

## NATIONAL SYSTEM OF ROADS IS URGED

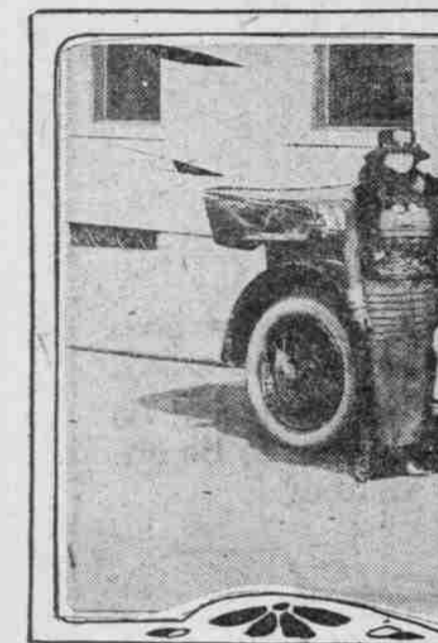
Country as Whole and Not States Concerned.

### RESULTS OF TOUR SEEN

Comprehensive System of Highways Held Vital to Proper Development of Rural Areas.

WASHINGTON, May 8.—Declaring the national rather than the concern of individual states, the report of the war department to the highway committee of congress, just made public, summarizes conclusions

reached as a result of the army convey of 73 trucks which blazed a trail from Washington to the Pacific coast last summer. The report recommended the construction of a federal system of national highways.



Mrs. N. C. Moran, her English bulldog, "Stutz," and Stutz six-passenger car, in which she reached Portland a week ago after long transcontinental trip.

From Kansas City to the Pacific coast is a long trip at any time. But Mrs. Moran set out January 1 because somebody dared her to. She drove via the southern transcontinental route, making the distance from Amarillo, Tex., to Los Angeles in ten days, fair for any season, but fast for winter road conditions. She had some hard going between Phoenix, Ariz., and Mesquite, Cal., because of freshets, but came through without mishap. From Los Angeles she drove to San Francisco and then braved the Pacific highway and came north—which is some trip these days. She had to be towed once, but nothing else could stop the Stutz. Her entire mileage from Kansas City to Portland was 8,000 miles, and the Stutz, equipped with Lee tires and Bonner tubes, did it without a puncture. Her log shows that the car averaged 16 miles to the gallon.

Urging as a commercial asset the need for "a comprehensive system of national highways," the report voices the opinion that the transportation arteries of the country should be built to accommodate the rapid movement of heavy vehicles during any season of the year.

### Recommendations Are Made.

The recommendations of the department are as follows: "First—That the necessity for a comprehensive system of national highways, including transcontinental or through routes east and west, north and south, is real and urgent, as a commercial asset to further colonial and development of sparsely settled sections of the country, and finally as a defensive military necessity.

"Second—That the existing roads and bridges, especially in the sparsely settled sections of the middle and far western states, are absolutely incapable of meeting the present-day traffic requirements, and until modern types of roads and bridges are constructed which will permit the rapid movement of heavy motor cargo vehicles during any season of the year and in all conditions of weather, economical transcontinental highway traffic will continue to be but a vain hope.

"Third—That the road problems of the middle and far western states are national rather than local problems, as these states, while possessing vast area and tremendous mileage of highways, have only a sparse population which cannot possibly undertake the needed highway improvement work, which moreover is usually of greater importance to the country as a whole than to the individual state.

### Roads Limit Radius.

"Fourth—That the radius of action and resulting utility value of the motor vehicle is limited, only by the condition of the roads, and the provision of adequate roads will have a far-reaching effect on the economic development of the country at large.

"Fifth—That the types of motor vehicles, especially those used by the army, should be co-ordinated with the road conditions. In other words, until such time as all sections of the country are connected by improved highways that are passable to heavy motor vehicle traffic at all seasons of the year, the size and weight of vehicles should be limited to types of light and medium capacities."

