

WILLYS-KNIGHT CARS OFFER MORE ROOM FOR COMFORT

Willys-Knight Company Puts Out Moderate-Price Auto of Fine Quality.

ENGINE DESIGN ADDS VALUE

Makers Say Sliding Sleeve Valve Motors Improve With Use, Giving Greater Service and Satisfaction.

This is a season of surprises in the motor car industry.

The new developments have taken the form of multiplying the cylinders of the old type of motor, of radical price reductions, or a combination such as that revealed by the Willys-Knight announcement, which offers two radical changes—one in motor design, the other in price. The price of \$1095 is the lowest at which a car with a Knight type motor has been offered to the public.

The important difference of the Knight type motor from a poppet valve motor is in the valve arrangement. The Knight type is a sliding sleeve motor. The valves are merely sliding sleeves. There are two—one inside the other, sliding up and down between the cylinder wall and piston. In each opening are placed which, at the proper time in the action of the motor, come up to the top of the cylinder to permit the charge of fresh gas from the carburetor to enter the combustion chamber, and similarly for the burnt gases from the cylinder out into the muffler.

Valve Action Sure. "Inasmuch as the power of any motor is largely determined by the amount of fresh gas in sufficient quantity entering the cylinders at exactly the right moment and upon the complete expulsion of all burnt gases also at exactly the right moment, the poppet valve imparts certain limitations upon all poppet-valve motors.

Necessarily the diameter of the poppet valves is limited by the diameter of the cylinder, their accuracy as to time of opening and closing is made uncertain because dependent upon cams and springs.

The large sleeve valves of the Knight type permit valve openings much larger than can be had with poppet valves. The sleeves have a positive action, they are opened and closed by positively operated connecting rods and therefore there is no uncertainty either in the opening or in the closing of the valves.

There has been a more or less general idea among those only partly conversant with the Knight construction, that the operation of the sleeve valves might offer some difficulty. This is because it has not been known that the sleeves do not have the valves as a tight fit to hold compression as in the case of the poppet valves. The sleeves in operation are always covered with a film of oil.

Even more important to the successful operation of the Knight type motor than the fact that the sleeves do not called upon to retain compression is the relatively slow movement of these sleeves. Whereas in the Willys-Knight motor the pistons are driven at a rate of 900 revolutions per minute, the sleeves travel but one inch at one-half the motor speed. In other words, the sleeves travel at only one-ninth of the piston speed. This means that if your motor is traveling at the rate of 900 revolutions per minute and which the pistons would travel at a speed of 100 revolutions per minute.

Carbon Deposit Helps. "Carbon deposit that forms so rapidly in the poppet valve motor and necessitates frequent cleaning, is not noticeable in the sleeve valve type. The small amount that does form has a beneficial effect serving to gently polish a glass-like finish. Thus the longer the motor is used the quieter and smoother it becomes.

