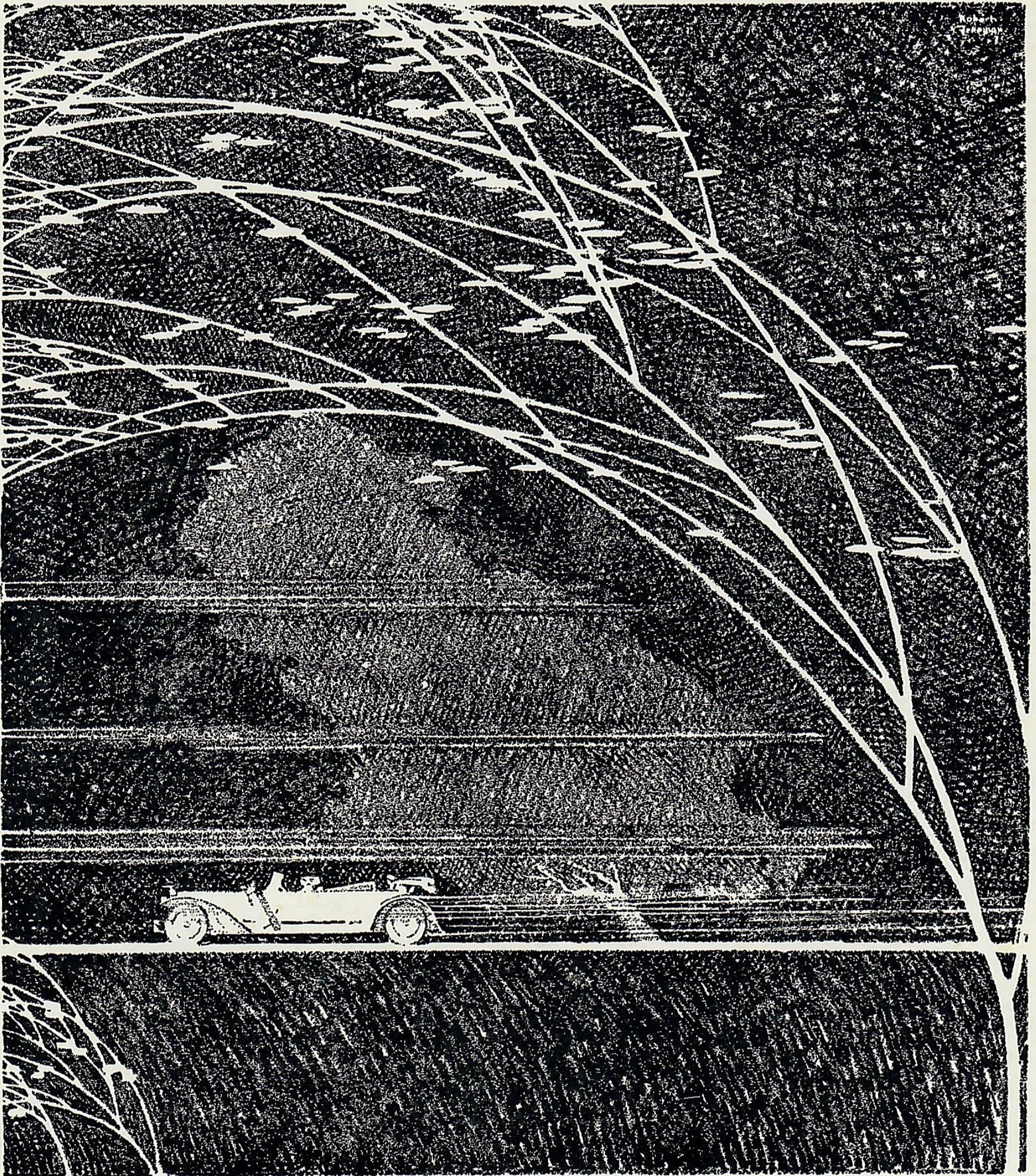


UNION
OIL
BULLETIN

NOVEMBER 1928

"RIDING THE WIND"

...IT'S MORE fun WITH ETHYL



IT'S THE FEELING of being swept into space...of riding the world in a day, skirting it, not as a part of it, but as an onlooker. It is distance measured in minutes, panorama unfolded by the mile. It's youth..it's fun. It's really just adding more living to

U N I O N E T H Y L

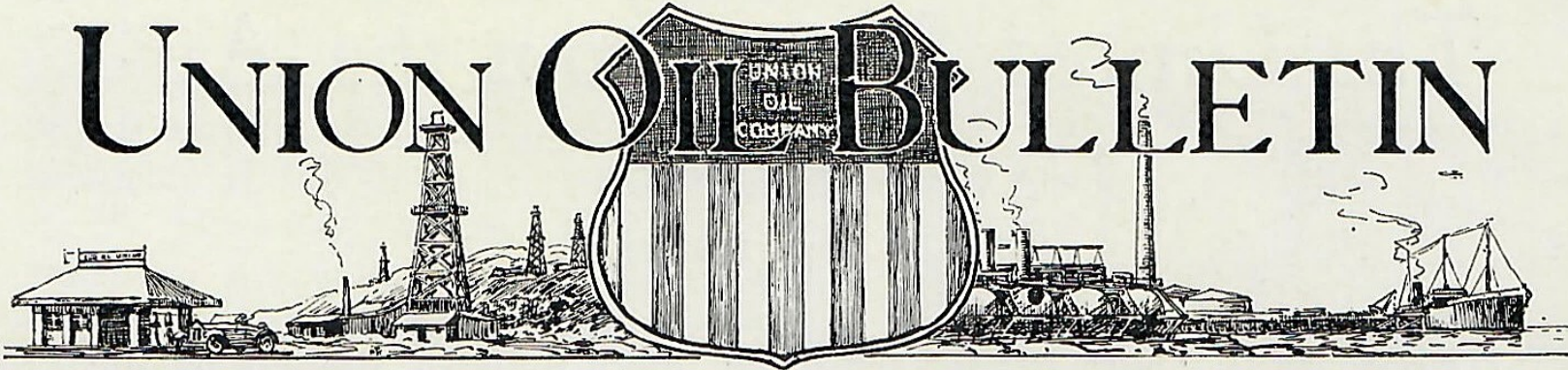
STOP. any
where you see a
blue and white
striped pump. It
marks a friendly
service for you.



UNION OIL COMPANY

life...what a grand old feeling it is. A sensation of joyous superiority...and anybody can have it. It's like "riding the wind"...the contribution of high compression to motoring...adding an anti-knock fuel really built for high compression.

UNION OIL BULLETIN



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VOLUME VIII

NOVEMBER, 1928

BULLETIN No. 9

Good Business

MILLIONS of dollars are being wasted annually in all branches of industry because basic economic laws are being ignored. The petroleum industry recognizes this fact and is working toward a perfection of cooperative ethical practice without restriction of competition.

Sound economic principles are applicable to development and production as well as marketing. Unsound practices are existent in these branches as in distribution. The producer as well as the manufacturer and the merchant must realize that the balance between supply and demand can only be maintained by rigid application of sound business principles. We know these principles are being studied and applied.

Conservation of raw material is the goal of those producers who realize that future supply rests to a large extent with today's curtailment.

The manufacturer must be assured of a supply of raw material. Today the manufacturer with a properly located plant has this assurance as never before. He may now stabilize his business and operate at such a rated volume as to produce goods which will be readily absorbed in the territory served.

The marketer realizes more than ever before that unnecessary competition with its resultant waste in duplication of facilities and effort should be curbed.

These moves are worthy and will surely result in ultimate good to all concerned. The public is only interested in having an assured supply of petroleum products now and in the future at a fair price represented by the cost of raw material, the cost of manufacture and the cost of transportation plus a reasonable profit. The industry must be concerned in maintaining this supply.

E. W. CLARK

The United States from the Air

BY W. E. CAREY,

Aviation Representative.

“THERE is no sport in all the world quite equal to that which aviators enjoy while being carried through the air on great white wings.” These are not the words of some enthusiastic air-traveler after his first flight, but were written twenty-three years ago by Wilbur Wright, whose longest flight was then thirty-eight minutes. The prophetic vision of that pioneer has been far surpassed and his thirty-eight minutes have lengthened to sixty-five hours for a single flight, but his observation is equally true today and will always so remain. Nothing quite equals the thrill of the air-traveler who has broken away from the ties of Mother Earth. No other mode of travel offers such a picturesque view of the earth as that which unfolds itself to those who ride in an airplane. The earth-bound traveler catches only momentary glimpses of small sections of scenic grandeur, while the airman sees not only a beauty spot in its entirety, but also the whole grand setting of peaks, valleys, forests, lakes and streams that encase it. To add to this the thrill of riding the winds through gorgeous skies at a speed seldom equalled on the ground: the thrill felt by the pioneer away from the blazed trails in the limitless ocean of air, gives but a vague conception of why men revel in the sheer joy of flying.

To have been the first to carry the shield of the Union Oil Company of California from the Pacific to the Atlantic and return, and from Mexico to Canada and return, by this new and fascinating medium of travel in the first of the Company's fleet of airplanes, is the privilege recently enjoyed by the writer. The purpose of the trip was to establish Union Oil service at each of the seventeen control stops for the Transcontinental Air Derby held in connection with the recent National Air Races. This service included the furnishing of gasoline and oil to the racers using Union products, within

the thirty minutes allowed by the rules, at each control. At the outset of the flight only sixteen days remained in which to visit these control points and make such arrangements as were necessary at each, as well as to contact the entrants upon their arrival at New York for the start of the race. Therefore, a trip by air seemed the logical, comfortable, and fast way to make the necessary connections, and a schedule was made up accordingly, allowing twelve days for the trip.

To the writer, flying has long been a thrilling, though somewhat casual occurrence, but perhaps there are those who have never seen the earth from the third dimension, to whom a review of this air journey will be of interest. Our ship is a Travelair biplane powered with a 90 horsepower Curtiss OX5 motor, and is capable of about eight-five miles per hour cruising speed, with a fuel capacity for six hours. Although the flight was actually made “solo,” all are invited to join in the review.

The start—8:30 a.m., Sunday, August 19th, from Aero Corporation Field on Western Avenue, Los Angeles. A cool, foggy morning. Climbing to 2,000 feet we are soon above the haze, and Mounts San Jacinto and San Gorgonio are visible one hundred miles to the east. The course is laid midway between these peaks, and in one hour we are traveling through San Gorgonio Pass at an elevation of 7,000 feet, with the above-named peaks towering on either side. Continuing along the eastern edge of Coachella Valley and eastward over the little San Bernardino Mountains, holding our altitude for relief from the desert heat, we pick up the highway again at Desert Center and follow it over Blythe. Here we leave California, all highways and familiar landmarks behind, and plunge eastward across one hundred miles of mountainous and absolutely barren desert to

enter the Salt River Valley, a few miles west of Phoenix, and to follow that beautiful man-made oasis into Phoenix Municipal Airport at 12:50 p.m. (with thermometer at 115°), where we are met by E. W. Brewster, Arizona D. S. M., who extended every possible courtesy during our stay. Through Mr. Brewster, arrangements were made for the Yuma, Tucson, and Lordsburg, New Mexico, controls.

