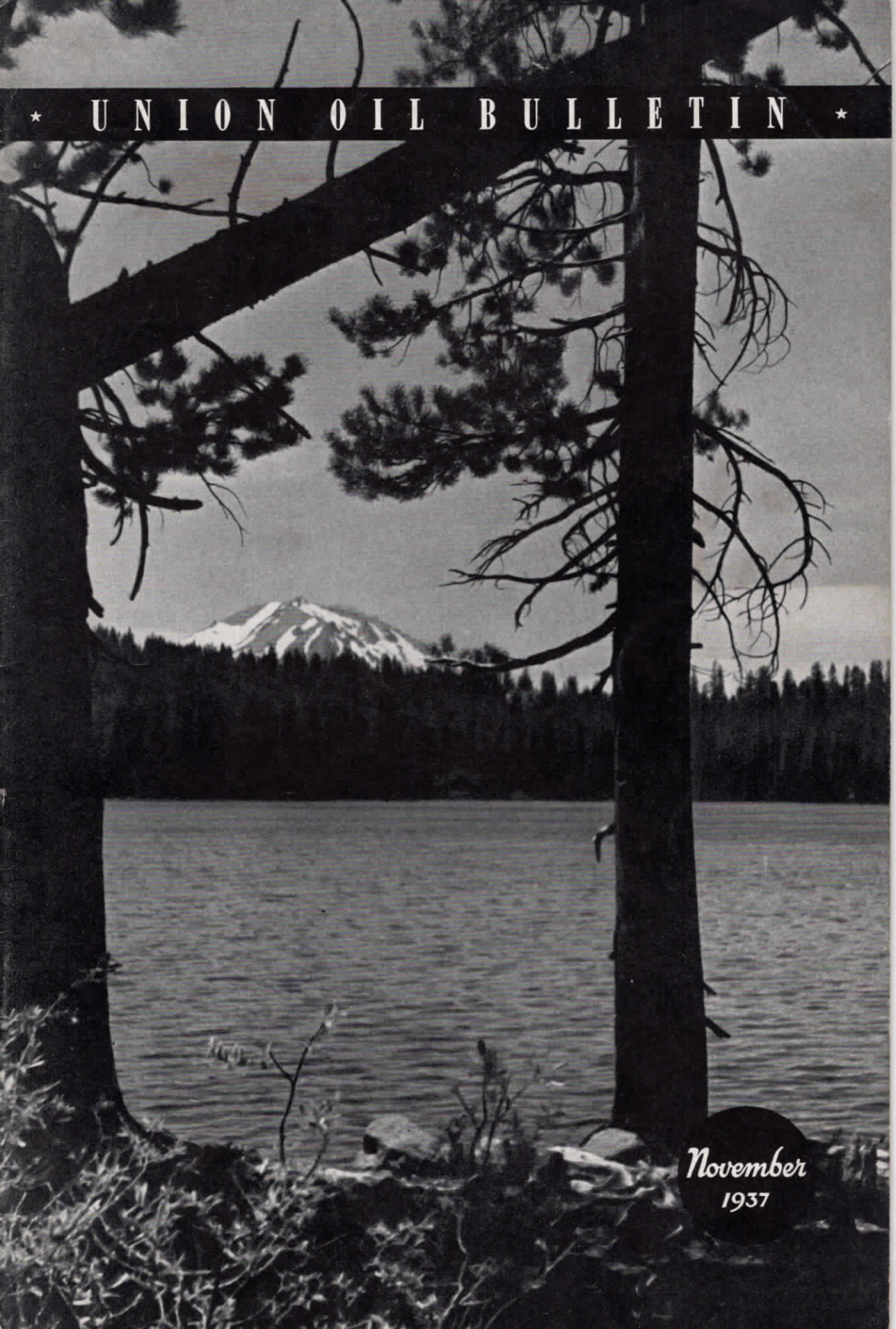

★ UNION OIL BULLETIN ★
November
1937

UNION OIL

BULLETIN

VOLUME EIGHTEEN NOVEMBER, 1937 NUMBER ELEVEN

SPANNING THE WORLD

SHINING steel rails—22,000 miles of them—spanning Canada from the Atlantic to the Pacific Ocean and reaching into every remote corner of the Dominion; a great chain of hotels serving the patrons of the lines; a fleet of modern steamships plying between the major ports of the Seven Seas; a world-wide express and telegraph service; ticket offices in every metropolitan section of the globe. This is a digest of the world's greatest transportation system—the Canadian Pacific Railway.

From almost any location you choose you may book passage via Canadian Pacific to or from the Far East, Australia, New Zealand, Hawaii, Europe, the British Isles, South America and the Near East. Either in Canada or the United States this service is at your command, and, in fact, there are few cities in the world today where one cannot find the insignia of this great company.

There are millions of people who have never seen Canada but who are familiar with the Canadian Pacific System. The red-and-white checkered houseflag that identifies the company's ships and shipping offices is known all over the globe, and Canadian Pacific Travelers' Cheques are acceptable as money wherever money is used.

Canadian Pacific Railway Company as it exists at the present time is the result of half a century of constructive activity. It is the materialization of a daringly conceived enterprise. From one small railway line has grown the huge network that spans the Dominion, and it is not improbable that some day it will be possible to travel completely around the world without leaving Canadian Pacific operated railway and steamship lines.

This great institution was built in the face of adversity, political opposition, bitter disap-

pointment, discouraging financial difficulties, and the seeming opposition of nature itself. It was conceived by a group of dynamic and patriotic personalities, willing to risk everything—their private capital, their health, their very lives—that this deed of empire, a link in the great British Colonial System, might be completed.

The long-sought completion came in 1885. Preceding it were five strenuous years during which the enterprising company encountered almost every form of opposition. But the steel bands continued to reach out. Forests were divided; muskegs and swamps were converted into solid ways; the grim fastnesses of the Rockies, hitherto impassable, gave way before the relentless encroachment and mile after mile of prairie land fell in the wake of the construction camps. So at last the two extremities of a great continent were connected; the nine scattered provinces of Canada were linked together, and with that unity the Dominion entered upon its career as a nation.

But great as the construction barriers were, there were others, of a different type, perhaps, but equally disconcerting. The prime minister at Ottawa, in his support of the project, found that it was no simple task to whip his followers into line and to appease a querulous opposition. Young, and as yet undeveloped, the Dominion was able to tender as a grant only $25,000,000 and 25,000,000 acres of buffalo-pastured land as a subsidy. Attempts to raise the necessary capital in London and New York were futile at first. England's financiers were intrigued by the very daring of the scheme, but appalled by its magnitude. Wall Street's reactions were similar.

In spite of the public and governmental apathy, George Stephen, later Lord Mount Stephen, continued his efforts to raise funds. Meantime, William Van Horne, a Pennsylvania Dutchman and a pioneer with construction training, was brought to Canada to be general manager of the project. Finally, however, a few of the public-minded financiers became brave enough to accept the challenge of new worlds to be conquered, and enough money was raised to get the construction work under way.

That was a triumphal day for the builders and the Canadian people. At last the wide and undeveloped western half of the country was to be linked to the already productive and established East. At last they were to have their own railroad, the vital transportation line that was to enable the provinces to comply with the terms of confederation as laid down by the British government, and thus become a complete entity. Construction had started!

But after that auspicious beginning came the first of new difficulties, unforeseen except by a few of the wiser heads. Frequently the syndicate found itself in serious financial straits. Disgruntled opportunists and rival railroad builders conspired to attack the credit of the new enterprise, and prices on Wall Street were lowered through clever rumors. Meanwhile, opposition forces in England inspired financial and journalistic attacks, and one celebrated English journal described the country through which the new road was to pass as "a sea of mountains, barren and cold in winter. The company," it continued, "will never pay for its axle grease." To add further to the difficulties, oppositionists started a new line, farther south through the United States, where the contour of the land was much more suitable for a project of this nature. This unforeseen development precipitated new troubles for the Canadian Pacific, as some of its supporters turned to the new line with their backing.

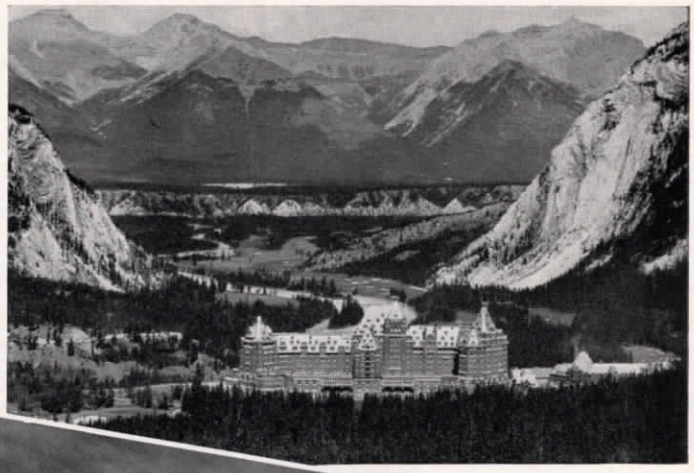
Strikes flared in the outlying construction camps, where, because of their isolation, it was frequently impossible to deliver payrolls on time. The projected pass through the Rockies was abandoned for a more southerly route. This necessitated finding a simpler way through the rocky barrier, and additional delay was occasioned by the revising of the original plans and the search for a new pass.

But within five years of the ten allotted under the contract with the government, on November 7, 1885, to be exact, Lord Strathcona drove the last spike into place, high in the Selkirk Mountains at Craigellachie, and the Canadian Pacific Railway became a reality.

Volumes have been written concerning that period of construction, and only recently a moving picture of the dramatic events that played a part in the building of the road was released. In one of the written accounts of the project the final bridging of Canada is hailed as the solution to the search for the famed Northwest Passage—the goal of such explorers as Henry Hudson and many others who went to their death seeking to discover a way through the north to the Far East.

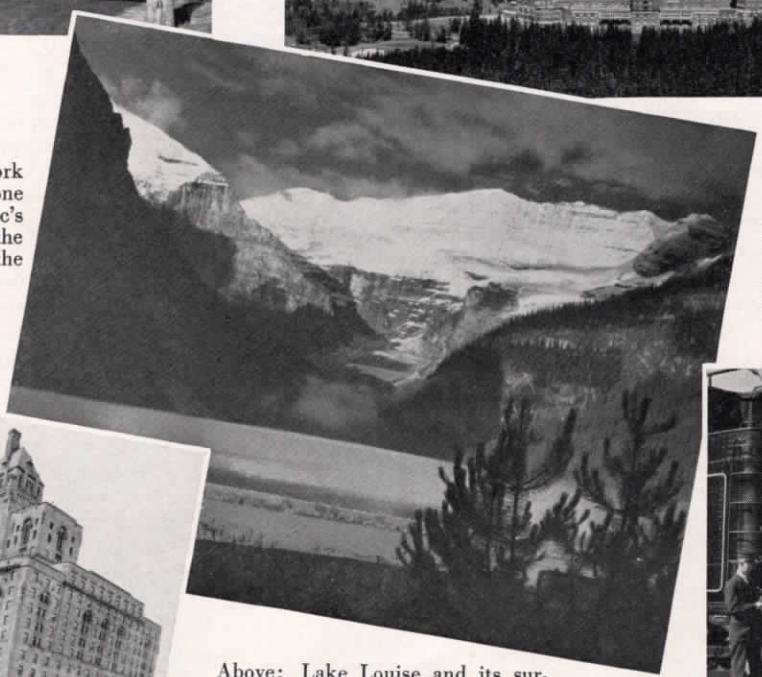
The primary purpose of the syndicate had been achieved. The pact with the Canadian government had been fulfilled. The unity of the country had been achieved. But still this did not satisfy the pioneers who had carried the system to completion. Lord Mount

Right: Ringed by some of the most massive peaks of the Rockies, Banff Springs Hotel is one of the beauty spots of Canada.



