A ROCHESTER INVENTION:
THE FIRST MACHINE GUN

THE STORY OF
DR. JOSEPHUS REQUA
(1833-1910), A DENTIST,
AND HIS CIVIL WAR
MACHINE GUN

by Warren Kling

It is somehow eminently appropriate that a dentist invented the machine gun. That dentist was Josephus Requa, born in Ulster County, New York in 1833, the son of Charity Middagh and James Jackson Requa. When Josephus was 14, the family moved to Rochester, where from 1849 to 1852 the boy was apprenticed to William Billingham (1807-1880), a gunsmith. In 1853, the 20-year-old Josephus began the study of dentistry and commenced practice two years later in Springwater, Livingston County, New York. By 1858, he had returned to Rochester and opened a dental office in Suite 903 of the Wilder Building.

When he was 31, Dr. Requa married Mary A. Groat in a Schenectady, New York wedding on August 2, 1864. Their first child, Leroy, was born in 1866, and their second, Florence, in 1868. The baby Florence, however, died on August 1, 1868 at the young age of four months, 22 days.

In 1861, three years before his marriage and coincidental with the beginning of the Civil War, Dr. Requa introduced the first rapid-fire machine gun with metallic cartridges to be used in the war. This is the story of that momentous invention in the history of American weaponry.

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The Need for a Rapid-Fire Gun. An article in the Rochester Daily Union & Advertiser on June 29, 1861 reported that Albert Mack, who was employed by the Monroe County Penitentiary, had suggested to Dr. Josephus Requa that the Union army needed a rapid-fire gun. Requa, the article stated, gave it some thought, came up with a design, and mulled it over with his teacher, friend, and master gunsmith, William Billinghurst. A scale model was finished on July 11, 1861, and after favorable reviews from some prominent Rochesterians, Requa and Billinghurst decided to build a full-size, working prototype. This was manufactured at Billinghurst's shop, which was then located on the second floor of 41 Main Street. It cost $500 to build.

This first practical machine gun was known as the Requa rifle battery, and consisted of 25 two-foot-long heavy rifle barrels mounted horizontally on a frame secured onto a two-wheel carrier. Its gross weight was 500 pounds. Twenty-five metallic cartridges were held together by a steel clip and loaded as an en bloc unit. The conical bullets in each cartridge were .52 caliber and weighed one ounce. One percussion cap fired all 25 barrels in a volley, and three men could reload seven times a minute, thereby firing 175 shots per minute. The rifle barrel assembly could be raised or lowered for distance.

Another unique feature of the weapon was the ability to spread the gun barrels in a wider horizontal arc, covering more area with bullets. The gun was nicknamed the "street sweeper." It was particularly effective when placed near a bridge or other strategic location where the width of the road or other passageway was restricted, thus making it impossible for the enemy to pass.

Getting the Union Army Interested. After building and testing the working prototype, the next challenge was to interest the Union army in the invention. This proved to be much more difficult than anyone could have imagined. Dr. Requa traveled to Washington, D.C. on April 22, 1862 in the hope of setting up an appointment with appropriate personnel in the Ordnance Department. Failing to get an appointment, Requa, rather than giving up, persisted. He finally secured an appointment with Brigadier General James W. Ripley, who was chief of ordnance procurement. The meeting turned out to be shocking to Requa. General Ripley summarily dismissed him with this logic: Even if the weapon performed as claimed, his soldiers could already fire rapidly enough, and this proposal wasted too much ammunition. Ripley maintained that this rapid-fire gun would only serve to aggravate the situation and cost a fortune in special ammunition.

Requa Approaches President Abraham Lincoln. The position of General Ripley defied rebuttal, but Requa refused to accept defeat. He secured a letter of introduction to see President Abraham Lincoln and met with him on May 1, 1862. Lincoln listened attentively to the details of Requa's proposal and Ripley's response. The president then scribbled a note which he handed to Dr. Requa. It was short and to the point: "Gen. Ripley, please see Mr. Requa. A. Lincoln, May 1, 1862."

The note, however, proved futile, because General Ripley would not budge from his position. Requa, undeterred, spoke again to President Lincoln. This time, Lincoln took charge of the situation. He told General Ripley that a test should be scheduled and that he would personally be present to witness it.

