

Gunderson

A history of an Oregon company



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*Cover Photo "Swing Shift" A painting by Michael Gibbons dedicated to
D. Fred Shieman, July 29, 1929 to January 7, 1990, friend, partner, and director of Gunderson Inc.*

INTRODUCTION

How is it that some companies grow and other companies founder? How is it that one man can start a business that outlives him and outstrips his wildest dreams, and another man of equal intelligence, facing the same problems and opportunities, sees his efforts come to nothing? Is it luck? Some kind of business sixth sense? A special gift for selecting and working with people? All of the above?

In 1919, when Chester E. (Chet) Gunderson started the Wire Wheel Sales and Service Company of Portland, Oregon, the automobile was in its infancy. World War I had just ended — a conflict that had been fought, in large part, by armies supplied by horse-drawn wagons. What few paved streets and roads one could find were made of hand-laid brick and stone.

How, in that long-past time, did Chet Gunderson bend the twig just right so that his company would grow into the giant corporate oak it is today? Our purpose in producing this corporate history is to suggest some answers to that question.

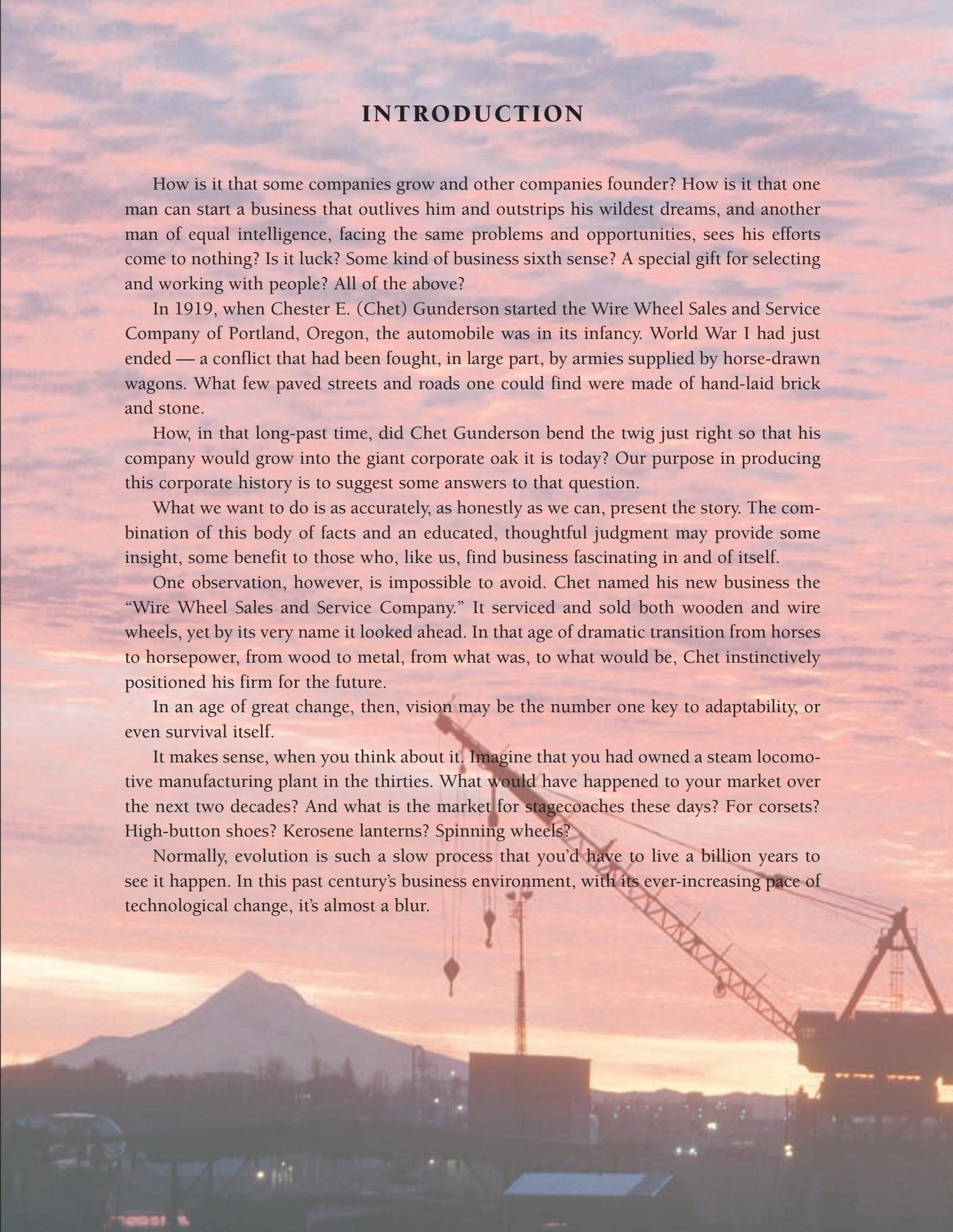
What we want to do is as accurately, as honestly as we can, present the story. The combination of this body of facts and an educated, thoughtful judgment may provide some insight, some benefit to those who, like us, find business fascinating in and of itself.

One observation, however, is impossible to avoid. Chet named his new business the “Wire Wheel Sales and Service Company.” It serviced and sold both wooden and wire wheels, yet by its very name it looked ahead. In that age of dramatic transition from horses to horsepower, from wood to metal, from what was, to what would be, Chet instinctively positioned his firm for the future.

In an age of great change, then, vision may be the number one key to adaptability, or even survival itself.

It makes sense, when you think about it. Imagine that you had owned a steam locomotive manufacturing plant in the thirties. What would have happened to your market over the next two decades? And what is the market for stagecoaches these days? For corsets? High-button shoes? Kerosene lanterns? Spinning wheels?

Normally, evolution is such a slow process that you'd have to live a billion years to see it happen. In this past century's business environment, with its ever-increasing pace of technological change, it's almost a blur.



CHAPTER ONE

Beginnings

In the early 1880s, Nelson A. Gunderson left his home in Malmö, Sweden, and immigrated to the United States. This journey halfway around the globe ended in a shipwreck off the coast of what is now the state of Washington.

Gus, as he was called, lost everything. His handmade tools and carved wood tool case went down with the ship. He came ashore with only the clothes on his back and found refuge at a sailors' mission in Seattle.



Chester Ellsworth Gunderson

The philosopher Heraclitus once said, “Character is destiny.” How you react to the events in your life is the real story of your life.

Gus had character. He had lost his tools, but he had his craft in his head. He soon got to work and gained a sound reputation based on his Old World skills, applied in the construction of bridges, commercial buildings and homes in the Seattle area. And, via the strong Scandinavian network in the Northwest in those days, he found a wife.

An ambitious man, Gus worked his way up in the world, eventually becoming a contractor in the building, railroad and bridge arenas. Interestingly, he did not have an office but preferred to work out of a saloon and pool hall near the family home!

The Gundersons had three children, Agnes, Al, and Chet. Chester Ellsworth “Chet” Gunderson was born September 7, 1894. Chet’s youth was spent knocking about from one job to another while attending school. Glimmerings of his future appeared early. He started selling newspapers on a street corner but soon acquired “property rights” to a number of such locations. On each he installed a coin-operated dispensing box. The profits from these let him begin saving money for a future business enterprise.

The experience touched him personally, as well.

As the story goes, after this success, he bought some gold coins to carry around. One day, while sitting in one of his sophomore high-school classes, he was thinking about future opportunities and idly jingling the coins in his pocket.

His teacher said, “Chet, any person who has silver in his pocket shouldn’t be rattling it and disturbing folks like you do.”

“If you don’t know the difference between the sound of gold and silver,” Chet replied, “then you can’t teach me anything. I’ve been in school long enough.” With that, he got up and left school, never to return.

In 1914, Chet bought a motorcycle and organized a small electrical contracting business. He drove around on his motorcycle soliciting house-wiring jobs to keep his five employees. The onset of World War I had dramatic economic effects, as wars always do, and so Chet’s second business had a short life. Because of a shattered optic nerve, an injury received as a youth when he was hit by a baseball, he did not qualify for military service. For a time, he contributed to the war effort by working in logging camps.

For a while, he was a clerk in the clearinghouse of the Scandinavian-American Bank in Seattle, working with a man named Vic Dalton. At the same time, he was moonlighting as a bouncer in a bar. But the bank went broke in 1917, and he was out of a job again.

In 1918, he decided to go into the motorcycle repair business with two of his friends, B.C.R. Deaton and H.O. Nygard. The 1918 City of Seattle Directory listed the partners’ business as the Wire Wheel Service Company and indicated that they were agents for Houk and Budge-Whitworth wire wheels. As this business grew, the partners became experts in repairing wooden-spoked and wire wheels for cars and trucks. According to Chet, his only equipment in the beginning was a spoke wrench.

In 1919, the Houk Company came up with an offer that separated the partners. Houk, which manufactured wire wheels in Pennsylvania, established two principal distribution points in the Northwest: Spokane, Washington, and Portland, Oregon. Nygard wanted to keep the Seattle business, but the chance of moving up from a single dealership to a distributorship was too good for the other two to pass up.

The problem was who would get which territory, so they flipped a coin. Chet won Portland. On February 23, 1919, a full-page ad in *The Sunday Oregonian* announced the opening of his business: Wire Wheel Sales & Service Company. The ad featured a photo of the high-school dropout nattily dressed in a dark suit, vest with pocket watch and chain, and dark homburg hat. He held a wire wheel in his outstretched hand.

This full-page ad represents the beginning of the now-great manufacturing company Gunderson Inc. From its start in wire and steel wheels, and through successive generations of managers, Gunderson has built spillway gates for dams; steel structures for buildings; saw-mills; lifeboats, gunboats and landing craft for the U.S. Navy; and even ironing boards. Always it has come back to the basics, formed by Chet Gunderson, of commercial transportation that moves on wheels or, later, by water. The seeds had been planted by this man, and, as this book illustrates, those seeds would bear fruit.

Announcement

HOUK Wire Wheel
at Your SERVICE

Wire Wheel Sales & Service Co.
415 Stark Street—Broadway 445

This ad in The Sunday Journal, February 23, 1919, announced Chet Gunderson's new Wire Wheel Sales & Service Company.

CHAPTER TWO

The business grows

By 1923, Chet's brother Alvin E. "Al" had joined the firm and was secretary-treasurer. Al Gunderson was born April 10, 1904, and so was roughly 10 years younger than Chet. He dreamed of attending college and announced to his father that he wanted to live at the college itself, in a fraternity house. His father objected, saying that he would not send Al to college to play. If Al wanted to leave home, he could do so permanently. Perhaps Gus, who had risen to prosperity from a shipwreck on a foreign shore, had little use for university training, or it may just be that he knew his son.

In any event, Al became secretary-treasurer and a junior partner in the firm. In 1925 the firm's name was changed to Wheel & Rim Service Inc. By 1935, Al's title was vice president and secretary, a rank he would hold until 1965.

From the first, Al exhibited gregarious qualities. In today's jargon, he would be known as a "people person." He supplied the sales and marketing force of the company while brother Chet fulfilled the role of the technologist and builder. Years later, this division of labor between production and sales continues at The Greenbrier Companies, which now owns Gunderson, dividing the business into two mutually dependent but strong and autonomous parts: manufacturing and commercial.

Al was social, a mixer. For example, he loved to play gin rummy, a popular card game in those days. Because the company's customers were invariably Al's friends and because they and the top executives of Gunderson's steel suppliers also loved to sit in, these games provided enhanced sales opportunities as well as better than average potential for purchasing raw materials.

Al's social and business activities brought him friendships with building contractors, shipyard magnates such as Henry J. and Edgar Kaiser, and railroad executives. A good example of the latter was Carl Evers, district traffic manager of Union Pacific Railroad. Evers would one day help Gunderson obtain a special freight rate and tariff on railcar underframes. This favorable event was the key to Gunderson's entry into the railcar building business. And entry into the car building business catapulted Gunderson from job-shop status to that of a major manufacturer. Gunderson today is the fourth-largest railcar builder in the United States and owes at least part of that status to gin rummy!



Alvin E. Gunderson

But we're getting ahead of the story.

In late 1929, the Gunderson brothers, like just about everyone else in the United States, found themselves in financial trouble. They needed capital to make it through. Help through normal channels was nowhere to be found. It was then that Chet contacted his old friend Vic Dalton.

You might recall that Dalton and Chet had worked together at the Scandinavian-American Bank in Seattle — the one that had gone broke. According to Stan Stewart, a longtime friend who had worked at the bank with them, “After leaving the bank, Vic fell in love with a beautiful girl, a beauty contest winner, who was on her way to Hollywood. Vic followed her there. All he had was a tennis racket and a silk shirt, and he was considered by those who knew him as unlikely to succeed. But, he did succeed, fortunately for the Gunderson brothers.

“Vic had to have something to do, so he went into the secondhand auto business there and soon had several used car lots all over Los Angeles. Having become very successful in that business, and being (relatively) flush with funds, Vic bought a radio station and soon after entered the movie studio business. Chet needed money to rescue his business but could not get aid from the banks. Chet asked Vic for help and received a loan of several thousand dollars.” That was a lot of money in those days, and it was sufficient to tide the business over until the economic situation improved.

Hollywood really does come to the rescue now and then.

CHAPTER THREE

Finding the way

Through the mid-1920s and early '30s, the company's focus was on selling and servicing wheels, rims, and automobile parts. The company had steadily enlarged its service scope, taking on automotive bearings, spark plugs, radiators, Delco Remy auto parts, and even the famous Klaxon auto horn line. Next it added Stromberg Carlson carburetors and parts and United Motors service parts. As the business grew, it expanded into a new building at Northwest 14th Avenue and Everett Street. Two new employees came on board: Sam Tracy, a former locomotive engineer, and Adolph Strid, a man who knew how to make trailers. Each would play an important part in what was to come.

Around 1935 Chet decided to branch out — into the field of fertilizer.

In 1923, Chet had bought a building north and west of Portland near the small town of Linnton, which is now part of Portland. He rented the space out for several years, then in the mid-1930s he began using it as a warehouse for storing, processing, and bagging sheep manure brought from Eastern Oregon before its export as fertilizer.

Chet apparently wasn't cut out for the fertilizer business. For some reason that he could not discover, it soured and spoiled before it was processed. So the building, for which Chet paid the astronomical sum of \$45 a month (often in arrears — this was, after all, the depths of the Depression), sat empty for several months.

Chet wasn't destroyed by this setback. He simply got back to basics. What Chet was cut out for was manufacturing, and this is when that gift began to emerge.

Chet and Al decided to try something new at the Linnton plant. They knew the wheel business and already were servicing and repairing brakes on trailers. Why not start building the whole trailer? Equipment was transferred in 1936 from the Portland location and acquired from various sources. This equipment — to be used in the first actual manufacturing operation of a future colossus — cost a grand total of \$12,446. The Gundersons also picked up a blacksmith's forge. Picture a sooty, dingy shop with anvil, coal cyclone, and dozens of kinds of odd-looking tools and hammers. Smoke is curling up



Gunderson's site at Northwest 14th and Everett Street in Portland was completed in 1929 and cost \$15,000.

over the hand-cranked bellows and mushrooming against the ceiling. Blacksmiths are heating steel angle irons, bars, and plates to white-hot temperatures in the furnace. Now, listen to the clank, clank, clank of the smithy's hammer as he pounds out the shape he needs ... a bracket, an eye, a fastener, a hook, a shackle.

Thus it would be at the Linnton plant for years. Even after modern hydraulic forging equipment had been bought, the small, now gas-fired furnace was kept to make some forgings by hand.

In 1937, the Gunderson brothers saw the need to increase trailer capacities. They reasoned that rather than the single-axle units they had been building, logging and highway semi-trailers could just as well be made on a two-axle chassis. The Mack trucks pulling the trailers had a two-axle chassis, so why didn't the trailers? Taking a further lead from Mack trucks, Adolph Strid used the "ball and block bracing assembly" design. The arrangement transferred braking and traction forces into the trailer frame, making an ideal assembly for use on almost any kind of road. On smooth highways or on rough logging roads, it worked beautifully.

Forty-One employees proudly posed at the Linnton plant in 1938.



The concept was an immediate success. Virtually overnight there appeared a big demand for Gunderson's new dual-axle logging and over-the-highway trailers.

Some people say that this the true beginning of the company, because it represents the first combination of classic manufacturing business components: a sense of what the market needed, a new application of an engineering principle proved elsewhere, a shop equipped to both innovate and produce, and a savvy businessman who knew how to run the operation ... how to crank the products out.

Gunderson's competitors, seeing the potential of the new dual-axle configuration, rushed into production with their own versions. Fruehauf, Page & Page, Peerless, Pierce, Trombly, and Wentworth & Irwin all entered the market, but Al and Chet had the Cadillac as far as they were concerned.

They didn't have the organizational and financial muscle to take on the heavyweights just yet, but now they knew they had the brains. Ideas were the key. Ideas would keep the company moving forward. In the mid-1930s, for example, the Oregon attorney general decided that the solid rubber tires of the day were outmoded. Pneumatic, or air-filled, tires were in wide use in the East and in California. Oregon, he decided, should follow suit.

This sort of tire required a new type of rim and axle hub: a two piece, bolt-on tire rim combined with a cast steel spoked wheel and axle hub casting that bolted to the axles. Mounting and removing these new tires and wheels was a laborious process. The whole assembly was heavy and cumbersome. (In those days, the tubeless tire had not yet been invented, so a rubber inner-tube repair could be a big headache.)

According to Charles E. Sikes, who worked at the company in the early days, "Chet got a better idea when he found out that the Budd Wheel Company was developing a very lightweight, thin steel disc wheel which could be bolted directly to an as-yet undeveloped cast steel hub on the truck axle. Such an assembly would be much lighter, and the mounting of the tire would be greatly simplified. He envisioned a rapid acceptance of the new assembly."



Wire Wheel Sales & Service manufactured and repaired wood, wire and steel disc wheels.

Chet saw the potential and wasted no time in securing the Budd Wheel franchise for Oregon. He then designed a hub for the disc wheel and developed a source for the casting at a Vancouver, Washington, steel foundry. The result? The Budd disc wheel could be mounted on this axle hub, then, in a simple operation, a pneumatic tire could be mounted on the wheel with ease.

The weight reduction increased hauling capacity, which resulted in added freight revenues for the trucking companies. The rule of thumb in those days was that a pound of weight was worth a dollar a year. The market's natural resistance to change melted in the heat of time and fuel savings.

The conclusion?

