BARRAGE

The RCA Museum News

THE RCA MUSEUM
CANADA'S NATIONAL ARTILLERY MUSEUM

LE MUSÉE NATIONAL DE L'ARTILLERIE DU CANADA
LE MUSÉE DE L'ARC

July 2025

New Artifact: Major-General Sir George Arthur French's Sword

The RCA Museum has recently acquired a significant addition to its collection: the sword of Major-General Sir George Arthur French. This British Pattern 1821 Light Cavalry Sword, complete with documented provenance, was obtained at a recent auction. French purchased the sword in October 1884 from the Wilkinson Sword Company in the UK. It bears the serial number #25984 and features a single fuller blade. The Royal Artillery adopted this sword style in the late 1840s, making it a valuable addition to our early military collection.

George Arthur French was born in Ireland in 1841 and joined the Royal Artillery in 1860. He arrived in Upper Canada in 1862 and served as Adjutant Royal at Kingston. In 1871, he became the first Commanding Officer of A Battery - representing the first permanent and regular subunits within the Active Militia in 1871. In 1873, he was appointed the first Commandant of the North-West Mounted Police. The following year, he led the Great March from Toronto to Fort Edmonton with 275 recruits, covering 1,400 kilometres across the prairies. This challenging journey was pivotal for Western law enforcement despite mixed results.

After returning to England, the French continued military service in the British Empire. He was the Commandant of the Queensland Defence Force from 1883 to 1891 and then led the New South Wales Military Force from 1896 to 1902. French moved frequently but left a significant impact wherever he served. His leadership during challenging times played a key role in shaping Canada's early identity. His sword is now displayed in the early history section of the RCA Museum.

Summer Students 2025

We are excited to have two new summer students with us this year—Carson and Keiman! They've jumped right in, helping at the front desk, working on temporary exhibits, giving tours, and lending a hand with artifact accessioning. Their enthusiasm and energy make them excellent reps for our museum.

Starting from the left, Carson and Keiman.

Keiman Olson

Hi, I recently graduated from Brandon University with a four-year honour's degree majoring in history and a minor in geography. This fall, I am continuing my studies in Winnipeg, starting a master's program in Archival Studies. My proposed major research project for my master's program is comparing the colonial archive of the Robinson-Superior Treaty signed between the Canadian Crown and the Anishinaabe people with the lived, remembered archive of the Indigenous people themselves. As I am a status Indigenous person, with my family coming from Gull Bay First Nation located within the Robinson-Superior treaty area, I am quite excited to start my research. With that being said, I have always had an interest in military history, most notably 20th-century military history. Lately, I have been interested in Vietnam and the Cold War, including the espionage done during that time. I am a passionate history student who enjoys asking lots of questions and learning about everything. I consider myself most interested in social history, a field that studies the lives and experiences of ordinary people from the past. In my spare time, I like to spend time with my girlfriend, Katie, and our two pet dogs, Lucy and Molly. Some of my other hobbies are spending time with friends and family, golfing, watching baseball and hockey on TV, and playing video games. I am looking forward to learning all that the RCA Museum has to offer this summer and forming relationships with everyone involved.

Carson Zavitz

I am thrilled to be working at the RCA Museum over the summer. In the fall, I will be beginning the final year of my degree at Brandon University, where I pursue a double major in History and English Literature. My initial interest in history began with twentieth-century American history, particularly the Civil Rights Movement, the Cold War, and American involvement in Vietnam. From there, my interest in history has since expanded to include nineteenth and twentieth-century world history, including social movements, international relations, and colonial wars of independence. While at BU, I have also become active in the University's history club, helping to organize events that bring students in the department together. Following my graduation from Brandon University, I hope to continue my studies and pursue a master's degree in history. In my spare time, I am an avid reader, largely of history and classic literature, but I also enjoy watching films, hiking, and playing guitar. My experience here at the museum has proven incredibly informative to my development as a historian, as it has given me opportunities to expand on my preexisting research and writing skills, while also giving me valuable experience working in the field of public history.