The President Attends Gun Tests. At last on May 12, 1862, the machine gun underwent its first military tests by the Ordnance Department. And Lincoln indeed was present but apparently had to leave before the tests were concluded. A series of tests were conducted for range, firing rapidity, accuracy, and penetration, and the results were favorable. Another test, therefore, was scheduled for May 24, 1862.
for Brigadier General A. W. Whipple, a Defense Department commander. The test results were issued on May 28, 1862, with positive results. The concluding comments indicated that the gun would be an asset to the Union army.

All of this promotional effort was taking its toll financially for Dr. Requa, who had been taken away from his dental practice for months. And even after these two successful military tests, there was no purchase order imminent. Requa and Billinghamurst, now short of funds, had to secure venture capital. They approached Smith and Bradley, who naturally wanted some tangible evidence of the weapon's value before they committed a large monetary outlay. So a demonstration was planned that would show the accuracy and destructive power of this machine gun battery.

**Rochester Demonstration Convinces Financiers.** Rochester, New York was selected as the test site. Local newspapers alerted the general public to the fact that this demonstration would occur on August 12, 1862. As a result, a large crowd gathered to watch as the rifle battery was set up aimed at a wooden barrel target in the Genesee River 1,800 feet away. The firing commenced, riddling the barrel full of holes. The crowd cheered in awe. The financiers agreed to appropriate funds for the manufacture of the Requa rifle batteries. Contracts were then drawn up for component suppliers, such as Remington Arms, who manufactured the rifle barrels. Parmelee & Bramwell in Troy, New York assembled 30 units and 20 more were made in Rochester at Billinghamurst's shop.

Patent number 36,448 for the machine gun was issued to J. Requa and W. Billinghamurst on September 16, 1862 on the day before the Battle of Antietam, one of the bloodiest of the Civil War.

**The Requa Rifle Goes to War.** Albert G. Mack, who originally planted the idea in Dr. Requa's mind of the need for a rapid-fire gun, was now captain of a volunteer company, the 18th Independent Battery, New York Light Artillery. He received a few of the first Requa guns assembled in the Billinghamurst shop. The 18th Independent Battery became known as "Mack's Black Horse Battery," since the rapid-fire guns were each pulled by a team of charcoal black horses.

On March 7, 1863, the Rochester Daily Union & Advertiser published a Civil War song written for and sung by Mack's Black Horse Battery. One verse describes their unique strength:

> Our men are prompt when the bugle calls,  
> And our guns can pour a storm of balls;  
> In the ranks of war, the fiercest blaze  
> Will be where the Black Horse Battery plays.

With such publicity, Mack's unit had no trouble signing up volunteers at 31 Reynolds Arcade. The unit operated from September 1862 until July 1865, seeing duty in New Orleans, Louisiana; and at Port Hudson, Mobile, and Montgomery, Alabama.

**Mack's Battery First Performance Less Than Stellar.** The first deployment of Mack's artillery unit was to New Orleans, and it proved to be less than stellar. The Requa rifles arrived with the regiment, but 4,000 rounds (25 cartridges per round) of the special ammunition was shipped separately from Rochester by boat. The boat never made it, however, having been sunk near the Florida coast.

**The Requa Rifle Scores in Other Battles.** The Requa guns had not been officially accepted by the military since no final report had yet been issued by the Ordnance Department. They had, however, performed so successfully in many tests conducted by the military that a number of regiments had ordered and deployed the advanced guns in various Civil War battles. One of these was the recapture of Fort Sumter at Charleston in September, 1863. Other deployments occurred at Petersburg and Cold Harbor in 1864.

**Final Test for the First Machine Gun.** The last of Ordnance Department tests for the Requa rifle battery took place at the Washington Arsenal in August, 1864, and the final report was issued in 1866. This report indicated, as had the earlier reports from previous tests, that the Requa rifle performed very well, was user friendly, and was very reliable. The department ordered five additional guns after the Civil War had ended.

Dr. Requa, who was exempt from the draft as the only child caring for an elderly parent, enlisted in 1864 as a member of the 5th Regiment of the 84th New York National Guard and was assigned to a Confederate prison in Elmira, New York. The 5th Regiment saw duty for just three months, and Dr. Requa never considered himself a Civil War veteran.

**The Requa Rifle Becomes a Museum Piece.** The first machine gun by Dr. Josephus Requa was displayed at the Pan-American Exposition in 1901, Buffalo, New York. Requa battery guns can still be seen at various military museums around the country. One held by the military museum in West Point, New York is presently on loan to the Smithsonian Institution in Washington, D.C. The full-scale working prototype, serial No. 1, is presently on display at the Springfield Armory National Historic Site in Springfield, Massachusetts. Others are located at the U.S. Marine Corps Museum in the Naval Yard, Washington, D.C., and the Kentucky Military Museum.

