BULLETIN NO. 21 ~ NOVEMBER ~ 1922

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Union Oil Company of California

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VOLUME 2 NOVEMBER, 1922 BULLETIN NO. 21

Some Interesting Facts About Chile

By R. B. WALLACE

From the standpoint of development no continent holds the interest of the world today so strongly as does South America, and although major attention has perhaps been given the east coast, the western shore, on which front Chile, Peru, Ecuador and Colombia is making rapid progress.

Starting in Chile as a South American experiment sixteen years ago the Union Oil Company has increased its business in this part of the globe until at present it occupies a prominent place in the trade relations of the country. In addition, shipments are made into Bolivia and Peru, where trademarks for the company's refined products have been registered. The long, lean country of the Chileans, with a coast line equal to the distance from New York to San Francisco, offers many important and unique features, a brief description of which, in connection with the activities of Union Oil in this section, should be of interest.

Chile lies the farthest south of the land portions of the globe, stretching into the austral seas at Cape Horn, where it reaches 56° south latitude. It is 1200 miles nearer the south pole than the extreme point of any other continent. Cape Horn is constantly lashed by waves literally mountains high, owing to the great sweep of the ocean in this latitude. A little to the north of the Cape, on the north shore of the Straits of Magellan, lies the city of Punta Arenas (sandy point). This Chilean city, the most southerly settlement on the globe, has a population of about 24,000. The vicinity enjoys great prosperity in the sheep-raising industry, annual exports ranging from $10,000,000.00 to $12,000,000.00. A sheep-farming company here has netted dividends in the last four years of $14,000,000.00. The Tierra del Fuego (land of fire) forests are rich in conifers, and here, in the New World Switzerland, may be seen innumerable beautiful birds, such as the albatross, penguin, pelican, cormorant and the gorgeous flamingo with its companion, the black-throated swan. Union Oil Company's products are sold in this extreme latitude through our agents, Messrs. Duncan, Fox & Co. of Valparaiso.

Situated about 500 miles south of Valparaiso is the coastal city of Valdivia, with a population of 30,000, mostly of German extraction. Here we enjoy a good market for our products.

Sailing northward up the coast, we pass the flourishing port of Talcahuano. A dry-

dock costing $6,200,000.00 gold provides splendid facilities in this port for ship surveys and repairs. The city is Chile's great southern naval rendezvous. An immense whaling industry has its base in this port.

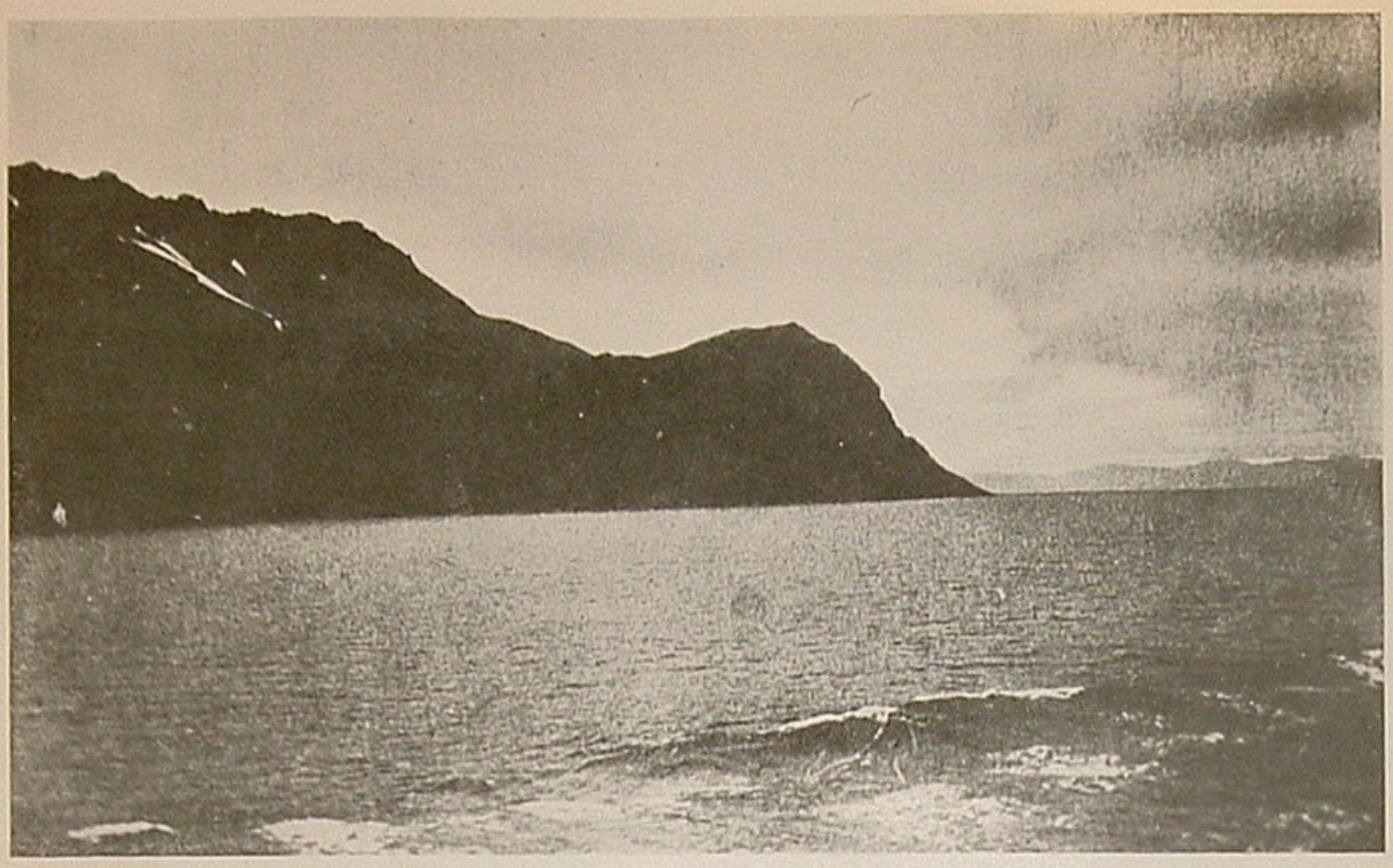
Santiago. Before describing Chile's chief industry, viz., nitrate mining, and our own facilities installed to care for the fuel needs of the immense mining "oficinas," we must detour inland for a brief visit to the beautiful capital city of Chile, Santiago. This city was named after the patron saint of Spain, Santo Iago (Saint James). For the sake of euphony, the Chileans dropped the "o," making the spelling Santiago. On February 12, 1541, Don Pedro de Valdivia, a trained captain of Pizarro, with his little band of one hundred and fifty worn soldiers and adventurers, founded upon the Mapocho River the first town in Chile, now its capital. The site is a rocky eminence near the center of a beautiful plain surrounded by magnificent mountains. Toward the east rise the splendid peaks of the Cordillera de los Andes, some of them over eighteen thousand feet in height; while toward the west the Cordillera de la Costa bar the way to the Pacific Coast. It was only by indomitable courage and utter disregard of danger, coupled with great physical powers, that the Spanish Conquistadores overcame all odds against them. These men had the spirit of Cortez, Pizarro and Sebastian de Benalcazar, and such courage was sorely needed to ward off the attacks of the Araucanians, the fierce aboriginal tribes of South America. In a hot battle with these savages, led by their great chief, Caupolican, Valdivia, the valiant Estremaduran, who sought to extend the dominion of Spain in the far west, was killed, but the Araucanians were beaten off before they reached Santiago. The Chileans declared their independence of Spain in 1810 and, with the aid of the Araucanians, began their heroic fight for liberty. The battle of Maipu, April 5, 1818, settled forever the question of Chilean independence.

Santiago, at an elevation of 1800 feet above sea level, is located in a veritable garden spot. The soil is rich and the climate, for the greater part of the year, delightful. The population of half a million, while mostly Spanish, has a large representation of English, French, Americans and Germans. This city is so modern in its architecture and commercial methods one could almost imagine himself to be in New York or San Francisco. There are some features about the Chilean capital quite individual and above the commonplace. It is more delightfully Spanish in its sentiments, customs and social usage than Rio, Montevideo or Buenos Aires of the eastern coast. An evening spent in the Plaza de Armas will furnish food for thought and pleasing memories for a long time. This park is a handsome square which was laid out nearly four hundred years ago as the "Plaza Mayor." The life and activity of Santiago's pleasure-loving people may be seen here on a balmy evening in all its unique characteristic Spanish finery. Here are large, fine shade trees, interspersed with palms, firs, orange and oleander, with backgrounds of semi-tropical plants and shrubs.

"California poppies
Blowing in the breeze,
Arching blue of heavens,
Curving blue of seas.

"Line on line of mountains,
Rising crest on crest,
Steeped in golden sunshine—
Chile at its best."

Between the cool grass plots and the paved paseos are well-kept beds of fragrant flowers. The picturesque scene is lighted up and animated of an evening by an almost endless procession of dark-eyed senoritas, invariably accompanied by their mothers or chaperons, promenading gracefully and leisurely around and around through the spacious alamedas. Promenading in an opposite direction is the admiring stream of youthful cavaliers of the capital. Many of these fine looking "caballeros" are attired in the striking uniforms of the Chilean Navy. According to fine Spanish custom, these gentlemen observe the utmost propriety and decorum, although doubtless conscious of any coquettish glances thrown their way. Military bands playing martial strains of music help to relieve any ennui and add to the care-free spirit of the crowd. Many older people are comfortably seated about the park discussing the news of the day and passing a social hour, while watching the livelier activities of Chile's younger



THE STRAITS OF MAGELLAN

On one shore the end of the South American mainland; on the other, little-known Tierra del Fuego, whose unique pasture lands support 2,000,000 heavily fleeced sheep. The western entrance to this channel has been the grave of many mariners, so treacherous are its waters.

THE CHRIST OF THE ANDES

On the old wagon road through the pass of Uspallata, 14,000 feet above the sea, stands the statue of the Christ of the Andes. The monument, one of the most impressive in the world, was cast in 1904 from the bronze cannon of the two sister Republics of Chile and Argentina. The inscription under the statue reads: "Sooner shall these mountains crumble into dust than the people of Argentina and Chile break the peace which they have sworn to maintain at the feet of Christ the Redeemer."

NEAR THE TOP OF THE ANDES

Separating Chile and Argentina for 2,600 miles is one of the most remarkable mountain ranges in the world. Upper left, Inca Lake (Laguna del Inca), 14,000 feet in the Chilean Andes. Upper right, Station from which train climbs 5,000 feet in a few miles to the summit. Lower left, Over the summit from the Argentina side and down into Chile. Lower right, At the summit of the Andean Pass on the Argentina side of the mountains.

life. Chilean women who are universally noted for their beauty, show marked traces of aboriginal Araucanian or "Mapuche" blood.

There are three other beautiful parks in this city, viz.: El Parque Casino, El Parque Forestal, El Parque Cerro Santa Lucia.

The Avenida de las Delicias is one of the prominent features of the capital. This boulevard traverses the city in a straight line for three miles, and has an average width of 325 feet. On each side, flanked by some of the finest residences and modern business houses, runs a broad driveway for carriages and automobiles. Inside the driveways are street-railway tracks. Next comes a wide middle portion of the boulevard taken up by the "paseo," or walk, for pedestrians. Everywhere along the way may be seen statues of the country's great men, and this feature has won for the avenue the name of Chile's "Hall of Fame." Here may be seen the splendid equestrian statue of General Bernardo O'Higgins, Chile's great military genius and hero. Here also is the equestrian statue of General Jose de San Martin, the "Hannibal of the Andes," who, with his well-trained troops, crossed the high, ragged Cordilleras from the Argentine, to assist General O'Higgins in the battle which won Chile her independence.

