

WHITNEY RIFLES FOR GEORGIA: ANOTHER THEORY

by Paul D. Johnson



Figure 1. Examples of Whitney rifles for Georgia studied at the Indianapolis ASAC meeting.

Introduction and Purpose of the study.

One of the persistent mysteries of Civil War gun collecting is the identity of the two-band rifles sold to Georgia by Eli Whitney, Jr., in 1860. Early suggestions pointed to M1841 ‘good and serviceable’ to Whitney Enfield rifles. However, a significant breakthrough has emerged in the form of the contract between Eli Whitney, Jr. and the State of Georgia, dated May 4, 1860. This document, recently located in the Georgia Archives, has the potential to revolutionize our understanding of this subject. Given the scarcity of these rifles, the author, in an effort to study as many examples as possible, requested the American Society of Arms Collectors (ASAC) membership bring their two-band Whitney ‘good and serviceable’ and Enfield-style rifles to the September 2022 meeting in Indianapolis, Indiana. Fourteen Whitney rifles and thirteen Whitney bayonets were brought to the meeting.

Each rifle and accompanying bayonet underwent a rigorous study, with the author meticulously recording the models, types and varieties of all the rifles and bayonets. This comprehensive information was then cross-referenced with the descriptions in current publications, ensuring the utmost accuracy in our findings. The study group then decided these rifles deserved further study on the types of these arms and their relationship to Whitney’s deliveries to the Southern states. The group agreed that the purposes of the study were to:

1. Determine what saber bayonets were issued with which model Whitney rifle.
2. Determine which Whitney rifle model and bayonet was sold to Georgia in 1860.

Five ASAC members brought Whitneys from their collections to the Indianapolis meeting, and we must give much credit to the late Howard Madaus and George Moller, past ASAC members who wrote the definitive information on this subject.

What Previous Authors Wrote about Whitney Rifles for Georgia.

Before the meeting, a review of contemporary literature about Whitney firearms was conducted, primarily concentrating on the

Whitney rifle contract with the State of Georgia. Howard Madaus, in his excellent article entitled “The Percussion Martial Longarms of Eli Whitney, Jr.”,¹ described the various models and variations of Whitney-produced arms during the Civil War. Concerning the rifles and rifle-muskets supplied to Georgia, Madaus wrote:

... Georgia purchased (both directly, through contract, and the agency of D.C. Hodgkins & Sons) M1841 derivative rifles and both Whitney Enfield derivatives.

On 28 [sic-26] February 1861, the Georgia Adjutant-General summarized the arms and accouterments he had acquired for the state during the prior eight months. Among the listings were “370 Mississippi Rifles”². As no U. S. M1841 rifles had been received by Georgia under the 1808 Militia Act since early in 1858 and 1859 (when a total of 268 “Long Range Rifles, O.P. [old pattern], Cal. .58” had been received), there can be little question that the Adjutant-General was referring to some other arms.³ Rather, they were the “Mississippi Rifles” with saber bayonets delivered by D. C. Hodgkins & Sons, who probably purchased them through one of Whitney’s New York agents. Georgia treasurer’s vouchers account for the purchase of at least 300 such arms in late 1860 from Hodgkins “200 Mississippi Rifles, Saber Bayonets, &c” were paid for on 13 October at a price fractionally higher than \$19.54 each, and another 100 “Mississippi Rifles” cost the state \$19.50 each on 20 November 1860.⁴

Madaus concluded that the quality of the Model 1841 Derivative rifles must have been sub-standard as he quoted a letter dated February 28, 1862, from Captain W. R. [sic-B.] Boggs, Georgia Ordnance Department, to D. C. Hodgkins & Sons stating: “*The Mississippi Rifles recently furnished by you are not such as we desire to have. The Governor, therefore, directs that you supply those that you have on hand upon the receipt of this letter, but that you will furnish no more.*”⁵ *The arms evidently had proved to be less than “Good and Serviceable.”⁶*

Up to this point, Madaus had concentrated on the M1841 Mississippi rifles the State of Georgia had received. Concerning the M1855 Derivative rifles, Madaus wrote:

As with the M1855 derivative rifles, there are no documents that firmly indicate the destination of the M1855 derivative rifle muskets produced in 1861 by Eli Whitney, Jr. While it has been suggested that they may have found their way South, either as part of the Georgia contract or as part of independent militia company purchases, such as that made by the "Enterprise Guards" of Mississippi, the condition of surviving examples seems to belie Civil War service. Rather, there is evidence that most of the arms sold to Maryland, Georgia and Mississippi in 1860-1861 by Whitney were from his Enfield series.⁷

Howard Madaus concluded that M1841 Derivative rifles and Whitney Enfield Derivative rifles were possibly supplied to Georgia, and the fate of the Model 1855 Derivative rifles was unknown at the time of his writing.

The second source of Whitney information was found in George Moller's *American Military Shoulder Arms, Volume III*, printed in 2011.⁸ Using the information in the Georgia treasurer's vouchers, George Moller noted that "200 Mississippi rifles with saber bayonets" were paid for by the state of Georgia on October 13, 1860, and another "100 Mississippi rifles with saber bayonets" were paid for on November 20th. Moller also suggested that the remaining 70 rifles were probably paid for in follow-up payments to Hodgkins of 22 August, 17 December, 26 January 1861, or 23 February.⁸ Like Howard Madaus, Moller referred to the letter written by Henry Wayne, Georgia Adjutant General, dated February 26, 1861, listing "320 Long Range Rifles with Bayonets" delivered to the state. Moller wrote: "The State's records do not specify the type of arms purchased, but this wording suggests that they were militia rifles rather than the Enfield arms Whitney was also producing at the time. Georgia purchased these Whitney militia rifles through the agency of D. C. Hodgkins & Son."⁹

To summarize the review of current literature, both authors, Madaus and Moller, believed that Georgia had received Model 1841 Mississippi rifles through the agency of D. C. Hodgkins and Sons of Macon, Georgia. Howard Madaus stated the arms sold to Maryland, Georgia and Mississippi were from his Enfield series. George Moller wrote that the rifles for Georgia were militia rifles (M1841 or M1855 Derivative rifles) rather than the Whitney Enfield arms.

Description of the Whitney Rifle Examples.

During the meeting, the study group completed a detailed study of the fourteen Whitney examples and determined each model's identifying characteristics. The group decided to use the terminology from Howard Madaus' article, which was more descriptive and easier to use than the terminology used by George Moller.¹⁰

Whitney M1841 Derivative Rifle.

The four types of Whitney M1841 Derivative rifles resemble the initially configured M1841 rifles Whitney produced from 1844 through 1855. Whitney was famous for using leftover or condemned parts on his derivative rifles. These rifles are also known as "good and serviceable" as described by Moller:

Many of the percussion rifles and rifle muskets he produced during this period were intended by Whitney to be "good and serviceable" military shoulder arms. Many of the different "models" of these arms only generally followed a pattern, and the components of one arm of a particular "Model" often did not interchange with others of the same model. Unlike the Ordnance Department's requirement of inspection of individual components before their assembly into arms, as well as inspection after assembly, the rifles and rifle muskets arms made by Whitney during this period were inspected only after they were completed. The criteria for their inspection was that



Whitney M1841 Derivative Rifle

	Identifying Characteristics	Bayonet characteristics
Type 1A	Stud & 1" Guide; resembles Whitney-produced M1841 long range rifle of 1855 with patch box and M1841 block "V" sight, instead of the long range rear sight; stamped "OHIO" in wood opposite lock. (1855-1856)	Muzzle ring diameter .900"; mortise for stud and guide.
Type 1B	Stud Only; same as Type 1A except bayonet attachment is stud only; stamped "OHIO" in wood opposite lock. (1857-1858)	Muzzle ring diameter .900"; mortise for stud only.
Type 2	No patchbox; STUD & 1" GUIDE; same as Whitney Type 1A except no patchbox, some have Sharps M1853 carbine rear sights. (1856-1857)	Muzzle ring diameter .900"; mortise for stud and guide.
Type 3	Bottom bayonet lug for M1835-style socket bayonet; two examples known-- one has cast iron patchbox and the other has no patchbox, has Sharps M1853 rear sight, brass trigger bow with iron strap; convex head screws. (1858)	M1835 socket bayonet or M1816 bottom mortise
Type 4	No patchbox, no bayonet attachment; brass trigger guard bow with iron strap; M1841 rear block "V" sight and brass blade front sights. (1859-1861)	None

Figure 2. This figure shows the differences between the four types of M1841 Derivative rifles made by Whitney. The column on the right lists the characteristics of the bayonet that would be mated with the listed rifle.

they were “good and serviceable” for the military purposes for which they were intended.

