

# Did your Union Civil War ancestor have an artificial limb?

*In honor of the sesquicentennial of the American Civil War, this is the eleventh in a series of articles about records at the National Archives and Records Administration that are useful in researching the war and its participants. This article describes little-known records that document artificial limbs and special payments provided to Union amputees.*

**T**he American Civil War was the first to result in thousands of amputations. New technology was largely to blame. The invention and use of the Minié ball, a rifle ball made of soft lead with a hollow base that expanded when fired, caused large, irregular, and slow-healing wounds upon impact. Infection and gangrene set in quickly. Faced with shattered bones, shredded tissue, and limited medical knowledge, resources, and options, amputation actually offered the best chance of survival.

By war's end, about sixty thousand soldiers on both sides suffered amputation. A skilled and experienced surgeon could remove a limb in five minutes. Speed was critical to minimize blood loss and length of anesthesia by chloroform or ether. The overall survival rate was 75 percent, but varied depending upon location of the surgery. Loss of part of the foot was survived by 96 percent, while amputation at the hip

joint was survived by only 17 percent. Later in the war, "resection" became more common. This technique removed only the injured section of the arm or leg, leaving a shortened, less functional limb. Nearly 40 percent of amputations resulted only in the loss of fingers or toes.

The war and industrial accidents caused a surge in demand for artificial limbs, which needed frequent repair and replacement about every five years. Clever entrepreneurs responded to this business opportunity through invention and manufacturing. Nearly one hundred fifty patents were issued for artificial limb designs between 1861 and 1873.

In 1862 Congress authorized the Army's Surgeon General to purchase artificial limbs for disabled soldiers and seamen and, in 1868, extended that benefit to officers. In 1866 Congress authorized the Secretary of War to provide free transportation to veterans between home and the artificial limb manufacturer. In 1870 Congress authorized veterans to receive a new limb or "apparatus for resection" every five years, then increased the frequency to every three years in 1891. Veterans who did not want a limb or who could not wear one could instead

obtain money (commutation) at the rate of \$75 for each leg, \$50 for each arm or foot, and \$50 for apparatus for resection. In 1874 Congress decided that veterans who “lost an arm at or above the elbow, or a leg at or above the knee” could receive a pension of \$24 per month instead of receiving commutation or an artificial limb.

Veterans often chose commutation instead of a limb. Some could not wear one because of a lack of a stump, discomfort from inadequate tissue surrounding the remaining bone, or chronic infection. Others went without because an empty sleeve or trouser leg made a man’s patriotic sacrifice visible and commendable.

Naturally the artificial limb and commutation program needed to document which soldiers were paid, when, and how much. This article will follow DeWitt Clinton Ayres of Rochester, Beaver County, Pennsylvania, who was a private in Company I, 102nd Pennsylvania Infantry, through the records.

Most researchers should start with the veteran’s Compiled Military Service Record

(CMSR) and pension file for evidence of loss of limb.<sup>1</sup> DeWitt C. Ayres’ CMSR for his service includes several records mentioning his injury. For example, a discharge certificate dated at Annapolis, Maryland, 13 March 1865, indicates Ayres suffered compound gunshot fractures to his left leg while in action at the Battle of the Wilderness on 5 May 1864 that resulted in amputation at the lower third. A hospital record indicates the “missile” passed through the right [sic] knee joint and his stump “healed without any unfavorable complication.”

Ayres’ pension file also contains several mentions of his war injuries.<sup>2</sup> His application for commutation (money) dated 9 January 1871, notes he previously “received from the United States an artificial leg made by Jewett, Washington, D.C.” An examining surgeons’ report of 9 June 1886 stated that DeWitt’s conical-shaped stump was “numb and painful,” and the “resulting cicatrix [scar] is large, indurated, adherent, and tender.” An anatomical diagram on the reverse side shows both the location of his left leg amputation plus a gunshot entrance above his surviving right knee, which was “painful and weak.” Ayres’ death certificate in the file records his demise at age 69 on 5 February 1914 at Rochester, Beaver County, Pennsylvania, as a result of pneumonia and “age and effects of army wounds.”

