

The remarkable Bainbridge Brothers - among the greatest of the great generation

David A. Bainbridge

The Bainbridge brothers, Bill and Ken, both graduated from MIT. Both were engineers and each would play a pivotal role in World War 2. Bill completed his degree in Engineering Administration. In 1916 he attended military training camp at Fort Terry on Plum Island, New York (age 15). In 1942 he was commissioned as a first lieutenant. After training in the US and England he was promoted to Captain in the combat engineers. He landed on Omaha beach early on D-Day and completed a reconnaissance behind enemy lines before helping to open the exit from the beach. For his heroic actions he was awarded a Silver Star. He would also participate in the brutal Battle of the Bulge as the lightly armed engineers were thrown into the battle to stop the German panzer divisions. This led to a Presidential Unit Citation and the Croix de Guerre from France. Bill presented a captured Panzer flag to MIT in 1945.

Ken completed his cooperative engineering degree at MIT and then a PhD in physics at Princeton. In 1933 his research confirmed Einstein's prediction that $E=MC^2$. In 1940 he would start the RadLab at MIT and help lead to rapid advances in radar systems. In 1943 he was selected to work on high explosives for the atomic bomb project in New Mexico. His skill soon led to his appointment as overall director of the test. This required finding the right spot for the test, developing monitoring and instrumentation and the test itself.

Their younger brother Don was also an army engineer, but graduated from Cornell.

Bill "William Warin" Bainbridge, Jr. Born May 3, 1902 ,Manhattan

Horace Mann School - football, baseball, soccer, hockey, high school graduate 1918.
1916 Fort Terry military training assignment, Plum Island (age 15)

MIT 1918 - 1923

Mechanical Engineering Society (2,3)
Executive Committee (3)
MIT Treasurer Corporation XV (2,3,4)
Finance Committee (2,3,4)
Budget Committee (3,4)
Junior Editorial Board Technique magazine (1)
Football team
Wrestling team manager
Assistant Undergraduate Treasurer (3)
Theta Tau, Alpha Tau Omega
Engineer Unit Associati
MIT Athletic Association (2,3,4)
MIT graduate 1922 Engineering Administration.

Commissioned 2nd Lieutenant on his birthday, May 1923 in the 342nd Engineers. 1925 joined the Society of American Military Engineers. 51st New York National Guard Mounted Machine Gun Squadron.

WW2 Training

In April 1942 Bill was commissioned as a 1st Lieutenant 342nd engineers for training at Camp Claiborne, LA. He was the adjutant of 2nd battalion. In July 1942 they were off to England for training at the British American Bailey Bridge School and British Field Engineer School. He was assigned to S-1 administration and S-3 training. He was transferred to the 254th Engineer Combat Battalion, V Corps, 1st Army in September for training and preparation for Overlord - the invasion of Europe. He was promoted to Captain in December 1943.

D-Day June 1944

As Assistant Division Engineer his D-Day task was to proceed inland ahead of troops to determine bridging requirements, particularly for the Vire River on the Isigny to Carentan Road. He was slightly wounded before reaching Omaha Beach early in the morning, but succeeded in reconnaissance behind the German lines. Under heavy naval bombardment he joined up with Brigadier General Norman "Dutch" Cota at Vierville-sur-Mer. They captured five German soldiers and returned to the beach at the D-1 Exit from the rear before it was opened. Bainbridge rejoined the surviving elements of the Battalion at work on the beach and beach exit. The wall blocking the beach exit at D-1 was breached with an external charge of 1,100 lbs of TNT. For his actions on D-Day he was awarded a Silver Star (the third highest award for valor).

The 254th Engineers constructed four short treadway bridges on the road from La Cambe to Douet, and a 40-foot double single Bailey Bridge over the Vire River on the Isigny-Carentan road.

Moving across Europe Bill served as Assistant Division Engineer for other infantry and armored divisions. The 254th played an active role as the Allies raced across France. The battalion was one of the first units to enter Paris. It built numerous bridges, removed obstacles and mines, maintained the roads, and helped restore mobility to stalled infantry and armor units. On September 11, 1944, while accompanying the 5th Armored Division, the 254th became one of the first American Units to reach German soil. During the assaults on the Siegfried Line, the 254th destroyed fifty-two fortified positions.

Battle of the Bulge

The worst was yet to come. In December 1944, the strong German offensive in the Ardennes known as the Battle of the Bulge was a rude awakening to the American forces who believed the war was all but over. On the night of December, 16th the 254th was

committed as infantry along the northern shoulder of the Bulge and ordered to form a defensive line south and east of Bullingen, Belgium. At 0600 hours, elements of Kampfgruppe Peiper began their assault with infantry supported by tanks and half-tracks. Despite their lack of heavy arms, the men of the 254th repulsed two attacks. A third attack with tanks overran the battalion lines, but stiff resistance as survivors fell back prevented the supporting German infantry from advancing. The 254th withdrew to successive positions, maintaining a heroic resistance for nine hours until relieved by the 26th Infantry, 1st Infantry Division. As a result of its stand in the Ardennes, the 254th lost approximately 100 men dead, wounded, or taken prisoner. The engineers' actions were so effective that it led the German commander SS-lieutenant colonel Joachim Peiper¹ to mutter in frustration, "The damned engineers!"