The earliest of these arms were rifles primarily made from the same components as he used in his U.S. contract Model 1841 rifles. He would later produce rifle muskets and rifles made from components he had purchased at government auctions and from Enfield pattern components he had purchased at the bankruptcy sale of the Robbins & Lawrence successor firm, the Windsor Firearms Company.¹¹

The Whitney M1841 Derivative rifle Type 1A (Figure 2) was made with many original parts from Whitney’s Model 1841 long-range rifle contract of 1855. The Whitney M1841 Derivative rifle Type 1A differs from Whitney’s original 1855 configuration in that the long-range rear sight was replaced with the original M1841 “V”- shaped blade rear sight. Like the original contract configuration, the barrel is configured for a saber bayonet with a stud and guide. The outside barrel diameter at the muzzle measured .885” to .900”. Many observed examples exhibit “OHIO” stamped into the wood opposite the lock, showing state ownership. The right column in Figure 2 lists the bayonet characteristics required to fit on the barrel: .900” muzzle ring diameter, and a stud and guide method of attachment.

Whitney M1841 Derivative rifle Type 1B is similarly configured but has a saber bayonet stud only, without the guide, brazed on the right side of the barrel. The outside barrel diameter would be similar to the Type 1A barrel, but the bayonet hilt would have a mortise for a stud only. These examples also exhibit “OHIO” stamps in the wood.

Whitney M1841 Derivative rifle Type 2 identifying characteristic is the absence of the patch box in the buttstock. Also, some examples have a Sharps M1852 carbine’s rear sight on the barrel instead of the M1841 “V”-shaped blade sight.

Whitney M1841 Derivative rifle Type 3 has a bottom bayonet lug, which is one inch from the muzzle for a M1835-style socket bayonet. Only two examples are now known, one with a cast iron patchbox and the other without a patchbox. This type is the first to show Whitney characteristics of convex-headed screws and a brass trigger guard with an iron trigger guard strap.

Whitney M1841 Derivative rifle Type 4 is identified by the absence of any bayonet attachment, saber or socket, with the M1841 rear sight of a block “V” rear sight and a brass trigger guard and iron guard strap.

Whitney M1855 Derivative Rifle.

Howard Madaus named these rifles “part guns” because Whitney purchased condemned and unfinished M1855 rifle parts from the Harpers Ferry Armory. These parts included condemned Harpers Ferry locks, furniture, stock and barrels, which were sold at armory auctions. Whitney then used brass M1841 barrel bands and brass-tipped ramrods left over from Whitney’s 1855 contract for M1841 long-range rifles. George Moller wrote that the National Archives’ General Accounting Office records show that Eli Whitney Jr. purchased 1,175 ground barrels at \$0.31 each at Harpers Ferry Armory on June 8, 1859. These barrels were .58 caliber with 3-groove rifling.¹²

The locks of Model 1855 Derivative rifles exhibit two important Whitney characteristics. First, the lockplate for U.S. M1855 rifles and rifle-muskets had a “hump” to accommodate the Maynard tape primer mechanism, which was omitted from Whitney rifles. (Figure 4) Whitney altered these lockplates by filing the hump down to the top of the wooden stock, very similar to the Confederate locks produced by the Richmond Armory. The second characteristic was the mainspring of the lock. The mainspring was secured to the lockplate with a screw near the center of the lockplate, as was done on M1841 rifles. The lower portion of the mainspring rests directly on the tumbler, also similar to the M1841 lock.



Whitney M1855 Derivative Rifle

	Identifying Characteristics	Bayonet characteristics
Type 1	Round U.S. washers, Whitney long range rear sight located 2-7/8" from breech; "high hump" lockplate ground down to height of stock; stud only, .58 cal 33" barrel with 3-groove rifling, bayonet mating # stamped on top of buttplate. (1858-1859)	Muzzle ring diameter .900"; mortise for stud only, American-made hilt, bayonet mating number possibly located on top flat of hilt.
Type 2	Enfield/winged washers, Whitney long range rear sight located 5-5/8" from breech, "high hump" lockplate ground down to hight of stock, stud only, .58 caliber 33" barrel with 3-groove rifling, bayonet mating # stamped on left side of barrel near front sight. (1859-1860)	Muzzle ring diameter .900"; mortise for stud only, American-made hilt, bayonet mating number located on top of muzzle ring.

Figure 3. Identifying characteristics of the two types of the Whitney M1855 Derivative rifles. Note that the bayonet mating numbers are located in different locations between the types.

As mentioned earlier, Whitney purchased the M1855 Derivative rifle barrels at auction from the U.S. Army at Harpers Ferry. These barrels were in various stages of finish and/or condemned by inspectors. They were .58 caliber with three-groove rifling, instead of Whitney's standard seven-groove rifling.



Figure 4. The Whitney lockplate (top) has been filed down to the level of the stock, similar to the Richmond low hump rifle-musket. (Author's collection).

The Whitney long-range rear sight used on the M1855 Derivative rifle slightly differs from the U.S. M1855 rear sight. The base on the Whitney sight is somewhat shorter than the U.S. version (2-5/16" versus 2.5"), and the rear side of the base is sloped rather than straight vertical, as is the U.S. base. The U.S. M1855 rear sight is graduated up to 900 yards while the Whitney is sighted up to 800 yards. Figure 5 compares a U.S. long range rear sight with the Whitney sight.

Whitney M1855 Derivative rifles have been classified into two types. Type 1 rifles are considered to have been produced earlier than Type 2. A few Type 1 rifles exhibit armory stamps on the barrel ("V/P," eagle head stamp, and "1858") and buttplate ("U.S."). The lockplate is unmarked except for "E. WHITNEY" stamped in front of the hammer. The three identifying characteristics of the Type 1 rifle are:

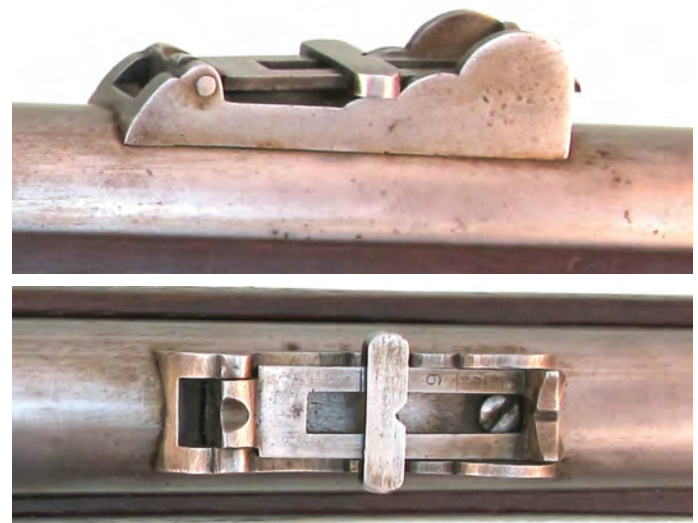
1. Armory-produced round brass washers with the lockplate side screws,
2. The Whitney long-range rear sight located 2-7/8" from the breech,
3. The bayonet mating number was located on the top of the buttplate. The mating number on the bayonet would be located on the flat top of the hilt.

The Whitney M1855 Derivative Type 2 rifle is entirely unmarked, except for the maker's name, "E. WHITNEY," stamped into the lockplate in front of the hammer. Upon close inspection, it is evident that the significant parts of the M1855 Derivative rifle (lock, stock, furniture and barrel) were produced at the Harpers Ferry Armory and then sold at one of the armory auctions. The three identifying characteristics of the Type 2 rifle are:

1. The brass side washers are shaped similar to the Enfield style, with side projections, customarily called "wings."
2. The location of the Whitney long-range rear sight is moved to 5-5/8" from the breech.
3. The bayonet mating number is located on the left side of the barrel, .75" from the muzzle. The bayonet mating number is located at the top of the muzzle ring, so when the bayonet is affixed to the barrel, the two mating numbers line up. (Figure 6).



U.S.



Whitney

Figure 5. The Whitney rear sight is identified by the sloping rear side of the base (Author's collection).

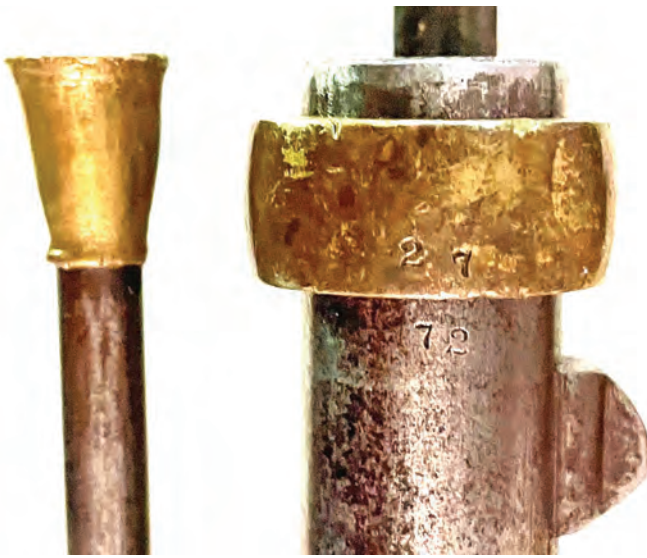


Figure 6. When the bayonet is affixed on the barrel, the mating numbers line up to be readable. The correct bayonet would have matching numbers (e.g., 27 and 27) (Bayonet from Stan Jones collection; Whitney arm from Author's collection).



