

AUTO SENSE

Keep Differential Lubricated

By Williamson

GEAR TEETH IN DENTIST'S CAR CAUSE OF PAIN

Our Developer Quies Thumping in Rear End and Has to Be Abandoned On Lonely Road.



THAT TROUBLE'S ONE THAT A DENTIST SHOULD BE ABLE TO LOCATE. YOU HAVE BROKEN A TOOTH AND IT'S WEDGED IN THE RING GEAR SO THE DRIVE PINION HAS TO RIDE OVER IT.



HOWEVER, WHEN YOUR CAR DEVELOPS A NOISE YOU DON'T UNDERSTAND, IT'S BEST TO LEAVE IT RIGHT THERE AND GO AFTER A MECHANIC. AND BY THE WAY, THE DIFFERENTIAL MUST BE FLUSHED OUT AND FILLED WITH FRESH GREASE EVERY 50 OF THEM.



The differential is a rather complicated device designed to deliver the same power to each wheel when the car is making a curve and the outer wheels are required to turn faster than those on the inside. Just how the differential works is of no particular importance to the average man, for it is difficult to get to and it is usually more economical to take the car to a garage if trouble

should develop in this device. However, it is important to understand the way the power is transmitted from the shaft to the differential. There is a pinion on the rear end of the drive shaft which works against a ring gear that encircles the differential gear housing and delivers the power directly to the rear axle, except when the car is on a curve.

Unless the axle housing, which surrounds the differential housing, is kept filled to the proper level with lubricant, the wear on the pinion and ring gears will be excessive, causing what is known as a "lash." If the differential gets noisy, makes a dull hum, and lost motion is noticed in moving the car back and forth in gear, it is usually a sign of wear and play in the gears. The pinion should be moved back far enough to make a firm fit into the ring gear. If there is a play in it you may break a tooth or strip a gear by engaging the clutch suddenly or making a heavy pull. The adjust-

ment on most cars is made by an adjusting bolt on the drive shaft, just ahead of the axle housing. In lubricating the differential, never use a solid grease, such as is used in balling grease cups. The gears will cut a path through this and leave it packed on the sides of the housing. Use a heavy oil or grease made for this purpose. At least once a year, the axle and differential housing should be drained, flushed out with kerosene and refilled with fresh grease.

Approval of Genuine Balloon Tires Marks Reo's 20th Year

"In the twentieth year of its existence the Reo Motor Car Company is voicing its approval of genuine balloon tires by making them standard equipment on its latest model, the T-6 Special Touring, and selective on all of its closed passenger models," says Mr. H. T. Thomas, vice-president of the Reo Motor Car Company.

"This company again draws attention to its record in pioneering developments which at the time of announcement have seemed radical because they were not in general use.

"Reo has been testing balloon tires for many months, in its laboratories, on its test cars, and in conjunction with tire manufactur-

ers. Data and facilities Reo accumulated when it pioneered pneumatic tires for trucks in 1915 have been used in many of the tests.

"Back of many automobile features so commonly used now as to be taken for granted, lies the story of pioneer faith and seasoned judgment of the men who have guided Reo through twenty years.

"Contributing consistently toward the permanent betterment of its own product and all others in general, Reo has enhanced its reputation for progressive engineering. In the same measure it has built up an experimental department and engineering organization virtually without parallel in the industry.

"This department functions as fully to prevent mistakes as it does to develop refinements.

"Among the more common improvements which Reo pioneered in

the sense of either creating, developing or popularizing in the face of contradicting practices, the following are interesting examples:

"Before 1905 the two piece radiator, consisting of core and shell was almost unknown. Reo popularized it.

"In 1909 Reo adopted left hand drive in the midst of a controversy throughout the industry concerning its suitability for American road rules.

"In the same year Reo adopted the dry disc clutch as standard equipment, and has since watched its general use by the industry. Dual foot control was also made standard with Reo that year. It is still used.

"In 1911 Reo pioneered the center control.

"At a time when electric starting and lighting systems were little more than a curiosity, in 1913, Reo adopted both as standard equipment and did much to prove their necessity on vehicles of all classes.

