

# *The Kaiser Story*

This is the story of Henry J. Kaiser and of the people with whom he built an organization. It is the story of paving roads, damming rivers and building ships; of producing aluminum, steel, cement and other vital building materials and of constantly searching for the needs of tomorrow. ✂ It is a human story of many successes and occasional failures, of comedy and drama, of something unique in the American scene. ✂ It adds up to a common heritage that the men and women of Kaiser share, a heritage that ties the companies together without extinguishing their separate and distinct identities. It is this heritage that makes the Kaiser organization a family of companies instead of a loose group of industries. It is this heritage we present in the Kaiser Story.

# The Post War Gamble

*At the dedication of  
Fontana's first blast  
furnace in 1942, only  
one year after Pearl  
Harbor, Henry Kaiser  
called upon the nation's  
businessmen to prepare for  
peace-time production.*

*Heeding his own call,  
he led the Kaiser companies  
into a host of new  
ventures, producing such  
postwar necessities as  
aluminum, appliances  
and automobiles.*





Associates of Henry Kaiser had gotten used to his hell-for-leather ventures into untested business undertakings, and after his proven successes in dams, aggregates, cement and ships, few questioned his inclinations. But Henry Kaiser surprised everyone with his simultaneous entry into a dozen different enterprises after the war—including aluminum, automobiles, appliances and housing.

There should have been no surprise. Less than a year after Pearl Harbor, when there was little news to suggest that World War II would end soon (or even in favor of the Allies), he addressed the National Association of Manufacturers on the subject of planning for after the war: “There is a grave and compelling demand that our preparation for life after the war should begin here tonight; the mobilization of the tremendous forces of American production . . . for housing, for transportation, for highways, for essential medical care. . . .”

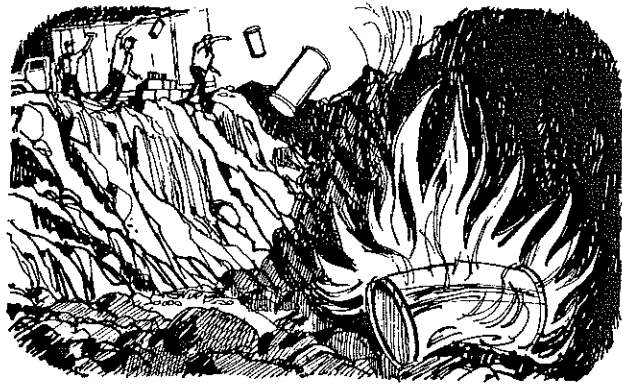
His people were already building new models of products, exploring new businesses, and preparing for the family airplane, the dishwasher powered by tap water, the compact car, and the all-magnesium bus.

Henry Kaiser saw the needs of the post war world and they fascinated him.

The world after V-J Day had needs for cement, aluminum, steel, automobiles, homes, lath, wall-board, plaster, concrete, sand and gravel, refractories, chemicals and appliances. To invade most of these businesses, Henry Kaiser would have to start from scratch.

The physical holdovers in the Kaiser bag were a one-plant cement business, a steel mill with a product “mix” of steel plate and structurals just right for ships or tanks, two refractories processing plants, a small sand and gravel business, and a war-time aircraft plant in Pennsylvania.

But the organization’s primary asset was a seasoned management, supported by a cadre of “can do” engineers and a core of hard-bitten expeditors.



During World War II Kaiser built and operated a magnesium production plant, the organization's first experience in the light metals field and the forerunner of today's aluminum operations. The magnesium process produced a volatile magnesium powder that would ignite spontaneously on contact with the air. To prevent this, oil was combined with powder, and the mixture called "goop."

Remembering that magnesium once had been a major incendiary bomb material, a Kaiser technician suggested a test. Empty cans were loaded with it, water-filled vials were inserted, and the cans tossed into an empty quarry. When the water broke out of the vials, the oxygen ignited the "goop" and the cans burst into flame. Samples were shown to the Chemical Warfare Service, and 86 million pounds of the material eventually went into wartime incendiaries. They were a major factor in the final air attack on Japan's industrial strongholds, and according to the Army, "helped immensely to shorten the war and save thousands of American lives."

