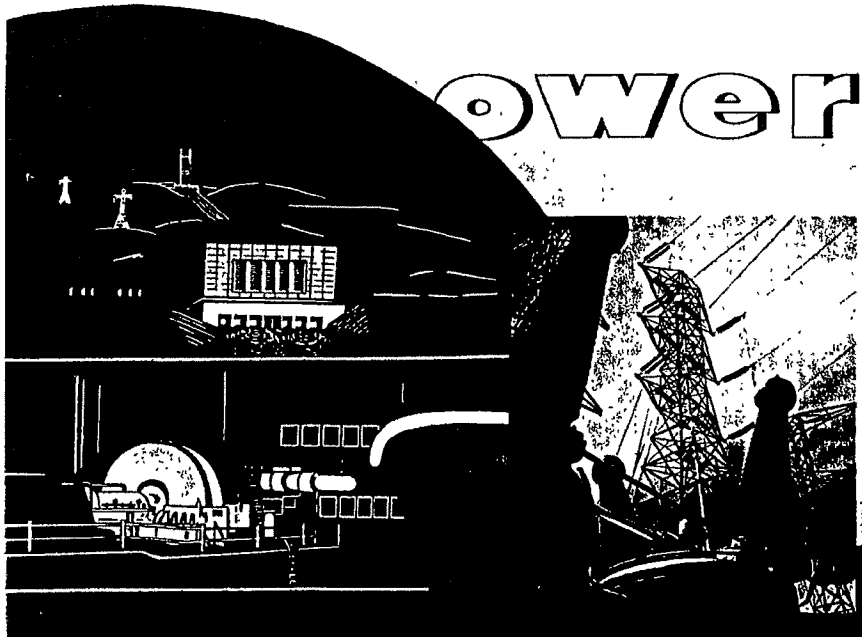
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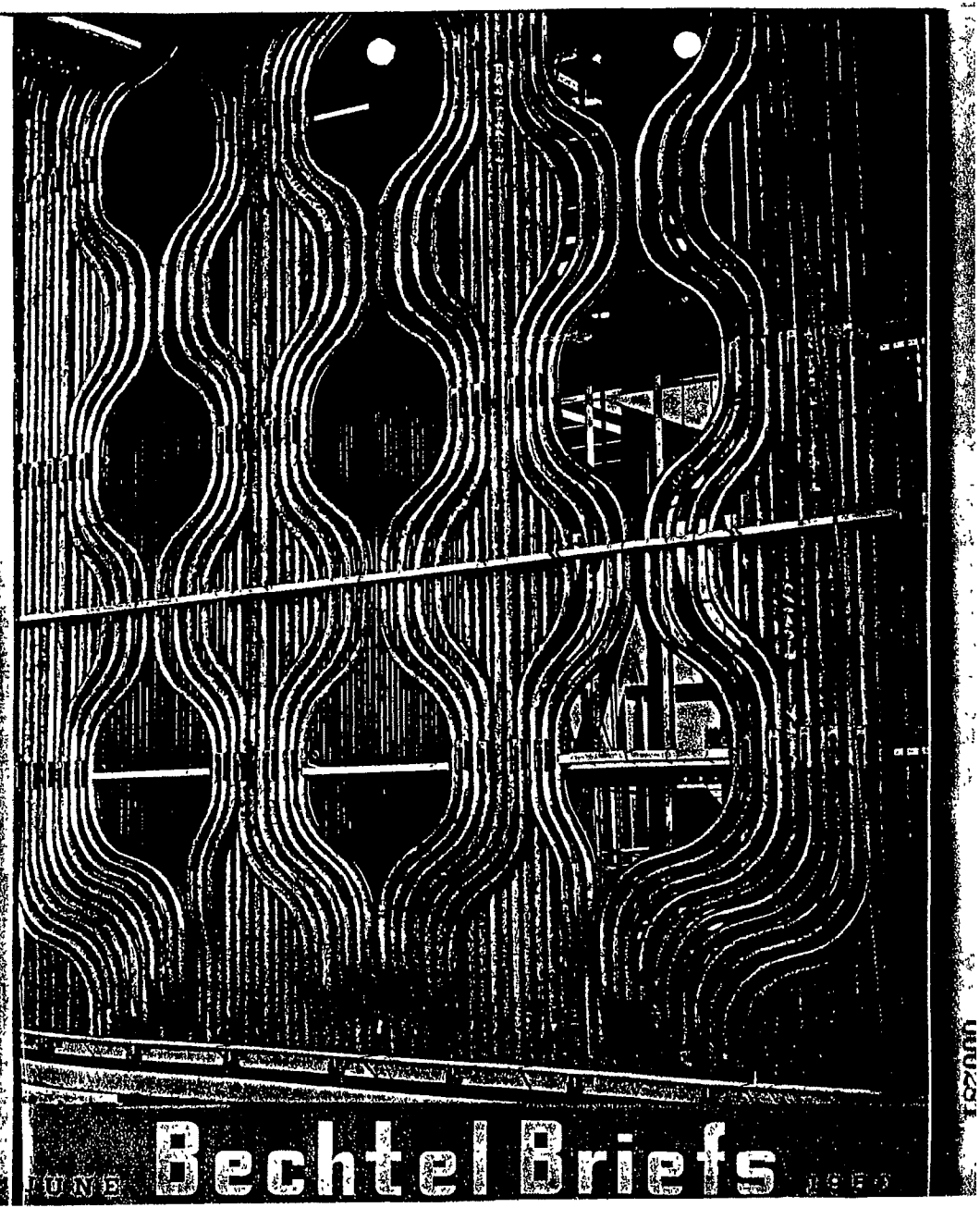
ower