Figure 8. This is Private Daniel Parker of Co. D, 11th Mississippi Infantry, "Neshobia Riflemen" with a Whitney Enfield Derivative Type 2 rifle and saber bayonet. (Courtesy of Fleischer's Auction and the estate of Herb Peck)

A three-digit bayonet mating number is sometimes found on the head of the barrel bayonet stud, in addition to the mating number on the buttplate (Type 1) or on the left side of the barrel (Type 2). The author believes that this number was stamped on the stud if a replacement bayonet had to be used when the original bayonet was lost or broken. These replacement mating numbers have been observed on all models of Whitney rifles.

An M1855 Derivative Type 2 rifle in the author's collection has an armory-produced M1855 rifle lock, barrel, furniture and stock. The lock is unmarked except for the "E. WHITNEY" stamp. The buttplate is unmarked, and the barrel is devoid of any marks. There is evidence on the bottom of the barrel, where the stock has protected the finish, that Whitney originally browned the barrel.¹³ The barrel measures .58 caliber with three-groove rifling. The brass bands and ramrod are of the M1841 type. This arm is shown in Figure 7.

Whitney's Enfield Derivative Rifle.

Whitney Enfield Derivative rifles are uniquely Eli Whitney Jr., with Enfield-style locks, seven-groove, .58 caliber, rifled barrels and Enfield Pattern 1853-style barrel bands. Although Madaus and Moller's terminology for these rifles seems to be similar (Types 1, 2, 3, and 4), the authors describe different models. The Whitney Enfield rifles described by the ASAC study group in Indianapolis follow Howard Madaus' typology to be consistent with the Whitney M1841 and M1855 Derivative rifle nomenclature.



Whitney M1855 Derivative Rifle



Protected areas of the barrel indicate it was browned.

Figure 7. The bottom of this M1855 Derivative Type 2 rifle barrel shows that the barrel was originally browned by Whitney. The contract for rifle-muskets and rifles in the Whitney-Georgia contract called for browned barrels. (Author's collection).

The four Whitney Enfield models are visually similar, with minor configuration differences defining the types. A significant fact is that the outside barrel diameter at the muzzle of the Whitney Enfield is narrower than that of the barrels of the Whitney M1841 and M1855 Derivative rifles. The Whitney Enfield outside barrel diameters measure .805" to .810" while the Whitney M1841 and M1855 Derivative barrel diameters measure .885" - .900". The difference in the outside barrel diameters is essential when identifying Whitney bayonets for each model. Whitney Enfield rifles have nose caps made of pewter, and the trigger guards are brass, while the trigger guard strap is iron. These characteristics are common on all Whitney Enfield arms.

On page 373, *American Military Shoulder Arms Volume III*, Moller wrote that Whitney purchased 5,000 sets of the solid iron Enfield-style barrel bands at the 1858 Robbins & Lawrence auction.¹⁴ On their contract with the British government, Robbins & Lawrence used these barrel bands to make Pattern 1853 Enfield rifle-muskets. Whitney used these barrel bands on the Whitney Enfield rifles Types 1, 2, and 3.

Whitney Enfield Derivative Rifle Types 1 & 2.

The common characteristic of Whitney Enfield Derivative rifles Types 1 and 2 is the oval patch box on the right side of the buttstock (Figure 9). This patch box is similar to those found on M1817 Common rifles but is slightly narrower from top to bottom. It is hinged at the bottom and has a spring catch at the top.

The difference between Whitney Enfield Types 1 and 2 is the attachment of a saber bayonet and the style of the rear sight. Type 1 Whitney Enfield rifles do not have a bayonet attachment for either socket or saber and have the old-style M1841 block "V" rear sight. Type 2 Whitney Enfield rifles (pictured in Figure 9) have a saber bayonet stud on the right side of the barrel, 3-3/8" from the muzzle, and a Whitney-style long-range rear sight located 5-5/8" from the breech. Because the Type 2 will fit a saber bayonet on the barrel, there is a mating number on the left side of the barrel, 3/4" from the muzzle. The barrel outside diameter is .810".

Two Whitney Enfield Derivative Type 1 rifles of particular note were brought to the ASAC meeting in Indianapolis. The first was a Type 1 rifle with no bayonet attachment on the barrel and the M1841 block "V" rear sight. Stamped on the left side of the buttstock in two inch figures is: "19/ST. S. G" for St. Simons [Island] Guards. In 1861, the local militia unit in Savannah, Georgia, the Irish Jasper Greens, ordered a detachment of soldiers to St. Simons Island to guard Fort Frederica on the Island's southeast side. It is believed the regiment had purchased these Whitney Enfield Type 1 rifles and issued them to this small detachment when deployed to the Island. No evidence was found in the Georgia Archives of State contracts with Whitney to purchase these guns. The militia unit in Savannah probably purchased these guns directly from Whitney or a military supplier.

Amazingly, a second St. Simons Guards marked Whitney was also brought to the Indianapolis meeting. This Whitney Enfield was examined and found to have two alterations. First, the block "V" rear sight had been replaced with a Whitney long-range rear sight (Figure 5). Second, the original blade front sight had been replaced with a rifle-musket front sight and relocated rearward to 1.25" from the muzzle. This allowed a socket bayonet to be affixed to the barrel. The left side of the buttstock has been stamped in two inch figures: "17/ST. S. G." (St. Simons Guards). These rifles are rare, and having two in one location was a special occasion.

Whitney Enfield Derivative Rifle Types 3 and 4.

Whitney Enfield rifles Types 3 and 4 may be identified by the absence of the iron patch box on the right side of the buttstock. Types 3 and 4 have been classified by the style of the rear sight and its location on the barrel. Additionally, the location of the bayonet stud was changed, indicating that Eli Whitney, Jr. introduced a different bayonet model.

Whitney Enfield Types 3a and 3b.

The Whitney Enfield Type 3 rifle has the same configuration as the Type 2 Whitney Enfield rifle but without the patch box (Figure 10). The Whitney-style long-range rear sight, bayonet stud and



Whitney Enfield Rifle Derivative Types 1 & 2

	Identifying Characteristics	Bayonet characteristics
Type 1a	Patchbox; No bayonet stud & mating #s; brass blade front sight, M41 block "V" rear sight.	None
Type 1b	Patchbox, No bayonet stud & mating #s, replaced front sight, Whitney long range rear sight.	None
Type 2	Patchbox; has bayonet stud 3-5/8" from muzzle; Whitney-style M1855 rifle front sight; Whitney long range rear sight located 5-5/8" from breech; mating number on left side of barrel in line with front sight.	Muzzle ring diameter of .810" - .820"; American-made hilt, mating number on top of muzzle ring.

Figure 9. Whitney Enfield Derivative rifles Types 1 and 2 have a common characteristic in the M1817-style iron patchbox on the right side of the buttstock. The trigger guard is made of brass, and the nose cap is made of pewter.



Whitney Enfield Short Rifle Derivative Types 3 & 4

Identifying Characteristics	Bayonet characteristics
Type 3a No Patchbox; has bayonet stud 3-5/8" from muzzle; Whitney-style M1855 rifle front sight; Whitney long range rear sight located 5-5/8" from breech; mating number on left side of barrel in line with front sight.	Same as on Type 2; Muzzle ring diameter of .810" - .820"; American-made hilt, mating number on top of muzzle ring.
Type 3b No Patchbox; has bayonet stud 4" from muzzle; Whitney style M1855 rifle front sight; Whitney long range rear sight located 5-5/8" from breech, mating number on bottom of barrel near muzzle.	Enfield saber bayonet; muzzle ring diameter of .810"; mating number on left side of muzzle ring to align with barrel mating number.
Type 4a No Patchbox; has bayonet stud 4" from muzzle; Whitney style M1855 rifle front sight; Whitney mid-range rear sight located 2-7/8" from breech, mating number on top of barrel near muzzle.	Enfield saber bayonet; muzzle ring diameter of .810"; mating number on right side of muzzle ring to align with barrel mating number.
Type 4b No Patchbox; has bayonet stud 4" from muzzle; Whitney style M55 rifle front sight; Whitney mid-range rear sight located 5-5/8" from breech, mating number on top of barrel near muzzle.	Enfield saber bayonet; muzzle ring diameter of .810"; mating number on right side of muzzle ring to align with barrel mating number.

Figure 10. Characteristics of Whitney Enfield Derivative Types 3 & 4. Whitney introduced a new rear sight and obtained Enfield saber bayonets for his rifles which required a new location of the bayonet stud.

bayonet mating number are in the exact same locations. This type of rifle has been designated "Whitney Enfield Type 3a."

Sometime during the production of the Type 3 rifles, Whitney changed the issued bayonet to the imported British Enfield saber bayonet (see right column of Figure 10). This change required the bayonet stud to be relocated from 3-5/8" to 4" from the muzzle. When Whitney changed the bayonet and bayonet stud, the bayonet mating number was also relocated to the **bottom** of the barrel, one-half inch from the muzzle. This type rifle has been given the designation of "Whitney Enfield Type 3b". Whitney bayonets will be described later in this article.

Whitney Enfield Types 4a & b.

