

The Chain and Boom By Merle Sheffield

Sir Henry Clinton's expedition had scarcely left the Highlands before plans were afoot to close the river again; and to do a better job this time around. George Clinton took the brunt of the planning on his own shoulders and stayed in constant correspondence with Thomas Machin who was recuperating from the serious wound received at the fall of Fort Montgomery. Machin submitted his bill¹ for "board and nurse for 85 days," but he had not been inactive, for he submitted a most detailed map of the area to Governor Clinton on the 4th of January 1778. This curious map² shows the remains of the broken chain at Fort Montgomery and possible locations for blocking the river in the future. He added a chain, guarded by fortifications, at West Point and a similar one at Salisbury (Iona) Island just below Fort Montgomery. Also included was the existing line of chevaux-de-frise near New Windsor, with elaborate fortifications on both sides of the river and on Pollepel's (Bannerman's) Island. The map was undoubtedly requested by Governor Clinton as an aid in settling the dispute between General Putnam and the French engineer La Radiere as to where the fortifications and obstacles should be placed.

The New York provincial congress met at Poughkeepsie on the 5th of January and the subject of locating the obstacles commanded major attention. For the next ten days the subject was debated and commissioners were appointed to report their findings. Everyone, except La Radiere, favored West Point. The young Frenchman, soon to succumb to consumption, was adamant in urging the reconstruction of the forts at the mouth of the Popolopen. It is not clear who suggested the Salisbury Island location since Machin's map is the only known reference to such an idea. Another position had been proposed by Philip Schuyler when the chaining of the river was first discussed in the summer of 1776. His choice was a narrow and partially shallow spot three miles south of West Point called Canten Hook. Regardless of the many possibilities, West Point had been favored by a considerable number of the patriots from the first and by the middle of January it was officially chosen as the location for the new chain.

Thomas Machin had been active all through the Highlands and in the committee rooms of Poughkeepsie and Fishkill while the deliberations stretched on. Certainly it was a relief to set off for the ironworks on the 16th of January "to agree for the new chain."³ He headed for the Sterling works of Noble & Townsend near Chester, New York, where had received good service the previous year. The Fort Montgomery chain had been forged at other locations, but the Sterling works had contributed significantly toward the unfinished secondary obstacle, the boom. Machin knew their workmanship and wanted to get the basic agreement settled regarding the size of the links which they were capable of making in order to plan the rest of his installation accordingly. He could leave the paperwork and money considerations to Colonel Hughes, the Quartermaster, to negotiate at a later date.

Machin so dominates the story of the chains across the Hudson that it is worth digressing for a moment to learn of his background. The son of an English astronomer-mathematician, his baptism of fire came incredibly early when he fought in the battle of Minden at the age of 15.⁴ Later experience in the art of canal building in England led to an investigation of American copper mines at the time of major unrest in the colonies. He adopted the cause of the colonists against the British and seldom missed an opportunity

for total involvement from that time forward. He was an active participant in the Boston Tea Party and was wounded at the battle of Bunker Hill as a 31-year-old artillery lieutenant. He came to General Washington's attention early the next year while perfecting the Boston Harbor defenses and was sent to the Hudson in July of 1776, as the answer to the Secret Committee's plea for assistance in fortifying the Hudson Highlands. Having been put in complete charge of the first chain after others failed in November of 1776, he won the admiration of all when he successfully blocked the river with it in March of 1777. Now he was ready to do it again, in a better place and with a stronger chain.

Machin had planned a secondary obstacle, the boom, for the Fort Montgomery Installation but the approach of the British in the summer of 1777 required a temporary obstruction of ships' hawsers to be spliced and floated on hogsheads in front of the chain. Sir Henry Clinton's report⁵ of the action includes the following statement: "The boom and chain... is supposed to have cost the Rebels 70,000. Another boom which we destroyed near Fort Constitution must likewise have cost the rebels much money and labour." This had to be the unfinished boom, but the destruction claimed by Sir Henry's officers was more for home consumption than fact since Governor Clinton reported to Washington on the 20th of December 1777⁶ that the "boom, which is nearly complete" should be combined with a new chain across the river at the earliest chance.

