

Hook Windmill
Inc. Village of East Hampton
Suffolk County
New York

HAER No. NY-105

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Historic American Engineering Record
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HISTORIC AMERICAN ENGINEERING RECORD

Hook Windmill

NY-105

Location: Inc. Village of East Hampton,
Suffolk County, New York

Date of Construction: 1806

Present Owner: Inc. Village of East Hampton

Significance: The Hook Windmill is one of eleven surviving
18th and early 19th century wind-powered
gristmills on Long Island. The mill is one
of three extant windmills built by
Nathaniel Dominy V, a prominent East Hampton
craftsman. The machinery of the Hook Mill
is more complete than that of any other Long
Island windmill.

Historian: Robert Hefner

Transmitted by: Kevin Murphy, Historian HAER, April 1984

I. History of the Windmill

The Hook Windmill was built in East Hampton, New York, in 1806. It was the last wind-powered gristmill constructed in the village of East Hampton. The Hook Mill was built by Nathaniel Dominy V, who was also the millwright of the Gardiner Island Windmill (1795) and the Shelter Island Windmill (1810). The mill was operated commercially for a century, ceasing to grind in 1908.

The Hook Windmill sits on an artificial mound at the north end of East Hampton's Main Street. This "mill hill" had been the site of one or perhaps two previous windmills. The center post of the Hook Mill appears to be the main post of the post mill which was torn down when the Hook Mill was constructed.¹ This main post is the only physical evidence to remain of the many post mills constructed on eastern Long Island during the 17th and 18th centuries. Because of the importance of this evidence, this report will begin by documenting the post mill of which the main post survives in the present Hook Mill.

An 1860 court brief on a case over the ownership of the Hook Mill lot states that when the Hook Mill was built in 1806, the mill then standing on the site was a "spider shaped mill" which had been erected "about 1740."² In nineteenth century accounts of the local windmills the term "spider legged" is often associated with post mills. Substantiation of the date of construction of this post mill is found in the church records of 1736 which note the death of a young boy on June 16 from "drinking strong drink the night before after ye north wind mill was raised."³

Further evidence exists that the windmill previously on the site of the Hook Mill was a post mill. An entry in the East Hampton town records of 1770 provides for the laying-out of the Lily Hill burying grounds. The plot is identified as being between a certain house and "the windmill that Abraham Mulford attends."⁴ This windmill can only have been on the mill hill which the Hook Mill now occupies. Charges to "Abraham Mulford's Mill" in Nathaniel Dominy IV's account book indicate that this mill was a post mill.⁵ Dominy repaired or replaced the "sills and braces" on Abraham Mulford's windmill in 1774, 1785 and 1794. Many of the early windmill accounts in Dominy's book frequently refer to "sills and braces", but no accounts to windmills known to be smock mills have such work done. The term "sills" probably refers to the cross-trees of a post mill and the term "braces" to the quarter-bars of a post mill.

The documentation of the post mill which stood on the Hook Mill site until 1806 helps to establish the beginning of the smock mill in East Hampton. The post mill was built at least until 1736. The first documented smock mill was built by Nathaniel Dominy IV in 1769 on the mill hill at the south end of East Hampton's Main Street.

In 1806 the owners of the post mill decided to have a new mill constructed on the same site. Nathaniel Dominy V and five apprentices began work on the mill on 2 June 1806. Dominy's accounts also note that the mill was raised on 3 July and completed on 16 October 1806. The apprentices were Seth Parsons, Abraham Parsons, Charles Mulford, L. Parsons and J.H.⁷ A total of 557 man-days were required to build the Hook Mill. The Hook Mill account kept by Nathaniel Dominy appears in Appendix I.

Although we do not have an accounting of the total cost of building the Hook Windmill, it was certainly an expensive enterprise. John Lyon Gardiner noted the total cost of a windmill built in 1805 as £528:6:11.⁸ That cost is greater than the assessed value of any house in East Hampton given in the 1800 assessment role, except that of John Lyon Gardiner's manor house.⁹ Understandably, these mills were owned by a syndicate of East Hampton's wealthiest men.

The Hook Mill was one of three wind-powered gristmills in the village of East Hampton in 1806. All three mills operated throughout the 19th century and have survived to this day: the Pantigo Mill (1769); the Gardiner Mill (date unknown); the Hook Mill. Unfortunately no documentation exists of the operation of these mills during the early 19th century.

