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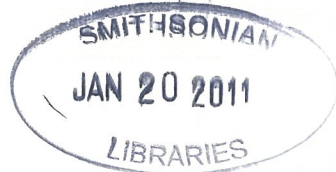
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An Identified Cadet Trapdoor Rifle of the Kentucky Military Institute

David Miller and Charles Pate

THE U.S. Army and the Smithsonian Institution have had a good relationship for a great many years in both scientific matters as well as the preservation of historical artifacts. In some documented cases¹ prior to World War I the Army advised the Smithsonian when obsolete or surplus arms were to be sold at auction and allowed the Institution to acquire Army weapons before the sales and at the very favorable prices they were expected to bring. In other cases arms were simply loaned or transferred at no cost to the Institution. One very notable example of the latter occurred in 1903. Up to that time the Army Ordnance Department had retained a large number of small arms and other items with the intent of establishing an Army museum. These arms included sample arms submitted by contractors, including several from the Civil War; examples of arms being tested by the Army; and both foreign and domestic arms previously used for reference purposes. This group of arms now composes a numerically and historically significant portion of the Smithsonian collection. The rifle that is the subject of this article, a Model 1866 Cadet Springfield “Trapdoor” rifle, was transferred to the Smithsonian several years later, in 1912, under similar circumstances. But unlike the nearly new condition contract samples and important test weapons, until recently this little rifle had no apparent significance. The weapon is interesting to today’s collectors in that it is a very early cadet breech-loading rifle, having been among the first cadet trapdoor rifles made. But there is no indication in any of the Army Ordnance Department documentation related to the transfer that this was even recognized at the time. However, this documentation, only recently found, provides provenance that makes the rifle truly exceptional.

As the name implies, cadet rifles were ones intended for issue to cadets at military schools such as the Army and Navy academies as well as universities and state schools providing military training. These rifles were essentially short-barreled versions of the standard issue rifles of the time but they often had other distinctive features as well. The Model 1866 Cadet Springfield rifle varied significantly from the standard issue arm. Some of these features will be discussed below, but this article is not intended to be a tutorial on the Springfield

Trapdoor rifle or its cadet variations and the reader is encouraged to review authoritative sources such as Al Frasca’s two-volume study, *The .45-70 Springfield*, for a more complete discussion. It is enough for our purposes here to mention the fact that to make the weapon as light as possible both the stocks and locks were specifically made for the Model 1866 rifle rather than using standard or modified standard parts. As shown in one of the accompanying photos, the lock plate, which is much thinner than the issue plate, is stamped “1867.” No other trapdoor rifles have this date. In addition to being shorter, the stocks were made narrower than the issue stocks in order to further lessen the rifle’s weight. One additional feature that is present is a hole approximately $\frac{3}{4}$ inch in diameter and $4\frac{1}{16}$ to $4\frac{1}{2}$ inches deep bored in the stock under the butt plate. Holes, or “traps,” were bored into the stocks



FIG 1. The Kentucky Military Institute’s original main building, which was erected in 1845, is used today as the office of the superintendent and director of the Stewart Home School for the mentally challenged. From the veranda one can look out into the court surrounded by boys’ dormitories, which were former KMI barracks. Photo courtesy of Tommy Young, KMI Historian.

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CHARLES PATE is a researcher and writer specializing in U.S. military firearms.

