

Randy Baehr's Article on The Woodruff Gun!



Company M's Woodruff gun replica at the 2012 Kirksville event.

Little known, and perhaps even less liked, there are few more obscure Civil War weapons than...

The Woodruff Gun

By John R. Margreiter

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Annotations in brackets by Randy Baehr.

[10/14/2022: Substantial changes to the annotations to this article are in the works, based on the discovery of new information since this page was originally posted. Watch this space for developments.]

The Woodruff gun, sometimes referred to as a “steel two-pounder skirmish gun,” is one of the lesser-known fieldpieces of the Civil War. These miniature cannon rendered valuable service to the Union in Mississippi and several other locales of the Western theater, yet few are aware that they existed.

Their inventor, James Woodruff, was born in New Haven, Connecticut, February 26, 1821, and learned the carriage maker’s trade in Pittsfield, Massachusetts, during his teens. In October 1842, he moved to Quincy, Illinois, to work for an Eastern real estate firm with large holdings in that area, but eventually re-entered the carriage manufacturing trade as a partner in the firm of Hayes & Woodruff. Shortly after the outbreak of war this business was liquidated, and in September 1861 Woodruff began manufacturing knapsacks, haversacks, and ambulances for the Union forces. He was appointed assistant provost marshal for the Quincy Congressional District on October 30, 1862, and on May 7, 1863, was made provost marshal, only to resign the post in 1864.

Sometime early in 1861 Woodruff designed a small fieldpiece for use by cavalry and infantry, and on October 6, 1861, submitted the following proposal to Brigadier General James W. Ripley, Chief of Ordnance, U.S. Army:

I submit herewith a description of, and propositions for furnishing light Cannon, known in the West as the “Woodruff gun.” They are manufactured from the best charcoal scrap iron, faggotted, brought to a welding heat, and forged, and thoroughly compacted under a heavy trip hammer, then turned, bored, and polished. Their length is 3 feet, the bore is 2-1/8 inches, which just allows the chambering of seven lead ounce balls in the canister, the canisters which have been generally used with them have contained 42 lead ounce balls. For Infantry use the guns are mounted on 2 wheels, with trail, the wheels 4 feet in height, with Iron axles, 2 ammunition chests resting on the axle, one on each side of the Gun, securely fixed, and easily detached, they balance well on the axle, and when the end of the trail is raised, and the Gun is drawn by 2 men they have but little weight to support. The carriage part is made light, but strong, and all the materials and workmanship are of the best quality. Each gun is thoroughly proved before it leaves the factory. The weight of each Gun is about 256 lbs. They are accurately sighted, and at repeated trials have proved themselves effective with round ball at 1-1/4 miles, and with canister their most effective range is about 700 yards.

For mounted service or Flying Artillery to be used with 2 horses the Guns are mounted precisely the same as for Infantry, and have in addition a limber, with everything ready to attach the horses, and with 2 ammunition chests upon the limber on which 2 men can ride, as can also 2 other men on the chests on the gun axle. Each gun will be furnished with 2 Sponges and rammers, 1 Sponge Bucket, 1 Grease Bucket, and 1 Felling Axe.

I can furnish the Guns at the rate of twenty per week completely finished and ready for the field, after reasonable notice. The price will be Two Hundred and thirty-five dollars each if mounted for infantry use-or Two Hundred and eighty-five dollars each if mounted with limber for attaching horses. Any number of the Guns can be rifled at an additional cost of Fifteen dollars each. My residence and Factories are at Quincy, on the Mississippi River, in the State of Illinois.

General Ripley took his usual stand concerning new and different weapons and flatly rejected Woodruff’s proposal. Through his contacts with the State of Illinois, Woodruff had become a good friend of Governor Richard Yates, and in fact was present when Grant tendered his services at the beginning of the war. At approximately the same time that Woodruff’s cannon were refused, a regiment by the governor’s order had encamped near Shawneetown, Illinois. It had been proposed that this aggregation of recruits become a cavalry regiment and be equipped with Woodruff’s “Flying Artillery,” but the local Federal mustering officers had refused to accept it, giving as their reason a total lack of arms with which to equip the men. Woodruff had somehow discovered that there were 9,000 Belgian sabers in the St. Louis Arsenal, and (at the time he had offered his cannon) had urged General Ripley to equip this regiment, specifically mentioning the available sabers. Ripley steadfastly maintained that no arms were available and disputed Woodruff’s statement concerning sabers in St. Louis.