The accounts of Nathaniel Dominy V record the repair work he did for the Hook Mill through 1835. Only routine maintenance was required. New windshafts were installed in 1816, 1825 and 1830. Other work included replacing sails and points, replacing cogs and rounds and work on the bearings of shafts and spindles.¹¹

By 1850 the mill was owned by two men, Nathaniel Dominy VII and Charles Hedges, who had been the miller of the Hook Mill.¹² The value of the shares in the mill must have depreciated considerably to allow the two men to take full ownership of the mill. One of the first activities of the new partnership was to make capital improvements in the mill. The two men made a trip to New York in 1850 to purchase a run of burr stones, a cob cracker and a new bolting cloth.¹⁴ In 1859 Nathaniel Dominy bought Charles Hedges' interest in the mill.¹⁵ Dominy continued to operate the mill with the help of his sons until 1908.

The 1860 Census of Industry provides the only evidence of the operation of the mill up to that time. According to that census the Hook Mill ground 5000 bushel of grain into flour and feed in a year. The two other wind-powered gristmills in East Hampton also ground 5000 bushel of grain. The three windmills in Southold ground about 2000 bushel each and the one on Shelter Island ground 1000 bushel. The Atlantic Flouring Mills, a steam-powered mill in Bridgehampton, built in 1851, ground 25000 bushel of grain that year.¹⁶ The Hook Windmill was not mentioned in any future census of industry.

Nathaniel Dominy's "Register of Wind, Weather & Doings" for the years 1887-1909 provide the best documentation of the day to day operation of the windmill.¹⁷ The year 1892 has the most complete entries, details of the work done in that year are found in Appendix II. In 1892 the mill was in operation for 137 days. Although the most grinding was done in November (23 days) the mill operated throughout the year. In the same year Dominy spent 18 days making and installing cogs and rounds, 6 days repairing mill points, 4 days shingling the mill, 3 days pecking the stones and 8 days working on the centrifugal regulators.

By 1900 Nathaniel Dominy was making very few entries to working the Hook Mill. The mill continued to grind less than 20 days a year, mostly in the fall, until 1908. There is no evidence that Dominy ran the mill after that date.

The Hook Mill and mill lot were sold to the Village of East Hampton in 1922. In 1939 the Village restored the windmill to working order. The restoration was done by Charles Dominy, the son of Nathaniel Dominy VII and the great grandson of Nathaniel Dominy V. Charles Dominy then became the miller and ran the mill until 1942 when Maurice Lester took over. The mill ceased operation in the 1950's. Today the mill is well maintained and remains open to the public as a museum during the summer.

II. Structure and Machinery

The Hook Windmill shares many features with the other windmills built by Nathaniel Dominy V (Gardiner's Island Windmill, Shelter Island Windmill, Gardiner Windmill?) or by his father Nathaniel Dominy IV (Pantigo Windmill). The section on structure and machinery in the HAER report "The Gardiner's Island Windmill" discusses the tradition of millwrighting in the Dominy family and describes in detail the features of one of their mills.¹⁸ This report will only discuss special features of the Hook Mill or those features for which some special information is known.

THE CENTER POST

As discussed in Part I, the center post of the Hook Mill appears to be the main post of the post mill which previously occupied the site of the Hook Mill. The post is 24" square and has mortises cut for the tenons of the quarter-bars. The post has much greater dimensions than any other center post in a Long Island windmill. Mr. Rex Wailes and Mr. Kenneth Major, experts on English windmills, inspected the post and agreed that it was the main post of a post mill.¹⁹ Since it was the practice on eastern Long Island to incorporate a large center post in the smock mill, it is understandable that Nathaniel Dominy would use the main post already on the site.

THE CAP

The HAER report on the Gardiner's Island Windmill discusses the framing of the Hook Mill cap. This is a transitional framing from the conical cap of the Pantigo Mill (1769) to the ridgepole and straight rafter framing of the Gardiner's Island mill cap (1815).

GEARING

The brake wheel and the great spur wheel are both of compass arm construction. The compass arm gear has radiating arms mortised through the shaft. By 1815 clasp arm construction was being used on Long Island. In this type of construction two pairs of parallel arms enclose the shaft. A clasp arm gear is stronger and easier to build. The spur gear which runs the cob crusher, probably installed in 1850, is of clasp arm construction.

STONE CRANE

The stone crane in the Hook Mill is the same type found in all surviving Long Island windmills. An oak frame supports an iron yoke which is raised by a metal screw. On the third floor of the Hook Mill are the parts of a more primitive type of stone crane which uses wooden screws. Three of the surviving Cape Cod windmills have such a crane intact. A drawing of this type of crane taken from the one in the Bass River Windmill in South Yarmouth, Massachusetts appears in Appendix III. In the Hook Mill only the two parallel oak beams through which the screws pass remain in the mill. This stone crane might also have come from the post windmill which was torn down in 1806.