Thirty-three of the army trucks which arrived on the Pacific coast with the convoy last autumn will take part in a parade during national Ship by Truck-Good Roads week, May 22-25, at San Francisco.

## REED TESTS LUBRICANTS

COLLEGE LABORATORY MAKES ANALYSIS OF OIL

Samples Received for Tests From Spokane, Seattle, Tacoma and Portland Firms.

Testing lubricating oils for north-west firms has become an official part of the work of the Reed college physics department under direction of Dr. A. A. Knowlton. Thad Wreeland, assisted by Edgar Kline, both Reed sophomores, are doing the testing. Samples of oil have been received from Spokane, Seattle and Tacoma firms and from Oregon distributors.

The investigation of the "viscosity" or stickiness of lubricating oils was started by the Reed laboratory last year in an effort to determine the best oil for certain engines. The work was so successful that the demonstrators from the college have attended farmers' meetings at Washington State college and Oregon Agricultural college, where tractor lubrication was discussed. The interest of firms outside of Portland is now attracted to the work of the college. Laboratory tests of gasoline sam-

ples from all over the west to determine the heat value of gasoline of different specific gravities has been delayed until arrival of new apparatus. The college has been using apparatus from Oregon Agricultural college until the new equipment arrives from the east. An automobile engine will be installed at the college soon for making actual engine tests of gasoline, something which has not been done in this country.

The investigation of gasoline samples is primarily for the Oregon bureau of weights and measures to prove or disprove the wisdom of the law which requires all gasoline sold in Oregon to have a higher specific gravity than that sold in neighboring states.

### PARK PLANNED FOR TOURISTS

Helena Provides Accommodations for Break in Journey.

HELENA, Mont., May 8.—Automobile tourists making the trip next summer between Yellowstone and Glacier national parks will find here, at the "half-way point," delightful accommodations for a break in their journey, according to the plans of local citizens. Broadwater park and natatorium recently was purchased by a syndicate of local men under the auspices of the Helena Commercial club, and a part of its contemplated improve-

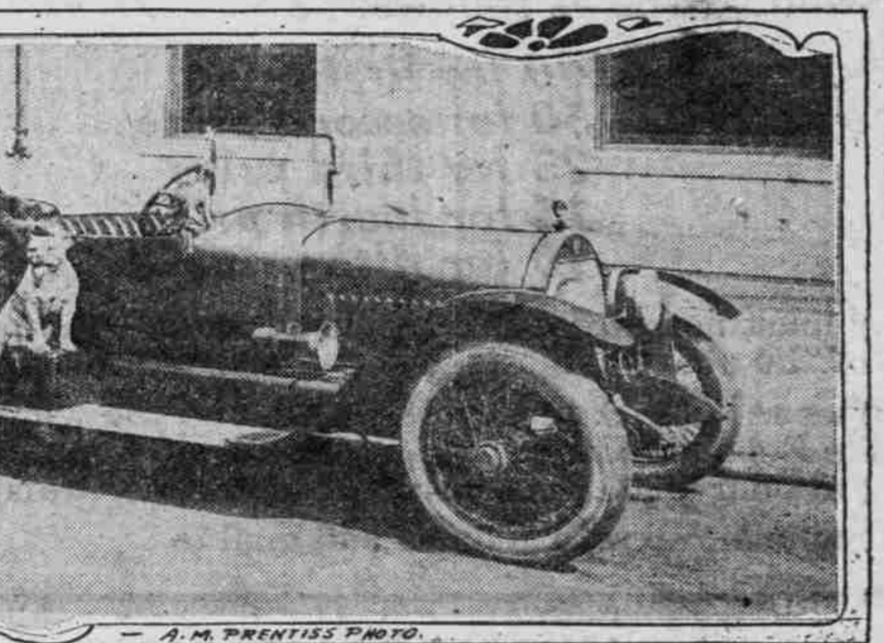
## MORE TOURISTS ARE DRAWN TO CHELAN

Opening of Blewett Pass Causes Spurt.