Monday morning we are off early, south through Telegram Pass. We pick up the Southern Pacific Railroad at Casa Grande and follow it into Tucson, where we are met at the airport by a Union Oil truck. Taking on a full load of fifty-two gallons of gas, we leave at 10:30 a.m., heading eastward over Dragoon, thence through Apache Pass into New Mexico. The awe-inspiring vastness of this country is most impressive, but our attention is constantly diverted by the extreme roughness of the hot desert air. Perpendicular rises or drops of 1,000 feet or more are frequently encountered, and only by climbing to 10,500 feet above sea level is relatively smooth sailing finally obtained. At this altitude we continue on over Columbus, New Mexico, along the Mexican border, and finally into El Paso, where we land, much to our physical relief, at 2:30 p.m. To any who may be troubled with air-sickness, it may be said that this was by far the roughest part of the trip.

Tuesday morning, arrangements in El Paso complete, with full tanks we clip the sagebrush at the edge of Ft. Bliss Field at 7:25 a.m., and skirt the mountains, fringing the eastern border of the Rio Grande to Sievia Blanca, thence eastward through those mountains to Pecos and Midland, Texas, where we land at 11:00 a.m., to spend several hours on arrangements at Midland and Pecos controls. With these complete, we leave the mountains behind at 3:00 p.m., and continue eastward over beautiful Texas ranch country, stopping forty-five minutes at Colorado and landing at Abilene—the next control point—at 5:50 p.m. Here we spend the night.

Having completed arrangements at Abilene, we are off at 8:00 a.m., and in-



The author, just before the start of the flight.

to Meacham Field at Ft. Worth at 10:00, where we are busy the remainder of the day.

Wednesday morning finds us under way at 8:00 a.m., headed due north. We cross the Red River into Oklahoma just west of Marietta, and continue into Oklahoma City at 10:10 a.m. During our four-hour stop there we have our first rain, the storm-clouds banked in the north and west when we leave Oklahoma City at 2:00 p.m. We climb as rapidly as possible to go over this storm, which we encounter near Hayward, and are soon shut off from the world over a sea of billowy white, which drives us higher and higher until we reach "absolute ceiling" for the plane at 11,000 feet. The clouds seem lower to the east. We detour, therefore, in that direction, and finally catch a glimpse of the ground, with a village showing directly beneath, which we recognize from our map as Tonkawa, Oklahoma. We spiral down through this opening in the clouds, and at 2,000 feet set a new course for Wichita, Kansas, still flying under ominous-looking clouds. Rain is encountered near Blackwell, Oklahoma, and continues until Oxford, Kansas, is reached, the ceiling meanwhile being reduced to 500 feet. At Oxford, however, we leave the storm

behind and continue into Wichita under clearing skies to land there at 4:30 p.m. The little ship is parked for the night with many of its kind at its birthplace, the Travelair factory.

After a pleasant night in Wichita with three other fliers from Los Angeles who were visiting the Travelair factory, and after a busy morning making plans for the Wichita control, we are off at 3:00 p.m. Friday, and over beautiful flying country into Kansas City Municipal Airport at 5:25 p.m.

Saturday morning is spent in Kansas City, and at 3:00 p.m. we leave, setting a compass course across Missouri for Lambert—St. Louis Field near Anglum, Missouri. Near Danville we encounter low clouds, and continuing under these at 500 feet altitude, over hilly, wooded country, we cross the Missouri River at St. Charles, landing at dusk on Lambert—St. Louis Field at 6:00 p.m.

Sunday is spent quietly at Locust Grove Farm, the home of friends, near St. Louis, and on Monday morning arrangements are completed for the St. Louis control. We leave Lambert Field at 2:00 p.m., circle over St. Louis, cross the Father of Waters above the famous old Eads Bridge, and follow that pioneer highway, the old National Road, across Illinois to Terre Haute, Indiana, arriving at 4:00 p.m.—A beautiful, clear day over ideal flying country.

After Tuesday morning in Terre Haute control we leave at 1:00 p.m., following the same National Road eastward over Indianapolis and Richmond, through familiar haunts near Springfield, Ohio, and arrive at Norton Field, Columbus, Ohio, at 4:30 p.m.

Wednesday noon finds arrangements complete in Columbus, but threatening weather delays the take-off, and being several hours ahead of schedule we wait until Thursday morning. At 8:15 a.m. Thursday we are off over Eastern Ohio hills, passing over Zanesville, Ohio, Wheeling, W. Va., and Washington, Pa., to McKeesport, Pa., where low clouds and extremely poor visibility cause a delay of twenty minutes in locating Bettis Field, where we finally land at 10:05 a.m. Three hours in McKeesport sees

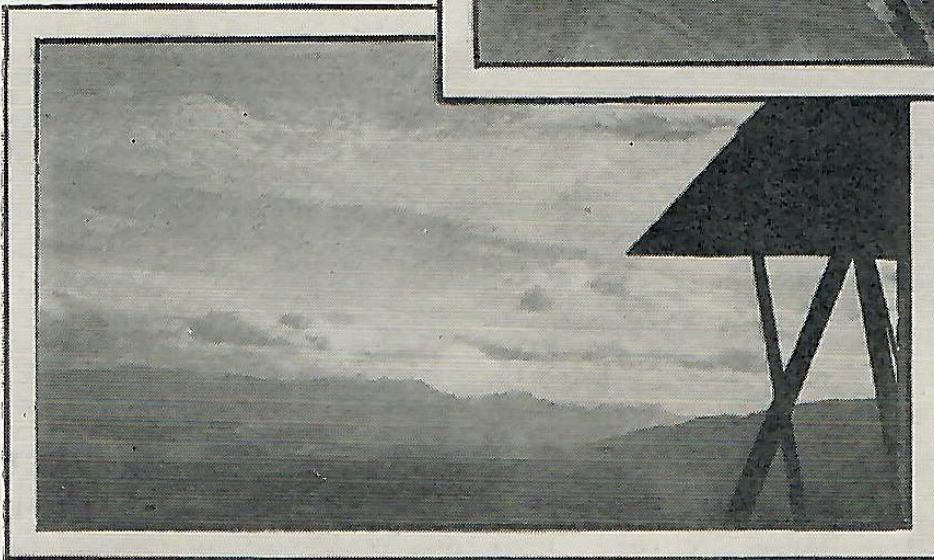
arrangements complete there, but meanwhile a threatening storm has gathered in the northwest. Telephoning ahead to Johnstown we obtain favorable reports on the weather to the east, so, time being short, we leave McKeesport just as the storm breaks at 2:00 p.m. For twenty minutes we fly through a blinding rain, but with fair visibility we continue eastward toward the brighter horizon, emerging from beneath the cloud blanket at Greensburg into a sky filled with beautiful, fleecy clouds. Taking on altitude for the mountains, we cross the first ridge near Johnstown at 6,000 feet, continuing eastward over alternate green-blanketed mountains and fertile valleys, a beautiful panorama to us, but the worst flying country in the United States on other occasions when these same mountains and valleys are shrouded in fog. Landmarks for reference on the map are scarce in this country, but we do locate Saxton, Three Springs, and Newville on the gigantic map spread out beneath us, and arrive at Middletown Army Airport without difficulty at 4 p.m. During the night spent in nearby Harrisburg, the storm which we left behind at McKeesport, overtakes us and spends its fury.

Friday morning finds contacts completed in Middletown, but brings the unexpected necessity for including Philadelphia in the itinerary. Accordingly, leaving Middletown at 1:00 p.m., we continue due east ninety miles, and arrive at Pitcairn Airport at Willowgrove, seventeen miles north of Philadelphia, at 2:10 p.m.

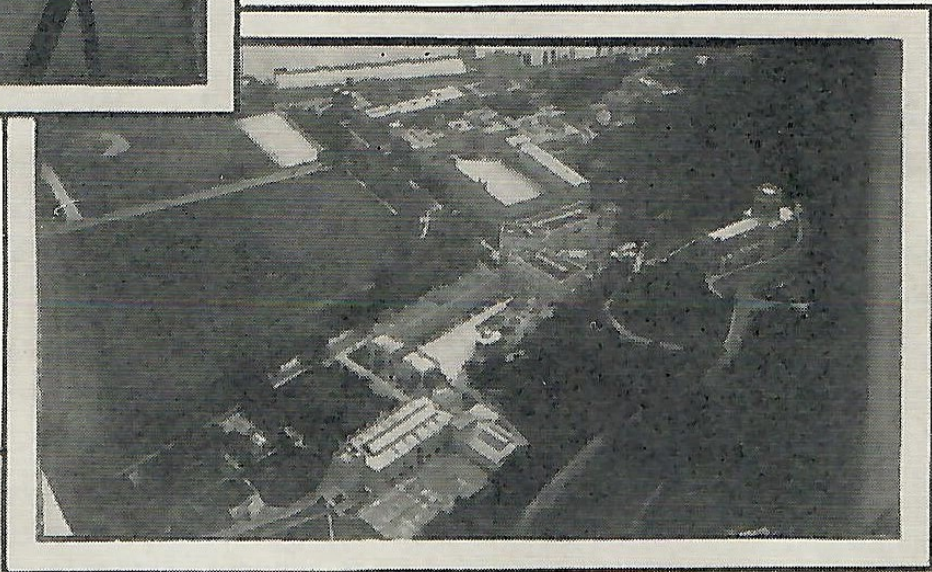
After our all-too-brief stop in Philadelphia we leave at 1:00 p.m. Saturday on the last leg of our eastward flight. Circling south over Philadelphia at 2,500 feet, we pick out easily old Independence Hall and numerous other landmarks of that historic city, and obtain a marvelous view of that wonderful engineering feat recently completed, the Delaware River Suspension Bridge, largest of its kind in the world. Continuing northeasterly, we soon pass over Trenton and Princeton, and at Brunswick catch our first glimpse of the Atlantic Ocean on our right. Soon afterwards we are thrilled by the sight of the New York skyline directly ahead. We circle the Statue of Liberty and lower



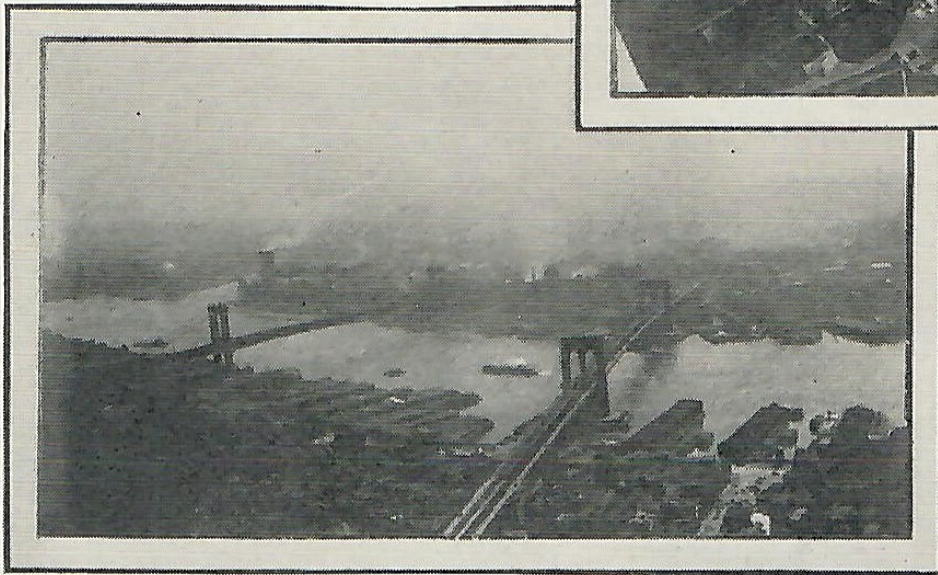
Roosevelt Dam



El Paso, Texas



West Point



Brooklyn Bridge



Niagara Falls



Pilots in the transcontinental air derby, gathered at Roosevelt Field.

