

● PSF HENRY J. KAISER

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THE WHITE HOUSE
WASHINGTON

August 4, 1944.

MEMORANDUM FOR GRACE:

To be filed confidential
under the subject.

F. D. R.

Judge Rosenman's memo, 6-30-44, and
F.B.I. reports on Henry J. Kaiser.

THE WHITE HOUSE
WASHINGTON

June 30, 1944

MEMORANDUM FOR THE PRESIDENT.

Here is the FBI report on Kaiser. I do not think it will be very helpful except that it shows nothing definitely unfavorable.

The information comes from the files in the FBI regional offices and in the various Departments. Apparently the Army and Navy, in spite of their large contracts with Kaiser, have practically nothing on him.

The complaints from the isolated workmen etc. come, I am informed by J. Edgar Hoover, from the files of the various government agencies to whom these workmen have sent these kicks, or from the files of the Field Offices of the FBI to whom these people make complaints. Mr. Hoover informs me that in none of these cases, all of which were referred by the Field Offices to the War Frauds Division of the Department of Justice, was any further action taken -- apparently investigation showing ^{no} basis therefor. I suppose these kicks are from malcontents in the organization. I am sure that these kicks amount to nothing in the face of the overwhelming support which labor gives Kaiser.

No independent interviews of people in various places about Kaiser were made because it would lead to a great deal of speculation. Such inquiries, I think, would not give us any information other than general reputation, it depending, of course, on who was asked -- banker or worker.

I am attaching three articles from Fortune about the Kaiser companies which give a pretty clear picture of what he does.

Sm
S. I. R.

June 30, 1944

HENRY J. KAISER

BACKGROUND AND BUSINESS ACTIVITIES

Henry J. Kaiser was born May 9, 1882 at Canajoharie, New York. His German born father, Frank John Kaiser, was a custom shoemaker and Henry was the only son of the four Kaiser children. Henry Kaiser married Bessie Hannah Fosburgh on April 8, 1907 and two sons have been born of this union, Edgar F. Kaiser and Henry J. Kaiser, Jr. This person maintains a home at 664 Haddon Road and an office in the Latham Square Building, both located in Oakland, California.

Kaiser's parents were reportedly poor and Henry left school at the age of eleven to support himself and them. While in his early teens, Kaiser ran errands for a Utica department store and later was employed by a photographer who divided his time between Lake Placid, New York, and Florida. According to a statement attributed to Kaiser, "At the end of the first year I had a half interest in the business (photography). At the end of three years I owned it in full." Being a successful photographer in Daytona Beach, Florida, Kaiser later opened stores in Palm Beach and Saint Augustine. Kaiser reportedly abandoned photography to become a salesman for a hardware concern in Spokane and was later employed in the same capacity by a sand and gravel firm located in the Washington city. Kaiser later became associated with a paving concern which in 1913 sent him to Canada and while in that country, he is said to have invested in some secondhand mixers and a couple of teams and became a street paver himself.

Available biographies reveal that from 1914 to 1930 he was engaged in highway construction in British Columbia, Washington, California and Cuba with his last undertaking in this field being a 300 mile, 200 bridge road across Cuba's swamps from Havana to Camaguey. During the 1930's Kaiser was chairman of the Executive Committee of Six Companies, Incorporated, constructors of Boulder Dam and Parker Dam, president of Bridge Builders, Incorporated, constructors of East Bay piers of Oakland-San Francisco Bay Bridge and president of Columbia Construction Company, constructors of Bonneville, Oregon, Main Spillway Dam. In the same period, Kaiser was president of Consolidated Builders, Incorporated, which constructed the Grand Coulee Dam.

Kaiser's present industrial empire apparently had its commencement with the formation of Permanente Corporation, located in the Los Gatos Hills, south of San Francisco, which was to furnish the necessary cement for the construction of Shasta Dam. The firm was founded in August, 1939 with Kaiser as president and turned out its first bag of cement on December 25, 1939. The facilities of the Permanente Corporation were expanded during 1941 to include the production of magnesium by the Hansgirg Process and other metals. In 1940, Kaiser entered the shipbuilding field on the Pacific Coast and "Who's Who in America", 1942-1943, lists him as president of the Permanente Steamship Company, Henry J. Kaiser Company, Todd-California Shipbuilding Corporation and Richmond Shipbuilding Company.

Kaiser has been acclaimed for his revolutionary method of shipbuilding and his speed and efficiency in constructing vessels. One source has described Kaiser's method of shipbuilding thusly, "Instead of having the keels laid and the craft erected on the keel in the traditional way, Kaiser engineers worked out a system by which each ship is built in sections scattered around a big yard. When the sections are finished, great cranes on tracks pick up a prow or stern section and lower it into place. Then welders make it a part of the ship." Kaiser has also introduced repetitive operations among the workmen, letting one group specialize on bows, another on bulkheads, and so forth. As an indication of his effectiveness, Kaiser's Oregon Shipyard Corporation produced late in September, 1942, a Liberty Ship which had required only ten days from keel laying to launching. This record was soon bettered by his Richmond (California) Shipbuilding Corporation which completed the "Peary" in less than five days.

Kaiser reportedly entered the field of airplane production in 1943 when he purchased Fleetwing Aircraft, Incorporated. Shortly thereafter he assumed the leadership of the Brewster Aeronautical Corporation's three plants which possessed a \$275,000,000 contract to produce dive bombers and fighters. Although the bulk of Kaiser's plants are located on the West Coast, he has airplane plants, an engine plant, and a shipyard on the Atlantic Seaboard.

In summing up Kaiser's vast network of enterprises, one source in October, 1943 stated, "Including what he manages for his Six Companies partners, Kaiser accounts for around twenty per cent of the Maritime Commission program. He owns a steel plant, an aircraft plant, is managing operator of and owns the largest share of a big magnesium plant and the world's biggest cement plant." Kaiser is described as "the nation's most portentous industrial phenomenon" and "indisputably the number one businessman of the hour." It was stated further "that Kaiser's capacity for getting into something new is so notorious that whenever the Government wants to prod other industrialists into action, it has only to say that Henry Kaiser is interested in it."

With reference to Kaiser's sons and their part in the industries, it was stated in 1942 that Edgar headed Kaiser's shipbuilding division while Henry, Jr., headed the cement and other operations.

The above biographical sketch was taken from the press and periodicals, namely, "Current Biography", October, 1942; "Life", April 5, 1943; "Fortune", October, 1943; "Who's Who in America", 1942-1943; and "Collier's Year Book", 1943.

ASSOCIATION WITH DR. FRITZ J. HANSGIRG - ALIEN ENEMY

Dr. Fritz J. Hansgirk is an Austrian chemist who was born at Graz, Austria, January 20, 1941. Immigration records indicate that he entered the

I asked Mr. Hoover whether this incident was, in his opinion, bad. He said no -- that it was before the war and that he employed this alien to get his process for magnesium.

S. I. R.

United States on May 30, 1940 from Kobe, Japan and at that time indicated he was of German nationality. A Military Intelligence report described Hansgirg as a brilliant scientist, an expert on magnesium, who has developed a new "Carbothermic" process for magnesium. It was stated he became associated with the Permanente Corporation of the Kaiser group in 1940.

Hansgirg was apprehended as a potentially dangerous alien enemy on December 16, 1941 and after being afforded a hearing, the Attorney General on April 2, 1942 ordered that this person be interned. The Attorney General vacated this order on September 22, 1942 and awarded Hansgirg a parole to a member of the faculty of Black Mountain College, Black Mountain, North Carolina. Latest available information indicates Hansgirg was teaching at this institution. The Military Intelligence report referred to above, which was dated June 11, 1943, indicated that Hansgirg's son was the Chief Psychologist of the German Army.

According to information received from the State Department, Henry J. Kaiser, the contractor and industrialist, sponsored Dr. Hansgirg and his wife, Josefine Maria, for immigration visas in the early months of 1942. According to a report received May 12, 1942, both Hansgirg and his wife had been refused immigration visas by an Interdepartmental Committee.

With reference to Hansgirg's employment by the Kaiser concern, Mrs. Hansgirg, in a letter written during the early months of 1942, indicated that in December, 1940 Harry Davis, General Manager of the Permanente Corporation, approached Dr. Hansgirg, informing him that Henry J. Kaiser wished to negotiate with him concerning the erection of a magnesium plant using Dr. Hansgirg's Carbothermic process. It was stated further that as Dr. Hansgirg had become interested with another concern, he was disinclined immediately to be interested in Mr. Kaiser's proposal and delayed in complying with his wishes. The letter went on to say that shortly after Mr. Davis' visit, Dr. Hansgirg was greatly surprised when Mr. Kaiser, in Washington, D. C., called him by telephone advising in no uncertain terms that he, Mr. Kaiser, was speaking for the United States Government, ordering Dr. Hansgirg to do work for his concern or else the Government would find methods to prohibit him from remaining in this country.

Mrs. Hansgirg went on to say that her husband was somewhat amazed at the threat held out to him but he accepted employment with the Permanente Corporation believing such was possibly his opportunity to begin serving the Government. These allegations concerning Kaiser's efforts to induce Dr. Hansgirg into his employ are unsubstantiated.

LABOR RELATIONS IN KAISER ENTERPRISES

GENERAL

The publication "Life" for April 5, 1943 stated that the heterogeneous enterprises embracing his empire make Henry Kaiser one of the nation's biggest employers of labor, estimated at 250,000 workers. This source also commented that Kaiser maintains uniquely realistic relations with his employees and fights turnover and absenteeism by getting housing, recreation and medical facilities for them. The October, 1942 issue of "Current Biography" quotes Kaiser as saying, "If you pay good wages you get good men".

With reference to Kaiser's relations with his employees, certain information has been received. In August, 1942 Mr. James Donovan of Oakland, California, an excavation foreman in a Kaiser shipyard, advised that the shipyard was building Liberty ships under a Government contract. The contract, he said, was a "cost plus a fixed fee" basis and was therefore to the financial interest of the shipyard for production to lag and for cost to run as high as possible. It was his belief that both the Kaiser shipyard and Maritime Commission had been benefited by those excessive costs of production. This source said that at all times there was a feeling among the workers that they must not put forth their maximum effort and if they did so, they were immediately warned to slow down and in most cases were given a transfer to another department. It was stated further that if the employees tried to make suggestions to increase production and decrease costs they were, for some reason, transferred or discharged and told that their job was to do the work assigned to them in the shipyard and not to try to run the office or the administrative end of the company. It was indicated that as a result of this attitude there was great dissatisfaction among the huge majority of the ship workers because they felt that costs were being sky-rocketed purposely and materials wasted in order that the employer might make more profit. Donovan stated the workers were, of course, afraid to complain because they would be discharged and placed on a black list which would prevent them from being hired on other National Defense projects.

In December, 1942 Mr. Arland Watkins, Maritime Inspector, Kaiser Company, Vancouver, Washington, stated that there had been a great deal of labor trouble among the men working at the Kaiser Company shipyard in Vancouver. Watkins stated that he did not think the discontent was sufficient to bring about any acts of sabotage but that the men were not satisfied with the progress they were making in the yard and that there was a great deal of difficulty because the men believed that their checks had been "docked" by the company.

Mr. Frank Stearns, an employee of the Kaiser Company shipyard, Vancouver, Washington, in January, 1943 stated there was a great deal of labor trouble in the Vancouver Shipyard due to favoritism shown by the officials of the yard. He stated this condition provoked the employees into anger. Stearns stated further that at times the pay checks of the men had been found to be short which was a constant source of difficulty.

Allegations were received in May, 1943 that a labor racket was being carried on at the Kaiser shipyard in Portland, Oregon. This racket allegedly consisted of an individual being brought to Oregon by the Kaiser Company and then after working for a month the employee would be laid off by the foreman and told to report to the Union hall at which time he was advised that there was no work for him and thus the individual would be stranded in Oregon without financial arrangements to return home.

Mr. James P. Cook, Personnel Manager, Kaiser Oregon Shipbuilding Company, advised that his company was recruiting men in the Eastern States and paying their transportation costs to Portland, Oregon. A new employee, according to this individual, was told that he must join a union before he could work in the yard and was also advised that he must repay the transportation costs which were prepaid by the Kaiser Company. To effectuate this plan, this official advised that the Kaiser Company bought the employee a ticket and the employee agreed to pay so much a week until the ticket was paid up. The new employee then signed a transportation agreement to work ninety days and if he desired to leave his employment before that time, he agreed to pay the remaining cost of the ticket to the Kaiser Company. This official pointed out that the alleged payment by an employee was \$5.00 a week until the ticket was paid up. With reference to joining the union it was stated that all employees must join the union and pay the usual initiation fee. In the Boilermaker's Union, American Federation of Labor, for example, of which seventy per cent of the Kaiser employees are members, it is reportedly necessary that an employee pay his initial fee within twenty-one days after his employment, and if he does not make this payment within twenty-eight days he is discharged by the company. It was said that \$20.00 was the initial fee for a Boilermaker's helper and \$30.00 for a journeyman. These fees, it was stated, were paid entirely on the employee's initiative and there was no checkoff system in operation at any of the Kaiser Company yards. The official of the Kaiser Company mentioned immediately above stated that a list of all discharged men was made up weekly and every man who was discharged had to be interviewed through the clearance office before he could be paid and proper clearance given to him. This official pointed out that the clearance office, out of necessity, had to take the superintendent's word that a particular man was undesirable. The man who was about to be discharged, however, was interviewed to determine if he could be given another opportunity to work. Mr. Cook stated further that a list of all discharged employees was furnished to the Maritime Commission weekly by the Kaiser Company and every employee so discharged was subsequently accounted for by the Kaiser Company's clearance office.

Under date of March 26, 1944, Mr. W. E. McCoy, Box 41, Portland, Oregon, pointed out in a communication that the Kaiser Shipbuilding Corporation was letting men off "right and left". It was indicated that groups of 100 or more men were discharged at a time and that coincidental with this act, Kaiser had twenty-five men out over the nation attempting to recruit about 9,500 men to go to work. This source indicated that the union collects \$50.00 from skilled labor and \$25.00 from common labor and the source made an allegation that, in his opinion, the company and the union were working together. This source indicated that a man and wife left the employ of the Kaiser Company and went home to Idaho and at the time of the termination of their employment asked for their withdrawal cards. The company reportedly stated that these cards would be mailed to these individuals. According to this source, the

cards were never mailed and these individuals returned to work after six weeks and were made to pay up all their back dues, presumably in the union, before they were allowed to resume their work.

LABOR UNIONS

According to "Current Biography" for October, 1942, Kaiser, since the Wagner Act, has consistently gone to the American Federation of Labor headquarters and signed contracts whenever he starts an enterprise instead of waiting for organizers to come around. Kaiser, it was said, believed that labor's troubles are eighty per cent management's fault and reportedly insisted the above procedure was the way to handle the problem. Numerous newspaper releases available indicate that contracts of the above nature provoked a jurisdictional dispute between the American Federation of Labor and the Congress of Industrial Organizations which commenced during the latter months of 1942 and continued through the greater part of 1943. The contracts involved were reportedly entered into in 1941 between three Kaiser concerns and the American Federation of Labor whereby the union was granted a closed shop and recognized as the bargaining agent for the employees. According to these accounts, the Congress of Industrial Organizations declared the contracts illegal and sought recognition as bargaining agent.

In this connection, an undated newspaper account dated October 14, 1942 and captioned "Congress of Industrial Organizations attacks Henry Kaiser - Racket Unionism Charged in Yards", stated that Henry J. Kaiser, "Miracle Man" of shipbuilding today stood accused of "racket unionism" and "inefficiency" by the Congress of Industrial Organizations Industrial Union of Marine and Shipbuilding Workers. The union claimed that Kaiser workers were forced into the American Federation of Labor without a chance to vote in a collective bargaining election and asked the National Labor Relations Board to issue a complaint. It was stated further that in a letter to the Board, an official of the union charged that "the collusive closed shop agreement at the Kaiser yards extorts excessive permit fees and dues from Kaiser workers resulting in low morale which impedes efficient production of ships - this notwithstanding the supposed record set by Kaiser".

According to newspaper releases issued at a later date, the National Labor Relations Board on November 19, 1942 issued a complaint against the Oregon Shipbuilding Corporation, the Vancouver, Washington, and Swan Island, Oregon, yards of the Kaiser Company, charging the firms with engaging in unfair labor practices in assisting sixteen American Federation of Labor Unions recruit members. It was said that the shipyards involved entered a closed shop agreement with the metal trade unions of the American Federation of Labor in 1941 when the yards had only a handful of employees and no election had been held to determine the collective bargaining agent. These newspaper sources indicated the complaint was based on charges filed by the Congress of Industrial Organizations with the National Labor Relations Board.

Following the issuance of the complaint and during the time the National Labor Relations Board was holding hearings in connection with this matter, numerous charges and counter-charges were reportedly made by the unions involved and the Kaiser industries. For example, the December, 1942 issue of "Peoples World" in an article captioned "Charge Kaiser Picks Union for Workers", date lined at San Francisco, indicated that a Congress of Industrial Organizations organizer, George Smith of the Congress of Industrial Organizations Industrial Union of Marine and Shipbuilding Workers, in a deposition given in the presence of the Regional Director of the National Labor Relations Board stated the Kaiser management at the Oregon Shipbuilding Corporation offered to "sew up" the yard for the Congress of Industrial Organizations at a time when there were only sixty workers in it and twenty-four of them belonged to the Congress of Industrial Organizations. This promise was reportedly made by Ed Kaiser. Smith then reportedly testified that when more men were hired, the Kaiser management, though still insisting there was no labor union, forced the new recruits to go to the American Federation of Labor for clearance and, therefore, the American Federation of Labor under such an arrangement gained control. Continuing, the article stated that at one time when Kaiser admitted he needed men, Smith and another organizer for the Congress of Industrial Organizations signed up 1,200 members to go to work and Kaiser sent them all to the American Federation of Labor to get permits. It was alleged further that when Smith and the other organizer called on Ed Kaiser and showed him Congress of Industrial Organizations cards of experienced men who could be hired directly through the Congress of Industrial Organizations, Kaiser rejected them all as inexperienced.

The New York Times for January 15, 1943 carried an article bearing a date line at Portland, Oregon and captioned, "Congress of Industrial Organizations Aide Attacks Kaiser over Radio - John Green Says Signing of Contract with American Federation of Labor Union Was Breach of Faith". According to the news account, John Green of Camden, New Jersey, International President of the Industrial Union of Marine and Shipbuilding Workers of America, in a radio address charged that faith was broken when Henry J. Kaiser shipyards in the Portland area signed a closed shop contract with the American Federation of Labor. It was stated further that Green was to appear the following day as a witness before the National Labor Relations Board in a hearing of its unfair labor practices case against the Oregon Shipbuilding Corporation, Kaiser Company, Incorporated, and a yard in Vancouver, Washington.

The article reflected further that Green also said that early in 1941 before the master agreement had been reached, it was understood by labor, management and Government representatives at a conference in Washington that "Yards where the Congress of Industrial Organizations and the American Federation of Labor did not have collective bargaining agreements would abide by any zone standards arrived at in the San Francisco conference (held shortly before) until such time as the employees in the plants had designated their bargaining agents".

The faith was broken, Green said, when "Suddenly the American Federation of Labor appeared with a closed shop contract with the Oregon Shipbuilding Corporation, a closed shop contract when only sixty-six men were in the yard, when sixty-five of the sixty-six had filed a petition which it is claimed gave the right to the boiler makers to claim tribute from the 65,000 now signed over to them".

Green then reportedly called production at the Oregon Yards great records, adding that he had no wish in any way to lessen the importance of the contribution which Kaiser had made but that he thought the public should know that other shipbuilders who had not publicized their records had equally good ones.

In a further blast at the Kaiser-American Federation of Labor contract, John Green, according to an article in the Washington Times-Herald for March 26, 1943, testified before the Senate Truman War Investigating Committee charging that extravagant praise of the high production record at the Henry J. Kaiser West Coast shipyards had been used as an excuse for unfair and undemocratic labor relations. Green stated that Kaiser's admitted achievements were blown up into miracles and his failures were played down or suppressed. Then the question was broached, "Has the Maritime Commission revealed all the instances of Kaiser-built ships cracking up?" Green was apparently alluding to a recent incident at the Kaiser Yards when a partly finished ship split in two. Green also alleged that at least fifty per cent of Kaisers work was "ballyhoo". The article concluded with an allegation by Green that the unfair labor practices as evidenced in collusive agreements between the company and the American Federation of Labor do serious damage to workers morale.

At the same time the Congress of Industrial Organizations was seeking recognition as bargaining agent for the employees in Kaiser West Coast Shipyards the American Federation of Labor defended its contract. According to a press release dated December 13, 1942 in an article concerning the dispute, it was stated the American Federation of Labor Metal Trades Department had pledged its entire resources in the fight and had assailed the National Labor Relations Board for disturbing an amiable relationship. The article reflected that the American Federation of Labor contended that vital ship production would be reduced if the contracts in operation were set aside and a collective bargaining agent ordered as the Congress of Industrial Organizations desired.

In a subsequent statement carried in the press John P. Frey, President of the Metal Trades Department of the American Federation of Labor gave notice that his organization which held a master contract with West Coast shipyards, was prepared for a finish fight to keep its supremacy on that side of the continent. Frey reportedly stated that the Metal Trades Department would not tolerate the National Labor Relations Board's use of "discriminating authority under the Wagner Act to write us off the books". He continued that if the National Labor Relations Board persisted in "its evident intent" as he saw it

in the present unfair labor practices complaint which it issued against three of Henry J. Kaiser's shipyards, the result would be the opening of doors from one end of the Pacific Coast to the other to the most far-reaching conflict between the American Federation of Labor and the Congress of Industrial Organizations than could be imagined.

According to other newspaper accounts, namely the "New York Times" for January 26, 1943, and "P. M." for January 21, 1943, the American Federation of Labor Union demanded that the National Labor Relations Board hearing be halted. The former newspaper indicated that more than fifty local unions and metal trade councils reported to represent 300,000 West Coast workers had sent letters to President Roosevelt and Congress threatening to withdraw their "No Strike" pledge if the National Labor Relations Board persisted in pushing its unfair labor practices case against Henry J. Kaiser shipyards in the Portland industrial area.

During the controversy the Kaiser interests defended its contract and sought to have the entire matter removed from the jurisdiction of the National Labor Relations Board. According to the "Washington Post" for December 17, 1942 Kaiser's attorney appearing before the National Labor Relations Board made a motion asking for a change of venue to the War Labor Board stating that two members of the former were prejudiced and had made up their minds that the Kaiser firms were guilty of violating the Wagner Act. "P. M." for January 7, 1943 indicated the Board ruled against this motion.

Through other press releases it was learned that Kaiser, after failure to have the proceedings removed to the War Labor Board, challenged the right of the National Labor Relations Board to intervene. He asked that an injunction be issued against the National Labor Relations Board and its agents from proceeding with the hearing. In this connection, the "New York Times" for February 4, 1943 in an article entitled "Stay in Kaiser Case Denied" reflected that the court declined to grant an injunction to halt the National Labor Relations Board hearing of Congress of Industrial Organizations charges against the Henry J. Kaiser shipyards.

This jurisdictional dispute apparently came to a conclusion in August, 1943 when the Congress of Industrial Organizations dropped its campaign to upset the contracts in existence between the Kaiser interests and the American Federation of Labor and to gain recognition as the bargaining agent for the Kaiser interests. An article in the "New York Times" bearing the date line of August 1, 1943, at Portland, Oregon, gave a statement of a Congress of Industrial Organizations official to the effect that a bill recently enacted by Congress barred the Congress of Industrial Organizations from the yards by providing that labor contracts in operation ninety days or longer could not be set aside by the National Labor Relations Board.

INCIDENTS REGARDING KAISER-BUILT PRODUCTS AND SHIPS

According to the records of one of the investigating agencies, at approximately 10:30 p.m. on January 16, 1943 the SS Schenectady, an oil tanker without cargo, while moored in the lagoon at the outfitting dock, Kaiser's Swan Island Shipyard, Portland, Oregon, broke in two. The break occurred just aft the amidships deckhouse and the deck plates were sheared completely as was the shell on both sides of the ship. It was said the break tapered to the bottom and to the keel structure, which structure remained intact, allowing the stern and the bow to rest on the bottom of the lagoon. It was stated further by the investigating agency that the break occurred in the fabricated steel rather than at any welded joints. The estimated value of the SS Schenectady was between four and five million dollars and the estimated cost of repair was five hundred thousand dollars. There was no indication that sabotage was the cause of the incident.

On January 18, 1943 a newspaper article appeared in the Washington Star indicating that the giant tanker Schenectady, first to be built at the new Henry J. Kaiser Swan Island Shipyard, cracked open and sank while lying at dock for outfitting. It stated that the 16,500-ton vessel had completed its trial run without fault the previous Saturday and had been turned over to the Maritime Commission. The article further related that the only plausible theory, with respect to the damage, came from unofficial sources who said a recent flood might have piled a sand ridge under the dock and the ship might have broken its keel on the ridge as the water level dropped.

On March 18, 1943 the Washington Star newspaper carried an article regarding the SS Schenectady entitled "Tanker Crackup Laid to Sacrificing Good Welding for Speed" which indicated that the American Bureau of Shipping, one of the three agencies investigating the crackup of the SS Schenectady, blamed the mishap in part on what it termed sacrifice of good welding for speed and lack of sufficient trained personnel. The article further related that Henry J. Kaiser, yard owner, said on March 10 that he thought the splitup was due to the very low yielding point of some of the steel used. He reportedly said that the steel did not part at the welded seams but between the seams.

This article further quoted the report of the American Bureau of Shipping by stating that there were "insufficient numbers of trained, experienced welders and shipfitters available for the job at the rate of production maintained and an inadequate number of skilled welding supervisors with the necessary knowledge of the basic elements of good welding practice to exercise proper control over the welders."

In an article dated March 27, 1943 appearing in the Washington Star newspaper indicating that the SS Schenectady was again ready for launching, it was stated that Mr. S. H. Graf, professor of Mechanical Engineering at Oregon State College, who investigated the break-up for the American Bureau of Shipping concluded that the "most serious and responsible cause" was "very poor quality steel." However, the article further indicated that Mr. Lester Perry, President of the Carnegie-Illinois Steel Corporation, which supplied part of the materials for the Schenectady, told a Senate committee in Washington the previous Tuesday that he doubted whether the quality of steel plate figured importantly in the disaster.

With further reference to the statement of Mr. S. H. Graf as set out in the above newspaper article, the Report on the Metallurgical Aspects of the Tanker Schenectady Failure as prepared by the American Bureau of Shipping stated "no doubt the quality of welding in this ship is a factor in its failure, but without question the poor quality of steel is likewise an important factor. In the writer's (S. H. Graf) opinion, no one can say that either factor is the sole cause."

It will be recalled that in a earlier paragraph John Green, President of the International Union of Marine and Shipbuilding Workers, in appearing before the Senate Truman War Investigative Committee broached the question "Has the Maritime Commission revealed all of the instances of Kaiser-built ships cracking up?" Green was apparently referring to the instance of the SS Schenectady.

According to the March 26, 1943 issue of the New York Herald Tribune, Kaiser reportedly replied to the accusations made by Green and said "Mr. Green knows that the question of cracking of ships is involved in many yards. I am informed that the shipbuilding companies owned by the steel companies themselves have had major cracks in ships and we, likewise, have had some others which have been minor ones."

With reference to construction it is understood that one of the methods used by the Oregon Shipbuilding Corporation was to hang the entire shell and then put a large number of welders on the ship in one operation without paying much attention to welding sequence. It has been reported that sometimes a ship goes as much as six inches out of line. In addition to longitudinal alignment the bows and sterns lift. Some individuals have stated that apparently in this process not much thought is given to the tremendous stress developed because of the method used. Also it has been stated any distortions or buckles which result are left without much attempt to correct them.

With further reference to the construction of ships in the Kaiser Yards, Maritime Commission Inspectors in the Portland, Oregon and the Seattle, Washington areas have reportedly stated that undoubtedly some of these ships would crack under strain but it was due to the approved means in which they were constructed rather than deliberate deficient workmanship.

On December 23, 1942 information was received that eight attempts had been made to damage electrical equipment on Liberty ships being constructed by the Kaiser Company Vancouver Washington Shipyard. The report of the investigating agency indicates that repairs had been made to the damaged equipment and all ships had departed from the Yard prior to the receipt of this information. Therefore a complete inquiry into this matter was precluded.