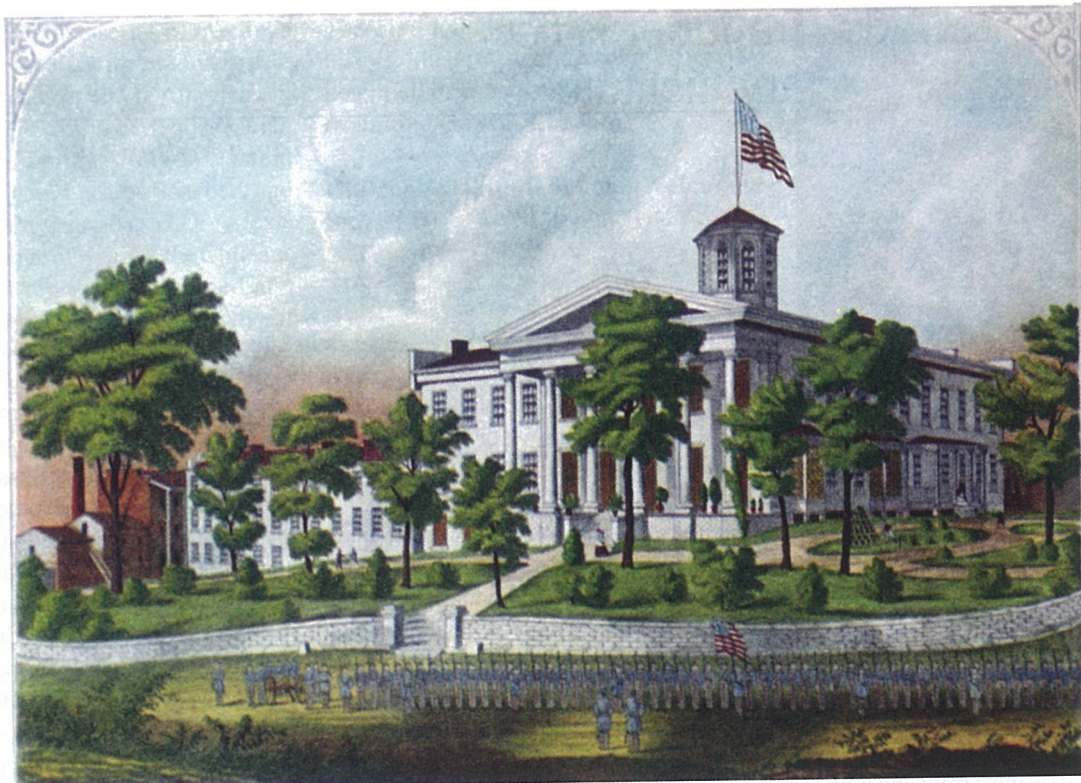


FIG 2. The Frankfort, Kentucky, headquarters and barracks buildings of the Kentucky Military Institute (KMI) from a nineteenth century picture post card depicting the school shortly after the Civil War. Photo courtesy of Tommy Young, KMI Historian.

of later carbines and rifles for storage of appendages but in those cases the holes were of a different configuration and an access port was added to the butt plate. The butt plate of the Smithsonian's Model 1866 cadet rifle is solid and the hole can only be seen by removing the butt plate. Apparently the purpose of the hole was to further decrease the rifle's weight. Regardless of its purpose, it is this feature that leads us to the true significance of this example.

The previously mentioned documentation regarding the rifle's transfer does not indicate how the Smithsonian became aware of this rifle's availability but accession records at the Smithsonian indicate the Chief of Ordnance initiated the transfer and sent the Institution a list of the arms that were available. In any event the arms were shipped from Rock Island Arsenal and "deposited by the Ordnance Office" at the museum on 11 June 1912.² Over the following two months the Smithsonian staff processed the arms and in doing so removed the butt plate of the subject rifle. In the hole previously mentioned the Smithsonian staff found three small notes rolled up and browned from years of exposure to the wood. Apparently finding the documents to be of no interest to the Institution, they returned them to the Ordnance Department on the 23 August.³ It is very unlikely they would have done that today, for the three notes give the names of the Kentucky Military Institute cadets who used the rifle in 1881, 1882, and 1883. All of the documents are in poor condition and hard to read, this being made worse by the poor penmanship of two of the

writers. The earliest is dated Kentucky Military Institute, 6 October 1881, and was written by R. P. Gilbert, who wrote the following [punctuation and capitalization corrected by the authors]:



FIG 3. Distinguished KMI graduate William M. Kavanaugh. Photo courtesy of Tommy Young, KMI Historian

This gun was used by R. P. Gilbert⁴ Adj. of 1881 for instruction of squad. The following were officers on the Hill Oct. 6, 1881:

- 2nd Lt. R. P. Gilbert
- 2nd Lt. George Hall
- 2nd Lt. J. H. Gray
- 1st Sgt. Sims Allen
- 1st Sgt. Middleton
- 2nd Sgt. How, Trumbo [spelling not clear], Green, Wheliss [possibly "Wheless"].

We commenced drilling with guns Monday [not readable] 1881. We expect the regular appointment of officers next Sunday.