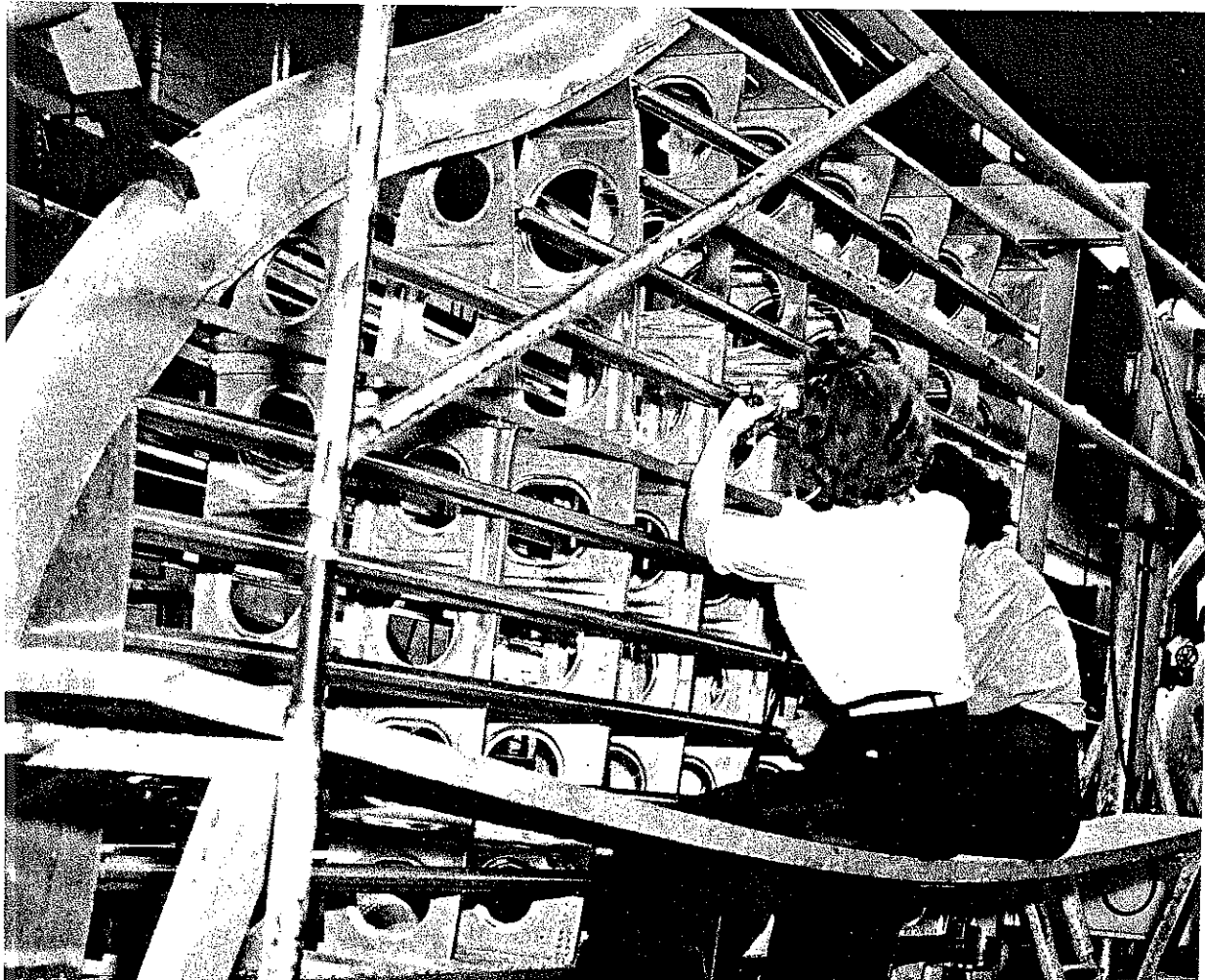
Henry Kaiser was ready for anything. After all, he was only 63 years old.

When he jumped into industry, one of his associates in the Six Companies remarked, "Henry will come back to us." Actually, he never left. It just seemed that way.

He wanted his old partners to go with him, and some of them did take part financially, but generally they were inclined to stick pretty close to the construction game, in which each was to establish an international reputation. (The Six Companies, Inc., ceased to be an official corporation in 1942, but its members have continued to work together in various combinations.)

Kaiser did keep his hand in the heavy construction business after the War. There was Kaiser sponsorship in the \$28 million Detroit Dam near Portland, Oregon, and participation in joint ventures building dams and tunnels — but the immediate enthusiasm was in the direction of industry.