"Reo pioneered pneumatic tires for trucks by fitting them regularly to the speed wagon in 1915. By adding electric starter and lights, it became first to make this equipment standard on strictly commercial vehicles.

"In that year it also introduced on its cars the oval-tube radiator, transmission speedometer, successful use of lytite or aluminum alloy pistons.

"Reo is largely responsible for the general use of the spiral bevel gear axle, also.

"There are many other features, some of major importance in the chassis, and others related to shop practices, which have helped the industry at large fully as much as Reo alone. Ample returns from its investment in broad-visioned engineering are being enjoyed by Reo today in the form of remarkable public confidence and stability of dealer connections."

POOR JUDGMENT CAUSE OF MANY ACCIDENTS

The Brakes Alone Cannot Stop an Automobile Within a Required Distance.

Judgment of motorists generally is bad. Only a scattered few know when to apply their brakes and under what

pressure, to stop before reaching a specified point.

And even less can figure correctly the speed to which they can pick up within a certain limit of time or distance.

For proof of these assertions the Interstate Commerce Commission has issued Accident Bulletin No. 87, covering largely railroad accidents, but including in it crossing accidents where motorists are mostly concerned.

According to this report, which covers 1922, the latest year for which there are complete returns, 122 persons were killed and 911 others injured as a result of vehicles running into the sides of passenger trains!

Drivers to Blame. Most of these "freak" accidents may be blamed to:

- 1. Trying to beat the train to the crossing, and
- 2. Poor judgment.

Motorists who try to speed up before the train "gets there," forget the important consideration that they can't reach the car as fast with a full car as they could without an extra passenger. The pickup is much slower.

And once started, with a full car, drivers forget that they can't stop so easily. In fact, speed is even a more important consideration in stopping.

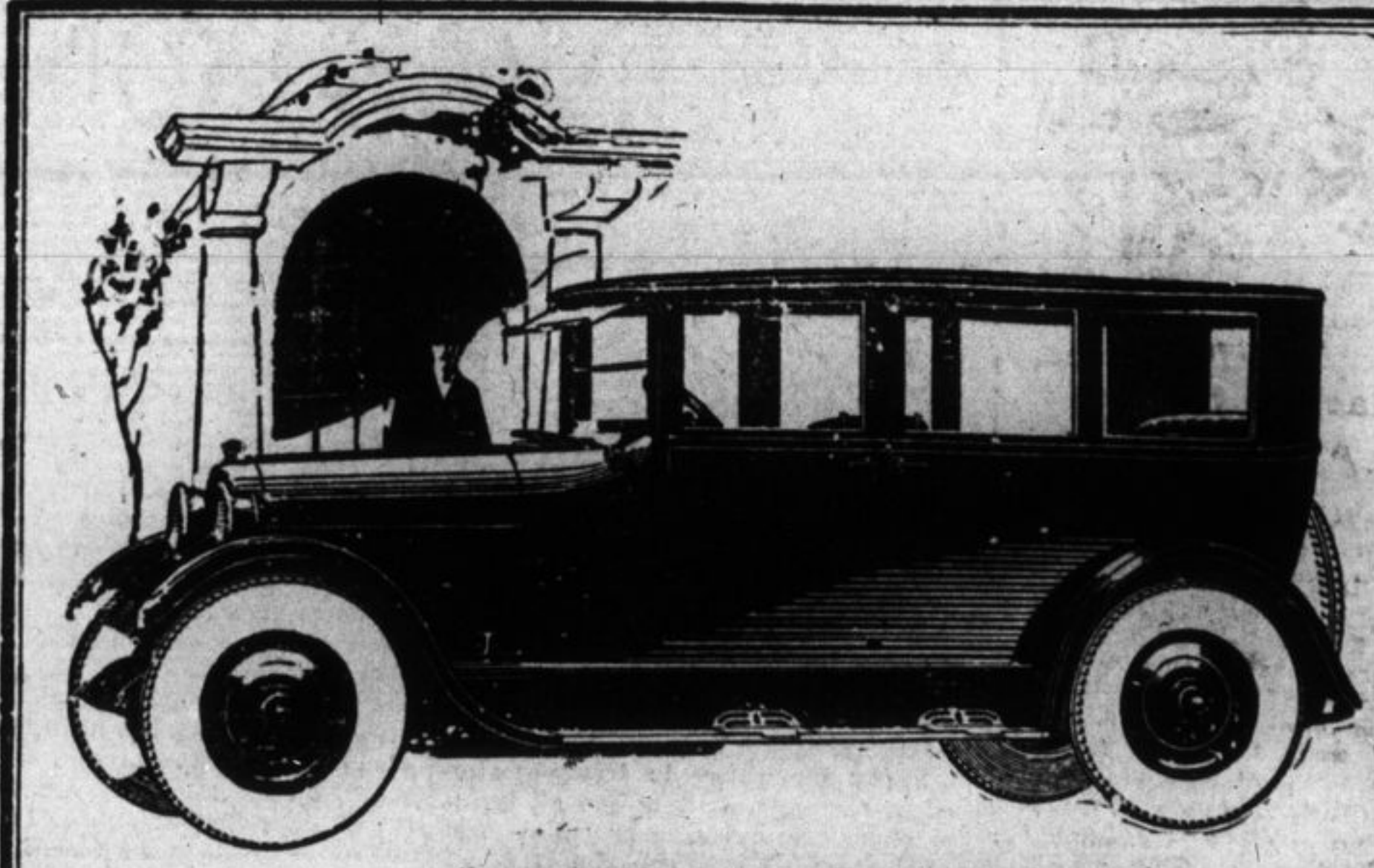
The belief might prevail that the difficulty in stopping a car increases merely in proportion to the speed. The fact is, other things being equal, it increases with the square of the speed.