Whitney Enfield Type 4 rifles differ from the Type 3a & b rifles in the location of the bayonet mating number and the style of the rear sight. The Whitney Enfield Type 4 rear sight was loosely designed after the M1858 rear sight utilized on M1855 rifle-muskets and rifles. The base is 1-5/16" long with a single leaf that has a window in the middle for mid-range and a V-shape on top for long-

range sighting. The base does not have step sides; only a single leaf was installed. This rear sight has been termed a "Whitney mid-range rear sight" (Figure 11). This Whitney mid-range rear sight has been observed in two locations on the barrel. Whitney Enfield Type 4a rifles have the mid-range sight located at 2-3/4" from the breech, and the Type 4b mid-range sight is located 5-5/8" from the breech. The rifles with the mid-range rear sights located 5-5/8" from the breech are considered later modifications as the bayonet mating numbers are higher. The second change in Type 4 rifles is the location of the bayonet mating number, which is on the **top** of the barrel 3/4" from the muzzle. The location of the bayonet mating number will be shown to aid the identification of the bayonet issued with the rifle.

Georgia documents concerning Whitney rifle contract.

A document search was conducted in the Georgia State Archives concerning the arms and accouterments the state purchased just before the Civil War. The first document located in the archives was a letter written by the Georgia Adjutant General, Henry Wayne, on February 26, 1861, to a Member of the Confederate States Provi-



Whitney mid-range sight Figure 11. Whitney mid-range sight.

sional Congress, the Honorable Francis S. Bartow, concerning a request by the Congress regarding the status of the state's ordnance procurement. The letter is rather long, but only the applicable items are listed here. General Wayne wrote the following:¹⁵

Within the past eight months, there have been purchases by the state:

- 5780 U.S. Muskets patterns 1842 – percussion
- 1225 'Minie' Muskets patterns 1855
- 1570 Setts Infantry accoutrements. Complete
- 370 Mississippi Rifles
- 620 Maynard Rifles
- 1600 Sharps Carbines
- 320 Long Range Rifles with Sabre Bayonet
- 100 U.S. Cavalry Carbines, rifled
- 100 Enfield Rifles
- 400 Adams Revolving pistols
- 1200 Colts Revolving pistols
- 200 Cavalry pistols (single barrel)

Howard Madaus and George Moller referred to this document in their writings. Of particular interest are the identities of the patterns of the 1,225 'Minie' muskets of the 1855 pattern, 370 Mississippi rifles and 320 long-range rifles with saber bayonets.

The second document, located in the Georgia Archives, sheds critical new light on the arms purchased by the state. It is a copy of the May 4, 1860, contract between Eli Whitney and the State of Georgia (Figure 12).¹⁶ Authors Madaus and Moller did not mention this contract, which would indicate they had not seen it. This newly-discovered contract was signed by Eli Whitney Jr. and Mark A. Cooper, who Georgia Governor Joseph E. Brown commissioned in early 1860 to travel to the northern states to purchase arms and

accouterments for the State of Georgia. The state contracted for 1,600 "minie" rifled muskets at \$11 each and 250 long-range rifles at \$14 each. The barrels of the muskets and rifles were to be browned and .58 caliber. The bayonet socket was to be browned while the blade remained bright. The barrel bands, buttplate and trigger guard plate were to be blued, and the lock was to be case-hardened. Delivery of the arms was to begin 40 days from the contract date (June 13th) and be completed five months from the date of the agreement (October 5th). All of these arms were to be inspected by a fair and disinterested person(s) who turned out to be William Van Lidgewood and A. J. Brady, who signed the inspection documents for Whitney.

In most arms contracts, bayonets were only mentioned as being supplied with the arm as a "Stand of Arms." However, the Georgia contract has much to say about the bayonets supplied with the Georgia rifle-muskets and rifles. The Georgia contract required all delivered arms to have bayonets, but different bayonets were to be supplied with rifle-muskets. The contract stipulated that 1,000 "minie" rifle-muskets were to have U.S. regulation M1855 socket bayonets, while 600 "minie" rifle-muskets were to have Enfield Pattern 1853 socket bayonets. Additionally, the long-range rifles were to be supplied with saber bayonets produced by the Ames Manufacturing Co. of Chicopee, Massachusetts. The contract states, "Said Whitney also agrees to furnish 250 long-range Rifles like Samples with Sabre bayonet of Ames Make or U.S. Model adapted to the gun I now make and made to interchange as readily as far as the bayonet is concerned as the U.S. Sabre bayonet does." Another part of the contract states, "Sample of Rifle or Rifle Bbl [barrel] to be sent to James T. Ames to fit what Sabre bayonet he makes so that they can be made uniform and to interchange."¹⁶

Whitneyville May 4th 1860

This may certify that Eli Whitney, with
 duly agree with Maj. M. A. Cooper, authorized
 agent of the State of Georgia for the purchase of
 arms & ammunition, to furnish the State
 of Georgia sixteen hundred (1600) Minnie Rifle
 Musket. (1000) One thousand of them like the
 Model or sample furnished to said Whitney,
 and (600) Six hundred like the said Sample
 except that the Bayonet is to be similar to the
 Enfield Rifle Musket Bay. Calibre to be .58 grain
 & Barrel browned, Bands & Butt plate & Gun
 Head Bayonet Socket browned. Parts are to be
 made uniform so that they will interchange
 with little or no fitting. The 1000 arms are to
 have U.S. Regulation Bayonets. Price to be paid de-
 livered on Shipboard in New York Seven Dollars
 each and Receipts for each case containing twenty
 guns. Cash to draft on N York. Locks to be blued
 case hardened color, appendages to be included in
 the price & to consist of 4 Minnie Models & 3 Iron
 Ball Moulds & 4 Case wrenches to a Bay & 1 mpa
 and 1 screw driver to each Minnie Musket so
 per sample. The apperance arms are to be de-
 livered as follows 500 in 40 days from date 500 in
 60 day and the balance 500 in 3 months from date
 former if possible. Said Whitney also agree to fur-
 nish 250 long range Rifles like Sample with Sabre
 Bayonet of Ames Make or U.S. Model adapted to the
 gun I now make & made to interchange as readily as
 far as the bayonet is concerned as the U.S. Sabre bayonet
 does. Price including appendages Seven Dollars
 14) each. It is understood and agreed by the
 parties to this instrument that said Whitney can

make 500 only instead of 1000 U.S. Regulation
 Bayonet provided he furnishes a similar one
 or good a bayonet, or one similar to the Enfield
 Rifle Bayonet. The above mentioned arms
 when completed & put together are to be inspected
 by a fair and disinterested person, and said Whitney
 may agree to furnish good material for all parts
 and that the guns shall be serviceable in all
 respects. To be packed in good order in the
 English style of packing 25 guns in a box.
 Boxes to be directed to the Governor of Georgia
 care of R. R. Agent Savannah. Millington Sea
 all to be delivered on Shipboard in New York
 (Steam) said Whitney to insure the goods at
 lowest rates and charge expense of passage in
 the Bell. Bill of Lading with bill of goods
 to be forwarded to Maj. Mark A. Cooper, Com-
 missioner Ordance Georgia on receipt of which
 said Commissioner engage to remit his
 draft on the Treasurer of the State of Georgia for
 the amount of said Whitney's bill payable in
 sight checks on New York at par. Sample
 of Rifle or Rifle Bbl to be sent to James T. Ames
 to fit what Sabre bayonet he makes so that
 they can be made uniform and to interchange
 250 of the above Muskets are to be directed to
 Gov. of Georgia State Arsenal Savannah.
 Appendages for Rifle and Musket to be the
 same
 Eli Whitney
 In presence of
 William Lidgewood
 Witness and agreed to
 Mark A. Cooper - Comr.
 for the State of Georgia
 Witness to both signatures }
 William Lidgewood

Figure 12. This is Georgia's copy of the contract between Eli Whitney, Jr., and Mark A. Cooper, Commissioner from the State of Georgia designated by Governor Joseph E. Brown. The contract is explained above. (Georgia Archives).