The design of the chain and its log-raft floats is readily seen from the evidence at hand, but the boom is another matter. Machin sketched the first chain installation in January 1777 before its successful stretching at Fort Montgomery and this relic is preserved for our study.⁷ No such hard evidence exists with regard to the boom. Three different maps of West Point, drawn at various times during the Revolutionary War from 1778 on through several years of conflict, all of the great chain in position with its floats of three logs each.⁸ None of these maps shows any secondary obstacle such as the boom. We are bound to conclude, then, that the boom was in position across the river for a rather brief period, if it all. This is supported by the fact that orderly books and diaries of the period give punctual accounts of the chain's seasonal trips in and out of the water with no mention in any of them regarding the boom.

Where then do we find the boom discussed? First of all there are fairly detailed supply records from the period of its manufacture in the summer of 1777, and after that there are periodic mentions of its use as a source of scrap iron from its position on the shore and in the water at West Point. Lasting proof of the boom's existence was dredged from the river in 1855 in the form of logs, links and iron accoutrements shown on page 8. Unfortunately, even this solid evidence does not answer the basic question as to the obstacle's overall appearance. Some authors⁹ have concluded that the iron-bound logs were placed side-by-side in rope-ladder configuration across the river. Close study of the supply records,¹⁰ however, shows this not to be the case. Machin took delivery of 20 swivels for the boom in August of 1777 and the rope-ladder configuration would not allow the use of swivels would prevent twisting being transmitted along the line of floats. The appearance of such an arrangement is shown on page 8.

Though the new chain was Machin's primary task in January of 1778, he also had the responsibility for the boom and the chevaux-de-frise. All three of the projects required logs and lots of them; at a time when timber was also badly needed for the new

forts and redoubts. Small wonder that the remainder of January and February filled Machin's account books with items related to timber.¹¹

The contract for the chain was signed in early February. It was to be similar to the Fort Montgomery chain but heavier and stronger. The earlier chain was forged of two-inch bar iron making a two-foot link weigh 60 pounds.¹² A similar link of the new chain would weigh 95 pounds. The terms of the contract are as follows:

Articles of Agreement between Noble, Townsend & Company, Proprietors of the Sterling Iron Works, in the State of New York, of the one part, and Hugh Hughes, D.Q.M.G. to the Army of the United States of the other part, witnesseth: That the said Noble, Townsend & Company, jointly and severally engage to have made and ready to be delivered at their works to the said Hugh Hughes, D.Q.M.G., or to the D.Q.M.G. of the Middle Department for the time being, on or before the first day of April next ensuing the date hereof, or as much sooner as circumstances will admit, an iron chain of the following dimensions and quality, that it, in length five hundred yards, each link about two feet long, to be made of the best sterling iron, two inches and one quarter square, or as near thereto as possible, with a swivel to every hundred feet, and a clevis to every thousand weight, in the same manner as those of the former chain.

That said Noble, Townsend & Company also engage to have made and ready to be delivered at least twelve tons of anchors of the aforesaid iron, and of such sizes as the said Hugh Hughes as or his successors in the office shall direct in writing, as soon as the completion of the chain will admit.

In consideration of which, the said Hugh Hughes, in behalf of the United States, agrees to pay to the said Noble, Townsend & Company on their order, at the rate of four-hundred and forty pounds for every ton weight of chain and anchors delivered as before mentioned, unless the general regulations on trade, provisions, etc., which are now supposed to be framed by deputies from the United States, shall be published and take effect before the expiration of four months from the date of this: in which case the price is to be only four hundred pounds per ton for the said chain and anchors.

The said Hugh Hughes also engages to procure of the Governor of this States, for the said Noble, Townsend & Company, an exemption for nine months from the date hereof from military duty for sixty artificers that are steadily employed at the said chain and anchors till completed.

.....

It is also agreed by the said parties that if the teams of the said Company shall transport the said chain or anchors, or any part thereof, to any assigned post, they shall receive for such services, the same pay as shall be given by the United State for the like; the teams of the Company being exempted from impress by any of the Q.M.G.'s deputies during the space of nine months.

