U.S. Army Accoutrement Evolution Prior to the Civil War: The "Fenwick" Ordnance Board of 1837 and 1838 and the Infantry Cartridge Box

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Many of the patterns of leather accoutrements we, as collectors and historians, associate with the era of the American Civil War (1861–1865) were, in fact, essentially established between 1837 and 1845. This unusually active period of accoutrement development was prompted, in part, by their poor performance in the early months of the Second Seminole War (1836–1842). Although the Florida climate and terrain (Fig. 1) no doubt tested various accoutrements beyond their intended limits, their construction and materials clearly were not suited for the hard use to which they were subjected. Field service had quickly suggested improvements to the Army's accoutrements were essential. By 1845 most of the U.S. Army's accoutrement patterns for the percussion era were established, although it would take the looming Mexican-American War (1846–1848) to complete their implementation.[1] Along the way a number of them received the designation "Pattern of 1839" due to field testing just before and their manufacture beginning that year, with distribution to units of the Regular Army of the United States starting the following year.

Changes to our accoutrements were being suggested, as well, by modifications being made abroad. Although we occasionally borrowed from the British in the first half of the 19th century, after the assistance of the French during the American Revolution, and the impressiveness of their military forces in the years thereafter, we tended to follow the lead of the latter in martial matters. For weaponry, uniform components, manuals, and accoutrements, we often superimposed an American practicality over (perhaps) more artistic French models, a practice that continued until the end of our Civil War. At this time much was happening with European accoutrements, which were often topics of discussion in publications followed in the United States, such as the domestic *Army and Navy Chronicle* and *The Military and Naval Magazine of the United States,* in addition to *The United Service Journal and Naval and Military Magazine* from London.[2]

Despite the clear need for changes in the Army's accoutrements that the experiences in Florida alone indicated, with the adoption of the 1834 *Regulations for the Government of the Ordnance Department,* it was no longer in the power of the Chief of Ordnance, at the time Colonel George Bomford (Fig. 2),[3] to modify accoutrement patterns on his own volition. Paragraph number 161 of those *Regulations* required a Board of Officers (often referred to as an "Ordnance Board" and sometimes as a "Board of Ordnance" since many of the officers composing such boards were from

Figure 1. (Left) "The American Soldier, 1839" by H. Charles McBarron, Jr., shows an Indian scout directing a unit of U.S. Army infantry out of a Florida swamp. The conditions encountered by the infantry three years before would have been similar. Courtesy U.S. Army Center for Military History.
Figure 2. (Right) Colonel George Bomford (1780?–1848), originally printed in the *Records of the Columbia Historical Society* (No. 13, 1910), plate 10. Although nominally in charge of the Ordnance Department after 1842, illness limited his activities to Inspector of Arsenals and the Department was effectively administered by Lieutenant Colonel George Talcott, who succeeded Bomford upon the latter's death on March 25, 1848. The signature is from an 1837 letter to General Fenwick. Courtesy U.S. Army Ordnance Center and School.

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the Ordnance Department, and its meetings generally addressed matters pertaining to various ordnance topics) to review and recommend all pattern changes through the Chief of Ordnance to the Secretary of War for the latter's concurrence before adoption and implementation.[4]

The semi-permanent Ordnance Board was an offshoot of its predecessor, the all-encompassing Military Board, which had been periodically authorized directly by the Secretary of War to review everything of consequence to the U.S. Army, from regulations and manuals to uniform components and patterns to small arms and other weaponry. In his effort to ensure the importance of a separate Ordnance Department, which he had worked so hard to reestablish in 1832,[5] Bomford wanted his department to have a certain amount of autonomy in the matters relating to the weaponry of the Army and its supporting *materiél.* Therefore he had the Ordnance Board, established by General Orders issued by the War Department on December 8, 1831, amended March 28, 1832.[6] Ordnance Boards and their authority were confirmed by paragraph 161 of the 1834 *Regulations.* While the Secretary of War technically requested the convening of an Ordnance Board through the Adjutant General by a General Order, seldom was that done without an initial request from the Chief of Ordnance.

Another clear intent of this new procedure was to limit the influence of contractors on pattern changes. By suggesting changes, contractors could receive royalties on patented items (such as John Lherbette, whose knapsack was adopted in 1808 after a meeting with Secretary of War Henry Dearborn), or ensure continuing contracts for the new items (such as Robert Dingee, the most prolific initiator of accoutrement changes prior to the adoption of the Pattern of 1839 items). Changes in matters of weaponry and accoutrements would still require the approval of the Secretary of War, but, thanks to Bomford, their origins would now be largely from within the Department.

The Ordnance Board was just referred to as "semi-permanent" because it was formally established and its members permanently designated by a separate general order issued from the Adjutant General's office. However, the members did not have regular or even scheduled meetings unless assembled at the discretion of the Secretary of War or Chief of Ordnance, when deemed either a topic or topics needed the review of a board. Thus, the composition of the board was set in anticipation of subjects arising that senior officials felt would be relevant to the Army's or the Department's operations. Changes to accoutrement patterns were considered sufficiently important to warrant the consideration and recommendation of a board, which generally considered such changes when called together for other purposes. Indeed, prior to 1839 Bomford pointed out in several letters, when deviations from established accoutrement patterns came to his attention, that the offenders had to make their products conform to the approved pattern(s) as he had no authority to amend the patterns personally, citing paragraph 161 of the *Regulations.*

Fortunately the Ordnance Department included a number of highly qualified officers besides its Chief to draw upon for duty on boards. Among others, Inspector of Contract Arms, Lieutenant Colonel George Talcott; Majors Rufus Baker and Henry Craig; and such "rising stars" as Captains Benjamin Huger and Alfred Mordecai[7] would do much to affect both the Department and the weaponry of the U.S. Army in the coming decades.

On February 3, 1837, pursuant to a resolution by the Senate of the United States, an Ordnance Board was requested to meet "for the purpose of making a thorough examination of the improvements in firearms made by Hall; Colt; Baron Hackett (Fusil Robert); and Cochran." Its members were designated as: Brevet Brigadier General John R. Fenwick, 4th U.S. Artillery;[8] Brevet Brigadier General Nathan Towson, Paymaster General of the Army; Colonel George Croghan, Inspector General of the Army; Lieutenant Colonel George Talcott, Ordnance; Lieutenant Colonel Robert D. Wainwright, Marines;[9] Brevet Lieutenant Colonel William J. Worth, Ordnance; Captain Benjamin Huger, Ordnance; and 1st Lieutenant John N. Macomb, 4th U.S. Artillery (son of Commander in Chief of the Army, Major General Alexander Macomb). With General Fenwick (Fig. 3) as president and Lieutenant Macomb as recorder, the board was instructed to

Figure 3. Brevet Brigadier General John Roger Fenwick (1773–1842) by Gilbert Stuart, ca. 1810. General Fenwick was cited for gallant conduct along the Niagara frontier during the War of 1812. Courtesy Carolina Art Association and Frick Art Reference Library.

assemble at the Washington Arsenal on Monday, February 24th, at 11:00 in the morning.[10] On the 20th of February, the Adjutant General ordered 1st Lieutenant Robert Anderson, the instructor of artillery at the U.S. Military Academy, West Point, NY, to the board as an additional member.[11] The board's composition would continue to change over the next eighteen months.

Major Rufus Lathrop Baker (Fig. 4), at the time commander of the Allegheny Arsenal, must have known a board was being assembled, for just two days after the board was established he wrote to the Chief of Ordnance about its examinations. His letter to Bomford, dated February 5, 1837, noted that "as we have had so much experience in making Military Accoutrements at this Arsenal, that the defects of the present pattern[s], are probably more apparent to us than they otherwise would have been." He requested "the approbation of the Department to submit for the examination of the Board some improvements I have made, with the practical aid of [Chief Accoutrement Maker] Mr. [Hugh] Alexander, in the Equipments . . . " that Baker had been instructed to manufacture for the Army the previous summer. "If, therefore, there should exist a probability that our Improvements would be laid before the Board, or a Board, with authority to change the present patterns, provided the alterations should be approved of, I would forward sets of either description immediately to you, and they might be examined and adopted in time to admit of my introducing the approved forms into the work lately ordered . . . " to be made. "Should the course now suggested be agreeable to your views, the Department might deem it necessary that I should order Mr. Alexander to Washington with the accoutrements; for the purpose of pointing out, and fully explaining[,] the superior advantages of the new patterns, over those at present made. I propose this course, because, in the present state of my command, it would of course be almost impracticable to attend to the explanations personally."[12]

Figure 4. Lieutenant Colonel Rufus Lathrop Baker (1790–1868) by Robert W. Weir, ca. 1851. The signature is from a payroll prepared at Allegheny Arsenal in 1836, when he was still a major. Courtesy Mrs. Anna Smith.

Bomford responded on the 8th, agreeing to have Baker prepare accoutrements exhibiting the improvements he and Alexander sought in order that they might be reviewed by Bomford first, before going on to any board.[13] Presumably Bomford thought it would take some time to prepare the samples, and that they might just be sent to him for examination. There certainly was no approval for Alexander to undertake a trip to Washington at that time. This was followed closely by an extraordinary letter from Baker, excerpted for the parts pertaining to the infantry cartridge box:

Allegheny Arsenal

Feb 16th 1837

Col. Geo. Bomford

Ord. Dept.

Sir,

I have directed Mr. [Hugh] *Alexander to proceed to Wash*[ingto]*n with the accoutrements, agreeably to your Instructions of the 8th Inst.*

I shall send by him the following—viz:

2 Inf. Cartridge Boxes

. . .

1 Inf. Car[tridge]*. Box Belt*

As Mr. Alexander will fully explain to you the objections which, in a long course of manufacturing, we have found to exist, to the accoutrements as now made, and likewise the advantages of the Improvements we have assayed to effect in the samples he will exhibit, it is unnecessary for me to anticipate his explanations.

The principal objects I have had in view, have been, to improve the quality, so as to increase the durability of the accoutrements, to render them less burdensome to the wearer, and more convenient for use, to reject such attachments, as are either difficult to procure or expensive to manufacture, and to substitute in their stead, others of a form more simple, much cheaper, and less inconvenient, to disencumber the Soldiers of a useless number of belts when it can be done, and to add supports when too great a weight is now suspended by one belt, to the great fatigue of the wearer.

If in these objects we have succeeded, Mr. Alexander will be entitled to the credit of having effected improvements, by close attention to his duty and a very laudable desire to be useful to the Department in which he is engaged.

I submit the specimens, without claiming for them perfection, but with the request that they may be laid before

the Officers fully qualified to judge of their merits, and to suggest and recommend further alterations and improvements.

I am Sir

Respectfully

Yr Obdt Serv

R. L. Baker

Maj USA[14]

A second letter written later the same day was more specific about Alexander's plans.

Allegheny Arsenal

Feb. 16th 1837

Col. Geo. Bomford

Sir,

Mr. Alexander leaves this evening with the Military Accoutrements intended as samples of improved patterns which I propose substituting for those now in use. He will point out my objections, of which he is fully aware, to the present patterns, and also the superior advantages possessed, in our opinion, by those he will exhibit.

I trust that the services of Mr. Alexander may not detain him many days, as the number of workmen employed here under his direction, requires that he should return as soon as practicable.

I am Sir

Very respectfully

Yr Ob Svt

R. L. Baker

Maj USA[15]

Baker's letters caught Bomford a bit off guard. While the latter apparently had been expecting it to take a while for the samples to be made, Baker's letters indicated they were already prepared, as was Alexander to depart to give the Chief a private explanation of the work that had been done at Allegheny! Further, Baker appeared to be anticipating that whatever samples met with Bomford's approval "automatically" would go before the board that was assembling. Baker wanted to "fast track" the improvements so they could receive Secretary of War approval and thus could be incorporated into the accoutrements he had been instructed to make the previous July, of 1836.