Below: The Great Divide, also the boundary between British Columbia and Alberta, is marked by this lone barrier, 5332 feet above sea level.

Below: The Royal York Hotel, at Toronto, one of Canadian Pacific's chain of hotels, is the largest hostelry in the British Empire.



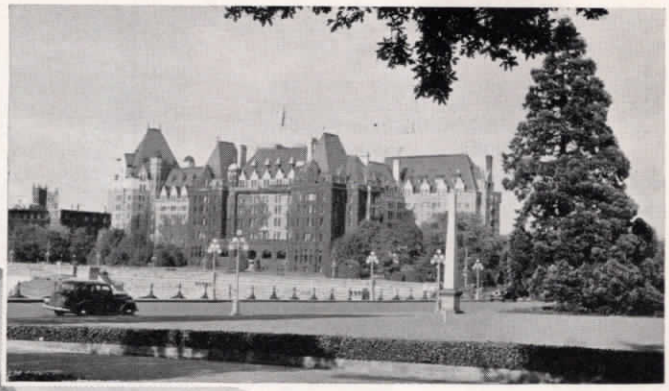
Above: Lake Louise and its surrounding peaks provide a perfect foil for the glistening sunshine on Victoria glacier. Hundreds of tourists rise at 4:30 a.m. to see this view.

Below: The engineer of the "Dominion," crack transcontinental flier, reads back the train orders to his conductor.

Right: Mount Stephen, named for the first president of the Canadian Pacific Railway, towers over both railway and highway in western Canada.

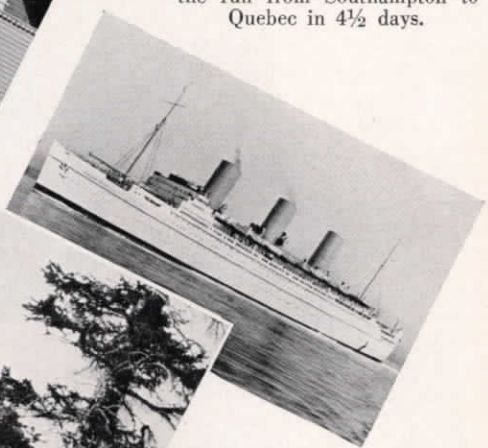
Above: A stretch of scenic roadway on the route of the Canadian Pacific Railway.

Below: Yoho Bungalow Camp, another Canadian Pacific enterprise, nestles at the base of the 200-mile Columbia icefields.



Above: Its style resembling that of an English manor, the Empress Hotel in Victoria is known as one of the world's finest stopping places.

Below: The Empress of Britain, newest, largest, and fastest of Canadian Pacific liners, makes the run from Southampton to Quebec in 4½ days.



Left: Chateau Lake Louise is said to command the most magnificent view in the world.

Left: Tobogganers at Quebec get set for a speedy ride. They'll end in front of Canadian Pacific's Hotel Frontenac, seen in background.

Above: Engine No. 2701, one of the main line passenger engines, is an oil burner, and is thoroughly modern in every respect.

Stephen, who, perhaps more than anyone else was responsible for the success up to this point, was still looking for new things to do, and William Van Horne, the general manager of the project, saw this section of the Canadian Pacific Railway merely as a link in an eventual chain of international communications.

Thus it was that the echoes of the hammer blows that drove the last spike in the new railway had hardly died away before Van Horne was casting about for some way to complete the last lap of the fabled Northwest Passage—a means of tapping the resources of the Far East for Canada and the British Empire.

Van Horne was one of the last of the real pioneers. He had been in complete charge of the building of the new railway. He had suffered the hardships of the men and rejoiced with them in the conquering of each new difficulty. Added to this he was an alert business man. During construction of the railway through the plains, for example, he had his crews gather buffalo bones, useful in many manufacturing processes, and pile them along the right-of-way so that when the new road was completed he had already established a valuable freight supply. Now Van Horne wanted more than bones; he wanted tea from China, silk from Japan, furs from Russia and soy beans from Manchuria.

And so in 1887, just two years after he had completed the monumental task of building a transcontinental railway, Van Horne chartered three ships, the Batavia, the Abyssinia, and the Parthia, to operate from Vancouver to Japan and China, and to bring back to Vancouver's docks chests of tea and bolts of silk to be shipped east via his railroad, and from there to be sold for local consumption or transshipped across the Atlantic.

So rapid was the growth of the company that the initial little fleet soon proved inadequate for the traffic, and in 1890 and 1891 there appeared the first of the famous Empresses—the Empress of India, the Empress of Japan, and the Empress of China. Yachtlike in design, with flaring clipper bows, these forerunners of their later namesakes bore little resemblance to the present Canadian Pacific liners. At the time, however, they were the talk of the waterfront, but pseudo-experts of the day predicted ruin for a company that was so foolish as to build ships "far ahead of their time."

But very soon these vessels were making history in trans-Pacific trade. They continued to set records for the Pacific trip until 1913, when the Empress of Russia and the Empress of Asia replaced them. Shortly after followed the Empress of Canada, and in 1930 came the newest and fastest of the white Empresses of the Pacific—the new Empress of Japan, which in 1931 made the crossing direct from Yokohama to Victoria in 7 days, 20 hours and 16 minutes, a mark that is expected to stand for many years to come. At the present time the liners are still plying a Vancouver to Yokohama and Hongkong route, but the itinerary has been changed to include a short stopover at Honolulu. Even with this addition, however, the voyage to Japan is completed in twelve days.

During the development of the marine phase of the Canadian Pacific system the railway has coincidentally been improved. Taking advantage of new inventions, modern design, and the latest aids to travel comfort, the equipment and accommodations were gradually bettered. Improved ventilation was provided. New schedules, involving more frequent service and more variation in itinerary, were introduced. New engineering feats served to extend the lines into fresh scenic wonderlands, and the trains themselves grew larger and more comfortable. Soon the entire Dominion was honeycombed by the Canadian Pacific Railway, and its incidental transportation facilities.

Returning to the marine department of the Canadian Pacific we find that here the company had further extended its services. Where formerly the products of the Far East had been brought via Canadian Pacific steamships to western ports, and thence shipped by railroad to the east for distribution to Europe via other lines, the company now established a new maritime transportation line across the North Atlantic. On this route the Empress of Britain, a 42,000-ton liner, makes the run from Southampton to Quebec in four and a half days. The Empress of Australia, somewhat smaller and not as fast as its sister-ship, also carries the red and white checkered flag to and from European ports.

Three other lines also operate from the eastern coast of the nation in transatlantic commerce. These are the refrigerator freighters, or Beaver line, the cabin class vessels, or Mont line, and the four new cabin liners that make up the Duchess line, all of which are designed to carry perishable freight.

Usual coastwise traffic operates in a desultory manner, when and if there is any traffic, and accommodations are usually far below those on regular liners. But this is not the case with the Canadian Pacific's Princess line, which provide the comforts of a transatlantic vessel

Right: Sir Edward Beatty, fourth president of the Canadian Pacific Railway Company.

Left: W. M. Neal, vice-president, handles the affairs of the Company between Vancouver Island and the Great Lakes.

Above: D. C. Coleman rose from clerk-stenographer to his present position as senior vice-president of Canadian Pacific.

Below: C. A. Cotterell, assistant general manager of Western Lines, is in charge of the British Columbia district.

Above: General Manager of Western Lines is W. A. Mather.

as they ply up and down the coast. The only difference in these boats and their larger companion-ships is in the matter of size.

Still maintaining the fast pace set by the development of the maritime trade, the Canadian Pacific Railway Company, which name becomes almost a misnomer when associated with the huge shipping enterprises, has kept its equipment thoroughly modernized. Today, in all transcontinental trains, sleeping cars, day coaches, diners, observation and lounge cars are fully air-conditioned, and compartment cars, solarium-lounge bedroom cars, and other features contributing to passenger comfort have been added. Many of the trains use oil for fuel, much of which is furnished by Union Oil Company. Their route passes through the 500 miles of mountains which stretch from Vancouver almost to Calgary, and tremendous engineering feats were necessary to bring this scenic wonderland into the tourist lanes. Today, on the Canadian Pacific Railway it is possible to view the grandeur of the Canadian Rockies and the diversified scenery of the Dominion with the greatest degree of comfort.

Somewhat unusual in the development of a railroad, and certainly not associated with the actual processes of transportation, are the hotels which the Canadian Pacific operates throughout Canada. These hotels are located in the principal cities: Quebec, Toronto, Winnipeg, Regina, Calgary, Vancouver and Victoria. Each is a distinctive hostelry serving the public throughout the year, and during the summer months equally distinctive lodges are open to the tourist at the more popular vacation spots such as Banff, Lake Louise, Digby, Kentville, and St.-Andrews-by-the-Sea. In addition the company maintains fishing and bungalow camps in many mountain and forest retreats.

One might ask why a railway goes into the hotel business. In the case of the Canadian Pacific the answer is to be found in the conditions which faced the young company when the pioneer work of railway construction was through. Western Canada in those days was largely a wilderness, and the refinements and luxuries of proper hotels were scarce. Thus the hotels were opened as a convenience to travelers, so that visitors in the west might enjoy its allure in comfort. Those first hotels, however, have long since disappeared, and newer and more modern buildings have taken

their place. These hotels, incidentally, are among the most outstanding in Canada, and everything that may add to the comfort of the traveler is provided. Distinctive architecture makes them an asset to any city in which they are located, and the finest in appointments and service are provided by this slightly unusual part of an international travel system.

"Trains — Ships — Hotels! Spans the World!"

This is the slogan of the Canadian Pacific, seen on signboards and in advertisements throughout all Canada, and, indeed, throughout most of the world. And none can deny that it is justified.

For Canadian Pacific Railway Company has attained a pre-eminent place in the transportation sun, and from its present position continues to move ahead, setting a great industrial example for all the world.

ALL-AMERICAN CANAL

WHEN Brigham Young led his hardy little band of Mormon pioneers into the valley of the Great Salt Lake in the middle part of the Nineteenth Century, he was more than optimistic about "making the desert bloom like the rose."

His people had no giant machinery, no money grants, nothing but their hands with which to accomplish this task, but they did fulfill their leader's wishes and did eventually convert the arid desert into a productive region.

Today, in another desert portion of the United States, plans are under way to bring the same blessings of plenty to the arid acres of the Imperial and Coachella valleys of Southern California. And it is being done in a way which would have made Brigham and his followers gasp in astonishment.

Huge dredging machines, giant cement mixers, rock crushers and turbines are continually at work building 210 miles of new waterway—The All-American Canal.

The purpose of the canal is to provide an adequate supply of water for the Imperial and Coachella valleys, part of which are already under irrigation from the Imperial Main Canal, which diverts its water supply from the Colorado River five miles below Yuma, Arizona, and carries it southward into Mexico, recrossing the international border near Calexico, California.

The All-American project, lying wholly within the United States, will provide water for the land lying to the north of that served by the Imperial Main Canal. The diversion point will be at the Imperial Dam, now being built at a point twenty miles north of Yuma. Plans for this dam call for a concrete structure with a total length of 2,990 feet exclusive of a 470-foot rock-fill dike at the Arizona end. The main or central portion of the dam will be a 1,200-foot overflow section with a maximum height of 31 feet.

