From Wigwags To Crossed Flags

The story of a Union doctor, his invention, and the birth of the U.S. Army Signal Corps.

by
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How many times have you wondered where your crossed flags and flaming torch branch insignia came from? You may have happened upon all sorts of theories. To satisfy my curiosity and yours, I decided to do a little research and kill this cat once and for all!

This being the period of our country's and our Army's bicentennial celebrations, it is good to refresh our memories on Signal Corps history. Our Signal Corps has not been around quite 200 years—its 100th birthday having gone by just as recently as 1960; but in keeping with the spirit of the bicentennial, let us not wait until 2060 to hear the story. After all, our Signal Corps is the indispensable voice of command and control of the United States Army, one of the most vital shields of our country.

YOUNG DOC MYER

The story of our branch insignia is essentially the story of Albert James Myer, a young Army doctor who, incidentally, became the first Chief Signal Officer in 1860. Dr. Myer also is considered the father of the present-day U.S. Army Signal Corps. The story begins out West in the days before the Civil War; and even in those days of utter simplicity when armies were small in number, military communications was a recognized and formidable problem. One of the problems of the young United States Army in its excursions against the Indians was the lack of a reliable, flexible, and highly mobile means of communicating at distances out of earshot and out of bugle range. Handsignals, bugle calls, and voice commands were in use at the time, but they were grossly inadequate for use by Army elements that traveled rapidly, primarily on horseback, and that often operated at distances many miles apart. Of course, Indians could be hired to do their particular kind of signaling for the Army, but what about accuracy and security considerations? And the closest post office was just over the horizon a few hundred miles away. The electric telegraph was in operation at the time, but its use was limited by access to it: it simply did not go everywhere the Army went. In fact, it had not yet crossed the Mississippi River. So the old heroic horseback messenger was just about the most reliable means of getting messages back and forth between widely separated points. This was pretty much the situation when Myer happened upon the scene.

Albert James Myer was born on September 20, 1827, in Newburgh, NY, to Henry Beckman Myer and Eleanor Pope (McLannon) Myer. His mother died when he was still a child, and he was brought up by an aunt. Around 1836 he moved with his aunt to Buffalo, NY. There he attended Hobart College, graduating in 1847 with a bachelor of arts degree. Myer next attended Buffalo Medical College, graduating in 1851 with a doctor of medicine degree. On September 18, 1854, he entered the Army as a Medical officer. No form of signal department or signal corps existed at the time.

As a newly commissioned assistant surgeon, Myer was detailed for duty at Fort Duncan, TX, in a region along the Rio Grande River. Doc Myer was a restless young man with the curiosity that roughly paralleled that of a cat. He was a jack-of-all-trades; in addition to a little doctoring and weather observing—yes, he did that

too—he decided to try resolving the communications problems of the Union Army.

Myer became fascinated watching the Comanche Indians signal to each other over great distances using smoke, lances, blankets, horses, and other means to telegraph great quantities of detailed information with remarkable accuracy. He was greatly impressed by the Indians' system of signaling by moving their lances to the left and right as they sat astride their ponies. It was these observations that moved Myer to action.

FLAG AND TORCH TELEGRAPHY

Influenced by the Indians' lance signaling system, Myer devised a particular system of flag and torch signaling (telegraphy), later dubbed "WIGWAGGING." He noticed that the Comanches, although illiterate, literally drew pictures in the air with their lances. Myer took a single lance, fastened a flag to it, and adapted its use to the alphabet. In this way he could telegraph letters, words, and sentences.

Myer's alphabet was based on the telegraphic alphabet code of the Scottish scientist Albert Bain. Myer had developed this alphabet into a system of hand communications for deaf mutes in his doctoral thesis in 1851. In Myer's system for deaf mutes, words and sentences could be spelled out by left and right deflections of the hand. Likewise, his initial one-flag signaling system was based upon right and left deflections of a normally vertically centered flag. Over a period of time Myer perfected his system and eventually devised a torch-signaling system for night use. His torch-signaling system was based upon the torch and grid night-signaling system of Polybius, an ancient Greek. The system consisted of one "flying torch" to fit into the signal staff to be waved, and another—the foot torch—to be placed in the ground as a fixed reference point. This made it easier to determine to which side or in which direction the flying torch was moving. Years later the torches pioneered by Myer were replaced with lanterns for night signaling.

