

TAPPING OF RUBBER TREE TAKES SKILL

"Latex" Is Found Between Bark and Inner Tissue.

SOME TREES NEED REST

Keeping Down Weeds Declared One of Greatest Problems on Plantation.

Tapping a rubber tree is an art that requires a delicate touch and sure hand. Contrary to general opinion, rubber is not the sap of the rubber tree, but is a fluid called "latex" found between the corky outer bark and the hard, thin inner tissue that incases the wood, writes E. S. Underhill, in an article prepared for the United States Rubber company, New York.

By tapping is meant the cutting of the tree so that its latex will exude and be caught in a cup properly placed. The amount of latex secured and the welfare of the tree depend upon proper tapping.

One of the best methods of tapping has been found to be a diagonal cut, extending a third of the way around the tree. These cuts are made with a razor-like knife of special construction whose blade is so thin that 20 tapings may be made side by side in an inch of bark. If the cut is not sufficiently deep a full quota of latex is not obtained and if the cut is too deep the tree is injured and its tender exposed parts are susceptible to disease infection. If too wide a cut is made, valuable bark is wasted. Tapping is, therefore, an important work and the laborer entrusted with it announces himself as a tapper with some pride.

Some Trees Need Rest

The latex does not flow through the tree like sap, but is found in cells. Tapping in most localities may be done daily, but not to such an extent that the vitality of the tree will be weakened. Trees that have been over-tapped for a time show response to a few days of rest. On the great plantation of the United States Rubber company in Sumatra—so vast in extent that close to 20,000 persons are engaged in working it—it has been found that Javanese women are among the best tappers. Chinese laborers are numerous in that section of the country and may find employment on the plantation, but as a rule find it difficult to perform the delicate tapping operation. Javanese men are more suited to tapping work than the Chinese, but the Javanese women are generally considered the best of all.

It is in the heavy work of clearing the jungle for planting that the Chinese are most at home. This work is usually done by contractors who employ Chinese to a large extent. The trees and undergrowth are usually cut down in the wet season, the debris being piled up ready for burning when the dry season sets in. Taking out the stumps and digging drainage ditches are counted as part of the clearing operation.

When the ground has been cleared, the surface is worked over a number of times with a tool called a "chankol," shaped much like a hoe. Then the trees are planted in rows, usually in the form of small seedlings, from 100 to 200 being planted to the acre.

Keeping Down Weeds Problem

To keep down the weeds is one of the great problems on the plantation. In the moist, tropical regions weeds grow so fast that they could discourage a New England gardener. The customary method of combatting the weeds is to chankol the entire plantation once a month. In a large plantation as that of the United States Rubber company with 70 square miles of trees this is a heavy expense item. Some successful experiments have been tried with mimosa, a ground creeper that covers the surface with a thick mat and chokes out the weeds. To combat the natural disinclination of the natives of the tropics to perform manual labor, practically all work on the plantation is "task work." Each worker starts off each morning with a certain amount of work to be done, and as soon as he has finished he is through for the day. A chankol is given so many yards of surface to cover, the tapper is assigned to a certain number of trees, everything is on the stint basis.

This method of allotting work has proved very satisfactory. Most of the workers are anxious to get through for the day as soon as possible and there is an air of hustle in the early morning hours. All the laborers are in the field as a rule by 5:30 or 6 o'clock, and by 11:30 the heaviest part of the work is done. Because of the tropical conditions that prevail a regulation of the Dutch government in Sumatra requires that an hour's rest be given the workmen after six hours' work.

Tappers Through at Noon

The tappers are through with their tapping work by noon time. The tapper's "task" usually is 65 trees, by 5 o'clock or 5:30 these trees have all been tapped, and the work of collecting the latex from the cups begins. Metal milk cans are used and when this work is finished each worker takes his cans to the collecting sheds and the latex is weighed. That ends the morning's work. In the afternoon there are smaller jobs to be attended to, such as weeding, cleaning utensils and sharpening knives. By 4 o'clock in the afternoon even the slowest workers have completed their tasks.