To the northeast of the city stretches out a vast panoramic view of the hoary-headed Andes, glistening in their draperies of perpetual snow. Here Mount Aconcagua, the highest peak in the Americas and a rival of the Himalayan Everest, rears its helmet of eternal white. Frequently one can see thinly veiled diaphanous clouds drifting over the clear blue of these high peaks, while below, many great conifers that have entrenched themselves in the rugged rocks out of reach of the woodman's axe, stand as sentinels, guarding the lovely city at their feet. Toward the south is a level plain. Here may be seen large, well-kept farms with meadows and green fields stretching for miles, affording grazing for large herds of cattle.

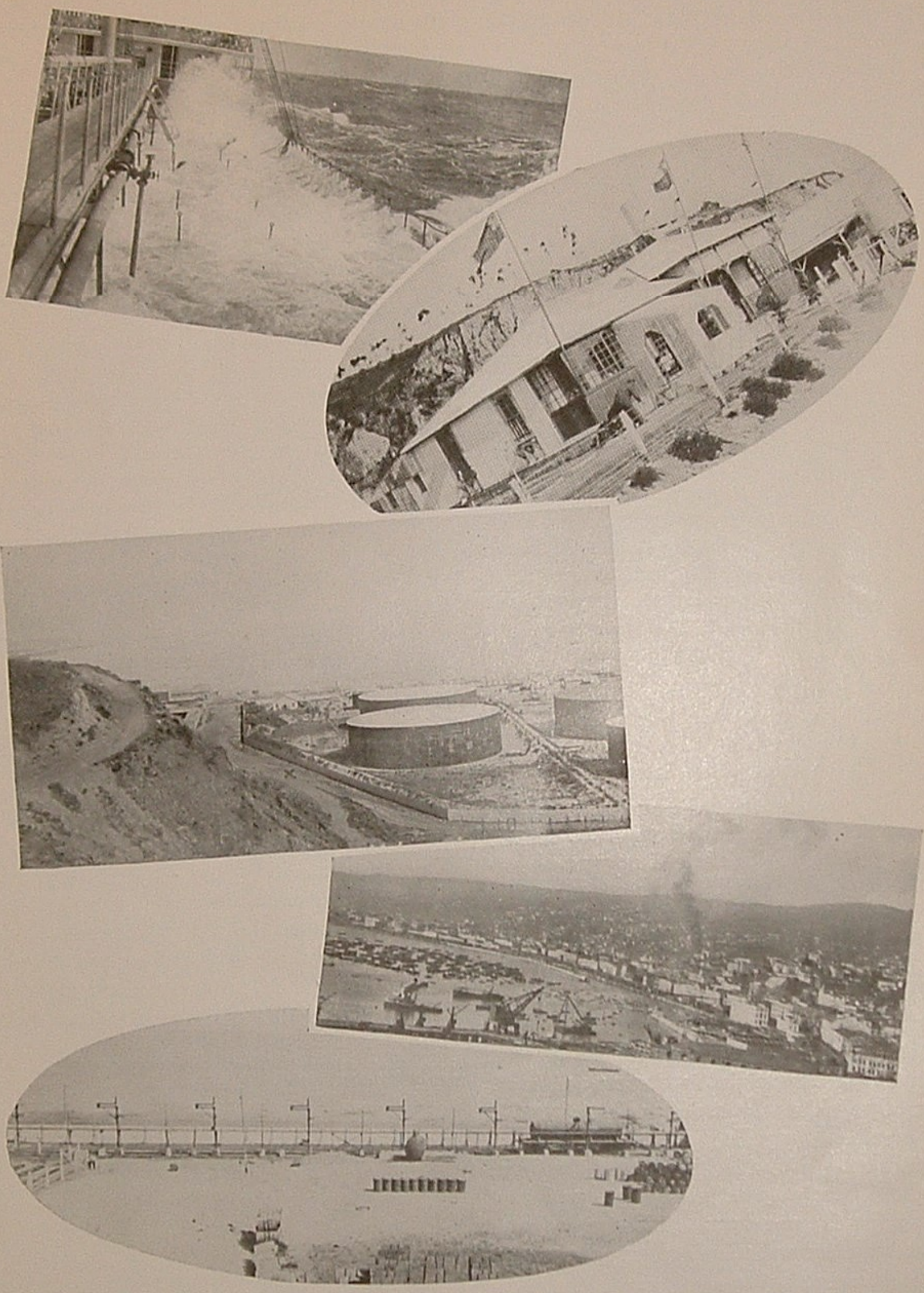
Some of the most beautiful public buildings may be mentioned as follows: La Plaza de Armas, El Palacio de la Moneda, El Palacio de Bellas Artes, La Quinta Normal Escuela, El Instituto Nacional, La Escuela de Artes y Oficios, El Congreso Nacional. The last named building is a splendid combination of Doric and Corinthian architecture. Its halls are spacious and luxuriously furnished.

Santiago is a center of learning and culture. It has two noted universities granting all the degrees common to these seats of learning. The faculties of both the University of Chile and the Catholic University are made up of professors of international reputation in literature, science, and law. Santiago prides itself on being the center of Chilean culture. It is the Athens of the republic in education and in fine arts. The city is well governed. Its sanitary conditions are good. Electric lighting and street railway systems are modern. There are many fine hospitals to care for the city's sick. While it makes no pretension to any commercial importance, it nevertheless has some twelve to fifteen hundred flourishing manufacturing plants. Its charms as a residential spot are more widely known than its activities as an industrial center. Union Oil Company of California agents, who have quarters in this city, find here a good market for our refined products.

The Crest of the Andes. No traveler should leave Chile without a visit to the crest of the Andes, which towers 3000 feet above the tunnels through which the Trans-Andine line passes in the journey from Valparaiso via Santiago to Buenos Aires. There, in the awful solitude of these snow-covered heights, is the most remarkable monument in the world, the famous "Christ of the Andes." It was constructed in 1904, as a symbol of peace between the republics of Chile and Argentina. On it is this inscription:

> *"Sooner shall these mountains crumble into dust than Chile and Argentina break the Peace, to which they have pledged themselves at the feet of Christ the Redeemer."*

Nowhere is there a more impressive monument than this. Standing, as it does, on the crest of the mountains about 14,000 feet above the level of the sea, it is a perpetual symbol of peace between the two erstwhile warring states.



VALPARAISO

From the top down: Green combers coming aboard our tanker "Los Angeles" on her way to principal Chilean port. Union Oil offices in Valparaiso; flags flying are those of the United States, Great Britain and Chile. General view of tanks. The harbor of Valparaiso. Car loading facilities and drum yard at Union plant.

Nitrate Fields. The central valley of Chile is a garden spot where all temperate zone and sub-tropical products grow luxuriously, but the section is not of sufficient area to command any important notice. The great industry of Chile lies in the nitrate fields of the northern zone. This republic, like Brazil, carries practically all of its eggs in one basket; i. e., Chilean nitrate, as, in the latter country, Brazilian coffee. It is estimated there is sufficient nitrate in these fields to take care of the needs of the world for the next hundred years. This salt deposit, called "caliche" in its crude, impure state, is found in the rainless, sterile section of the north.

There are three theories as to the origin of this nitrate of soda, worthy of consideration: first, that it had its origin in seaweed ages ago; second, that it resulted from nitrogen contained in guano deposits; third, that it is atmospheric, arising from electricity passing through moist air, forming nitric acid, and this, brought by streams into contact with limestone rock, has resulted in the "caliche" rock.

A layer of cement-like material covers the nitrate for a few feet. The fields lie from fifteen to one hundrd miles from the coast, at elevations varying from 3000 to 13,000 feet above sea level. The product was first exported in 1830. By 1905 the amount exported annually reached 1,600,000 tons. The rock is sent from the mines to "oficinas," where it is ground to powder, after which it is washed and boiled. The liquid mass is run off, drained, and dried into a whitish powder. Iodine forms a large and remunerative by-product of nitrate. In order not to over-stock the market, the extraction of iodine, by consent of the producers, is limited to every sixth year. Prior to the war, England and Germany were the principal takers of nitrate, but at present the United States leads in imports. It is used chiefly in America as a fertilizer. At present Germany prohibits the importation of nitrate into the country but it is believed the supply of synthetic nitrate will prove wholly inadequate, thus forcing the country to resume its purchase of the Chilean product. The chief nitrate shipping ports are Pisagua, Junin, Iquique, Antofagasta, Taltal and Caldera.

Gold, silver and coal are also mined in Chile to a considerable extent, there being about 2,500,000 tons of coal mined annually. However, next to nitrate, copper mining is the principal mining industry. Chile was at one time the largest producer of copper in the world. Lead, nickel, cobalt and sulphur are mined on a small scale. Northern Chile is so dry that there are sections where a dead animal will not even decay, but shrivels up into parchment. There is also literally no rain in the north, the total record of the past twenty years being about one inch. On the contrary, precipitation in the extreme south, around Cape Horn, reaches as high as eighteen feet in a single year. What northern Chile lacks in vegetation from want of rain has been made up to her in boundless mineral resources. A railway is now building from Salta, in the north of Argentina, which will connect this republic with the nitrate fields of Chile. Recently a large party of geologists and engineers representing Japanese capital has been exploring the mineral wealth of Chile with the view of acquiring and working mines on a large scale.

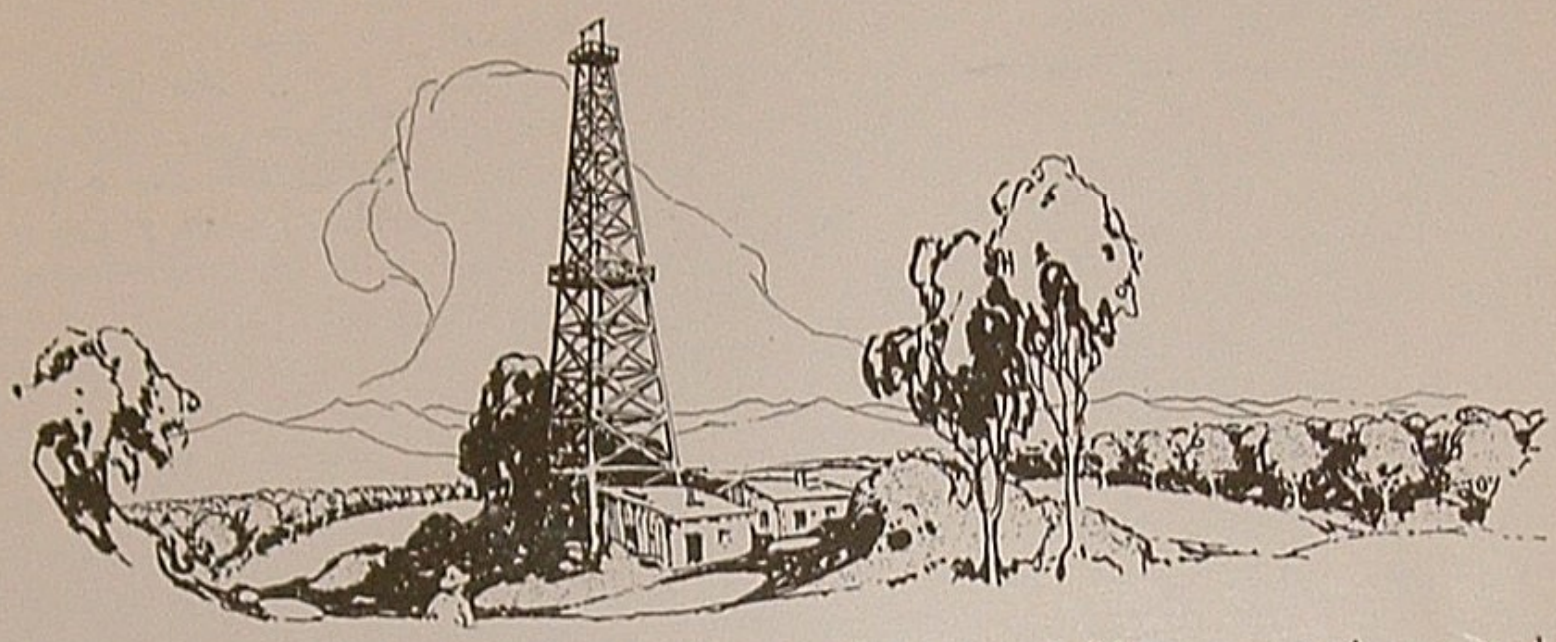
(To be concluded in December issue)