On November 13, 1942 at 4:00 p.m. a fire broke out in Dormitory "D" at the Kaiser Shipyards in Vancouver, Washington. The building was erected at the direction of the Maritime Commission on property owned by Kaiser. The fire resulted in an estimated damage of four hundred thousand dollars. Several bodies were recovered and eighteen persons were hospitalized as a result of the fire which broke out in a linen closet of the building. A report available in connection with this fire states that this fire evidently started in rubbish in a cardboard container and there was no evidence of sabotage.

In April, 1943 it was reported by the Office of Naval Intelligence that LST-467, a combat vessel of the United States Navy built at the Henry J. Kaiser Shipyards at Portland, Oregon, was shown to have defective construction during its shakedown cruise in San Diego. During the cruise the Commanding Officer of LST-467 noted five items of alleged defective construction which were listed as follows:

1. A block of wood was allegedly found in the sanitary line.
2. The threads were found to have been stripped on the screws holding a connection on a hot water line.
3. The threads were found stripped on certain screws holding wires operating the steering gear.
4. The angle irons holding one side of the vessel were said to be short.
5. The deck was said to leak.

The files of the investigating agency revealed no indication of sabotage with respect to the defective construction and it was stated that the defects reported were common in this type of vessel.

In addition to the above, other information indicating possible acts of sabotage in the Kaiser Enterprises is available. It has been stated, however, that a thorough investigation into these matters by the appropriate government agency failed to substantiate the allegations that sabotage had been committed.

ALLEGED CONDITIONS AT KAISER ENTERPRISES

Mr. James Donovan, 205 Athol Avenue, Oakland, California, an excavation foreman at the Kaiser Shipyards advised, in August of 1942, that a coffer dam in that shipyard was not properly constructed and leaked after it was finished. He said that as a result, it took continuous work by a large maintenance crew to keep the dam repaired, thus causing the employment of fifty men every day for three months and the use of several trucks in hauling clay to make the dam tight. He pointed out that the dam was constructed of coarse rock throughout and that no clay or fine rock was used in its construction. Subsequently, he said approximately three million yards of clay were hauled to patch up the dam. Donovan said that it does not seem possible that this could have been an honest error in construction as most every person familiar with construction work knows that such a dam could not be built of only large stones.

This source pointed out further that the job of hauling clay and rock to tighten this dam necessitated the hiring of trucks through several trucking companies under a so-called "S. A. agreement" whereby the trucking company would furnish the drivers and the trucks, receiving a certain sum by the hour. This source said that although the trucking company furnished the personnel to operate these trucks, the drivers received their checks directly from the Kaiser Shipyards; that the trucking company agreed to hire and fire all employees engaged in this trucking project at the direction of the Kaiser officials. This source intimated that since the trucking company was paid by the hour instead of by the load, it was to the company's advantage to haul as little as possible and to make the job last as long as possible. He said that it was common knowledge that all the drivers did as

little as possible on an eight hour working shift and that these drivers were never discharged but would be changed to another shift when a complaint was made against them. This individual pointed out that the truck drivers ran the entire job exactly as they desired and on many occasions pulled their trucks into a dark corner of the shipyard and went to sleep. On several occasions a truck was reportedly parked across the road to cause a traffic jam. It was a common practice, according to the information received, for drivers to check their trucks in for the "swing shift" and then without hauling a single load, drive their trucks to the nearby cities of Richmond, Berkeley or El Cerrito. In taking this action, the driver would remain off the job, it was said, for the entire shift and then return in time to check out and turn the truck over to the driver on the next shift. Often times, it was said, five or six trucks were driven behind railroad boxcars where the drivers engaged in "crap games" and other forms of gambling for several hours at a time. It was pointed out that the drivers of the "graveyard shift" would often times check in, park their trucks in groups, and then dare anyone to wake them up or bother them. He said that a driver would sometimes be discharged from one shift and would come back the next day with a clearance from the Teamsters Local No. 315 showing that he had been cleared from the former charge and that he must be rehired. It was pointed out that a system was evolved whereby a truck would be loaded and sent several hundred yards out to empty the load and on the way back it would pick up clay to be used in the repair of the dam. Under this system, trucks were hauling a load in both directions thereby speeding up work. After three shifts, the drivers allegedly returned to the old system of hauling only one way because they had been reportedly directed to abandon the efficient system by the union officials and the Kaiser officials. It was said that a record was kept of the number of loads hauled by trucks on the job and that both the Kaiser Company and the Maritime Commission Cost Department subsequently kept an accurate record of this.

Donovan also reported that during the construction of the concrete walls of Basin No. 2 of the shipyard, there was an error made in the placing of the form on the wall. This basin was 300 feet long, 40 feet wide, 35 feet high and the walls were 18 inches thick. In laying the form, it was said that the outer edge of the form was laid on the marker instead of the inner edge. Subsequently, the concrete was poured and later due to the misplacing of the form, the wall was set in 18 inches. This reportedly made the basin 38½ feet wide instead of 40 feet. It was pointed out that there was at least six feet clearance on each side of a ship when placed inside the basin, yet when this 18 inch error was discovered, the entire wall 300 feet long, already half completed, was torn out. Thereupon, it was said, the concrete and steel reinforcements were dumped into the sea. It reportedly took forty carpenters ten days at three shifts a day to rebuild this form and it took iron workers three days to replace the reinforcements as well as a concrete gang two full shifts to pour the concrete. The source who made this information available indicated that this was the result of gross negligence or that the whole thing was purposely done. He said that whatever the reason might be for the error, there was no necessity for tearing out the wall and wasting the material inasmuch as an 18 inch error did not decrease the value of the basin as it made no difference whether it was a 5 foot, 3 inch clearance or a 6 foot clearance on each side of the ship.

It was said by this source that the Drilling and Blasting Division of the shipyard was at all times in need of jackhammer and wagon drill men. It was said that although there are thousands of experienced men applying for jobs only a few could get such jobs at the shipyard. Experienced men from the gold mines of California were hired initially as laborers and were forced to go to work wherever they were placed. There was no attempt, it was pointed out, to let a man work on a job with which he had experience. It was alleged that any time an experienced man made a suggestion to speed up production, he was transferred or discharged on the pretext that he was hard to get along with or that he talked back to his superiors. Also, it was said, these men might be transferred to a job which was too big for them or into a field into which they had no experience in order that there might be a reason for their discharge on the grounds of inefficient work. The Criminal Division of the Department of Justice declined any action on these complaints.

A clipping from an unknown newspaper which was furnished by an anonymous source in November, 1942, and captioned "CIO Attacks Henry Kaiser - 'Racket Unionism' Charged in Yards", read in part:

"Henry J. Kaiser, 'miracle man' of shipbuilding, today stood accused of 'racket unionism' and 'inefficiency' by the C.I.O. Industrial Union of Marine and Shipbuilding Workers.

"The union claims that Kaiser workers were forced into the A.F.L. without a chance to vote in a collective bargaining election and asked the NLRB to issue a complaint. So far no complaint has been issued.

"Philip H. Van Gelder, national secretary-treasurer of the I.U.M.S.W., yesterday protested the delay in a letter to the board charging that the 'collusive closed ship agreement at the Kaiser yards extorts excessive permit fees, initiation fees and dues from Kaiser workers, resulting in low morale which impedes efficient production of ships--this notwithstanding the supposed record set by Kaiser.'

"As you doubtless know,' Gelder's letter went on, 'the man hours per ship in the Kaiser yards are considerably higher than in other yards doing similar work.'"

Mr. Arland Watkins, Maritime Inspector, Kaiser Shipyards, has stated that any person in the Yard could have access to the Kaiser Company Ships which were being constructed or which were lying at the dock in the Shipyard. He indicated that many times when he had gone into a room in one of these ships, there were as many as fifty men working there with no one paying any attention to the other. It was Mr. Watkins' opinion that because of this laxity, it was very easy for someone intent on sabotage to destroy equipment in the Kaiser Shipyards.

Information which was received in the early months of 1943 indicated that the Kaiser Shipyards were recruiting manpower exclusively from the East and it was said that few of their employees were actually experienced in the shipbuilding trade. Further, it is understood the Kaiser Company at Vancouver, Washington did not question a man because of a criminal record and the theme of the whole Kaiser Company was apparently "ships and more ships".

On March 23, 1943 an article appeared in the Portland, Oregon Journal stating that while the Kaiser Shipyards of the Portland area continued to launch ships in a record-breaking time, criticism of excess labor in the yards was being

received from many places. The article related the story of one Albert Reibe who had stated that he was employed for twenty-four days in the Swan Island yard of the Kaiser shipyards and that all he did was loaf the entire time. Reibe reportedly related that he became so fed up with this loafing on a job which paid \$1.32¹/₂ per hour, with time and a half on Saturdays, that he quit and returned to his home town in Minnesota.

The article further pointed out a statement which Reibe made to a newspaperman as follows:

"There are 25,000 men employed in this one eight-way shipyard but a thousand men who are willing to put in the kind of work necessary could accomplish just as much. It just about turns a man's stomach to know that such conditions exist while a war is being fought. I never put in such long days in my life. We would stand around or sit and talk hour after hour. The leader told us if we saw anybody coming with a white collar on to move about as though we were working, which we did. I am positive that the gang I was on never put in more than fifteen minutes of work in any eight hour day that I was there."

Mrs. Clara Wiedberg, San Francisco, California, an employee of Richmond Shipyard No. 3, Richmond, California has advised that the Richmond Shipyard No. 3 was using welding rods known as Sureweld rods which were manufactured by a subsidiary concern. This individual stated that the rods were unsatisfactory and that many employees of the shipyard who used them had complained of this fact. She further stated that although the use of this rod was unsatisfactory, these employees were reluctant to complain about it as they felt they would be transferred or discharged if they did.

In August, 1943 Mr. Perry C. Hursh, Vancouver, Washington, reported that on occasions in the past six months there had been noticed numerous pictures and writings drawn with chalk paint on hulls of aircraft carriers at the Kaiser Aircraft Company, Vancouver, Washington. It was indicated that most of these drawings were signed "J. B. King." The informant further indicated that considerable loss of time was entailed by employees of the Kaiser Company in eliminating such pictures and drawings and he estimated that five hundred dollars per boat was added to the cost because of such additional work. Along similar lines Mr. Ralph W. Smith, Vancouver, Washington, reported that damage amounting to between fifteen thousand and thirty thousand dollars had been done to ships under construction at the Vancouver shipyards of the Kaiser Company, Incorporated by the writing of the name "J. B. King" upon such ships. These writings and drawings were reportedly made with grease, wax crayon and lipstick.

The publication "Business Week" for September 5, 1942 stated that the Office of Price Administration had charged Kaiser Company, Incorporated with violation of Office of Price Administration prices by purchasing five hundred, four thousand pounds of steel from Builders Structural Steel Company, Cleveland, Ohio, in less than carload lots whereby five thousand, two hundred and ten dollars were paid for the steel over the authorized price.

In connection with this violation the files of the Office of Price Administration reflect that on August 26, 1942 Office of Price Administration attorneys Amos Coffman and James Gruener, while conducting an investigation at the Builders Structural Steel Company, Cleveland, Ohio, on a charge of the Higgins Boat Company purchasing on the black market, discovered that the Builders Structural Steel Company sold five hundred, twenty-one thousand pounds of steel at a dollar per hundredweight over the ceiling price. This steel was sold to Kaiser Company, Incorporated of California.

It was also discovered that Builders Structural Steel Company had also offered Kaiser Company, Incorporated, two hundred tons of steel at one dollar over the ceiling.

On August 27, 1942, Judge Robert N. Wilkin of the Northern District of Ohio, Eastern Division, signed a temporary restraining order enjoining defendants, Builders Structural Steel Company and Kaiser Company, Incorporated, from further violating price schedule No. 49....resale of iron and steel products. The complaint alleged that Builders Structural Steel Company sold approximately five hundred, twenty thousand pounds of steel to the Kaiser Company, Incorporated, above ceiling price set out in schedule No. 49. It stated further, that on September 5, 1942, Judge Wilkin signed a consent decree enjoining defendants from further violating price schedule No. 49. Also on October 9, 1942, Judge Wilkin signed a consent decree permanently enjoining Builders Structural Steel Company from further violation of price schedules No. 49 and No. 6. Price schedule No. 6 is reportedly similar to No. 49.

Other information appearing in the Office of Price Administration files indicated that in a letter to the Builders Structural Steel Company dated December 17, 1942, the Office of Price Administration Regional Office at Cleveland, Ohio acknowledged receipt of the Builders Structural Steel Company's letter dated December 10, 1942 and the enclosed check in the sum of \$1,048.80 drawn to the order of the United States Treasury. The check was reportedly accepted as a voluntary contribution to the United States Treasury, the face thereof equalling the overcharge by Builders Structural Steel Company in excess of the maximum price established. This same letter acknowledged receipt of a copy of a credit memorandum dated December 8, 1942, issued in favor of the Kaiser Company, Incorporated, in the sum of \$5,087.17 to adjust charges within maximum prices provided in price schedule No. 49 on material shipped to Kaiser Company, Incorporated on numerous invoices.

An official of the Office of Price Administration explained that at the time of the above violation the Office of Price Administration did not have the power to force companies to pay fines because of violations. It was said the "voluntary contribution" was an act on the part of Builders Structural Steel Company to right themselves with the Office of Price Administration. In this suit Kaiser Company, Incorporated was entered as a purchaser and because of their position, no action could be taken against them by the Office of Price Administration. The conditions existing at that time only allowed the Office of Price Administration to proceed against the seller.

In the files of the Office of Price Administration on this same case was a report from the Regional Director in San Francisco in the month of September, 1942, stating that it had been reported to them that iron and steel scrap was being shipped and covered a considerable quantity of usable steel plates. The shipments originated in the yards of the Oregon Shipbuilding Corporation (Kaiser owned), St. John's Plant, Portland, Oregon and were shipped to the California Scrap Company at Pittsburgh or Oakland, California.

Also reported by the San Francisco Office of the Office of Price Administration was the Richmond Shipyard No. 1, Permanente Materials Corporation, at Richmond, California, (a Kaiser enterprise). It was alleged that Gardner Manufacturing Company of 2707 Union Street, Oakland, California, connived so that bids of the Gardner Company were always accepted by Richmond Shipyard. The Gardner Company manufactured and sold nuts and bolts. They were reportedly the only bidder for the Richmond Shipyard business; the two other bids being faked.

MISCELLANEOUS

A confidential source reported on March 18, 1943, that Henry J. Kaiser, President, Richmond Shipbuilding Corporation, was a member of the Board of Trustees, a Director, and President of United Seamen's Service, Incorporated, which was organized in August, 1942, as a nonprofit corporation under the Laws of the State of New York, to be a welfare organization for merchant seamen. A number of individuals employed by this organization were said to be active Communists. This source alleged that Joseph Curran, President of the National Maritime Union, and Vice President of the United Seamen's Service, Incorporated, had endeavored to obtain employment in the United Seamen's Service for a number of "well-known Communists"; that the National Maritime Union had endeavored to dominate the United Seamen's Service with the result that Henry Lundberg, President of the Seafarers International Union, had recently resigned as Director of the United Seamen's Service; further, that high ranking officials of the United Seamen's Service at its headquarters were drawing excessive salaries and that this Service was expending money on unnecessary and useless projects. It was also reported that Kaiser, at one time, submitted his resignation as President, but later withdrew it temporarily at the request of Captain Edward Macauley, Deputy War Shipping Administrator.

In November, 1943, the Honorable Robert A. Grant, member of the Naval Affairs Committee of the House of Representatives, Washington, D. C., conducted hearings in San Diego, California, in connection with a Congressional investigation of the Brewster Aeronautical Corporation of Long Island, New York; Newark, New Jersey; and Johnsville, Pennsylvania. Mr. Charles Albert Van Dusen, former President of the Brewster Corporation, and at that time consulting engineer with offices at 2706 Lypton Street, San Diego, California, testified and, among other things, he stated that in March, 1943, he had a conference with Henry Kaiser in New York City, at which time Kaiser informed him that he, Kaiser, had arranged with the voting trust of the Brewster Aeronautical Corporation to take over the plant, and that he felt he had sufficient influence in Washington to obtain the materials, money and tools necessary to make Brewster a going concern. According to Van Dusen, Kaiser wanted him to stay as President of the Company, but Van Dusen refused to do so. It was further indicated that this conference with Mr. Kaiser resulted after Mr. Van Dusen received a call from an official in the Navy Department requesting that he meet Mr. Kaiser in New York for the purpose of discussing the matter of the plant being taken over by Mr. Kaiser.

Little information is available regarding Kaiser's political affiliations, however, "Current Biography" for October, 1942, stated that Kaiser, although he had been the executor of many of the New Deal's biggest projects, nevertheless voted for Willkie in 1940 and refused to contribute to either party.

Mr. Kaiser is a member of the Episcopal Church.

EARTH MOVERS

Henry J. Kaiser & Six Companies

A series of three articles

Fortune

- I. August 1943, page 97
- II. September 1943, page 119
- III. October 1943, page 139.

Also a separate article on

Henry J. Kaiser:

Fortune

October 1943, page 145.

FORTUNE

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I THE JOB BEFORE US

"The biggest job in the world is that of President of the United States. The biggest job before the U.S. this month is one that only the President can do. The job has been put off but it cannot be put off much longer. The job is this: to purge the present War Administration, which contains too many bunglers, too many Pollyannas, too many waverers, and too many people; and to replace it with the instruments of Total War."

That statement appeared on this page eleven months ago. Eleven precious months have passed and we still have a war management whose personnel is weak, whose internal morale is disheartening, and whose organizational lines of authority are a nightmare. The crisis so long and so generally predicted is now upon us. And the fact that it is on the home front, not on the battle fronts, should afford us little comfort. We can take defeats in battle because we know we can win the last battle. But we cannot win the last battle unless the home front, the ultimate source of our war-making energies, remains resolute and productive. At this writing the home front is still deteriorating at an accelerating rate.

It is deteriorating most rapidly in food. The lateness of the season, floods, the labor shortage, the feed shortage, and shortage of intelligent farm policy and administration in Washington are conspiring to make food the most critical sector of our entire war effort. Yet there are three other sectors no less pressing if less immediate—the question of civilian supply, the labor-manpower mess, and the whole area of prices, inflation, and fiscal policy.

Why is this home-front muddling allowed to go to the point where it threatens our military striking power? The defects of our war organization have been analyzed month after month in the entire U.S. press. The titles of some of the articles that *FORTUNE* has published in the past two years are suggestive. On food: "So Food Will Win the War, Eh?" (June, 1943), "Cattle and Confusion" (April, 1943), "Food Rationing: The Time Is Now" (December, 1942); on civilian supply: "Concentration or Confusion?" (January, 1943); on manpower: "Whose Manpower?" (January, 1943); on fiscal policy: "Inflation Can Still be Checked" (March, 1943), "Price Fixing Is Not Enough," by Marriner S. Eccles (August, 1941).

A temporary collapse on the home front probably would not lose the war. But it might prolong it. To have prolonged it by a day, even by an hour would be a terrible thing to have on one's conscience. And if some of the people engaged in the Battle of Washington occasionally remembered that 288 Americans were killed on the eleventh of November, 1918, perhaps they would have less stomach for confusion.

*"With confidence in our armed forces,
with the unbounding determination of
our people, we will gain the inevitable
triumph. So help us God."*

FRANKLIN D. ROOSEVELT, DEC. 8, 1941



THE EARTH MOVERS I

BEGINNING THE EPIC OF THE SIX COMPANIES OF THE WEST

A GROUP of West Coast men assembled one morning at the Engineers Club in San Francisco. (This was twelve years ago—in February, 1931.) They were all contractors, attended by their engineers, lawyers, and financial men. Two were aging Mormons who had graded the roadbed for the Western Pacific when it went through Utah. Two others mixed railroad work with general contracting. One specialized in sewers and tunnels, one was a bridge builder, one a building contractor, and one—Henry J. Kaiser—a sand, gravel, and paving man.

These men came together to do collectively what they could not do individually: to set up an organization to bid in and build the huge dam on the Colorado River now called Boulder. Among them were the most powerful contractors in the West but by industrial standards they were far from rich. It was impossible for them to scrape together the \$8 million in working capital that the surety companies first demanded as a condition for underwriting the job. The figure was finally reduced to \$5 million. Even this strained their aggregate resources to the limit.

The most important outcome of that meeting was a loose confederation of builders and earth movers called Six Companies, Inc. Between 1931 and 1936 this group started and completed Boulder Dam, the most spectacular single construction job of the American depression years and, at that time, the biggest dam on the face of the earth. Had these been ordinary contractors they would have been satisfied to divide their fat profits and let the alliance fall apart. Instead they stayed together. Between 1933 and 1942 they went on to build the Bonneville dam and powerhouse on the Columbia River; they took over and completed Grand Coulee on the same river; and they sank the great piers for the famous Bay Bridge between San Francisco and Oakland.

Boulder was a \$49 million job. The Six Companies' share of Bonneville, Grand Coulee, and the Bay Bridge was nearly \$69 million more. With the government committed to a spending policy that found expression in a series of vast public

works, they could look to a prosperous and exciting future as the builders of the new West.

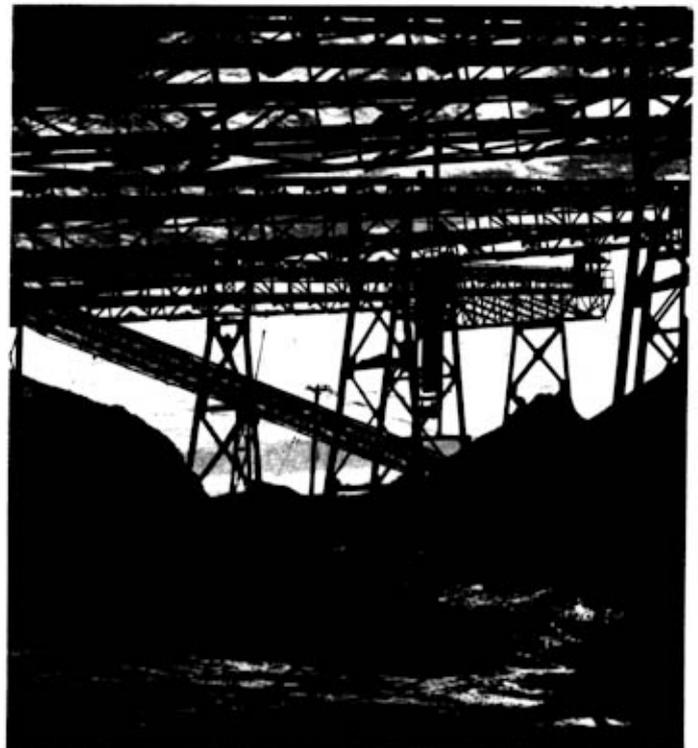
The war dealt a fatal blow to this ambition. It stopped most of the dam building and the great federal irrigation and power projects. But even before this business had dried up, the Six Companies were boldly planted in another, fed by the same inexhaustible springs of the national treasury. They got into war construction—not just cantonments and military roads but ships, steel, magnesium, aircraft, and many other things. No group of Americans in history have spread themselves out on the scale of these Westerners. The prestige that has descended upon Henry Kaiser has missed some of the others completely. Yet without them the phenomenon of Kaiser, which has become the phenomenon of the self-industrializing West, would have been only partially possible. Indeed, but for them it might never have happened.

It is a fairly widespread notion that the Six Companies is a sort of super holding company for Kaiser's production miracles. Mr. Kaiser himself is partly to blame for this mistaken impression. In his all-embracing enthusiasm, a mere finger in an enterprise is sometimes made to appear like a whole hand. The Joshua Hendy Iron Works of Sunnyvale, California, described last month in *FORTUNE*, is a Six Companies show, but Mr. Kaiser, with only a 7.5 per cent interest, habitually has called it "my engine company." This possessiveness, which extends to other communal undertakings, has caused some hard feeling between Kaiser and the other members of the group. They feel

MOVING THE AGGREGATES TO SHASTA

The conveyer belt on the left is a dramatic example of the way the men of the Six Companies operate. After building Boulder and Bonneville dams and completing Grand Coulee, they missed out at Shasta Dam on the Sacramento by an eyelash—by \$263,000 on a \$36 million bid. However, the sand and gravel—the contractor's aggregates—for the dam were in a separate contract. The Six Companies bid them in for \$7,300,000.

Right away they got into an argument with the Southern Pacific Railroad. Henry J. Kaiser, who sponsored the Shasta operation for the group, was outraged first by the freight rates that the S.P. demanded for a twelve-mile haul between the gravel pits and the dam site, and again by its refusal to run a spur track from the pits to the main-line tracks. Kaiser and his associates decided to do the job by conveyer and eliminate the railroad entirely. The dire warnings of some of their own engineers, not to mention those of the S.P., did not deter them. With Goodyear engineers they designed the world's longest conveyer belt (9.6 miles), over which, by the end of the year, they will have delivered twelve million tons of sand and gravel in three and a half years. The Six Companies gambled \$1,100,000 on this piece of apparatus. And, as usual, the risk paid off. Costs have averaged about 18 cents per ton, against the S.P.'s asking rate of 20 cents.



that the concept of the Six Companies is bigger than any one of them. For they picture themselves as the instruments with which the West is progressing confidently and irresistibly toward its goal of empire.

Actually there are not six companies but eight, and the original corporation—Six Companies, Inc.—passed out of existence in June, 1942. But the name persists and so does the group technique. It is the thing that makes them collectively strong. It is the thing that makes them unique. In the eight are:

Henry J. Kaiser Co. of Oakland, successor to the Henry J. Kaiser Co., Ltd., founded in 1913. It is run and largely owned by Henry Kaiser, now sixty-one, who was born in upper New York state.

W. A. Bechtel Co. of San Francisco, dating back to 1900, and headed by Stephen D. Bechtel, forty-three, son of the founder, and born in Indiana.

Morrison-Knudsen Co., Inc., of Boise, Idaho, formed in 1912. It is headed by Harry W. Morrison, a tall, spare man of fifty-eight, born in the Middle West.

Utah Construction Co. of Ogden, Utah, which goes back to 1875. Its President is Lester S. Corey, sixty-odd, a cousin of the founders, who were Mormons.

MacDonald & Kahn, Inc. of San Francisco, formed as a partnership in 1911. It is headed by one of the original founders, Felix Kahn, sixty-one, son of a rabbi, brother of the famed late Albert Kahn. He was born in Detroit.

J. F. Shea Co., Inc. of Los Angeles, formed in 1914 as a partnership between J. F. Shea, a plumber, and his ambitious son, Charles A. It is headed by Gilbert J. Shea, brother of Charlie, now dead. He was born on the West Coast.

Pacific Bridge Co. of Portland, founded in 1869. It is headed

by W. Gorrill Swigert, forty-five. He is an Oregonian, a grand-nephew of the founders.

General Construction Co. of Seattle, founded in 1931 as a consolidation of several paving and bridge-building companies. Its President and chief stockholder is a taciturn Scotsman, J. A. McEachern, sixty-five, who was born in North Carolina.

No one knows how much work this group is doing alone or in combination with outsiders. Felix Kahn, who is a kind of clearing agent for group affairs, observes loftily, "Just listing the jobs in a small type would fill several pages of FORTUNE." The group, he goes on to say, has never tried to add up all the business on their books. But Kahn, vaguely remembers that one of his associates made a rough calculation last fall that showed that the unfilled orders on all the Six Companies' books at that time was about \$2 billion. "But it's probably more than that now," he says with characteristic caution.

Take ships alone. The group manages twelve shipyards—ten on the West Coast, one on the Ohio River (Evansville Shipyard), and one on the Atlantic (Rheem Shipyard, at Providence, Rhode Island). In these yards they are building Liberty ships, small aircraft carriers, tankers, troop ships (C-4's), tank landing ships, destroyer escorts (Frigates), and they soon will start to build Victory ships. They alone will this year produce about six million dead-weight tons of merchant shipping, equal to 30 per cent of the national program.

In the seven shipyards that are called group yards (i.e., the Six Companies divide the interest) the war shipbuilding contracts, from the initial British order for sixty ships, are estimated to total \$3 billion. This does not include the contracts held by three yards in which Kaiser has the sole interest, or



HARRY W. MORRISON



FELIX KAHN

a fourth in which he has all the interest but a 15 per cent share held by Morrison-Knudsen, or a fifth in which he shares the interest with Morrison-Knudsen and Walsh Construction Co. of New York. These five obtained an additional \$700 million in contracts.