Appropriately, the cornerstone on which the postwar Kaiser world was built was cement, a business started 24 months before Pearl Harbor. This first "industry" was no stranger. Henry Kaiser had handled cement ever since his first wheelbarrow. "Cement represents a major part of a contractor's costs," he said, "But there is little he can do about



*At the Fleetwings plant in Bristol, Pennsylvania, trousered but feminine war-workers make final adjustments on a B-17 bomber fin. A few months later, the same plant was turning out Kaiser automatic dishwashers.*

it." The cost was not always the same to contractors bidding for the same job, and that was often the difference between winning or losing.

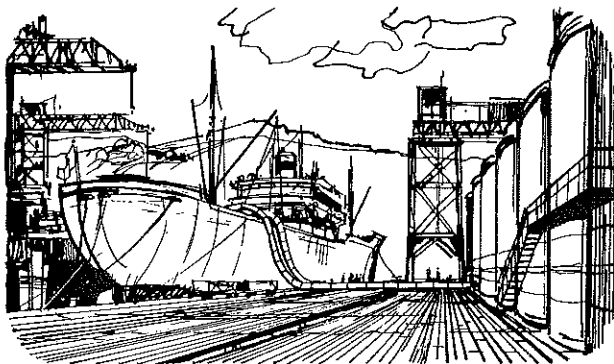
The organization began exploring a dozen limestone deposits in California early in the '30's and took an option on one in the Santa Clara County hills along Permanente Creek. The push to exercise that option came from a contracting bid that missed. In 1938, the Bureau of Reclamation asked for bids on the construction of Shasta Dam in northern California. The partners, flushed with success at Hoover, Bonneville and Grand Coulee dams, bid for it, but lost the \$36 million job by a scant \$263,000.

Determined to salvage something, the partners, with Kaiser as a sponsor, went after the consolation prizes—to supply nearly six million barrels of cement and more than 11 million tons of sand and gravel to build Shasta. The new Permanente Cement Company's bid shocked the cement industry. The company had no cement plant, but its bid of \$6,902,000 was a substantial 20 percent less than the bid by a combine of six established cement firms. However, as a prominent railroad official commented at the time, "When Kaiser decided to go after the cement people, he didn't take on any corporals." Some people called Permanente an "imaginary" bidder, and existing producers contended that the West had no need for more cement capacity. But the bid was awarded. A winning bid of some \$4.4 million for the aggregates followed.

Henry Kaiser knew exactly where to get the aggregates. Nearly 20 years before, on a road job in the same area, he had found a gravel bank that looked so promising he bought it for the future. Getting that aggregate to the dam site was not as simple. When the railroad asked a 27-cent per ton hauling rate, Kaiser considered it prohibitive. Instead, in 60 days, his engineers spanned the nine and one-half miles from the gravel plant to the dam with what was, at the time, the world's longest conveyor belt—19 miles (since it had to go both ways). The rubber road," resembling a roller coaster through the mountainous country, moved gravel at a steady rate of a thousand tons per hour, day and night, for four years, at a delivery cost of 18 cents per ton.

(Somebody thought that such an enormous volume of aggregates ought to be processed for its gold content, and a small gold recovery plant was put up; \$206,000 worth of gold actually was sluiced out.)

Supplying the cement was a different kind of problem, but the Kaiser engineers were equal to it, designing their own plant, building it in about half the normal time, and also coming up with some innovations. A contemporary issue of the Saturday



In 1940, Henry Kaiser learned the Navy was perturbed over slow delivery of cement to build Pacific military facilities. He suggested pouring bulk cement directly into ship holds, without using the conventional bags, thus taking only one-fifth the time to load and unload.

The experts believed such a procedure would result in lumpy, unusable cement and ruined ships, but had no proof. Mr. Kaiser said, "I'll guarantee this cement from our San Jose plant to the wheelbarrow in Hawaii."

Storage silos were built, and the first of more than seven million barrels of cement supplied during the war years began moving to the Islands, most of it in bulk. Two days before the attack on Pearl Harbor, the Island's silos were finally filled to the top. By December 9, four days later, they were empty as the Navy began its emergency rebuilding program.

Evening Post described it as "the most efficient cement plant on earth.

"A giant power shovel scoops up the raw material, six tons to the bite, and dumps it into crushers that feed a two-mile conveyor belt which carries the material by gravity down to the plant in the canyon. The brakes on the steeply-inclined belt are generators which produce the power needed to harvest the limestone. This is as close to perpetual motion as Kaiser has come so far."