Whether electricity starts in the mountains or flows from a lowland steam plant—Bechtel can design and build the facility required. Bechtel Corporation is playing a major role in engineering and constructing giant power projects and enlarging existing utility and industrial installations to handle millions of new horse power load.

BECHTEL CORPORATION

LOS ANGELES SAN FRANCISCO NEW YORK
TULSA

BECHTEL



JUNE **Bechtel Briefs** 1950

A BUILDER & HIS FAMILY

By ROBERT L. INGRAM

CHAPTER ELEVEN

Van Rosendahl joined the organization in 1939. The Bechtels had known him and watched his progress for a long time, primarily in the construction of large buildings but also on pipe lines and general construction. He had been an athlete during undergraduate days, both he and John M. Rodgers (now Executive Vice President of the International Bechtel interest) rowed on varsity crews at the University of California, a school that sent three eight-oared shells to the Olympic Games and three times won the world's championship. Soon after he came with the firm, events took place which brought about the Bechtels' entry into foreign work, a field which later became his special charge.

Associates on early foreign projects

Steve had good reason to renew the association with McMenimen of Raymond. The nature of this firm's work frequently took it into foreign countries to build harbors and similar developments. The Raymond business grew out of the idea of the cast-in-place concrete foundation pile, and widened to include various types of engineering and construction. When the Bechtels undertook the first foreign projects this well-established organization again became a valued ally.

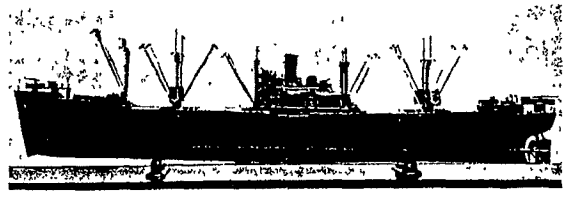
Another was H. C. Price, of Bartlesville, who originally met the Bechtels as a welding subcontractor on the midwest pipeline jobs of the '30s. Price started in a small way as a pioneer in the electric welding process, in 1928, after seven discouraging years, he was able to make the first successful electric weld on a pipe line, and thereafter built his firm into one of the country's largest welding organizations.

