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In the Grippe of Influenza: Arkansas and the Spanish Influenza Epidemic of 1918

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# Message from the Editor

We are certainly living in an unusual time in our history. COVID-19 has altered our lives in ways we never imagined. But there have been many pandemics throughout human history. In 1918, as the First World War was about to end, the United States, and the World, experienced a devastating disease. Millions of people worldwide died during the Influenza Pandemic that first hit during the spring of 1918, and then with full-force in the fall. In 1919, the flu had a resurgence, and even lingered into early 1920. Lauren Jarvis chronicles the 1918 Pandemic in her article in which she also covers the impact on Camp Pike. In addition, we include material from an exhibit in the Arkansas National Guard Museum's Pike Room that covers the 1918 Pandemic at Camp Pike that was originally created by former Museum intern LTC (ret) Erik Brun. Finally, we change directions with LTC Matthew Anderson's featured artifact article about the US M1917 Helmet, which is on display at the Museum. The Museum also has a British Model on display.

I hope all are staying safe.

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# In the Grippe of Influenza: Arkansas and the Spanish Influenza Epidemic of 1918



#### By LAUREN JARVIS, Arkansas State Archives

Arkansas, like everywhere else, has spent the early months of 2020 struggling to adjust to the new normal brought on by the COVID-19 pandemic. For many, that means looking to the past for similar events, to identify what worked and how previous generations handled similar circumstances. Frequently, the event most have turned to for a historical perspective is the so-called Spanish Influenza outbreak in 1918. In 1918, Arkansans faced an unknown disease, navigating closing orders and being cautioned against crowds in public spaces. A closer look reveals this is where the similarities end.



Spanish Influenza was not the last pandemic to sweep the world, although it was the deadliest, with estimates claiming the Flu caused anywhere from 50-100 million deaths worldwide. It's likely the true number will never be known since there were many areas where the deaths went unrecorded. In the United States alone, the flu killed between 550,000 – 700,000 people. While Spanish Flu is widely recognized as arriving on the heels of World War I, the disease arrived in three waves. It appeared briefly in the Spring of 1918 as a rather mysterious, but brief, disease then seemed to disappear, only to reappear in its most deadly form in the Fall of 1918. It appeared again in the Spring of 1919 and lingered in a much milder

form through 1920. While there is still some debate about where exactly the disease began, one certainty is that "Spanish" influenza did not begin in Spain. The 1918 Influenza earned its name when Spain, a neutral party during the War, with no need to censor their newspapers, provided the first detailed reports of the new disease.



The second wave of Influenza began in August and September of 1918 and continued through the end of the year. This is the deadliest time period for the disease worldwide, beginning with almost simultaneous outbreaks in Massachusetts, France, and Sierra Leone. The disease spread quickly and tended to kill quickly too, with frequent reports of Flu patients dying within hours of falling ill. Most of the deaths were caused by the quick onset of secondary infections, specifically pneumonia. Aside from the speed at which it killed this flu was an anomaly in another way. Traditional flu is usually only deadly for the elderly and for the very young. The main victims in 1918, however, were young adults in their twenties and thirties, who

should have been able to easily fight off the disease. The fact that the young and healthy members of society were the ones dying added a new level of fear to this outbreak.

In the fall of 1918, the war effort in Arkansas was going strong. The Great War was entering its final stages and news from the front dominated the headlines. Citizens were focused on liberty loan parades and the push for war bonds, as well as the work of the Red Cross. The barracks at Camp Pike were packed, with more men on the way while the Student Army Training Corps prepared still more soldiers. Influenza did not rate high on the list of concerns for most people. News of Spanish Influenza began trickling into Arkansas newspapers around the middle of August, with brief mentions in cartoons or a sentence or two about infection somewhere else mentioned in passing. But there was no consistent coverage to warn of the impending danger. This changed on September 17, when the local papers ran articles detailing outbreaks in Boston, New York and New Orleans. In Boston alone there were 16 deaths in 6 hours. The next day Little Rock announced its first case.