Chief Bomford scurried in response to Baker's request. It was possible Alexander arrived and gave Bomford a preliminary appraisal of the changes Baker and he were proposing as five days after Baker's letter, on February 21, 1837, the colonel petitioned Acting Secretary of War B. F. Butler to expand the examinations to be undertaken by the Board of Officers that was just about to meet, "the object being to submit to their consideration a proposed change in the accoutrements now to be manufactured" at Allegheny Arsenal.[16] Approved, the board was accordingly charged with the additional task of looking at some changes in the Army's accoutrement patterns, as well as its primary job of evaluating the small arms mentioned above.[17]

The Ordnance Board was convened by General Fenwick a few days later than planned, on February 27, 1837. As it would turn out, problems with assembling the small arms samples prevented the board from evaluating any small arms, a job that would be handled several months later during a subsequent board meeting held at West Point. The result was the initial meeting of this Board would be first by an Ordnance Board that conducted any recorded meetings and made any reports *solely* devoted to the subject of accoutrements. As experiments, correspondence, trials, and development stretched the process of formulating conclusions, this Board ultimately would be the first to look at the Army's accoutrements in a comprehensive way. Over an eighteen-month period in 1837 and 1838, "The Fenwick Board," a name coined for its president,[18] filed a number of reports, two of which were solely about changes to accoutrement patterns. In addition, its proceedings from July 16, 1838 to January 16, 1839 would include recommendations for additional accoutrement patterns for all branches of service. However, between its meetings, much work and experimentation occurred, principally at Allegheny Arsenal under the direction of Major Baker. Thus, while the phrase "The Fenwick Board" will be used here to refer specifically to the work on accoutrements of the Board of Officers chaired by General Fenwick, its meetings and recommendations should be viewed in the context of a broader process of evaluation and review that produced the Pattern of 1839 "system" of accoutrements.

However, only the development of the infantry cartridge box and its supporting shoulder belt will be addressed here. In this presentation their development will be the thread relating us to the Board's work. That affecting other accoutrements (specifically the infantry waist belt, gun sling, and evolution of the integral frog bayonet scabbard; as well as dragoon items such as an improved saber belt, carbine box, carbine sling, and pistol box; plus artillery items such as the gunner's haversack, tube pouch, and portfire case; and finally the rifle pouch and belt) will be omitted here. A comprehensive narrative of accoutrement evolution from 1835 to 1845, focused on The Fenwick Board, will be covered in another publication.

Major Baker would be added as a member of The Fenwick Board in May of 1837 (with instructions to report to West Point by June 15th) in place of Lieutenant Colonel George Talcott, whom Bomford agreed could not be absent from pressing duties connected with his position as Inspector of Contract Arms.[19] Baker would be the primary contributor to its deliberations relating to accoutrement

changes and would continue to be influential with accoutrement development through the Mexican–American War. Baker was a veteran of the War of 1812, but not an Academy graduate. Clearly exceptional abilities had helped him survive the Army's reductions both after that conflict and in 1821, as well as earn him the respect of his colleagues and promotions in the small peacetime Army of the period.[20] In command of Allegheny Arsenal (Fig. 5) since 1828, in 1831–1832 Baker had established at that arsenal the Ordnance Department's largest in-house accoutrement manufacturing facility and had been commended by Bomford on several occasions for his conscientious conduct of the arsenal's operations.[21]

Besides establishing an accoutrement manufacturing facility at Allegheny Arsenal, the written archival record reveals Baker had been suggesting changes and improvements to various accoutrement patterns for several years before this Board took up the subject. In 1834, for example, he had proposed adding a hinge to the flap of the infantry cartridge box to make it easier to open. Baker noted at the time, "I know from experience, how inconvenient it is for Soldiers, especially with Knapsacks on, to get their hands into their boxes with a stiff lid to oppose them, and I have even seen the skin torn from the back of the hand in performing the motion 'handle Cartridge'."[22] At the same time that he forwarded two sample cartridge boxes to the Chief of the Ordnance Department to illustrate his hinge, Baker also noted he had not embossed the outer flaps (like the regulation Pattern of 1828 "Embossed Eagle" box[23] that was still current), substituting instead a Pattern of 1826 Round Eagle Plate on one, and on the other "the brass letters U.S . . . . which I think looks very well."[24] With this package Baker also forwarded two substitutes for the leather Pattern of 1828 Bayonet Scabbard,[25] one of which was made of sheet iron and would anticipate by almost 30 years the one patented by Emerson and Silver in 1862.[26] If the Board was going to look into improving accoutrements, it could have no better officer assigned to it than Baker.

With Baker already actively involved with both the fabrication and the design of accoutrements, it should not be surprising that, despite the fact that General Fenwick was president of this particular Board, Baker's insights (supported by Alexander's practical experience) would prompt him to take the lead in its deliberations on accoutrement changes, especially after he was added to its members and began attending its meetings. It was a role within the Ordnance Department that he would continue for at least the next 8 years, remaining involved with accoutrement development even after his transfer to command of the prestigious Watervliet Arsenal (the largest arsenal in the country at the time, located near West Troy, New York) after September of 1838.[27]

As noted, as soon as he learned of the Board's proposed convening, Baker was prepared to immediately send samples of his proposed changes while it met in Washington, DC. What was surprising was that Baker placed the samples in the hands of his master accoutrement maker, Hugh Alexander (Fig. 6), for delivery to the Board; he did not take them himself. It was highly unusual for a mechanic like Alexander to be given the time and money to travel, not to mention being entrusted to make such an important presentation to a board of Army officers. Even with their close, personal relationship, it is to Baker's credit that he publicly recognized Alexander's contributions both to the improvements being suggested, as well as to the craftsmanship of the samples.[28]

Although alerted to Alexander's imminent arrival at the end of February, it remained unrecorded whether Alexander was able to first "fully explain to you [Bomford] the objections which, in a large course of manufacturing, we have

Figure 5. Allegheny Arsenal, ca. 1861. Begun in 1814, little had changed in the look of the main entrance, shown here, since the time of Major Baker's command. What remains of the site is now a city park, with only a powder magazine left behind from the original arsenal structures. Courtesy Mr. Paul Braddock.

Figure 6. Hugh Alexander's signature is from an 1839 letter to Major Baker, after the latter officer had been transferred to the command of Watervliet Arsenal. The touching letter describes his present to Baker of a pair of saddle holsters made personally by Alexander as a token of affection and respect. He died shortly thereafter. Courtesy National Archives and Records Administration.

found to exist, to the accoutrements as now made, and likewise the advantages of the Improvements we have assayed to effect in the samples he will exhibit." Apparently Alexander well articulated to the Board's members his and Baker's views on the improvements years of manufacturing at Allegheny Arsenal had suggested.

The first report of the Board's deliberations on the samples was communicated directly to Adjutant General Brigadier General Roger Jones on March 2nd by Lieutenant Macomb.[29] Among the eight principal recommendations of this report were two that related directly to the infantry cartridge box:

1. Baker's "Infantry Cartridge Box (marked A.)" was approved with two provisos: that if the wooden block (Fig. 7) in the approved pattern was retained, the depth of the holes in the block be shortened to reduce the possibility of damage to the paper cartridges; and that experiments be conducted with the idea that the wooden block might be replaced entirely by a "tin case," with cartridges delivered to the soldiers in "packages";
2. The outer flap of cartridge boxes, instead of being embossed, "be marked with the U.S. mark in brass in such manner as the Ordnance Dept. may direct."[30]

The complete report was acknowledged as received by Jones on the 3rd and "Respectfully submitted to the Secretary of War. R. Jones, Adjutant General."[31] Receipt was acknowledged by the Secretary of War's office on March 11th. The same day they were approved by Acting Secretary of War B. F. Butler, "The suggestions of the report are approved, and the subject referred to Major General Macomb for his action thereon. B.F. Butler March 11, 1837."[32] Although unrecorded, apparently it took some time for Macomb to receive the report, realize he should not be the one implementing what had been approved and return it to Adjutant General Jones, for the latter's final endorsement on the report is "Received April 4th. Referred to the Ordnance Department. The Colonel of Ordnance will please to carry these views into effect—as approved by the Secretary of War. R. Jones, Adjutant General."[33]

One result of Butler's approval was the introduction of several new official U.S. Army accoutrement patterns, most of which have remained unrecognized as such until very recently because they were so short-lived. Unfortunately, detailed descriptions of precisely what the Board recommended and Butler approved are lacking in this initial report. In some cases, however, much can be confidently inferred from other parts of the report and/or through subsequent correspondence. However, before we examine the new Pattern of 1837 Infantry Cartridge Box, the somewhat cryptic notation of "delivering the cartridges to the soldiers in packages" belies the importance of the Department's implementation of bundling cartridges.

The study of cartridge boxes has made one thing abundantly clear: they are built around carrying a specific number of a specific cartridge. Thus it was not an insignificant matter that cartridges were now to be packaged (or bundled) and not transported (or issued) loose. The exact process effecting the

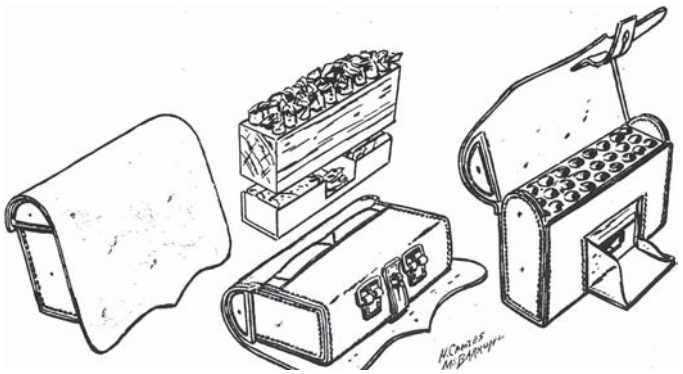

Figure 7. All the way back to the Revolutionary War the infantry cartridge box utilized a wooden block (with 26 holes bored to their diameter after 1808) to support the fragile paper cartridges. Underneath the block was a tin tray to hold additional cartridges as well as flints, flint caps, rags, and small tools. Sketch by H. Charles McBarron, Jr.; courtesy The Company of Military Historians.

Figure 8. One of the most significant changes effected by The Fenwick Board was to carry both loose cartridges and bundles of cartridges in tins within the cartridge box, all based on the recently adopted standard of ten cartridges per bundle. Here are two tins from a Pattern of 1839 Infantry Cartridge Box showing the arrangement, with ten .69 caliber round ball cartridges in each of the top compartments and a bundle of ten more in the lower compartment. Judging from Colonel Croghan's 1840 inspection report, tins without the top edges turned over are indicative of early boxes. In front is an opened bundle of .64 caliber cartridges for the Hall's carbine or a later musketoon. The packet contains twelve percussion caps, required in bundles after 1845. At left is a buck-and-ball cartridge, which was also a popular musket cartridge through the Mexican–American War. Author's collection.

change to bundles of cartridge (Fig. 8), however, remains somewhat enigmatic. Obviously consideration of how cartridges were to be packaged occurred at about the same time that the Florida conflict forced gunpowder purchases and small arms ammunition manufacture to re-commence.[34] At the end of the War of 1812 there were some eight million cartridges in store at the various Federal arsenals.[35] Thus little new manufacture of small arms ammunition was required or conducted for many years, except for that required after 1833 by the adoption of Hall's patent carbines. Even though over eight hundred thousand musket cartridges were still in store at the end of 1834, the stocks were considered low, and Baker began exploring the manufacture of ammunition at Allegheny Arsenal.[36] It was found that improvements to black powder could reduce the powder charge of the cartridges and thus reduce the size of each cartridge, which would have an impact on the work of the Board relating to cartridge boxes.

It was probably not coincidental that our decision may have been influenced by the French, which by 1819 had already adopted bundles of ten cartridges. From what came from the work of The Fenwick Board, clearly our cartridges also would henceforth be bundled in tens, the same number that would remain in effect until the end of the era of the paper cartridge. The intent of the change was twofold: to try to reduce the loss of cartridges during transport; and to ease the issue to (and accountability of ammunition by) troops in the field. These had been "timeless" problems connected with small arms ammunition, certainly noted by 18th century writers and likely before them.[37]

Interestingly, the later deliberations of The Fenwick Board make no further mention of the topic. No other Ordnance Board appears to have been involved in evaluating or recommending bundles of cartridges at this time.[38] Nor does the correspondence between Bomford and Baker in 1837 and 1838, or between Baker and Talcott during the same time frame, further mention the topic. We do not know if the thought that cartridge boxes should carry multiples of 10 cartridges was verbally communicated by Alexander to Bomford or the Board, or whether he noted any previous investigations at Allegheny Arsenal into tin cases. (There is a trial carbine cartridge box made at Allegheny ca. 1837 that was designed to carry 10 loose cartridges and two bundles of cartridges.[39]) Although it was August of 1837 before Baker specifically noted that cartridges were being put up in bundles at Allegheny Arsenal, by that time the change may have been noted merely in response to the Board's recommendation. Thus, unfortunately, we have no way of confirming whether Baker originated the bundling concept, or the corollary one that the new cartridge boxes should carry multiple bundles (specifically four) in their tin cases.

