A comedy of errors

Flying high during the

Signal Corps Balloon Operations Spanish-American War 1898

Dismounted cavalry, the Rough Riders, began deploying in the meadow fifty yards in front of the balloon; it was not a good place to be.

by Capt. Terry M. Mays

The Signal Corps and its balloon section were ill prepared when the United States declared war on Spain in 1898. The balloon "section," created by order of the Secretary of War in 1892, actually consisted of exactly one balloon—which Signal Corps soldiers manufactured by hand.[1] When the war began, the Chief Signal Officer, Brig. Gen. A. W. Greely, ordered the balloon section moved from Denver, Colorado, to Fort Wadsworth, New York, and named Lt. Col. Joseph E. Maxfield as commander. Because many eastern cities feared a surprise attack by the Spanish fleet, Maxfield's original orders were to prepare the balloon section for deployment to Sandy Hook, New York,[2] where it could provide early warning for the Sandy Hook area.[3] However, Greely changed Maxfield's orders before the movement to Sandy Hook and told him to equip the section for field duty and join the newly formed Fifth Corps in Tampa, Florida. These instructions were soon amended to authorize the creation of two balloon companies.[4] Maxfield shipped his balloon equipment by rail to Tampa and personally departed New York on 31 May 1898.

Problems plagued Lt. Col. Maxfield almost immediately upon his arrival in Tampa. Maj. Gen. William Shafter, the Fifth Corps commander, told Maxfield to organize his company within three days for shipment to Cuba. However, Maxfield related in his war report to Greely that "at this time there was under my command not a single officer or man, and it was found that the articles pertaining to

Spanish American War

Romanticized print of the Signal Corps balloon hovering over San Juan Hill. (The balloon was actually destroyed prior to the capture of San Juan Hill.)

the balloon equipment which had been shipped from New York had not been unloaded from the cars at Tampa, but were at various points in the railroad yard at Tampa and vicinity."[5] The depot master knew nothing of the balloon shipment but gave permission to review the bills of laden.

Lt. Col. Maxfield found the correct paperwork, but some of the bills of laden did not contain rail car numbers. He faced an almost hopeless task of searching every rail car in the Tampa area. Maj. Frank Greene, the Fifth Corps Signal officer, provided a detachment of men to assist in the search, and they were later joined by a 30-man detail from an infantry regiment. The search details located all of the balloon equipment by the evening prior to the departure for Cuba. Twenty-seven men departed with Lt. Col. Maxfield to Port Tampa the next morning.[6]

The American forces arrived in Cuba on 22 June and began the slow process of unloading from the ships at the town of Daiquiri. Maj. Gen. Shafter granted permission to the balloon section to disembark on 28 June; however, he denied Maxfield permission to land his hydrogen gas generator. This situation forced the section to rely totally on the gas stored in the transportable tubes to inflate the balloon during the campaign.

The balloon section reached Fifth Corps headquarters, east of El Pozo, on the afternoon of 29 June. Because of a heavy rainstorm that afternoon, Maxfield ordered his men to wait and spread the balloon the next day. But by then the extreme summer heat had softened the protective varnish of the silk balloon and prevented two sides of the envelope from separating. Portions of the balloon had also rotted due to either poor quality varnish or scorching. The unit managed to separate the two sections and repaired the holes by sewing patches over them and applying a coating of adhesive plaster.[7]

The section made three ascents on 30 June to test the balloon and observe the countryside between El Pozo and the Spanish defenses outside Santiago.[8] The balloon passengers gathered intelligence related to the terrain and officially confirmed the Spanish fleet's presence in Santiago Harbor. Lt. Col. Derby, chief engineer of Fifth Corps, presented an optimistic report of the balloon's operation to Maj. Gen. Shafter and recommended that it be used the following day to support the assault on the Spanish defenses. Maxfield received orders that evening to move his balloon to El Pozo as soon as possible the next morning. Shafter also ordered Lt. Col. Derby to accompany the balloon. Under normal conditions the balloon would have been deflated and refilled by the gas generator. However, the lack of the generator forced the section to rely totally on the hydrogen stored in the gas tubes.

The next morning, 1 July, the section repaired new rents in the balloon and towed it to the foot of a hill outside El Pozo. Lt. Col. Maxfield proceeded alone on horse to scout the hill for a location to launch the balloon. Spanish gunners had the hill ranged for artillery and were occasionally firing an accurate shot onto it. One of these struck Maxfield's horse and persuaded him to launch the balloon from behind the hill. He and Derby made the fourth ascension from this location and reported the

American troop movements to the Fifth Corps adjutant general.[9]

However, contrary to Maxfield's original plan to conduct all of his operations at El Pozo, Derby directed that the balloon be moved closer to the front.[10] The section crossed the San Juan River with the inflated balloon and its two passengers in tow, several hundred feet off the ground, and established their site in a meadow immediately behind the American soldiers. The balloon made its fifth ascension from this location. The two officers in the balloon observed that the Spanish defenses on the San Juan Heights were strongly held and reported this to Fifth Corps Headquarters with the suggestion that the American artillery at El Pozo redirect their fire to saturate these positions. It was to be their last balloon observation.