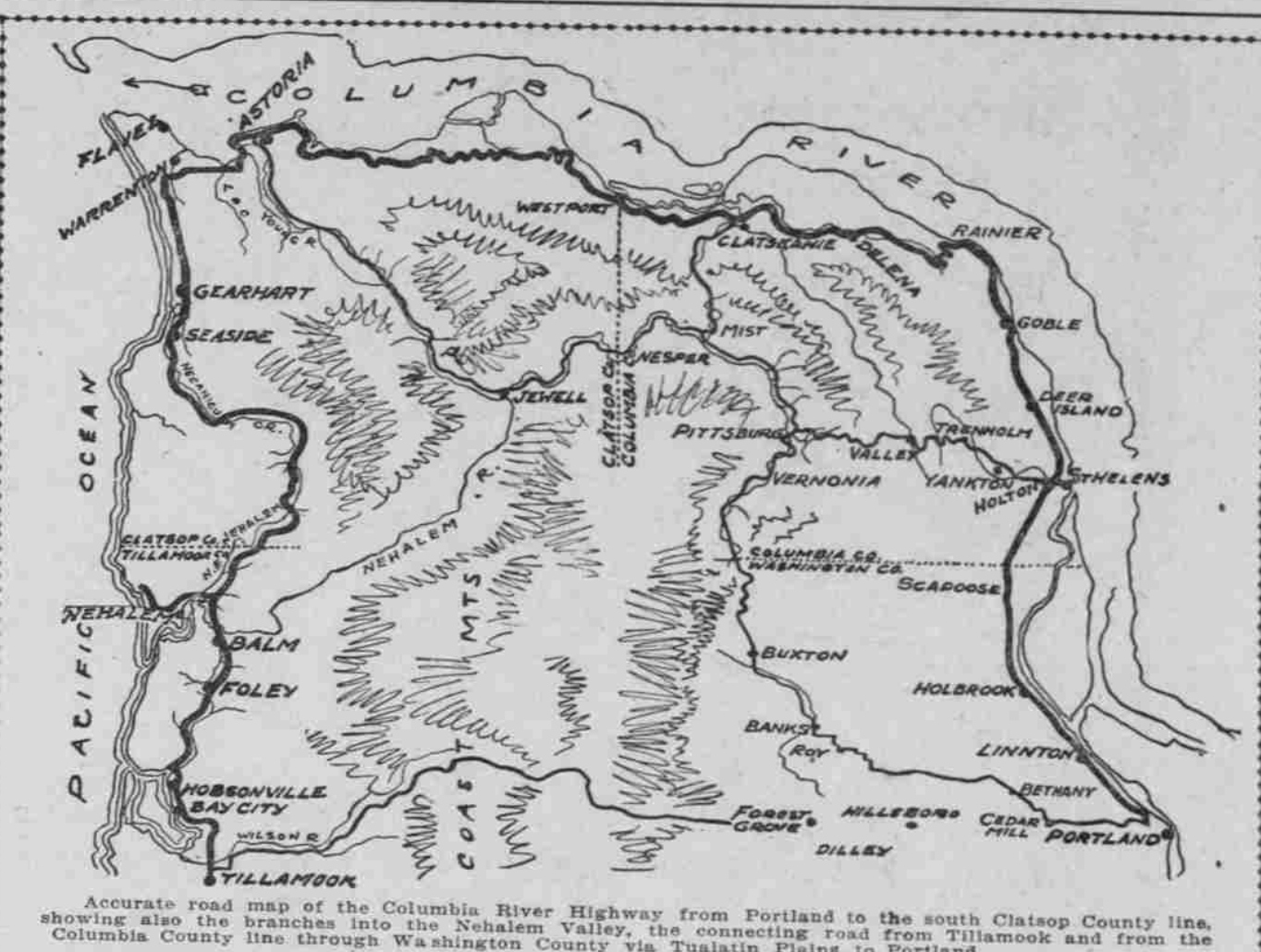
The 40-horsepower Knight type motor is the efficiency equal of those built by foreign manufacturers for cars selling at from \$1200 to \$2000. Its four cylinders, with a bore of 4 1/2 inches and stroke of 4 1/2 inches, are cast in one piece.

The car announced by the Willys-Knight Company is of the latest streamline design. Its symmetrical lines give the car an extensive program of street improvements. This summer, an ordinance having been passed providing for the paving of West Second, Kilbourne, Washington and Washington streets. The material to be used will not be decided until the city council has awarded the work to S. W. Porter, of Evelina, who has the contract for it. It was started on the work.

Portland Man on Tour. WENATCHEE, Wash., July 17.—(Special.)—L. S. Markin, of Portland, and F. M. Hopkins, of Spokane, arrived in Wenatchee Thursday on an automobile tour of Washington. Mr. Markin has driven through Oregon and California this season and then shipped to Butte, where the present tour began.

JULIUS L. MEIER ONE OF FIRST TO URGE LOWER COLUMBIA HIGHWAY

Seed Is Sown by Ardent Good Roads Enthusiast and It Matures Until Work Is Now Under Way on Magnificent Boulevard Which Will Open Vistas to Automobileists Who Would Visit Sea.



Accurate road map of the Columbia River Highway from Portland to the south Clatsop County line, showing also the branches into the Nehalem Valley, the connecting road from Tillamook and from the Columbia County line through Washington County via Tualatin Plains to Portland.

COLUMBIA RIVER BOULEVARD, the name selected by the committee for the highway that shall traverse the course of the Columbia from the sea to the interior.

"Cut out the word 'boulevard,' objected President J. L. Meier. 'This is to be a highway for industries, agriculture and tourists. Boulevards are associated with scenic drives alone. The time will come when this trunk highway will be an artery of immense traffic as well as the track of the tourists of the world.'