Next researchers can turn to more specialized records in Record Group (RG) 15, Records of the Department of Veterans Affairs, in the custody of NARA. (The Army’s Surgeon General was responsible for certifying eligibility for the artificial limb program, but the pension office distributed payments.) Ten record series relate to artificial limbs, trusses, or commutation furnished to Civil War and later veterans.

A good place to start is the “List of Persons Furnished Artificial Limbs and Commutation, 1885” (RG 15, NM-23, Series 17), a giant volume measuring 18 by 12 by 4 inches. It lists veterans alphabetically by name, and gives each man’s unit, date of first application for limb or commutation, and the number of limbs received or paid for at five-year intervals, being

First application for commutation submitted by DeWitt C. Ayres in 1871, found in his pension file.

approximately 1870, 1875, 1880, 1885, 1890, and 1895. "Dead" or "rejected" is noted for some men. Ayres first applied 12 January 1871, and again roughly at five-year intervals after that date to approximately 1895.

The "List of Veterans Furnished Artificial Limbs, 1871–1872 [sic]" (RG 15, NM-23, Series 16), is a single 251-page volume that contains a list of men furnished artificial limbs under laws enacted *before* 17 June 1870, according to the explanation written at the front by U.S. Army Steward Magnus Koechling, Surgeon General's Office, 1 April 1872. He noted the list included records for 3,021 arms, 4,464 legs, 48 feet, and 214 apparatus for resection. Ayres is not listed in this volume.

The eleven volumes of "Registers of Persons Furnished Artificial Limbs and Commutation, 1870–1927" (RG 15, NM-23, Series 18) provide the bulk of the documentation for most veterans.<sup>3</sup> Most volumes have an alphabetical index that indicates the page containing further information. In addition to the veteran's name, each entry usually gives the veteran's rank, unit, current residence, date of injury, which arm or leg injured, amount of payment, date of commutation certificate or payment, and other information. Page one of the first volume explains many of the abbreviations used in that and subsequent volumes.

DeWitt C. Ayers [sic] first appears in this series in volume two (January 1871–May 1875), page 34, which notes his \$75 commutation application was received 12 January 1871, with the commutation certificate approved on 4 February 1871. This reference is to the commutation application found in his pension file.

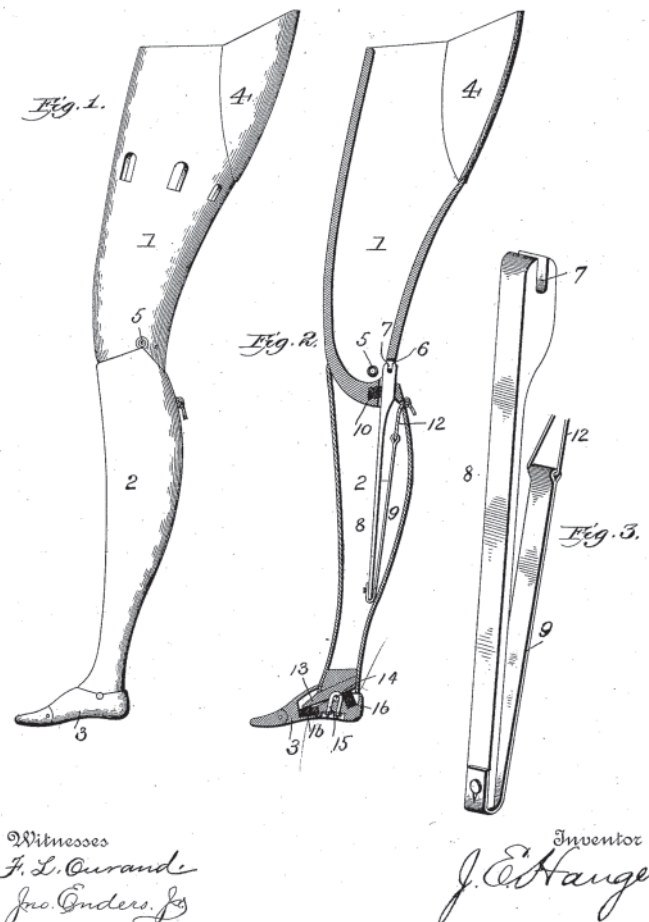
Continuing to volume three (June 1875–June 1877), page 395, we learn that Ayres' next application for a \$75 commutation certificate was approved 15 March 1877. The front of this book contains a note, dated 29 February 1876, reminding the Surgeon General's clerks that "When no special directions are given by the applicants, orders for limbs will hereafter be sent to them, and not to the manufacturers." Although this notation is not relevant to Ayres'

(No Model.)