		Arms	Purchase of -	
315	Jan'y	31	W. Thorne Williams	In 100 Copies Harder Lt Infantry Rifle last of 125 00
367	Feb	9	D. C. Hodgkins Sen	" 648 Muskets for Vol Companies 7125 00
382	"	27	" " " "	" 132 " " " " 1452 00
401	March	23	" " " "	" 400 Adams Revolving Pistols, Musket 6150 00
419	April	11	Mark, A. Cooper	" Adv to him as Agt to purchase Arms 500 00
421	"	17	D. C. Hodgkins	" 100 Cavalry Holsters furnished State 150 00
504	May	26	R. L. Hunter	" part of draft of M. A. Cooper agt. 300 00
519	June	18	J. W. Landell	" Tent for Mil Institute Boring Express 10745 5
541	July	11	D. C. Hodgkins & Sen	" Arms & accoutrements furnished
"	"	"	" " " "	" Walton Guards & Lic Mts Rifle 1418 75
547	July	18	E. Whitney	" Arms furnished State, by Contract 5609 85
601	Aug	6	Sar. J. Ames	" Guns Sabres &c furnish State 5776 81
622	"	21	" " " "	" Accoutrements furnished State 2311 50
624	"	20	D. C. Hodgkins & Sen	" Pistols Sabres Belts &c 1407 30
631	Oct	1	James T. Ames agt.	" Accoutrements furnished State 2066 43
664	Oct	13	D. C. Hodgkins & Sen	" 200 Mississippi Rifles, Sabre Bayonets 3908 58
665	"	"	Mark A. Cooper	" Ad for services Com & Express as Commission 700 00
677	"	20	Sar. J. Ames	" Rifled Cannon & appur & accoutrements 2372 96
679	"	23	Eli Whitney	" Muskets, Rifles &c 6937 83
682	"	25	A. M. Nibber Agt.	" Artillery Arms &c furnished by A. Hitchcock 7347 25
696	"	29	Schr Burrows & Co	" frt wharfage & on Artillery Arms &c 607 09
1	Nov	1	James T. Ames	" Pistols as per bill filed 7684 67
3	"	3	John Jones Sr	" Freight on Arms &c from A. G. 400 01



Figure 13. Shown is page 188 right side of the Georgia Fiscal Bond Warrants listing the payments made by the State of Georgia for "goods and services". The wide arrows highlight the payments to E. Whitney for arms furnished from the May 4, 1860, contract. The narrow arrow highlights a payment to D. C. Hodgkins and Sons for 200 Mississippi rifles and saber bayonets. (Georgia Archives).

4	Nov	5	Geo. A. Dure	For frt on Cannon &c of Jackson Artillery
157	"	20	D. C. Hodgkins & Sen	" 200 Colt Pistols 1000 & 100 Miss Rifles 1900 00
161	"	24	John Jones Sr	" 5000 Muskets purchased from U. S. 1200 00



			Munitions of War -	
163	Nov	23	Joseph Bignon	For 100 Kegs of Powder \$ 375 00
165	"	29	James T. Ames, agt.	" 600 Sets of Infantry accoutrements 2317 74
173	"	30	Paul S. Semmes	" Expenses of self Col Harder as Commr. 500 00
175	Dec	1	Sharps Rifle Manfy Co	" contract with 20,000 State bonds to be delivered
"	"	"	" " " "	" ex frt for 1600 Sharp Carbine 30 m Contr agt
"	"	"	" " " "	" and 200,000 Primers, Gun &c as per bill 24,765 00
176	"	4	J. B. Lamar	" bring Shipping &c Arms from U. S. Gov 2500 00
183	"	7	James T. Ames Agt.	" 250 sets Infantry accoutrements 850 84
185	"	8	D. C. Hodgkins & Sen	" 200 Horse Art. Sabres & 25 Car Holsters 1136 00
188	"	12	Rogers & Proven	" furnishing fitting locks to 4 Cannon 43 00
195	"	17	D. C. Hodgkins & Sen	" Arms furnished State as per bill 13,847 25
211	"	20	Arch. W. West.	" 43 Gun Slings & Cartridges for the Mt. Rifles 101 50
213	"	"	Eli Whitney	" 420 Muskets furnished by Contract 7,712 28
237	"	28	C. B. Crawford	" Engraving of printing Military Bonds 484 88
245	Jan'y	1	Levi S. Hart	" Drayage & of 255 boxes Muskets for Storage 30 00
252	"	4	R. P. Parrott	" 100,000 lbs of Lead bought by Gen. Semmes 5,725 69
254	"	5	D. C. Hodgkins & Sen	" cleaning & attorning Rifles & Musket sabre belts 2,293 50
257	"	7	James Colt (Pres)	" 300 Army Pistols & appurtenances 6,806 62
259	"	"	Sa R. R. & Kyles	" freight on Cannon & appurtenances to Athens 83 02



Figure 14. This image is a composite of two pages in the Georgia Fiscal Bond Warrants showing a payment to D. C. Hodgkins for 200 Colt pistols and 100 Mississippi rifles (narrow arrow). The wide arrow highlights a final payment to Eli Whitney, Jr., for "420 Muskets furnished by Contract". (Georgia Archives).

The identification of Ames as the maker of the Georgia bayonet was a vital clue to the identity of the 250 Whitney rifles sold to the State of Georgia.

Another essential document in the Georgia Archives was the Georgia Fiscal Bond Warrants, listing the payments made by the State of Georgia for goods and services supplied to the state. Figures 13 and 14 illustrate selected pages from Georgia Fiscal Bond Warrants, showing the payments made to Eli Whitney, Jr., and D. C. Hodgkins and Sons of Macon, Georgia. These pages show that Eli Whitney, Jr. was paid on July 18, 1860, \$5,609.85 for “Arms furnished State by Contract.” On October 25th, Whitney was paid \$6,937.03 for “Muskets, Rifles &c”. The final payment to Whitney was on December 20, 1860, for \$4,712.28 for “420 Muskets furnished by Contract”.

During the same time, D. C. Hodgkins and Sons was paid for Mississippi rifles. On October 13th, Hodgkins was paid \$3,908.58 for “200 Mississippi rifles and saber bayonets.” On November 20th, 1860, \$5,233 was paid to Hodgkins for “200 Colts pistols and 100 Mississippi rifles,” accounting for 300 Mississippi rifles of the 370 reported by General Wayne to the Confederate States Congress and discussed by Madaus and Moller.

This document confirms that Whitney was paid \$17,259.16 for completing his contract with the State of Georgia, dated May 4, 1860. This amount is short of the total payment committed by the contract. Totalling the money for 1,600 rifle-muskets at \$11, 250 rifles at \$14, and 93 packing crates holding 20 arms each at \$3, the entire contract payment amounts to \$21,379. Consequently, the actual payment is about \$4,120 lower than committed, indicating Whitney delivered only some of the contracted arms he was required to provide. Since the contract states the cost of each arm and packing crate, the number of arms delivered to the state may be estimated. Figure 15 shows these calculations and the number of rifle-muskets and rifles delivered by Whitney.

An unknown variable in these calculations is the charges for transportation and insurance. However, the critical fact that was exposed is the actual number of rifle-muskets delivered. The contract called for 1,600 rifle-muskets; the final number delivered was 1,225. This is the exact number of ‘Minie’ Muskets patterns 1855 reported in Adjutant General Wayne’s letter dated February 26, 1861, in response to the query from the Confederate States Congress. Whitney also delivered 250 Whitney rifles to Georgia and was paid on October 25, 1860.

Whitney Saber Bayonet Models.

During the meeting in Indianapolis, another important area of study was determining what saber bayonets were issued with Whitney rifles and, specifically, what model saber bayonets would have been sold with the rifles to the State of Georgia. ASAC members were asked to bring the saber bayonets along with their rifles, and thirteen examples were studied and documented. After completing this study, the members discovered these bayonets could be grouped into four models (Figure 16). To avoid confusion, the study group decided the proper nomenclature for the types of Whitney bayonets would be “Bayonet Models” or BM.¹⁷

Whitney Saber Bayonet Model-1 (BM-1).

The Whitney Bayonet Model-1 saber bayonet has a blade length of 20” and a muzzle bore diameter of .893”. The left side of the blade is stamped, “AMES MFG CO./CHICOPEE/MASS.” The stamping is located in a scroll. On the right side of the blade, there is the year-date of “1860”. On top of the muzzle ring, the bayonet mating number, “45”, is stamped into the brass. This bayonet was the current model of the saber bayonet produced by the Ames Manufacturing Company in 1860. Figure 17 shows the characteristics of the Whitney Bayonet Model-1 saber bayonet.

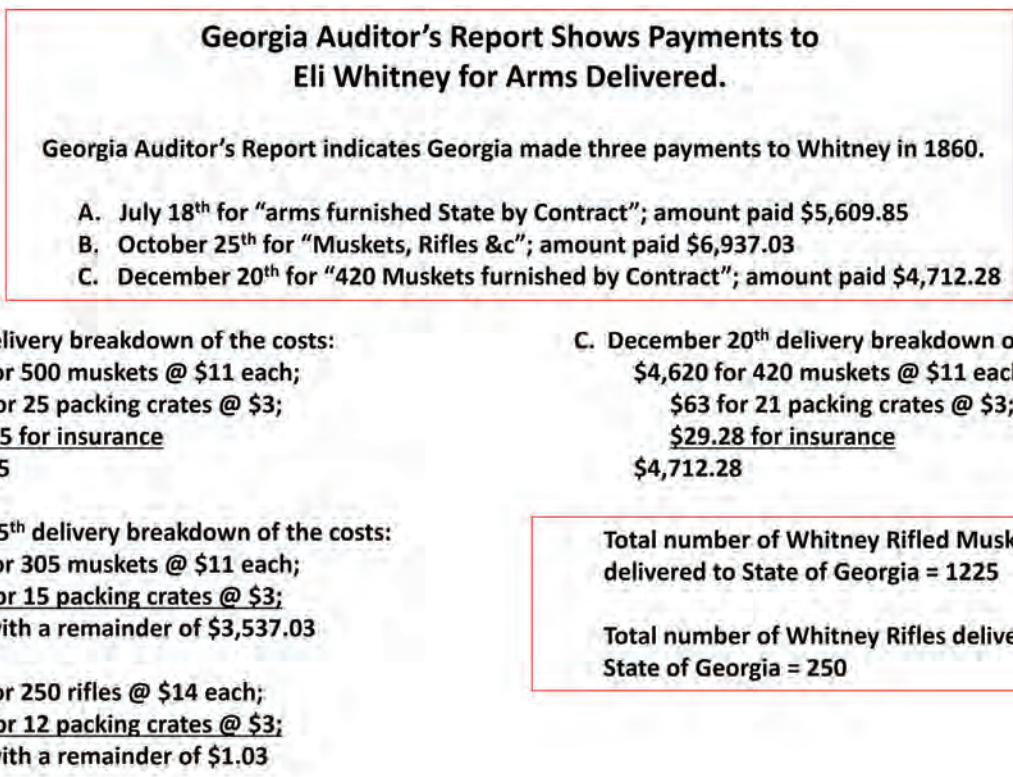


Figure 15. Shown here are the calculations estimating of the number of arms Whitney actually delivered to the State of Georgia.