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Joe Requa is buried in Mount Hope Cemetery, Section C, Lot 128. Photograph by Frank A. Gillespie.
THE CIVIL WAR
RELIVED IN MOUNT HOPE

by Richard O. Reitem

Marilyn Nolte, a new trustee of the Friends of Mount Hope Cemetery, spent most of the past half year or so planning, organizing, and finally staging on September 19, 1999 an extraordinary and outstanding Civil War tour of Mount Hope. I was there, and the experience was wonderful and enlightening for me. Also present were a crowd of more than 60 tourgoers, who, from what I could tell, were equally impressed.

Saturday, September 18 was sunny and warm. Many of the tourgoers appreciated the abundant shade provided by the cemetery's forest of trees as we climbed hills and descended into deep valleys in parts of the 196-acre burial ground that are rarely featured on the Friends' historic tours.

Marilyn Nolte set the stage at each stop on the tour. The story of the war that she devised was chronological, starting with the war's beginning in 1861 and progressing through ten tour stops, each one of which featured highlights of the war over its ensuing five years. Each chronological stop related to Rochesterians buried in Mount Hope. At the tour stops, Marilyn was assisted by narrators and Civil War reenactment soldiers in battle dress. When the tour moved to the next location, two 14-year-old fife players, Scott Maginn and Chris Purdy, led the way playing Civil War tunes. When the story ended in 1865 and the tour was finished, we found ourselves among the rows and rows of hundreds of identical headstones in the Civil War plot, looking at the poignant bronze sculptures by Sally James Farnham of the company bugle boy with his trumpet and a weary soldier carrying the Union flag above an emotional monument inscription that reads:

By fame's eternal camping ground
Their silent tents are spread
And glory guards with solemn round
The bivouac of the dead.

Marilyn read a particularly touching letter home from a disillusionsed, wounded soldier whose buddies lay dead or mortally wounded around him. A number of us were wiping our eyes as the fife players led us away playing "The Battle Cry of Freedom."

Everyone, I believe, gained a profound realization of the actualities of the Civil War. The statistics and stories were fascinating as well.
More than 10,000 young men from the Rochester area enlisted in the Union army. Many soldiers, who were not challenged when they lied about their age, were under 15 years old. There were 200,000 Union soldiers who were 16 years old or younger. The average age of Civil War soldiers was 25 years. The average height was 5’9” and weight, 140 pounds.

General E. G. Marshall, whose sarcophagus-shaped monument at the top of Section G is surmounted with a carved-stone cut sheaf of wheat that symbolizes God’s harvest, commanded the 13th New York State Infantry Regiment, which fought in early Civil War battles. Tour narrator Bob Marcotte talked of Marshall’s early Civil War experience and told the story about the summer of 1864 when Union forces tunneled beneath the Confederate fort at Petersburg, planted four tons of explosives, and blasted a huge crater destroying one Confederate regiment and an artillery battery. General Marshall led the assault through the tunnel into the crater from which, it turned out, they couldn’t escape after the Confederates regrouped. Marshall was captured, and his uniform and possessions were confiscated. General Robert E. Lee, however, recognized his old West Point classmate, ordered the return of his clothing and possessions, but still placed Marshall in prison.

Charles D. Howell – who is buried in Section W, Lot 19 – was a member of the 108th Regiment, New York State Volunteers and was wounded in the storming of Fredericksburg, December 1862. Bob Marcotte said that Howell was taken to the 5th Division Hospital in Falmouth where he developed lockjaw and died at the age of 18 years.

Lieutenant Dayton T. Card fought in the Battle of Gettysburg, where 85,000 Union soldiers met 65,000 Confederates, according to Marilyn Nolte. She reported that it was the turning point of the war, but Lieut. Card, 24 years old, unfortunately found himself in the path of a Confederate cannonball that killed him on July 3, 1863.

Coraydon C. Brownell was a member of the 8th Heavy Artillery Regiment and survived the war. He died in 1921 at the age of 81 years.

Private Frederick Herle of Company B, 140th New York State Volunteer Infantry, was killed at the Battle of Wilderness on May 6, 1864.