No Sudden Stop. Besides speed, momentum, or the weight behind the car, declivity and condition of the road have much to do with the stopping of a car.

No matter how hard the brakes are applied, even if the wheels are locked, the car's momentum, increasing with the speed, is going to push it along until it comes to a definite halt.

The shortest distance at which a car, with two brakes, can stop on a good, level, non-slippery road, is shown in the accompanying diagram. But it takes more than speed to determine the distance at which a car can be stopped effectively. Three other essentials must be considered. They are:

- 1. Brakes must be in perfect condition.
- 2. The driver's judgment of distance and time must be accurate.
- 3. Variance in weight and momentum of the car must be considered.



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- Touring Reo
- Standard
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FABRIC BODY PUT AHEAD OF METAL Builder Claims Easier, Quieter, Lighter Riding for New Type. Automobile bodies of fabric construction in place of sheet metal have been tested and found serviceable. This is the report made to the Society of Automobile Engineers at New York by K. L. Childs, president of a corporation manufacturing fabric auto bodies. After driving a fabric body car 20,000 miles under all kinds of road and climatic conditions, Childs makes these claims: 1. Fabric bodies are quieter than equivalent metal bodies, eliminating most of the drumming and rumbling sounds encountered in sedans. 2. Fabric bodies average from 25 to 110 pounds lighter than corresponding metal bodies. 3. They can be cleaned more easily than the painted metal bodies, because the fabric coating is hard and withstands abrasion. 4. All panels are made in sections, so that any part of the body that may happen to be dented or injured can be removed without distributing the rest of the body or any of the interior trimming. The last feature, Childs says, has led insurance companies to insure fabric bodies at a lower rate than metal bodies. At the same time, he adds, construction of fabric bodies is easier, speedier and cheaper. In the end it may mean a reduction of at least 15 per cent in the body costs of cars. City population of 56 per cent. own 70 per cent. of the autos in the United States. There are almost as many motor vehicles in the United States as there are telephones. More than half of New Zealand's 44,000 miles of highways are hard surfaced. Connecticut manufacturer has a wire fence for keeping auto drivers from going over precipices. There are fourteen different kinds of taxes that some taxi companies have to pay.

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Attractive DODGE BROTHERS Special Type Cars Easy Riding

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IRAK CRISIS LOOMS—Negotiations over Mosul oil seem to have broken down through the refusal of the inhabitants of Iraq, a British mandate, to ratify a treaty with Great Britain. Iraq apparently wants independence, and is likely to appeal to the league of nations for relief.

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