On the back of the page the writer, almost certainly Adjutant Gilbert, wrote the names of the cadets in two columns with the headings "North Barra" (probably North Barracks) and West B (probably West Barracks). We will not attempt to decipher the names of the cadets. At the bottom of the page Gilbert signed the document along side what appears to be "R. H. Wildbege, Commander."

The second document is much like the first and was written by W. M. Kavanaugh,⁵ "Private of Co. B," and is dated Kentucky Military Institute, 26 May 1882. Private Kavanaugh wrote the following in a much more legible hand:

This gun was used for drill purposes, and guard duty, by me. The following were the commissioned officers.

- Senior Captain R. G. Owen, Co. B
- Senior Captain J. D. Allen, Co. B
- Junior Captain G. J. Hall, Co. A
- Junior Captain J. H. Gray, Co. B
- 1st Lt. R. S. Allen, Co. A
- 1st Lt. S. T. Middleton, Co. B
- 2nd Lt. J. S. Wheless, Co. A
- 2nd Lt. L. H. Frumbo ["Trumbo"?], [company not given]

Private Kavanaugh noted that 1st Lt. R. P. Gilbert was the adjutant and went on to name the noncommissioned officers as



FIG 4. David Miller, Smithsonian curator, holding the KMI Model 1866 cadet musket.



FIG 5. Only a photocopy of a R. P. Gilbert photograph is available. Photo courtesy of Tommy Young, KMI Historian.

well as the other cadets. Again, we will not attempt to include their names here but both of these lists appear to list the cadets by room with two cadets usually in each room.

The third note is much shorter. To the degree it can be read it reads: "KMI. This gun was carried by me and I hope the man that carries this gun after this year will be blessed with [unreadable⁶]. This gun was carried 1883 carried [sic] by A. L. Green."⁷

A Brief History of the Kentucky Military Institute⁸

The Kentucky Military Institute was established in 1845 by Col. Robert T. P. Allen,⁹ an 1834 graduate of West Point who had served in the 1st U.S. Artillery. He had resigned his commission in 1836 and began a career in education, initially as a mathematics instructor at Transylvania University in Lexington, Kentucky. After visiting the Scanlan Spring, or



FIG 6. Markings of the KMI Cadet Trapdoor rifle lockplate. All known Model 1866 Cadet rifles have an 1867 dated lock plate.

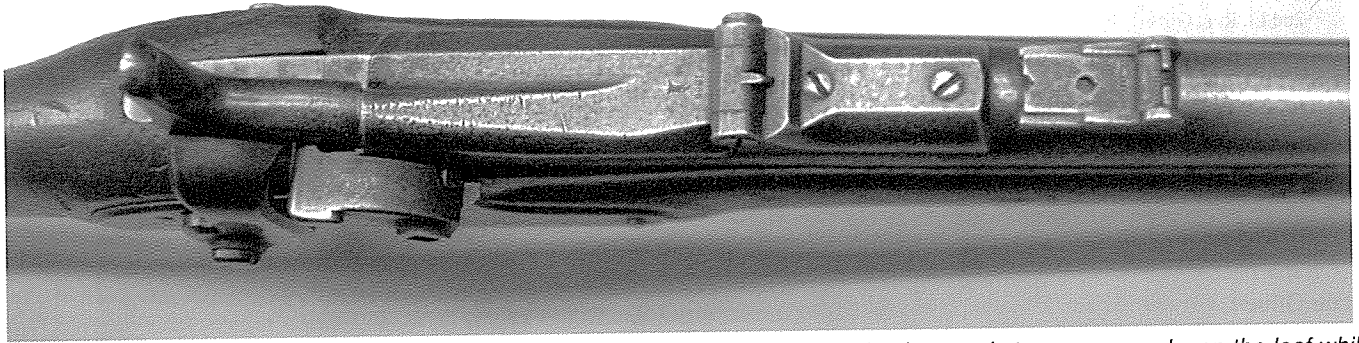


FIG 7. The top of the KMI Cadet rifle's action. The Model 1866 Cadet rifle rear sights have only two range marks on the leaf while the standard Model 1866 rifle has three.