The Venerable Browning Hi-Power

The Canadian Armed Forces (CAF) closed a long chapter in 2021 when they said farewell to their standard issue sidearm, the "Pistol No. 2, Mk 1", the Browning Hi-Power, after over 7 decades.

In 1914, French military requested a new standard issue pistol, the *Grand Puissance* (High Power). Fabrique Nationale (FN) in Belgium commissioned John Moses Browning to design a pistol based on France's criteria. Having sold his patent for the M1911 to Colt, John Browning had to work around these patents and design a new pistol. The required calibre was the 9mm Parabellum. Browning died in 1926 before he could finish the design.

John Inglis factory workers assembling Browning pistols during WWII

Belgian weapons designer Dieudonné Saive picked up where John Browning left off. As the Fabrique Nationale (FN) chief weapons designer at the time of Browning's death, Saive modified the design. One key change was the use of a staggered, double-stack magazine that held a whopping 13 rounds without enlarging the pistol grip. The introduction of this style of magazine with its 13-round capacity was cutting-edge in the 1930s, making single-stack magazines all but obsolete and paving the way for double-stack magazines to become the industry standard for automatic handguns.

Canadian Paratrooper, Waffen SS soldier, Russian soldier instructing partisan fighters on the Hi-Power

With the Hi-Power design ready for production in 1934, the French military chose not to adopt it. However, the Belgian Army and other militaries adopted it, and it became known as the Browning P-35.

When Nazi Germany invaded Belgium in 1940 and took over the FN factory, the plans for the pistol quickly made their way to the Allies. Eventually, the plans reached Canada, where the John Inglis and Company factory in Toronto began producing the Hi-Power for the Allies.

Initially, the Inglis company began producing Hi-Powers for the Chinese to support their struggle against the Japanese. These pistols featured a tangent rear sight adjustable to 500 meters and a detachable buttstock that also served as a holster. Delivering the Brownings to the Chinese proved extremely difficult due to the Japanese controlling the supply routes to China, which prevented the delivery of most of the pistols.

Both sides in World War II used the cutting-edge Hi-Power. The Waffen SS and Fallschirmjäger (Luftwaffe Airborne) troops primarily used it on the German side, while commando units of the Allies, such as the British Special Operations Executive (SOE), the U.S. Office of Strategic Services (OSS), the British Special Air Service (SAS), and British and Canadian Airborne units, used the Hi-Power.

During WWII, Canada used a variety of pistols and revolvers in a range of calibres. Colt, Smith & Wesson, and Webley revolvers in .38 Special, 38 S&W, and .455 Webley were common. The Colt M1911 automatic pistol, chambered in .45 Auto and .455 Webley, was less common but still used by Canadian soldiers and Airmen. It wasn't until after the Korean War that Canada formally adopted the Hi-Power as its standard-issue pistol, known as the "Pistol No. 2."

Canadian soldier firing the Hi-Power

After WWII, militaries and police forces in up to 85 countries used the Hi-Power as a top-tier service pistol for at least a generation. The Hi-Power kept its leading position until the 1970s, when newer designs like the CZ 75 and Beretta 92 challenged its dominance.

The "Pistol No. 2" remained Canada's standard service sidearm until the CAF adopted the C22 pistol in 2022. The C22 is the military version of the Sig Sauer P320, which enters the commercial market in 2014 and was adopted by the U.S. military as the M17 in 2017. Also using the high-capacity double-stack magazine pioneered by the Browning Hi-Power, the C22, chambered in 9mm Parabellum, boasts a 17-round magazine capacity and features ambidextrous controls as well as modular grip customization for different hand sizes.

The long-serving Browning pistols have done well for the CAF, but it's time for Canadian service members to switch to a new sidearm. The C22 now carries the torch. If it serves even half as long as the Browning, it will be an accomplishment. Only time will tell if the C22 can meet the standards and serve the CAF well into the 21st century.

Browning Mk 1* and C22 pistol

The RCA Museum displays several Browning pistols, including those made by the John Inglis Co. for the Chinese contract. Three of these iconic pistols are proudly exhibited and open to the public. Having served alongside Canadian servicemembers in every mission since World War Two, these pistols are integral to the RCA's and Canada's military history. The story of Canada's Browning pistol continues— in 2024, the CAF sent 10,500 of its 11,000 Brownings to Ukraine to support their fight against Russia. These old warhorses aren't retiring anytime soon.