Four Bayonet Models of Saber Bayonets Were Identified with Whitney Rifles

Figure 16. The bayonets brought to the Indianapolis meeting were classified into four different bayonet models. (Author's collection).

Whitney Saber Bayonet Model-2 (BM-2).

Whitney's Bayonet Model-2 saber bayonet has a blade length of 22" with a muzzle bore of .820". On the top of the muzzle ring, a bayonet mating number "24" is stamped. Note the difference in the bore diameters between BM-1 and BM-2 bayonets: BM-1 bayonets would be too loose on Whitney Enfield barrels, and BM-2 bayonets are too small for M1841 and M1855 Derivative barrels.

The Whitney Bayonet Model-2 saber bayonet is a mixture of an Ames-produced hilt and a Harpers Ferry-produced blade made in 1855 or 1856. Whitney purchased the blades at Harpers Ferry

Armory in one of the armory's obsolete and condemned parts auctions. Figure 18 shows the Harpers Ferry Armory M1854 saber bayonet and a Whitney BM-2 bayonet. Note the similarities of the blades.

Whitney Bayonet Models-2 and -3 bayonets have hilts made by the Ames Manufacturing Company.¹⁸ Eli Whitney Jr. probably purchased these hilts directly from Ames. Ames hilts can be identified from the hilts made at Harpers Ferry Armory by the absence of the knob on the top of the muzzle ring, as seen in Figure 19. Another difference between the Whitney Bayonet Model-2 hilt and the armory hilt is the

Bayonet Model-1. Ames Saber Bayonet, 20" Blade, Muzzle Bore - .893", Dated 1860

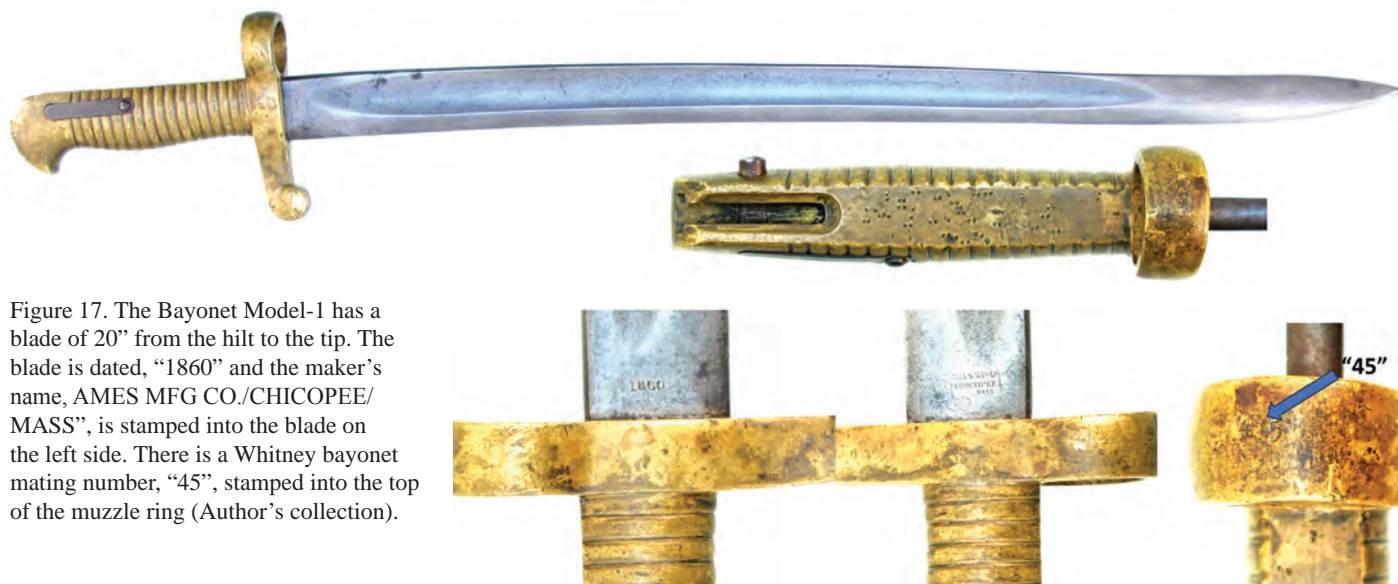


Figure 17. The Bayonet Model-1 has a blade of 20" from the hilt to the tip. The blade is dated, "1860" and the maker's name, AMES MFG CO./CHICOPEE/MASS", is stamped into the blade on the left side. There is a Whitney bayonet mating number, "45", stamped into the top of the muzzle ring (Author's collection).

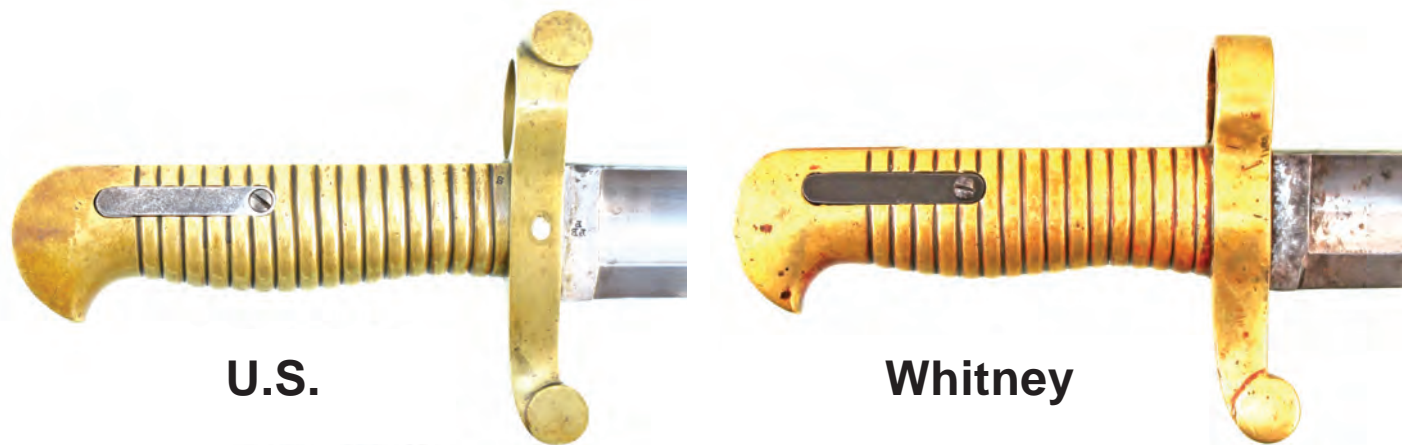


U.S. M1854 Saber Bayonet



Whitney Bayonet Model-2 Saber Bayonet

Figure 18. Comparison of blades from the Harpers Ferry Armory (top) compared to the Whitney BM-2 bayonet.



U.S.

Whitney

Figure 19. Note the knob at the top of the muzzle ring for hilts made at Harpers Ferry Armory (left) compared to the Ames hilt used by Whitney (right) (Author's collection).