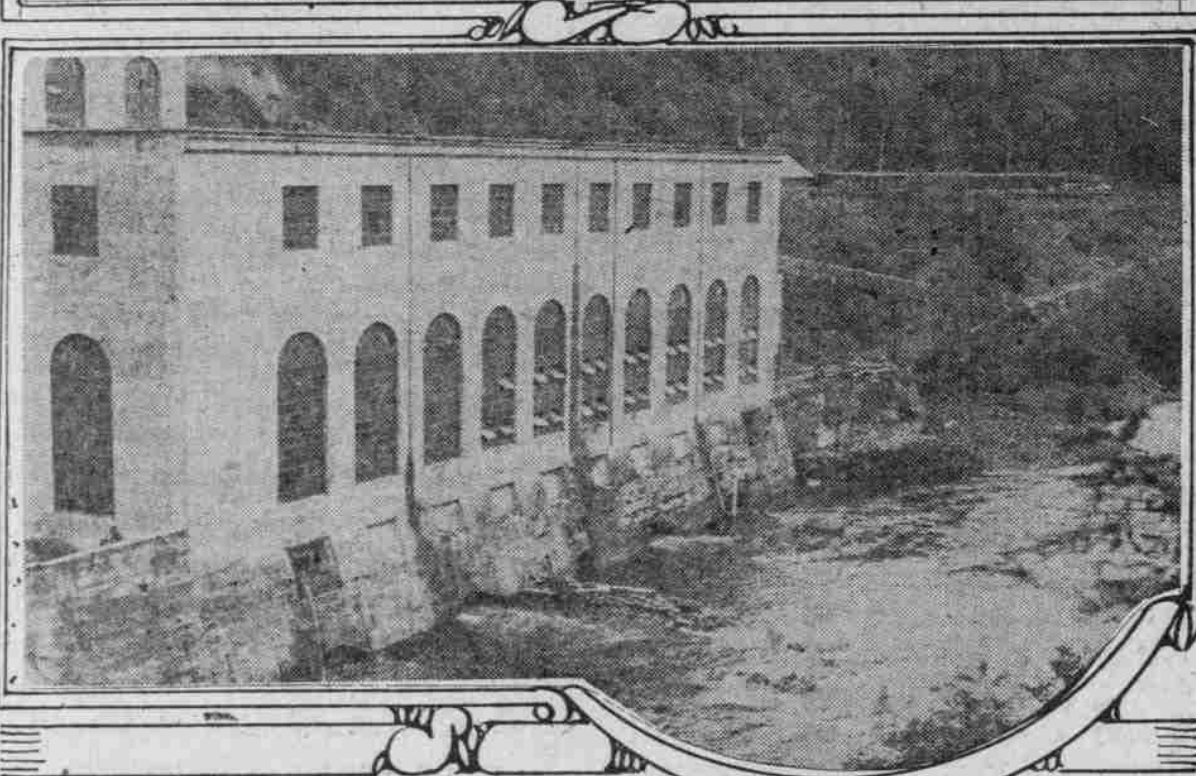
The laborers follow the custom of the region in eating but two meals a day. Before starting to work, or between jobs in the early morning, they will grab a hasty snack. The first real meal of the day comes during the rest period following the tapping work. The heavy meal is taken at night. The principal articles of food are rice, fresh and dried fish and bananas.

The language spoken is Malay. No matter what the native tongue of a worker may be, he is able to understand Malay, also, for everything pertaining to his work is carried on in that language. Among themselves the Javanese usually speak their own tongue. This is also true of the Chinese and often the latter are slow in learning Malay.

Americans and Europeans going to the plantations acquire a working knowledge of the Malay tongue as soon as they can. Once able to make themselves understood in Malay they find themselves equipped to get about easily among the natives. It is a simple matter to learn enough in a few months to answer the usual requirements.

Trees Constantly Inspected. To come back to the rubber tree itself, it is worthy of note that in the past decade with its tremendous demand for crude rubber, notable

BULL RUN MAKES INTERESTING SHORT TRIP FROM PORTLAND.



Scenes taken at Bull Run, showing power plant of the Portland Railway, Light & Power company on the Bull Run river, and the attractive hotel and eating house at Bull Run, located on the bank high above the river. Bull Run is about 30 miles east of Portland and may be reached by several roads, the best of which is probably that via Gresham and Sandy. This road is paved to Gresham, good macadam to Sandy and fair the rest of the way.

progress has been made in finding out the secrets of rubber tree cultivation. By intensive study many interesting and commercially important things have been learned about planting, tapping, grafting and similar subjects.

Every one of the 5,000,000 trees on the plantation of the United States Rubber company is under constant inspection. If one tree gives a greater yield than another a study is made of the causes. Moreover, by a process of selection the yielding power of the trees is being gradually increased, the best yielding trees being used for the propagation of new trees.