By Will Brandon

Proximity Fuses during World War II

In World War II, a key technological advancement was the proximity fuse, known then as the variable time (VT) fuse. The phrase "variable time" was inaccurate because these fuses were radar-emitting devices. During World War II, the development of the VT or proximity fuse was a closely guarded secret, comparable to that of the atomic bomb or the D-Day invasion. The widespread adoption of the proximity fuse improved the effectiveness of munitions and saved countless lives from 1943 to 1945. At the RCA Museum, we display a proximity fuse as part of our exhibit on projectiles.

A model M732 Proximity Fuse on Display at the RCA Museum.

Proximity fuses relied on short-range radar or Doppler radar, initially developed in Great Britain in October 1939 and further advanced and mass-produced by the United States in the early 1940s. The fuse emitted a continuous radar signal, which, when reflected off an object, caused the shell to detonate automatically. Before the introduction of VT fuses, anti-aircraft units relied on time fuses to create airbursts. It was an inefficient method that often required many adjustments, resulting in low success rates. Gunners required 500 to 1,000 shells to down one enemy aircraft. With VT fuses, this improved dramatically to only 85 to 100 shells.

The proximity fuse incorporated a self-contained transmitter and receiver. This device emitted a continuous wave immediately after firing and throughout the projectile's flight. As the shell approached the target, a ripple signal increased through the valve circuits. When the voltage from the ripple reached a certain threshold, the firing capacitor discharged, triggering the shell's detonation. If the shell did not pass close to the target, it would continue flying until its spin rate dropped to a set level, triggering self-destruction.

The United States first used the proximity fuse in battle on the Cruiser Helena on January 5, 1943. The crew successfully shot down an attacking German airplane using two twin-mounted five-inch guns. The fuses could not fall into enemy hands, and firing them in enemy territory was forbidden until the D-Day invasion due to the potential recovery of unexploded duds. The Allies employed proximity fuses to defend London from German V-1 flying bomb attacks from June to October 1944. Proximity fuse technology protected London from these "buzz bombs" or "doodlebugs." Thanks to the VT fuse, the Allies shot down most V-1 flying bombs and saved the lives of thousands of civilians. Additionally, in the Pacific Theatre, it downed enemy planes, including Kamikaze aircraft.

The Allies began using proximity fuses with field artillery on December 16, 1944, during the Ardennes Offensive (Battle of the Bulge). Canadian gunners in the field started using the proximity fuse in mid-January 1945. The VT fuse was highly effective against enemy troops in the open, those taking substantial cover, and soft-skinned vehicles. Artillery barrages with VT fuses played a crucial role in the collapse of the German Army in 1945. The proximity fuse transformed munitions technology, significantly enhancing their effectiveness and saving many lives. This groundbreaking scientific achievement played a pivotal role in shaping the outcome of World War II and left a lasting legacy on modern warfare.

By Andrew Oakden

Mafeking Relic

Unique objects associated with military victories often become relics that preserve the memory of significant events. One treasured keepsake at the RCA Museum is the Mafeking Relic, collected by C Battery after the Relief of Mafeking on 16-17 May 1900, during the Second Boer War (1899-1902). The Mafeking Relic is 12cm by 5cm and consists of a ringed shell fragment mounted on a brass plate. At the top of the plate is inscribed: *"Piece of Ring Shell,"* while the bottom reads: *"Relief of Mafeking 16-17 May 1900."* The relic features two distinctive layers, with the inner core composed of eight stacked half-inch iron rings.

