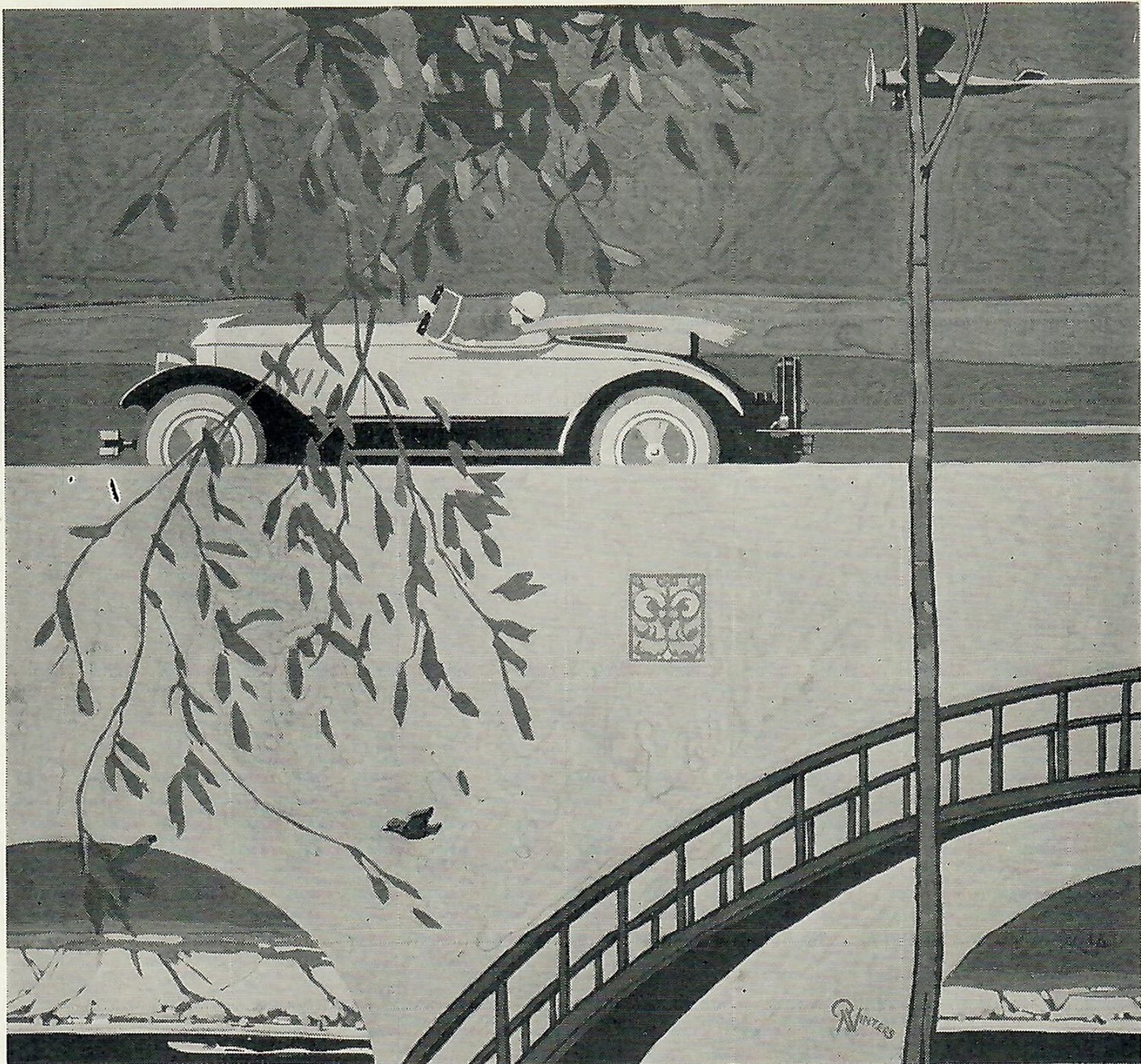
An oil painting depicting a person from behind, sitting on a wooden deck or balcony. The person is wearing a dark green jacket and a blue skirt. They are looking out over a body of water, which is framed by two large, thick tree trunks on either side. The water is rendered with horizontal brushstrokes in shades of blue and green. The sky is a pale, hazy blue. The overall style is impressionistic, with visible brushwork and a focus on light and color.

UNION
OIL
BULLETIN

JUNE 1928



**NEW RECORDS
NEW MOTORS
NEW THRILLS**



all made possible by Ethyl. Read what this high compression fuel means to you:

What gasoline did Lieutenant Webster use when he attained a speed of 281 miles per hour to win the Schneider Cup races last year? What gasoline powered Captain Malcolm Campbell's Sunbeam Special, when he drove 206.9 miles per hour at Daytona Beach in 1927? What fuel helped Peter DePaolo break all existing speed accomplishments to take the 1927 board track championship?

The new high compression motors demand a gasoline such as Ethyl for their

maximum performance. But, whether your car be old or new, you will find that Ethyl adds new thrills to motoring.

Union Ethyl on the Coast

In the West Ethyl has been added to Union's famous non-detonating gasoline. The result is Union-Ethyl, the finest motor fuel available.

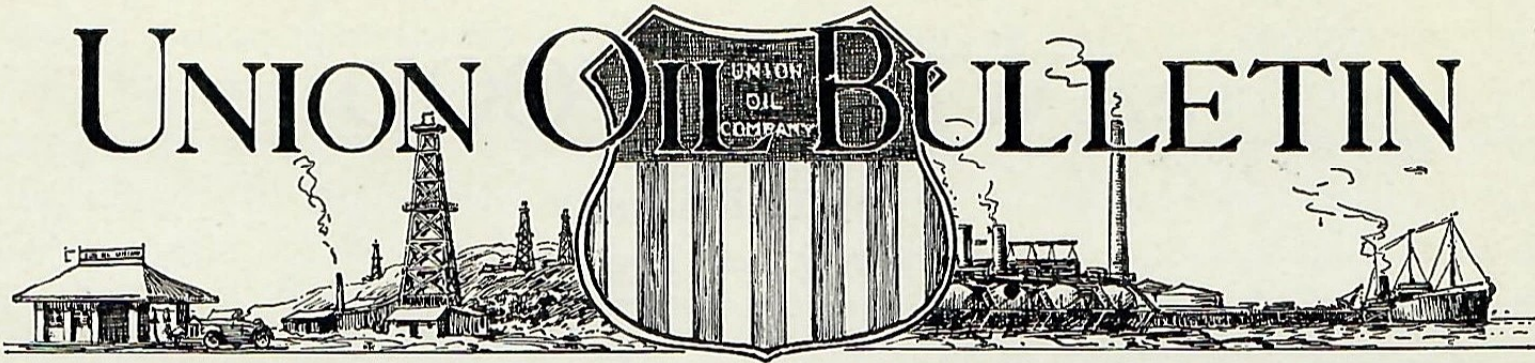
No matter what type or kind of car you have, try ten gallons of Union-Ethyl on your favorite hill and note the marked improvement it makes.



**UNION
ETHYL**

UNION OIL COMPANY.

UNION OIL BULLETIN



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VOLUME VIII

JUNE, 1928

BULLETIN No. 4

Equilibrium

SINCE the first well was drilled in 1859, the yearly production of oil has increased until now it exceeds two million barrels daily in this country alone. Petroleum has made important contributions to this mechanical era. Heat, light, power and lubrication are its principal uses, and millions of gallons of its derivatives are used annually in the manufacture of medicines, insect sprays, toilet preparations, paints and varnishes. We will continue to find new uses; the possibilities of petroleum are seemingly unlimited.

However, chemists are not confining their research to the development of new demands. A large amount of work is being done in retracing ground already covered, in checking up, step by step, the processes through which crude oil now passes while being groomed for the market. In this way products of the industry are constantly being improved. Greater efficiency and variety of products has stimulated consumption.

Consequently, unlike many other commodities, demands and new uses for petroleum have kept pace with the supply. But we dare not be too complacent. To keep our eleven billion dollar industry going we must use every ounce of resourcefulness and ingenuity to maintain this much desired economic balance between supply and demand.

—E. W. CLARK.

SAWING WOOD

By M. C. FRENCH,
Lubricating Sales Engineer

WITHIN the last few years several new departures have been made in the mechanical equipment of the lumber industry in California and Southern Oregon. This applies to the actual getting of the logs out of the woods to the cars, and also to the handling of the logs after they pass into the mill to be sawn into lumber. We refer in particular to the wide use of tractors in the woods in place of the steam "donkey" engine, and the installation of air or electric "dogs" on the saw carriages in the mill. The tractor has taken the place of the steam donkey, as well as horse teams drawing high wheels, in many places where the terrain is not too steep and rocky to permit their use. These locations are indeed few and far between.

However, the steam rig in the woods still has several types which have not been displaced, and as these, as well as the old type steam donkey rig, will be found in the woods, we will attempt to describe all types of equipment still to be found in the section covered. A full-grown lumbering concern, with their own woods equipment, railroad, power plant, automotive equipment, saw mill, planing mill, box factory, sash and door factory, veneer plant, etc., will have as complete a line of equipment as any industry we can call to mind.

Suppose then we start in the woods and follow the logs down the line. The tree is first cut down by the "fallers," trimmed by the "limbers," and cut into lengths by the "buckers."

If operating under full steam donkey equipment, logs lying too far from the yarder at the track are relayed to it by donkeys farther out in the woods. The

donkey itself consists of a vertical boiler with a duplex engine driving several cable drums which carry various-sized steel cables. The main cable, after serving to haul in a log, is itself hauled back into the woods again by the "haul-back" line. This is attached to the end of the main line, passes through a block attached to a tree, and thence to the drum at the donkey. In establishing a new location, the haul-back line is first led through a block by a light line on account of its ease of handling. This latter is called the "straw" line. The engine is mounted on heavy logs, called skids, and by means of its powerful cables, moves itself by its own power over very steep ground.

Before the log is dragged in, the ends must be beveled slightly by the "sniper," to prevent splitting. A hole is dug under the end of the log by the "gopher digger," to allow the cable sling or "choke" to be placed around the log by the "choker setter." The "whistle punk" then gives the signal, and the log is hauled to the yarder, which piles them near the track. The loader or "jammer," under the supervision of the "hook tender," picks up the log and it is laid on the flat car under the supervision of the "top loader."

When logging with "cats," the logs are either skidded in to the landing on the ground in case of rough country, or the tractors are hitched to "high wheels." The old type high wheel is simply two twelve or fourteen-foot wheels with a slip-tongue and ratchet arrangement which lifts the logs off the ground before the load can start. The hydraulic lift is also used on this unit. The newer types consist of a winch

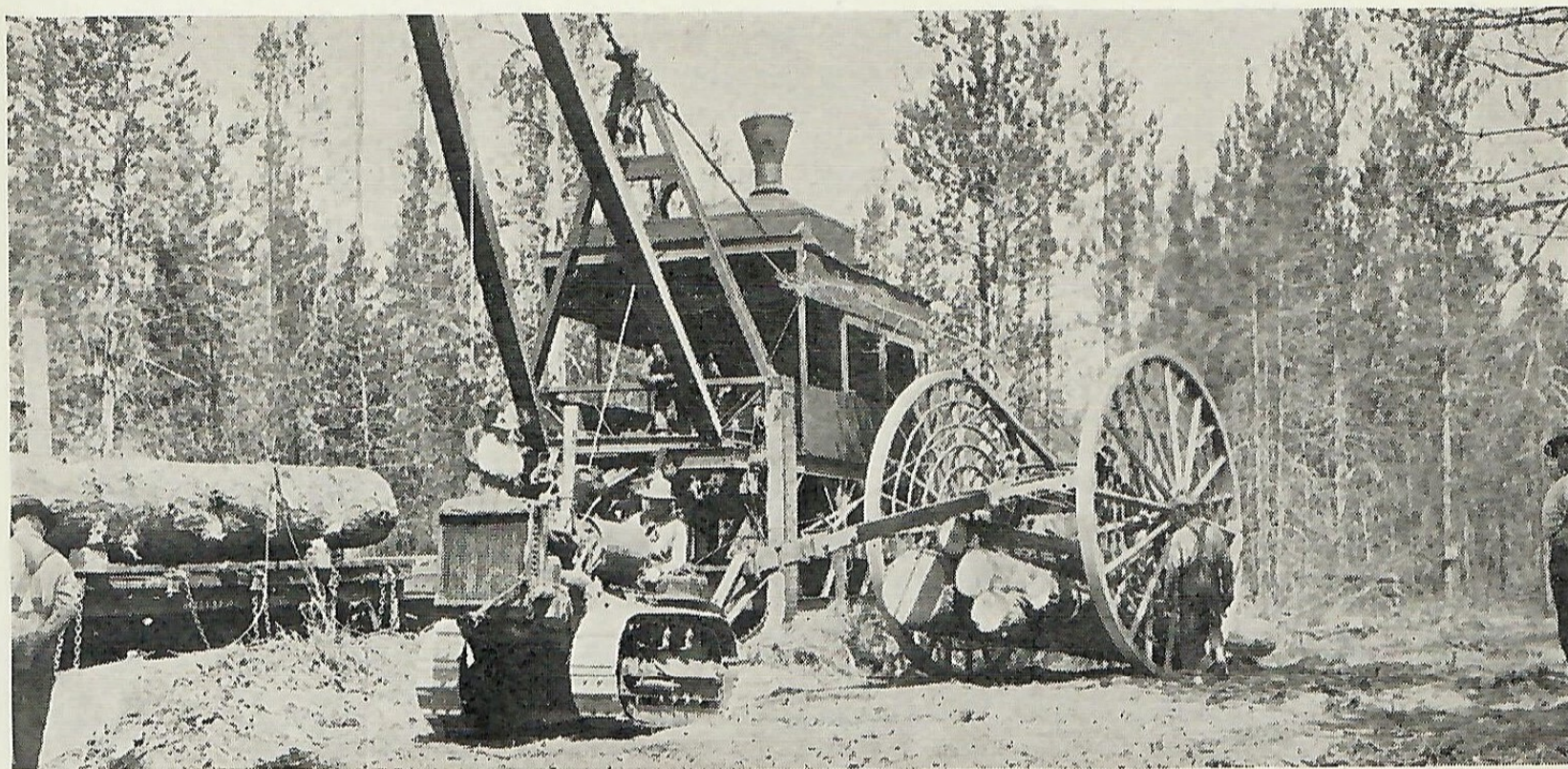
which is stationary on the tractor and driven by the stationary drive gear. This winch is used in connection with the high-wheels for bringing in logs by cable from inaccessible spots, and also raises the logs when under the high-wheel frame. This machine seems to be speedier in getting logs from the woods to the jammer in rough country, or at a bad landing.