HORSE SENSE

If you work for a man, in heaven's name work for him. If he pays wages that supply you your bread and butter, work for him, speak well of him, think well of him, stand by him and stand by the institution he represents. I think if I worked for a man, I would work for him. I would not work for him a part of his time, but all of his time; I would give an undivided service or none. If put to a pinch, an ounce of loyalty is worth a pound of cleverness. If you must vilify, condemn and eternally disparage, why, resign your position, and when you are outside, damn to your heart's content. But, I pray you, so long as you are part of an institution, do not condemn it. Not that you will injure the institution—not that—but when you disparage the concern of which you are a part, you disparage yourself. And don't forget, "I forgot" won't do in business.—Elbert Hubbard.

Life Story of Meyer No. 3—Santa Fe Springs Discovery Well

By F. F. HILL
Manager Field Operations



The average person filling his gasoline tank and crank case at a service station has a very slight conception of the hardships, difficulties and costs incident to oil development, and particularly the conditions under which pioneering or wildcatting for new production is carried on. The favored idea of an oil field is that of a large tract of land on which huge companies expend a few odd thousands sinking easily drilled holes, to be invariably rewarded with 5000-barrel wells. The discovery of a new oil field, too, has a reputation of being a matter of comparative simplicity. The representatives of the huge companies, popularly supposed to be merrily sojourning in the country, putter around among various rocks and rills, and find in a few comfortably spent hours convincing evidences of liquid bullion. All that then remains is several months of fast drilling and the rush of million-dollar wells is on.

As the Santa Fe Springs Oil Field seems at the present time to be uppermost in the minds of both the oil family and the general public, a short review of the early development of this now notorious petroleum locality should serve to give the reader an idea of what really does lie in back of the scare headlines that a new oil field has been discovered. The bringing in of this wonderful field is a good instance to analyze, as it concretely illustrates that the earth does throw in an obstacle or two to block the path of those who would pierce her crust and get to the oil underneath. It will be seen also that not only does money flow like water over the Yosemite Falls in the prosecution of a test well in a virgin territory, but that the hardest of efforts under the most discouraging conditions must often be expended for years before a final decision is reached as to whether the field will yield paying production or not.

Each producing field must in time become exhausted, and to replenish the supply new territory must be secured. The preliminary work consists of the examination and approval of the territory by geological experts, but in many cases where wildcatting has been and is now being done there is very little geological evidence to guide the geologist or the operator in mapping out any fixed plan for drilling. Therefore, the proper methods have to be introduced at different stages of the drilling to meet underground conditions. The drilling is always extremely interesting in wildcat ter-

ritory, everyone being on the lookout for any indications of the presence of oil, gas or formations that would add to the possibility of its being oil territory, or indicate the impossibility of petroleum deposits existing therein.

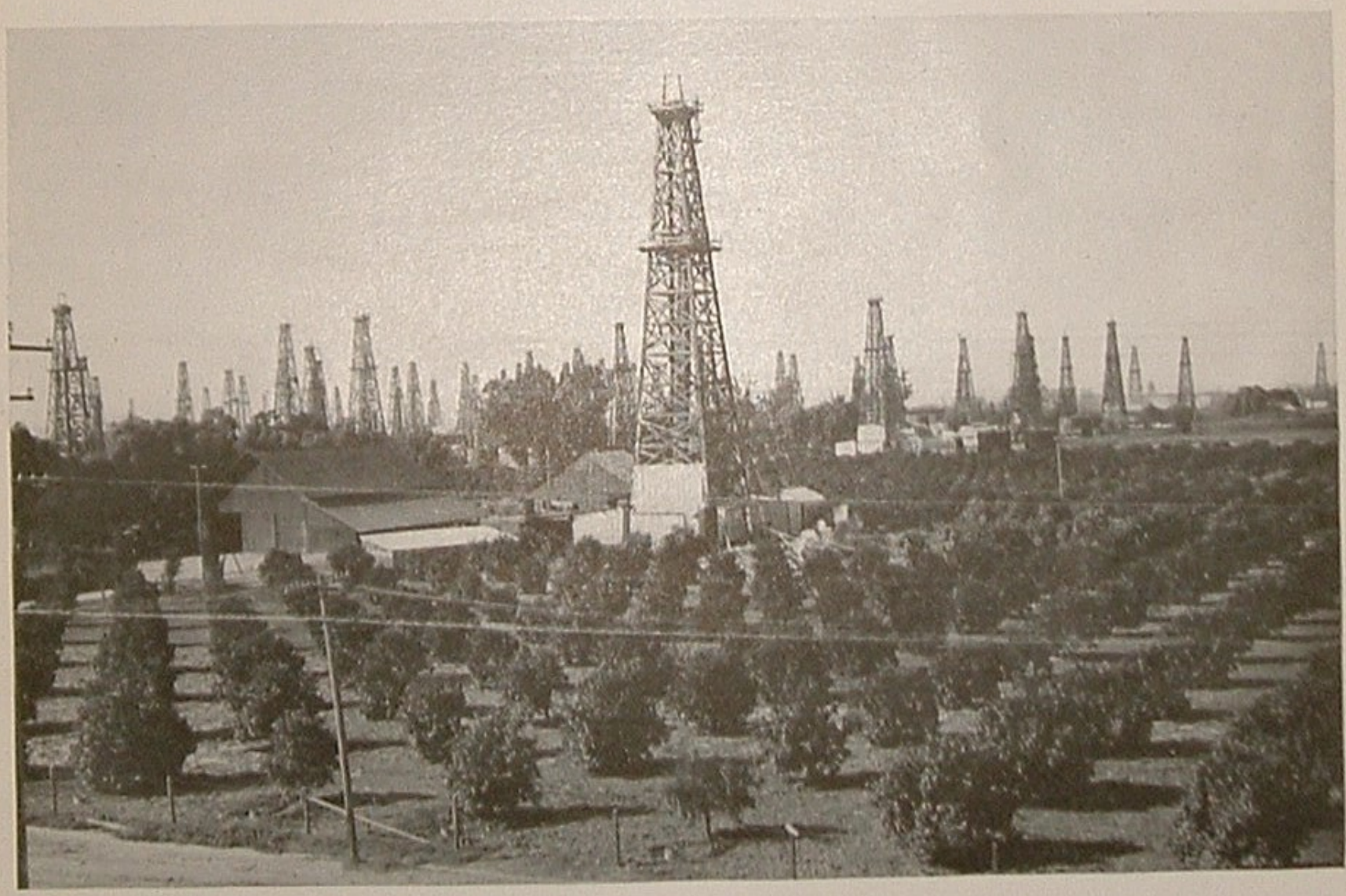
Back in 1907, when Roosevelt was President, the Union Oil Company of California secured from Marius Meyer a lease to various lands in Santa Fe Springs. In October of that year Meyer No. 1 was started. (Bear in mind that it was not until October, 1921, that Santa Fe Springs became the sensation of the West.)

For some years Meyer No. 1 and its young successor, Meyer No. 2, kept the field heads of Union Oil Company of California wondering how many new and difficult underground conditions could arise. Finally No. 1 was abandoned because of water sands and gravel which put the well in such a condition that it was not desirable to continue with the view of making it a deep test well. In the case of the second well even more discouraging difficulties were encountered. Starting out the second project with high hopes and an imported Texas rotary, the peculiar conditions of Western territory baffled the imported Easterners, whereas the Texas rotary was too much for the local tool pushers. The

Field offices, Union Oil Company of California, Santa Fe Springs Division.

combination afforded Mother Earth just the aid she needed in her fight to keep the Santa Fe Springs 34 gravity oil for herself. Meyer No. 2 was subsequently abandoned at 350 feet.

Up through these years of early developments in rotary drilling the Union Oil Company of California kept pegging away, and in February, 1917, the third Meyer



ORANGES AND OIL

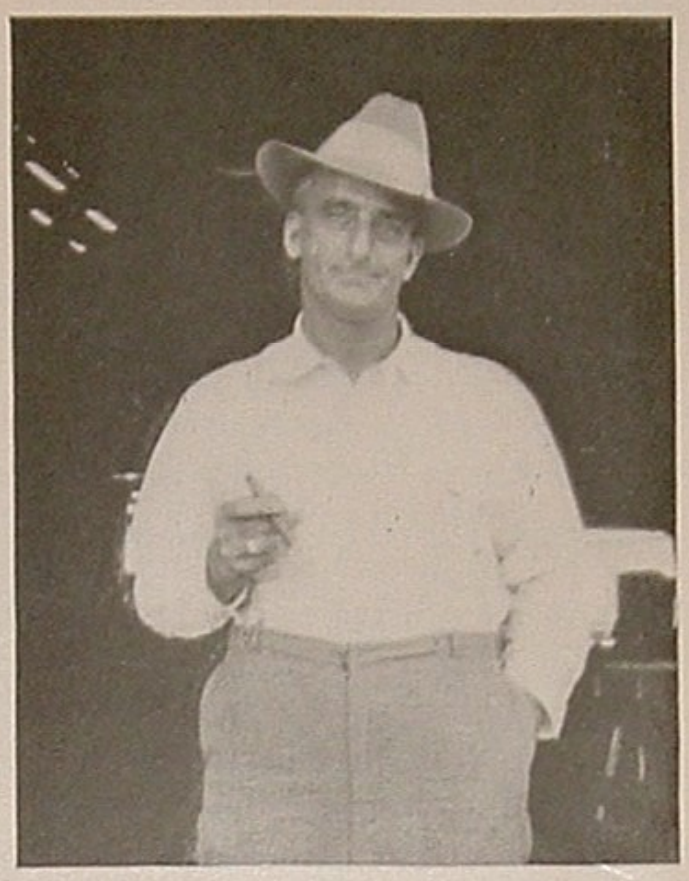
Photo by Bulloch

The familiar heading of the small oil promoter's prospectus. It's true, however, as slightly over a year ago this land was a good investment just for the oranges its surface development yielded. Now over fifty wells are producing or drilling within the range of this one snapshot.

well was commenced. The art of rotary drilling had by this time been thoroughly mastered, the drilling organization of the company greatly improved, and the third Santa Fe hopeful went down with astonishing progress to a depth of 3141 feet, where the 10-inch casing was set and cemented. In drilling out the cement and testing for water it developed that the formation in which the casing was landed was a water-producing sand.