Shipbuilding represents an important stage in the evolution of the Six Companies; it is symbolic of the break with the epic routines of the dirt movers and construction stiffies who made their reputation at Boulder Dam. The crisis in the nation's industrial plant opened to these prodigious builders technologies and processes that might otherwise have been closed forever. In one direction the Six Companies seized the opportunity to set themselves up in the immensely profitable field of light metals. Pledging the profits from Richmond Nos. 1 and 2 shipyards, they borrowed \$20 million from the RFC with which to set up Permanente Metals Corp., which owns and operates the much-publicized magnesium plant overlooking the Santa Clara Valley, near San Francisco. And Kaiser, shooting off on a tangent of his own, has used the war crisis to establish himself in the steel industry. With \$106 million in RFC money, borrowed against the earnings of the shipyards in which he has sole interest, he has built a new steel mill at Fontana in the rich San Bernardino Valley area, inland from Los Angeles.

The Six Companies men, from being just a roving band of unknown contractors, have in a few short years become tycoons. In the process of becoming industrialized, the group three years ago bought control of the Joshua Hendy Iron Works, a bankrupt mining-machinery firm that has since been transformed into one of the largest producers of marine engines in the country. They also own the big Permanente Cement Co., alongside the magnesium plant, which has broken the cement monopoly

on the West Coast. Kaiser, besides being in all these things, plus steel, is also maneuvering for a position in the aircraft industry. His partnership with Howard Hughes to build a huge new cargo seaplane, his purchase of Fleetwings, Inc., his contract with a lend-lease subsidiary for two helicopters of a design controlled by him, and his speculative alliance with Otto Koppen, an M.I.T. professor with a revolutionary flying wing, are all wet thumbs held in the surcharged air.

The W. A. Bechtel interests, carrying the industrialization process in another direction, have set up a petroleum-refinery engineering organization called the Bechtel-McCone-Parsons Corp., of Los Angeles. This company has engineered and built numerous plants for the production of chemical and petroleum products. Among them are two powder plants costing over \$30 million for Hercules Powder, and two huge 100-octane-gasoline refineries—one for Shell in Curaçao, the other for Texas and Standard of California in the Persian Gulf. Bechtel-McCone-Parsons also constructed and is now operating the Army's colossal Modification Center at Birmingham, Alabama, which will handle Willow Run's entire B-24 bomber output.

Yet in becoming managers and industrialists the men of the Six Companies have not ceased to be builders and earth movers in the epic sense. They have a piece of the Alaska Military Highway, \$10 million worth. They are putting the finishing touches to a system of military airports and radio stations in Alaska. They have a big share in that tremendous construction show in the islands of the Pacific called PNAB (Pacific Naval Air Bases), which is winding up a \$332 million program for the Navy. For PNAB they have built, among other things, underground storage tanks of unprecedented depth and complexity, barracks, and gun emplacements; they

THE SURVIVING FOUNDERS

"WE HAVE CARRIED THE FLAG in construction," says Harry Morrison of Morrison-Knudsen, "just as Henry Kaiser, the Bechtels, and Kahn have carried it for the group on industrial projects." Morrison is fifty-eight, a big, quiet-spoken man with snow-white hair. Among the prima donnas of the Six Companies he is conspicuously mild and shy. Yet he brought them all together to build Boulder Dam. Born in Illinois, Morrison went West in 1904, got a job with the U.S. Reclamation Service, and in 1912 entered into partnership with another Reclamation man, Morris Knudsen. His wife, Ann, who used to be a secretary, goes with him everywhere—Hawaii, Alaska, Mexico—not just as wife and companion, but as a trusted adviser.

"THE FIGHTING OF A WAR," says Felix Kahn of MacDonald & Kahn, "is like a construction job. If you've got a dam to build, it's usually all hell-and-gone out in the wilderness. A contractor has to set up a tremendous organization where nothing exists—house and feed thousands of workers, establish his own communications. That's what an army does. In both instances you have to move into the enemy's territory, destroy him, then clear out and set yourself up somewhere else." Kahn is sixty-one. His particular interest among the Six Companies properties is the Joshua Hendy Iron Works of Sunnyvale, maker of reciprocating engines and turbines.

"I'VE ALWAYS HAD A RULE," says Henry Kaiser. "A builder's job is to build. It doesn't stop just with putting together things you get from somebody else. If a builder is stopped from building what he has to build, just because he can't get what he needs, then it's time for him to go back to first principles." Thus Kaiser's explanation of how he changed into an industrialist. He went into the cement business because the cement industry's prices were too high. Similarly, the shortage of steel plate for his shipyards gave him a plausible reason for setting up the Fontana steel works. Kaiser is sixty-one. Shown with him is his second son, "Junior," twenty-six, who shares his father's vast dreams. Junior is being seasoned at Fontana.



HENRY J. KAISER SR. AND JR.

have even had a hand in the raising of the sunken warships at Pearl Harbor. And, finally, they are in this mysterious and portentous Army undertaking in the subarctic known as "The Canol Project," an abbreviation of Canadian Oil, a \$76 million show. As partners in Canol, men of the Six Companies are building a 400-mile pipeline through the wild mountainous country between Fort Norman, on the Mackenzie River, and Whitehorse in the Yukon. In that inhospitable land they are drilling for oil and erecting a refinery.

No businessmen in America live more dramatic or varied lives. "Steve" Bechtel, who is following the Canol Project, is almost a commuter to the Arctic. Henry Kaiser, making the busy rounds between his office in Oakland, his apartments in the Shoreham Hotel in Washington and the Waldorf-Astoria in New York, is on intimate terms with the military and political elite. His older son, Edgar, at thirty-four bosses 90,000 shipyard workers around Portland, Oregon. Harry Morrison is forever flying between his construction jobs in Mexico, Alaska, and Hawaii, always with his plump, merry wife Ann, to whom he has been married twenty-nine years. A Hollywood magnate would be awed by the way these men rush back and forth across the continent and how they use the long-distance telephone. Kaiser's headquarters alone spends over \$250,000 a year on long-distance calls—"a conservative figure, if anything," according to Kaiser himself.

In pursuit of their dramatic careers, the Six Companies men have had many a close call. The Morrisons, for example, were aboard the next to the last plane out of Wake Island. Their workers, however, were not so lucky. Some 850 were either killed or have died or are Japanese prisoners. The same must be said for thirty-five W. A. Bechtel men at Cavite, in

the Philippines. But sudden death is never a stranger to contractors. At Boulder Dam they lost 110 men in five years.

"I WAS WILD TO BUILD BOULDER"

The root alliance from which all this came was one between the Utah Construction Co. and Morrison-Knudsen dating back to 1922. Utah is one of the great railroad construction firms of the West. The Wattis brothers who founded it were sons of a second-generation Englishman who had joined the California Gold Rush and then settled in Utah. Between 1875 and 1880, the brothers did work for the Great Northern, Canadian Pacific, and the Colorado Midland. Fifty years ago they entered into a partnership with two uncles, the Coreys. Almost immediately they were ruined by the panic of 1893.

The Coreys quit the business; W. H. Wattis, the younger brother, held on; and E. O. Wattis went into sheep ranching to raise money to make another start. Seven years later they formed Utah. Part of the capital was supplied by David Eccles, father of Marriner Eccles, Chairman of the Board of Governors of the Federal Reserve, and a powerful Mormon banker. Utah captured so much of the Union Pacific's construction work that it became a common expression among western contractors that "You can't do business with the U.P. unless you work through Utah."

Harry Morrison and his partner Morris Knudsen, who were operating out of Boise, Idaho, on a shoestring, undertook to crack this monopoly. They underbid Utah so fiercely that Wattis finally called Morrison to Ogden and offered to cut him in on Utah's regular business, if he would be more reasonable. "They took me in," Morrison says, "on the theory that

THE SECOND GENERATION

"WE ARE BUILDING AN EMPIRE," says Kaiser's older son, Edgar, who is one of his father's most devoted disciples. Edgar is thirty-four, a graduate of the University of California. His wife is the daughter of the late Dr. Elwood Mead, Commissioner of Reclamation under Hoover and one of the original supporters of Boulder Dam. They have four children. Edgar Kaiser is no pale shadow of a famous father. He runs the Oregon Shipbuilding Corp.'s big yard at Portland, which Admiral Vickery has called "not only the finest in the U.S., but in the entire world." Edgar Kaiser also runs for his father the nearby Vancouver and Swan Island yards.

"WE OPERATE ON OUR OWN BRAVE MONEY," says Kenneth K. Bechtel, thirty-nine, youngest of the three Bechtel boys. (Warren, the eldest, not shown, bosses the mining construction division that is building new smelters, refineries, and so on for the Phelps Dodge Morenci mine.) "Dad" Bechtel, who got his schooling in the tough railroad construction gangs of the West, sent all three sons to the University of California to study engineering. But "Ken," like his older brothers, quit before graduation to join his father's construction gangs. "We thought Dad couldn't get along without us," he says. He runs the new Marinship yard at Sausalito, in San Francisco Bay, which is assembling Liberty ships and tankers.

"WE WILL BUILD ANYTHING any place at any time," says Stephen D. Bechtel, President of W. A. Bechtel Co. Like Edgar Kaiser, he belongs to the second generation of Six Companies managers and proprietors. "Steve" Bechtel is forty-three. He is a heavy-set, jaunty fellow, with thinning brown hair and a boundless confidence. W. A. Bechtel and related companies sponsor the Calahip and Marinship yards, manage the huge B-24 bomber Modification Center at Birmingham, Alabama, and have a big interest in the Army's highly secretive Canol Project, a gigantic refinery and pipeline job in the Yukon-Mackenzie River districts. Steve spends almost as much time in the subarctic as he does in San Francisco.



EDGAR F. KAISER

when the competition gets tough and you can't beat 'em, then join 'em."

In 1925 a third man entered this combination, Frank T. Crowe, general superintendent of the U.S. Bureau of Reclamation. Crowe was forty-eight, a University of Maine man, tall and taciturn, whose one ambition was to build dams. Both Morrison and Knudsen, before forming their own company, had worked with Crowe as young men in the bureau. Crowe stayed in the government service for two decades, leaving to join a dam-building partnership set up by Utah and Morrison-Knudsen around his skill.

Utah, a few years before, had built the \$7 million Hetch Hetchy dam that impounds San Francisco's water, and the job had fired old W. H. Wattis's enthusiasm to tackle more dams. Between 1925 and 1931 this partnership built two god-sized federal dams—the Guernsey (Wyoming) and the Deadwood (Idaho). They made money, and the experience prepared them for the great dam that the Hoover Administration was preparing to build on the Colorado.

"I was wild to build this dam," says Crowe. "I had spent my life in the river bottoms, and Boulder meant a wonderful climax—the biggest dam ever built by anyone anywhere." The vision of it had filled his imagination for a quarter of a century, ever since the late A. P. Davis, Director of Reclamation, had prophesied to him, an engineer fresh from the classroom, that not even the stupidity of man could keep a great dam from being built in the gloomy canyon where they stood. Crowe had in fact made a rough estimate of the dam for Davis as early as 1919.

The great purpose behind the dam was to stop the wild and

costly floods that were forever inundating the Imperial Valley, to provide drinking water for the coastal cities of southern California, and power and irrigation for southern California, Nevada, and Arizona. The Swing-Johnson bill, authorizing the great Boulder Canyon project, was passed in the closing days of 1928. But months before, Crowe and his partners had decided to go after the job.

"We're the logical people to build it," W. H. Wattis decided. "We've had the most experience." In Utah's general superintendent, Henry J. Lawler, who had been with him over thirty years and had built Hetch Hetchy, W. H. was confident they had a dam builder second only to Crowe. "Frank and Hank," he used to say, "will build that dam."

E. O. Wattis was seventy-six and ailing; his hand shook so much that it was difficult for him just to sign a paper. W. H. really ran Utah. He was seventy-two and subject to spasms of pain that made him cranky and contrary. In the beginning he was obsessed with the idea that Utah, Morrison-Knudsen, and Crowe could swing the dam alone. "Money's no problem," he kept saying. "We can raise what we need on the ranch."

Ever since the first failure, which E. O. had redeemed with his earnings as a rancher, the brothers had frugally reinvested in sheep and cattle the company's earnings from construction. They had been impressed by the fact that bankers who recoiled from a contractor's I.O.U. would gladly advance money against a rancher's note. Utah Construction became one of the biggest ranch operators in the mountain states, with 25,000 cattle, 30,000 sheep, and 250,000 acres. In good times the ranch division by itself earned as much as \$1 million a year.

Crowe and Morrison, however, had concluded the dam would cost between \$40 and \$50 million—too big a job for



KENNETH K. BECHTEL



STEPHEN D. BECHTEL



LESTER A. COREY



GILBERT J. SHEA

them to finance by themselves. Wattis's mood now reversed itself. "If we can't do the job alone," he swore, "to hell with it." The old man dreaded working with strangers. He considered the average contractor only a cut or so above a cattle rustler or horse thief. It took all of Morrison's tact to rekindle his interest, and a solemn promise that he would not invite anyone into the group who was not "our kind."

Wattis almost always asked the same question whenever Harry Morrison came to him with a new name. "Yes, yes, H. W. But is he all right? Is he our kind?"

"WE NEVER HAD A WRITTEN CONTRACT"

Morrison and Crowe had figured the minimum working capital for starting the dam at \$5 million. The Wattises agreed to put up \$1 million, and Morrison thought his firm could scrape up \$500,000 for its capital contribution. This left \$3,500,000 to be raised on the outside.

The first man Morrison approached was Charles A. Shea, of the J. F. Shea Co. Charlie Shea was a second-generation Irishman born in Portland. He had gone to work as an apprentice in his father's plumbing shop. In time they formed a partnership, but the son from the beginning was head man. He became one of the best-known tunnel and sewer men on the West Coast, laying the water supply lines for San Francisco, Oakland, Berkeley, and the East Bay area. In 1930 Charlie Shea was forty-seven, a pugnacious bantam, with flashing blue eyes, a corrosive tongue, and a mind of his own.

No contractor on the Coast had a better reputation than Shea, and when he agreed to join the Utah and M.-K. combination and to ante up \$500,000, Morrison felt he had come a long way. Now Shea had a working alliance with the Pacific

Bridge Co., also of Portland, and he asked Morrison to invite that company in too. Pacific Bridge, one of the oldest construction firms on the West Coast, was famous for its underwater work. It built the piers for the first bridge across the Willamette River at Portland and, in collaboration with Shea, the water line across the Mokelumne River and branches of the San Joaquin that bring in San Francisco's water from Hetch Hetchy.

According to Mr. W. Gorrill Swigert, the present President and a grandnephew of the founders, the two companies would jointly bid a job; if successful, Shea would take over the sewer and tunnel work and Pacific Bridge the underwater. "In all the years that we worked with Charlie Shea, we never had a written contract," says Mr. Swigert, a slight, rather quiet man. "We'd divide up a job just by listing the things that had to be done, then we'd go down the list with a pencil, circling those Pacific Bridge would handle and putting an 'x' in front of the ones Shea was responsible for."

Pacific Bridge said it would put up \$500,000, which brought Morrison to the halfway mark. At this juncture, W. H. Wattis took to his bed with cancer of the hip. Knowing his own days were numbered, he came to regard the dam with deep foreboding. He was afraid he would die before the work was far advanced, leaving his ailing brother and the company committed to a huge speculation that might easily kill one and ruin the other. But Morrison, in his quiet, persistent way, finally managed to banish the old man's doubts. Utah stayed.

"ONE OF THE FAMILY"

Sometime during the summer of 1930, while on a trip to San Francisco, Morrison called on Mr. Leland Cutler of the Fidelity & Deposit Co. Mr. Cutler is a floridly handsome Californian,

THREE NEW PRESIDENTS

"THE END OF THE WAR," says Lester S. Corey, President of Utah Construction, "should be followed by a big reconstruction period. The Orient and South America look very promising to us—railroads, hydroelectric plants, and highways, all kinds of building jobs." Corey, a small, spare, deliberate man who used to be a timekeeper, won't tell his exact age—"I'm about sixty." Utah has declined to follow Kaiser and the Bechtels all the way into industry. Shying away from the shipyards, steel and engine plants, except as an investor, Utah has doggedly persisted in heavy construction—the Alaska Military Highway, the big Geneva plant for Columbia Steel at Provo, Utah, rehabilitating the grade of the Southern Pacific in Mexico.

"IT TAKES BIG MONEY," says Gilbert Shea of the J. F. Shea Co., "to do general contracting on the scale to which the Six Companies boys are accustomed." The capital some have tied up in their industrial shows has caused him to wonder what is to become of them. He seriously doubts they will all continue in the construction business. Shea is not so active in group affairs as was his brother, the late Charles A. Shea, whose leadership at Boulder Dam drew from Henry Kaiser the tribute, "God, what courage that man had!" Since Charlie died, the company's main contribution to group projects has been money. But Gil Shea and Morrison were the only partners in the present group who volunteered to follow Henry Kaiser into steel.

"WE NEVER WORK ALONE," says Gorriil Swigert, head of the Pacific Bridge Co. "All our work is done jointly with the group or some outside company." Pacific Bridge, oldest of the Six Companies, with a history going back to 1869, is the smallest. It is building drydocks and graving docks for the Navy—all very secret. In addition, the company manages the Alameda Shipyard near San Francisco, which is working for the Navy and Maritime Commission. "The last time we figured it up," says Swigert, "we had about \$75 million in work on the books." Swigert, a grandnephew of the founders, is forty-five; a quiet little man, he runs his jobs from a plain office in a dingy building in a run-down district of San Francisco.



W. GORRIIL SWIGERT

a close friend of Mr. Herbert Hoover and a fellow Stanford trustee. Although the surety bond promised to be by far the largest ever written on a single job, Cutler was confident that he and his partner, Mr. Guy Stevick, would be able to swing it. However, he warned Morrison that the operation would depend upon the group's ability to raise enough working capital to satisfy the underwriters. Cutler urged Morrison to call upon a friend of his, a wealthy San Francisco contractor of good reputation, Felix Kahn. This Morrison did, and thereafter, in his homely phrase, "one thing led rapidly to another."

The firm of MacDonald & Kahn was a partnership of a Scot and a Jew. It lasted nearly twenty-five years until Alan MacDonald died in 1935. Kahn, like his five brothers, was an engineer. He took his B.S. degree at the University of Michigan in 1904. Kahn's first job was with Truscon Steel, in Pittsburgh. There he met MacDonald, a youthful Kentuckian with degrees in mechanical and electrical engineering from Cornell. MacDonald was hotheaded, impetuous, and opinionated. He had been fired from fifteen consecutive jobs in two or three years. But he and Kahn hit it off fine. In 1908 they went to San Francisco together to represent Truscon on the West Coast. Three years later they formed their own firm. MacDonald & Kahn built some of the largest office buildings, hotels (Mark Hopkins), and industrial plants on the West Coast. In the decade before Boulder, they put up \$75 million worth of buildings.

They were themselves studying the dam, with the idea of bidding for at least a piece of it, when Morrison called. MacDonald & Kahn had done some subcontracting for Utah in the past; there was no question of their not being "our kind." They agreed to put up \$1 million—"that made me one of the family right away," says Kahn, with a chuckle.

While Morrison was thus drumming up partners in the West,

other contractors, eager to build the dam, were just as busy trying to form combinations of their own. Among them was Henry Kaiser and an old-line contractor named W. A. Bechtel, Kaiser's first partner. They had met in 1921, when Kaiser was building a thirty-mile stretch of highway between Redding and Red Bluff in northern California. Prior to this, Kaiser's contracting operations had been confined to small paving jobs in Washington and British Columbia. This was his first big highway job in California and, as Kaiser tells the story, Bechtel appeared one day on the road, introduced himself brusquely, and asked if he could drive over the work. Before leaving Bechtel complimented Kaiser on his "housekeeping."

"Dad" Bechtel must have been impressed by the way Kaiser worked because he invited the newcomer to join him in several operations. They built pipelines together in the mid-continent fields, quarried rock for highway construction in northern California, and organized an industrial insurance company that was to become the largest private underwriter in California. Kaiser was really Bechtel's protégé. "I was unwelcome," Henry Kaiser says, "when I first went to California. The other contractors banded against me." Bechtel told one of his sons that he liked Kaiser because he was a "hard worker, enthusiastic, and has a lot of ingenious ideas." Bechtel cleared the stranger's path. With his backing, Kaiser became president of the San Francisco chapter of the Associated General Contractors, a trade organization, and even national president. "Dad" was one of the organizers of the A.G.C. and its affairs were close to his heart. The high mortality rate among contractors alarmed him and in A.G.C. councils he was constantly inveighing against cutthroat competition. "We're killing each other off," he warned repeatedly.

Bechtel was a tall, beefy man with a bull-like roar. An

engineer who worked with him as a youth remembers him as being "a horse-drawn fresno-scraper type of contractor"—rather conservative and old-fashioned, in other words. He had come up the hard way—Illinois farm boy, laborer, and foreman in railroad construction gangs, superintendent for an Oakland contractor. In 1900 he set up his own company and, as Morrison was to do after him, bucked Utah for a share of the railroad construction business, forcing the same sort of deal. "We might as well ask him in," W. H. Wattis decided, "as to have him bitin' our feet."

"Dad" Bechtel is perhaps the only man, living or dead, about whom Henry Kaiser speaks in the respectful tones of a junior partner. Kaiser says, "There are two principles 'Dad' followed. He hated to sign papers, on the theory that if you couldn't trust a man's word, you couldn't trust his signature. And his usual condition for entering any proposition was a fifty-fifty division. 'Dad' had no patience with fifty-one, forty-nine arrangements. He used to say, 'No man with a sense of self-respect wants to be controlled on that kind of percentage.'"

When Boulder came up, Kaiser was in Cuba, racing to finish a \$20 million highway contract for the Cuban Government. He likes to tell how he lay awake nights, dreaming of ways

to build the dam. "Dad" Bechtel went to Cuba to talk over some jobs they might do together after Kaiser finished in Cuba. They finally got around to Boulder, and Kaiser remembers that "Dad" was leery of it—"Henry, it sounds a little ambitious." Nevertheless, he whipped up Bechtel's interest to the point where they proposed to the late John Dearborn, then Chairman of the Board of Warren Bros., that the three of them team up for Boulder. Warren Bros. is the well-known Cambridge, Massachusetts, construction company. It had subcontracted the Cuban highway job to Kaiser.

LAST MAN IN

Kaiser originally planned to fill out his group with several wealthy eastern contractors. But when he returned to California—in the late summer or fall of 1930—and learned how far Morrison and Utah had progressed with their plans, he abandoned the idea of setting up a rival group in favor of making an alliance with them. Bechtel had a talk with W. H. Wattis, who was agreeable. Kaiser, Bechtel, and Warren Bros. came in as a unit, putting up \$1,500,000 divided three ways.

In the closing days of 1930 the government called for bids on Boulder, to be opened March 4, 1931. Cutler of the F. & D. about this time went east to sound out the surety companies. The response, according to Cutler, was discouraging. The bonding houses decided it would be dangerous for any group of contractors to take on the job with less than \$8 million in working capital. They were dubious also that any large group of contractors would stay together long enough to make up a bid, let alone finish the dam. And finally, after examining the balance sheets of the contractors, they were incredulous that money could be raised on such assets.

The J. F. Shea Co., for example, appeared to consist almost entirely of Charlie Shea, who ran his business from a room in the Palace Hotel, and who used to boast, "I wouldn't think of going near a bank unless I owed them at least half a million dollars—you get respect then." But it was Utah's collection of sheep and cattle and pasture land that made some of the eastern surety companies wonder what kind of people they were dealing with. However, they became more respectful when Utah produced a certified check for \$1 million drawn upon the Crocker First National Bank.

Nevertheless, several in the group had a hard time raising their share. Morrison-Knudsen had to borrow \$100,000 from Graeme MacDonald, brother of Kahn's partner; Pacific Bridge had to sell 40 per cent of its interest to Sidney Ehrman, lawyer for the group; and Warren Bros., who were short on cash, put up no money at all. Bechtel and Kaiser went on their note.

The February meeting at the Engineers Club, mentioned at the opening of this article, followed. Three estimates on the cost of the dam had been prepared independently—one by Crowe, one by sixty-eight-year-old J. Q. Barlow, Utah's engineer, and the third by Chad Calhoun of MacDonald & Kahn. Calhoun, who is now Kaiser's Washington man, remembers that when the figures were compared they were astounded to find that the high and low estimates were only \$700,000 apart (\$40 million and \$40,700,000) and the other was "right in the middle."

Kaiser took charge of the meeting. Some of the men there were strangers to him and this led to an embarrassing oversight. When the partners adjourned for lunch Kaiser asked

AIRCRAFT are the prime war job of Ralph M. Parsons, forty-six, Vice President of Bechtel-McCone-Parsons of Los Angeles. He runs the Army's huge Modification Center at Birmingham, Alabama, through which the Willow Run production is rerouted for special tactical and operational changes. Parsons is an example of the new type of management coming into the Six Companies. Seven years ago he was an oil-refinery engineer in Chicago, with his own firm. When the Bechtels decided there was more money in designing refineries than in building pipelines, they searched the petroleum industry for an outstanding engineer to help. The search led them to Parsons, who was short of capital but long on reputation.



the "deck hands" to grab a sandwich and work through lunch on certain forecast figures that were on the afternoon agenda. Left behind was a youngish man in a blue serge suit who had not opened his mouth but had taken an intense interest in the figures. Not long after Kaiser had swept off, one of Bechtel's sons reappeared at the club and in deep agitation informed the man in the blue suit that he was expected to lunch with the others at the Palace. But the blue suit said no, he liked it there. It was Marriner Eccles, a Director of Utah.

The figures worked up at that meeting—and most particularly an estimate that the peak cash outlay would not exceed \$3,200,000—impressed the bonding people. But in reducing their requirements to \$5 million on the line, they insisted that the partners pledge themselves to put up \$3 million more if trouble developed on the dam.

It was Kahn who proposed the name, after they rejected Continental Construction and Western Construction. "The name just came to me and the others liked it right away." But the name was not unfamiliar to San Franciscans. It was also the name of the famous tribunal to which the powerful Chinese tongs submitted their differences.

Six Companies, Inc., was incorporated in Delaware in February, 1931, a fortnight before the Boulder bids were submitted. W. H. Wattis, on his deathbed in the St. Francis Hospital in San Francisco, was President; "Dad" Bechtel and E. O. Wattis were first and second Vice Presidents respectively; Shea was secretary, and Kahn was treasurer. All this time Crowe, in collaboration with the partners, was working out the engineering details. A scale model of the dam was built with movable parts for demonstrating crucial operations. On several occasions it was rolled on casters into Wattis's room in the hospital, so that he could follow the talk.

Having figured the total cost at about \$40 million, the only

missing factor was how much to add for profit and contingencies. The partners agreed not to decide this until the eleventh hour—"so nobody would make a slip and give the secret away." Two days before the deadline they met in Wattis's room and agreed around his bed to add 25 per cent. They left by train a few hours later for Denver. Next night, at the Cosmopolitan Hotel in Denver, Crowe was up until dawn, shading a figure here, bolstering one there. His final figure—the one that went on the bid—was \$48,890,000.

More than 100 sets of plans had been sent out but when the bids were opened, in an empty store beneath the Bureau of Reclamation's office, there were only three bids. The Six Companies were \$5 million under the nearer, almost \$10 million under the other.

Not long after this, Kahn took some of the wives and friends of the Six Companies men on a sightseeing expedition into the canyon of the Colorado, which at the dam site was like a vast box. The water was swift, icy spray flew over the small launch, and between the sheer walls rising hundreds of feet on either side the sky was a mere slit.

In this dramatic setting Kahn beamed on his wife, a shy and gentle person, and shouted above the river's roar: "Think
[Continued on page 210]

MERCHANT SHIPS are the particular problem of John A. McCone, forty-one, President of Bechtel-McCone-Parsons, and boss of the Calship yards at Terminal Island, California. In June Calship delivered twenty Liberty ships, the most ever to come out of an American yard. McCone, a graduate of U. of C., where he came to know Steve Bechtel, was fifteen years with Consolidated Steel Corp. He was executive Vice President and general manager of Consolidated when Bechtel invited him to help form B.-M.-P. in 1937. The California oil industry was then dependent for its engineering upon eastern firms with branch offices. B.-M.-P. has prospered. It now has the largest independent engineering staff in the West.