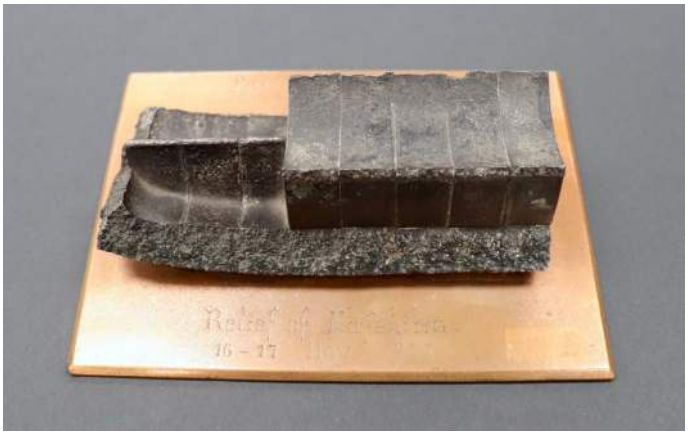
Brigadier-General Edward M.D. Leslie, DSO, CD (1918-1979) donated the Mafeking Relic in 1961 as part of a significant collection. A veteran of World War II, Colonel Leslie commanded the 1st Regiment, Royal Canadian Horse Artillery (1 RCHA) during their 1952-53 deployment to Korea. In 1961, he took command of the Royal Canadian School of Artillery at Camp Shilo, Manitoba. Leslie played a vital role in founding the RCA Museum, and his collection is now displayed throughout the museum and stored in archival storage.

Brigadier-General Edward M.D. Leslie, DSO, CD (1918-1979)

We have a letter from the Curator at the RCA Museum, Major M. S. M. Ferguson, to Major C. R. Baker, the Directorate of Artillery, Headquarters, Ottawa, dated June 16, 1961, including a reference to the Mafeking Relic. In the letter, Ferguson says, *"We have received a fairly large fragment of a "ring" shell fired during the siege of Mafeking. The projectile is of interesting construction consisting of a series of rings similar to canned pineapple."* He went on to say that they could not identify the shell and were looking for comparable examples. He asked for details about the gun that potentially fired the shell. We have no record of the museum receiving a response regarding the relic's origin.

After some research, the Mafeking Relic matches the description of a segmented or fragmented artillery shell fired from the 155mm Creusot Long Tom. In 1897, the Boer Republics purchased four of these guns with 4,000 standard shells, 4,000 shrapnel (fragmentation) shells, and 800 case shots. The Long Tom was a French siege gun manufactured by Schneider et Cie in France. The standard shell measured 42 cm and weighed 43 kg (94 lb), filled with explosives (cordite), with a range of 9,880 meters. Fragmentation shell: Weighed 41 kg with a range of 6,800 meters.

The Siege of Mafeking occurred from 13 October 1899 to 17 May 1900 during the Second Boer War. Mafeking, a small town in present-day South Africa, was strategically important for its railway connections and was a crucial supply hub for British forces. The siege began when Boer commandos led by General Pieter Cronjé surrounded the town, cutting it off from supplies and reinforcements. Their goal was to disrupt British control in the region. The defenders, a mixed force of British regulars, colonial troops, and local volunteers, were commanded by Lieutenant-Colonel Robert Baden-Powell, who later founded the Scout movement.



Mafeking Relic at the RCA Museum.

One 155mm Creusot Long Tom arrived at Mafeking on October 23, 1899, positioned 3,500 yards south of the town. Boer troops moved the gun seven times during the siege and fired 1,500 shells into Mafeking, resulting in fewer than 20 casualties. The early fragmented shells were ineffective because the explosive charge lacked sufficient power to explode the projectile into small shrapnel pieces - the shell would pop rather than explode.