Let Chet Gunderson build a better mousetrap, and set Al Gunderson to telling folks about it, and the world would beat a path to their door.



One of the first trailers for hauling automobiles was built of aluminum in 1939 and dubbed "The Bridge of the Gods" by Gunderson employees.

Ideas, increasing production systems and the beginnings of an understanding of marketing ... the key parts, Gunderson's future driving forces, were there. Soon the name was there, too. In 1938, the brothers formed a corporation for the manufacturing plant in Linnton and named it Gunderson Bros. It was a division of the parent Wheel & Rim Service Inc.

There were other things besides trailers being made at the Linnton plant, of course. Employees assembled school bus bodies, hearses, ambulances, and van bodies there until 1940.

Gunderson also built one of the first piggy-back trailers for hauling several automobiles, which until then were driven from the factory one by one. A division of Consolidated Freightways designed a light-

weight trailer to be made of aluminum. Welding of aluminum at that time, 1939, was not a well-known art, but Gunderson gave it a try. Some of the metal stuck and some didn't. After much hassling back and forth, the companies made the thing work. Gunderson workers, having never seen the likes of the structure, named it "The Bridge of the Gods."

In 1941, the Linnton plant branched out into a new venture: shipbuilding. The 36-foot tug J.B. Switzler was built for William Switzler, operator of the Maryhill ferry across the Columbia River. Around this time, Gunderson played a role in the diesel engine revolution. Prior to the late '30s, if you needed to drive a boat, an electrical generator or a logging winch, you used a huge gasoline engine or a steam engine. Then, General Motors developed the two-cycle diesel truck engine. Al and Chet went after and got a distributorship for these engines, and they began replacing gasoline truck engines with the more economical diesels. One of their engine salesmen, Harry Waggoner, came up with the idea of linking two of these engines to drive an electric generator, a combination that became known as "packaged power." The term, coined by GM and used extensively by it worldwide, was the direct result of a Gunderson concept.

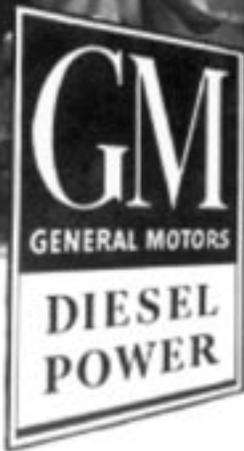
Waggoner himself called it "twin-engine power." Because the engines were mass produced, and therefore cheaper per unit of horsepower produced, and because they were by nature less costly to run and maintain than gas or steam, the idea began to catch on. Waggoner was a good match for the Gunderson brothers. Like Chet, he kept looking for new markets, new applications, for their product lines. And, like Al, he was a salesman.

The next idea he had was a response to the need for more powerful logging yarders (devices used to "yard," or lift and move, whole logs). Compared with steam, the GM two-cycle diesel had a faster response. Time is money. He began to sell the idea of linking two engines through hydraulic couplings to one drive shaft to power the cable (winch) drums. The first sale, to Stone Logging in Tillamook, Oregon, made GM's national advertising.

And, perhaps more important, GM further developed the idea, later linking the two engines with a gear train instead of the hydraulic couplings, and thus was born the 300-plus horsepower unit that powered hundreds of World War II tanks as well as many other industrial machines. Which brings us to another kind of war machine: a boat. Very soon, the U.S. Navy would need a whole new flotilla of diesel-powered craft. A company in a port city such as Portland and that has experience with innovation in diesel engine applications as well as the manufacture of equipment designed to operate under difficult conditions could be in the right place at the right time to grow.

FOR SPACE AND WEIGHT-SAVING INDUSTRIAL AND MARINE

POWER



GUNDERSON INSTALLED

CHAPTER FOUR

The crisis years

The years just before World War II were full of pain for the United States. The Dust Bowl migration of the 1930s populated the West. The stock market crash of 1929 sent formerly wealthy men to stand on building ledges twenty stories up and leap to their deaths. During the following years, factories by the thousands closed. Workers by the millions lost their jobs, then their homes, and soon found themselves on the roads, hungry and poor, with the devastated Dust Bowl farm families, ready to perform any task for any wage.

Adolf Hitler was using the pain of a similar economic collapse, plus the shame of the World War I loss, to take power in Germany. But, in the United States, the cry of those living in the national hell of Great Depression poverty generated the social welfare structure of the New Deal.

1938 was a bad financial year for the Gunderson brothers. Their debt at U.S. National Bank had risen to a staggering \$600,000. Collections were so slow that accounts receivable were more than \$500,000.

Competition was keen, prices had to be shaved, and not many of the jobs they were doing at the time were profitable. Their lines of school bus bodies, hearses, and light truck bodies involved sheet metal work — a process that required skills not in dramatic evidence in the Gunderson work force.

Many of Gunderson's suppliers had the company on a C.O.D. basis, which meant that materials couldn't be obtained without a check or cash. When the checks began to bounce, choices had to be made. On Friday afternoon, the employees picked up their paychecks; then, the next Monday, Gunderson would be besieged with phone calls from bars and grocery stores asking for the money to cover them.

The Gundersons' bankers and suppliers began to wonder about their investments in the company. A bank officer looked things over and decided they had to change.

The United States National Bank of Portland, Oregon		Gunderson Bros	
In Account With		Deposits	
	Deposits		Deposits
1940			
JAN 28 1941	1327.51	2nd	250.83
29	53.40	2	66
30	82.76	1	76.07
1	816.18	2	555
4	732.15	25	885.09
3	187.34	26	189.6
5	100	28	562.29
5	72.83	28	248.79
7	22.46	31	125.84
11	370.6	30	50
11	111.03	30	165.81
13	184.99	4	2513.03
14	1500	5	118.90
14	118.43	5	23.5
15	4412.89	6	652.1
18	242.02	8	279.62
18	524.93	11	1174.23
19	177.87	11	490

Gunderson's US National Bank deposit book shows lean times in 1941.

It was at this fortuitous moment, in the fall of 1939, that a man named Charles E. Sikes decided to leave his job with General Motors Acceptance Corporation. “I had noticed,” he once explained, “that GMAC customers almost never drove Cadillacs.”

Chet and Al drove fine automobiles.

Appearances, Sikes discovered, can be misleading: “The activity at Linnton and the sale of Detroit Diesel engines expanded the requirements for financing, and affairs at the bank were becoming strained. Money was short, and the Gundersons were never too politic in their relations with the bankers.” In fact, sometimes they were downright rude!

“The top bank officers began to get nervous,” Sikes said. “They could not get financial statements that meant very much. The Gunderson brothers were never available to talk with them, yet the need for money was growing all the time. The second of two representatives handling the account for the bank went to Paul Dick, then (bank) president, and said the condition was beyond his control and convinced Dick the Gundersons were insolvent and the bank should get out.”

Sikes recalls that Aard Ady, an officer of the bank, “was called in by Mr. Dick about mid-summer of 1939 and told to take over the liquidation of the Gunderson account or come up with a survival plan for it, all to be done within three weeks. The bank was Gunderson’s largest single creditor.

“Ady,” says Sikes, “told me ... that during his study period, representatives of Budd Wheel Company, General Motors, Shuler Axle Company, a spring supplier, and Superior Bus Body came to Portland and agreed that Gunderson should be thrown into bankruptcy. Ady, therefore, had the whip hand in his discussions with Al and Chet, with the bank and the major suppliers; and they all agreed that control could not be left alone with the Gundersons.”

The Gundersons had no choice. They opened their books to the bank. A thorough analysis demonstrated that the Gundersons’ financial statements had led the brothers to feel they were making enormous profits when, in fact, they were essentially dead broke. Sikes said this was because as fast as the brothers made money, they invested it in property. They were chronically out of cash. To top it off, they were caught in an economic cycle during which it was impossible to borrow against property. It seems this is a lesson that must be learned over and over, by each generation!

Ady found the company had a large backlog of orders for logging trailers and diesel engine truck conversions. He also recognized that there were about 50 conscientious and hard-working men and women whose families depended on them and who could lose everything if they were thrown out of work.

For these reasons, he concluded that there was both a chance and good reason to try to save Gunderson — but only on the condition that the bank have total control throughout the crisis. He laid down a blueprint for action to be carried out discreetly, without general

public knowledge. He persuaded the five key suppliers to go along — that there was no point in trying to foreclose and squeeze a few dollars out of the brothers.

The Gunderson brothers agreed to the following conditions: the firing of the bookkeepers who had failed in their duties; the hiring of a certified public accountant; and the hiring of a tough office manager to monitor activities, co-sign the checks, and protect the creditors' interests.

The office manager position was filled by Charlie Sikes. As office manager, Sikes' first responsibilities included supervising the payroll, costing, and accounts receivable and payable. But his main job soon evolved into keeping the Gundersons one step away from bankruptcy by quickly collecting cash receipts, allocating them to the creditors who were making the most noise, and maintaining daily contact with the bank.

Business was so scarce during this lean period the Gundersons were forced to subcontract fabrication work from anyone who had work to farm out. Fortunately, they had one of the largest steel shears and forming brakes in the area. They used these to cut and form steel frame members and panels for the auto trailers being built by Consolidated Freightways.

As soon as a job was finished, Sikes would make up an invoice and hand carry it to Consolidated so he could pick up a check for the work. He would wait in the treasurer's office until the check was ready, then rush it to the bank.

By the summer of 1940, money tightened even further, so Sikes had to do some fast footwork at the bank. He would go to the third floor of the bank at 3 in the afternoon and sit there until the check overdraft list came out. Then, with his list, he would hurry down to the main floor and stand there until the officer in charge of accounts gave him a note to sign to cover the overdrafts.

Money was so short that he would show up with the Linnton plant payroll checks as late as possible every Friday night so that nobody could get them to the bank that day.

Each day resulted in a struggle to stretch every dollar to meet yesterday's emergencies. Cash poor primarily because they were land rich, not all of the Gundersons' financial problems were internally generated. But the Gundersons had luck when they needed it, ideas and perseverance the rest of the time. And, the land they bought would come in handy later.

But, most of all, they had friends.



*Example of
General Motors
diesel power units
sold by Gunderson.*

CHAPTER FIVE

Gathering war clouds

The company operated on a hand-to-mouth basis until the end of 1940. On Christmas Eve, Sikes attended a meeting at the 13th Naval District Headquarters in Bremerton, Washington. The Navy was lining up metal fabricating shops to take wartime contracts. Out of that meeting came an order for crow's nests (the observation platform at the top of a ship's mast), hatch covers, manhole covers, watertight doors, and many other items.

Today's Defense Department is famous for buying \$500 hammers that don't work. Gunderson's early experience with military jobs was somewhat different.

The Astoria Marine Construction Company, for example, was building mine sweepers. It hired Gunderson to assemble fuel and water tanks for these craft. The tanks were made of wrought iron, which was very difficult to weld. Gunderson's product was rejected time after time. The company persisted and eventually got it right.

This contract was the beginning of Gunderson's entry into war work at the Linnton plant.

In 1941, the company began producing ship parts for Gibbs & Cox of New York City. This firm was a contracting agent for the government and was overseeing procurement of defense supplies being sent to Great Britain under Lend-Lease, a program initiated by President Franklin D. Roosevelt to aid nations in resisting aggression by Hitler's Germany.

Some \$50 billion in aid not only helped the Allied cause but fostered the growth of America's war industries, thus creating the production complex that would be asked to supply the needs of a worldwide war ... perhaps the greatest, most demanding manufacturing task in human history.

A substantial number of the contracts for these items came to Oregon's shipyards. Thomas J. Larsen, Linnton plant manager and a fine structural engineer and estimator, handled hundreds of inbound orders for these ship parts, ably translating Gibbs & Cox's plans into shop language for production and scheduling.

In the fall of 1941, the Gundersons decided they wanted to build marine craft for the war effort. The Navy said it would send representatives to Portland to look over the premises and talk to the company about making Landing Crafts, Mechanized — also known as LCMs or tank lighters.

Chet and Al had recently landed a rather small contract to build a boat for war. The U.S. Maritime Commission had been looking for someone to build lifeboats from plywood. Gunderson got the chance to build a single boat, which the commission could test for seaworthiness. This test boat would be built at the 14th & Everett location. Al may have been the card player, but Chet was not without his gambling impulses. Chet had envisioned a company future that included an important shipyard. This contract could be the beginning. He found 11 acres of riverfront property and obtained an option to buy

the land for \$11,000. This was the land that would become the site of the 4700 Northwest Front Avenue plant. Ironically, Al Gunderson, the gambler, was rather upset because his brother had contracted to buy this property without his knowledge.

When the Navy people arrived for their appointment with Chet, he took them to Linnton to see the plant and all of the war products the company had been making there. After that, he showed them the riverfront property — which was nothing but trees, weeds, and sand — and painted such a brilliant word picture of what he could do that he got a letter of intent from them almost on the spot.

Gunderson, with that letter, was on the verge of being in the wartime boat building business for real. All Chet needed was a great deal of money, an expensive new plant, all sorts of costly production equipment, and hundreds of new skilled workers!

Meanwhile, back at the accounting department, problems with U.S.

National Bank were growing. Despite the restructuring, the new management people and so forth, Gunderson financial statements were still sporadic and sometimes sketchy.

The bank was not happy.

Relations were stretched even further when U.S. National forced the Gundersons to deed over the Linnton plant until their bank debt could be brought under control.

According to Sikes, things came to a head when the bank's officer in charge of the Gunderson account demanded a complete, detailed financial report.

It was an ultimatum — no report, no money. It threatened Chet's dream.

With everything in hock for old debts and current cash flow, and because of the hard feelings resulting from the ultimatum, Chet called



Esther Sonnenberg noted: “When the plant was still on the drawing boards, Chet battled with the architects/engineers and finally won out to build it a foot higher off the ground — at considerable cost. Several years later that extra foot kept our plant from flooding, while those down the road did.” This building stands today as part of a much larger plant, which has grown from 10 to 75 acres and 750,000 square feet under roof.

First National Bank. On Thanksgiving Day 1941, the board of directors of First National met in a special session and approved the loan the Gundersons needed to build the Front Avenue shipyard and order steel for the LCMs.

First National imposed a rigid condition that all of the steel coming in for the LCMs was to be stored in a bonded, independent warehouse (the Lawrence Warehouse Company) and controlled by a bonded warehouseman selected by the bank. This individual would take custody of all incoming steel until its certified use was recorded.

The “warehouse” site was a designated area of the Linnton plant. Gunderson loaned a worker at the Linnton plant, E.M. “Benny” Lundquist, to Lawrence to serve as warehouseman. Because he was still required to perform his Gunderson duties, however, it was a role involving dual loyalties for Lundquist.

Each release of steel had to be accurately typed out on a fancy engraved document resembling a stock certificate, with the steel



Gunderson workers at the Front Avenue plant in the mid-1940s.

properly described and weighed. This would trigger a Gunderson payment to the bank for the steel. This arrangement, which would last through most of 1943, ensured that the steel would be used for the purpose intended and not spirited away for some other project not covered under the loan agreement.

To further protect the bank's interests, another clause in the loan agreement called for the hiring of someone qualified to oversee the financial operations at the Front Avenue and Linnton sites. Raymond H. Spear was hired to fill this position.

Gunderson was now in the boat building business!

About a week before the attack on Pearl Harbor, the Navy's first progress payment of \$234,000 arrived. Al and Chet looked at the check and thought they had "all the money in the world," according to Sikes, who recalls that the money was gone in 24 hours!

The Gundersons, always on the lookout for ways to turn a buck, thought there might be more money where that came from. Because



the now-completed shipbuilding plant on Front Avenue was spacious, they decided to use the extra room to fabricate more than tank lighters and lifeboats. Trading on their reputation as builders of heavy-duty logging and over-the-highway trailers, they entered the competition for U.S. Army ordnance (weapons-related) trailers of all types.

What followed couldn't be called overnight success.

Opportunities to bid on military light carts or trailers in the thousands of units crossed their desks. They found, however, after each bid opening that their price was 25 percent to 50 percent higher than the winner's.

The low bidder would invariably turn out to be Ford Motor Company, Chrysler Corporation or Food Machinery Corporation (later to be Gunderson's parent company for a time). These companies had mass-production facilities and enormous buying power for truck and automobile parts. Gunderson simply couldn't get its prices down far enough to receive an order.

So the early battles on Gunderson's home front were much like those in the war. They represented a majority of defeats and a few small victories and left serious questions about the future.

CHAPTER SIX

Digging in and getting it done

Great Britain and France declared war on Hitler's Germany on September 3, 1939. By the end of 1941, the war had spread through Europe and northern Africa and on to the Pacific. The industrial might of America was being marshaled to supply defense materiel for the free world's armed forces.

The Portland-Vancouver area became an enormous shipbuilding center. Gunderson's Linnton plant subcontracted to all the shipyards: Henry J. Kaiser's Oregon Shipbuilding Corporation, Swan Island Shipyard, and Vancouver Shipyard; Albina Engine & Machine Works; the Commercial Iron Works; and Willamette Iron and Steel Corporation.

While Gunderson's contribution to the war effort is primarily a manufacturing story, the personal contributions that employees made in those difficult times should be noted.

Throughout those years there was a tremendous nationwide effort to raise money to help finance the war, in part through interest-bearing war bonds. The Gunderson Gunner, Gunderson's in-house magazine, took an idea from employee Esther Sonnenberg and ran this slogan: "If you can't shoulder a gun, shoulder the cost of one — BUY WAR BONDS."

The seven war bond drives at the various Gunderson operations raised almost \$2 million, or an average of about \$2,000 per employee. In the end, among the many awards for production, conservation, and contributions, Gunderson received the U.S. Treasury's "T" flag, recognizing the men and women who invested more than 10 percent of their earnings in war bonds. Gunderson's employees, indeed, did their part.

The war soon created shortages. Raw material, steel for example, was diverted from civilian to defense use. Rifles and pistols, shell casings, tanks, bombers and fighters, jeeps and trucks, submarines, foxhole shovels, and destroyers ... they all had to be made, and they all were made of the same stuff.

The Linnton plant crew first headed for the junkyard. The piles of steel scrap there became very attractive. With the competition for this supply, however, it dwindled rapidly.

The government created the War Production Board. This agency controlled all defense-related production materials. Gunderson was building tank lighters, lifeboats, and other defense equipment, so it received the highest priority to buy raw materials for those projects. The company could get most of the production equipment it needed, as well.

Presses, shears, steel, and welding machines came in promptly, but bridge cranes and material handling equipment were in such high demand that the company was forced to go into the secondhand market for them.