Bayonet Model-2. Whitney Saber Bayonet, 22" Blade, Muzzle Bore - .820", Unmarked

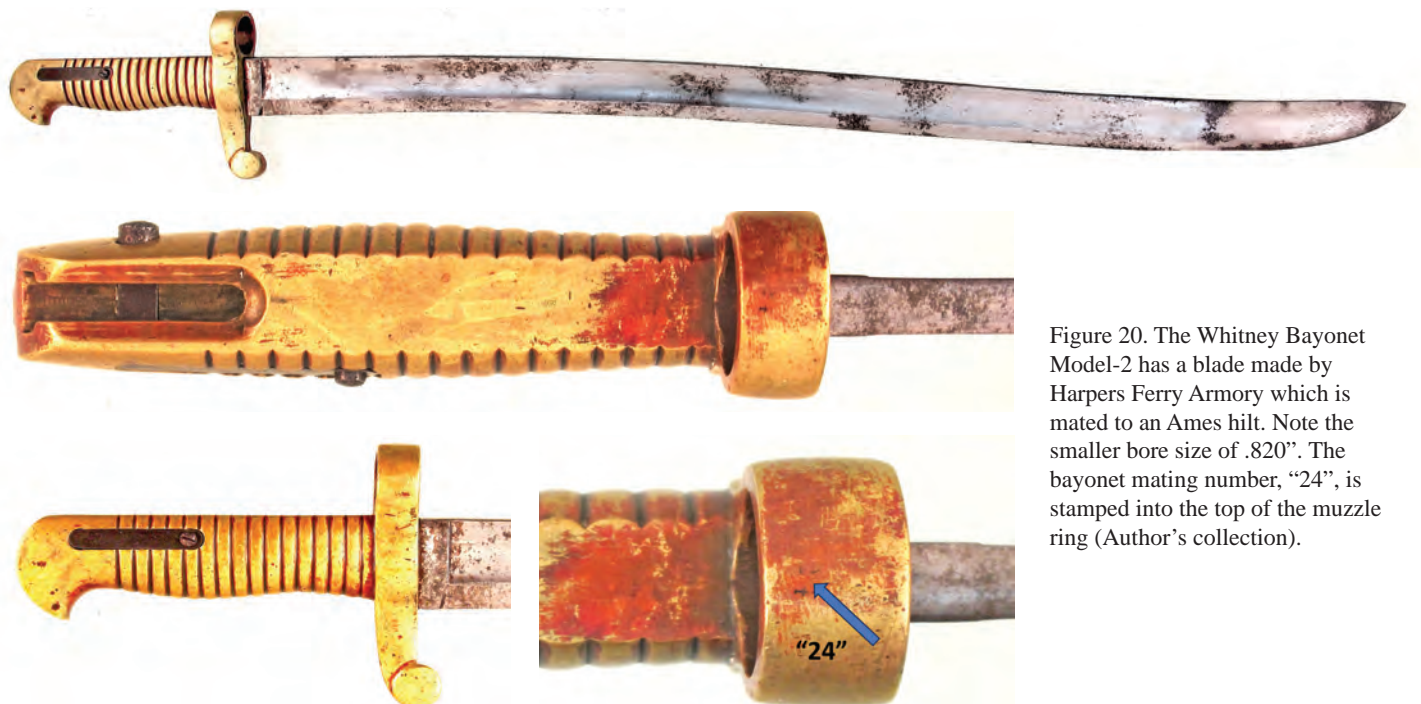


Figure 20. The Whitney Bayonet Model-2 has a blade made by Harpers Ferry Armory which is mated to an Ames hilt. Note the smaller bore size of .820". The bayonet mating number, "24", is stamped into the top of the muzzle ring (Author's collection).



U.S. M1857 Saber Bayonet

Whitney Bayonet Model-3 Saber Bayonet

Figure 21. Comparison of the U.S. M1857 saber bayonet to the Whitney Bayonet Model-3 bayonet. The blades are the same because Whitney purchased the blades from a Harpers Ferry auction of obsolete and condemned parts. The method of attachment, stud only, is the same on both hilts (Author's collection).

attachment method to the barrel. The U.S. armory hilt has a mortise for the stud, and a 1" guide brazed to the right side of the barrel, while the Whitney hilt is mortised for a stud only, with no guide (Figure 20).

Harpers Ferry blade produced from 1857 to 1861 for M1855 rifles. Figure 21 shows a U.S. Harpers Ferry M1857 saber bayonet and the Whitney BM-3 bayonet. Note the characteristic knob on the Harpers Ferry bayonet and the Ames hilt on the Whitney bayonet. The blades of both bayonets are indistinguishable.

Figure 22 is a closeup view of the muzzle ring of the Whitney Bayonet Model-3 showing the iron shim inside the muzzle bore to reduce the diameter of the bore. Some of the hilts purchased from Ames had been bored for a larger-sized M1841 barrel, so Whitney had to reduce the bore diameter with an iron shim to fit the smaller barrel of a Whitney Enfield. Not all Whitney bayonets have a shim, but it is a Whitney characteristic. It cannot be said that Whitney was not adaptable.



Figure 22. Whitney used an iron shim to reduce the bore diameter of the muzzle ring to fit on a Whitney Enfield barrel (Author's collection).

Whitney Saber Bayonet Model-4 (BM-4).

Whitney's BM-4 saber bayonet is a standard, imported British Enfield rifle saber bayonet. These Enfield saber bayonets have a blade length of 22.75" with a muzzle bore of .805". The iron muzzle ring has a bayonet mating number, "D53", stamped into the right side of the ring. This bayonet would be mated to a Whitney Type 4 rifle with a barrel mating number stamped into the top of the barrel near the muzzle. Another observed Enfield saber bayonet has the bayonet mating number, "A66", stamped into the left side of the muzzle ring. It would be issued with a Whitney Type 3b rifle, which has a mating number located on the bottom of the barrel near the muzzle. In both cases, the mating numbers line up when the bayonet is mounted on the barrel.

Results of Mating Bayonets to Whitney Rifle Models.

The ASAC group's next step was to identify which bayonets were issued with which model of Whitney rifle, the first purpose of the study. After identifying the four models of Whitney saber bayonets, the bayonets were fitted onto the various Whitney barrels. An important consideration was the alignment of the bayonet mating numbers. Even though the mating numbers did not match, if the bayonet fit on the barrel, the locking mechanism engaged on the bayonet stud, and the mating numbers aligned, the bayonet was considered a match. The following figures show the results of this portion of the study. The first criterion was the barrel fit. Obviously, the bayonets with a bore diameter of .885" to .900" (BM-1) would be too loose on a Whitney Enfield barrel that measures .810" at the muzzle. Conversely, saber bayonets BM-2,-3,-4

Whitney Saber Bayonet Model-3 (BM-3).

Whitney's Bayonet Model-3 saber bayonet has a blade length of 22", a muzzle bore of .817", and the brass muzzle ring has a bayonet mating number, "2", stamped into the top of the ring. Again, Whitney used the Ames hilt as he did with BM-2 saber bayonets. The only difference between the Whitney BM-2 and BM-3 saber bayonet is the blade. Whitney BM-3 saber bayonets have a M1857

with bore diameters of .805" to .812" would not fit on M1841 and M1855 Derivative rifle barrels which measure .885" to .900".

The saber bayonet mating exercise was made relatively straightforward by the location and alignment of the bayonet mating numbers. When it came to Whitney Enfield rifles Types 3 and 4, the exercise

became a little more complicated. For a Whitney Type 3a rifle (with a bayonet stud located 3-5/8" from the muzzle), the Whitney Bayonets Models-2 and -3 fit, and the mating numbers aligned perfectly on the left side of the barrel. When the bayonet stud was moved to 4" for the Enfield saber bayonet, the location of the bayonet mating number was even more critical. For Type 3b Whitney rifles, the mating number

Bayonet Model-4. Whitney Enfield Saber Bayonet, 22.75" Blade, Muzzle Bore of .805", Unmarked

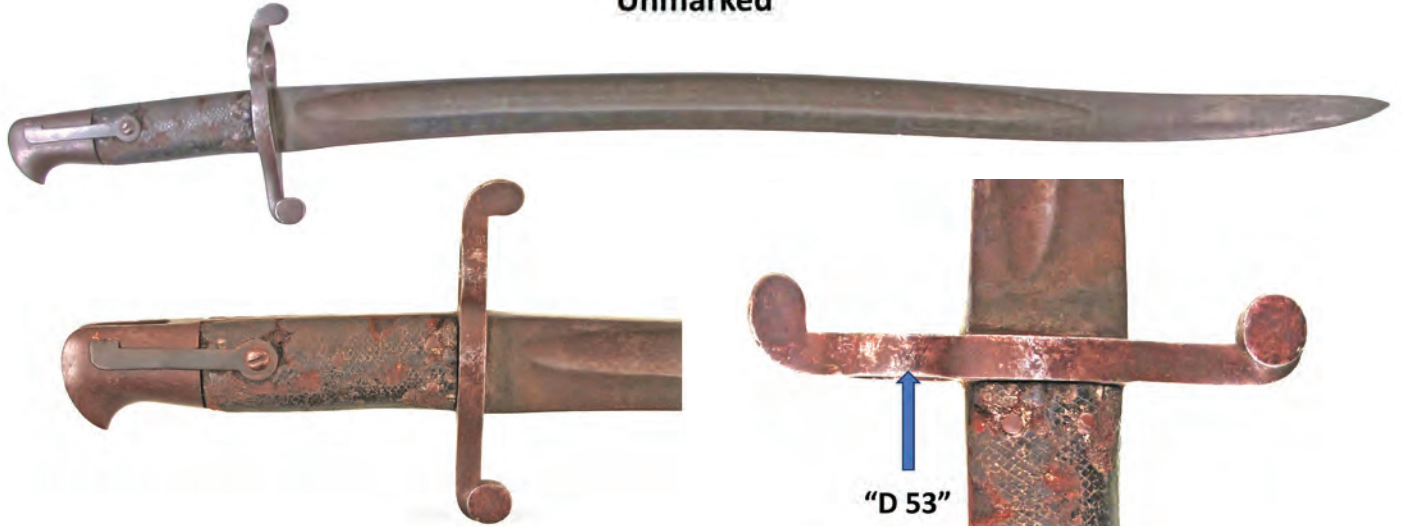


Figure 23. Whitney Bayonet Model-4 saber bayonet is an imported British Enfield that Eli Whitney purchased when his U.S. saber bayonets were depleted. The location of bayonet mating number will determine which Whitney model the bayonet is mated to - a Whitney Type 3b or a Whitney Type 4 (Author's collection).