Lastly, the said Company engage to use their utmost endeavors to keep seven fires at forging and ten at welding, if assisted with such hands as are necessary and can be spared from the Army, in case of their not being able to procure others, the said Company making deduction for their labor.

The exemption of 60 men from military service during the following nine months sounds like a compromise since the Sterling works had asked exemption for 150 men in August 1776 and Hughes had pleaded a similar case for them in April 1777.¹³ At that time Hughes praised their work as follows: “The reputation of their iron is such that General Knox desired that I would purchase no other for the use of the laboratory and train, nor will any other that has been tried in our department bear planting for spades, etc., so well as theirs does.” It appears that Hughes was using the emergency nature of the chain work to insure the exemption of the workers for other army requirements since the chain could, by no means, require nine months to manufacture.

The twelve tones of anchors became an issue before the chain was in place since no one followed up the contract with necessary specifications. The manager of the ironworks, William Waxhurst, sent a letter to Machin on the 23rd of April 1778 saying:¹⁴ “... there can’t be any thing done till you send the water of each particular anchor.” This may have been the cause of the last minute trip to the iron works by Machin on the 26th. The chain was emplaced on the 30th of April.

The specifications for the chain deserve particular notice since so much controversy has surrounded them over the years. Part of the problem is found in the fact that the specifications were meant to be approximate. For instance, “...each link about two feet long...” must be compared to the lengths of the links still known to exist today. Seventeen links recently were measured and found to have an average length of 31 inches, ranging from 26 to 36 inches.¹⁵ Because of the thickness of the iron the effective length of each link would be about four inches less. “... a swivel to every hundred feet...” meant that Machin planned to have a float about every hundred feet with a swivel between the floats. That is a small number of floats to hold up over 35 tons of iron links. No wonder Machin asked for floats to be made of logs 50 feet long! Lastly “...a clevis to every thousand weight...” meant that the links should be forged in “sets” of about 1,000 pounds each for ease of transportation. The clevises provided the means of attaching the sets together. As a matter of fact, the sets were weighed years later when they were sold to Governor Kemble’s Ulster Iron Co. in 1830.¹⁶ After a few sets had been put aside for posterity there were still 51 sets which weighed an average of 1,334 pounds each. Since the weight of an average link is 105 pounds it is to be expected that the set was usually twelve links plus a clevis. A similar computation tells us that each set would cover about thirty feet of water and that 53 sets would cross 1,590 feet of the Hudson.

Thomas Machin was no longer connected with the chain work when it came time to remove it for the winter in December 1778. He was back on fulltime duty with Lamb’s Artillery and was never put in charge of the chain’s movement again. He disappeared from the scene at West Point in August 1778 shortly after the West Point commanding general complained: “...the Boom is not yet come down nor do I know when it will or who to apply to about it.”¹⁷ This was the complaint of Brigadier General Glover who had temporarily completed *cheveaux-de-frise*. This may well have been the occasion of Machin’s departure.

By freeze-up time another commander and another engineer had the chain in charge. Anxious days were spent in pulling the chain from the water. At least half of the logs were found to be in need of replacement due to water-logging in spite of the efforts to dry and pitch them in the spring before they first went into the water. Replacements

were made but still the chain caused trouble. In the summer of 1780, the chain had been emplaced before replacement logs could be prepared and the whole obstacle was in danger of sinking. A third engineer had it in charge and the commanding officer, Arnold, has since been accused of attempting to weaken the chain. It is certain that the replacement logs were destroyed by burning within days after the traitor was informed of the chain's precarious situation. The letter from Arnold to the Quartermaster, Pickering, follows:¹⁸

Robinson House, 23 August 1780

... I am informed in a letter of the 21st from the Engineer (Villefranche) that the middle part of the chain across the Hudson at these posts is sinking in a dangerous situation on account of the logs which it has hitherto floated on being water-soaked, that unless this be speedily remedied it will be out of our power to raise it but with great expense of time and trouble.