Franklin Springs, as it was sometimes called, he selected the location for a private military school. The property was located about six miles south of Frankfort. In 1845, Allen purchased the property and opened his school as Kentucky Institute. Two years later a charter was granted to the school by the General Assembly as Kentucky Military Institute. The school was to be operated as a quasi-military corps of the commonwealth and was to be open to any commissioned officer of the state militia, and to other qualified students with the primary objective to provide officer training adjunct to the state militia system. After the Civil War, the school changed its curriculum to prepare students for professional occupations but in 1887 the school fell into bankruptcy and closed temporarily, reopening the next year. In 1894, Col. Charles Fowler obtained the KMI charter, after the school's original site was sold through bankruptcy, and transferred the charter to his school, the Kentucky Training School in Mt. Sterling. He continued operations as the Kentucky Military Institute after merging the two schools.

The original buildings and land were sold to Dr. John Q. A. Stewart, KMI class of 1847, in 1893. He opened a school for the mentally challenged on the site in September of that year.

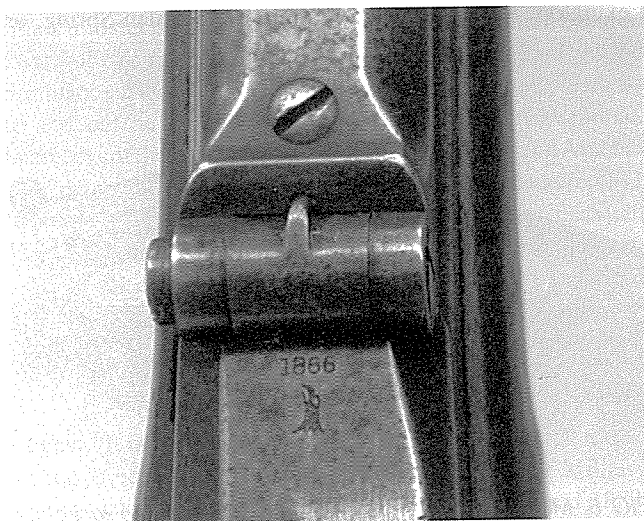


FIG 8. While the lock plate of the Model 1866 cadet rifle was stamped 1867, the breech block is dated 1866.

Today, Stewart Home School remains under the supervision of the Stewart family as a well-known and highly regarded facility for special education.

In 1896, under the supervision of Charles Wesley Fowler, Kentucky Military Institute was again moved from Mt. Sterling to a campus in Jefferson County, Kentucky, near Lyndon. After another 75 years of service, KMI once more experienced financial difficulties and graduated its last military class in 1971. It then operated for two years as an academy with male and female students but finally closed the doors in May 1973.¹⁰

Kentucky's Model 1866 Cadet Rifle

Development of the Model 1866 cadet rifle began in early 1867, specifically for the U.S. Military Academy, USMA, at West Point. Several prototypes were submitted to the Chief of Ordnance before a model for production was established in late July, at which point the Chief of Ordnance directed the Springfield Armory to produce three hundred for issue to the academy. That issue appears to have been made in late August or early September 1867 and the cadets used these rifles until they were replaced with Model 1869 cadet muskets in late 1869, at least in part due to the thin stock of the Model 1866 rifle being too easily broken. In addition to the three hundred rifles made for the USMA the armory made at least an additional 110 cadet rifles as spares and for sale to officers.¹¹

