188 22 1/2

Total --- 13985 3 1/2

Lower Yard Mills

DuPont --- 13188 22

Of the above 2 1/2% was rough & 97 1/2 glazed  
mean price for the year -- \$4.03 cts

We note the following memorandum in book "Change of price of powder to take effect Jany 1st (1844) for sales direct as charged" this is the first reduction in prices\* of sporting (DuPont) since 1820, during the 24 years it was held uniformly at \$5.00 per keg, and this is the first effects visible on our books of Col. Hazard.

[Refers to competition from Hazard Powder Company, Hazardville, CT, headed by Col. Augustus George Hazard.]

Sizes of grain of DuPont ran as follows

Fg --- 1 8/10%

FFg --- 13 6/10%

FFFg --- 84 6/10%

\*Sporting reduced from \$5.00 to \$4.50 East of Alleghenies

Sporting reduced from \$5.00 to \$4.37 West of Alleghenies

Notes July 24th 1844 Lower Dryhouse in Hagley blew up at 6 o'clock am killing Geo Russel married and a single man called McDevit. Was supposed to have spilt a box against the stove.

This year Geo Justice a builder from Philadelphia built the addition to the back of our house and it was finished in 1845. Wm Pierre and Henry White did most of the carpenter work.

Also in 1844 Percussion Caps commenced to be used - 1841 being the first I ever saw.

[Percussions caps were a method of ignition for firearms--replaced flintlocks.]

1845

DuPont de Nemours & Co. fabrication to date 1,181,527 15 3/4

Hagley Mills --- 593,792 17

Eleutherian Mills --- 533,401 8

Lower Yard Mills --- 54,333 16

Hagley Mills

C --- 6299 13 1/2

F --- 4009 7

FF --- 2974

FFF --- 3114 20

Government --- 3556 1/4

DuPont --- 16918

Total --- 36871 15 3/4

Eleutherian Mills Eagle --- 1036 18

DuPont --- 16918

Government --- 3556 1/4

[Total] -- 21,510 18 1/4

March 3rd 1845 Mr. Augustus Belin died and in the middle of the month was succeeded by Mr. H. Belin Jr. - Who was succeeded in 1866 by H. Belin Jr. who was succeeded by Mr. Edw Collison

[the Belins and Collison were DuPont Co. bookkeepers]

Lower Yard --- 16918

Total for the year -- 75,300 9

Of the above 2% was rough & 98% glazed

mean price for the year -- \$4.02 or 16.0941 cts per lb

& of DuPont the sizes ran as follows

Fg --- 1 2/10

FFg --- 17 1/10

FFFg --- 81 7/10

1846

DuPont de Nemours & Co. fabrication to date -- 1,256,827 24 3/4

Hagley Mills -- 630,664 7 3/4

Eleutherian Mills --- 554,912 1 3/4

Lower Yard Mills --- 71,251 15 1/4

Hagley Mills

C --- 7842 1

F --- 4321 23

FF --- 3262 1

FFF --- 2177 23  
Government --- 6571 11  
DuPont --- 16,727 17  
Total --- 40,903 1

Eleutherian Mills  
Eagle Powder --- 842 21  
Government --- 3000  
DuPont --- 16727 17  
[Total] --- 20,570 13

Lower Yard Mills  
Government ---- 3000  
DuPont --- 16727 17  
[Total] --- 19,727 17  
total for year -- 81,201 6

Of the above  $2 \frac{7}{10}$  was rough &  $97 \frac{3}{10}$  was glazed  
Mean price for the year -- \$3.59  $\frac{1}{2}$  cts  
and of DuPont the sizes were as follows  
Fg --- 12%  
FFg ---  $11 \frac{1}{10}$ %  
FFFg ---  $76 \frac{6}{10}$ %

The reason of the sudden increase of Fg this year is no doubt due to Fg being sold as Musket or a contract of musket being marked Fg as this was during the Mexican War.  
Note in this year we made quite a lot of saltpetre from Pot & Pearlash[?] and Nitrate of soda, the [illegible] was made in crystals and sold as Tal.[?] Soda.  
April - at - o'clock Dust Mill above Sawmill Hagley blew up no one hurt & cause unknown.