"Right, Julius," remarked Samuel Hill, the perennial good roads champion. "Call this the Columbia Highway. Make it the beginning of the work that will create a highway as monumental as the river parallels it. The time will come when this trunk highway will be an artery of immense traffic as well as the track of the tourists of the world."

Through these clouds of objections a few determined men pressed their efforts. "Bob" Yount, at Rainier, said he would have his community turn over a half dozen men for highway construction along the Columbia. When this meeting assembled there were not a half dozen confident men in the party that believed in the systematic road education and agitation was taken up.

"Too sparsely settled along the Columbia to bear the expense at any such rate," insisted many. "Farmers eternally oppose anything that smacks of a scenic highway," urged others, "and will never co-operate."

Objections Overcome at Last. Through these clouds of objections a few determined men pressed their efforts. "Bob" Yount, at Rainier, said he would have his community turn over a half dozen men for highway construction along the Columbia. When this meeting assembled there were not a half dozen confident men in the party that believed in the systematic road education and agitation was taken up.

To this end he called the first general meeting for Gearhart Hotel, Labor Day, 1912. Invitations were sent to all sections of Multnomah, Washington, Clatsop and Clatskanie counties. One of the best road meetings ever held in the lower river valley was held at Gearhart. Many of Portland's most influential business men attended. Samuel Hill gave to the meeting his good roads lecture, which so inspired the lower river men that many calls were made for repetition in the respective districts.

Association Organized at Meeting. Out of this meeting came the Columbia Highway Association with Julius L. Meier as president, W. D. B. Dodson, secretary, and Paul Wessinger as treasurer.

From that date on plans were formulated to press the education work. Residents of each precinct were interviewed, and asked to enlist in the cause. Publicity was continued through the press. For one year the propaganda was confined to the area between Portland and the sea, with the result that there was the greatest road question that has been witnessed in any district of the Northwest in the same length of time.

At the end of the first year of persistent work another convention was called from the same territory at Gearhart-by-the-Sea again. This time there was a second grand demonstration of the growing strength of the cause. Leading business men and workers from the Columbia River counties attended in force and decided that the time had come when road construction should be undertaken on the largest scale yet known in that region. Meier was re-elected president, and Samuel Hill was termed "godfather" of this and all other good road efforts in the section.

After being thorough-going good roads boosters for many years, Simon Benson, Amos Benson and John B. Yeon then came even more prominently to the front and have by this time done such wonders with a liberal expenditure of time, energy and money that their names will forever remain immortal in connection with the giving of the great Columbia Highway.

Extension of Activities Urged. Rufus Holman, County Commissioner of Multnomah County, made at the convention the urgent plea that the activities of the association be immediately extended to the territory beyond Portland. All agreed that the Highway Association had reached a stage of permanence in the lower river valley, and that the immediate extension of its efforts toward the East. Resolutions were adopted accordingly and the second important stage of the great work was undertaken.

The fight for bonds in Clatsop, Columbia and Multnomah are more recent history. All the fights were won, after a struggle. Road construction began on the largest scale known to the Columbia. As the work progressed, enthusiasm waxed greater. Strangers who have come from afar declare the Columbia prospect one of the best unfolded in any land, and prophesy that the Highway a name that will be more than continental in repute.

While all of our thoughts at Portland have been centered on the Upper Columbia River road, of which we are naturally proud, a little thought has given the lower stretches of the Columbia. The citizens of Clatsop and Columbia counties are encouraging the engineers in charge of the work in the two separate counties and have keyed them up so that ventures are actually being made as to which county will finish their work the earlier.

Surprise Promised Visitor. The disagreeable things that have been said the past winter regarding the Lower Columbia River Highway seem to have left an unfavorable impression on the public mind, and a great surprise awaits the first travelers down the river. They will find a highway laid out with a maximum grade of 5 per cent, a long radii of curvature 24 feet wide with ample drainage, and cement culverts in most instances.

"They will find scenic spots at Prescott Point below Goble, on the height above Rainier, and in crossing the divide at Bugby Mountain, where the road climbs by a succession of four loops, the equal of any on the stretch from Hood River to the sea. They will find a variety of surroundings, from the magnificent river view to long stretches in the interior, such as the 12 miles through Beaver Creek Valley where vehicles in the winter were practically unknown until this highway was opened. After leaving Knappa, through all the way down to the interior, the road is a magnificent stretch of logged-off land of deep, rich soil, which would not have been opened in the present generation except for this highway. They will see clearings started and new homes being made everywhere along the road.