The idea was to signal back and forth between parties over great distances along an unobstructed line of sight. Prominent natural elevations such as hills and mountains were the preferred signaling locations. When hills and mountains were unavailable, lofty perches atop trees, log stands, houses, semi- and fully-permanent structures, towers, and even treetop nests were used as signaling locations. Myer even considered and attempted to use a large tactical balloon as a signaling perch. From such vantage points, signalers could observe enemy activity and movement not normally visible to troops below. A signaler would telegraph this data to friendly parties by means of flag and torch telegraphy.

THE WIGWAG SYSTEM

One day, during the Civil War, before the battle of Antietam, BG John Buford, chief of cavalry, Army of the Potomac, watched a signal flagman send a message. He is reputed to have declared the flagman's actions as "so much wigwagging." During the latter part of the 19th Century, several British military publications used the name "flag-wag" and spoke of "flag-waggers"; but neither of these terms stuck. But the term "wigwag" was generally attributed to BG Buford; it stuck and became the official name for flag telegraphy in Army publications.

Myer's wigwag system was a one-flag visual signal alphabet based on the Bain telegraphic alphabet and Myer's own hand-signaling system for deaf mutes. The system is usually referred to as a "two-element" system, although it was essentially a "three-element" system. The numbers (elements) "one" and "two" were used for sending transmissions, while the number "three" was used only for ending words, sentences, transmissions, etc. Therefore, the number "three" was not considered to be an actual element of the system.

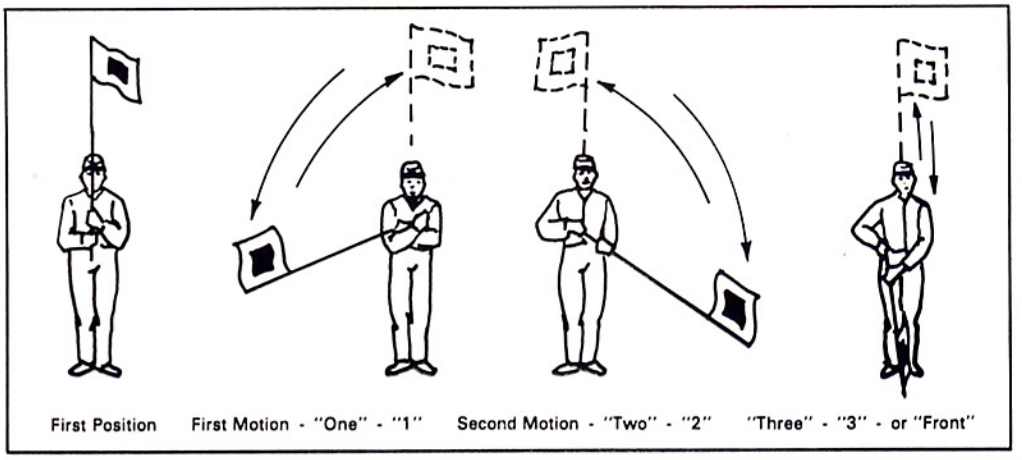
Putting the flag through its motions was a simple process. Anyone could master it. The signaler always started his transmissions from the normal or "flag-high" position, with the flag centered and held high in front of him. The message was waved by putting the flag through its number "one" and number "two" movements. For example, the number "one" movement was executed by swinging the flag from the normal position down to the signalman's right almost to the ground, then swiftly back up to the normal position again. The number "two" movement was executed in the same manner but to his left. Each element of the waved message was composed of number "one" or number "two" movements delivered separately or in combination. When transmitted intelligence was composed of several elements (numerals), the movements were made in rapid succession without any pause. Individual letters, however, were separated by a very brief pause. Each message was ended by putting the flag through its number "three" signal. The number "three" movement or "front position" was executed by dipping the flag forward, then returning it to the normal position. Each word, sentence, message, etc., was ended by one or more of these forward dips.

In Myer's system, letters of the alphabet, words, numbers, complete sentences and messages, and other data could be telegraphed by waving the numbers "one" and "two" either separately or in combination. For example, the letter "A" was composed of the numerals 2-2, "B" was 2-1-1-2, and "C" was 1-2-1. Likewise, anything transmitted with the flags could be ended by waving the number "three" once or several times, depending on what was being ended. For example, to signal the end of a word, a single three (3) was waved; the end of a sentence, a double three (3-3); or the end of a message a triple three (3-3-3).

Myer's initial method of signaling in the field was a 4-element system rather than the 2-element system just described. The 4-element system was used by the Union Army throughout the Civil War and was later changed to the 2-element system. The 2-element system was a refinement of the 4-element system, and was much simpler and faster to put into operation. On a clear day, a well-trained and proficient signaler could transmit and receive a dazzling 3 words per minute over a distance of—say—10 miles, if he had the right perch.