The official response to Influenza in the state was led by two men, Dr. James Geiger, the United States Public Health Service Officer for the state and Dr. Charles Garrison, the State Physician. Together these men attempted to control the spread of the Flu and keep the public safe. The initial response sounds eerily familiar. After the first case was reported in Little Rock on September 18, Dr. Geiger took to the newspapers in an attempt to prepare the public. He warned that the disease was "highly contagious" and that there was no immunity. Geiger recommended isolating the sick since flu spreads by contact and warned against actions that could spread the disease, including everything from the use of roller towels and handkerchiefs to shared water glasses and kissing. The next day physicians were



asked to begin keeping track of the cases and report the numbers to the health service. Until this point, influenza was such a common disease that no one was really concerned about reporting the numbers, but now it was vital to understand just how quickly it spread and where.

To understand the impact of the Flu, sometimes it is easier to look at a specific area. A good example in Arkansas is the experience of Camp Zebulon Pike. Located just outside of Little Rock the camp served as the heart of the

state's military preparation. A near constant flow of soldiers, new recruits, civilian workers and laborers, and visitors made the camp a hive of activity. It was no surprise then, given how easy it is to spread influenza, that the disease's impact on Arkansas was first felt in the military encampment.

Thanks to an earlier pneumonia outbreak members of the Army's Pneumonia Commission were already onsite when influenza appeared. Even the presence of some of the military's best doctors could not prevent an influenza outbreak however; and once the malady arrived in camp it wasted no time. The first official case was reported on September 24; by September 27 Camp Pike had 756 new cases of Influenza. Understandably the officials tried to keep the news positive and the local papers vehemently denied any cause for concern within the camp. The following appeared in the *Arkansas Democrat* on September 28:

Through some agency, either German propaganda or otherwise, the impression has gotten out that Camp Pike is a hotbed of influenza infection and that soldiers and officers are dying here by the score. These are absolute falsehoods and there is only the faintest foundation for them, officers say. There is an epidemic of influenza at the camp and many regiments are quarantined, but on the highest authority it may be said that there is no ground for apprehension for the safety of the soldiers. The mortality from influenza is remarkably low, hardly more than two per cent, it is claimed.

Officials at Camp Pike immediately reassured the public that there was "no cause for alarm" and that the 756 cases represented a "high watermark" for the camp. They cancelled all indoor gatherings and encouraged outdoor activities to keep the soldiers occupied. Visitors were discouraged, but not outright barred, from the camp. Unfortunately, the claim that the situation was "well in hand" proved premature. Before the epidemic was over, of the 60,000 men in camp, 13,000 were hospitalized simultaneously.



As influenza spread throughout the camp and the surrounding communities the key debate centered on the idea of quarantine and just how strict a measure should be enforced. Understanding that isolation was the best prevention, officials at the camp began placing individual units under quarantine on September 26, 1918. Unfortunately, a general closing order might have been the better course of action to help the struggling camp. If nothing else it would have prevented the constant ebb and flow of civilian workers and visitors no doubt bringing the disease in with them or carrying it out again. The delay in implementing full quarantine measures traced to the ongoing war effort, and a desire to avoid hurting progress and morale, but in the long run the decision hurt more than it helped. Camp Pike officials were not alone in struggling against the flu and on the same day they reported 756 new cases, the United States' government cancelled the upcoming draft call, due to deteriorating conditions within camps all over the country. The pronouncement amounted to a

call-to-arms for the military medical staff, announcing that "stamping out Spanish influenza which has extended to more than a score of army camps and many sections of the country has been recognized by the government as a war necessity."

On September 30, 1918, six days after the first cases appeared, Camp Pike reported 1,604 new influenza patients, the most of any camp in the country. Officials waited another two days before quarantining the camp. The initial closing order announced on October 2, barred all enlisted men from leaving the camp, but not the officers. Still allowed to venture into the city, officers were barred from entering public places such as stores or restaurants. Civilians were not outright banned from the camp, but visiting was highly discouraged. Specifics on the situation within the camp were rarely released in the press, with authorities saying only that the death rate was "very low" and not "directly" caused by influenza, but from pneumonia, which commonly develops as a di-



# To Prevent Influenza!

Do not take any person's breath. Keep the mouth and teeth clean. Avoid those that cough and sneeze. Don't visit poorly ventilated places. Keep warm, get fresh air and sunshine.

- Don't use common drinking cups, towels, etc. Cover your mouth when you cough and sneeze.
- Avoid Worry, Fear and Fatigue. Stay at home if you have a cold. Walk to your work or office. In sick rooms wear a gauze mask
- like in illustration.

rect result of influenza infection, making the claim a technicality at best. Camp officials may not have been commenting on the death rate, but local undertakers reported 25 deaths on October 2; soon even those numbers would not be available since by October 13, officials ordered local undertakers to stop releasing information about deaths within the camp.