Just seven months after groundbreaking, on Christmas Day, 1939, Henry Kaiser was given about the finest present he ever received—the first bag of cement from Permanente. It had a great impact on everyone in the organization, because it proved they had the capacity to go industrial. Said the founder, "Shasta was the best thing we ever lost."

Henry Kaiser had to go into steel by himself, without any of his Six Companies partners. His raw materials chief, Tom Price, said at the time: "The conception of the steel venture is purely his. He has been working many years on the idea. . . . In his usual persistent and persuasive manner, he has never left a stone unturned wherever he saw a chance to put in a word for its construction. . . . The plant was wanted by all the men, from Mr. Kaiser on down, who worked on it. It was a love-child . . ."

It was also a grim game. Shipbuilding had one of the top priorities at the beginning of World War II, but the steel industry was able to supply only about 65 percent of the demand from shipbuilders, who had to share production with equally important tank builders, shell makers and producers of railroad rolling stock. Looking back, a post war government report concluded that "steel plate was the most outstanding and emphasized product needed for defense and war; the demand was of unprecedented proportions, persistent, urgent, and ever increasing." On the Pacific Coast, the need for structurals was equally urgent.

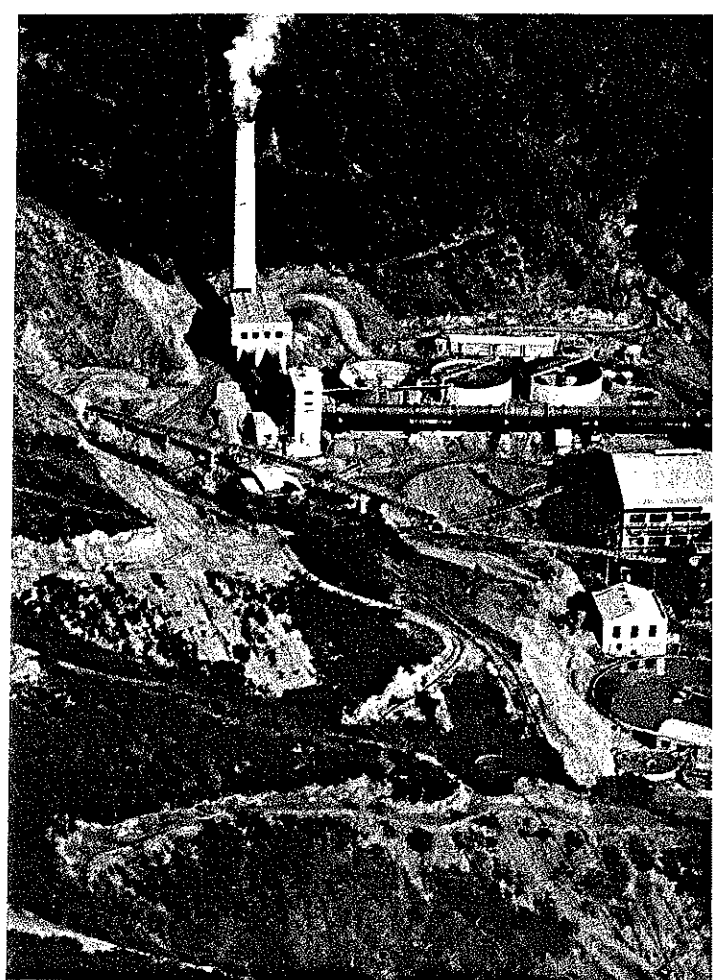
As the biggest shipbuilder of the war and also the farthest away from the steel mills, all of which were east of the Rockies, Henry Kaiser felt the pinch early in the game. He bombarded official Washington with telegrams, memos and personal visits, trying to get the RFC's Defense Plant Corporation to erect a complete mine-to-metal steel plant in California, which would be the first on the West Coast. He made little headway. Contradictory reports didn't help the situation; a supposedly reliable survey in 1941 described steel as plentiful to which Henry Kaiser retorted, "I can't build ships with reports." When a government official promised him more steel by taking it away from somebody else, he replied, "Just because I yell louder than anybody else, you give it to me. What we need is more steel plants."