Further, the lack of a written record suggests the packaging of cartridges may have appeared to Chief of Ordnance Colonel Bomford purely a function of the cartridge box patterns being adopted. That is, if the cartridge boxes (and ultimately their internal tin cases) were being designed by Baker and Alexander to carry multiples of ten, then cartridges would just be put up that way. In that case bundling was an "internal matter," which could explain the somewhat casual way bundling appears to have been implemented. However, as already noted, since cartridges boxes were built around the ammunition they were intended to carry, bundling was in reality a consequential change to introduce into the Army's production and supply systems. It was certainly one that would have been expected to have received more notice in the written record; no correspondence is known, for example, to any of the other arsenals manufacturing cartridges to initiate bundling. All in all, remarkably little notice seems to have been taken of the new procedure and what its consequences may have been to things like logistics or tactics.

Although no official sanction has been found for the change, no matter how it happened, packaging cartridges in bundles of 10[40] would be a change of significance, one that would influence the development of the entire next generation of accoutrements coming out of The Fenwick Board's deliberations.

Returning to the new accoutrement patterns approved by Butler in March of 1837, Baker finally received a letter and accompanying copy of the approved report from Bomford on April 10th. This is an important letter to the story of The Fenwick Board's work and will be quoted extensively:

> *Ordnance Office*
>
> *Washington, April 10, 1837*
>
> *Major R.L. Baker*
>
> *Allegheny Arsenal*
>
> *Sir, I transmit herewith a copy of the report of the Board of Ordnance recently convened in this city, in relation to the accoutrements presented by you, by which you will perceive, that the following accoutrements have been adopted by them, agreeably to the 161st paragraph of the Ordnance regulations, viz:*
>
> *The Infantry Cartridge Box … and a waist belt not suggested in your letter.*
>
> *In reference to other matters not adopted but merely recommended you will,*
>
> *1st. With regard to the saber belt, …*
>
> *2nd. In order to test the iron bayonet scabbard, …*
>
> *The cost of these accoutrements will be taken from the appropriation "*For Accoutrements for the Army.*" The number of accoutrements directed to be made in my letter to you of the 9th July last, under that appropriation being reduced by as many accoutrements as will be equal in value to those now ordered.*
>
> *You will also, agreeably to the recommendation of*

the Board in the last paragraph of the Report institute experiments as to the expediency of rejecting the wooden box and substituting therefore the tin box, &c, and to report the result thereof to this Office.

The improvements and changes as now adopted by the Board of Ordnance will take immediate effect, they will accordingly be introduced into the accoutrements now making by you under existing orders.

With regard to the U.S. mark in brass on the cartridge boxes, instead of having the leather stamped or embossed you will devise such mode of effecting it, as you may deem best, and report the result thereof to this Office.

You will at as early a day as may be convenient forward to Major H. K. Craig at the Watertown Arsenal, a complete set of such of the accoutrements as now adopted, and referred to in the Report.

It appears that the letters A, B, C, and D by which the accoutrements are designated, have been put on by the Board.

As soon as the accoutrements for the 4 Companies shall have been completed, you will report the fact thereof to this Office, that the distribution may be ordered.

Respectfully, &c

Geo. Bomford

Col. Of Ordnance

Baker's "Infantry Cartridge Box (marked A.)" thus became the short-lived Pattern of 1837 Infantry Cartridge Box. According to the above clues, it certainly had an unornamented outer flap and retained the 26-hole wooden block (and tin tray underneath) that had been part of the patterns of both 1808 and 1828 boxes.[41] Not only did the Board specifically mention the depth of the holes in the block, but as well recommended "a rigid experiment into the expediency of rejecting the wooden box [sic; block], and substituting therefore the tin case and method of delivering the cartridges to the soldier in packages, as is understood to be the mode adopted in the armies of other countries."[42]

At least two examples illustrating Baker's "Infantry Cartridge Box (marked A.)" survive from their construction in 1837 or 1838. But, as we shall see, this box was clearly not the infantry cartridge box ultimately adopted as part of the Pattern of 1839 accoutrements. The first example of this box was observed twenty-five years ago in the collection of the Overfield Tavern in Troy, Ohio.[43] The Overfield example was considered just a "transitional" cartridge box at the time because it exhibited features of both the 1808 and 1828 Embossed Eagle patterns of infantry cartridge boxes, as well as that of the Pattern of 1839. Recently a second, identical box surfaced in New England (Figs. 9–13).[44] About the same size as its predecessors, as expected, this pattern retains their block and lower tin tray and cannot carry bundles of cartridges. It has a slightly redesigned opening to the center compartment of the tin tray (rather than an implement pouch) and retains a leather button to secure the outer flap. However, the sides of the box body are asymmetrical, as are all of the sides of Pattern of 1839 (and later) cartridge boxes. There is a leather interior cover or flap for additional protection of the cartridges from the weather (rather than the piece of polished Holland cotton of its predecessors) with attached side or end pieces. Perhaps most telling, the shoulder belt

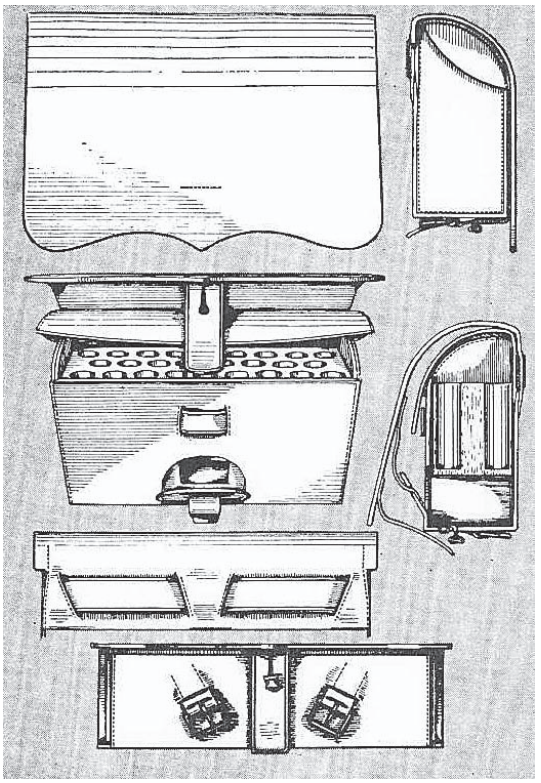

Figure 9. An illustration by André Jandot of a Pattern of 1837 Infantry Cartridge Box, representative of Major Baker's and mechanic Hugh Alexander's first attempt at improving the previous Embossed Eagle cartridge box. Although two are known to still exist, whether either was the same observed by the illustrator for this drawing is unknown. Courtesy Petersen Publishing Company.

Figure 10. The military scalloped outer flap was retained on the Pattern of 1837 Infantry Cartridge Box. The design of a "U.S. mark in brass" had not been completed when this box was made, likely during the summer of 1837 at Allegheny Arsenal. Author's collection.

Figure 11. Back of the same 1837 box, showing the innovative crossing of the shoulder belt to angled buckles on the box bottom. Author's collection.

Figure 12. View of the interior of the same box, showing the distinctive semi-circular opening to the tin tray beneath the wooden block of this pattern, and leather inner flap. Author's collection.

ends or tabs cross on the back, to buckles attached at angles on the bottom of the box. This was a radical departure from its predecessors, and exactly how the shoulder belt was designed to attach to the Pattern of 1839, and all subsequent infantry cartridge boxes of the percussion era.

These two are rare survivors of a limited number of boxes made in 1837 and 1838. Bearing no maker's marks, or box plates, both of these boxes were likely made at Allegheny Arsenal in 1837, before Baker was making plates. Baker had been instructed by Bomford on April 10th to implement the approved March 2nd recommendations,[45] and we know the personnel at Allegheny Arsenal worked diligently that summer to produce accoutrements for the troops in Florida. Production records for the arsenal have not been located for fiscal 1838 or 1839, so total production at Allegheny of the Pattern of 1837 Infantry Cartridge Box cannot be determined. However, it can be estimated to have been at least 1,000 boxes.

Figure 13. Side view of this box, showing the asymmetrical end pieces. The side pieces had previously been attached directly to the outer flap, but were moved to the inner flap on this pattern box. Author's collection.

Interestingly, several contractors apparently made this pattern as well. Major Lomax, who recently had taken over command at Watertown and was "Inspector of the Contract service" (as he termed his additional responsibility),[46] reported on September 21, 1838 that "I have the honor to inform you that Mr. Dingee, and Mr. Coffin Jr. of New York, have contracted for the making of four hundred sets of accoutrements *each*, agreeable to the most approved patterns *now* in use, to be ready for inspection by the 19th of next October. The price to be paid, two dollars and 85/100 p[er]. set, exclusive of Sergeants and musicians sword belts. I will immediately advise with Major Baker relative to the improvements, or alterations contemplated to be made by the Board of Ordnance, in the pattern of accoutrements."[47]

On November 5, 1838, Theodore Williams of Chicopee Falls, Massachusetts, received a contract for 600 infantry cartridge boxes from Major Lomax. No previous contracts with Williams have been recorded. Based on Lomax's comment about the contractors making "the most approved patterns now in use," Williams clearly made Pattern of 1837 infantry boxes as The Fenwick Board only days before had recommended its replacement (the Pattern of 1839). However, there would have been no time to get it approved or implement the change. While it may be difficult to understand why *any* contracts were being given out at that late date, with new patterns in development and so close to final approval, the fact that Williams' contract was paid for out of an "Arming the Militia" appropriation[48] suggests they may have been ordered to fill a specific state request, hence the need to order boxes before the new pattern was in place. Plus, one

must not forget the Army was still in Florida, consuming accoutrements at a rapid pace, and perhaps some boxes were needed in addition to what Allegheny was producing.

Lomax confirms several other contracts in the fall of 1838 for infantry accoutrements that would have included Pattern of 1837 boxes. Bomford asked for a status report of contracts, and Lomax responded on the 12th of December 1838:

> *Watertown Arsenal Decr 12th 1838*
>
> *To, Colonel George Bomford,*
>
> *Chief of Ordnance.*
>
> *Sir, In reply to your letter of the 8th Inst. I have the honor to report the state of the account of deliveries of swords and accoutrements contracted for at this Arsenal.*
>
> *1950 Sabres contracted for by Major Craig 18th May 1838 with N. P. Ames, inspected by Major Lomax 10th October 1838, and paid for in full October 29th 1838. Contract being closed.*
>
> *1000 Sets of Infantry accoutrements contracted for by Major Lomax with J. Boyd*
>
> *October 7th 1838, inspected 23 Nov. and paid for 30th Novr 1838.*
>
> *1000 Sets of Infantry accoutrements contracted for by Major Lomax with R. Dingee*
>
> *7th October, inspected 1st Decr and paid for by Major L. 8th Decr 1838.*
>
> *1000 Sets of Infantry accoutrements contracted for by Major Lomax with J. Coffin*
>
> *October 7th inspected 1st Decr and paid for 8th Decr 1838.*
>
> *1000 Sets of Infantry accoutrements have been contracted for, including N.C. Officers belts and drum slings to be ready for delivery by the 1st of January next, and sixty sword belts for Mil. Academy. The belts to be made by R. Dingee.*
>
> *600 Sets of accoutrements by T. Williams* [noted above as contracted for on November 5, 1838].
>
> *400 Sets by J. Boyd, cost of the whole when completed $3462*
>
> *Remaining on hand to meet this payment 3021.25/100*
>
> *Required to close all contracts for Accoutrements 440.75/100*
>
> *The three thousand sets which have been completed, (and they were very complete) have been sent to the Ordnance Depot, New York.*
>
> *I am with the highest respect Sir,*
>
> *Your most obt Svt*
>
> *Mann P. Lomax*
>
> *Majr U.S. Ord*

These letters would indicate at least 5,800 Pattern of 1837 Infantry Cartridge Boxes were contracted for between September and November 1838. Their production at Allegheny Arsenal was probably no less than 1,000, making a potential total of around 7,000 boxes having been constructed. Even if it is assumed many were used up in the hostilities in Florida, that number would suggest more than two (or three) examples should have survived. Since neither bears a maker's name, and boxes of the period invariably do if made by a contractor, the two known survivors probably were both made at Allegheny Arsenal. However, since boxes made by contractors should bear their names, perhaps someday other boxes will be found made by Boyd, Coffin, Dingee, or Williams, and so marked.

To move to another attribute of the infantry cartridge box, embossing of a patriotic motif on the outer flap was a feature of the 1828 Embossed Eagle box that Baker clearly wanted to omit, an opinion he voiced as early as 1834. The purposeful omission of embossing on the flap of the two known 1837 examples is a detail we know for certain coincides with Baker's first sample cartridge box.[49] With approval of The Fenwick Board's direction that the flap was to "be marked with the U.S. mark in brass in such manner as the Ordnance Dept. may direct,"[50] Baker succeeded where his 1834 proposal had gotten nowhere.