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The Earth Movers I

[Continued from page 107]

of it, we're going 150 feet this way [pointing into the river] and 750 feet that way [pointing up]."

Mrs. Kahn clung to him for support. "Felix, I don't know whether to call you courageous—or crazy."

RIGHT OR WRONG, YOU'RE RIGHT

The technical story of Boulder has been told many times. Frank Crowe went from there to Parker Dam and is now building Shasta. When he speaks of Boulder it is with the rich satisfaction of a man looking back upon the best part of his life. "The Colorado is a wild river. One day it rose forty feet in forty minutes. It became a wall of yellow mud that kept rising until I thought it was going to wash us right out of the canyon . . ." Yet even at this critical juncture Crowe was more certain of his control over the river than he was of his control over the Six Companies partners.

At the insistence of the Wattis brothers, Morrison, and Shea, Crowe was made superintendent. But this decision failed to clarify the relation with the partners. Each of the Six Companies men considered himself competent to run Boulder alone. "Our first hot argument," one recalls, "was over the organization chart. Kaiser thought the job should be run like an army, with a general in supreme charge. That idea got nowhere because no one, least of all Henry himself, wanted to be a private." Kahn, on the other hand, wanted the Board of Directors to run it. He finally won out.

It was asking too much to expect these tough-fibered, opinionated men to keep their itching hands off the dam. Kahn would appear one day and tell Crowe to handle a problem a certain way; a week later Kaiser or Bechtel would insist that it be done another way. Crowe's temper was beginning to disintegrate under the voices warring for his ear. If Charlie Shea had not intruded himself as a buffer, Crowe might have walked off the job. The chaos caused Kahn to decide: "A Board of Directors can establish policy, but it can't build a dam."

After three stormy months the Board relinquished its prerogatives and assigned them to an executive committee of four, who alone could deal with Crowe. Charlie Shea was in charge of field construction; Kahn looked after money, legal affairs, feeding and housing; Steve Bechtel, "Dad's" second son, was made responsible for purchasing, administration, and transportation; and Henry Kaiser was made chairman, in recognition of his unique gifts for making men work together.

Thereafter, so far as the partners were concerned, the operational problems of Boulder more or less disappeared. There were fewer reasons for them to make the uncomfortable sleeper jump from San Francisco, to endure the hot, spine-jarring 200-mile drive from Mojave station across the desert to Boulder City. The intervals between the Directors' meetings at the dam and the Palace Hotel lengthened. Black Canyon, in the desert summer heat, was an inferno. Kaiser, on one of his visits, gave Crowe a bad turn by keeling over from heat exhaustion. Kahn, too, had a close call there from the heat. Alone among the partners Charlie Shea stayed on the job; the river had laid upon him the same fierce hold it had laid upon Crowe.

To the extent it can be said to belong to any single man, Boulder was Frank Crowe's triumph. For five long years the heat, the mud, the remorseless current, the swift floods, the jangling telephones were his responsibility. "We had 5,000



WE HAD A HAND IN IT

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AND
MANUFACTURING CO.

19642 JOHN R
DETROIT 3, MICH.

The Earth Movers I

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men jammed in a 4,000-foot canyon," Crowe says. "The problem, which was a problem in materials flow, was to set up the right sequence of jobs so they wouldn't kill each other off."

On the other hand, Crowe's task was eased by the special knowledge of the Six Companies, whose organizations were constantly researching problems as they arose. He came to know the head men as no other outsider has ever done and his observations are fascinating:

"Kaiser and Morrison always thought of a job in terms of draglines and steam shovels. Kahn figured in terms of money and an organization chart. But Charlie Shea always thought in terms of men. He was the kind of man who'd ask you the time not because he wanted to know but to see what kind of watch you carried.

"They were just about as different as any men could be. Charlie Shea hated to write letters. If he wrote one a week, he thought he was talking too much. But Morrison, on the other hand, thought nothing of dictating a hundred letters in a morning. Morrison never drank, never smoked, never gambled; he was a puritan. Charlie Shea didn't drink either, but he was crazy about gambling. I used to meet him and Felix at the station when they came up from San Francisco and drive them across the desert to the dam. All the way—five hours—they'd shoot craps on the floor of the Lincoln.

"One day I was driving them down Montgomery Street in San Francisco. Kahn spotted 'Dad' Bechtel headed for the bank. 'Drive over,' he said; 'this is going to cost 'Dad' some money!' I pulled alongside the curb and Felix shouted, 'Dad,' 'I'm matching you a double eagle.'

"'Dad' didn't even say good morning. He just gave Felix a quick disapproving look, dug into his vest pocket for a coin, and slapped it on the car window. He took his hand off and said to Felix 'you lose' and walked off without another word.

"They were a great bunch to work for because they stuck together. Charlie and Felix used to say to each other, to settle an argument, 'Right or wrong, you're right, you son of a bitch.' They really felt that way toward each other."

A story is told of a dinner that was held at the Palace. "Isn't it wonderful," exclaimed Felix Kahn, "how the boys have stuck together?" Guy Stevick smiled wryly. "Yes, it's wonderful. But I wonder how it will be when you start losing money?"

The Six Companies knew they were in the clear before the first year was out. In making up the original bid, they had cut the price on concrete and other items to the bone while inflating the excavation items. The main work in the last category was to drive four tunnels through the canyon walls, so that the river

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THE BECHTELS AT BOULDER "Dad" Bechtel worshiped his sons, Steve, Kenneth, and Warren, all of whom quit college to work under him.

The Earth Movers I

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could be diverted while the foundations of the dam were being laid. This involved over 1,500,000 cubic yards of excavation. A reasonable price for this work would have been between \$5 and \$6 a cubic yard. The Six Companies bid it in at \$8.50.

This was what is called an unbalanced bid and there is nothing reprehensible about it. Where the Six Companies were shrewd was to throw a big part of their costs and over-all profits into an early phase of the job. Up to the halfway mark the government paid out on 90 per cent of the bid price as the work was completed. Since the tunnel excavation was finished early in 1932, the Six Companies were able to capture perhaps as much as \$6 million in profits before they started to pour concrete for the dam. In other words, they got back all their working capital plus \$1 million of clear profit within the first year.

HENRY KAISER'S ROLE

Henry Kaiser's role at Boulder was extremely important, although somewhat different from what is commonly supposed. On the building side, his outstanding contribution was to work out the method for handling the aggregates, a terrific job, which his people did so well that Crowe says, "We never lost an hour on account of not having materials." This was one of the factors that made it possible for Crowe to build Boulder in five years—two years and two months ahead of schedule.

His partners, however, seem to think that Kaiser's accomplishments in the river bottom were overshadowed by his diplomatic coups outside. He became the Six Companies Washington man, with headquarters at the Shoreham. His first trip to Washington was during the closing days of Mr. Hoover's administration. Congress had failed to appropriate enough money to carry on the work, the country was scraping along the bottom of the depression. Mr. Hoover was only mildly interested in the fate of the dam, and Kaiser's mission—in which he succeeded—was to lobby a deficiency appropriation that would keep the great work going.

His partners credit him with two other political strokes in connection with the building of Boulder. After the New Deal came in, the new Secretary of the Interior, Harold L. Ickes, threw the Six Companies into consternation by charging them with 70,000 violations of the eight-hour-day law and fining them \$350,000. The government contract bound the contractors not to resort to overtime except in emergencies; this was a depression device for spreading the work. But Crowe and the owners, on the theory that "the dam's a continuous emergency," had not taken the overtime clause too literally. Moreover, in their lust to finish the dam, they had paid a bonus of an hour's extra pay whenever the crews poured more than 100 buckets of concrete a day.

Ickes's charges were splashed over the nation's newspapers and the case for the Six Companies looked bad. But Kaiser's showmanship proved equal to the first critical test. He hired a publicity man to whip up a booklet entitled "So Boulder Dam was Built," a dramatic record of never-ending crises; thousands of copies were air-mailed to Congressmen and high government officials. Kaiser himself went on the air to describe the immense obstacles that had been overcome. In the negotiations that followed the fine was reduced to \$100,000.

The third mission Kaiser performed in Washington that impressed his colleagues was to persuade the government to take the dam off their hands with a minimum of argument. As Kahn points out, "It's one thing to build a great public works; it's

something else to get a government bureau to admit it's finished. Unless you can saw the main job off at a reasonable point, they'll have you adding power equipment, transmission lines, roads, and other extras for the rest of your life."

By the fall of 1935 Crowe was about ready to close his books. There was, of course, a strong money prod to this—to collect the 10 per cent margin (a matter of \$2,500,000) that the government held back as a guarantee of completion. Kaiser, to the surprise and relief of his partners, cleaned up all the details in six months. The government took over the dam in March, 1936.

Boulder was more than a monument to the Six Companies; it was a gold mine. The profits, after taxes, were \$10,400,000, prorated according to the capital contributions. The individual shares, however, were actually larger than the original proportions would suggest for the reason that the partners had meanwhile bought out the interests of Warren Bros., Lawyer Ehrman, and Graeme MacDonald. Frank Crowe was not forgotten. To his \$18,000-a-year salary the partners added a bonus of 2.5 per cent on the gross profit—more than \$300,000. "When you work for that crowd," Crowe remembers with satisfaction, "your work is appreciated."

W. H. Wattis never saw the dam. He died about six months after it was bid. "Dad" Bechtel and E. O. Wattis did not live long enough to see the dam finished. "Dad" died unexpectedly in 1933 while on a trip to the U.S.S.R., whither he had gone at the invitation of the Russian Government to examine the great dams and subways. And E. O. Wattis took his leave of the Six Companies the next year.

"Dad" Bechtel was in his early sixties when he left for Russia. He told his partners, "This is a good time to see what the rest of the world is doing. I've got three sons working." His second son, Steve, then thirty-three, who was on the executive committee at Boulder, became head of W. A. Bechtel Co. In Utah W. H. Wattis was succeeded in the presidency by Marriner Eccles. A wonderful period for the western builders—a sort of golden age of federal works—was beginning, under the auspices of the New Deal's spending policy. Bonneville, Grand Coulee, and Shasta dams were coming up. "There's something peculiarly satisfying about building a great dam," observes Frank Crowe, who has raised many. "You know that what you build will stand for centuries."

The story of the Six Companies will be continued in the September issue of FORTUNE. You will be told how these lusty, uninhibited men missed out on Shasta but got in on Bonneville, Grand Coulee, and the Trans-Bay bridge; how they broke the West Coast cement monopoly; how they bought the highly speculative Hansgirc process, which put them in the magnesium business; and how they landed the shipbuilding contracts that almost overnight made them key figures in American war industry.

The coming installments will carry the men of the Six Companies from Boulder to the war years. During this period, partly by luck, partly by sheer opportunism, partly by shrewd, cold-blooded calculation, they managed to negotiate the perilous transition from contractors "whose offices were their hats" to big-shot industrialists with contracts running into the billions. Their bulging portfolio of war assignments will be examined, their huge incomes will be analyzed, and you will be given a preview of their towering ambitions for a postwar world, which they characteristically take for granted will be just their dish.



THE EARTH MOVERS II

THEY TURN TO SHIPBUILDING AND CHANGE THE FACE OF THE WEST

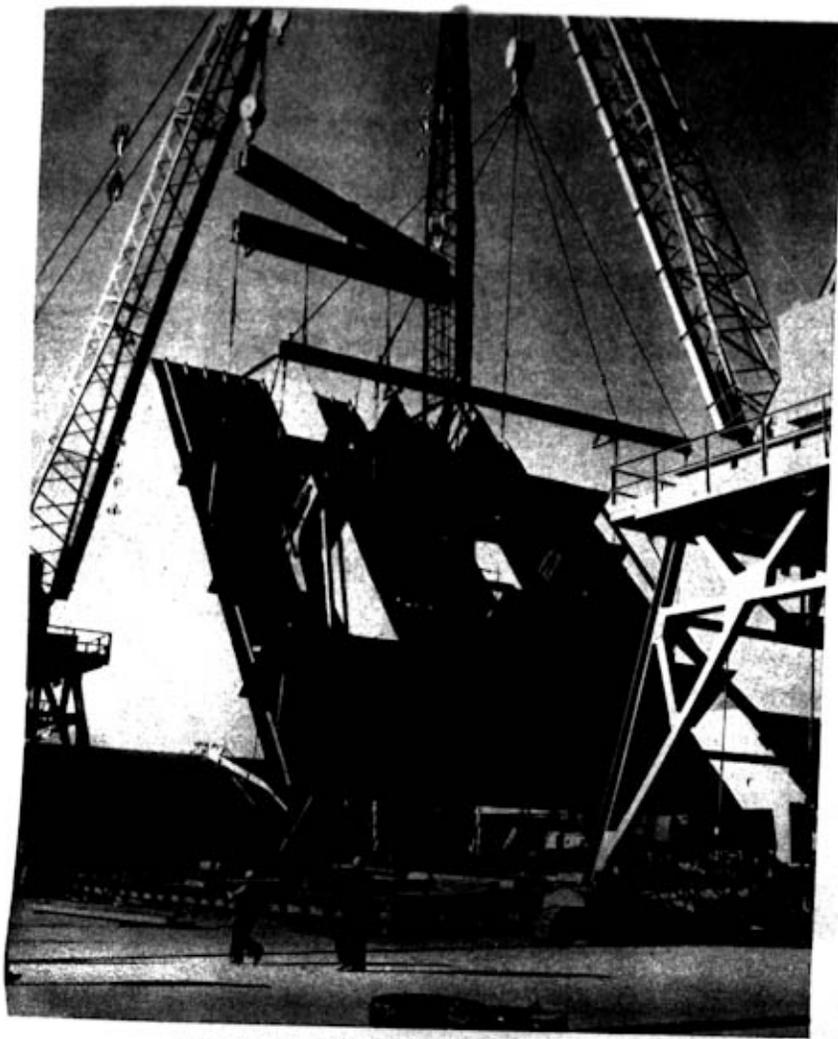
HENRY J. KAISER, in the not-so-distant days when he was just one of the many head men of the Six Companies, had the reputation among his associates of always taking the long view. He used to lecture them on the hard fate they were storing up for themselves. "Contractors are all alike," the Kaiser of that period would say. "They start out broke, with a wheelbarrow and a piece of hose. Then, suddenly, they find themselves in the money. Everything's fine. Ten years later they are back where they started from—with one wheelbarrow, a piece of hose, and broke." From that remorseless cycle

THUS THE WEST'S FACE IS CHANGED by the Six Companies constructors. On the slopes of the Santa Clara foothills, amid acres of prune and apricot orchards, they erected the magnificent Permanente magnesium plant shown on the facing page. This is a Kaiser-sponsored project, built with a \$20 million RFC loan. (In the picture, a hammer-head crane lowers a magnesium retort into the battery of furnaces.) More conspicuous is the Six Companies' surgery on the shores of San Francisco Bay. Picture above shows a few of the new government houses spotted on the Marin hills for workers at the Bechtel-managed Marinship yards at Sausalito.

Kaiser saw only one escape: "Before you work yourself out of the last job, line up a bigger one to pull yourself out."

Today, with his interest in shipyards, cargo airplanes, helicopters, magnesium, steel, postwar automobiles, insurance, the former "sand-and-gravel man" has no further fear of the violent ups and downs in a contractor's life. But during the building of Boulder (1931-36) the problem of where to go next was very much on his mind and the minds of his associates.

To be sure, the members of the Six Companies by then were important concerns, doing important work. Two of them, J. F. Shea Co., Inc. and Pacific Bridge Co. already were at work on a \$3,600,000 contract covering the piers for the great Golden Gate Bridge. And the entire group, teamed up with several outsiders, had captured two contracts totaling \$11,500,000 for the Bay Bridge between San Francisco and Oakland. Yet, before Boulder was completed, they had reason to be worried. Close to 5,000 men—one of the largest construction forces in the nation—were crowded into Black Canyon on the Colorado River. Recruited during the depression, they had been annealed in the fierce heat of Black Canyon. Superintendent Frank Crowe



HENRY KAISER'S SORE SPOT in shipbuilding is Richmond No. 3, which, unlike the Liberty shipyards, has set no records. In midsummer it had yet to deliver its first troopship. However, it could claim extenuating circumstances in changed specifications when the Navy took over the original idea from the Army. Moreover, labor and material had been taken away and given to an adjacent yard working on landing barges.

told the Six Companies' partners: "This is the finest construction outfit on the face of the earth today. You just get the work lined up—we'll build it."

The Six Companies did not have far to look, for this was the beginning of the New Deal's effort to spend its way back to prosperity via a vast program of public works—not one but a whole series of Boulder Dams. There were the great projects of Bonneville and Grand Coulee on the Columbia River, and Shasta on the Sacramento; and the lesser Parker Dam, 155 miles below Boulder, built to impound water for the Los Angeles Aqueduct.

THEY LAND ONE AND LOSE TWO

The bids on Bonneville were called first—in May, 1934. Through April the men of the Six Companies argued whether they should bid on it. Dollarwise, Bonneville was not in the same class with Boulder. The Columbia is swift and deep; its normal flow was equal to the Colorado at flood. Some contractors had serious doubts that foundations for a dam could be safely anchored.

Harry Morrison, who had brought them all together at Boulder, says modestly that "Henry Kaiser was the spark plug on the Bonneville bid." The more dubious and hesitant his partners became, the more determined he was that they should build the dam. He argued that the river could be licked, that the job would enable them to hold together the wonderful organization they had assembled; that they would make a lot of money fast. But Kaiser had another reason that meant as much to him as all the others put together. It was to provide a job for his first son Edgar, whose ambitions at twenty-five were exceeded only by those a doting father dreamed for him. Edgar majored in economics at the University of California, which he left in 1929. He had won his stripes at Boulder as boss of an excavation crew.

Kaiser had his way. He "bulled and cajoled" some of his wavering associates into bidding the job as the Columbia Construction Co. Felix Kahn, on a vacation cruise to the Orient, cabled from China that he was willing to go along with Kaiser. However, another group of the partners entered a competing bid. These were Charlie Shea and Jack McEachern (who had joined the Six Companies on the Bay Bridge job), and Pacific Bridge. This latter group lost the dam contract to Kaiser's crowd; but two months later, on the powerhouse bid, they turned the tables and took that job from Kaiser. In June, 1934, Kaiser began shifting some of the work crews and equipment from Boulder to Bonneville. Son Edgar was made "project manager." Another Kaiser protégé, thirty-year-old Clay Bedford, a transportation man at Boulder, became his superintendent.

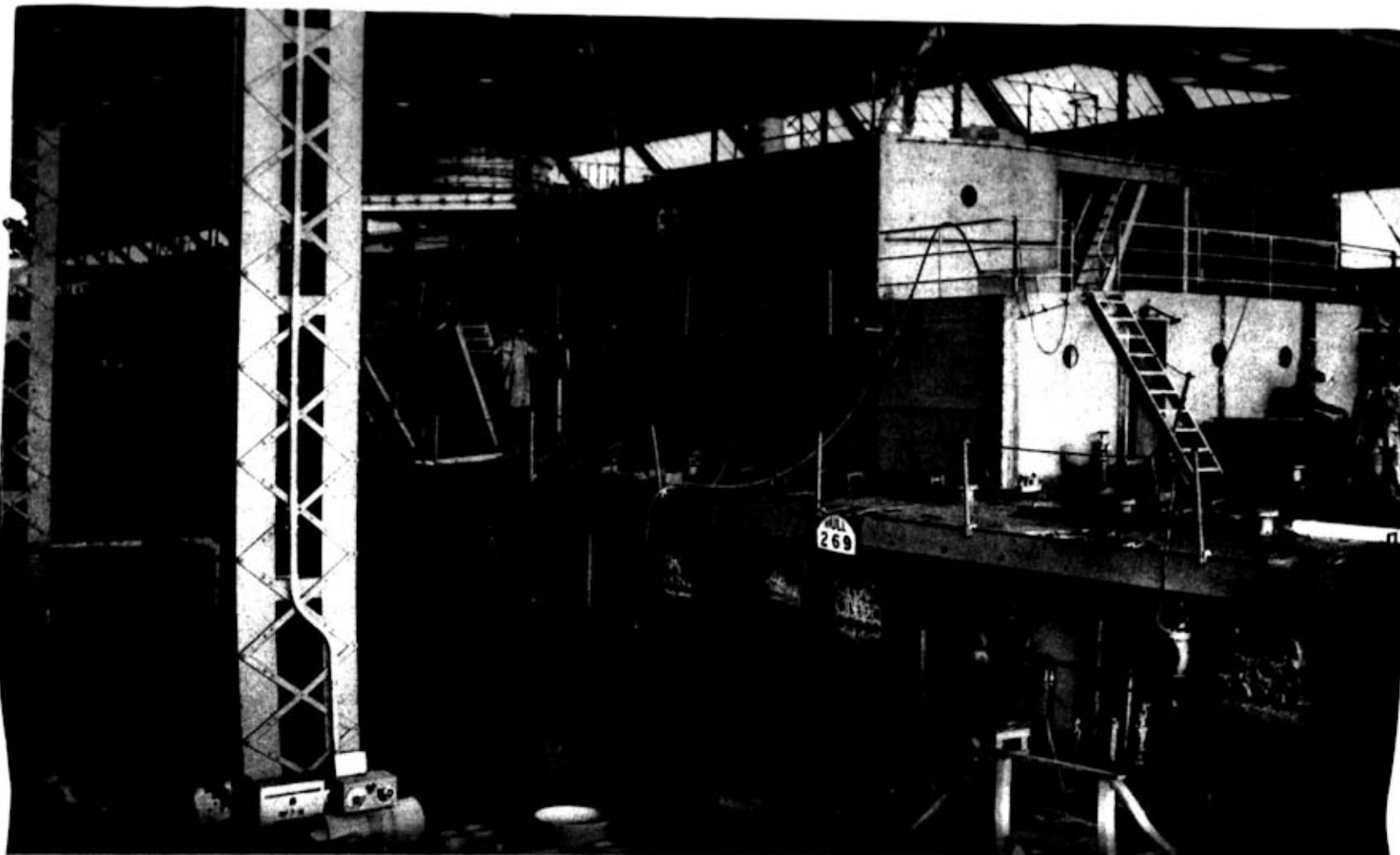
Bonneville was a triumph. In some ways Kaiser seems to measure it as his most satisfying monument. "They said it couldn't be done," he exclaims with a theatrical roll to his voice, "but my kids went ahead and did it." The Army Engineers ran the job for the government but the Six Companies had a fairly free hand. "At the start," says a man who was close to Kaiser during that period, "there were no specifications, nor even a solid plan. The Army had to improvise as we went along. There were constant changes. Nothing ever stayed put." Bonneville was completed in four years—one year ahead of schedule. The Six Companies' net profit on this \$16,500,000 job was about \$3 million.

"We came to consider ourselves very close bidders," says Felix Kahn, with a sardonic grin. They took it for granted that Grand Coulee and Shasta were both in the bag. Bids on the foundations for Grand Coulee were called first, in June, 1934. The Six Companies, bidding as Six Companies of Washington, bid \$34,600,000. There was only one other bid, entered by a combination called MWAK, consisting of the Silas Mason Co., Inc. of New York, Walsh Construction Co. of Davenport, Iowa, and the Atkinson-Kier Co. of San Francisco.

Morrison tells the story of the bidding. In Spokane, the night before the bids were to be opened, the partners and their wives gathered for a big party at the Davenport Hotel. Kaiser was host:

"Everyone was very cheerful and hilarious. Toasts were drunk to our success on the biggest dam of all. I remember Felix Kahn promising that at the next party he was going to put a hundred dollar bill under each lady's plate, because we'd all be in the money by then. The competition, incidentally, was staying at the same hotel; when they heard all the noise and cheering, they got kind of worried.

"Next morning at ten we all met for the opening of the bids. Us Six Companies men were right up in the front row.



THE SIX COMPANIES' PRIDE is its prefabrication of Liberty ships. As of mid-July, the group had contracts for 1,158 Liberties, of which it had delivered 685. The picture above shows the end of a prefabrication line serving Richmond Nos. 1 and 2 yards, situated between them, about a half mile from the ways. The eighty-four-ton main deckhouse of a Liberty is

emerging from the line, ready to be moved out of the shed and swung upon the hull in four pieces by two huge revolver cranes such as the ones illustrated on the opposite page. The Six Companies group, who had no previous experience in shipbuilding, took to these methods naturally. To them it was "just another construction job, a problem in materials handling."

There were only two bids. The competitive bid was opened and read first. It was \$5 million under us. We didn't wait to hear our own bid. We just got up and filed out. By noon there wasn't a Six Companies man to be found in Spokane."

This failure plunged the masters of Boulder into a state of uncertainty that became more evident in December, 1937, when they faced up to bidding the second phase of Grand Coulee—the spillway dam, the foundations for the pumping plant, and the powerhouse on the left bank. MWAK had finished the really dirty, dangerous, imaginative work—such feats as freezing a whole hillside to prevent slides. The Six Companies needed and wanted the contract but required a dozen meetings before they could reach a decision.

Harry Morrison recalls: "Costs were rising, the job was going to run for four years, and some of us were extremely nervous over the changes that could take place in that time." The group decided to spread the risk by inviting Tom Walsh of MWAK to join them. MWAK had just about broken even on the first contract, and Walsh was glad to do some risk spreading himself. MWAK was given a 50 per cent interest in the job, which amounted to \$40,800,000.

Six months later Shasta came up, and again the partners

fell over their feet. Next to Grand Coulee, Shasta was the biggest dirt-moving dam job in the country, and the partners were determined to land it—to hold their franchises as the great dam builders of the West. They sweated out a figure of \$36,200,000, whereupon Jack McEachern suggested they knock off \$500,000 more "to break the million"—but Crowe said, "No." That was the fatal error. When the bids were opened, Pacific Constructors, Inc., was under by \$263,000.

Still, the Six Companies, with MWAK, had the second Grand Coulee job, and Edgar Kaiser and Clay Bedford, after winding up Bonneville, had been switched 476 miles up the Columbia to the new site. They finished the dam in 1942, broke the world's record for concrete poured in a single job (5,700,000 cubic yards), and netted \$7,200,000 before taxes for the group.

"STOP LAWIN' AND START DIGGIN'"

So the progress of the Six Companies, in the transition between Boulder and the war, was not altogether the smooth triumphant journey it is sometimes made to appear. Shasta and the first Grand Coulee bid were blows at its prestige; the Broadway tunnel, on the other hand, was a stinging blow at its



THE EARTH MOVERS BECOME INDUSTRIALISTS

In 1939 the Six Companies group, theretofore concerned with dams and bridges and tunnels, followed Henry Kaiser into a new industrial venture—the Permanente Cement Co. near San Jose. Picture on opposite page shows the delivery end of the limestone conveyer belt, part of a mile-and-a-half-long system. Henry Kaiser's latest industrial move, last year, was into steel—where his partners did *not* follow him. Above is shown his blast furnace at Fontana, fifty miles east of Los Angeles, first blast furnace west of the Rockies. The story of Fontana will be told in next month's FORTUNE.

professional reputation. The tunnel, a vehicular pass in the Berkeley and Oakland hills, was a small job—only \$3,900,000. But Steve Bechtel was anxious to take it on. Kaiser says he opposed it from the start.

The new show was incorporated as Six Companies of California, Inc.—the last ever to bear the historic name. Bechtel started the hole in June, 1934. Before long he was in serious difficulty. His crews ran into water and shattered rock, and while still short of the objective they became completely bogged down. On top of that, relations with the District inspectors and engineers were decidedly touchy, with charges of blundering and bad faith flying back and forth. Thinking that a new face, an older man, might salvage the situation, Bechtel resigned as sponsor in favor of Henry Kaiser.

Before Kaiser took over, Bechtel had hired a staff of lawyers to reexamine the contract. He and they were convinced the District's engineers had completely misrepresented the underground conditions. Kaiser presently came around to the same strategy and hired more lawyers. Some of the partners at this point told Kaiser he was perhaps going too far. Morrison, Kahn, and Corey of Utah thought for a time that their professional honor required them to complete the contract, regardless of loss. Crowe, who made a study of the situation, told them they were through the worst ground and gave some Dutch-uncle advice: "Stop lawin' and start diggin'."