WIGWAG EQUIPMENT

The early signal flags devised by Myer for daylight signaling were square-shaped. They were made of a light



and closely woven fabric in three different sizes; 6, 4, and 2 feet square. They were either white with a red center square, or red or black with a white center square. The breadth of the center square was one-third that of the flag.

The color combinations of these flags were calculated to attract attention at great distances and designed to be used against varying backgrounds. The different sizes were calculated to be used at varying distances and, perhaps too, for different weather conditions. After a few years of use, the black flag was eventually discarded as unsuitable.

The staff (pole) of each flag was constructed of hickory sections about 4 feet long and tapered at one end so they could be easily joined together and separated. The joints were ferruled at the ends with brass, and fitted for joining together. When in use two or more joints of the staff were fitted together.

Torches designed and fabricated by Myer were essentially copper cylinders filled with turpentine, petroleum, or other flammable liquid and furnished with a wick of cotton.

Simplicity, economy, and mobility were the hallmarks of Myer's wigwag equipment. The equipment was light, sturdy, easily transportable, and easily made. Several torches, along with two or more simple flags and several sections of staff, could easily be carried by any man on horseback.

A MATTER OF TIMING

Myer invented his wagwag system during a particularly untimely period in history—the age of electricity. When Myer was commissioned as assistant surgeon in the United States Army in 1854, the electric telegraph was very much in vogue. In fact, the electric telegraph was older than Myer, having been invented in the early 1820's. Ohm's law was formulated and stated in 1827—the year of Myer's birth. Samuel F. B. Morse had invented in 1835 the first working model of the electric telegraph, and in 1843 with his associate, Alfred N. Vail, had devised the Morse code. Vail also had invented the telegraphic sounder a short time later.

Interestingly enough, Myer had once worked as a telegraph operator for the New York, Albany, and Buffalo Telegraph Company. This was around 1850 when he was a medical student at Buffalo Medical College. At that time, the New York, Albany, and Buffalo Telegraph Company employed the electrochemical telegraph patented in 1846 by the Scottish scientist, Alexander Bain (the father of facsimile). Years later, Myer employed the Bain telegraphic code in his wigwag system.

Progress in electrical telegraphy during the 1800's was characterized by a steady stream of claims and counterclaims for telegraphic inventions. On October 1, 1856, Myer wrote the Secretary of War, Jefferson Davis (who was later President of the Confederacy), and tried to sell his flag-and-torch signaling system to the Army. Davis, probably thinking that Myer was insane at the very least, did not reply. There was no place in this "ultramodern" world of the electric telegraph for anything so simple and elementary as manually waved flags and torches. Myer's hopes diminished. In near desperation, he wrote the Navy and offered his system to them. On February 18, 1858, the Navy replied, flatly rejecting his offer.

The age of electricity rolled on unchecked. In August 1858 Cyrus Field completed the laying of the first transatlantic cable. Myer's system seemed to become more and more outmoded with the news of each new breakthrough in the field of electricity. The wigwag seemed more and more destined to die with its fabrics never unfurled in battle. The resistance to Myer's ideas could be attributed to a matter of timing.

THE TIME AND THE PLACE

But Myer's wigwag system was not to die—not yet, anyway. There were some tactical situations for which the romanticized telegraph just wasn't quite suited. For one thing, Army expeditions into the West against the Indians were mostly static, with quick-changing lines of contact and unclearly defined or barely discernible fronts and rears. This was no place for the electric telegraph and other cumbersome signaling apparatuses that required many horses and wagons to transport, many men to install and operate, and much time to set up. Skirmishes with the Indians would require equipment which was simple, easy to transport, easy to install, and easy to operate. In these respects, the Myer system had no parallel at the time. The time and place for wigwag signaling had been found.

In 1859 the War Department finally responded to Myer's letter of 1856. The War Department appointed a board to determine whether Myer's invention should be considered for Army use. The chairman of that board was Robert E. Lee, then a lieutenant colonel with the 2d U.S. Cavalry. The results of the investigation were favorable, and Myer performed a series of demonstration tests for the War Department. During these tests, known as the "New York Harbor Tests," Myer waved messages

from several different locations, including one message waved 15 miles across water from Beacon Hill, NJ, to Fort Hamilton, NY, to his assistant, 2LT Edward P. Alexander.

Myer field tested his system on the New Mexico frontier during the Army's expeditions against the Navajo Indians. In 1860 he was assigned to the staff of LTC Edward R. S. Canby of the 10th Infantry, headquartered at Sante Fe, NM. There Myer organized a temporary training group of 2 volunteer officers and 16 volunteer enlisted men, and trained them in flag and torch signaling. It was during these expeditions against the Navajos that wigwag signaling was first used in actual tactical operations by the United States Army.

