

RAMSEY COUNTY

History

A Publication of the Ramsey County Historical Society

“Abide with Me”
Grace Craig Stork, 1916

Rebecca A. Ebnet-Mavencamp

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Fall 2016

Volume 51, Number 3

A Workplace Accident

John Anderson’s Fall from the High Bridge

John T. Sielaff, page 3



Towering above the Mississippi River flood plain, St. Paul’s Smith Avenue High Bridge, seen here in a 1905 postcard, connected the city’s oldest residential neighborhood, West Seventh Street, with its newest at the time, Cherokee Heights, or the Upper West Side. John Anderson, a painter working on the bridge in 1902, fell and survived the accident. His story tells us much about the dangers in the workplace then and now. Photo by the Detroit Photographic Company, courtesy of the Minnesota Historical Society.

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RAMSEY COUNTY History

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THE MISSION STATEMENT OF THE RAMSEY COUNTY HISTORICAL SOCIETY
ADOPTED BY THE BOARD OF DIRECTORS ON JANUARY 25, 2016:

Preserving our past, informing our present, inspiring our future

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A Message from the Editorial Board

In this issue, we are reminded how workplace conditions in Ramsey County reflect social and political realities. Brian McMahon gives us a look at St. Paul's Ford Assembly Plant during World War II, when the facility was retooled for the war effort. Many workers, including women, were hired to manufacture parts for Pratt & Whitney airplane engines and the M-8 armored car. John Sielaff details the story of John Anderson, a painter who suffered severe injuries in a fall when he was painting the High Bridge in 1902. In the days before Workers' Compensation was enacted in Minnesota, Anderson's legal claim against his employer took a convoluted journey through the court system. Rebecca Ebnnet-Mavencamp shares a social history of the Stork family, who lived on Cleveland Avenue. Although Clinton Stork worked at the H.B. Fuller Company, this story concentrates on family, especially the debilitating illness of Grace Stork, examined through compassionate diary entries of her daughter.

As a final note, don't forget we have podcasts available too. Paul Nelson has a wonderful interview with former Mayor George Latimer, and his latest podcast takes a look at one of our earliest and most interesting settlers, Harriet Bishop. Check them out at www.rchs.com.

Anne Cowie
Chair, Editorial Board

“Production for Victory”:

The Ford Twin Cities Assembly Plant in World War II

Brian McMahon

Wars are won on the factory floor as much as on the battlefield, and Americans were confident on both fronts as they entered World War II. The army general in charge of purchasing said, “For when Hitler put this war on wheels, he ran straight down our alley. When he hitched his chariot to an internal combustion engine, he opened up a new battle front—a front that we know well. It’s called Detroit.”¹

Sixteen months before Pearl Harbor, the Ford Twin Cities Assembly Plant in St. Paul was already transitioning from making automobiles to working on defense projects. In August 1940, the Ford Motor Company received a contract from the Pratt & Whitney Company to make airplane engine parts, over the strong objections of the United Automobile Workers Union (UAW), which had been unable to organize Ford years after doing so at General Motors and Chrysler. The UAW accused Henry Ford of being hostile to labor, an anti-Semite, a Nazi-supporter and an unreliable defense partner.²

At the time, Ford was barred from bidding on government contracts because of refusal to comply with the National Labor Relations Act which President Franklin Delano Roosevelt had established to make it easier for unions to organize workers. Ford got around this prohibition with the Pratt & Whitney contract because the company was a subcontractor, and not a direct contractor of the federal government.³

Henry Ford’s Antiwar Activism

Henry Ford first faced charges of anti-Semitism in the 1920s, and these accusations reemerged in 1938 when he accepted the Grand Cross of the German Eagle, a medal created by Adolf Hitler. Ford’s pacifism at a time when public opinion was moving toward supporting Great Britain and France in their war with Germany was also widely conflated

with support for the Nazis. Ford once declared, “To my mind, the word ‘murderer’ should be embroidered across the breast of every soldier in red letters.”⁴ He also said, “I am opposed to war in every sense of the word. . . . If war came here and I were offered triple prices to manufacture motor cars for military purposes I would burn down my plant before I would accept an order.”⁵