They will find a highway of scenic beauty and agricultural utility, which will make it the equal of any in the West as a sight-seeing trip, or to initiate the stranger into the beauties and substantial resources of our great state. It will be the useful highway to our hundreds of citizens who have their summer homes on the seashore and the trip once taken will be repeated time and again, for it will lead to some place with an object ahead.

down to the main highway and the river, will within another three years be held one of the greatest developments of the Columbia has ever known.

"Throughout Oregon the farmer has stood for highway systems that lead from the producing centers to markets, railways and river trunks. He has opposed the purely 'through' route that served not this purpose. In this opposition he was mistaken, but in the demand for the feed and distributive system he is pre-eminently right. What we must do is to give him both. In the Columbia Highway we have the work nearly finished for the through road or trunk. Now I propose to work just as hard to get the farmer his feed system to this trunk and the river."

"Do you recognize what this latter will mean, not alone to the farmer, but to Portland and this whole region? It means laying the foundations for one of the greatest transportation systems that may be found on the Pacific. Our highway along the river will not carry a heavy share of this traffic, but the river and the railways will. Our feed lines will open every province of the river within 50 to 70 miles of the coast, and the completion of service that is not approached by steam railway lines. Production will thereby be stimulated, and the population will be greatly increased, and along the Columbia transportation to and along the Columbia will be made so low that the production of the world in any market reached by the ships of the high seas.

These Value Is Foreseen. "It will take a few years, perhaps two or three, to get this third stage of the work fairly under way, but its importance will in time more than outshine anything yet done. It will be the crowning stroke of the Columbia Highway development in Oregon, for it will be used by all classes, from all sections, and will have an intrinsic value to anyone who passes over it. While a great road is being made, it will be found comfortable motoring once it is open, and rash indeed would be the mortal who would dare predict an approximate total of the hundreds of machines which will use it the first 30 days it is thrown open for use."

The main highway down the Columbia was well located by the State Highway Engineer and work progressed rapidly last summer and in the Fall until funds for the completion of the road ran short. The history of the various vicissitudes through which this Lower Columbia highway has passed since that time have already been too greatly exploited for the good of the road or the citizens of the state.

Work Now Going On. Suffice it to say all difficulties have now been adjusted, 450 men are working on the Clatsop County end, between Westport and Astoria, and that part of the roadway will probably be finished and ready for travel not later than August 15. In Columbia County contracts for building the road have been divided into sections, so that this part of the highway will be finished about the same time.

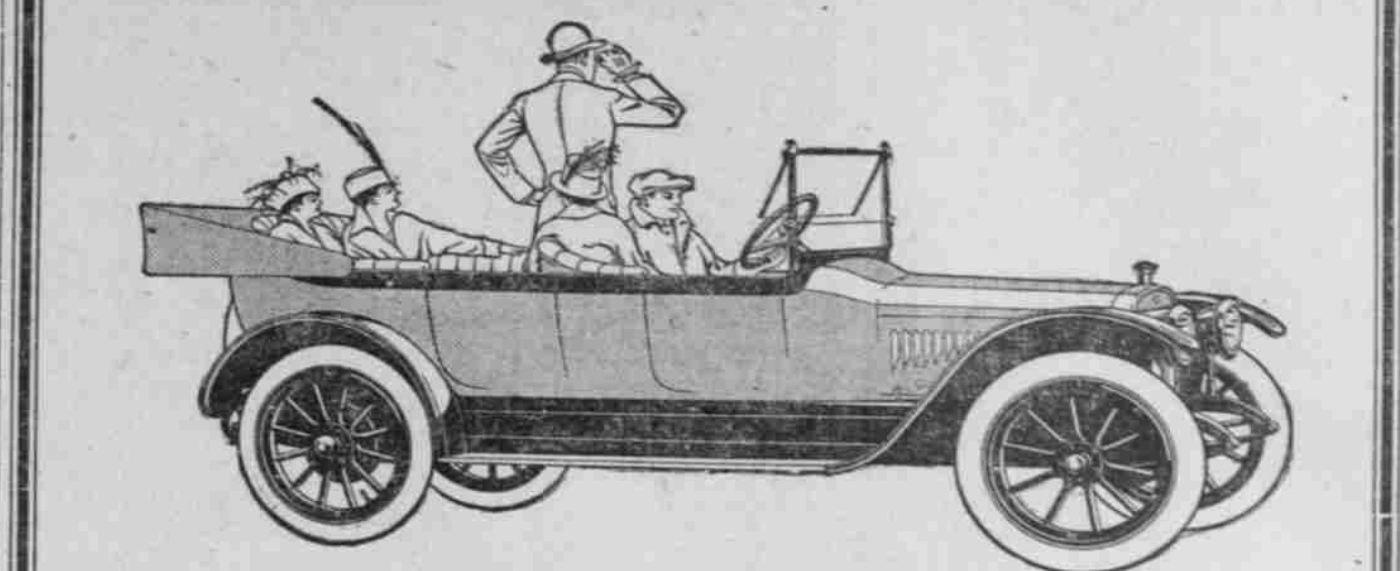
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WINTON SIX