Late that year, the obvious prevailed. About \$1.3 billion worth of new steel facilities would be financed and built by the government — but none of them were ticketed for the West Coast. An investigator for the RFC, charged with the responsibility of negotiating the contemplated steel expansion, said, "It was maintained . . . that the future industrial development of the Pacific Coast made it essential that steel from raw materials . . . be produced on the Pacific Coast. . . . We then approached various steel companies whom we thought perhaps were best able to carry that venture out. I think, almost without exception, those steel companies who were familiar with the territory and large enough to carry out a large program of this kind on the Pacific Coast, were very loathe and unwilling to do it."

At this point, the simplest way for Henry Kaiser to get a steel plant was to build one himself.

In early 1942, with a construction "go-ahead" from the War Production Board, Henry Kaiser got a loan from the RFC by pledging not only the plant and its proceeds, but also the earnings from three shipyards.

He had always dreamed of a steel mill located on the sea coast, to take advantage of the water



transportation, and tentatively had selected the Port of Hueneme, California. The military, dispersing strategic plants, said the site must be at least 50 miles away from the coast, and the middle of a pig farm near Fontana was finally selected.

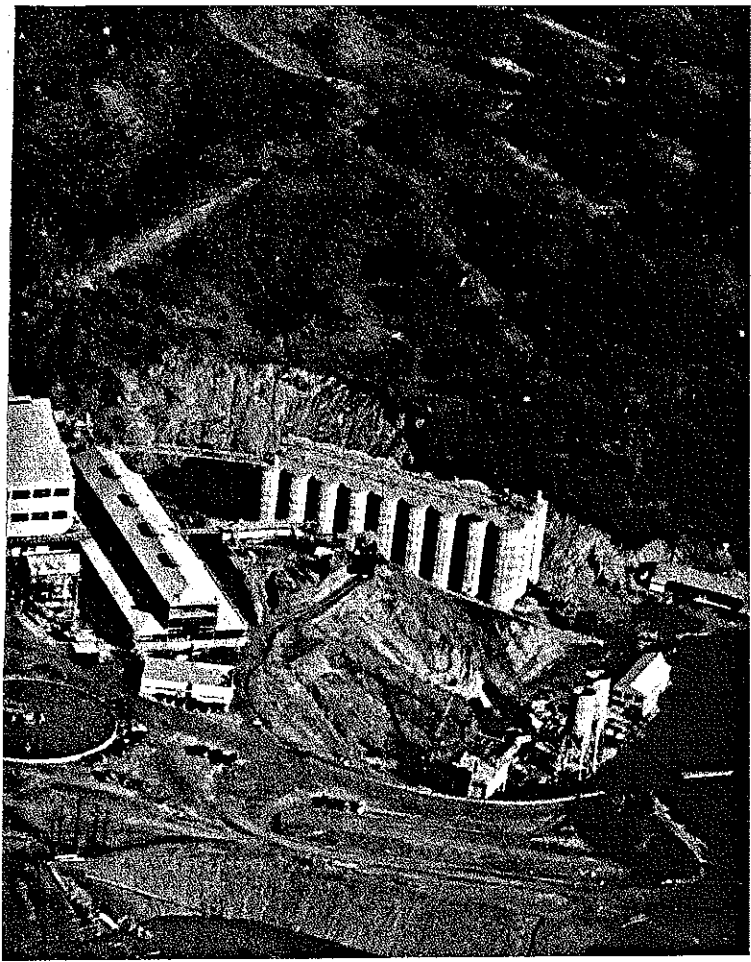
Chief Engineer George Havas received a typical telephone call: "George," Henry Kaiser said, "Go out and build me a steel plant."

"What kind of a steel plant?"

"Well, just a steel plant. A small one."

"The plant was designed while it was being built," described Tom Price. "That is one of the most difficult conditions under which one can either design or construct, but it has one outstanding quality—it's the fastest way. It is not the cheapest way, but wars are not won on cheapness. Innumerable times, plans still wet from the blueprinters were rushed down by air (from Oakland) to keep the construction crews going."

In nine months, the West Coast ceased being a "branch office" in steel. And it might never have happened if competitors had not helped. When the first blast furnace at Fontana was "blown in" on December 30, 1942, Henry Kaiser spoke of it as "a convincing demonstration of the fact that American industry has learned how to temper the



*enterprise is the Permanente Cement plant, shown here in 1940 after completion as a two-kiln plant. Its immediate effect was to cut cement prices 11 percent on the Pacific Coast and to stabilize them. Today, it has an 8.5 million barrel capacity from six kilns.*

brutality of competition with the spirit of fair play.” Republic Steel had made available engineering designs and plans with which to build a plant; Bethlehem Steel Company fabricated and erected most of the steel beams; U.S. Steel supplied much essential material; Consolidated Steel Company fabricated and erected the blast furnace.