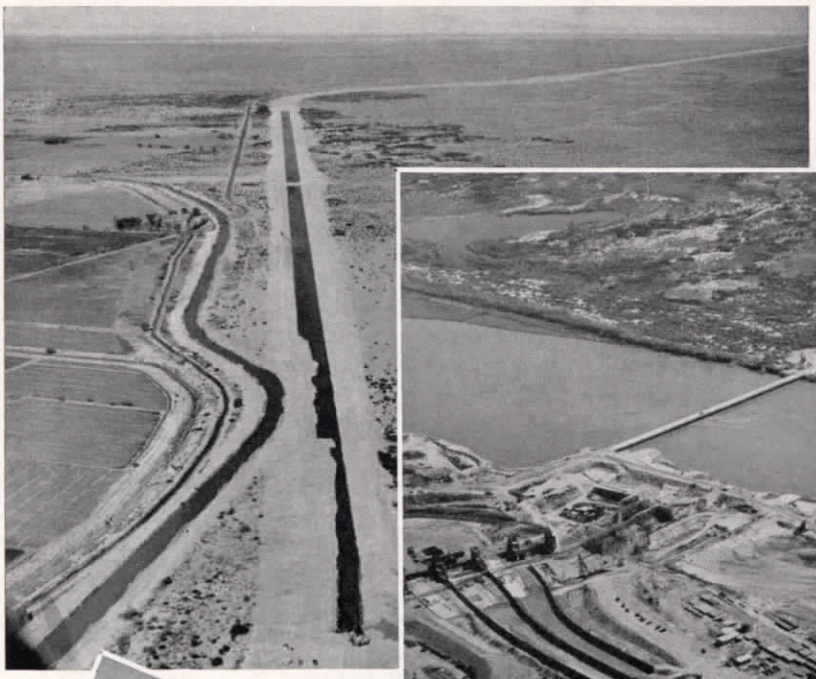
This central part of the dam, known as the "weir," will be based on the hollow concrete or "floating" type of construction, in which the weir is made of hollow concrete partially filled with sand and gravel ballast for added weight, and supported on a silt or sand foundation.

Large quantities of suspended silt are found in the Colorado River, and, as this silt would clog the canal and necessitate frequent dredging, the river must be cleaned before the water is allowed to flow to the crops on the other side of the desert.

This desilting is done by means of six settling basins located on the downstream side of the barrier. As the water bearing its cargo of silt passes the headworks of the dam it flows through these basins, each 269 feet wide by 769 feet long. Here the gritty particles are strained and the water allowed to continue on its course along a floor-smooth bed prepared for it. The silt which is left behind in the basins will be removed by 72 rotary-type scrapers, each 72 feet in diameter, and thence sluiced back into the river below the diversion point.

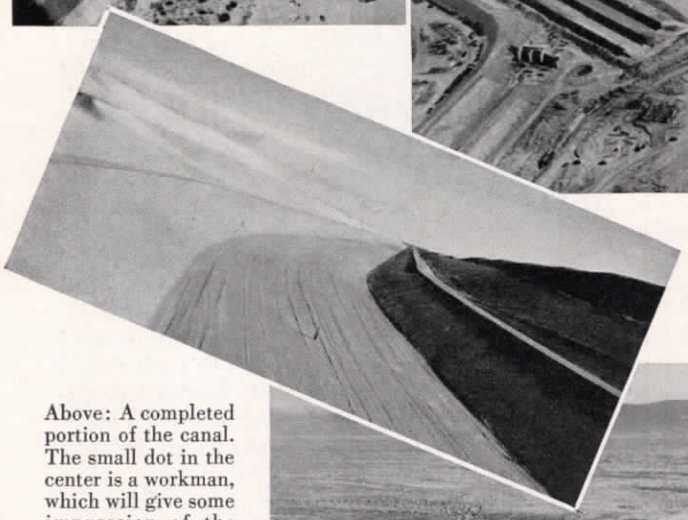
From this point the life-giving stream has a clear track across the mesquite and sand dunes, through valleys and dips, under highways and railroads and over washes and shale until it reaches its destination in the Imperial and Coachella valleys.

The waterway takes the form of a deep



Left: The canal stretches for miles through uninhabited wastes of mesquite-covered sand.

Above: A completed portion of the canal at a diversion point, fourteen miles west of Pilot Knob.



Above: A completed portion of the canal. The small dot in the center is a workman, which will give some impression of the size of the project.

Right: All-American Canal workmen hit rough country as they carry the waterway across the desert.

slash in the earth's surface 232 feet wide at the top and 160 feet wide at the bottom. The water level is expected to remain, for the most part, at 21 feet, which will enable the canal to carry an amount of water equal to seventy per cent of the average flow of the Colorado River above the Boulder Dam.

For the first five miles the canal follows the river closely, then parallels the present Yuma Main Canal for some distance. From this point it turns west, skirting the edge of a mesa. In this section four wash siphon structures to lift the stream over elevations and six overchute structures to lower it again, have been built. These will also aid in catching and impounding storm water from the hills near Pilot Knob, about fifty miles from Yuma.

Beyond Pilot Knob at three different points and for a total distance of 14.6 miles the canal is located near to, and runs parallel with, the international boundary. It is at this point that the Coachella Branch Canal leaves the main artery and winds its way into the Northwest.

The main bed of the canal will continue westward through 10.5 miles of sand hills where it was necessary to make several cuts of over 100 feet in depth. The actual depth of sand alone in many of these hills was over 80 feet.

In driving the canal through this area engineers faced two problems involving silt and dust. The river flowed so swiftly along its bed that the water carried quantities of sand into the stream, so it became necessary to slow down the velocity in order that the sand might settle. Engineers contrived to fix the speed of the stream at a mean velocity of 3.75 feet per second at full capacity, which speed is insufficient to lift the sand from the canal bed.

The second problem was to prevent blowing shifting sand picked up by the winds from being deposited in the stream. This was obviated by the construction of berms, or shelves along the edges of the canal, for the entire ten and one-half miles through the sand dune area. These berms are in rising tiers above the surface of the water, each shelf no less than twenty feet wide. As the wind sweeps toward the canal the sand will be deposited upon these shelves, thus minimizing as far as possible the obstruction of the flow.

From the sand hills the canal line runs west to the east high line of the Imperial District distribution system, follows this canal for a few miles, then turns west through the extreme southern portion of the Imperial Valley crossing seventeen principal ditches and passing the town of Calexico before reaching its terminus, 80 miles from its starting point.

The Coachella Valley canal, as previously mentioned, branches off from the main artery 14 miles west of Pilot Knob and runs in a northwesterly direction toward Iris. It continues along the east side of the Salton Sea and the Coachella Valley to a point near the towns of Coachella and Indio where it begins a southwesterly course across the valley, at last turning south to the Riverside-Imperial County line. Over 160 washes, ordinarily dry but at times of heavy rains carrying floods of short duration loaded with sand and silt, cross the Coachella Valley line. These washes must be bridged with siphons or culverts, and it is probable that the last 47 miles of the canal will be lined with concrete.

The All-American Canal is one of the three construction features authorized under the Boulder Canyon Project Act of December 21, 1928. The other two projects are the Boulder Dam and the Power Plant.

Although there are possibilities for the development of power at several points on the main canal, according to Grant Bloodgood, acting construction engineer, the present allotment does not contain funds for their development, and, in any case, the project as originally designed was for irrigation only. The construction of the canal is being done by the Bureau of Reclamation of the United States Department of the Interior.

Canadians Celebrate

Over 350 members of the Canadian division of the Union Oil Company Social Club attended the annual dance of that organization at the Spanish Grill in Hotel Vancouver, November 19.

Music for dancing was supplied by Mark Kenney's "Western Gentlemen" and solo dances, novelty numbers, and an excellent supper added to the evening's entertainment.

The committee in charge of arrangements for the affair consisted of the Misses Ivy Oliver, Beth White, and Isadore Sutton and Mr. Horace Lear, all of whom are to be congratulated upon the success of the event.

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A SHORT time ago John Howell, Union Oil Company's fire protection engineer, made the statement that men are safer at their work in the oil industry than they are at home. He based this assertion on certain statistics with which he, as an expert, is familiar, and quoted figures to prove his point. The statement may sound a trifle exaggerated to people who are accustomed to thinking of refineries, tank farms, and storage plants, as bombshells, that are eternally on the point of exploding. And yet it is a fact. The entire petroleum industry is so thoroughly "safety organized" and "safety practical," that hazards of all sorts are being reduced to a minimum. Fires and accidents, of course, are becoming correspondingly rare, and the petroleum industry in consequence offers the highest types of occupational safety.

It is true that refineries, tank farms, and storage plants carry large quantities of flammable materials, but these materials are not really dangerous when you know they are flammable, when you understand the conditions under which they ignite, and can thus prevent ignition. That's the secret of safety success in the petroleum industry. Long ago oil operators learned the incidental hazards at bitter cost, and began to study them. They learned the fundamentals of fire, and took steps to eliminate fires. They investigated their accidents, and adopted such measures as were necessary to prevent recurrence.

Since this reformation was started it has never stopped. It is one departure at least in which all the oil companies pool their efforts and their findings. It is still going on vigorously. It is another of these things in which we can never reach perfection, but must nevertheless always strive towards perfection, and it is having splendid results.

Here are a few figures compiled for the A. P. I. *Quarterly* by D. V. Stroop, staff engineer:

"The 333 tank vessels included in the 1936 fire loss reports received by the Institute were operated throughout the year (1936) without any loss by fire. The 101 refineries completed the year with a thirty per cent reduction in fire losses as compared with 1935. A fire loss of $91,575 on oil stocks having an insurable value of $341,000,000 gave the extremely low fire loss ratio of 2.7 cents per $100 on crude and refined oils.

"In spite of increased fire losses in several classes of properties, the 1936 figures indicate a fire-loss ratio of $0.077 per $100, or twelve per cent less than $0.088 per $100 which was reported for 1935.

"It does not seem possible that the annual fire loss on nearly 75,000 properties utilized in the production, refining, and distribution of flammable liquids could be less than eight-hundredths of one per cent of the value, the insurable value, of the properties."

All of which helps to explain why workers in the oil business are in greater danger on their days off than they are when they are pursuing their daily duties.

PARAMOUNT—QUEEN OF THE PURSE SEINERS

By R. A. Brand, Supervisor of Marine Sales, Northern Division

TUNA, the gamest fish to swim the seas, are caught by two of the oldest devices used in commercial fishing—the hook and line, and the purse seine.

Vessels using the hook and line are known as bait boats, because they carry the live bait that is thrown overboard to attract the tuna and keep them within range. The fishermen on these boats use a rod and line with an unbaited barbless hook which has a feather attached to the shank. When a school of tuna is assembled alongside they throw their lines, and almost in the same motion heave the fish back over their shoulders, whence they slip easily off the smooth hook to the deck.

The purse seiners carry a table on the after deck to which one end of the seine—simply a cotton web of the requisite mesh—is attached. In use, one edge of the seine is held afloat by corks, while the other edge is submerged by a series of lead sinkers.

When the captain, from his station in the crows' nest, sights a school of tuna he estimates their speed, and then maneuvers to get out in front of them. Having done so he orders the skiff lowered. To this skiff the free end of the purse line is affixed, and the ship then tacks in a circle around the school, while the seine is gradually fed overboard at the stern, until the two vessels complete the circle and meet. At this stage the pursing commences, and after the seine is closed, or pursed, the fish are removed by means of a power operated mechanism known as a brailer.

In seining for tuna it is necessary to have boats with long cruising range and sufficient speed to return to their home port with the cargo still in the best of condition. These factors have made for an ever-increasing rivalry among the seiners, and radical improvements in ship design have constantly increased the speed and capacity. In this race for supremacy the most modern development is the purse seiner, "Paramount," built at a cost of $200,000 by the French Sardine Company of San Pedro for Ben Carr, skipper, Frank Mosich, chief engineer, and their crew of expert fishermen. This vessel is the result

The "Paramount," shown above at the Union Oil Company dock at Seattle, is the most modern of the Pacific Coast tuna fishing boats.

of years of practical experience and design, and is the first welded all-steel fishing vessel to be classified by the American Bureau of Shipping.