However, more work would be required to define what the "U.S. mark" would look like. As mentioned, Bomford received an endorsed copy of the initial Fenwick report soon after April 4th 1837, as well as notification from the Army's Adjutant General, Colonel Roger Jones, that "The Colonel of Ordnance will please to carry these views into effect—as approved by the Secretary of War."[51] In his letter to Baker of April 10th, Bomford directed Baker by letter to "devise such mode of effecting it, as you may deem best, and report the result thereof to this Office."[52] On April 29, 1837 Baker replied, sending Colonel Bomford "drawings of three forms of Letters, designed for the U.S. mark on the Infy and Cavalry Cartridge Box, as required by your letter [of April 10th] . . . . I propose stamping the Letters upon a thin brass plate, the eyes of which would be inserted in the solder that is used for filling the concavity of the plate. A plate, is preferable to the Letters cut out of brass, as the latter would be more liable to rub the boxes when packed for Transportation, as well as to be torn off, or bent. (See Fig. 14.) The plate may be secured by two eyes or staples, but the cut Letters would require two or three to each Letter . . . . I would prefer the old english [sic] letter, but the Roman Capital looks very well. I will have a die sunk, whenever the Department shall inform me whether either [sic] of the plates I propose, or any other has been adopted. The same plate would answer for the *Waist* Belt, adopted by the Board of Ordnance. I would recommend that, for the plain oblong [rectangular] plates now worn by the Dragoons—one with U.S. upon it should [also] be substituted."[53]

Figure 14. This original box is probably not one of Baker's prototypes. However, it clearly shows his 1834 concept of separately applied brass U.S. letters.

Baker's drawings, unfortunately, no longer reside with his letter. Nor are copies in his personal copy of letters sent from Allegheny, now in the Special Collections of the West Point Library. Clearly he had gone back to his suggestion made in 1834 of placing brass U.S. letters on the flap of the cartridge box, improving the idea by making both letters part of a single plate to be affixed to the flap. His description of a brass plate with Roman capital letters and "eyes . . . inserted in the solder" would indeed portend the final cartridge box plate configuration. From later correspondence it can be concluded plate drawing No. 1 had old English letters,[54] and No. 2 had the Roman capital letters. What letters the third form had cannot be deduced from the surviving correspondence.

Baker's notation that he would use brass plate for the box plates is significant for another reason. By 1834 all attempts to have the color of the metalwork of accoutrements match the color of the "trimmings" (i.e., braid, buttons, bands, and tassels, etc.) of the soldiers' uniform branch of service (white for infantry, for example, at this time; red for artillery, etc.) had been abandoned. Thereafter the belt plates and bayonet scabbard ferrules (as well as closure buttons) for all branches would be made of brass, rather than the unsubstantial "white metal," which had been tried for infantry accoutrements beginning in 1826.[55] By "mixing" the gold color of brass with the otherwise white and silver trimmings of the infantry, Baker was following accepted Army practice for infantry at the time and not attempting to change it.

With a somewhat terse note a week later that "in answer I have to inform you that the drawing of plate No. 2 is approved,"[56] on the 8th of May 1837, one of the icons of the 19th century American military, the oval brass plate bearing the letters **U.S.** upon it (Fig. 15), was approved. Interestingly it was Captain William H. Bell, temporarily at

Figure 15. The ubiquitous oval brass plate with U.S. letters, first adopted in the large size merely as decoration for the infantry cartridge box flap, was soon adapted in the same size for the dragoon waist belt. At about the same time a smaller size was adopted for use on the infantry waist belt, as well as on carbine, rifle, and pistol cartridge box flaps. By the time of the Civil War it had achieved iconic status for the U.S. Army. None of the earliest plates made by Baker at Allegheny Arsenal in 1837 or 1838 have been recognized as such today. The top plate is one of the earliest documented Pattern of 1839 examples known, attached by Robert Dingee to a Pattern of 1840 Dragoon Waist Belt in the fall of 1840. The bottom plate shows the "eyes" or staples on a cartridge box plate. Author's collection.

the offices of the Ordnance Department, who informed Baker of the decision on behalf of the Chief of Ordnance. Unfortunately, after several diligent searches, this seminal document—the approved drawing Baker submitted for the design of the oval U.S. plate—no longer can be found among the regular or inventions correspondence of the Ordnance Department retained by the National Archives.[57]

It is important to note the Chief of Ordnance felt no need for further consultation with the Board or Secretary of War about the "U.S. mark" before making his decision as he felt empowered by the Secretary's endorsement on the March 2nd report to make a final determination of the plate's design. Despite the impulse to re-designate this the "Pattern of 1837" cartridge box plate, because of its exclusion from that pattern box and inclusion in the comprehensive changes to accoutrements identified as the Pattern of 1839 by the Ordnance Department itself (as well as the already widespread use of that designation by modern collectors and historians[58]), the author will continue the 1839 typology for the initial patterns of these plates.

The oval brass plate was approved first for use on the flap of infantry cartridge boxes. Its function was merely decorative; there was no suggestion that it was intended to help hold the flap down. As Baker recommended and we will soon

see, before long the basic design would be implemented as well for waist belt plates for enlisted dragoons; in the same size as the box plate but with a three-wire hooking arrangement on the back, and in a smaller size with three similar wire hooks for the new 1 1/2 inch wide infantry waist belt. Within ten months it also had been adopted for inclusion on accoutrements to be distributed to the volunteer state militias under the 1808 funding authorization: "The brass plate for the cartridge box recently adopted will be issued as well to the Militia as to regular troops."[59]

Upon receiving the colonel's approval of a plate design, Baker wasted no time in ordering a die for the large size plate. Rather than use Casper Reinhold in New York City, who had in 1833 engraved the die for embossing cartridge box flaps for him,[60] Baker ordered the die for the new U.S. plate from one "A.L. Bird" in Philadelphia.[61] Interestingly, no die sinker by this name is listed in any of the Philadelphia directories of the period.[62] Despite Baker's having addressed a letter to Bird in that city, perhaps the latter only resided nearby. James Baker (like his brother Rufus an Assistant Deputy Commissary of Ordnance during the War of 1812)[63] lived in Philadelphia and may have traveled a short distance outside of the city to arrange for the die's engraving, among other services rendered to his brother over the years. Rufus Baker mentioned "The plate with U.S. upon it . . . the *Die* for making it, being unfinished—I expect to receive it from Phila next week . . . ," in his letter of July 19, 1837 to Colonel William J. Worth, commanding Watervliet Arsenal.[64] He repeated the fact that he had not yet received the die when he wrote Bomford on August 12, 1837: "I have not yet received the Die from Phila for the brass U.S. plate for the cartridge boxes, when I get it, I will send plates for the three cartridge boxes."[65]

The next week Baker requested Philadelphia merchants, Messrs. Krug & Colladay, to send polished buckles that were available (in lieu of the preferred "jappan'd buckles"), as Baker was "In immediate want of a part of the quantity ordered" to complete the pressing accoutrement orders. (And, indeed, the roller buckles on the two known Pattern of 1837 boxes are polished, not blackened or Japanned, further suggesting the Allegheny Arsenal origins of these boxes.) At the same time he noted "Mr. Bird (Engraver) has informed me that he has sent to your House a *Die*, which I request you to forward with the first goods you may send me."[66] We know the die was delivered to Allegheny Arsenal sometime after the middle of August and that it took one or two months for Baker to set up and achieve the ability to make cartridge box plates. Baker's first mention of finished plates is in November 1837, when he responded to instructions to send some pattern accoutrements to Major Henry K. Craig at Watertown Arsenal, to guide Craig in contracting and inspecting those items in the future.[67] None of the trial pieces nor any of the early Allegheny Arsenal production plates have been identified as such.[68]

As adopted, the cartridge box plate was apparently the size listed in the 1841 *Ordnance Manual:* 3.5 inches wide by 2.2 inches tall.[69] The embedded iron eyes on the back were standardized at 2 inches apart, to match the spacing of marks or slits put into the outer flaps of cartridge boxes both by the arsenals of construction and later by some contractors. With the exception of relatively minor arsenal and contractor variations, these dimensions would remain standard for box plates until embossed flaps again appeared and made such plates obsolete in 1864.[70] In this way the Ordnance Department had a fair degree of certainty that, no matter what the source, any plates received would fit any infantry cartridge boxes in its inventory.

A final detail related to the box plates comes from a letter written by John Coffin, Jr., respecting some complaints about his boxes upon their receipt at the New York Depot. "Nothing could have surprised me more than that such a report should have been made, knowing the excellent order and condition the accoutrements were in when Inspected and packed at my Factory, and the very particular Inspection made by Mr. Alexander, as well as your own Observation when the Inspection commenced. As to the plates, they were disposed of as Mr. Alexander directed and *the flaps of the Cartridge Box, were marked to guide the Soldier in attaching them* with uniformity. Please inform me if you wish any other course adopted with the remaining Five Hundred."[71] (Emphasis added by the author.) The practice at Allegheny of just attaching one plate to a box and sending along the remaining boxes with their position only marked apparently continued through the Civil War, judging from extant examples. The hope was that the plates rubbing the box surfaces would be avoided during transportation. This perhaps could account for some extant boxes never having plates attached.

While producing accoutrements during the summer of 1837 for the Army's use in the prosecution of the Second Seminole War, Baker also continued other experiments directed by Bomford in his letter of April 10th. Those instructions included looking into the possibility of replacing the wooden block in the cartridge box with a tin case. On August 12, 1837, Baker informed Bomford that he had prepared several boxes for the Chief to consider and sent them to Washington. Because this is also a seminal letter to the story being presented, it will be quoted extensively here.

Allegheny Arsenal

August 12th, 1837

Colonel Geo. Bomford

Ord. Dept.

Sir, The experiments directed in your letter of April 10th last with the view of rejecting the wooden block from

the Inf[antry]. *Cartridge Box, and substituting the tin case &c* [etcetera], *having been made, I have forwarded thro' the Qr. M*[aste]*rs. Dept. to the Ord*[nance]. *Office three boxes marked A. B. & C. the latter of which, as it is intended to contain packages of cartridges as we now put them up in tens*[,] *is certainly preferable to the one marked B—and I think to A likewise, on account of its being thinner, and better shaped.*

Indeed, in my opinion, it is the most compact, and complete box, I have ever seen, and its cost will not exceed the ordinary box, while in transporting, it requires but little over half the space in a packing box . . . .

For the Infantry Boxes I send one [shoulder] *belt marked A, which I have made two inches wide—deeming this sufficient—and reducing the weight of the belt, and its expense about one ninth . . . .*

I intend taking the same kind of Boxes and Belts, with me, when I go to meet the Ordnance Board, and will submit them, whenever you may direct.

I am Sir respectfully

Yr Ob Serv

R.L. Baker

Major, Ord Dept

P.S. I have not yet received the Die from Phila. for the brass U.S. plate for the Car. Boxes, when I get it, I will send the plates for the three Cartge.. Boxes.

R.L.B.[72]

This description of his preferred infantry cartridge box "C" certainly suggests something very close to what would become the Pattern of 1839 Infantry Cartridge Box. However, we do not know how close as no specific details are contained in any other correspondence or reports, and the Board would make last minute changes to box "C" prior to its final recommendations in 1838. Box "C" certainly provided the basis for the "New pattern" infantry cartridge box of 1839. However, there would be delays before that box received official sanction for manufacture.

Interestingly, when it met again in Washington, DC in October 1837 under the direction of General Fenwick, the Ordnance Board did not recommend the adoption of *any* of Baker's infantry boxes.[73] The topic apparently lay dormant for nearly eight months. On November 7, 1837 Bomford wrote Baker that "I transmit herewith a copy of a supplement to the report made on the 2d of march [sic] last . . . . You will forward, at as early a day as practicable, to Major Craig [at Watertown Arsenal] a pattern of the [1837] box and sling, informing him that they have been adopted.—" Baker responded to Bomford less than a week later, and his letter contains some interesting details. "Presuming that these accoutrements would be adopted, I anticipated the instructions of the Department and forwarded them [to Major Craig], with other accoutrements, on the 19th July last.—I now send a plate, that has been adopted for the flap of the Infantry Car. Box—"[74] For the first time the oval U.S. plates being produced at Allegheny Arsenal were mentioned, with Craig getting an early sample of the plate approved for the Pattern of 1837 Infantry Cartridge Box that already had been sent to him in July. Whether Craig added the plate to his sample 1837 box remains unknown, but is doubtful since the boxes contracted for by his successor, Major Lomax, did not have them.