Even with the advent of the tractor in the logging camp, there is still one unit which is steam-operated. This is called the "jammer," or McGiffert loader, and is one of the most unusual pieces of machinery used. The donkey engine is located on a steel framework about fifteen feet high, the whole structure being carried on two four-wheel railroad trucks and having its own tractive power applied through chains and sprockets. The sides of the framework just above the ends of the ties have four long feet, two on each side. The trucks are so arranged that they may be lifted bodily, letting the four feet mentioned take the entire weight, and allowing the trucks to be lifted high enough for flat cars to pass right through on the tracks under the machine. In this manner, as most of the jammers work on spur tracks, an entire string

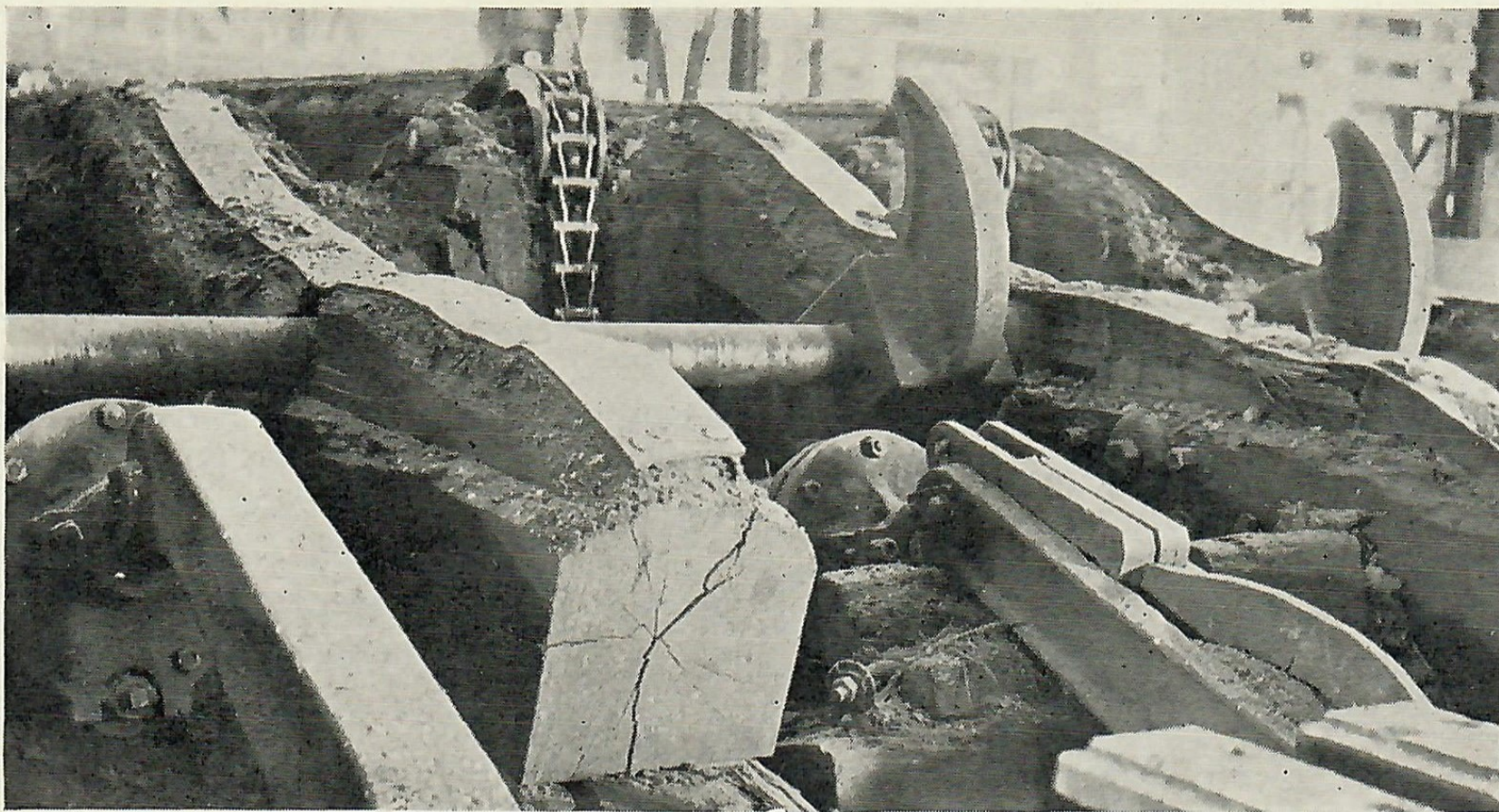
of flats may be run through under the machine, and then the string loaded out, beginning with the car nearest the main line.

After the loading of the logs on the flat cars, the haulage to the mill or the main line is a very important link in the scheme of operation. Once the mill resumes operations in the spring, a full supply of logs must be assured, and the efficient operation and maintenance of the logging railroad is very important. On most of the jobs, the privately-owned logging line connects with one of the large system lines.

The usual type of locomotive in use is the geared engine, although rod engines are practical where the grade is not too steep. As far as the application of power through its gears is concerned, two types are in general use. We will refer to these as the Heisler type and the Shay type. In the former the drive shaft is centrally located between the drivers and the two cylinders are located at right angles to the boiler axis. The main drive gears are on the front and rear axles of the rear and front trucks respectively, these being connected to the other drivers by side rods. On the Shay type, the three vertical cylinders are on the right side, the boiler being set off center



A "cat" hitched to "high wheels." A stiff boom "jammer" or loader in the background.



A close-up of the Simondson hook, which holds the heavy logs in place on the saw carriage until they can be fed to the saw.

of trucks somewhat to counterbalance the weight of engine.

After getting our logs into the saw mill, we are immediately up against a list of special machinery for the economical handling of the logs while being fed to the saws. The newer types of mills are almost entirely electrified, fast machinery being directly connected to motors, while the slower units, such as conveyors, transfers, etc., are driven by motors through reduction gears. But there are several units which seemingly must be operated by steam. These are referred to as the "steam rigs," and consist of the "kicker," "loader," "skid lift," "shotgun," Hill "nigger" and Simondson hook. The "kicker" literally kicks the log off the elevating chain and on to the log deck. Here it is checked by the loader, which prevents the log from rolling down on the carriage track, and at the proper time it in turn gives the log a flip which places it on the saw carriage.

Once the log is here, it must be held firmly against the knees of the carriage dogs until the tongs of the air or electric dogs can get a solid grip in the bark. This is done by either the Hill nigger or the Simondson hook and push arm. The nigger

is rather hard to describe, but it may be imagined as an inverted capital letter "T." The upper part of our inverted letter "T" has a number of flippers which engage the log on the up stroke, but fold back into the shank on the down stroke. Each arm of the "T" is fitted with a steam cylinder. By working the two cylinders against one another, the nigger may be made to act exactly like the forearm while held in a vertical position, striking a blow to right or left, as well as upward. This nigger arm also turns the log on the carriage when squaring up.

The Simondson hook resembles a mammoth fish hook, with a solid pin run through the eye. Slightly up the shank of the hook is attached the piston rod of a steam cylinder. This cylinder is balanced at the center on trunnions, which allow it to tilt as it manipulates the hook. On heavy logs the hook is used instead of the Hill nigger.

By all odds, the most important steam equipment in the mill itself is the "shotgun." Bear in mind that the band mill, carrying a sixteen-inch band saw sixty feet long, is fixed in its position, and the log, weighing tons, must be fed into the saw

for each cut, and then quickly shuttled back into position for another cut. In this operation speed and absolute control are the essential features. Their requirements are met by using a steam cylinder about fourteen inches in diameter and from forty to sixty feet long. Its piston and piston rod are attached directly to the saw carriage, and it is the direct action of the steam on the piston which forces the carriage and its log back and forth, and also cushions it at the end of its travel.

The combined inlet and exhaust valves of this shotgun cylinder are located at each end, and are usually of the piston or plug type. The diameter is $4\frac{1}{4}$ to 6 inches. The bell cranks which alternately raise and lower these valve plugs are hooked together by a long connecting rod, and this rod in turn is hooked up with the sawyer's lever. Thus we have a simple engine, with a cylinder forty feet long, with its valves operated by hand. In case these valves do not operate smoothly, it becomes impossible for the sawyer to operate them for very long periods, and he will likely quit his job rather than attempt it. In addition, the sticking of a valve will cause the heavy carriage with its tremendous load to be shot through the end of the mill like a shell from a sixteen-inch gun, with attendant loss of life and property.

In most modern mills, these heavy valves

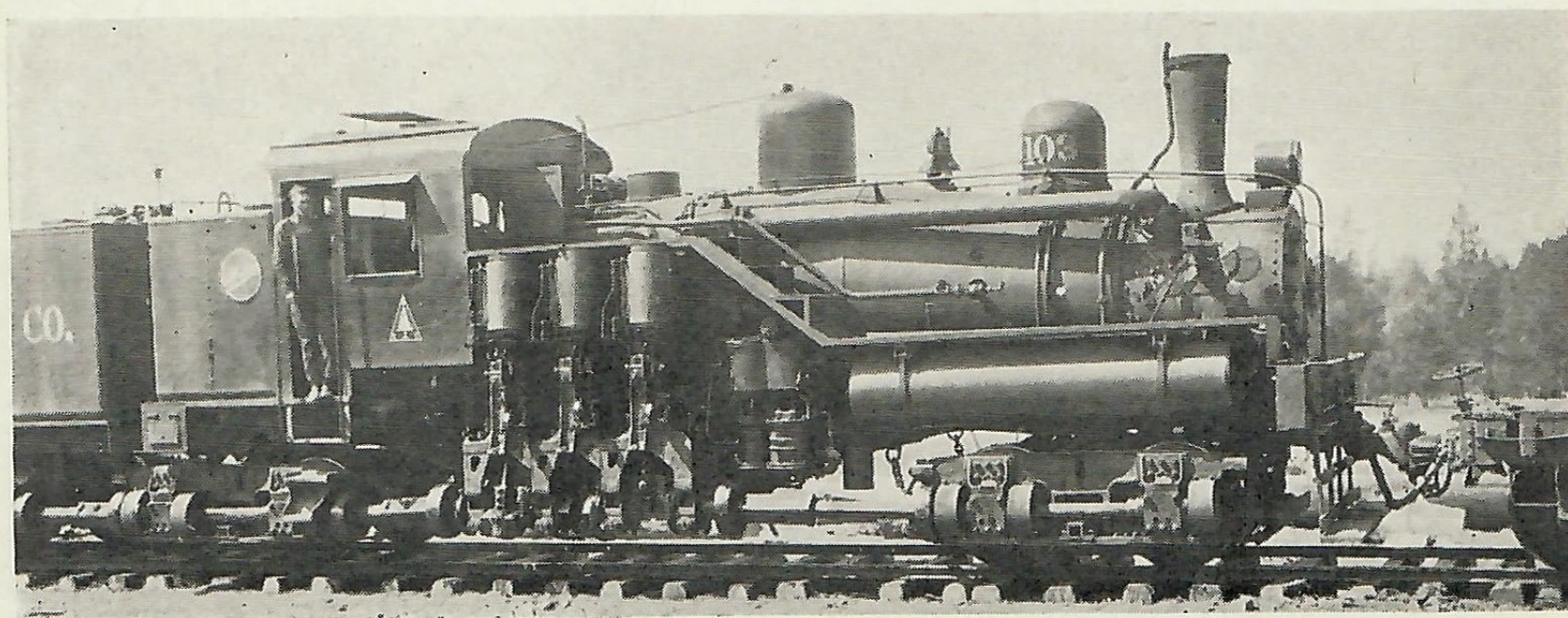
are not operated by main strength. Instead they are hooked up to a smaller cylinder about four inches by fourteen inches—called a "control." Here the sawyer merely operates the small valves of the control, and its steam pressure pulls the main valves.