The trees yield an average of from one-third to one-half an ounce of latex each day. Half of this weight is rubber, making the annual yield of real rubber from each tree three to four pounds. One of the first requisites to successful manufacture of rubber is that the crude rubber shall be uniform in quality. One of the big obstacles manufacturers in the United States have had to meet has been the lack of uniformity in the crude rubber they buy in the open market. To illustrate how easy a matter it is to have a wide variance in the quality of the rubber, one needs look no further than to the effect of a rainy day on a plantation. With rain drops running down the trees it is only natural that the latex should be more or less diluted with water. When chemicals are added to the latex to solidify it, if account is not taken of the extra water content a much different grade of crude rubber will be produced than on a day when there is no rain.

GARDNER SALES ARE HEAVY

Northwestern Organization Hangs Up Unusual Record.

Mitchell, Lewis & Staver company, who have the northwestern distribution of the Gardner light four in the northwest, recently made the unusual record of selling 100 Gardner light fours in their territory in 100 days.

This is one car a day and points in an unmistakable manner to the popularity of this light four as well as to the energy and effect that is being put behind it by the old firm of Mitchell, Lewis & Staver company.

PORTLAND MEN PROMOTED TO IMPORTANT POSTS WITH UNION OIL COMPANY.



Left—C. L. Tostevin, sales manager for the Portland district for the Union Oil company of California. Right—C. C. Ireland, who has been promoted to assistant sales manager.

Promotion of three officials of the Union Oil company in this district, all well known here, has been announced by the company. D. H. Kelly, who had been district sales manager for the Portland territory, has been transferred to Seattle to have charge of that district. The transfer is in the nature of a promotion, as the Seattle office has charge of a large territory in British Columbia and a refinery at Vancouver, B. C. To fill the vacancy caused by the transfer of Mr. Kelly, C. L. Tostevin has been elevated from the position of assistant sales manager to sales manager, while C. C. Ireland has been named assistant sales manager. Both Mr. Tostevin and Mr. Ireland are well known here, both having been with the company for a dozen years or so. Prior to his promotion to his new post Mr. Ireland had charge of Union service stations and sales extension work. In his new capacity Mr. Tostevin will have general charge of sales for the company throughout the entire Portland territory, extending from Centralia, Wash., to the Oregon-California line and from the Pacific to Idaho.

OVERLAND JOURNEY IS MADE IN ESSEX

Quartet Crosses Continent in Closed Automobile.

TRIP TAKES ONE MONTH

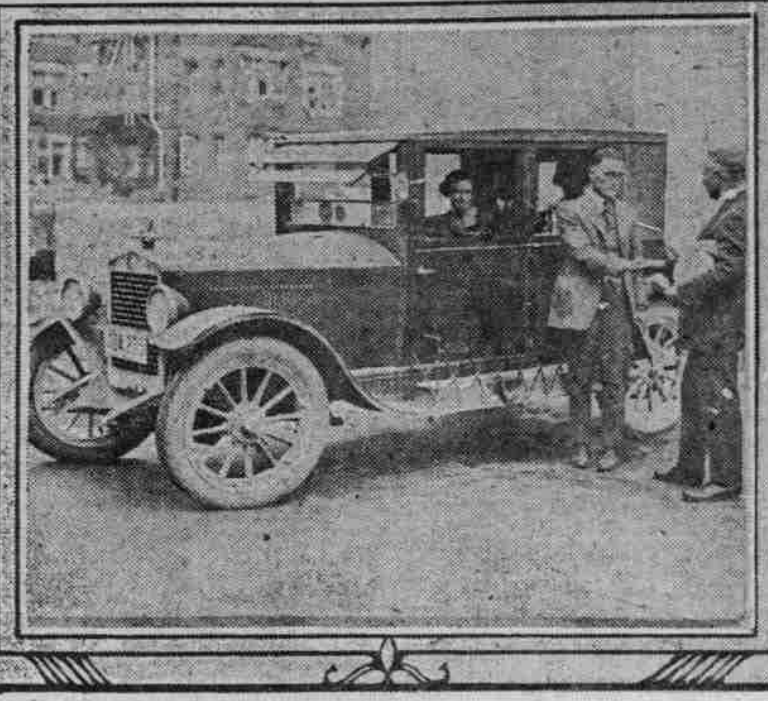
Start Made in Pennsylvania and Route Leads to Portland by Way of Northern Course.

