

SOLE PRE-1800 RECORD IS JOURNAL-LEDGER SM 41 and SM 41 R

The sole surviving Record of the Mark Bird-Revolutionary period is his 1784 Journal. Surviving in actuality at the Historical Society of Pennsylvania at Philadelphia, Hopewell possesses a microfilm of this Journal and Ledger SM 41 R was created from this Journal, just as the clerk did historically. Naturally, the Journal is the day-by-day account; the Ledger the man-by-man story. But the creation of the Ledger INDEXED the Journal on microfilm.

TWO HUNDRED AND SEVENTY TWO, workers, buyers, furnace, sales cost pages and more then survive! These report the day-by-day life of all concerned with Hopewell Furnace operation. Production was heavily pig iron, sold to neighboring forges. Stoves were still crude(in our opinion), heavy flat-bed cast Franklin, six and ten platers, heating and cooking stoves. While the cannon stove developed before the Revolution- one cast by Baron Steigel survives at the Historical Society of Montgomery County at Norristown-Mark Bird DID NOT cast them. Nor are any Backs and Jams cast in this Journal despite the survival of "square" ones with Bird's name cast on them. And by Bird's time, 30 years after Franklin invented his stove, the Franklin had "shrunk" into the fireplace; as invented, it protruded out into the room from the fireplace in which it was installed.

This Record fails to tell "everything", just as it tells much. Only when it became known in January 1973 from Tax Assessants at the Penna Archives that Wm Dewees of Valley Forge fame had lease-operated Hopewell Furnace 1782-83 and the Birdsboro forges 1782-84, did DEWEES entries in this Journal have real meaning. Prior to this discovery it was thought that these business involvements were with VALLEY FORGE. For instance, the shot and shell hammered into bar iron- "swords into plowshares" in 1784 HAPPENED at Birdsboro, NOT at Valley Forge. Then, the purchase of horses, harness and wagons from Dewees was the ENDING of Dewees operation at Birdsboro. From 1782 on, MARK BIRD WAS AT FALLS OF DELAWARE SPENDING \$200,000!! A few stories of 1784 operation follow.

BLAST OF 1784 BEGUN BY DEWEES(of Valley Forge)

The discovery ~~of this~~ in January 1973 that Dewees of Valley Forge LEASE* OPERATED the Birdsboro Forges 1782-84 and Hopewell Furnace 1782-83*, made Journal SM 41 R more understandable. Mark Bird naturally began a NEW series of Records when he ~~began to~~ ^{RESUMED THE} operate Hopewell Furnace again in 1784. He had no balances to bring forward; EVERY account was NEW on Jan.1,1784.

Seemingly, the blast of the furnace was in process at the END of the Dewees & lease. No record of settlement between Bird and Dewees has been found to date showing either the Dewees takeover in 1782 nor the return of the furnace to Bird in 1784. Seemingly, both transfers had been ^{VERY} smooth. And for GOOD reasons. Bird and Wm Dewees had been partners for six years in the operation of the Glasgow Forge(near today's Pottstown) during 1772-78(Bining, p 179.) Then, Dewees ~~had~~ of Valley Forge had married into the Potts ^{IRON} family and was the uncle by marriage of his sister, to Frederick Antes, the successful 1778 cannon founder at Reading and Warwick Furnaces. H Review of Berks Co Vol XXXIX p 14.

X BERKS COUNTY TAX RECORDS 1782-85
AT PENNA ARCHIVES

THREE BLASTS OF 1784

Normally, the furnace founder, keepers, fillers and moulders were paid at the end of a "blast", the time when a furnace HAD to stop smelting because the sandstone lining burned through and had to be replaced. Actually, Founder Steese died by Sept 1784, but his death- ending the blast by payments- is buried within a moulder's account(p 126) and known only by this reference to Widow ~~Steese~~ Steese. Otherwise, one would surmise that Steese had moved away from Hopewell, ^{IN APRIL 1784,} as ~~moulder~~ in April 1784.

APRIL 1784 SETTLEMENT SUGGESTED BLAST BEGAN UNDER DEWEES

The crediting of 749½ TON production to Founder ~~Dewees~~ ^{Steeese} strongly suggested that this large production had ⁷⁰ actually begun before January 1784. Normally, the furnace produced about three tons a day with the furnace being "banked" on Sundays. Using this ^h method of operation, six days a week, ~~this~~ ^h tonnage averaged ^h NINE ~~is~~ EIGHT TONS DAILY; INCLUDING Sunday operations, the average was over EIGHT TONS DAILY. At three tons daily, the time period would have been 274 days,

WELL BACK into Dewees operation.

PRODUCT AND EARNINGS

Production was mostly pig iron, about seven~~x~~ eights, 636 tons out of 749 $\frac{1}{2}$ tons.