J. E. HANGER.  
ARTIFICIAL LEG.

No. 465,698.

Patented Dec. 22, 1891.



Drawing of artificial leg patented by James Edward Hanger, 22 December 1891, US Patent No. 465,698, which may be similar to those ordered by DeWitt C. Ayres from Hanger in 1891 and 1897. Courtesy US Patent Office, <http://www.uspto.gov>.

1877 certificate, it may prove important in future years.

Moving next to volume five (June 1880–May 1881), page 431, we find that Ayres had ordered a leg from manufacturer George R. Fuller. The notation "No order, Acct." likely indicates the \$75 payment authorized on 7 April 1881 was to be made directly to the manufacturer.

Going next to volume eight (June 1885–June 1887), page 345, we find authorization on 27 March 1886 for Ayres' \$75 payment and transportation to manufacturer George R. Fuller. As we will learn from a different record series, discussed below, the \$75 still had not been paid either to Ayres or Fuller by mid-1888.





*Group of Civil War soldiers with lower extremity amputations, Armory Square Hospital, Washington, DC. Left to right: A. J. Hutchins, Co. K, 25th Ohio Infantry; Thomas Shields, Co. G, 62nd New York Infantry; William H. McFarland, Co. B, 5th Wisconsin Infantry; S. M. Dyer, Co. I, 5th Wisconsin Infantry; and V. N. Higgins, Co. H, 2nd Maine Infantry. Courtesy of National Library of Medicine. NLM Unique ID 101395563. Online at <http://ihm.nlm.nih.gov/images/A02255>.*

Then, in volume nine (July 1887–June 1911), page 274, we find authorization on 12 January 1891 for Ayres' \$75 payment and transportation to manufacturer J. E. Hanger. The notation "Feby 4/91 Account" likely indicates the date of an invoice submitted by Hanger. Finally, on page 363, is authorization on 12 January 1897 for another \$75 payment and transportation to manufacturer J. E. Hanger along with the "Feb. 27/97 Account" notation for Hanger's invoice.

No further entries for Ayres were found between 1897 and his death in 1914. It is possible that he received an increase in his pension that disqualified him from further artificial limb commutation payments. Detailed study of his pension file and relevant pension laws should answer that question.

Finally, the single volume, "Letters Sent Relating to Prosthetic Appliances, Commutation, and Transportation Reimbursement, 1885–1892" (RG 15, NM-23, Series 2) includes a fair copy of a letter written to Ayres on pages 490–91. This letter provides more information about

the procedure used to obtain a limb as well as a problem that arose with Ayres' 1886 leg order. It recounts that the Surgeon General issued an order on 27 March 1886 for George R. Fuller to make an artificial leg pursuant to Ayres' January 1886 application. Fuller made the leg, but didn't get paid. More than two years later, on 12 December 1888, Fuller sent the Surgeon General an undated receipt written in pencil by Ayres as proof of delivery of the leg. The Surgeon General's Office was unwilling to accept the undated pencil note, so Chief Clerk Samuel Ramsey wrote to Ayres to write, in ink, an acknowledgment of receipt of the leg.

What are the next research steps? Researchers can learn about the construction, features, usefulness, and durability of nineteenth-century artificial limbs through newspaper advertisements, patent records published by the Commissioner of Patents, and publications issued by the manufacturers and others. Further research is needed to determine if more information can be learned about Ayres' pre-1871 Jewett leg from records in RG 112, Records of the Office of the Surgeon General, or in the *Congressional Serial Set*.

