

★ UNION OIL BULLETIN ★



August
1935

Delivery Fleet Enlarged

The modern trend in commercial transportation is reflected in the design of new Union Oil Company gasoline tank trucks and lubricating oil truck. Operating efficiency and appearance are improved, and capacity increased. The four gasoline trucks shown below have a combined capacity of 10,541 gallons of gasoline and 190 gallons of motor oil, whereas the lubricating oil truck has a capacity equivalent to 1,643 gallons of motor oil and a compartment for 332 gallons of cleaning solvent.



UNION OIL BULLETIN



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BULLETIN No. 4

How Triton Eliminates Carbon Knock

HAVING DULY announced the interesting discovery that Triton motor oil, by virtue of its resistance to carbon formation, prevents carbon knock, the logical procedure now is to give some explanation of the manner in which this highly desirable circumstance is brought about. In the first place it should be very emphatically declared that *Triton does not dissolve carbon*, and when we say "carbon," of course, we mean the mixture of actual carbon, road dust in small amounts, and asphalt-like binder that forms in the cylinders of a gasoline engine. However, this type of carbon burns quite readily, to form a gas (carbon dioxide), and therein lies the actual basis of the method by which the carbon accumulation in the combustion chamber is reduced to ineffective proportions by the use of Triton.

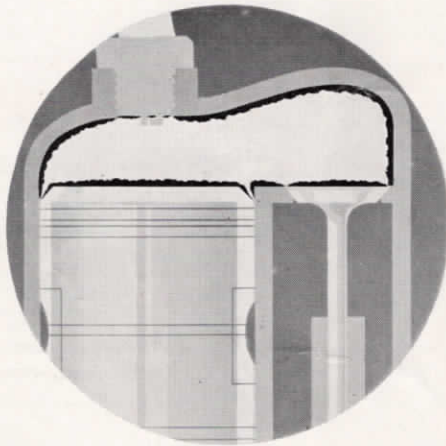
To understand thoroughly the reason for the reduction, it is necessary to return once more to a statement that was made in connection with the recent research laboratory study of motor oils and their relation to carbon knock. It will be remembered that, during the investigation, the discovery was made that in the same car and under the same

operating conditions, each type of motor oil has its own definite and constant carbon-forming limit. This limit is termed the "carbon equilibrium point," and indicates that, in progressive driving, starting with a clean engine, the rate of carbon deposition gradually diminishes, and finally reaches a point at which it is balanced by the quantity of carbon burned and eventually sluffed off in the exhaust stroke of the piston, so that no further appreciable build-up of carbon takes place. Also, it will be remembered that, in the road tests, Triton consistently had by a wide margin the lowest carbon equilibrium limit in all cars. Thus, in 5,000 miles of driving with high grade Pennsylvania oil, the limit was not reached until the octane requirement of eight cars was increased from 7 to 14 octane numbers, while, with Triton in the same eight cars, the limit was reached at an average increase of less than two octane numbers.

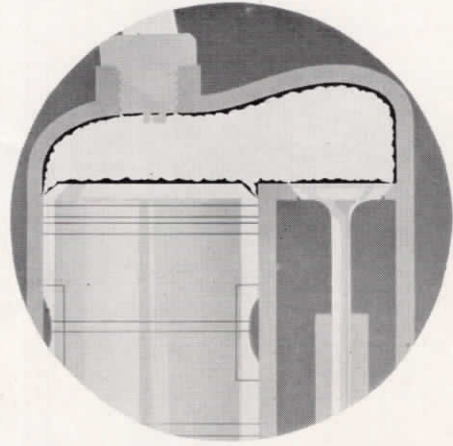
This difference in equilibrium points is of tremendous importance, and its discovery is due to the fact that the research department adopted the novel and ingenious method of

Process of Carbon Removal

Excessive carbon accumulations resulting from the use of less stable oils, are gradually reduced, with elimination of knocking, in the presence of Triton. The sketches depict, in somewhat exaggerated form, the various stages of the reduction. The changes in octane requirement of the hypothetical motor are actual figures determined in one of the cars used in a recent test. This motor required Ethyl Gasoline to prevent knocking when in the carbonized condition, but after 4,000 miles of operation on Triton, performed smoothly and efficiently with "76."



Condition of carbonized chamber when lubrication with Triton started. Octane requirement—79.



At 500 miles, carbon slightly reduced and surface cracked into small, irregularly-shaped sections. Octane requirement—77.5.

determining carbon depositions through their effect on the octane requirement of the motors. Consequently, they were able to measure progressive depositions through any driving period without, in any way, disturbing the condition of the combustion chambers during the tests. If the old "scrape off and weigh" system had been used, it is obvious that, at the end of each short driving interval, the motor would have been cleaned of all carbon, so that the accumulative effect would have been lost, and the carbon equilibrium stage, therefore, would never have been reached.

It was pointed out in preliminary announcements that the elimination of excessive carbon through the use of Triton was directly attributable to these differences in carbon equilibrium points. When four cars, that were operated over a sufficient distance with Pennsylvania oil to have acquired the maximum carbon accumulation, were changed to Triton, the octane requirements of the motors were reduced an average of seven octane numbers in an additional driving period of 4,000 miles. This was caused by actual

elimination of the excessive carbon formed in the first 8,000 miles by the Pennsylvania oil. Triton, however, does not eliminate the carbon by solvent action; in fact, it is perhaps more correct to say that Triton doesn't eliminate the carbon at all. Triton simply permits the normal removal of carbon to go on with a minimum of interference. Any motorist who has driven along the highway behind another car at night knows that carbon removal is something that is going on all the time in every car. These sparks that you see flying from the exhaust pipe of the car ahead are merely small chips of incandescent carbon. But why should prior excessive accumulations disappear when the crank case is filled with Triton? That's where the extremely low carbon equilibrium point of the propane-solvent refined oil becomes a big advantage.

We shall understand the process more thoroughly if we first start off with a clean engine, and follow the progressive carbonizing effect of the less stable oil. As soon as the motor starts to operate, things begin to warm up and, in a very short time, small quantities of lubri-

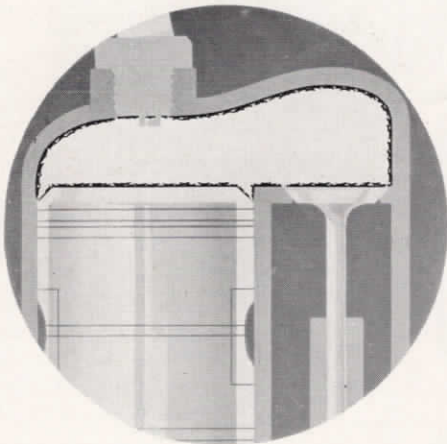
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cating oil begin to find their way into the combustion chamber. At the high temperatures developed in this compartment, portions of the lubricating oil are evaporated and partly consumed.

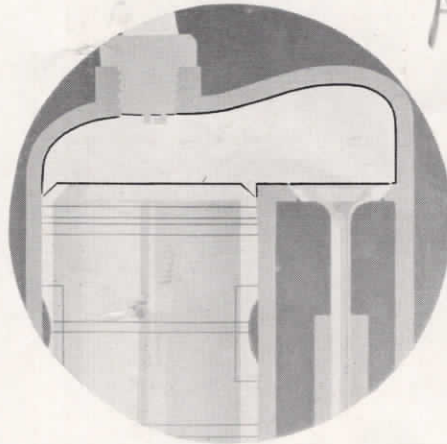
Lubricating oils are composed entirely of hydrocarbons; that is to say, they contain the two elements hydrogen and carbon only. If they were completely consumed in the com-

If no change occurs in the controlling factors this balance will continue indefinitely.

But, let us institute just one change, and see what happens. Let us drain the crankcase, and simply fill up with Triton without making any further change—mechanical or otherwise. Now we are using an oil with a very low carbon-forming tendency, and a very low carbon equilibrium point for the



At 2,000 miles, small sections have turned up at edges, been partly burned off, and now look like a group of little carbon islands. Octane requirement—74.



At 4,500 miles, islands have burned off completely, and practically all that remains is the fine, sooty film normally deposited by Triton. Octane requirement—71.5.

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bustion chamber there would be no carbon left, because carbon burns to form carbon dioxide, and hydrogen burns to form water vapor, both of which are gases and would simply vanish out through the exhaust pipe. Being only partly consumed, however, the carbon particles and carbon binder form a film on the walls of the combustion chambers, the piston heads, and valve ports. Where this carbon has a few projecting points, it becomes ignited and burns off, but not so rapidly as new carbon is deposited. Gradually, as the operation proceeds, the deposition builds up and a little more is burned off, but, as the deposition increases, it exerts an insulating effect on the chamber walls and slowly raises the combustion temperature in the chamber. As the temperature rises, the quantity of carbon burned off becomes greater, and, as is shown by the change in octane requirement of the motor, this process continues progressively until the quantity of new carbon deposited exactly equals that burned off. This is the stage known as the equilibrium point.