Another tour narrator, Joel Emerson, talked about the thousands upon thousands of young Americans, who were not killed in the Civil War but suffered devastating wounds. Army surgeons did the best they could with limited manpower and few medical alternatives available almost 140 years ago. Soldiers who received body wounds could not be treated on the battlefield. The most common medical procedure at a battle site was amputation.

The tools of battle medical treatment were displayed on the tour. An amazing bit of information was also disclosed by the reenactment surgeon, Joel Emerson. He said that some American women dressed as men and thereby managed to enlist only to have their sex discovered when they were seriously wounded in battle.

On the penultimate stop of the tour, we were introduced to an upstate farmer’s wife, played by Mary Ann Oakley, whose husband and sons were serving in the Union army. Her deprivations and survival
tactics in maintaining a farm and rearing younger children near Rochester became a particularly absorbing story based on fact.

At the cannon installation in the Civil War plot, reenactment soldiers, Steve Osiey and John Maginn, described the weaponry of the war, its effectiveness, and its human devastation. When the Confederates bombarded Gettysburg, the sound of the cannon were heard over 30 miles away in Philadelphia.

More than 3.5 million soldiers served in the Civil War. There were more than 600,000 casualties.

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**PLANT SALE BONANZA**

On the Saturday following the Tulip Festival last May, members of the Rochester Civic Garden Center held a plant sale featuring contributions from their own private gardens. It was a modest affair, but by noon the plants were completely sold out. Members of the Friends of Mount Hope Cemetery – including John Peasall, Mary Olinger, and Bill Knapp – raised a surprising $630, which they contributed to the Friends. John Peasall, at left, presents the check to Friends' treasurer and Finance Committee chairman, Ed Olinger. Photograph by Frank A. Gillespie.
RMSC PLAYERS STAGE NINE
PERFORMANCES OF CEMETERY DRAMA

by Richard O. Reisem

With Saturday performances in June, July, August, September, and October, the Rochester Museum and Science Center Players and Friends of Mount Hope Cemetery volunteers completed a summer/fall season of a new play: A Circle of Friends: An Abolitionists' Tour of Mount Hope in 1860, involving dramatic episodes from the lives of Frederick Douglass, his wife Anna Murray Douglass, and his friends, including Mary Anthony (younger sister of Susan B.), the Rev. Thomas James, Jacob Morris, Samuel Porter, and Amy Post. The unique theatrical experience was enjoyed by hundreds of playgoers over the last five months.

The play was written by Renée Burslem, Jennifer Loviglio, and Victoria Schmitt. Renée Burslem also directed the unique presentation, and Victoria Schmitt, who is the Cultural Heritage Program Specialist at the Rochester Museum, initiated and organized the event. From the Friends organization, the principal planners of the project were Jean Czerkas, Eric Logan, and Anne Kingston. A great deal of primary research went into the production—research that disclosed new anecdotal material and direct quotations from letters and other documents. This wealth of fascinating information was woven into a historical fiction that was then staged in Mount Hope Cemetery.

A Circle of Friends won national recognition by Pathways 2000, which lists events of special historic significance across the country and available to the public. The play, therefore, will continue to be performed on either a scheduled or request basis next year and perhaps in years to come. If you missed this outstanding theatrical experience this year, be sure to attend in 2000.

The cast of A Circle of Friends: An Abolitionists' Tour of Mount Hope in 1860, posed for a photograph at the September performance of a summer-long series by the Rochester Museum and Science Center Players. On the far left are a couple of Friends of Mount Hope Cemetery volunteers: Anne Kingston, secretary of the Friends, who played Maria Porter, and Eric Logan, president of the Friends, who was Austin Steward. The rest are professional actors: Allison Roberts performed Amy Post, Tim Cauley presented Samuel D. Porter, Jacquelyn Dobson portrayed Anna Murray Douglass, David Duwayne Clark represented Jacob P. Morris, David Shales starred as Frederick Douglass, Kim Niles enacted Mary Anthony, and David Anderson/Sankota dramatized the Rev. Thomas James. Photograph by Frank A. Gillespie.
Carlo, a dog cast in bronze, decorated the front lawn of the Pratt mausoleum in Mount Hope Cemetery for more than a century before he was professionally stolen in 1992. An anonymous phone call on November 10, 1999 provided information on recovering the sculpture from the rear lot of a Henrietta nightclub. Friends trustee Bruce Faw and his mother-in-law Dorothy McKinnon rushed to the site and found the dog in good condition. Welcome home, Carlo! Photograph by Frank A. Gillespie.