

FATALITIES DUE TO BRAKES INCREASING

Much Trouble Laid to Carelessness of Motorists.

DAILY TEST IS ADVISED

Proper Application on Road Is Necessary and Lining Should Be Installed Properly.

Faulty brakes often lead to the graveyard and automobile fatalities due to this one defect are said by statisticians to be increasing every year. Much of the trouble is due to the carelessness of motorists, says a writer in The Washington Post, for the average motorist working with the brake bands and the mechanism of their adjustment is a dirty and disagreeable job. Consequently he lets it go, trusting to have a mechanic fix it. When one considers the momentum at which a car moves forward, and the length of time it takes to stop, it is easily seen, he goes on, what a horrible tragedy may occur some time when he will need every ounce of his weight to apply on the brake levers. If the brakes are not in order there is little to be done except to take a long chance that may lead to disaster. In order as far as possible to avoid accidents due to faulty brakes, the writer gives the following rules, he says, were prepared by a traffic expert of a city close to Washington:

1. The brakes should be tested each day. Before going half a block from the garage make a service test by throwing out the clutch and applying the brakes. If possible select a dry spot for making this service test. Under no circumstances should the car be taken farther if the brakes are not operating properly. Drive back to the garage and see that the faults are corrected before driving out again.
2. Automobile brakes have a definite relation to safety. Important points are:

- (a) See that a good type of brake lining is selected.
- (b) Make sure that the brake lining is properly installed.
- (c) Keep the brakes in good operating condition.
- (d) Make frequent tests for proper brake adjustment.
- (e) Apply brakes properly when "on the road."
- (f) There are many types of brake linings on the market. Do not use linings that are too soft or too thick. Such linings early become matted and necessitate almost constant adjustment. Good linings are woven with plenty of asbestos; some also have fine copper wire woven in.
- (g) Only an experienced mechanic should install brake linings. He should be sure the lining is properly stretched to avoid wrinkling. The rivets should be properly countersunk, otherwise the metal of the rivets will scar the brake drum and the brakes will not hold properly.
- (h) To keep the brakes in good condition:

- (a) Once in two months remove the rear wheels and wash the brake linings in kerosene. This removes all oil and grease, which, if present, takes the "bite" out of the brakes. Never oil the brake lining. They are glazed or when improperly adjusted. Squealing can often be stopped by removing wheels and washing the brake lining with a file.
- (b) If the brake lining is worn down to the rivets, sink the rivets still farther or have the brakes refitted.
- (c) Wipe off and oil the brake mechanism every 500 miles, or at least once a month.
- (d) Make a regular systematic brake inspection a habit. The loss of a center-pin might lead to a serious accident. When a lock washer is removed, don't put it back—use a new one.

More accidents result from faulty adjustment or application of brakes than from any other cause.

7. All drivers should keep the brakes adjusted. The brakes should not drag; if they do they will heat up and be worn down unnecessarily. Brakes should not be too loose; loose brakes do not act quickly enough. Different adjustments are made for different types of brakes:

- (a) On the street drives they are adjusted on the back-band which can be adjusted to make the brake neither too tight nor too loose. Brake rivets should be turned to right or left to make proper adjustment for efficient use of brakes.
- (b) On axle or wheel drum brakes where equalizers are used apply equalizer when engine is still. Adjust equalizer until it is parallel with axle.
- (c) On extra-light type of wheel-drum brake, tighten or loosen adjusted nut or brake-band and equalize length of brake rods.
- (d) After the brakes are adjusted so they are neither too tight nor too loose, they should be tested every 1000 miles, or at least once a month, to make sure that the braking power is equally divided between the two rear wheels. Many cars skid, not only because of slippery streets, but also because of unequal division of braking power. Jack up rear wheels and apply brakes far enough so that it is just possible to turn one wheel by hand. Adjust brake on the other wheel so the same amount of energy is required to turn that wheel by hand.

9. Do you apply your brakes properly when on the road?

When coming to a stop on a straight-away, shut off the gasoline throttle and leave the clutch engaged until just before you come to a stop. This method of stopping is especially advisable in wet weather, because it lessens the tendency of the car to skid. It also helps to distribute the braking power equally and assist the action of the brakes. Do not shut off the ignition until you have stopped. It may be necessary to make a quick start. Find out the idling speed maintained by your car when the gasoline throttle is closed, then never (except in emergency cases) try to use your brakes when the clutch is engaged and the car is traveling slower than the idling speed.

Loose Flywheels.

When there is a suspicion that the flywheel is loose the way to determine it is to speed up the engine suddenly and then quickly close the throttle. If this procedure produces a knock from the vicinity of the flywheel just at the instant the throttle is closed, it is pretty certain that a loose flywheel is causing the trouble.

Emergency Magneto Brush.

An emergency brush may be made by rolling a piece of the mesh copper or brass wire gauze into a cylinder corresponding in size to the magneto brush. Or a carbon brush may be cut in two to do double duty. If a suitable piece of carbon (perhaps from an old dry cell) is available, it may be shaped up for emergency use.