Facing what threatened to be a more than \$2 million loss, Kaiser thought he saw an out. If he could coax \$3 million WPA money for the District, maybe the District would turn it over to him and his partners for finishing the job. He went to Washington, returned empty-handed. Then, in desperation, the partners went to court in hope of rescinding the contract. Again they lost. A \$239,000 judgment was handed down against them, partly penalties, partly refunds to the District, which had to complete the tunnel. Altogether the Six Companies lost \$2,400,000 on the job—not to mention the damage to their reputation.

RISE OF THE SPONSORS

To prevent the conflicts over divided authority that plagued them at Boulder the partners invented what they called "sponsorships" to run a common enterprise. A sponsor was the company elected by the others to run one or several operations. Kaiser, for example, was sponsor at Bonneville. The most hazardous part of Bay Bridge, on the other hand, was sponsored by Pacific Bridge and Jack McEachern (General Construction). The sponsor became the managing director of a job. He was expected to call upon his partners for advice, men, and equipment if he needed them. But once the job was under way they were expected to leave him completely alone.

"Our original idea," says Felix Kahn, "was that the job would determine the sponsor. If the emphasis was on underwater work, Charlie Shea or Pacific Bridge were logical sponsors. If the big problem was concrete or the handling of materials, Kaiser was the specialist."

In practice, however, this principle was not always followed. More often the sponsor was the company that dug up the work, or was most enthusiastic about tackling it (as Kaiser was at Bonneville). And on several occasions a company was nominated to be sponsor merely because it was least busy when a job came up. The sponsor drew no extra fee. "This has always been a straight investment proposition," says Kahn. "The

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sponsor's one advantage for doing the work was being allowed to make a little more money by taking a larger share of the contract." The sponsor almost never had control and by a gentlemen's understanding was expected to curb any impulse to seek it.

"There has never been any compulsion," Kaiser says. "A member has always been free to go into a contract or stay out." At times the way they split, regrouped, and split again to do a job suggested a colony of amoebae. In the bidding over the Bay Bridge they separated into two groups and actually competed with each other.

Sinking the piers for this bridge involved many hazards. Never before in bridgebuilding had foundations been laid so deep. Accordingly, the partners decided to bolster their own organization with deep-caisson experts from the East: Dravo Corp. of Pittsburgh; the Missouri Valley Bridge & Iron Co. of Leavenworth, Kansas; and Raymond Concrete Pile Co. of New York. The official Six Companies explanation is that this made the group "too unwieldy" to continue as a single combination. However, men who attended some of the conferences insist that the partners were in violent disagreement over the plan of attack and unable to come together.

One combination budded off as Transbay Construction Co. In this, General Construction and MacDonald & Kahn had the largest percentage, each with 26 $\frac{1}{4}$ per cent. Pacific Bridge, Shea, and Morrison-Knudsen teamed up with them. The other group called itself Bridge Builders, Inc., and it was composed of Kaiser, Warren Bros. of Cambridge, Massachusetts, the Bechtels, Utah, and the three outsiders. The first three, forming a unit here as they had on Boulder, held nearly 43 per cent of the shares.

The two combinations bid against each other for the main job, the section between San Francisco and Yerba Buena Island. Transbay, with a \$7 million bid, won. The remaining section, from the island to Oakland, a \$4,500,000 job, went to Kaiser's group, Bridge Builders, Inc.

Then, as now, the investment pot was made up with an informality that would shock most businessmen. After the sponsor had decided on his own piece, he would call "the boys" individually on the telephone and ask how much they wanted. If the total came to more than 100 per cent, all allotments were shaved down in proportion. Usually this was done in a few minutes over the telephone.

There was surprisingly little animosity within the group. Kahn attributes this to their foresight in expelling from their councils two perpetual sources of grief—"money and personalities." Says he: "None of us has ever drawn a penny in salary or expenses from a job. Can you imagine the bad feeling that would have arisen if Henry Kaiser had tried to take more than Harry Morrison, or vice versa?" And: "Some of us made it our business, whenever a name came up and arguments got personal, to have the meeting adjourned. That, more than any single thing, kept us together."

THEY LEARN ABOUT GOVERNMENT CASH

An important fact about the Six Companies is that for the first eight years (1931-38) they persisted pretty much in their original character as heavy contractors—earth movers. Several partners, however, had added a sideline or two. Morrison-Knudsen, for example, had a small tractor, bulldozer, and

earth-moving-equipment factory (Wooldridge Manufacturing Co.) in Sunnyvale, California. It also had a welding organization (Electric Railweld Service Corp.) and a small company making welding rods (Welding Service Sales, Inc.). But these were logical interests of a company that considered itself "a sort of service and maintenance organization" for western railroads. The same could be said of Kaiser's prosperous sand-and-gravel business. Even the insurance companies, which Kaiser owned with the Bechtels, were set up to deal with contractors.

Only the Bechtel boys showed any serious ambition to be anything else than contractors. Kenneth, thirty-odd and the youngest, wanted to become a financial man. Warren, the eldest, was too independent to tie himself down to a desk job. Steve, who in 1937 was thirty-seven, was eager to settle the company in "permanent" business. That year he found what he wanted. For many years he had directed Bechtel-Kaiser, Ltd. in building pipelines in the mid-continent oil fields, and presently he found himself thinking about refineries. After a cautious inquiry, in which he discovered that the California refineries were wholly dependent for their engineering upon firms located the other side of the Rockies, Steve finally formed a company with two experienced outsiders: John A. McCone, the thirty-five-year-old Executive Vice President of Consolidated Steel, which had done oil-refinery engineering; and Ralph M. Parsons, a forty-year-old refinery designer of Chicago. The new company was called Bechtel-McCone-Parsons Corp. and, as Steve Bechtel proudly maintains, "it was a success from the start."

Yet B.-M.-P. was a small affair compared to some of the schemes that were stirring in Kaiser's mind. "Henry always had a good supply of dreams on hand," says an associate. But he does not appear to have taken them seriously until around 1935, after a meeting with an old friend in Washington, now Governor of the Federal Home Loan Bank System, James Twohy.

From Twohy, who heads the Pacific Coast contracting firm of Twohy Bros. Co., Kaiser heard a weird story: How Twohy Bros. a score of years before, had built part of a projected 100-mile railroad between Grants Pass, Oregon, and Crescent City, California—a development that was expected to exploit the rich mineral resources of that wild forested region and create a small empire, peopled by thousands of colonists. The community of Grants Pass had laid ten miles of track, and the Twohys managed to lay six miles more when the shortage of materials caused by World War I forced them to stop. In the peace they could not get started again, and the Twohys had kissed \$500,000 goodbye. Now, however, Grants Pass wanted Twohy to try to revive the project, but since he was working for the government (Home Loan Bank Board) he considered himself ineligible. Did Kaiser have any ideas?

"He took fire right away," Twohy recalls. "He said here was a way to relieve unemployment." Kaiser proposed a fifty-fifty partnership, and without understanding quite how it all happened Twohy suddenly found himself "a silent partner" in the rejuvenated empire-building project, involving bustling new cities, copper and gold mining companies, and a fine new harbor for Crescent City. The problem of financing, Kaiser took in his stride. He proposed to set the undertaking up as a WPA project. What the WPA wouldn't pay he was positive RFC would underwrite.

Kaiser persuaded both the Oregon and California WPA and the Resettlement Administration to endorse the scheme. The Army Corps of Engineers backed up the proposed development of Crescent City harbor. Even President Roosevelt seems to have been fascinated by Kaiser's spellbinding brochures. But then Kaiser met a stone wall. The ICC turned him down cold on a certificate of convenience and necessity. "Kaiser tried to

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blitz them," Twohy says, "but they just wouldn't be blitzed."

But failure seems never to have discouraged Kaiser. He had, after all, caught the scent of an important truth. It was that "you could operate on government money."

THEY TAKE ON THE CEMENT COMBINE

In a little while (1939) Kaiser had another big scheme: to take on the powerful West Coast cement combine and pry loose some of its profitable business. Out of this came the Permanente cement company, and out of the cement company came the shipyards, then the magnesium plant, then steel. Practically everything that has made Henry Kaiser famous began with the hunch he had about cement in the spring of the year war started.

As Kaiser tells the story, "It used to anger me to see the cement companies gouge the little contractor. Cement represented a major part of his costs, but there was nothing he could do about it."

A railroad man on the West Coast who has never liked Kaiser says with respect: "When Kaiser decided to go after the cement people, he didn't take on any corporals." The Pacific Coast cement business was dominated by five companies run by extremely influential men—such as George Cameron, publisher of the San Francisco *Chronicle*, Herbert Fleishhacker, the Cowell family, A. E. Wishon of Pacific Gas & Electric. The Bureau of Reclamation had long been exasperated by their custom of submitting identical bids on nearly all government jobs.

The huge cement contract for Shasta Dam (nearly six million barrels) presented Kaiser with an opportunity to take this complacent group on the flank. He took an option on a big limestone deposit near San Jose. And he also had a promise from the Southern Pacific on a freight rate. That was quite all he did have. He had no cement plant and knew nothing about running one. Yet it would be wrong to imagine he was helpless. He knew that Ickes who was against identical bids would have to back him.

Kaiser insists that several of his partners hesitated to follow him into the cement business. "They tried to tell me we couldn't sell to other contractors with whom we competed. I couldn't follow that reasoning. I had been in the sand-and-gravel business all my life. I couldn't see how it made any difference whether I sold sand and gravel or cement to my competitors. Some businessmen think you can never compete with someone from whom you want something. I think the opposite."

In all events, the then imaginary Permanente Corp. submitted a bid for the Shasta contract. It astounded the West Coast business world by price-cutting the combine by 22 cents a barrel on an \$11 million bid. Kaiser still had to fight for his contract. The cement crowd protested that Kaiser's bid was illegal, since he obviously was without a factory to produce cement. The government held up the award for a month while it investigated the feasibility of building a plant. Kaiser even had to put down an uprising of property owners in the Santa Clara Valley, reportedly stirred up by the combine, who demanded that the county refuse him a building permit on the argument that his plant would destroy property values.

The cement plant was made a Kaiser sponsorship. Kaiser's men started building the plant in June, 1939; the first cement was produced on Christmas day of that year. It has become the world's biggest cement plant, with a capacity of five million

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barrels a year. The limestone and the clay quarries are in the brown hills a quarter of a mile from the great kilns. A mile-and-a-half-long gravity conveyer-belt system, braked by generators that supply electric current to the huge shovels that dig out the limestone, testifies to the ingenuity of the man who prides himself as a mover of materials.

Permanente cement was a definite boon to the Pacific Coast. The immediate consequence was an 11 per cent reduction in the price of cement. Kaiser further claims that its efficiency drove one of the old companies to spend \$2 million on modernization. But these are small matters compared to what the plant has meant to the war effort, not only on the Coast but also in the islands of the Pacific. Without Permanente's five million barrels of capacity the huge underground storage tanks, the gun emplacements, the airplane runways in Hawaii and the other islands of the Pacific would have been held up for months.

The company started to ship to Honolulu before the Japanese sneak attack. It bought two old ships—the *Ancon* and *Cristobal*—to transport the cement in bulk. This had never been done before in the tropics, and it was feared the moisture would cause the cement to deteriorate. But Kaiser's men decided to try it anyway, using compressed air to blow the cement in and out of the ship.

The company is capitalized at \$3,500,000. The plant cost \$10 million, of which \$7 million was borrowed from the Bank of America. Kaiser has the largest single share—25.5 per cent—with General Construction, Utah, and J. F. Shea, each with almost 13 per cent, coming next. The other partners' shares run from Pacific's token 1.5 per cent to MacDonald & Kahn's 10.4 per cent.

"The cement company is a tidy little operation," says Kahn. Its profits before taxes have been running at better than \$1 million a year. Yet the importance of the cement plant to the Six Companies goes far beyond its being merely a profitable addition to their portfolios. The fact that they got away with it seemed to do something to all of them, particularly to Kaiser. A western railroad man who knew him well has said: "If Kaiser's life can be said to have a turning point, it was then. He licked a tough bunch. From that time on he wasn't afraid to tackle anything."

THEY BECOME SHIPBUILDERS

From cement the group went to ships; and what in the first instance started out to be merely a chancy excursion into a new sideline broadened with the second into a new career that soon came to dwarf everything that had happened before.

Every Six Companies man tells a different story of how they got into shipbuilding. When the accounts are compared the following picture emerges: In 1937 Steve Bechtel and John McCone had a study made of the shipbuilding industry. From the study Bechtel concluded "that shipbuilding seemed about ripe to become big volume business and therefore it was a real possibility for our kind of operations. I didn't get very far. Nobody was interested. Nevertheless the subject kept coming up over a period of months at Six Companies meetings. Then Kaiser and Charlie Shea got interested. That helped the others to make up their minds."

In 1938 Jack McEachern suggested that the group discuss the idea with his close friend and fellow townsman, Roscoe

Jay ("Jim") Lamont of Todd Seattle Dry Docks, Inc. Later they had a meeting in New York with John D. Reilly, President of Todd Shipyards, who was to become their first partner in the field. "These were general talks," Kaiser says. "Nothing was settled." The Westerners were reluctant to commit themselves until they had a good-sized order in hand. In September, 1939, the Maritime Commission called for bids on five C-1 cargo ships under the so-called long-range program. Todd and the Six Companies hastily formed the Seattle-Tacoma Shipbuilding Corp. on a fifty-fifty basis. Their \$9 million bid was successful. The new partners divided the task. The Six Companies was to build the shipyard, a two-way affair, and Todd was to run it.

Thus Todd, the outsider, really came in as sponsor. No one inside the Six Companies was prepared to run a shipyard. In the last war Felix Kahn had been mixed up with concrete ships and Jack McEachern had had a hand in building some wooden ships. But neither was disposed to stand on this experience as an expert.

That was the beginning of the familiar chain of circumstances: first the \$120 million British order for sixty freighters in December, 1940; then the alliance with the Bath Iron Works to build thirty of these ships on the East Coast; then the additional orders from the Maritime Commission that swelled and swelled until even the Westerners' lust for volume was temporarily sated. The events surrounding the British order have already been described by *FORTUNE* ("Biggest Splash," July, 1941). But a new anecdote supplied by Alden Roach, President of Consolidated Steel Corp., Ltd., shows how close the Six Companies came to being overlooked in the first stress of hammering out a war fleet.

Says Mr. Roach: "In the summer of 1940 I went to Washington to see Admiral Vickery in connection with our own work. He surprised me by asking if I knew of a live-wire organization on the Pacific Coast—one with a good reputation—that would be willing to build ships. Now only the night before I bumped into Charlie Shea in the Shoreham lobby. It seemed to me that Charlie and the Six Companies boys were made to Vickery's order. So I asked the Admiral to give me a little time; I might be able to help."

Roach caught up with Shea that night. Shea lined up Steve Bechtel and McCone, who were also in Washington. The following day, with Roach as host, they met Vickery for lunch. "Next thing I knew," says Roach, "they were right in the middle of the shipbuilding business." Vickery until then had never heard of the Six Companies or even Henry Kaiser. His dealings over the C-1's had all been done through Todd.

25 PER CENT OF THE SHIPS

The British deal provided that thirty ships be built on the East Coast and thirty on the West. To handle the East Coast operation the combination added William S. Newell of the Bath Iron Works as a partner, forming the Todd-Bath Iron Shipbuilding Corp. around a seven-basin yard to be built in South Portland, Maine. For the West Coast operation they set up the Todd-California Shipbuilding Corp. around a seven-way yard to be built at Richmond, on San Francisco Bay. The British paid for the yards and agreed to pay a fee of \$160,000 per ship.

It is no reflection on the Six Companies to say that the British turned to them because they had nowhere else to go. All the established yards were too small to handle the order, or too heavily burdened with naval, Maritime Commission, or private business, or simply not interested. The British themselves had many misgivings. A member of the British mission, visiting the

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Richmond site two months after the contract was signed, remembers seeing "a vast sea of mud" and wondering what his people had bought.

A month later Admiral Vickery launched the emergency or Liberty-ship program and the same need forced him in his turn to deal with these ambitious newcomers who were ready to promise him the world. In January they were given contracts to build three additional yards (in Portland, Los Angeles, and Houston), and these were soon followed by orders for a total of eighty-seven new ships, plus a second twelve-way yard alongside Richmond No. 1. "After that," says Edgar Kaiser, "the only limit seemed to be how much we could absorb."

Without opposition from his partners, who could imagine the grief ahead, Henry Kaiser nominated himself sponsor of the two Richmond yards. The shipbuilding contracts came at a most opportune time for him. The Grand Coulee job was about finished; he had a thoroughly seasoned organization of 5,000 to 6,000 men, trained in handling heavy materials, which he was able to divide between the two yards. Clay Bedford was put in charge at Richmond. Edgar was sent to Portland. Another corporate instrument, Oregon Shipbuilding Corp., was set up to deal with the latter operation; Todd was given a 50 per cent share. Charlie Shea as President was nominal boss. Yet he could hardly drag himself to a desk. He never mentioned it but the partners knew he was dying of cancer; he would be dead before another year had passed.

It was inevitable that a clash should come between the Todd group and these brash, fast-moving men of the West. "The Todd crowd decided we were too impulsive," says Felix Kahn. "No doubt we were." The Westerners thought the Easterners were cautious and hidebound. The actual break came in February, 1942, when Henry Kaiser set up Richmond No. 3 yard, without inviting Todd in. The crowning insult lay in the fact that Richmond No. 3 was designed to be a repair yard after the war—invasion a field heretofore dominated on the West Coast by Bethlehem and Todd.

The separation was effected with a simple geographical division. In exchange for Todd's interest in the West Coast yards, the Six Companies surrendered their pieces of Houston and South Portland. Todd's departure left Kaiser and the Bechtels dominating the group's shipbuilding. For the Six Companies, Kaiser bossed Richmond Nos. 1 and 2 yards and Oregonship, with a 23.6 per cent interest in the first two and 22.7 per cent in the third. Last year, on his own account, without participation of the group, he added three more yards (besides Richmond No. 3)—Richmond No. 4, Kaiser-Swan Island, and Kaiser-Vancouver. Early this year, with the Walsh Construction Co. (a Coulee partner) and Morrison-Knudsen, he took over the Rheem Shipyard at Providence, Rhode Island. The yard was then building Liberties. It had failed miserably and the Maritime Commission asked Kaiser to step in.

There are three other yards in which the group is interested. The first is the Evansville (Indiana) Shipyard on the Ohio River. It is sponsored by their ex-partner on the Bay Bridge, Missouri Valley Bridge & Iron. This is an all-Navy show, devoted to tank-landing ships. The second is the Alameda Shipyard near San Francisco, sponsored by Pacific Bridge. This is a fairly small yard also working for the Navy. The third is Marinship at Sausalito, newest of the group's yards, now building tankers. This show belongs chiefly to the Bechtels,

whose interest is 66½ per cent. The Bechtels also sponsor the great California Shipbuilding Corp. (Calship) at Terminal Island near Los Angeles, with a 30 per cent share.

"WE'LL BUILD THE SHIPS"

What Henry Kaiser has done with the Liberty ship is, of course, one of the household epics of the war. The first ship built for the British took 196 days, from keel laying to delivery. Today Edgar Kaiser's Oregon yard has cut the time to twenty-seven days and by the end of the year he expects to reduce this below twenty-five days. The Kaiser and Kaiser-sponsored yards alone, with a total of 186,000 workers, today are launching ships at the rate of one every 15.3 hours. When the Bechtel-sponsored Calship and Marinship yards are added, the total workers on shipbuilding are 243,600 men and women, and the launching rate steps up to a ship every 10.3 hours.

The original assignment was the Liberty ship (EC-2), a simple standardized design that could be mastered by repetition. The Maritime Commission felt it could entrust this relatively foolproof ship to the green yards, thus saving the established yards for more complicated jobs. But the Westerners refused to stay put in this rut. "Give us the design," Henry Kaiser dinned into Admiral Vickery's ears. "Give us the designs and we'll build the ships." Today, in addition to the Liberties, they are producing troop carriers (C-4's), 16,600-deadweight-ton tankers (T-2's), auxiliary aircraft carriers, and escort vessels (frigates).

The group, starting with nothing, has come to command about 25 per cent of the Maritime Commission's program. As of June 30 their contracts alone stood at more than \$3 billion, of which more than \$1 billion have been delivered. Even Mr. Kaiser, when he saw these totals, refused to believe them.

But the question is: how well is the group doing compared to other shipbuilders?

In recent months some hard things have been said about the Kaiser-managed shipyards. In June an unknown Maritime Commission auditor made the front pages by testifying before a congressional investigating committee that the Richmond yards were hoarding materials, that \$100 million had been spent on troop carriers and not one had been delivered. A Congressman, who later claimed to have been misquoted, appeared to give official sanction to rumors that many Kaiser-built ships were defective.



HAROLD WIRTH

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The facts appear to be as follows: According to Henry Jackson, chairman of the House Merchant Marine Subcommittee, the Kaiser-managed yards have not had "a high proportion of failures or structural defects. In fact his ships have been as good as those put out by any other yard." The worst failure was the tanker *Schenectady*, which cracked and sank in the Willamette River. Henry put the blame on Carnegie-Illinois, accusing the company of supplying him with defective steel. An investigating committee of the American Bureau of Shipping concluded that poor welding was chiefly the fault. No further failures have been reported.

As to the production record, there is no underestimating the job Kaiser and the Bechtels have done with the Liberty. Only one other yard is in their class—the North Carolina Shipbuilding Co. (Newport News subsidiary). The Maritime Commission ranks the nation's yards thus: first, Oregonship; second, North Carolina; third, Richmond Nos. 1 and 2; fourth, Calship.* And among these, Oregonship, under Edgar Kaiser, is easily the best—"the best and the fastest," says Admiral Vickery without reservation.

The momentum that young Edgar Kaiser has worked up in his yard becomes evident when one examines the Houston and Delta yards on the Gulf. They were started exactly the same time. But when Edgar Kaiser by mid-July had made nineteen "rounds" of all his ways, the other two had made only nine. Nevertheless, it would be wrong to assume, as many do, that the Kaisers completely dominate the Liberty-ship program. The competition between John McCone and Edgar Kaiser is fierce: the latter has the edge in output per way, but McCone, with a maximum output of twenty ships per month (against Kaiser's eighteen), can claim to deliver more ships than any other single yard in the world.

BUT IT WAS NOT ALL MIRACLES

Now the Six Companies expected to do well with this mass ship, just as they expect to do well with the slightly bigger Victory ship to which they are planning to shift in October. "It is, after all, just a construction job," says Ken Bechtel, "a problem not so much of production as of materials handling."

Their difficulties, not so well publicized, began when they took on more complicated ships—for example, the big C-4's, which Richmond No. 3 is now producing. The yard has launched five ships, was originally scheduled to deliver its first in May but has yet to do so. There were extenuating circumstances—interference from the landing-barge program, then design changes in the ship itself. Even so, Admiral Vickery says grimly, "Kaiser has done a creditable job with the C-4's but I'm pinning no rose on him."

Nor have the Kaiser yards been doing any chest-thumping over the landing barges (LST's). This program, when it was pushed into the merchant yards a year and a half ago, carried an overriding priority. Richmond No. 4 and Kaiser-Vancouver had contracts. Bethlehem-Fairfield ran off with the honors. Richmond turned in the worst job of the three.

Richmond No. 4 is also building frigates. Admiral Vickery nominated it to be the lead yard for the national program,

*Not to be overlooked is Bethlehem-Fairfield Shipyards, Inc., of which the Truman Committee said last April, "Like Oregon and North Carolina shipyards [it] has made an excellent record." However, it cannot be fairly compared with the other yards because it was switched from Liberties to landing barges and back again, at a cost of much momentum.

to adapt the Canadian corvette for American production, and to act as central purchasing agent for all other yards. In a sense this was the first creative shipbuilding job entrusted to the Kaiser organization. The results thus far have not been earth shaking.

Yet Kaiser's record with the small-volume "custom-built" ship has not been without its triumphs. The Swan Island yard, managed by Edgar Kaiser, is doing a faster job with the T-2 tanker than Sun, which has always been the nation's foremost tanker yard. Admiral Vickery says flatly, "Swan Island is the fastest tanker yard in the country." Similarly, the new Bechtel-managed Marinship yard, which was converted to tankers in July, is easily the fastest of the six yards that were started at the same time.

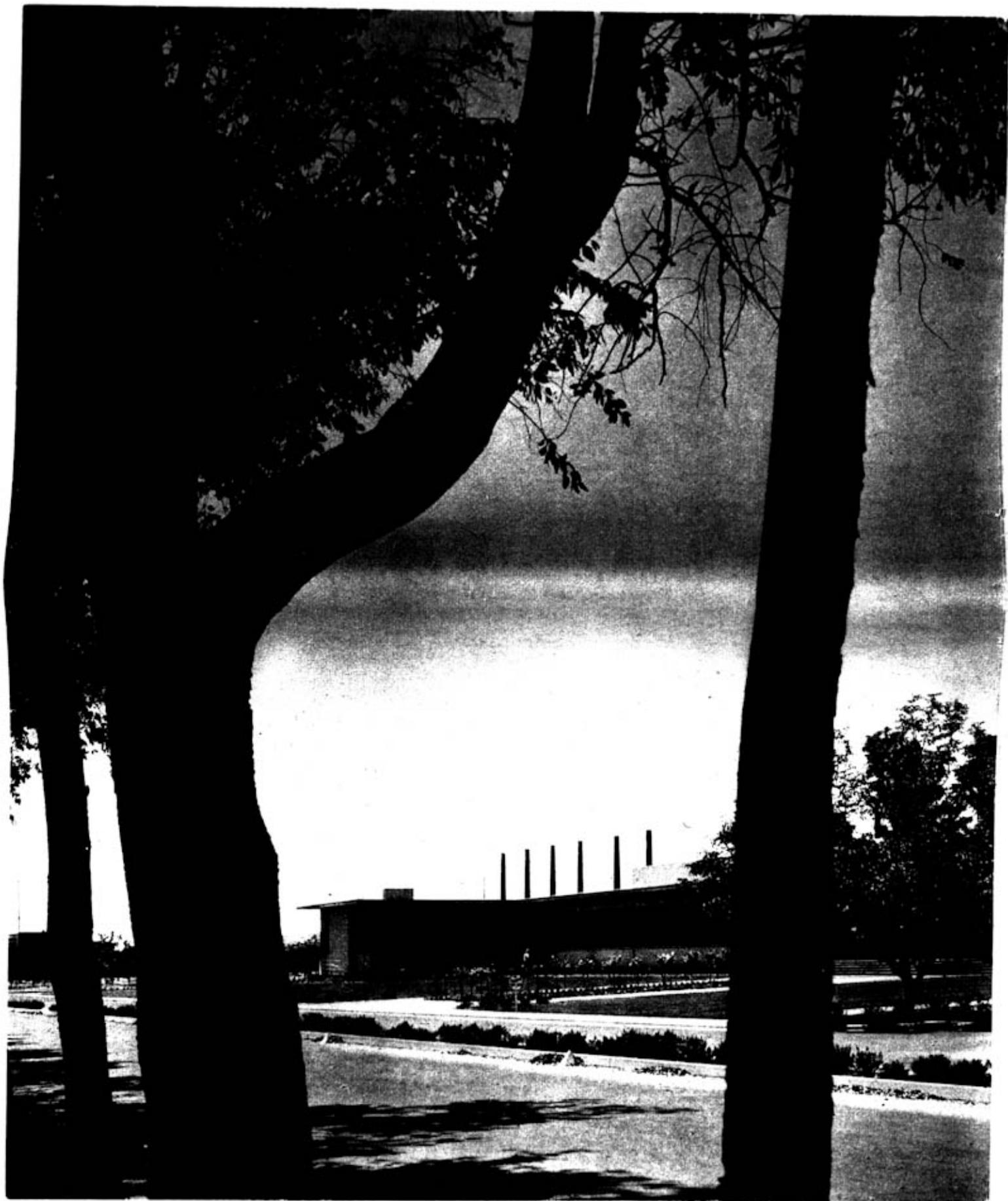
Now the T-2, though more complex than a Liberty, is much less intricate than a C-4. It is possible that Kaiser's most spectacular contribution outside the Liberty will be the new auxiliary aircraft carrier that son Edgar is producing at Vancouver. Starting in January, the yard by mid-July had launched seven carriers and delivered one. By the end of 1943 the yard should be delivering six a month.