Consequently, it was not until The Fenwick Board convened yet again in July 1838 that it was asked to "[re-]examine patterns of Infantry, Rifle & Cavalry Equipments," among other topics. The Board met for two months at Watervliet Arsenal, at which time another Acting Secretary of War Cooper approved its move to Washington, DC in September of 1838 to facilitate its work on its primary focus—the organization of light, or horse, artillery. Apparently the Board had avoided the topic of an infantry cartridge box during its July and August meetings. On September 7th it "Examined patterns of Infantry, Artillery and cavalry equipments."[75] The next day the following were among its recommendations adopted by the Board as its final piece of business for the day: "To adopt the Infantry cartridge Box marked C with the modifications recorded on the flap . . . . To adopt the Cavalry Sabre Belt marked A, with a plate like that on the Infantry Cartridge Box." One can only wonder, if this infantry cartridge box "marked C" was the same one submitted by Baker nearly a year before, why there was such a delay in its acceptance. Further, what were the "modifications"?

Whatever they were, the requested modifications were made to the infantry cartridge box and another box brought before the Board as part of a final review of its work on accoutrements. On October 30, 1838, the members "Examined patterns of Artillery Equipment and Infantry accoutrements" before it "Adjourned till to-morrow."[76] With General Fenwick, Lieutenant Colonel Talcott, Majors Baker and John Erving (of the 4th Artillery Regiment) and Captain Mordecai in attendance, and the captain serving as Recorder, the minutes of that meeting were recorded as follows:

October 31st. [Members] *Present as yesterday. President laid before the Board a letter from the Secretary of War (No. 22) containing instructions to report on a course of experiments on the fabrication and use of Rockets. Accoutrements and equipments for Infantry and Artillery further examined. Patterns of the following were approved by the Board, viz:*

[Gunner's] *Haversack*
Portfire case
Tube pouch } *for Artillery*

Gun sling
Cartridge box and belt (Fig. 17)
Bayonet scabbard and frog
Waist belt
Carbine cartridge box
Pistol cartridge box
Cavalry saber belt
} *for Infantry*

The approved patterns were sealed and signed by the Secretary [sic; the Board's Recorder was Captain Alfred Mordecai], *after marking on them the modifications proposed by the Board . . . .*[77]

On the 1st of November the ten different accoutrement patterns for artillery, infantry, and cavalry were prepared for forwarding to the Secretary of War.

A Report was also made of the proceedings of the Board on the subject of Artillery and Infantry accoutrements, and the patterns approved were sent to his office with the report.

The Secretary of War was informed that the Board has completed, as far as at present practicable, their investigations on the subjects submitted to them, with the exception of those which require the presence of an Engineer officer on the Board, as suggested by the Secy of War.

Adjourned till to-morrow.[78]

With such a cursory final review, likely some of the ten items were the same as had been previously examined and had no "modifications" made to and recorded on them. Whether the infantry cartridge box was among the items with any "final" modifications went unrecorded as no further entries relative to accoutrements are in this Board's proceedings. However, as the box examined had incorporated modifications just suggested the month previous, it is unlikely it had any further changes noted on it. The Secretary of War's approval of the recommendations were likely on the unlocated copy of the final "Report," thus making it an approved pattern in 1838. However, it would be part of a "system" and receive the designation by the Ordnance Department as the Pattern of 1839 Infantry Cartridge Box.

This box would be listed in the 1839 *Regulations for the Government of the Ordnance Department* at a cost of $1.28, but with no specific details given.[79] It would be fully described for the first time in the 1841, First Edition of the *Ordnance Manual* as:

"CARTRIDGE BOX, bridle leather, black; 7.7 in. long, 1.6 in. wide, 5.8 in. deep in front—*inner cover*, light upper leather, 4 in. wide—flap 8.5 in. at bottom and 8 in. at top, with strap—*brass button*, on the bottom of the box—*pocket* for implements, light upper leather, 6 in. long, 3.5 in. deep, with *flap—strap* and *loop* for d[itt]o—2 *roller buckles* for belts, on bottom of box—2 *tins*, each with one *lower division*, 3 in. by 3.3 in., to contain a bundle of 10 cartridges, and 2 *upper divisions*, 1 of 2 in. by 1.35 in. to contain 6 cartridges, 1 of 1.35 in. square, to contain 4 cartridges; depth of each division 2.7 in.—*plate*, brass, oval, 3.5 in. by 2.2 in. lettered *U.S.* The edges of the tin lining are turned over."[80]

Note the slight differences in nomenclature from what would be more commonly used later: "inner cover" for "inner flap"; implement "pocket" for "pouch"; and "division" for "compartment." Interestingly, "tins" already was starting to replace "cases" and has remained current with collectors today.

Two early examples of the Pattern of 1839 Infantry Cartridge Box are shown in Figs. 16, 17 and 18. Interestingly, both of these examples have the ends or tabs of the shoulder belt attached straight down to the buckles on the bottom of the box, the manner in which shoulder belts were attached to both the 1808 and the 1828 Embossed Eagle pattern cartridge boxes. It took time to learn that the strap ends were to cross on the back of the box, intended to give more shape to the belt and relieve some of the oppression that was placed on the soldiers' chests when the boxes were fully loaded. Besides the angled buckles, the new cartridge box had a round brass button on the bottom, to close the outer flap. It would not tear off like the leather buttons on the

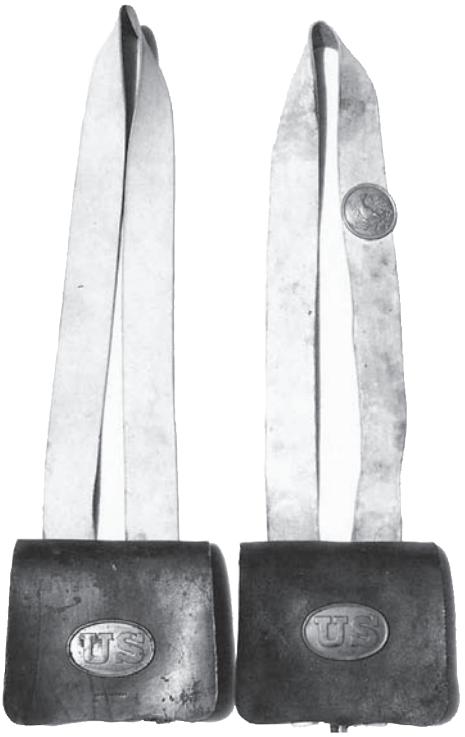

Figure 16. Two examples of Pattern of 1839 Infantry Cartridge Boxes which retain their original shoulder belts. The one at left is in its pre-1840 configuration, without a round eagle plate on the belt, while the one at right is in the post-1840 configuration, when the bayonet shoulder belt had been abolished in the U.S. Army and the round eagle plate moved to the cartridge box shoulder belt. Many of these boxes (such as the box at right) have the cartridge box plate mounted higher than we are accustomed to seeing them placed on boxes of Civil War vintage. Author's collection (l) and formerly in the collection of the late William G. Phillips (r).

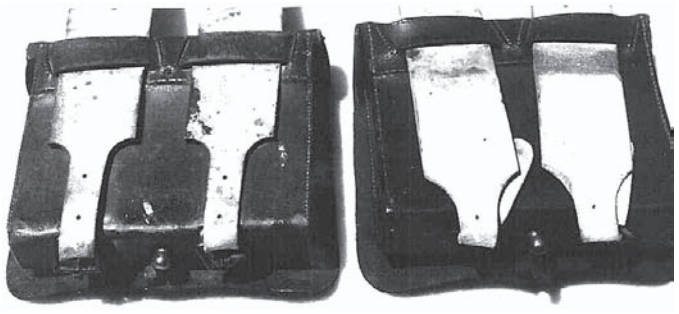

Figure 17. The back of the two boxes shown in Fig. 14. The billets of the shoulder belts should have been crossed, as intended by the angled buckles at the bottom of the box body. However, in both of these boxes the billets have been run straight down, as would have been done on previous patterns (1808 and Embossed Eagle) of cartridge boxes. Note the sharp diameter of the curve at the transition from the billet to the belt proper on both belts, typical of belts from the 1820s and 1830s. Author's collection and formerly in the collection of the late William Phillips.

box's predecessors. This box had another new feature with the inclusion of an implement pouch on the front of the box body in place of the small opening to the tin tray. Designed for forty rounds of either .69 round ball or .69 buck-and-ball cartridges (twenty loose in the two upper compartments of the tin and two bundles of ten cartridges each in the opening below; Fig. 8), the Pattern of 1839 Infantry Cartridge Box would remain unchanged until the move to elongated ball ("Minie ball") small arms ammunition in the 1850s replaced it with the Pattern of 1857 Infantry Cartridge Box.[81] Its features, primarily the result of the adoption of bundles and two tin cases, would define the infantry cartridge box and remain essential features of that box until the end of the muzzle-loading era.

The Fenwick Board continued its meetings for an additional five months (although apparently only sporadically after October, focusing on the requirements for horse artillery), ending its final session officially on January 16, 1839.[82] Interestingly, the signed copy of the proceedings (or minutes) is the only record of this long series of Board meetings; the comprehensive final report noted as having been made was not located in the Archival record. As such a report generally has any endorsements, including the approval of the Secretary of War, we have to infer from subsequent actions that the Secretary approved these final Board actions and recommendations pertaining to the various accoutrement patterns.

Figure 18. Interior of a Pattern of 1839 Infantry Cartridge Box, showing the implement pouch, brass closure button, asymmetrical side pieces, and Japanned roller buckles for the shoulder belt. This box was made in the Yonkers, New York, shop of Robert Dingee (Sr.) between 1839 and 1843. Author's collection.

After nearly 19 months the comprehensive review of U.S. Army accoutrements by The Fenwick Board was largely complete. What started as perhaps a somewhat informal effort to improve a few accoutrements had evolved into the development of a comprehensive system. It established a number of characteristics that would be followed through the end of the percussion ignition era. Among those features already noted were tin cases, which held both bundles of cartridges and individual cartridges, designed to slide out of the box body to afford access to additional bundled ammunition in the lower compartments. A capacity of forty cartridges (20 in the tops of the tin case[s] and 20 more in two unopened bundles of ten in the lower compartments of the case[s]), would become the norm for cartridge boxes. The scalloped outer flap continued to characterize cartridge boxes and the militia's rifle pouch, with the standard shape seen in the three 1839 pattern boxes illustrated in Fig. 19. (It was retained as well as on the rifle pouch intended for the militia.) Asymmetrical ends for cartridge boxes became the norm, and leather interior flaps would afford better protection from the elements. (Both of those features, the reader will recall, had actually been introduced with the Pattern of 1837 infantry box.) Although a leather button would remain on the rifle pouch, a brass closure button would be located on the bottom of the three box bodies. An implement pouch was included initially only on the infantry and rifle cartridge boxes, but would, after 1841, be added to the carbine box and make the latter two boxes interchangeable. Finally, an icon of the mid-19th century soldier and the Civil War era in particular, the oval brass U.S. plate adorned both belting and cartridge box flaps in two standardized sizes.

Despite their official adoption in 1838, these patterns would be implemented the following year as various Pattern of 1839 items and referred to as such by the Ordnance Department starting in 1840.[83] Once adopted, the Ordnance Department wasted little time before getting their production underway. Major Henry K. Craig, who had moved from Watertown to succeed Baker in the command of Allegheny Arsenal in September of 1838, was instructed on March 9, 1839 to send twenty sets of pattern infantry, cavalry, and rifle accoutrements to Watertown Arsenal, to facilitate contracts

being made through that arsenal. Concurrently Chief Bomford authorized the procurement of new accoutrements by letter to Major Mann P. Lomax dated the same day March 9th:

> *You will be pleased to make contracts with persons of known skill and ability for the manufacture of* six thousand *sets Inf. Accoutrements, and* one thousand *of Cavalry accoutrements and* one thousand *of Hall's rifle accoutrements, without flasks. These accoutrements will be made according to the pattern and quality of those which will be sent immediately from Allegheny Arsenal to Watertown and to New York Depot as models. Maj. Craig is requested to give you the best information he can at present furnish as to the price which should be set on these new patterns by which you will be guided as far as practicable in your contracts. The number and kind of articles to be obtained from any contractor will be determined according to your opinion of their relative abilities to do the work . . . . The inspections will be made by yourself or some other officer designated for the purpose. You will forward the contracts to this Office, where the accounts duly authenticated will be presented for payment.*[84]

Besides its own facilities for manufacturing accoutrements (primarily Allegheny, and to lesser extents Frankford, Washington, and Watervliet Arsenals), at this time the Ordnance Department relied on three primary contractors: Robert Dingee, of New York City, whose record for consistent quality went back to 1814; John Coffin, Jr., of New York City, who had begun making accoutrements for the Government in 1836; and James Boyd & Sons, of Boston, who also had begun work for the Department just a few years before, in 1836.[85]

Bomford thought Major Lomax, newly in command of Watertown Arsenal, required more specific instructions for his initial effort at contracting. Lomax noted his plan in a reply to Colonel Bomford later in March 1839: "It was my intention, in making contracts for accoutrements, to assign the Infantry in equal portions, to Messrs. Boyd, Dingee, and Coffin, and as Mr. Dingee had been longest in the public employ, to give him the Cavalry accoutrements also. To Mr. Williams, at Chicopee, I should assign the rifle accoutrements. These persons have had similar contracts and I believe have given satisfaction to your department. The work which they have under contract with me, was skillfully and faithfully performed. I understand from your letter of the 9th Inst. that I am directed to wait for information to be received from Majr. Craig before making the contracts. I cannot conceive Sir how I can be better informed on the subject, than by referring to the previous contracts, on file in this office . . . ."[86]

Figure 19. From top to bottom are examples of the Pattern of 1839 Pistol Cartridge Box, Carbine Cartridge Box, and Infantry Cartridge Box, all made in the shop of Robert Dingee (Sr.) and so marked on their inner flaps. Note the standardized scalloped shape of the outer flap, and adaptation of the brass US plate to the smaller two boxes. Author's collection.