In the summer of 1940, Ford joined Charles A. Lindbergh, the celebrated aviator, in supporting the America First campaign, even as his company was receiving military contracts. His ambivalence was demonstrated that year when he reversed an agreement his executives made with the government to build Rolls-Royce airplane engines because some were intended for the British military and not all were for American defensive purposes. These engines were eventually made by the Packard Motor Company.⁶

In February 1941, as the new plant for the Pratt & Whitney airplane engines was being built with mostly federal funds at the River Rouge Plant in Dearborn, Michigan, Ford was quoted as saying he “sincerely



Three women operating industrial drill presses work on the pump machine that was a part of the Pratt & Whitney airplane engine. Note the employee badges with photo IDs pinned to their overalls. Photo courtesy of Brian McMahon.

hoped” that neither England nor the Axis powers would win the war. “There is no righteousness in either cause . . .”⁷ Harold L. Ickes, Secretary of the Interior, was undoubtedly speaking for Roosevelt when he responded, “We have heard these unworthy words from men like Henry Ford and Colonel Lindbergh. As well might these have said that as between the kidnapper and his intended victim, they do not care which may win; as well might have said that as between the man who drops incendiary bombs on defenseless cities and the women and children he kills from the air as they vainly seek safety, they can see no moral distinction and so they do not care which may win.”⁸

Ford was unusual among manufacturers in opposing military preparedness. Most industrialists welcomed military contracts which were often on a “cost-plus” basis, and generally included funding for plant improvements and worker training. While Henry Ford’s pacifist views were rare for an industrialist, they were not completely outside the American mainstream. According to Gallup polls, most Americans opposed entry in the World War, and Minnesota was the second most isolationist state in the country after Wisconsin.⁹ Labor leaders also were generally opposed to the war because of ideological reasons and fears that labor protections would be weakened. These concerns softened considerably after Germany invaded Russia in June 1941 and Japan attacked Pearl Harbor in December.

Henry Ford’s opposition to Franklin Delano Roosevelt, to the UAW, and to the military preparedness effort, created enormous problems for the government, which needed the industrial might of the Ford Motor Company. But Ford’s policies also created problems for his company as the federal government started to phase out the production of cars in mid-1941. Controls were imposed on many raw materials and industrial activities in preparation for war, and the government started to appropriate vast swaths of the economy. Ford’s extensive fleet of ships was even “federalized” for the war effort, starting in July 1941.¹⁰ Unable to receive raw materials, and unable to make cars, the Ford Motor Company needed military contracts to survive. With the aging Henry Ford



Two women sand cam supports for a Pratt & Whitney engine, wearing protective shields. Most women working on machinery also wore head scarves or hats, apparently of their own selection. Photo courtesy of Brian McMahon.

continuing to drag his feet, Roosevelt finally threatened to take over the company to fulfill the military orders.¹¹

David Halberstam, in *The Reckoning*, captured the bizarre standoff:

Henry Ford remained locked in the past. He grew more erratic and finally senile. At the end of his life he believed that WWII did not exist, and that it was simply a ploy made up by newspapers to help the munitions industry. No one could reach the old man anymore. It was a spectacular self-destruction, one that would never again be matched in a giant American corporation. It was as if the old man, having made the company, felt he had a right to destroy it.¹²

A resolution came from a most unlikely place. Henry Ford’s wife, Clara, desperately sought to save the company for their son, Edsel. It was widely reported that she gave her husband an ultimatum, to sign a contract with the UAW or she would leave him. Henry Ford had little choice, and on June 20, 1941, he capitulated and signed an agreement with the UAW.¹³ This was an important step in assuring that Ford would participate fully in the war effort.

Workers at the Twin Cities Assembly Plant in St. Paul ratified the labor contract a month later and received a charter establishing UAW Local 879.