FIRST 1922 OLDSMOBILE EIGHT ROADSTER GOES TO DRIVER WHO ALREADY HAS ONE OLDSMOBILE IN THE FAMILY.



Note the snappy lines on the 1922 roadster, shown with E. M. Brown, manager of the Pacific Storage company, its purchaser. This makes Mr. Brown's fourth Oldsmobile in a row, and the second one in his family at the same time.

WILLS' RUN HELD RECORD

20 HOURS 26 MINUTES SPENT ON DETROIT-NEW YORK RUN.

Designer of Speedy Auto Declared Amateur in Driving Machine In Road Race.

MARYSVILLE, Mich., Nov. 12.—So far as is known no automobile has ever equalled the record of the Willis Sainte Claire car in covering the distance between Detroit and New York in 20 hours and 26 minutes, a feat accomplished this fall.

This remarkable exhibition of speed and stamina has naturally attracted country-wide attention to the new car manufactured at Marysville, Mich., and which is the realization of the long-cherished ideal of its designer and maker, C. Harold Willis. But while the performance of the car has stirred motordom, its Detroit-New York run has also served to turn the spotlight on Mr. Willis, for it was he who drove the car.

Mr. Willis, although intimately identified with the motor car industry since its early beginnings, is not and never has been a professional driver or stunt performer. He is a distinguished automotive engineer, metallurgist, inventor and industrial innovator of international reputation. The role he played when he drove the car created in a record-breaking cross-country flight over indifferent roads and a route he had never before covered is one with which he had not previously been identified and is one he is not likely to play frequently.

Mr. Willis began his career as an expert machinist, tool designer and draughtsman. When the automobile was about ready to be born he was occupying an important position in a great adding machine concern. He was induced to join forces with a small organization which was about to manufacture one of the earliest practical and successful automobiles. Long before he left this company to form his own it had become the largest in the world and Mr. Willis himself had become, next to the founder, perhaps, the most important factor in its success and growth.

There are a number of major achievements credited to Mr. Willis. His credit in the automobile industry is well known. His development and application of volume production to modern industry. His accomplishments in the invention and development of practical economies and labor-saving devices have been most noteworthy and made possible the huge daily production and realization of the cars which he was for so long identified.

A pioneer in the application of the science of metallurgy to the automobile, he developed vanadium steel to meet the demand for a metal that would resist vibration and withstand the terrific shocks and strains to which an automobile is subjected. Vanadium steel made possible the modern motor car.

Another achievement in metallurgy. To meet the demands of his own engineering ideals, which were later to be realized in the Willis Sainte Claire car, a still greater advance was necessary in the science of steel alloys. Mr. Willis finally developed molybdenum, a new super-steel said to combine strength and resistance to vibration to a degree hitherto unapproached. All the parts in the Willis Sainte Claire car that suffer stress and strain are made of molybdenum steel.

The car Mr. Willis drove, an ordinary stock model out of the show room, is now being used as a demonstrator, for it reached New York in perfect condition and was pressed into service the day it arrived.

OVERLAND IS REORGANIZED

New Sales and Distribution System to Aid General Public.

TOLEDO, O., Nov. 12.—A complete reorganization of the sales and distribution system of the Willis Sainte Claire Automobile company is under way.

"We have made a survey of the entire United States market," said John N. Willis, president of the Willis-Overland company, in Toledo today, "and our plans now going into effect will greatly increase the activity of the Willis-Overland dealer organization. The step will be of far-reaching advantage to the public as it will enable us to extend factory supervision to every Willis-Overland dealer in every town and hamlet in the United States."

"The plan involves the cancellation of many distributing contracts and placing of dealers formerly under separate contracts under the direct supervision of factory branches."

"In the future, with the completion of our present plans, Willis-Overland dealers will be able to deliver even better service than they ever have before, in every town in the country. Reductions have been made in parts prices and facilities have been provided whereby every properly equipped garage will be able in the future to give the public the benefit of Overland service with genuine parts."

You and your car will have a longer life if you give the benefit of doubt to the other vehicle. We need more courtesy of the road, anyhow. The Long Island railroad letter says: "Better wait a minute at a crossing than an hour in a doctor's office." The same applies to the streets.

Stop car and engine when meeting drivers with sheep, swine or cattle on country roads.

WEEKLY AUTO QUIZ

THIS department is designed to aid motorists by asking and then answering in simple language questions relative to motor car operation. The questions, prepared by experts, are asked in one issue and answered in the next.

Answers to last week's questions:

Proper Driving Aids Battery.

1. Keep your engine in good running order, especially in cool weather, and do not drive for long periods at a very low rate of speed if you desire to keep the storage battery of your car well charged. Because the starting motor requires a great deal of current for revolving the engine, especially when it is cold, the engine valve is tuned up so it will respond after a very short period of cranking. Long and continued cranking will render the battery surprisingly weak after a few such starting attempts. When driving the car, try to keep its speed up and over the point where the generator cuts in and charges the battery. This point can be easily determined by observing the ammeter on the dash, which instrument records at the instant the generator cuts in. Constant driving at a low speed is another reason for weak batteries. A third cause is the indiscriminate use of lights. Drive with them dimmed if possible, and do not allow the car to stand for great lengths of time with the lights burning. Precaution is necessary with cold weather approaching, and the driver should use his battery sparingly, so it will serve faithfully during the coming season, when plenty of "kick" and durability are most needed.