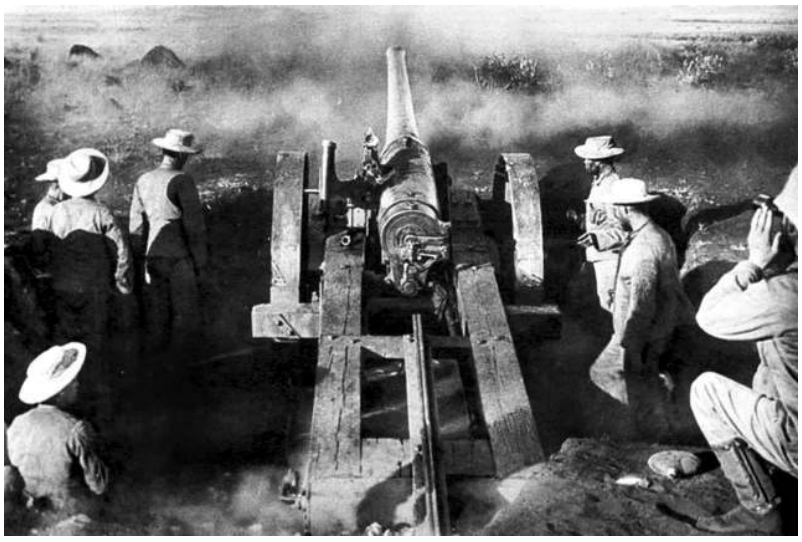
Baden-Powell organized the town's defence, which was vital to the town's morale and 1,000 defenders. Facing around 8,000 seasoned Boer troops with superior firepower, he implemented clever tactics like building fortifications, setting up sniper positions, and using improvised weapons and supplies. The defenders endured constant bombardment, including food and water shortages, but Baden-Powell maintained their discipline and cohesion. Despite having significantly more soldiers, the Boer troops could not breach Mafeking's defences.

Major-General HA Panet CB, CMG, DSO (1869 – 1951)

The turning point of the siege occurred when British reinforcements led by Colonel B. T. Mahon arrived in May 1900. The force required artillery reinforcements, including C Battery, RCA, and the Royal Artillery. On May 15, the Canadian forces united at Jan Massibi, approximately fifty kilometres west of Mafeking. The following day, May 16, 1900, C Battery, led by French-Canadian Major Joseph Hudon, advanced with Mahon's column along the Molopo River, encountering Boer troops seven miles from Mafeking. The Boers fired upon them with pom-poms and heavy artillery. Captain Henri Panet from C Battery recorded their preparations in his diary: *"Halted 12:20 pm 7 miles from Mafeking. Just had time to get a cup of tea. Patrols reported having been fired on, so we got orders to get ready and advance. We had time to water our mules and our few (4) horses."*

At 2:30 PM, Major Hudon positioned his 12-pounder guns in a sandy field, initiating the first Canadian artillery engagement of the Boer War. An exchange of fire occurred as Boer shells landed nearby. The Canadian gunners avoided the incoming 1-pounder shells from the pom-poms and quickly silenced the enemy's guns. During the exchange, Boer troops wounded Bombardier W. Putton and Gunner W. McCollum. C Battery then marched toward Mafeking at midnight without further combat. In the morning, the Canadians and other units cleared the remaining Boer troops, and upon reaching Mafeking, the British reinforcements, including C Battery, received a warm welcome from the joyful inhabitants.

Relief of Mafeking was celebrated across the British Empire, making Baden-Powell a national hero after 217 days of defence. This relief boosted British morale and served as a rallying cry for the cause but did not end the war, as the Boer guerrilla campaign continued until 1902. C Battery received a commendation from Baden-Powell, and several Canadians were honoured for bravery, including Major Joseph Hudon (CMG), Captain Henri Panet, and Lieutenant L. E. Wentworth Irving (DSO).



RCA Gunners in South Africa, 1900.

War relics help museums narrate the story of military conflict by providing physical evidence of their occurrence. The Relief of Mafeking stands as a pivotal moment in military history, and our relic from that event evokes both nostalgia and scholarly curiosity. The Mafeking Relic is a tangible reminder of Canadian military involvement in the Second Boer War. It represents Canada's first military campaign on foreign soil and honours the sacrifices made by Canadian soldiers. It reminds us - understanding the present requires us to preserve and remember the past.

By Andrew Oakden

Museum Benches

Adding museum benches is a no-brainer! Many museums, including the RCA Museum, often underestimate the significance of rest areas and benches. However, these features are great for creating a functional and welcoming museum experience.

The photos above show two of the five new benches at the museum.

Museum benches create quiet spaces where visitors can pause, reflect, and engage more deeply with the artifacts and stories on display. By offering comfortable spots to rest, benches enrich the overall museum experience, allowing guests to immerse themselves in their surroundings. They foster a sense of safety and calm, helping visitors relax and connect more meaningfully with the exhibits.