Standard tools were then installed and 8¼-inch casing carried while drilling. This casing became stuck at 3278 feet and could not be loosened. Circulation was still available around the 8¼-inch casing, and it was accordingly cemented, with the thought of offering protection to the casing and possibly of shutting off the water. Water was not shut off, however.

The rotary was again placed in operation and the well drilled to a depth of 3452 feet, where some 4-inch drilling pipe was lost. Then 6¼-inch casing was used with standard tools to drill by the 4-inch drilling pipe. But casing became frozen, that is, became stuck, at a depth of 3370 feet. The 8¼-inch casing being lost at a depth of 3278 feet and the 6¼-inch just 92 feet lower down, the situation became most unfavorable with reference to making a deep test well. It was then decided that the only thing to do was to remove the 6¼-inch casing from below the 8¼-inch, then remove the 8¼-inch casing, so that the well could be redrilled from the bottom of the 10-inch casing, carrying the 8¼-inch casing with standard tools.



GEORGE KAMMERER
Superintendent Union Oil Company of California,
Santa Fe Springs

The 6¼-inch casing was removed, but when the problem of taking up the 8¼-inch commenced it was found that the difficulties chargeable against the discovery of the great Santa Fe Springs had just begun. In removing the 8¼-inch casing it was found

A TRIO OF BELLS — Photo by Bulloch

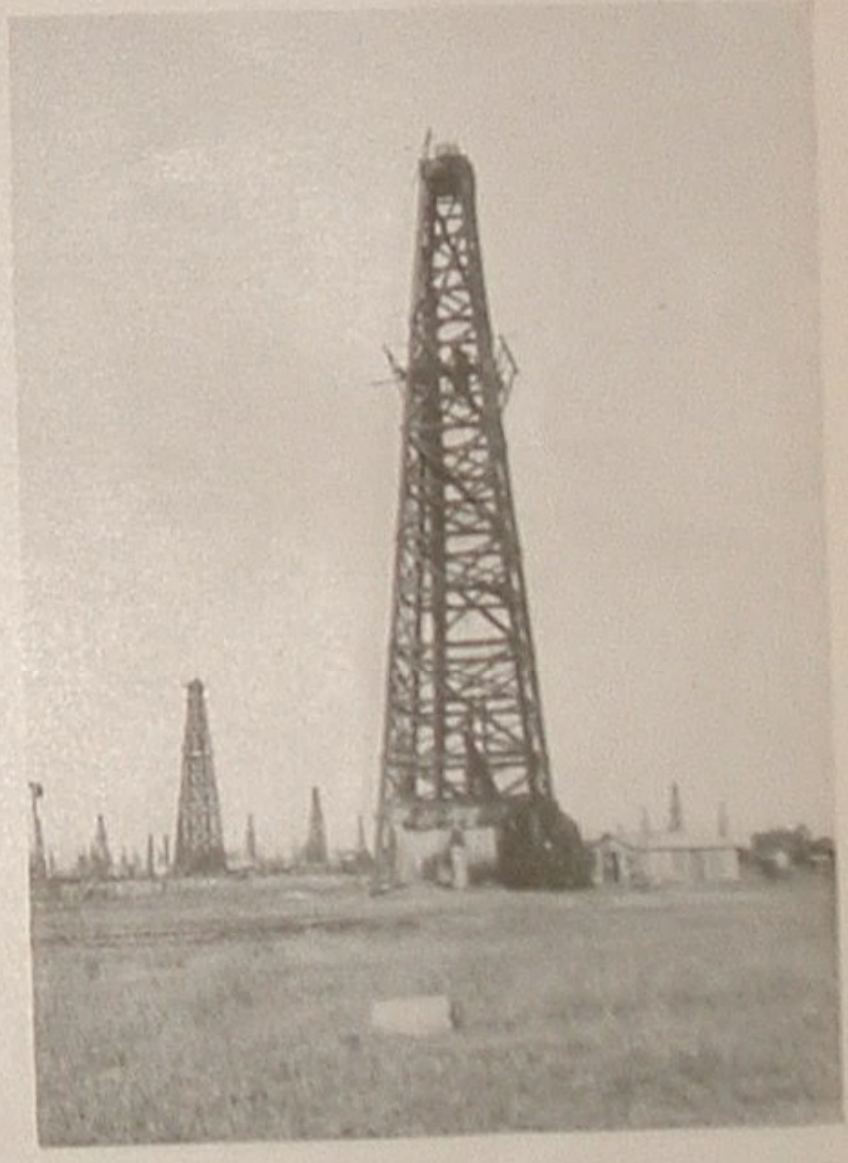
Section of the Bell lease. The unimposing, modest steel derrick in the middle is the redoubtable Bell No. 1, whose "coming in" on October 21, 1921, marked the beginning of the Santa Fe Springs Field. Originally of wood, fire hazards caused the old derrick to be torn down and the present steel structure erected over the famous producer.

Recent fire at Santa Fe Springs which burned two days and destroyed 55,000 barrel tank of oil.

that the cement had been forced up between the 8¼-inch and 10-inch casing from a depth of 3141 feet to within 1800 feet of the surface. Although until this time in drilling-well history it had never been thought possible to remove a cemented string of casing, it was decided to make the effort. The operation was undertaken by ripping the 8¼-inch casing in sections of one or two joints, 20 to 40 feet. Each operation consisted of ripping a large section of the casing and through the casing couplings, thereby destroying the threaded joints. Then a casing spear was used to engage the top section of the pipe above the rips, the pipe being jarred out with standard tools.

After several months' work the 8¼-inch casing was entirely removed and drilling by the lost 8¼-inch and 6¼-inch commenced. A circulator was installed, by means of which the fluid could be circulated from the outside up through the inside of the casing, carrying out cuttings and cavings, and thereby keeping the casing from freezing in the well. The operation was continued until the 3600-foot mark was reached, at which point the casing finally froze. Still having circulation, the casing was cemented in an unsuccessful attempt to shut off water.

Once more drilling was taken up with 6¼-inch casing, and was carried to a depth of 4278 feet, where it became stuck. As circulation was still available, this casing was cemented, although with unsuccessful results.



Meyer No. 3, Discovery well of the field. Owing to the small production of this well, Bell No. 1, which did not commence flowing until two years later, is generally credited with being the discovery well.

Determined to carry the well to a thorough test, drilling was resumed with standard tools and 4½-inch casing. A depth of 4578 feet was reached, the formation showing some sand and a very satisfactory display of light oil. At this stage of the game it was thought possible that recementing the 6¼-inch casing might exclude the water from the well. The 4½-inch casing

AERIAL PHOTOGRAPH OF CENTRAL PORTION OR "NEST" OF S

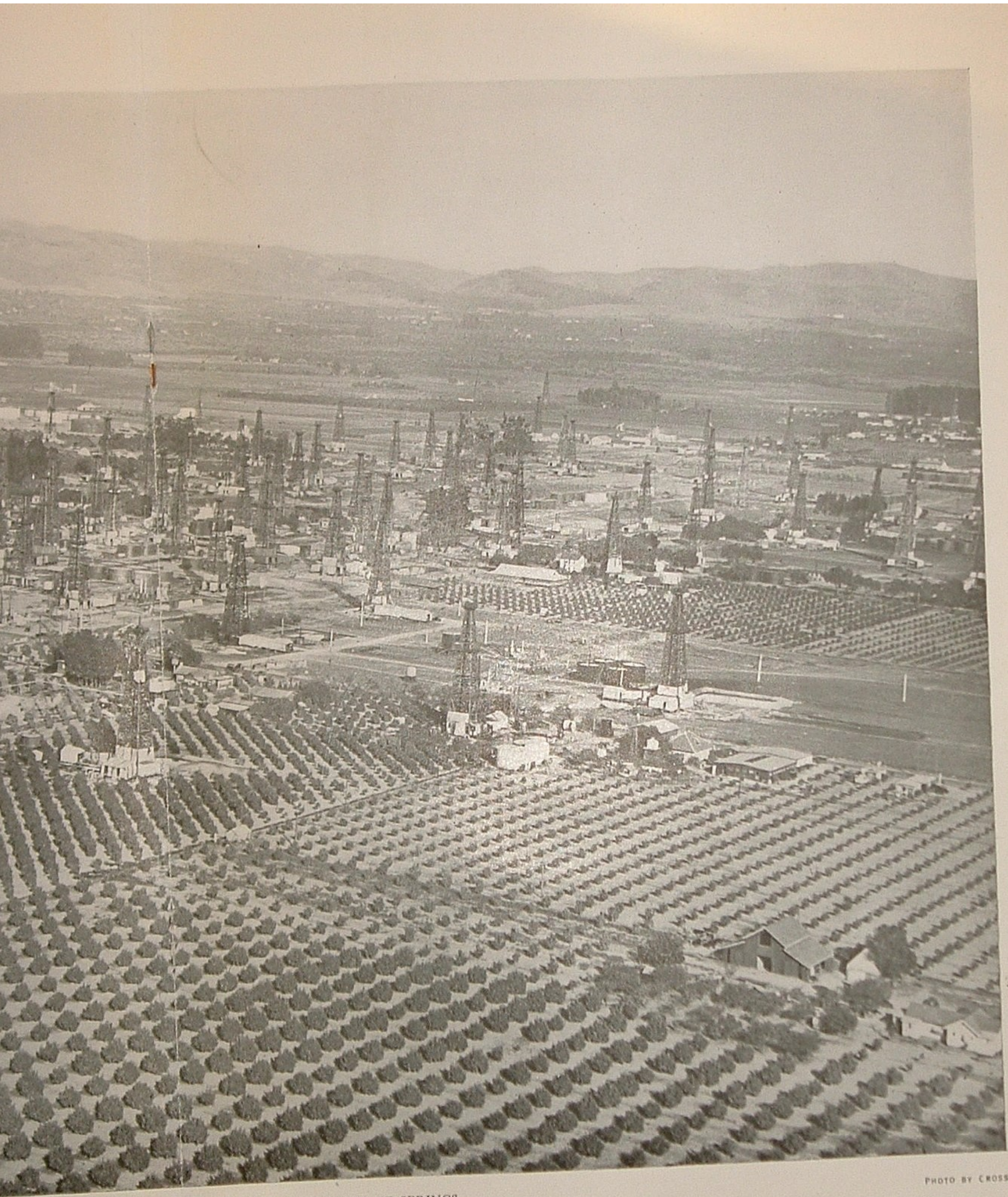


PHOTO BY CROSS

RAPH OF CENTRAL PORTION OR "NEST" OF SANTA FE SPRINGS

was accordingly removed and the 6¼-inch recemented at 4278 feet. The operation, however, was not successful, failure probably being due to the well having a water production below the bottom of the 6¼-inch casing.

The next water shut-off to be attempted was necessarily with the 4½-inch casing, but in cleaning out the well to place the 4½-inch casing down near the original depth the casing became frozen at 4362 feet. Drive down spears and pulling spears were used, but it was impossible to loosen the 4½-inch casing. The one final effort to be made under the circumstances, then, was to cut the 4½-inch casing near the bottom of the 6¼-inch casing, leaving in the lower section of the 4½-inch; then weld sufficient 3-inch casing together to reach through the 4½-inch casing remaining in the well, and on down to a point at which it was desired to undertake the water shut-off. With the 4½-inch casing removed from the well, the 3-inch casing with the regular couplings could be used from the top of the remaining 4½-inch to the surface.