Being paid on a production basis, Steese earned ~~the most~~ his highest pay, thirty shillings a ton for LADLE CASTINGS [meaning stove plates which were ~~in~~ LADLED INTO FLASKS]. This paid him about \$3.90 a ton. Forge Hammers and anvils ~~xxx~~ earned him twenty shillings a ton, about \$2.66. ~~xxxxxx~~ POTWARE, later termed country castings, included ^{DUTCH OVENS,} pots, pans, ovens, skilletts ~~and~~ tea-kettles and flat irons, paid 15 Shillings a ton, about \$1.95 a ton. Forge castings (two-inch-thick forge firebox plates mainly) paid 12 Shillings a ton, about \$1.56. Earnings ~~xxx~~ do NOT reflect actual pay for Steese, ^{since} he paid his Keepers from his earnings. For this "blast" / Keepers Peter Rice and John Roads ~~xxxxxx~~ over 44L and 13 L, based on the actual time worked. This payment reduced Steese's income from just over 292L, abt \$766, to 235 L, about \$638. (Reducing these totals to months or days is impossible since the beginning of the "blast" is unknown.)

"BLAST" OF APRIL - SEPTEMBER 1784

Tonnage for the next indefinite period was much below ^{THE THREETON DAILY} "normal" for the Hopewell Furnace of the Broöke and Buckley period when Records with PRECISE blast days survived. Production was only 120 $\frac{1}{2}$ tons; time in days, less Sundays.

with the co-founders doubled for pig iron and advanced 33 percent for the other

categories:

new-EACH

old	new	new	OLD	% increase
5 sh	pig iron	10 sh	5sh	100
10 sh	potware	20	15	33
20 sh	stoves	40	30	33
10	Hmr-Avls	20	15	33
8 sh	Forge Cstg	16	12	33

PRODUCTION

Mark Bird ~~operating~~ expenses climbed!

BLAST DID ENDBY APRIL 1784

While casting and moulders' accounts suggested the end of a "blast" through payments always made for production during that "blast", credits to Mason Edward Davis PROVED that ~~the furnace~~ ^{HOPWELL} required extensive and expensive inwall and hearth work three times before April 16, 1784. ^(p 326 Journal) This inwall BURNOUT definitely dates the first Hopewell blast to late March. Steese's death was the reason for the next bookkeeping "blast" ending, and the furnace close down in 1785 was the third. ^{REASON FOR}

IN April 1784, Founder Steese [^] earned a Pound and moulder Moats 6 s a day for helping Mason Davis. This inwall replacement alone required ELEVEN DAYS, over 33 tons of iron were NOT produced. Cost in money for mason payments was 60.10.0, about \$160.

None of these happenings made "life easier" for owner Mark Bird, up to his ears financially in erecting the biggest ironworks in America in this ^{VERY} ~~same~~ time at the Falls of Delaware, opposite Trenton, N.J. This expansion on the Delaware River was the reason for the \$200,000 loan, costing \$1000 a month interest if six per-cent.

TOTAL OUTPUT FROM "BLASTS" OF 1784

	Pig Iron	Forge Cstgs	Forge H & A	Stoves	Potware	Total
Steese	636. 5.0.0	8.10.0.0	9.10.0.0	62.5.0.0	33.5.0.0	749.10.0.0
Apr 8						

BLASTS OF 1784

Jan 1 - April 1784:

Founder Jacob Steese p 54 SM 41 R

636 Yom Pig	@ 5 S a ton	159.2.6
8.10C Forge castings	@ 12S a ton	5.2.0
9.10C Forge hammers & anvils	@ 20 S	9.10.0
62T 5 C Ladle Castings/Flasks	@ 30S	93.7.10
33 T 5 C Potware & Slitting Mill		
	Castings @ 15 S	24.19.3
749.10C	Total	292.1.7

Time: Jan 31, Feb. 29, Mar. 31 = 910 + 7 is 13 Sundays

$$\frac{-13}{78 \text{ days}} \quad 78 / 749 \quad 8 \text{ T daily} +$$

April-Sept 1784 ended by Steese' death p 54 SM 41 R

196 Tons Pig	@ 5 S	49.0.0
6.2.1.0 Potware	@ 15S	4.11.8 $\frac{1}{2}$
6.0.0 Forge Castings	@ 12S	8.3.7
4.2.0.0 Forge Hammers & Anvils	@ 15S	3.1.6
4.0.0.0 Stoves	@ 30S	6.0.0

TOTALS

210.10.1.0 Tons 62.16.9 $\frac{1}{2}$

Time: Apr. 30, May 31, June 30, July 31, Aug. 31 = 153 + 7 is 22 Sundays

$$\frac{-22}{131 \text{ working days}}$$
131 / 210 is 1.68 ton daily

Sept - Dec 1784 For EACH founder p 114 SM 41R

134.0.0.0 Pig	@ 5S	33.10.0
4.10.0.0 Potware	@ 10S	2.5.0
23.0.0.0 Stoves	@ 20 S	23.0.0.0
1.15.0.0 Hammers & Anvils	@ 10S	17.6
2.9.1.0 Forge Castings	@ 8 S	19.9

165.14.10 TOTALS 60.12.3

X 2

331.8.2.0

$$\frac{60.12.3 \times 2}{121.4.6} \text{ for both founders}$$

Time: Sept. 30, Oct. 31, Nov. 30, Dec. 31 = 122 days + 7 is 17 Sundays

$$\frac{-17}{105 \text{ Working days}}$$
330 divided by 105 is over 3 tons daily or 3.2.3.24.