The freshly cut board slabbed off at the head rig falls on a series of live rolls, which take it to the edger. This is a saw frame which carries about six circular saws which can be shifted on the saw arbor shaft, allowing for both the trimming of both edges of the slab, and for ripping into different widths.

From the edger the boards pass to the trimmer saws. A battery of trimmer saws will consist of from six to a dozen circular saws, placed side by side at three-foot intervals, and all driven from the same countershaft. Each saw has its arbor bearing set on a swinging frame in order that they may be lifted out of the way by air cylinders to allow the trimming of the ends of different length boards.

The waste strips removed from the sides of the rough boards are dropped on to a set of transfer chains which take them to a battery of "slasher" saws. These are exactly like the trimmer saws, but are immovable, and serve to cut the waste slabs into short lengths to be further cut into lath or discarded.

A portion of the waste cuttings go to the



Geared engine with piston valves—slow but powerful.

"hog." This machine consists of a case containing a drum fitted with either stationary knives or swinging chisel-edged hammers. As waste slabs are fed into the hopper, the rapidly revolving drum grinds them into fine chips. This is known as "hogged" fuel and is used as fuel under the boilers.

From the trimmer saws the green boards pass to the green chain, where they are sorted into proper lengths and widths. They then go to the drying yards or the dry kilns.

The machinery used in the dry kilns is not extensive. The small trucks or "dollies" which carry the weight of the cribs (stacks of boards) while being moved in and out of the kilns, have rough roller bearings. Two types of kilns are in use: the external fan and the internal fan kiln. In the former the fans which circulate the hot air are located outside the kiln chamber. In the internal fan kiln, the fans are located inside the kiln chamber, and are driven by a shaft from the outside.

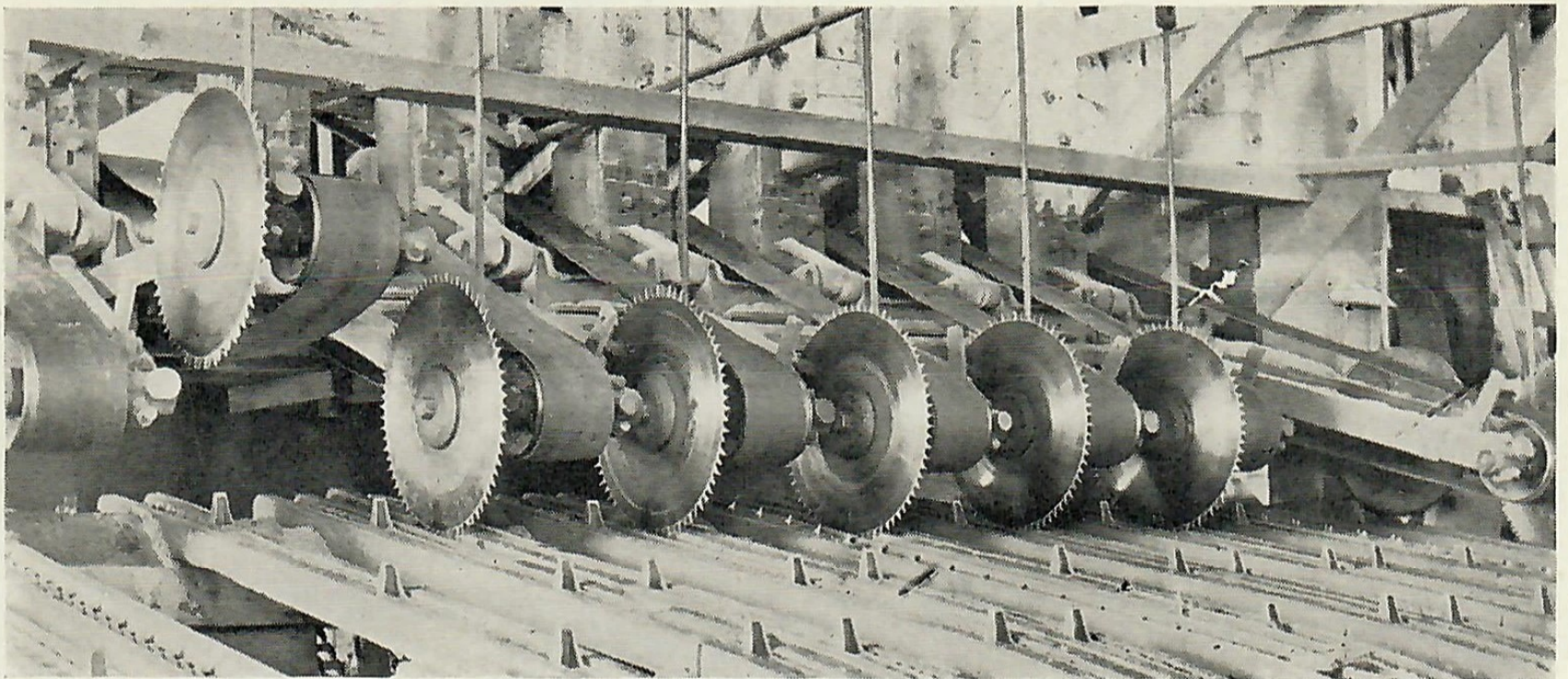
Within the dry kilns the air temperature must be controlled very carefully for various reasons. If the temperature runs too high, the outer surface of the boards will become slightly blackened or burned and if the drying process is continued too rapidly, the boards will not only warp and

bend out of shape, but the surfaces will become thoroughly dry and crack, leaving the inner portion of the boards undried, particularly lumber from two to four inches in thickness.

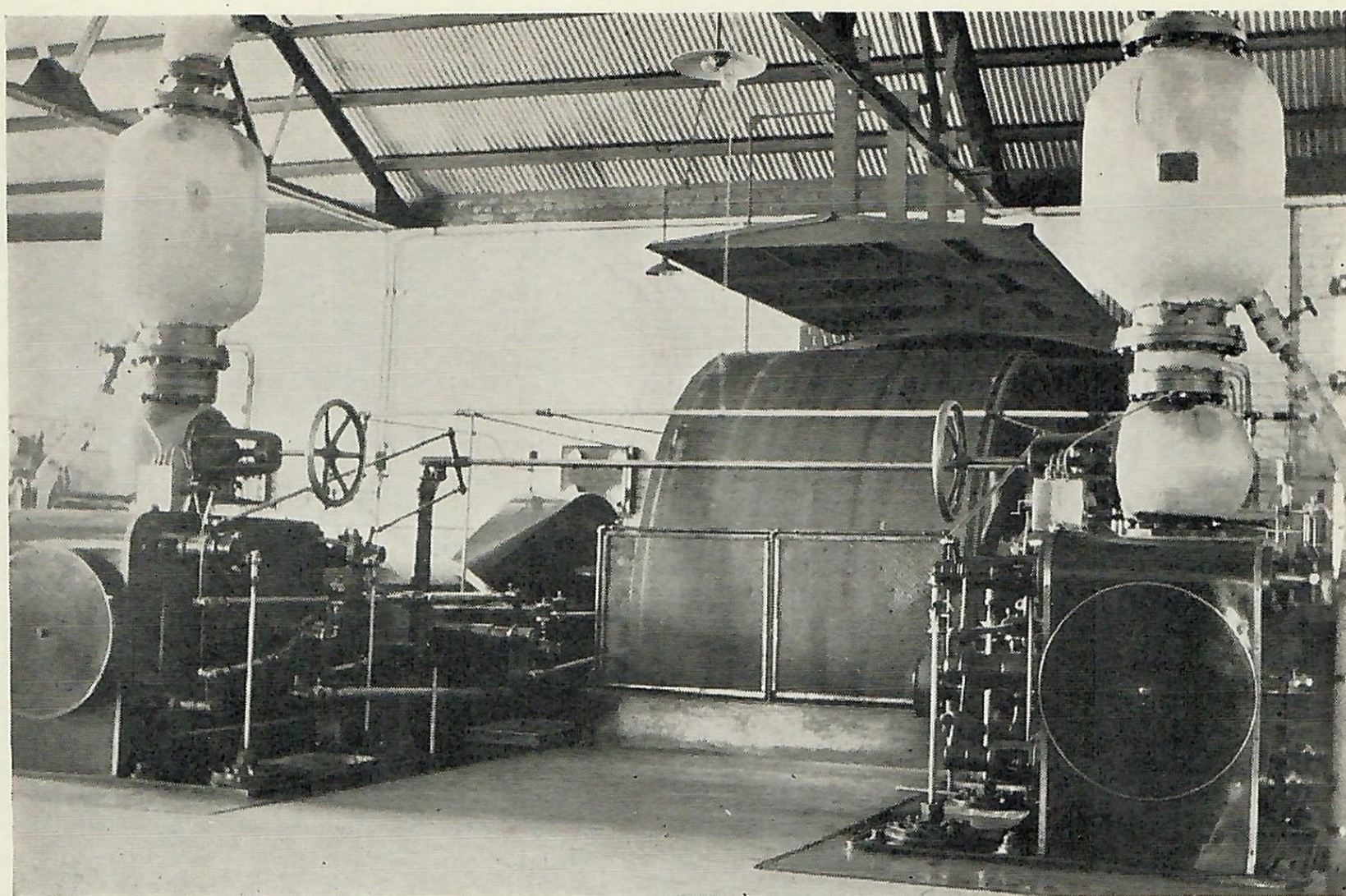
In some cases while the inner portion of the lumber is being dried by the high kiln temperature, the outer surface is being kept from becoming too dry by the use of a small amount of free steam. It is indeed surprising to note the large amount of water or sap which may be evaporated from a piece of wood of a certain size; for instance, tests have shown that a cubic foot of sugar-pine will give up seventeen pounds of water, being equal to about 2 1/2 gallons. The proper preparation of kiln-dried lumber through the control of the kiln temperature is by no means a simple one and a great deal of experience is required in this operation.

After the lumber is properly kiln-dried, either in kilns or in open-air stacks, it is carefully sorted into a great many different grades, depending upon the use intended.

A certain portion of the lumber which is not sold for building purposes, is classified into various grades of "shop." This may be of different colors, due to the presence of "brown stain" or "blue stain" and may be full of knots. It is then sold to the manufacturers of box shook or sent direct



A battery of trimmer saws.



The widest belt on the coast, measuring 72 inches, transmits power to the heavy machinery of a Weed, California, lumbering concern.

to the operator's own box factory. There a battery of small circular saws mounted on movable frames operated by hand, cut the shop lumber into the proper lengths for box shook, special attention being given to the cutting out of all sections which contain loose knots, along with the avoidance of cutting the boards in such a manner as to bring a knot at the ends of the shook stock.