1847  
DuPont de Nemours & Co. fabrication to date -- 1,338,029  $5 \frac{3}{4}$   
Hagley Mills --- 671,567  $8 \frac{3}{4}$   
Eleutherian Mills --- 575,482  $16 \frac{3}{4}$

Lower Yard --- 90,979 7 1/4

Hagley Mills

C --- 4299 5 3/4

F --- 4157 1

FF --- 1722

FFFg --- 4000

DuPont --- 18864

Total --- 35926 15 3/4

Eleutherian Mills

Eagle --- 1097 6 3/4

Government -- 822 10

DuPont --- 9432 24 3/4

Total --- 11352 14 1/2

Lower Mills

Government Musket --- 2633 5

DuPont --- 20515

Total --- 23,248 5

Of the above 2 7/10 pr ct was rough & 97 3/10 glazed

At this year the increase of blasting due to railroad building became so great that its influence on the mean price, produced were effect that the price of Sporting so they abandoned the keeping of the account.

The sizes of DuPont was divided as follows

Fg --- 1 5/10%

FFg --- 13 4/10%

FFFg --- 85 1/10%

Notes - April 14th 1847 at half past 6 o'clockt the Press Room & Packing House in the upper yard blew up killing 18 men as follows

William Green boss married

Saml Brown married (father of Saml B Brown of Phila)

Wm Connor, Daniel Daugherty, Michael Houton, Michael O'Brien, Bernard Shields, Wm King, James M. Devitt, Thos Linch, Wesley Pennington, John Daugherty, Mathew McGarvey, & \_\_\_ Auldhouse

all married men - and 4 single men whose names I forget - Next to 1818 this was [the] most destructive to human life we ever had. The press room and granary in one building went first, and followed in about 2 seconds by the Packing house. Wm Green & Mathew McGarvey were between the building, probably on the road in front of the packing room. Kihouse[?] or Auldhouse was an old man who pinned kegs and was in the keg house, his body was stripped of clothes and thrown in the pit where the little Cannister House now stands. This makes the list of killed to date

From 1843 --- 50

1844 Russel & --- 2

1847 Up Yard --- 18

Total to date --- 70

1848

DuPont de Nemours & Co. fabrication to date --- 1,408,556 16 1/4

Hagley Mills --- 707,493 24 1/2

Eleutherian Mills --- 586,835 4 1/4

Lower Yard Mills --- 114,227 12 1/2

Hagley Mills

C --- 7613 3 1/4

F --- 5473 1

FF --- 3626 9

FFF --- 2914 8 1/2

Government --- 753 15

DuPont --- 9562

[Total] ---- 29942 11 3/4

Eleutherian Mills

Eagle Powder --- 986 1

DuPont --- 9562 12 1/2



Mealed --- 777 12 1/2

[Total] 10,726 1

Lower Yard

DuPont --- 9562 kegs

Of the above 1 9/10% was rough & 98 1/10% glazed  
and of the DuPont ran as to sizes as follows

Fg --- 2 4/10%

FFg --- 16%

FFFg --- 81 6/10

Note - On Oct 30th of this year the first shipments for railroad were made from the mills viz

Oct 30th to Elder Gelsten & Co. Baltimore Md 50 kegs

Nov 14th to Elder Gelsten & Co. Baltimore Md 38 kegs

Jany 10th to Elder Gelsten & Co. Baltimore Md 107 kegs

Feby 17th 1849 to the Colonization Society Md 1400 kegs

This was the first car load 20 lbs 10 lbs & 5 lbs kegs

March 15th at 4 o'clock pm the Simsville cotton factory rented by Joseph Walker burnt down, the Picker struck fire, all hands were in the mill but became panic stricken and ran out, and when help arrived from Hagley it was too late.

Sept 20th 1848 Monday morning at 2 o'clock am Brecks Woolen Mill at Rokely burnt down, it was the upper or stone building, cause spontaneous combustion, as several persons smelt fire or wood burning on Tuesday afternoon & evening.