To cross the continent in a closed automobile is to enjoy regular "Pullman car" comfort, according to F. W. Grady of Pennsylvania, who arrived in Portland last week at the wheel of an Essex coach. Mr. Grady, who was accompanied by J. B. Jones, an attorney of Charleston, W. Va., and wife, and John W. Hoover of Hooversville, Pa., made the run in approximately a month, making frequent stops on the road. The party left Rochester, Pa., on July 2, according to the itinerary given by Mr. Grady to C. L. Boss, local Hudson and Essex distributor, when the former drew up before Mr. Boss' headquarters, in upper Washington street, to have the Essex car given the "once over" before starting with it on the run to California.

Long Overland Trip Made.

From Pennsylvania the party drove westward through Columbus, O., Indianapolis and St. Louis to Kansas City, Mo., thence to Emporia, Kan., and on to Colorado Springs. From there the route led to Denver and then northward to Cheyenne and Yellowstone National park. After a stop at the latter point the trip was continued westward through Spokane to Seattle and thence down the Pacific highway to Portland. After a couple of days here the party resumed its way, going south-

EASTERN MOTORISTS RECEIVE "WELCOME TO OUR CITY."



F. W. Grady and party, who crossed the continent from Rochester, Pa., in an Essex coach, drop in on C. L. Boss, local Hudson and Essex distributor.

ward over the Pacific highway with Los Angeles as the ultimate destination.

"Through the eastern part of the country we found the roads splendid," said Mr. Grady in telling of his trip. "From Pennsylvania clear to Kansas City the roads are in wonderful shape, paved nearly the entire distance. The east is making rapid strides in road development, as I understand the Pacific coast states are also.

Kansas Mud Worst Ever.

"Westward from Kansas City we struck our first bad road, encountering some Kansas mud. One who has never driven over this Kansas mud road cannot appreciate what it is, but you can be assured it is all that you might imagine it. Roads in western Kansas and Colorado, however, were in fair shape, although but little improved. In the

vicinity of Denver we found the roads in good shape.

"Going northward from Denver to the Yellowstone via Cheyenne we passed through one of the most unusual sections of country anywhere known as 'Hell's Half Acre.' The country is wild and rugged in the extreme, and answers the description well, except that it is many times a half acre in size. Roads were in fair shape, however, and we were able to reach Yellowstone without difficulty. We thoroughly enjoyed our stop there and then came westward to Seattle, finding the roads in good shape most of the way. The trip down from Seattle is so familiar to people here as not to bear description."

Secretary to Elbert Hubbard.

Mr. Grady for several years was private secretary to Elbert Hubbard, well-known writer, being with him, in fact, almost up to the time

of Hubbard's death. In this capacity he wrote all of Hubbard's manuscripts for him from dictation and accompanied him on his lecture tours. He has also been a newspaper man and writer himself and has a wide acquaintance in literary circles. On the way west he stopped to see Meredith Nicholson, William Allen White, Johnson McCully and others.

"I had a most interesting time with Nicholson at Indianapolis," said Grady, "but found him immersed in his latest book, 'Broken Barriers.' We made the trip via Emporia on purpose to see William Allen White and found him, as we had expected, a thoroughly democratic, unassuming man, as fine a character as I have ever met. It was at Colorado Springs that we met McCully, a novelist and writer of the new generation. McCully, although not as yet well known, will make his mark."

Essex Performs Splendidly.

"The Essex coach certainly performed splendidly throughout the entire trip. I had already driven the car some 5000 miles before we began our trip, but despite this and the hard roads we met on several occasions we had not the least motor difficulty. Riding in the closed type of car was certainly comfortable, and, to my notion, makes such a long trip vastly easier than an open model."

Naches Pass Road Being Built.

YAKIMA, Wash., Aug. 19.—(Special.)—Seventeen miles of what is known as the "Normie grade," a strip of state highway extending from the summit of Chinook pass this way to the American river, on what is officially known as the "Naches Pass" road, have been built or rebuilt and two bridges have been constructed. Information here today was that the road would be completed ready for travel by September 1. The Normie road was built originally a number of years ago as the beginning of the Naches Pass highway, and was named after the contractor. It did not connect with any other completed road at either end and consequently was untraveled and neglected and fell into a state of disrepair.