Slowly camp officials realized they did not have a choice in the matter of quarantine and by October 6, all visitors and relatives were barred entry into the camp. Authorities were forced to build an emergency hospital to handle all the

incoming patients and had even moved approximately 1,000 patients to nearby Fort Roots in order to alleviate overcrowding in the hospitals. The final modification to the closing order came on October 9, when officers were finally barred from leaving the camp; a full two days after state medical authorities issued a statewide quarantine. While camp officials struggled to keep bad news out of the papers, the medical staff grew increasingly overwhelmed. Francis Blake was a member of the Army's Pneumonia Commission assigned to Camp Pike and described the epidemic there this way: "Every corridor and there are miles of them with a double row of cots and every ward nearly with an extra row down the middle with influenza patients and lots of barracks about the Camp turned into emergency infirmaries and the Camp closed..." A few days later Blake continued the thought, expressing bone-deep exhaustion and disillusionment, "I am getting too tired to write about anything that is going on here. There is only death and destruction anyway."

Outside the gates of Camp Pike the situation was not any better. At the height of the epidemic in mid-October, Little Rock reported over 900 new cases in a single day. Finding doctors or nurses to provide medical attention became quite difficult. A large number of medical personnel within the state joined the war effort and when the flu outbreak began they were either overseas or training in another area. As a result, the state was dangerously short of help when it came to the flu. Pocahontas, for example, suffered between 200-300 cases in early October. Their physicians could not answer all the calls for assistance, already overworked and claiming "never before have they witnessed so many people stricken in the same length of time." In



rural areas the situation could be worse, since many families were isolated, with few close neighbors and no easy access to medical care.

The *Arkansas Gazette* told the story of Norton Williams, who lived with his family near Aurora in a "remote mountain region." Mr. Williams returned home after visiting New Mexico to find his family had been ravaged by the flu. "He discovered the bodies of his two grown sons dead in their beds, his wife unconscious and three small children seriously ill." His sons and his wife had developed pneumonia. There were no neighbors close enough to

easily discover their condition and no one in the family was well enough to go in search of help. Given that many areas of the state were sparsely populated, this unfortunately was not a unique situation. However, being under a doctor's care did not always guarantee recovery. According to the *Gazette* "one of the most pitiful circumstances arising from the epidemic of influenza," took place in Cotter located in Baxter County. The paper told the story of the deaths of Mr. and Mrs. Oscar Stafford. A doctor was been called to tend to Mrs. Stafford, but unfortunately the woman died while she was being examined. As the doctor readied himself to leave, he noticed Mr. Stafford "looked blue around the lips and had a glassy look in his eyes." He started to put Stafford to bed, but the man died before he could get there. The couple left behind six small children and the two oldest were ill and not expected to survive. Unfortunately, this too was an all too common occurrence during the epidemic. Because adults in their twenties and thirties were hit the hardest and most likely to suffer fatal consequences there were many children left orphaned by the time flu left the area.



As the flu ravaged the state, medical authorities scrambled to lessen the damage it caused. Almost immediately public service announcements began appearing, warning people of the dangers of spitting on street cars and urging them to cover coughs and sneezes. Geiger warned the public to avoid crowds but was hesitant to invoke a



statewide quarantine believing such a drastic measure was unnecessary. Eventually they had no choice. Following the announcement of the full quarantine at Camp Pike, a statewide quarantine followed 3 days later, on October 7. The quarantine

barred all public gatherings in areas where flu was present. Schools and churches were closed, stores and restaurants had to shorten hours, and limits were placed on the number of patrons in establishments, while pool halls and movie theatres closed as well. The order allowed for no public gatherings of any kind.

The closing order proved just as difficult for some in 1918 as it is in 2020. After initiating closing measures, Dr. Geiger and Dr. Garrison put all their efforts into enforcement of the order and treatment of the cases already in existence. The quarantine was supposed to stop influenza in its tracks, but there were few, if any, immediate changes within the city. October 11, 1918, found Dr. Geiger appealing again to the public's sense of duty and demanding that they following the restrictions placed on them. The Public Health Officer was forced to remind parents that, even though school was not in session, their children could not play and wander freely outside. According to Geiger: "Children should be confined to their homes. And above all they should not be permitted to congregate." Geiger also chastised cities, specifically Booneville, for not implementing the closing order as instructed, one of the first blatant refusals to follow the order found in the state. Restlessness characterized the public's reaction to the duration of the quarantine, and became even worse as the epidemic began to lessen its grip on the city.