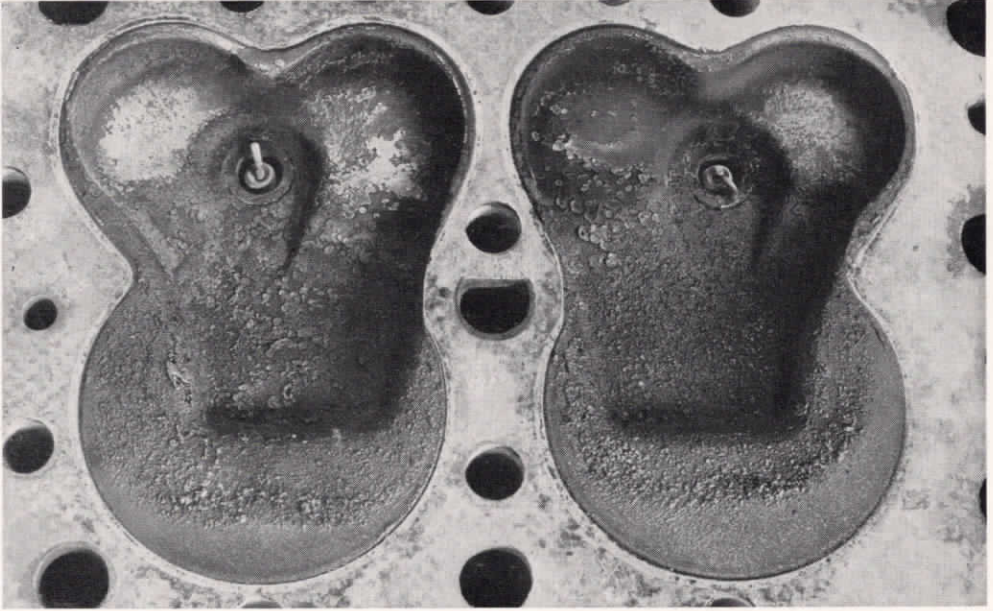
same car. We step on the starter and off the motor goes again, but this time, from the very beginning, the quantity of carbon burned off exceeds the quantity deposited, and through the same old process we go again, excepting that now it is reversed. As long as the burn-off exceeds the deposition, the insulating effect of the carbon on the walls is continually reduced, so, correspondingly, is the maximum temperature, and so, correspondingly, is the carbon elimination. Thus, over the backward trail we again reach the point where, as the bank clerk might say, deposits and withdrawals are equal; and thus, precisely as we have depicted, does the use of Triton either prevent or eliminate carbon knock.

The whole process of carbon removal in its various stages can be seen by taking the cylinder head off the motor at intervals, and examining the quantity and character of the carbon deposits. When Triton is introduced into a carbon-fouled engine, the carbon film continues to check into small sections, in the

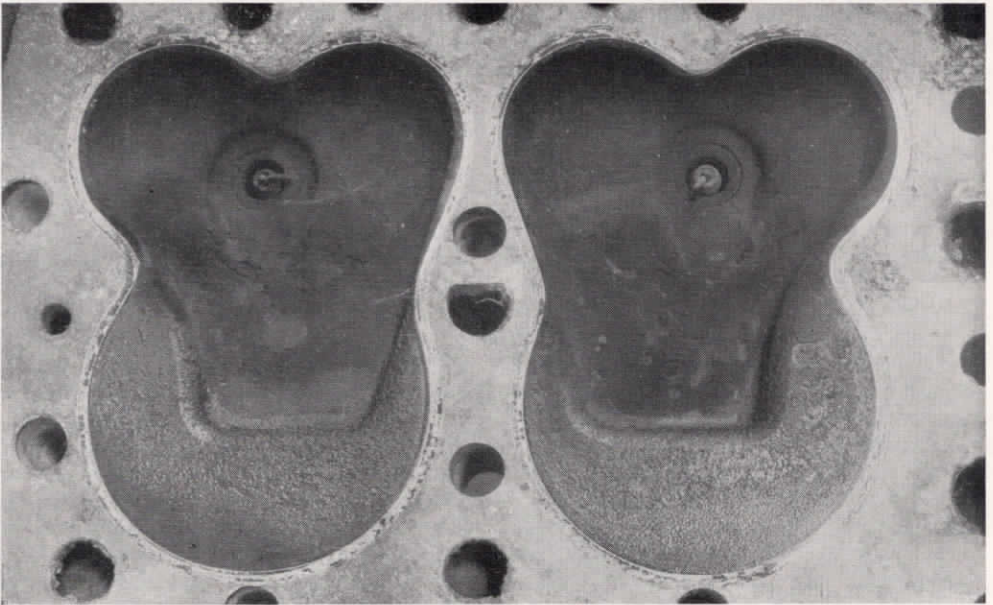
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Comparison of Carbon Depositions

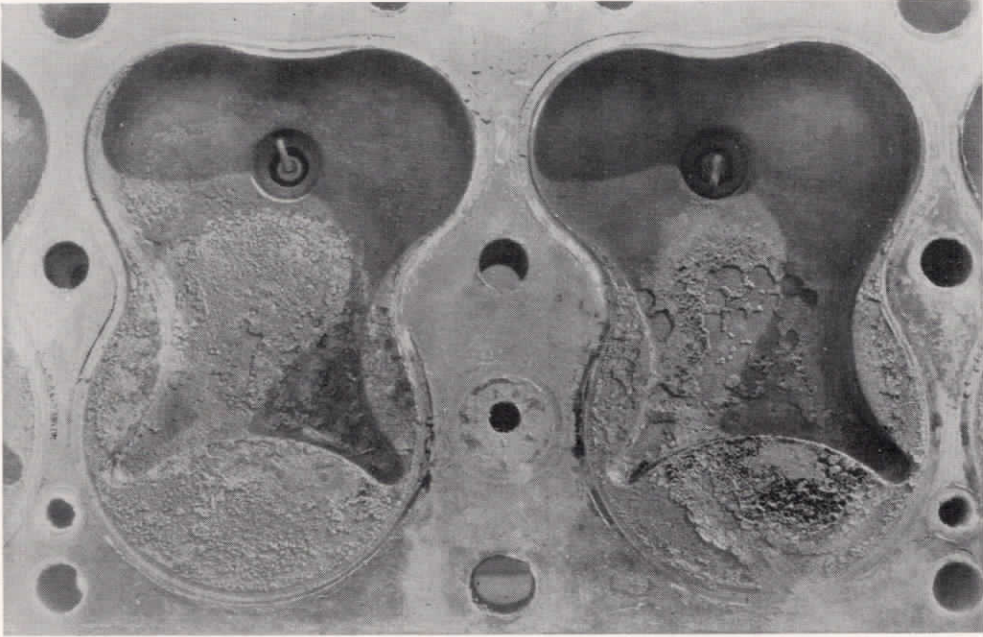
On this, and the following page, are actual photographs of cylinder heads, showing the difference in carbon deposition resulting from the use of a Pennsylvania oil, and of Triton, in the same engines.



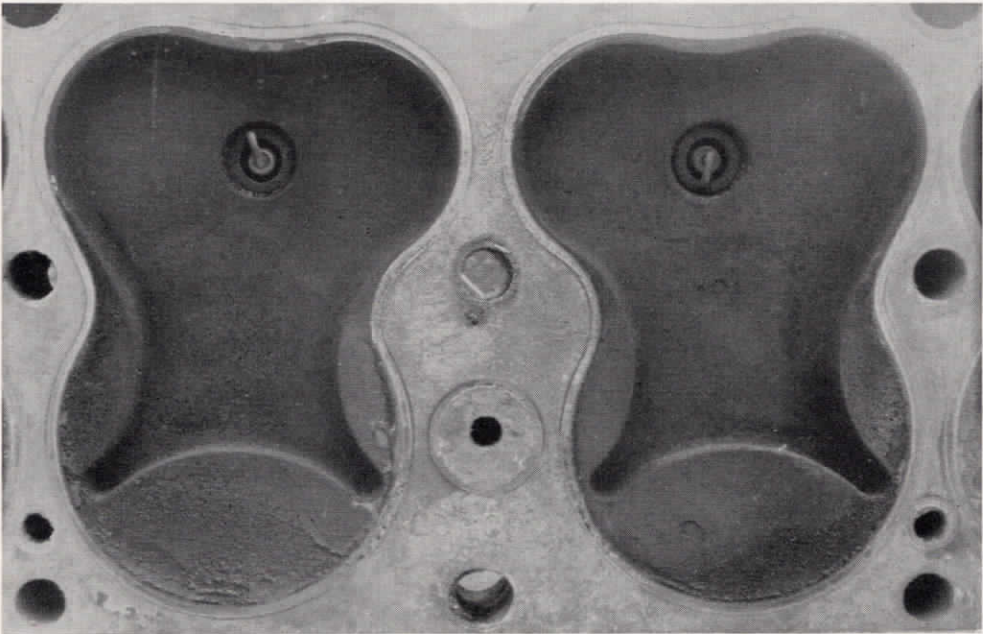
Carbon deposition in Ford V-8 after 4,500 miles of operation with Pennsylvania oil.



Same Ford V-8 as above after 4,500 miles of operation with Triton.



Carbon deposition in 1933 Oldsmobile after 4,500 miles of operation with Pennsylvania oil.



Same Oldsmobile as above after 4,500 miles of operation with Triton.