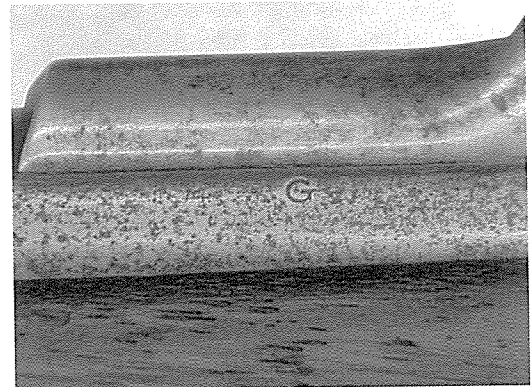
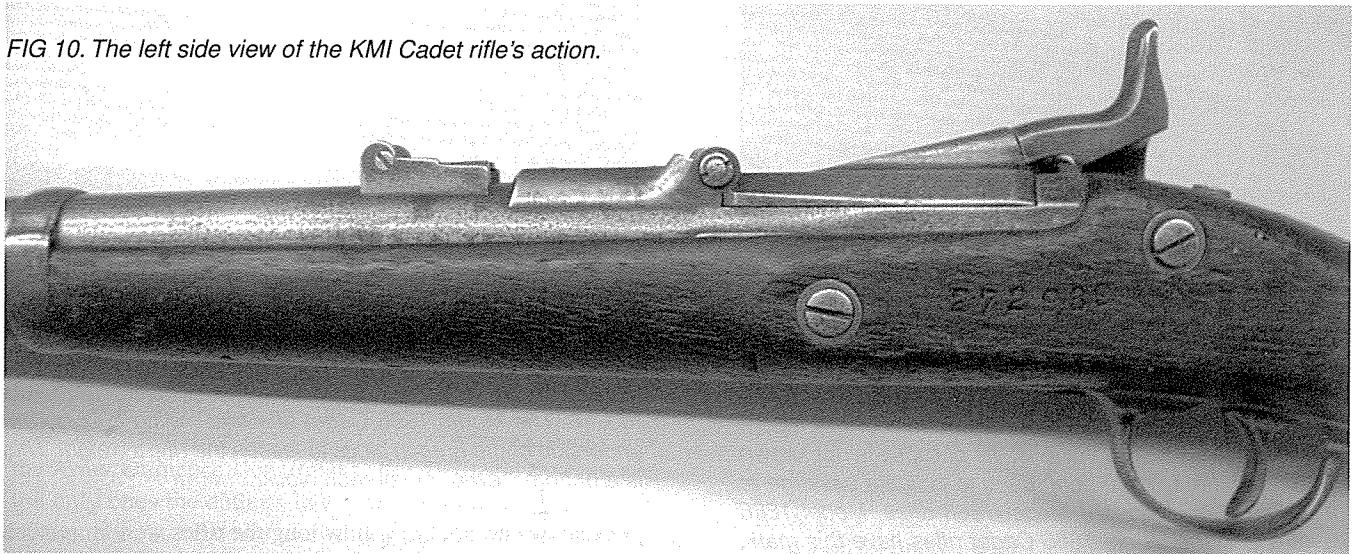


FIG 9. The "G" barrel marking of the KMI Cadet rifle is the mark of the barrel inspector.

FIG 10. The left side view of the KMI Cadet rifle's action.



In May 1870 the state of Kentucky submitted a requisition for four hundred cadet muskets for the state s schools. According to Ordnance Department records one hundred "Cadet Muskets, Model 1866," were issued to the State on the 26 May in accordance with an order issued by the Chief of Ordnance on the 14th of that month.¹² In August the state was issued five thousand ball and five thousand blank cartridges¹³ for the ".50 caliber Cadet Musket," but by the end of that month the remaining cadet rifles had not been issued. On the 27th, Fayette Hewitt, the Quartermaster General or QMG, wrote to the Chief of Ordnance submitting a requisition for one thousand "Regulation Needle Guns" and ten thousand cartridges and also asked the status of the remaining cadet muskets. "The schools are about to open and wish them as soon as they can be had. I wish (150) one hundred fifty stand shipped to the order of Col. J. B. Bowman,¹⁴ Rector Kentucky University, Lexington, Kentucky. The rest can be sent to this place [Frankfort]." Major Benet of the Ordnance Office answered this letter on the 31st saying he assumed QMG Hewitt wanted the Springfield breech-loading rifles and that the amount of the state s quota under the Militia Act appropriation was insufficient to cover both the cadet rifles

and one thousand regulation rifles. He added that he would not act further on the two requisitions until he was advised as to what could be omitted.¹⁵ Hewitt didn t acknowledge receipt of Benet s letter until the 19 September and in doing so said that the remainder of the cadet rifles should be provided and the request for regular rifles would be deferred. The Chief of Ordnance then advised QMG Hewitt that the cadet arms would be issued "as soon as manufactured," which might not



FIG 11. The barrel marking of the other Model 1866 Cadet rifle, Smithsonian catalog number 272938, given to the Smithsonian by the Army at the same time the KMI rifle was transferred. While this rifle was almost certainly from Kentucky, it may have been used by a school other than the Kentucky Military Institute.