Built by the Lake Washington Shipyards in their plant at Houghton, just across Lake Washington from Seattle, the "Paramount" meets in the maximum degree the urgent demands of the industry as regards speed, capacity, and adequate facilities for preserving the catch. She is the largest boat of her type in the world, has a ratio speed of 12 to 15 knots an hour, a cruising range of 12,000 miles and is equipped with every modern device for accurate navigation and efficient operation.

The usual method of preservation is to pack the fish in ice, but on the "Paramount" the tuna are brailed from the seines into tanks below deck where sea water is thermostatically controlled at a temperature of 28° F. by the cooling system. Although these game fish thrash so much in the net that they are dead when taken into the storage tanks, this thermostatically controlled temperature permits them to be kept aboard for months if necessary, and yet be landed eventually in first class condition. This, it will be readily realized, is very necessary when the "Paramount" is fishing as far south as the coast of Chile, in South America, and must land its cargo at San Pedro, and when it is further remembered that she is equipped to carry 300 tons of tuna, ordinarily worth about $150 per ton.

The "Paramount," after taking on her complement of fuel and lubricants from Union Oil Company, left Seattle last month for San Pedro, where the new mistress of the purse seine fleet will be outfitted.

REDWOOD CITY—EL EMBARCADERO

MANY years ago Californians knew the present Redwood City, on San Francisco Bay, as El Embarcadero. The busy little town was then the scene of innumerable comings and goings of ocean ships, coastwise freighters, and local vessels, for El Embarcadero was one of the most convenient outlets for the millions of board feet of timber that were brought in from the heavily wooded back country.

At Woodside, only five miles away, there were fifteen sawmills, and with the country growing at a phenomenal rate, there was an ever-increasing demand for timber. Naturally, El Embarcadero thrived with the activity of a prosperous shipping center.

This early port, now Redwood City, was well equipped for its role in the development of California, for it had the most up-to-date wharves and piers in the state at that time, next to San Francisco. Located in its strategic position, so near the supply of lumber and with all of its mills and marine facilities, the city grew and prospered.

Although the city continued to grow and open up a new supply of market products, however, the port development suffered a severe blow with the later depletion of the more readily accessible lumber supply and with the advent of the railroad.

With the entrance of the railroad into the transportation scheme came a lull in the shipping business. "Ship by Rail—It's Faster" was the motto of the times, and Redwood City's sea commerce, which had already expanded to include many of the crops being grown in the nearby valleys, was practically cut off. In a few years the port was all but forgotten—only old-timers could remember the vivid scenes of the arrival and departure of the lumber and grain schooners. Shallow draft vessels alone could navigate the harbor, for increased tillage of the watershed had caused large deposits of silt to be brought down to the bay.

But again came a change in the situation. After many years the increased use of the automobile and the splendid development of roads, together with the introduction of low-cost motor fuels, brought a new transportation factor into being—the truck. With the growth of short-haul truck freighting Redwood City once more became a factor in the shipping world. Located at the head of the Santa Clara, Pajaro, and Salinas Valleys it is admirably located to receive the vast amounts of produce grown in this fertile area. Thus it was that a new type product demanded the re-opening of the once famous port.

Just eighteen months ago a campaign for a harbor bond issue was carried. That brought

The new Port of Redwood City is expected to revive a part of the city's past, when it was known as El Embarcadero.

$266,000 to aid in the establishing of a marine outlet for valley shipping. Another $188,000 was secured, and building activity increased. Then, in September of this year Port Redwood City was dedicated.

The present deep-water facilities of the port include a channel 28 feet in depth and 200 feet wide at the bottom, with a turning basin 800 feet by 1,800 feet. The natural scouring effect of the tides is expected to obviate dredging.

And Redwood City, gathering in her huge produce stores for transport is rapidly becoming re-established as one of the important shipping centers of the California coast.

Pegg Again Heads Safety Group

A. O. Pegg
Superintending Engineer,
Wilmington

A. O. Pegg, superintending engineer for Union Oil Company of California at Wilmington, this month was notified of his re-election as vice-chairman for the Pacific Coast Marine Section of the National Safety Council.

Pegg has held this post for the past several years, and is known throughout the west as one of the most active promoters of safety for maritime workers. As vice-chairman of the marine section of the safety group he plans to hold several meetings of the executive committee during the year to devise means of furthering the work of the council.

At the annual congress, held in Kansas City, Mo., last month, a paper prepared by Pegg and entitled "Fostering the Sense of Responsibility in Individual Seamen," was read and created much favorable comment.

UNION DISCOVERS RIO BRAVO FIELD

NOT since the discovery of the Santa Maria Valley Field has any drilling project promoted so much general interest as Union Oil Company's recent successfully completed well—K.C.L. 1-34 at Rio Bravo. This well, for a short time the deepest producer in California only, but now the deepest producer in the world, has been watched with keen interest by the entire western petroleum industry, not only because of its extreme depth, but also because

Earl Noble
Chief Geologist

the particular area on which it is located has been the subject of a great deal of speculation by oil producers and geologists for many years.

It is not an area that lends itself readily to superficial examination, since the actual contour of the land and the usual surface indications are buried under a deep layer of alluvial soil. The bringing in of the well, therefore, and the proving of a prolific oil bearing sand in hitherto unproductive territory, may be regarded as at least a partial triumph for geophysical methods of exploration.

It must not be inferred, however, that geophysics were entirely responsible for the success of the venture. The whole program was one in which co-operation and correlation played important parts. The decision to drill and the exact location of the well were actually determined by subsurface exploration, supplemented by geological and paleontological data from deep wells in the surrounding territory, and the actual drilling represented a fine piece of co-operative work by all of the departments concerned.

The credit for the discovery goes to the exploration department with its geologists, paleontologists, and geo-physicists, but perhaps most of all to Earl Noble, chief geologist, whose recommendations were responsible for the leasing of the land, and to John Church, manager of lands, whose expert knowledge of the business actually resulted in the acquisition of the property.

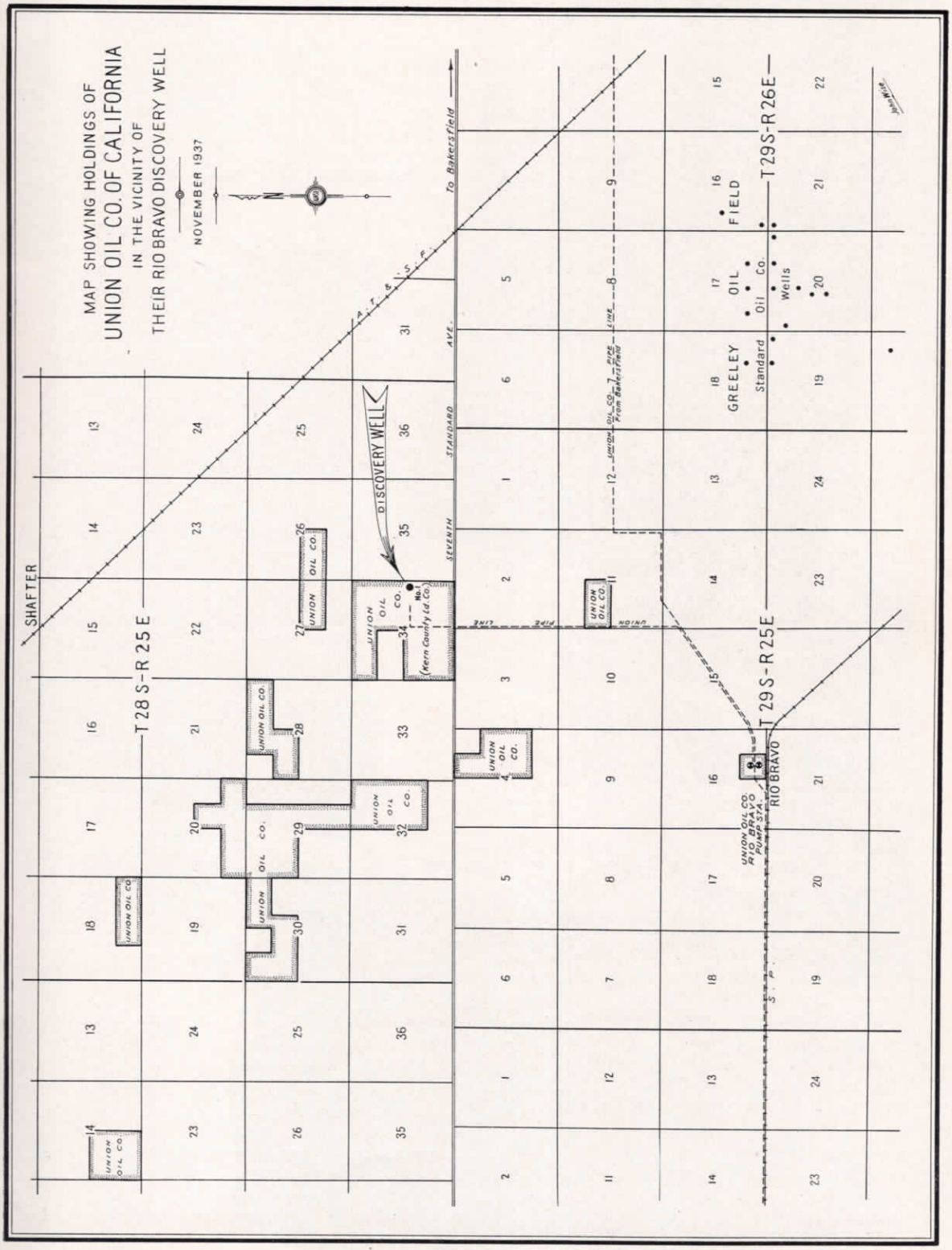
The well was spudded in on March 29, 1937, and for 200 days Jack Reed and his Valley division drilling crews nursed it along, making fast progress while they were actually drilling, but stopping frequently en route to make the multitude of observations that are essential in a new venture of this sort, in order that (1) no mistake in technique might impede progress, and that (2) accurate fundamental data might be developed on which to base future operations should the well prove successful.

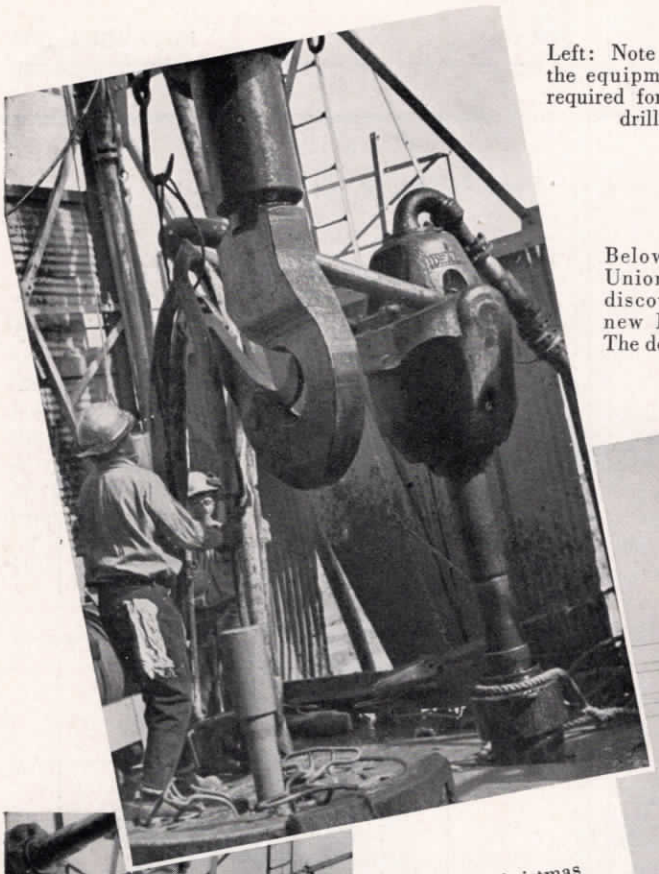
Down went the drill to 9,000 feet without a mishap, but also, alas, without a showing of oil, and the field department was almost ready to call it a day. Earl Noble, however, had not yet lost faith in the play, and it was his optimism that was responsible for the continuation of the venture to greater depths. Again the rotary table began to turn, and the bit churned

John L. Church
Manager of Lands

its way deeper and deeper, while the engineers, geologists, and paleontologists minutely scrutinized each new core for some evidence of the brown sand that meant success.