Easy to Tell a Car's Class

The quality car is more conspicuous today and more decidedly superior than ever before. That's because there is more profit in making cheap cars than in making better ones—for the reason that demands the best car that can be produced. So, numerous makers are tending more and more toward cheapness and are ceasing to compete for high-grade patronage.

This has two advantages. It is easier now for the buyer to know what cars are really superior, and also, after purchasing, his high-grade car stands out distinctively from the great streams of cars that do not belong. When he owns a Winton Six, he has the further advantage that his car is a genuinely personal possession, for its colors are of his own selection and its general appearance is the expression of his individual taste.

TWO MODELS—BOTH SIXES. 33-H.P. \$2285. 48-H.P. \$3250.

The Winton Company

23D AND WASHINGTON STREETS. PHONE MAIN 4244

SAFETY TALKS ARE HEARD

DRIVING REGULATIONS DISCUSSED AT AUTO CLUB MEETING.

Methods of Regulating Speeders and Eliminating Dangers of Recklessness Are Considered.

A safety-first banquet last Tuesday evening at the home of the Automobile Club was attended by most of the club's special traffic officers. The safety-first committee had as their guests City Commissioner Dieck, City Attorney Laithe, City Prosecutor Stadler, Municipal Judge Stevenson, District Judges Bell and Dayton and County Commissioners Holman and Lightner, and also Mr. Boynton, representing the city's Safety First Commission.

H. P. Coffin, chairman of the club's safety committee, presided. After an elaborate dinner Mr. Coffin called for short talks in connection with the city and county's safety-first ordinances.

Mr. Lightner spoke of the corners of the road, and the danger of traffic violations. Judges Bell and Dayton spoke along the same line, expressing their views as to the best way of regulating speeders on the county roads and of how they were handicapped by the state law in meeting out punishment to the offenders whose violations are very frequent. C. C. Overmire, president of the club, then in a few words explained to those present that it

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You can't get away from the law of averages, any more than you can escape the first of the month.

—Mister Squegee

Now and then even a tail-end baseball team will play a wonderful game.

The pitcher will have everything on the ball, everybody will bat well and field faultlessly, and luck will break right all the way.

But the good games that come once or twice a month are not the ones on which the standing of the cellar champions is figured.

The team that stays up in the first division must play well day after day.

So it is with tires. Their excellence is not based on the extraordinary mileage that the occasional one gives.

It is the general average of service that must be considered in estimating tire values.

Diamond Squegee Tread Tires are in favor, not because of the performance of an occasional one, but because of the superior merits of more than 99% of them.

Buy Diamond Squegee Tread Tires at these "FAIR-LIST" PRICES:

Table with 4 columns: Size, Diamond Squegee, Size, Diamond Squegee. Rows include 30 x 3, 30 x 3 1/2, 32 x 3 1/2, 33 x 4.

PAY NO MORE

For Automobiles, Bicycles, Put on For Cyclecars, Motorcycles

Diamond Squegee Tread Tires

ARCHER and WIGGINS

Sixth and Oak Streets

DISTRIBUTERS DIAMOND TIRES

Crater Lake Road Grade to Be Easy.

ROSEBURG, Or., July 17.—(Special.)—The local forestry office has completed a preliminary survey of the Crater Lake road over the Umpqua-Rogue River divide. It is said this road can be constructed on a maximum grade of five per cent. The total distance is about 12 miles. This road will connect the Umpqua and Rogue River Valley districts and give a direct and safe route to Crater Lake and South-eastern and Eastern Oregon points. Practically the entire distance the line lies on an easy slope, with well-trained, gravelly soil, which furnishes an excellent roadbed, thus making the cost of construction low.