FIGs 12, 13. Model 1866 Cadet rifle catalog number 272938 has both an "ESA," Erskine S. Allin, cartouche as well as an "FWS" cartouche, for F. W. Sanderson. Allin was Springfield Armory's Master Armorer and his cartouche signified the rifle had been "received" (or accepted) by the Armory. Sanderson was apparently the principal sub-inspector for the Model 1866 Cadet rifles and his cartouche would have been applied after a rifle had passed his inspection and prior to the Master Armorer's inspection. The Smithsonian has in its collection a nearly new Model 1866 Cadet rifle that was transferred to the Institution by the Army in 1903. That rifle, catalog number 222289, is thought to have been a model rifle used to obtain Chief of Ordnance approval before production began. The latter rifle has only the FWS cartouche.

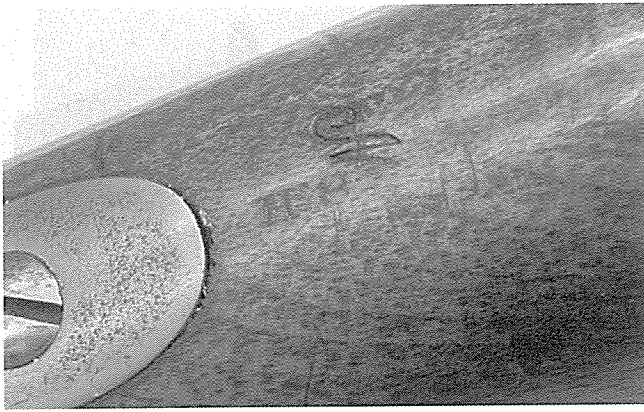


FIG 14. There is a stylized "N" on the bottom of the Model 1866 Cadet rifle's stock at the wrist. Its purpose is not known for certain but it may have been used to indicate passage of proof testing. Only standard Model 1866 rifles, Model 1866 short rifles and the Model 1866 Cadet rifles have this mark. The letter, "H" is thought to be an inspector mark signifying the stock had passed inspection.

be for several weeks. This suggests the Chief of Ordnance was intending to issue the state some of the new production cadet rifles, the Model 1869, that were being put into production but such arms were not to be available for state issue until the middle of the following year. However, a solution was at hand. By this date the new cadet rifles had been supplied to West Point and between September and December the academy returned to Springfield Armory 291 of the Model 1866 cadet muskets. These rifles were cleaned and repaired and issued to Kentucky. When the armory did such work the arms were returned to fully serviceable condition and these 291 rifles were probably nearly as good as the 100 new rifles already issued to Kentucky.¹⁶

We do not know when the Model 1866 cadet rifles were supplied to KMI or how many the institute received. At the time of the issue to Kentucky there were only approximately fifty cadets and as noted above other schools, including the university that ultimately became the University of Kentucky, received some of the 391 rifles.



Photo 15. The breech block milling cuts are visible from the side when the block is in the raised position.

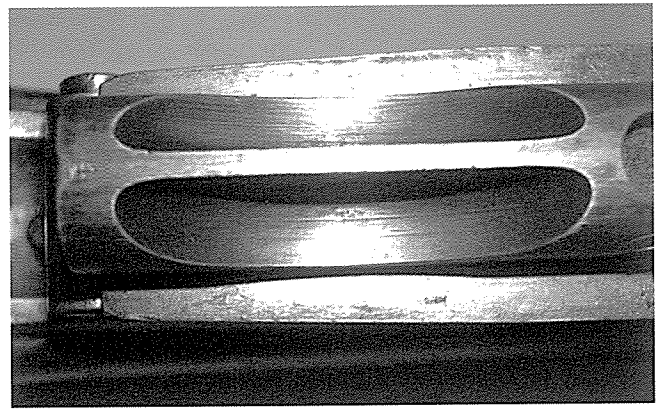


FIG 16. The Model 1866 Cadet rifle had milling cuts on the underside of the breech block to lessen the rifle's weight. This is a bottom view of the breech block.

Also, we do not know how long the rifles were in service at KMI, but it is likely that the period of their use was quite long. The following Ordnance Department records provide some possibly useful clues.