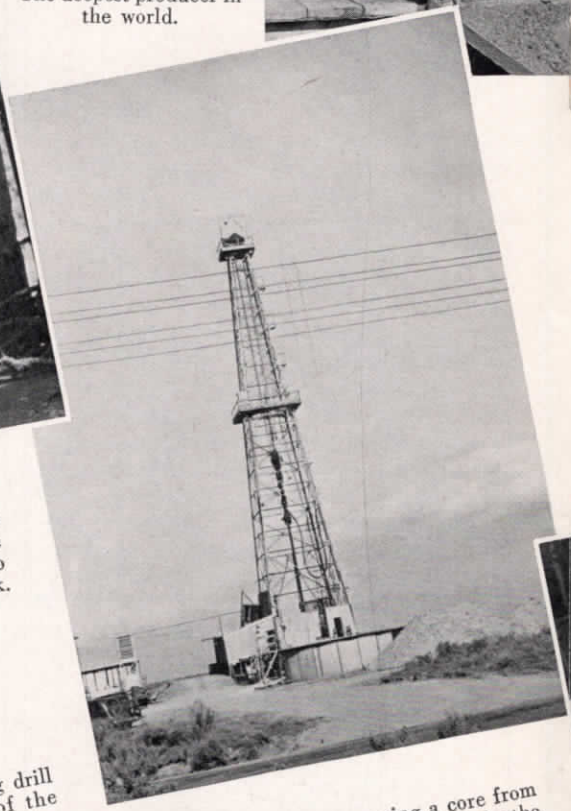
Hopes were raised when a streak of oil sand was encountered at 10,269 feet. Although it appeared to offer poor production possibilities, it was at least an indication, and the work proceeded a little more cheerfully. A little lower another sandy interval about sixty-five feet thick added impetus to the effort, and bright-

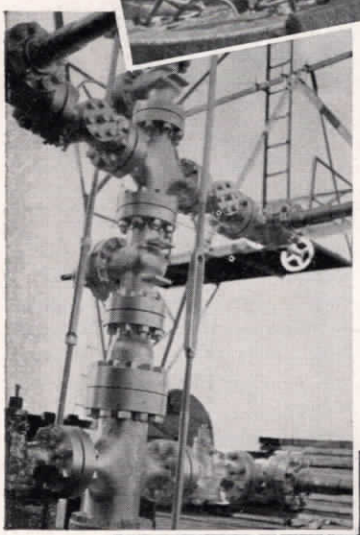

MAP SHOWING HOLDINGS OF
UNION OIL CO. OF CALIFORNIA
IN THE VICINITY OF
THEIR RIO BRAVO DISCOVERY WELL
NOVEMBER 1937
SHAFTER
T 28 S - R 25 E
T 29 S - R 25 E
T 29 S - R 26 E
A. T. & S. F.
To Bakersfield
STANDARD AVE.
SEVENTH STANDARD LINE
DISCOVERY WELL
(Kern County Ld. Co.)
No. 1
UNION OIL CO.
GREELEY
Standard
OIL FIELD
Oil Co. Wells
RIO BRAVO
UNION OIL CO. RIO BRAVO PUMP STA.
S. P.



Left: Note the size of the equipment that is required for deep hole drilling.

Below: K.C.L. 1-34, Union Oil Company's discovery well in the new Rio Bravo field. The deepest producer in the world.

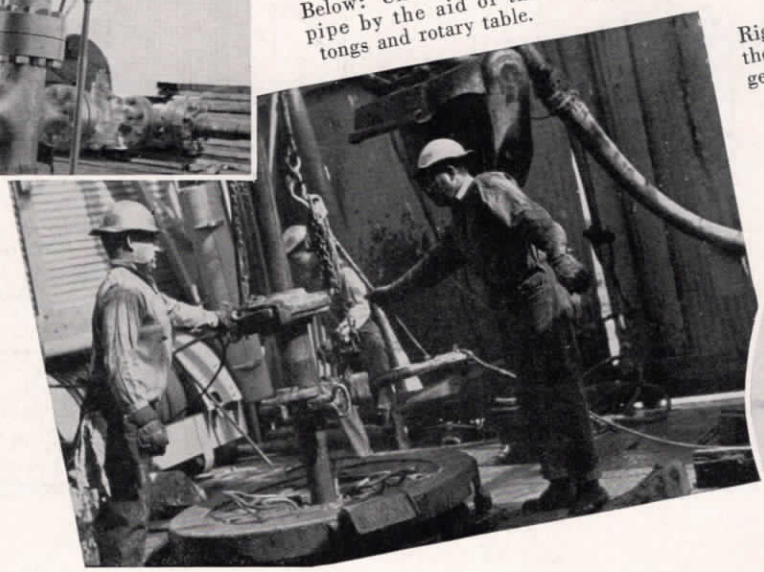


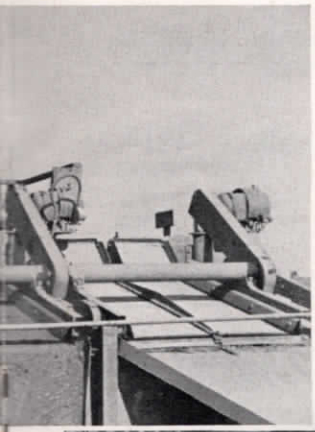


Left: The Christmas tree. High pressure fittings are required to hold the well in check.

Below: Uncoupling drill pipe by the aid of the tongs and rotary table.

Right: Removing a core from the barrel for inspection by the geologists, paleontologists and engineers.

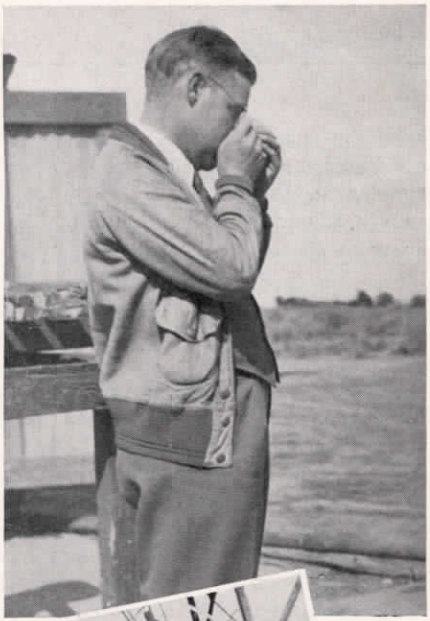


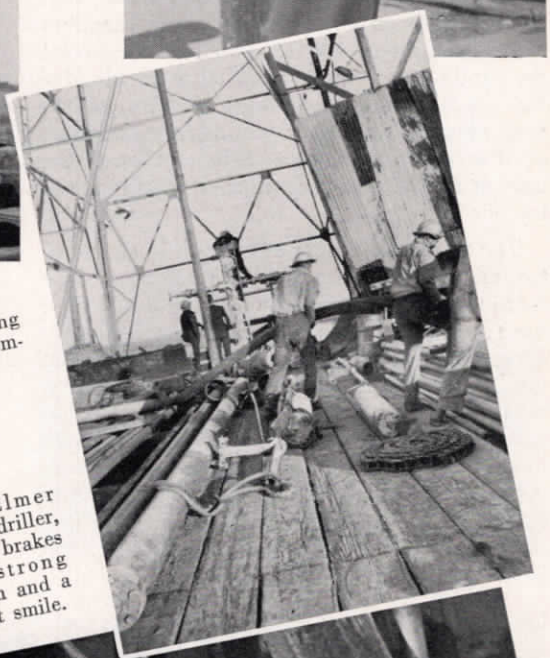


Left: Walt Heathman, evaluation engineer, and one of the drilling crew look over the mud screens.

Right: Louis Waterfall, Assistant Chief Geologist, examines a core sample.

Below: Glenn Ferguson, district paleontologist, is looking for "bugs," an undignified but convenient term for "foraminifera."

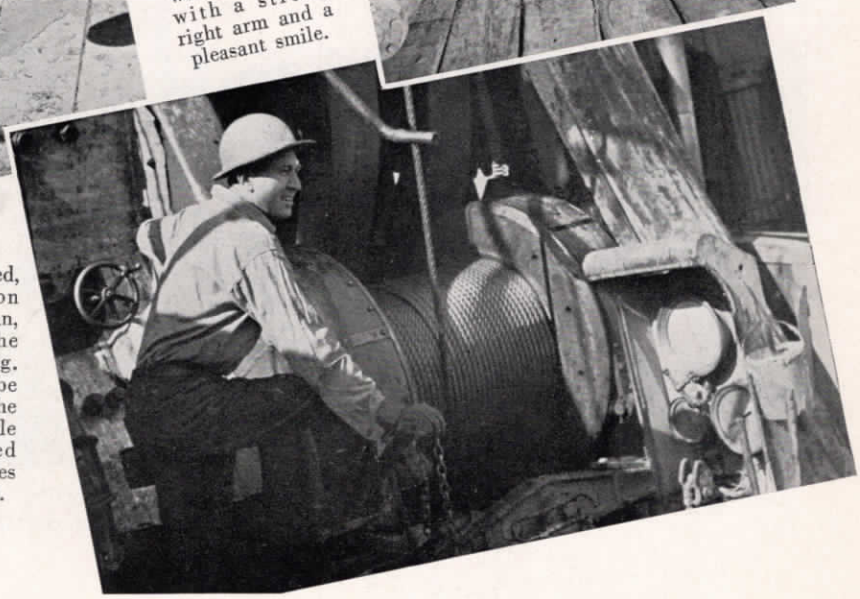




Right: Cleaning up after the completion.

Below: Elmer Hutchins, driller, works the brakes with a strong right arm and a pleasant smile.

Left: Jack Reed, Valley Division drilling foreman, supervised the actual drilling. How well may be judged from the fact that the hole never deviated over two degrees in 11,302 feet.



ened the spark of hope. This was tested for production, and although the results were not conclusive, the formation may yet prove a source of additional production.

Other more or less insignificant streaks of oil sand occurred at varying intervals, but the real pay zone—the Rio Bravo sand—was first penetrated at 11,240 feet. When the first core of this formation was brought to the surface, there was no longer any doubt of the existence of a prolific producing horizon. It smelled strongly of gasoline, and despite the fact that it was somewhat gray in color, even a Bulletin editor could have guessed that the mother lode had been struck. From this point fifty-five feet of gradually darkening sand was cored, and solvent tests on core samples gave excellent showings. There appeared to be no especial danger in proceeding to still greater depths, but on the other hand there was no logical argument against a production test on this last sand formation, and so with the bottom of the hole at 11,302 feet preparations were made to try her out.

The setting of a liner at a depth in excess of two miles presented some little difficulty, since there was still a possibility that the well would have to be drilled deeper, and it was finally agreed that an aluminum liner, which might easily be drilled out in such an eventuality, would be the satisfactory answer to the problem. Usually a perforated liner is set right down into the producing sand, but in this case a solid liner was used, with its bottom twenty feet above the sand formation, so in the jargon of the oil man, the well was brought in "barefoot."