Ironically, after decades of struggling to establish a union to protect autoworkers, the first priority of the UAW was to find jobs in the defense industries for its members. A top CIO official from Detroit addressed a meeting of UAW Local 879 in St. Paul and informed workers that “Government priorities and curtailment of supplies will force large numbers of auto workers out of their jobs within the next three or four months, and unless we get together and cooperate to keep our members working on defense projects, the layoffs will affect all Ford plants all over the country.” The union, he added, was working on a system to connect workers with available defense jobs, and was also promoting the concept for a “reduction of hours to divide the remaining jobs among more men.”¹⁴

Local elected officials were also aggressively pushing to win contracts. Mayor George Leach of Minneapolis established an office in Washington, D.C., to lobby for defense projects and to counter

charges that “Minneapolis does not have a labor supply and has no ability to stop labor disputes.” Leach proclaimed that “Minneapolis has the best labor record of any city its size in the United States,” pointing out that it only had nine strikes in 1940. Minnesota Governor Harold Stassen and Senator Joseph H. Ball testified before a congressional committee that the state had adopted a mandatory cooling-off period as a way to minimize labor strife—in spite of the strong objections of the UAW and most labor organizations.¹⁵

Japan attacked Pearl Harbor on December 7, 1941, and war was declared the following day. At that point, the United States was united in its resolve, and a reluctant Henry Ford fully committed to the war effort. Workers at the Ford Twin Cities plant would do their part by making parts for the Pratt & Whitney airplane engine and building M-8 armored cars.

Pratt & Whitney Airplane Engines

Federal procurement officials concluded that American airplane manufacturers were unable to manufacture aircraft fast enough for the war effort; consequently they turned to the automobile industry for help. Car makers were accustomed to rapid deployment of new tooling requirements and equipment setups because of annual model changes, and they were certainly experts in mass production. This emphasis on speed and quantity production was a very different approach than that utilized by the aviation industry.¹⁶

Automobile companies received contracts to make hundreds of military items. Ford made B-24 Liberator bombers at its Willow Run plant in Michigan which was constructed with \$90 million in government funds and \$10 million of Ford funds.¹⁷ To sidestep Ford’s unwillingness to comply with the National Labor Relations Act, the company was initially given an “educational contract.”¹⁸ (Many of the B-24 planes would be later modified at the Holman Airport in St. Paul under a contract with Northwest Airlines, a company that Henry Ford helped form.)

In August 1940, Edsel Ford and Charles E. Sorensen from the Ford Motor Company visited the Connecticut headquarters of Pratt & Whitney, a division of

United Aircraft, to examine the R-2800 engine it had developed. Ford agreed to mass produce the engine, along with the Chevrolet and Buick Divisions of General Motors, and the Studebaker Corporation.¹⁹ The car companies would pay licensee fees to Pratt & Whitney for each engine made. Air-cooled, radial-design Pratt & Whitney engines had been installed in U.S. Navy and Army Air Forces fighter planes as far back as 1926.²⁰ They also powered aircraft flown by Charles Lindbergh and Amelia Earhart in the early 1930s, and the famed “Tin Goose” (Ford Trimotor) airplane developed by the Ford Motor Company. William B. Mayo, chief engineer of the Ford Motor Company, was on the board of Pratt & Whitney at the time.²¹ When the military placed its order in 1940, the Pratt & Whitney engine was a reliable and proven workhorse.

Ford assembled the airplane engines at a new building constructed at the River Rouge plant. To speed up production, Ford assigned the manufacture of numer-

ous parts to its branch plants. Workers at the Twin Cities plant were responsible for making about thirty items, including pistons, pump assemblies, cam support assemblies, and oil pumps.