On 26 October 1904, the Kentucky Adjutant General (AG) wrote he had gotten together "about all our old Springfield rifles ... and wish to ship them to the Government arsenal" These included 1,203 Model 1884 rifles with bayonets and 85 without bayonets, 145 Model 1879 rifles, 1 Model 1884 Cadet, and 2 "Cadet Model 1866 without bayonets, worn." All these rifles were turned in to the Rock Island Arsenal. The State still had 267 trapdoor rifles that had been issued to National Guard units and colleges and accountability for them, according to the AG, was "lacking." The Ordnance Office was asking about these rifles because the State had been issued Krag rifles under the Act of 21 January 1903,¹⁷ which required the states to return their old arms to the U.S. government.

Kentucky officials asked for more time to turn in the old arms, saying they had no clerical staff to help. On 1 August 1906, the State said they would tell all the colleges to turn their old rifles in if required to do so by the Army. The Chief of Ordnance replied that there was no provision to waive the

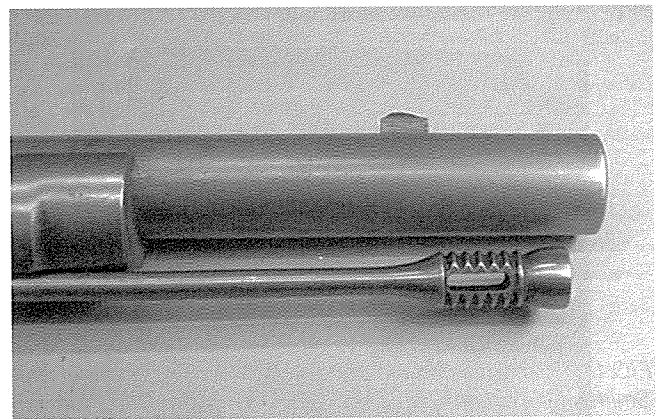


FIG 17. Model 1866 Cadet rifle catalog number 222289 is the only example in the Smithsonian collection that still has its cleaning rod present.

requirements of the act but added that if the colleges wanted to keep them they could buy them for \$1 each, although it would have to appear that the State was actually making the purchase. Nothing further appears to have been done immediately and on 5 July 1907 the Chief of Ordnance asked the status of the 267 rifles. The next relevant document on file shows that on 23 January 1908 the Army gave the State another month to complete the turn-in. Some of the old Springfield rifles appear to have been returned for on the 15th of the following month the State asked for an accounting of what arms they were still responsible for since their books were in such poor shape. The Army's answer included only 144 .45 caliber rifles.¹⁸

The two "worn" Model 1866 cadet rifles are the only ones noted by the authors in correspondence between Kentucky and the Army Ordnance Department after 1870 and, in fact, are the only ones the authors have seen specifically mentioned by model in any records after that year. However, we admit that a thorough search of the records for the intervening years has not been made. Still, it seems likely that one of these two Kentucky Model 1866 cadet rifles was the rifle subsequently shipped from Rock Island Arsenal to the Smithsonian containing a hidden time capsule—the scribbled notes of young men seeking to document the use of this rare military rifle for future generations.

Acknowledgements

The authors would like to thank Jim Flora (KMI website Webmaster), Tommy Young (KMI Historian), and Al Frasca.

Notes

1. U.S. Army Chief of Ordnance records, Record Group (RG) 156, General Correspondence 1894–1913 Entry (E) 28, National Museum and Smithsonian Institution file, Washington, DC.
2. This accession consisted of forty-five rifles, muskets and carbines, including two other Model 1866 cadet rifles. Like the subject of this article, one of the Model 1866 cadet rifles is well worn, but the other is in very good condition.
3. RG 156, E 28, Smithsonian Institution file.
4. Robert Prather Gilbert was from the Dakota Territory. [Source is Tommy Young, KMI Historian.]
5. After graduating in 1885, William Marmaduke Kavanaugh led a distinguished life. Born in Green County, Alabama, on 3 March 1866, he was educated in the common schools of Kentucky and became a superior student and senior captain at KMI. He earned gold medals in mathematics, Latin and German in 1883; a declaimer medal in 1884; was senior editor of "The Skirmisher"; member of the Sigma Alpha Epsilon Fraternity; and salutatorian of the senior class. Following his KMI years, he began newspaper work as a cub reporter and later became editor of the Arkansas "Gazette." He was also sheriff of Pulaski County, 1896-1900; probate judge, 1900-1904; then veered into banking, the city street railways, and natural gas production. In the brief period, January to 13 March 1913, he was appointed and occupied a seat in the United States Senate, to fill the unexpired term of the deceased incumbent, Senator Jeff Davis. At the time of his death, on Sunday, 21 February 1915, he was director of the Lakes and Gulf Deep Waterways Association. Mr. Kavanaugh was