Roseburg Sees Many Tourists.

ROSEBURG, Or., July 17.—(Special.)—More automobile tourists have visited Roseburg during the past 10 days than in any similar length of time for several years. The hotels are thriving as a result of the tourist business while the garages are taxed to their capacity.

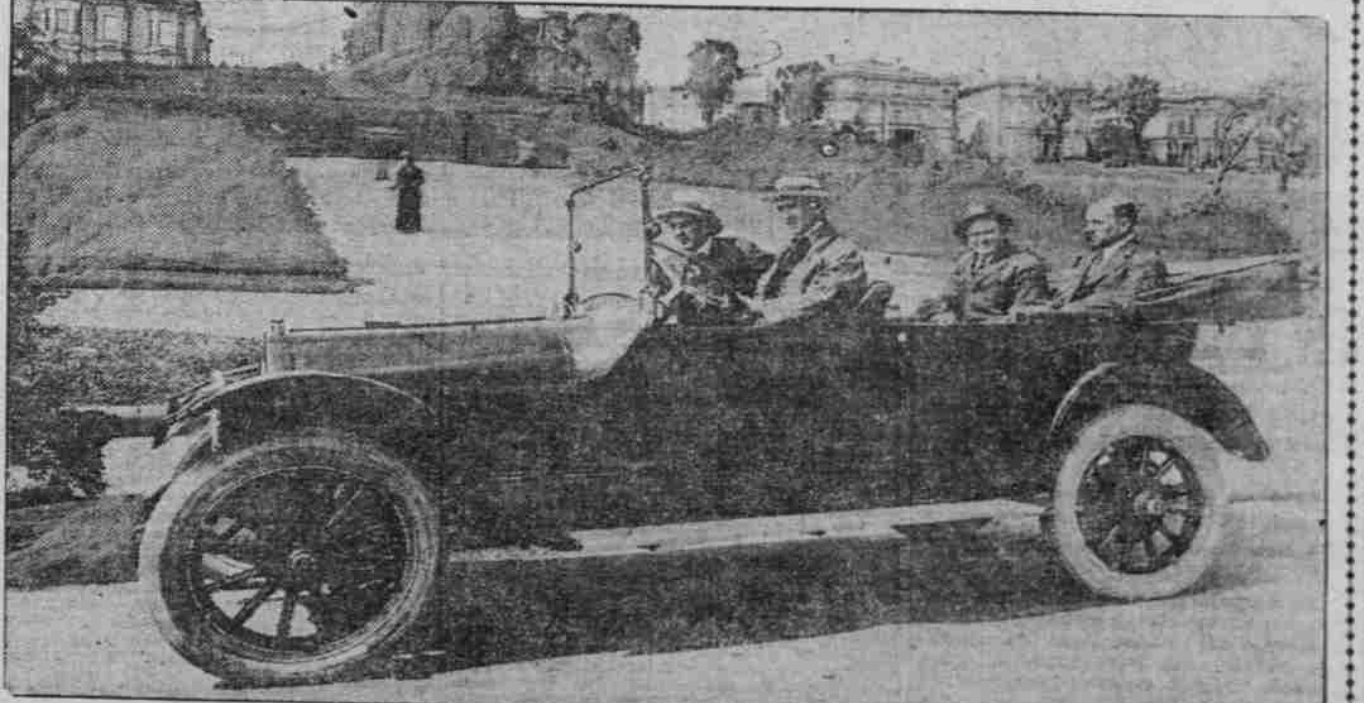
Centralia Begins Paving Programme

CENTRALIA, Wash., July 17.—(Special.)—The Wintlock Town Council has mapped out an extensive paving programme of street improvements. This summer, an ordinance having been passed providing for the paving of West Second, Kilbourne, Washington and Washington streets. The material to be used will not be decided until the city council has awarded the work to S. W. Porter, of Evelina, who has the contract for it. It was started on the work.

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NEW WILLYS-KNIGHT IS ANNOUNCED BY J. W. LEAVITT COMPANY, COAST DISTRIBUTORS.



Those in the Car, From Left to Right, Are A. D. Plushoff, General Manager of the Leavitt Company; J. H. McDuffee, General Sales Manager of the Willys-Knight Factory; J. W. Leavitt and L. H. Wagner, Coast Representative for the Willys-Knight Factory.