SOLILOQUY IN A SHACK

Frank Crowe, who helped the Six Companies partners off to such a fine start at Boulder, has his office in a wooden shack perched on a muddy ledge overlooking the Sacramento Valley where the great gray bulwarks of Shasta are rising within the containing hills. The dam will be finished next winter, almost a year ahead of schedule, and Crowe expects to be without dams to build until the war is over. From Redding, where the dam is located, to Oakland and San Francisco is a sleeper jump. Crowe likes the "smells and the sounds of the river bottoms." He seldom goes to the city to see his old associates. But the newspapers, the magazines, the radio tell him what they are doing; even without them he would know they were going at a terrific pace from the suction their shipyards exert on his timekeepers, clerks, and laborers isolated in the quiet hills.

"Edgar Kaiser was one of my foremen." Edgar employs 94,000 men, manages a \$5,500,000 weekly payroll. He even has a special office to which he can withdraw if an important telephone call comes while he is holding a conference. "Clay Bedford ran the garages at Boulder." Bedford bosses 92,000 men at Richmond and runs four shipyards. "Steve Bechtel always was terribly ambitious." He is sponsor of the great Calship yard with 42,000 workers, which is run by his R.-M.-P. partner, John McCone. "Ken Bechtel at Boulder was just a kid, his father's constant shadow." Ken, besides being financial man for all the Bechtel interests, now manages Marinship, the newest of the yards, the most beautiful, and potentially one of the most efficient. "They certainly have gone a long way," says Frank Crowe with sincerity. But sometimes it gives him a funny feeling to hear Henry Kaiser called "Hurry-up Kaiser." He says wistfully, "That was what Henry used to call me at Boulder."

The story of the Six Companies will be concluded—or, to be more exact, will be brought to date—in the October issue of FORTUNE. The reader will follow the trail of the Earth Movers as it leads closer to the heart of war production—to magnesium and steel and aircraft. To pipelines and refineries and airfields in Alaska. To remote naval bases in the Pacific. And to the most elusive objective of all: an appraisal of the phenomenal Six Companies partner, Henry J. Kaiser.



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THE EARTH MOVERS III

DESPITE HENRY KAISER'S VENTURES INTO INDUSTRIAL REALMS, THEY DECIDE TO STAY AS THEY ARE—"CONTRACTORS LOOKING FOR BUSINESS"

BY the time war broke across Poland in 1939, the Six Companies, that confederation of resolute, risk-taking western contractors, were more than ready for the tasks that history was preparing for them. The art of group enterprise, which they had first learned at Boulder Dam, had been perfected in a series of joint projects that had added their names to the legends of the West Coast. They had thrown Bonneville Dam across the raging, treacherous Columbia River, a river far more formidable than the Colorado. They had sunk the piers for the eight-mile San Francisco-Oakland Bay Bridge, going deeper than pier builders ever had gone before. The restless, tireless Henry Kaiser led them into the cement business; they had built the world's largest cement plant and broken the West Coast monopoly. The war itself offered the tremendous challenge of ships, and with the Bechtels and Kaiser leading the way they became the world's biggest shipbuilders.

Those epic accomplishments have been recounted in the two previous articles in this series. But the war was to offer even greater challenges to the initiative and resourcefulness of this astounding group of earth movers. Their construction contracts took them all over the Pacific, into the sub-Arctic, and the length and breadth of the continental U.S. The war—in the person of Henry Kaiser—also took them for the first time into a complex industrial venture. The venture was magnesium, and in the history of the Six Companies magnesium was to be a critical point.

The magnesium idea went back to the conscientious efforts of the late Harry Davis (he was killed in an automobile accident a year and a half ago), manager of the cement plant, to find use for his cement kilns if demand fell off. In the summer of 1940, after Roosevelt had announced the 50,000-plane program to a nation starved for light metals, Kaiser quickly saw the potentialities of magnesium. He ordered Davis to advise him at once on the best way to make the metal. After a quick survey, Davis reported that Dow, with an electrolytic process, was accounting for all U.S. magnesium, but other processes were available. Kaiser decided the most promising of them was the "carbothermic-reduction" technique developed by an Austrian named Fritz Hansgirg. It had been successfully tested in a pilot plant at Radenthein, Austria, in 1935. The U.S. rights had been sold to the late Emil Winter of Pittsburgh, banker and Vice President of Pittsburgh Steel Co. Mr.

Winter had had no luck in selling it to U.S. industry. The Dow Chemical Co. had turned it down because, it thought, the process did not lend itself to volume production.

KAISER MAKES A DEAL

By a stroke of luck Davis located Hansgirg in San Francisco. The inventor had recently arrived from Korea, where he had inspected a small magnesium plant he had built for the Japanese two years before. At Kaiser's request Hansgirg was packed off on the New York train in August, 1940, to meet Kaiser in the Waldorf-Astoria. Occurring after a wild rush across the continent, the meeting must have been a crushing anticlimax for the inventor. Hansgirg was accompanied by R. E. Clarke, President of the Marine Magnesium Products Corp. of San Francisco, with whom he was negotiating for a modification of his process. Kaiser seems not to have been impressed by the pair, and called the deal off.

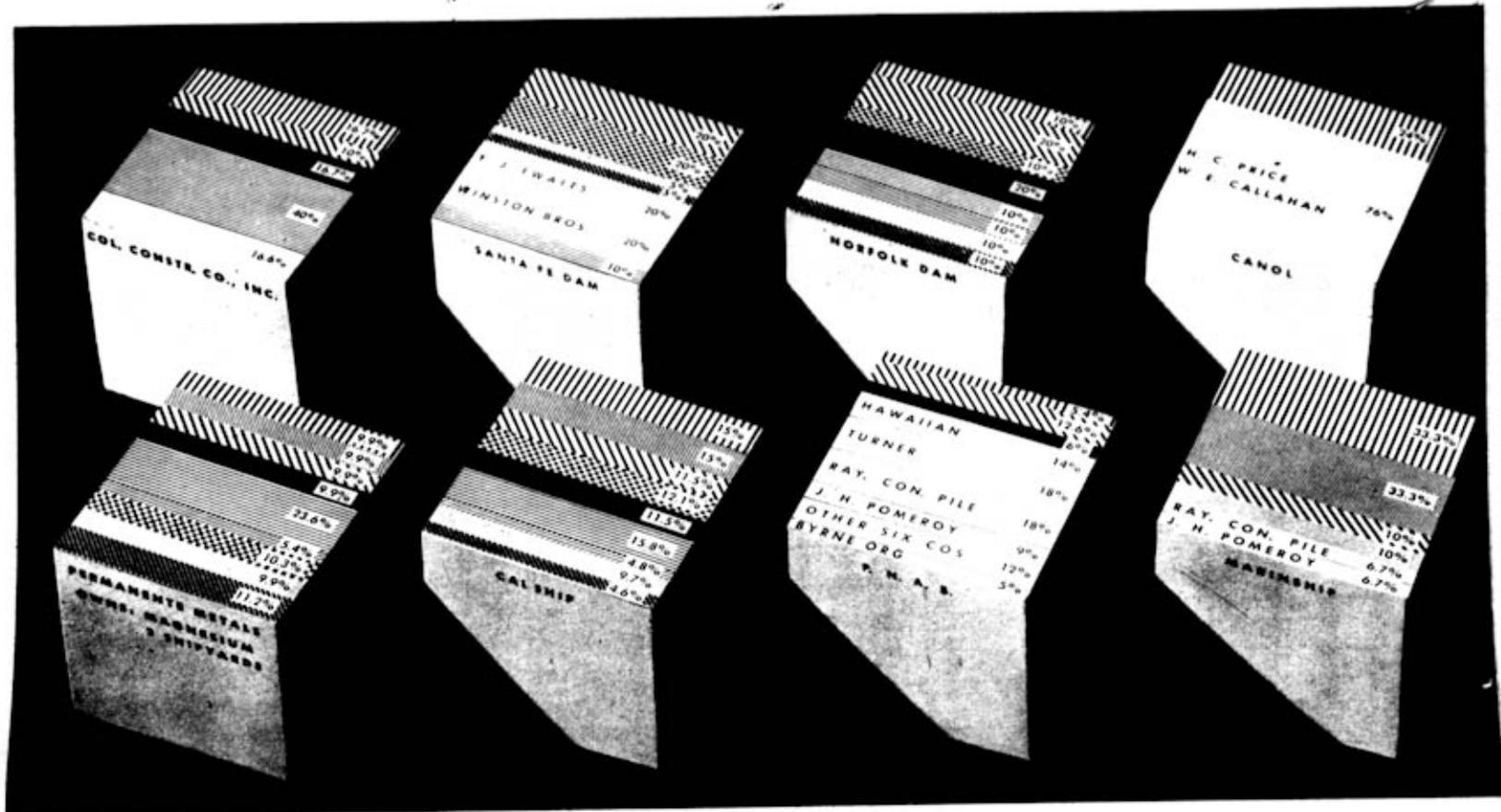
But Kaiser's interest seems to have been rekindled by Thomas G. ("Tommy") Corcoran, of the dismantled New Deal team of Corcoran and Cohen. The contractor had been introduced to him by John D. Reilly of Todd Shipyards Corp., and Corcoran had helped him quiet two California Congressmen who were trying to kill a low cement bid he had made. Corcoran knew the light-metals picture, and he apparently advised Kaiser to bid for a place in it. So Kaiser lined up his partners. Three months after the Waldorf meeting, Davis again approached Hansgirg. This time Davis was told he was too late: the new process had already been sold to Clarke. Without breaking his stride, Kaiser went after the old carbothermic process owned by Emil Winter. He paid \$750,000 cash.

Kaiser now had two problems: to finance a plant and to find an expert to build it. The partners had borrowed \$7 million from the Bank of America to swing the cement plant, which was getting into full production; and they were loath to take on any additional commitments. Lauchlin Currie, one of the President's "anonymous assistants," whom Kaiser had just met in Washington, casually suggested an ingenious solution: borrow the money from RFC and pledge against the loan the fees coming to them and Todd for the ships they were to build for the British.

As for the plant, Hansgirg was the only one in the U.S. who knew enough about his process to be able to design it. Trouble was that he considered himself bound to give his time to Clarke. Kaiser, however, wanted him. As Hansgirg tells it, Kaiser informed Hansgirg he wasn't dealing with Kaiser but with the U.S. Government, and if Hansgirg "wouldn't work for him, the government would find methods forbidding me to stay at this country any longer." The alien Hansgirg gave in, signed an attractive if involved ten-year contract. He was rushed back to a fourteen-room suite in New York City's Rockefeller Center. There, assisted by engineers from Bechtel-McCone-Parsons and the cement plant, he was put to work

STEEL FOR THE PACIFIC COAST

The first integrated steel mill west of the Rockies, Henry Kaiser's plant at Fontana, in southern California, though not yet complete, is already producing desperately needed plate for his ships. Its iron ore comes from Kelson, California, 176 miles away; its coal comes from eastern Utah, 807 miles by rail. But Fontana is close to California markets, close to ships bound for the Orient and South America, and Kaiser wants to make it a major glory of the new industrial West that he is sure will follow the way.



KEY:

	BECHTEL
	BECHTEL-McCONE-PARSONS CORP.
	MORRISON-KNUDSEN CO., INC.
	J. F. SHEA CO., INC.
	UTAH CONSTRUCTION CO.
	KAISER
	PACIFIC BRIDGE CO.
	McDONALD & KAHN, INC.
	GENERAL CONSTRUCTION CO.
	OTHERS

designing a new plant. Having no plans—the Japanese had kept those he used in Korea—he had to work from memory.

During the three frantic weeks the draftsmen were reducing Hansgirg's ideas to paper, the loan hung fire in Jesse Jones's office. The loan might have failed if Kaiser had not wangled an endorsement from Bill Knudsen, then one of the heads of the old OPM. The first advance of \$3,500,000 went through in February, 1941. It was increased until the total borrowed from the RFC reached \$22,750,000, against which the earnings from Richmond No. 1 and No. 2 shipyards were pledged.

At the end of February all the men who had flocked east to design the plant flocked west to build it. Kaiser decided to build it in lovely Santa Clara Valley, alongside the cement plant. That way he could spread his management over both properties. Furthermore, the natural gas used for heating purposes in making the cement could be economically used as a cooling agent in the magnesium process.

No other war project in the nation, except perhaps for Willow Run, got off with the rosy predictions that attended Permanente magnesium. The usual development—first the pilot plant, then a unit, then the plant—was taken in a bound. Before steel was up, Kaiser was saying that the plant would produce twice as much magnesium as the whole industry had produced before the war. For a while it looked as if the lion's share of the magnesium expansion would be given him, rather than Dow, the natural leader. In all events, Dow's negotiations with Defense Plant Corporation for doubling the capacity of its new Texas plant were at a standstill for months.

Permanente was scheduled to start putting out magnesium



not later than November, 1941, and to reach capacity production of two or more million pounds a month four months later. Right on schedule, Washington brass hats were sent neat samples bearing Kaiser's compliments. But for a long time the samples seemed to take nearly all the metal that Permanente was able to produce. In July, 1942, after the plant had been in operation nine months, a WPB officer said: "Kaiser's plant has delivered exactly 5 per cent of the huge amount he has promised. We don't count Permanente's production at all in our regular magnesium plans any more."

"NATURE CANNOT BE COMMANDED LIKE MEN"

It looked as if Kaiser had bitten off more than he could chew. His men had to feel their way along, a technique that must have seemed odd and irritating to him. The process being new, they continually ran into bugs, whereupon Hansgirk proposed to stop everything and do a research job. Since it takes furnaces ten days to cool off, two weeks were lost every time they had to be shut down for repairs. Several men were burned or gassed to death as a result of haste and carelessness. Three were killed, for example, when a small explosion blew out a rubber-hose connection and caused the fantastically inflammable magnesium to burst into a consuming flame. "Mr. Kaiser, himself, surrounded by yes engineers," says Hansgirk, "worked personally at the plant, giving orders to the workmen and engineers, hurrying the operations so much that everybody became confused and several accidents occurred. Mr. Kaiser certainly is a construction genius, wherever he has to organize mechanical forces and manpower . . . in the very shortest time.

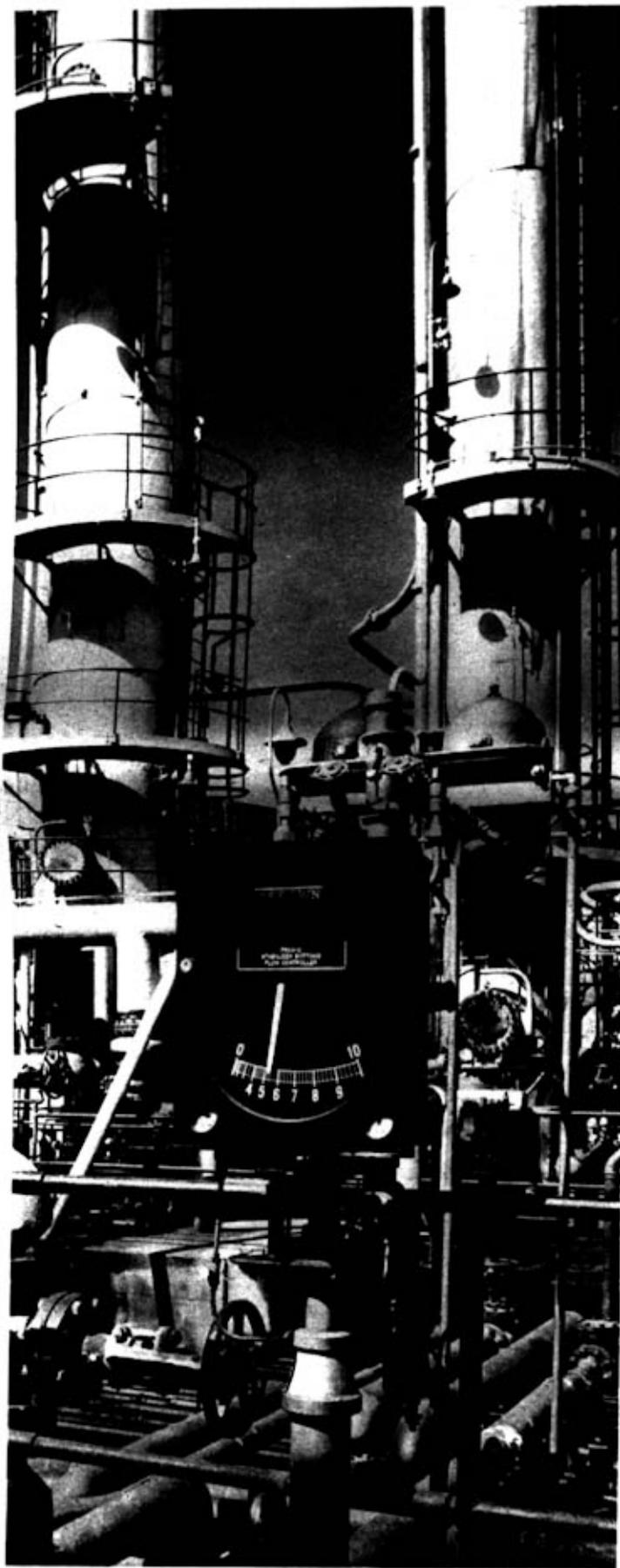
"EVERYBODY WINS AND NOBODY LOSES"

The blocks represent only a few of the Six Companies' dozens of jobs, big and little, all over the world. But they show how inconsistently the shares of the members tend to divide up, and how outsiders often are called in for their special talents or resources. Whether a partner goes into a job "sponsored" by somebody else, and to what extent he goes in, depends upon how he feels and how much money he is willing to risk. "Thus," the partners say, "everybody wins and nobody loses." Note that Henry Kaiser, the old sand-and-gravel man, has the biggest single share in supplying the aggregates for Shasta Dam. But Henry Kaiser, the sand-and-gravel man turned industrialist, has the biggest single share of both Permanente Cement and Permanente Metals. Not shown is Fontana Steel, which he owns entirely.

But he has not any understanding and feeling for a chemical process, and nature cannot be commanded like men and machines."

The financial record to date seems to provide no great compensating comfort. Costs have gone and are going down, but they are still decidedly not competitive. Dow's costs, including plant write-off, are 18 cents a pound. On the same basis, Permanente's are more than twice as high. Since the base price of magnesium is about 20 cents a pound, and of aircraft type 23 cents, the plant seems to be losing about \$12,000 a day. Competitors scornfully dub the Kaiser-modified Hansgirk process "an interesting laboratory experiment" and regard it as commercially unsound because the material must be handled too often.

Kaiser and his men agree only that they have not lived up to their original schedule. All in all, they are proud of what



they have done. "No chemical process," says Gene Trefethen, "was ever carried along so fast." Kaiser himself points out they had to operate part of the plant while the rest was being built. "I hope that someday we can build something before we have to operate it," he says, as if he did not enjoy just the opposite. They did not get along with Hansgirg, whom they considered fussy and obstinate. As a matter of fact, they have been on their own since December, 1941, when the FBI took Hansgirg in custody as a dangerous alien. Though he was later paroled, his contract has been canceled, and the "Herr Doktor" now teaches at Black Mountain College in North Carolina, far from Permanente.

As for costs, Kaiser's young men insist, despite the skepticism of some of the Six Companies partners themselves, that they will perform the near-miracle of reducing them by more than 50 per cent and matching Dow by next year. Undeniably, they will be able to pay off their RFC debt this year out of shipyard profits, which can be used for that purpose *before taxes are deducted* up to an amount equal to 20 per cent of the plant value. They will have no interest charges to worry about and will have a new plant. They also think they will get manufacturing costs way down. They never tire of pointing out that the Hansgirg process is potentially the cheapest on the basis of raw-material cost. They are developing by-products that alone, they think, will reduce costs by 2 or 3 cents. The plant is going at 67 per cent of capacity. When it is running at full capacity, costs should drop more.

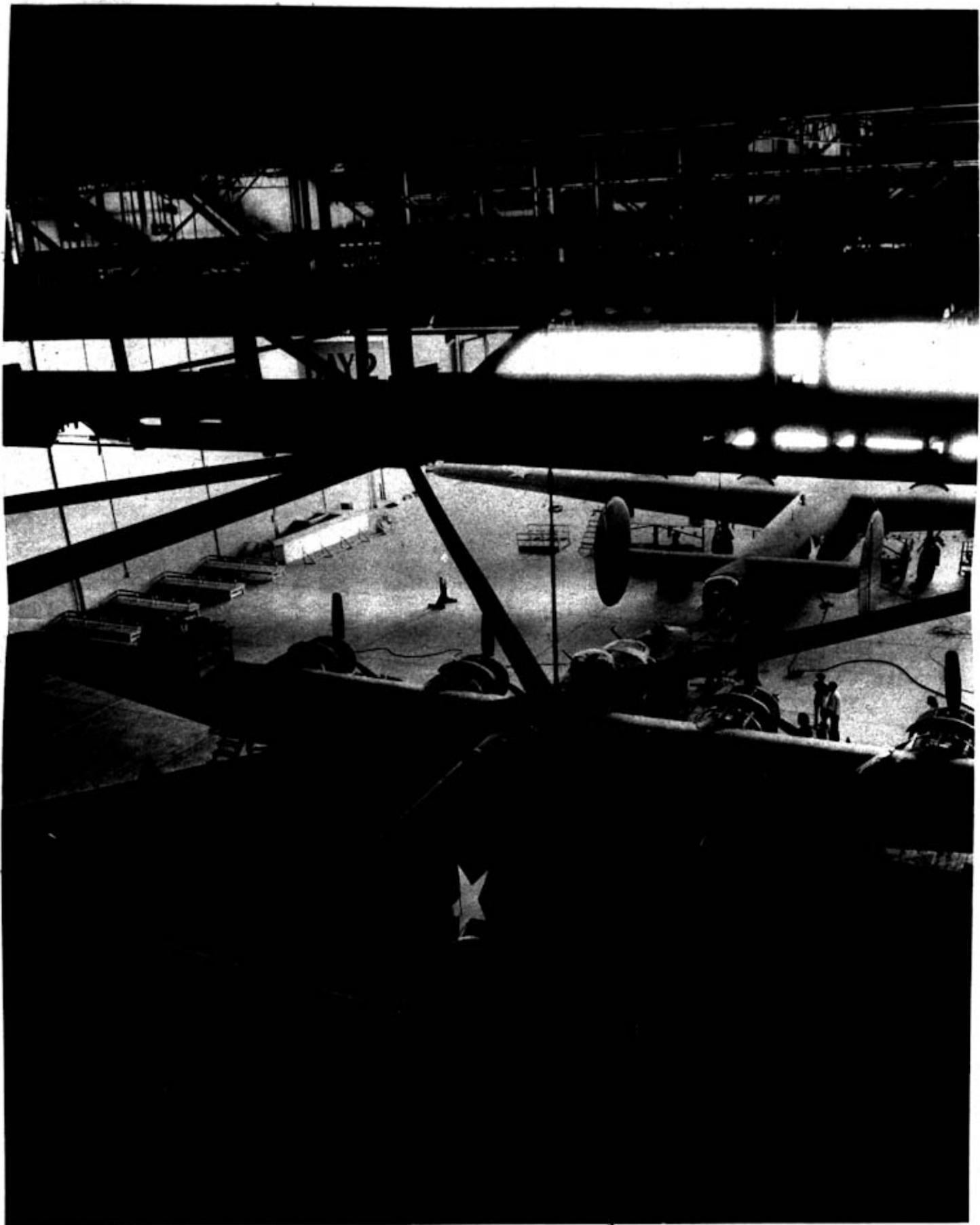
Standing in the presence of the magnificent plant in Permanente Canyon, Kaiser's young men are dead sure they will come further than they have. If the beauty of the plant is any augury, they should. Here, as perhaps nowhere else, the charming, the purposeful, and the big are merged in a breathtaking pattern—enormous hammerhead cranes, row upon row upon row of retorts, humming conveyer belts, flower beds, fountains, cool white concrete buildings. Everything is arranged according to a gravitational logic—buildings and processes descend the hill in a seemingly effortless way.

THE CONSTRUCTION MEN

While Kaiser was sweating and fighting his way through an untried metallurgical process (as well as tending to his contracting jobs), the other seven of the Six Companies boys were sticking to the good old tried process of contracting. True, the resourceful, prudent W. A. Bechtel Co.—through an affiliated company, Bechtel-McCone-Parsons—was showing a flair for becoming more than earth movers. As quasi-industrialists they were spreading themselves all over the world—designing and building refineries in the Persian Gulf, at Curaçao, and in the sub-Arctic. They were building and running a huge airplane-modification center at Birmingham, Alabama. It is perhaps the most difficult technical job, after magnesium, in the whole

HENRY KAISER'S PARTNERS BUILT THESE

W. A. Bechtel Co., the only partner in the Six Companies group besides Henry Kaiser with a flair for industry, are contractors, engineers, and industrialists. Their affiliate, Bechtel-McCone-Parsons, built the fractionating column on the left for the Union Oil Co. It built and now operates the great aircraft-modification plant at Birmingham, Alabama (right), where bombers are changed to meet special geographic or combat conditions.



Six Companies portfolio. To it comes a good part of the bomber output of Willow Run and other plants for changes to meet new tactical or special geographic conditions—modifications that are either too specialized to be dealt with on the assembly line or too new for the line to catch up with save at the cost of extensive retooling. They equal about 10 per cent of the man-hours that go into the original bomber.

From B.-M.-P.'s connection with the petroleum industry the Bechtels were also weighing synthetic rubber—as designers and operators, of course, of a Rubber Reserve plant. Kaiser, who with John McCone wanted to be a sponsor, arranged a deal to borrow the money from RFC—\$23 million. "It's a tremendous field," Kaiser exulted. "It will be a great thing for us—and for the Coast."

Kaiser and McCone wanted to utilize the corporate and capital structure of Calship as Permanente magnesium had earlier utilized the first two Richmond shipyards. They got as far as a letter of intent from Jesse Jones, but Jones withdrew it as soon as it had accomplished its real purpose of needling the oil industry into going into rubber. Moreover, Steve Bechtel pulled out of synthetic rubber because his Board didn't want to tie up Calship money. Today Kaiser talks of rubber vaguely, like something out of a distant past.

W. A. Bechtel Co.'s Canol adventure, however, is more a construction job. Canol is a contraction of Canadian Oil—the Army's designation for a great scheme that is still more or less a military secret. Only the skimpiest details can be published: a big oil field has been opened up at Fort Norman on the Mackenzie River less than 100 miles below the Arctic Circle; a 600-mile pipeline is being driven across the wild mountainous country to Whitehorse; and at Whitehorse, which is on the Alaska Military Highway, a refinery is being constructed to produce gasoline for trucks and planes.

Canol is a \$76 million contract, and with the highway ranks as one of the two biggest creative jobs in the interminable mountainous reaches of the upper Northwest. Steve Bechtel, along with H. C. Price Co. of Bartlesville, Oklahoma, and W. E. Callahan Construction Co. of Dallas, Texas, was asked by the Army Corps of Engineers to do the job. Bechtel-Price-Callahan has been working on Canol for a year and a half. It is scheduled to be finished by the end of the year. There have been broad hints that drilling (by Imperial Oil Ltd. of Canada) has revealed a structure that may become one of the most important oil fields of the continent. But merely the presence of a substantial quantity of fuel is a godsend. Canol should end the cumbersome, inefficient, costly hauling of gasoline from California. It should make the fueling of trucks and airplanes immeasurably easier. And it should provide fuel for bombers that soon will be striking at Japan. "When I think of what may come out of this country," Steve Bechtel says, "I see the outlines of great things. This country is on the overland approach to Alaska. It is on the great-circle air route from the U.S. to the Far East. God, what a place to find oil."

The other Six Companies boys were doing just as well. Felix Kahn, Gil Shea, and Jack McEachern stayed at home and built cantonments, dams, and airfields. But Pacific Bridge went out to Pearl Harbor to install graving docks for the Navy; and after the Japs struck, the Navy impressed Pacific Bridge's superb talents as an underwater specialist for the raising of the sunken ships—a job that its Vice President, Jack Graham, recently completed with great distinction. Even conservative, hide-

bound Utah Construction Co. felt the wanderlust. From its old railroad building crews it recruited men to go to Samoa to work on airfields; it sent others north to work on the Alaska Military Highway. Les Corey, spare and shy, who looks more like a country banker than a contractor, mentions with pride, "Some of our boys in Samoa got shot at by a Jap ship—no one hurt, though."