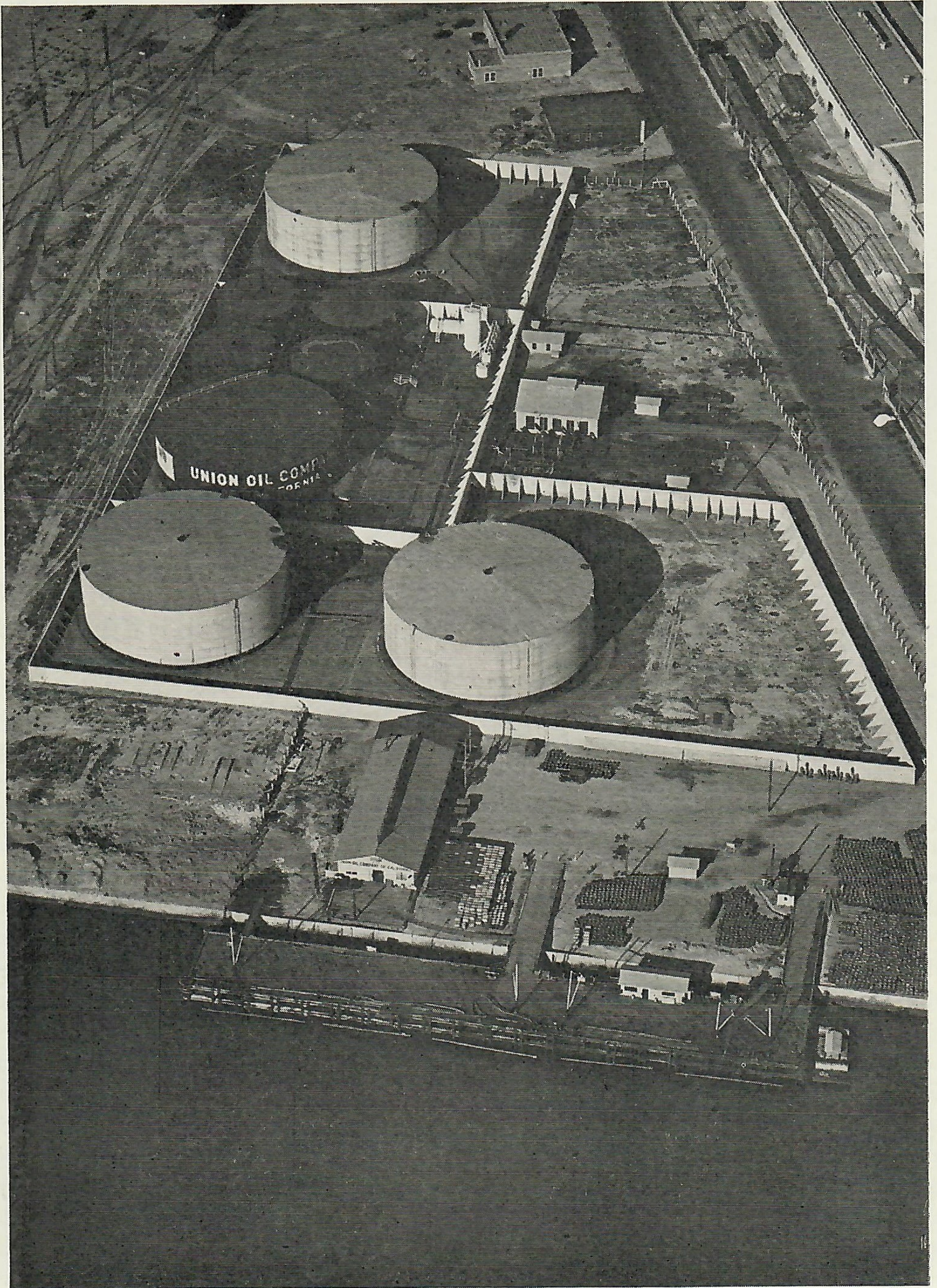
These shook blocks are then cut into thin widths, the thickness depending upon the type of box or crate to be made.

One of the most interesting parts of a large lumber mill is the veneer department. Eight-foot logs of large size showing a minimum of knots are placed in a large vat and cooked with steam until the bark becomes loose and the log itself becomes soft and tough. After the bark is removed the log is put into a veneer machine. This resembles an ordinary lathe. The cutting tool consists of a steel knife eight feet long. As the log revolves this knife is fed into it,

and a strip of veneer eight feet wide and approximately $\frac{3}{8}$ of an inch thick, and any length desired, is cut off and carried away on an endless belt or chain carrier, reminding one of the unrolling of a mammoth roll of linoleum. This veneer usually has a beautiful grain and portions free from knots are cut out and used for veneer on high-class interior panel work. The remaining portions may be glued together to make three-ply veneer, which is made into box shook, or used as the inside strip of three-ply veneer used for fancy panel work, etc.

In modern mill yards, the sawed lumber is carried from one point to another in the yards by lumber carriers. Several makes are on the market, all being similar. A four or six cylinder truck motor is mounted on top of a steel frame, this being made high enough to straddle a stack of boards. The small traction wheels, fitted with solid rubber tires, are fitted at each corner of the frame and are driven by chains and sprockets. The load is lifted by hydraulic power.

TANKS TO TANKERS



A portion of the company's shiploading plant at Los Angeles Harbor.

SAFE SPEED IN BUSINESS

By LT. NORMAN S. HALL, A.R.C.

"He who can command SAFE speed in excess of his competitors in the performance of his contracts will almost infallibly take the lead in nation-wide business."

SPEED! More miles per hour! The incessant cry of modern business is heard by the railroads, and hours—precious business hours, are clipped from the running time between our great cities. Automobile man-



NORMAN S. HALL

ufacturers hear it and produce stock cars capable of speeds heretofore associated only with the race-track. State government hears the cry and raises speed limits on the highways. No longer is the business man satisfied that his voice and messages can be transmitted to the four corners of the earth through the mediums of telegraphy and telephony. Today he is demanding that his salesmen, his mail and his merchandise be transported with more rapidity.

Our modern business man, however, is inherently a cautious individual and realizes that greater speed without safety will avail nothing. Consequently his demands are for speed which will be *safe* speed.

At the point in the development of transportation when it appears that speed on railways and highways has about reached the maximum limits of safety, business suddenly awakes to the fact that the Air Mail

has for years been proving the airplane a most reliable and efficient carrier at speeds far beyond the comprehension of most land-bound folk. The trans-continental airways cross our continent in forty-eight hours with regularity and safety. So rapid is aerial progress that many huge commercial airplanes of today, carrying tremendous loads, out-speed the tiny pursuit planes of yesterday. Records for endurance, lifting and speed are being bettered almost daily, and even those of us who are most optimistic dare not limit the performance of airplanes a year from now. We do know, those of us who have preached the gospel of aviation for ten years or more, that it is now over the hump, and that 1928 will go down in the pages of history as the "Aerial Age."

Practical accomplishments of *safe* speed in the air are becoming commonplace. But little gets into the press of these achievements which have nothing of sensational interest for those who glory in crash headlines. However, if only a small portion of the truth concerning what is going on in commercial aviation daily were printed, we would have no trouble in reading between the lines that the period of experimentation is over, and that the airplane has taken its place in the lead of all time-saving methods of *safe* high-speed transportation.

INVESTMENT

By E. A. HAHNE,
Insurance and Personnel Department

INVESTMENT is the employment of capital. Your savings are seeking a job. Give them the right kind of employment and they will work for you every minute of the day, every day of the year. You must find work for them that will be satisfactory from the standpoint of safety, stability, and wages. Whether you engage them in real or personal property rests with you. Their use in securing a home is quite as much in the nature of an investment as putting them to work in stocks, bonds or some form of insurance. The main thing is to put them to work, and to exercise the greatest degree of care in finding a job for them.

Our subject has been called both an art, and a science. Investment solely for profit being generally referred to as an art, while investment for income is considered a science. This will give you an idea of the magnitude of the matter. We can only hope, herein, to present a few fundamentals of this subject in a general way. One who has savings to invest must realize at the start that there is much to learn, and that caution must be constantly associated with procedure. The prudent man will make a firm decision never to make an investment of any kind whatsoever without first carefully investigating the prospective investment; and securing the counsel of some disinterested expert thoroughly qualified to give competent advice in that particular instance, is the most important part of that investigation. He will recognize the danger, and inconsistency, of making an investment through the suggestion or urge of a relative or friend.

The investment possibilities of insurance are not widely enough appreciated. In many cases, and for many people endowment in-

surance represents an ideal form of investment. It is thoroughly safe, easy to understand, requires no time or study; and the necessity of paying premiums periodically and promptly is an important aid to thrift. It is in the rate of interest or income to be obtained that investment in securities is more advantageous than insurance. The risks are greater however; more care, study, and time are required; self-restraint and prudence are necessary, and a great many fail in the attempt to make profitable stock and bond investment. Under the proper procedure, however, successful investing in securities is perfectly possible for anyone.

In the matter of securities the first thing to consider is the safety of the principal. Next you should note their marketability. Now you may consider the interest rate, bearing in mind that the interest is invariably in proportion to the risk involved. You will find many kinds of bonds and stocks to choose from. The general run among bonds being first and second mortgage, collateral trust, refunding, convertibles, debentures, and among the stocks there are preferred, prior preference, first or second cumulative, common of stated par value, or of no par value, and so on with innumerable variations in both instances. Some of the bonds may appear more familiar to you as Government, County, Municipal, and Corporation bonds. From the standpoint of safety the first three stated are preferable. The fourth generally pays a higher interest rate.

Let us see just what bonds and stocks really are. In a general way a bond is a promise to pay. The bond itself is a written or tangible evidence of an indebtedness to the holder. The earnings of the money invested are called "interest." Now a share

of stock is evidence of ownership. The corporate body owes nothing to the investor. The earnings of the money invested in stock are called "dividends." If the corporation profits, and the directors so decide, it pays dividends, if it doesn't earn it pays nothing. Bonds are generally more staple in their nature, fluctuating but little, on the other hand stocks fluctuate considerably as the earnings and status of a corporation vary, and they are governed thereby. So we see that the body which issues a bond is borrowing money which it promises to repay at a certain date, with interest at a specified rate, at certain specified dates. Excepting the "debenture" (which is really an I.O.U. of corporate standing, with the issuing corporation standing alone as collateral,) there is some kind of security backing a bond against which, theoretically speaking, the investor can instigate foreclosure proceedings in case of default. From this, however, it is evident that the "debenture" of a sound corporation may be safer than the first mortgage of a questionable corporeal body. One should ascertain the financial status of a corporation, and investigate the character of the security against which the bond is issued before deciding upon an issue. It is well to remember at this time that if the corporation is in good standing, it should not have to pay more to borrow money than the prevailing interest rates at the time of the issue. Government and municipal bonds while they do not bear a high rate of interest are generally safe.

We will now give our attention to the two main kinds of stocks, namely preferred and common. By preferred stock we mean that stock issued by a corporation which in the event of profit or loss pays off up to the par value before the common stockholders have a "show in." Or, to be more accurate, if the corporate body profits it may pay dividends up to the specified rate upon the preferred stock before any distribution is made on the common stock. In

case of failure or dissolution, after debts are met preferred stockholders are paid off at par, before the claims of common stockholders are considered. Certain issues of preferred may be called any time at par or above. Some may be converted into common stock at a certain price. Still others (in exceptional cases) are entitled to privileges in addition to dividends, and most of them have a provision that dividends are to be cumulative, meaning that if a dividend is not paid it shall be considered a payment in arrears, and no dividends can be declared upon the common stock until all back dividends on preferred are paid up. Thoroughly seasoned preferred stocks offered by a reliable corporation of unquestionable financial standing are often safe and attractive investments. The investor should consult an expert for an analyzation of the stocks, however, as suggested in the case of all securities. Another point to be considered in security investments is the question of taxability. One should ascertain to what extent the state taxes various types of stocks and bonds, and also what rate of federal income tax an individual of his income must pay, and how this affects the income from his investments, also what inheritance tax his estate must pay in the event of his death. The common stockholder generally has a voice in the election of the directors and is part owner in the business. He shares in the profits and losses of the business, but the corporation or company owes him nothing. His dividends come after the preferred stock holders are paid off, and the directors of the organization see fit to declare them out of the earnings if the corporation has prospered. With few exceptions common stocks are usually speculative in their nature.

They cannot be considered an investment unless the corporation has proven itself to be financially sound, possesses an efficient and conservative personnel, and has made considerable profit over a number of years.

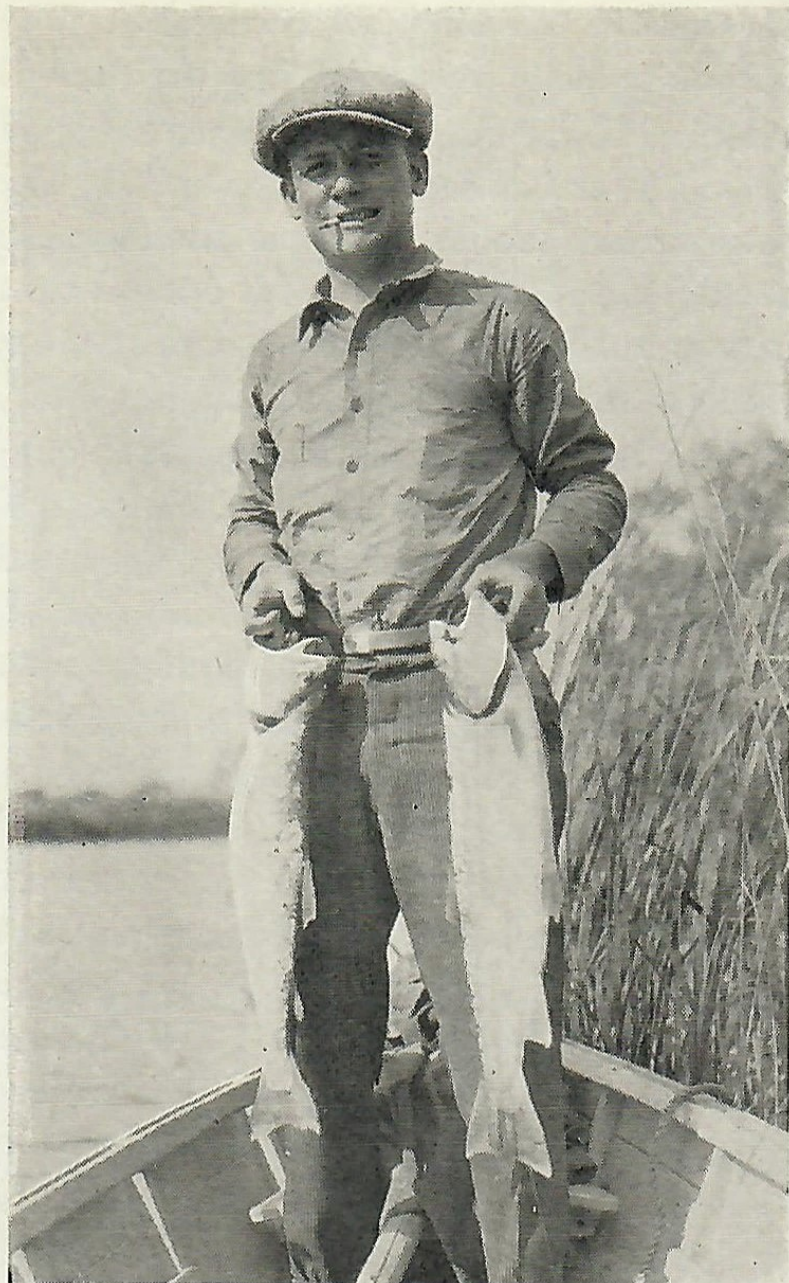
Let's Go FISHING!