Manhattan, then fly up the Hudson to Grant's Tomb, across the Island to Hell Gate Bridge, down the East River to Brooklyn, thence east over Long Island to Curtiss Field at Garden City, where we land on schedule at 3:00 p.m., September first, our eastward journey safely completed. These last two hours from Philadelphia have been crowded full of interesting and historic sights, all viewed from this interesting, new angle.

Here follow two weeks of intense activity. Union Oil Company products are introduced to many strangers both on Curtiss and Roosevelt Fields, and when the thirty-seven Class "A" racers slip away into the misty west at dawn of September fifth, twenty-two of them are flying on Union Aviation gasoline. Similarly our Company is represented in each of the other classes in the transcontinental races.

When all this activity is over we tune up the little ship for its homeward journey, and on Saturday morning, September fifteenth, we bid adieu to the Atlantic shores, and with a brisk tail-wind skim up the Hudson over Sleepy Hollow, West Point, Poughkeepsie and Albany, thence west through the Mohawk Valley over Syracuse to Rochester, where we land just as a severe thunderstorm breaks. Remaining over night in Rochester, we

are on our way early Sunday morning with crystal-clear skies, and on the horizon soon detect a column of mist which we know to be rising from Niagara Falls. For half an hour we circle over Niagara, its gorge and whirlpool, marveling at this gorgeous spectacle as viewed in its entirety from the air. Here also we touch the Canadian boundary. Continuing on our way, we pass over Buffalo and along Lake Erie to Cleveland, where we land after five wonderful hours in the air. A pause of an hour in Cleveland for gas and lunch, and we're off again, southwesterly through Ohio to Springfield, where we close with the eastward trip.

After a short visit at the boyhood home we are again on our way. Nearing the Indiana line the faithful old motor gives its first sick coughs, sputters a while, then cuts out on four of the eight cylinders and lets us down gently in a convenient stubble field. Two hours of toil in a boiling sun and we are on our way again, making Terre Haute for the night. The following day we are in St. Louis at noon, recrossing the Mississippi at its junction with the Missouri. Stopping only long enough for gas and oil, we retrace our route across Missouri, fighting headwinds as far as Independence, when we realize that to make Wichita—our destination for the day—before nightfall, it

will be necessary to by-pass Kansas City. Leaving it a few miles to the north, we race the setting sun into Wichita, arriving just at dark. This, incidentally, is our longest day's hop: 600 miles in just seven hours.

After minor repairs and adjustments to the motor, we again digress from our eastward route, setting a compass course southwestward for Amarillo, where we spend a comfortable night in the wide open spaces of western Texas.

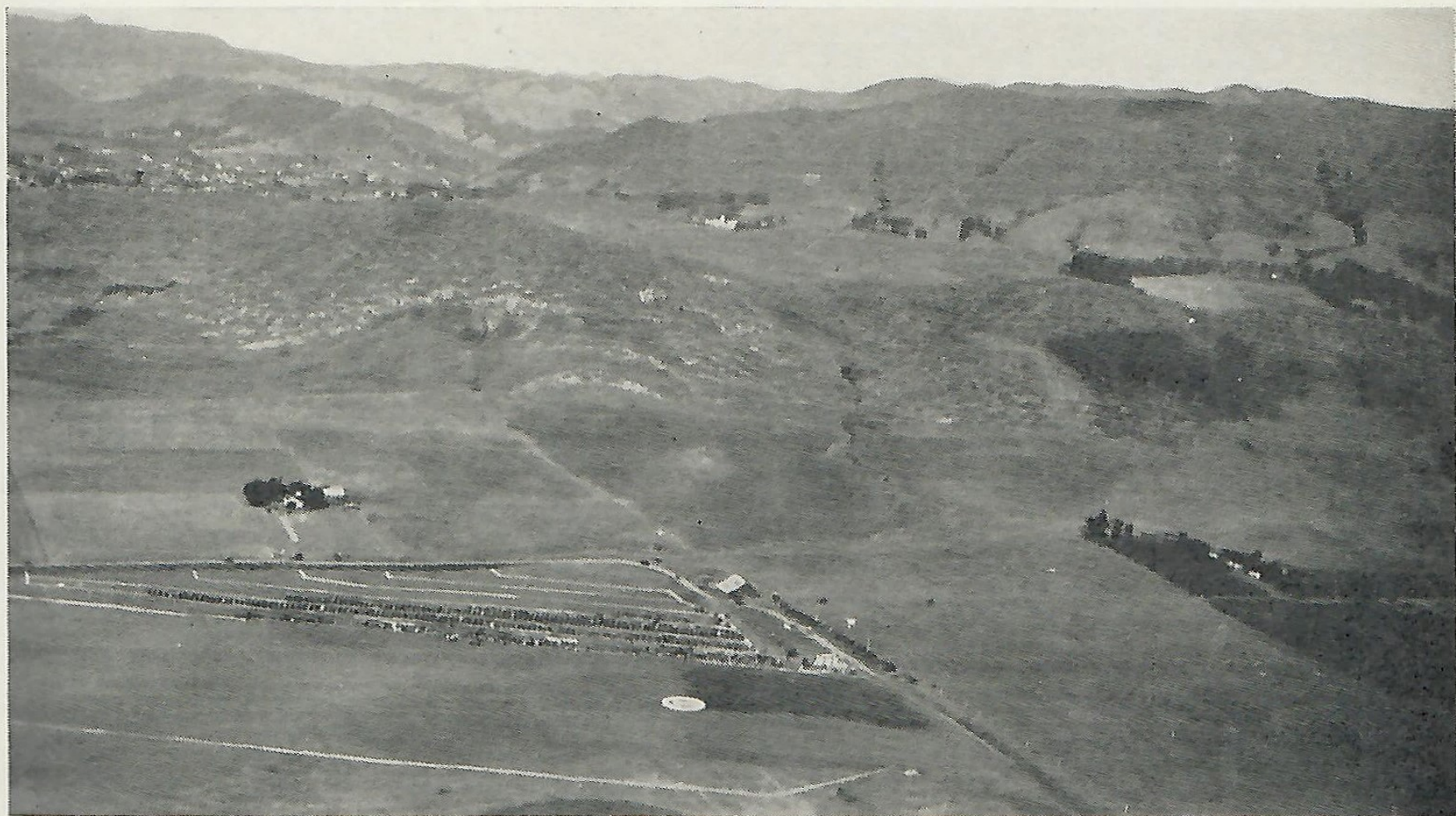
Leaving Amarillo at noon the following day, with El Paso, 350 miles over the mountains, as our destination, we are delayed by headwinds and forced to land for additional gas at Roswell, New Mexico, before attempting the remaining 150 miles into El Paso. Those 150 miles between Roswell and El Paso are never-to-be-forgotten moments for the OX5-motored plane. In all that distance there is no town, no highway or railroad, and in it the air-traveler crosses the Sacramento Mountains at an elevation of 8,000 feet at their lowest point. A motor failure here would simply mean the old "chute" and a long, long walk. But we get by beautifully and arrive in El Paso in due time, no worse for the experience.

The following day takes us northeast across New Mexico, through beautiful cloud-decked skies over Lordsburg and on into Arizona over Safford and San Car-

los, over the rich mining district and colorful mountains around Globe, over the wonderful Roosevelt Dam and thence westward over the Apache Trail and its rugged mountain grandeur, past majestic Superstition Mountain, out into the fertile Salt River Valley and back onto Phoenix Airport, a little hop of 400 miles, which climaxed all others in the entire journey for magnificent scenery and real thrill.

Delayed one day in Phoenix by heavy rain, we are off at sunrise on September 27th, and into our home port at Los Angeles at 10:00 a.m., the final thrill of the whole trip coming when the wheels touched the home field again: a thrill coming from the realization that the 7,000 mile trip just completed has been made by relatively few of the 120,000,000 in these United States, and that therefore a special privilege has been ours. Statistics—just a few. Eastward trip—3230 miles—41 hours 43 minutes, 18 hops. Westward trip—3340 miles—44 hours 6 minutes, 18 hops.

As an anti-climax to this trip the writer refueled upon arrival from Phoenix and continued on up the Coast to San Luis Obispo for the opening of Clark Field, returning to Los Angeles the same evening, and making 800 miles for the day in nine hours and fifteen minutes flying time.



Clark Field, as seen by the author at the end of his return flight.

A Trip Through New Zealand

L. C. HAMPTON

Director, Atlantic Union Oil Co., Ltd.

AT noon on St. Patrick's Day, we two (Mr. Eckles and I) left Auckland on a business trip through the North Island of New Zealand. We had an Essex coupe, plenty of petrol (gas), oil and water, and a spare tire.

For twenty miles we traveled over a concrete highway, passing through the towns of Otahuhu, Manurewa and Papakura. (These Maori names are pronounced as spelled: each vowel a syllable). We continued in a southerly direction over dirt roads, most of which were covered with loose metal (crushed rock), encountering several deviations (detours) en route, and many bad bends (curves) and acute bends (reverse curves).

Beginning at Mercer, the road paralleled the Waikato River for about forty miles, and following this road we arrived at Hamilton. This is a thriving little town in the center of a very prosperous farming community where wool, butter and cheese are the principal products. The Company has established a country

depot (sub-station) at this point, which is on the main line of the New Zealand Railways. The land is reasonably level, but there are small hills in all directions, with many minor streams and the larger Waikato River. The entire country is covered with "bush" (scrub, trees, and ferns). There is pampas grass on either side of the roadway, growing wild the entire distance.

Hamilton is eighty miles from Auckland and our objective was the Geyser House Hotel at Wairakei, situated sixty miles ahead. Both of us being used to driving over dirt roads, no time was lost, as we took turns at the wheel. The only difference in our driving was that while I drove at forty miles all the time, Eckles drove at forty only when he was slowing down to make a curve or pass a cross-road. We passed rapidly through the districts of Tamahere, Cambridge, Tirau and Litchfield, and then came an old Maori Pa and the native village of Oruanui. As we passed through this vil-



A Maori village in native costume. (Photo courtesy Government of New Zealand).



*Houseboat on the Waikato River.
(N. Z. Govt. photo.)*

lage, the native children ran out to the side of the road, and with very pleasing smiles, waved their hands in salute.

Arriving at the Geyser House Hotel, we were fortunate in getting the last two beds, and after having had some dinner, we drove with a large party to the "Blow Hole." Superheated steam was blowing from a nine-inch hole here, and tradition handed down by the natives indicates that it has been blowing for many years, long before the Europeans settled in this country. Our guide saturated a gunny sack with kerosene, and after lighting it, held it in the escaping steam without the fire being extinguished.