Boyd, Coffin, and Dingee eventually received the initial contracts for what were clearly the new accoutrements. Each received virtually identical contracts for 2,000 sets of infantry accoutrements (among other items) early in May 1839, at $3.72 per set; Coffin and Dingee on May 1st, and Boyd on May 7th. All three contracts were made by Lomax at Watertown. Delivery was expected to be relatively quick for the entirely new patterns of accoutrements: the first of July for Boyd and Dingee, and the 25th of August for Coffin.[87] As required by Bomford, Lomax sent copies of the contracts for infantry accoutrements as executed to the Ordnance Department on May 28, 1839.[88]

Being unable to perform as Chief of Ordnance, at this point Bomford's assistant, Lieutenant Colonel George Talcott, assumed those duties. (However, he would not become Chief of Ordnance until Bomford died on March 25, 1848.) Talcott decided a more experienced inspector was required for these new accoutrements, and he detailed none other than Hugh Alexander from Allegheny Arsenal to inspect these deliveries, being the person (next to possibly Baker) most familiar with the new patterns. He wrote Major Lomax, still commander of the Watertown Arsenal, alerting him to Alexander's assignment: "The large number of infantry and other accoutrements to be received under the several contracts in the course of the season will require inspection. Mr. Alexander, the master accoutrement maker at the Allegheny Arsenal, has therefore been selected for this duty . . . . The great

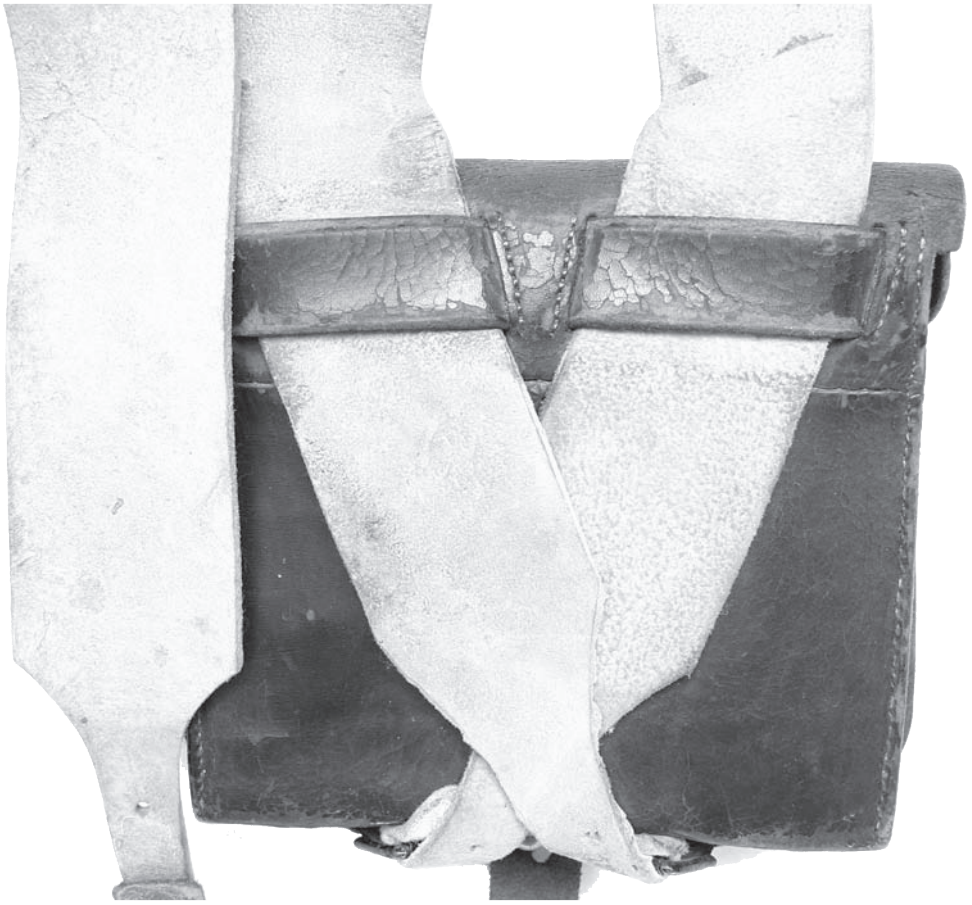

Figure 20. The shoulder belt adopted in 1839 for the infantry cartridge box remained 2 1/4 inches wide and was made of whitened buff leather. Shown here properly mounted on a cartridge box of that pattern, apparently two shapes for the transition from the tabs to the belt proper were acceptable. Compare, at left, the ends of a belt made by James Boyd and Sons having a 90 degree turn and the one at right with a less dramatic transition made by Robert Dingee & Sons ca. 1840–3, which matched those made at Frankford in 1834. The latter style returned and became the norm during the Civil War. Author's collection.

complaints made from time to time of the quality of the accoutrements issued to the troops serving in Florida render it necessary that the right inspection should be made of all such articles."[89]

As we have already noted, Alexander was indeed entrusted with this responsibility and made his initial trip to Boston late in July 1839 to perform an inspection at Boyd's establishment. The inspection was duly begun on the first 1,500 sets ready on July 30th and completed the same day. This could indicate Boyd was a month behind schedule, or that no inspector was available before that date. A letter from James Boyd & Sons dated August 8, 1839 notes "The Inspector Mr. Alexander has returned to Pittsburg this day, there being nothing further ready to require his services in this quarter at present."[90] However, Alexander noted a "slight variation . . . in some of the parts, between those made by Mr. Boyd and the pattern." Lomax duly noted there were differences, but not their specifics as "In my opinion the variation is not sufficient to impair the utility of the accoutrements for service; but Mr. Boyd being apprehensive that it may obstruct the settlement of his account, is desirous of seeing you upon the subject, and has requested me to write to you. From my acquaintance with Mr. Boyd, and from the representations made to me by Major Craig, I have no hesitation in saying that I believe him to be a gentleman of high integrity and every way deserving your respect."[91] There was no inordinate delay to the processing of Boyd's invoice (Talcott confirmed that to Boyd on August 13th),[92] so Lomax's intercession on Boyd's behalf apparently worked.

Coffin made two deliveries to complete his contract: 1,500 sets on September 12th and 500 sets on November 13th of 1839. Although Coffin's first 1,500 sets went through inspection satisfactorily, a report of their receipt "in a bad state" at the New York Depot a month later resulted in some additional correspondence that sheds light on the inspection process. Coffin went to the New York Arsenal on Governor's Island and wrote Major Lomax: "Nothing could have surprised me more than that such a report should have been made, knowing the excellent order and condition the accoutrements were in when Inspected and packed at my Factory, and the very particular Inspection made by Mr. Alexander, as well as your own Observation when the Inspection commenced." Hugh Alexander also responded to the report by noting that "1st I occupy the situation of Master Accoutrement Maker at Allegheny which situation I have held since November 1832—2nd With regard to the extent of my experience I have to say that I have during the time of my superintendence manufactured 63,410 Sets Infantry accoutrements, 17,255 Sets Rifle do [sic; ditto, or accoutrements], 11,232 Sets Cavalry do [sic; ditto] 3rd In relation to Mr. Coffin's accoutrements I beg leave to say that no part of them had been packed previous to the inspection and that not one of the 1500 Boxes or any of the other parts were packed until [sic] examined by me—that there was no appearance of mould on any of the boxes except 5 or 10—which I rejected until they were cleaned and aired 4th The packing boxes used by Mr. Coffin were in my opinion sufficiently strong for the contents, and new such boxes he informed me as those used under

Major Craig[']s direction at all counts they were better boxes than those used at Allegheny Arsenal for similar purposes . . . . I am willing to be qualified to the fact of having examined separately every article—and that the [cartridge] boxes were in good order when packed, which was on the 12th of Sept So, that if the boxes were kept in a close damp room they might readily be covered with mould by the 22nd—"[93] Payment to Coffin was recorded as having been made on the 28th of September for the first delivery, and November 16th for the second.[94]

Dingee delivered all 2,000 sets due under his contract on July 31, 1839. Nothing unusual about Dingee's deliveries was noted in the correspondence at the time. Note all three contractors were late, but no penalties were attached to that fact since it was new work for all of them. Interestingly all of these initial 6,000 sets of infantry accoutrements were charged to "Arming Militia." Since they involved new patterns, their destination would have been expected to have been the Regular Army. However, the question of whether to adopt a bayonet scabbard with integral frog for the Regulars was still open and would not be resolved until the following year, so these contracts included Pattern of 1828 Bayonet Belts (with Pattern of 1826 "Round Eagle" Plates), and Pattern of 1828 Bayonet Scabbards, all of which would continue to be used by some state volunteer companies into the 1850s.

Thus we come to the end of just one portion of the story of The Fenwick Board—its work on the infantry cartridge box. Please keep in mind that it has been a story of people and process, and not just patterns. The success of Baker and Alexander's foresight, and of the Board's considered recommendations, was revealed by the longevity of the concepts they promoted, most of which remained fundamental to accoutrement design and production for nearly 30 years. Their work was on every battlefield of the Civil War and served so many soldiers on both sides of that conflict. Finally, the Board's work is still behind the pieces of "dirty old leather" that we cherish today as reminders of the courage shown, and sacrifices made, some 160 years ago. Return to your collections with a better understanding of the reasons mid-nineteenth century Army infantry cartridge boxes look the way they do.

ENDNOTES:

1. Despite the adoption of the majority of the new patterns by 1839, the process of equipping Regular Army units was not completed until the eve of the Mexican–American War. Six companies of the 7th Infantry Regiment, for example, were inspected in 1844 and found to still have P1828 bayonet belts and scabbards, and no P1839 waist belts. Captain William W.S. Bliss to Chief of Ordnance Lieutenant Colonel George Talcott, January 28, 1845, Entry 21, Letters Received A-39, Record Group 156, Office of the Chief of Ordnance, National Archives and Records Administration, Washington, DC; hereafter referred to as E 21, LR, RG 156, OCO, NARA.

2. Copies of issues of *The United Service Journal and Naval and Military Magazine* (London: Henry Colburn and Richard Bentley) were brought back by officers visiting Great Britain and deposited with the Secretary of War and the War Department. The issues of the 1830's are filled with material on the status of the British Army, its arms and equipments. During this same time period, the domestic *Army and Navy Chronicle* and *The Military and Naval Magazine of the United States* often reprinted material from various European periodicals.

3. Colonel George Bomford (1780?–1848; USMA, 1804) was Chief of Ordnance from May 30, 1832 until March 24, 1848. The eighth graduate of the U.S. Military Academy, Bomford initially served as an engineer officer, the most prestigious branch of service in the Army at the time, and oversaw the completion of several forts that were part of the coastal defense network. In conjunction with those duties he developed a cannon widely used in these forts, which he called the "Columbiad." From the formation of the Ordnance Department in 1812 until 1821, Bomford served as deputy to the first Chief of Ordnance, Decius Wadsworth. Upon the Department's reestablishment in 1832, he became the second Chief of Ordnance. Francis Heitman, *Historical Register and Dictionary of the United States Army, from its Organization, September 29, 1789 to March 2, 1903* (Washington: Government Printing Office, 2 volumes, 1903; reprinted Gaithersburg, MD: Olde Soldier Books, 1988), I, 228–29, hereafter referred to as Heitman, *Historical Register.* See also Dr. Keir Sterling, *Serving the Line with Excellence* (Aberdeen, MD: U.S. Army Ordnance Center and School, TRADOC Historical Studies, Second Edition [Revised], 1992), 2, 3, 17–18.