Woodruff returned to Illinois, having learned in the meantime that there were 1,500 Navy revolvers (apparently Colts) in Whitneyville, Connecticut, and that a Mr. Gwynn of Dayton, Ohio, had 1,500 carbines (apparently the Cosmopolitan) which had been refused by the Ordnance Department. These facts were reported to Governor Yates, who then urged Woodruff to return to Washington and seek an audience with the President. Woodruff followed this advice, shrewdly taking along General Ripley’s original adverse report on the cannon. The inventor apparently championed his own cause as well as that of the regiment forming at Shawneetown, for Lincoln directed him to go see Lieutenant General Winfield Scott and gave him a memorandum (written on the wrapper

of Ripley's refusal of the cannon) which read: "Will Lt. Gen. Scott please see Mr. Jas. Woodruff, and in consideration of all the grounds say whether he would advise the purchase of the guns as proposed?" Gen. Scott's staff would not allow the inventor to see the general personally, but instead sent Lincoln's memorandum in to Scott's office. The verdict was again adverse, General Scott's reply stating, "I concur fully with Brigadier General Ripley in the opinion he has expressed within on this subject."

Woodruff returned to the White House and was again received by the President. After some rather strong conversation, Lincoln wrote a note and told him to deliver it in person to General Ripley. Upon reading this communication Ripley's attitude immediately changed to one of friendliness and cooperation, since the President had ordered the equipping of the Shawneetown regiment and the purchase of some Woodruff guns. Upon learning of the availability of the Navy revolvers and Gwynn's carbines, the general asked Woodruff if he would go to Whitneyville, Connecticut, see that the handguns were shipped to Illinois, and try to locate Mr. Gwynn. Woodruff readily assented to the first request, and promised to attempt to find the carbine manufacturer.

By coincidence the two men met that evening in the lobby of Willard's Hotel, and Woodruff told Gwynn to call again on General Ripley. On December 23, 1861, the Ordnance Department placed an order for 1,140 Cosmopolitan carbines, the actual number that Gwynn had on hand and more than enough to equip the regiment in Shawneetown. Woodruff was thus instrumental in the mustering and equipping of this unit, which eventually became the 6th Illinois Cavalry. Meanwhile, both Governor Yates and Senator Orville Hickman Browning pressured Lincoln to purchase some Woodruff guns; the shrewd Yankee from Connecticut left few strings unpulled.

Thirty Woodruff cannon were ordered on November 15, 1861, and delivered February 1, 1862. On March 19, 1862, Woodruff received \$8,550.00 (or \$285.00 per gun), the sum indicating that they were smoothbores equipped for cavalry. These weapons were manufactured entirely in Quincy, the barrels by the Greenleaf Foundry and the carriages by Battel & Boyd. The city of Quincy bought an additional six guns for municipal defense purposes. *[For insight into why a northern Illinois town would think it would need to provide for municipal defense, [click here](#).]* These were delivered February 7, 1862, and this apparently was the end of production.

[The OR contains a number of references to "2-pounder steel guns" in Missouri. A [section of Woodruffs](#) served with the 2nd Missouri State Militia Cavalry in northern Missouri in 1862. Col. James Lindsay, commanding the 68th Enrolled Missouri Militia from the Ironton and Fredericktown area, acquired four Woodruff guns at his own expense, which were later turned over to the 3rd Missouri State Militia Cavalry at Pilot Knob, Missouri. This suggests additional guns were made beyond the 36 accounted for above. Gen. Samuel Curtis expressed an interest in using Woodruff guns for railroad bridge defense in Missouri in [letters](#) to the St. Louis District Headquarters, although apparently nothing came of the proposal. In the mid-1990's, a Woodruff gun was discovered in the Springfield, Missouri, area. This piece was displayed for a time in General Sweeny's Museum of Civil War History near the Wilson's Creek National Battlefield outside Springfield. The logical speculation would be that this is one of the guns captured by Price at Pilot Knob and then recaptured as he was driven south along the Kansas border after his defeat at Westport in Kansas City. However, the piece on display was rifled, and the records of the guns at Pilot Knob always refer to them as smoothbore. In any event, the mere existence of a rifled Woodruff indicates that additional guns beyond the initial 36 were manufactured, since that run is documented by Margreiter as all smoothbore.]