1940: Venezuela—fountainhead of foreign work

A third associate at this time was Williams Brothers Corp., of Tulsa, large pipe-line contractors. These three—Raymond, Price, Williams—separately and together—formed the starting lineup with which Bechtel foreign activities began. Here once more was the versatile joint venture, made up of men and firms who were competitors one day, partners the next. Oil-rich Venezuela furnished the locale for the work. The 125-kilometre, 16-inch Mene Grande pipe line was built from Oficina in the interior to Guanta on the coast; eight supplementary contracts included dock construction and 132 miles of telephone lines. George S. Colley, Jr. ran the pipe-line job. Bill Hanna, breaking in, was one of his younger assistants. Forty miles of the Mototan-Mene Grande road were cut through the jungles and the Guanta Highway was surfaced to Oficina. Three pipe-line contracts were executed for the Standard Oil Company of Venezuela. Harbor and wharf installations were made at Ciudad Bolivar for the Venezuelan Government. Altogether these projects added up to a good-sized volume for the first year of foreign work.

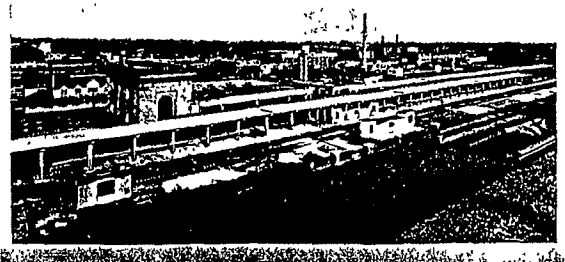
Sept. 1 1939: War in Europe

Meanwhile, international politics were taking an ominous turn. The chips were down when Hitler invaded Poland in 1939. No great foresight was needed to see that before this war ended the United States would be drawn into it. Like others, the Bechtels were alert to the implications and lost no time getting their resources ready for the country's service. Each



AP-2 and AP-3 Victory ships were faster than Libertys, and had longer range. Calship built the nation's first AP-3, the "China Victory"—and went on to deliver another 100 Victorys, plus 30 Victory Transports.

Ken's first big one—butterfly sheds for the Santa Fe in Kansas.



hey took—formation of the refinery engineering and construction facility; cementing relations with other constructors; their entry into foreign work, and the addition of minds and experience to the top echelon—moved closer to the goal of greater capacity. Their organizations would need great strength and capacity, sooner than anyone realized.

1940: Construction

For the time being, heavy construction went on as usual. In the United States more pipe lines were built in 1940, the principal ones being the one hundred seventy mile Fort Peck line in Montana and the Illana job—a line two hundred seventy miles long laid through Illinois and Indiana. Also in the same year the organization completed one of its early buildings of the industrial type, although this one—East Bay Iceland in Berkeley—was not a Figure Skating Championships were held there, and competitors pronounced its ice floor one factory but a skating rink. The 1947 National of the best in the country. But engineers who visited the place looked up at the ceiling, not down at the ice, for the rink has a tremendous roof supported by a clear span, three-hinged arch type truss that invariably catches an engineer's eye.

1940: Refineries
1940: A copper mine

Two refineries were on the year's agenda for BMP, an alkylation plant at Watson, California, for The Texas Company, and a delayed coker for Union Oil Co., at Oleum. Of the domestic work, the most significant was contained in two heavy construction contracts between Phelps-Dodge Corporation, the big mining concern, and W. A. Bechtel Co. These contracts covered excavations for thickener tanks and concrete foundations for an immense copper reduction works at Morenci, Arizona. Unknowingly, Morenci turned out to be the "kickoff" of construction for war. Although originally not a government-sponsored defense project, the Morenci job reflected the nation's concern over copper, and it proved to be a forerunner of heavy defense and war responsibilities for the Bechtels. Narrowed down to southwest copper, Morenci marked the first of three separate Bechtel-built open pit mines with their processing plants and attendant facilities.