During the war, Pratt & Whitney, and its licensees, made 363,619 engines, which constituted half of the nation’s military aerial horsepower. Of that total, Ford built 57,851 engines. The auto industry as a whole made considerably more engines than the aviation companies, and by the end of the war, the United States had produced more aircraft than Germany and Japan combined.²² The Twin Cities Assembly Plant produced over 800,000 pistons, 35,000 cam supports, 100,000 pump assemblies, and 250,000 gears for the Pratt & Whitney engine.²³ Pratt & Whitney R-2800 engines were installed in several military aircraft including the Curtiss C-46, Douglas A-26, Martin B-26, Republic P-47, and the Lockheed B-34.

Upward of 80 percent of workers on



Special machinery and materials handling equipment needed to be installed for the Pratt & Whitney engine project. This photo shows the storage bins for parts on the left and the moving assembly line in the middle of two rows of worktables. Women workers faced each other at the tables while assembling parts. Photo courtesy of Brian McMahon.

the aircraft engine project were women, which required the installation of more women's bathrooms.²⁴ Loretta Jackson remembered that during the war women had to wear uniforms, a "horrible kind of overalls." Clerical workers wore a jacket and navy blue slacks, safety shoes, and white socks. Jackson recalled that the normally monotonous routine on the assembly line was disrupted one day by "two women fighting over one guy . . . the good ones were all gone."²⁵

The M-8 Armored Car

In the summer of 1941, Ford and several other car manufacturers received a "seemingly impossible assignment . . . to design a vehicle with all the speed assets of an automobile, firepower of a light tank, armor, and enough equipment and crew accommodations for a scouting trip of several days." For the M-8 project, as this vehicle became known, Ford would be a direct contractor, unlike its arrangement with Pratt & Whitney.

In response to a government request, Ford designed several versions of experimental light armored vehicles, and built a small number of T-17s and T-22s at the Twin Cities Assembly Plant. None met the needs of the military. Ford then designed the M-8 armored vehicle and built prototypes at the Rouge plant, which the army accepted. To expedite production, the M-8 used existing equipment as much as possible—the drive shaft and axel assemblies were essentially the same as those on Ford trucks. Ford assigned production of the armored vehicles to its plants in St. Paul and Chicago.²⁶

The federal government added money to the contracts to modify the St. Paul plant to produce the armored cars and the Pratt & Whitney engine parts. These were two separate contracts with two separate production zones under the same roof. The engine parts were made on the west half of the plant which had ceiling heights of fourteen feet. The armored cars were made on the east half, which had twenty-six foot ceiling heights; the extra height was needed to install mounted gun turrets. That section also opened directly to a new oval test track at the rear of the building. These separate projects had dif-



This photo was taken on the first anniversary of the attack on Pearl Harbor, December 7, 1942. It shows long lines of M-8s nearing completion in the crane bay of the plant. The overhead moving crane is dropping a turret on the body of an armored car in the left-hand row. Other turrets that are ready for mounting line the center of the bay. The crane was operated by a worker who is visible in a control booth on the upper left. Photo courtesy of Brian McMahon.

ferent schedules, with one working two shifts and the other three.²⁷

With heightened security during the war, the military preferred to locate production inland as much as possible, and away from the coasts. Even so, there were contingency plans to use the tunnels under the Twin Cities plant as an air-raid shelter, which reportedly could sleep some 13,500 or seat 30,000 and were dubbed by Ford as the "safest urban bomb shelter in the United States." The large underground chambers could even have been turned into an emergency hospital, if necessary, with the "baby railroad" carrying medical supplies.²⁸ Security at the plant was very tight; only top management officials could cross from the M-8 side to the aircraft engine side which were separated by a fence. During the war, windows were blacked out, and traffic on Mississippi River Boulevard was detoured around the plant. Security concerns were very real. A Ford engineer who was born in Germany was convicted of passing aviation secrets to Nazi contacts in 1940.²⁹