This year in July or August a man named Dougherty was killed in the Sandhole, between Uncle Henrys & Flemmings. My father allowed him a pension out of his private means as it was thought a bad precedent for the Company to do so. The Dougherty left 3 daughters, one married Hugh Dever (Margret) and one John Gibbons boss of Hagley and one remained single?

Sept 24th 1848 Rolling Mill in the Hagley blew up no one hurt and cause unknown.

I do not not pretend to say of the last few years the number of rolling mill explosions is anyway near correct as they usually lost from 6 to 12 each year.

1849

DuPont de Nemours & Co. fabrication to date --- 1,458,787 4

Hagley Mills --- 737,436 11 1/4  
Eleutherian Mills --- 597,561 5 1/4  
Lower Yard Mills --- 123,789 12 1/2

Hagley Mills

C --- 14,944 19 3/4

F ---- 9591 12 1/2

FF --- 6124 12 3/4

FFF --- 4022 8

Total Blasting --- 34,683 4

Government --- 2,528 1 3/4

Total --- 37,211 5 3/4

Eleutherian Mills

Eagle Powder --- 1879 17 1/4

DuPont --- 24,174 2 3/4

Total --- 26,053 20

Lower Yard Mills

Mealed --- 374 20

DuPont --- 24,174

Total --- 24,548 20 kegs

Total for years --- 87,813 20 3/4

Notes - Aug 16th at 15 min past 6 AM Rolling Mill No. 1 blew up, no one hurt cause unknown.

My brother E. Irene du Pont went into the powder [started working in the yards] on the day of this explosion, and had just arrived in the yard at Blacksmith shop gate when it went off - Uncle Alexis said "Why it is a salute in your honor" poor fellow he heard a good many before he died!

In the 31st of December this year my father retired from the business having entered in 1818 and having made during that time 1,283,610 kegs while in the business, and having built every building then standing on the place or finished the drawings of them. He was very fond of Butresses, and his mills show by this his workmanship. My own oppinion[sic] is for beauty [as]

well! but for use a great loss of many time & labor, as they do not add to the strength for as yet I have to see the first mill thrown down by an explosion, all totter and fall long after the explosion!

1850

DuPont de Nemours & Co. fabrication to date -- 1,546,600 24 3/4

Hagley Mills --- 774,647 17

Eleutherian Mills --- 623,615 1/4

Lower Yard Mills --- 148,338 7 1/2

Hagley Mills

C --- 26,565 5

F --- 16,160 6 1/2

FF --- 4856 24 1/2

FFF --- 3,302 4 3/4

Total blasting --- 50,874 15 3/4

Government --- 674 16

Mealed --- 168

Total Hagley --- 51,717 6 3/4 kegs

Eleutherian Mills

Eagle Powder -- 1249 9 1/4

DuPont --- 20,225 14 3/4

[Total] --- 21474 24

Lower Yard Mills

DuPont --- 20,225 14 3/4

Total for Year 1850 ---- 93,417 20 1/2

Of the above 6/10 was rough & 99 4/10 glazed  
and of the DuPont sizes were divided as follows

Fg --- 1 4/10

FFg --- 15

FFFg ---- 83 6/10

Notes - August - 1850 - 6 o'clock Saturday afternoon rolling mill No. 1 blew up from being too damp and made no noise worth speaking off [sic; of], my brother Bidermann ran down with me, and found the roof had not been thrown off but was on fire - no one being there we stopped the mill, and boy like got on the roof to slide it off and nearly broke our necks, instead of taking it off with a pole from below. When the men came to change we had mastered the fire.

The Stone rollers in rolling mill No. 10 were taken out in Sept of this year as they blew up 9 times in 1850 - 3 times in August, and 2ce [twice] in one week from crumbling and loose spindles.

April 1st 1850 Chas La Carpentier superintendent left, almost without notice, for although he had threatened to do so for years, on the morning of the first it was uncertain if he would or not. So on that morning I went to the refinery and not finding him took command of the men. On January 1st of this year Uncle Henry took the head of the firm.