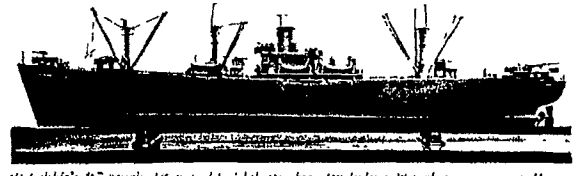
1940: National defense; the start of America's biggest construction job

Work for the naval and military forces started in earnest during June of 1940. These were group ventures—sponsored by other partners—truly big jobs. Some of them required up to three years to finish. The first assignment was to engineer and construct the Navy's Air Station at Corpus Christi, Texas, a project that employed seven thousand people. Next in August came Fort Ord near Monterey, California. John McCone got Jerry Doolan and Jerry Holmes to check the group's estimate. Both recently had come into the organization, as noted previously. The need for additional key men was being met promptly, they came and stayed on—how they grew with the organization and where they landed is a matter of later record.

Fort Ord was built under Harry Morrison's joint sponsorship with Ford J. Twaits. The same sponsors also constructed Camp Roberts, near Paso Robles, which got under way in



12 tankers Marinship's primary responsibility, were key factors in establishing American sea supremacy. The yard built 78 of these 140,000 barrel "floating tank farms"



Calship's 167 records include 11 C-1 cargo ships (including 40 tanker conversions) Marinship delivered 15 Libertys [illegible] 12 tanker conversions, 4 Victorys, 1 Coast Guard cutter, 1 Navy tender, 1 Navy transport, 1 Navy repair ship, 1 Navy barracks barge.

November, 1940. Group work was given and taken. These partners led off on defense work, soon the Bechtels and various members of the group sponsored other projects which were shared with the partners.

One piece of direct work done at this time also belongs in the defense category. Because it was closely related to BMP's special qualifications in engineering and equipment installation, BMP engineers were awarded the design of a central heating and steam plant for the Army, and its construction men, the job of building the plant at Elmendorf Air Field, Anchorage, Alaska. When the direct contracts at Anchorage and Morenci were added to group projects started in 1940, the total exceeded one hundred and eight million dollars for strategic construction. Pearl Harbor was still a year away, but already the Bechtels and associates had deployed their forces on the nation's second line of defense.

1941: Uncle Sam piled it on

Events to come showed that thus far the engineers and field crews and office people had "just begun to fight!" Steve Bechtel would be everywhere, from San Francisco to Washington to Manila and way points. Warren would be digging in, literally, in Arizona and northern Mexico to provide more copper for munitions and a thousand and one other war-essential uses. And Ken, financial man and administrative head, soon would be the family's Number One Shipbuilder as well. Shipyards and ships, naval bases stretching clear across the Pacific, the Army's principal western depot and Port of Embarkation, two big powder plants, and a score of other jobs piled in—group work, Bechtel-sponsored work, direct work. All of these responsibilities came during 1941 and before Pearl Harbor. They were so complex and so many that merely to segregate and document them is difficult. How difficult they must have been for the contractors to absorb and get under way can be imagined, when sometimes only minutes or hours were permitted for decisions, only days for organizing. That capable organizations could be assembled quickly, smoothly and simultaneously on dissimilar projects at widely separated places now seems past belief. But they were, just as all over America other men and women were doing other kinds of "impossible" jobs, adding to the sum that was the miracle of 1941—preparedness in a year. And it was done by these men with the confidence and humility Dad Bechtel taught his three sons, and those who worked with them, and their associates and assistants. A typical instance of the years of preparation by American business people that preceded and made possible America's year of preparation—just enough soon enough, to save the nation from quick defeat.