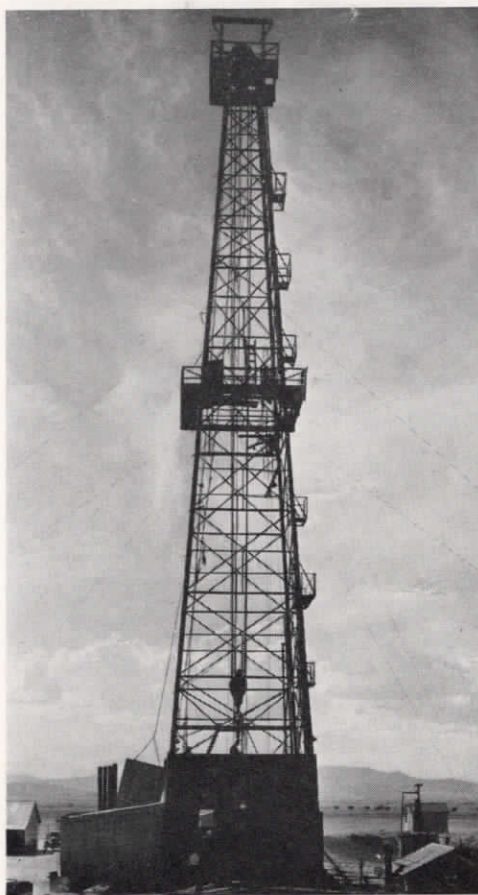
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manner of a paint film. These sections peel, and turn up at the edges, like so many bran flakes, after which they slowly burn down, until they become so light and detached, they simply blow out the exhaust pipe. Thus, at the end of four or five thousand miles, the original crustation has been almost completely replaced with a thin, sooty film—the normal Triton deposition.

This is an experience that every motorist who is the victim of carbon knock can enjoy for himself without any other outlay than the normal operating expense. Triton oil, used in conjunction with the grade of gasoline for which the motor was originally designed, offers absolute assurance of freedom from carbon knock.



Union Oil Sets Heaviest String of Casing



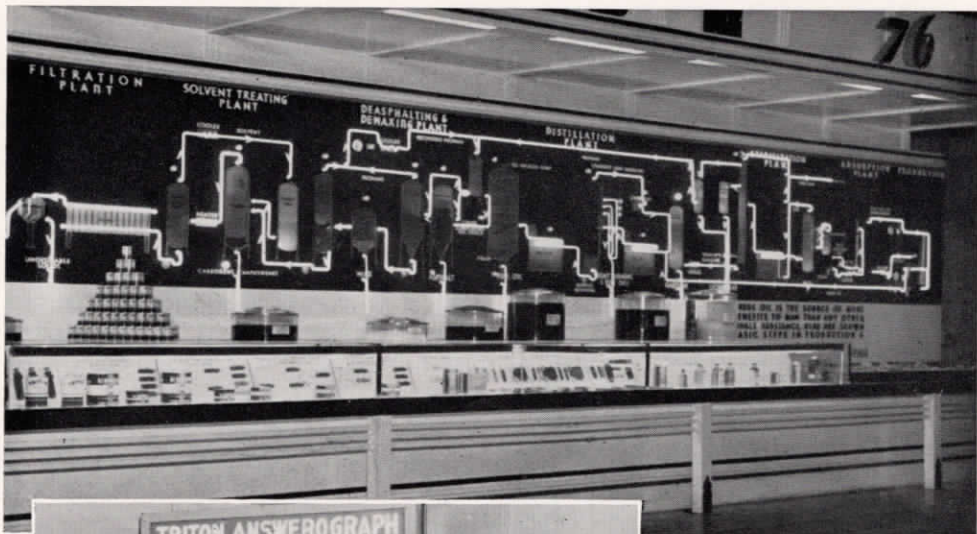
Lillis Welch No. 1

DURING THE month of July, the heaviest string of casing ever set in any well drilled in California, and the longest string of comparable size ever set in any part of the world, was run in and cemented off by the Union Oil Company. This occurred in the Lillis Welch No. 1 well which is being redrilled by the company under contract with the North Kettleman Oil and Gas Company, and which is located in the northwesterly portion of Kettleman Hills about two and a half miles northwest of the Union Oil Company's Amerada lease.

After a number of unsuccessful attempts to redrill the well, the company removed the original 7-inch casing and resumed work from the end of the 11 $\frac{3}{4}$ -inch casing at 6,710 feet. In drilling ahead, there arose the difficulty of keeping such a large amount of open wall in condition, so, upon reaching 9,085 feet, 8 $\frac{5}{8}$ -inch casing was set to 9,081 feet.

This record string weighs 36 pounds to the foot. Standard casing and couplings were used, with the exception of the last 2,900 feet which is special, high tensile strength casing with thin couplings. The total weight from grass roots to bottom is 326,916 pounds—about the weight of a passenger locomotive and tender.

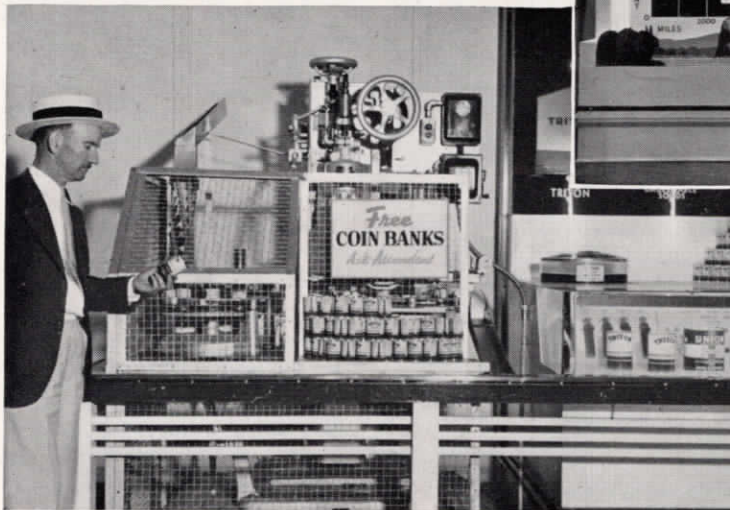
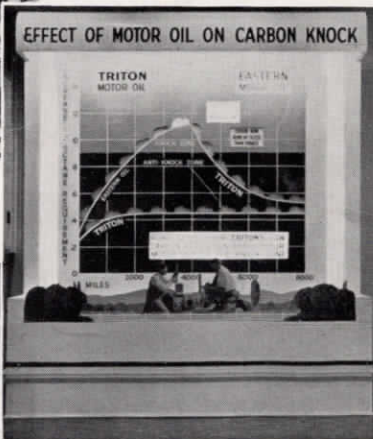
At present the well is being drilled ahead around 9,200 feet, and it is planned to set 6 $\frac{7}{8}$ -inch casing to about 10,900 feet. If successful, the weight of this string will exceed 305,000 pounds.



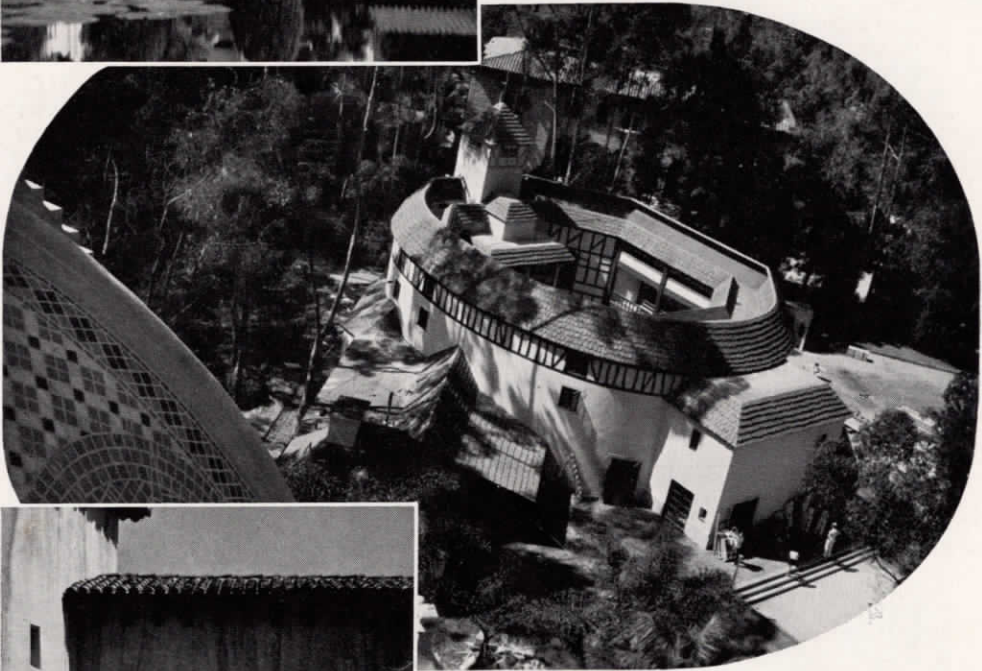
Triton "answergraph." By manipulation of electric buttons mounted on control cabinet in foreground, answers to twelve questions dealing with motor oils are flashed on panel in background.

Union's San Diego Exposition Exhibit

Above is animated "flow sheet" showing basic steps in manufacturing major products of crude oil, as well as complete process for manufacturing Triton motor oil.



Above: Mechanically-operated display, showing how carbon knock is removed by use of Triton. Left: Canning machine where miniature Triton cans are sealed, to be given exhibit visitors as coin banks.