Myer's signalmen performed well in these operations, transmitting hundreds of messages over all types of terrain in all kinds of weather. The messages were transmitted over distances of 5 to some 20-odd miles over a 52-day period. Overall, LTC Canby was pleased and impressed with the performance of Myer and his crew. However, he had some reservations about Myer's proposal that all Army officers be trained in wigwag signaling. Nevertheless, the value and reliability of wigwag signaling was now firmly established, and few knowledgeable individuals could voice any valid doubts about it.

THE SIGNAL DEPARTMENT

Many high-ranking officers in the War Department were impressed by Myer's demonstrations, but his system would have to have the final blessings of the Military Affairs Committee of the United States Senate. Unfortunately, and equally as unbelievable, this committee was chaired by Mississippi Democrat Jefferson Davis, now a Senator, who as Secretary of War had not answered Myer's letter of 1856. Myer immediately came under Davis' wrath.

Davis was a man with a reputation for slapping careers, not backs. He had studied reports of the results of Myer's demonstration tests long and carefully. He was aware of the merits and advantages of Myer's system, but he wasn't about to give any quarters easily. Davis weighed Myer in a cool, deliberate, and no-nonsense manner, and asked him calculatedly to state his proposal. Myer's answer was brash, arrogant, and sure—he wanted the War Department to establish a Bureau of Army Signals with himself at its head with the rank of colonel. This proposal did not help improve Davis' earlier opinion of Myer. Davis could go along in principle with the establishment of the bureau but not with a "Colonel" Myer as its head.

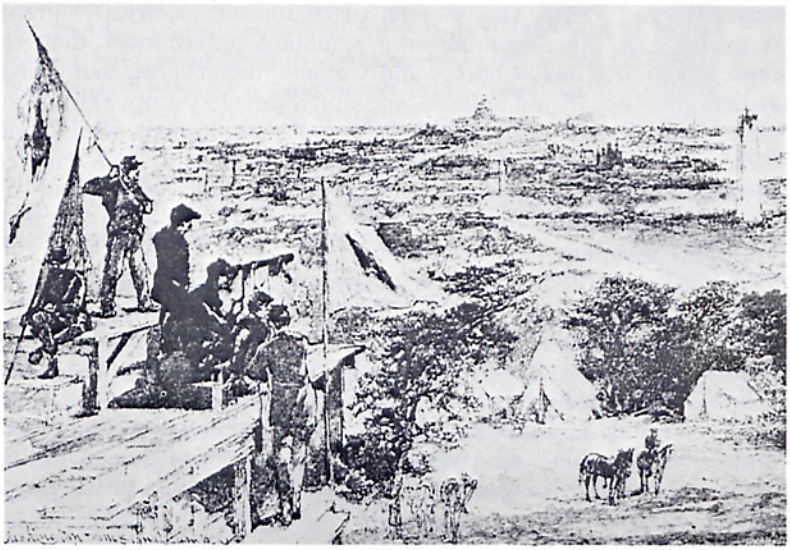
Another of Myer's marks of quality now came to light: perseverance. Myer and Davis argued their positions back and forth. Davis proposed to Myer a tempting sum as flat payment for his invention, and a lucrative contract as a civilian instructor of military signalers. Myer turned down both offers. He wanted rank and authority and nothing less.

Myer fought hard for his proposal, actively seeking and enlisting the help of other senators on the committee in actions bordering on "politicking." These actions by Myer turned some heads and cast suspicion on him. Myer was still on active duty; if any such actions were proven against him, he would have been in very deep water indeed. Finally the committee vote was taken and the decision announced. Myer had won in principle! He lost his bid for higher rank, but he won authority over a newly authorized Signal Department.

FIRST SIGNAL OFFICER

In 1860 the U.S. Army adopted the Myer system of signaling. On July 2, 1860, after a June 21 Congressional approval, Myer was commissioned as the Army's first signal officer with the rank of major. He was 32 years old and one of the youngest majors in the Army. As signal officer, he filled an original vacancy in the new Signal Department and automatically became a member of the Army staff. This position was of little consequence at first, since Myer's sole mission as signal officer would be to train men from the other branches of service as signalers, and return them to their particular branches after they completed their training.

The Signal Department was never conceived as a separate branch of service with Myer as its head. The Signal Department was weakly and sparcely manned and consisted mainly of Myer and a detail of two or three administrative helpers. Nevertheless, it was the



forerunner of the present-day U.S. Army Signal Corps. The signal mission was not in the hands of the Signal Department, nor had Congress or the War Department intended that it be. Each branch of service would look after its own signaling—that is what was intended, and that is what took place initially.