The source of ammunition for these guns remains a mystery, although it is certain that they used only solid shot and canister. Sydney C. Kerksis, noted Civil War field artillery expert, stated in a personal communication:

"There are Government records for the purchase of all artillery projectiles during the war, which are very detailed, including even such purchases as 15 rounds of an experimental calibre. There is absolutely nothing regarding the purchase of any projectile of a size that could fit the Woodruff, either in conical or spherical format. As there is no doubt the guns existed and were used, I have come to the conclusion that they were smoothbore, as you say, and used as a projectile a grape shot. This is quite logical. The regulation size of grape shot (not canister) for the work horse of the war, the 12-pounder, was 2.02-2.06 inches and 1.14 pounds, so presuming that the guns were, as Woodruff proposed, of 2.125 calibre, a 12-pounder grape shot would fit nicely. If a bit larger, as I suspect they were, an 18-pounder would fit."

[More recent information indicates all the Woodruff shot were made of lead.]

However, since this was written several years ago, evidence that fixed ammunition was used has been found. In the Official Records (Series I, Volume XXXIV, Part III, p. 165) two April 15, 1864, messages appear from Lieutenant Colonel John N. Herder, commanding the post at Pilot Knob, Missouri, to Brigadier General Thomas Ewing, St. Louis Military District. They say in part:

(1) Will send two howitzers and one caisson to Patterson (Missouri) right off. There are only two howitzers and two three-pounder guns, smoothbore. One caisson is being repaired and the boxes belonging to the caissons for the Woodruff smoothbore guns are being altered to suit the new kind of ammunition, all of which has been ordered to be finished as soon as possible.

(2) There was a mistake in regard to the howitzers. I understand Lt. Pope, in charge of them, that he had the boxes, or carriages, of guns and one caisson, but I found it not so. The boxes had been taken off some days ago, but the workmen not having the required lumber, a delay was occasioned. At the last issue of ordnance a new kind of cartridge was received not fitting the boxes, being 1-1/2 inches longer than the old ones, projected that far out at the top of the box, making them unserviceable.

The records of the St. Louis Arsenal were lost after the war, and we can only theorize that the Woodruff ammunition was all manufactured at that arsenal, and that copies of records of manufacture and issue never reached Washington.



A Company M crew fires the Fort Davidson State Historic Site's new Woodruff replica during the Turner Brigade Spring Drill in Pilot Knob, MO, in 2010.

[Lt. Col. Herder's message undoubtedly refers to the shipment of conical lead shot from the St. Louis Arsenal to Fort Davidson, replacing the spherical shot

used previously. This explains why the boxes had to be rebuilt—the conical shot was longer. The conical lead shot was already being produced in St. Louis for another small Missouri gun, the 2-1/8 inch bore wrought-iron Filley cannon. The Arsenal surely filled the order with what it already had on hand. However, the presumption has been that all Woodruff ammunition always came from the St. Louis Arsenal, even the spherical type, so it is unclear why they would have shipped the conical shot at that time. There is also some question about whether the conical shot was used prior to the 3rd MSM Cavalry's receipt of the guns from the 68th EMM.]

The Woodruffs, as with all weapons, were praised by some troops and deprecated by others. The history of the 4th Iowa Cavalry, *Story of a Cavalry Regiment—The Career of the 4th Iowa Veteran Volunteers from Kansas to Georgia, 1861-1865* (New York, 1893) mentions these guns in several places, but never in praise. “The Woodruff guns were three small iron pieces, throwing a two-pound solid shot, which about this time in some way came into the hands of the regiment. They were placed in charge of Private ‘Cy’ Washburn of ‘B’ Company, who had a few men detailed to assist him. They were of no value, and were generally voted a nuisance. They were never known to hit anything, and never served any useful purpose, except in promoting cheerfulness in the regiment. The men were never tired of making jokes and teasing Washburn about them; but he was proud of his artillery, and thirsted for an opportunity to justify its existence. When the regiment left Helena he was not permitted to take it along with him.” Washburn was later captured during the Vicksburg Campaign.

On the other hand, in *Pilot Knob, Thermopylae of the West* (New York, 1914), Sergeant J.C. Steakley, 3rd Missouri State Militia Cavalry, says: “Co. ‘K’ had been in charge of a battery of light artillery, consisting of four two-pounder Woodruff guns and two twelve-pounder brass mountain howitzers, and I believe I do not exaggerate when I say that nearly every man, commissioned officers and privates, could have hit a target the size of a man's body every shot at a quarter of a mile with those Woodruff guns.” These four Woodruffs were not used in the battle of Pilot Knob, but were listed in the Confederate report of equipment captured there.