1851

DuPont de Nemours & Co. fabrication to date -- 1,640,018 20 1/4

Hagley Mills --- 826,364 23 3/4

Eleutherian Mills --- 645,089 24 1/4

Lower Yard Mills --- 168,563 22 1/4

Hagley Mills

C powder --- 48,429 3 1/2

F powder ---- 15,959 7

FF powder ---- 3,634 4 1/2

FFF powder --- 2,120 1/4

Total blasting --- 70,132 15 1/4

Government --- 1543

Mealed blasting --- 119 5

Total Hagley --- 71,794 20 1/4

Eleutherian Mills

Eagle Powder --- 1067 7 3/4

DuPont --- 18,129 21 3/4

DuPont Canisters --- 1182 6 1/2

A. F. & Co. Canisters --- 212

DuPont mealed ---- 86

Total --- 20,677 11

Lower Yard

DuPont --- 16,947 15 1/2

Total for the year --- 109,419 21 3/4

Of the above DuPont 1% or 383 kegs was rough & 99% glazed - and as to size of grain ran thus

Fg --- 8/10%

FFg --- 13%

FFFg --- 86 2/10%

1852

DuPont de Nemours & Co. fabrication to date --- 1,749,438 17

Hagley Mills --- 898,159 19

Eleutherian Mills --- 665,767 10 1/4

Lower Yard Mills --- 185,511 12 3/4

Hagley Mills

C --- 66,029 5 3/4

F --- 25,165 18 1/2

FF --- 3,995 1 3/4

FFF --- 2,716 18 1/2

Mealed blasting --- 191 5

Total --- 98,097 24 1/2

Eleutherian Mills

U.S. Government --- 232

Eagle Powder --- 1617 10

DuPont --- 19,598 7

DuPont Canisters --- 3,448 4 1/2

Blasting Canisters --- 446 5

Total --- 25,342 1 1/2

Lower Yard

DuPont --- 19,597

Total packed for the year --- 143,037 1

Of the above 1 6/10% was rough & 98 4/10 glazed

and of the DuPont sizes were as follows

Fg --- 1 3/10%

FFg --- 12 5/10%

FFFg --- 86 2/10%

Note - this year the first Black leaded or Bright Powder was glazed. The sample came from England to Nova Scotia, and about 2 oz were sent us as a sample to make like it.

1853

DuPont de Nemours & Co. fabrication to date --- 1,892,475 18

Hagley Mills --- 996,257 18 1/2

Eleutherian Mills -- 691,109 11 3/4

Lower Yard --- 205,108 12 3/4

Hagley Mills

C --- 92,353 3 1/2

F --- 23,887 2

FF --- 3,028 5 1/2

FFF --- 1,627 1 1/2

Blasting Mealed --- 2,875

Total blasting --- 123,770 12 1/2

Government --- 4000

[Total] --- 127,770 12 1/2

Eleutherian Mills

Eagle Powder --- 1672 19 1/2

Government --- 202

DuPont mealed --- 108 10

DuPont --- 18404 24 1/2

DuPont Canisters --- 3615 14 1/2

Blasting --- 417

Total --- 24420 18 1/2

Lower Yard

DuPont --- 18504

Total for the year --- 170,695 6

Of the above DuPont 1 3/10 was rough & 98 7/10 glazed

and of the DuPont the sizes ran as follows

Fg --- 6 2/10%

FFg --- 13 2/10%

FFFg --- 80 6/10%

In August of this year the 2nd million of kegs were packed

On the 1st million took 37 years & 7 months

the 2nd million took 12 years & 3 months

or about 1/3 of the time hence in 1858 we should finish the 3rd million

1854

DuPont de Nemours & Co. fabrication to date --- 2,063,170 24

Hagley Mills --- 1,124,028 6

Eleutherian Mills --- 715,530 5 1/4

Lower Yard ---- 223,612 12 3/4

Hagley Mills

C --- 77,797 10

F --- 35,233 12 1/2

FF --- 6055 16 1/2

FFF --- 2284 5 1/2

Blasting Mealed --- 272

Total blasting --- 121,642 18 1/2

Government --- 4000

Total --- 125,642 14 1/2

Eleutherian Mills

Eagle Powder --- 1659 5  
DuPont --- 23146  
DuPont mealed --- 274 18  
DuPont canisters --- 3038 8 1/2  
Blasting canisters --- 589  
Total --- 28707 4 1/2