A GATHERING STORM

After Myer had perfected his system sufficiently, he applied for a patent on August 21, 1860. The patent was finally granted on January 29, 1861. At about this time, some interesting developments began to take place. On November 6, 1860, a backwoods Illinois lawyer named Abraham Lincoln became President of the United States. The reaction that began across the nation is a matter for historians to analyze and make theories about—one can best describe it as a gathering storm. Anyway, the South seceded from the Union and, ironically, on February 18, 1861, Jefferson Davis became the Provisional President of the Confederate States of America. Myer's assistant in the "New York Harbor Tests," 2LT Edward P. Alexander, joined the Confederacy, along with other individuals knowledgeable of the Myer system: Colonel Sam Cooper, the Adjutant General at Washington; Robert E. Lee, who had recommended that the Army try out Myer's invention; J. E. B. Stuart, a young cavalry officer who sought vainly to train with Myer at Santa Fe; and others. These individuals haunted Myer during the conflict that lay ahead. By the summer of 1861, Myer was left with only one able assistant, West Pointer LT Samuel T. Cushing, one of the two officers he trained at Santa Fe.

THE DOOMED BALLOON

Myer began a Signal School on June 10, 1861, at Fort Monroe, VA, with a class of 10 officers and 30 enlisted men. The importance of the events on the battlefield came to bear upon them and two of the officers were reassigned after only one day of training. Two days later, on June 12, training was cut short by orders sending the first signal party into combat. Later Myer opened another signal camp near Georgetown under the direction of LT Cushing. By November 1862 Myer had established the first permanent (24-hour operation) flag-telegraph system consisting of a chain of flag and torch stations that linked Fort Monroe with Newport News, VA.

During June and July of 1861, Myer pursued an ill-fated project to place a signal officer aboard a hovering observation balloon. This balloon would be anchored by a long rope and the officer on board would wigwag his observations of an approaching enemy to one or more ground stations. The main objective of the project would be to guard the Capitol against Confederate troops. After much effort, the balloon never got off the ground. If it had, the battle of Bull Run might have gone differently.

LESSONS LEARNED AT BULL RUN

During the battle of Bull Run, LT Alexander (Myer's earlier assistant) distinguished himself brilliantly, commanding a Confederate signaling team instrumental in the crushing defeat of the Union forces. In sharp contrast the Union suffered a series of signaling failures. For one thing, Myer's failure to send up the observation balloon may have contributed to the defeat at Bull Run; furthermore, he had not established flag telegraphs in the field. The immediate days surrounding Bull Run found Myer without a command. He was a near-pathetic figure as he shuttled back and forth as—of all things—a lowly messenger. But he performed with all the vigor one could expect of a man with the signaling mission of an entire Army thrust upon his shoulders, and was cited for his unselfish bravery under fire.

The lessons learned at Bull Run were immediate. For the first time, the importance and impact of tactical signaling was understood and agreed upon by all; and as a consequence, the demand for signalers was high. Bull Run, however, was not a Waterloo for Union Army signaling. Union signalers went on to distinguish themselves in other encounters of the Civil War. Myer went back to training signalmen and developing new signaling techniques. He continued to pioneer new signal innovations and campaigned hard to have the Signal Department converted into an independent corps with officers and enlisted men of its own.

During the Civil War, binoculars ("spyglasses") made their appearance on both sides to augment flag and torch signaling. Binoculars enabled flag and torch signaling techniques to be honed to a new perfection and permitted effective signaling over much greater distances and with more pinpoint accuracy than before.

THE CONFEDERATE SIGNAL CORPS

The Confederate States Army Signal Corps was already a reality, having been independent since April 19, 1862. The Confederate Signal Corps provided no comfort for Myer: it was proficient in reading the messages of

Union signalers, it was proficient at gathering intelligence, and it could communicate effectively in tactical situations. And why not? After all, the founders of the Confederate Signal Corps were men trained mostly by Myer.

After the war many of the Confederate signalers joined the Union Army and contributed to the common goal of improved communications.

BIRTH OF THE CORPS

On March 3, 1863, a Congressional act established the United States Army Signal Corps as a separate branch of service. The new corps would play a dual role. It would serve as both a combat arm and a technical service—dual roles it still plays today. The Signal Corps has since served as a model for the signal organizations of other armies of the world.