Old Bell Ranch House. Now in use as a boarding house for field men of the Union Oil Company of California.

The tense situation at the well and the endless procession of obstacles which so often beset the pioneers who strive to open

A REMINDER OF EXCITING TIMES

The famous Howard No. 1 crater, snapped by aerial photographer Cross. This was the third of the Santa Fe Springs gassers which burned for days early this year.

new oil territories can be appreciated at this point. The success of the hardest, most trying efforts expended during more than two years' time and the return on the investment of many thousands of dollars spent on this third test well depended upon the favorable consummation of the operation next undertaken.

In trying to operate a casing cutter on 2½-inch tubing at a depth of approximately 4230 feet through 4½-inch casing, it was impossible to make a cut, probably due to excessive friction caused by the close fit of the 2½-inch tubing in the 4½-inch casing. No doubt the friction was largely increased by the casing being slightly out of alignment on account of the redrilling between 3100 feet and 3600 feet. After a casing cutter is once set in the casing and tubing upon which it is run lengthens or contracts, the cutter wheels are invariably destroyed. In this case each time a cut was attempted the tubing no doubt would become shorter, due to the setting up of the tubing joints or torsions in the tubing caused by the friction on the tubing in the 4½-inch casing. In trying to find a place where the cutter might work, attempts were made up to as high as 3800 feet. While working at this point the top tubing collar stripped off, causing the entire 3800 feet of 2½-inch tubing with the cutter on the bottom to drop down the well. This might have been a serious mishap, but fortunately it was the best piece of luck we had on the well. As the cutter body fitted very close to the casing, no great quantity of fluid could pass. Therefore, the cutter on the tubing floated to bottom, but owing to the tremendous weight of the tubing dropping through the fluid, sufficient pressure was exerted outside of the 4½-inch casing to break loose the bridge of cavings that was holding the casing.

After the tubing with the cutter was removed from the well, the 4½-inch casing was carried on to a depth of 4568 feet and cemented. Cement was later drilled out to the bottom of the well, 4595 feet, and the well started to flow at the rate of approximately 3000 barrels per day. After three or four hours of producing, water broke in and the oil production shut off. The 4½-inch casing was then recemented and water successfully shut off, but the greater part of the oil production was lost in this operation, as when the well was finally completed it produced about 150 barrels per day. This has gradually declined to a present yield of 30 or 40 barrels daily. Greater production could no doubt be obtained by the deepening of the well, but owing to the smallness of the casing the deepening would be difficult.

Meyer No. 3 was finished in October, 1919, the drilling time consumed being two years and seven months. Its relatively small production failed to cause great excitement, but it accomplished the proving up of the Santa Fe Springs District and claims the distinction of being the sensational field's discovery well.

It remained for Bell No. 1, another Union well, begun in 1919 and completed in October, 1921, after another hard campaign of two years, to cause the attention of oil experts of California to be turned to Santa Fe Springs. Bell No. 1 came in flowing 2000 barrels per day of 31 gravity oil, gradually increasing its production to a peak of 4400 barrels per day, and now, after over a year, is still yielding 2700 barrels per day, with a total production for the first eleven months of 1,049,739 barrels. It is located one and one-half miles northwest of Meyer No. 3, and yielded oil at the much shallower depth of 3788 feet.

Today, Santa Fe Springs is producing upwards of 70,000 barrels daily, while 115 or 120 strings of drilling tools are in operation, and in point of prolific production, high gravity oil and proven area this field is considered by many to be a contender for first place in the California oil fields.

Meanwhile, when you pass through Santa Fe Springs or any other new oil field, don't think that its discovery and development was so simple and lacking in risks and chances of failure; remember the three Meyer wells with their twelve years of pioneering, the ultimate production of 150 barrels daily, and the two years on the Bell well before the real discovery was made and the field began to pay.

The secret of success in life is for a man to be ready for his opportunity when it comes.—*Disraeli.*

Our business in life is not to get ahead of other people but to get ahead of ourselves.—*Babcock.*

News of the Month

REDUCE PAR VALUE OF STOCK

At a special meeting of the stockholders of Union Oil Associates, held on Friday, November 10th, it was unanimously decided to reduce the par value of the shares of the company from $100.00 to $25.00 per share. This will increase the number of shares from 300,000 to 1,200,000.

FUEL OIL CONTRACT SECURED

Fuel Oil sales of Union Oil Company of California have been materially augmented by the closing of a contract with the United States Shipping Board calling for the handling of the cargo and bunker requirements of the Board's vessels at Port San Luis, San Francisco and Los Angeles Harbor for a period of eighteen months. Requirements will be in excess of 500,000 barrels per month, or 9,000,000 for the period of the contract.

EAST LONG BEACH PUMP STATION

A complete $60,000.00 pump station, capable of handling 40,000 barrels of oil daily, was constructed and in operation at East Long Beach within twenty days of the arrival of the first consignment of material, by the Los Angeles Pipe Line Department. The new station was necessitated by increased production of the Huntington Beach field and was conceived, planned and built during the month of October. The site for the plant was bought on October 5th, surveyed on October 6th, and material for the foundation ordered on October 8th. Work was first commenced on October 9th, and proceeded as rapidly as the arrival of material would permit. It was then decided to take out and move one of the huge main line pumps from the Creston Station on the Producers Pipe Line and install it in the East Long Beach Station. Telegraphic instructions covering removal and shipment were given and the pump arrived at Long Beach on October 21st. On October 28th the station was completed and in operation.

MAX DYER GOES EAST

Max H. Dyer, Manager of Transportation, left November 11th for a business trip through the East to be gone until early in the new year.

TANKER "LANSING" COMMISSIONED

After a vacation of over a year which she spent at Antioch, California, Union Oil tanker "Lansing" has been put into commission again. The vessel is at present operating between Port San Luis, San Francisco and Oleum. With the addition of the "Lansing" to the list of active ships flying the company colors, all of the Union Oil vessels with the exception of the S. S. Washtenaw" are now in operation.

H. M. ROBINSON ELECTED ASSOCIATES PRESIDENT

At a meeting of the Board of Directors of Union Oil Associates, held on Friday, November 10th, Henry M. Robinson, President of the First National Bank and Director of Union Oil Company of California, was elected as President of Union Oil Associates—a position made vacant by the death of Isaac Milbank.

SERVICE STATION CONSTRUCTION RECORD

Another construction record has been made during the month, this one covering the field of service station erection. The Northern District Engineering Department announces that a new station was constructed on the corner of Queen Anne and Roy Streets, Seattle, in nine working days. This means, of course, that the station was fully completed and opened for business on the tenth day. J. W. Bennett, Resident Engineer in charge, gives full credit for the short time consumed in handling the job to C. W. Sutton, Foreman. The best previous mark on record for similar work was twelve days.

UNION OIL EXHIBIT WINS PRIZE

Union Oil Company of California's exhibit at the Glenn County Fair, held at Orland, California, was awarded first prize with a perfect score, divided into 60 points for artistic arrangement and effect, 25 for representative exhibit, and 15 for variety. Twenty-three commercial firms of the district competed for the First Premium Blue Ribbon and prize money, which our Agent Mr. W. F. De Vine forwarded to District Sales Manager S. D. Herkner at Sacramento. First prize was also won by the Union Oil representation in the 1921 fair.

TRANSPORTATION DEPARTMENT CHANGES

H. D. Johnson has left his many friends in Los Angeles to again take up his residence in San Luis Obispo, having been appointed Chief Clerk to the Producers and Lompoc Pipe Lines. W. W. Hay, who formerly held this position, now assumes the duties of Chief Clerk to Manager of Transportation, with headquarters at Los Angeles. E. E. Cammack has been appointed Assistant Superintendent, and Alex. Robertson, Chief Clerk of the Los Angeles Pipe Line.

GOLF CUP RECEIVED

W. L. Stewart, President, has now received the cup he won in the Preliminary Tournament

to the California Amateur Golf Championships at Del Monte in August last. Mr. Stewart won the best gross with a 78 and the best net with a 64.

VALLEY MEN COME SOUTH

After a number of years in the valley oil country of Maricopa, W. H. Ellwanger, former Special Agent, Maricopa-Midway District, has been transferred to a similar position in the Union Oil organization at Santa Fe Springs. C. W. Peck, formerly in charge of the Santa Fe Springs office, has taken over the handling of the Maricopa-Midway office. T. R. Coveney and E. A. Whitten, formerly District Foremen in the Valley Division, have also been transferred from the Elk Hills and Taft country to the Santa Fe Springs Division. Coveney is at the Springs proper, while Whitten has located at Long Beach.

NEW DRILLING WELLS

Up to September 30th, 1922, there were 1042 new wells drilling in California as compared with 1052 up to the same date last year. There were 207 wells abandoned this year as compared with 161 up to the same date in 1921.

RUSSIAN PRODUCTION ON INCREASE

In the first half of 1922 the total production of the Baku, Grosny and Ural-Emba oil fields of Russia was 141,796,000 poods (about 17,000,000 barrels). This represents an increase of 17 per cent over the first half of 1921. On the other hand, because of inadequate electric power, operations in Rumanian oil fields are greatly curtailed, with declining crude production.

DAILY AVERAGES SET RECORD

The average daily production of oil in California for the first nine months of the present year was 354,378 barrels compared, respectively, with 324,542 barrels and 280,419 barrels for like periods during 1921 and 1920. Should the average production for the year to date be maintained, a total of 129,347,970 barrels of crude would be produced during 1922, as against 114,700,000 for the year 1921.

NEWS ITEMS AND ARTICLES DESIRED

The Bulletin wishes to impress on Company employees that news items concerning the Union Oil Company of California—its work and its organization—which can be used in the Bulletin, or articles and pictures on subjects of general interest to the oil industry, are welcome at all times and should be sent to the offices of the magazine, 1214 Union Oil Building, Los Angeles.

ERRATA

The Editors of the Bulletin wish to correct two errors which appeared in the October issue of the magazine. On page nine a picture of the Gonzales Observatory was captioned "Vancouver." This should have been "Victoria." The picture on page fifteen captioned "The Shore Line, Vancouver," should also have read "Victoria."