Lower Yard Mills  
DuPont --- 23146  
Government --- 2484  
[Total] --- 25,630  
Total for year --- 179,979 24

Of the above DuPont 2 4/10% was rough & 97 6/10 glazed  
& sizes ran as follows

Fg --- 6 6/10%

FFg --- 13%

FFFg --- 80 4/10%

This year on May 31st at 10.25 three wagons blew up in Wilmington killing 3 drivers and 2  
Wilmingtonians viz John Keys, Thos Tally, & James Chambers, drivers Wm Thallons & Robert  
Henry

The fall of this year the Russian contracts for the Crimean War Commenced.

1855

DuPont de Nemours & Co. fabrication to date --- 2,243,150 23  
Hagley Mills --- 1,249,671 1/2  
Eleutherian Mills --- 744,237 9 3/4  
Lower Yard Mills --- 249,242 12 3/4

Hagley Mills

C --- 54768 14 1/4

F --- 28078 10 1/2

FF --- 9080 13



FFFg ---- 4061 5

Blasting mealed --- 805 15

[sub-total] 96,794 7 3/4

Government (English) --- 22036

[Total] --- 118,830 7 3/4

Eleutherian Mills

Eagle Powder --- 1572 21 1/2

DuPont --- 36528 1/4

DuPont Government --- 1072

DuPont mealed --- 263 10

DuPont canisters --- 6995 20

Blasting canisters --- 577

[total] ---- 47,009 1 3/4

Lower Yard

DuPont --- 26,528

English Government --- 10000

[sub-total] ---- 36,528

Total --- 202,367 9 1/2

Of the above 16/100% was rough & 99 84/100% glazed

And of DuPont sizes ran as follows

Fg --- 10 4/10%

FFg --- 14 6/10%

FFFg --- 75%

1856

DuPont de Nemours & Co. fabrication to date --- 2,445,518 7 1/2

Hagley Mills --- 1,368,501 8 1/4

Eleutherian Mills --- 791,246 11 1/2

Lower Yard Mills --- 285,770 12 3/4

Hagley Mills

C --- 39,015 19 1/2  
F --- 17,511 15  
FF -- 4,993 14 1/4  
FFF --- 3,486 4  
Blasting mealed --- 493 5  
Total blasting --- 65,500 7 3/4  
Government English -- 20,000  
[total] --- 85,500 7 3/4

Eleutherian Mills  
Eagle Powder -- 1320 16 1/2  
DuPont --- 26732 3 3/4  
DuPont mealed ---- 528 20  
DuPont canisters --- 3272 1/2  
Blasting canisters --- 648  
DuPont mealed ---- 528 20  
[total] ---- 33,030 13 3/4

Lower Yard Mills  
DuPont --- 26,731  
Government --- 12947 12 1/2  
[sub-total] ---- 39678 12 1/2  
total --- 158,209 9

Of the above 1% was rough & 99% glazed  
and of DuPont sizes ran as follows  
Fg --- 16 3/10%  
FFg --- 12%  
FFF --- 71 7/10%

Notes - March 24th 1856 Upper dust mill blew up at about 11 o'clock am on Garresché dust ball, which was made of a mixture of Lime & Tar to harden them and make them wear better, we had much discussion before we put them in as I argued Garresché had lost 4 dustmill in 22 months from their balls, but Uncle Alexis & Irene council prevailed and I yeilded as an experiment, but

as we were in doubt and I had shaken them a little all hands were kept away she blew on first change, and from appearances the explosion commenced in the upper end barrel which contained the ruined metal balls.

May 22nd 1856, the rolling mill composition in the Pit blew up at 11 o'clock am killing John McPherson and Andrew Moore, probably done cutting rolling mill cake or dragging the cutting machine over the floor, this blew Rolling Mills No. 1 & 2 and also the Graining mill (upper) killing David Moore - to illustrate the long distance between these explosions, I was in the office talking to Mr. William Breck at his desk when it happened, before I had time to take a step the rolling mills followed, and as I was running through the little gate at Uncle Henry's green house the graining mill went. David had got out of the mill but was thrown into the creek and drowned.