By the end of October the worst had passed for the majority of the state. Dr. Geiger lifted the state quarantine on November 2, leaving any further such action to local officials. When all was said and done, Camp Pike reported a total 13,493 cases of flu, second only to Camp Funston, KS, and more than 300 deaths. As for the general population, Dr. Garrison estimated 50,000 cases of flu in the state and at least 5,000 deaths within the span of a few months,



however, even as that number was reported Garrison acknowledged that the number of casualties was probably much higher. The full toll of Spanish Influenza on the state is difficult to gauge since much of the state lived in rural areas and record keeping proved difficult during the height of the epidemic. The Flu is estimated to have killed at least 7,000 Arkansans, although that number is undoubtedly too low.



#### SOURCES

Arkansas Democrat. Little Rock, September 1918-December 1918.

Arkansas Gazette: Little Rock, September 1918 – December 1918.

Barry, John M. *The Great Influenza: The Epic Story of the Deadliest Plague in History.* Harmondsworth, England: Penguin Books, 2005.

Hendricks, Nancy. "Flu Epidemic of 1918." Encyclopedia of Arkansas. Accessed April 30, 2020. <u>https://encyclopediaofarkansas.net/entries/flu-epidemic-of-1918-2229/</u>.

Pettit, Dorothy A., and Janice Bailie. A Cruel Wind: Pandemic Flu in America, 1918-1919. Murfreesboro, TN: Timberlane Books, 2009.

Scott, Kim Allen. "Plague on the Homefront: Arkansas and the Great Influenza Epidemic of 1918." Arkansas Historical Quarterly 47 (Winter 1988): 311–344.

# The Pandemic of 1918

# Timeline

# Influenza reached all Army training camps in a month

*August 27th*—Commonwealth Pier in Boston "Three cases of influenza were committed to the sick list."

August 28th—Eight cases.

August 29th—58 cases were reported, 15 so ill they were transferred to the U.S. Naval Hospital in Chelsea.

September 1st—Three medical officers who had seen the patients also fell ill.

September 8th—Influenza reached civilians in Boston and on arrived "completely unheralded" at the Army's Camp Devens, outside of the city.

*September 13th* —Camp Upton, RI. "abruptly" with 38 hospital admissions from contingent of replacement troops that arrived from Camp Devens. Within 40 days, 6,131 men went to the hospital for influenza. #1

September 18th — The Camp Devens' base hospital and regimental infirmaries were overwhelmed with thousands of sick trainees. #2

September 21st —Camp Grant, IL. #3 September 26th —Camp Cody, NM. #4 October 8th —Camp Fremont, CA. #5

October 9th — Camp Lewis, WA. #6







If taken ill, go to bed and send for a doctor. The above applies also to colds, bronchitis, pneumonia, and tuberculosis.

### Camp Devens-

Physicians performing autopsies described influenza pathology as unique, characterized by the intense congestion and hemorrhage" of the lungs. One doctor during an autopsy, turned away from the blue, swollen lungs with wet, foamy, shapeless surfaces [and] became excited and nervous, saying, `This must be some new kind of infection or plague."



Hanger 10 at Eberts Field was used as a recovery ward. The field was located 20 miles east of Camp Pike and 1.4 miles northwest of Lonoke, Arkansas.





In 1918 and 1919, the world witnessed a deadly influenza epidemic that killed millions of people. Some suggest that between 50 and 100 million people died from the pandemic with the low estimates at 20 to 40 million, which is more than were killed in WWI.

**CAMP PIKE:** During the first half of September 1918, the hospital at Camp Pike saw an average of 17 new patients a day with acute bronchitis. Soon after that the number tripled. By September 26, the Post hospital soared to 797 patients.

For eight days beginning on September 20, the flood of new patients averaged 1,000 a day into the 2,000 bed hospital on Post. Emergency actions cleared barracks and a hangar at Eberts Training Field in Lonoke County to receive 1,400 of the bed cases.

To make matters worse 62 of the 240 medical personal at the Camp Pike hospital contracted influenza as well. In all, Camp Pike and Eberts Field lost a total of 466 soldiers.