**If you can't shoulder a gun,
Shoulder the cost of one—
BUY WAR BONDS**

Advertisements to help promote the war effort were found in The Gunderson Gunner and on posters around the plant.

**Remember—
The Guy Who Relaxes
Helps the Axis!**

The war machine of the United States had an enormous appetite. Its needs drained the nation's storehouse of supplies, leaving little for civilian use. Shortages of everything — chrome, rubber, steel, tin, tools, zinc, and even wiping rags — blunted the war effort. Paint strainers were scarce, so an appeal went out for women's hosiery, which did the job as well as the real thing.

Despite the difficulties, a few peacetime product lines were kept in production. Gunderson continued to build logging and highway trailers during the war. The company received a priority to buy wheels, tires, axles, brakes, and the steel to build the chassis because the trailers were considered essential to war-effort transportation.

Beyond these hardships — the daily burdens of gas rationing, victory gardens (civilian agriculture to offset the vast quantities of food heading overseas) and the rest — there was another kind of shortage. When the task of making guns was added to that of making butter, labor became a scarce commodity. Auto mechanics, farm hands, housewives, retail clerks, stenographers, and stockbrokers left what they were doing. In short order, they became boilermakers, burners, chippers, carpenters, fitters, grinders, helpers, laborers, painters, and welders. During peacetime the process of learning a trade took months, but when the war began, new priorities obtained. These arts had to be learned rapidly — sometimes through trial and error.

In June of 1943, Gunderson offered a \$25 war bond to anybody who recruited a new worker. The need for welders was so critical in 1943 that Gunderson established a welding school. Trainees were paid 95 cents an hour during their 30-day training period, then \$1.05 an hour during their ship experience trials. When they became journeymen welders they moved up to \$1.20 an hour. This training effort stuck as a part of the Gunderson approach, and its schools for welding continue on a much larger scale to this day. Over the years and right up to the present, the Gunderson "University of Welding Arts" has graduated thousands of welders, who have enriched the industrial community in Portland beyond measure.

The nationwide commitment to winning the war was reflected throughout the Gunderson family. Labor unions bent their work rules for the effort. The International Brotherhood of Boilermakers, Iron Shipbuilders and Helpers of America passed a resolution known as the Interchangeability Clause. The agreement recognized a shortage of labor and the need for boilermakers to be as versatile as possible. The union dropped the rules limiting a worker's scope of work and use of tools. It permitted a worker to perform more than one craft to complete a task without delay. This meant that if a welder wanted to pick up a paint brush, he could. Other unions went along, too. The unions believed this would speed up the war production effort, and it did.

These changes were, of course, temporary. Others, as it turned out, were not.

This war opened formerly locked employment doors for women and launched their climb to financial independence. The Gunner carried many photos proudly illustrating this phenomenon taking shape in the Gunderson shops.

Bette Corder and Ilene Rutledge rigged fifty-two lifeboats a day, while Mary Strother and Lilian Frei handled everything from big propellers to welding rod in the parts warehouse. The first lady of welding at Front Avenue was Virginia Kilgore. Della Jenkins and Erma Ladd trimmed lifeboat hull canvas. Ruby Ellison whipped and spliced the twenty-two types of rope assemblies needed for each craft. Almost two hundred women worked at the Front Avenue plant, according to one estimate.

The war brought plenty of new experiences — and unfamiliar difficulties.

The enemy made serious efforts to learn how and where the country's war machines were being built, and when and where they would go. Determining the location, size, and description of war production facilities, preferably with photos, was one of the goals. Finding out how to copy guns and ordnance would be a jackpot.

Aerial photos, blueprints of defense equipment, equipment operating instructions — all were on the enemy's wish list. But it wasn't just a matter of information gathering. There were saboteurs who resorted to arson, breaking of machinery, derauling of trains, and causing plant slow-downs — anything to retard the war effort.

The atmosphere was one of caution.

Slogans emphasized the need for war production secrecy: "Keep it under your hat," "Keep Portland Mum," "Give no information about sailing time, directions, cargoes, convoys, troop movements, destinations, cruising speeds, and war production," and "Loose lips sink ships."

But it wasn't all gloom and doom. Humor in the face of danger and tragedy did exist. The *Gunner* featured a column titled "On the Lighter Side," a reference to the tank lighters being built by the company. One anecdote referred to Gunderson's legendary speed in building and delivering boats to the Navy. An anxious boat sponsor, christening bottle in hand, awaited the start of the launching ceremony. She cried out, "Five minutes to go and still no ship." A wise old foreman answered, "Start swinging, sister; it'll be there."

In the last week of October 1943, Portland newspapers announced that local shipyards had completed their 500th vessel. This included tugboats, liberty ships, and victory ships. By then, Gunderson's contribution included 2,248 lifeboats, nearly 200 LCMs, and 10 LCCs, or Landing Craft Control vessels.

That impressive accomplishment is only part of the story. Such things happen because of people — their dedication and sacrifice, their hard work.



From "The Gunderson Gunner" April 8, 1943.

CHAPTER SEVEN

The tools of war

Under Lend-Lease, Gunderson's Linnton plant manufactured thousands of ship's doors, crow's nests, hatches, manhole covers, scuttles, and other parts for troop transport and merchant marine ships. This soon transformed Gunderson from a job shop making trailers and liquid-storage tanks to a production facility suitable for heavy marine construction. Gunderson's record of prompt delivery and high quality soon brought opportunities to bid on prime contracts for the U.S. Army, Navy and Maritime Commission.

It was then that the company was incorporated in Oregon, on May 29, 1942, and officially became Gunderson Bros. Engineering Corporation — a more apt name, considering the abundance of quality engineers now on its staff.



LCMs at the U.S. Marine landing at Saipan, June 15, 1944. (Photo courtesy of Library of Congress)

One of the first of the new breed of projects that came along was the contract for the 200 LCM tank lighters.

This was when Stan Baier, after working as an independent consultant with Gunderson, joined the firm as production manager and chief engineer. In his preface to a bound wartime editions collection of *The Gunner* he observed: The problem was “the training of people to perform the many tasks in constructing steel tank lighters, wood and plywood lifeboats, life rafts, harbor tugs, covered lighters, landing craft control boats, army trailers, watertight doors, hatches, and miscellaneous steel ship fittings.

“A training program had to be constantly maintained. With the help of motion pictures taken on the job of various operations,

newcomers could see how the job was done, and the pictures served as a refresher for the old hands as well. Labor turnover in wartime is exceptionally high. The Army was continually taking young men after we had just finished training them for some specific job. At year's end we had only fifty people who had been with us a year, out of a work force averaging seven hundred."

This rotating army of employees was put to work on Gunderson's new product lines.

A marine railway was set up at the Front Avenue plant. It had a steel carriage that rolled down into the water on tracks. This carriage was connected to a logging winch to lower the carriage and its load into the water or haul it out of it. An A-frame crane at the head of the railway was used to hoist boats on and off the carriage. This dry-docking marine railroad could handle a ship as heavy as 250 tons.

This served a 140-foot-wide basin with floating walkways on both the up- and down-stream sides. A string of floodlights allowed night work, and a floating paint shop completed the set-up. This manmade naval harbor was capable of holding 100 LCMs.

The LCM(3) was 50 feet long and 12 feet wide, with a drop-down front ramp. This ramp was raised to make a four-sided boat when the craft was underway. During loading or discharging of troops, fighting vehicles, or weapons, ammunition or other equipment, the ramp could be lowered by a mechanical winch powered by the boat's engine. There were no special accommodations for passengers; they crowded into the high-walled well and couldn't see out.

These lighters had a square wheel house, or pilot house, that resembled a huge piece of square steel pipe standing on end, with slots cut in the sides. There was just enough width and height for a man to stand in there and steer. During enemy fire, the pilot could crouch down, protecting his upper body and head. Using the slots, he could barely see enough to pilot the boat, so he occasionally had to peek over the top edge.

Lighters were used in many battles, Tarawa in the Pacific and Normandy in the Atlantic to name two. The lighters were launched and christened with bottles of Coca-Cola. In November 1943, Gunderson began naming tank lighters after outstanding workers, and their names were stenciled on the bows.

The first employee so honored was Albert Marlowe, a machinist who hadn't missed a single minute's working time since his first day in June 1941. All told, eighty LCMs were named for Gunderson workers, both male and female.

While Front Avenue built LCMs, the Linnton plant continued to fill orders for ship components and produce a limited number of trailers and liquid storage tanks. It also became a major subcontractor of steel components for the Front Avenue plant, producing all of the welded steel ramp gates for the tank lighters and other fabricated parts, as well.

One other line of items that came out of the Linnton plant is part of a story all its own. These were the galvanized steel stem and stern

irons for Stan Baier's lifeboats. He designed and patented the craft prior to joining the company. It was the first plywood lifeboat to be approved by the U.S. Coast Guard for use on any ship or any ocean. The Coast Guard checked out the twenty-four footer by loading it with more than three tons of sand, suspending it by its bow and stern, then measuring the hull deflection amidships. There was almost none. Next, the sand-filled boat was lowered into the water and all the emergency supplies and gear were loaded in. It floated fine.



A 22-foot lifeboat in WWII action, this photo taken from an enemy submarine. Gunderson built more than 3,600 life boats and life rafts between 1942 and 1945. (Photo Courtesy Library of Congress)

Finally came the acid test. The sand was dumped out, all the air (flotation) tanks were removed and the drain valves in the bottom were opened. It still refused to sink.

In January 1943, the lifeboat line was going so well that Frank Bosch (in charge of material, production, and purchasing) announced that the boats would be coming out at a rate of 300 a month. Production like that didn't go unnoticed.

In July 1943, Hollywood recognized the Gunderson lifeboat. One was on display at the Broadway Theater in Portland for the opening of a Warner Bros. film, "Action In the North Atlantic." It starred Humphrey Bogart as Joe Rocci, a first mate whose ship is torpedoed and seeks refuge in a lifeboat in a submarine-infested sea.

Hollywood and Humphrey Bogart, however, come in a distant second compared to Seaman Basil Izzi. In October 1943, he turned up at Gunderson to report that he had spent 83 days in one of its lifeboats. He said he had come to compliment the company on the boat's performance.

During 1942-44, Gunderson's Front Avenue Lifeboat Division built 1,500 22-foot and 1,600 24-foot lifeboats for use on U.S. Maritime Commission troop transport and merchant marine vessels.

As the years wore on, Gunderson's dedicated employee force built a host of other war-related products, from hulls to gravity davits (what lifeboats hang from onboard a ship). Late in the war, they took on the job of repairing boats and components damaged in war service. Motors filled with Aleutian sand were disassembled, steam cleaned, reassembled, and tested. Hull bottoms full of muck and grease were steamed out, then turned over to the carpenters for repair.

In the final years of the war, Gunderson manufactured 400 dual-axle semi trailers for the Army, 5 Navy tugboats, 10 cargo lighters, and 511 life rafts.

A Navy machinist's mate 3rd class by the name of Collins K. "Bud" Billing had something to say on the subject of Gunderson war boats, in this case the LCM(3). "Those LCMs of yours are really something. They'll turn on a dime, have plenty of speed and power; and that's mighty important when you're dodging (Japanese) eight-inch shells!"



In the War years employees cashed their paychecks at the "Owl's Perch" tavern, still at the same location on North Lombard street.

Final Tests Given New Gunderson Lifeboat

New Gunderson lifeboat holds 45 men and women wearing heavy life jackets. New model has half again capacity of the 22-foot boat, 1,800 of which have been completed at Gunderson's.

Below, left: The new 24-foot lifeboat still floats, despite the facts that all air tanks have been removed and sea cock opened. Below: Awaiting tests, the new boat is a trim craft as she rides the water, fully equipped for sea.



New 24-Foot Lifeboat, Like Predecessors, Passes Tests With Colors Flying

With production slated to begin Monday on the new 24-foot Gunderson lifeboat, Lieutenant Donald V. Reardon, Pacific Coast naval architect for the United States Coast Guard, last week put his stamp of approval on the design. Although exhaustive tests had been run on the earlier 24-foot Gunderson boat, the new series of tests was run to gain technical data on the revised design which cuts six inches from the beam formerly approved.

The outstanding results of the tests, which again proved that "you can't sink a Gunderson lifeboat," were no surprise to the Coast Guard or to Gunderson men

and women. Many times before, they had deliberately opened the sea cock and tried to sink a Gunderson boat. They failed then and they failed on the new tests, too.

Deserving a pat on the back for much of the paper work that preceded construction of the new boat are Bill Shoemaker's draftsmen. With Coast Guard headquarters in Washington pleading for new drawings in a hurry, Bill and his gang worked day and night, including Easter Sunday, got the job done ahead of schedule. The hard-working boys included Engineer Leighton Johnson and Draftsmen Jim Chapman, Ed Burke and Dick Councilman.



by Coast Guard



Above: Lieutenant Donald V. Rearm (center), Coast Guard naval architect, checks deflection with F. Boscah, (left) in charge of purchasing for the Gunderson's big Lifeboat division. Right: Some idea of how much hemp is needed for 800 lifeboats is gained from this picture taken in rigging loft.

Above: With half a ton of sand moved from port to starboard, the new Gunderson lifeboat still gives 3½ inches of freeboard on low side. Below: Ruby Ellison, splicing line to toggle, points to the schedule of work, showing that 780 feet of line are needed for each new lifeboat.



From left: Paul Smithund, sales, Ben Kloster, sales, and manager Charlie Sikes brought success to the post-war Eugene truck and trailer operation.



CHAPTER EIGHT

Gunderson's Eugene operations

Just as the war years brought changes to the nation, they brought internal changes in Gunderson. The Front Avenue plant opened in the summer of 1942, and Al and Chet Gunderson moved to offices there, leaving Charlie Sikes in charge of the operation at 14th & Everett. No longer the company controller, Sikes shifted into sales.

In November 1942, White Truck Company sales representative E.B. "Gil" Gilliland came to Sikes and pointed out that most of Oregon's logging trucks had inadequate power to go into the hills to get logs or to go down the canyons to deliver them. He brought a letter from Rosboro Lumber Company, which had a sawmill in Springfield, Oregon. The owner complained of problems with his trucks, which he said were continually breaking down. The letter ended with a plea: "Please come down to Springfield and sell us some heavy-duty White trucks."

Sikes went with Gilliland to Springfield and returned with a \$40,000 order for six White trucks and six logging trailers — the biggest single order ever received by Gunderson's equipment division. Sikes decided to build a whole new career for himself, selling trucks and trailers in the area from Eugene south.

In the wake of Pearl Harbor, however, the armed forces had commandeered most truck manufacturing capacity for war use. There were many potential sales available, but a skimpy 25,000 units were allotted for civilian use in the whole United States. It took extensive proof of critical civilian need before the government would issue an allocation for non-war use.

Sikes drew maps and presented dramatic data portraying old trucks chugging up the hills with their engines steaming. Rosboro must have the bigger White trucks, he argued in his 28-page application.

Sikes got his allocation. And, shortly thereafter, government policy changed to make things easier. The Office of Defense Transportation got together with the War Production Board and decided that the United States was going to need a lot of lumber before the war was over.

Lumber, these government agencies determined, came from trees. That meant logging and hauling logs was important to the defense of freedom in the world. And, one-sixth of all the standing timber in the United States was in just six southwestern Oregon counties.

The truck sales led to an important Gunderson expansion into the Eugene market. It perfectly illustrates the theme of survival and growth through adaptability, because it demonstrates that the

Gundersons shot the available duck.

In the winter of 1943, Sikes presented a few ideas for a truck service outlet in Eugene or Roseburg to Chet and Al Gunderson. The brothers were interested. In early 1944, Al bought a five-acre tract in north Eugene and construction soon was under way.

Sikes nailed down the Eugene operation manager's position with a

brilliant bit of salesmanship. He got an allocation for 25 trucks, then sold them before the government paperwork arrived.

“We opened for business in January 1945 with \$25,000 for working capital and Chet’s one piece of advice. He said, ‘Charlie, don’t ever ask us for any more money,’ and we never did.”

April 1945 saw the new operation in full production selling White trucks as a distributor, repowering trucks with General Motors diesel engines from 14th & Everett in Portland, selling the trailers made by the Front Avenue plant, and curing trucks and trailers of any problems that arose. Sales of diesel engines to power the area’s more than 400 sawmills helped boost business.

The service center was equipped with every modern device imaginable. It could handle anything from electric welding to precision machine work, from generator and electrical system diagnosis to steam cleaning and repainting.

In 1958, a finance division of Gunderson Bros. Engineering Corp. was organized as an aid to equipment sales in Eugene. This division carried \$2 million in paper at one time, all in truck financing. It was acquired by Gunderson Corporation in 1965 but was later liquidated.

Sawmill equipment, diesel generators, truck sales and service, financial divisions — Gunderson saw opportunities and adapted to take advantage of them, again proving itself a synonym for “evolution.” And in the years following World War II, Gunderson would find its business evolving in many ways.

CHAPTER NINE

Swords into plowshares

Germany surrendered eight days after Adolf Hitler committed suicide on April 30, 1945. Peace came to the world on August 14, 1945, when Japan also accepted terms of unconditional surrender.

Millions of workers returned to their peacetime activities across the nation. Several hundred Gunderson employees wondered about their future, wondered if with the coming decline in war materials production they would even have a future here.



From the standpoint of facilities, Gunderson was in decent shape. It had a good-sized steel fabricating shop, a marine railway and a relatively new shipway. All of the machinery, welding equipment, and tools it had accumulated qualified the company for entry into nearly any field of work requiring the shaping of steel. What it had to do was fill the place up with industrial and marine-related work. The company needed to accomplish this task quickly, simply because that would be the only way it could hang on to many of its skilled people.

During the war years, Gunderson had expanded its facilities with each new major project. Chet Gunderson barely let the paint dry on a new building before he started another. Now, Gunderson's Linnton plant was closed and sold. The Front Avenue plant was more than adequate for the uncertain prospects at the time.

Gunderson delivered this 80-foot trawler to Yaquina Bay Fish Company in 1945.

With their locked-in war business ending, it was natural that the Gundersons would focus on what they could do best in a competitive civilian environment. Here, they took their cue from experience gained before and during the war.

Just before the war, Gunderson had built its first commercial boat: a tug to push and tow the Maryhill ferry across the Columbia River. And, just before the war's end, Gunderson delivered an 80-foot commercial fishing trawler to the Yaquina Bay Fish Company. Combined with the experience in building tank lighters and lifeboats during the war, that meant shipbuilding was definitely on the list.