The result of the production test is now history. On November 4, K.C.L. 1-34 came in for an initial flow of 2,400 barrels a day of 39.6° A.P.I. gravity oil through a 40/64 inch bean, and for the benefit of those who are only familiar with edible beans, it might be mentioned that the oil well bean is just an orifice, in this

Carl Steiner
District Engineer

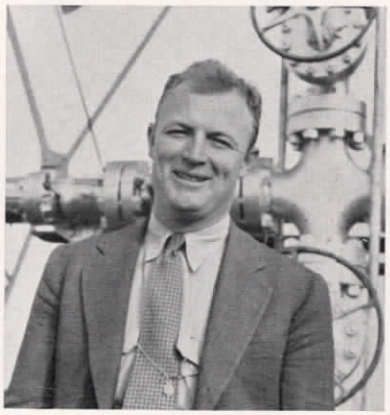
case one-inch in diameter, and a 40/64 setting simply means that the diameter of the orifice is cut down to 40/64 of its area. Now it can be further explained that since the well came in it has never been fully opened up, but tests indicate that the potential production should be somewhere between 5,000 and 6,000 barrels. At the time of writing, November 17, it is beaned down to 20/64 and is producing 1,666 barrels a day, with a pressure on the tubing of 2,175 pounds, and a casing pressure of 2,149 pounds. In addition to the oil the well is producing approximately 1,307,000 cubic feet of gas.

E. R. Atwill
District Geologist

Aden Hughes
Paleontologist

Layton Stanton
Geologist

Nothing of a revolutionary nature was introduced in the drilling process. The whole project was conducted cautiously and carefully, and its ultimate success may be laid definitely to technique and general finesse rather than equipment. Throughout the entire procedure,



Dudley Tower
Assistant District Engineer

as already indicated, there was the closest cooperation between all of the departments concerned, and the successful completion of this most important discovery is a real tribute to the field department and all its incidental divisions.

The new well is located in section 34-28-25,

Frank Gess
District Drilling Foreman

five miles to the northeast of Rio Bravo, and approximately twenty miles northwest of Bakersfield, and opens up a new territory for deep well drilling that up to the time of the completion had proved unproductive.

The full significance of the find is difficult to determine this early in the proceedings. It is undoubtedly, however, the most important recent field development in California. K.C.L. 1-34 is now the deepest producing well in the world, its nearest competitor being the Humble Oil and Refining Company's Ellender No. 1 in the Houma gas field on the Louisiana Gulf Coast. This latter was drilled to 11,615, produced for a short time, but developed water trouble, and was plugged back to something above 10,000 feet.

The new Union well proves definitely that profitably productive oil sands exist at hitherto unexploited depths, that the technique of drilling has progressed sufficiently to probe these depths, and that much of future drilling in consequence is likely to be devoted to deep wells. So far as Union Oil Company is concerned it adds another "first" to the long list that has demonstrated the continued aggressiveness and enterprise of the operating departments and their executive heads, and establishes a valuable amplification of existing light oil reserves.

Engineers Present Paper

E. G. Trostel

B. P. Kantzer

Speaking before the annual convention of the American Petroleum Institute in Chicago, E. G. Trostel, assistant production engineer of Union Oil Company, this month addressed the institute's division of production on "Oil Well Performance: A Discussion and Proposed Terminology."

Trostel is co-author of the paper with B. P. Kantzer, assistant production engineer in the Santa Maria field. The discussion was made up of the findings of both men in their work with the company.

Trostel was first employed in 1933 in the Los Angeles Refinery laboratory, and after two years there entered the field department. Kantzer came to the company in 1934, spending a year in the field department before entering the engineering department.

Left: A. C. Stewart, manager of Service Stations, ports his helm, or does something equally nautical, while taking a blow out on the Pacific Ocean.

Above: R. T. "Art" Williams and Harmon Fisher of the development department discuss a knotty engineering problem.

Right: M. G. Kerr, Assistant Comptroller, comptrols a comfortable chair at the Santa Maria Inn.

Below: John Sleeth, Chief Gauger, reads the tape just to show how it is done.

Above: Glenn Ferguson, district paleontologist, Bakersfield, takes a look at the cores from the Rio Bravo discovery well—K.C.L. 1-34.

Left: Al Wallace, sales department, agent at Kendall, Ore., checks up on the day's business.

R. E. Haylett, right, director of manufacturing and chairman of Union Oil Company's Safety Board, presents A. C. Stewart, manager of Union Service Stations, with National Safety Council plaque.

SERVICE STATIONS WIN SAFETY PLAQUE

IN RECOGNITION of their outstanding safety record for the first six months of 1937, Union Oil Company Service Stations were awarded a bronze plaque at the annual congress of the National Safety Council held in Kansas City, Missouri, October 11-15. The service stations had the lowest accident frequency among all major petroleum marketers in the United States for the six months' period.

At a meeting of the company's Safety Board the plaque was formally presented to A. C. Stewart, manager of service stations, by R. E. Haylett, director of manufacturing and chairman of the safety board.

In accepting the trophy for his department Mr. Stewart said, "Our organization is proud of this award, indicating as it does that Union Oil Company service not only meets every requirement of the discriminating motorist but is dispensed with the maximum of safety to the customer and the employee."

At the same meeting the wholesale division of Union Oil Company sales department was awarded a certificate for second place among petroleum operators for the lowest accident frequency during the first half of 1937.

The capturing of two such awards in competition with all the major petroleum companies is an especially noteworthy accomplishment, as the industry has become more and more safety-conscious throughout the years and now holds an outstanding place in safety ratings. In fact, because of constant vigilance in this field, the petroleum industry today offers the highest types of occupational safety.

H. M. Robinson

A. P. Johnson

DEATH TAKES TWO DIRECTORS

UNION OIL Company of California this month lost two of its foremost directors when Henry M. Robinson, 69, died in Huntington Memorial Hospital November 3, and A. P. Johnson, 94, passed away quietly at his home in Los Angeles November 14.

Robinson, a director of the company since 1918, was also serving as a director of the General Electric Company, the Southern California Edison Company and the Pacific Lumber Company at the time of his death. He was chairman of the board of the Security-First National Bank of Los Angeles, of the Newport News Shipbuilding and Drydock Company of Newport News, Va., and of the Henry E. Huntington Library and Art Gallery at San Marino.

In addition to his multiplicity of business duties, Robinson had spent much time in the service of his country. He was called to Washington by President Woodrow Wilson at the outbreak of the World War to aid in the establishment of the Council for National Defense, and later served on numerous wartime committees. Following the war he was sent abroad as a member of the group which concluded the peace treaties. For his work in this undertaking he received decorations from a number of European governments. Subsequently he was tendered a cabinet post by three presidents, but each time declined.

Johnson was the oldest living director of the company, first taking his chair in 1914. He had long been known as one of the outstanding business men of southern California, and until the last few months had been active in his business enterprises, personally managing the affairs of the O. T. Johnson Corporation until his withdrawal from business. He had spent 57 years in business in this state, having come here from Illinois in 1880.

At one time Johnson was one of the most active men in the commercial and civic affairs of San Bernardino and San Diego Counties, where he first settled when he came to this state. He later served as chairman of the right-of-way committee and was instrumental in securing rights of way for the Atchison, Topeka and Santa Fe Railroad in California.

Union Oil Company, together with the state of California, mourns the death of these two men, and extends its deepest sympathy to their relatives.

This Month's Cover

Winter scenes dominate the covers of this month's Bulletin with three different camera artists contributing their efforts to the complete display. The front cover is by Paul F. Michels, comptrollers' department, and shows Grassy Lake in Lassen National Park.

The back cover picture was taken by Sherwood Mark of Pasadena at Big Pines in the Blue Ridge Range.

Irving J. Hancock, auditor of general accounts, photographed the scene reproduced on the inside front cover while in the Mammoth Lakes district. The picture, taken from Mammoth Mountain, shows Twin Lakes in the foreground, with Lake Mary in the background.

"THRILLS" INTERVIEWS CHAMPION

When J. Donald Budge, who this year climaxed his meteoric rise to tennis fame by bringing the Davis Cup back to America, was in Los Angeles recently to participate in the Pacific Southwest Tennis Tournament, he appeared on Union Oil Company's "Thrills," the radio program which has gained such a large following on the Pacific Coast.

With Budge was Tom Stow, his mentor and head tennis coach at the University of California, and the two presented highlights of the young star's career. The greatest thrill in his life, Budge told "Thrills," was when he won the Davis Cup games that brought the coveted trophy back to the United States after an absence of many years.

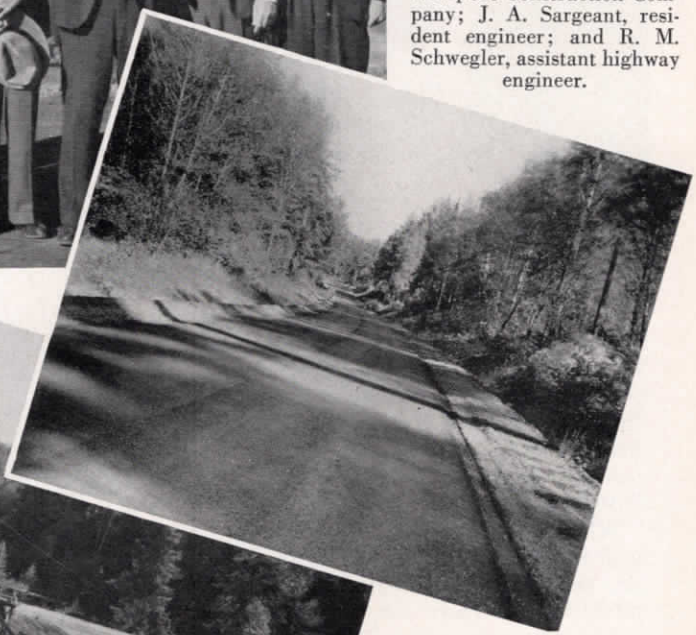
Frane Heads Sanger Kiwanians

Ralph Frane

The youngest man ever elected to head the organization, Ralph Frane, Union Oil Company agent at Sanger, California, last month was named president of the local Kiwanis Club for 1938.

The Sanger chapter of the Kiwanis Club has long been known as one of the most active in the state, taking a leading part in promoting civic and charitable enterprises and particularly in attracting visitors to General Grant National Park, of which Sanger is the official gateway. Frane has been associated with Kiwanis for some years and has been outstanding in the work of the club.

Left to right are J. E. O'Hern, project engineer; Marshall Newport, general superintendent for Kern & Kibbe, contractors; H. D. Farmer, senior highway engineer; C. M. Barrows, Union Oil Company asphalt representative; A. H. Benedict, associate highway engineer; Ross Newport, Newport Construction Company; J. A. Sargeant, resident engineer; and R. M. Schwegler, assistant highway engineer.



Above: A section of the completed road, showing some of the scenery typical along the route.

Above:
This is the type of plant necessary to mix surface materials for a modern roadway.

LAST LINK IN HIGHWAY OPENED

OPENING a short route to the picturesque Oregon coast for residents of Portland and inland towns, the last link in the Salmon River Cutoff highway was thrown open to traffic last month. The new roadway, passing through one of the largest virgin stands of timber in the state, conversely allows motorists more easily to reach the City of Roses from the coast.

The latest addition to Oregon's ever-extending modern highway system is a 13½-mile stretch beginning just north of Oceanlake on the coast and running in a northeasterly direction almost to Grand Ronde. Its smooth asphaltic surface assures maximum comfort to the motorist and allows traffic to continue still further along the beautiful coast highway, at the same time reaching the Oregon metropolis without sacrificing valuable time.

The largest project of its kind yet undertaken by the U. S. Bureau of Public Roads in the Northwest, the contracts for the Salmon River highway were let in May of this year to the Newport Construction Company and

Kern and Kibbe. Work began in June, and was completed early in October.

During the course of construction the work was carried on speedily and efficiently through the installation of a modern mixing plant, and over two thousand tons of Union Oil Company asphalt were shipped from Oleum refinery to be used on the job.