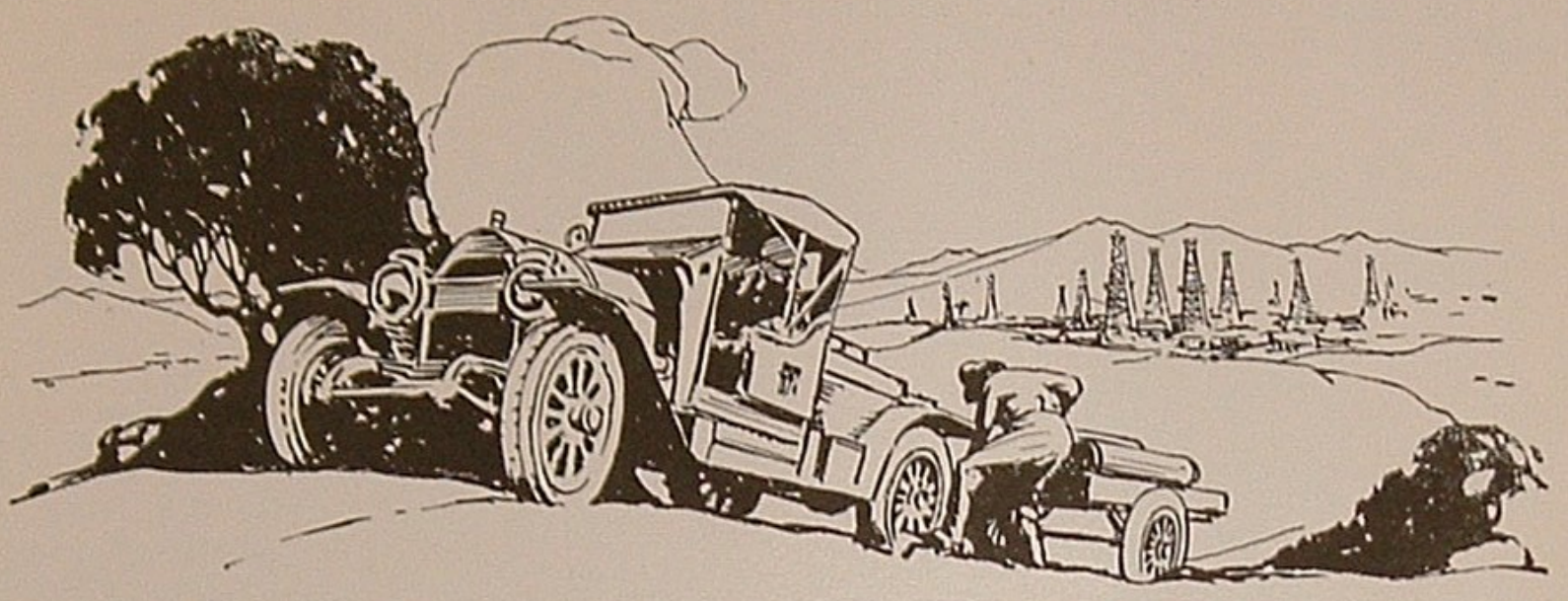
THIS MONTH'S COVERS

The front cover of this month's Bulletin pictures Union Oil Company of California's tanker "La Brea" discharging her cargo of fuel oil at one of the company's Chilean stations. The drawing was made by Claude G. Putnam to introduce the article, "Some Interesting Facts About Chile," by R. B. Wallace, which commences on page one. Many will recognize the rear cover sketch, drawn by J. D. Johnsen, as Union Oil Service Station No. 160, at State and Montecito Streets, Santa Barbara.

Eleven Years On the Pipe Line Roads

By LAFE TODD

Superintendent, Producers Pipe Line



Recently, while watching Foreman George Weir bring back a load of pipeliners from a field job to the San Luis Obispo Tank Farm in Union Oil Car No. 3157, it occurred to the writer that a small share of the credit which is so often accorded men for long years of faithful service should be given to this Simplex veteran of eleven continuous years of work for this company.

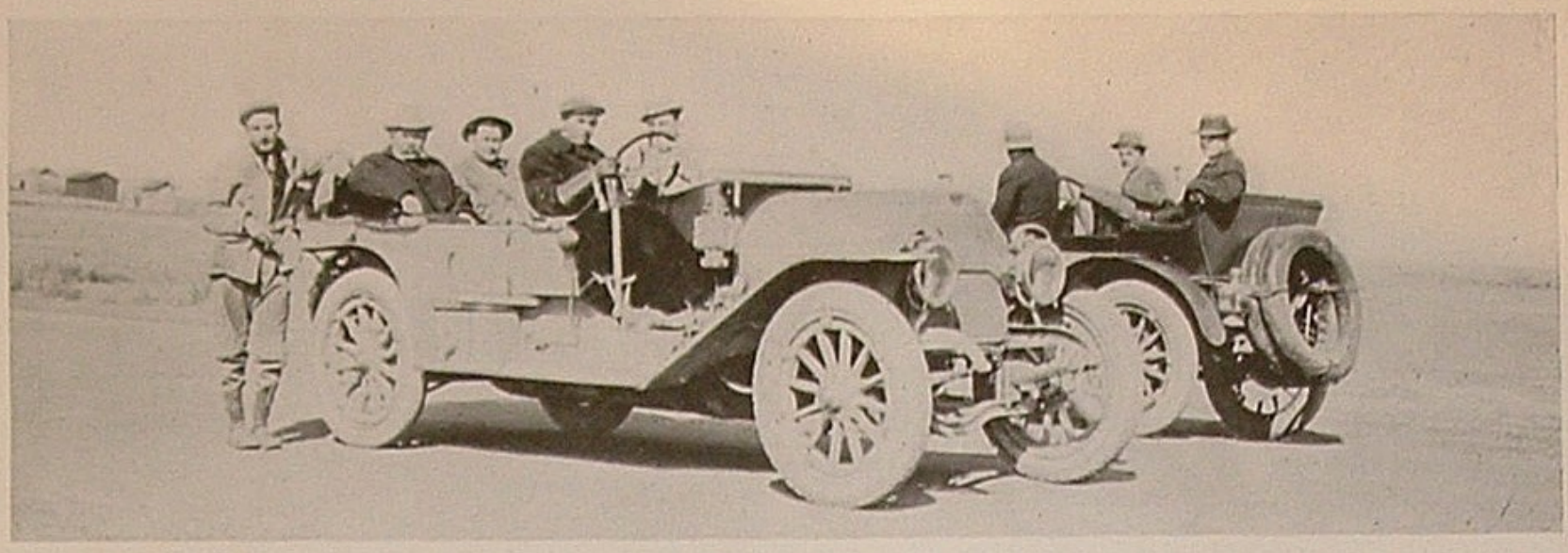
A brief outline of the life of the car can be given, but it will not describe the real tests to which the mechanism has been put, the unfavorable conditions which make the service record of the car—exceptional as it is—even more creditable.

When Mr. E. W. Clark was Manager of the Producers Transportation Company he realized the necessity of securing an automobile which would always be in running order for his use in the operation and construction of the pipe lines which the Producers Transportation Company was then installing. He knew the condition of the existing roads and the trials any car would have to undergo in crossing the so-called desert from Shandon to Bakersfield.

On January 20, 1911, he purchased a four-cylinder Simplex—one of the best cars at that time on the American market. From that day until the time this article is written this car has covered a total distance amounting to 267,875 miles. We believe this to be a record for any passenger automobile which is still running for the Union Oil Company of California.

Mr. Clark used the car from 1911 until he was transferred to the Los Angeles office, subsequently taking it with him and using it in and around Los Angeles for a short time. A little later he transferred the car back to the Producers Pipe Line, and Mr. Groundwater, who was Superintendent at that time, used it for three years. It was then transferred to the Assistant Chief Engineer for his use, continuing in this capacity until the winter of 1919-1920 when the tonneau of the car was removed, two seats installed and trailer attachment put on. Since that time it has been utilized by Mr. George Weir, foreman of the Tank Farm, for hauling his men back and forth from work.

Very few changes have been made in the equipment which came with the car. It was originally equipped with 36x5 tires and these were changed to 35x5—a move toward standardization of tires used on the line. The original clock that was put on by Mr. Clark is still in use. The car was



OVER THE LINE IN THE EARLY DAYS

Simplex car on inspection tour—E. W. Clark and Ralph J. Reed in rear seat; Jack Jeffries driving

first equipped with pressure feed from the rear tank to the carburetor. This was changed in 1918 to vacuum feed and the annoyance of having the pressure fall off on the gasoline tank when climbing steep grades was overcome.

Among the drivers who handled the Simplex for the different Superintendents and who are still working for the Union Oil Company of California were J. J. Jeffries, now Engineer at the Rio Bravo Station, Jack Holland, Gang Pusher at the Tank Farm, and E. L. Drake, who is employed on the Los Angeles Pipe Line at the present time.

During the car's service period of almost twelve years the roads over which it has travelled daily have been the kind which test the mettle of any machine. The pipe line roads from Margarita to Junction and then to McKittrick or Coalinga, which are considered hardships on a car even now, were much more difficult in the old days. Many times the Simplex has been in places from which it seemed to have small chance of emerging fit for more work on the pipe line. Especially in winter times, as anyone familiar with conditions of the Cholame Flats will appreciate, the car was forced into numerous tight places. The writer remembers one time, when the car was stuck in the mud during four hours of constant attempts to get it out on its own power, which finally ended in a six-horse team pulling the veteran to firmer ground. This instance gives some idea of the roads the car has traversed in reaching its grand aggregate of 267,875 miles.

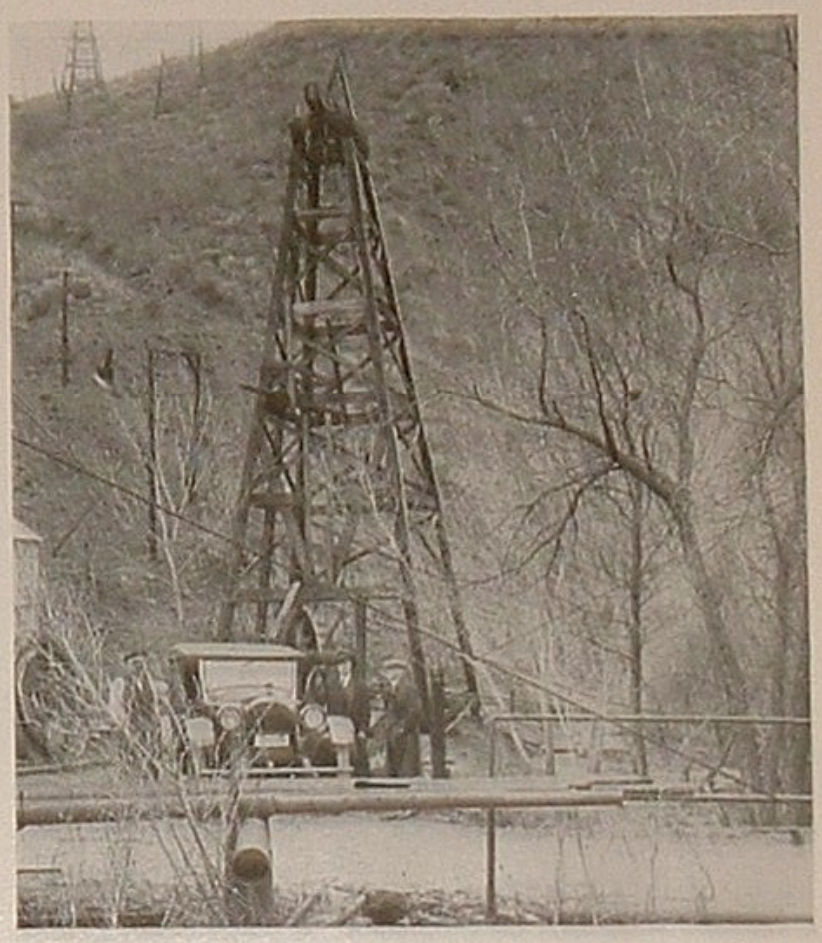
THE SIMPLEX TODAY—GEORGE WEIR DRIVING

After years of hard work in the service of the Producers Pipe Line, the old car now leads a comparatively quiet life as utility machine at the Tank Farm, near San Luis Obispo.

First California Producer

Present-day wells contributed by the Southern California fields may excite wonder on account of their initial production, but it is a question whether, after nearly half a century of effort, the records of any of them will approach that of some of the first wells drilled in this state. In the picturesque Pico Canyon, near Newhall, will be found the oldest California producing well, which is shown on this page. Although records are somewhat vague in this connection, the well is one of the first, if not the first ever drilled in this state. After forty-seven years it is still yielding more than enough to justify its continued operation.