Myer's work in military communications did not stop with the wigwag. He went on to pioneer new applications of the electric telegraph; among them, the development of the field (flying) telegraph train and the development of a cipher disk for telegraph. These, however, are other stories. On September 18, 1863, Myer was appointed Chief Signal Officer with the rank of colonel and promptly got himself into more hot water, this time with Secretary of War Edwin H. Stanton.

STANTON LOWERS THE BOOM

Myer's conflict with Stanton centered around Myer's contention that, as Chief Signal Officer, he should have authority over all electric telegraphy within and supporting the Army's zone of operations. He believed that the act of Congress, June 21, 1860, gave him that authority. As it was, the Signal Corps and the Military Telegraph Department were separate entities within the War Department, and Stanton, as Secretary of War, presided over both. Electric telegraphy was the domain of the Military Telegraph Department. In fact, all electric telegraphy anywhere in the United States, civilian or military, including the field telegraph trains operated by Myer's Signal Corps, were—in theory at least—under the exclusive control of the Military Telegraph Department. This is where Stanton maintained it should remain. The Signal Corps as established by Congress had no control over electric telegraphs anywhere. But Myer did not back off. He expanded Signal Corps telegraph activities well into the exclusive domain claimed by the Military Telegraph Department, and caused a forever-widening rift between the two organizations.

Myer's dogged insistence in gaining full control over wire telegraphy and his antics in "exceeding his authority" in telegraph matters were not the only things that got him into trouble with Stanton. The Telegraph Department was acually a civilian bureau within the War Department, and all of its personnel were civilians except for a few military officers at the top. Each of these officers had held high positions at one time or another in either a civilian telegraph company or a railroad company (railroads had their own telegraph services). Most notable among these was the American Telegraph Company. All of these men were trusted and personal friends of Stanton, whose friendship was indeed a rare privilege. In addition, Stanton was the director of a sister telegraph company to the American Telegraph Company and a good friend of its director. Myer did not let these facts go unnoticed. He leveled "conflict of interest" charges at Stanton at every opportunity. Myer more and more came into disfavor with the Secretary of War, and his name was simply not mentioned around the Military Telegraph Department.

Eventually an angered Stanton lowered the boom on Myer. On November 10, 1863, Stanton called Myer before him, chewed him out, stripped him of his rank, and relieved him from his position as Chief Signal Officer. Myer was ordered to make a reconnaissance of the Mississippi River—a job not befitting a medical officer or a signal officer. This was the ultimate insult and disgrace.

MYER FIGHTS BACK

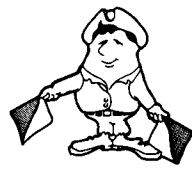
Stung and shaken, but persistent and unflappable as ever, Myer went to work immediately to get back his position as Chief Signal Officer. In May 1864, Myer secured an assignment as signal officer of the Division of West Mississippi, and participated in operations along the Mississippi River. During this tenure Myer wrote and publshed his famous *A Manual of Signals: For the Use of Signal Officers in the Field* (1864).

In 1865, as the battle between Stanton and Myer continued, the Civil War was ended. On April 12, 1865, GEN Robert E. Lee formally surrendered the battered remnants of his Army of Northern Virginia to GEN Ulysses S. Grant at Appomattox Courthouse in Virginia. Other skirmishes of less importance followed, but for all practical purposes, the war between brothers was over, as was the work of the Signal Corps. Casualties could not be accurately assessed, but Myer estimated that, percentage-wise, the Signal Corps had a casualty rate higher than that of the infantry. Signaling was indeed a very dangerous job. The Signal Corps, which had started with practically one man—Myer—was now at a strength of about 2,000 men; and unknown numbers had augmented the Corps throughout the war.

On April 14, 1865, President Lincoln was assassinated and Andrew Johnson, a Democrat, came into the Presidency. Myer leaned on the ears of most of the high-ranking generals of the day for support, and even wrote President Johnson and asked him to restore his position. Stanton was equally as determined to block Myer's reinstatement as Chief Signal Officer and worked vigorously to have a candidate that he favored installed in the position.

MYER TRIUMPHS

President Johnson eventually became involved in the conflict between Myer and Stanton, not solely because of the question of Myer's reinstatement, but also partially because of some delicate and complicated questions of Reconstruction Era politics. Stanton was a carryover from the Lincoln cabinet, and he and Johnson represented two fiercely opposed political camps (Radical Republicans vs. Democrats). Stanton and his backers fought Johnson at every turn. Johnson vetoed three of their Reconstruction plans and they in turn engineered



two quasi-constitutional acts designed to curb Johnson's powers and keep him from throwing Stanton out of office.