Fontana’s war record was good. It had produced 1.2 million tons of steel ingot at low cost—for 230 desperately needed ships. But, with the war struggles behind it, it still had to cope with the peacetime world, or disappear like many another “war baby.”

Its primary product, steel plate, had little peacetime demand, and it was saddled with a huge mortgage and dwindling reserves of iron ore. More money was necessary to overhaul the plant, and even if the money were there, which it wasn’t, there were the post-war priorities to contend with. Such expansions needed a government OK.

Because the government was now disposing of its war-built steel plants to the highest bidder, receiving an average of 33 cents on the dollar for them, Henry Kaiser appealed to the RFC for equal treatment. He asked for a write-off of part of his debt on the plant he had built at his own risk for the war effort; he could then put the difference into

modernizing Fontana and acquiring essential reserves of raw materials. The RFC turned down this suggestion but offered to raise the amount of its loan. The San Francisco Chronicle reported that financiers interpreted this reply as the “kiss of death for a western steel industry.”

The next five years were touch-and-go, with perhaps a stroke of luck spelling the difference in Kaiser Steel’s eventual survival. A company expediter ran into the president of Transcontinental Gas Pipe Line Corp., which wanted to build a pipeline but had to prove it could secure the necessary steel supply before the government would let it go ahead. An agreement was reached with Kaiser Steel for a \$53 million order. The company got an advance of \$10.6 million and immediately invested it in facilities needed at Fontana.

Kaiser Steel turned the corner in 1950. The company was entirely refinanced with private capital for \$125 million, including the sale of \$40 million in stock to become a publicly held company. It retired its remaining debt to the RFC in one \$91 million lump (not including interest of \$23 million paid to the RFC over the life of the loan) and began constructing the new expansions that would put it on the map in the world of steel.

The “mother of industry” ordinarily would have been enough in the metals line for one organization, but circumstances dictated otherwise. Whetted by their wartime magnesium operations, some of the Six Companies’ construction men turned into aluminum producers.

Kaiser Aluminum & Chemical Corporation began, in part, because of the Kaiser-Frazer operation, also just budding. The shortage of steel that plagued postwar automobile makers caused Henry Kaiser to consider using aluminum instead of steel in his cars. In 1945, he began building prototype aluminum vehicles and experimental engines, wheels, bumpers and doors.

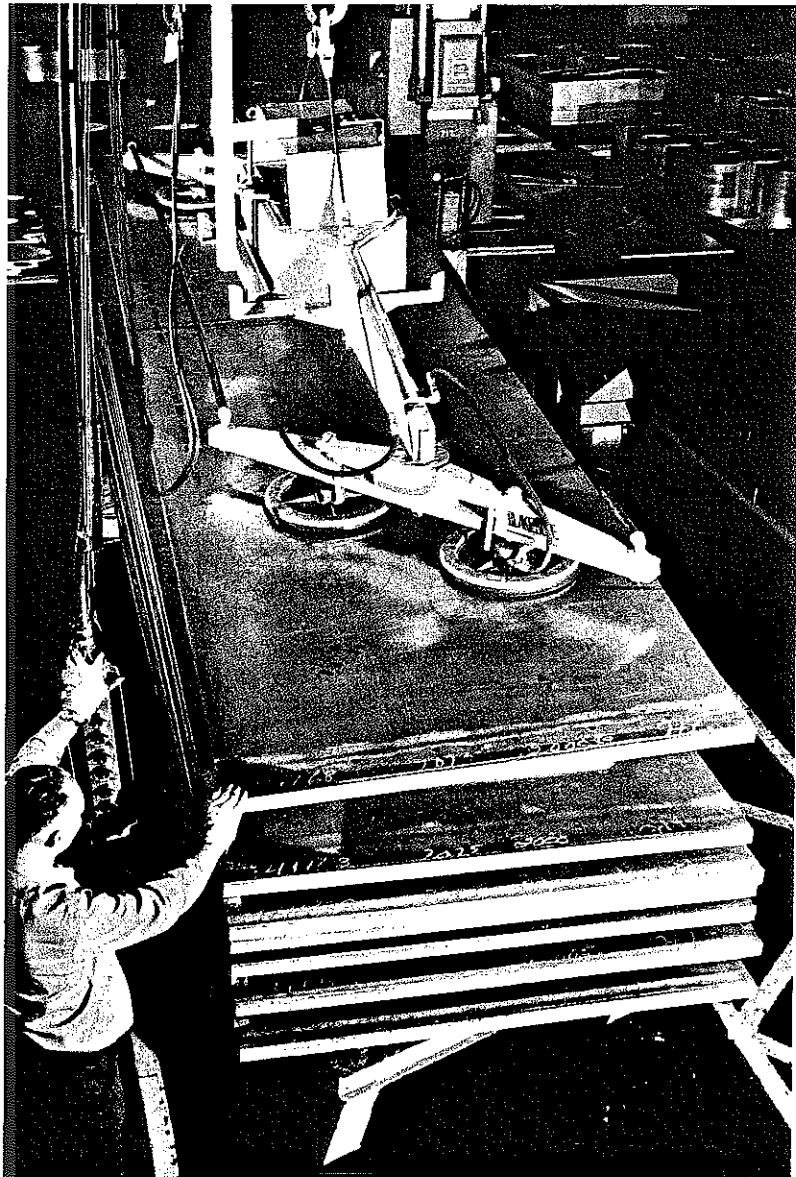
Four years previously, he had tried to enter the