Cob Crusher

The Hook Mill is outfitted with a cob crusher. According to Charles Dominy the crushed cobs are fed into the rock stone for winter feed. ²⁰ The Pantigo Windmill is the only other Long Island mill with a cob crusher. In 1892 Nathaniel Dominy VII wrote to the Columbian Foundry in New York stating that in 1850 he had purchased from them "an old fashioned Bark mills for crushing Corn & Cobs" and asking them if they could make him a new one. ²⁰

GRAIN SYSTEM

The grain system of the Hook Mill is the most complete of the Long Island windmills. This is undoubtedly because of the 1938 restoration by Charles Dominy. An elevator (leather belt and tin cups in place) take the grain from a bin on the first floor to a bin on the third floor. The corn can be sent directly to the rock stone. Wheat can be deposited into a revolving screener which cleans the grain before grinding. The first length of screen is 9 mesh which eliminates dirt and small impurities. The second compartment has a 5 mesh screen to allow the grain to fall through and be fed into the burr stone hopper. Large impurities are deposited into a third compartment. After grinding the corn meal can be sifted in a corn bolter and the flour deposited in another bolter. Both bolters have 32 mesh silk cloth. Labels glued to each bolter identify the bolting silks as products of Kressilk Products, Inc. When the corn bolting cloth was purchased Kressilk was at 73 Murray Street in New York. When the flour bolting cloth was purchased Kressilk was in Elmsford, New York.

(12) Land indentures pertaining to the Hook Mill located in envelope L 629, East Hampton Free Library.

(14) Nathaniel Dominy, "Register of Wind, Weather & Doings," 1850-1859, East Hampton Free Library.

(15) Land indenture, Liber 104, p. 600, Suffolk County Clerk's Office.

(16) United States Census Office, 8th Census, Census of Industry, Suffolk County, 1860....

(17) Nathaniel Dominy, "Register of Wind, Weather & doings," 1877-1909, manuscript, East Hampton Free Library.

(18) Robert Hefner, "Gardiner's Island Windmill," HAER report, 1977.

(19) Interview with Rex Wailes, 14 June 1978 and interview with Kenneth Major, 24 June, 1978.

(20) Nathaniel Dominy VII to the Columbian Foundry, 24 December 1892, manuscript, Henry Francis du Pont Winterthur Museum.