Finally Myer received the help he had long sought, and the conflict between Stanton and him, like the battles of the Civil War, also ground to a halt. A majority of the Senate and many of the high Army and Naval officers of the day, including General-in-Chief Ulysses S. Grant, supported Myer and recommended his reappointment as Chief Signal Officer. On October 30, 1866, a Buffalo, NY, Senator laid an impressive array of documents and endorsements supporting Myer's reinstatement before President Johnson. Johnson reviewed the documents and passed them to Stanton along with an attached directive virtually ordering him to see that Myer's appointment was made.

On October 30, 1866, Myer was restored as Chief Signal Officer with the rank of colonel. His rank was backdated to July 28, 1866, the day Congress passed the Armed Forces Act. The Armed Forces Act reorganized the Signal Corps; it also made permanent the position of Chief Signal Officer and permanently established the rank of colonel for the Chief Signal Officer. Myer's appointment was confirmed by the Senate on Febraury 21, 1867.

On August 12, 1867, Johnson deliberately defied one of the questionable Radical-engineered measures (the Tenure of Office Act—1867) and suspended Stanton, replacing him with Ulysses S. Grant, the foremost hero of the day. Stanton stubbornly held on to his office for a while, and the Radicals, thinking they had a case against Johnson, gleefully sought to have him impeached. After a 2-month trial, Johnson was acquitted and Stanton went for good, and along with him went many of Myer's misfortunes.

On August 21, 1867, Myer again assumed charge of the Signal Corps. With Grant in as the *ad interim* Secretary of War, Myer's fortunes took an upswing. Grant, in General Order 92, October 1867, gave the Signal Corps sole authority over wire (electric) telegraphy in the combat zone. Grant further directed Myer to manage, equip, and train the Signal Corps in electric telegraphy.

MYER RECEIVES RECOGNITION

On November 30, 1867, Grant, the new Secretary of War, ruled that the stripping of Myer's rank and position by Stanton was invalid. On December 11, 1867, Myer was showered with several backdated brevet promotions. During the War, Myer had served on the staffs of Generals Canby, Bixler, McDowell, and McClellan. He had gallantly rendered signal services under fire from the first battle of Bull Run during the early days of the war, and through much of the fighting in Northern Virginia during the waning days of the war. His flag and torch wigwag system had figured prominently in most of the skirmishes and battles of the war. Now he was finally receiving the recognition he so richly deserved. Myer was brevetted a lieutenant colonel as of May 27, 1862, for his signal services in the battle of Hanover Courthouse; full colonel as of July 2, 1862, for similar services at Malvern Hill; and brigadier general as of October 5, 1864, for his services as Chief Signal Officer and for special service when signal communications brought relief and saved the besieged post of Allatoona. In other words, Myer was authorized a brigadier general's rank and authority but received a colonel's pay.

A FIGHTER TO THE LAST

The year 1868 came in, and with it Grant became president. In the years following the Civil War, the Signal Corps had become nearly extinct from inactivity, so Myer directed his energies toward finding valid peacetime activity for the Signal Corps. In 1869 Myer published a report proposing that Signal Corps duties be extended to sending out storm warnings. His argument, along with the support of other individuals interested in the matter, led Congress in February 1870, to authorize the establishment of the United States Weather Bureau under the direction of the Signal Corps. Myer supervised the bureau during its first 10 years of operation. Later, in 1873 in Vienna, and in 1879 in Rome, Myer represented the United States at international meteorological congresses. His perseverance and tact at those congresses led to the establishment of a uniform international system of simultaneous meteorological observations. On June 16, 1880, Myer was promoted to brigadier general after legislation had been passed giving the Chief Signal Officer that rank.

On August 24, 1880, at Buffalo, NY, BG Myer died at 52, only 2 months after being promoted and only 21 days after closing his Washington office and retiring. He had been a fighter all his life and a fighter to the last. The following year, Fort Whipple, VA, was renamed Fort Myer in his honor.

WIGWAGGING THROUGH THE YEARS

The death of Myer after the Civil War was not, however, the death of wigwag signaling. Flag signaling spread abroad in the 1800's and was practiced to some degree by most of the major military powers in Europe up through the 1900's. In 1886, the Army Signal Corps dropped the "Myer" or "General Service" code, having used it for 26 years. Replacing it was the International (Continental) Morse code, which in turn was dropped in 1889 in favor of the American Morse code. In 1896 however, the Army limited the use of the American Morse code to the electric telegraph, so the Myer code survived to become the standard for both Army and Navy flagwaving.