## Featured Artifact: U.S. Model 1917 Helmet

#### By LTC Matthew W. Anderson



Left: British Mark I Brodie Helmet, Right: U.S. Model 1917 Helmet

From the earliest accounts of warfare to the present, helmets and armor were sought to protect the warrior in battle from edged weapons and projectiles in order to conserve combat power of an army. Over the centuries helmets and armor were fashioned from materials available based on the threat and the latest technological advances utilizing bone, wood, leather, bronze, iron, steel, and Kevlar to name a few. As technological advancements in arms progressed with the introduction of black powder in the 9<sup>th</sup> century helmets and armor continued to advance until about the 16<sup>th</sup> century when matchlock weapons became commonplace on the battlefield rendering helmets and armor to be obsolete since it would be too burdensome to wear sufficient armor to provide protection. Through the 17<sup>th</sup> 18<sup>th</sup> and 19<sup>th</sup> centuries little to no armor was worn and the few pieces retained were mostly symbolic.

When the Great War started in 1914, no army on either side wore helmets or armor into battle. German Soldiers wore only a spiked ornamental leather helmet called a Pickelhaube. British and French forces wore cloth caps which offered no protection. With the experiences of modern warfare, French Soldiers began wearing a metal skull cap under their Kepi to protect their heads from the shrapnel of indirect fire. The French staff seeing this afforded some protection, directed the development of a helmet. The helmet was the Model 1915 Adrian Helmet named after Intendant-General August-Louis Adrian. The M15 Adrian was made of 0.7mm mild steel in the shape of a bowl with a visor attached fore and aft and on top was a crest deflector to provide some additional protection from overhead bursts. The suspension inside was a simple leather headband with six leather tabs that met and tied in the center. By July 1915, the first helmets were issued and by September 1915, all French frontline troops were wearing the new helmet. This helmet design was further simplified in 1926 and continued service into WWII.

The British War Office also saw a need for a helmet to protect Soldiers from shrapnel of indirect fire, which was new to warfare. The British evaluated the French design but found it to be too complex to manufac-

ture quickly and sought other options. John Brodie patented a design in August 1915, that could be pressed from a single thicker sheet of steel. Some changes in dimensions were made and a change from a thick mild steel to 20 gauge (.036) Hadfield Manganese Steel resulted in the final design designated the Mark I. The 12% manganese content in the steel allowed it be formed without the need to apply an annealing process to harden it. It also allowed the steel to deform as it absorbed the impact of low velocity shrapnel rather than be split by it. This was approximately 50% improvement over the Adrian Helmet. By September 1915, British frontline troops began to receive the new Mark I Brodie Helmet and initially would leave the helmets on the line as units were replaced. By April 1916, all British frontline troops wore the new helmet. Further refinements continued to be incorporated mainly to reduce the glare with the introduction of sand or sawdust into the paint. By the summer of 1916, one million Mark I Brodie helmets had been issued. The helmet provided excellent overhead protection and did provide some degree of protection from direct fire due to the Manganese Steel and the shallow angled shape that deflected bullets to some degree. Drawbacks were that it sat high on the head providing little front, back or side protection and easily slipped off the head due to the oil cloth lining and high center of gravity. This design continued to serve the British Army through WWII with only changes being a redesigned liner.

The Germans followed the French and the British introducing the Model 1916 Stahlhelm, which reportedly reduced head injuries by 70 percent. It provided better front, side and rear protection but weighed more and made it difficult to hear since it came down over the ears. The Germans reduced the overall size of their helmet in 1938, but kept the familiar shape through WWII.

With America's entry into the Great War in April 1917, the U.S. Army was woefully unprepared. The standard headgear for the field was the Model 1911 Service Cap known as the Montana Peak cap or the Campaign Hat, which was a felt hat with a wide brim and a pointed crown that was good for service out west and on the border with Mexico but not at all suited for the trench warfare conditions the European Armies had experienced over the past two years. The U.S. Army quickly evaluated and ordered 400,000 British Mark I Brodie helmets in June 1917. American units assigned to the British sector were issued these helmets while American units such as the 93<sup>rd</sup> Division assigned to the French sector were issued M1915 Adrian helmets. The U.S. Army also gained rights to produce the Brodie design in America. With some minor modifications to the suspension system it was designated the U. S. Model 1917 Helmet. Production began in October 1917, the process was as follows:

The manganese steel was rolled by the American Sheet and Tin Plate Company then shipped to the following seven companies:

- Edward G. Budd Manufacturing Company Philadelphia, Pennsylvania
- Sparks, Withington Company, Jackson, Michigan
- Crosby Company, Buffalo, New York
- Bossett Corporation, Utica, New York
- Columbian Enameling & Stamping Company, Terre Haute, Indiana
- Worchester Pressed Steel Company, Worchester, Massachusetts
- Benjamin Electric Company, Des Plaines, Illinois

These companies followed a four step process to form the steel shell. First a 20 x 20 inch steel square was

secured into a press. The next step stamped the bowl shape and four inspection punch marks in the corners of each sheet. After stamping it was removed and inspected looking at the four punch marks and the bowl for cracks or malformation to determine if accepted or rejected. The third step was the excess steel cut around the edges to finish its shape. The fourth step was installing the steel rim and spot welding the seam to the rear of the helmet then riveting the chinstrap loop tabs inside. This step was completed with the stamping of the Heat Lot Number inside. The Heat Lot Number was there in case a defect was detected later, then all helmets with that number could be recalled. Each lot was put through further tests and inspection in which a predetermined number of helmet shells were removed from the steel lot and fired at with a .45 Caliber bullet fired at 10 feet with only a velocity of 600 feet per second. Inspection required that there be no cracks and the dent was to be no deeper than 1 3/16 inches. An entire lot could be rejected if a helmet failed this test.

At the same time, helmet liners were made at the following companies:

- Progressive Knitting Works of New York
- The Taylor Company of Buffalo
- The Curtain Supply Company of Chicago
- The Leatherwear Company of New York
- Six other companies that were not listed

The liners were made from a combination of materials, felt, twine, oil cloth, rubber and leather. The liner was complex to make but was designed to serve two purposes; first, to secure the helmet to the head and second to provide space and cushioning to protect the wearer from blasts and projectiles compressing or deforming the helmet. Felt was used in the top of the helmet to provide cushioning from the top. The oilcloth was used with the twine to create the adjustable lining to fit the wearer. The outer leather band had loops in which one inch sections of rubber tubing were inserted to ensure that the sides of the shell was kept distanced from the liner to provide the cushioned spacing required. A leather strap went from the crown of the liner down the sides and extended down to form a chinstrap. The leather strap also served as the means that the liner would be secured into the shell. Liners were not size adjustable and were each marked with a size.

As steel shell and liners were completed, they were shipped to the Ford Motor Company in Philadelphia, PA to be joined and finished. Ford Motor Company placed the shells in groups of ten then move them through the process. The first step involved dipping the helmets in olive drab paint then spraying sawdust on them to provide texture to reduce glare. They were then dried at 200 degrees for one hour, dipped in olive drab again and dried for another hour. Six hundred helmets went into the oven at one time. Once the helmet shells had cooled, workers installed the liner by riveting the leather strap and felt pad to the crown and threading the leather strap through the metal loops on either side of the shell. Finished helmets were pressed together in groups of 50 and placed into a wooden crate for shipment.

By 17 February 1918, 700,000 helmets had been delivered. Contract for helmets continued to increase so that by September 1918 the U.S. had contracted for 7,000,000 helmets. When the Armistice came on 11 November 1918, the contract was cancelled, total produced was 2,707,237 M1917 helmets. For the WWI Doughboys, they quickly came to appreciate the helmet they commonly called the "tin hat" or the "trench hat." It became a symbol of their time in the service. Many WWI Veterans came home with their helmets and a few even painting them in 1919 while on their way home sometimes listing the dates of their service, the unit they were in and the battles in which they fought.

The Army continued to use the M1917 into the post war era while it continued to develop a uniquely American helmet. After many failed designs, the Army settled on upgrading the existing M1917s by redesigning and issuing out new liners to be installed. The new liner was a simpler design utilizing a spring steel band covered in leather that formed four flaps that tied at the top. Two spring steel bands crisscrossed at the crown and was fastened at the top with a screw and nut. A four inch round leather pad was secured at the top to protect the wearer on top. The chin strap was made of cotton webbing and had a metal adjustable strap band and fasteners. This was a much improved suspension system that at least solved the issue of the helmet coming off easily during combat use. The helmet with new suspension system was designated the M1917A1.