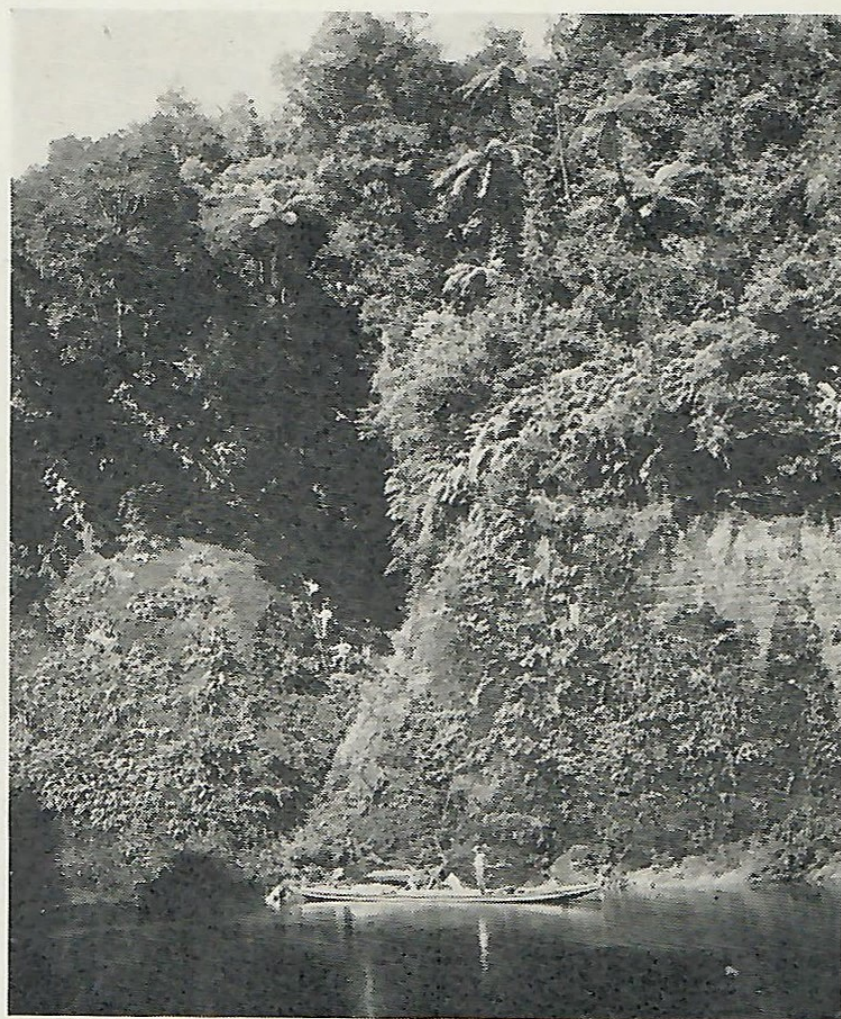
After a good night's sleep, we spent an hour in Geyser Valley, where boiling springs of water and varicolored boiling mud springs, with an occasional geyser, were very interesting. At one point, three springs which were only a few feet apart, contained respectively, potassium chloride, alum, and magnesium carbonate.

Leaving Wairakei, we passed the Kuka Rapids, the Huka Falls, and then skirted the Taupo Lake. Here it is that all trout fishermen should stop, but as we were in a hurry, we did not indulge our sporting inclinations. It is claimed that any trout which are caught, weighing under five

pounds, are thrown back to grow to a proper size. What a proper size may be, I do not know, for when they talk of twenty and twenty-five pound trout, it is a language which I don't understand.

Traveling almost easterly, we made for the town of Napier. The road bed was smooth, and but for crooks and turns, and steep, sharp hills, it would put the Ridge Route to shame. As we started up the grade, we observed a sign which stated: "Careful driving is necessary, keep to the left, sound the horn, hilly road continued for forty-five miles. If in doubt, use low gear." Imagine keeping to the left on a mountain road! I was glad that I happened to be driving, but what poor "Ec" thought, he didn't put into words, which was very kind of him. One hundred and two miles from Wairakei to Napier. A lovely trip, and it being Sunday, no mobs of sheep were encountered. Later in the week, we met many "mobs" of sheep and herds of cattle on the mountain roads, and as they have the right of way, it tried our patience getting past them.

Napier is a lovely little town situated on the ocean, and we put up at a hotel located opposite the Band Rotunda, which is in the center of the Marine



*Another scene on the Waikato.
(N. Z. Govt. photo.)*

Parade. The evening meal over, we walked the breakwater along three miles of the Marine Parade, while a heavy wind dashed the water across the footpath (sidewalk). This was most refreshing after our dusty ride.

Twelve miles from Napier, we stopped at Hastings, where we are constructing another country depot. Hastings is a very progressive town, and is situated in one of the richest sheep-rearing sections of New Zealand. Here our agent informed us that the people "fill 'er up." (The rest of New Zealand and Australia never buys more than two or three gallons of petrol at a time).

Our next stop was Palmerston North, the site of another country depot, one hundred and twenty miles in a south-westerly direction. On the east side of the mountains at Hastings, the vegetation was very heavy and green, showing signs of plenty of rain, but Palmerston North is a flat country and very dry at this season of the year. Both of these communities depend on sheep, cattle, and grain.

Wellington was reached after dark, we having accomplished two hundred and

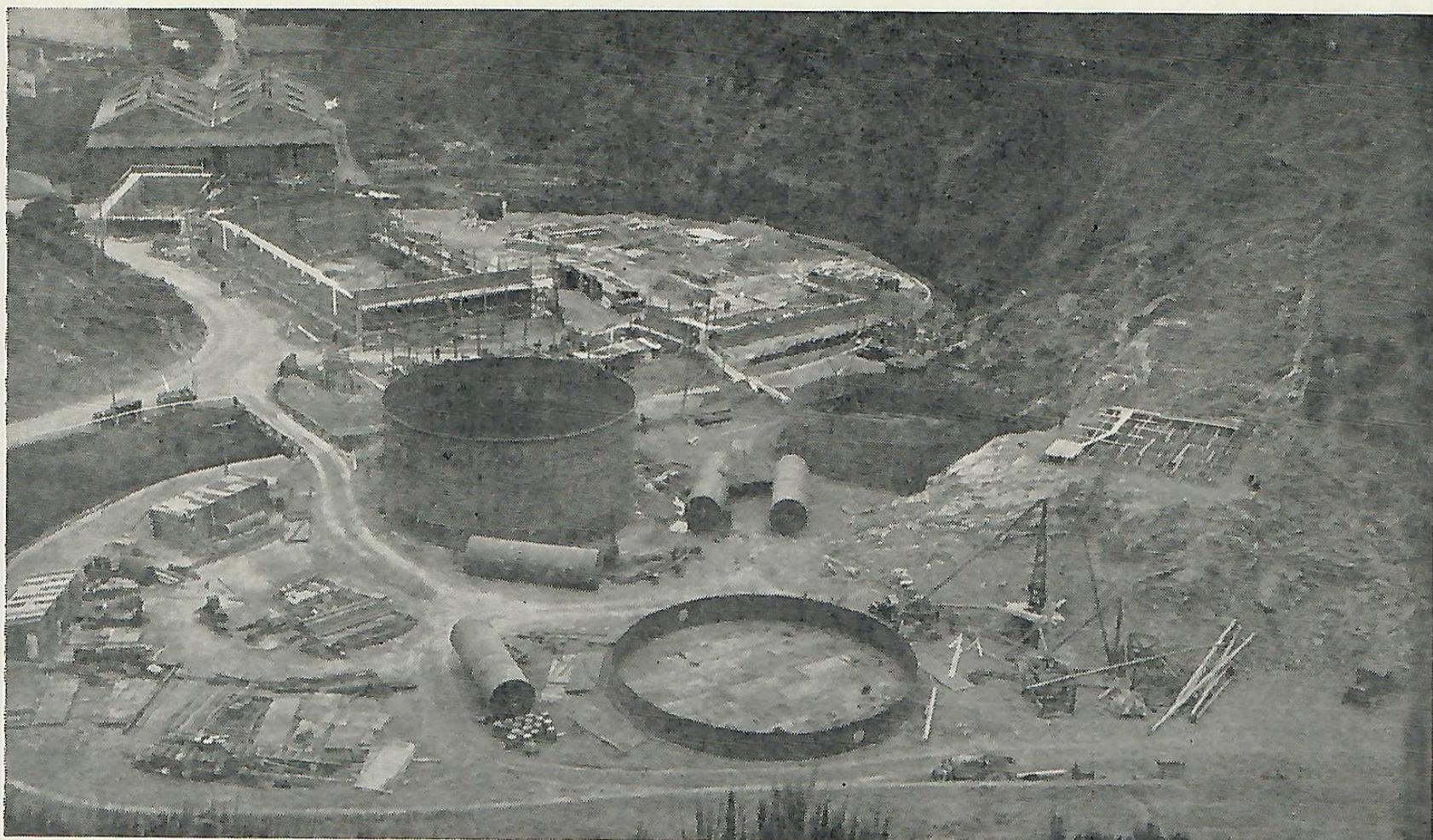
forty-two miles during the day. "Bad bends," "sharp bends," and "acute bends" were the warnings encountered on the way, which led through Makarerua, Ohau, Waikanae, Pahautanue, Paremata, Khandallah and Ngahauranga. The Maoris had no written language when the English arrived, so the words were spelled phonetically. Eckles and I were unable to get our phonetics in working order, and unless we kept track of our highway map, we didn't know what town we were passing through.

At Wellington, a marine terminal is being constructed in the Kaiwarra Gorge. Both here and at Auckland, the New Zealanders call Eckles "The Yank," and are very much surprised at the rapidity with which we are proceeding. Nothing like it has been seen, except in the construction of the seawall at Wellington.

After a few days spent here, we went off up the West Coast on the Wanganui, and thence to Howera (which we pronounced "How are yah"), where we had a wonderful steak and oyster dinner in a fish market. They have no cafes or eating houses, and they do not serve meals at all hours. We tried to find a



New Zealand bush scenery. (N. Z. Govt. photo).



Marine terminal in the Kaiwarra Gorge under construction.

place for lunch and finally stopped at an "afternoon tea joint." "Old Ec" had a pot of tea and some scones, and I discovered that ice cream was sold. "Ec" rang the bell and ordered two ice creams. "Thruppence or fypence?" said the young lady. As these were new flavors to "Ec," he replied that he would have them mixed. However, the lady explained that she had two sizes, threepence and fivence, so we took the larger.

Another hour and we stopped at Stratford, a town which was celebrating its fiftieth anniversary. It lies at the foot of Mount Egmont, a volcanic mountain peak rising abruptly from a plain to over eight thousand feet. We passed through Inglewood in the morning on the way to New Plymouth, and this Taranake country is beautiful level land, with evidence of prosperity in every village and farm. Sheep, cattle and grain abound, with occasional orchards.

As we started up Mount Messenger, we found that the roads had been hewn from solid rock. The road beds are made of coal tar and shingle (a mixture of shells and pebbles which makes good roads). Native ferns are in the canyons; mountain streams and waterfalls parallel the road. The scenery at this point is so

wonderfully different, that we stopped to take a few pictures, and at the top of the hill, found a sign for which we had been looking for the past six months: "*Meals Served at All Hours.*"

Our landlady doesn't know how far it is to Hamilton, but she knows that it is sixty miles to Te Kuite and pretty rough going. It was! Te Kuite is a lovely little city in a level valley, with straight streets. We passed through and up the other side and on to Hamilton, which was a further sixty miles. Arriving just too late for lunch, we were again forced to go to an afternoon tea shop. After an inspection of our construction work at the country depot, we set off for Auckland, arriving in time for dinner.

