

Manufacturing Victory: Who's Who in WWII Production

In order for America to wage a total war during WWII, it took an army of individuals on the Home Front to switch over factories from producing consumer goods to making war equipment for the US military. Below are a few of the men in American Industry who helped the country to achieve this goal.

William Knudsen, CEO of General Motors:



William Knudsen (1879-1948) came to the US as a poor immigrant from Denmark. He worked his way up the economic ladder by starting as a dockworker, and eventually became an assistant to Henry Ford, the automobile manufacturer. During his work at Ford, Chevrolet, and then as CEO of General Motors (GM) from 1937-1940, Knudsen revolutionized mass production by building more flexible and efficient production plants. In 1940, President Roosevelt selected Knudsen to lead the nation's National Defense Advisory Council to prepare for war, and he became the first "Dollar-a Year-Man" by leaving his \$300,000 a year job at GM to volunteer to direct the government industrial production effort. Knudsen made the Arsenal of Democracy possible as US Director of Production by simplifying government contracting and repayment procedures, making it easier for corporations to produce for the war effort.

Albert Kahn, Industrial Architect:



Albert Kahn (1869-1942) immigrated to the US from Germany and became one of the most famous industrial architects in the world. While building factories in Detroit, MI for the Packard and Ford Motor Companies, he pioneered the use of reinforced concrete in construction. He also believed in creating a healthier environment for workers by incorporating large windows into his designs for light and air flow. He was best known for designing Ford's Highland Park plant, which mastered assembly line production; the Detroit Arsenal Tank Plant (DATP) which was the first plant ever built to mass produce tanks; and Ford's massive Willow Run Bomber Plant to make B-24 bombers. Willow Run was the largest factory ever built at the time, with an assembly line that was over a mile long under one roof.

Fred Geier, President of Cincinnati Milling Machine Company and Machine Tool Builders Association:



Fred Geier (1883-1981) was the son of German immigrants. Born in America, Geier was a well educated and quiet man who was at the forefront of America's preparation for war. During his pre-war travels to Germany in the 1930s as president of the Cincinnati Milling Machine Company, Geier witnessed Germany's industrial mobilization for war. In 1938, he began expand his company's production capacity and Geier was one of the first industrialists that Knudsen recruited to increase America's wartime production. In 1941 alone, Geier's work helped to nearly double US machine tool production overall, and his company produced a new machine tool every 17 minutes during the war.

Edsel Ford, President of Ford Motor Company:



Edsel Ford (1893-1943) was the son of famous automobile producer Henry Ford. As President of Ford Motor Company from 1919-1943, he often clashed with his father about mobilizing the company to prepare for war against Germany, since Henry was a strict isolationist. After Henry vetoed the construction of Merlin-Packard engines for the government in 1940, Edsel created his own plan to support the war effort. In 1941, he asked Albert Kahn to design and build the Willow Run plant to build B-24 Liberator Bombers, converting Ford Motor Company from car to airplane production. Although Edsel died of stomach cancer before its completion, the Willow Run plant became the largest plant in the country, breaking production records by eventually producing 350 Liberators a month, and building almost half of the 18,000 B-24s made during the entire war.

R.G. Le Tourneau, Inventor and Founder of Le Tourneau Technologies:



R. G. Le Tourneau (1888-1969) was born in Vermont in 1888 and left school at an early age. An inventing genius, Le Tourneau founded his own company, Le Tourneau Technologies in 1929, and the company soon became the largest manufacturer of heavy earthmoving equipment and supplies in the world. During his lifetime, Le Tourneau secured nearly 300 engineering patents for his inventions, receiving 78 patents in WWII alone. He is credited with introducing heavy duty rubber tires to the earthmoving industry, as well as designing bulldozers, portable cranes, bridge spans and offshore oil drilling platforms. Le Tourneau and his company supplied 70% of all the heavy earthmoving equipment used by the Allies during WWII.

Henry Kaiser, Builder and Philanthropist:



Before WWII, Henry Kaiser (1882-1967) was known for constructing the Hoover Dam. During the war, Kaiser became famous for building Liberty Ships, which were needed to ship war supplies and troops around the world. Although he and his company had never produced ships before the war, Kaiser was determined to produce as many ships as the country needed by building vast shipyards in San Francisco which ran year-round, 24 hrs a day, with three eight-hour work shifts each day. Kaiser also sped up production by introducing creative, time-saving subassembly techniques, like welding sheets of metal together instead of riveting. In this way, Kaiser's factories were able to break production records, achieving the amazing feat of building and launching the Liberty Ship SS Robert E. Peary in just 4 days and 15 hours. A noted philanthropist, Kaiser also set up Kaiser Permanente first aid centers to provide health care for workers and was the National Chair for the United Clothing Collection for International War Relief.

Andrew Higgins, Businessman and Shipbuilder:



Andrew Jackson Higgins (1886-1952) was the founder of Higgins Industries, a small shipbuilding company based in New Orleans. Before WWII, Higgins designed and produced a variety of amphibious crafts for oil and gas exploration in Louisiana. Since amphibious boats were capable of delivering both people and equipment from the water to land without the use of a harbor, Higgins was awarded large government contracts to produce his "Higgins Boats" for use in every theater of fighting during the war. His craft included amphibious LCTs (Landing Craft Tanks), LCPLs (Landing Craft Personnel Large), and the famous LCVP (Landing Craft Vehicle Personnel) which was used during the D-Day landings at Normandy to land troops, tanks, jeeps, trucks, and other types of equipment on to the beaches. Higgins Industries produced more than 20,000 types of Higgins Boats, along with PT and other supply boats during the war during the war. The company was also notable for being the first plant in New Orleans to fully integrate, paying men and women, regardless of race, age or disability, equal wages for the same type of work. The wartime legacy of Andrew Higgins and Higgins Industries, and the work of historian Stephen Ambrose is the reason why The National WWII Museum is located in New Orleans today.

Extension Activity: Assign each student one of the U.S. industrial men profiled on the fact sheet. Have the students conduct additional research on their individual and develop a Facebook profile page for this person. Their profiles should include the name and picture of the person, their birthday, their current job and work skills, interests (sports, books, quotes) and friends from the WWII era whom they knew and worked with, including some of the other men on the fact sheet.