aluminum industry by proposing the building of reduction plants in the Pacific Northwest, but there had been no response from Washington, D. C.

Now, the situation had changed. By the summer of 1945, \$793 million worth of government-built, war-surplus aluminum plants lay idle across the nation. To the Reconstruction Finance Corp., they were a serious problem. A telegram, dispatched in August to 225 potential aluminum companies soliciting their interest in the idle plants, provoked but three answers, two of them unacceptable to the War Surplus Board. The third was from Permanente Metals Corporation, signed Henry J. Kaiser, president.

The reluctance of postwar industry to get into

*Kaiser Aluminum's first home was the war surplus Trentwood plant (and neighboring Mead plant) in Washington, leased from the government after there were no other takers. Though far from the eastern aluminum markets, the low cost and abundant hydroelectric power enabled the reduction plant to compete with entrenched manufacturers.*



the aluminum business appeared to be soundly based. "The peacetime market for aluminum is an unknown quantity... all predictions for it are built on nothing more substantial than fears and hopes," declared the U. S. Attorney General.

There were more things to fear than to hope for. The war-built aluminum plants were mostly unstrategically located in respect to peacetime markets. Shipping costs would have to be offset by low operating costs, and the plants had not distinguished themselves for low cost operation under wartime conditions. In addition, a new producer would have to develop his own sources of bauxite, the ore from which aluminum is made.

During the war, domestic capacity to produce aluminum had increased seven-fold, fabricating capacity in some lines as much as 45 times. Nearly all this had been for military needs. There was no indication a peacetime market would—or could—absorb the output of even the production capacity that remained in operation after the war.

The pessimist, of course, sees the glass half empty; Henry Kaiser chose to see it half full. And there were some positive factors. An unprecedented market was arising out of the bottled-up demand for houses, automobiles, appliances, trailers, mobile homes, school buildings and commercial structures. All of these were—or could be—markets for aluminum.

So, in Oakland, California, in March 1946, the Board of Directors of Permanente Metals, originally formed to produce ships and magnesium, voted hesitantly to go into the aluminum business.

Three of the partners — Pacific Bridge Co., J. F. Shea Investment Co., and General Construction Co. — joined Henry Kaiser in what was, at the outset, a doubtful looking venture.

Leases were signed for war surplus plants at Trentwood and Mead, near Spokane, Washington. Initial financing was modest; Permanente Metals had, as assets, two refractories processing plants in California, a net worth of \$5 million, and working capital of \$15,750,000 secured on a bank loan on the directors' personal guarantee.

The small nucleus of men Henry Kaiser chose to head the new aluminum division had one thing in common: they knew nothing about aluminum. But they shared his infectious confidence. Communication in the Oakland office was easy. "When we wanted to say something," an aluminum executive remembers, "we would just open the door and yell."

They had leases on an aluminum reduction plant at Mead (where alumina is refined into metallic aluminum) and a sheet and plate rolling mill at nearby Trentwood. Now they needed a source of



raw material. A contract was negotiated with Alcoa to supply bauxite ore from Surinam, and negotiations were begun in Washington, D. C. to obtain a lease on a war surplus plant at Baton Rouge, Louisiana, where bauxite ore could be converted to alumina.