Twelve hundred miles in four days' actual driving! We found the roads good, but were glad that we had no wet weather in which to negotiate the "bad bends" and "deviations."

The price of wool and dairy products being high and good markets available, the entire country is prosperous, with everyone buying motor cars. A dry season, however, with adverse dairy markets in Canada and Australia, and everyone will economize to the limit.

A SALVAGE RECORD

By CHESTER A. BECKLEY

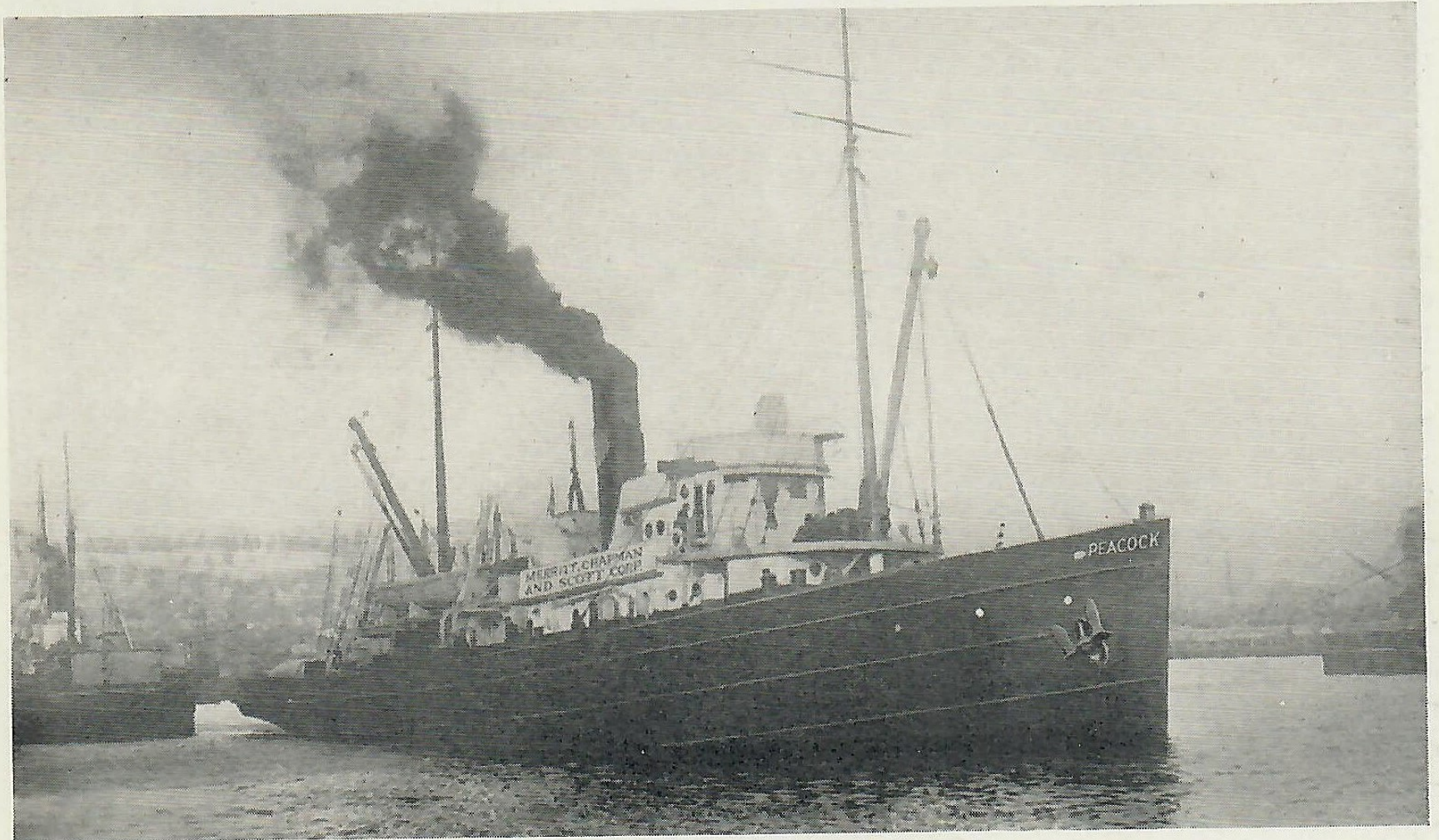
Sec. Treas. Merritt-Chapman Scott Corp. of California

THE record of the longest salvage voyage in maritime history goes to the Merritt-Chapman & Scott salvage steamer Peacock for a seventeen-day run of 4,600 sea miles from her San Pedro, California, base to Nukulailai Island in the South Seas. This voyage was undertaken by the Peacock to float the Isthmian Line's stranded cargo steamer Steelmaker, which was driven on the jagged coral rocks of Nukulailai, March 28, 1928, with 5,000 tons of chrome ore and other cargo in her holds.

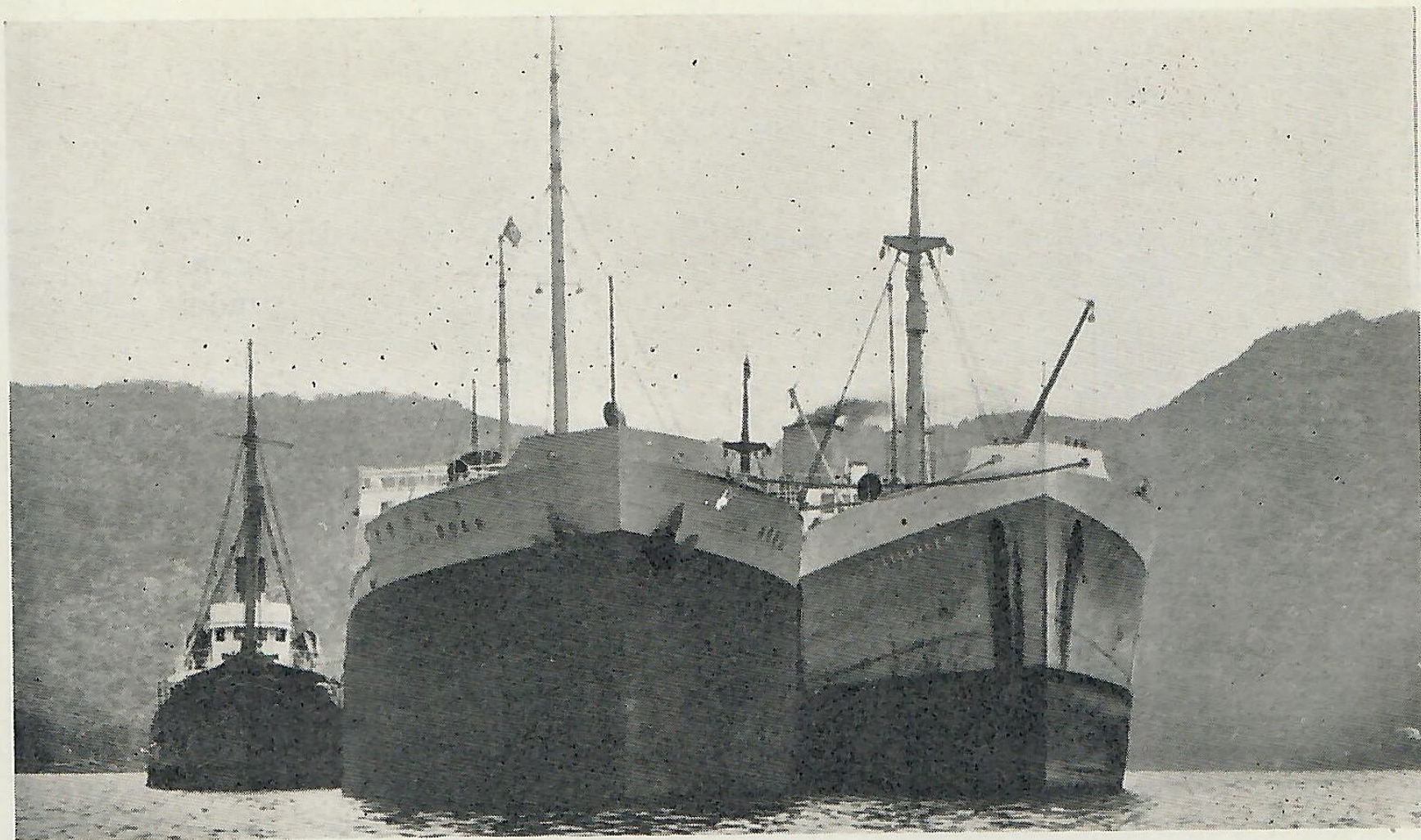
Nukulailai, sometimes called Mitchell Island, is one of the Ellice Group in the Central Pacific Ocean, lying Lat. 9°30' south; Long. 180°. The Peacock, a steam screw vessel of the Navy mine-sweeper type, 741 tons gross, with engines of 1400 H.P., made the trip in seventeen days, stopping only six hours in Honolulu Harbor to replenish fuel and take on stores. When the Peacock arrived at the scene, the Steelmaker was found

to be lying on a coral reef in the open sea, in a location which afforded little or no protection from storms, heavy swells, and strong currents. Her bilges were crushed in and all compartments forward of boiler room flooded. The jagged reef on which she rested had seriously injured her bottom. So heavy was the sea that it was impossible for the divers to apply emergency patches, as usually is done: they could do little more than survey the condition of the hull and provide data for the Salvage Master's plans.

One thousand four hundred tons of cargo were jettisoned from No. 2 and No. 3 holds, and five powerful gasoline salvage pumps, capable of handling 15,000 gallons of water a minute, were set up in one of the holds and worked to capacity. Twelve days and nights of this continued effort floated the Steelmaker and freed her from the strand. Then, with the five big pumps barely controlling



The tug "Peacock".



The "Steelmaker" in Pago Pago Harbor, fueling from the Company's tanker "La Brea." The "Peacock" is on the starboard side of the "La Brea."

the flow of water through the rents in the ship's bottom, the expedition on May fifth, stood for Pago Pago, Samoa, 668 miles away, the nearest safe harbor in which the divers and salvagemen could proceed with the temporary repairs. This voyage was made in four days, the vessels arriving in Pago Pago May ninth.

Divers placed patches on the ship's bottom, cargo was shifted and tank tops cemented, tanks were filled with fuel oil, and on July fifteenth the Steelmaker sailed for New York under her own power, arriving August twentieth. The Peacock returned direct to her home station at San Pedro.

Across the Tasman and Return

ANOTHER record has been added to the achievements of Captains Kingsford-Smith and Ulm by their conquering of the Tasman Sea, between Australia and New Zealand. A little more than fifteen hundred miles separates the Richmond aerodrome, where their flight began, from Christchurch, the objective. This stretch of water, crossed for the first time when the Southern Cross bridged its expanse, was conquered in approximately fourteen hours flying time on the way out—the fastest speed that had yet been recorded in the flights of this plane, and this in the face of storm conditions which the pilots declared were the worst of any they had yet had to meet. On the return

journey, head winds which were encountered, slowed down the speed, yet the performance was equally brilliant in the skill with which it was accomplished.