This I closely followed by an order:¹⁹

Headquarter Robinson House, 25 August 1780

... Several pieces of valuable timber laying along near the Red House intended for the Chain have been lately cut up for fuel for the troops. Any soldiers found guilty of the like enormities in Future will receive fifty stripes without trial of courts Martial.

Whether or not Benedict Arnold actually conspired to have those logs burned is not known. Certainly he was deeply involved by this time in the plot to see West Point to the British, which was discovered a month later. Only in the wake of Arnold's defection was the chain problem attacked and brought to a successful conclusion. It was quite a job, attaching hogshead-floats, making temporary hitches with three-inch rope and disengaging some 34 links of the chain from the rest.²⁰ This had started on the 28th of October and Deputy-Quartermaster Hughes congratulated his West Point assistant Daniel Carthy on the 19th of November 1780.²¹ "I give you joy on the resurrection of the chain. It afforded a pretty clever piece of business, I imagine..."

The best way to forestall these problems in the future would be to increase the number of log floats, and they set out to do just that. Carthy wanted all new logs and 90 of them, "from 30 to 40 feet in length, from 15 inches to two feet in diameter...." "Also, 90 pieces of sawed stuff 10 feet in length and 4 x 8 inches in width."²² This would increase the number of floats to 30, decreasing the load per float from four sets of links (5,000 pounds) to only two sets. Here we have a complete rebuilding of the chain support system requiring major amounts of timber to be cut, dried and tarred plus a considerable amount of iron work required to provide the extra staples and swivels necessary for the additional floats. Good light wood had to be found, white wood or white pine and forty or fifty barrels of tar. This was six years after the beginning of the war and all supplies were short. It seems amazing to learn that the newly outfitted chain floated neatly across the Hudson again in April 1781.

No documents have survived that describe exactly how the chain was anchored to the shore. A sketch on page 16 and it has been assumed by some authors that this

arrangement was applied at West Point. Since the 1776 season ended in failure for the chain and since Machin was not in charge at that time it seems unlikely that this system was copied very closely in 1778. Some scanty evidence is shown on page 16 taken from a contemporary sketch of the 1777 emplacement at Fort Montgomery. Prominent in this figure are the “capestands” or capstans used in varying the tension in the system and in another figure (page 6) we see the two anchor points or blocks, near the shore. The capstans and blocks were used in the 1778 arrangement at West Point as is evident from several different descriptions which have survived.²³ The blocks were log cribs 8 or 10 feet on a side, filled with stone.²⁴ These cribs are readily visible on Kosciuszko’s 1779 map and in L’enfant’s panoramic view (page 17). Unfortunately, L’Enfant sketched the scene late in the war years, probably 1783, when the chain was no longer in place.

An interested observer in 1784 was the Venezuelan revolutionary Francisco de Miranda. His diary recounts his visit to West Point and his amazement at the ability of the Americans to keep the chain afloat. “By means of... four strong capstans that were fixed on both sides, it was kept stretched on the surface of the water...”²⁵

Many eyes were watching the April efforts in 1778. James Clinton reported to McDougall on the 18th that:

Capt. Machin hath been here these three days past but could do little on account of the high winds. He hath sunk one block on the East side of the River but much lower as Mr. Wisner informs me than what was agreed on. I mentioned the matter to Machin who appears very confident that he hath sunk it in the best place....²⁶

Machin himself wrote to McDougall two days later: “The capson and docks are set up at the lower place; the mud blocks are launched and only wait for good weather to carry them down.”²⁷

This controversy over the proper location of the chain between West Point and Constitution Island had come to a head on the 10th of April when a council of war had discussed it on the spot. The group included Machin, both Clintons, McDougall, Parsons, Wisner and, probably La Radiere.²⁸ This was the same day that the names for the various redoubts were determined. Viewing the map of the Hudson between the Point and the Island on page 19 it can easily be seen that there was room for disagreement. The February contract had called for 1500 feet of chain, more than enough for the narrowest part of the river. On the other hand, no progress has been made on any work to protect the West Point end at that location. Parsons had consulted with Machin in March²⁹ with regard to the proper fortifications and Machin had located his first capstan accordingly. Now, a month later, Sherburn’s redoubt had barely been started and Machin convinced the assembled dignitaries to make a change in plans. As recorded by McDougall: “Capt. Machin came to West Point determined to fix the chain under the cover of fire of the Fort, for the present, as it would be some time before the work could be finished to cover a battery where the capstan is now fixed.”³⁰ Wisner may not have understood the significance of the discussion but the new location “for the present” had been approved and Machin left immediately for Chester to arrange for more chain.³¹