As the spring of 1946 turned into summer, the pace quickened. Trentwood began production from reserve metal stock purchased from competitor Alcoa, and Mead tapped out its first primary metal in July. Management in Oakland watched the sales curve climb to \$45 million in the first 12 months of operation as the sales force marketed nearly 60,000 tons, for a net profit of nearly \$5.3 million.

By 1950, the company had purchased the plants it had first leased—at Mead, Trentwood and Baton Rouge. It had acquired a second reduction plant at Tacoma, Washington, a foil mill installed at Permanente, California, and a rod, bar, wire and cable plant at Newark, Ohio. Later, it leased Jamaican bauxite reserves and organized the Kaiser Bauxite Company to mine them.

In 1949, the corporate name was changed from Permanente Metals Corporation to Kaiser Aluminum & Chemical Corporation, a year after the company had offered sale of common stock to the public for the first time. The company had completed the first chapter of what was to become the most remarkable growth story in the history of light metals.

Homebuilding for the post war United States intrigued Henry Kaiser, particularly in the West, where defense plants and shipyards had already attracted thousands of new families.

During the War, he had constructed large housing projects adjoining his shipyards at Richmond and Vancouver, complete with recreational facilities, child care centers and civic buildings. Putting together the temporary housing was a lesson in shortages. Lath, plaster and wallboard were nonexistent. Bathtubs, stoves and refrigerators were priceless commodities, to be fought over at farm auctions or salvage yards. Individual family homes, desired by nearly everyone, simply could not be built, because of wartime restrictions.

Henry Kaiser knew the war workers and returning G.I.'s would create a tremendous demand, and he planned to be ready for it.

The lack of plaster, lath and wallboard seemed the immediate problem. Spurred by the approach of peace and by the complaints about "paper walls" from inhabitants of wartime housing, Kaiser interests in 1944 purchased control of a plaster mill at Long Beach, California, and a gypsum quarry at San Marcos Island on the Gulf of California. A million dollar expansion program starting immedi-

ately after the war enabled the Long Beach plant to produce gypsum lath and wallboard in addition to plaster. By 1949, demand had increased to the point where a second plant was acquired at Redwood City on San Francisco Bay to serve the Northern California market. Kaiser Gypsum Company had found a need and filled it in a classic sense.

A second demand was for kitchen appliances—white goods. Kaiser's idea men had worked on jet-propelled dishwasher and a garbage disposal unit in their wartime dream laboratory, but getting those dreams on a production line was a new problem. Again, a wartime venture provided the answer.

At a plant in Bristol, Pennsylvania, Kaiser Fleetwings had built wings, fins, rudders and other parts for Navy Corsairs, Avengers, Havocs, and Air Force Flying Fortresses. With war's end, the expectation was that the plant would close down.

But, Kaiser-Frazer needed someone to stamp out doors and other parts from sheet steel, and the Kaiser dishwasher looked like a good bet for consumer acceptance. After retooling, the Fleetwings (later Kaiser Metal Products) plant began manufacturing a large array of appliances and auto parts. In the spring of 1947, Sears, Roebuck & Company signed a working arrangement with Fleetwings to produce its bathtubs and other steel, porcelain and aluminum items. The Kaiser organization could no longer say it made everything but the kitchen sink. For a time, it was turning out the latter at 200,000 units per year.

Kaiser cement, aluminum, steel, gypsum, plaster, lath and appliances were all helping to build homes in the postwar West. It is typical of Henry Kaiser that he wanted a hand in the actual laying up of the roof beams.

In 1945, he formed a partnership with Fritz B. Burns, a nationally prominent Los Angeles builder, to build entire communities of homes in Northern and Southern California and near Portland, Oregon. By using 700 variations of one basic floor plan, and laying out streets on winding patterns, Kaiser Community Homes was able to avoid the mass tract look. More than 10,000 homes were constructed and sold by the partnership, including the 2,000-home community of Panorama City, California, one of the first large planned communities in the nation.

Henry Kaiser's organization of the post war years burst forth in many directions, like, he said "a bunch of amoebas dividing into new cells." In 1951, *Fortune Magazine* said: "Not since the rise of Henry Ford has an industrial figure come so far in so short a time. And not in all history has any industrial figure successfully gone into so many and various projects. . . ."