Another 2-pounder (apparently a Woodruff) was captured in the rout of a detachment of the 4th Iowa Cavalry (evidently some of Private Washburn's artillery was re-issued) near Birdsong's Ferry (Big Black River), Mississippi, on June 22, 1863. No instance of Confederate use of captured Woodruff guns has been found to date.

No report of the use of Woodruffs by the 6th Illinois Cavalry has been found, but several sources document the fact that Battery K, 1st Illinois Light Artillery, had six of these guns and that they operated frequently with the 6th Cavalry. D. Alexander Brown's *Grierson's Raid* (Urbana, Ill. 1954) has many references to the use of these guns by that battery during the celebrated cavalry operation, and it is quite obvious that these small pieces made a definite contribution to its success. Among those citing them in after-action reports on the raid was Colonel Edward Hatch, 2nd Iowa Cavalry. Among the many articles written about Grierson's raid is one by Lieutenant Colonel S. L. Woodward, 6th Illinois Cavalry (*The Journal of the U.S. Cavalry Association*, April 1904), in which he relates that in order to cross one swamp the artillery ammunition was taken from the limber boxes and distributed among the men to be carried on their horses; this again would indicate the use of fixed ammunition.

[George W. Peck worked as a printer in Wisconsin when he enlisted in the Union army in 1864. He was assigned to be a replacement in the 4th Wisconsin Cavalry, then serving in Mississippi. After the war, Peck became a newspaper publisher and author, notably of a series of books about **Peck's Bad Boy**. Among his works is a reminiscence of his more humorous experiences in the war, called **How Private Geo. W. Peck Put Down the Rebellion**. On page 82, he describes his regiment getting ready to move: “But finally everything was ready, the ammunition wagons, wagon train of stores, and a battery of little guns, about three pounders, had been added. I didn't like the battery. It seemed to me hard enough to kill our fellow citizens with revolver balls, without shooting them with cannon.” This is likely another instance of a unit with Woodruff guns.]





The only Woodruffs known today repose in the collection of the West Point Museum. Mr. Robert W. Fisch, curator, reports that the only markings on these specimens are the number "412" on one and "413" on the other. *[Curiously, the photograph on the first page of the article as originally published shows tube number 397. The discrepancy has to do with the museum's renumbering of its catalog over time. The number plates are museum identification devices, not original to the pieces.]* Number 412 was received by the museum on February 3, 1869, from Brevet Brigadier General F. D. Callender of St. Louis, Missouri, while 413 arrived at the Museum January 2, 1869, from P.M. and U.S.K. Washington Arsenal. Neither of these guns is on display at present. *[There are also two Woodruff tubes owned by private collectors, one in Georgia and the rifled one, described in the annotation above, in Missouri. Three other original Woodruff tubes are now known, one in White Hall, Illinois, one at Old Fort Madison in Fort Madison, Iowa, and one in New York at the lighthouse museum at Golden Hill State Park on Lake Ontario.]*



Original Woodruff tube in White Hall, Illinois.



Original Woodruff tube in Fort Madison, Iowa.



Original Woodruff tube at Golden Hill State Park in New York.

No documented contemporary photographs of these guns have come to light....