Addresses Safety Council

J. T. Howell
Fire Protection Engineer

J. T. Howell, fire protection engineer for Union Oil Company, addressed the National Safety Council on "The Causes, Prevention, and Control of Fire" when the council held its annual congress in Kansas City, Missouri, recently.

Becomes Highway Patrolman

Harry E. Curtis was a portable crane operator for Union Oil Company when 1937 began, but now, ten months later, he has discarded his overalls for a bright and shiny new uniform, with a badge—the badge of the California Highway Patrol.

Harry E. Curtis

Curtis was first employed by the company in 1934 as a swamper in the field transportation department, and had worked his way to the position of crane operator when he decided to make the change. On leaving the service of the company the members of the transportation department presented him with a leather jacket. His many friends, both in the company and out, wish him every success in his new work.

Thirty Years

H. W. Nickson
Coast Div. Field, Orcutt

Service Emblem Awards

IN CHOOSING and following a life work there is only one investment that must be made. That investment is yourself; it is made in your job. But if the investment is to prove profitable it must bear interest, and in this case the interest is more important than the investment itself. Only interest in your work can provide the golden thread of continuity to an employment career, and that continuity, in turn, will bring the happiness and satisfaction that is the reward of a sound investment.

This month sixty-seven employees receive service emblem awards signifying their interest in their work—interest that has provided continuity to their employment career.

HERBERT W. NICKSON

Herbert W. Nickson, foreman of the rig-building crew in the Orcutt field, arrived in California from England in 1907 and the entire thirty years of his life in this country are now credited to the service of Union Oil Company.

Nickson ended the first stage of his journey from the continent at Guadalupe, California, and from there was jounced for several hours over the road to Orcutt via stage coach. The same trip today, incidentally, takes some thirty minutes. Arrived at his destination he became an electrician in the newly developed field, working for Pinal Dome Oil Company, which was purchased by Union Oil Company ten years later.

At the time of the purchase "Bill" was employed as tool-dresser, and after some time in this position was made head well-puller. He continued in this capacity until 1928, when he was advanced to rig-builder. For the past several years he has held the job of foreman of the rig-building crew, and under his supervision the group has established an enviable safety record for the Orcutt field.

Among the many interests which fill Bill's recreational hours, amateur photography probably would have to be ranked highest, for he not only takes pictures but is adept at developing the negatives and printing them. Most of his weekends are devoted to short scenic trips with his wife and afford an excellent chance for the improvement of his photographic technique. As a complete relief from the strenuous business of rig building, he spends much of his time vocabulary building through the medium of reading—a form of relaxation which he thoroughly enjoys.

Twenty-Five Years

F. E. Lewis
Mfg., Oleum

E. H. Berry
Sales, Cent. Div.

R. S. Dunlap
Transp., N. P. L.

E. H. BERRY

When E. H. Berry became fireman on the San Luis Obispo tank farm back in 1912, he probably had little thought of becoming a sea-going man, but this month, as he receives his pin emblematic of twenty-five years of service with Union Oil Company, he can count twenty-two years of that time as spent in the marine department.

It was only three years after first being employed, in 1915 to be exact, that Ed was assigned to the position of engineer aboard the barge "Fullerton." The barge was then engaged in carrying oil from San Luis to San Francisco, and for six years Berry was engaged in this pursuit. Then, when the "Fullerton" was laid up at Antioch, he spent four years as watchman on the barge.

In 1925 he was named assistant engineer aboard the M. S. Kern, which is engaged in bunkering operations in San Francisco Bay. He still holds this position.

No one has ever been able to discover Ed's particular hobby, but many have discovered what may be the nearest approach to a full-time recreational pursuit—storytelling. In his leisure he can sit for hours spinning yarns that would cause even Baron Munchausen to blush for shame.

RALPH S. DUNLAP

First employed by Union Oil Company of California a quarter century ago as dispatcher and clerk in the San Luis Obispo office of the Producers' and Lompoc pipelines, Ralph S. Dunlap this month receives a third ruby for his service emblem.

Dunlap held his first position at San Luis Obispo for only two years when he was transferred to the Creston Station as fireman and engineer.

Three years were spent in this location before he was again transferred, this time, in 1917, to the post of engineer at the Orcutt Station. Since that transfer he has worked steadily in his position at this point, and over the years has gained perhaps a greater knowledge of the district than any other employee.

Dunlap is well known throughout the area as "Dick," although how the nickname originated no one knows. It is a survival from his early life in the East where he also became interested in Masonic lodge work. Today he is particularly active in this field, and his interest in the organization may probably be classified as his greatest hobby. He is also deeply interested in the history of California, and particularly of the region about Santa Maria and San Luis Obispo.

FRANK E. LEWIS

While a great many of the men who have spent a quarter-century with Union Oil Company have spent several years searching for the type of work with which they would be most satisfied, Frank E. Lewis, who this month receives his twenty-five year service emblem, started at Oleum as a pipefitter and has worked continuously at his trade since that time.

Frank served his apprenticeship in this field at the Hercules Powder Works before taking over his job at Oleum, and since that time has developed steadily until he is today one of the most reliable men on the job. Especially outstanding is his safety record: During his entire time at the Oleum Refinery he has not experienced a single lost time accident.

There are few hobbies or outside interests in his life, Frank will tell you modestly when asked what he does during his free time. But again he is disproved when one notes that every year during duck season he spends much time on San Pablo Bay and always returns with the limit allowed by the game laws. His

Twenty Years

F. W. Ballard
Field, So. Div.

S. H. Grinnell
Field, So. Div.

R. Hilton
Gas, So. Div.

home in Pinole, with its garden and landscaping, prove that his talents include those of a good gardener, and finally he is an accomplished cornet player and always has been an enthusiastic member of the Pinole band.

FRED W. BALLARD

After spending six months in the confines of a large department store, Fred W. Ballard decided in 1917 that he needed a change, so in November of that year began work with Union Oil Company at the Harris pump station in Orcutt.

The Harris pump station, where Fred spent his first five years, furnished water to company leases in that district, but just when he was getting settled there, Ballard was transferred to Santa Fe Springs as a roustabout. That was in 1922 when Bell No. 1 opened the new field. Within a month at his new location Fred became a pumper when Alexander No. 2 accelerated the hectic boom that took place at Santa Fe Springs. Since that time he has remained there, going through the 1922 boom, the 1928 drilling campaign, and all the exciting moments marked by fires, explosions and gushers. At present he holds the position of field gauger.

At his home in Bellflower Fred spends his spare time in the less exciting business of raising chickens, and the more exciting pursuit of keeping them from tearing his well-planned and always-productive garden to shreds. As another hobby he has his fishing, and is never averse to an expedition with the rod and reel. But that hobby may be expected to languish for a time now, as last month he had an argument with a stingray. Successful in landing the fish, Fred was not so successful in stowing it in his creel—and finished up with a stingray in the basket and a sting in his hand.

S. H. GRINNELL

Carrying on something of a family tradition, S. H. Grinnell this month receives his twenty year service emblem. Grinnell's father was also a Union Oil Company man, having been superintendent of the Santa Paula refinery for many years before his death.

Henry first was employed as a rotary helper at Brea in 1917, working in that capacity for two years, then losing eighteen months because of a leg injury. On his return he became a pumper at Santa Fe Springs, later being promoted to gauger in the same field.

During the drilling boom that marked the opening of the field, Henry became assistant to the foreman of transportation and drilling tools, and later was named foreman of the department in the Dominguez district. His present position is superintendent of service and maintenance.

Grinnell lives in Los Angeles with his wife and son, and is a follower of all sports. He is particularly interested in golf, pistol shooting, and boating, and is a past president of the Union Oil Company Revolver and Rifle Club. Recently, however, his hobby interest has been enlarged to include amateur motion picture photography, at which he is rapidly becoming an expert. He also has an interest in a new precision putter that threatens to revolutionize the game of golf.

JAMES C. NELSON

James C. Nelson first went to work for Union Oil Company on the Lompoc Line at the booster station known as Thelma, dismantled many years ago.

After eight years of service at various stations on the Producers' Pipe Line, Nelson came to Southern California, transferring to the drilling department. Two years later he again

Twenty Years

J. G. Nelson
Transp., So. Div. P. L.

S. H. Jones
Field, So. Div.

R. G. Ludlow
Sales, So. Div.

entered the pipe line division as engineer at Dominguez, and since that time has been continuously at that location with the exception of a short period when he was senior engineer at the L.B.C. Station. At present Nelson is tour engineer in the Dominguez field, and might be said to have the "longest" service record in the company—being 6 ft. 4 in. tall.

"Big Jim", as he is affectionately known to his many friends, has no hobbies or outside interests save his home. In his spare time he is either working about the house or spending a quiet day with his family. When questioned as to this phase of his life, he answered, "What use would a fellow have with a hobby, when he has five children in the family?"

GEORGE W. WINTERBURN

It was twenty years ago that George W. Winterburn left the contracting business in the Willamette Valley to become an employee of Union Oil Company at the Willbridge plant.

And, in common with most residents of the Northwest, he is so held by the scenery and climate of the location that he has never left it.

During his career with the company Winterburn has worked at many of the duties necessary in a main plant such as that at Willbridge. In the same efficient, workmanlike manner he has handled the positions of warehouseman, barrel cooper, maintenance man, gauger, pumper, boiler engineer and dockman, this last named position being the one he now holds. An outstanding memory of his service, Winterburn says, is the rapid growth of the Willbridge outlet.

George has never lost his love for the outdoors, gained during his early life on a cattle ranch. Much of his spare time is spent in enjoying the scenic wonders of the vicinity, and whenever he decides that it is time to go fishing he invariably returns with a creel of trout that would make most ardent anglers envious.

J. A. STE. MARIE

Twenty full years with Union Oil Company this month lie behind J. A. Ste. Marie, district gauger in the Kern River Fields, as he receives his third service award.

Ste. Marie first began work with the company at Port San Luis as station gauger. In 1918 he went to the Midway fields as assistant district gauger, but in 1919 was transferred to San Luis Obispo as dispatcher.

March of 1924 found him in the Valley division again, this time as district gauger at Taft, where he stayed until 1927 when he was shifted to his present position in the Kern River Fields. Since coming to this location he has seen the development of many new fields in the district; namely, the Kern Front, Mt. Poso, Round Mountain, Coffee Canyon, Mt. View, and Greeley. Just now he is in the thick of the activity which followed the opening of the Kernco 1-34, Union's new big producer in the valley district.

Concerning hobbies, as far as Ste. Marie is concerned there is but one thing worthy of note: travel. In this regard, however, he is inveterate, and at every opportunity will start out to see some more of the country. Last summer he and his wife took a six weeks' trip through the west and middle west, including Yellowstone park in the itinerary. He adds a line, however, which indicates the possibilities of an additional hobby: "Enjoyed a lot of fine trout fishing, and a very good trip."

RAY G. LUDLOW

Twenty years ago Ray G. Ludlow came to work for Union Oil Company as yardman at Burbank. This month, now holding the posi-

Twenty Years

L. O. Wiley, Jr.
Gas, So. Div.

A. Van Olinda
Compt., Head Office

tion of division station inspector, Ludlow receives the second ruby for his service emblem.

Following his first job, Ray became truck salesman for the company, and thence stepped into the post of agent at Van Nuys. Another promotion brought him the position of agent at Hollywood, then sales supervisor at Los Angeles.

From this job he went to Burbank, still as agent, and continued to serve this community until 1935 when he was named to the position he now holds, division station inspector.

Ludlow lives in Burbank, where he is known as an outstanding civic worker. He was elected a member of a committee to draft the city's charter, and is also a past master of the Burbank Masonic lodge, and a past patron of the Burbank Order of the Eastern Star.

Although these civic activities take up much of his spare time, Ray occasionally manages to work in a hunting or fishing trip, and generally brings home whatever the law allows.