The M-8 was a six-wheel armored car, which could operate with four-wheel drive, or six-wheel drive in rough terrain. It was not nearly as mobile as a tank with continuous tracks, however. The M-8 had a hull of heavy armor plate that func-

tioned as a framework or chassis. Wheels, springs, and other parts were attached to the welded hull. This construction made the vehicle watertight. The two front tires of the M-8 provided the steering mechanism and its rear four tires were fixed. The deep-treaded tires were bullet proof and self-sealing.³⁰ The vehicle weighed eight and one-half tons and with its crew of four could travel at speeds of up to 60 miles per hour. It had a 75-gallon fuel tank, with a liner that could seal itself if pierced by a bullet, and had a range of about 300 miles.³¹

The M-8 was assembled on a primitive assembly-line system which harkened back to Henry Ford's early experiments with cars. After the hull was welded, the armored cars were pulled on a "tow-line," as workers added turrets, instruments, and cannons. The M-8s received several coats of olive drab paint. The last coat was applied after the road tests, which included a 100-mile drive on the rear test track and additional runs over rough terrain. Over 2,000 parts were shipped along with the finished M-8s. As parts were produced, they were moved on a sophisticated conveyer system through a variety of "cleaning, dipping and drying steps," directly onto the freight cars located on tracks within the plant. They were packed in a thousand wooden boxes

that were custom-made in St. Paul.³²

Bob Hansen, a young process engineer at the time, was impressed with the quality of the work: “We had the opportunity to get into the new operations on machines which we didn’t have. We did the tool developing and tool grinding for milling machines, shaping machines. They all had to have specially designed tips, so they’d cut the right grooves.” Some of the parts were machined

with tolerances of one thousandth (.001), and several parts had to be packed in dry ice to shrink before being press-fitted into the assembly. Ford built a freestanding clean room within the plant for the precision work, with air vents that went directly through the roof.³³

A Ford memo described the M-8 as “powerful enough to bowl over a good sized tree.” It was loaded with short- and long-range radio equipment, making it an ideal escort and reconnaissance vehicle. Offensively, the armored car could “pack a terrific wallop” with a 37mm cannon, which was powerful enough to pierce Japanese tanks but not the better armored German tanks. It also had twin machine guns mounted in the turret, and carried four carbines, six land mines, and a full complement of hand grenades.

The hull of the M-8, however, was not thick enough to withstand a direct hit by an anti-tank shell. The underside of the vehicle also lacked sufficient armor to protect against land mines. Its best defense was speed and agility, but its innovative design provided some protection against heavy machine-gun fire. Virtually none of the exterior surfaces was completely horizontal or vertical, and this lack of right angles made it more difficult for bullets to pierce.³⁴ If attacked, the crew could also enclose the windshield with an armor plate and switch to a periscope for visibility. A companion utility command vehicle, the M-20, was also made at the St. Paul plant.³⁵

On December 8, 1942, Governor Harold Stassen toured the plant and was



Several M-8s, some driven by women, can be seen on the test track on the east side of the plant in December 1942. The track’s speed limit was 25 miles per hour. Photo courtesy of Brian McMahon.

pleased with the progress: “Only a month since the conversion was approved, finished products are already being turned out.”³⁶ Because of security concerns, he was not specific about the type of products being made.

The M-8s were under development for almost a year and a half as a top secret military contract before local reporters were allowed to learn the specifics of the project. Only after thousands of the vehicles were made and used in battle in Europe were the doors opened to the Twin Cities Assembly Plant on March 18, 1944. Reporters enjoyed a ride on the M-8 test track, prompting one to write, “It handles like an automobile, proved by the fact that girl drivers are as able to handle the unit as men.”³⁷ Years later, several retired autoworkers remembered one of the women drivers who drove so fast around the concrete track that she flipped an armored car. “I think the guys got her into that. . . . They kept saying, ‘You’re kind of slow on your test runs,’ said one. “They kept needling her until she hit a curb too fast and went over it.”³⁸

The St. Paul plant manufactured over 6,000 M-8s by March 1944. Combined with production at the Chicago Ford plant, the M-8 became the highest-volume armored car ever made.³⁹ Primarily used for reconnaissance missions in Europe and the Pacific, it “helped spearhead the attack” of the European offensive under the direction of General George S. Patton. The relatively quiet vehicles became known as “Patton’s Ghosts,” as they

were sometimes able to sneak up on the Germans.