At the time the three Bechtel sons were heavily engaged in organizing these vast activities—in February of 1941—their mother passed away. This gentle, understanding lady had been W. A.'s first, last and best partner—kee ver of the home fires—helpmeet and mother in the fullest meanings of the words. When Mother Bechtel was called away the boys and sister Alice were left with a sadness that was heavy indeed. A pioneer—a stalwart when the going was most rugged—the imprint she left would always be cherished.

Prelude to shipbuilding

The Bechtels' readiness to take on a substantial chunk of the emergency shipbuilding program illustrated the almost prophetic steps by which they prepared for the new responsibility. Back in 1936 when the American Merchant Marine was still in the talking stage, Earl Fisher, Vice President of Pacific Gas and Electric Company and a neighbor of Steve Bechtel's was appointed to an exploratory Maritime Committee. From time to time he discussed the problems with Steve, who became interested in the possibility of reviving big scale U. S. shipbuilding and shipping. He began to study the situation, to discuss it with his brothers and partners, and to cultivate acquaintance within the existing shipbuilding industry. This pre-conditioning went on for three years, even though projects then in work occupied the time of the three Bechtels and their organizations far beyond the usual hours people allot to business.

EDITOR'S NOTE

Bechtel Briefs is privileged to present in a series of installments "A Builder and His Family," written and copyrighted by Robert L. Ingram.

Marinship's pace setting tanker yard at Sausalito California



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Portraits

One of the oldtimers among the younger members of the Bechtel construction family is S J (Steve) Valline, who is currently general office manager on the P. G. & E. "Super Inch" Project. Along with a capacity for hard work he has a friendly nature, an engaging manner and a well-developed sense of humor He is a man of parts At one time or another he has been a prospector, miner, surveyor, engineer, timekeeper, construction foreman and administration manager

Born in the town of Mogollon, New Mexico, he was reared in Texas and got his schooling in El Paso. When his years were yet very tender, in 1927, he acquired a silver mine in the State of Chihuahua, Mexico It sounded romantic and he worked it diligently but without revenue for two years, so he gave up being a mine owner and took up an occupation that proved more profitable to him He went to work as a surveyor's helper on a road from El Paso to Carlsbad That job took a year, and then he became a location engineer on a proposed pipeline right-of-way from El Paso to Globe, Arizona

After six months as an instrument man with the Bell Telephone Company, Steve found himself back on the pipeline right-of-way he had helped to locate; and this was a turning point in his career, for the pipeline was being constructed by Bechtel-Kaiser, for whom he was now employed as job engineer

But for a brief interlude he has been a Bechtel man ever since That interlude was when he turned prospector and set forth on an expedition in search of some lost mines (after all, he had begun his career as a mining man) somewhere around the head of the Yaqui River in the State of Sonora, Mexico The lost mines stayed lost.



Steve Valline with mascot "Super Inch." Believe it or not Steve has more hair than the turtle.

Next came Boulder Dam, where he worked for the Six Companies Inc, successively as shovel foreman, drilling foreman, concrete foreman, timekeeper, railroad engineer and high-line hook tender, and had the distinction of being fired and rehired in the space of one minute by the famous Frank Crowe. Steve's Boulder Dam service was from early in 1932 until 1935, when he moved down to Parker Dam, which was subcontracted by the Six Companies Inc, to J F. Shea Co Here he was shovel foreman on the day shift and built a short railroad for hauling out muck from the dam.

This kept him busy for a couple of years, and then he became timekeeper for Bechtel-McCone at the Richmond refinery. After that he was on all domestic refinery jobs for Bechtel until 1944, when he was sent to Ras Tanura, Saudi Arabia, as Administrative Manager. Subsequently, until he was switched to the "Super Inch" Project, he was kept on refinery work in the U. S. A

Married since 1937 and residing in Berkeley, Steve and his wife, Margaret—a graduate of Occidental College, Los Angeles—have a daughter named Catherine who celebrated her eighth birthday just before Easter and received an enduring present. It was a tortoise from the vicinity of Barstow on the Mojave Desert, captured after a stirring chase by Carl Stevenson So that it wouldn't get mixed up with any other tortoise that might happen along, it was adorned with a Bechtel decal (see cut) and named Super Inch To keep Super Inch company, the Vallines have another pet at home, a Scotty called George Bechtel McCone.