Visiting the Exposition

Above: To the left is the Palace of Better Homes, and, to the right is a corner of the huge Ford exhibit. The Globe Theatre, in the center, is an exact replica of London's famous home of Shakespearean plays, and, below, is a section of Spanish Village.

Yarns of Yesterday

SOME YEARS ago, F. F. Hill, director of production, was driving along the side of Signal Hill on a casual inspection tour. Suddenly, without warning, and for no immediately obvious reason, the windshield of his car became spattered with mud, which gradually spread until vision was completely impossible. Driving out of the danger zone, he drew to one side, and gingerly returned to investigate. To his surprise a fishtail bit squirmed happily through the side of the hill, faltered for a brief moment, and an angry overshot promptly darted out, seized the recalcitrant drill, and dragged it back into the hole.



IN THE early days of the Union Oil Company, much of the drilling activity was centered in Adams Canyon, up in the Santa Paula district, California, and in these early times the principal means of transportation was the old horse and buggy.

There was a regular service of this sort from Adams Canyon to Santa Paula, a distance of about seven tortuous miles, and the driver of the conveyance had frequently been irked by Chester Brown's repeated boast that he could run to town faster than the horses. The feud eventually resulted in the acceptance of a challenge by the teamster, and a day was set for the big contest. It was agreed in advance that Chester Brown should carry with him a number of small light flags, one of which he was to implant at certain pre-arranged intervals, in order to keep the driver of the buggy posted on his progress.

On the appointed day the contestants took their places, and with the rousing cheers of the assembled drilling crews ringing in their ears, they finally started off on the historic race. Chester Brown took to his heels, and in a classic outburst of speed tore around the first corner well ahead of the team. That

was the last the driver saw of him that day, but he saw the flags, set up as arranged, and as each one came in sight he lashed his horses furiously in a futile effort to catch up with the speed demon.

But he never made it. When Chester Brown dashed around that first corner it was the end of the race as far as he was concerned, for, as soon as he was out of sight, he dodged into the brush and, after the team had gone by, leisurely ambled back to the starting place. The flags had been set up by one of the night men hours before, and when the chagrined driver returned next morning, Chester Brown unblushingly informed him that he had got tired waiting in town for him to show up, so had gone back to camp.



IN THE year 1869, Pennsylvania oil producers had managed to maintain crude prices at a fairly substantial level, averaging from \$5.12 to \$6.00 per barrel, but in the beginning of the following year Old Man Depression reared his ugly head, and before anything could be done about it, the market had slumped away down to a meagre \$4.25 per barrel.

Just as we might expect today, under similar circumstances, this called for a general conference, and accordingly, on June 29, 1870, the producers met en masse at Liberty Hall, Oil City, to discuss ways and means of mending the distressing situation. That perennial disturber of the peace "overproduction" was, as usual, unanimously agreed to be the culprit, and it was further agreed that curtailment was the only remedy. A committee was immediately appointed to "canvass the subject," and develop plans for the closing down of all wells for a period of ninety days.

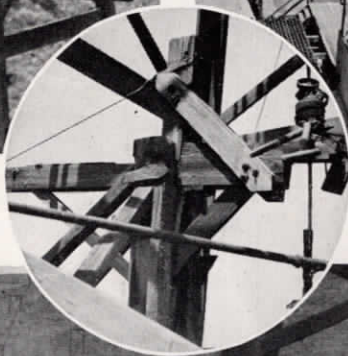
The head of that committee was Lyman Stewart.



Weather-worn Grimes No. 4, at Bardsdale, still a producer after more than 40 years. Center: Pumping equipment of the well.



Dryden No. 1, exploration well at Bardsdale. Contrast this equipment with that of Grimes No. 4. Below: Old method of pumping at Bardsdale, with jack lines shown at left.



Old and New Contrasted at Bardsdale

IN RECENT weeks there has been injected in the company's Bardsdale oil field, in Ventura County, the element of contrast between the old and the new. Believing that commercial production might be found at lower levels in the field, the Union Oil Company is drilling an exploration well, the Dryden No. 10, several hundred feet south of the present producers.

In appearance, Dryden No. 10 presents a picture no different from that of thousands of other wells drilled in recent years, but, when contrasted with the old, short, weather-beaten wooden derricks close by, something of the tremendous progress evolved in the oil industry in the last half century becomes strikingly apparent. It is a regulation steel derrick of 136 feet in height, equipped with a rotary drill, and is operated entirely by electricity.

The Bardsdale oil field was developed in 1890-1894 with cable drilling tools and steam. All of the wells are shallow, and the wooden derricks are no higher than from twenty to forty feet. For the last thirty-five years these wells have been on pump, however there are few wells in California or anywhere else that have been producing for close to forty-five years, as many have been at Bardsdale.

Were you to visit this field now, there would be evident the contrast between the tools which were utilized by the production department almost half a century ago under the supervision of Lyman Stewart, W. L. Stewart, Sr., Chester Brown and their associates, and the modern equipment now used under the guidance of W. W. Orcutt, F. F. Hill and A. C. Rubel. Some of the original equipment still can be found among the hills where the field is located. It appears quite crude now, even to the layman, yet at one time this machinery represented the best equipment to be purchased.

G. L. Armstrong, who has operated the Bardsdale field since 1900, can recount many interesting stories relative to the field. He

has known hundreds of oil men during his life in the industry, and has watched the extensive progress realized in production methods. Also, from his work at Bardsdale, which has included the installation of the pumping system, he is capable of drawing accurate contrasts between equipment and methods of many years ago and those of today.

Mr. Armstrong points with pride, to anyone interested, to the pumping power nearest his home. For almost thirty-five years it, too, has been giving efficient service and has yet to break down. Not long ago someone computed that its single large piston has traveled back and forth the equivalent of more than a quarter million miles. At present the power is operating as efficiently as ever, yet no repairs, other than two sets of engine piston rings, have ever been necessary. In fact, the bearings have never been replaced.

The pump is operated by a 20-horsepower gas engine which is fueled with natural gas from the Bardsdale wells. For ignition, a "hot tube" takes the place now occupied in more modern motors by the magneto. It was manufactured by the Titusville Iron Company, Pennsylvania, installed on July 9, 1900, and put in operation two days later. In the first four years, it was in operation twenty-four hours a day. Since then, it has been operated on an average of ten hours a day, yet only a ten-minute inspection once a week seems necessary to maintain the unit in good condition. During the first thirty years of its service, the pumping jack pulled fifteen wells, and in the last five years it has been pulling twelve wells. The wells are from 600 feet to 1,600 feet deep. Although there must be other power units of similar nature which have established long service records, from point of efficiency and economy this plant has established a very remarkable record. Mr. Armstrong, who has operated it throughout its life, believes this is a case where an excellent piece of machinery has been maintained through use of a Union Oil Company lubricant.

A Successful Partnership

A RECOUNTING of the history of Sudden & Christenson, engaged in lumber and shipping businesses, is difficult, for, due to limited space, there must be excluded much of the part romance and drama played in the pioneering days of this firm whose predecessor organization began operations long before the time of the Alaskan gold rush.

Captain Robert Sudden and Captain Oliver Christenson, two pioneers of the present Pacific Coastwise trade, began operations out of San Francisco Bay with two small schooners more than half a century ago. Captain Sudden maintained a service as far south as Hueneme, California, which subsequently developed into the Pacific Coast Steamship Company and thence into the Admiral Line of today. Captain Christenson operated a service to the north of San Francisco.

The sons of these two shipmasters, Edwin A. Christenson and Charles E. Sudden, believed there was an opportunity for their enterprise in the Alaskan gold rush, and succeeded in setting up a sawmill at White

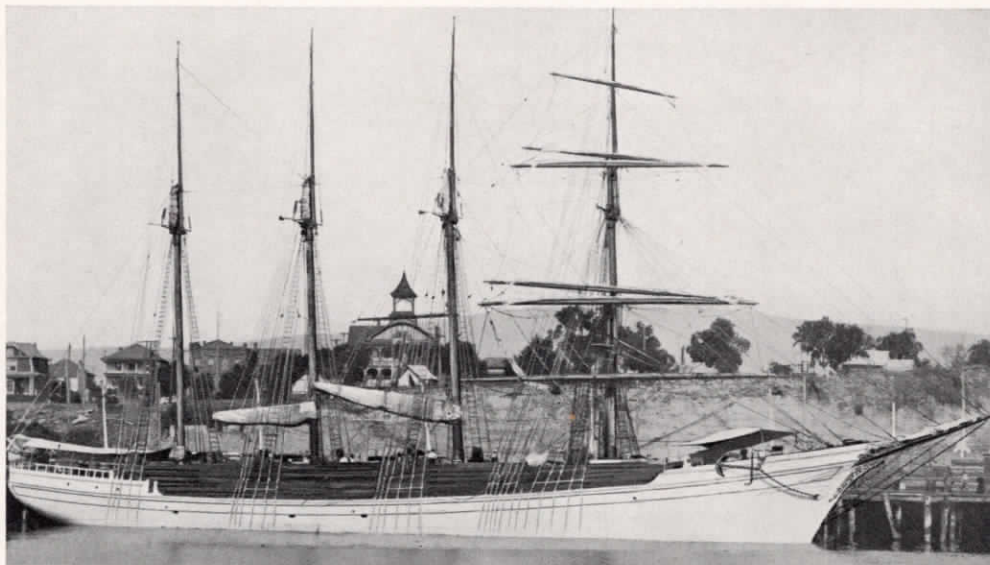
Horse Rapids. Here they supplied lumber for the construction of barges for use in the river trade with Dawson. However, an explosion in the boiler of the plant completely wrecked this first venture.