There is no evidence known to show that the boom formed a part of the group’s consideration, but it is hard to see how it could have been ignored. The new chain

position also required a new location for its secondary partner down-stream. A glance at the map (page 19) shows that the boom would have to be extended to 2,000 feet. This may well have contributed to the boom's demise, but there are no records known to show what actually happened to it. About all we know is that it was located near the river at West Point in December 1778 and that, by 1781, it was being used as a source of scrap iron, some on the bank and some in deep water.³²

William Hawxhurst and his exempted workmen at Noble & Townsend's iron-works must have responded well to Machin's order for more "Great Chain." By the 20th of April Machin was able to report to McDougall:

Lieutenant Woodward, who I told you was at Sterling Iron Works Inspecting the chain, is now returned, and informs me that seven-Teen hundred feet of the great chain, which is more than equal to the breadth of the river at the place last fixed upon, is now ready for use. The Capson and docks are set up in the lower place; the mud blocks are launched, and only wait for good weather to carry them down.... If the weather should be favorable, I am in hopes to take the chain down all fixed in about six days. "³³

It was not a long trip on the Hudson to bring the chain "down," but it required considerable care and effort. Machin used New Windsor as the assembly point for the work and Brewster's forge was near by to do the incidental ironwork required in "fixing" the chain to the log floats. While the teamsters were employed in bringing the extra 200 feet of chain down the valley from Chester, Machin had been busy a fast trip to Jew's Creek, a few miles north, to arrange for the extra supply of dried logs and "sawed stuff" for the floats. For these original floats he had ordered the cross-members cut 12 feet long to provide a proper width for floats made of 50 foot logs. When the chain had to be rebuilt in 1781 we have seen that the number of floats was increased, but the length and width was decreased slightly at the same time—logs requested at 30-40 foot lengths and cross-members 10 feet long.

The actual connection of each set of links to the next and the final setting of the tension with the capstans was accomplished on the 30th of April. It was not a new task, for much had been learned the previous years at Fort Montgomery. Anchors were attached at several points for stability and there may have been provision for allowing friendly ships to pass near the western end. Two accounts lead to this conclusion, first a brief diary notation in July 1778,³⁴ and, secondly, in West Point garrison orders of August 1780: "... to examine every kind of vessel that approaches this garrison and none to go over the chain without they have a passport from the governor of the state."³⁵ It is entirely logical that this arrangement should have been made, but it certainly complicated life for the engineer.

Some of the difficulties encountered in the twice-yearly task of moving the chain are evident in the following accounts of its removal at the end of November in 1779:³⁶

Forty men who know boats be ready tomorrow at sunrise. When the chain is cast off a cannon will be fired from the rampart of Fort Arnold. Officers and men of the garrison will repair

to headquarters to aid in drawing it in.

Two days later one diarist records:³⁷ “This day the chane that was crossed the river was removed by hoisting the same whole between boats and was taken on shore to be laid up for the winter.” On the same day, a doctor stationed with the garrison told his diary where that spot on the shore was located.³⁸ “Chain taken on the shore near the Moore’s House,” was the entry. This was the house on the river shore, slightly up-river from the chain location, which had been occupied by General Washington and his staff since June of that year. These movements of the chain continued throughout the war and Machin’s original manner of securing it prevailed in spite of some adverse opinions. The chief engineer, Duportail, wanted to suspend the chain three feet under water³⁹ and General Robert Howe complained to Washington in March of 1780: “I have to chain the English and am fully persuaded that this artless token of security is over-rated.”⁴⁰ Washington, however, had faith in the original scheme and soothed the doubts while doing everything in his power to strengthen the defenses of the forts defending the chain. Machin may have lost favor in some unrecorded dispute of the day, but his work remained for years, an untested but effective obstruction to British plans of war.