Just as the greatly expanded Front Avenue waterfront facilities qualified the company for greater production volume, its welding and metal-working expertise qualified it for a higher level of steelwork. It seemed logical, therefore, that the company take a look at new areas — the fabrication and erection of buildings, bridges, and much bigger tanks than it had ever built before.

It also saw opportunities in the manufacture of sawmill machinery. There was clearly a pent-up demand for housing (thus a need for the lumber to build it) that had been created by the shortage of manpower, money, and materials during the war.

The next question was how to go about entering these markets. One obvious answer had to do with management. One early step had to be the replacement of Stan Baier, who after the war left Gunderson to found a highly successful shop that made marine gear.

The man Gunderson found was Helmer J. "Doc" Sundt. His qualifications: a degree in civil engineering with post-graduate work at the

Massachusetts Institute of Technology, a stint with the U.S. Army Corps of Engineers and four years of voluntary service in the U.S. Navy as an engineer. Sundt became general sales manager.

The new team began to form. W.E. "Billy" Love came on board, and Gunderson had the services of a bona fide tank engineer. His reputation followed him, resulting in a stream of tank and pressure vessel inquiries, which he estimated and sold. Love teamed up

with men such as Leighton Johnson, chief engineer, and Thomas J. Larson, sales engineer. They already were bidding and landing jobs. Johnson handled sawmills, marine and work involving mechanization. Larson went after structural steelwork.

The management team now matched the directions Chet and Al Gunderson wanted to go.



Ten trailers with steel tires were built for Yugoslavia under the lend-lease program in 1946.

CHAPTER TEN

Building on a marine background

The story of Gunderson's venture into shipbuilding is also the story of O. Ray Thomas, a Gunderson pioneer who knew how to manage men and machines to get things done. He helped Gunderson become an important marine yard.

In 1946, Gunderson was stepping back into peacetime shipbuilding. Its first peacetime barge job, completed in December that year, was the 100-foot *El Rey*, designed to harvest kelp off the coast of California. Thomas joined Gunderson as a welder in 1947, expecting about two weeks of work.

There were some lean years between 1947 and 1952, he recalls. Small jobs and odd jobs, mostly, such as repairing small boats and barges and repowering tugs with GM diesel engines. But then Gunderson got a contract to build 23 120-foot cargo barges for the Navy. The order would bring in almost \$2 million.

Time was the essence of such work, so Thomas and friends found a way to launch two barges a week. They played a game of leapfrog with the construction cradles on which they built the barges. The ingenuity and speed of the process landed another Navy order — this time for 33 barges.

Gunderson had ambitions to expand to larger vessels, and it hit pay dirt with an order for 175-foot barges. The three vessels, built in 1951 and 1952, would barge pineapple and sugar for Young Brothers and Oahu Railway & Land Company of Hawaii.

Throughout the rest of the decade, the orders came in: the 100-foot tug *Neptune* was built in 1956, the 78-footer *Western Star* in 1957. A 264-foot barge named *Mt. Hood* was built for Portland Tug & Barge Company in 1957. The 272-foot *Anchorage* was delivered to Puget Sound Tug & Barge in 1959.

Although the trend was toward larger vessels, Gunderson in the '50s continued to make small pond boats and dredge tenders. One of those pond boats, a 17-foot mini tug, was returned when the customer couldn't pay for it. Gunderson put the tug to use in its own yard, running errands, rounding up launching-cradle debris, salvaging logs that floated past. Somehow it got the name *Lil Toot*, and it has since distinguished itself as the "workingest boat in the Gunderson fleet" — which consists, by the way, of one craft.

Of course, Gunderson had not left behind its role as a supplier to the U.S. Navy. During this period, the Navy bought 200 LCMs, 65 barges, and a 110-foot tugboat.



Gunderson plant August 16, 1945. Texaco dock at upper right is at mid-plant today.

Often Gunderson needed ingenuity to get the job done and delivered. In the mid-1950s the Bureau of Reclamation bought the tug Havasu, a 60-foot dredge tender that was delivered to Needles,



Kelp harvesting barge, El Rey.

California, for work on the Colorado River. This craft had to be shipped in three pieces — two halves of its hull and the deck house, which were then assembled on-site and hoisted into the river in one piece.

About this time, Morrison-Knudsen purchased six 60-foot tugs. These were built with special rust-resistant steel. Their propellers and shafting were stainless steel to inhibit saltwater corrosion. They were equipped with cathodic saltwater protection, a system that shunts electrolytic action into expendable anodes so it won't eat away the hull steel and propellers. Like the Needles job, these hulls were erected at the yard, then disassembled into two halves and a deck house, and shipped to Great Salt Lake, Utah. The tugs helped in building the Southern Pacific rail line.

After the Salt Lake project was completed in 1961, Gunderson men went there and sliced two of the tugs down the middle like melons, then sent them back to the Portland shipyard by rail. There, they added four feet to the middle of each, reassembled them and installed a high bridge. The converted tugs went to Alaska.

As the 1960s approached, Gunderson's marine backlog escalated. The barges and ships became larger and longer. The first Gunderson marine craft longer than 300 feet was the Floating Instrument Platform, or FLIP, built in 1962 for the Scripps Institute of Oceanography, University of California at San Diego. FLIP was a 355-foot steel tube-like ship, 20 feet in diameter at one end, tapering down to 12 feet in diameter at the other. An operating house at the narrow end contained



“Flip,” a floating instrument platform, launched in 1962, shown at work in the Pacific Ocean during research by the Scripps Institute of Oceanography in 1963.

a wet lab, electronics lab, living quarters for four, and a machinery room. The craft was towed in a horizontal position, floating like a ship. Once it reached its study location, it could be flipped to a vertical position by flooding the long aft ballast section. This left its four-story bow section and work house above the water line, while the tube-like stern extended as far as 300 feet below the waves. Later, air pressure was used to expel the water from the ballast tanks to return the vessel to its horizontal towing position. All the machinery aboard, including a heavy engine, had to be mounted on gimbals so they could remain upright even as the vessel tilted.

The 1960s were favorable for Gunderson's marine operation. In addition to a large number of barges, it built nine ships for the Navy and six submarine chasers, also for the Navy but destined for reshipment to Turkey. One of these was shipped piece by piece — engines, propellers, steel plating, nuts, bolts, pipe, fittings, guts, feathers and all — so that the Turkish workers who would one day be servicing the vessels could assemble one for themselves. The company also designed, developed and built 105 Assault Support Patrol Boats for the Navy to use in Vietnam.

The company continued its evolution from a small boat- and barge-building yard to a full-fledged shipbuilding complex. The 400-foot barrier was broken in 1970 when the company built two deck-cargo barges for Crowley Maritime, the Agattu and Kiska. They were 100 feet longer than a football field and only a half a foot shy of the width of one. They weighed 3,000 tons each.

The next year, 1971, Gunderson constructed the largest barge ever built on the West Coast up to that time. Barge 101, built for Crowley Launch & Tug, was 430 feet by 80 feet. It carried 158,000 barrels, or 6.5 million gallons, of oil.

The ships just kept getting bigger. One of Thomas' crowning achievements was the La Princesa, the third of four of the world's largest barges at the time. It was a 580-foot, triple-deck trailer barge for Crowley Maritime Corporation, capable of hauling 374 trailers. It was 105 feet wide and could barely squeeze through the Panama Canal when it was delivered.

The shipbuilding operation also saw some tough times. In the 1970s, Chevron ordered six double-hulled, gas turbine-powered tankers. Each was to be 650 feet long, 96 feet wide and 50 feet high. The job's complexity was compounded by difficulties with Chevron. During the first several months of the program, hulls were built while the designs of the tankers' more-complex systems were being completed. Change orders flowed from Chevron in a steady stream. Eventually, more than a thousand change orders accumulated.

The many changes and the project's complexity forced Gunderson to expand its work force. The changes also drove up project costs and, in a bit of unfortunate timing, the oil crisis of 1973 caused materials costs to soar beyond the reasonable assumptions used in compiling the bid for the job. Friction over the escalating costs and change orders soon sent Gunderson and Chevron into court. Thousands of

work hours went into preparation for arbitration; tons of files were generated to argue the case; a staff of negotiators, lawyers, and clerks had to be paid. After two and a half years, Gunderson was awarded an extra \$78.5 million for the job.

The final tanker was launched in 1977. Employees were hearing rumors that, because of the difficulties with Chevron, the company would not build any more barges or ships. But in 1977, the yard got approval to build its first barge since 1973, a dump scow for Smith-Rice Company. It also landed a subcontract job, building a 56-foot mid-body for lengthening an Alaska ferry.

Then 1978 and 1979 helped wipe out memories of the costly Chevron venture. A division of Crowley bought four triple-deck, roll-on, roll-off (Ro-Ro) trailer barges. The orders helped heal the company's injured resources.

Between 1980 and 1984, the company built 26 barges and

converted 3 more for a total of nearly 50,000 tons of shipping, a dramatic increase from the 1960s and '70s. But 1984 saw only 3 barges built. The recession had come to barge building. Barge construction slowed, in part due to lower oil prices and suspension of oil exploration efforts in Alaska. In 1984 Gunderson built its last barge for many years to come.



The GT Chevron Oregon was the first of the 650-foot, 35,000 deadweight ton gas turbine-electric drive oil tankers built for Chevron between 1972 and 1977. The Oregon was christened by Audrey McCall, wife of former Governor Tom McCall.

If you have a statistical turn of mind, take a look at the following numbers:

BARGES AND BOATS, NON-POWERED

Years	Quantity	Total Tonnage	Ave. Wt. (tons)
1940-49	15	2,250	150
1950-59	79	18,353	232
1960-69	46	35,779	778
1970-79	17	45,324	2,666
1980-89	25	54,289	2,172
1990-99	15	23,033	1,536

SHIPS, TUGS, FISHING AND OTHER VESSELS

Years	Quantity	Total Tonnage	Ave. Wt. (tons)
1940-49	549	13,798	25
1950-59	222	6,820	31
1960-69	145	8,653	60
1970-79	5	54,940	10,988
1980-99	0	0	0

It doesn't take an advanced degree to see the story in those figures. Sales go up or down for a reason. To keep growing in a changing market, a company has to make decisions that lead those curves.

While Gunderson was building up its reputation as a marine yard and as a structural steel and tank firm during the 1950s, the nature of its business was, as usual, shifting. Demand for some lines increased while it dropped away for others.

CHAPTER ELEVEN

Giving new endeavors a try

After the war, Billy Love launched the company into the business of selling municipal water storage tanks and towers, huge chemical and oil storage tanks, and pressure vessels.

As always, Gunderson built things to last. The Russelville Water District in Portland got a new elevated water storage tank in 1948. The earthquake that rattled the area a little later didn't faze it. The U.S. Veteran's hospital on Marquam Hill in Portland ordered a 250,000 gallon elevated water tank in 1949. The Oregonian published a photo showing the tank after a mishap, still standing even with one leg pulled out from under it.

There were underground petroleum storage tanks, chlorine tanks for sewage treatment plants, gas and oil tanks for Standard Oil, storage tanks for Union Pacific Railroad, batch tanks for Ross Island Sand and Gravel, tanks for every imaginable purpose.

In 1960, the Columbia River Paper Company of Salem, Oregon, bought a 26-foot diameter, spherical stainless steel tank for acid storage — a giant, gleaming metal bubble that posed a delivery dilemma that was solved by floating it in the Willamette and pushing it upriver with a tug. One newspaper captioned its article "Having a ball on the Willamette." Another news photo of the tugboat pushing the steel sphere called it "Tugboat water polo."

That wasn't the company's only floating shipment. In the early 1950s, the Kansas City Bridge Company was building a bridge for the Northern Pacific Railroad. Two of six bridge caissons, essentially tanks, were towed along the Willamette to the Columbia River, then upstream to Pasco, Washington. And

in 1961, Gunderson hired a tug to tow a half-million-dollar-plus floating caisson gate to the Bremerton Navy Yard in Washington. The enormous gate weighed just a bit less than a thousand tons.



Many water storage tanks around the Northwest were built by Gunderson in the late 1940s and 50s.

In 1953, the U.S. Army Corps of Engineers ordered three sets of gate leaves for the Willamette Falls locks at Oregon City. These were constructed out of huge, rare-quality and hard-to-get structural timbers shaped and contoured by Charley Wahl and his carpenters. It was not the first time that a company famed for working steel discovered a need for those gifted at working with wood.

Gunderson was blessed with carpenters who were the best of their trade. Wahl had come aboard in 1942. He had been a ship's carpenter in the days when windjammers plied the North Sea and the Alaska Run. To Wahl, wood was a material of beauty and utility unmatched by steel or any other metal.

Whenever Chet Gunderson wanted a building framed up, or a jig or launching cradle was needed, Wahl would do it without fanfare and usually with nothing more than a verbal description. Wahl rattled off his own list of needed materials without the aid of the engineers. He could name the sizes, grades and quantities of all the wood and timbers he needed. His structures were built solidly and to last.

The single most important peacetime job — from a future-skills standpoint — was building the spillway gates for McNary Dam in the early 1950s. The job involved 37 500-foot-long gates and 88 36-foot “stop logs.” The job was, in other words, a matter of the production of many units of identical design.



This footage of work enabled the company to buy the best and fastest welding and burning equipment made. Gunderson needed to speed up the welding, and the job specifications were demanding. The long structures had to be held to within very close tolerances during and after welding. They couldn't be wavy, crooked or unbalanced except for a special camber, or bend, that had to be built in.

The largest structure ever built by Gunderson was the Port of Portland's Drydock. Delivered in 1962, the drydock is 661 feet long, 140 feet wide and 60.8 feet high with a 27,000-ton lifting capacity.

When Gunderson completed the job, the company's technical know-how was vastly enriched — it had learned how to make heavy, welded mechanical structures in quantity.

In the meanwhile, sales manager Warren L. Howe Jr. and his contracting section continued to sell increasingly larger projects in marine and steel fabrication. The expertise gained on these jobs would soon help Gunderson cement its future as a railcar producer.

The largest single structure built by Gunderson was the Port of Portland's 25,000-ton floating dry-dock. It was 661 feet long, 140 feet wide and 60 feet tall. Finished in 1963 under Howe's guidance and control, the project enhanced Gunderson's image as a shipyard of quality and integrity.



World War II also had pushed Gunderson in another new direction: structured steel fabrication. Gunderson's first structural steel building was shipped to the Hanford Nuclear Reservation in Richland, Washington. According to Larry Preuss, construction engineer, Hanford needed the building in a hurry (this was late in the war) and asked for shortcuts. Preuss suggested welding the connection pieces instead of riveting them. The idea paid off beautifully because one welder could accomplish the work of four riveters. Much time was saved, and Gunderson received a letter of commendation from Hanford.

In 1947, Gunderson seriously entered into fabrication and erection of structural steel beams, girders, and other members for buildings and bridges. One of the first and most successful projects was The Oregonian building in Portland. Gunderson erected roughly 500 tons of steel beams and girders for the new home of Oregon's largest daily newspaper.

Bigger jobs kept coming to Gunderson. Howe didn't let much grass grow under his feet. His style was to keep meticulous records of steel

Gunderson furnished the steel for The Oregonian building, completed in 1947, their first major building job.

fabricating costs. He knew just what it would take to weld a specific number of feet of a given thickness of steel. Each time Gunderson did a job, his database grew a bit larger. Only rarely did he bid a job wrong.

Howe was there when Gunderson became one of the first companies to go to all-welded steel plate girders. This approach allowed the girders to be built in various thicknesses and widths. The muscle went only where it was needed, and weight was saved. Bridges and buildings could be made lighter and less costly.

Nevertheless, 1956 saw the last buildings of any size done by Gunderson. The Owens-Illinois Glass building, Portland State University, and the Carborundum Company in Vancouver, Washington, took 1,005 tons of fabricated steel.

Howe likened those days at Gunderson to the Wild West, “Disorganized in an organized way, with teamwork by the Gunderson leaders as the real key to its success.”

The last big job for welded steel plate girders came along in the mid-1960s. Gunderson supplied 3,500 tons of girders, worth an estimated \$1.5 million, for the approaches to Portland’s Marquam Bridge. With a barge-mounted crane, Gunderson men hoisted girders 196 feet long and weighing 70 tons into place 100 feet above the Willamette River.

But, like building fabrication, bridge work was being phased out as early as 1962, as the field became overcrowded and too competitive.

CHAPTER TWELVE

Experiments

The sawmill portion of Gunderson's business was an interesting experiment in between boats, barges, tanks, trailers, and railcars. The business bloomed between 1947 and 1954, but fell flat by 1955. The company stumbled in and out of lines, trying to find a niche in the field.

There was no set model of sawmill that Gunderson sold; nearly every one was different. One customer had large logs and the next had small ones. That meant different sizes of saws and motors. Different sizes of motors meant different sizes of controllers. Some mills wanted the cheapest machinery they could buy, others wanted to go first class.

The star salesman in this area was August "Gus" Jonas. He was experienced in the woods and an expert in determining the size of equipment needed for a given operation. He contacted every sawmill, regardless of size, in the Northwest, bringing in orders for carriages, conveyors, edgers, feed tables, head rigs, log decks, and trimmers.

But the success rate was spotty. The most successful of Gunderson's sawmill tools was the 54-inch band re-saw — even then, only 125 units were sold. Gunderson got contracts to build items such as debarking lathes and plywood presses, but in each instance could not refine the process to the point of profitability. One of Gunderson's few profitable sawmill items was the Do-Roy Log Tong. The Do-Roy Company designed it with hydraulically controlled jaws as a better way to grasp a log for easy, safe movement. There were other tongs on the market, and Gunderson's price was, to be honest, too high, but the Do-Roy Log Tong worked so well and was built with such quality that nearly \$300,000 in sales resulted.

In general, the sawmill business was not one of Gunderson's finest financial hours. With few exceptions, the products manufactured were of excellent quality, but engineering and purchasing for the business was a horrendous task. There was an infinite variety of bolts and nuts, bearings, chains, motors and controls, saws, sprockets, and steel. Because each sawmill was different and custom-made, accurate pre-selection of these materials was next to impossible. Thus, after each job the surplus of parts grew larger. When the sawmill business was phased out, a huge inventory was disposed of at a fraction of its original cost.

In the meantime, Gunderson tried other experiments. Some of those risks, in the brilliant glow of hindsight, look ridiculous. Some of them make the management look pretty good.

Between 1945 and 1950, dozens of inventors asked the company to design, manufacture, and market their ideas. None of them had the money to fund their products, and Gunderson rejected most of them. Some of those, when picked up by other companies, became enormously successful. One of these was a motorized rototiller. Gunderson made a prototype but couldn't get its costs low enough



During the late 1940s and early 1950s, Gunderson built logging machinery such as this 8' stud gang mill for McL Logging Company, Petrolia, California.

to suit the inventor. He took the idea elsewhere. It caught on immediately.