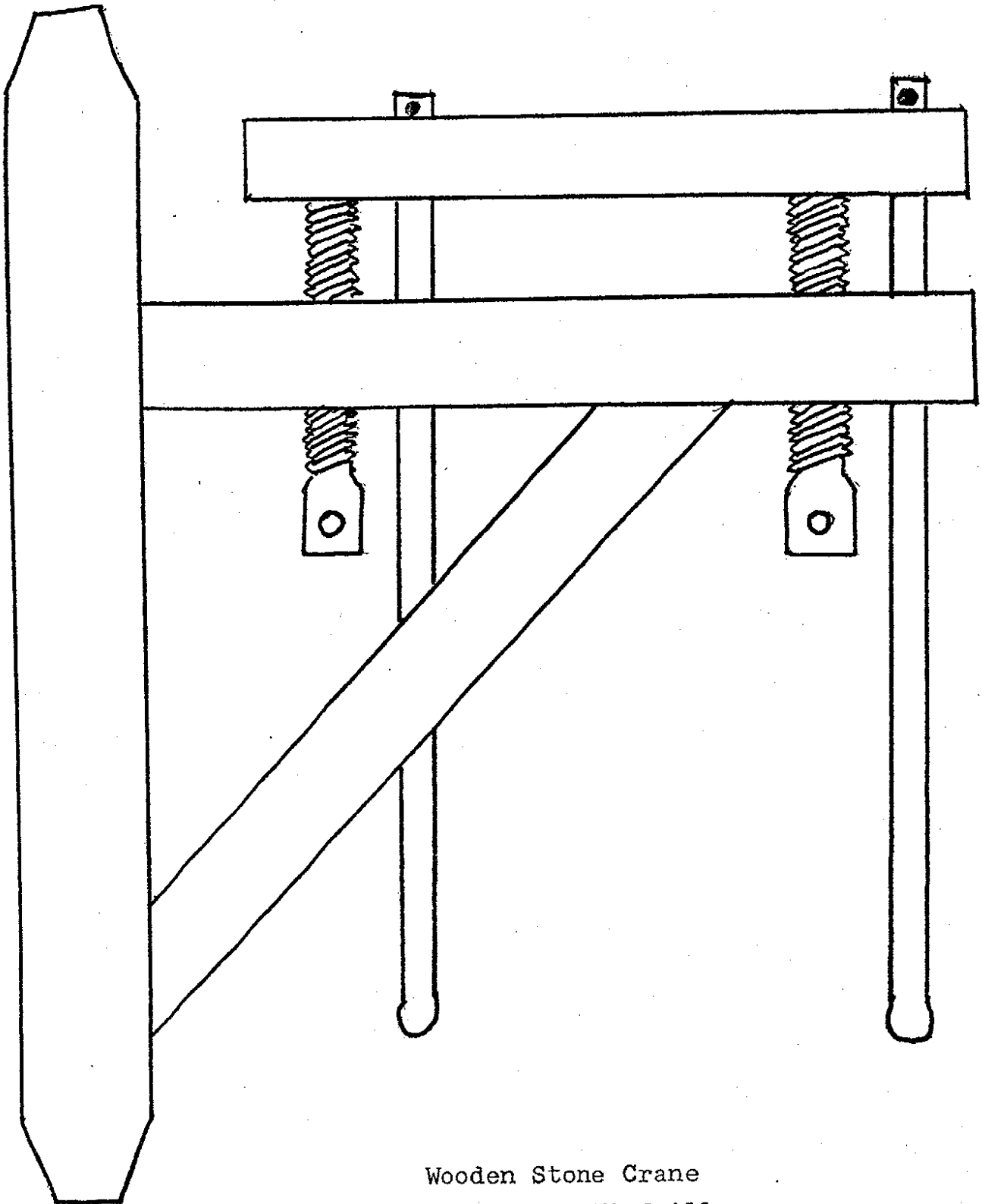
APPENDIX I

Nathaniel Dominy V Account Book, 1798-1847
Account for building the Hook Windmill, 1806

1806		Account of work done on Mill in Hook																								
June 2		Began to work on Mill in Hook																								
June 7		Days	9 ^h	10 ^h	11 ^h	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h	24 ^h	25 ^h	26 ^h	27 ^h	28 ^h	29 ^h	30 ^h	31 ^h	
Raised July 3 rd	N.D.	4 ^h	5	5	6	6	4	4	4	4	6	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6
	L.P.	5	5	4 ^h	5	6	4 ^h	4	2 ^h	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	C.M.	5	5	4 ^h	6	6	4 ^h	6	3 ^h	4 ^h	6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	L.P.	4 ^h	5	5	6	6	4 ^h	5 ^h	4	4	6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	J.H.	5 ^h	5	5	5						4 ^h	3 ^h	3	3 ^h												
	A.P.	5 ^h	5	5	6	5 ^h	2	4	4	4	4	5 ^h	5 ^h	4 ^h	4 ^h	6	6	6	6	6	6	6	6	6	6	5 ^h
		Sept 20	27																							
		N.D.	6	6	6	6	4	1 ^h																		
		L.P.	5 ^h	6	6	6	1																			
		C.M.	6	6	6	6	3 ^h	1 ^h																		
		L.P.	6	6	5	5	1 ^h																			
		A.P.	5 ^h	6	6	6	2																			
1807		Subwestern Derrin and Company Dr																								
May 11		To work on Shelter Island building Mill																								
		began to work & raised 23 on Saturday																								
		19 ^h 12 Days & 2 Boys												12 Days work												
June 13		To 16 ^h Days, work & 2 Boys												16 ^h Days												
27		To 11 Days work & 2 Boys												11												
July 11		To 12 Days and Lewis 12 D ^o												12												
		To 2 Days for Charles																								
17		To 5 Days & Lewis 5 D ^o												5												
Nov 10		To 23 Days & Lewis 23												23												
		for my self 8/ for Charles 6/ for Lewis 4												60 16 6												
		The whole amount												61												

Operation of the Hook Windmill in 1892
Information from Nathaniel Dominy's "Register of Wind, Weather
& doings," 1877-1909.

Month	Number of days operated
January	14
February	9
March	13
April	4
May	15
June	13
July	1
August	14
September	9
October	16
November	23
December	6
Total	<u>137</u>



Wooden Stone Crane
Bass River Windmill
South Yarmouth, Massachusetts

ADDENDUM TO
HOOK WINDMILL
North End of Main Street
at Pantigo Road
East Hampton
Suffolk County
New York

HAER No. NY-105

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National Park Service
Department of the Interior
P.O. Box 37127
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