By IKE WALTON, JR.

IN THE spring a young man's fancy lightly turns to thoughts of—fishing. We trow that not only the young men so think about this time of the year, but also wot that many of the old-time Izaak Waltons have felt the spring virus in their veins and have already dusted off the old tackle box.

We have gotten many wonderful fishing thrills in the section of California stretching roughly from Bishop northwest, along the Mother-Lode and on north into the lower half of Central Oregon, and the following few pointers are given in the hope of assisting followers of the sport who are looking for new waters in which to wet their hooks.

To those anglers located in and about Los Angeles, the section near Bishop on the main highway north from Mojave presents some of the most attractive fishing waters available. The approved method of reaching these streams is to drive to Bishop, thence to Mammoth and, if possible, pack in from that point. The country south of Mono Lake is dotted with many small lakes—Lake George, Mary Lake, T. J. Lake, Horse Shoe Lake, Duck Lake, etc. The whole territory commencing in this section and extending north and northwest



The author on Upper Klamath Lake.

to Bodie, Bridgeport, Masonic, Sweetwater, Topaz, Woodport and Markleyville, is all very profitable ground for the fisherman.

The same section may be reached by way of Mono Lake from Central and Northern California. Friends from Bakersfield will find a good road by way of Onyx, the Walker Pass and then north through Little Lake, Lone Pine, Independence, Big Pine, etc. The section east of the range of mountains including Mt. Whitney, Mt. Landley, Mt. Baxter and Mt. Darwin, being less extensively settled and somewhat more difficult of access, provides better fishing than the west slope of the same range.

We once camped on the banks of a small artificial lake at Hume, just north of General Grant's National Park and near the middle fork of the Kings River, and secured some very fine trout from both the lake and

the small stream running into it. The weather was very warm and on our return we packed the fish in snow in General Grant's Park and when we reached Fresno the snow and the trout were still with us.

Traveling out of Madera, we secured our first limit of trout. Driving through Coarse Gold, Ahawane and Niponnawasee, we made our headquarters at Miami Lodge, a short distance from Sugar Pine. Just above Fish Camp, north of Sugar Pine, we turned to the right, following an old road of the Sugar Pine Lumber Company and eventually came to a small stream which ran through one of the company's abandoned camps. Fishing from this camp up stream toward an old mill, we caught the limit so quickly that it was decidedly hard to stop fishing.

There is some wonderful fishing out of Fresno, by way of Auberry, Big Creek and Huntington Lake. There is a beautiful lodge at Huntington Lake with a large reservoir full of trout, but the best fishing, of course, is back in the timber, several miles from the reach of the casual passerby.

Passing over the well-known fishing opportunities at Yosemite National Park, we

will consider the section northeast of Sonora, using that as our starting point. Just a few miles north of Sonora there is a large semi-artificial lake used as a reservoir, and some very nice bass are taken from this lake every season. About thirty miles northeast of Sonora, adjacent to the Standard Lumber Company's railroad, we witnessed the taking of the largest trout it has ever been our luck to see. It was caught in the early part of the season with an ordinary bunch of angle worms, and weighed slightly over thirteen pounds. The lucky fisherman was in a boat at the time, and it required thirty minutes of skillful handling to bring this old timer to the gaff.

Some fast and furious trout fishing was experienced on a trip northeast of Sonora, starting from Strawberry. We took a pack-train from this point and worked east about fifteen miles, being in the vicinity of Granite Dome, southeast of Dardanelle. In this section there are a great many lakes of varying size that are literally alive with trout. It is well to strike this section during the middle of the season, as in the late fall many of the small streams connecting these lakes have ceased to flow and the fish re-



Rainbow taken near Sonora.



A good place to float a fly.

maining in the isolated pools" are not of prime quality. Excellent fishing can be secured in all of the waters around Dardanelle, with truly beautiful camping sites available.

Passing on a little farther north, the fishing possibilities of Lake Tahoe and the neighboring country as far southeast as Bridgeport and back of Truckee, are all well known. Still farther north, the section northeast of Marysville, Chico and Oroville and approximately centered by the City of Quincy, is the very heart of some of the best fishing in that part of the State.

The country adjacent to Chester, Seneca, Crescent Mills, Westwood Junction, Feather River Inn, Quincy Junction and the string of towns on the Western Pacific north of Oroville on the Feather, are all very good fishing points. We have seen some beautiful catches made by taking the Western Pacific out of Sacramento early in

the morning, leaving the train at Belden and returning late the same night.

The largest rainbow trout it was ever our fortune to take was caught at Lake Almanore. At this particular time we were anxious for meat and sank for the gentleman with a nice live minnow. He stole the first minnow, due to our snatching the hook out of his mouth in our excitement, but the next time we allowed him to leisurely swallow the bait and then it was only a matter of twenty minutes with a five-ounce rod and he was in the landing net. Oh, Boy! what a grand and glorious feeling! Eight pounds even, on the Postmaster's scales.

The portion of the Feather River flowing into Lake Almanore and also fed by the spillway from Lake Almanore, is very good territory.

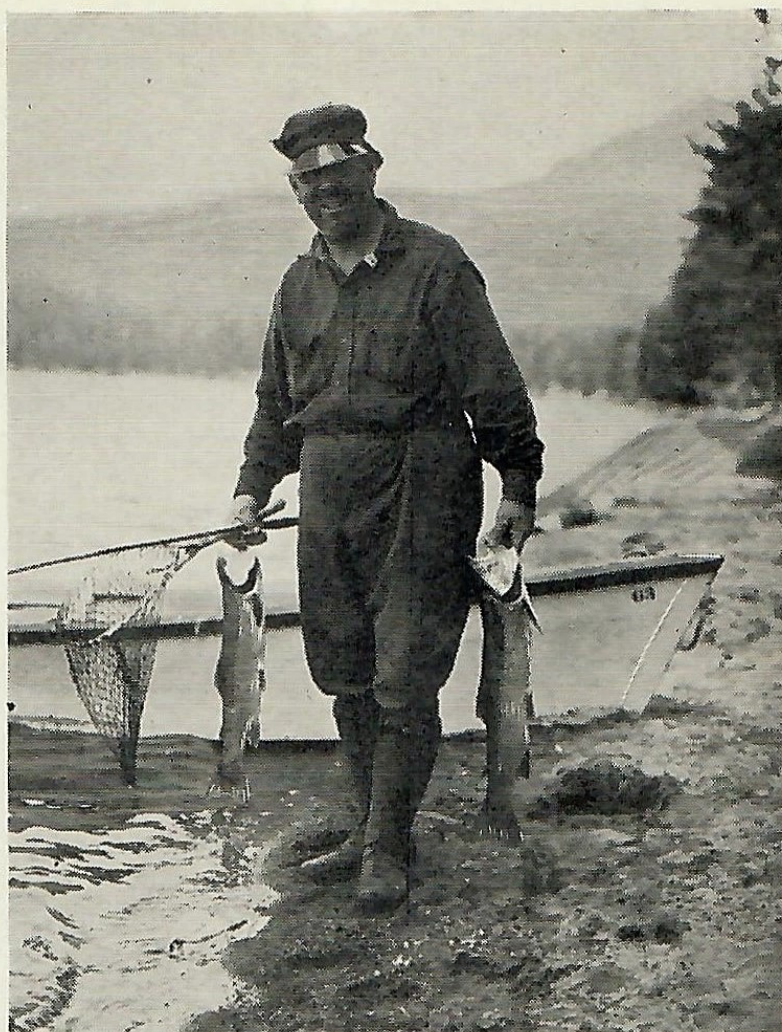
On the main road south from Westwood to Seneca, we struck some very fine fishing in the canyon of the Feather River, and a trip to that part of the country will be well worth one's while. Comfortable accommodations can be secured at Westwood or at Lake Almanore Lodge and we consider this one of the best fishing territories in California. This section can be reached in fifteen hours driving from San Francisco.

Before leaving this section, we must mention the mammoth rainbow trout in Butte Lake. This small body of water lies near the north edge of Lassen Volcanic National Park. We reached it by driving from Susanville on the road to Fall River Mills and turned off on what is known as "Hat Creek Road." There is a ranger station near this turn-off and information can be secured on the location of the lake. At the time of our visit the road ended within a quarter of a mile of the lake and it was necessary to pack our camping equipment to the lake shore. The rainbow trout there, when they are biting, come up to one's wildest dreams of trout fishing. The lake lies in a very rough lava formation and the country is wild enough to suit anyone. We have never seen a trout taken from this lake

less than fifteen inches long and have seen many that measured thirty inches.

Anyone wishing easy fishing with plenty of thrill should not fail to take the trip out of Reno to Pyramid Lake. It is necessary to secure a permit at the Government Agency and hire an Indian guide, with boat, by the day. Trolling is the accepted method, using a great length of line, and you needn't be surprised if you hook into a lake trout weighing twenty-five pounds. We are told by learned "Phishologists" that the Pyramid Lake trout are a rather unusual branch of the trout family and not found at other points due, we suppose, to their long isolation in this body of water.

Passing north on the main highway through Redding and Dunsmuir, we had a good time a few miles north of Yreka, where the highway crosses the Klamath River at "Jim's Place." The Little Shasta River flows into the Klamath at this point and we were fortunate in being there in the fall to witness the salmon run, a remarkable sight. We managed to induce a salmon about three feet long to take hold of our spinner and the rough game he gave our casting rod will not be forgotten for a long time. We picked up a few steel-heads, that followed the salmon, but did not have time to wait for the proper steel-head run. There is a steel-head club located on the



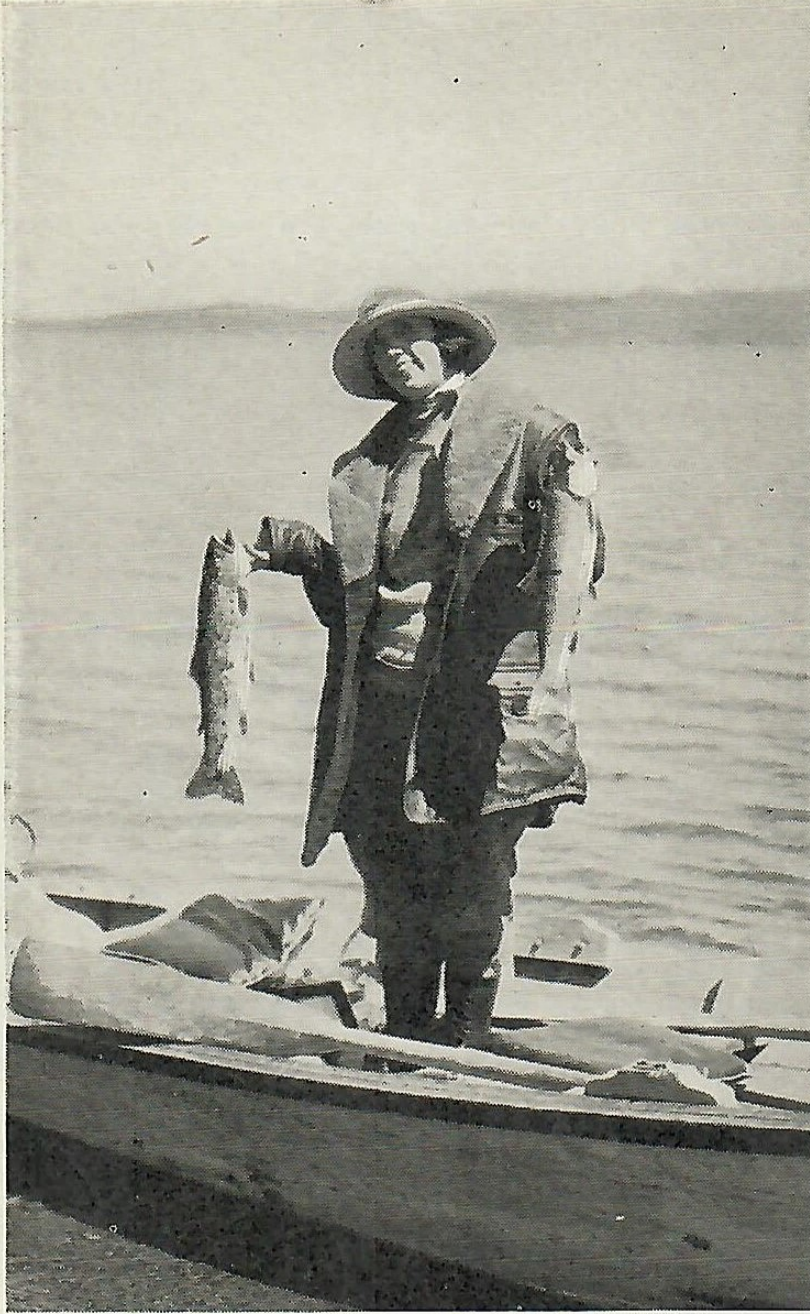
"Tony" Leland looks happy.
Diamond Lake, Oregon.

river here where fishermen from all over the country camp for weeks at a time.