Prototypes were made of insulated hot mitts (household pot holders), lightweight aluminum ironing boards, and aluminum car-top carriers. Gunderson looked at all of these but again couldn't get prices down enough. They were all taken to other manufacturers, who found a way to do the job. These items are still selling today worldwide in the millions of units.



After World War II, Quonset huts were converted to use as farm buildings, machine shops and many other applications. Gunderson became enthused about the buildings and signed up to distribute them. Things went well for about two years, then several steel companies realized the potential for prefabricated steel buildings. They saturated the market; pricing became so competitive that, after selling about 180 Quonsets, Gunderson discontinued the line.



One invention that was thought to be a sure winner was the Foldcraft, a folding, collapsible plywood pleasure boat. It was invented by Ben Randrup and funded by Gunderson. It occupied center stage from 1946 to 1948. The first Foldcraft was tested in the Willamette River. Heavily loaded, it passed with flying colors. About 2,000 were sold but, in about a year, claims began coming in. The boats were leaking. The



Inventor Ben Randrup demonstrates the ill-fated Foldcraft boat with hand-operated propeller and handle for rudder in 1946.

plywood mill had delivered panels with defective interior plys. A settlement was received from the plywood company, but it was not enough to prevent a substantial loss on the project.

One very notable instance of missing out on a sure thing came when the inventor of the Phillips-head screw asked Chet Gunderson to invest \$6,000 to help manufacture and market the screw in return for a substantial interest in the business. That screw has sold in the billions worldwide since Chet turned down its inventor, who found someone else who recognized the idea's potential. When Chet talked about it in later years he said he could kick himself, but he still managed to laugh about it.

A most unusual project undertaken by Gunderson happened between 1955 and 1958. It was called the File-A-Way parking machine, which filed cars away in individual cubbyholes. When a car was parked at File-A-Way, a small-wheeled carriage with four sets of jaws rolled out of an elevator and positioned itself underneath the tires. The jaws closed over the tires and lifted the car off the floor and onto the carriage. Then the carriage and the car retracted into the elevator, which lifted the car to the desired floor and placed it in the proper pigeonhole.

According to company engineer Leighton Johnson: "The File-A-Way parking machine was the most difficult engineering project I was ever involved in at Gunderson. ... When it was finally built

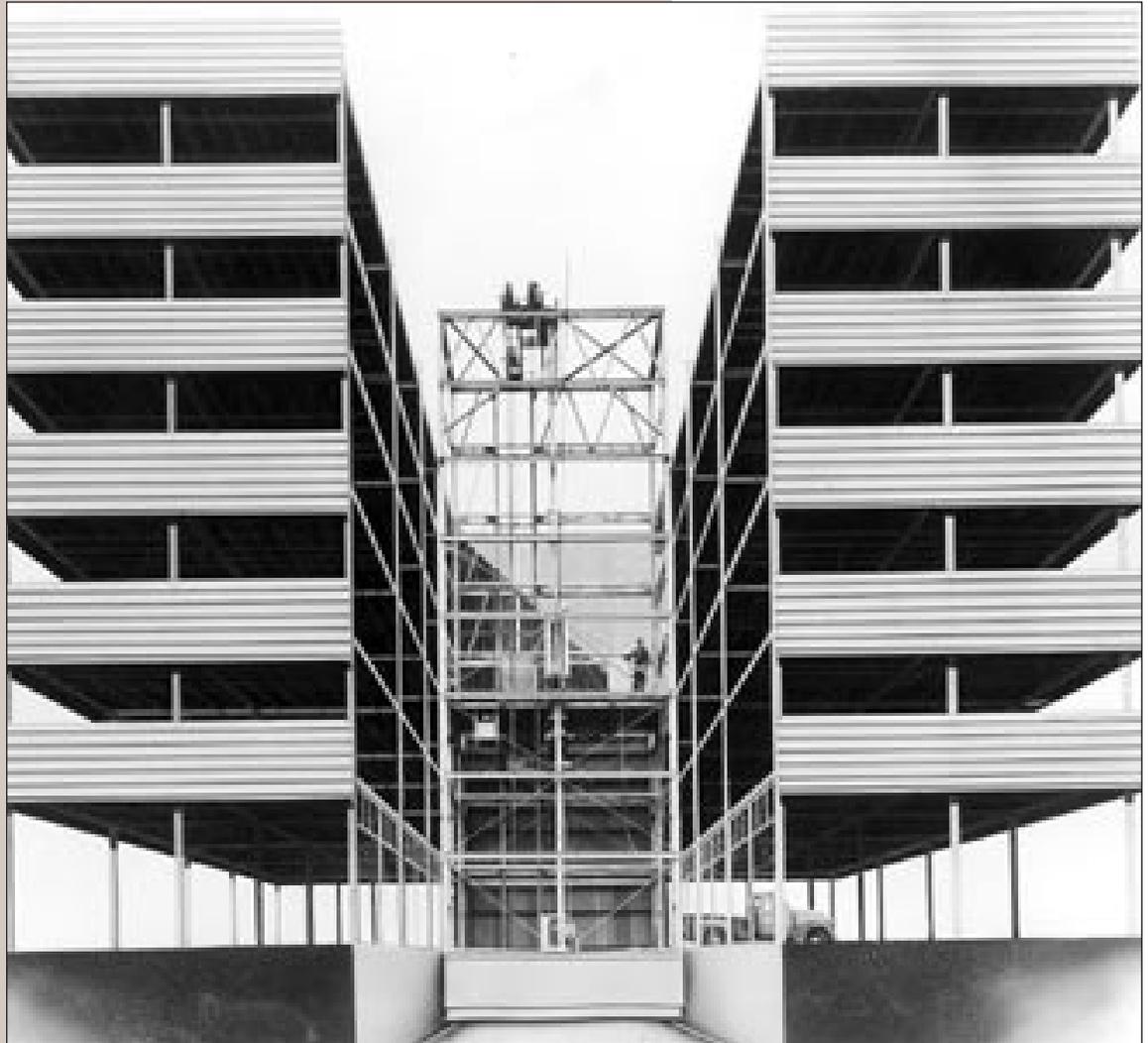
and installed in the ten story, quarter-block building on the corner of Southwest Fourth and Yamhill in downtown Portland, George Miller was the only person who could keep it running.

“George and I talked about the problems many times. Today, with the sophisticated computer controls and also the miniaturization available, it would have been a much more maintenance-free machine. When Miller retired, there was no one who knew it like he did to keep it running, so expenses were soon more than income.”

A Ferris wheel-like parking machine also was considered by Gunderson during this era. Again, Johnson explains: “About the time Chet took an interest in parking machines, he heard about the parking wheel in Jackson, Mississippi. I was sent there to take photos and copy the design. As I recall, it could park about ten or twelve cars.

“We designed and built one which was tested in the shop, during which the accident happened to Bill Love’s new Buick while he was on vacation.”

The men testing the contraption decided to use Love’s Buick in the test. When they revolved the wheel, the car tilted out and fell to the ground. It was demolished. When Love returned, he had a few choice words to say about the matter — most of them not appropriate for reprinting.



File-A-Way parking machine, which had a moving elevator system to lift automobiles, was installed at Fourth and Yamhill streets in downtown Portland in 1955.

CHAPTER THIRTEEN

Endings and beginnings

Some people take to music, others are natural mechanics. Companies are like that, too. Gunderson has always been willing to take a look at almost anything — from fertilizer to sawmills — marine vessels to railcars. Over the years, quite a few U.S. companies have had that attitude. Not all of them have survived. One reason that some fail has to do with an inability to recognize their weaknesses.

But, just as important as facing your flaws is capitalizing on your strengths. Gunderson had a strength — had it almost from the first, in fact: those innovative double-axle logging trailers first built at the Linnton plant.

Highway trailers weren't the ticket, but something much like them was. Gunderson phased out production of logging trailers in the early 1950s as the market became competitively saturated.

Gunderson's future was on wheels, though. Wheels that ran on rails.

The new direction wasn't just based on difficulties in the logging trailer market. The handwriting on the wall clearly indicated that too many other steel fabricators were entering the tank, bridge, and building arena. These new firms, added to the already heavy competition from big steel-owned subsidiaries (U.S. Steel's American Bridge Company, Bethlehem Steel's Chicago Bridge & Iron, etc.), spelled great problems here, too.

Warren Howe was the contract manager for Gunderson at the time. He gives this account of the period:

"The Gunderson sales and contracting section was always on the lookout for jobs to bid on that were within its capabilities and that promised the opportunity for a profit.

"We constantly sought plans to bid, and there was a constant flow of plans and requests for bid arriving by mail. Each job we reviewed with the above goals in mind. In our judgment maybe only one out of four projects met this criteria.

"The jobs that appealed to us most were marine-type jobs such as barges and tugs, water tanks and large diameter pipe, bridges, structural steel frames for buildings, and gates for dams. Generally these jobs have been successful and profitable.

"These jobs were one-time jobs and often were frantic from beginning to end. By frantic, we mean getting the material ordered, preparing detailed plans, scheduling through the plant, writing specifications, and arranging a multitude of details. We were delighted when we won a job. The next daylight was only when we completed it — when we all collapsed in relief. But by this time we were into another project.

"The hectic lifestyle was nerve-racking for everyone in the organization. Often Al Gunderson, vice president, used to say that he wished we could get into a manufactured product to eliminate some of the hassle. Little did he know that the first part of his wish would come true. However, it would not quite be the ticket to simplicity!

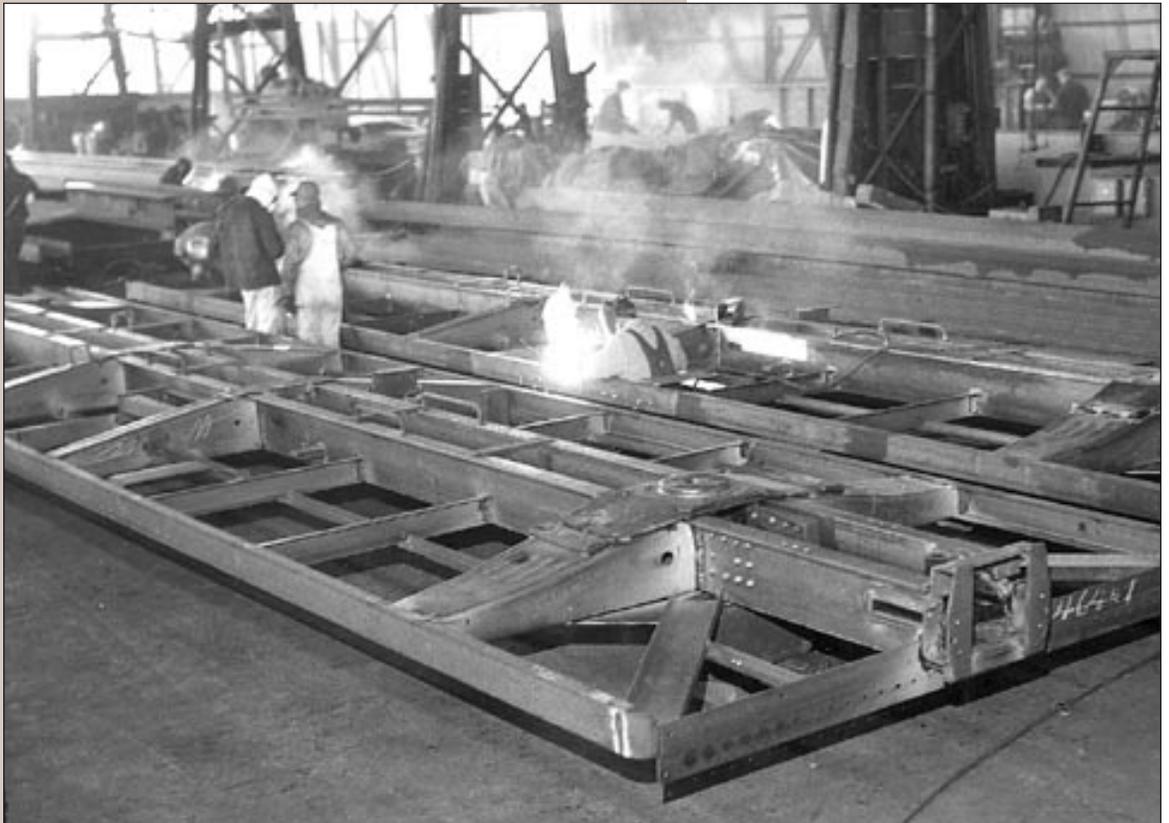
“There came a period in the late ‘50s when there were fewer projects to bid on. Work was slowing down in the plant. Dangerously so. At one point Al Gunderson called some of (his top managers) into his office ... and said that if business were to continue downhill he’d have to close the plant.”

Howe remembers that “the flow of plans and requests for bids had slowed down to a trickle. We began to look each request over more carefully. Through the years we had received plans and requests for bids on railroad cars from Southern Pacific Railroad. We paid little attention to them because we knew there were companies who specialized in this type of work, such as Pacific Car and Foundry in Seattle and Consolidated Western in Richmond, California. We wouldn’t have a chance. But, there came a point where the only thing to bid on was an order for 150 boxcar underframes for Southern Pacific.

“For lack of something better to bid on, we halfheartedly went through the usual routine of taking off the material, submitting the material lists to purchasing for prices, figuring labor, all the other factors, such as freight, overhead, etc. We submitted a bid. Lo and behold, we were low bidder! And substantially low!

“As soon as we heard this we quickly reviewed the plans and our competitors’ to see where we had made a mistake. All was in order. Southern Pacific wondered if our figures were correct. They told us that they were reluctant to give us the job at that quotation. But they said a similar project was now under way at Consolidated Western in Richmond, California. If we wanted to go down and look at the work we could then decide whether we wanted to accept the job or not.

“Nick Thomas, general superintendent, and one of his assistants went to Consolidated’s plant and looked over car frames in fabrication. Nick returned to Portland in glee. He knew that the car frames could be easily built for what we had quoted, and he saw ways to improve our position by production methods. One that stands out is the coupling (housing) at each end of the frame. This box-like fixture



Southern Pacific Railroad started Gunderson in the railcar building business in 1958 with the first order of these boxcar underframes.

could be made with one piece of steel, formed in a press, and only one corner welded. Fantastic savings.

“Gunderson built the 150 frames and made a substantial profit. But before the order was completed Southern Pacific had already expressed their pleasure at the product they were receiving and increased the order to 1,000 car frames. Before this order was completed more than 2,000 car frames were built.”

The brothers reasoned that they could achieve a much shorter product turnover because the underframes would be produced rapidly, and shipped and paid for as quickly as they were completed. This differed dramatically from the lengthy, time-consuming process of completing a bridge, a building or a ship. It was sometimes months before the money could be collected on some of those large projects.



Gunderson's first railcar, a drop-bottom gondola, was delivered in 1960.

And there was another advantage: sales volume. The quantity of underframes needed by the railroads was huge. It could mean a substantial increase in revenues over bridges and buildings produced in the same time span.

While finishing the last of the underframes, Al and Chet and their key managers began discussing how to keep the company operating in the future. They knew they were now good at making the toughest part of a rail car, the underframe. Their welding ranked among the best in the steel industry. Their facilities, though ample for underframe work, would be small for freight car production but could be expanded in proportion to the size of orders they received. They decided to add Gunderson to the nation's list of freight car builders. In 1960, Gunderson successfully bid to build 200 70-ton capacity coal gondola cars with hinged, drop-bottom doors for Union Pacific Railroad.

News of the order quickly spread throughout the rail supply industry. Rumors were rampant that Gunderson had bit off more than it could chew, that of all cars to stay away from when entering this field, it was the drop-bottom gondola.

In order to cut costs the company decided to fabricate the drop-bottom doors itself, because the major parts were expensive and freight costs were high. To do this, it needed a huge press. It bought a scrap 1,000-ton capacity press, repowered it with a new hydraulic system, and made new steel columns from old surplus ship shafts. The dies were made in-house as well. This marvelous machine, literally built from a scrap heap, was an example of the engineering know-how of Leighton Johnson and Billy Love.

Henry Correa, president of ACF Industries, one of the largest competitors, asked Chet if he could visit the Gunderson operation. He probably wanted to see what that young upstart carbuilder was up to and assess its impact on ACF's future. Chet agreed on the condition that he could visit ACF in return. When Correa saw Gunderson's press, he asked Chet where he got it and how much it had cost. Chet told him they had resurrected it from the scrap heap for about \$15,000. Correa exclaimed, "Hell ...we just paid \$125,000 for the same thing, new!"

Al Gunderson's wish had come true. Gunderson Bros. Engineering Corporation was now in the mass production business. This was the beginning of the modern era at Gunderson. Growth in this area would be phenomenal in years to come.

A railroad car frame — a whole car, for that matter — is not the same thing as the gates of a dam, a bridge, or the structural skeleton of a great building. But, smaller steel structure work can benefit greatly from experience in those fields.

So, while still participating in many of the other areas for which it was already famous (marine conveyances, etc.) the company enthusiastically began to explore its new, surprising market for railcars.

As each new railcar order came in, the manufacturing facilities were lengthened, the car line straightened out for greater efficiency. The first run of gondolas was built in confined quarters with room for only a few cars in one bay. When a car was completed it was hoisted in the air and carried to a rail spur that intersected the production line. All work stopped until the car was out of the way, then the ensuing cars proceeded to their next station.

A portable railroad crossover was built so that cars could roll down the short line as they were built. The crossover was removed at night so that the new cars could be delivered to the railroad spur across Front Avenue. As the bays were extended and car lines stretched out, a better way of getting the cars out of the plant had to be found. "Rube" Nelson got the idea of a transfer table on rails, which would roll sideways between the car line in Bay One and the line in Bay Two. It was called "The Gunderson Railway — shortest in the world, goes nowhere — only sideways."

CHAPTER FOURTEEN

Changes reshape Gunderson

As the company reshaped itself as a railcar manufacturer, other changes came into play. In 1964, the Gunderson brothers decided to sell the business. Aside from their advancing age and personal differences, the main consideration was the huge tax burden that would fall to the remaining brother or to their heirs if one or both of them died.

Several deals were considered; the best came from FMC Corporation of San Jose, California. On August 6, 1965, Gunderson became a wholly owned subsidiary of FMC's Ordnance Division. The price was a little more than \$6 million. Chet Gunderson retired the same day, and Al Gunderson became president of the new FMC subsidiary. Robert E. Gunderson, Al's son, became general manager.