Upon their return to San Francisco, in 1900, a partnership was established. At inception of the organization, the two young men alone comprised the entire personnel. They started in a little office on lower Market Street to deal in lumber and shipping. Their business grew by degrees and, after a few years, it was decided to incorporate, at which time Mr. Christenson became president, a position which he retained until his death in a yachting accident in 1922.

Excluding the ill-fated venture at White Horse Rapids, Sudden & Christenson's first lumber enterprise involved the acquisition of the Prosper Mill Company at Prosper, Oregon, on the Coquille River. This plant, very small by present standards in the lumber industry, operated at that time primarily as a white cedar mill and had the distinction of furnishing cedar decking for some of the world's outstanding yachts.



The S. S. "Eleanor Christenson" being bunkered by the Union Oil Company at Los Angeles Harbor.



The Barkentine "John C. Meyer," one of the early vessels owned and operated by Sudden and Christenson.

The company's shipping affairs likewise expanded under Mr. Christenson's guidance. Sailing ships were built and operated in nearby trades. Several of these old windjammers are still afloat; among these is the "Sophie Christenson," now being employed as a cod-fisher on Puget Sound.

In keeping with the progress in shipbuilding, the young shipowners turned, in due course, from sail and wood to steam and steel. The World War gave a tremendous impetus to both the lumber and shipping activities of the firm. During this period, the organization contracted for a vast amount of tonnage under time charter, and at one time was operating fifty-five government-owned carriers in addition to their own fleet.

In 1923, Sudden & Christenson were appointed Pacific Coast general agents for the Hamburg-American Line, maintaining frequent sailings from this range to Hamburg and other European ports. Later they were named general agents on the Pacific Coast for the Klaveness Line in the Pacific Coast-Oriental trade. In addition to this, at the present time the company serves as Southern California agents for the Reardon Smith Line, in the United Kingdom trade; the United Fruit Company, in the Central American run; and the Fern Line. Also, the Reardon Smith Line is represented at Seattle,

Washington, by Sudden & Christenson. To handle its own and agency business, the company maintains steamship offices in Los Angeles, San Francisco, Oakland, Portland and Seattle. Furthermore, its ramifications through special agency connections extend to all parts of the world.

The lumber business of the company has grown substantially and now comprises sawmills on Grays Harbor and Willapa Harbor, Washington; box factories at San Francisco and Valley Springs, California, several retail lumber and building material yards in various parts of Northern California, and timber holdings in the Pacific Northwest. Much of Sudden & Christenson's lumber production and selling is conducted by subsidiary and affiliated concerns, with the result that the complete extent of its lumber operations is not generally identified outside of the industry.

The present officials of the company are: Arthur B. Cahill, president; L. C. Stewart, C. H. Chandler, and Henry Hess, vice-presidents; and F. C. Lawler, secretary-treasurer.

At the present time, Sudden & Christenson own a fleet of twelve steamers operated in the intercoastal trade and in the Pacific coastwise route under the name of the Arrow Line. The Union Oil Company furnishes all fuel oil requirements of these ships.



P. D. Richards, transportation manager of Southwestern Portland Cement Company, discussing the merits of Triton motor oil with one of the truck drivers.

Triton Proves Qualities Under Extreme Conditions

APPROXIMATELY 9,000 miles a month is the speedometer record so far of each of the four thirty-ton trucks purchased by the Southwestern Portland Cement Company in January and February of this year. These handsome vehicles—Sterling tractors, powered with 125 horsepower Cummins diesel motors, and of the dual axle semi-trailer type—are the last word in cement hauling equipment, and throughout the wet period that marked the beginning of the year, not a single sack of spoiled cement could be charged against the fleet. No wonder P. D. Richards, transportation manager, is proud of his fleet.

"P. D.," as his associates address him, watches over the quadruplets with as much care as Dr. Dafoe bestows on the famous quins; he controls their diet just as zealously and, to complete the parallel, he even takes their temperature occasionally as you shall presently read. Every vestige of grease, lubricating oil, and fuel necessary to

their operation and maintenance comes from the refineries of the Union Oil Company, and it is obvious from the records that their administration is no haphazard affair. The transportation manager is an individual who can only be influenced by actual measurement and test, and he demands the most complete and accurate performance data. The information already compiled in his test files, although covering a comparatively short period, is exceptionally interesting in character, and not only gives a highly illuminating insight into the science of transportation management, but also bears stout witness to the stability and all-around excellence of Union Oil Company's propane processed lubricating oil, Triton.

As has been intimated, the trucks operate continuously 24 hours a day through a system of relief drivers. Every driver is required to turn in accurate statements covering such pertinent information as mileage, oil consumption, fuel consumption,

mechanical adjustments, and other innumerable factors that interest a transportation engineer. These facts are duly entered in the log and, although they constitute a formidable array of statistics, they are nevertheless still insufficient to satisfy the demands of the boss. It is a standing rule, in addition, that every driver at alternate lubricating oil changes shall take samples of the used oil and forward them to the Faber Laboratories for examination. There the crankcase oils are tested for viscosity, free carbon, sludge, dilution, metal cuttings, etc. The results of these tests, together with the information hitherto acquired, is used to define the extent to which the oil has deteriorated in a given mileage period, and determines the mileage intervals at which future oil changes must be made.

Supplementing the truck drivers' reports and laboratory tests, a systematic check also is made of the retardation of oil flow in the motor; and the operating temperature, and general mechanical condition of the engines is determined. With all this mass of data at his command, the transportation manager is obviously in a position to determine without much question just what kind of service he is getting out of his equipment. Here is the story as Mr. Richards tells it.

Each of the four trucks working out of the Victorville plant has averaged about

9,000 miles a month. On the basis of the crankcase oil analyses, Faber Laboratories establish what they believe to be a conservative lubrication factor for each truck, and following are the actual oil change intervals recommended by this system:

Truck No. 10.....	2,000 miles
Truck No. 12.....	2,200 miles
Truck No. 14.....	2,000 miles
Truck No. 16.....	2,500 miles

Allowing for a generous safety margin, however, the mileage intervals have been stepped down to 1,500 miles, and the drivers are obliged to change oil after every period of this duration. The charge of fresh oil in each case amounts to five gallons, and the statistics accumulated to the present time show that the replenishment averages one quart per 1,500 miles of travel, and, including drains, refills and replenishments, the trucks are operating at the highly satisfactory rate of 71 miles per quart of Triton—an excellent record for heavy service of this nature.

The laboratory reports on the used oil, throughout the entire period of operation, have been very gratifying. Only on one occasion has any indication of sludging been noted, and this, described in the report as "trace," was believed to be due to the presence of a small quantity of extraneous water



One of the large ten-wheel, semi-trailer Sterling tractors used by Southwestern Portland Cement Company, which is capable of transporting 400 sacks of cement in one load.

that had, during unusually humid weather, condensed somewhere in the lubricating system, and had formed a slight trace of emulsion. The "free carbon" columns in the laboratory reports so far have consistently shown "nil," and only one report revealed a faint trace of metal cuttings, which was entirely absent in succeeding runs on the same truck. There has been no evidence of

retardation of oil flow in any check made, and the operating temperature of the engines has remained normal at all times.

The fleet has been in continuous operation in this gruelling service for more than seven months. As an evidence of the efficacy of Triton, one truck actually has been run in excess of 25,000 miles without having a valve touched, or a single injector lifted.



J. B. Williams Promoted

ON JUNE 20, last, J. B. Williams was appointed manager of operations of the sales department, reporting to V. H. Kelly, director of sales.

Mr. Williams has been with the Union Oil Company since 1909, and has established an enviable record in the last 26 years. He began his career with the company in Pasadena, spending the first few months driving a horse-drawn fuel oil tank truck. After this, he became yardman at Pasadena, and then advanced through every position until 1919, when he became special agent of Pasadena territory. For the next eight years he continued in that capacity, but, in 1927, he was transferred to the Los

Angeles district to become assistant district sales manager.

The next advancement came in April, 1928, when he was named sales manager of the Los Angeles district, and, later in the year, he was placed in charge of the company's Southern Division. In February, 1931, he was appointed assistant manager refined oil sales, which position he has left to assume his present duties commensurate with manager of operations. Mr. Williams has been active in the civic progress of Pasadena and environs for the last twenty-five years, and is a past president of that city's Chamber of Commerce and Civic Association.



J. B. Williams



The Cover

With the summer so unusually warm, it was not difficult to pick a suitable subject for the cover of this issue of the Bulletin. The small sailboat is typical of hundreds to be seen all along the Pacific Coast, plying here and there with the aid of cool ocean breezes.

Scenes on the back of the cover were taken in the Northwest, the Giant Redwoods

forest, and on a Southern California beach. Considering these and countless other beautiful and pleasant points of interest where, together, every type of sports and recreation is possible, it is little wonder that so many from all parts of the world are visiting the Pacific Coast this year. Then, too, there is America's 1935 Exposition at San Diego.