Because of the need to get military equipment and vehicles into action as quickly as possible, there was less time than ideal for field testing. Occasionally, problems wouldn’t be discovered until new equipment was actually used in combat. The need to make adjustments in design made it more difficult to implement a true mass production system. The original design of several

models of tanks had problems, so specifications were modified to require all-welded construction, rather than riveted connections.⁴⁰

Because many skilled workers had been drafted into the military, there was already a shortage of welders. The Ford plant superintendent, H.C. Dorsey, described the need, “We never did have more than a dozen welders at any time [when making cars]; yet in preparation for our scheduled production of M-8s we had to have over 400 welders trained and accepted according to rigid Army Ordinance standards. This was done in our welding school, where they were trained by welders from our Detroit Rouge plant.”⁴¹

Another Ford official described the training, saying it takes from six to eight weeks to “teach an old dog new tricks. . . . The ones who learn the fastest, of course, are those men who have some mechanical experience. But even the slowest learner comes out of the welding school in eight weeks. At the end of that time he immediately is assigned to war work.” During their training period, the workers were paid regular wages.⁴² A welding certificate did not automatically exempt workers from the draft, which rankled company officials who had made considerable investment in the training programs. They argued that skilled workers were essential to the war effort.⁴³ Locally, Dr. Charles Allen Prosser, the Director of Dunwoody Institute, wrote to President Franklin D. Roosevelt in May 1941 urging draft exemptions for skilled defense workers.⁴⁴

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Unlike welders, operators working on machines for the M-8 and the Pratt & Whitney engines did not receive classroom instruction. They learned on the job. "Once we feel he has reached the status of a full-fledged operator," said a Ford official, "we put him in charge of a machine and assign a student to him." Given the pressing need for industrial workers, in 1941 the federal government and private foundations provided funding to a number of public vocational schools to train aircraft mechanics, sheet metal workers, welders, and other essential skills. The Minneapolis Public Schools offered tool and die classes. The following year, funding was made available to private vocational schools, including Dunwoody Institute.

The demand was so intense for "trained manpower to operate the high-precision tools, grinding out the parts for planes, tanks, guns, ships and skilled manpower to assemble those into finished products" that Dunwoody stayed open during the summer for the first time and operated virtually around the clock. Because of the ongoing labor shortage, by 1943 women were also gradually—but informally—admitted to Dunwoody, which had historically been an all-male school.

One of the welding students, Della Sullivan, was married to a welding instructor at the Ford plant, and she boasted that women could weld as well as men. In fact, women workers were able to do most of the work at the Ford plant formerly held by men. They were particularly adept at assembling the small parts of the Pratt & Whitney engines.

A number of commercial training schools were also established in the Twin Cities, including the United Aircraft School and the Pacific Aircraft School. The Minnesota Aircraft School placed ads in August 1941, "Trained men [*sic*] wanted for large aircraft factory." It guaranteed a one-hundred percent placement rate at any of a number of plants around the country.⁴⁵ The University of Minnesota also developed classes relating to defense needs, including one course on testing and inspecting ammunition.⁴⁶

Over 3,000 people were employed at the Twin Cities Assembly Plant during World War II, considerably more than during peacetime. Workers at the Twin



John Rouen learned to weld at Dunwoody Institute in 1938 and at later at Lincoln Welding while he was working at the Ford Twin Cities Assembly Plant on the M-8 project. Photo courtesy of Rouen family.