Robert E. Gunderson

In the middle of the sale and transition, business and building continued as usual. The company built 2,314 railcars, 7 barges and 2 ship hulls and completed a barge conversion. During this time, C. Bruce Ward came on board. Al Gunderson wanted Ward to be sales manager, but Ward said he would rather go into shop management for two to three months. Ward explained, "If I'm going to sell something, I'd like to know something about it." So Ward got some overalls and a brown bag and spent two months working in the shop.

In 1966, Ward brought aboard William R. Galbraith to help cover sales. In early 1967, Galbraith became sales manager.

Then 1967 brought another series of changes. Al's son, Bob, had been with Gunderson since he was a teen-ager, starting as an office boy and janitor. He continued working every summer through his graduation from Stanford University, then came aboard full time, working at 14th & Everett. After time out for military service in the 1950s, he returned and began to shine in sales, advancing to general manager in 1965.

During a sales trip on January 19, 1967, Bob and his pilot took off from San Francisco in a twin-engine plane. The pilot soon radioed that one engine had stopped and he needed to make an emergency landing. Radar contact was lost as the plane approached San Mateo Bridge. The wreckage was found in the bay; both men had died.

Bob Gunderson's death devastated his father. Al's dreams of his son taking over the business were shattered. Ward remembers that from that day, Al was never the same. Soon, FMC worried that Al was not doing well. The parent company sent someone to take over Bob Gunderson's duties, but personalities clashed and the replacement's tenure was short.

Several weeks after Bob Gunderson's death, the board appointed Ward vice president and general manager. An ailing Al Gunderson retired, and Ward became president on July 1, 1967.

CHAPTER FIFTEEN

Innovation

During the late 1960's, the company turned its attention to the changing business of supplying the rail industry, and it took part in many innovations in car construction.

When Gunderson began building railcars, most cars were constructed of steel fastened together with rivets. The riveting process involved four men: One man watched the rivet-heating furnace and used tongs to pick up a red-hot rivet and toss it to a second man, who would catch it in a conical funnel. This man dumped the rivet on the floor. Another man, again with tongs, picked it up and inserted it into a rivet hole and, with a pneumatic rivet gun, hammer-compressed the rivet into its place in the steel car structure. The fourth man used a backup tool on the opposite side of the hole to apply opposing pressure on the rivet, ensuring a tight fit.

The men worked rapidly, and it was an intriguing process to watch. It also was tedious and hazardous to the people involved and those working nearby.

Gunderson worked to get its customers to accept welded construction, which would reduce labor costs. After several convincing tests and much effort by Gunderson engineers, sales people, and top management, one rail customer permitted the welding of side posts and other parts of the car. Some castings still had to be riveted to the underframes, but most of the riveting operation was eliminated. The welded cars passed their trial periods, and Gunderson passed another milestone in promoting a safer workplace, innovatively reducing costs, and becoming more competitive.

Company employees were then, and are now, constantly searching for other ways to improve the process. Early on there were problems with freight damage to inbound materials. The one-piece roof shipments would vibrate, cracking the steel. The freight car axles — shipped on pallets — would shift in transit, resulting in damage to the machined surfaces. If a damaged component couldn't be repaired, it had to be replaced.

One by one, more components were made in-house, and costs declined.

The first several hundred cars for hauling wood chips had sides and ends of waterproofed plywood sheathing. But the plywood needed to be replaced often, and the cars needed a heavy truss frame to support the wooden sides. It wasn't the best design, but the Western railroads received enormous amounts of traffic revenue from the lumber mills in Oregon, Washington and California, and these mills played their leverage to the hilt, demanding that their products be used in car construction wherever possible.

But, steel companies also shipped large amounts over the railroads — especially to Gunderson — because about 20 tons of steel went into every car. Competition was very keen on the wood chip cars. If Gunderson was to win its share of the market, a less-expensive



design was necessary. Thus, the all-steel wood chip car was designed and built in 1966. It was not only less expensive to build, it also was cheaper to maintain. The railroads liked the car, and not too many plywood-sheathed cars were built after that.

With each success, new opportunities presented themselves. Underframes generated orders for chip-hauling cars. These led to cars that hauled copper ore, cattle cars, general-purpose boxcars, covered hopper cars, coal cars, flatcars, mill gondola cars, and on and on. In 1973, Gunderson was elevated to divisional status and its name was changed to the Marine and Rail Equipment Division (MRED) of FMC Corporation.

Throughout the 1970s, demand for freight cars grew. By the mid-1970s, 19 railcar builders were operating. By 1978, national annual production of railcars topped 90,000. More-modern and larger boxcars were replacing thousands of smaller, worn-out cars as they were scrapped.

The 1970s also brought a boom in railcar leasing, which meant more business for car builders. Tax laws and other conditions made it attractive to invest in railcars for leasing, and several companies jumped into the market. Even individual investors got into the game, putting up money to own part of a car. Bruce Ward remembers a friend calling to say, “I’ve got the opportunity to invest in a tanker car, and they’ll put my wife’s name on it!”

These investors banked on continued railcar demand. They needed lease revenue coming in to cover the loans on their railcars and the maintenance costs. The car needed to be in use or it would rack up storage fees. For several years, the demand was there.

MRED had a backlog of thousands of cars but didn’t have sufficient supplies coming in a timely manner to maintain the needed pace of construction.

Freight car truck castings — which held the axles and wheels in place and formed the running gear of the car — were very scarce. The company’s purchasing agents scoured Canada, Brazil, France, Great Britain, Japan, Mexico, South Africa, and Spain. They found foundries capable of providing the castings, but they weren’t allowed to do so for U.S. consumption. Two U.S. foundries controlled those licenses. Although their own capacities were badly oversold, those two foundries stalled, blocking the expansion of the supplier market.

Finally, demand built to the point that the U.S. license-holders gave in and agreed to allow foreign makers to supply some castings. The MRED team ordered 1,000 car-sets of the castings from a Brazilian foundry, which finally had gotten certification from the Association of American Railroads. Even that wasn’t enough, and the casting shortage intensified. It was a seller’s market and resulted in purchasing agreements with another supplier that was reminiscent of highway robbery. MRED had no choice and signed on the dotted line.

This was 1979, and, in spite of the high-handed terms of such deals, things were beginning to pay off. The company completed a record 6,027 cars that year.

Then, in 1980, the economy slipped into recession. The result? Eleven thousand car orders were canceled. The company suddenly had noncancelable casting orders coming out of its corporate ears.

As business of all types declined across the nation, car loadings dropped. When a car was needed, the railroads used their own stock instead of using leased cars. Untold thousands of privately owned cars sat on railroad sidings. Storage charges shot up, and storage privileges became scarce. Suddenly, ownership of cars by leasing companies lost its luster.

During the worst part of that recession, hundreds of thousands of railcars sat idle across the nation, wherever used rail could be found. Bruce Ward recalls seeing the idled cars, “thousands and thousands all along the I-5 corridor.”

With such an oversupply, the railroads weren't buying cars. To complicate matters, the company had materials and parts already on order that couldn't be canceled. Money was flowing out, but orders weren't coming in. MRED put its workers on A, B, C, and D classifications and tried to keep as many workers employed as possible. It released the classifications one by one as the market continued to soften. Bill Galbraith recalls that during the recession, the marine side kept the company working. One year saw more marine sales than rail.

The recession wasn't the only factor working to unsettle the rail industry. The railroads were consolidating. As a railroad bought out a competitor, it would halt new car orders until it could sort out the combined inventory and its needs. When railroads began buying again, they always started with locomotives, keeping the car builders waiting.

When it finally came time to order cars, all the builders were competing with one another to get the order. And as they started to build, they again competed with one another to get their hands on the needed parts.

Amid this upheaval came deregulation. The government got out of the business of regulating every detail of what railroads could charge for carrying freight. The new freedom to set rates helped the railroads fight back increasing competition from trucking. The jockeying for market share between rail and trucking took several years to settle out.

The numbers tell an eloquent story of those times: 1980 was to have been a year of 6,500 or more cars for MRED. Indeed, the orders were on hand, but when the bottom fell out, production dropped to 4,801. In 1981, it fell to 1,593; in 1982, it hit rock bottom. Only 25 cars were produced that year.

This precipitous decline had the company, so recently riding high, suddenly slogging through a swamp.

The men and women of Gunderson could have just given up. But they knew if they would just hang in there long enough, the sun would break through. It did. It took almost a decade, but it did.



CHAPTER SIXTEEN

New ideas, new methods

Just as the cyclical nature of the business changed the number of cars produced, it brought about changes in the kinds of cars made. Car builders were forced to lower their prices on existing conventional cars or create demand by designing cars with greater carrying capacity. Even the suppliers of railcar parts became more competitive, coming up with weight- and maintenance-saving products.

The wave of the future was containerization and intermodalism. Containerization meant making standardized shipping containers the bedrock of moving freight worldwide. Containers comfortably cross modes of transportation, and so are called intermodal. Their development meant that crews loading and unloading cargo from ships, box-cars, and trucks wouldn't have to deal with dozens of different shapes and sizes of cargo packaging. Ships could be designed to carry neatly stacked containers of uniform size; even railcars and trucks could be standardized and thus serve thousands of different freight-hauling needs, all in a few standard boxes!

During the 1970s Gunderson had introduced prototypes for several new cars, including a 100-ton covered hopper car (8,100 units sold) and a 100-ton high-side gondola car designed for rotary coal dumping service (729 units sold in a single year).

At the start of the 1980s, the company began looking at a new design. This car would be intermodal — it would haul highway truck trailers piggyback on its deck. Originally it was introduced by the Atchison, Topeka & Santa Fe Railroad. ITEL Corporation, a freight car leasing concern, bought the patent and came to MRED to have it redesigned and built.

These creations each had ten lightweight units, called platforms, semi-permanently linked to each other with articulating connectors that let the units follow the curves of the rails. This design became known as the Impack car, an ITEL trade name, or 10-Pack. In a 10-Pack, only the ends of the first and tenth platforms required a standard set of four wheels. Each of the eight platforms in between those ends shared one set of wheels at the articulated connection. Fewer sets of wheels meant the 10-Pack was much lighter than 10 individual cars and thus saved fuel. Because the 10-Pack had fewer couplers and therefore less slack, longitudinal shocks from slack were reduced, protecting the cargo. The new design also reduced the rocking motion that occurs with conventional cars. Disconnecting the ten units was not necessary, except for repair or replacement; they were meant to travel as a group. Each unit could carry a 40- or 45-foot trailer.

Weight savings are magic words to the transportation industry. Railcar weight is dead weight. Reduce it, and you get lower fuel costs for the same freight income. That means more profit.

MRED built 704 of these multi-unit platforms for ITEL between 1981 and 1984, but a new development, double-stack cars, killed the demand.

The double-stack car would be the wave of the future. By lowering the floor of the railcar, two shipping containers could be stacked where only one went before, so the cars could carry double the freight in the same space. They were billed as simpler, faster, and safer to load and unload. They required less track space and fewer cranes. They allowed a shorter train length, which improved braking efficiency.

The double-stack concept was developed by Southern Pacific and Sea-Land, and the first small group of cars was built by ACF. The cars, about 100 of them, went into service in the 1970s but never made much of an impact. Maybe the time just wasn't right.

A few years later, Thrall Car took a license from the Budd Company, which had developed a car with a depressed well for hauling truck trailers. Thrall modified the design to accommodate shipping containers stacked one atop another.

About this time, Dave DeBoer and Bob Yates left Southern Pacific Railroad to work for Greenbrier Leasing Corporation, at that time a transportation-based leasing and management company. Deboer and Yates had been involved in the original double-stack car and thought the cars had a future, although Southern Pacific had soured on the concept. Bill Furman, Greenbrier's president, also saw a future in the cars, and the three men set out to come up with a design.

Furman was an alumnus of FMC Corporation, the parent company of MRED, having run its finance division in the early 1970s. Furman and Alan James had purchased Greenbrier in 1981 and had increased its lease fleet from 300 in 1981 to almost 3,000 cars in 1984. Now they were ready to try their hand at "sponsoring" a new car design as Itel had done with the earlier intermodal Impack car.



A very light weight articulated car for carrying highway trailers, developed by Santa Fe railroad in the 1970s, was licensed to ITEL Corporation under the name "Impack" and built by the plant during FMC's ownership.

Furman approached Bill Galbraith, vice president for marketing, sales and engineering at MRED. James and Furman had done business with Galbraith before, buying and leasing boxcars in the 1970s. Together, the three men had engineered the first transactions in Gunderson's history where freight cars were manufactured in Portland,



Twin-Stack was the first of a long series of double stack cars marketed by Greenbrier and built at Gunderson.

and shipped to the East Coast – two large boxcar orders with the Maine Central Railroad. Now Furman proposed a new deal: Greenbrier would put up half the money to create a new double-stack car, to be called the Twin-Stack. It would have lower maintenance costs than the Thrall car and be durable for long life in a lease fleet. Greenbrier would define what the car needed to look like commercially. MRED would engineer it and finance half the development work. The two companies would split the profits from the car 50-50, but Greenbrier would hold exclusive marketing rights to the car, making all commercial decisions and financing the cost of marketing.

John E. Carroll Jr., who was running MRED, got the parent corporation's approval and backing to build the prototype in a joint undertaking, and a new era in intermodal transportation was begun.

CHAPTER SEVENTEEN

Transition

As the Twin-Stack project unfolded, MRED's history took another turn. Rumors were circulating that FMC, the corporate parent, might sell MRED. The railcar market had taken a sudden downturn and by 1983, business was almost non-existent.

FMC always had mixed opinions about MRED, liking it when it pumped out cash during its good years, but fearing its cyclical dark side. Now, seemingly, the darkest possible slowing had unfolded. Industry orders fell from almost 100,000 in 1979 to about 5,000 in 1984. At the same time, the barge business died as well. The stoic optimism of DeBoer, Yates and Furman concerning the twin-stack car seemed pie in the sky to the corporate managers at FMC headquarters in Chicago.

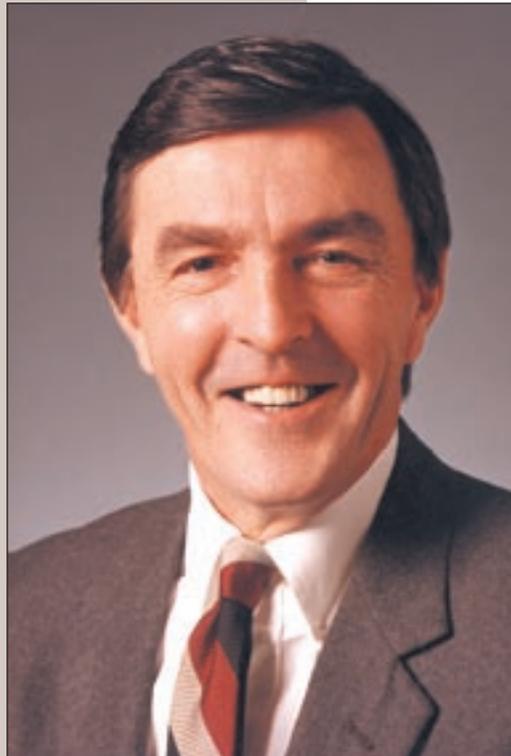
Bruce Ward, who had been president and general manager of MRED until he took a position as vice president at FMC corporate headquarters in 1974, was suddenly back in the picture. He had left FMC in 1978 and moved back to Portland. He began hearing rumors of the possible sale, and he wanted to be the buyer. In the meantime, Greenbrier knew nothing about the rumors and were unaware of Ward's talks with FMC.

In 1984, Ward began presenting financial proposals to FMC's Chicago headquarters. It would turn out to be a long, complex process. His first offer was rejected; FMC urged him to return to Portland, put together a business plan, and reconsider the offer price.

After a couple of months, Ward had crafted his second proposal. He sought the backing of several lenders, but they were noncommittal. The economy was still soft, and the deal had risks. Lenders asked why Ward thought he could do a better job than FMC at making the business a success. He tried to reassure them: "I'll cut back to skin and bones. I know how to market the products." But clearly he needed more than confidence to push the deal through.

The next step was lining up influential support and shoring up financial backing to make the lenders take interest. Ward contacted Gov. Vic Atiyeh and explained that if an outside interest bought MRED, it would be a disaster for the state. In all likelihood, an outside purchaser would liquidate the equipment and sell off the plant. Jobs would be lost not only at MRED, but at Oregon steel plants as well, because MRED was a heavy buyer of locally produced steel. Ward won the governor's support.

Ward's next stop was the Oregon Investment Council, which invests state employee pension money. Ward wanted the council as a



C. Bruce Ward

backer, but it was a tough sale. He was told the council would not loan money directly but would invest in the deal if he could line up a major bank or lender. Ward scrambled and landed the backing of Standard Insurance Corporation.

Finally, everyone was on board and a second proposal was sent to FMC in October. Negotiations stretched through December.

Then, a bomb dropped. Bill Matthewson, assistant vice president for mergers and acquisitions, called from FMC to say a different company had been given an exclusive 30-day option to buy MRED. Ward was devastated. "You've got to be kidding," he told Matthewson. "We're in the third draft of a definitive agreement. What's going on? This whole thing stinks!"



Alan James

A Seattle company by the name of Keystone somehow had made an end run around him. He soon learned that Greenbrier, co-sponsor of the Twin-Stack car, was a partner with Keystone in the deal.

Greenbrier had teamed with Keystone to protect its interest in the marketing rights to the Twin-Stack and the money it had invested in research and development of that product. When Greenbrier's Furman had discovered that FMC was contemplating a sale, he had asked Matthewson, a friend and his former boss at FMC, to help him protect Greenbrier's interests. Matthewson had put him in touch with Keystone.

However, by late 1984, both Furman and Ward were upset with FMC. Ward thought he'd had a deal on a handshake to buy the company. He had sunk a lot of work into preparing and revising proposals and securing financing. Furman was troubled that FMC hadn't told Greenbrier earlier

about the possibility of a sale. MRED had been accepting payments from Greenbrier throughout the year for work on the Twin-Stack car. The car looked promising; Greenbrier's James and Furman were partners in the deal. They felt they should have been told by FMC about a potential sale.

But, things were not going well in the Keystone deal. Keystone's commitment to the sale depended on negotiating a final arrangement with Greenbrier. Keystone's principal, Mike Garvey, insisted Greenbrier sign a multi-year commitment to buy or market large numbers of cars, probably a reasonable request from Keystone's point of view but a departure from the deal Greenbrier and FMC had made in which marketing by Greenbrier was on a "best efforts" basis.