As the Americans proudly surveyed their remarkable achievement in April of 1778, they beheld an unfortified Constitution Island. The island lay just as the British had left it the previous October. There may have been some military units camped on the island or nearby, but nothing had been done toward refortification. It seemed ironical. Nearly three years before the island had been the mainstay of the Highlands’ defense, but not it was virtually eclipsed by the emphasis on West Point. General McDougall’s instructions to General Parsons on April 11th, 1778, did not even mention the eastern side of the river.⁴¹ No one could argue that Constitution Island was more important than West Point; the latter was clearly dominant terrain. However, as the eastern anchor point for the Great Chain, the island was key terrain and something had to be done to insure that it remained in friendly hands. Progress towards that end would occur, but it would not be swift.

The first indication of any refortification on the island come from the orderly book of General Parsons. The extract of orders for May 30th, 1778 reads:

Colonel Greateon’s Regiment is to being the batteries on Greateon’s Island tomorrow morning, such as can be spared from other Regimental duty are to be daily employed on those till further orders.⁴²

A year later, Colonel Kosciuszko, preparing a report for General McDougall on the 25th of April 1779, labeled Greateon’s Battery on his “ruff map” accompanying the report. From that map, Greateon’s Battery was clearly located on the site of the old Gravel Hill Battery.⁴³ Kosciuzko admitted that the map was an approximation. Even the traces of several works on it appear inaccurate. For instance, the present-day trace of the western redoubt on Constitution Island (Redoubt # 7) does not resemble the trace indicated on Kosciuszko’s map; the eastern redoubt (Redoubt #5) is also somewhat distorted. Greateon’s Battery, however, does basically conform to the battery shown on Villefranche’s 1780 map, indicating an accurate location and trace in both instances. Nevertheless, it must be remembered that the new trace represented a modification of the old lines of Gravel Hill Battery prior to October 1777, even though the new was placed

on the site of the old. No evidence has been found to indicate how Greaton's Battery was constructed, but it probably was earth held in place by timber or fascines much like its predecessor. Construction must have been completed rapidly because an artillery return for June 1778 reports five 6-pounders and one 9-pounder on Constitution Island, indicating that the battery must have been ready to accept its artillery.⁴⁴ Fascines, and timber were the only materials to support such rapid construction. When Duportail inspected the island in September, he found only one battery, Greaton's.⁴⁵