An idea of the time which has passed and the things that have happened since the old derrick was first erected may be obtained from the accompanying reproduction of an old picture showing Los Angeles from the Plaza in 1875, the year the well began its long production period. From a little known and practically unpopulated wilderness the entire State of California has grown to what it is today within the life of this one well.



Half-century old well

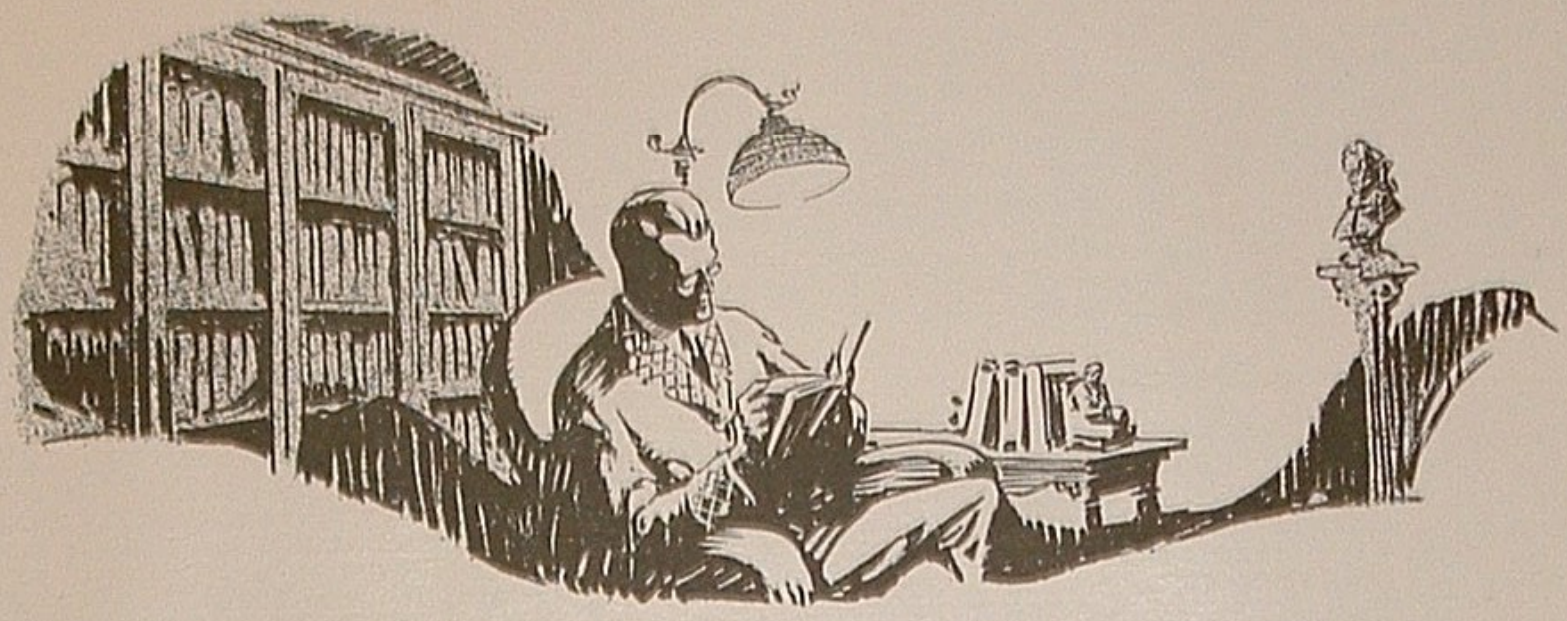
If the 1922 wells yielding between two and three thousand barrels daily can keep up a record like this one, they will be valuable indeed.

LOS ANGELES FROM THE PLAZA—1875

View at time veteran Pico Canyon well was drilled; the small structure in the center is the city's first water supply system

Abstracts from Current Petroleum Literature

Prepared by MISS E. H. BURROUGHS
Librarian, Research and Development Department



NOTE: — All articles abstracted are on file at the Library of the Research Laboratory, Wilmington.

GENERAL

GAVIN, M. J.—Oil-shale. An historical, technical and economic study. Bureau of Mines Bull. 210, 1922. 201 pp. State of Colorado co-operative oil-shale investigations. Obtainable from the U. S. Bureau of Mines, Boulder, Colorado. A detailed presentation of the present state of knowledge of the subject, including a review of the present status of the industry in the United States, description of the Scotch industry and methods, and discussion of the problems of an American oil-shale industry. A selected bibliography is appended.

GEOLOGY

ARNOLD, RALPH, AND LOEL, WAYNE.—New oil fields of the Los Angeles Basin, California. Bull. Am. Assoc. Petroleum Geol., vol. 6, July-Aug., 1922, pp. 303-316. A concise review of recent developments in fields near Los Angeles. Describes the principal formations and general structure of the Los Angeles Basin, and the new fields—Richfield, Huntington Beach, Long Beach and Santa Fe Springs. Concludes with discussion of the production curves of the fields of the Los Angeles district and the probable future of the new fields.

DEVELOPMENT AND PRODUCTION

JOHNSON, R. H., HUNTLEY, L. G., AND SOMERS, R. E.—The business of oil and gas production. New York, McGraw-Hill Book Co., Inc., 1922. 264 pp. $3.50. Describes the principles of company organization as regards scope, personnel and methods.

SUMAN, J. R.—Taking cores in rotary drilling operations. Mining and Metallurgy, Oct., 1922, pp. 21-24. Describes devices perfected in working out the problem of core taking in rotary drilling in the Gulf Coast fields of Texas and Louisiana. These are grouped as non-reaming and reaming types. The former include the basket, or toothed barrel, and the auger type core barrel, and the latter the Reed and Hepler coring tool, the Oilfield-Holland core bit, the Knapp core barrel and the Acme bit. Advantages and disadvantages of each of these are enumerated.

TRANSPORTATION AND STORAGE

BREWSTER, C. S.—Shipping of asphalt. Atlantic Connecting Rod, vol. 15, Sept., 1922, pp. 1-8. Tells how asphalt in its various grades is shipped from the refinery in tank cars, road oil trucks, drums, moulds, and barrels.

GOLDEN, A. W.—The go-devil. Oil Age, vol. 18, Sept., 1922, pp. 30-32. Story of the development and explanation of the use of the go-devil, a mechanical device for scraping deposits of paraffine from the inside of pipe lines, originally invented by J. G. Benton and B. F. Warren, and so called by superstitious farmers in the vicinity of the line in which it was first used.

CHEMISTRY

ALEXANDER, JEROME.—Colloid chemistry. Jour. Ind. and Eng. Chem., vol. 14, Sept., 1922, pp. 800-802. Brief discussion of the growing importance of and interest in colloid chemistry, enumerating some of the colloid subjects of theoretical interest and instances where recent developments in colloid chemistry have been applied to technical problems, such as lubrication, emulsions, colloidal fuels, etc.

GILL, J. D.—The chemistry of petroleum. Petroleum Age, vol. 10, Oct. 15, 1922, pp. 80-81; to be continued. Brief description of the principal products of crude oil and their behavior toward heat and ordinary chemical re-agents.

KARRICK, L. C., AND GOULD, DOUGLAS.—An extraction apparatus with extract-recovery and solvent-regenerative devices. Jour. Franklin Inst., vol. 194, Oct., 1922, pp. 537-540. Describes apparatus designed and built for use in extracting from pulverized oil-shale the bituminous substance which is produced by heating the shale to its initial temperature of thermal decomposition. Other uses might be the testing of oil sands, leaching of salt-laden earths, and lixiviation purposes in general. Elimination of filter clogging troubles was one of the principal aims in design.

PARSONS, L. W.—Progress on emulsions. Jour. Ind. and Eng. Chem., vol. 14, Sept., 1922, pp. 797-798. Indicates briefly the main channels through which progress is being made in the study of emulsions, dividing the subject into theoretical aspects and practical applications, and subdividing the latter into the formation of stable emulsions and the breaking of undesirable emulsions. Some of the emulsions being developed are contact insecticides, medicinal emulsions, cutting or soluble oils, margarine, polishes and creams, and asphalt emulsions for paving and paper coating.

SMITH, N. A. C. AND COOKE, M. B.—Gum-forming

constituents found in gasoline. Reports of Investigations, U. S. Bureau of Mines, Oct., 1922. Reprinted in Refiner, vol. 1, Oct., 1922, pp. 5-8. "A study of various methods of evaporation and oxidation of cracked gasolines leads to the conclusion that gummy and resinous deposits are caused by oxidation and have no direct relation to unsaturation as determined by solubility in sulphuric acid. A new and convenient method was developed for determining 'gum' in gasoline. The study of gums and their formation leads to the conclusion that they are polymerized aldehydes, which probably are formed by the oxidation of olefines, etc." Gasolines studied were a straight-run treated naphtha, commercial motor gasoline, a cracked gasoline, and an untreated cracked distillate.

Kogerman, P. N.—The chemical composition of Esthonian "kukersite." Petroleum Times, vol. 8, Sept. 9, 1922, pp. 389-390; Oct. 7, pp. 535-536. "Kukersite," an oil-bearing mineral akin to oil shale, occurring in the Ordovician strata of northern Esthonia and named for the village of Kukruse, is described in detail. The immediately available supply of this material as estimated by the Esthonian government is 1,500,000,000 tons, which is interesting in the light of the possibility of augmenting the supply of liquid fuels with the products distilled or extracted from it. Results of tests by various investigators are given.

REFINING

Dunstan, A. E. and Brooks, B. T.—The refining of gasoline and kerosene by hypochlorite solutions. Paper before the American Chemical Society, Pittsburgh meeting, Sept., 1922. Abstracts in Oil and Gas Jour., vol. 21, Sept. 14, 1922, p. 14. Petroleum World (London), vol. 19, Oct., 1922, p. 428. Petroleum Times, vol. 8, Sept. 16, 1922, p. 424. The paper presented described the first successful industrial application of hypochlorite solutions for refining petroleum oils. Gasoline and kerosene may be refined in this way with treating losses of less than ½ of one per cent. Malodorous compounds are removed, treated oil is free from chlorine, acidity, gummy substances, or discoloration on standing. Process eliminates waste products, such as acid tar, eliminates acid recovery, and can be carried out in the usual form of treating apparatus; is cleaner, easier to operate, and cheaper than other processes. Particularly adapted to light distillates from high-sulphur crudes.

Giles, I. K.—Manufacture of petroleum products. Atlantic Connecting Rod, vol. 15, July-Aug., 1922, pp. 1-19. A nontechnical description of some of the salient features of the processes used in the manufacture of gasoline, kerosene and illuminating oils, and gas oil.

Miller, Walter.—Wax extraction by centrifugal force. Marland Oils (Marland Oil Company), vol. 2, July, 1922, pp. 29-32. Crude petroleum jelly, known also as petrolatum and amorphous wax, the material from which vaseline is made, is obtained by this process, which is one of the newest in refining practice, having been introduced in about 1916 by the Sharples Specialty Company and improved to a great extent by the Marland Oil Company, Ponca City, Oklahoma. Very viscous steam cylinder oil, or "bright stock," from paraffin-base crude, is the material from which the wax must be extracted in order to make the cylinder oil a good lubricant. A cylinder-stock naphtha solution is heated to about 105° F., chilled to 5° below zero, and poured into a centrifuge operated at about 16,000 to 17,000 revolutions per minute where the separation of oil and wax takes place, after which the de-waxed solution and petrolatum are discharged and the naphtha distilled from the solution.