Probably the most spectacular of all war jobs in which Six Companies participated started in 1939, when the U.S. Navy began to develop and extend its air bases in the Pacific. As P.N.A.B., it got under way just before the German attack on Poland. Even now P.N.A.B. is extremely hush-hush. About all that can be said is that it called for airfields, channel dredging, barracks, power plants, underground storage facilities, and other construction jobs in the Hawaiian and Philippine islands, Samoa, Guam, Midway, Wake, Johnston, and Palmyra.

Harry Morrison was fascinated. A construction job is life to him; the maneuvering that intoxicates Kaiser is distasteful to him. When the Pacific program came up, Morrison nominated himself to represent the Six Companies interest. Figuring the Navy would break the job into separate pieces, he made a submission on the Midway piece. But the Navy chose to start off P.N.A.B. as a single job and awarded the contract to a combination of three other contractors—Hawaiian Dredging, Raymond Concrete Pile, and Turner Construction.

In July, 1940, the Navy stepped up the program and suggested that they take in Morrison-Knudsen to speed up the work. So Morrison was made sponsor of the Wake and Midway jobs plus the "underground" (bombproof fuel-and-water storage tanks, power plants, radio stations, shelters) on the Hawaiian Islands. Wake and Midway were never finished, but even so his share eventually turned out to be a big part of P.N.A.B.

P.N.A.B., starting off at \$15 million, has grown until it represents a \$332 million show. W. A. Bechtel was brought in to handle naval work in the Philippines, and Utah was brought in for the Samoa job. Of the Six Companies partners, these two plus Morrison are actively participating in the P.N.A.B. construction work. Kaiser and the rest have only a financial interest. The P.N.A.B. field force comprised as many as 22,000 men, more than four times the number employed to build Boulder Dam. In addition, the combination is acting as the Navy's general purchasing agent for odds and ends—razor blades, air compressors, hospital equipment, etc.—to supply the Pacific bases. Purchases have run into millions a month.

For three years now this anonymous army has been digging and sweating in the nearest and farthest islands of the Pacific. It is expected to wind up the job by the end of the year. Only occasionally has the Navy permitted a glimpse into its secretive affairs. Of such things as the great storage tanks in Hawaii, not a word. This was Harry Morrison's job: what he has done with the "underground" caused a high-ranking Navy officer to say, "He is one of the greatest builders the world has ever seen."

THEIR MONEY

The contractors' financial rewards were respectable. Twelve years ago, when the Six Companies group bid Boulder, the surety companies were scornful of their ability to scrape up \$5 million in working capital. But all that is changed now. "Our credit," says the ordinarily cautious Felix Kahn, "is practically

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unlimited. We could raise \$3 to \$5 million in fifteen minutes on the phone. We could raise \$20 million almost overnight."

In view of the dozens of projects in which the various companies are involved, both separately and in combination, it is impossible to cast up a worth-while profit-and-loss statement either for the group or for any individual. All the companies being privately held, no public statements are available. Though Kaiser works entirely with public money, he as a matter of principle deprecates any mention of money in connection with his enterprises. Most of the Six Companies executives, however, toss off their financial figures in the same easy confidence that an Easterner mentions his golf score. From them a number of interesting, even astounding, estimates can be made.

Shipbuilding, of course, is the biggest item in the Six Companies portfolio. From January, 1941, when the yards went into production, to the beginning of May, 1943, the fees earned by Oregonship and Calship came to the huge figure of between \$20 and \$25 million each. Last spring the Maritime Commission cut the fee per ship about in half. But Calship expects to earn \$23 million this year, and Oregonship even more.

The other yards have not done so well. This year, if Richmond No. 3 is able to deliver its quota of troopships and No. 4 its quota of frigates, they should take in over \$6 million between them. Last year Kaiser's Swan Island, just getting started with tankers, earned practically nothing. Kaiser-Vancouver, however, drew down \$1,600,000 on landing barges. This year the first, if it delivers its schedule of fifty-six tankers, should collect \$6 million in fees. The second, with fifty carriers scheduled, should do as well. This brings the likely 1943 fees for these six yards to over \$60 million. With other yards under their management, the total comes to around \$75 million.

Yet ships are only part of the group's income. Six Companies' shared intake from the Pacific Naval Air Bases will not be less than \$3 million before taxes. Their flyer in Joshua Hendy has become a business grossing around \$100 million a year, which this year will earn perhaps \$10 or \$15 million if Charlie Moore can ever get the books straightened out. The Bechtels alone will take \$250,000 from Canol and maybe \$600,000 more from the modification center.

All this is before taxes, renegotiation, and nonreimbursables (costs the government will not pay), which can't be determined accurately now but will cut into profits deeply. Calship, for example, expects to have only \$4,600,000 left after taxes and before renegotiation and nonreimbursables—about a fifth of its fees on about \$350 million worth of ships. Taxes on each partner's share will also cut the figure. Yet the only deficit item in this undeniably satisfactory profit picture is Kaiser's brain child, magnesium. Last year it lost \$3 million; this year it will perhaps lose \$5 million more.

"AN OCCUPATIONAL SCHISM"

Their experience with magnesium has so far ratified the distrust that some of them originally felt for it. They joined it willingly, perhaps, but with a distinct feeling that it was not in their line. Although Bechtel-McCone-Parsons retains its financial interest in Permanente, the company called its engineers out of the canyon with considerable relief when it appeared the job could be finished without them. Then, in February, 1942, Todd got out of magnesium entirely. (The reconstituted ownership is shown on page 140.) Although this occurred automatically when the shipbuilding association of

Todd and Six Companies was dissolved, as told in last month's issue, Todd's President, John Reilly, had few kind words for the magnesium venture. He liked it little enough when Kaiser pledged the earnings from Richmond Shipyard No. 1 against it, and he liked it even less when Kaiser wanted to pledge the earnings of Richmond Shipyard No. 2. Most of the Six Companies partners shared his feelings.

But even if magnesium were making a lot of money, most of the partners probably would have been dubious about it. With the exception of the Bechtels, they were contractors and not industrialists, or at any rate not Atlas industrialists of the kind that Henry Kaiser seemed determined to become. What had developed was, in the words of one Six Companies man, "an occupational schism." And the more Kaiser became the seer and talked of and worked on \$400 postwar autos, helicopters, prefabricated houses, and mass-produced medical care, and the more credit he got for what his partners had done, the wider that schism became. They were still glad to join Kaiser in construction ventures, but they were reluctant to ascend with him into the realms of higher industrialism.

So when Kaiser invited them to join him in steel, they did not warm up to it. Harry Morrison remembers how they argued with him. "One reason we didn't join was that we felt Henry would come along later and say 'We need more money to run this plant.' Henry's answer to that was 'Well, boys, you must understand I haven't enough money to run this plant and I am not going to ask you to do it.' In other words, he is figuring that when the war is over he will have to have either government or public money."

Felix Kahn, however, probably expresses the real doubt in the minds of most when he says: "We were at a crossroad. Steel was a process and that's another kind of business, a creative business, for which we had neither the training nor disposition. We decided to stay as we were—contractors looking for business all over the world, ready to build anything to somebody else's design and specifications." Kahn had his own reason for rejecting steel. "As a contractor I like to put my money into a specific job, do the job, and pull out. I didn't like the idea of freezing my capital in a steel mill."

Kahn, McEachern, Les Corey, the Bechtels, and Swigert were all opposed to steel. Shea and Morrison were willing. But after anguished soul searching they decided to run with the others. Kaiser had to go into steel by himself. In so doing, he seems to have set a pattern for his own future.

"WE GET HYSTERICAL AND YELL"

Henry Kaiser tells people that he always has been interested in steel. Actually, it was not till the summer of 1940, long after less voluble Westerners had clamored for a Pacific Coast steel industry, that his interest galvanized into something specific. For one thing, government money was then available for new industry. For another, in July, 1940, Chad Calhoun, his Washington man, who believed we would soon be in the war, wrote him a long memo predicting an unprecedented demand for steel. The West Coast never has had an integrated steel industry, i.e., one making its own pig iron. West Coast steel mills have always had to rely on eastern or Rocky Mountain plants for all their pig iron and most of their steel ingots, and have never come near meeting the West Coast demand for finished steel. War's impact, even though merchant shipyards as yet amounted to nothing, would, he thought, inevitably justify an integrated steel plant.

The problem was to get authorization from the old NDAC (National Defense Advisory Commission), and a typical problem it was. NDAC was manned by big industrialists who at

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that time were against raw-material expansion of any kind, to say nothing of steel expansion on the Pacific Coast by a sand-and-gravel man. NDAC would give no authorization unless Kaiser could prove he was able to build and run a steel plant. Calhoun, who had found out a few basic facts about the steel business, promptly went to a local representative of Republic, one of the industry's unregenerates. A meeting was arranged between Kaiser and Republic's Tom Girdler.

Describing his motives as entirely patriotic, Girdler said he would be delighted to supply technical talent that Kaiser lacked. He said he would join Kaiser in a Defense Plant Corporation project. Nothing came of the proposition. NDAC was still convinced there was too much rather than too little steel. Four months later, one day in December, 1940, Calhoun picked up a dope column and read that the New Deal was interested in establishing a Pacific Coast steel industry. Within several days Kaiser was talking to Leon Henderson and Lauchlin Currie. They verified not only the New Deal's interest in Pacific Coast steel but its deep dislike of Girdler. Kaiser bluntly phoned the news to Girdler in San Diego. Neither embarrassed nor surprised, Girdler simply told Kaiser that he would break off the deal but would still be delighted to give technical assistance. Without that assistance, Kaiser probably would not have erected his steel mill.

By the spring of 1941, steel was becoming scarce. Kaiser was having trouble getting it for his ships. "When we can't get something," says Calhoun, "we get hysterical and yell like a little kid that doesn't get its stick of candy." Kaiser yelled. He made a formal proposal to OPM, asking \$150 million for an integrated steel plant. Drawn up in a hurry, the proposal was vague in spots and mentioned five different possible locations. Senator Abe Murdock of Utah, always on the lookout for war industry for Utah, heard about it and rushed Kaiser to see Roosevelt. The meeting, at which Kaiser and Roosevelt were supposed to have talked about the uneconomy of hauling steel to the West Coast, created a furor in the industry. Nevertheless, when SPAB printed a report on the proposed ten-million-ton addition to steel capacity, Kaiser was not included.

For four months Kaiser all but submerged official Washington under telegrams and memos. Finally, in February, 1942, a year and a half after he started on steel, WPB invited him to discuss it. WPB thought it might let him have a blast furnace provided Kaiser could get a turboblower for it. Ingersoll-Rand, which makes turboblowers, was loaded up.

"What's a turboblower, Chad?" Kaiser asked Calhoun. Chad guessed it was a turbine and a blower.

"Why, we can build one out at Joshua Hendy, can't we?" Kaiser decided. Though he didn't know, Calhoun said sure. They phoned to Charlie Moore at Hendy, where they were building ship turbines. Moore wired back: "Regarding turbine blower, can build unit in three or four months." None of them seems to have known precisely what a turboblower was, but Moore's wire satisfied WPB. Shortly afterward WPB providentially discovered that Ingersoll-Rand could deliver.

So Kaiser got authorization for a \$22 million blast furnace. He personally followed the O.K. forms around from room to room while WPB experts initialed them, hungrily watched the envelope being sealed, and hopped a cab to RFC offices to wait for it. Jesse Jones was unwilling to lend \$22 million to an organization with no steel experience. Kaiser felt sure Tom Girdler would help him. He called Girdler and asked him.

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"Of course I will," said Girdler. "We have a war to win."

Kaiser then asked Girdler to repeat the pledge to Jesse Jones, and handed the phone to Jones. Girdler told Jones that he had never thought a large steel plant on the West Coast was a practical undertaking, but that if such a plant was needed for the war effort he would help Kaiser all he could.

That day Calhoun phoned Cleveland and talked an hour to Charlie White, Republic's Vice President in charge of operations. He got enough technical data to submit a proposal for a steel plant and plate mill the very next day. "We had such a good case of shortage of plate," says Calhoun, "that the proposal went through."

So Kaiser put up his integrated steel mill at Fontana, California, in the San Bernardino Valley area about fifty miles out of Los Angeles. In full production the end of this year, it will have an annual capacity of 432,000 net tons of pig iron, 675,000 net tons of ingots, and 300,000 net tons of plate. It is relatively small, less than half as large as the DPC Geneva steel plant in Utah, operated by U.S. Steel.

FONTANA: WAR BABY?

No undertaking of Kaiser's has ever been surrounded by so much outside pessimism as Fontana. Almost everybody who knows about it knows several reasons why it may turn out to be a lemon. It will have to be equipped to make tin plate, wire, pipe, and lighter steels before it can compete in the postwar western market. Consumption of any single item may be too small on the Pacific Coast to justify a plant producing it only for the Pacific Coast. The iron mine at Kelso is good for only six or eight years, and there are no proved big mines nearby.

As for costs, coal comes from Utah, 807 miles away. Kaiser talked Union Pacific's Bill Jeffers into making a special rate of \$4.40 per net ton against a regular rate of \$5.30, and thereby upset the whole western rate structure, but even so \$4.40 adds a heavy burden to the cost of coal, one and one-half tons of which go into every ton of steel. More important, Kaiser had to borrow \$106 million from RFC, needs \$5 million more for working capital. If the war keeps up and his shipyards work at capacity and present profit rate till June, 1945, he will have been enabled to pay back no more than \$62 million. Even then interest and depreciation, with the plant at 100 per cent of capacity, will be some \$5.50 per net ingot ton against \$4.33 for U.S. Steel and \$3.34 for Bethlehem. If the war ends sooner, he may be faced with the necessity of selling securities to the public (which the Six Companies has avoided like the plague) or letting RFC foreclose. And a steel price war could be a terrible thing for Fontana.

Neither Kaiser nor his men seem very worried. They admit that their ability to hold Fontana will depend to some degree on how long the war lasts and shipbuilding profits continue. Since shipyard profits are pledged against Fontana, however, they really are risking very little. "What have we got to lose in Fontana?" asks Edgar Kaiser. "Only the dollars we otherwise would pay in taxes . . . As Westerners we will have the satisfaction of forcing U.S. Steel to provide the integrated steel plant that the West Coast should have had long ago."

Kaiser, moreover, is as determined to hang on to Fontana as if he were risking everything. Reports that he is toying with the idea of selling it to one of the major companies—Republic is commonly mentioned—are contradicted by everything he

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and his men say. "We're fighting to hold this plant in peace," vows one of his executives. "If we're left with a big chunk of the loan unpaid, we can go to the banks; we can sell stocks or bonds; we may even refinance through the government."

If he still owes a lot of money, indeed, Henry Kaiser may be entitled to ask for a reduction of the remaining debt. The plant cost much more than it would cost in peacetime. Had it been put up by Defense Plant Corporation, the government would be left with its own plant after the war. For various reasons, among them the desire to avoid government red tape, Henry Kaiser instead borrowed the money from RFC and put up Fontana himself. Like other businessmen who may be saddled with costly RFC-financed plants, he can legitimately yell bloody murder if the government expects him to pay back his RFC loan in full while DPC plants sell for the "dime on the dollar" that everybody seems to think they will.

Kaiser and his boys are even boning up on ways to meet the life-and-death price war they expect to be launched by the major companies. Though they speak fervently of free enterprise, of friendly but inspired competition that Kaiser likens to "the competition between Stanford and the University of California," they are showing an interest in practices that are neither free nor enterprising. Several would welcome a duopolistic arrangement with U.S. Steel's Geneva plant that would leave them with the southern California market and give Geneva first rights to the northwestern markets.

Finally, despite the steelmaker's axiom that it is more important to keep down raw-material (rather than finished-product) transportation costs, Kaiser and his men insist that Fontana's proximity to California and Oriental markets is an asset outweighing the disadvantages. Though China may put up her own steel mills soon after the war, they seem to be counting heavily on the Oriental market. Beyond that, Kaiser and his men just insist that there is a place for a West Coast steel industry in peacetime. "Fontana," says Kaiser, "is a monument to the people." This enigmatic statement certainly does indicate that Kaiser is laying all his bets on a country running at capacity. In that kind of country there presumably will always be a place for Fontana—and for Kaiser the industrialist.

Kaiser's old partners have not yet given him up for lost. "We have a sneaking feeling," says Felix Kahn, "that Henry will come back." But they cannot feel very certain when they say that. As the accompanying article on Kaiser indicates, it seems difficult to see how Henry Kaiser, who has taken a good part of the world on his shoulders, can ever go back to putting around with sand and gravel. When he bows his great bald head and says, "I don't have to bother with these things—I could let them all go and live off the sand-and-gravel business," no one who knows him is taken in. He can't help bothering. It is his nature to keep changing, never to rest or to be satisfied.

But even if Kaiser becomes a much less active member of the group, the other Six Companies men will hardly lose the art, the desire, the excitement, and satisfaction of working together. The West, in its rightful hunger for the things they were able to bring, still needs them. They also look beyond the West. Henry Morrison talks of highways and railroads to be built in China. Steve Bechtel and the others see Europe and South America and Asia needing old factories rebuilt and new ones engineered. "We're not worried about any postwar letdown," says his younger brother. "For us the postwar is the period when we will really come into our own."



OFFICIAL U. S. ARMY SIGNAL CORPS PHOTO

First Aid for Uncle Sam's Newest Recruits

Red, the Irish Setter that belonged to little Johnny; *Pix and Pax*, Jim Crane's champion Boxers; *Collins*, Aunt Elizabeth's fine Collie; and *Dot*, young Mary Jane's Dalmatian... they are our newest recruits, a canine army thousands strong, donated by the nation's dog lovers to help speed the day of victory.

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3 AMERICA AND THE FUTURE



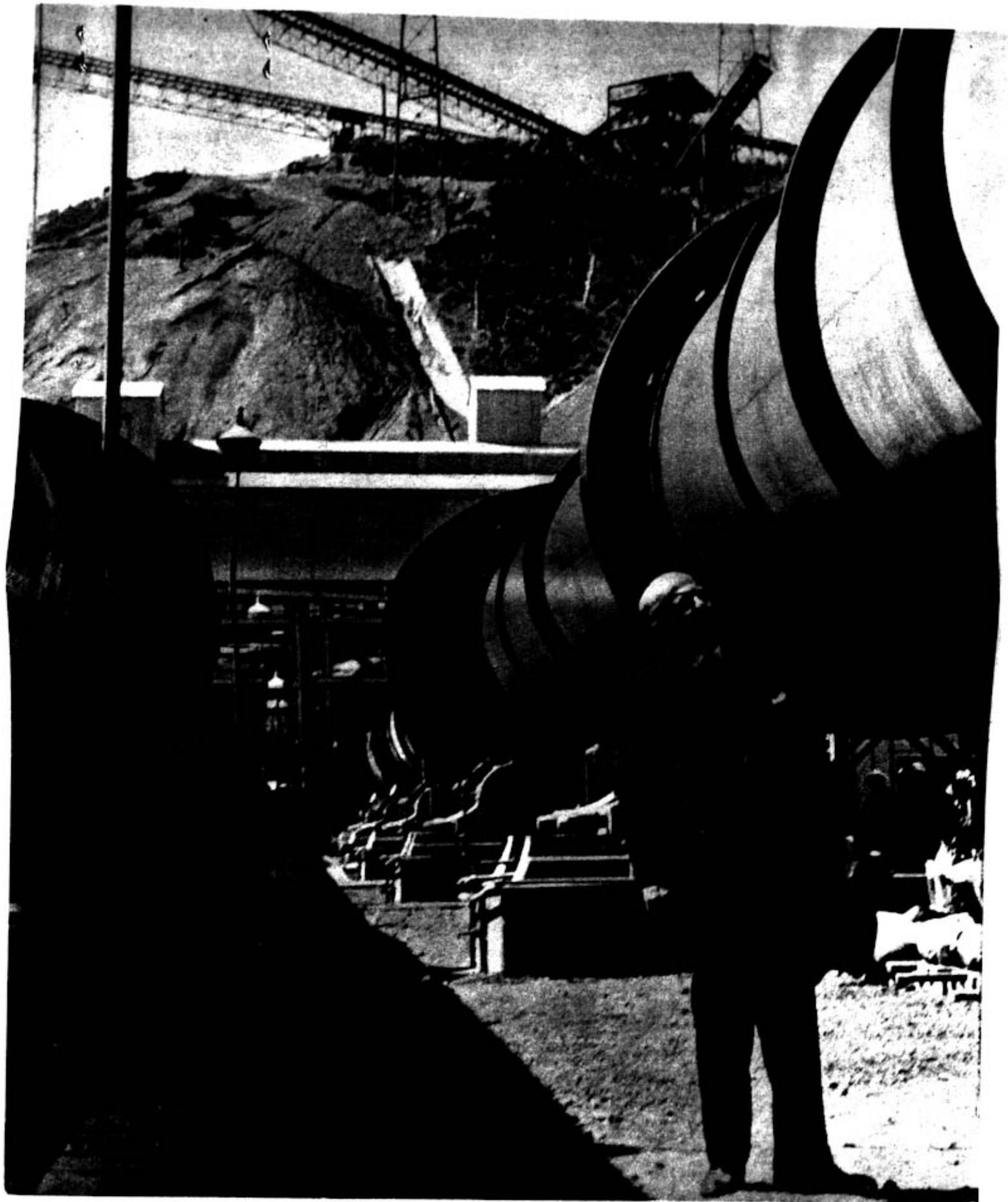
KAISER

Industrial phenomenon in the U.S. today has fired the mind of the common man; new in our time: an American business man following. His faults are not his detractors are not few, but this imaginative man stands today as one of the leading figures in the world for creating a postwar world of creative employment. Last of four articles on
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CHINA'S POSTWAR PLANS

The world's oldest and most numerous people are studying their future not only in terms of the earth and the farmer but in terms of the machine and the technician. They are planning highways and railroads, steel mills and textile looms, telephone networks, power plants, and ocean fleets. The success of the program will depend largely on how well Chinese planners and Western producers reach profitable understandings. Today, the Chinese are ready to talk terms. A report from Chungking.
Page 151

"The world has been greatly benefited by the development of America as an industrial and a commercial Nation. So a developed China with her four hundred millions of population, will be another New World in the economic sense. The nations which will take part in this development will reap immense advantages. Furthermore, international cooperation of this kind cannot but help to strengthen the Brotherhood of Man."



HENRY J. KAISER

HE IS SOMETHING NEW IN OUR TIME: AN AMERICAN BUSINESSMAN WHOSE ENERGY AND IMAGINATION HAVE EARNED HIM A POPULAR FOLLOWING

HENRY KAISER, four years ago a more or less unknown western contractor, is today the nation's most portentous industrial phenomenon. Simply on the basis of press mentions and the frequency of his conferences with government officials, he is indisputably the No. 1 businessman of the hour. More important, he has received a popular acclaim that few if any industrialists ever have. Part of this is the result of his spectacular ability to get things done. Including what he manages for his Six Companies partners, Kaiser accounts for around 20 per cent of the Maritime Commission's program. He owns a steel plant, an aircraft plant, is managing operator of and owns the largest share of a big magnesium plant and the world's biggest cement plant. Kaiser's capacity for getting into something new is so notorious that whenever the government wants to prod other industrialists into action, it has only to say that Henry Kaiser is interested in it. "Kaiser," says Thomas G. (Tommy the Cork) Corcoran, summing it up, "is one of the great natural resources of a nation at war."

To the people, Kaiser also seems like a great natural resource of a nation at peace. Starved for industrial leadership and vision through the chill depression years, they are stirred by Kaiser's talk of full employment and his promises of things like \$400 cars, helicopters, and new railroads. The industrialist of vision and imagination—the man who both gets things done and aims to do bigger things in the future—has always been an American hero. Even Henry Ford, who had little personal appeal, fired the popular imagination. Henry Kaiser has gone a step further and identified himself with the people as even the New Dealers never quite succeeded in doing. His personal mail on some days runs to several thousand letters—much of it from simple, trusting citizens convinced that he holds the key to the nation's salvation and their own. Letters are actually addressed simply to "Henry Kaiser, the White House." Strangers are continually entreating him to take over some phase of the war effort they fear is being neglected. In the tradition of newly made heroes, he has been urged to run for the Republican presidential nomination.

Like most Americans who have had an exceptional hold on the people, he is not very heroic looking. He has jowls like those of a venerable Great Dane, he has a paunch, and he waddles like a duck. In his more somber moments, when his mouth is clamped in a straight line, he has the look of a country

preacher preparing to warn his flock against the temptations of the flesh. When he lets himself out, however, he radiates geniality and invites and inspires confidence. Completely unaffected, he can make the humblest hand feel at ease. The only men who know how different Kaiser is from the vast majority of people are those who must listen to his endless outpourings of ideas and carry out his countless orders, or who find themselves forced to disagree with him. In manner and appearance, he is still a common man, self-educated and of humble origin.

"A FUNDAMENTAL INDUSTRIAL LINE"

Kaiser's early life is the legendary American story of the poor but honest boy who worked like a beaver, was bright as a whip, overcame mountains of obstacles, and ended up with riches and fame. In all Kaiser's publicity, however, very little has been said about his youth. For some reason this otherwise very astute man has neglected one of his biggest popular assets, his Horatio Alger career.

He was born sixty-one years ago in Canajoharie, an upstate New York village of 2,500. His German-born father, Frank John Kaiser, was a custom shoemaker. The only boy of the four Kaiser children, Henry cared nothing for making shoes. Always building things, he kept the house littered with tools and materials. He also had a flair for photography, and was determined to get ahead in the world. When he was fourteen he got a job as a delivery boy in a Utica department store. Showing some artistic ability in his photographic hobby, he was promoted to the drapery department. Four or five years later he hired himself out to a photographer in the nearby resort town of Lake Placid. "At the end of the first year," he says, "I had a half interest in the business. At the end of three years I owned it in full."

Next the growing photographer set up shop in the resort town of Daytona Beach, Florida. He made enough money to put up two small buildings there. As business increased, he added a store in Palm Beach and a counter in a St. Augustine store. The Kaiser photographic stores acted as agents for Eastman Kodak, printed and finished other people's photographs, and made a specialty of postcard landscape scenes. One of them, a picture of Daytona Beach with fake clouds, is still a best seller. Kaiser likes to tell strangers of the annual pass the Florida East Coast Railway gave him because his advertising photographs had been so useful in stimulating tourist traffic. Kaiser's sister and her husband, R. H. Le Sesne, still run the store at Daytona Beach. They have not seen Henry since 1929.

Henry Kaiser married one of his Lake Placid customers, a Miss Bessie Fosburgh, whose lumberman father was well-to-do. Kaiser, however, neither waited for nor expected any of Mr. Fosburgh's money. To "get into a fundamental industrial line," he sold his photographic business. After some cogitation, he picked the hardware business and went to Spokane, Washington. With a continent's span between him and his past, Kaiser

KAISER AT THE TURNING POINT

When Henry Kaiser four years ago persuaded his partners to build the world's largest cement plant at Permanente (left) and broke the West Coast cement monopoly, his career reached a turning point. From then on this ambitious contractor plunged deeper into industry. He is using part of his shipbuilding fees to pay off the steel mill, part to pay off his share of the magnesium plant, and the rest to arm and strengthen his own organization, which he dreams of making into a kind of western General Motors, Dow Chemical, and General Electric rolled into one.

set about realizing his ambition. He applied at a large hardware firm called McGowan Bros. and remembers "hounding one man so steadily that he nearly threw me out." He was with the store two years, becoming an assistant buyer in sporting goods, then city sales manager.

In Spokane he changed jobs to go to work with the Hawkeye Sand & Gravel Co., buying a little stock, arranging to pay for more out of his earnings as a salesman. This happened, by his own account, when he was twenty-six or twenty-seven. Not long afterward a Chicago construction firm named J. F. Hill landed a contract in the city of Spokane. Kaiser called on the company to sell his line of aggregates and left with a job to build and manage their sand-and-gravel plant. Hill sent Kaiser to Vancouver in 1913 to put up another sand-and-gravel plant. While in British Columbia he saw a chance to get into the construction business on his own. With money borrowed from a Vancouver bank, one of whose directors was an ex-stockholder in J. F. Hill, he bought some secondhand wheelbarrows, concrete mixers, and a couple of teams. With these he successfully bid a \$250,000 paving contract in Nanaimo.