Branching off in a northeasterly direction from Weed, one strikes some very good fishing country in the neighborhood of Tennant and Bray on the back-way cut-off to Klamath Falls by way of Merrill, Oregon. Grass Lake, practically north of Mt. Shasta, is noted for the amount of bass it contains, but unfortunately we have never been able to make this trip. On the road mentioned, in the heart of the Modoc Lava Beds where the muletail deer grow to their largest size, is Glass Mountain, one of the sights of that part of the country. This mountain, 11,127 feet in height, is capped by an out-pouring of obsidian, which is a black, glistening glass-like flint. This obsidian was largely used by the Indians round Klamath Lake in former times, and we have in our possession a beautiful collection of arrowheads, lance points, battle-axes, drills, etc., given us by Elmer Stukel of our Klamath Falls Station. Medicine Lake is stocked with eastern brook



Elmer and Mrs. Stukel with salmon
taken from Klamath River.



*The "Missus" takes a few rainbow.
Diamond Lake.*

trout and we have seen some beautiful specimens, surpassing even the rainbow in beauty, taken from this body of water. Take an amateur's advice when fishing this lake and let your fly sink about three feet before you slowly start it in.

In the Klamath River, between Copco and Keno, directly south of Klamath Falls, we were introduced to some of the best fly-fishing we have ever had. The best points of access to the river may be reached by crossing the Klamath at McCollom's Mill and coming south on the east side of the Klamath on what is known as the "Old Topsy Grade." The Klamath is very swift at this point and there is a large amount of foam on the surface at all times of the year. On the occasion we have in mind, we fished with a No. 6 fly only, and found that there seemed to be an eighteen-inch rainbow under every batch of foam of any size in the eddies along the shore. Simply let a fly

float under this foam from the upstream side and if Mr. Rainbow was there, and he usually was, the fun started. There is absolutely no brush along the banks and fly-casting is very easy, but landing the fish is difficult because of the swift water and steep, rocky banks.

Upper Klamath Lake, as well as Agency Lake, are full of lake trout and some very large fish have been taken by trolling. A beautiful spot to camp is known as "Rocky Point," on the west shore of the lake opposite Modoc Point, and this spot is also close to a number of small streams which flow into the lake, affording good fishing. However, if you want big lake trout and plenty of them, our suggestion is to take a boat just above Modoc Point, where the main Bend highway crosses the Williamson River, and troll down the river almost to the mouth. We have taken some large lake trout in the river at this point, as the accompanying pictures will prove. But, of course, the lake trout do not equal the rainbow for gameness.

Diamond Lake, Oregon, is about twenty miles north of Crater Lake and can be reached either from Medford or by way of Klamath Falls north. The setting of the lake is absolutely ideal and the amount and size of the rainbow fish therein are hard to believe. In the early spring we have seen hundreds of limits taken from the lake in one day and yet the supply does not seem to diminish. The usual method is trolling, but we find that by anchoring in four feet of water on the west side of the lake, which has a rocky bottom, and letting the fly sink almost to the bottom before starting it in, very satisfactory results are secured.

Our largest rainbow caught on the fly here was four pounds, but one extremely windy day, with waves three feet high, the "better-half" picked up six rainbow, all over fifteen inches each, by drifting from the far side of the lake to the lodge. If you don't believe it, ask Tony Leland.

Let's go!

NEWS OF THE MONTH



NEW MEMBER OF GEOLOGICAL DEPARTMENT

H. W. Hoots, formerly of the United States Geological Survey, and for the past four years in charge of much of the Survey's geological work in California, has been appointed a member of the company's geological staff.



H. W. Hoots

A graduate of Oklahoma University in 1921, he was later an instructor at the University of Kansas. In 1925 he received the degree of Ph.D. at Stanford University.

Mr. Hoots is the author of several United States Geological Survey publications covering various parts of California, West Texas, New Mexico and Wyoming.

DOING BUSINESS WITH THE NAVY

The company has been awarded a contract to supply the United States Navy with about 1,738,500 barrels of fuel oil, deliveries to be made at Honolulu and all Pacific Coast points with the exception of San Pedro, and approximately 3,000,000 gallons of motor gasoline and domestic aviation gasoline will be supplied at San Francisco, Mare Island, San Pedro, San Diego and Honolulu.

TWENTY YEARS AGO

(From the Bakersfield Californian, May 9, 1908)

"Press St. Clair drove his car to Fresno yesterday in the fast time of 6 hours and 35 minutes."

Note: The car was a 4-cylinder Peerless and the distance a little over one hundred miles. Incidentally, Mr. St. Clair owned the first car in Bakersfield.

MARINE NOTES

The second movement of Union Oil products to the Antipodes in the recently-organized Atlantic-Union Oil Company, Ltd., service cleared the harbor at San Pedro, May 12th, aboard the Norwegian motor-tanker Ranja. Her cargo consists of 75,000 barrels of gasoline for the Australian and New Zealand markets.

On her return trip from Australia, S. S. La Brea responded to an emergency call from the S. S. Steelmaker, United States Steel Products freighter which went aground near Pago Pago, Samoa, and supplied the distressed vessel with 4,000 barrels of bunker fuel oil. The Steelmaker had used all of her fuel supply during the process of refloating.

S. S. Oleum is scheduled to leave this month for Hawaii, her longest non-stop voyage to date. Operations of this tanker have been heretofore restricted to coastwise trade.

LYMAN CLARK RECUPERATING

Lyman Clark, Drilling Superintendent of the Rocky Mountain Division with offices at Fort Collins, Colorado, is convalescing at Pasadena following a major operation performed by Mayo Brothers of Rochester, Minn. Mr. Clark is making splendid progress and expects to leave for Fort Collins sometime this month.

J. M. DOUGLAS VISITS HEAD OFFICE

J. M. Douglas, Manager of the Union National Petroleum Company, will sail for his headquarters at Caracas, Venezuela, June 6th, terminating a three-weeks visit with officials of the Field Department at Los Angeles.

The company has spudded in its first well in the Pantepec property in Venezuela, and drilling is progressing rapidly.

NEW PRODUCTION

Five new wells were brought in by the company during May, with an aggregate initial daily yield of approximately 4,913 barrels.

Long Beach Community No. 16 at Signal Hill was brought in with 4,200 barrels a day. Santa Fe Springs contributed 307 barrels from Howard No. 8. Snyder No. 3, a 150-barrel producer, was brought in in Ventura. Colorado was represented by two wells, Foster No. 2 with 166 barrels and Water Supply No. 1, a deepened well, with 90 barrels daily.

APRIL CRUDE PRODUCTION

The total production of crude oil in California for April amounted to 18,280,729 barrels, an average of 609,357 barrels per day. This is a decrease of 7,363 barrels per day under March production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 558,560 barrels. The total stocks at the end of the month were 139,740,314 barrels. The total stock increase for 1928, up to April 30th, was 899,964 barrels.

Sixty-five wells were completed during the month with an initial daily production of 71,703 barrels, compared with 55 wells completed during March with an initial production of 35,353 barrels.

Complete details of production and development by fields for March will be found on page. 23

FRESNO EDUCATIONAL MEETING

The first public meeting of the Aristo Educational Club, Fresno District, was held May 14th at Raisin City, attended by a packed house. Music, motion pictures, lectures and refreshments were on the program, and it is reported that at the conclusion of the entertainment J. M. Long, agent at Raisin City and chairman of the arrangements committee, had considerable difficulty in persuading the crowd it was time to go home.



GROOMED FOR THE OCCASION

A few days ago fifteen members of the Oakland District plant staff dolled themselves up in new uniforms, and lined up their fifteen spick and span trucks in front of the Central Division Garage in Oakland. Then they called District Sales Manager Joe Dasteel to have a look. Mr. Dasteel was so well pleased he had their picture taken. The group of four gentlemen above, left to right, are as follows: J. H. Dasteel, District Sales Manager, V. B. Gilardin, Plant Superintendent; F. W. Nevitt, Assistant District Sales Manager; R. V. Hughes, Assistant Plant Superintendent.

THIS MONTH'S COVER

Our cover this month was painted by Carl Oscar Borg, and is entitled "The Indian Weaver." The beautiful coloring of the Arizona setting and a "human interest" appeal of unusual charm has been combined by this master-artist in one of his most popular canvases.

PICTURE OF A ROLLER-SKATER GETTING HIS "BEARINGS"



Armed with a brace of grease guns loaded with Red Line, and carrying plenty of reserve ammunition, this young fellow constitutes a mounted posse of one, organized by a Northern California lumbering concern, to rid the plant of any lurking "hot" bearings.

WHIFF

(With Apologies to Rudyard Kipling)

If you can make the vilest stinks invented
And work in them from morn till late at night;
Or with your lot be perfectly contented
When you are asked to fool with dynamite;
If you can still remain quite calm and placid,
While plant officials effervesce and fret;
Or being told to test a fuming acid,
Can suck it through a five cc pipette;

If you don't get just what the boss expected,
Yet have the pluck the true results to state;
And from the truth refuse to be deflected;
And never stoop to "adding in the date";
If you can read a bunch of sample numbers
When all the labels have been soaked in "crude"
And can, when wakened rudely from your slumbers;
At two a.m., respond in cheerful mood;

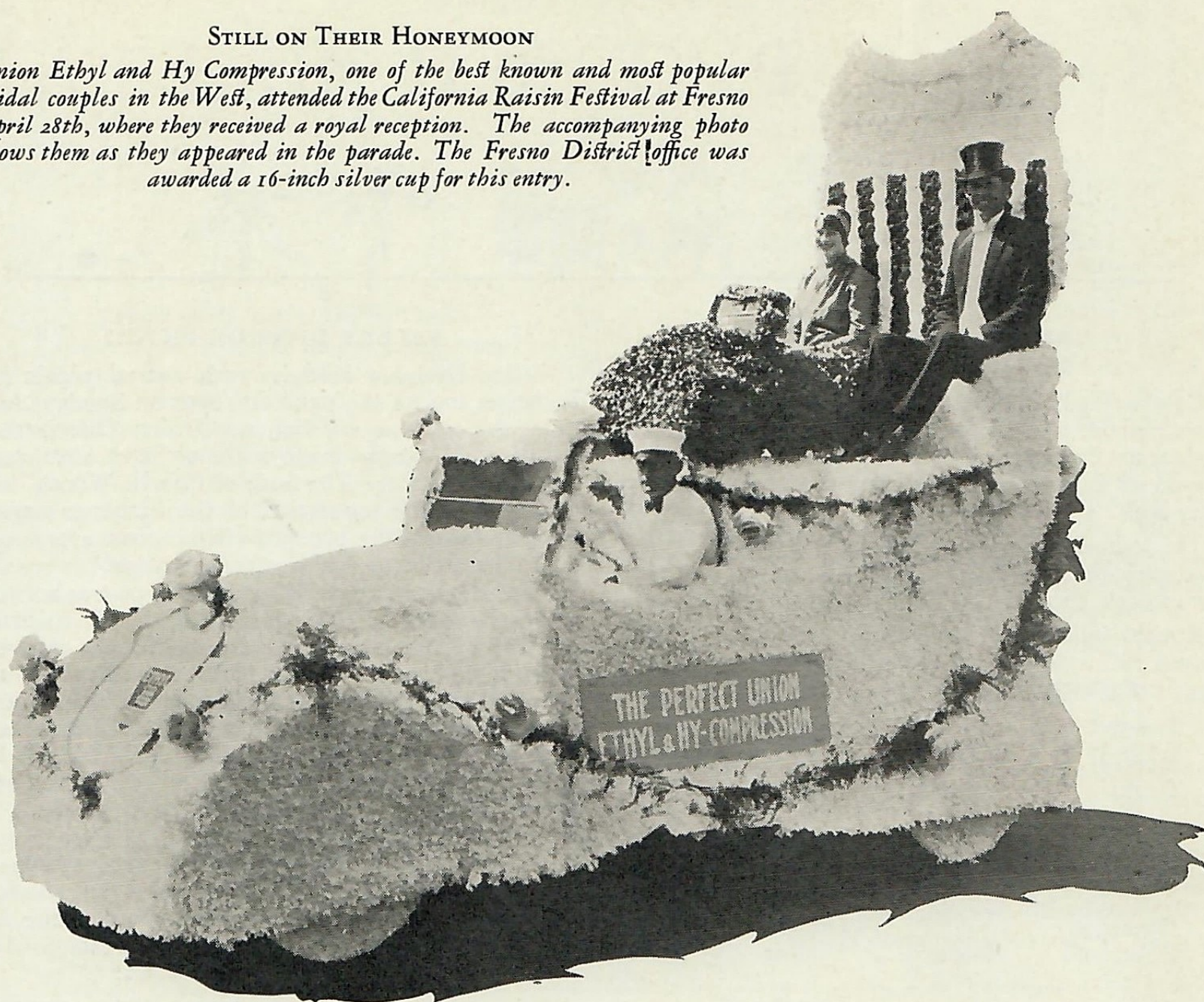
If you can drop the fruit of your exertion
Before you've weighed it, on the concrete floor,
And feeling not a symptom of aversion
Can start again as blithely as before;
If you can take a broken dessicator,
And from it improvise a Liebig still,
Or gauge the rainfall by the dehydrator,
And give three hours a week to First Aid Drill;

If you can subjugate all thoughts of pleasure
And still retain a meed of self-esteem;
If you can give your few short hours of leisure
To keeping up with every modern theme;
If you'll donate your every waking minute
And seek your sole reward in duty done,
Yours is the lab and everything that's in it
And, what is more, you're welcome to it, son.