SIZE 8' x 10'—A PIPELINER'S LIVING ROOM



Somewhere along the Tehachapi Right-of-Way on the Super 34" line, the Steve Bechtel Jr.'s entertain in their house on wheels. Left to right: Betty Bechtel, Bill Hanna, Bill Carlin, Helen Hanna, Alyce Finnie and Steve, Jr.

Look-Out Point Joint Venture

Bechtel Corporation is entering an 18 million dollar joint venture to construct an earth dam embankment structure and the erection of a concrete spillway plus appurtenances. The contract was let by the Army Engineers in Portland The location of the dam is on the middle fork of the Willamette River near Eugene, Oregon. Officially the job will be known as the Look-Out Point Reservoir Project

Associates in the joint venture will include Morrison-Knudsen Company, Inc.; Bechtel Corporation; Peter Kiewit Sons' Co.; Macco Corporation; Puget Sound Bridge and Dredge Company and J. H. Pomeroy & Company, Inc.

The time for completion is to be 1,500 calendar days from the date of notice to proceed. The dam will be of considerable size requiring about 6,982,000 cubic yards of earth fill and 731,500 cubic yards of mass concrete.

Blood Bank Instituted

One of the more recent developments in medical practice has been the establishment of blood banks In this way donors may contribute at their convenience, receiving credit so that they, or persons whom they may specify, can receive blood or plasma transfusions at cost. Since much of the help and practically all of the equipment is the result of voluntary contributions of time and money, the costs are very low.

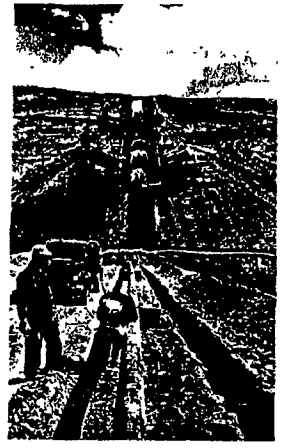
Without such a reservoir it was formerly quite difficult to find the proper types upon short notice. Quantities as might be required by disaster were unavailable. Today, a hospital may call for, and receive within an hour, a specific type of blood with the required Rh factor

The Engineering Division is the first group in the Bechtel organization to enter the San Francisco program.

Hercules Powder Project Klamath Falls

Tom Moran and Harry Winandy report to Al Orselli, Manager of Refinery Construction, that considerable progress on the Hercules Powder Western Pilot Plant Demolition of a portion of the former Ewauna Box Company Plant is completed. The job is in its foundation stage with two major ones poured By the time this article appears in print, the bog and shreader should be placed. Other miscellaneous foundations are being formed and poured

Work on the boiler house includes completion of the end wall and placing in service an existing boiler.



MULTI-PURPOSE LINE
For the Northwest



A pipeline goes a lot faster these days because of the motorized equipment available —trench diggers, boom cats and motorized welders instead of mule teams and hand labor. The photographs above and at top left shows a stretch of the construction work on the 119-mile section of the Boise, Idaho, to Baker Oregon, 8" pipeline.

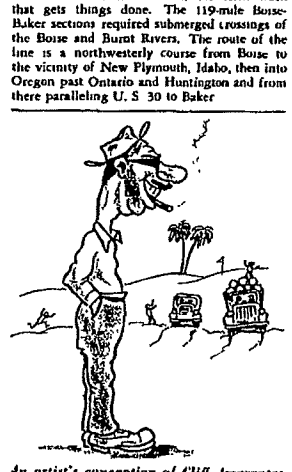
LAYING the Boise-Baker 8" petroleum products pipe line for the Salt Lake Pipeline Company, the Morrison-Bechtel-Macco crews are over a month ahead of schedule in meeting the completion date set by SLPL for June 30th By the end of September the petroleum fuels will begin their flow from the Bechtel-built Salt Lake Refinery to Pasco on the Columbia River for distribution by Standard Oil of California throughout the Northwest.