Cities Assembly Plant won the coveted Army Navy "E" (for excellence) Award for outstanding service to the country during World War II. With the conflict winding down, scores of companies that had military contracts displayed their products at the *Production for Victory* exposition held at the Minneapolis Auditorium in late January 1944. Pratt & Whitney displayed a complete aircraft engine with parts made at the Twin Cities plant.⁴⁷

Postwar Planning

In July 1945 glass manufacturing resumed at the Twin Cities Assembly Plant, as the plant was transitioning back to civilian production.⁴⁸ Within a month, the equipment used for making M-8s and airplane engine parts was carefully packed up and shipped to government warehouses at Fort Snelling for storage.⁴⁹ Ford was eager to meet the pent-up demand for new cars. Several hundred workers, including many returning veterans, were brought back to the St. Paul plant during the summer of 1945 to install equipment for the new cars.

Under federal law, veterans could resume their jobs at Ford and keep their union seniority, receiving credit for their years in the military. Some of the women who had been working at the plant wanted to stay, but because they were new hires,

they did not have seniority. With only 1,800 job openings available at the plant, down from the 3,000 who worked during the war, there were not enough positions to go around. Women, who had been universally viewed as important contributors during the war, were now seen as competitors to men for jobs in an uncertain labor market.

Most of the women left the Ford plant voluntarily after the war, but not Verna Welsch, who lost her husband in a car crash a month before their son was born. For her, the well-paying job at Ford was a necessity. After the war, she was assigned a variety of difficult tasks which she believed were intended to force her to quit. In one incident Verna believed her rib was broken by a not-so friendly bear hug from a male worker. She remembered one particularly difficult day, where "they put me down on body build washing floor pans. I had to get all the wax off so that the paint would stick and jiggle them apart and turn them over. It was hard."

In another instance Verna was assigned to cleaning parts with chemical solvents which were splashed on her by a coworker across the line, causing an allergic rash. One day, the men in the department were watching her closely, but they abruptly left, perplexing Verna. She assumed it was because they didn't want women workers, but when the men returned one said, "That's not it at all. We went up and put our money down on a bet to see how long you would stay." Verna responded, "Seeing you were so nice to come and talk to me, I hope you put the largest amount because I'm going to stay here till they carry me out on a stretcher!" In 1946, Verna and several women who had worked on the Pratt & Whitney engines were eventually assigned to the instrument panel line, which was similar to their wartime work.⁵⁰

Twenty years later, four of the women who worked at the plant during the war were profiled in the *St. Paul Pioneer Press*. One who "stuck it out" said she received a good wage but the challenges she faced were very real, as the article explained, "They are vastly outnumbered by their male counterparts, some 450 to one. . . . The present assembly line is not geared for employment of women, except in the jobs these four do."⁵¹ By the time Ford closed



By July 1944, 5,000 M-8s were assembled, and the plant would make another thousand by the end of the war. The sign in the background reads, "Hurry and Win!" There appear to be no women in this photo. Photo courtesy of Brian McMahon.

the Twin Cities plant on December 31, 2011, the number of women workers had increased significantly—to what was estimated to be over thirty percent of the workforce. The assembly line had become more “geared for employment of women” because of the introduction of new automated equipment and robotic machinery,

which required technical skill rather than physical strength.

Brenda Dickhausen, who was working at the plant when it closed, also attributed the increase in women workers to the continued pressure of the federal government for equal employment opportunities. She started working at the Ford River Rouge

plant before transferring to the Twin Cities. “I was part of a group of twenty-five—all women—who were hired at the Rouge in 1978.” After being laid off in Detroit, she transferred to the Twin Cities plant in 1984, joining a workforce that was approximately 30 percent women.⁵²

During World War II, Americans were united in a common purpose to win the war and had a remarkable sense of shared sacrifice. There were other important legacies. Many workers received skilled training, many companies learned advanced manufacturing techniques, and job opportunities were greatly expanded as a result of government policies supporting equal opportunity in employment. The workers at the Ford Twin Cities Assembly Plant who built Pratt & Whitney airplane engines and M-8 armored cars more than did their part in helping to win the war.

Brian McMahon is a trained architect who has written and lectured widely about the built environment and urban history. His book entitled, The Ford Century in Minnesota, is being published this year by the University of Minnesota Press.

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