### ROADS IN BETTER SHAPE

Promise of Opening of Snoqualmie Pass Also Attracts More Visitors in Automobiles.

WENATCHEE, Wash., May 8.—With the opening of the Blewett pass to Ellensburg and the promise of the opening of the Snoqualmie pass within a short time, tourists and sportsmen are coming into Chelan county in increasing numbers. Already many



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ment provides for the erection of a tent city. The resort, which also includes a large hotel, comprises what is declared to be the largest indoor plunge in the world, with dressing rooms to accommodate 1000 persons. The water for the plunge is taken from warm mineral springs. The Park-to-Park highway is declared to be in excellent condition.

### THERMOID PLAIN LUCKY

HOW TIRE COMPANY GOT BIG SUPPLY OF FABRIC.

Contract Placed Before War in Anticipation of Increased Output Comes In Handy Now.

You don't always know that you're lucky. An interesting story of how the Thermoid Rubber company, manufacturers of Thermoid tires and brake lining, acquired almost by accident a great quantity of long-staple cotton fabric was told here last week by Fred S. Wilson, vice-president and Pacific Coast representative for the company with headquarters in San Francisco. Mr. Wilson was visiting the Allen & Hebard company, Thermoid tire distributors in Oregon. Three years ago, said Mr. Wilson, just before the war, the Thermoid Rubber company, in anticipation of a big addition to its factory, scheduled to be built at once, placed a huge order for tire fabric. Then came the war. Building everywhere was curtailed and the company's plans for expansion had to be postponed. This was all right, but in the meantime the fabric companies began filling the big contract for fabric, which had been based on an estimated production of the new factory. But it didn't seem to affect the fabric makers at all. Pretty soon every storage space about the factory was filled with fabric and still it kept coming in. Officials of the company had just about decided to cancel the contract when by a lucky hunch more than anything else they postponed it a week. Before the end of that week fabric had begun rising in price. It has been going up ever since. Instead of canceling the contract they decided to take all the fabric it could get and store it. The result is that there are today half a dozen buildings in Trenton, N. J., full of fabric, and the company can go another year and a half, at double its present production, on the fabric it now has. Today there is so great a fabric shortage that it is virtually impossible to get any not covered by existing contracts.

The addition to the Thermoid factory projected in 1917 and postponed because of the war is now under way, says Mr. Wilson, and by fall the output of Thermoid tires will be about doubled. The company now is making its new cord tire in nearly all sizes, latest factory advice being that manufacture even of the 20x3 1/2 sizes in cords has begun. For several months the Allen & Hebard company has had several of a full line of Thermoid fabrics. Incidentally, the company has the contract for all tires used by cars of the state highway commission.

Mr. Wilson has been with the Thermoid Rubber company 27 years this week, and its vice-president for many years.

Disc Clutch Lubrication. One rule the truck operator will be well advised to cling to as regards the lubrication of the disc clutch and that is always to use the brand of oil recommended by the maker of the vehicle. The truck clutch should be a heavy burden at best and absolutely correct lubrication is essential to efficient operation of continued service.

When Doors Rattle. When something seems to rattle around the body of your machine and you don't know just where it is, get some one to hold the doors tight while you drive. If that stops the rattle, get some anti-rattlers for the doors and apply them or fasten a small piece of rubber on your door to fill out the vibrating space.

summer residents of Lake Chelan have arrived from Spokane, Seattle and other cities, and are preparing their summer homes.

The roads of Chelan county are in better shape than ever before at this time of the year. The unusually mild spring has given the county road forces opportunity to work over the unpaved highways and get them into shape for the coming season.

State Highway Engineer Allen spent two days going over the roads this week with District Engineer Guy C. Harvey. They paid particular attention to the improvement of the Chelan-Okanogan highway between Wenatchee and Chelan.