Glance both ways on each cross-street and if you're not on the main thoroughfare, slow down before you cross. It's safest to drive slow enough to have the car well under control when buildings hide the intersecting streets.

BETTER CARBURETORS TO OFFSET HIGH COST OF GAS

Recent Official Tests by the French Government Average Sixty Miles to Gallon.

PARIS, Aug. 14.—Gasoline consumption for automobiles is such a serious question here, with gas costing from 55 to 60 cents a gallon, that recent French tests to develop better carburetion are being continued.

Cars smaller and lighter than those generally used in the United States recently have averaged about 60 miles to the gallon of gasoline in official public tests. The winner in the principal competition of this sort made 61 miles to the gallon.

Large cars, weighing more than 4000 pounds, averaged close to 50 miles to the gallon in the recent Strasbourg race of 440 miles over the Grand Prix course and under the same regulations. This was the first race of this kind organized by the Grand Prix officials, and it proved such a success that a similar contest is announced for next year. These results, however, were under the special conditions that govern all such affairs, and admittedly are not attainable by the average driver, particularly in the United States.

Several cars of a popular American make competed in the Le Mans test for light cars, and their showing illustrates the progress made in economizing fuel. Equipped with the same carburetor as the winner that made 61 miles an hour, one ran 33 miles on a gallon, and another made only 36 miles.

These economy tests, according to carburetor manufacturers, taught them lessons that will show next year in improved design, but so far there has been no revolution in engineering that is applicable to automobiles in general.

Racing tests, however, give a misleading idea of results, for the cars that then average 60 miles to the gallon operate normally at about 35 miles to the gallon. The difference is explained as due to six factors: The use of a special gasoline equip-

ment with the best carburetor; carburetor adjustment to get a working mixture that would not serve in ordinary driving; expert driving; perfect mechanical condition of the car and special adjustment of the motor for high compression, and pronounced advance of the spark.

The reasons for the better results obtained by French cars over their American competitors are attributed to several things. The American cars were heavier, and it was mathematically certain that it would take more fuel to drive the greater weight, particularly as the American cars traveled 20 per cent faster. The American cars also stood higher from the ground and met greater wind resistance; also the American cars had much larger motors, which turned over at a much slower speed, so that greater consumption was inevitable.

When the different conditions to be met by the French and the American manufacturer are considered, experts do not generally feel that there is any remarkable superiority in the French car. These differences grow out of costs of operation and the temperament of the public. Gasoline costs nearly twice as much in France as in the United States, and French makers, therefore, find it profitable to spend more money to produce an economical motor. This is done in several ways, but principally by having a well-finished small motor, with relatively high compression, turning over at a high speed. Some small motors make 4000 revolutions per minute, and French racing cars approach 5000 revolutions per minute. The French are educated to look more to gasoline consumption than to speed and acceleration. They prefer a small motor with four speeds, and they are content to shift gears constantly so as to save gasoline.

Americans over here sometimes wonder whether the higher original cost of French cars really offsets the saving in gasoline. French cars corresponding in size, power, appearance and ability to travel cost much more than their American rivals. American quality production accounts for much difference in price, although Citroen, called the "Ford of France," by far the numerical leader among French cars, still suffers greatly when compared with American cars in price.

Keep your eye on the oil.

Covey's Used Car Cleanup

28-30 N. Broadway and 21st at Washington

COME TO THE PLACE MOST CONVENIENT

Covey Motor Car Co.

28 North Broadway 21st and Washington Sts.

Free trial destructive compounds—the trouble makers in your engine

Destructive "sulpho" compounds are damaging impurities that cause motor oil to break down and thin out rapidly under engine heat.

Lubrication scientists have long sought to prevent this quick decomposition of oils. The Hexcon process, used only by us, accomplishes this end. It removes destructive "sulpho" compounds. Cylcol is the only motor oil made by the new Hexcon process.

Cylcol retains its "body" under engine heat—maintains an unbroken oil film between moving parts—protects you against many serious engine troubles.

For best results flush your crank case with fresh lubricating oil—not so-called flushing oils or kerosene—and refill with Cylcol.

The importance of the Lubrication Chart

Different brands of motor oils have different bodies. The safest, surest way to get the best performance from your motor and avoid expensive engine troubles due to incorrect lubrication is to use the grade of motor oil specified on the Cylcol Lubrication Chart.

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