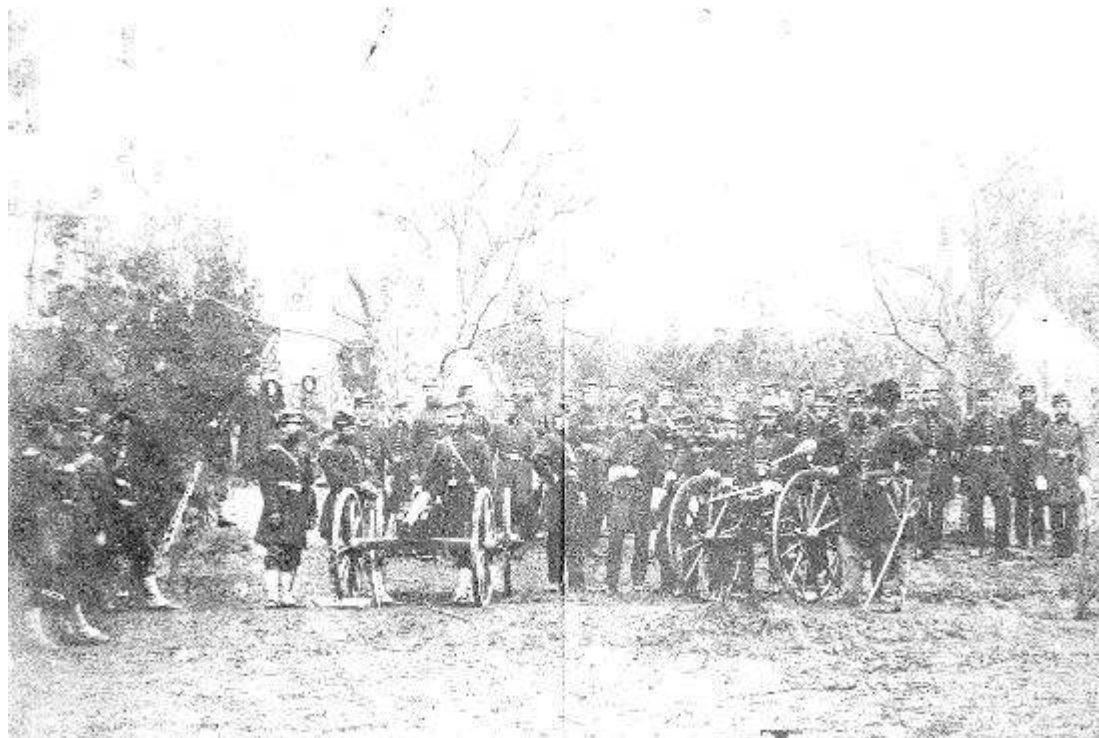
1864 photo recently identified as showing a Woodruff gun.

[In February 2013, Shawn Clark of Independence, MO, a visitor to this site, suggested that perhaps this photo showed a Woodruff gun instead of the "howitzer" stated in the photo description. I do believe that the small gun in this photo is in fact a Woodruff gun. The carriage matches the documented description, as sparse as that documentation is, and Mr. Clark notes that Woodruff guns were known to have been stationed in Helena at the time the photo was taken. This would be the first period photo depicting a Woodruff gun and carriage known to exist.]

The photograph is from the album of Capt. Thomas Abel, 56th U. S. Colored Infantry, who was assigned post and garrison duties in Helena after the Battle of Helena on July 4, 1863. The image is online at <http://www.civilwarvirtualmuseum.org/1863-1865/battles-of-helena-little-rock/helena-high-water-photo.php> in the Trans-Mississippi Virtual Museum prepared by the Wilson's Creek National Battlefield Foundation, the National Park Service, and the Springfield-Greene County Library District.

An interesting feature of the photograph are the shadows alongside the trail that clearly extend beyond the ends of the axle boxes. A visitor to this site, Mark Thomas, suggested that these shadows could be footrests for cannoneers riding the boxes. The 30 Woodruffs sold to the Army were all cavalry models with limbers. As noted above, Woodruff's offer stated, "For mounted service or Flying Artillery to be used with 2 horses the Guns are mounted precisely the same as for Infantry, and have in addition a limber, with everything ready to attach the horses, and with 2 ammunition chests upon the limber on which 2 men can ride, as can also 2 other men on the chests on the gun axle." I find this explanation persuasive.]

However, there is a photograph which shows the officers of the 96th Pennsylvania Infantry grouped around two small guns, and it appears that the piece on the left could be a Woodruff.



96th Pennsylvania Infantry with two small guns

[This is doubtful; the carriage does not match the description of the ones Woodruff proposed—the wheels are apparently 42 inches, not 48 inches, judging from the length of the saber next to the gun, and there are no ammunition boxes on the axle. It's difficult to judge the tube, since it is viewed muzzle-on, but it does seem to bear a resemblance to the Woodruff. A park ranger historian at the Springfield Arsenal in Springfield, MA, identified the left gun in this photo as a “miner gun”.]

History has relegated the Woodruff gun to an obscurity even greater than that suffered by little-known “oddball” pieces such as the Ellsworth, the Williams, the Hughes, and the Billingham-Requa. Only thirty-six existed and the majority never saw action, yet they and their inventor did indeed leave a fleeting mark on the pages of Civil War history.

If you have additional information about the Woodruff gun, contact:

[Randy Baehr](#)