RALPH HILTON

First employed at Orcutt when he was twenty years old, Ralph Hilton, now plant operator in the gas department at Santa Fe Springs, this month receives his twenty-year service emblem.

Ralph's first job was that of trap-tender in the Orcutt field, and he spent but a short time at this occupation before he became a fireman in the same field. Since then, still in the gas department, he has been variously occupied as plant mechanic and plant operator, shifting his scene of activities from Orcutt to Santa Fe Springs in the process.

Mechanical contrivances interest Ralph so much that he even goes to the extent of repairing his neighbors' automobiles. All other forms of machinery are equally attractive, and when he is not on duty you may locate him somewhere in the neighborhood of his home tinkering with some sort of mechanical gadget. Of course, all this activity on cars gets them into perfect condition, and at times like this he manages to satisfy a seemingly primordial craving for wild meat by going deer hunting at least once every season—and bringing back a deer.

STANLEY H. JONES

A former Canadian wheat rancher, who came to California for a rest and found that he just couldn't tear himself away from the south, Stanley H. Jones this month receives his twenty-year service emblem.

Born and raised in the Dominion, Jones farmed 480 acres of wheat land before he decided to lease his farm and come to California with his family for a short stay. When the time came to return he found that his family didn't want to go back, and, upon analyzing his own feelings, he found that he was of the same mind so he secured employment as a carpenter's helper on the G & L lease. After two years of hammering away at plane and fancy trimming he saw that he was growing bored with it awl and became a pumper, remaining in this position until 1930 when he was transferred to Santa Fe Springs.

Jones denies the existence of any hobbies in his life, but spends his spare time in what would seem to be a very satisfactory occupation—continually beautifying his home and garden. In the entire twenty years of his employment he has lost only three working days.

Oh, yes. He still owns his farm in Canada, but would rather not talk about it. It seems that even there one has difficulty in making crops pay taxes.

A. VAN OLINDA

There is perhaps no employee better known to those at the head office than A. Van Olinda, for, in his position as general clerk auditing

Twenty Years

G. W. Winterburn
Sales, No. Div.

J. A. Ste. Marie
Transp., N. P. L.

public utility bills he comes in contact with many of them on pay days, when collecting telephone tolls.

Van, who this month receives his twenty-year service emblem, was first employed as a telephone switchboard operator back in 1917, and after three years in this position became a part of the disbursements division. He spent some time as custodian of the vault and records before taking over his present position.

Although he won't admit a hobby, Van has latent Luther Burbankian aspirations that express themselves in an avid pursuit of dahlia culture. Not in the least interested in ordinary dahlias, Van spends his time trying to make his already beautiful flowers larger, of finer texture, and more subtly colored. And the results of his endeavors would indicate that Van certainly knows his horticulture.

LAWRENCE O. WILEY, JR.

Service in three departments has marked the career of Lawrence O. Wiley, Jr., who this month receives his twenty-year service emblem.

Wiley was first employed in 1917 as a helper in the drilling department, and during the thirteen years in this division successively held the positions of derrickman, tool-dresser and driller.

From 1930 to 1933 Wiley served in the construction department and following this came to the gas department where he is now employed as operator-helper at the Rosecrans absorption plant.

Disclaiming any such common hobbies as golf, hunting, or fishing, Wiley has developed a unique hobby of his own. When properly approached he will admit that he devotes a great deal of spare time to a modern version of an old occupation, trading automobiles. During the past twenty-two years he has traded over 150 cars—and lost money on every trade.

"But," he adds, "I've had a lot of fun!"

Thirty Years—November, 1937

Nickson, H. W., Field, Coast Div. Field.

Twenty-five Years—November, 1937

Berry, E. H., Sales, Cent. Div.
Dunlap, R. S., Transp., No. Pipe Line.
Lewis, F. E., Mfg., Oleum Refy.

Twenty Years—November, 1937

Ballard, F. W., Field, So. Div.
Grinnell, S. H., Field, So. Div.
Hilton, R., Gas, So. Div.
Jones, S. H., Field, So. Div.
Ludlow, R. G., Sales, So. Div.
Nelson, J. C., Transp., So. Div. Pipe Line.
Van Olinda, A., Compt., Head Office.
Ste. Marie, J. A., Transp., No. Pipe Line.
Wiley, L. O., Jr., Gas, So. Div.
Winterburn, G. W., Sales, No. Div.

Fifteen Years—November, 1937

Anderson, A. O., Sales, Cent. Div.
Ashcroft, H. H., Sales, Canadian Div.
Ball, E. B., Sales, So. Div.
Barclay, C. P., Sales, No. Div.
Barnes, H. F., Field, Valley Div.
Borchard, F. J., Field, So. Div.
Clifton, R. L., Field, So. Div.
Durham, B. G., Gas, So. Div.
Erwin, P. B., Field, So. Div.
Fraser, H. G., Mfg., Oleum Refy.
Gartiser, A. J., Sales, So. Div.
Harden, B. R., Sales, No. Div.
Hatfield, R. R., Field, So. Div.
Hougham, H. K., Sales, So. Div.
Jones, L. E., Gas, So. Div.
Lashley, W. C., Field, So. Div.
Leeson, H. H., Gas, So. Div.
Lenninger, J. M., Field, Valley Div.
Lewis, F. V., Field, So. Div.
McCauley, J. A., Mfg., Oleum Refy.
McKenna, H., Sales, No. Div.

McMillan, E., Field, Coast Div.
Mitchell, W. F., Bldg., Union Oil Bldg.
Murray, L. E., Field, So. Div.
O'Niel, P. J., Field, Valley Div.
Peterson, L. M., USS, Central Region.
Pinder, W. E., Transp., So. Pipe Line.
Putnam, M. S., Compt., Head Office.
Reas, A. F., Field, So. Div.
Robinson, J. H., Transp., No. Pipe Line.
Rutter, T. C., Field, So. Div.
Salisbury, G. W., Gas, So. Div.
Snavley, J. W., Field, So. Div.
Steinberg, F. T., Mfg., Oleum Refy.
Thomas, C. F., Transp., No. Pipe Line.
Tinker, T. R., Field, No. Div.
Varnes, B. B., Field, So. Div.
Whisler, J. L., Transp., So. Pipe Line.

Ten Years—November, 1937

Ahl, E. V., Sales, No. Div.
Bettencourt, A. M., Mfg., Oleum Refy.
Brady, B. F., Field, So. Div.
Camp, W., Transp., So. Pipe Line.
Cuddy, J. J., Field, So. Div.
Jacobson, I. J., Auto. Div., Cent. Div. Garage.
Jensen, K., Compt., Head Office.
McElroy, M., Field, So. Div.
Miller, D. H., Mfg., Oleum Refy.
Peterson, J. A., Transp., No. Pipe Line.
Sabral, M. A., Mfg., Oleum Refy.
Sanders, H. D., Transp., No. Pipe Line.
Sommers, M. E., Mfg., Oleum Refy.
Stone, M. D., Sales, No. Div.
Wade, C. J., Mfg., Oleum Refy.

DISTRICT SALES MANAGERS MEET

District sales managers of the Northern Division gathered September 7 in the conference room of the Washington Athletic Club to discuss marketing problems pertinent to the entire area.

Ole Berg, division manager, welcomed the sales managers to the meeting, outlined its purpose and then turned control of the proceedings over to H. H. Ramsay and W. E. Davenport, division sales managers, who presided.

The meeting was a distinct success, and the sales managers returned to their districts enthusiastic to try out the new ideas that had been expounded.

Attending the recent meeting of Northern Division district sales managers were, left to right, standing, J. U. Witt, division accountant; T. F. Thompson, head office asphalt representative; O. H. Jameson, district sales manager, Yakima; H. C. Davidson, district sales manager, Portland; F. V. Spooner, division personnel supervisor; C. B. Evjen, district sales manager, Bellingham; G. W. Keith, district sales manager, Tacoma; H. H. Ramsay, division sales manager, Portland; P. H. Schnell, district sales manager, Spokane; V. O. Nordquist, district sales manager, Bremerton; J. Federspiel, district sales manager, Seattle; Ace Myers, division asphalt representative; C. J. Bode, sales promotion department; S. E. Atkins, district sales manager, The Dalles; H. F. McDowell, district sales manager, Walla Walla; J. H. Gloor, district sales manager, Olympia; O. Berg, Jr., division manager. Kneeling: C. W. Endicott, district sales manager, Colfax; J. Maguire, division operating manager; C. L. Tostevin, division fuel oil supervisor; H. L. Painter, division sales promotion supervisor; C. B. Mallory, district sales manager, Vancouver; W. E. Davenport, division sales manager, Seattle; W. M. Shelton, division credit manager; C. L. Brown, district sales manager, Salem; and J. F. Wallace, district sales manager, Medford.

REFINED AND CRUDE

By Richard Sneddon

Science designates the amoeba as the lowest form of animal life, whereupon we rise to nominate as next in line the bird who stole the nozzle off our garden hose.

And a physical culture expert says men who don't play golf don't know what they are missing, which may be true, but on the other hand men who do play golf don't know WHY *they are missing, so after all . . .*

Incidentally, the strongest argument for professional golf is amateur golf.

Then there was the fellow who couldn't remember where he had left his winter coat, until one night he was playing billiards and the three balls all rolled snugly together.

"I only wanted to know the time, Judge," pleaded the lad who was being tried for stealing a watch. "Okay," said hizzonar, "the time is thirty days."

Here apropos of nothing at all we might mention that meat costs are very reasonable again. Lamb especially would be sheep at twice the price.

And we have often wished we were an oyster so that we would have to be good only eight months of the year.

There is no question that the United States offers greater opportunity for young men than any other country in the world. We know a lad who came here without a cent just ten years ago, and now the government values him at ten thousand dollars, dead or alive.

Speaking of opportunities, it is advisable not to reflect too much on the chances you have missed because you may miss some more while you're reflecting.

It's a queer fact also that most of the people who are dying to attract attention don't until they do.

And a man hasn't necessarily had military training just because he swears like a trooper.

The labor delegate was enquiring into the circumstances under which an employee with thirty years' service had been laid off, and the Scotch foreman expostulated, "Well, he has no reason to kick. Ah told him when he furrst came that the job wouldna be steady."

Now with the opening of Santa Anita imminent it might be well to point out that many a pump has stopped because of the heavy plunger.

In a traffic accident in downtown Los Angeles recently two auto drivers were so badly injured that they were unable to argue over the right-of-way.

And it looks as if all the economic experts have gone back to work. We haven't heard the word "chaos" for months.

A local phrenologist declares that large ears are a sign of generosity. Yeah! Nature's generosity.

"What college did you attend?" asked Sam Malcolm, and the applicant replied, "I didn't go to any college. I just haven't had time to get my suit pressed, that's all."

Petroleum is the funniest stuff—if it's crude, it's refined, and the lighter it is the more it costs.

And it has been aptly stated that the architect's error of today is the breakfast nook of tomorrow.

"Tea or coffee?" queried the waiter, and the customer came back, "Don't tell me. Let me guess."

Which reminds us of the lad who dropped into a small town cafe at noon, and was immediately asked by the waiter, "Will you have sausages on toast?" "No," he replied rather forcibly, "I never eat them." "In that case," said the waiter, shrugging his shoulders, "dinner's over."

And do you remember the good old days when people used to drink ginger ale all by itself?

By the way, a certain employee who shall be nameless, won a dollar on the California-Stanford game from another employee, who shall also be nameless, but so far has failed to collect. All of which shows that the delayed buck is still an important feature of the game.

Saying which we gracefully retire. Remember that no matter in what phase of the oil business you may be engaged, the one important thing to learn is—more.

Printed in U. S. A.

Times-Mirror Printing and Binding House, Los Angeles