- buried in Oakland Cemetery at Little Rock. [James Darwin Stephens, *Reflections: A Portrait-Biography of the Kentucky Military Institute, 1845-1971* (Georgetown, KY: privately published, 1991), 105.]
6. It appears to be "twin pups." Perhaps this was a common expression of the time.
7. A. L. Green was from Kentucky. [Source is Tommy Young, KMI Historian.]
8. For more information about the Kentucky Military Institute see the alumni web site at kmialumni.org and Stephens, *Reflections*. The KMI material in this article is abstracted from the alumni web site with permission of the webmaster, Jim Flora.
9. According to Heitman, *Historical Register and Dictionary of the United States Army*, Allen's highest rank in the U.S. Army was as a second Lieutenant, but as the Superintendent of the Kentucky Military Institute he was given a commission as colonel by the governor and he later served in the Civil War as the colonel of the 17th Texas Infantry.
10. Historical summary courtesy Tommy Young, KMI Historian. Some famous KMI alumni from the twentieth century include early Hollywood stars Victor Mature and Jim Backus.
11. A 20 December 1869, letter from Colonel Benton, Commander of Springfield Armory, to the Chief of Ordnance states "The 109 cadet muskets, Cal. .50 borne in my weekly statement are breech loaders of the Model 1866 made at the same time and in excess of the 300 ordered for West Point." Some Model 1866 cadet rifles were sold to officers. General U.S. Grant and his Chief of Staff wrote the Chief of Ordnance in April 1868 saying they wanted to purchase cadet rifles for their personal use, so it is likely that several had already been sold to officers by the date of Colonel Benton's letter. The letters from General Grant and his Chief of Staff were noted in our research only because of the fame of the individuals requesting the arms. The total number of such sales is not known. We would estimate the total number of Model 1866 cadet rifles manufactured to be approximately 425 rifles including the prototype used to gain Chief of Ordnance approval for production. RG 156, E 21, Chief of Ordnance Letters Received, Letter S500 of 1869. Sales to officers are documented in RG 156, E 124, Abstracts of Reports of Sales of Ordnance Stores at Depots and Arsenals.
12. RG 156, E 3 (Miscellaneous Letters Sent), vol. 69: 2, 353. See also E 118.
13. The governor noted in his receipt that this issue of cartridges was the equivalent of 14 8/13 muskets to be charged against the State's quota under the Militia Act. At this time the appropriation for arming and equipping the militia was allocated to the states in numbers of muskets, or their equivalent cost if other ordnance was issued. RG 156, E 21, Letter F221 for 1870. See also E 118.
14. John B. Bowman was a trustee of Bacon College, which became Kentucky University in 1858 (it opened as such in 1859). He was elected Rector (there was no president of the University) in 1865 and in that year a Military and Mechanical College had been made part of the University. www.uky.edu/Libraries
15. The dollar cost of the Model 1866 cadet musket was \$25.95 while the cost of the regulation rifle in 1870 was only \$22.80. RG 156, E 3, vol. 70.
16. RG 156, E 3, E 6 (Letters Sent to Ordnance Officers), E 21 and E 118. See also Albert Frasca, *The 45-70 Springfield, Book 2: 1865–1893* (Springfield, OH: Frasca Publishing, 2000), 50-51, 90-92. Entry 118 shows the December issues to the State were in two shipments, 100 and 191 rifles.
17. The Act, called the "Dick Bill," provided Springfield Krag rifles to modernize the National Guard's arms. Kentucky was authorized 260 cavalry and 3492 infantry arms but had drawn only 1149 rifles up to 27 December 1906. RG 156, E 28.
18. The State started getting Model 1903 rifles later in 1908, although they retained Krag rifles for some time thereafter. RG 156, E28.