New Tire Covers Distributed



New Triton tire covers, and "76" tire covers with new design, are available to Union Oil Company employees and dealers for personal use (dealers note recent broadside) either in drum or rim type. Covers may be ordered by letter direct to the Advertising and Publicity Department specifying size, type, and number desired (one or two).
In this way, any size tire can be fitted.

Union Oil Plays Host to Scientists

WITH MANY of the world's noted chemists present, the Union Oil Company played host to the members of the American Chemical Society on August 23, when they inspected the company's Oleum refinery. The primary reason for visiting the refinery was to go through the new lubricating oil plant where, by application of the propane solvent process, Triton motor oil is manufactured.

This comprised the feature of the last day of the Society's ninetieth annual convention, held in San Francisco during the five days from August 19 through 23. Incidentally, this convention was the first to be held by

the Society on the Pacific Coast in many years.

Among those from the Union Oil Company to attend the convention were R. E. Haylett, director of manufacturing and research; U. B. Bray and C. D. Barnes, research supervisors, of Los Angeles; T. F. Ott, assistant manager of research, and P. S. Clarke, research chemist, of Oleum refinery.

At the convention, U. B. Bray, in collaboration with W. H. Bahlke of Standard Oil Company of Indiana, presented a paper entitled "Propane Processes for Refining of Lubricating Oil" which dealt with the de-asphalting phase.

Right: Prepared tamale material entering cone-shaped automatic paper wrapper. Below: General view of tamale room.



Tamales Automatically Made and Wrapped

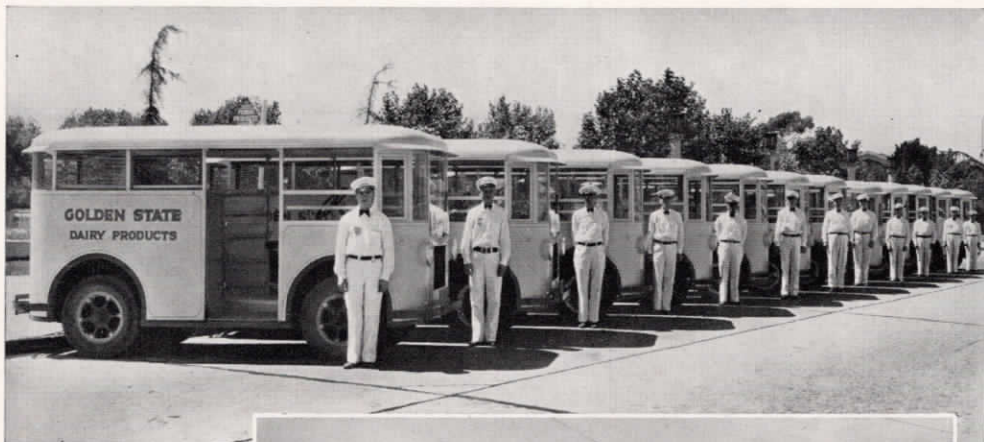
IN THE plant of W. H. Booth & Company, Inc., Santa Ana, California, canners of Keno chili products, a unique and interesting machine is in use. The machine not only automatically shapes and forms the tamales, but it wraps them in vegetable parchment paper without the slightest intervention of a human hand. Thus, the old method of shaping and wrapping tamales by hand has been replaced by one which not only is sanitary, but rapid. Some 600 tamales a minute—or 36,000 an hour—can be made by this new process.

After being pre-cooked in large copper kettles, both the corn meal and the meat mixture are pumped to separate hoppers. From there the ingredients are forced, under pressure, through the device which forms the tamale—a center of meat mixture coated with corn

meal. The material is then discharged at the bottom of the hoppers in the shape of one long tamale onto a moving strip of vegetable parchment paper. Two variable speed motors synchronize the speed of the paper with the tamale material.

Moving through a cone-shaped metal horn, the paper is wrapped automatically, after which other devices space the tamales in proper length, crimp the ends and cut them apart. The finished product then is conveyed onto a belt of stainless steel, where operators pack cans, which, in turn, are conveyed to a saucing machine, and thence to the steam retort for final cooking.

In this manner, W. H. Booth & Company, Inc., makes the ever-popular "hot tamale." The firm uses Union Oil products exclusively.



A group of Golden State delivery trucks.

Right: Recently completed plant at Richmond, of early California architecture.



Golden State Company, Ltd.

TWENTY-FOUR hours a day, every day in the year, some 1,200 Golden State trucks and cars are rolling over California high-ways. Milk, one of the most necessary of all foods, must be handled carefully and constantly, and this fleet is the connecting link which makes possible the livelihood of forty thousand people on six thousand farms. The company alone has nearly 2,500 employees operating out of forty strategically located plants.

Strangely enough, the Golden State organization had its start not with milk, but with one of milk's most important products, butter. Humboldt County, in Northern California, has been famous for its dairy produce for more than 75 years. Thirty years ago, one of the best known manufacturers of butter in the district was the Central Creamery of Ferndale. So great was the demand for its products that, in 1910, the company made its headquarters in San Francisco.

From this point on the company grew rapidly. Two years later the name was

changed to California Central Creamery and the brand name "Golden State" was adopted.

In the years from 1925 to 1930 the company went through a period of important expansion. A complete dairy products service was evolved, and milk and cream manufacturing and distributing centers were established throughout the important population centers of the state.

Today Golden State sells milk, cream, cheese, evaporated milk, ice cream, butter, and a complete line of dairy products from Del Norte County, on the Oregon line, to the Imperial Valley in Southern California. Due in part to a new and revolutionary spray process for the manufacture of dry milk, invented by Golden State, California dry, powdered, whole and skim milk is shipped all over the world by the company. Incidentally, the company leads all firms in the nation in the exportation of tinned butter.

The Golden State Company, Ltd., is a customer of the Union Oil Company.



Above: Changing from bus to cars, to reach the top of Torrey Hill.

Right: Gathering around the open-air "cafeteria" for a much-enjoyed lunch.



Girls' Club Visits Historical Spots

ESCORTED by A. C. Rubel, manager of field operations, forty-two members of the Union Oil Girls' Club visited historical old Torrey Hill, in Ventura County, as guests of the field department. Starting early in the morning, recently, from the company's head offices in Los Angeles, the party traveled by motor bus over a route leading through Santa Susana Pass and Grimes Canyon to the base of Torrey Hill, where automobiles were employed to reach the summit.

Tables and benches had been built for the occasion, and a delicious barbecue was fully prepared when the girls arrived and were welcomed by some fifty members of the Ventura district. After having lunch, the afternoon was spent in hiking through the hills.

The oil field at Torrey Hill was one of the

first developed by a predecessor company to the Union Oil Company when, in the 1880's, commercial production was discovered. Production still is derived from these wells by use of pumps.

Concluding an interesting day, the party returned through Santa Paula, where the original offices of the company were visited, and thence along the Pacific Coast via the Roosevelt Highway to Los Angeles.

The field department plays host to the Girls' Club each year, and the trips are always well attended, since they touch some of the most interesting spots in California. Only one small mishap delayed the party the last trip, when a tire went flat on the way and the bus driver lost his cap—to a charming young lady.



Play Ball

Recently, Head Office and Los Angeles Refinery officials and managers played some hard-fought soft ball. The refinery team won. Here are Henry Dean and J. P. Rockfellow on third and second bases, hoping for a hit past John Salmond in left field.

The four seated are M. W. McAfee, P. H. Jones, Elmer Palmer and C. C. Moore, Jr. Those standing are John Salmond, W. H. Lester and Charles Reeder.



Below: A tense moment. With L. G. Metcalf coaching, Earl Gard is about to score.



Above: R. Gibbs, W. K. Hopkins, D. B. Myers, Hugh Cameron and C. C. Moore between innings, with Earl Gard and R. Jones walking onto the field. Left: A. B. Mason, field umpire, making certain that E. Hendricks touches first base.





"Shall I check your oil, or are you using Triton?" These are the words with which Charles Patterson, above, of Union Service Station No. 749 at Bakersfield, approaches his customers, and no more convincingly could he convey his faith in the propane solvent-processed motor oil. His confidence is predicated on the results obtained from countless laboratory tests, hundreds of thousands of miles of road tests, and the fact that, although Triton has been marketed for only eight months, already there are half a million users of this pure lubricant.

H. P. Kinghorn First Aid President

ASIDE from being a Union Oil employee at the Los Angeles refinery, H. P. Kinghorn is president of the American Red Cross Instructor's Corps, Los Angeles Chapter, and is chairman of the American Red Cross First Aid Corps in the district between South Gate and Long Beach, California.



H. P. Kinghorn

Mr. Kinghorn has been a first aid instructor for the Los Angeles chapter of the American Red Cross since 1929, and has trained the personnel of the Torrance police and fire departments, the municipal life guards of Redondo and Hermosa beaches, and thousands of boy and girl scouts. Also, he has been instructing night classes in first aid at Huntington Park High School and Compton Junior College.

As a result of the several serious situations arising during 1933, due to the earthquake in Southern California, the Montrose flood, and many forest fires, the Los Angeles chapter of the American Red Cross organized a volunteer reserve rescue and first aid corps. The city and county have been zoned under district groups of trained men. These groups are being equipped so that they might promptly and efficiently face future emergencies.