Dismounted cavalry, the Rough Riders, began deploying in the meadow fifty yards in front of the balloon; it was not a good place to be. The Spanish defenders, correctly suspecting that the balloon marked the furthest advance of American soldiers, directed accurate small arms and artillery fire in the balloon's vicinity, causing casualties and creating confusion among the American soldiers, as well as permanently disabling the balloon. The balloon, accurately deemed "a beautiful range marker" by an observer, lost a substantial amount of hydrogen within only a few minutes due to the accurate Spanish firing, and Maxfield directed the section to reel it in.[11] Though only one soldier was wounded, the balloon was damaged beyond repair and had to be returned to Siboney.

Brig. Gen. J. F. Kent, First Division commander, understandably was less than ecstatic in his review of the balloon's combat performance. He reported on 7 July that his unit suffered "losses caused by the balloon nearby attracting fire and disclosing our position. The enemy's infantry fire, steadily increasing in intensity, now came from all directions, not only from the front and the dense tropical thicket on our flanks, but from sharpshooters thickly posted in trees in our rear and from shrapnel apparently aimed at the balloon."[12] Maj. Gen. Shafter refused to permit any further operations during the campaign even though a newly acquired balloon awaited shipment from Port Tampa. He also refused permission to return the empty gas tubes to Port Tampa for refilling.[13]

The balloon section assisted other Signal Corps units to lay telephone lines and cable between 5 July and 16 July. On 18 July, the section loaded its equipment onto the steamer *Adria* and sailed the next day for Port Tampa. Lt. Col. Maxfield found a newly formed balloon company in Tampa under the command of 1st Lt. L. B. Wildman.[14] Wildman's unit consisted of two newly acquired balloons and the necessary supporting equipment, including an operating hydrogen gas plant. The Spanish-American War ended without the Signal Corps balloon units seeing further action.

The Signal Corps balloon section encountered three main problems in its operations outside Santiago.

First, the Signal Corps balloon section was not prepared for war. Years of underfunding had taken its toll on the section. From the very beginning, the Signal Corps had to construct its only balloon by hand, using inferior materials. This decision proved nearly disastrous as the inferior varnish on the balloon melted and caused the envelope to stick. Numerous rotten areas on the envelope had to be repaired in Cuba, with the soldiers using field expedient methods. Lt. Col. Maxfield's detailed report on his section does not mention any balloon ascensions prior to the three tests outside of Maj. Gen. Shafter's headquarters in Cuba. An earlier test ascension might have revealed the rotten envelope panels and, perhaps, led to their being repaired prior to the section departing Fort Wadsworth for Tampa. Though Maxfield reported that at Fort Wadsworth his section "placed in thorough repair all apparatus on hand,"[15] there is no indication that the section inspected the balloon itself. Maxfield wrote that the balloon in Cuba "was in such a condition that had the ascents to be made in time of peace, it would have been felt unsafe to use it."[16]

Second, Maj. Gen. Shafter erred by not allowing the balloon section to unload its gas generator from the *Rio Grande* at Daiquiri. The lack of a generator in Cuba forced Lt. Col. Maxfield to rely solely on the reserve gas stored in the tubes. This situation placed an immediate constraint upon the unit by limiting the number of times the balloon could be inflated with hydrogen. The crippling of the balloon during the assault on Kettle and San Juan Hills possibly prevented an embarrassing situation by eliminating the need for future inflations.

Third, Lt. Col. Derby blundered by ordering Lt. Col. Maxfield to move the balloon to the front lines despite the latter's informal protest. The Spanish forces correctly surmised that the balloon marked the furthest advance of American soldiers during its fifth ascension. The balloon was crippled beyond field expedient repair, and many American soldiers were killed or wounded in the Spanish barrage.

Maj. Gen. Shafter refused to permit further balloon operations during the Santiago campaign, despite Brig. Gen. Greely's displeasure with his attitude toward the balloon section.[17] Shafter's only official comment about

the balloon section was an endorsement to Lt. Col. Maxfield's report, which stated, "The service rendered by the balloon detachment, as well as the whole Signal Corps, was satisfactory."[18]

The Signal Corps balloon section in Cuba consisted of only one "leaky" balloon and twenty-eight men, but its historical impact upon the Santiago land campaign could possibly be second only to Teddy Roosevelt leading the Rough Riders up Kettle Hill (part of the San Juan Heights). Many memoirs of the campaign, including that of then 1st Lt. John J. Pershing, include vivid accounts of the balloon acting as a Spanish range marker. Despite the many problems and setbacks, the members of the balloon section performed admirably considering the available resources and were credited by Brig. Gen. Greely for "excellent conduct."[19]