Capacity of the new line is 19,000 barrels per day and the products carried will include four grades of gasoline, diesel oil and stove oil

Al Berlander, Bechtel veteran Pipeline Superintendent, is in charge of the crews which have maintained the excellent average of two miles per day of pipe laying. Al was the first Construction Manager for Bechtel on the Trans-Arabian Pipeline Assistant Superintendent on the job is Ralph Hall of Morrison-Knudsen

Bert Waldorf is SLPL Pipeline Inspector and J. B Doland is Office Manager

M.B.M. men have shown the team work that gets things done. The 119-mile Boise-Baker sections required submerged crossings of the Boise and Burnt Rivers. The route of the line is a northwesterly course from Boise to the vicinity of New Plymouth, Idaho, then into Oregon past Ontario and Huntington and from there paralleling U. S 30 to Baker



An artist's conception of Cliff Amurantes on the Arabian pipeline before recently joining the Super Inch crew on the P.G.&E. 34" line in California.

Who's Who?

When the article on the Estimating Department of San Francisco was published last month there was a picture of Ted Bean at the head of the story —with no identification. True, his name was in the article, but still he was not noted as the head of the department.



TED BEAN

Several readers have sent in "Who Dat"? letters.

My gosh, we thought everyone knew Ted!

But for those who don't—Theron "Ted" Bean has been with Bechtel interests since 1946. He is a graduate of Stanford in Mechanical Engineering and before coming to Bechtel had varied experience with private companies and the U. S. Army as an estimator and engineer in heavy construction work. On the organization of the Estimating Department in San Francisco, V G. Hindmarsh, Vice President in charge of the Refinery division gave him his present position as Estimating Department head—a position which he ably handles at the present time.

BRIEFS

According to Vice President V. G. Hindmarsh, double-ending operations are in full swing at Coalinga, California, under the supervision of Plant Superintendent, N. L. Barron after their recent move from Barstow.

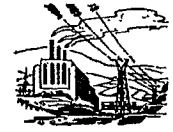
The transfer of the plant, equipment and personnel, was made with no interruption in pipe laying activities on the Pacific Gas & Electric Company's "Super Inch" line.

At Barstow 90-foot double ended lengths were stock-piled to reach Tehachapi Summit; now at Coalinga production will continue for the last third of the line from Tehachapi to the tie-in in the Panoche hills."

Radio Station Plays Fairy Godmother

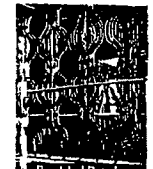
When Mrs. Fred C Brown, wife of Superintendent Brown in charge of construction activities at the Buffalo Socony Refinery, accepted the invitation of several friends to attend a local radio show, little did she know she was going to make a Prince Charming out of her husband.

She turned out to be chosen "Cinderella of the Week" with a prize award of an all-expense paid weekend in New York City for two. Fred and she did the town—the Hotel Vanderbilt, Billy Rose's Diamond Horseshoe, the harbor and Radio City Now do you believe in fairies?



THIS MONTH'S COVER

"SPAGHETTI"



The appearance of the waterwall tubes in a steam generator boiler gives the engineers a familiar term for them, spaghetti In the foreground some of the tubing has been bent to form the openings for fuel burners.

These are installed in one of the six steam generating units at the Contra Costa Steam Electric Generating Plant now being built at Antioch, California, for the Pacific Gas and Electric Company by Bechtel Corporation. Each unit has a maximum operating capacity of 350,000 pounds per hour, at 1405 PSIG and 950° Fahrenheit.

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