In late 1984, Bruce Ward contacted Bill Furman, and they met to talk about what was happening. Ward disclosed in general terms the financing he had in place. The two men took a serious look at whether it made more sense for Greenbrier to partner with Ward rather than Keystone. Greenbrier wasn't thrilled about getting into the

manufacturing business, but it wanted to protect its research and development investment in the Twin-Stack.

To hedge their bet, Furman and James struck a deal with Ward. They entered an option agreement that would give Greenbrier majority interest in BW Industries, which Ward had formed expressly to acquire MRED. The funds from Greenbrier would be used as the equity portion of the MRED purchase price. In turn, Ward got an option to buy back a majority of Greenbrier's interest in BW Industries over time, using the profits of the company.

With this agreement as a backup, Furman left for Seattle to meet Mike Garvey at Keystone. He felt Greenbrier was obligated to close the Keystone deal, as long as there was no change in the marketing deal cut with FMC on the Twin-Stack car and if Greenbrier didn't have to make firm car-purchasing commitments.

The company's future was decided by this meeting between Mike Garvey and Bill Furman. Garvey insisted that Keystone had to have a firm commitment from Greenbrier to buy thousands of freight cars over a multi-year period. Furman demurred; Garvey insisted. Angry words were exchanged. The deal was off.

When Furman got back to his office in Oregon City, he had a phone call waiting from Matthewson. "What the hell do you think you are doing? Keystone is a fine company, well capitalized, and you have a chance to protect your investment. My advice to you is you go back to Keystone and apologize, otherwise we will sell this company to somebody else, and you will be out in the cold." More angry words were exchanged, and the two friends hung up, both upset.

However, the story has a happy ending. Ward and Greenbrier finalized their partnership deal, and BW Industries bought MRED. When

Matthewson showed up in Portland for the signing of the purchase, he discovered his friend Bill Furman was involved after all, as the majority shareholder. Ward, John Carroll, Matthewson, and Furman toasted the "new" company.

Ward discovered that FMC had retained the Gunderson corporate name with the state Corporation Commission. He asked FMC to transfer the rights to the name. After consulting with the Gunderson family, BW Industries changed its corporate name to Gunderson. This was a great relief for longtime employees, who had never stopped calling the company by that name anyway. And Gunderson Inc. was now a subsidiary of Greenbrier. Ward would run Gunderson's manufacturing business in its next chapter of development, supported by the marketing and financing skills of James, Furman, and Greenbrier. It was not that different from the early partnership arrangement between Al and Chet Gunderson.



William A. Furman

CHAPTER EIGHTEEN

Getting back on track

With the purchase complete, Ward's first task at Gunderson was to assess his "new" company's health. The railcar-building industry was pulling out of its slump, but slowly. Gunderson was just skinning by.

Ward needed revenue to keep the new Gunderson afloat. Gunderson rented space to a trucking and a crane company and rented berthage space at its docks and piers to several ship owners. In 1986 the company organized a separate organization, Gunderson Rail Services, to handle the potentially important side business of railcar repair and refurbishment.

In March 1985, Gunderson had 97 salaried and 15 hourly employees. "Many were very good people, but as a start-up company we could not keep that many," Ward said. "Thirty-five salaried people were terminated. We had to make some very tough choices, but the way it worked out is very fortunate. Those who have remained are the backbone of our success."

Business picked up steam in the next years, as deliveries began on Twin-Stack. The double-stack car would be the wave of the future, but there were obstacles.

At first, railroads resisted the idea of double-stack cars. Two containers stacked one on the other meant a higher load, even after the car's platform was lowered toward the rail. That would mean having to raise bridge and tunnel clearances. And the lowered car floor meant cars were wider at the bottom, and equipment along the side of rails would need to be moved.

Bill Galbraith remembers the president of Santa Fe Railroad declaring his company would never own double-stack cars. Union Pacific said it would never run them along its lines.

Fortunately, shipping lines paired with railcar builders to force the innovation along. The shippers wanted the cars because they would be

a cheaper way to move freight to and from the interior of the nation. Shipping goods clear across the country by rail was cheaper than having to send a ship down the East Coast, through the Panama Canal and back up the West Coast. The shippers aligned with the railcar builders: American



Above: Center partition cars brought greater capacity and efficiency to hauling lumber by rail. Loading is simply performed from both sides of the car.

Below: A Canadian National center partition car rolls off the assembly line.



President Lines threw in with Thrall, while Sea-Land went in with Gunderson/Greenbrier. Bill Galbraith recalls, “Gunderson pushed for it, and it was push and shove until everyone bought into the system.”

Under pressure, the railroads acquiesced. Burlington Northern Railroad entered the first order for 100 Twin-Stack cars, followed by Sea-Land Services. Trailer Train, now TTX Company, in Chicago was owned by the railroads and for them purchased most of the intermodal cars in North America. It took an early interest in the double-stack car and, braving its owners’ biases, began investing in it. TTX not only bought the car but also helped to advance the car with both Thrall and Gunderson. Although there was friction along the way, eventually TTX became the largest buyer of double-stack cars in North America. Its purchases of the car validated the technology and assured success for all concerned. Eventually the railroads invested in raising clearances and moving track-side equipment. Today the double-stack car is the standard for shipping by rail for most consumer and high-value manufactured products.

The Twin-Stack car would be the wave of the future, but by itself wouldn’t be enough in the first few years to fill Gunderson’s product lines. Fortunately, the center-partition car came along and filled the gaps.

The center-partition car was a flatcar with a vertical divider run-



A Gunderson worker grinds a weld smooth on a 73-foot center partition car during a production run in the late 1980's.

ning down the middle and bulkheads at each end. The center partition gave extra strength to the car, and the bulkheads provided rigid support for bundles of lumber. The open design meant it could be loaded from two sides at once to save time. The partition tapered



Maxi-Stack I was the first non-bulkhead car, which had 125-ton trucks at the articulation and much higher weight carrying capacity per forty-foot well than Twin-Stack.

toward the center of the car, and wedge shapes on the car's deck tilted the lumber bundles against the partition. This shifted the center of gravity toward the inside to reduce shifting and damage in transit. Winches along the sides tightened steel cables to keep the lumber in place. Lumber got to its destination with significantly less damage than with conventional lumber cars.

The innovative center partition car would be as important to the lumber industry as the double-stack car would be to container shipping.

This type of car had been created by a competitor, Thrall Car Company of Illinois, about 15 years before the “new Gunderson” came about. But Thrall never realized the potential for the product. Being in the heart of the forest-products industry, Gunderson began exploring Thrall's patents and developed an improved design for a similar lumber car, which, it thought, avoided any conflicts with the Thrall patents.

Through Greenbrier sponsorship, the car was introduced to the Northwest market in 1986 and immediately showed high market potential. Orders went from 345 cars in 1986 to 846 cars in 1987. So it was that a plant with virtually no production in 1984 was running two production lines in '86 and '87, turning out 2,000 freight cars a year.

Bill Furman expressed the new company's marketing philosophy by saying, “The key to our success will be prudent sponsorship — innovative new designs backed by massive market coverage intended to achieve major market share in products we sponsor. This will lead to long production runs, better prices for our customers and higher margins for us.”

The strategy paid off. The company came from nowhere in 1985 to firm possession of a 50%-plus market share in two key car types by 1987. Throughout the decade of the 90's the strategy of extreme product focus has led to high market share in almost all of the products Gunderson has manufactured.

Thrall challenged Gunderson's position in the center-partition lumber-car market in 1987 by filing a patent infringement lawsuit in Portland District Court. After several months of preparation and trial before a jury, Thrall's claims were denied, and most of its patents were invalidated. This was a big victory for Gunderson and the center partition car remained an important product in the Gunderson portfolio.

Meanwhile, there were an increasing number of double-stack cars being manufactured at Gunderson. Between 1985 and 1988, Gunderson built 4,160 Twin-Stacks. The company kept refining and updating the design, offering new versions. Its engineering group pushed the evolution of the double-stack car, and competitors followed Gunderson's lead.

Container sizes used in North America were changing and growing, so Gunderson developed new designs that could accommodate the longer 45- and 48-foot boxes. The Maxi-Stack I eliminated the bulkheads used in the Twin-Stack, saving weight and increasing the cargo load that could be hauled. The Maxi-Stack II was specifically designed to accommodate 45-foot and 48-foot box sizes in different load combinations. But, it couldn't handle the heavier 20-foot containers, so the Maxi-Stack III was soon developed, and production began in 1989. The Maxi-Stack III could carry all sizes of containers up to 48 feet stacked on the bottom and even the new



Gunderson is North America's perennial market leader in double-stack railcar production. A MARTA transit train passes by a newly loaded Maxi-Stack III car as it departs Hulsey yard on the way to be exhibited at the 1990 International Intermodal EXPO show in Atlanta, Georgia. Maxi Stack III has forty-eight-foot wells, differing from Maxi-Stack I and Twin Stack, which have 40-foot wells. This gives greater container capability to handle the growing number of 48-foot containers entering service in the early 1990's.

**Greenbrier's
Railcar Lease Fleet**

1989	5,400
1990	7,700
1991	12,700
1992	15,000
1993	17,000
1994	20,000
1995	21,000
1996	26,000
1997	28,000
1998	28,000
1999	33,000

53-foot containers on the top levels.

And, with a sharp eye on the boxcar business in the late 1980s, Gunderson began a resurrection of the boxcar after its terrible decline of 1980-83. Gunderson received a \$6 million order for a hundred 100-ton boxcars to be delivered in 1988 to Montana Rail Link. That was followed by 250 more boxcars for Burlington Northern and 50 for Greenbrier's lease fleet. Gunderson would be the only boxcar producer in the United States for the next several years. For ten years Gunderson's market share in boxcars exceeded 80% of the U.S. market.

Survival means building whatever the market demands. By 1989 there certainly was a variety coming off Gunderson's production lines. Maxi-Stack III cars were built for five customers and Maxi-Stack I cars for three customers. Gunderson's double-stack market share had increased to 60% in that year. For the next ten years, Gunderson's cumulative market share for stack cars remained at 60%.

In those years, however more than Maxi-Stacks were needed to feed the hungry plant. Mill-type gondola cars and more boxcars also filled the production lines. There was a major refurbishment job of converting 90 used boxcars into tri-level stock cars to carry hogs to Farmer John's huge facility in the Los Angeles area.

Gunderson had survived the lean times and become a force in modern railcar building.



Gunderson introduced Husky-Stack® in 1991, the first production version of a stand-alone double-stack car which has a higher load capacity. This version of the car, the All-Purpose Husky-Stack, can carry either trailers or double-stacked containers in the well.

CHAPTER NINETEEN

The Nineties

The new decade mirrored the one just ended: Gunderson was challenged to adapt to new conditions. In the first year of the decade, Gunderson produced 3,446 double-stack cars, center partition cars, boxcars and other models. But the intermodal market was still changing, and an economic slowdown was beginning to affect the freight car market. Gunderson would need to innovate to stay competitive.

In 1991, Gunderson introduced the Husky-Stack for haulers who needed heavier cars to haul heavy loads such as containers of garbage and rolls of paper. The Husky-Stack aimed at the new, emerging market of hauling solid waste by container. Most double-stack cars at that time were linked in units of five, ideal for long-distance hauling. The Husky-Stack could be ordered as a single car, which would carry only two containers. That made it useful for haulers who wanted to send a limited amount of cargo rather than dozens of containers at a time. It saved terminal time and ensured on-time departure.

The success of the Husky-Stack car helped build Gunderson's business in 1991-92. The Husky-Stack contributed nearly 700 units to the '91 schedule of 3,260 cars.

At the same time, another challenge came along that turned out to be a way Gunderson could gain industry leadership. Gunderson's biggest customer, TTX Company, was not satisfied with some of its suppliers, so it developed a comprehensive system of measuring quality. Suppliers that met its rigid standards would receive an Excellent Supplier Award for that year and qualify as a preferred supplier to TTX. Gunderson measured up and was the only freight car builder to win the first TTX Excellent Supplier Award in 1991.

The next year was another record year of production, with 4,431 double-stacks and boxcars produced and a second Excellent Supplier Award. Also in 1992, Gunderson began examining a return to barge building. The company's launching ways had been idle for nearly a decade, but an aging national barge fleet and the Oil Pollution Act of 1990 (which required tank barges to have double hulls by 2010) promised opportunities. Gunderson was ready to take advantage of those opportunities, with a barge building facility capable of launching vessels up to 700 feet long.

In 1993, production jumped to 4,400 stack cars and boxcars. Greenbrier introduced Autostack, a system for shipping new automobiles by container in double-stack railcars. Gunderson engineered and contributed to developing the system. Gunderson also delivered the 10,000th double-stack car built since 1985 and again won the TTX Excellent Supplier Award.

Meanwhile, the repair and wheel business continued to grow rapidly. Gunderson Rail Services added a repair shop in Springfield, Oregon, a large repair facility in Cleburne, Texas, and a wheel shop in Arkansas.

Innovation continued in 1994, as Gunderson introduced two new prototypes, the All-Purpose Husky-Stack and the Husky-Stack 2+2.

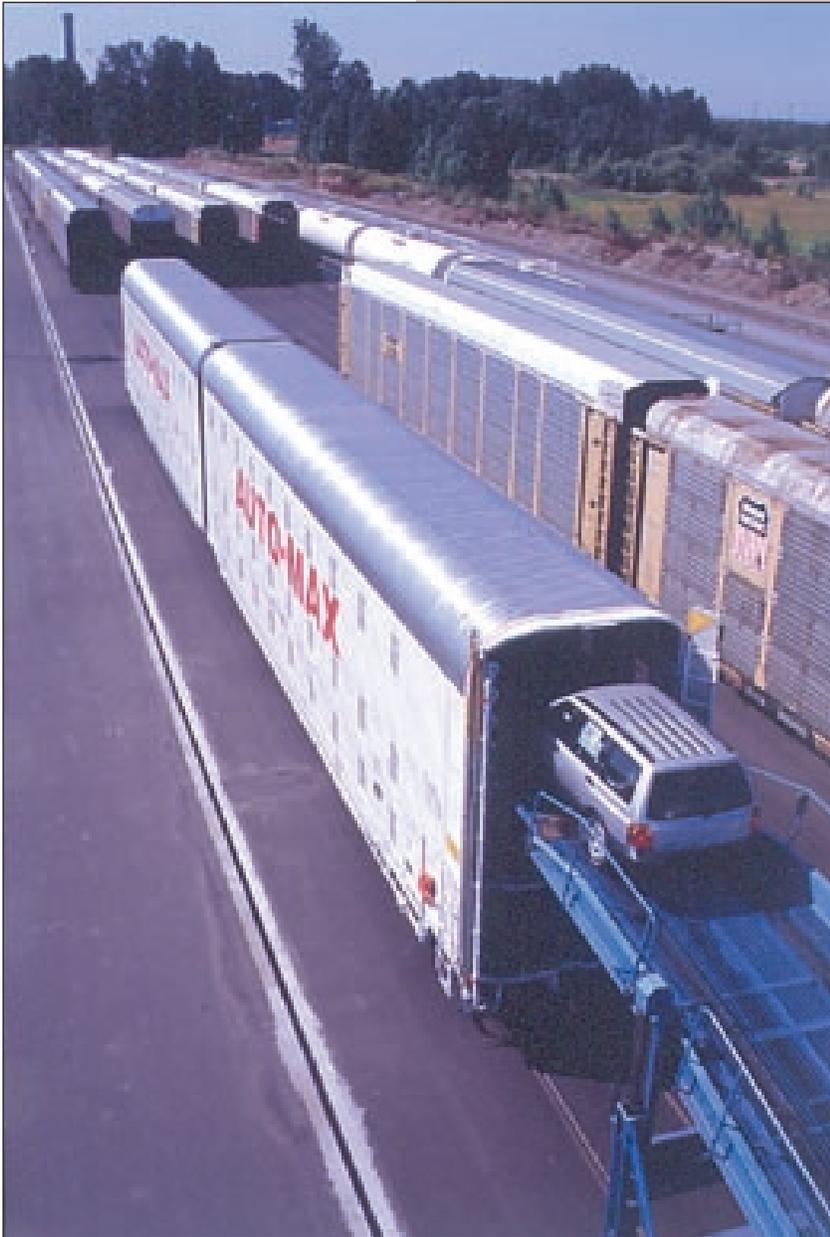
Double-Stack Platform Production Calendar Year

1985	1,410
1986	1,445
1987	1,025
1988	915
1989	1,775
1990	2,745
1991	2,655
1992	4,210
1993	4,021
1994	3,756
1995	3,451
1996	1,249
1997	1,403
1998	4,580
1999	3,255
Total:	37,900

Total Railcar Production Calendar Year

1960-1969	10,927
1970-1979	33,561
1980-1984	7,279
1985	1,410
1986	1,790
1987	2,027
1988	1,807
1989	2,305
1990	3,446
1991	3,260
1992	4,431
1993	4,645
1994	4,581
1995	4,151
1996	3,365
1997	3,627
1998	5,115
1999	3,963
Total:	101,690

Again Gunderson won the TTX award (the only railcar builder with a four-star rating). In another milestone, Greenbrier became a public company with an initial public offering on the New York Stock Exchange under the symbol GBX. The stock opened at \$14 per share.



Auto-Max is not only the largest car built at Gunderson, but it also offers customers the greatest loading efficiency of any vehicle carrier in North America.

In 1995, Gunderson delivered the Maxi-Stack AP, a stack car that can carry either intermodal trailers or containers double-stacked in each well. Burlington Northern Railroad bought 1,500. Expansion continued, now on an international stage, as Greenbrier acquired a majority interest in Trenton Works Ltd., a 100-acre freight car plant in Nova Scotia, Canada. Gunderson assisted by advising Trenton people in Gunderson's production methods, safety, and quality standards.

By the mid-point of the 1990s, Gunderson had reason to look back with pride. During the first half of the decade and in the previous decade, Gunderson led the industry in introduction and production of new double-stack railcars. It sold more than 60 percent of the market for stack cars during those years.

The company also saw its return to barge-building pay off. Fourteen seagoing vessels would be launched from Gunderson's ways between 1995 and 1999.

In 1996 Gunderson acquired a repair shop in Finley, Washington, and named it Gunderson Northwest after the earlier plant in Springfield, Oregon. Gunderson now had four repair facilities across the country:

Finley and Springfield in the Northwest; Cleburne, Texas; and Pine Bluff, Arkansas.