As in the flight from California to Australia, every factor of care was considered, and every precaution taken, before the exploit was undertaken. Thus, once more, a real contribution was made to aviation progress by the proof that human foresight and expert knowledge, a tested machine and skillful pilots and navigators, could not be barred by hitherto insurmountable obstacles. Aviation, particularly in Australia and New Zealand, is certain to profit greatly through the flight, in immediate commercial progress.

Santa Maria's New Airport Opened

DONATED to the Santa Maria district by G. Allen Hancock, backer of the "Southern Cross" California-to-Australia flight, the new Santa Maria airport was formally dedicated, Sunday, October 21, an estimated crowd of more than 25,000 people attending the opening ceremonies.

California air-consciousness was never more forcibly demonstrated. In addition to United States Navy and Army flying squadrons from March field, from North Island, San Diego, and from Los Angeles, fifty-six civilian ships with pilots and complement made a total of more than 250 event-contestants and guests arriving by air.

The Navy was represented by four Curtis D-12 Sea Hawks, piloted by Lieutenant S. H. Corgorsoll, squadron commander; Lieutenant John E. Crominlin

flying No. 2; Lieutenant A. P. Storms of Three Sea Hawks fame flying No. 3; and Lieutenant T. B. Williamson piloting No. 4.

Two Douglas observation ships, flown by Lieutenant E. H. Sanborn and Captain Murphy and Lieutenant Liggett, represented the Army. An Army photo-mapping ship was flown by Lieutenant Roseborough.

Art Goebel, of Dole Flight fame, arrived in a new Whirlwind Lockheed with Allan Lockheed, the builder, as passenger.

Three ships of the Union Oil Company's fleet, piloted by Roy Harding, W. E. Carey, and Edwin C. Moore, flew from Los Angeles to take part in the festivities.

Los Angeles pilots monopolized most of the \$3,000 in prizes in the race events over a twenty-five-mile course. H. C.



Part of the crowd at the airport opening.

Lippiatt, flying a Travelair Whirlwind, won the Union Oil prize of \$250 in the 800-cubic-inches event. The light plane race for the Company's \$250 cash prize was won by August Clancy in a Monocoupe. A dead stick landing was won by Fritz Secar in an OX5, coming to a dead stop one foot four inches from the line. First place in the OX5 race was taken by Leo Nomis in a Travelair OX5. Maneuvers by the Curtis Sea Hawks, stunt flying, and parachute drops completed the features of the day's performances.

The Santa Maria airport is known as one of the finest fields in California. Perfectly level, with a half-mile oil runway east and west, and a 1,400-foot runway north and south, it has five modern hangars and a fully-equipped machine shop. The Santa Maria Air Lines, Inc., will make the field its home, and maintain a training school there, planning also to open an airport at Lompoc, California, in the near future. The Santa



Lt. Emory Bronte, Harry Sperl, Capt. Hancock, and Art Goebel at the airport.

Maria airport is supplied with Union aviation products exclusively.



Santa Maria airport from the air.

Record Set in Tractor Test

Under the direction of the State Agricultural College at Davis, a new world's non-stop tractor record was established at Rio Vista, California, at noon on September 18, when a Caterpillar tractor completed a continuous run of seventeen days and nights, covering a total of 1,334 miles.

Using Union Ethyl gasoline and Aristo motor oil, the test was made for the purpose of ascertaining the wear and cost of continuous operation of a tractor in actual service over an extended period. During the entire 408 hours of the run, the tractor, a Caterpillar 20, type L-187, was pulling service equipment through some part of the 1,263 acres at the Hastings Ranch of the California Packing Corporation, this acreage being put

into final cultivation before the test was completed.

The tractor was refueled and also checked for oil and grease four times a day; it was greased once a day and every 48 hours was serviced completely, including partial draining of the crankcase, although the engine was kept running continuously. Special instruments checked the running of the motor, the pull on the drawbar and the distance the tractor traveled during the test. It was found that the gasoline used amounted to 1143½ gallons; the oil in the crankcase amounted to 108½ quarts, and 77½ quarts were drained from the engine. The grease for the rollers and bearings was 24.6 pounds. The test was supervised by Paul Sperry, Company Agent at Rio Vista.



The tractor being groomed to start the run.

F. H. HILLMAN

“**W**HEREVER he went or wherever he was known he inspired admiration and confidence, esteem and affection. He was a rare character, respected by all who met him, beloved by all who knew him.”

In these words the Standard Oil Company of California has expressed its tribute to Fred Henry Hillman, retired Vice-President, whose death on September eighth robbed the petroleum industry of a nationally honored figure. To these words Union Oil Company can but add that in his passing it loses an ever loyal friend.

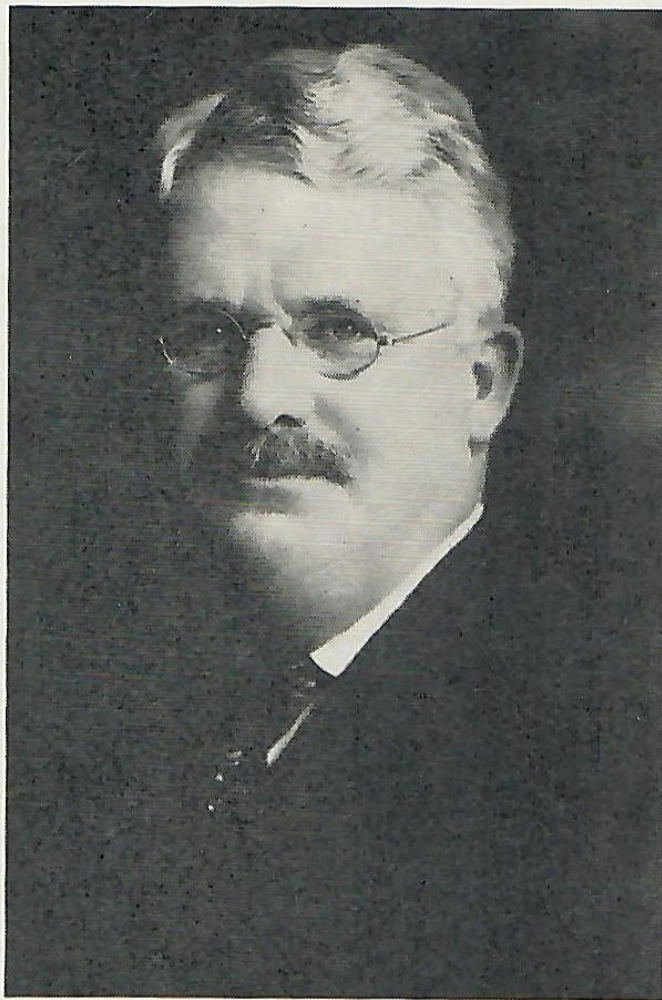
During a lifetime of service to the industry, Fred H. Hillman's business methods were an inspiration. Beginning his career as a messenger in the oil fields, he knew conditions as they were in the pioneer days, and knowing them, strove always to better them. In

his later work, as the greatest producer of crude oil that California has known, he continued his efforts towards making the oil industry a model of wholesome business relations. He showed an equal consideration for employees and for associates, unswerving integrity being his guiding principle.

His genius as a producer is well known. During the critical period of the war and the few years which followed, he brought in successfully four major fields: Montebello, Huntington Beach, West Elk Hills and East Elk Hills. In the success he attained he combined this ability

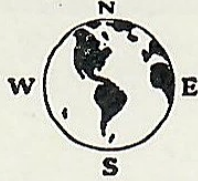
with his high conception of the ethics of business. As a director of the American Petroleum Institute for many years, he passed his ideals on to the industry.

Union Oil Company of California joins in tribute to his memory.



F. H. HILLMAN

NEWS OF THE MONTH



FARM BUREAU BROADCAST SPONSORED

Radio broadcasts given three times each day, furnishing the farmer with the latest prices on farm products, were inaugurated October 9th. by the farm bureau station KQW at San Jose. Market reports broadcast from San Francisco through KQW over remote control are given at 12:30 p.m. and 6:30 p.m., and at 9:30 p.m. each week-night a market digest and report on crop movements and marketing conditions both at home and abroad is given by remote control from Sacramento. The broadcast is sponsored by the Union Oil Company.

Nine short-wave code stations have been established throughout the state, to collect and transmit to the broadcasting studios the latest price quotations on farm products in their respective localities. These stations are supplemental to the leased wire report system.

In addition to the daily reports on crop conditions to be released through the Sacramento studio, different phases of the major crops of California are the topic of a survey each day.

CLARK FIELD LEASED

Clark Field, opened September 27 as San Luis Obispo County's airport on the Company tank farm, was leased October 15 on a five-year contract to the Chadbourne-Donze Air Service, Inc. The lease assures the Company that the field will be operated under U.S. Department of Commerce regulations, with licensed pilots and up-to-date planes, Chadbourne-Donze being well known throughout the locality as distributors of several makes of craft.

The contract also calls for the Union Oil Company to supply its aviation gasoline and aero-motor oils at Chadbourne-Donze's branch at the Oakland Municipal Airport, at Clark Field, and at the Carpinteria and Ventura airports, for the five-year period.

SERVICE STATION AT SEA

A floating service station, completely equipped to service yachts, motor boats, or other types of craft with their oil, gas, and fresh water requirements, has been established by the Company in Santa Monica bay, approximately three-quarters of a mile from the end of the Municipal Pier. The barge Coronado is being utilized for this service, and will be in operation throughout the year.

COMPANY PLANE FIRST AT SPRINGVILLE

The distinction of being the first pilot to land a plane on the airport at Springerville, Arizona, is held by C. F. Lienesch, head of the aviation division, who made the flight from Phoenix to Springerville last month while on a trip to Phoenix for the purpose of addressing the Chamber of Commerce of that city and planning the forthcoming annual Phoenix to Los Angeles air-races. The distance from Phoenix to Springerville, 325 miles by wagon-road, is reduced to 170 miles via the air-route, this mileage being covered by the Company plane in an hour and a half, despite storms. In one instance, Lienesch had to climb to 13,000 feet to rise above a storm, while on the return journey it was impossible to rise sufficiently to avoid them, and a hundred-mile detour via Tucson had to be taken.

On a trip taken earlier in the month, Lienesch flew along Owens Valley and across the Sierras, via Yosemite, to Oakland, his plane passing directly over Mount Whitney.

STATION OPERATOR IS PRIZE-WINNER

First prize of ten dollars, offered to the service station operator selling the greatest number of tickets for the recent National Air Races and Exposition, has been won by James Russell Loyal of the Vernon Avenue and Mesa Drive station, Los Angeles. Loyal disposed of some eighty-five tickets.



Santa Fe Springs championship tug-of-war team.

NEW WASHINGTON LEASE

Eight thousand acres in southwestern Washington, known as the McGowan, Bear River and Raymond areas, have been leased by the Company, following several months of geological reconnaissance. Within the next ninety days, it is intended to drill a test well on the McGowan area at a point across the Columbia River from Astoria.

The Bear River area is located on Willapa Bay, while the Raymond area is just north of the towns of Raymond and South Bend on the Willapa River.