Holding up the panzers for 9 hours proved to be critical. The actions of the 254th secured the V Corps right flank, permitted the evacuation of large stores of gasoline and rations sorely needed by the enemy units and denied the enemy the use of three vital routes of approach. Their determination contributed to the ultimate failure of the German counterattack. The 254th was awarded a Presidential Unit Citation and French Croix de Guerre for their actions in this brutal battle. In 1945 MIT President Compton called for the showing of the captured battalion headquarters flag of a German panzer battalion, which had been presented to the Institute by Captain William W. Bainbridge, '22, as confirmation of the Victory in Europe after earlier uncertainty.

The 254th continued to serve with distinction until the end of the war. The battalion participated in the Rhine River crossings and constructed the largest tactical bridge in the European Theater of Operations. It also took part in the liberation of Pilsen, Czechoslovakia. Bill would then be responsible for building training camps for soldiers preparing for the battle in the Pacific.

Marriage

In February 1945 Bill married Captain Florence Thompson, somewhere in France. This capable Nova Scotia born nurse was in charge of all the nurses in her area. The civil ceremony was performed by the Mayor of the town (unnamed for security reasons), with a religious ceremony following at the commanding general's house. Bill was promoted to Major and returned to civilian life as a building component engineer, developer and inventor.

The Bainbridge's lived in Pelham, NY. They had one child, also an engineering graduate (Tufts). Bill died in 1969. By some accounts, not surprising given the bitter fighting he had experienced, he had been affected by his experience during the war. Florence died in 1983.

¹ Convicted of war crimes for the Malmedy Massacre when 84 POWs were killed.

Sources:

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Brig General Leonard C. Ward. Battle of the Bulge. The 254th and 107th engineers fight as light infantry. 107th Engineer Association.

USArmy Museum. 254th Engineer Combat Battalion.

Army Museum, Army engineers 254th DDay

Department of the Army Infantry School. Fort Benning, Georgia. Advanced Infantry Officers Course 1949-1959. Operations of the V Corps during the Battle of the Bulge in the sector from Butgenback, North of Rotgon, December 14-25, 1944.

Cap't Bainbridge Marries in France. New York Times, March 24, 1945.

Kenneth Tompkins Bainbridge born July 27, 1904. Cooperstown, NY.

Horace Mann school K-12, high school graduate 1921.

MIT (1921-1926). BS, MS.

Cooperative course in Electrical Engineering (with General Electric), aeronautical engineering (3,4), Electrical engineering (3,4), class secretary (2), class treasurer(3), Finance Committee (3), VooDoo Business Associate (1). Several of this discoveries at GE were patented. Member of the MIT Post Society of American Military Engineers.

Princeton (1926-1929). PhD. The search for element 87. Post doctoral work Bartol Foundation, Cavendish Lab. In 1933 he published a paper on his research demonstrating the first proof of the equivalence of mass and energy ($E=MC^2$) proposed by Albert Einstein in 1905.

Harvard (1934-1940), (1945-1992)

Ken was in demand, despite the depression. He chose to go to Harvard. He rose through the ranks from assistant to full professor of physics.

RadLab (1940-1943)

Ken took a leave of absence from Harvard in late 1940 to help start the Radar Lab. Lee Alvin DuBridge had been selected as the chairman of the new lab, and Ken was tasked with finding a place to set it up. For Ken this was easy, it would either be Harvard or MIT. Karl Compton, the President of MIT, was working in Washington, but said, "Well, there must be space at MIT, and if there's not, we can build more. You go down to MIT and look around and see how much space you can get." It wasn't easy. Ken looked at the Steam Lab, spaces in Building 6, and finally, the Lab got a little space in Building 10.

Ken was involved in recruiting staff and scientists and would spend a productive 2½ years working on this critical project, including a trip to England. His training at MIT had prepared him well for work on complex problems, with large corporations, big egos, and the military. Ken was credited for helping develop radar that the German submarines could not detect, reducing losses of men and material. The RadLab played a pivotal role in the war. At the end of the war the RadLab had 4,500 workers and a budget of \$4 million a month. The lab developed more than 100 radars, trained thousands of operators, and supported field upgrades and maintenance of radar installations around the world. More money was spent on radar than on the atomic bomb project.

Los Alamos (1943-1945)

In 1943 Ken was recruited to work on high explosive components for the atomic bomb project in Los Alamos, New Mexico. His skill and talent was recognized and he was soon given over-all responsibility for the test. As director he had to find a place for the test, develop the test program and report on the explosion. This involved thousands of people, millions of dollars, and challenging technical and theoretical issues. This was successfully completed on July 16. He would later work for peace and control of nuclear weapons.

Ken returned to Harvard and worked on research and improving the teaching of physics. His family included two daughters and a son. He retired at the mandatory age of 70, but remained engaged and active in the physics department until his death in 1996.

More information

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K. T. Bainbridge, 1904-1996, Papers of Kenneth Tompkins Bainbridge: an inventory, Harvard University Archives. available at <http://nrs.harvard.edu/urn-3:HUL.ARCH:hua23003>. "Writings" alone includes 92 document boxes, 1 folio box, 10 portfolio folders.