4. *Regulations for the Government of the Ordnance Department* (Washington: Printed by Jacob Gideon, Jr., 1834), 47, hereafter referred to as 1834 *Ordnance Regulations.* The relatively thin 1834 and 1839 *Regulations* were supplemented by the first edition of the *Ordnance Manual,* published in 1841. However, the 1834 *Regulations* did establish the system of classification for ordnance and ordnance stores that would be utilized through the era of the Civil War, with "Accoutrements, Implements, and Equipments for Small Arms" becoming Class VII. Some Ordnance Department records in the National Archives retain that classification.

5. Established as a separate department only in 1812, the Ordnance Department was disbanded as part of the reorgani-

zation of the U.S. Army in 1821, and its duties handled thereafter by officers of the artillery temporarily assigned to ordnance functions. This arrangement continued until a separate Ordnance Department was reestablished by an Act of Congress on April 5, 1832, largely because of the tireless efforts of Colonel Bomford. "An Act Providing for the Organization of the Ordnance Department," Ordnance Memoranda No. 4, *Laws of the United States Relating to the Ordnance Department, From April 2, 1794, to March 3, 1863, Compiled for the Use of the Officers of the Ordnance Department, United States Army* (Washington: GPO, 1863), 21.

6. These two General Orders were often referenced in the first part of board reports, which established their legitimacy to conduct the business under review. Such was the case with the board at hand, which noted both in the opening paragraphs of its proceedings and final report.

7. Being in support functions, few officers of the Ordnance Department have received detailed biographical treatments. Alfred Mordecai (Sr.) (USMA, 1819) has been among those few. See Stanley Falk, "Soldier-Technologist: Major Alfred Mordecai and the Beginnings of Science in the United States Army" (Georgetown University: Doctoral Dissertation, 1958).

8. General Fenwick (1773–1842) was a War of 1812 hero, who participated in the spirited defense of Fort Erie in the fall of 1814. He had been lieutenant colonel of the Regiment of Light Artillery since its organization in 1814 and was made colonel of the 4th Regiment of Artillery upon its organization in 1821. Fenwick was the first commander of the Artillery School of Instruction when it was established at Fortress Monroe in 1824. He had served on numerous boards, including the one that exonerated General Winder for the capture of Washington in 1814.

9. Robert D. Wainwright entered the Marines as a second lieutenant on February 15, 1807, and achieved the rank of lieutenant colonel by July 1, 1834. He died in service on October 5, 1841. He was a direct ancestor of Lieutenant General Jonathan "Skinny" Wainwright, United States Army.

10. "Report of a Board of Ordnance of which Genl. Fenwick is President" dated March 2, 1837, Ex. R-7–13, Reports & Correspondence of Ordnance Boards, 1827–1870, Special File, Box 28 (1827–1840), Entry 1012, Record Group 156, Office of the Chief of Ordnance, National Archives and Records Administration, Washington, DC, hereafter referred to as The Fenwick Board Report dated March 2, 1837, RG 156, OCO, NARA. See also American State Papers, *Military Affairs* (Washington: Published by Gales & Seaton, 1861), VII, 468–69, hereafter referred to as *Military Affairs.*

11. *Ibid.*

12. Major Rufus L. Baker to Colonel George Bomford, February 5, 1837, Entry 1001, Special File, 1812–1912, Inventions, IN-7–24, RG 156, OCO, NARA.

13. Colonel George Bomford to Major Rufus L. Baker, E 6, Letters Sent to Ordnance Officers, February 8, 1837, RG 156, OCO, NARA.

14. Major Rufus L. Baker to Chief of Ordnance Colonel George Bomford, February 16, 1837, Allegheny Arsenal, Letter Book No. 2, Letter No. 275, R.L. Baker Papers, Special Collections, West Point Library, USMA, West Point, NY. See also same letter, Entry 1075, Allegheny Arsenal, Letters, Telegrams, and Endorsements Sent, Record Group 156, Office of the Chief of Ordnance, National Archives and Records Administration, Philadelphia Regional Office, Philadelphia, PA.

15. *Ibid.*

16. Colonel George Bomford to Secretary of War B.F. Butler dated February 21, 1837, Entry 5, Letters Sent to the Secretary of War, 1812–1889, 285, RG 156, OCO, NARA.

17. It should be noted that the Board convened at West Point on July 4, 1837 under the direction of General Abram Eustis, 1st Artillery, was technically the same as the one convened in Washington, perhaps with a slightly different composition and president. It was to have evaluated the entire system of artillery, including bronze tubes and light artillery, but required too much supporting information to make its evaluation in a timely manner. See Entry 1012, Special File, No. 94 Reports & Correspondence of Ordnance Boards, 1827–1870, Box 28 (1827–1840), "Proceedings & Resolutions of the Ordnance Board at West Point," July 10, 1837, RG 156, OCO, NARA; hereafter referred to as The Eustis Proceedings dated July 10, 1837. See also Warren Ripley, *Artillery and Ammunition of the Civil War* (New York: Promontory Press, 1970), 19–20.

18. The appellation "The Fenwick Board" was not a contemporary one. Rather it evolved as a shorthand way for the late R.T. "Ted" Huntington and the author to generally refer to the activities of the Board, as well as the behind-the-scenes work that went on at Allegheny Arsenal. It was subsequently first used by Huntington in his monograph. *Accoutrements of the United States Infantry, Riflemen, and Dragoons, 1834–1839* (Alexandria Bay, NY: Museum Restoration Service, Historical Arms Series, No. 20, 1987), 8; hereafter referred to as Huntington, *Accoutrements.* It should be noted Fenwick presided over other board meetings throughout 1837 and 1838 that did not address accoutrement issues.

19. On the 13th of May Baker was ordered to report to the Ordnance Board, then meeting at West Point, to replace Talcott. Talcott had just been assigned by Bomford the task of investigating repeated complaints by Captain Julius de'Lagnel, Ordnance Department, of defects in the stocks of

North-made Hall's carbines issued to the 2nd Dragoons. The implication was that the splintering of so many stocks could only mean they had not been thoroughly inspected. *Military Affairs,* VII, 468.

20. Rufus Lathrop Baker (1790–1868) entered the service of the United States as an Assistant Deputy Commissary of Ordnance in 1813. Although not an Academy graduate, after a long and distinguished career entirely in the Ordnance Department, he resigned at the end of 1854 and saw no service during the Civil War. Heitman *Historical Register,* I, 184–85. See also Frederick C. Gaede and Dr. Charles Cureton, "Rufus Lathrop Baker," *Military Illustrated,* No. 69 (February 1994), 36–38.

21. Colonel George Bomford to Major Rufus L. Baker, November 16, 1831 and April 27, 1837, Entry 6, Letters Sent to Ordnance Officers, 1839–89, RG 156, OCO, NARA. Doubtless Baker learned a few things about accoutrement manufacture from Dingee on his visit to Dingee's shop in New York City in 1833. See also James Hutchins, "Letters on Accoutrement Making, 1833," *Military Collector & Historian,* Vol. 40, No. 2 (Summer 1988), 50–58, hereafter referred to as *MC&H.* See also "The Allegheny Arsenal," *The Military and Naval Magazine of the United States,* Vol. 3 (May 1835), 214–15.

22. Major Rufus L. Baker to Colonel George Bomford dated June 15, 1834, Entry 21, Letters Received, 1812–1894, RG 156, OCO, NARA.

23. LTC Richard A. Johnson, "The Eagle Stamped Infantry Cartridge Box," *Military Collector & Historian,* Vol. 17, No. 2 (Summer 1965), 38–41; hereafter referred to as *MC&H.* See also James S. Hutchins and Frederick C. Gaede, "Notes on the Embossed Eagle Cartridge Box, 1828–1839," *MC&H,* Vol. 49, No. 3 (Fall 1997), 116–122, hereafter referred to as Hutchins and Gaede, "Embossed Eagle Cartridge Box."

24. Major Rufus L. Baker to Colonel George Bomford, June 15, 1834, E 21, LR, RG 156, OCO, NARA Even earlier Baker had indicated a preference for omitting the embossed surface of the cartridge box: "The Cartridge Boxes of the new pattern with which most of the companies of Artillery that marched from Fort Monroe upon the Black Hawk Campaign last summer were equipped, were nearly ruined in the course of that short expedition; owing, as it was believed, to the injury the Leather sustained by the varnish or the process of applying it to the boxes . . . ." Major Rufus L. Baker to Colonel George Bomford, January 23, 1833, E 21, LR, RG 156, OCO, NARA.

25. *Ibid.* See also Frederick C. Gaede, "The Model of 1828 Bayonet Belt," *MC&H,* Vol. 37, No. 4 (Winter 1985), 159–64; and Frederick C. Gaede, "The White Metal Mounted M1828 Bayonet Scabbard," *Society of American Bayonet Collectors Newsletter No. 8* (Fall 1991). See also Joseph R. Marsden, "The Steel Scabbard for Socket Bayonets in America, 1834–1900," *Society of American Bayonet Collectors Quarterly Journal,* Vol. 7 (Spring 1994).

26. *Ibid.* See also William G. Phillips, "Emerson Steel Bayonet Scabbard, 1862," *MC&H,* Vol. 21, No. 3 (Fall 1969), 97–8. The 1834 and 1862 iron scabbards look remarkably similar and one wonders if Emerson & Silver had one of Baker's earlier scabbards as a model.

27. *History of the Watervliet Arsenal* (Sesquicentennial Edition, 1813–1963), iv, 17–31, hereafter referred to as *Watervliet Arsenal.* While at Watervliet, Baker would develop the basic percussion cap pouch pattern used by the Army for the following two decades, and that arsenal would be a source for the Army's cap pouches until the Civil War.

28. Major Rufus L. Baker to Colonel George Bomford, February 16, 1837, E 21, LR, RG 156, OCO, NARA. See also Major Rufus L. Baker to Colonel George Bomford, February 16, 1837, Allegheny Arsenal Letters Sent Books, Letter No. 275, Rufus L. Baker Papers, Special Collections, West Point Library, U.S. Military Academy, NY. See also *Harris' Pittsburgh Business Directory, for 1837* (Pittsburgh, PA: Isaac Harris, 1837), 95, in which Hugh Alexander is listed as "Accoutrement Maker" under "Principal Master Workmen" of "The Western Arsenal, near Pittsburgh." The year after Baker's transfer to Watervliet, Alexander presented him with a pair of saddle holsters, made by himself, as a token of esteem. The letter accompanying the gift is one of only a few surviving documents from Alexander, and from which the signature was copied for Fig. 6.

29. The Fenwick Report dated March 2, 1837, RG 156, OCO, NARA.

30. *Ibid.*

31. *Ibid.,* Jones' endorsement, March 3, 1837.

32. *Ibid.,* Butler's endorsement, March 11, 1837.

33. *Ibid.,* Jones' endorsement, April 4, 1837. Except for omitting the date and the endorsements, the March 2nd report is in R.T. Huntington, *Hall's Breechloaders* (York, PA: George Shumway, Publisher, 1972), Appendix II, 324–25.

34. Major Rufus L. Baker to Lieutenant Colonel George Talcott dated July 5, 1836, quoted in Ray Riling, *The Powder Flask Book* (New York: Bonanza Books, 1953), 478.

35. Berkeley R. Lewis, *Small Arms and Ammunition in the United States Service, 1776–1865* (Washington: Smithsonian Institution Press, Smithsonian Miscellaneous Collections, Volume 129, 1956), 156.

36. *Ibid.,* 29–30. J. Margerand, *Armement et Equipement de l'Infanterie Francaise du XVIe au XXe Siecle* (Paris: 1945), 178 (" . . . 40 cartouches en 4 paquets de 10 cartouches.") Baker may have had access to the numerous French manuals and documents brought back by Lieutenant Daniel Tyler (USMA, 1816), an Army officer in

France at his own expense but obtaining information at the request of the Chief of Ordnance. Tyler would wait years to be reimbursed for his "unofficial" efforts.

37. Bennett Cuthbertson, *A System for the Complete Interior Management and Oeconomy of a Battalion of Infantry* (Whitehall: J. Millan, 2nd edition, 1779), 83. See also "Orderly Book Kept by Jeremiah Fogg, Adjutant General, New Hampshire Regiment, Siege of Boston, 1775–76," reprinted from the Exeter News Letter, Exeter, NH, 1903, 33, transcribed by the late Detmar Finke.