—B. Z.

STILL ON THEIR HONEYMOON

Union Ethyl and Hy Compression, one of the best known and most popular bridal couples in the West, attended the California Raisin Festival at Fresno April 28th, where they received a royal reception. The accompanying photo shows them as they appeared in the parade. The Fresno District office was awarded a 16-inch silver cup for this entry.



1. *What is a Hill "nigger"? See page 4.*
2. *What is a "debenture"? See page 11.*
3. *What field in California is producing the most oil? What was the April production of this field? See page 23.*
4. *How many pounds of water in a cubic-foot of sugar-pine? See page 6.*
5. *Who owned the first car in Bakersfield? See page 17.*
6. *Who has the most "pull" in the Field Department? See page 20 (Valley Division Picnic).*
7. *How is wood veneer made? See page 7.*
8. *What is meant by "preferred stock"? See page 11.*

S P O R T S



UNION GOLFERS DEFEAT GENERAL PETROLEUM

Company golf players crashed through with a sufficient number of pars and birdies to trim the General Petroleum Corporation in a twelve-man-team match played at Palos Verdes Golf Club, Los Angeles, on May 20th.

The feature of the day's play was Stanley Clarke's two screaming woods followed by a twenty foot-putt for an eagle three on the long tree-guarded fifth hole.

Ronald Gibbs had low medal score with a well-played 76.

Result of matches:

UNION		GEN. PET.	
Koerber		Hayes	
Gibbs	defeated	Adams	6 - 4
Clarke		Olsen	
Fields	defeated	Martin	1 up
Hornidge		Durkee	
Robertson	defeated	Durkee	1 up
Anderson		Goodbread	
Henderson	defeated	De Maris	5 - 3
Herkner		Herzig	1 up
Potts	lost to	Sheldon	
Morgan		Ketchum	
Dickson	lost to	Templeton	1 up

GOLD SPOT WINNERS

The Phoenix District bowling team composed of employees from the Phoenix office finished the Gold Spot Bowling League tournament in first place. During the first two rounds of play the issue was uncertain, but in the third and last round the Union boys hit their stride and walked away with the trophy by a margin of twelve games. The men responsible are J. S. Clifton (captain), Roy Anderson, Homer Thomas, Bill Lee and William Vale with Sam Burford and Max Lee as substitutes.

A GOOD RECORD

During the season just finished, the company's basketball team in the Oakland District won 19 out of 24 games played, and scored an average of 22 points per game against opponents' 15 points. Three of the men, Jack Silva, Harold Hunt and K. Kendrick, were picked on the East Bay All-Star Team.

INDOOR TEAM AT BREA

The employees in the Orange District have organized an indoor baseball league comprised of six teams from the various departments in the district. All games will be played at the Laurel Grammar School in Brea.

VALLEY DIVISION PICNIC

Valley Division held its fifth annual picnic and barbecue amidst the oaks at Tejon on Sunday, May 27th. More than six hundred Union Oilers, their families and friends, made of the occasion a real company get-together. The fame of Charlie Woods' hospitality and the reputation of the barbecue masters Sargent and Sheffler brought visitors from every company district between Fresno and Orange.

The leading sport event was the tug-of-war between teams representing Dominguez and Valley Divisions of the Field Department. The prize, a loving cup, was won by Dominguez but the high stakes bet upon the outcome furnished much of the excitement. Charlie Woods had bet his shirt against those of Cy Rubel and Mart Bowser. The way the two last collected left their host a perfect advertisement for those well-known clothiers, Messrs. B., V. and D.

L. A. BRANCH LEADS INDOOR LEAGUE

The first round of play in the Los Angeles Indoor Base Ball League has been completed and the Los Angeles Branch tops the list with no defeats.

Results of the first half are as follows:

TEAM	WON	LOST	PER CENT
L. A. Branch	7	0	1000
Comptrollers	5	2	714
L. A. Lub.	5	2	714
Engineering Senators	4	3	571
Purchasing	3	4	429
Transportation-Manufacturing	2	5	286
Engineering Cardinals	2	5	286
Engineering Tigers	0	7	000

The Comptrollers team, with two wins, are showing the way in the second round play.

It is planned to hold a three-game series between the winners of the first and last half of the schedule to determine the championship.

TRACKMEN IN FINE FETTLE

An aggregation of field and track men to represent the company in the industrial track meet to be held at the Los Angeles Coliseum June 23rd is rapidly being assembled, and an appraisal of the material seems to justify high hopes for a splendid showing. However, there are enough events scheduled to take care of more entrants, and those men in the company who have had experience in the sprints, hurdles, jumps, weight events and mile and half-mile runs should get in touch with the Personnel Department immediately.

ORANGE DISTRICT BARBECUE

A record number of employees participated in the barbecue and picnic at the Orange County Park June 2nd which proved to be a repetition of last year's success.

The festivities started at noon with a wonderful barbecued meal, which was followed by sports of all kinds for young and old. At 6:00 the evening meal was served, with entertainment and dancing to complete the evening.

SAFETY IN THE UNION



FIRST AID MAN EMPLOYED

A. J. Martinson, who has been training men in first aid and mine rescue work under the auspices of the United States Bureau of Mines, will take charge of first aid work for Union Oil Company on June twentieth. Mr. Martinson has had charge of Mine Rescue Cars 10, 1 and 8 at various times, most recently the last-named in the Duluth, Minnesota district. His work for the Company will be under direction of the Department Managers' Safety Committee.

Almost every day brings us direct, tangible evidence of the value of training in industrial first aid to the injured. On March 30 a man was caught under several falling sacks of clay at a Los Angeles Refinery. The first aid alarm whistle brought Bartella, McFadden, Nicholls, Gregory, Shepard, Ray, Eipper, Noyes, Johnston, Kinghorn, Carpenter, the Joneses, Matheson and Hinder, from their various duties.

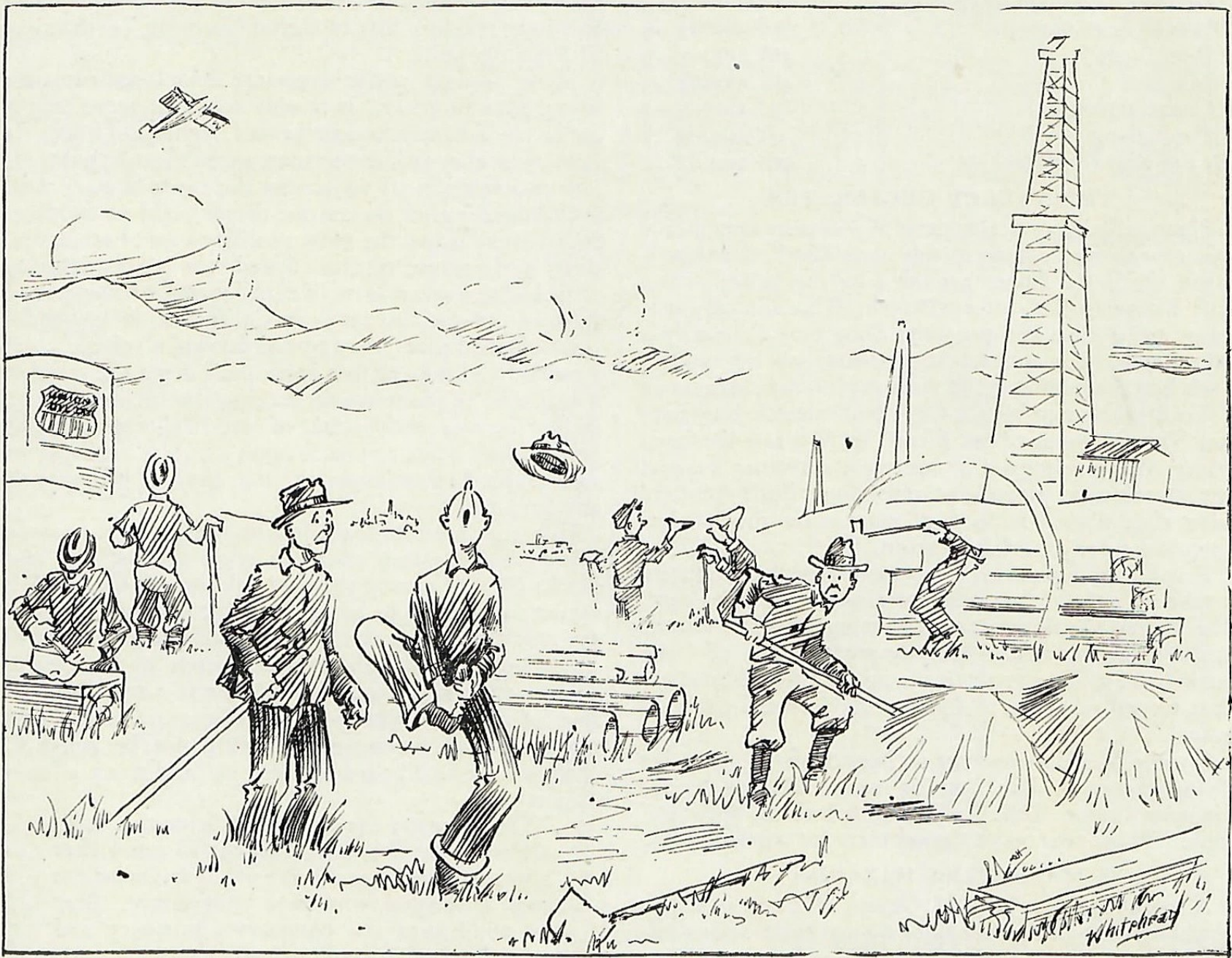
There was no confusion. Bartella gave orders, the men removed the clay and examined the victim. His position indicated fractured bones—either back, pelvis or both. The doctor was called and while awaiting him, the man was carefully moved to the first aid station, and his clothes cut from him. Meanwhile he

was treated for shock. He was handled so that his injuries were not increased. After examination by the doctor, the first aid men splinted him from head to feet, so that he might be moved to the hospital. Today, in spite of two fractured vertebrae, this man is on the road to recovery.

Good surgery shares of course in the glory of this life saved. But no amount or quality of surgery could have overcome the possible damage of bad handling during those first critical moments. The medical staff of the company has again and again praised the quality of work done by these volunteer life-savers.

GAUNTLET GLOVES

In line with its constant aim to protect Company employees against all known hazards to life and limb, the Department Managers' Safety Committee has called attention to the use of gauntlet gloves as a prolific cause of accidents. Such gloves catch on machinery, on vehicles and on materials handled. The accident records of every large employer and every insurance company condemn their use around machinery or other moving objects. In painting pipe, the gauntlets catch hot asphalt. Few if any operations require their use.



The Poppy Gang

Specific instructions on the subject have been issued in every department of the Company.

Only last week a man shifting a lathe belt caught his jumper sleeve. Tight-fitting sleeves or the use of the belt shifter would have spared the man a painful injury. That is but one instance—though typical of many. We cannot ever hope to shroud all machinery. To a certain degree we must make the man himself safe. Good light, good footing and proper clothing are three important parts of the preventive work.

COMPARISONS ARE PLEASING— AT TIMES

Safety engineers of oil company members of the National Safety Council are comparing the accident frequency records of their respective companies each month. As a matter of information these comparisons are mighty valuable for they prove that only a perfect record can be taken as the goal. Out of ninety eight units reporting to the Council in February, thirty-two had no lost-time accidents.