## Summary

DeWitt C. Ayres' CMSR and pension file provide details about the circumstances that caused his amputation and its subsequent effects upon his life. The commutation certificate in his pension file informs us he received an artificial leg manufactured by Benjamin W. Jewett of Washington, DC, sometime before 1871.<sup>4</sup> From specialized records about artificial limbs in RG 15, we learn Ayres received commutation (money) in 1871 and 1877. He obtained an artificial leg in 1881 and 1886 from manufacturer George R. Fuller of Rochester, New York, who had a little trouble getting paid for the 1886 leg because of Ayres' undated, penciled note. Ayres then obtained new legs in 1891 and 1897 from manufacturer James Edward Hanger, who had a factory in Pittsburgh—thirty miles from Ayres' home—as well as in five other major cities.<sup>5</sup>



Some of the records relating to artificial limbs, trusses, and commutation in Record Group 15, Records of the Department of Veterans Affairs.

The numerous amputations endured during the Civil War boosted a new industry — prosthetics — that continues to innovate and improve mobility products needed by American veterans returning home from our era's wars in Iraq and Afghanistan. 🌳

## For more information

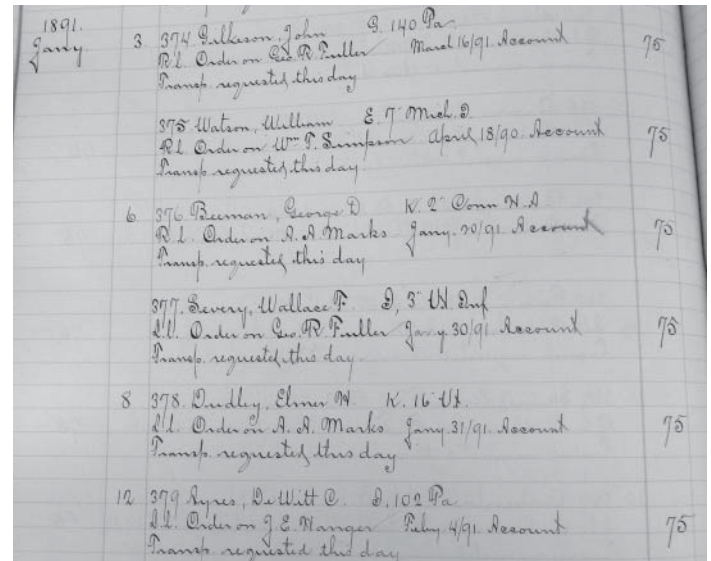
Guy R. Hasegawa, *Mending Broken Soldiers:*

*The Union and Confederate Programs to Supply Artificial Limbs* (Carbondale, Ill.: Southern Illinois University Press, 2012) provides a well-researched and written account of wartime efforts on both sides of the conflict.

"Life and Limb: The Toll of the American Civil War" is an interesting online exhibit by the National Library of Medicine at <http://www.nlm.nih.gov/exhibition/lifeandlimb/index.html>.

## Notes

1. For more information about CMSRs, see Claire Prechtel-Klusens, "Compiled Military Service Records, Part I: The Records inside the CMSR Jacket," *NGS Magazine* 38 (January–March 2012): 32–36, and "Compiled Military Service Records, Part II: The Records outside the CMSR Jacket," *NGS Magazine* 38 (April–June 2012): 32–38. For a discussion of pension files, see Claire Prechtel-Klusens, "Anatomy of a Union Civil War Pension File," *NGS NewsMagazine* 34 (July–September 2008): 42–47, or view the "Union Civil



"Registers of Persons Furnished Artificial Limbs and Commutation, 1870–1927," Vol. 9, p. 274 (RG 15, NM-23, Entry 18, NARA), showing DeWitt C. Ayres and other men ordering artificial legs, January 1891.

War Pension Files" lecture at <http://www.archives.gov/dc-metro/know-your-records/genealogy-fair>.

2. Civil War pension file for DeWitt C. Ayres (widow Martha J. Ayres), WC 777,501, RG 15, NARA, Washington, DC.

3. NARA numbers these leather-bound volumes 1–11, but the Surgeon General's Office considered them to be volumes three through thirteen of this series of records, and they are so marked. (The single volume discussed above that NARA describes as NM-23, Series 16, was the original "Volume one and two" that began the series.)

4. An unrelated man, George Baker Jewett, manufactured artificial legs in Salem, Massachusetts. His products were called "Salem legs" to distinguish them from those made by Benjamin W. Jewett.

5. Hanger Inc. continues in business today as a manufacturer of prosthetics and orthotics.

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