Recently, Mr. Kinghorn was elected a director of the Compton chapter of the American Red Cross for 1935 and received a gold medal for "valuable assistance in the development of first aid training" from the American Red Cross National Committee on Awards, Washington, D. C.

Mr. Kinghorn has been with the Union Oil Company since October, 1910, and has held various positions, such as chemist at the Brea refinery; stillman, pumper, and pipefitter at the Los Angeles refinery, where he is at present toolkeeper.



View of Speer Flying Service planes, United School and Transportation, Speer Field, San Diego, which have been operated exclusively on Union products since the flying service was started. In addition, W. Arnet Speer, manager, has standardized on Triton motor oil for use in both his personal cars. Mr. Speer has indicated he wishes to use Triton in the airplane motors as soon as the oil is available in weights suitable for aviation purposes.

Bussey Retires

Completing twenty-five years' service with the company on August 23, C. G. Bussey, automotive superintendent, Southern Division, has retired as of September 1.

Mr. Bussey entered the employ of the company on August 23, 1910, as superintendent of the Los Angeles garage. At that time, the personnel of the garage consisted of two men and a young helper, and the equipment was mostly of the horse-drawn type. As the company's business increased, the automobile completely supplanted the horse and the personnel increased to seventy. In 1928, Mr. Bussey was named automotive superintendent.

J. E. Knabb, automotive superintendent,



J. E. Knabb watching J. W. Sinclair, superintendent of automotive equipment, congratulating C. G. Bussey upon completion of 25 years' service.

Central Division, has succeeded Mr. Bussey. In turn, G. A. Trimble, shop foreman, Central Division garage, succeeds Mr. Knabb.

Employed on January 29, 1918, Mr. Knabb went to Phoenix, Arizona, as garage foreman. He remained there until 1926, when he was transferred to the San Diego garage as foreman. Early in 1927, he again was transferred, this time to the Sacramento garage, and, later in the same year, was appointed superintendent of the Emeryville garage. In 1928, the three automotive divisions were formed, at which time he became automotive superintendent, Central Division.

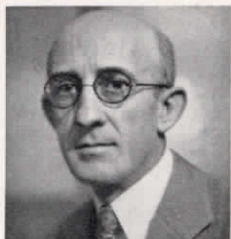
Mr. Trimble began with the company on August 27, 1920. On December 15, 1926, he was appointed garage foreman, Central Division garage, and continued in that capacity until his recent promotion.

Sales Department Changes

Effective during July, several organization changes were announced by V. H. Kelly, director of sales. The following district sales managers were appointed: C. L. Brown, Salem, Oregon; P. H. Schnell, Kelso, Washington; C. B. Evjen, Bellingham, Washington; J. H. Gloor, Olympia, Washington; H. L. Painter, Bremerton, Washington. Also, E. G. Swailes was appointed Southern Division fuel oil supervisor.

Hole in One!

Harry Kueny, of Oleum refinery, covered himself with glory, not long ago, when he negotiated the tricky 154-yard third hole



Harry Kueny

of the Oak Knoll golf course, in Oakland, in one perfectly played midiron shot. The feat was witnessed by his opponent, Spence Briggs, also of Oleum refinery, and by a foursome on the third green, one of whom had the presence of mind to pull the pin as the ball approached the hole.

Mr. Kueny is one of the many golf enthusiasts at Oleum. Since the hole-in-one feat, the Head Office has been urged to be patient for reports during the next few months.



Eight miles away, this large sign with 30-foot numerals becomes visible to motorists approaching from Bakersfield. The service station, operated by L. L. McLarty, dispenses Union products 24 hours a day, and is located at the point where the new inland route to Los Angeles enters a mountainous section via historic El Tejon Pass.



Send In Your Photographs

SINCE SO MUCH interest has been displayed in the covers of the Bulletin during the last year or more, it has been decided to encourage employees of the company and others interested in photography to submit their efforts to the Advertising and Publicity Department so that additional material for future covers may be acquired.

Cash awards will be given to those whose photographs are reproduced. Ten dollars will be paid for each picture used on the front cover, \$7.50 for each picture used on the back cover, and \$5.00 for each picture used either on the inside front or back cover.

When submitting photographs, the individual should have in mind the appropriateness of each subject. It should be seasonal, of general interest, and as free from people as the subject permits. However, the individual need not wait to submit a photograph because it might be out of season at the time, for, preferably, the editor of the Bulletin wishes to have material on hand in advance of the next issue. At the present time, the Bulletin is published bi-monthly, with covers

more or less appropriate to the months of February, April, June, August, October, and December.

Only clear, sharp and fully timed photographs should be submitted.

A few rules are set forth to define acceptable material:

1. Plates or films of all photographs submitted must be at least $3\frac{1}{4}$ inches by $4\frac{1}{4}$ inches, or larger. However, Leica and Contax camera pictures are acceptable, if film not faster than 23 degrees, Scheiner scale, or equivalent, is used (slower film more desirable, as it reduces the grain on enlargements). All prints must be glossy.

2. Prints only must be submitted, but negatives must be available upon request.

3. No prints or negatives will be returned.

4. Reproduction in the Bulletin constitutes a copyright.

5. Mail all photographs to the Advertising and Publicity Department, 709 Union Oil Building, Los Angeles, California.

Wolff Honored by Navy

Lawrence Wolff, assistant manager of fuel oil and asphalt sales, was recently appointed a Lieutenant Commander of the United States Naval Reserve.



Lawrence Wolff

His appointment is in line with the policy which has been established by the United States Navy to name certain men of high standing in industry as officers in the Navy reserve corps who have a valuable knowledge of the requirements necessary for efficient operation of the Navy in time of national emergency.

Los Angeles City Vacation Camps

Camp Seely, in the Sierra Madre Mountains, and Camp High Sierra, near Mammoth Lakes, are ideally located for the vacationist who likes to "rough it" with just the right amount of surrounding domesticity. These camps are operated by the Department of Playgrounds of the City of Los Angeles which, more than 20 years ago was the first city in the nation to provide for the summer vacations of its citizens by establishing municipally-operated camps costing the vacationist a minimum of expense.

In Memoriam

The deaths of two of our employees, James L. Adkins and Victor W. Kilby, occurred during the past two months.

Mr. Adkins died on June 15, 1935, at the age of forty-three. He was originally employed on March 10, 1922, as an auto mechanic at the Los Angeles Garage, resigned in 1926 and was re-employed January 2, 1930. At the time of his death, he was a traveling mechanic.

On July 29, 1935, Mr. Kilby died from injuries as the result of an automobile accident. He was twenty-eight years old. Mr. Kilby was employed July 8, 1923, as an assistant service station operator at Vancouver. He was a service station manager at the time of his death.



Admiral Joseph M. Reeves and H. E. Cattermole

Cattermole Active in Navy

H. E. Cattermole, ship dispatcher for the Union Oil Company, spent his vacation this year as the guest of Admiral Joseph M. Reeves, Commander-in-Chief of the United States Battle Fleet. As a lieutenant, senior grade, in the United States Naval Reserve, Mr. Cattermole was in active service for the two weeks aboard the U. S. S. Pennsylvania, flagship of the fleet. The fleet cruised Southern California waters during his period of service.

"Inky" Plays Football Again

H. Watkins, in the company's transportation department at Santa Fe Springs, and a famous fullback from the University of Southern California, has been relieved of his duties for a few days so that he can take part in a football game as a member of the All-Star College team against the All-Star Professional team in Chicago in the latter part of August.

"Inky," the moniker he picked up when becoming famous, has been selected to fill the fullback position by a national poll in which he received close to 90,000 votes.



Members of the Angling Club on recent trip to Coronado Islands.

Union Oil Angling Club

THE UNION OIL Angling Club, recently organized, is meeting with considerable success by reason of widespread enthusiasm on the part of company employees. Still in the process of drawing up by-laws, rules and regulations, etc., the club has had one or two fishing trips well attended. Dues are nominal.

Officers of the club are Eugene Power,

president, Head Office; R. A. Powell, vice-president, Santa Fe Springs; and Paul K. Noland, secretary-treasurer, Head Office.

The purpose of the organization is to establish a tournament between sportsmen of the company, and to provide trophies or prizes each season. It is anticipated there are to be three classifications of angling, deep sea, surf and fresh water, if sufficient interest is evidenced in the latter two.

There is a surprisingly large number of employees professing to be fishermen, and a great deal of interest by others not so outspoken will be shown in the next few months as to results actually obtained. Here and there all one may hear is a discussion of the relative efficiency and uses of this or that type of reel, tackle, etc., so club members are suspected of being quite capable of getting their own in any waters.



P. F. Michels, with two yellowtail he caught.

Sleeth Appointed Chief Gauger

John A. Sleeth, former supervisor of dehydration operations for Union Oil Company, has been appointed chief gauger for the Transportation and Field departments. Mr. Sleeth came with the company in 1923 as a member of the Engineering department. Since that time, he has accumulated a wide experience in the various problems incidental to conservation, dehydrator operation and pipe line gauging.

For the past six years, he has been directly connected with the Los Angeles pipe line department.


Service Emblem Awards

30 Years

IN THE two months of June and July, this year, exactly one hundred service emblems were awarded as many Union Oil Company employees. Heading the list were G. L. Armstrong, who completed thirty-five years' continuous service in June, and W. F. Coggins and A. C. Powell, whose length of service reached thirty years in July.