Out of this chancy salesman's bid for an operator's profits came the Henry J. Kaiser Co., Ltd., one predecessor of the Henry J. Kaiser Co. The new firm stayed in Vancouver only a little while, then moved to Victoria, then to Seattle, then to California. "We paved 1,000 miles of highway in British Columbia, California, and Washington," says its founder. "And, besides that, we built fifteen sand-and-gravel plants."

"WHATEVER FATHER WANTS"

"The Kaiser Empire," according to one local description, "consists of Henry Kaiser, all the brass in the world, and a handful of the hardest-working, most faithful young men in America. They keep the promises that Henry makes." As an associate says, there is always a "Gene," a "Clay," a "Chad," or a "George" to take care of the details that Kaiser leaves strung out behind him as he goes roaring along. Few young men in industry have more important jobs. Two of them have acquired reputations of their own—thirty-five-year-old Edgar Kaiser and forty-year-old Clay Bedford. These two young men divide up the shipbuilding job, as they earlier teamed up on Bonneville and Grand Coulee dams, and now direct the efforts of no fewer than 187,000 workers.

The others, however, are scarcely known. Eugene ("Gene") Trefethen Jr., major-domo of the Industrial Division (not

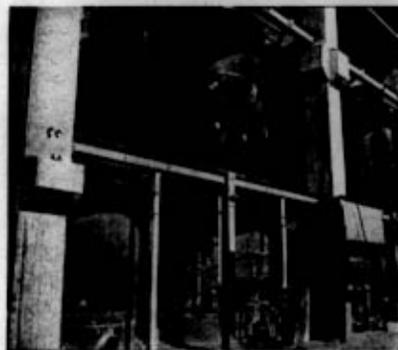
including ships), is a balding youth of thirty-four. "Chad" Calhoun, an ex-MacDonald & Kahn engineer, unschooled but extremely competent, handles the affairs in Washington. George Havas, a young, slight Hungarian engineer whom Kaiser met fifteen years ago in Cuba, when he was doing a \$20 million highway job for the Cuban Government, is chief engineer for the Kaiser Co.'s Iron & Steel Division.

These men are not paid high salaries—\$18,000 a year at the most. For son Edgar this is \$7,000 under the top permitted by the Maritime Commission (as "reimbursable costs") in government-owned yards. "Father decided on the lower figure," Edgar says, "partly because he does not think we ought to take high salaries for government work, partly because part of our time is given to non-shipyard affairs."

Around the managerial talents of these young men Kaiser has erected a corporate structure that they hope he will one day find time to straighten out. The Henry J. Kaiser Co. is the main province of the empire. Its two subsidiaries (Kaiser Co., Inc., wholly owned, and Kaiser Cargo, Inc., 15 per cent owned by Morrison) bank the shipbuilding fees from Richmond No. 3 and No. 4 shipyards, Swan Island, and Vancouver, and wholly own Fontana and Fleetwings, his plane plant at Bristol, Pennsylvania. The parent company, however, like a merchant who has struck oil in the backyard, continues undisturbed in its old sand-and-gravel trade. The company operates four sand-and-gravel plants, six concrete batcher plants, two hot-mix asphalt plants, and a fleet of trucks. Like the rest of Kaiser's enterprises, the "aggregates" business has prospered with the war. The company supplies perhaps 50 per cent of all the paving materials used in the Bay area. This by itself earns enough for Kaiser to enable him to say, as he often does, "Money means nothing to me."

Off to one side and completely separate is the Kaiser Co., which Kaiser organized in 1933 as a profit-sharing agency for his top executives, who generally share half his profits. The Kaiser Co. usually has 50 per cent of Henry J. Kaiser Co.'s stake in group ventures (Consolidated Builders, Columbia Construction, Permanente Cement, Permanente Metals Corp., Evansville Shipyard), and it has an interest in the Kaiser-controlled Richmond No. 4 and Fleetwings.

The Kaiser Co., however, is more than just a profit-sharing holding company. It was also set up so that the young key men could bid for contracts on their own. Thus far they have handled only one contract—an \$18 million construction job for the Navy at Mare Island. Kaiser has repeatedly told his



fellow stockholders that they must not consider themselves bound to his judgment. "Suppose I am offered a deal by the Six Companies that I do not like," he told them once. "I turn it down. If you think I'm wrong and want to take on the business, you are entitled to my share." The option, however, has never been exercised. Since the Kaiser Co. never meets, its councils are not disturbed by quarrelsome voices. The attitude of the owners is summed up by Edgar: "We go into whatever father wants, to the extent he wants. After all, it is all his. We started nothing."

"HE POUNDS YOU"

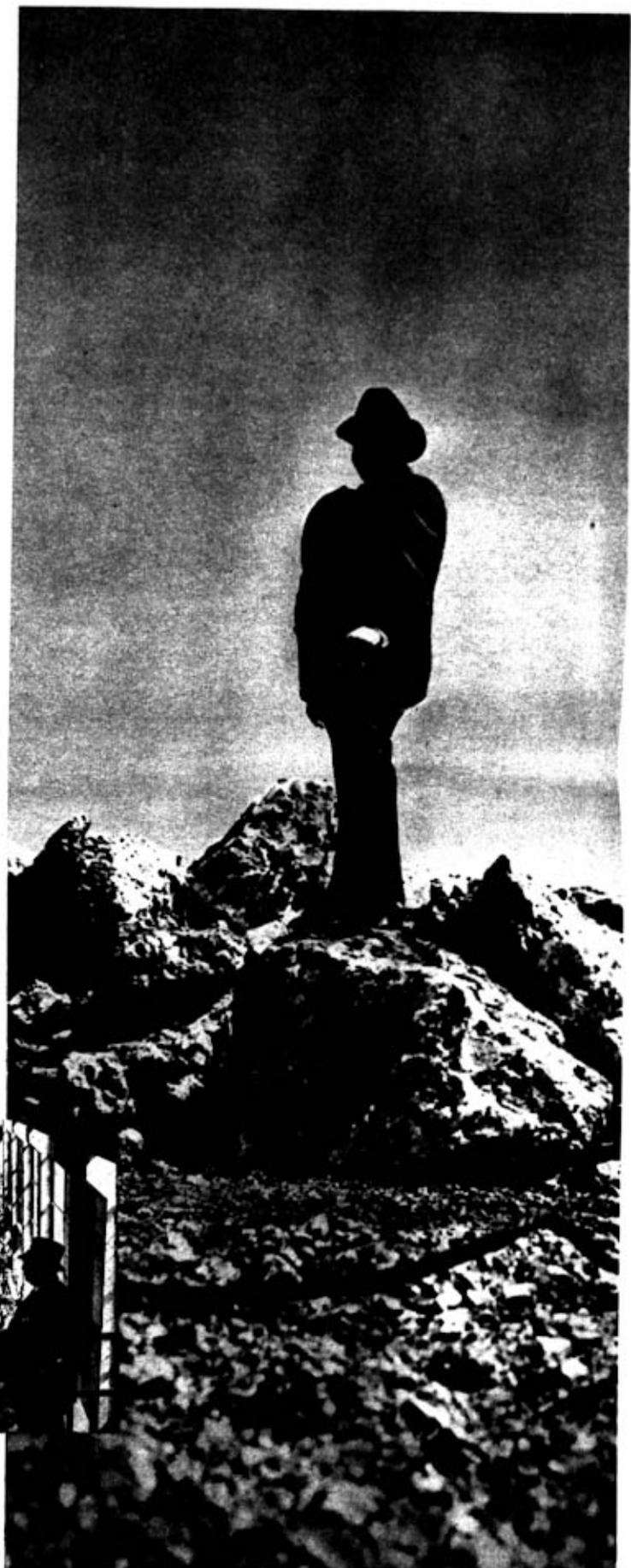
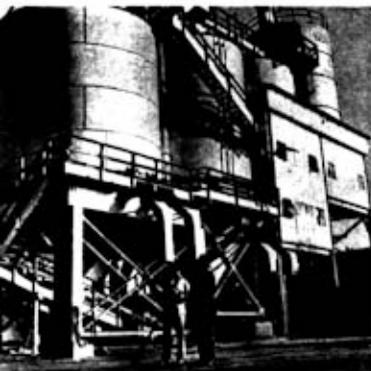
Henry Kaiser's most obvious characteristic is his tendency to go the whole hog, to carry things almost to the point of excess. It manifests itself in practically everything he does. The headquarters of his empire, unless he goes through with his scheme of establishing headquarters in the East, is in Oakland, California, where he maintains an office that seems less appropriate for a contractor than for a cosmetics manufacturer. There are two desks, a big working table, all in pale ivory of a rather elegant and precious French design. These are augmented by six telephones, two radios, two easy chairs, and a sofa.

Nowadays these elegant surroundings are seldom occupied. Kaiser spends about half of his time on the other side of the continent, alternating between a suite in Washington, a suite at the Waldorf-Astoria and a set of offices in Rockefeller Center in New York. Last June when he announced he would open the latter, he accounted for it by observing that in addition to being close to Washington it was a good place to watch over postwar developments. Since only a fraction of the actual production job is being done on the East Coast, Kaiser is inclined to run the main show by remote control. His executives commute back and forth on the transcontinental trains and airplanes, and half of Kaiser's working day seems to be given to telephone talks with men thousands of miles away.

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THE ATLAS INDUSTRIALIST

War gave Henry Kaiser his big opportunity to do bigger things. No entrepreneur has ever shouldered so many new industrial enterprises in so short a time as he has since 1939. But in addition to taking on cement, ships, magnesium, and steel, he feels an overpowering responsibility for the survival of the free-enterprise system after the war. "Henry really believes he is the country's savior," one of his more sardonic friends says—and hastens to add with dead seriousness, "Maybe he is."



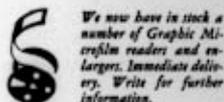
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MICROFILM

Henry J. Kaiser

[Continued from page 149]

Kaiser's lavish use of the long-distance telephone would awe a Hollywood producer. He often has half a dozen executives hooked in on a conference circuit—Chad Calhoun in Washington, Edgar Kaiser in Portland, Gene Trefethen in Oakland, Tom Price in Fontana. An outsider who participated in several of these round tables said it was quite an unnerving experience listening to Kaiser as he summoned ghostly corroboration from the distant corners of the continent. "Henry never bothers to tell you how many people are in on the call," this man said. "He'll be talking along and all of a sudden you'll hear him say, 'That's right, isn't it, Gene?' That's your first knowledge that Trefethen had been there all the time. That sort of thing will go on until you discover half of his executives are standing by."

Kaiser's friends have always worried that he will work himself to death, and if not himself then his unprotesting young men. Felix Kahn says, "He is untiring—he pounds you." Apparently he has always been that way. Clay Bedford tells a story of a business trip to Cuba he made with Kaiser fifteen years ago, when he was a mere freshman in the old Kaiser Paving Co.: "We shared a stateroom and it seemed to me Mr. Kaiser never slept. He lay on the bed thinking and tossing. Just when I'd be ready to doze off he'd whisper: 'Clay! Clay! Are you awake?' Then he'd be off on some idea he'd just thought of."

Even in his private life, Kaiser cannot relax or cease to compete. At Lake Tahoe, where he ordinarily spends the summer, his speedboats are among the fastest on the lake. Those who have known him a long time say that nothing is too trifling for his attention or too good to be left alone. Even today he buys most of Mrs. Kaiser's clothes; if the Kaisers give a dinner party it is he who decides the courses and the seating list. He is constantly rebuilding and redecorating their Oakland home to try out some new arrangement that has caught his interest.

Kaiser reacts emotionally with the same intensity that he works. His younger son, Junior, explaining a decidedly emotional brochure describing the Fontana steel mill, said: "Father likes a bit of hearts and flowers in our literature." This side of Kaiser's character was revealed at its most intimate during the blowing in of Big Bess, the first blast furnace at Fontana, named after his wife. Most public affairs staged by Kaiser's organization are graced by a professional quartet called the "Oregon Sentinels," who wear the gray uniform of the shipyard mounted police. At the climax of the ceremonies, facing hundreds of new workers, Kaiser motioned the Sentinels behind him. While they softly hummed his favorite song *Let Me Call You Sweetheart*, he launched into an impassioned oration on the subject of love. "The greatest thrill," he said, "is to know that I love not only mother but each and every one of you."

When hard pressed or thwarted Henry Kaiser is intensely unsentimental. Among his intimates his rages and threats are as famous as his appetite. The cords swell in his neck; his round body shakes all over; the words are flung out with trip-hammer speed. Men who have been bawled out over the telephone say they could hear him pounding the table a continent's span away. Kaiser aroused, often over something relatively insignificant, is extremely violent. Taunting, goading, brushing aside all argument, he seems bent upon luring the other person into a fight. In recent years he has been involved in several episodes of lapel seizing and shoulder spinning, one involving a three-star general, another a federal investigator.

True, there may have been an element of bluff in these displays. Some years ago Kaiser addressed a big meeting of the



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3. CO-OPERATIVE LABOR SET-UP

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Development and Industrial Commission
State House Boston, Massachusetts

[Continued on page 250]

Henry J. Kaiser

[Continued from page 249]

Associated General Contractors, whose members perversely resolved to take a course opposite to the one he wanted. "Henry ranted and stormed," a friend said. "He looked as if he would drop dead of apoplexy any minute. There was a recess and I met him five minutes later in the hall. Henry was cool as a cucumber. 'How am I doin'?' he wanted to know."

HE FORFENDS TROUBLE

Kaiser does everything, as his men say, "without red tape." Last spring WPB charged him with setting up a private priority system of his own to provide his shipyards with materials over and above the government allocations. A hot disclaimer was promptly made but not long afterward the company, under a consent decree, promised to sin no more. According to the Maritime Commission, the amount of material was small, but on the other hand Kaiser's men have always loved to tell how their expeditors had outwitted some slow-moving claimant.

Any engineer, clerk, or receptionist who makes a favorable impression upon Kaiser, even the employee of a friend, is apt to receive a tempting offer. Old-fashioned corporations, standing on a certain protocol, are surprised and exasperated. "It isn't that they are unethical," a competitor complains. "They just haven't any ethics." Tom Girdler loaned Kaiser several of his crack men to help get Fontana started. "If you try to hire them away," Girdler swore, "I'll stick a knife in your back."

Tommy Corcoran himself was once the target of a Kaiser recruiting campaign. The fact that Corcoran was a close personal friend as well as legal adviser to his partner, John Reilly of Todd, did not inhibit Kaiser. Corcoran had already done a lot of work for Kaiser, such as getting priorities on steel plate for ships, and Kaiser had angrily denounced Corcoran's fees as excessive, and for a while refused to pay the amount due. But he offered the lawyer the presidency of the Richmond No. 3 shipyard; when Corcoran turned that down, Kaiser urged him to "write your own ticket." Himself an expert on pressure techniques, Corcoran afterward observed with an appreciative chuckle: "Wherever his personal wants are concerned that man is able to establish an unconscious right of eminent domain."

One of Kaiser's greatest resources is his truly military ability to muster terrific force against a single goal and capture it despite apparently insurmountable obstacles. This aptitude, valuable as it is, sometimes makes him impatient with the checks, balances, and delays of democratic processes. Although he has never been involved in a real public scandal, Kaiser, along with the other Six Companies men, was fined \$100,000 by Secretary Ickes for violating the eight-hour law in the rush to finish Boulder. And he was cutting corners around the Wagner Act when, with only sixty-six people hired in his Oregon yards, he made the deal with the A.F. of L. that delivered an oncoming 94,000 workers into a closed shop, about which they had not a word to say. He has used the same tactic in the other yards. Kaiser maintains this was the price of peace in the shipyards—the union has agreed not to strike—and in addition it made the union recruit labor. The deal may also account for the manpower waste in the Richmond yards, where in the late spring the monthly turnover among 92,000 workers had risen to 24,000. More than a quarter of that huge force was not building ships but only revolving in the training courses.

On another occasion Kaiser paid a stiff price for labor's indulgence. The notorious Joseph S. Fay and James Bove of



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[Continued on page 252]

Henry J. Kaiser

[Continued from page 250]

the A.F. of L. were indicted last May in New York for extorting \$703,000 from the contractors working on the Delaware Aqueduct. Kaiser, along with his partners Shea and Utah Construction Co., was in a combination that was accused of kicking in \$238,000. There is no question that Kaiser contributed his share. The men on the job thought it was a "good idea to get the job done without labor trouble."

Henry Kaiser has achieved his success and acclaim partly because he does things autocratically. His technique is today indeed one of the natural resources of a democracy at war. But that his flair for doing things that way might someday work against the democratic system is a possibility that cannot be overlooked when his future role is considered.

"FATHER WAS UPSTAIRS"

Kaiser sometimes seems almost carried along by the terrific momentum he has generated. "Henry doesn't want any more money," says Harry Morrison. "He just wants to do things." It was to do things that he plunged into magnesium, steel, and cargo planes, in the face of the opposition of the war industries and even the government agencies.

An extreme example was his venture into cargo planes in July, 1942. Angry at Admiral Vickery for diverting material from him to another shipbuilder, Kaiser got together with Palmer Hoyt, then publisher of the *Portland Oregonian* and agitator for an aircraft industry in Portland, and whipped up a radio speech announcing he was going to build cargo planes in his shipyards. He said that if nine shipyards were converted to building huge flying boats like Glenn Martin's Mars, they could be produced at the rate of 5,000 a year in ten months. His young men were astonished when they listened to the broadcast. They had never heard Kaiser even mention the cargo-plane idea. But before they could reach him, the U.P., A.P., several American and even foreign papers were asking for more details.

Kaiser had to go through with it. Within a couple days he was journeying across country to talk before the National Press Club, writing and rewriting his speech. It was a whopping success. Although some reporters were critical of the idea, and official Washington at first said nothing, the country was deeply stirred. Meantime, Kaiser was looking around for a plane to build. He considered the huge Mars and the very much smaller Curtiss Commando. The Navy discouraged him on the Mars, and he hunted around for something bigger than the Commando. But he couldn't find what he wanted, and the aircraft industry naturally wasn't very cooperative. Kaiser jumped in and tied up Howard Hughes, movie producer, pilot, and plane designer. Kaiser and Hughes are now making three huge prototype Duramold cargo planes in the Hughes plant in Culver City, California. But Kaiser now seems more interested in a revolutionary flying wing than he does in Hughes, and Hughes seems more interested in a military plane than in Kaiser. Although they have got \$18 million in government money, nobody has any idea when production will begin.

Kaiser's relentless drive is the big factor in his ability to harness his ideas to the cautious and complicated processes of government. If he wants something, even a relatively small thing, he will not hesitate to turn the federal government upside down to get it. He literally buries the desks of government executives under yardlong telegrams, whose effect is to keep them steadily reminded of Kaiser's problems. He himself will

[Continued on page 255]

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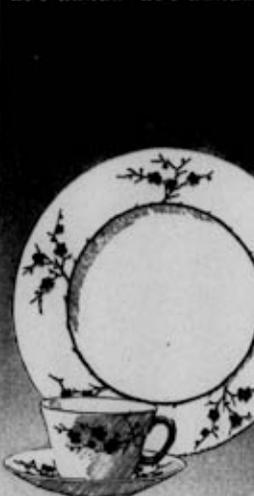
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Henry J. Kaiser

[Continued from page 252]

enter situations that most corporate heads would leave to their Washington man. To make sure that Fontana got a 200-ton stripper crane for which Bethlehem had a priority, he personally cajoled Charles E. Wilson and B. M. Baruch.

In the spring of 1942, when ships were being sunk faster than they were being built, Kaiser got excited over a scheme for fastening a flight deck on a Liberty ship and thereby putting aircraft carriers into mass production. Technically this was dubious; in order to get off a deck of reasonable length an airplane requires a much faster flow of air over the deck than a Liberty is able to generate. Still, when Kaiser charged into the Maritime Commission, Admiral Vickery did not brush off the idea. The Commission designed a new hull, which Kaiser's men decided could be built with a saving of from 750,000 to 1,000,000 man-hours. Lack of turbines was the one flaw in the plan. At this point the Commission came up with an old design for a steam engine that would develop a satisfactory speed. So far, so good. Who would sell the Navy on it?

Kaiser would. Admiral King was out of the country when Kaiser and his son Edgar arrived in Washington one sweating June day. Rather than mark time, Kaiser insisted upon seeing the Navy's No. 2 man, Vice Admiral Frederick J. Horne, Vice Chief of Naval Operations. At the same time, he arranged a separate meeting with the Under Secretary of the Navy, Mr. James V. Forrestal. "It was quite a day," the son remembers. "I had luncheon in the Navy Department building with Admiral Horne and a number of high-ranking naval officers. Father was upstairs with Mr. Forrestal. We were both pushing hard."

It ended in a turndown. Admiral Horne, after listening to his officers, informed the Kaisers that "the need for merchant ships is greater than the need for carriers." Edgar recalls that when they left the meeting "father was pretty discouraged." Having exhausted all the legitimate approaches, having carried the struggle to the top of the Navy, he might have persuaded himself that he was entitled to give up. But Kaiser could not. During the next forty-eight hours he hounded Admirals Land and Vickery, Don Nelson, Marvin McIntyre—"I really don't remember how many other people," Edgar says.

Then Land telephoned Kaiser. The President, Land announced triumphantly, had ordered him to the White House to discuss the Kaiser carrier. The President bypassed the Navy. Land left the White House with authority to go ahead on the Maritime Commission's account. Kaiser's Vancouver yard is deep in a huge order, and seven carriers have been launched.

Yet these victories over the minds and wills of other men seem to touch Kaiser's own mind with little more effect than a breath on a windowpane. He seldom exults over them as he will exult over what he did at Boulder. Indeed, even as these whirlwinds sweep around others he will sometimes mistake back drafts for terrific pressures upon himself. There is a side to Kaiser that only his old associates know—a gloomy, introspective, disillusioned cast of mind. In such a mood Kaiser will seek the companionship of the telephone. He will call a friend, sometimes across the continent, and for an anguished hour complain how the steel people, the automobile industry, the government, are all against him. He will wail about the unsympathetic natures of "eastern industrialists," i.e., his competitors.

For the last six months, however, Kaiser has not been so concerned about the details of his war plants. The day-to-day problems are the responsibility of his "kids." Like a star line



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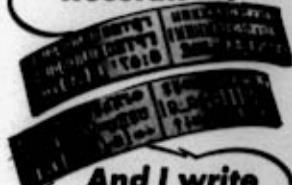
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[Continued on page 258]

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Henry J. Kaiser

[Continued from page 255]

plunger who is being rested on sidelines, he returns to the fray to sweep away a block in Washington, or to blast materials from a supplier, or to straighten up a stumbler with a tongue-lashing. Most of the time he is thinking of postwar problems.

"WE ARE NOW SUMMONED..."

Kaiser's interest in postwar problems is natural enough. Unlike most big businessmen, he entered the war with comparatively little stake in the existing industrial system. For him there could be no going back to the good old days of the status quo. The shipyards, as shipyards, were temporary. He simply had to think in terms of a bigger postwar world with new industries, with employment maintained at or near its wartime level. What is to Kaiser's credit is that he had the imagination to think about it in a big way. Instead of worrying about what he would do with say Richmond No. 2, he worried about what the whole country would do. He also saw the importance of identifying himself with the common man, who after all is the main beneficiary of a better new world. When he got up at the dedication of Fontana and told his audience that "Love is giving, and if I can express the greatest thing I could do, it would be to give each and every one of you a great future," he meant it even if he did not put it very subtly. When he held two women spellbound at a garden party, discoursing on his postwar plans for the common man and making his points with long quotations from Keats and Shakespeare, he also meant it.

Well aware that industry and labor have let much go by default, Henry Kaiser is not ashamed to consider himself as at least a joint savior of the free-enterprise system. Last December he made a speech before the National Association of Manufacturers. "We are now summoned," he warned them, "either to show the way to a decent standard of living . . . or to surrender, perhaps for the last time, to the compulsions and directions of the dictator state . . ." He urged them to adopt a "plan to end all plans; a plan which would restore the confidence of the people in industrial leadership, a plan which would vindicate and complement the astonishing record which industry is now establishing in war production." He described the country's needs, then dared the auto industry to design and announce its 1945 models for delivery six months after war's end, dared general contractors and makers of road machinery to plan a new highway system, dared real-estate men to organize housing companies.

He himself is setting an example. Day and night he thinks and talks postwar planning. He often refers to what he calls World War III, or the social and economic upheaval that must be avoided after World War II. Kaiser in pursuit of a post-war abstraction is as relentless as Kaiser in pursuit of a thousand tons of steel plate. He makes no bones of calling up Eric Johnston or William Green, and urging them to ponder some new conception. One of his Six Companies associates tells of leaping dripping from a morning shower in San Francisco to take an urgent telephone call from Kaiser in Washington. "Henry talked for an hour and a half. His main point was that he wasn't worried so much about this war as he was about the next one because there was no Brotherhood of Man. It made no difference to him that I stood there all the time with just a towel around my middle."

Kaiser has set up a Development and Engineering Division consisting of some fifty engineers and inventors, who, in addition to their war work, run down any postwar lead that occurs

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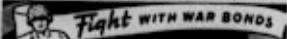
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Henry J. Kaiser

[Continued from page 258]

to Kaiser as likely. He already is well along on several projects. He gets very indignant when he sees a 3,000-pound car running around carrying a 150-pound man; and hopes to make the new lightweight jeep he is working on the basis of his lightweight postwar automobile. He is working on two trial helicopters, at his Fleetwings factory in Bristol, Pennsylvania, for lease. He is working up a plan for overhauling the railroads. In his less precise moments he talks of giving their equipment away to other countries and building a whole new U.S. system.

He has already tried and tested what he thinks could be a nationwide plan for medical care. The idea, which is ecstatically presented in a little book *Kaiser Wakes the Doctors* by Paul de Kruij, is simply one of putting medical care, like hospitalization, on an insurance basis. Back in 1933, when the Six Companies was building Parker Dam, the chief medical officer, Dr. Sidney Garfield, had tried the plan and made it work handsomely. At Grand Coulee and other projects, Kaiser set up a prepaid health plan costing 50 cents a week per man. He amortized the investment out of income.

Out of these experiences, says De Kruij, Kaiser worked up his proposal for "Mayo Clinics for the Common Man." Kaiser wants doctors to get together and form hospital health centers. He believes they should be financed by local bankers and suggests a government Medical Loan Agency to guarantee the bankers 50 per cent of the risk. The Medical Loan Agency, he thinks, might guarantee doctors returning from the war up to 80 per cent of the cost of building their facilities.

Kaiser's gusto, the catholicity of his postwar ideas, has finally begun to worry his young men. They sometimes wonder how long he will go on collecting more enterprises, never pausing to figure how they will finally fit together. "We keep telling him," one of them says wistfully, "that we ought to take stock to see whether we're just a big bubble that's going to go piff. But he won't listen." Outsiders also wonder about him. "If this is what Henry Kaiser really wants to do," said one auditor of a Kaiser discourse on his ideals and ambitions, "then his organization must be firmly planted in the clouds."

To the extent that Kaiser's future will be determined by any one thing, it will be determined by the fate of Fontana. As the accompanying article points out, Fontana as a postwar project is at least debatable unless there is great natural prosperity or unless government money gushes like fountains. It is natural for Kaiser to think of the government as the inexhaustible consumer of man's energies. In the last dozen years he has known but one customer: the government. Whether he can compete in a peacetime market as an industrialist remains to be proved. Too, if the free-enterprise system found the going rough, Kaiser, like many men of action, might conceivably be among the first to support a more authoritarian alternative.

At present, however, Henry Kaiser is employing his great energy in behalf of free enterprise. His almost frantic search for postwar projects, his oracular warnings to private enterprise that it is up against its last chance to save itself, are the result of his own acute realization that the best thing for Kaiser the postwar industrialist, and perhaps even for Kaiser the postwar contractor, is not a bountiful government but a prosperous nation operating close to capacity. If this acute realization could enter the gizzard of every businessman, and if the businessmen had the courage to react to it as the great challenge it is, then free enterprise would naturally be saved; it would indeed create a brave new world.



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See PSF: U.S. MARITIME COMMISSION, 1944, for correspondence from Henry J. Kaiser and Admiral Land re building passenger ships for American Merchant Marine. .

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See PSF: WAR PRODUCTION BOARD: DONALD M. NELSON, 1944,
for correspondence between Jones, Nelson and Senator Truman
re Kaiser-Hughes Company and their cargo plane.