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ENDNOTES

1. War Department, *Report of The Chief Signal Officer to the Secretary of War 1899,* Government Printing Office, Washington, D.C., 1899, p. 747; reprint edition, Scheips, Paul J., ed., *Military Signal Communications,* Vol. 1, Arno Press, New York, 1980. The balloon section received limited funding during 1892-1898. Requests for special appropriations to purchase ballooning equipment failed each year. The Signal Corps was reduced to hand manufacturing its only balloon prior to the Spanish-American War. The materials used in this balloon were the least expensive available and would greatly hamper operations during the war.
2. Maxfield, Joseph E., Lt.Col., *Report of LTC Joseph E. Maxfield, United States Volunteer Signal Corps, on War-Ballooning at Santiago de Cuba, 1898,* cited in its entirety in War Department, *Report of the Chief Officer to the Secretary of War, 1898,* Government Printing Office, Washington, D.C., 1898, p.960; reprint edition, Scheips, Paul J., ed., *Military Signal Communication,* Vol. 1, Arno Press, New York, 1980. Lt. Col. Maxfield received his orders from Brig. Gen. Greely on 13 April 1898. The orders relieved Maxfield of his duties as the Signal officer, Department of the Lakes, and informed him to report to Governor's Island, New York.
3. Ibid. The balloon section at this time consisted of one silk balloon, one small generator (out of repair), one small gas compressor (out of repair), 180 steel tubes for holding compressed hydrogen, one balloon wagon, one tool wagon, and five gas tube wagons.
4. Ibid. Each balloon company would consist of two balloons, one generator for hydrogen gas, 160 tubes for hydrogen gas, the necessary wagons to move the equipment, and a permanent gas plant for refilling the tubes. The war ended before the two company goal could be realized.
5. Ibid, p.961.
6. Ibid. Ten Signal Corps soldiers from Chickamauga and four from Atlanta were assigned to Maxfield. Maj. Greene provided an additional ten enlisted personnel as well as two officers, 2nd Lt. George Burnell and 2nd Lt. Walter Volkmar (newly promoted from the rank of sergeant). Second lieutenant James R. Steele reported to Maxfield at Tampa.
7. Ibid, p.962.
8. War Department, *Report of the Chief Signal Officer to the Secretary of War 1898,* U.S. Government Printing Office, Washington, D.C., 1898; reprint edition, Scheips, Paul J., ed., *Military Signal Communications,* Arno Press, New York, 1980, p.888. The first ascent was made by Maxfield and Sgt. Baldwin; the second by 2nd Lt. Volkmar and Gen. Castillo of the Cuban guerrilla army; and the third by Maxfield and Lt.Col. Derby, the chief engineer of Fifth Corps.
9. Maxfield, *Report of LTC Joseph E. Maxfield, United States Volunteer Signal Corps, On War-Ballooning at Santiago de Cuba,* cited in its entirety in War Department, *Report of the Chief Signal Officer to the Secretary of War, 1898,* p.963.
10. Ibid. Maxfield stated in his report to Greely, "...a statement was made by me as to the results of artillery firing at balloons in experimental work abroad and the conclusions to be drawn from such, and the fact stated that in my opinion it was unwise to carry the balloon farther to the front. No formal protest, however, was made, as it was felt that the chief engineer was the representative of the commanding general and that his desires were to be carried out."
11. Woods, David L., *A History of Tactical Communications Techniques,* Martin Company, Orlando, 1965, p.178. Pvt. Charles Post witnessed the final flight of the balloon and later wrote the following: "In the Aguadores road we heard yells and cheers from the rear of our columns. An observation balloon came into sight high above the jungle. A four-man ground crew held its trail rope and kept the balloon under control. Signal Corps men followed with coils of rope, which they paid out or took in according to the directions from the basket of the balloon above. Two heads peered over the rim of the basket and occasionally a little note would flutter down, to be rescued and brought to Gen. Kent. No one knew that the balloon had gone up against the earnest protests of the Signal officer in charge, under the command of Lt.Col. Derby, an officer of the engineer corps. The trail rope led directly down to the Aquadores road; it was a beautiful range marker for the Spanish artillery and infantry, and they promptly used it as such."
12. War Department, *Report of the Chief Signal Officer to the Secretary of War 1898,* p.890.
13. Maxfield, *Report of LTC Joseph E. Maxfield, United States Volunteer Signal Corps, On War-Ballooning at Santiago de Cuba,* cited in its entirety in War Department, *Report of the Chief Signal Officer to the Secretary of War, 1898,* p.964.
14. Ibid. First Lt. Wildman's command was the first, and only, company formed under the earlier mentioned two company authorization. The unit received instructions to join the American forces fighting in Puerto Rico, but the cessation of hostilities negated the company's movement from Tampa.
15. Ibid.
16. Ibid.
17. War Department, *Report of the Chief Signal Officer to the Secretary of War, 1898,* p.991. Greely wrote the following to the Secretary of War: "The Signal Corps failed to receive from Maj. Gen. Shafter in his original report even a notice that it participated in the Santiago campaign, and this Corps did not share in encominums such as were bestowed by him on the other staff corps for their efficient service at Santiago. . .It was certainly invidious to assign charge of this balloon, which pertains to the Signal Corps, to an engineer officer who, responsible for its destruction, is recommended for brevet for having ascended in the basket with the Signal officer who was in charge of it, while the latter officer, naturally responsible for its safety and proper management, is excluded from praise or management."
18. Ibid.
19. Ibid.