FOOTBALL BROADCAST BEGUN

U.S.C.'s victory over Oregon State in the first Coast Conference gridiron clash of the season, furnished the occasion of the first of a series of football broadcasts by the Company from the Los Angeles Coliseum, over radio KNX, Hollywood. The St. Mary's-U.S.C. game was the second to be sent over the air, followed, last month, by the Pomona-U.C.L.A. and the U.S.C.-Occidental tilts. The game between U.S.C. and Stanford will be reported, play-by-play, from the Coliseum, November 3.

Each of the U.S.C. games has also been the occasion of aerial advertising of Union Ethyl, parachutes and balloons being employed for the purpose. These "stunts", between the halves, have proved one of the most popular features of the afternoon's performance.

ROYAL VISITOR ENTERTAINED

Traveling as a lieutenant of H.M.S. Durban, H.R.H. Prince George of England was entertained by R. C. Worseley, District Sales Manager at Panama, when the British ship called at Panama on her trip to the Bahamas at the end of September. Prince George and several of the officers were driven about the city, first being taken to the Company tank farm and shown the fueling of their ship.

CRUDE PRODUCTION

According to figures collected by the American Petroleum Institute, Pacific Coast Office, the total production of Crude Oil in California for September amounted to 18,908,169 barrels, an average of 630,272 barrels per day. This is an increase of 3,017 barrels per day over August production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 336,355 barrels. The total stocks at the end of the month were 138,107,642 barrels. The total stock decrease for 1928, up to September 30th, was 2,210,975 barrels. Comparative figures as of September 30, 1928, August 31, 1928, and September 30, 1927, are shown in detail on page 23.

Fifty-nine wells were completed during the month with an initial daily production of 54,964 barrels, compared with 57 wells completed during August with an initial production of 30,058 barrels.



SPOKANE DISTRICT WINS TROPHY

Awarded to the District selling the largest gallonage of motor oils in the ratio to its gallonage sales for the month of August, the Northern Division Motor Oils Sales Trophy, pictured above, was won this year by the Spokane District. All of the Districts in the Northern Division showed substantial increases over August, 1927, Vancouver leading for percentage of increase over 1927 on year-to-date sales.

The main feature of the campaign was the fifteen-gallon container drive. Seattle led in gallonage sold in new containers, while Portland led in gallonage on refills. In each District there were a number of salesmen and agents who exceeded the quota set, a very good competitive spirit being shown. After any District has won the trophy three times, it will then remain in its permanent possession.

NEW STOCKTON DISTRICT DIVISION

Dividing the Stockton District into two Special Agencies, a Northern and a Southern, two new California sales divisions were created in September. F. C. Houser, formerly Agent at Modesto, has been appointed Northern Special Agent with headquarters at Stockton, and has the following substations under his supervision: Stockton (main station), Byron, Farmington, Ione, Lodi, Manteca, and Tracy. S. H. Dye, formerly Agent at Lodi, has been appointed Southern Special Agent with headquarters at Modesto, having the following substations under his supervision: Le Grand, Livingston, Los Banos, Mariposa, Merced, Modesto, Newman, Oakdale, Sonora, and Turlock.

GIRLS' CLUB ACTIVITIES

Sponsored by the girls of the Branch Office, a Hallowe'en luncheon at the "Bull Pen Inn" on October 27th, followed by an Orpheum matinee, featured the social affairs of the Girls' Club for last month. The girls of the Sixth Floor, Head Office, were responsible for a dinner and treasure hunt at the Griffith Park picnic ground during September, while those of the Fifth Floor arranged a combined luncheon-bridge-tennis-swimming party at the Palomar Tennis Club during August.

A week-end party for Union Oil girls and their friends is planned for November 3rd and 4th, at the Griffith Park Girls' Camp.

The regular business meeting of the Club is held at 5:15 on the second Tuesday of each month in the Union Oil Cafeteria. Miss Curran, room 903, Head Office, will furnish any information as to Club activities.

BOWLING SEASON OPENS

The Los Angeles District Bowling League opened the new season auspiciously at Bimini Bowling Bowl, Monday, October first, with sixteen representative teams competing. After four weeks of play the General Accounts and Engineering Tigers teams are tied for first place with 12 points won and 4 points lost. Eddie Mullenix, service Station, heads the individual bowlers with an average of 177, while Taylor, Branch, is runner-up with an average of 174. Many new men are entering the competition this year.

In the Orange Division, eight teams have been recruited from the various departments, with the first games scheduled for October 17, at the Fullerton Recreation Parlors. A. D. Clayton, Assistant Superintendent L. A. Pipe Line Dept., was elected president of the league.

GOLF TOURNEY UNDER WAY

In the qualifying round of the Southern District tournament played over the Montebello Park course, October 14, L. R. Messinger had two fine rounds to win the 36-hole play, 76-79—155. Other leaders were as follows: A. W. Anderson, 88-84—172; Bob Henderson, 92-85—177; E. F. Morgan, 87-91—178; and J. P. Howell, 86-92—178. Henderson shot a hole-in-one on the sixteenth in his second round.

October 22 closed the qualifying rounds, the sixteen low gross players of that date to compete in the championship flight for the President's Cup.

UNION OIL CUBS IN PRACTICE

With practice scheduled for 7:00 p.m. every Tuesday at Fairfax High School, the Union Oil Cubs, or lightweight casaba artists, are preparing for a Los Angeles Commercial League championship this year. Last year, the Cubs won seventeen games and lost nine, finishing fourth in the league, but were handicapped by having no coach and being forced to practice when the opportunity presented itself. Four veterans are back in the lineup: Tatman, Rose, Fuller, and Jamison. Many new players are already on hand, but much new talent is needed in the search for new laurels. The heavyweight squad also is seeking a larger turnout for its approaching schedule.

THIS MONTH'S COVER

Something of a departure from the oil-painting reproductions which have been presented on the Bulletin cover for some time, is offered this month in the reproduction of a water-color from the brush of T. H. McKay. This is the original sketch from which his "Fifeshire Harbour" was painted, the latter being hung on the "line" at the Royal Academy in London in 1915.



The Santa Fe Springs fire, as seen from Union property.

SAFETY IN THE UNION



Justification

Editor's Note:—This letter from C. H. Sherman gives the best answer to the question "Why all this fuss about first Aid?"

UNION OIL COMPANY OF CALIFORNIA

C. H. SHERMAN, MANAGER
WYOMING-COLORADO-NEW MEXICO

FORT COLLINS, COLORADO

October 17, 1928

Mr. Ralph J. Reed,
Chairman of the Safety Board,
Union Oil Building,
Los Angeles, California.

Dear Mr. Reed:

During the year 1926 your Board sent to Fort Collins one of your experts in safety work for the purpose of exciting an interest here in such work. Some of us gave but casual attention to the matter, feeling that perhaps it was only a passing fad and that it might interfere with important work in hand. However, some of the men did become very much interested in the movement, and with the encouragement of Charles Johnson, who was placed in charge of the work here, continued to study the different features of the safety program.

In the spring of 1928 the Bureau of Mines sent a safety car, with three of their experts in First Aid Work, to Fort Collins. These men, without expense to us, gave to every employee in the Fort Collins area, who was interested in taking it, a course of instruction in First Aid. The interest exhibited by the employees, both in the field and in the office, was surprising. Later in the summer Mr. Martinson was sent here under the direction of your Board. He assembled the men and began to instruct them in First Aid work, with a view of selecting a team. Such selection was made and intensive training was begun. Mr. Martinson stayed here for some little time, and his services were of great value to our local organization.

At the time we were notified that the national competition for First Aid teams would be held at Butte, Montana, we decided to enter our team in the contest. This we did, and the team won first place among the Colorado teams entered, and fourth place in the national contest in competition with forty-seven teams. The winning team scored 98.2% and our team scored 97%.

On September 21 we shot the Krause, Windsor and Bank #1 well in the Fort Collins field. An employee, Maydew, was overcome by the fumes from the well. These fumes (a combination of nitro-glycerin and natural gas) caused Maydew to collapse before he could get out of the derrick. He suffered not only from the usual effects of gas, but also from a contraction of the muscles about the heart. Maydew was unconscious and as stiff as a poker. Under the direction of Andy Fernberg, Drilling Foreman, and with his assistance, the crew immediately began to give Maydew First Aid treatment.

Ralph J. Reed - 2
October 17, 1928

They worked with commendable zeal, and with the instructions in First Aid given here, they were able to revive Maydew.

Our Doctor advises us that it would have been impossible to have brought Maydew to a doctor in time to have saved his life and that he owes his life entirely to the First Aid treatment. A few months ago our men would not have known what to do for him. Thus we are brought to a realization of the fact that First Aid treatment here has saved a human life, and thus not only saved the company considerable money, but kept alive for a wife and infant child, their husband and father. This one instance, in my opinion, more than justifies all the trouble and expense to which we have been put in connection with First Aid treatment. It should encourage us to continue the work with diligence. Permit me to say that there is no one in this organization now whose interest in the matter is lukewarm.

We now have seven First Aid teams in the field here, training under the direction of Charles Johnson and the members of the team who competed in the national meet at Butte. These men are training entirely on their own time, after their hours of work for the company are over. They realize full well the great value of such training. We intend to have here on the 28th of December a contest for our own teams, which will be judged by competent judges from the Bureau of Mines organization. Prior to this contest, for a week or two, the Bureau of Mines will furnish us expert instruction without any expense to us.

To those of you who were the pioneers of the First Aid work in the company we extend our thanks.

Very truly yours,



Manager of Wyoming-Colorado-Texas

cc- E. W. Clark
Chester W. Brown
L. P. St. Clair
W. W. Orcutt

LOS ANGELES REFINERY PLACES

Capt. T. Nichols of the Los Angeles Refinery team led his men to fourth place in the Sixth California First Aid Contest on October 18-19. Francis Bartella, trainer of the team, deserves a large share of the credit for the showing made against the seventeen other teams entered in the Contest.

Oleum Refinery's men failed to place, due largely to overtime. Their workmanship was good, even though they were a bit slow.

The men who made the trip were:

Los Angeles Refinery

T. Nichols, Captain; E. Shepherd, O. Eipper, I. Jones, A. Noyes, C. Jones, Patient; R. Schlecker, Substitute.

Oleum Refinery

E. W. Whittaker, Captain; A. E. Taylor, Geo. F. Pomeroy, L. A. Scroggins, C. B.

Core, H. J. Phillips, Patient; L. J. Donnelly, Substitute.

Present Status of First Aid Among Oil Companies

26 of 28 producing companies have provided first aid training to their employees; 37 of 39 manufacturing companies have provided first aid training for their employees.

12 out of 19 marketing companies have provided first aid training for employees.

8 out of 13 marine departments have provided first aid training for their employees.

33 companies are making use of first aid instructors furnished by the United States Bureau of Mines.

30 companies have first aid instructors of their own.

2 companies receive instructions from the American Red Cross.

California Oil Statistics, September, 1928

Prepared by American Petroleum Institute, Pacific Coast Office.