Type 1A and Type 2 rifles with BM-1. Stud & guide attachment, 20" unmarked or Ames stamped on blade, mating number (if any) on top of hilt.



Type 1B rifle with BM-1. Stud-only attachment, unmarked or Ames stamped on blade, mating number (if any) on top of the muzzle ring or top of hilt.



Type 3 rifle with M1835-style socket, bottom lug, blade may be stamped "U.S.", no mating number.



Figure 24. Ames-produced bayonets with 20" length blades fit the barrel of the M1841 barrel. These bayonets were made for a stud-only or a stud and guide method of attachment. The socket bayonet is a reused M1835 socket bayonet.

was located on the bottom of the barrel near the muzzle. The Enfield bayonets with the mating number on the left side of the muzzle ring fit perfectly, and the mating numbers would be aligned. Finally, the Enfield bayonets with the mating number on the right side of the muzzle ring will fit on Whitney Type 4 rifles with the rifle mating numbers lo-

cated on top of the barrel near the muzzle. At the end of this exercise, the group felt confident enough to identify what bayonet model would be mated with any Whitney rifle model by finding the location of the bayonet mating number on either the rifle or the bayonet.



Type 1 rifle with BM-1. Unmarked or Ames stamped on 20" blade, may be dated "1860", rifle mating number on butt plate tang, bayonet mating number on top of hilt.



Type 2 rifle with BM-1. Ames stamped on 20" blade, dated "1860", rifle mating number on left side of barrel just forward of front sight, bayonet mating number on top of muzzle ring.



Figure 25. Ames-produced bayonet with 20" length blades will fit the M1855 barrels. Important consideration was the location and alignment of the bayonet mating numbers.



Type 2 rifle with BM-2 or BM-3. Unmarked Harpers Ferry blade (either for M1841 long range rifle or M1855 rifle) mounted on Ames-style hilt, stud attachment, rifle mating number on left side of barrel just forward of front sight, bayonet mating number on top of muzzle ring.



Figure 26. Whitney Bayonet Models-2 & -3 fit on the Whitney Type 2 rifle. Most important, the bayonet mating number on the muzzle ring aligned with the barrel mating number on the left side near the front sight.



Whitney Enfield Short Rifle Derivative Types 3 & 4 - Compatible Saber Bayonets

Type 3a rifle with BM-2 or BM-3. Muzzle bore of .810" - .820", unmarked Harpers Ferry blade (either for M1841 long range rifle or M1855 rifle) mounted on Ames-style hilt, stud attachment, Whitney mating number on top of muzzle ring.



Types 3b & 4 rifles with BM-4. Muzzle bore of .810" - .820", Enfield bayonet, stud attachment, Whitney mating number on left side (Rifle Type 3b) or right side of muzzle ring (Rifle Type 4).



Figure 27. Whitney Bayonet Models-2 and -3 fit the Whitney Type 3a rifle and the mating numbers line up perfectly. The Whitney Bayonet Model-4 (Enfield) fit on Whitney Type 3b and Type 4 rifles as explained in the text.

Purposes of the Study:

Determine what type of Whitney rifle was sent to Georgia in 1860.

- Whitney's contract with Georgia states that the bayonets would be made by Ames.
- Saber bayonets made by Ames are dated 1860 and had a bore diameter of .850" to .900".
- Mating numbers on barrel align with the bayonet mating numbers on the muzzle ring.
- Browning on barrel indicates this rifle was sent south.



Figure 28. Conclusions as to why the Whitney M1855 Derivative rifle is thought to be what was delivered to Georgia.

Conclusion: The Whitney Rifle Model Purchased by the State of Georgia.

The second purpose of the study was to determine what type of Whitney rifle was sent to Georgia in 1860. After reviewing the contract of May 4, 1860, between the State of Georgia and Eli Whitney, Jr., and the documents found in the Georgia Archives, the following statements and conclusions were agreed upon:

1. Whitney's contract with Georgia states that Ames Manufacturing Company of Chicopee, Massachusetts, would make the bayonets.

2. Saber bayonets made by Ames at that time would be dated 1860 and had a bore diameter of .885" to .900".

3. Mating numbers on the barrel would align with the bayonet mating numbers on the muzzle ring.

4. The contract required that the barrels would be browned, and there is evidence that the M1855 Derivative Type 2 barrel was browned.

At the end of this exercise, the ASAC study group concluded that the Whitney M1855 Derivative rifle was sold to the State of Georgia.

Endnotes

- ¹ Madaus, Howard Michael, “The Percussion Martial Longarms of Eli Whitney, Jr.”, Armax, *The Journal of Winchester Arms Museum*, Volume II, Number 1., The Buffalo Bill Historical Center, Cody, Wyoming, 1988. pp. 7-76.
- ² Ibid, p. 19; endnote reads, “State of Georgia, Adjutant-General’s Letter Book from February 1, 1861 to October 8, 1864; Georgia State Archives, AGO Vol. B-44 (WPA project 5993), pp.145-148.
- ³ Ibid, p. 19; endnote reads, “Issues to the Militia, E118, R. G. No. 156, Vol 5, p. 68.”
- ⁴ Ibid, pp. 19-20; endnote reads at this point, “State of Georgia, Treasurer’s Records of Georgia, Warrant Register, 1060-1865; Georgia State Archives, 3265-14, pp. 22 and 57-63.
- ⁵ Ibid, p. 20; endnote reads, “State of Georgia, Ordnance Department, Letters Sent (pressbooks); Georgia State Archives, Vol 1, p. 116 (Captain W. B. Boggs to D. C. Hodgkins & Son, 28 February 1862).
- ⁶ Ibid, pp. 19 & 21.
- ⁷ Ibid, p. 32.
- ⁸ Moller, George D., *American Military Shoulder Arms Volume III*, University of Mexico Press, 2011, p. 462.
- ⁹ Ibid, p.462. (Note: The documents referred to by Madaus and Moller will be discussed later in this article.)
- ¹⁰ It was decided the nomenclature used by Howard Madaus was more descriptive of the specific models. Madaus used the term “M1841 Derivative Rifle” with four “Types”, while George Moller used the term “Whitney (Type 1) Militia rifle” with three “variations”. Madaus used the term “Whitney’s M1855 Derivative Rifle” with two “Types”, while Moller used the term “Whitney (Type II) Militia Rifle” with no other divisions for the same examples.

For M1855 Derivative rifles, Madaus distinguishes between early and later configurations as “Type 1” and “Type 2”. Moller describes the same configurations only as “differences”. The group felt that Madaus’ nomenclature was easier to learn and use.
- ¹¹ Moller, *op. cit.*, p. 453.
- ¹² Ibid, p.468.
- ¹³ Knott, Steven, “The Whitney “Enfield” Rifle-Musket, Confederate or Federal?,” *Military Antique Collector Magazine*, Vol.3, No. 1, January-February 2024, pp. 54-68. Steven Knott wrote a very informative article on the Whitney Enfield rifle-musket sold to the states of Maryland, Georgia, and Mississippi. The article’s focus was on the Whitney rifle-musket, but in conversation with the author, Knott’s conclusions may be applicable to the Whitney rifles also. In his conclusions, Knott wrote: “Those sold to Georgia and Mississippi have browned barrels and blued bands, butt plates, and trigger guard plates. These Whitney Enfields no doubt entered Confederate service, with known deliveries to the 4th Georgia and 14th Mississippi Infantry Regiments.” Knott goes on to conclude that the rifle-muskets with bright barrels were sent to Maryland. The browned barrel on the M1855 Derivative rifle is an important clue to the destination of the author’s arm.
- ¹⁴ Moller, *op. cit.*, p.373.
- ¹⁵ Georgia Archives, Vol2-11528, Defense - Adjutant General Letter Books - NA, pp. 145-148.
- ¹⁶ Georgia Archives, DOC-7351, 994-02-046, Public Reference Service, File II, Names-Cooper, Mark Anthony, etc.
- ¹⁷ The group felt that a Whitney Enfield Type 3a rifle mated with a Type 3 bayonet, would be confusing about which type was which. So the consensus of the group felt that it made more sense to have a “Whitney Enfield Type 3a rifle mated with a Bayonet Model-3”
- ¹⁸ We know the Whitney bayonet hilts were made by the Ames Manufacturing Company because no other company was making saber bayonets at that time. In 1860, when Whitney was contracted to supply rifle-muskets and rifles to the State of Georgia, Ames was the only contractor making saber bayonets. Collins, Merrill, and Justice manufacturers did not begin to produce saber bayonets until late 1861.