ENDNOTES

- ¹ Thomas Machin's Expense Account for 1777, New York Historical Society
- ² Thomas Machin's map of the Highlands, Cornell University.
- ³ Boynton, History of West Point, p. 72.
- ⁴ Simms, History of Schoharie County, p. 550.
- ⁵ Roosevelt, Events on Hudson's River in 1777, Dutchess County Historical Society Yearbook for 1935, p. 11.
- ⁶ Letter, Clinton to Washington, Webb, Correspondence and Journals, pp. 405-408.
- ⁷ West Point Museum
- ⁸ Richards' map of West Point, Connecticut Historical Society; Kosciuszko's map, New York Historical Society, Greenleaf's map, Massachusetts Historical Society
- ⁹ Boynton, History of West Point, opposite page 71; Palmer, The River and the Rock, p. 167.
- ¹⁰ Boynton, History of West Point, p. 71; Manuscript Collection, Washington's HQ Museum, Newburgh, New York.
- ¹¹ Boynton, History of West Point, pp. 72-73.
- ¹² Letter, Curtenius to New York Committee of Safety, 21 March 1776, American Archives, Series 4, Vol. 5, p. 449.
- ¹³ Letter, Hughes to New York Provincial Congress, 9 April 1777, American Archives, 5th Series, III, pp. 431-432.
- ¹⁴ Letter, Hawxhurst to Machin, 23 April 1778, Rutenbur, Obstructions to the Navigation of Hudson's River, p.141.
- ¹⁵ Measurements made by Merle Sheffield, 1971 and 1972, of links at West Point, Albany and Hartford, Connecticut.
- ¹⁶ Weight of Chain from West Point Sold Ulster Iron Co., 18 June 1830, New York Historical Society.
- ¹⁷ Letter, Glover to Gates, 2 July 1778, Gates papers, New York Historical Society.
- ¹⁸ Letter, Arnold to Pickering, 23 August 1780, Hornor, Obstructions of the Hudson River, p. 21.
- ¹⁹ Benjamin Peabody's Orderly Book, 25 August 1780, USMA Library, West Point, New York.
- ²⁰ Letter, Carthy to Hughes, 28 Oct 1780, Hughes letterbook No. 3. NYHS; A Report of the Police of Garrison of West Point, 28 Oct 1780, Heath Papers, Vol. 17, No. 243.
- ²¹ Letter, Hughes to Carthy, 19 Nov 80, Hughes Letterbook No. 3, NYHS.
- ²² Letter Carthy to Hughes, 27 Nov 1780, Hughes Letterbook No. 3, NYHS.
- ²³ Heath's Memoirs, p. 277; see also Notes 24 and 25 following.
- ²⁴ British Intelligence Report, Clements Library.
- ²⁵ Miranda, Tour of the U.S., 1783-1784. p. 1103.
- ²⁶ Letter, James Clinton to McDougall, 18 April 1778, Papers of George and James Clinton, Library of Congress.
- ²⁷ Letter, Machin to McDougall, 20 April 1778, Simms, History of Schoharie County, p. 566.
- ²⁸ McDougall's Diary, 10 April 1778, McDougall Papers, New York Historical Society.
- ²⁹ Letter, Parsons to Machin, 11 March 1778; Simms, History of Schoharie County, p. 566.
- ³⁰ McDougall's Diary, 10 April 1778, McDougall Papers, New York Historical Society.
- ³¹ Boynton, History of West Point, p. 72.

-
- ³² Letter, Hughes to Townsend, 28 January 1781, New York Historical Society.
- ³³ Letter, Machin to McDougall, 20 April 1778, Simms, History of Schohaire County, p. 566.
- ³⁴ Smith, Historical Memoirs, p. 420.
- ³⁵ Orderly Book of Ephraim Stearns, 6 August 1780, Massachusetts Historical Society.
- ³⁶ Orderly Book of Caleb Clap, 28 November 1779, Pocumtuck Valley Memorial Association, Deerfield, Massachusetts.
- ³⁷ Journal of William McKendry, Vol. II, p. 477 Massachusetts Historical Society.
- ³⁸ Diary of Dr. Adams, 30 November 1779.
- ³⁹ Report, Duportail to Washington, 13 September 1778, Washington Papers, Series 4, Reel 51.
- ⁴⁰ Letter, Howe to Washington, 16 March 1780, Washington Papers.
- ⁴¹ Letter, McDougall, to Parsons, 11 April 1778, in New York State Library, McDougall Manuscript File, Document No. 7525.
- ⁴² Colonel Greaton's Regiment had been ordered to West Point from Albany and arrived sometime in May. The regiment was stationed on Constitution Island until its departure in July 1778; Letter, McDougall to Washington, 6 May 1778, Washington Papers, Series IV, Reel 49; Orderly Book, General John Glover, 30 June and 20 July 1778, Essex Institute, Library and Archives, Glover Papers (type-script copy available in the Rare Book Room, USMA Library); Orderly Book, General Samuel H. Parsons, 30 May 1778, Library of Congress, Manuscripts Division, Peter Force Library Collection, Parsons Papers.
- ⁴³ Letter and accompanying map, Kosciuszko to McDougall, 25 April 1779, McDougall Papers, Reel 3; Merle Sheffield, The Fort That Never Was, pp. 20-21.
- ⁴⁴ Artillery Return, Robert Walker (Commanding Officer of the Artillery), 28 June 1778, USMA Library, Manuscripts Division, Military History of West Point, 1777-1802; Letter, Malcolm to Washington, 30 July 1778, Washington Papers, Series IV, Reel 51.
- ⁴⁵ Report, Duportail to Washington, 13 September 1778, Washington Papers, Series IV Reel 51 (improperly filed under 13 August 1778); Kite, Duportail, pp. 96-101.