The Chelan county officials offer to spend \$100,000 on this road provided the state will appropriate an equal amount. With this \$200,000 several of the worst grades can be eliminated, many of the narrow places widened and dangerous curves can be rendered safe. A new concrete bridge will be constructed at the mouth of the Entiat river by the county this year.

Most important is the new road up Knapp's hill. The county has surveyed a road which will have no grade greater than 5 per cent and no dangerous curves. When this part of the road is completed there will be no dangerous features connected with the auto trip between Wenatchee and Lake Chelan, one of the most interesting and scenic roads in the state.

The United States forest service has completed plans for building the final link in the Stevens pass highway, and has appropriated money for the work. A total of \$200,000 will be required, of which \$60,000 will be furnished by Chelan, Snohomish and King counties and the remainder by the forest service. If the money can be made available soon enough the contract will be let for this season. This will open the shortest road between Spokane and Seattle, and one of the most attractive scenic highways in the United States.

### Pressure Grease Gun.

An ingenious car owner recently



# RACINE MULTI-MILE CORD TIRES

Extra miles are factory built into Racine Multi-Mile Cord and Country Road Fabric Tires. Extra tests guard each manufacturing step so that every Racine Tire is of the same extra mileage strength.

### Exclusive Mileage Feature

Racine Tires only have the Racine Absorbing Shock Strip—an extra strip of blended rubber of graduated resiliency, welding tread and carcass perfectly.

For extra service and economy use Racine Tires, Racine Inner Tubes, Supreme Tire Sundries.

BALLOU & WRIGHT

Broadway at Oak

Portland

Spokane

Seattle

For your protection look on every tire for name

RACINE RUBBER COMPANY

Racine, Wisconsin

was threaded and provided with caps or pressure. The body of the gun was a length of three-inch gas pipe ten inches long. Each end of the pipe

was threaded and provided with caps or screws on, one being bored with a hole large enough to take a tire valve. This may be either soldered

or screwed on. Next a long spout was attached to the other end of the pipe, a hole being drilled to receive it and solder being used in attach-

ment. In operation the rear cap is removed and the pipe is filled with grease and the cap replaced. The compressed air is then applied to the valve after the spout has been inserted in the opening using grease and the lubricant is shot into the place where it will do the most good.



Garford Trucks are reliable—you can depend on them to fulfill every test to which you put them.

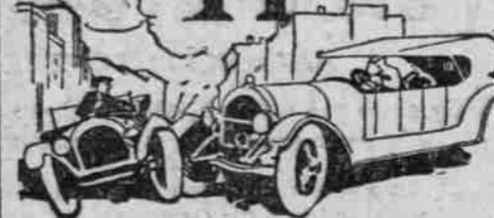
### "USERS KNOW"

J. H. TROUTWINE Bought a 3 1/2-Ton Garford

Garford Oregon Motor Sales Company  
NORTH EIGHTH AND DAVIS

Wm. Cornfoot, President T. M. Geoghegan, Vice-Pres. and Gen. Mgr.  
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## Don't let this happen to You!



AFTER you have crashed into another car, causing serious injury or worse, it is too late to be sorry that you neglected your brakes. It's no use to chide yourself and vow never to neglect them again. The damage will be done and nothing that you can do will undo it.

Faulty brakes are the most inexcusable criminal negligence of which any motorist can be guilty. Accidents caused by them are all the more regrettable because they can be so easily prevented. Have our experts inspect your brakes today and at two-month intervals throughout year.

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## Brake Lining Service Station

SUDDEN SERVICE

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## Squeaking Brakes

can often be avoided by washing surface of brake lining (glazed by oil and dirt) with kerosene or gasoline. Generally, however, "squeaking" is due to poor lining or lining attached with rivets that are not countersunk.

Insist that Raybestos brake lining be properly applied to your car—with copper or brass rivets correctly countersunk. Then you may demand twelve months of quiet, efficient wear if yours is a passenger car or truck up to 2 tons, and proportionate service on heavier trucks.

Identify Genuine

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by The Silver Edge

The Raybestos Company  
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