PRODUCTION

(Figures of production and stocks are in barrels of 42 Gals.)

| DISTRICT | BARRELS PER MONTH | DAILY AVERAGE | | |
|------------------------------|----------------------|----------------|----------------|----------------|
| | | Sept., 1928 | Aug., 1928 | Sept., 1927 |
| Kern River..... | 174,991 | 5,833 | 6,061 | 17,992 |
| Mount Poso..... | 8,575 | 286 | 274 | 81 |
| Fruitvale..... | 10,446 | 348 | 294 | ... |
| Round Mountain..... | 3,347 | 112 | 124 | ... |
| McKittrick..... | 148,123 | 4,937 | 5,133 | 4,954 |
| Midway Sunset..... | 2,185,728 | 72,858 | 73,782 | 84,700 |
| Elk Hills..... | 631,615 | 21,054 | 21,594 | 25,987 |
| Lost Hills-Belridge..... | 121,048 | 4,035 | 4,066 | 4,015 |
| Coalinga..... | 314,280 | 10,476 | 10,624 | 19,347 |
| Wheeler Ridge..... | 27,219 | 907 | 885 | 1,097 |
| Watsonville..... | 1,825 | 61 | 62 | 55 |
| Santa Maria..... | 149,461 | 4,983 | 4,955 | 5,687 |
| Summerland..... | 3,445 | 115 | 121 | 140 |
| Elwood-Goleta..... | 75,599 | 2,520 | 2,311 | 300 |
| Rincon..... | 123,446 | 4,115 | 3,570 | ... |
| Ventura Avenue..... | 1,629,377 | 54,313 | 50,793 | 57,511 |
| Ventura-Newhall..... | 170,853 | 5,695 | 5,707 | 6,072 |
| Los Angeles-Salt Lake..... | 44,461 | 1,482 | 1,500 | 1,672 |
| Whittier..... | 49,072 | 1,636 | 1,597 | 1,739 |
| Fullerton (Brea Olinda)..... | 511,717 | 17,057 | 14,633 | 17,266 |
| Coyote..... | 389,295 | 12,976 | 13,509 | 14,059 |
| Santa Fe Springs..... | 1,120,785 | 37,360 | 39,570 | 39,940 |
| Montebello..... | 346,064 | 11,535 | 11,924 | 14,546 |
| Richfield..... | 511,091 | 17,086 | 17,885 | 22,106 |
| Huntington Beach..... | 1,567,200 | 52,240 | 51,762 | 64,667 |
| Long Beach..... | 5,939,973 | 197,999 | 190,910 | 90,166 |
| Torrance..... | 496,290 | 16,543 | 17,268 | 21,389 |
| Dominguez..... | 320,484 | 10,682 | 11,034 | 15,218 |
| Rosecrans..... | 183,359 | 6,112 | 5,831 | 7,953 |
| Inglewood..... | 851,012 | 28,367 | 30,021 | 32,984 |
| Newport..... | 480 | 16 | 86 | 22 |
| Seal Beach..... | 787,323 | 26,244 | 28,976 | 63,817 |
| Potrero..... | 10,185 | 339 | 391 | ... |
| TOTAL..... | 18,908,169 | 630,272 | 627,255 | 635,483 |
| August..... | 19,444,899 | 627,255 | | |
| Decrease..... | 536,730 | *3,017 | | |

*Increase.

STOCKS

| | Sept., 30, 1928 | **Aug. 31 1928 | Sept. Stock Decreases | **Sept. 30, 1927 |
|---|--------------------|--------------------|--------------------------|---------------------|
| Heavy Crude, heavier than 20° A. P. I., including all grades of fuel..... | 97,690,674 | 95,781,762 | *1,908,912 | 95,006,723 |
| Refinable Crude, 20° A. P. I. and lighter..... | 17,730,034 | 19,205,105 | 1,475,071 | 23,025,124 |
| Gasoline..... | 11,351,695 | 11,683,443 | 331,748 | 13,072,463 |
| Naphtha Distillates..... | 1,255,309 | 1,184,998 | *70,311 | 2,672,994 |
| All Other Stocks..... | 10,079,930 | 10,588,689 | 508,759 | 9,860,777 |
| TOTAL ALL STOCKS..... | 138,107,642 | 138,443,997 | 336,355 | 143,638,081 |

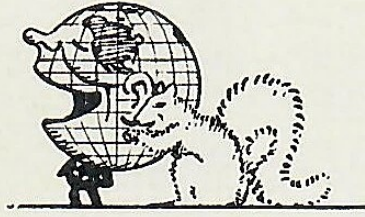
*Increase.

**Revised.

DEVELOPMENT

| DISTRICT | New Rigs Up | Active Drilling | Completed | Daily Initial Output | Active Producing | Abandoned Wells Drillers | Producers |
|-----------------------------|-------------|-----------------|-----------|----------------------|------------------|--------------------------|-----------|
| Kern River..... | 1 | 4 | ... | ... | 1,167 | 1 | ... |
| Mount Poso..... | 9 | 5 | 6 | 2,300 | 4 | 2 | ... |
| Fruitvale..... | ... | 6 | ... | ... | 2 | ... | ... |
| Round Mountain..... | 2 | 4 | 1 | 1,000 | 2 | ... | ... |
| McKittrick..... | 2 | 3 | ... | ... | 288 | 1 | 1 |
| Midway Sunset..... | 5 | 9 | 9 | 2,392 | 2,539 | 5 | 25 |
| Elk Hills..... | ... | 1 | ... | ... | 207 | ... | ... |
| Lost Hills-Belridge..... | 5 | 3 | 4 | 193 | 307 | ... | ... |
| Coalinga..... | ... | 1 | ... | ... | 789 | ... | 12 |
| Wheeler Ridge..... | ... | ... | 1 | 40 | 34 | ... | ... |
| Watsonville..... | ... | ... | ... | ... | 7 | ... | ... |
| Santa Maria..... | ... | 5 | 1 | 200 | 227 | ... | ... |
| Summerland..... | ... | ... | ... | ... | 89 | ... | ... |
| Elwood-Goleta..... | 5 | 4 | ... | ... | 4 | ... | ... |
| Rincon..... | ... | 6 | 1 | 565 | 20 | ... | ... |
| Ventura Avenue..... | 9 | 36 | 2 | 2,825 | 130 | ... | ... |
| Ventura-Newhall..... | 4 | 24 | 3 | 123 | 517 | 2 | ... |
| Los Angeles-Salt Lake..... | ... | ... | ... | ... | 325 | ... | 4 |
| Whittier..... | ... | ... | ... | ... | 170 | ... | ... |
| Fullerton..... | 1 | 3 | 1 | 2,075 | 379 | 1 | ... |
| Coyote..... | 2 | 1 | 1 | 250 | 210 | ... | ... |
| Santa Fe Springs..... | 103 | 158 | ... | ... | 293 | ... | 4 |
| Montebello..... | ... | 1 | 1 | 25 | 170 | ... | ... |
| Richfield..... | 3 | 9 | 1 | 225 | 267 | ... | ... |
| Huntington Beach..... | 7 | 10 | 3 | 683 | 566 | 3 | 8 |
| Long Beach..... | 31 | 157 | 21 | 40,803 | 800 | 2 | 2 |
| Torrance..... | ... | ... | ... | ... | 618 | ... | 3 |
| Dominguez..... | 2 | 1 | ... | ... | 73 | ... | ... |
| Rosecrans..... | 1 | 2 | ... | ... | 109 | ... | ... |
| Inglewood..... | ... | ... | 2 | 610 | 220 | ... | ... |
| Newport..... | 1 | 2 | ... | ... | 2 | ... | 5 |
| Seal Beach..... | 2 | 6 | 1 | 655 | 134 | 1 | 4 |
| Potrero..... | 1 | 3 | ... | ... | 1 | ... | ... |
| Miscellaneous Drilling..... | 10 | 118 | ... | ... | ... | 9 | ... |
| September..... | 206 | 582 | 59 | 54,964 | 10,670 | 27 | 68 |
| August..... | 149 | 468 | 57 | 30,058 | 10,663 | 17 | 21 |
| Increase..... | 57 | 114 | 2 | 24,906 | 7 | 10 | 47 |
| Average for year 1927..... | 97 | 404 | 75 | 39,992 | 11,276 | 23 | 21 |
| Average for year 1926..... | 95 | 422 | 76 | 32,635 | 11,288 | 24 | 17 |
| Average for year 1925..... | 105 | 417 | 79 | 42,247 | 11,393 | 28 | 12 |
| Average for year 1924..... | 103 | 510 | 103 | 42,412 | 10,903 | 28 | 21 |
| Average for year 1923..... | 111 | 759 | 82 | 114,690 | 8,928 | | |

REFINED AND CRUDE



While we read, on the one hand, of international compromises, negotiations, agreements, and what not, on the subject of war, we learn, on the other hand, of a disastrous debacle, as it were, in the offing.

* * *

For, alas for our hopes, within a few short weeks the entire population of these United States is to be plunged into a terrific struggle with turkey.

* * *

In future when there is a difference of opinion between nations it is to be hoped that they will adopt the time-honored practice of the dealers, and split the difference.

* * *

Otherwise they won't have a League to stand on.

* * *

Seven cents for a seat on a street car is not so bad when you remember that \$337,500 was paid recently for a seat on the New York Stock Exchange.

* * *

And for those who find entertainment in statistics we have to announce that the average income of the American workman is two a.m.

* * *

It has been definitely stated that there can not possibly be life on the planet Mars, or that planet would have been annexed by Los Angeles long ago.

* * *

Nevertheless, our bank balance frequently offers mute evidence of a lost race.

* * *

Speaking of two acquaintances, Fred Stone says: "The one was a Scotchman and the other didn't spend any money either."

* * *

Pessimism is the ruination of many an otherwise admirable character. The man who constantly complains that he is knee-deep in trouble is invariably kept on the wading list.

Nor is there anything to commend in the attitude of the fellow who, having been tried for murder and acquitted, complained bitterly because they didn't give him back his sash weight.

* * *

Election time is drawing nigh and we are reminded of the voter who indignantly protested that the ballot box was being stuffed. On being questioned he explained that he had noticed it the third time he went in to vote.

* * *

We have often thought that "The Handle" would be a very appropriate name for an airport. So many people could be induced to fly off the handle.

* * *

The chip on a man's shoulder is usually just a shaving off the block above.

* * *

A school teacher has defined "perseverance" as "the quality that carries a man along rough roads and smooth roads, up hills and down hills, through jungles and swamps and raging torrents."

* * *

"Perseverance" ought to be a pretty good symbol for Ethyl.

* * *

And a pupil of the same lady defined "etiquette" as "the noise that you mustn't swallow your soup with."

* * *

One of the participants in the tennis tournament last month, in his excess of energy, dropped his false teeth. Needless to say he lost the set.

* * *

Then there was the young fellow who got tired of going around with a girl of forty, and finally changed her for two twenties.

* * *

In conclusion we would like to tip off the golfers to some real inside information. If you are topping the ball, try teeing it upside down.

DESERT RAIN

Annie Campbell Jones

*Golden shafts of light, across a greying
sky,
Beams of rose and lavender, and white
clouds drifting by;
Tufts of green and amber, shimmering in
the haze,
Ragged lines of rocks and hills against the
western blaze.*

*Sudden, a gust of wind, a cloud that
hurries past
And patters in the sand, like bare feet
running fast,
A slanting veil of silver, athwart the
shining form,
And the desert is awake to meet the
batteries of the storm.*