In 1940, seeing the need to expand, the Army was again in need of helmets. A contract was awarded to McCord Radiator Company of Detroit for 2,000,000 helmets in the M1917A1 design. McCord Radiator Company made 900,000 before the contract was canceled in order to begin production of the new M1 Helmet. The M1917A1 serve into 1942 before being replaced.

The M1917 Helmet become an iconic symbol of the American Doughboy in WWI and the early uncertain days of Americas fight against Japan at Pearl Harbor, Wake Island and Bataan.



**PHOTO:** Pattern 1911 Service Hat with enlisted artillery cord. This hat belonged to Cpl. Roland Parkhill of Scott, Arkansas while assigned to F Battery, 142<sup>nd</sup> Artillery during his service in WWI. This is the hat he wore going overseas. Once they arrived they were issued an Overseas Cap and a Helmet. (museum collection)



**RIGHT**: Photo shows the inside of the British Mark I Brodie Helmet. While generally similar in construction there are a few differences that distinguish this from the U.S. M1917 Helmet. The metal tabs are secured to the shell by the means of split rivets. The loop on the tabs is made of thinner wire. The leather chinstrap is also made of a thinner leather strap. Note the liners are sized this one is a 6 7/8. (museum collection)

**LEFT:** Photo shows a top view of the British Mark I Brodie Helmet that was one of the 400,000 British made helmets issued to the American Expeditionary Force upon their arrival in Europe. This helmet was issued to Cpl. Roland Parkhill of F Battery, 142<sup>nd</sup> Artillery. Note the oval shape to the bowl while the rim is cut to a round shape. Note that manufacturing imperfections were allowed resulting in this helmet having one side of the rim to be wider than the other. (museum collection)





**ABOVE LEFT:** Photo shows the Soldiers personal information on the inside of the British Mark I Brodie Helmet: Roland Parkhill Bat. F. 142 F.A. 1602402. Also note the split rivet tabs that hold the metal tab to the shell. (museum collection)



**ABOVE RIGHT:** Photo on the inside back rim of the British Mark I Brodie Helmet is stamped HS for one of the four British manufacturers. Also note the generous overlap of the rim material. (museum collection)



**LEFT:** Photo of top view of U.S. Model 1917 Helmet while the shape and construction are similar, the oval bowl is centered much better on the US model than the British model. Also note that the sawdust finish is much thicker and more uniform than that found on the British helmet. (museum collection)

**RIGHT:** Photo shows the inside liner of the U.S. M1917 Helmet. Missing in this photo is the felt pad that was mounted under the center rivet in the crown of the helmet. This felt has fallen out over the years leaving only the canvas cloth that it was once sewn to before installation. Note that this liner is stamped size 7 on the leather strap near the crown. These liners were not easily swapped so Soldiers had to get issued the right size helmet from supply. (museum collection)





**LEFT:** Photo shows close up of the U.S. M1917 Helmet metal tab secured with a pressed rivet. Also note the thicker loop wire used as compared to the British helmet (museum collection) **RIGHT:** Photo shows Heat Lot Number ZJ256. Each helmet was marked with the reference number of the steel that was provided so that in the event a defect was detected they could track down all defect helmets and trace the steel back as far as necessary to determine where the defect occurred in the process. (museum collection)





**ABOVE:** Photo shows a side by side comparison of the British Mark I Brodie Helmet on the left and the U.S. Model 1917 Helmet on the right. (museum collection)



**ABOVE LEFT:** Top view of the M1917A1 "Kelly" Helmet (authors collection)



**ABOVE RIGHT:** Inside view of the M1917A1 "Kelly" Helmet showing the simplified liner and improved web straps. The new liner was size adjustable simplifying the issue process. While new liners were put into WWI shells, this helmet shell was one of the McCord Radiator Company contract in 1940. (authors collection)



**ABOVE:** M1917A1 "Kelly" Helmet showing further detail of the liner and chinstrap construction. The Army Service Number inside indicates it was issued to Samuel Riggs from Maryland. (authors collection)

#### REFERENCES

Armold, Chris (1997). Steel Pots, The History of America's Steel Combat Helmets, San Jose, CA: R. James Bender Publishing.

Reynosa, Mark A. (1997). The M-1917 Helmet, U.S. Combat Helmets of the 20th Century. Atglen, PA: Schiffer Publishing Ltd.

Reynosa, Mark A. (1996). The M-1 Helmet, A History of the U.S. M-1 Helmet in World War II, Atglen, PA: Schiffer Publishing Ltd.

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