38. The Eustis Proceedings dated July 10, 1837, RG 156, OCO, NARA.

39. Huntington, *Accoutrements,* 40, now in the author's collection.

40. Twelve percussion caps officially would be added to each bundle of cartridges in 1845.

41. Frederick C. Gaede, "U.S. Infantry Accoutrements, Model 1808," *MC&H,* Vol. XXXVII, No. 3 (Fall 1985), 98–110. See also LTC Richard A. Johnson, "The Eagle Stamped Infantry Cartridge Box," *MC&H,* Vol. 17, No. 2 (Summer 1965), 38–41; hereafter referred to as. See also James S. Hutchins and Frederick C. Gaede, "Notes on the Embossed Eagle Cartridge Box, 1828–1839," *MC&H,* Vol. 49, No. 3 (Fall 1997), 116–122, hereafter referred to as Hutchins and Gaede, "Embossed Eagle Cartridge Box."

42. The Fenwick Report dated March 2, 1837, RG 156, OCO, NARA.

43. Personal communication from Michael L. Haggan to the author, November 22, 1980, and to Roy T. Huntington, July 29, 1983. See also Huntington, *Accoutrements.*

44. These cartridge boxes are exactly like one drawn by noted military illustrator André Jandot and included in Major James E. Hicks' article, "A Fascinating Hobby: Collecting Military Accouterments," featured in Golden State Arms' catalog, *World's Guns and Other Weapons* (Pasadena, CA: Petersen Publishing Company, 1958), 31–35. (Jandot's illustration on 32 is incorrectly dated to "approximately 1800.") This may indicate yet a third example (and hopefully more, possibly maker marked) remains undetected to the collecting community. See also Huntington, *Accoutrements,* 13.

45. Colonel George Bomford to Major Rufus L. Baker, April 10, 1837, E 6, LS, RG 156, OCO, NARA.

46. Contract between Major Mann P. Lomax and Theodore Williams, November 5, 138, E 78, Contracts, Vol. 2, RG 156, OCO, NARA.

47. Major Mann P. Lomax to Colonel George Bomford, September 21, 1838, E 21, LR No. 156 1/2, RG 156, OCO, NARA.

48. Since 1808 Congress had appropriated $200,000 annually to arm and equip the states' militias. The amount would remain constant until 1861 and was divided proportionately among the states based on the annual enrolled militia returns, required since 1803.

49. Interestingly, Robert Dingee also must have gotten wind of the Board's work and wanted to retain his business for accoutrements. On June 5, 1837, Dingee addressed Colonel Bomford, indicating he was sending " . . . some specimens of my own make viz Marked letter A—one infantry Cartridge box and belt . . . . The flaps of the Cartrige [sic] boxes has been prepaired [sic] for heel balling and can be kept in good order by the Soldier with very little trouble . . . . " "Heel balling" was blackening the surface of the box with a ball of black wax and indicates Dingee's proposed box also no longer had any embossing on the flap. Robert Dingee to Colonel George Bomford, June 5, 1837, E 21, Letters Received, RG 156, OCO, NARA.

50. The Fenwick Report dated March 2, 1837, RG 156, OCO, NARA.

51. *Ibid.,* Jones' endorsement, April 4, 1837.

52. Colonel George Bomford to Major Rufus L. Baker, April 10, 1837, E 6, LS, RG 156, OCO, NARA.

53. Major Rufus L. Baker to Colonel George Bomford, April 29, 1837, Allegheny Arsenal, Letters Sent, 1836–1845, E 1075, RG 156, OCO, NARA, Philadelphia Regional Office. The original of this letter is in E 994, Special File, Correspondence Relating to Inventions, 1812–70, Class 7, IN.-7, RG 156, OCO, NARA.

54. These letters had recently been used on officers' belt plates. See Frederick C. Gaede and James S. Hutchins, "The Pattern of 1834 Sword Belt for Field and Company Grade Officers," *MC&H,* Vol. 49, No. 4 (Winter 1997), 146–55.

55. Frederick C. Gaede and James S. Hutchins, "The Round 'Eagle' Belt Plate, 1826–1831," *MC&H,* Vol. 42, No. 4 (Winter 1990), 126–134. See also Michael J. O'Donnell and J. Duncan Campbell, *American Military Belt Plates* (Alexandria, VA: O'Donnell Publications, 1996), 274–93; hereafter referred to as O'Donnell & Campbell, *Plates.*

56. Captain William H. Bell (USMA, 1816) to Major Rufus L. Baker, May 8, 1837, E 6, LS, RG 156, OCO, NARA. Bell was temporarily in charge of the Ordnance Department at that time. It is assumed that Baker's design No. 1 had his preferred Old English letters, such as had been used on the Pattern of 1832 General Staff Waist Belt Plate, later (May 2, 1833 in General Orders, No. 38) adopted as well for dragoon officers of the Regular Army. Old English letters continued with the Pattern of 1839 Shoulder Belt Plate for company grade officers. See O'Donnell & Campbell, *Plates,* 134–8, 178–83.

57. The drawings are not present in any of the entries of RG 156 noted above, nor in a copy in Baker's personal retained copies in the West Point Library. The author appre-

ciates the independent confirmation of this conclusion by James S. Hutchins via telephone on January 20, 1999. It may be possible that the Army's Institute of Heraldry has a copy, but that could not be ascertained by the time this went to print.

58. For example, O'Donnell & Campbell, *Plates,* 296–328, refer to this pattern plate as the "Regulation 1839 Pattern."

59. Colonel George Bomford to Major Rufus L. Baker, January 2, 1838, E 6, LS, RG 156, OCO, NARA. See endnote 47.

60. Hutchins and Gaede, "Embossed Eagle Cartridge Box," 117–8.

61. Major Rufus L. Baker to A.L. Bird, "Philadelphia," July 24, 1837, E 1075, Allegheny Arsenal, LS, RG 156, OCO, NARA.

62. Personal correspondence from Steven Wright (The Civil War Library and Museum, Philadelphia, PA) dated September 3, 1998. Personal conversation on August 22, 2004 with Bruce S. Bazelon, during which he noted some directories required payment to be listed, and Bird may have elected not to pay.

63. Heitman, *Historical Register,* 184.

64. Major Rufus L. Baker to Colonel William J. Worth, July 19, 1837, E 1075, Allegheny Arsenal, LS, RG 156, OCO, NARA.

65. Major Rufus L. Baker to Colonel George Bomford, August 12, 1837, E 1075, Allegheny Arsenal, Letters Sent, RG 156, OCO, NARA.

66. Major Rufus L. Baker to Messrs. Krug & Colladay, July 24, 1837, E 1075, Allegheny Arsenal, LS, RG 156, OCO, NARA.

67. Major Rufus L. Baker to Major Henry K. Craig, November 13, 1837, E 1075, Allegheny Arsenal, LS, RG 156, OCO, NARA. Likely some of the boxes Craig inspected were Pattern of 1837 boxes made a year later by Williams (see endnote 48).

68. Telephone conversation with J. Duncan Campbell on January 21, 1999. The three plates sent to Bomford for the revised boxes were likely also deposited in the Model Office maintained at Washington Arsenal, and subsequently lost in the 1864 fire. Nor can the one sent to Craig in November 1837 be located in any public repository.

69. *Ordnance Manual for the Use of the Officers of the United States Army* (Washington: J. and G.S. Gideon, Printers, First Edition, 1841), 140, hereafter referred to as 1841 *Ordnance Manual.*

70. Although both box and round eagle plates officially disappeared near the end of the Civil War, some veteran NCOs continued to wear round eagle plates until the Spanish–American War.

71. Enclosure of John Coffin, Jr. to Major Mann P. Lomax, October 3, 1839, in Major Mann P. Lomax to Lieutenant Colonel George Talcott, October 13, 1839, E 21, LR L-342, RG 156, OCO, NARA.

72. Major Rufus L. Baker to Colonel George Bomford, August 12, 1837, E 1075, Allegheny Arsenal, Letters Sent, RG 156, OCO, NARA. See also E 1012, Special File, Inventions, Class 7, IN.-7–30, RG 156, OCO, NARA.

73. The Fenwick Report dated October 11, 1837, Inventions, Special File, Ex. R-7–1/3, Entry 1012, RG 156, OCO, NA. See also Colonel George Bomford to Major Rufus L. Baker, November 7, 1837, E 6, LS, RG 156, OCO, NARA.

74. Major Rufus L. Baker to Major Henry K. Craig, November 13, 1837, E 1075, Allegheny Arsenal, LS, RG 156, OCO, NARA.

75. Proceedings of Ordnance Board from July 16th 1838 to January 16th 1839, entry for September 7, 1838, Special File, E 1012, RG 156, OCO, NARA, hereafter referred to as Fenwick Board Proceedings, RG 156, OCO, NARA.

76. Fenwick Board Proceedings, RG 156, OCO, NARA, entry for October 30, 1838.

77. Fenwick Board Proceedings, RG 156, OCO, NARA, entry for October 31, 1838.

78. Fenwick Board Proceedings, RG 156, OCO, NARA, entry for November 1, 1838.

79. 1839 *Regulations.*

80. 1841 *Ordnance Manual,* 140.

81. Paul D. Johnson, *Civil War Cartridge Boxes of the Union Infantryman* (Lincoln, RI: Andrew Mowbray Publishers, 1998), 39–43, hereafter referred to as Johnson, *Cartridge Boxes.*

82. Fenwick Board Proceedings, RG 156, OCO, NARA. Although the proceedings include the statement for November 1, 1838 that "A Report was also made of the proceedings of the Board on the subject of Artillery and Infantry accoutrements, and the patterns approved were sent to his [the Secretary of War's] office with the report . . . "; that report has not been located.

83. Starting in 1840 the phrase "These accoutrements will be made conformable to the Pattern of 1839" was frequently inserted into contracts.

84. Colonel George Bomford to Major Mann P. Lomax, March 9, 1839, E 6, LS, RG 156, OCO, NARA. Craig, now at Allegheny, did indeed provide guidance on pricing through a letter dated April 3, 1839, a copy of which went to Bomford. Major Henry K. Craig to Colonel George Bomford, E 21, LR C-59, RG 156, OCO, NARA.

85. Among Boyd's earliest work for the Department were Embossed Eagle cartridge boxes, a number of which are known to exist. With the chronology of the box now known, Boyd had to have made those boxes in 1836 or 1837, and not as late as 1839 as was once suggested.

86. Major Mann P. Lomax to Colonel George Bomford, March 18, 1839, E 21, LR, RG 156, OCO, NARA.

87. All three contracts were made by Major Lomax; Dingee's and Coffin's contracts were dated May 1st, Boyd's May 7th. Contracts, Vol. 2, E 78, RG 156, OCO, NA. Coffin had begun to contract with the Quartermaster Department at this time as well. See his contract for six thousand leather stocks dated February 11, 1839, Box 5, Army Contracts, 1794–1861, E 218, Records of Military Contracts & Leases, RG 217, Records of the Accounting Officers of the Treasury Department.

88. Major Mann P. Lomax to Lieutenant Colonel George Talcott, May 28, 1839, E 21, LR L-172, RG 156, OCO, NARA. See also E 78, Statements of Accounts for Contractors, 1817–1905, RG 156, NARA.

89. Lieutenant Colonel George Talcott to Major Mann P. Lomax, June 26, 1839, E 6, LS, RG 156, OCO, NARA.

90. James Boyd & Sons to Lieutenant Colonel George Talcott, August 8, 1839, E 21, LR B-398, RG 156, OCO, NARA.

91. Major Mann P. Lomax to Lieutenant Colonel George Talcott, July 31, 1839, E 21, LR L-252, RG 156, OCO, NARA.

92. Lieutenant Colonel George Talcott to Messrs. James Boyd & Sons, August 13, 1839, E 3, Misc LS, RG 156, OCO, NARA. Payment is confirmed in J. Boyd & Sons, Boston, E 78, Statements of Accounts for Contractors, 1817–1905, RG 156, NARA. By the end of the month Boyd's infantry accoutrements were at the New York Depot.

93. Enclosure of Mr. Hugh Alexander to Major Mann P. Lomax, October 5, 1839, in Major Mann P. Lomax to Lieutenant Colonel George Talcott, October 13, 1839, E 21, LR L-342, RG 156, OCO, NARA.

94. John Coffin, Jr., New York City, E 78, Statements of Accounts for Contractors, 1817–1905, RG 156, NARA.

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