Skinner, L. B.—Sulphuric acid recovery in oil refineries. Chem. and Met. Eng., vol. 27, Oct. 11, 1922, pp. 734-736. Detailed description of the Skinner tower concentrator for sludge acid, which is an improvement over the pan-and-still sets formerly used for this purpose, but still useful, when properly modified, for small quantities of acid. Cost of layout described, producing 25 tons of 66° B. acid per day, is approximately $40,000.

UTILIZATION

Brierly, R. C.—Economy with Mexican blends of fuel oil. Combustion, vol. 7, Sept., 1922, pp. 131-135; Oct., p. 213. The principal objections to the use of Mexican fuel oil in furnaces are its extremely high viscosity, rendering heating to a high temperature necessary, lack of heat conductivity of the oil, and its high sulphur content. This article describes experiments carried out in developing a blending method using Panuco Mexican crude and Pine Island crude of Louisiana, with a view to overcoming the above objections.

Brown, G. G.—Can we afford the Ford? Jour. Ind. and Eng. Chem., vol. 14, Oct., 1922, pp. 972-973. Describes experiments with a Ford car to show that with an improved carbureting system the average Ford driven under average conditions will give 25 miles per gallon and the gasoline saved annually will amount to about 400,000,000 gallons.

Finley, Dozier.—Petroleum asphalts in the roofing and waterproofing industries. Chem. and Met. Eng., vol. 27, Oct. 18, 1922, pp. 798-803. Outlines development of the use of petroleum asphalt in the roofing and waterproofing industries, the first application of California asphalt to the manufacture of ready-to-lay roofing having been made by Pearce and Beardsley in their patent of September 14, 1886, and further development carried on by the Standard Paint Company of New York. Tells how asphalt is used in making asbestos roofing, asphaltic building papers, waterproofing and damp-proofing paints, waterproofing emulsions for concrete, etc.

Goolsby, W. B.—Selecting sites for filling stations. Oildom, vol. 13, Sept., 1922, pp. 17-20. Makes valuable suggestions as to the location of "drive-in" stations, their design and method of operation, and the equipment to be used in them.

Goolsby, W. B.—Service methods at filling stations. Oildom, vol. 13, Oct., 1922, pp. 31-35. The author tells of his experiences as a filling station manager, his observations of other stations, and of details of service that make for successful operation.

Midgley, Thomas, Jr. and Boyd, T. A.—The application of chemistry to the conservation of motor fuels. Jour. Ind. and Eng. Chem., vol. 14, Sept., 1922, pp. 849-851. Fuel economy can be increased, according to the authors, by increasing the gear ratio at the rear axle and increasing the expansion ratio of the engine. "Knocking" is intensified by the increased pressure at which the mixture is burned, but may be suppressed by mixing with the gasoline 40 to 60% of benzene or alcohol or a small quantity of some of the new anti-knock compounds which have been discovered.

Midgley, Thomas, Jr. and Boyd, T. A.—The chemical control of gaseous detonation with particular reference to the internal-combustion engine. Jour. Ind. and Eng. Chem., vol. 14, Oct., 1922, pp. 894-898. Discusses the bearing of the detonation phenomenon on the operation of internal combustion engines.

ECONOMICS

Delany, C. H.—The future fuel supply of California. Mech. Eng., vol. 44, Oct., 1922, pp. 655-656. A statistical and economic study. One of three papers presented at the San Francisco section of the Am. Soc. Mech. Eng., Feb., 1922, dealing with the conservation of the present fuel supply of the Pacific Coast and the development of new sources. For other papers, see under Martin, J. C., Jr., and Dorward, D., Jr. For introduction to the discussion of these papers, see under Sibley, F. H.

Dorward, D., Jr.—The marine fuel problem of the Pacific Coast. Mch. Eng., vol. 44, Oct., 1922, pp. 657-659. One of three papers mentioned above.

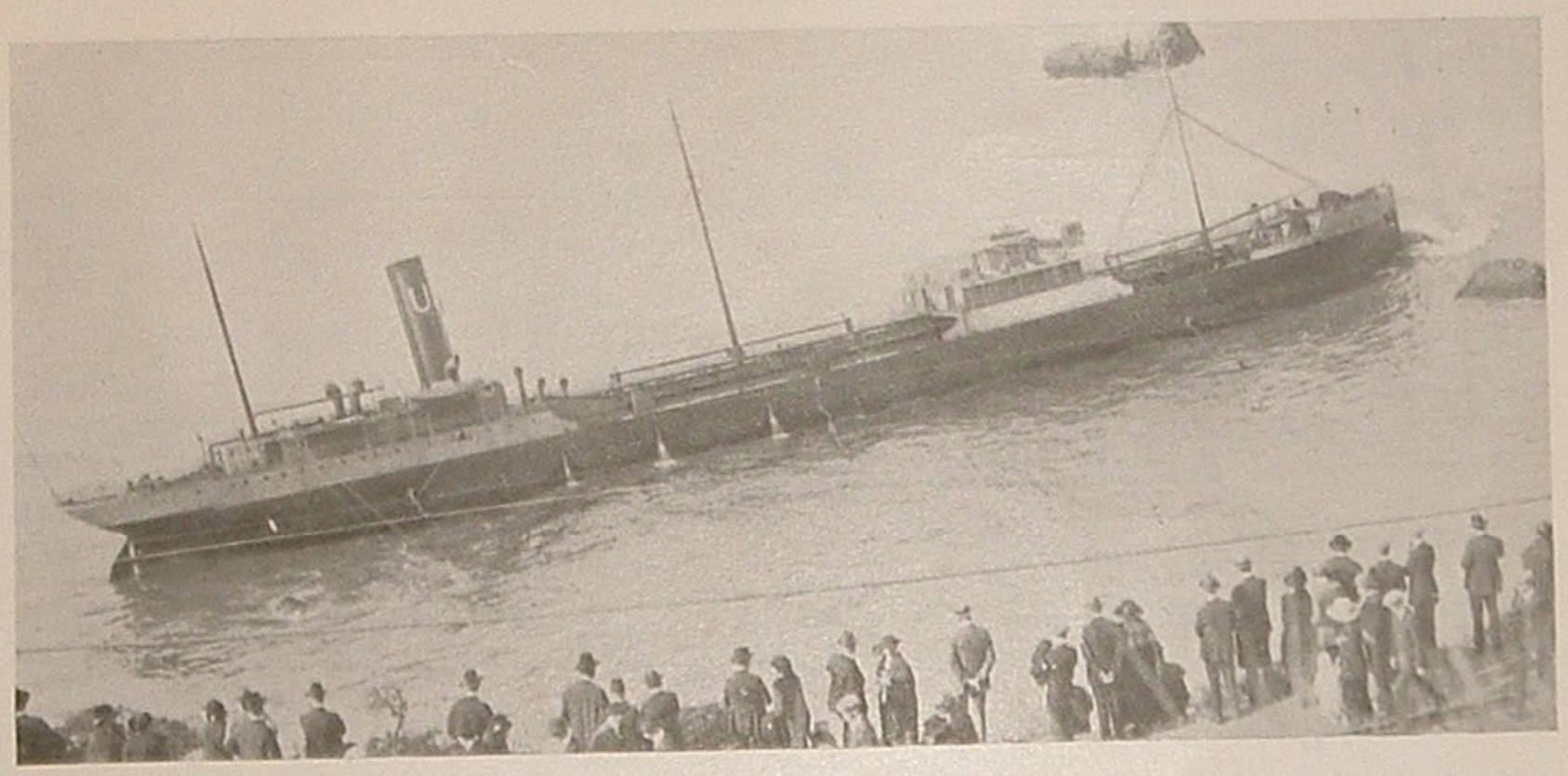
Martin, J. C., Jr.—The railway fuel problem of the Pacific Coast. Mech. Eng., vol. 44, Oct., 1922, pp. 656-657. One of three papers mentioned above.

Sibley, F. H.—Conservation of the fuel supplies of the Pacific Coast. Mech. Eng., vol. 44, Oct., 1922, p. 659. Introduction to the discussion of the above papers on this subject.

White, David—The oil supply of the world. Oildom, vol. 13, Oct., 1922, pp. 49-52. Address delivered before the Am. Soc. Mech. Eng., September, 1922, reviewing the oil resources of the world and of the United States in particular, and discussing the economic situation of oil as it affects the United States.

MISCELLANEOUS

Grassmuck, C. P.—The value of oil statistics. Oil News, vol. 10, Oct. 20, 1922, pp. 29-30. An analysis and outline of the methods and means of utilizing operating and economic statistics in the management of an oil company.



LAST OF THE TANKER "LYMAN STEWART"

Three remarkable International Newsreel photographs of the big Union Oil Company of California oil carrier which ended an eight years' sea career on the rocks off Point Lobos, San Francisco, October 7th. The upper picture shows the eight-foot hole made in the bow of the ship by the freighter "Walter Luckenbach."

Refined and Crude

The other day, we saw a horse.

The best mirror in which to see yourself is your work.

It is more important to your happiness to change one enemy into a friend than to make a hundred new friends of strangers.

Kind Old Gentleman—How do you like school, my little man?

Little Man—I like it closed, sir.

Colored Chauffeur (on a dark night, to passenger)—'Scuse me, sah, but would you mind holdin' out yo' hand? I'se gwine to turn de nex' co'ner.

Patient—Is my mouth open wide enough, dentist?

Dentist—Oh, yes, ma'am! I shall stand outside while drawing the tooth.

Charley Spry—My father must have been a bad boy.

Geraldine—Why?

Charles—Because he knows exactly what questions to ask when he wants to know what I've been doing.

"Doctor, if there is anything the matter with me don't frighten me half to death by giving it a long, scientific name. Just tell me what it is in plain English.

"Well, sir, to be frank, you are lazy."

"Thank you, doctor. Now, tell me the scientific name for it. I've got to report to the missus."

Until you put on a smile, you are not properly dressed for the day.

In former days, fools blew out the gas. Nowadays they step on it.

Smith—Where did you get that umbrella, Jones?

Jones—Why—is it yours?

Native—Sahib, I saw a lot of tiger tracks about a mile north of here—big ones, too.

Hunter—Good! Which way is south?

If there were no foolish people in the world, wouldn't the world be a dull place to live in?

There is something in life that brings success. We do not know exactly what it is, but we know what it is not; it is never idleness, unfairness, intemperance, or failure to use common sense everyone possesses in some degree.

Departing Passenger—This is miserable street-car service.

Conductor—Why, what's the matter? Couldn't you get a seat?

D. P.—Sure I got a seat. But my wife had to stand up all the way.

Willie—Mama, will you answer just one more question? Then I won't bother you any more.

Mother—All right, then. What is it?

Willie—Why is it that the little fishes don't drown before they learn to swim.

WHAT IS SUCCESS?

Success is being friendly when another
needs a friend;
It's in the cheery words you speak, and in
the coins you lend;
Success is not alone in skill and deeds of
daring great;
It's in the roses that you plant beside your
garden gate.

Success is in the way you walk the paths
of life each day;
It's in the little things you do and in the
things you say;
Success is in the glad hello you give your
fellow man;
It's in the laughter of your home and all
the joys you plan.

Success is not in getting rich or rising high
to fame;
It's not alone in winning goals which all
men hope to claim;
It's in the man you are each day, through
happiness or care;
It's in the cheery words you speak and in
the smile you wear.

Success is being big of heart and clean and
broad of mind;
It's being faithful to your friends, and to
the stranger, kind;
It's in the children whom you love, and all
they learn from you—
Success depends on character and everything
you do.

—Edgar A. Guest.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