The innovations and refinements of existing designs kept rolling on. In 1997, Gunderson upgraded the Maxi-Stack III with a high-capacity version that could carry heavier cargo. The Greenbrier/Gunderson team also began development of Auto-Max, a new automobile carrier that may revolutionize rail transportation of new cars and light trucks. Auto-Max can carry a combination of light trucks and automobiles (or light trucks and sport-utility vehicles) on three levels. These larger vehicles are normally carried on less efficient two-level cars. Because Auto-Max can carry more and offers a

smoother ride, it means substantial economic advantages to railroads hauling the more than 14 million new vehicles shipped by rail every year.

The company widened its international scope in the fall of 1998, as Greenbrier acquired Fabrika Wagonow Swidnica, a freight car manufacturer in Swidnica, Poland. Greenbrier also entered a joint venture with Bombardier Transportation to build freight cars in Sahagun, Mexico, at Bombardier's Concarril plant. The operation is named Gunderson-Concarril.

By the end of 1998, Gunderson produced 5,162 cars, the second largest production year ever.

By 1999, The Greenbrier Companies' new car facilities totaled four: Gunderson in the United States, TrentonWorks in Canada, Gunderson-Concarril in Mexico and WagonySwidnica in Poland. New car capacity had increased to almost 15,000 cars annually. Greenbrier employed 4,500 workers and owned and managed a fleet of 33,000 railcars worldwide. Total production for Greenbrier from 1985 to 1999 totaled 54,860 railcars.

The final year of the century showed Gunderson going gangbusters. The company began delivering Maxi-Stack IV cars, stack cars with 53-foot wells, to TTX Company. Another landmark came as the 100,000th railcar built by Gunderson was delivered to TTX on May 22, 1999. The first production run

of Auto-Max cars was delivered to Burlington Northern Santa Fe. And, not to be outdone, the marine side was recording "firsts," too. Gunderson in 1999 delivered the Signet Ulysses, a 300-foot deck cargo barge to a customer in Houston, Texas. It was

the first barge Gunderson built for an operator in the Gulf of Mexico region, east of the Panama Canal.



A BNSF unit train of Auto-Max cars is loaded with a mixture of vehicles and SUVs.





Greenbrier expanded its international presence with the 1998 acquisition of a freight car factory in the Silesia region of Southwest Poland, WagonySwidnica.





In late 1994 Greenbrier acquired and resurrected a slumping manufacturing plant in Trenton, Nova Scotia. This expanded Greenbrier's capacity and made an excellent partner expanding Gunderson's capability as well. Many Gunderson production people spent time in Nova Scotia helping bring TrentonWorks on line and up to Greenbrier's standards of safety, quality and efficiency. Quality there soon met the same standards as Gunderson, winning the TTX Excellent Supplier Award in 1999, the first year it was evaluated.



Gunderson's next international partner was Gunderson-Concarril in Sahagun, near Mexico City. A joint venture between Greenbrier and Bombardier Transportation, the acquisition was finalized in 1998. Above is Gunderson-Concarril's first production car, a gondola for Transportation Ferroviaria Mexicana (TFM).

CHAPTER TWENTY

Gunderson today

Gunderson as it exists today has its origin in Al Gunderson's card games and the company's early preoccupation with wheels. You may recall that Al's social contacts included one man who gave him a wealth of information about the railroad freight business. It must have been an interest, maybe even a hunch, of Al's even earlier, but it was in 1958 that Al and Chet acted on this information to make their first railcar underframe deals with Southern Pacific. What exactly they expected to result from this direction is unknown. Perhaps they told each other that this kind of business was going to transform Gunderson into what is known in poker as a "player." A big-time operator. A heavy hitter. Maybe, as in their many other experiments with new products, they really didn't know how they would end up, but they had a hunch — one that paid off — where other hunches did not.

But, fate has its own schedule, and railcars didn't become the dominant item in Gunderson's production picture until the late 1960s. And it wasn't until 1985, after the new Gunderson was acquired from FMC by Bill Furman and Alan James of Greenbrier and Bruce Ward, that the final pieces of the puzzle dropped into place. Drawing from internal and external resources, this new generation made the company into the large, highly focused international company it is today.

Walk into Gunderson's Front Avenue plant today, and you'll see long, busy assembly bays. In the main assembly line, you'll see jigs and fixtures on which railcars move forward through the various stages of assembly. Off to one side is a chorus line of wheel assemblies. Overhead, large cranes run on tracks. Everywhere are Gunderson workers, some with decades of experience, shaping, fitting, welding, and bolting Maxi-Stack IV and Auto-Max cars together, all on steel wheels.

Listen closely, and you will also hear the influences of the many cultures and languages that make up a complicated, modern international manufacturing company. You may see Canadian workers training side by side with exchange workers from sister factories in Poland and Mexico, and hear conversations in French, German, Russian, Vietnamese and many other languages of fellow workers and customers. Gunderson still makes what is known as conventional cars. Greenbrier markets and leases Gunderson's product line of stack cars, boxcars, center partition flatcars for lumber, auto carriers, gondolas, and covered hopper cars. As in Al and Chet Gunderson's day, there is a strong division of labor between two sides of the business — the finite and the abstract: manufacturing and engineering on the one hand and sales, marketing and finance on the other. In many ways, Greenbrier and Bruce Ward and their accomplishments have patented and improved on Chet Gunderson's formula for success.

But, the key to this current corporate incarnation is creativity and quality, as well as respect for the work force. The innovative

car designs that have earned this company so much industry respect — the Maxi-Stack and Husky-Stack cars, the all-new Auto-Max car, high-cube boxcars, and center partition lumber cars — are all very important. But also important are the company's values, the same values that made Gunderson unique in 1919. These include respect for people, a strong desire to do a good job, to make a good product and to serve the customer, even before yourself. At Gunderson, these things have always been worth more than money.

Railcar and marine manufacturing is a challenging business, particularly in the new ideas department. The double-stack car was invented in 1977 by Southern Pacific Railroad, but it was the economics and excellent engineering and design work of Gunderson in cooperation with risk taking and commercial development by Greenbrier that made the design work. In marine and in rail services, and in leading, this is part of the company's formula today.

And so it has gone over the years. The workers at Gunderson have played their part in making ocean-going barges, railcars, containers, structural steel assembly for skyscrapers, giant liquid tanks, navigation locks, Ferris wheel parking systems, lifeboats, landing craft, gun boats, sheep manure fertilizer, even drive shafts and gun barrels for warships, always coming back to commercial vehicles that move on steel wheels or in the sea.

Some of these ventures made money, some lost money, and one even dropped Bill Love's new Buick onto the tarmac from four floors up in a parking mechanism. Nevertheless, Gunderson has survived eleven recessions and the Great Depression, two world wars and two "police conflicts" since it began, simply because of the people who have worked here and cared about their work as much as or more than they cared about themselves.

Good people. A number of them highly educated, others just average folks who had a tough determination or a creative turn of mind. Some worked here for decades, some for far too short a time. But, each, in his or her own way, made a difference. It's like the ancient riddle of steel: What is a sword compared to the hand that wields it?



Barge fabrication in Gunderson's marine yard.



Human beings created and built this company. When it mattered the most, those at Gunderson always found a way to survive, to change, and even to prosper, and to carry on the tradition.

This survival was due to flexibility, a fantastic talent at adapting to the marketplace; a singular, company-wide dedication to forever improving both production efficiency and product quality; simple loyalty; and at the end just doing your best to do a good job for others.

As the company continues in business, it presents a gentle irony in the process. After all, the whole thing began with a shipwreck off the coast of Washington with a soggy, flat broke Swede who didn't even have any tools, left down on his luck but who decided to make his own luck and follow his spirit. His son Chet picked up his dream and went forward with his brother, Al. They carried on after their father, as countless others have done since them.

All of these people, in a very real way, regardless of their race or gender or religion or any other distinction, were and remain today very much part of the Gunderson family history, the Gunderson bloodline that started with a shipwrecked Swede.

You wonder what old Gus Gunderson would think of all that resulted from his decision to swim those last yards to America. Maybe he knows. Al Gunderson died July 31, 1972, and Chet passed away May 27, 1974. Some say if you walk out into the plant late at night, you can feel their presence when the last shift is running. When the night air carries

the smell of welding and when things are going real good or going real bad, sometimes you can sense them there and it seems natural. They are there, along with all the many others who contributed to the Gunderson story over the years. Maybe, Al & Chet have had the chance to fill their dad in on what they accomplished and what is happening today.

Knowing Gus, he probably replied, "You could have done it better!" Gunderson will.

The End



Artwork on support under the Lovejoy ramp to the Broadway bridge by Athanasios Stefopoulos, a railroad watchman in the 1940's, frames a new boxcar as it was being delivered in 1979. Trailer Train Company bought 1,450 of these cars from FMC/Gunderson in 1979 and 1980. At peak production in 1979, the factory produced up to 30 cars per day.



Greenbrier refurbished over 9,000 Southern Pacific freight cars in the early 1990's.

Gunderson participated in the program by refurbishing a large portion of the cars. The cars, returned to new condition were named Golden West Service cars and were welcomed by Southern Pacific customers.



A BNSF train of Maxi-Stack III cars speeds out of the Columbia River Gorge in 1998.



Truck assemblies stored prior to refurbishment form foreground to new forest products boxcars as they move along Gunderson's delivery track. The 200-ton capacity shipyard crane is in background.



Gundersen's latest Maxi-Stack IV features 53-foot wells. Here, a TTX car is being loaded with 53-foot containers at Atlanta Georgia in preparation for the 1999 International Intermodal EXPO.



A series of special purpose boxcars for carrying can stock was delivered to Norfolk Southern Railroad in 1996.



The 100,000th car produced at Gunderson was a Maxi-Stack IV built for TTX Company. Raymond C. Burton, Jr., TTX president and chief executive officer, came to Gunderson in 1999 on Family Day to help commemorate the event and christen the car.







*Facing page and this page:
 After Greenbrier's acquisition of the facility in 1985, Gunderson became the leading boxcar builder in North America. Customers included all class-I railroads, leasing companies, forest products companies, and short line railroads. To date, Greenbrier is still the dominant supplier of boxcars, building them at Gunderson and its sister company, TrentonWorks.*



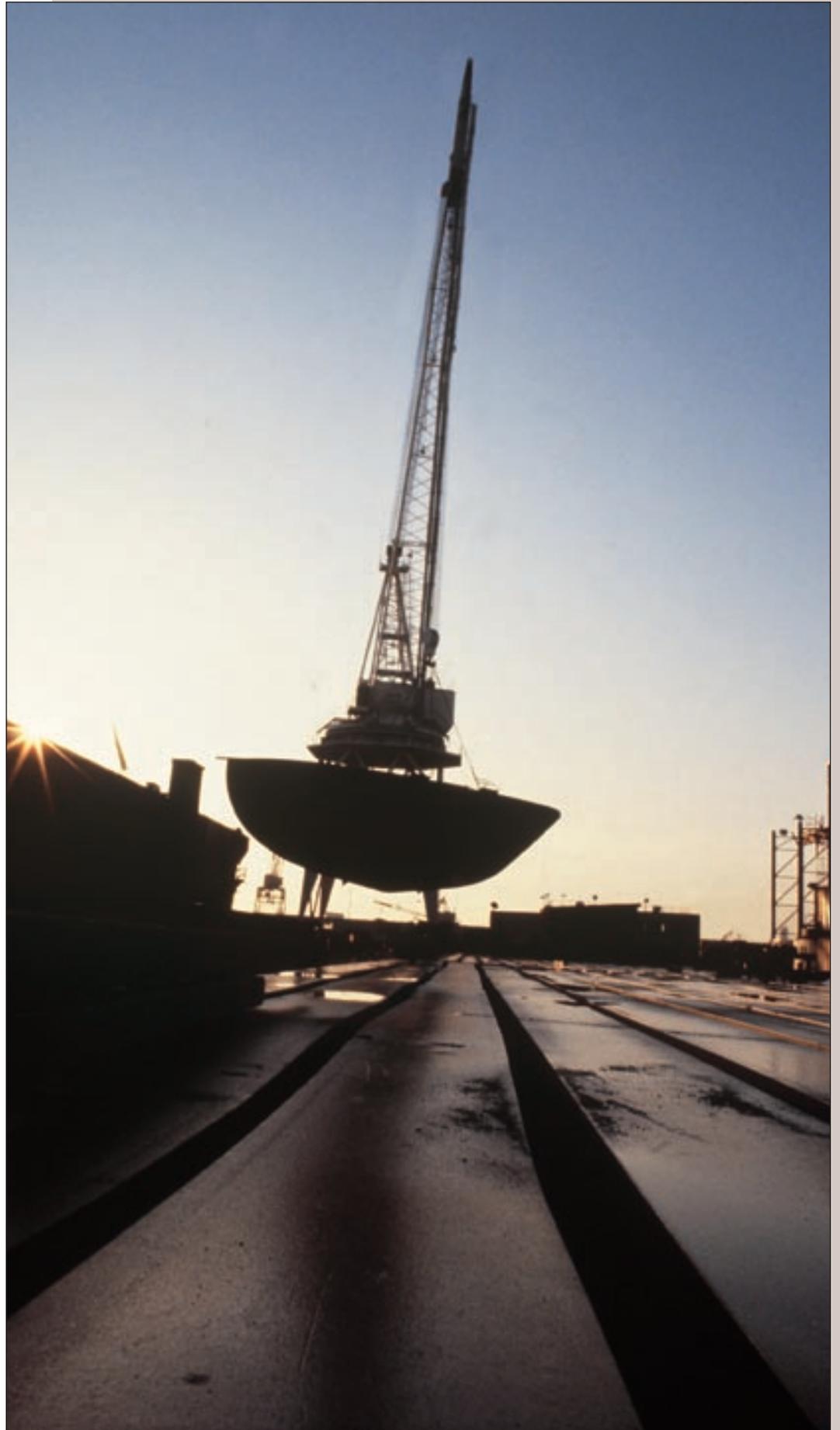
*Assisted by Gunderson Chairman Bruce Ward,
Bill Furman's wife, Joyce, christens the WF-
9, a 6,000 cubic yard hydraulic dump barge,
August 23, 1996.*





The Chevron Oregon on its way to sea trials passes by the Trojan nuclear power plant at Rainier, Oregon, 1974.

Gunderson's 200-ton capacity crane, put into service by FMC in 1973, adds to hull construction efficiency by lifting huge block sections which are more easily fabricated on the ground.





1983 Winter sunrise from south end of Gunderson property. Outfitting dock and crane is at left.

Time Line

- 1919 Wire Wheel Sales & Service Company founded.
- 1923 Buildings purchased at Northwest 14th Avenue and Everett Street in Portland and near Linnton.
- 1925 Company changed name to Wheel & Rim Service Inc.
- 1936 Equipment transferred to Linnton plant; construction of logging trailers added to the plant's business of servicing and repairing trailers.
- 1938 Gunderson Bros. Engineering Corporation incorporated at Linnton plant; plant also assembles school bus bodies, ambulances, hearses and van bodies.
- 1939 Company produces piggy-back trailers for carrying automobiles.
- 1941 Company purchases land along Northwest Front Avenue; first ship built, the tug J.B. Switzler; production of ship parts begins under Lend-Lease program; U.S. enters World War II; company gets first contract to build LCMs for Navy.
- 1942 Front Avenue plant finished; company incorporated in Oregon as Gunderson Bros. Engineering Corporation.
- 1944 Land purchased in Eugene for truck sales and service operation.
- 1945 War ends; Linnton plant closed; Eugene operation under way.
- 1947 Peacetime barge building begins with El Rey; company expands storage-tank building operation; enters bridge and construction arenas; takes up sawmill equipment manufacturing.
- 1952 Company gets contract to build McNary Dam spillway gates.
- 1958 First order for railcar underframes received; finance division organized.
- 1960 Company enters railcar building business with order for coal gondolas.
- 1962 FLIP built.
- 1963 Port of Portland dry dock completed.

- 1965 Acquired by FMC Corporation; Chet Gunderson retires; Al Gunderson becomes president.
- 1967 Robert Gunderson dies in plane crash; Al Gunderson retires.
- 1970s Company builds its first ships longer than 400 feet; gets contract for Chevron tankers; eventually prevails in court for additional payment from Chevron. Bruce Ward appointed president.
- 1972 Al Gunderson dies.
- 1973 Company elevated to divisional status, becomes Marine and Rail Equipment Division of FMC.
- 1974 Chet Gunderson dies.
- 1980s Company builds 10-pack railcars; helps develop Twin-Stack[®] car; introduces line of Maxi-Stack[®] cars.
- 1985 C. Bruce Ward and The Greenbrier Companies acquire company and restore its name to Gunderson Inc.
- 1990s Company develops Husky-Stack[®] line of cars.
- 1991 Company wins first of many TTX Excellent Supplier Awards.
- 1993 Autostack[®] introduced.
- 1994 Company resumes barge building.
- 1995 Parent company Greenbrier invests in TrentonWorks plant in Nova Scotia.
- 1996 Purchase of wheel shop in Tacoma, Washington brings number of repair facilities to four.
- 1998 Railcar factory in Swidnica, Poland acquired by Greenbrier; joint venture with Bombardier in Mexico, Gunderson-Concarril.
- 1999 Gunderson delivers its 100,000th railcar; production of Auto-Max[®] railcar begins; Gunderson Rail Services adds repair shops in Kansas and Colorado.
- 2000 Since 1960 when it built its first freight car, a total of 101,690 freight cars were delivered. In February, Gunderson celebrates 15th anniversary as part of the Greenbrier family.

The late E.M. “Benny” Lundquist, who retired after 46 years of raw materials acquisition for Gunderson, researched and wrote the original chronicle from which this story was taken. It is a complete and exhaustively detailed company history. Benny had a tremendous amount of experience at Gunderson, where he started out as a tool room clerk and moved up to run all of purchasing for the company for most of those years. In just the ten years before his retirement he was responsible for the purchase of nearly \$1 billion worth of material and as much as 200,000 tons of material in a single year.



E. M. “Benny” Lundquist
1915 - 1998

When Benny’s tome, *The Gunderson Story – An American Classic* came out, it was an instant hit with long-term employees of the company. They loved it. Everybody they had ever worked with, every project the company had ever taken on, was in Benny’s work. In exquisite detail.

This is a synopsis of Benny’s history. This work is published partly as a tribute to this loyal employee who served and led a vital part of Gunderson for so many years. He made an immeasurable contribution to the success of Gunderson during his near half-century there.

Much of Benny Lundquist remains in this book and the debt we owe him is incalculable.

Bruce Harmon