The Army used the wigwag system briefly in the Modoc Indian War in Northeastern California in 1873, and again in the Spanish-American War both in Cuba and in the Philippines in 1898. It was during the Spanish-American War that the first serious limitations of wig-

wagging became apparent. A faster and more reliable mode of communications was necessary.

During World War I, U.S. Army signalers supported units in France. The close-quarter, nose-to-nose confrontations of opposing forces in the trenches across narrow no-man's land made flag waving quite dangerous. Flag signaling was used in forward areas near rivers in Italy, and was used as a primary method of signaling between the Army and the Navy in the Dardanelles landings. Operations in Mesopotamia and in East Africa also saw limited wigwagging.

By the start of World War II it became clear that wigwag signaling was on the way out. The flashing lamp had long since replaced the swinging torch, and now the telegraph and the telephone were replacing flag waving. The flasher of the heliograph (messages by mirror) and the crackling of the wireless had all but tattered the very fabric of wigwags.

The only flags since issued and used by the U.S. Army were semaphore. The last trace of wigwagging appeared in a 1950 Army Field Manual; it was only mentioned once and apparently only as an option in case a semaphore flag became lost or destroyed.

SEMAPHORE AND FLAGHOISTS

Flags had been used by some of the armies and navies of the world long before Myer's wigwag system, but not to the degree of systematic perfection of the Myer system. One flag is the semaphore flag, and the origin of its use is obscure. Semaphore signaling is vey rapid; it was used in the U.S. Army in the 1900's and is still in use on Naval vessels. Today semaphore flags are standard equipment on all U.S. Naval vessels.

The MC-44, 18-inch square semaphore flags divided diagonally into red and white, were standard Army issue during World War II.

Flaghoists have been in use longer than any other type of military flag signals. They are used by navies rather than armies. The flaghoist system uses flags of one or more color patterns hoisted alone or in groups at certain prominent points on a ship for ship-to-ship and ship-to-shore communication. These flags can be changed quickly to alter a message. Flag-signaling systems have also been hoisted by tactical balloons.

BRANCH INSIGNIA AND COLOR

Congress did not authorize any distinctive branch insignia for signal soldiers until after it had established the Signal Corps as a separate service branch in 1863. In 1864, when the Signal Corps was under the control of Acting Chief Signal Officer LTC W. J. L. Nicodemus, The War Department, Bureau of the Signal Corps, provided a badge for officers and another for enlisted personnel. This authorization was in General Order 36, dated August 22, 1864.

General Order 36 provides, in part, for officers: "Two Signal flags crossed, dexter flag white with red center, the other flag red with white center, staffs gold, with a flaming torch of gold color upright at center of crossed flags; 7/8-inch in height." And for enlisted personnel: "Two signal flags crossed with a flaming torch upright at center of crossed flags on a 1-inch disk, all of gold color metal."

The insignia for officers was specified to be worn on hats and caps. The insignia for enlisted personnel was designed to be worn on lapels. Sergeants were permitted to wear a similar insignia in the angle of the chevrons of their left sleeves. Privates were permitted to wear the same device in the same position on their sleeves.

It is interesting to note that the crossed flags and torch emblem of the Signal Corps insignia is not composed of the well-known semaphore flags, but instead is composed of the wigwag flags and the flaming copper cylinder torch pioneered by Doc Myer.

It is also interesting that throughout his entire military career, from the Army's one-man Signal Corps to the Corps' first Chief Signal Officer, Myer never once wore the uniform and insignia of the United States Army Signal Corps. Instead, he wore the insignia of the United States Army Medical Staff.

The branch color of the Signal Corps was authorized at the same time the corps was established as a separate branch. The orange color that once distinguished the historic Army Dragoons—later redesignated Cavalry—became the branch color of the newly established Signal Corps.

A PROUD HERITAGE

Wigwag signaling finally passed from the United States military scene after only 50 or 60 years of use. It did not pass in vain, for the seed for better communications had been sown. Wigwag signaling revolutionized the tactical communications of the young and growing U.S. Army. The wigwag flag-and-torch system was essentially the first U.S. Army Signal Corps equipment used on the battlefield, and from it evolved the sophisticated and often complex signal equipment systems of the modern Signal Corps.

It all started with Doc Myer, a young man with a keen sense of observation, a restless and inquisitive mind, and a knack for "hanging in there." From the crude wigwag flags and torches on the Texas and New Mexico frontier to the prestigious meteorological congresses in Vienna and Rome, Myer built the Signal Corps from scratch, nursed it through its formative years, and pushed it on its way on strong and self-sufficient wings. Undeniably, he is the father of the Signal Corps, and he leaves us a proud heritage.

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