During both months, three—L. W. Hamilton, G. F. Reiley, and S. V. Sharp—



W. F. COGGINS

Power plant engineer at Oleum, California, refinery, came with the company on July 10, 1905.

completed twenty-five years' service, and six—W. W. Hay, J. T. McAnallen, T. F. Ott, M. A. Gier, J. J. Shea, and W. O. Whitworth—became twenty-year employees. Thirty employees received emblems denoting fifteen years of service, and fifty-eight employees were awarded emblems for the first time significant of their completion of ten years' service. Of the entire group, ninety-four were men, and six were women employees.

25 Years



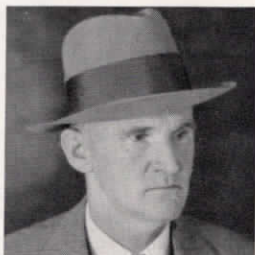
L. W. HAMILTON

In the production department at Montebello, California, was first employed on June 15, 1910.



G. F. REILEY

Employed July 29, 1910, is lease foreman at Torrey Hill, Ventura County, California.



S. V. SHARP

With the company since July 1, 1910, is package foreman at the Oleum refinery.

20 Years



W. W. HAY

Superintendent of Los Angeles Pipe Line, has a service record dating from June 7, 1915.



W. O. WHITWORTH

Employed since July 1, 1915, is mechanic and conservation plant operator at Maltha (Bakersfield, California) refinery.



J. J. SHEA

Assistant foreman in the asphalt shed of the Oleum refinery, has been with the company since July 2, 1915.



M. A. GIER

Pumper in the Richfield district, near Fullerton, California, was first employed on July 26, 1915.

Thirty-five Years—June

Armstrong, G. L., So. Div.-Ventura.

Twenty-five Years—June

Hamilton, L. W., Southern Division.

Twenty Years—June

Hay, W. W., Head Office-LAPL.
McAnallen, J. T., Producers Pipe Line.
Ott, T. F., Oleum Refinery.

Fifteen Years—June

Ahern, W. P., Oleum Refinery.
Arnold, E. E., Producers Pipe Line.
Black, R. L., No. Div.-Orcutt.
Bongard, H. W., No. Div.-Orcutt.
Crossman, James, No. Div.-Orcutt.
Estrada, Rudolph, Producers Pipe Line.
Galliers, Albert, Southern Division.
Mitbo, Minnie, Northern Division.
Mitchell, L. O., No. Div.-Bakersfield.
Moran, S. A., Head Office.
Munoz, F. R., Jr., Southern Division.
Pollard, E. R., Head Office.
Rosborough, R. V., Head Office.
Ruoff, R. E., Southern Division.
Thompson, R. W., Los Angeles Garage.
Wood, H. A., Southern Division.

Ten Years—June

Byars, J. A., Oleum Refinery.
Casparie, G. F., Southern Division.
Cave, T. S., Southern Division.
Chambers, J. C., Central Division.
Clark, G. W., Southern Division.
Denio, J. B., Producers Pipe Line.
Everson, T. H., So. Div.-Ventura.
Falk, Walter, Los Angeles Refinery.
Henderson, George, Southern Sales.
Kelly, T. J., Los Angeles Refinery.
Lowery, M. B., Oleum Refinery.
McCreary, C. L., Los Angeles Refinery.
Moore, W. A., So. Div.-LAPL.
Muzio, F. D., Producers Pipe Line.
Norgaard, Edward, Central Division.
Osborne, R. L., Southern Division.
Palmer, Dolly, Los Angeles Refinery.
Pearson, Eva, Head Office.
Potter, Florence, Central Region.
Scott, Frederick, Oleum Refinery.
Sigvardsen, L. C. C., Vancouver Refinery.
Smith, F. E., Jr., Oleum Refinery.
Stanfield, H. E., Southern Division.
Steele, L. L., Head Office.
Stombaugh, G. C., Northern Division.
Sullivan, P. I., Southern Division.
Taylor, F. C., Los Angeles Refinery.
Tye, J. T., Southern Division.
Waldrip, H. E., So. Div.-LAPL.

Walton, Wm. A., Vancouver, B. C.
Winner, C. W., Los Angeles Refinery.

Thirty Years—July

Coggins, W. F., Oleum Refinery.
Powell, A. C., Southern Division.

Twenty-five Years—July

Reiley, G. F., So. Div.-Ventura.
Sharp, S. V., Oleum Refinery.

Twenty Years—July

Gier, M. A., Southern Division.
Shea, J. J., Oleum Refinery.
Whitworth, W. O., Maltha Refinery.

Fifteen Years—July

Baker, P. J., Head Office.
Burcham, Wm. M., Northern Division.
Chansler, R. P., Southern Division.
Dorsch, E. F., "Santa Maria."
Kinkela, R. J., Northern Division.
Kinsey, C. C., Northern Division.
Maddox, J. W., Southern Division.
Mulligan, F. X., Central Division.
Newhoff, W. A., Head Office-S. F.
Rebella, Wm. V., Central Division.
Staub, Edwin, Oleum Refinery.
Stafford, R. J., Oleum Refinery.
Summers, Wm. A., Southern Division.
Taylor, Reid, Oleum Refinery.

Ten Years—July

Allen, B. E., Central Division.
Atkins, C. H., Maltha Refinery.
Berryhill, L. R., Central Division.
Burleigh, F. C., Central Division.
Burner, G. E., Southern Division.
Clow, H. K., Southern Division.
Constant, W. C., Los Angeles Refinery.
Cooper, T. G., Central Division.
Crawford, H. O., Head Office.
Felsenthal, R. J., Oleum Refinery.
Harlan, R. R., Oleum Refinery.
Jacobson, Fred, Oleum Refinery.
Katzenberger, C. H., Southern Division.
Keith, G. W., Northern Division.
Kennedy, J. R., Los Angeles Refinery.
Licht, Estelle, Central Region.
McAllister, Lois, Central Division.
McAnallen, H. L., Producers Pipe Line.
McGourty, C. J., Southern Division.
Morris, Harry, Producers Pipe Line.
Norrby, G. T., Central Division.
Penaluna, T. J., Los Angeles Refinery.
Rosebraugh, D. L., Central Division.
Staüss, D. H., So. Div.-Confid.
Steiber, Wm. R., Los Angeles Refinery.
Taylor, C. C., Central Division.
Wade, J. W., Southern Division.

REFINED AND CRUDE

By Richard Sneddon

Good-morning. Shall we check your oil, or are you using Triton?

One Triton enthusiast actually declares that, since he started using the propane-solvent product, his consumption has dropped so low he has been obliged to dip a cupful of oil out of the crankcase every 200 miles.

Now that probably is an exaggeration, but it is a fact, according to a well-known traveler, that the Patagonians never kiss each other, and, having once seen a couple of Patagonians in a side show, we don't blame them.

Returning again to Triton, although why anybody should ever leave Triton we don't know, it is interesting to note that automotive engineers all over the country, and even in the city, now openly admit that the function of a motor oil is to lubricate the moving parts of the engine, and not to furnish carbon to the combustion chambers.

After all, your automobile is your best friend, so why treat it like one of the family?

And besides, how would you like it if somebody used your workshop and left carbon scattered all over the place. We'll bet you'd be so mad, you'd knock, too.

Incidentally, with the introduction of the dashboard radio, or raddio, if you happen to be a Democrat, it is no longer necessary to manufacture unpleasant noises in the engine.

Also, although it has nothing to do with the subject under discussion, there are magazines now to suit every taste, and there are even some for people that have no taste at all.

But you can't stop a motor from overheating by shutting off the radiator.

On the way down to church last Sunday, we had to make a telephone call, so dropped into the local drug store and asked the clerk if he could oblige with two nickels for a dime. "Sure," he replied, "and I hope you enjoy the sermon."

And, of course, you've heard of the little oil company that brought in a great big gusher—to write the prospectus.

Do you know that the name "paraffines," designating the constituents of which Triton is entirely composed, has a derivation that actually implies unusual resistance? You see it comes from the two Latin words . . . well, we've forgotten what they are, but you can find them in any good Latin dictionary.

To diverge again, they say money brings unhappiness. Maybe so, but at least you can be comfortable while you're unhappy.

But no fair-minded citizen would live in a clean neighborhood with a dirty motor.

And the guy who has the courage to call a spade a spade, quite often hasn't got the energy to take one up and dig.

"I'm taking my radio with me on my vacation," announced our nearest neighbor, and Junior promptly remarked, "It sure needs a vacation."

For which he was promptly put in his place . . . at the end of the table with a dish of ice cream.

Junior, by the way, fell down badly in the closing examinations this year again, the culminating atrocity being an explanation that a malacca is the child of black and white parents.

The fact that your ancestors came over to this country on the Mayflower is nothing to boast about. Immigration laws were fearfully slack about that time.

"I suppose if I refuse you," said the young lady to the heartbroken swain, "you'll go out and commit suicide." "Yes," was the cheerful response, "that's been my custom."

And have you ever noticed that in a town where you can park as long as you want to, there is no reason why you should want to?

In conclusion, it is an interesting fact that the use of baseball umpires started in 1878, and pop bottles were invented the following year.

With which few remarks we leave you. Remember, you don't need to change your clothes to remove the carbon. Change your oil and let Triton do your dirty work.