Museum benches are excellent central storytelling hubs, allowing visitors to connect ideas into a familiar narrative. They represent a calm and humble place of solitude, an anchor in a chaotic and uncertain world—a literal and figurative platform of inspiration. They also signal that the museum values visitor comfort, creating a positive and memorable experience.

Many visitors tend to rush through the museum, but benches offer a valuable opportunity to pause and engage with the exhibits. During my breaks, I often sit on these benches and reflect on ways to improve the visitor experience, such as increasing seating throughout the space. Adding more benches could encourage guests to slow down, take a moment to reflect, and connect with the museum's stories. With the introduction of five new benches, I hope to enhance the overall experience for all visitors.

Visitors who are not interested in military history can still spark their curiosity and uncover unexpected enjoyment during a museum visit. Many discover great photo opportunities or find the experience entertaining, comparable to watching movies or gaming. You don't need to be a history buff to enjoy a military museum; sometimes, it's less about the topic and more about igniting a broader curiosity about museums themselves.

Curiosity sparks interest in museums and historical artifacts, inviting visitors to explore. When guests sit and relax at these central storytelling hubs, they naturally linger and connect with the narrative. By adding benches, museums encourage visitors to slow down, stay awhile, and experience history.

By Andrew Oakden

Brownfield VE Day Artifact

The RCA Museum has a VE Day artifact on display covering the war service of Major-General Harold Brownfield CBE, MC, CD (1894-1958). The artifact includes three brigadier command pennants that belonged to Brownfield flying above an RCA plaque dated 8 May 1945 (VE Day). This day marked the end of the war in Europe and honoured the sacrifices of Allied soldiers, including Canadian Gunners. For Gunners, VE Day signified six years of overseas service with over 2,000 war dead. It meant a return to civilian life or continued service in the Regiment.

Harold Brownfield was born in New Jersey, educated in Kingston, and graduated from the Royal Military College. He received the Military Cross for bravery during World War I. At the start of World War II, Brownfield served as a Staff Officer at Military District #7 in Saint John, New Brunswick. His career accelerated with the onset of war, proceeding overseas as Brigade Major of the Royal Canadian Artillery, 1st Canadian Infantry Division. He was swiftly promoted to command the 8th Field Regiment, then returned to Canada as the Commander of the Royal Artillery in the 3rd Canadian Infantry Division. In the summer of 1941, the 3rd Canadian Division sailed to the United Kingdom.

In November 1941, Brownfield became Commander of the Royal Artillery at the 1st Canadian Corps, serving in England and Italy. From November 1943 to January 1945, he was Brigadier of the Royal Artillery in the 1st Canadian Army. In the late stages of the war, he commanded C Group, the artillery component of reinforcements in the UK. Among his many achievements were the conception and establishment of the Canadian Army School of Artillery (Overseas), the development and deployment of the Land Service Mattress (1 Canadian Rocket Battery), and the training of artillery units supporting Operation OVERLORD (Normandy Invasion).

Major-General Brownfield's family donated several artifacts, including the VE Day artifact presented to the "Gunners" Brigadiers of Headquarters Royal Canadian Artillery on 8 May 1945. The artifact includes three command pennants representing his roles at headquarters in the 3rd Canadian Infantry Division, 1st Canadian Corps, and 1st Canadian Army.

After World War II, Brownfield was appointed Commander of the Most Excellent Order of the British Empire and led Prairie Command. In 1946, he became Commander of the Canadian Joint Staff in Washington and was promoted to Major-General, retiring in 1947. He then served as Colonel Commandant of the Regiment for ten years. The RCA recognized him for his professionalism, innovative ideas, and genuine concern for his men. He visited Gunner units and became known for his personable approach. Major-General Brownfield passed away in Brockville, Ontario, on 8 July 1958.

Unlike your average military trophy, the Brownfield VE Day artifact does not lose significance over time; it is meaningful, especially with the 80th anniversary of VE Day. It includes three original command pennants celebrating the Allied victory in Europe and honouring the service of 1.1 million Canadians who wore the uniform during World War II. It is a visual, firsthand account of Major-General Brownfield's outstanding wartime service.

By Andrew Oakden

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