Union Oil Company's standing for the month of February follows:

Manufacturing	21st among 29
Marketing	8th among 13
Drilling and Producing	4th among 21
Gas Operations	
Tied with 6 others for	1st among 13
Pipe Lines	10th among 12
Marine	4th among 4
Construction	5th among 6

A more valuable comparison is afforded by the figures for 1927 just released:

Manufacturing	11th among 19
Marketing	6th among 8
Drilling and Producing	2d among 9
Gas Operations	2d among 9
Pipe Lines	4th among 9
Marine	4th among 5
Construction	3d among 4
Purchasing	1st among 3
<i>All Company Operations</i>	9th among 22

THE VALLEY CELEBRATES

Practically every department of company operations was represented among nearly two hundred who enjoyed the bully dinner provided by the ladies of the Taft Woman's Club on April 25th. This annual gathering was unique in more ways than one. Primarily a safety rally, the entertainment furnished by visitors from Los Angeles covered such diversified subjects as "The World Scramble for Oil" by Roderick Burnham and "The Growth of our Fleet" by William Groundwater. These glimpses of company activities beyond our shores were given rapt attention. Both speakers have that happy facility of expression that makes listening a delightful relaxation.

Frank F. Hill justified the occasion for the dinner by a talk on safety that came straight from the heart. The Valley Division was celebrating its sixth month without an accident. The congratulations of "the boss" were sweet sounds to the ears of those who made that record possible. "Yours truly" closed the program.

Charlie Woods was kept so busy finding places for those who came late that he never did get to eat his own dinner. Lafe Todd presided at the speakers' table. These two make a good team for work or play.

MARKETING HAZARDS

A recent bulletin by J. M. Geary, Manager of Sales, places upon the company Sales Agents full responsibility for determining the true cause of accidents to their men and correction thereof. Every lost-time accident

or fire must be investigated and the agent's conclusion stated as to why and how it was caused, how it could have been avoided, as well as what action he has taken to prevent a recurrence. This "letter report" will supplement the formal report made to the various industrial accident commissions and is intended solely as a means of placing responsibility for accident prevention where it rightly belongs. The need for immediate and effective safety work among marketing forces was brought out by the fact that during the first quarter of 1928, the frequency of marketing accidents was very close to that for drilling and producing, conceded to be the most hazardous work in the industry.

EVERY DRIVER A SALESMAN

Union Oil Company operates more than 2000 motor cars and trucks upon the public highways of the Western States. These vehicles are seen by far more potential customers than are our service stations or regularly employed salesmen. And marked as they are, with the name and emblem of our company, they represent the company to every man, woman and child who sees them. It cannot be otherwise, for thousands of dollars have been spent in advertising our name, emblem and colors.

No matter what activity of the company's service a car or truck may be operating in, to the public the action of the driver represents the attitude of the company toward its potential customers. And just as truly as one heedless act may take away the confidence which it has taken acres of bill boards to inspire, so consistently courteous driving can be made the greatest selling force of our company's products. The friendly wave of the hand that says "Go ahead, sir, I could have dashed across in front of you, but may you live long and buy lots of Union Gasoline,"—that has real selling value.

Most modern traffic laws are based on common sense, plus courtesy. It is only common sense that a car or truck have adequate brakes, lights and horn. It is obvious that at intersections, speed must be reduced, lest two vehicles try to occupy the space of one. And it is courtesy that makes one driver yield to another. Speed alone is not the most prolific cause of accidents, with their tragic results. Speed is a purely relative term and the speed laws of many states are so worded as to emphasize this fact. In California, for example, it is ordained that "Any person driving a vehicle upon a public highway of this State shall drive the same at a safe and prudent speed, having due regard to the traffic, surface and width of the highway; and no person shall drive a vehicle upon a public highway at such a speed to endanger the life, limb or property of any person."

It is a pleasure to learn in discussing traffic hazards with insurance men that our great fleet of cars and trucks is rated among the best risks on the Coast. We expect our men to be better than the average, for they are carefully selected for their intelligence. I sometimes wonder, though, whether many of those who are not connected directly with the sale and distribution of our products to the public ever realize that they, too, are salesmen. It would not be amiss to place on the dashboard of every car and truck a little sign saying:

"The company expects you to drive this vehicle with the constant thought in mind that every pedestrian and every other driver on the road is the one who pays your salary. Bear in mind that the company's property and your future depend on what these people think of you."

California Oil Statistics, April, 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	
		Apr., 1928	Mar., 1928	Apr., 1927
Kern River	293,453	9,782	25,822	13,950
Mount Poso	576	19	17	128
Round Mountain	3,406	113	141	—
McKittrick	150,933	5,031	4,948	5,266
Midway-Sunset	2,192,995	73,100	80,831	92,182
Elk Hills	708,827	23,627	23,518	28,720
Lost Hills-Belridge	121,566	4,052	4,082	4,239
Coalinga	323,738	10,791	19,423	20,674
Wheeler Ridge	26,280	876	904	1,049
Watsonville	1,725	57	57	58
Santa Maria	186,072	6,202	6,444	5,069
Summerland	3,765	125	126	152
Goleta	4,617	154	202	190
Rincon	58,354	1,945	1,030	—
Ventura Avenue	1,533,798	51,127	51,223	51,748
Ventura-Newhall	170,763	5,692	5,679	6,242
Los Angeles-Salt Lake	48,238	1,608	1,551	1,818
Whittier	50,878	1,696	1,719	1,863
Fullerton (Brea Olinda)	483,755	16,125	15,636	22,589
Coyote	407,368	13,579	13,671	14,519
Santa Fe Springs	1,106,921	36,897	37,584	43,313
Montebello	375,415	12,513	12,439	16,122
Richfield	583,742	19,458	19,370	21,455
Huntington Beach	1,632,455	54,415	56,645	76,820
Long Beach	4,611,182	153,706	125,075	93,367
Torrance	562,358	18,745	19,045	24,236
Dominguez	379,924	12,664	12,577	17,165
Rosecrans	196,895	6,563	6,746	11,655
Inglewood	892,819	29,761	30,101	37,136
Newport	210	7	3	54
Seal Beach	1,165,551	38,852	40,110	37,093
Potrero	2,150	72	3	—
TOTAL	18,280,729	609,357	616,720	648,870
March	19,118,324	616,720		
Decrease	837,595	7,363		

STOCKS

	Apr. 30, 1928		Apr. Stock	
	Mar. 31, 1928	Decreases	Apr. 30, 1927	
Heavy Crude, heavier than 20° A. P. I., including all grades of fuel	95,398,359	95,880,671	481,312	90,820,675
Refinable Crude, 20° A. P. I., and lighter	19,685,626	20,215,802	30,176	29,418,335
Gasoline	13,755,230	13,799,947	44,717	14,718,706
Naphtha Distillates	1,778,981	1,633,736	*145,245	3,741,718
All Other Stocks	9,122,118	9,268,718	146,600	9,907,191
TOTAL ALL STOCKS	139,740,314	140,798,874	558,560	148,606,625

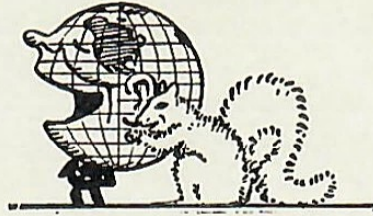
*Increase

DEVELOPMENT

	DEVELOPMENT			Daily Initial Output	Active Producing	Abandoned Wells	
	New Rigs Up	Active Drilling	Completed			Drillers	Producers
Kern River	6	7	5	840	1,258	1	..
Mount Poso	6	5	1	500	2	..	..
Round Mountain	..	3	1	934	2	..	..
McKittrick	..	..	1	100	295	..	3
Midway-Sunset	4	9	3	404	2,530	..	3
Elk Hills	..	..	..	..	226	..	1
Lost Hills-Belridge	4	1	1	120	296	..	..
Coalinga	1	2	2	8	839	..	..
Wheeler Ridge	..	1	1	121	32	..	..
Watsonville	..	..	..	..	6	..	..
Santa Maria	1	5	..	..	219	..	..
Summerland	..	1	..	..	91	..	..
Goleta	..	1	..	..	3	..	..
Rincon	3	15	4	3,295	8	..	..
Ventura Avenue	2	29	4	6,410	116	..	..
Ventura-Newhall	4	20	..	..	508	2	..
Los Angeles-Salt Lake	..	..	..	..	331	..	..
Whittier	..	..	..	..	177	..	..
Fullerton	1	6	1	170	382	..	..
Coyote	..	1	..	..	211	..	..
Santa Fe Springs	..	1	..	..	305	..	..
Montebello	..	1	1	75	172	..	..
Richfield	2	5	2	645	264	..	..
Huntington Beach	7	13	5	834	570	3	2
Long Beach	40	169	32	56,202	678	1	2
Torrance	1	1	..	..	652	..	5
Dominguez	..	2	..	..	76	..	..
Rosecrans	1	2	..	..	111	..	..
Inglewood	2	2	..	..	221	..	..
Newport	..	1	..	..	2	..	..
Seal Beach	1	3	..	..	137	2	2
Potrero	..	..	1	1,045	1	..	..
Miscellaneous Drilling	11	144	..	..	..	8	..
April	97	450	65	71,703	10,716	17	18
March	75	458	55	35,353	11,3215	0	33
Decrease	22**	8	10**	36,350**	599	3	15
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		24

**Increase

REFINED AND CRUDE



Three intrepid aviators, Koehl, von Huenefeld and Fitzmaurice, made the first successful east-to-west trans-Atlantic flight, and were given an ovation in New York that has only been equalled by the famous Lindbergh welcome.

* * *

Which prompts Charlie Esplin, the well-known Scotch carpenter of the Valley Division to remark that he crossed the Atlantic with a plane years ago, and nobody got the least bit excited.

* * *

The average woman's vocabulary is said to be about 500 words. A small inventory, but think of the turnover.—Wall Street Journal.

* * *

Despite the accepted fact that a change is as good as a rest, many a driller goes off on a fishing job when vacation time comes around.

* * *

"The Gnu in Danger of Extinction," says a headline. Shall this popular little crossword animal disappear? Gno, gnever!—Punch.

* * *

Rod Burnham's address to the employees of the Valley Division last month so intrigued his listeners that immediately after the affair was over he became the center of a barrage of questions that almost bewildered him for a minute.

* * *

However, he rose to the occasion like a man, and when asked by one of the boys if bull fighting still constituted the staple amusement of the Mexican people, he promptly came back with this classic: "My goodness, man! Have you never heard of the Golf of Mexico?"

* * *

Which reminds us that Bill Standard took up the ancient game solely for his own amazement.

* * *

Painless dentistry has perhaps done more for the conservation of gas than any thing outside of the oil industry.

* * *

While browsing through the sessional records of the Calvary Presbyterian Church at Wilmington some time ago, Pastor Louis Evans came across the following resolution, which had apparently been passed by the Board of Church Management: "Resolved that we send two missionaries to the struggling little town of Los Angeles that is rapidly growing to the north of us."

Perusal of the morning paper would lead one to conclude that for some reason or other the missionaries were never sent.

* * *

The commotion and ado of the business rush in Los Angeles is almost beyond description, and yet there was far more bustle in your grandmother's time.

* * *

According to Bob Frazier, things at the Avila Refinery are just topping.

* * *

Some people drive as if they were anxious to have their accident quickly and get it over with.—Milwaukee Journal.

* * *

Little Johnny: "Look at the rhinoceros."

Little Willie: "That ain't no rhinoceros; that's a hippopotamus. Can't you see it ain't got no radiator cap?"—Judge.

* * *

Union Oil Company has succeeded in developing a line of products that are absolutely second to none, but we can't sit back now feeling that our task is completed.

* * *

Edison didn't quit when he invented the electric light. No sir! He immediately set to work to invent a phonograph, so we would sit up late and use his lights.

* * *

As Tom Reed said when he watered the new lawn around the Rosecrans laboratory, "The plot thickens."

* * *

No pedestrian has to be told that this is Leap Year.—Wichita Eagle.

* * *

McPherson: "Gie me two pennyworth o' poison."

Chemist: "We can't make up two pennyworth, sir. We can only make up six pennyworth."

McPherson: (After deep thought): "Aw well, I'll no commit suicide."—Table Talk (Melbourne).

* * *

Cy Rubel's boy was seen down at the beach last Sunday, and curiously enough the youngster was going right after the deep sand.

* * *

But picture the plight of the poor doctor who for several years treated his patient for jaundice, only to find out in the end that he was a Jap.

* * *

And you will agree that there is nobody like an usher to put you in your place.

* * *

Finally, if your bed is too short, don't sleep so long.

DIRECTIONS

By RUSSELL MERIWETHER HUGHES.

*Forty mile beyond th' town lies the last water-hole,
Fill yore canteen at it, an' circle to th' west;
Line out straight until yuh find an ole saddle rottin',
That's th' place tu turn back, if yuh think it's best.*

*Headin' toward th' nearest range, if yuh find a pack-
mule*

*Lyin' where th' buzzards left him, turn tu th' right
Further on a few mile yuh'll find some half-filled ore
sacks;*

*Then raise yore eyes and look out where th' range meets
th' night.*

*Almost in th' foot-hills, if yuh take a weavin' trail
An' search among th' scratched rocks of a ole creek-bed,
Yuh'll find a pair o' Spanish boots and a six-notched
forty-five;*

*That's shorely where yuh'll find him, but I guess
yuh'll find him dead.*