Purpose of Balanced Crankshaft.

2. The balanced crankshaft is designed to make an engine run more smoothly at high speed. This type of shaft cuts down stress of whipping and consequently loss of power which may be found in the ordinary crankshaft at very high speed, but at common speeds loss of power from this source is not noticeable and only smoothness of operation is considered.

Carburetor Adjustment.

3. Either the gasoline or the air adjustments of a carburetor may be altered first, according to how the carburetor was regulated. If the gasoline needle valve is not correctly set, the mixture requires more air, only the air adjustment need be changed. The rule applies to conditions of too much fuel and not enough air when the gasoline adjustment would be changed. However, if you do not know which is at fault, shift off the gasoline adjustment until the engine misses from a lean mixture. Then slowly open the needle valve until the engine "chokes" from too rich a mixture. Turning the adjusting screw back and forth between these two points will soon give the correct gasoline adjustment. Next cover the air inlet or tighten the valve which admits the air to the carburetor to a point when the engine chokes, and then slowly open the valve to where the engine runs well. Most carburetors have a fixed supply of air and an auxiliary air inlet, but always set the gasoline adjustment correctly and as lean as possible before the auxiliary inlet is readjusted. As a final adjustment, turn the needle valve to its operation, as further adjustment may be necessary for high speed.

Meaning of "Floating" a Battery.

4. The term "floating" a battery on means using a battery to supply current for lighting a car when the generator of the system is not revolving fast enough to supply the current. With this arrangement the generator at a sufficient speed charges the battery and furnishes lighting current. When its speed dies the battery again is the source. Thus the battery and the generator alternate in furnishing power necessary for the various parts of the system.

Starter Difficulties Discussed.

5. If the starting motor cranks your engine too slowly the trouble may lie in the starter itself, in the storage battery or possibly in the engine. Brushes of the starter may be loose or there may be a poor contact somewhere between the battery and starter. The battery may be discharged, plates sulphated or the battery may be old and practically worn out, so that it will not supply sufficient current to revolve the starter. If the trouble lies in the engine, it may be caused by the bearings, rings or pistons fitting too tightly, causing engine to revolve stiffly. Bearings or cylinders may be dry, increasing friction and slowing the starter.

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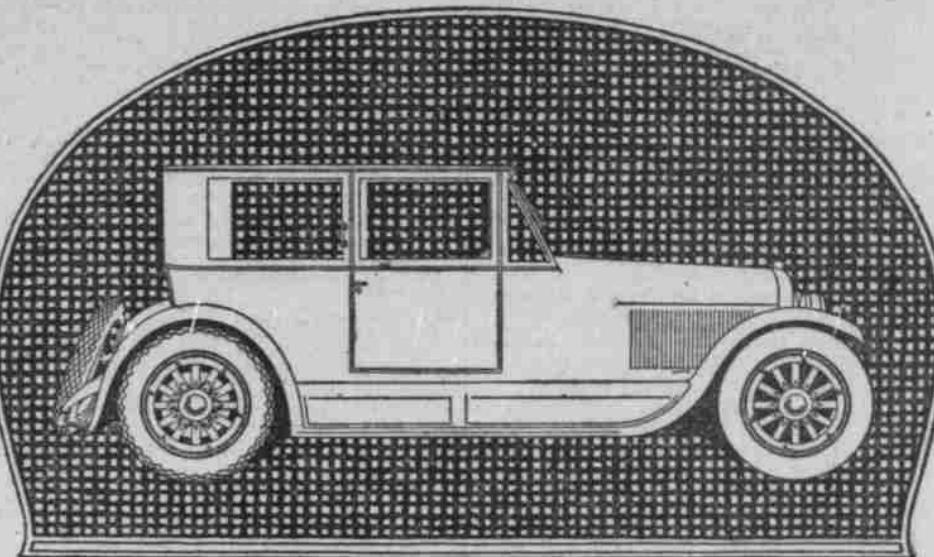
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ROAD TO EUGENE GOOD

MANY EXPECTED TO MOTOR TO BIG GAME SATURDAY.

U. of O. and O. A. C. Will Mix at Hayward Field, and Home-Coming Event Planned.

Motorists planning the run to Eugene for the annual football contest between the University of Oregon and Oregon Agricultural college eleven, which occurs Saturday afternoon, November 19, at Hayward field in Eugene, will find the highway from Portland in excellent shape, and the run to Eugene and return can easily be made in one day, with time to witness the game. By leaving Portland at 7 o'clock the motorist should have no difficulty in reaching Eugene in ample time for the contest. After the contest the return to Portland can be made in the evening, the motorist arriving here by midnight or so.

Under the present road conditions even the most inexperienced driver need have no fear of making the trip. Of the total distance of approximately 130 miles to the university city, all but about 15 miles is now paved. Briefly road conditions may be summed up as follows:

Portland to Salem, all paved except two miles between Canby and Barlow, where paving is in progress and a good gravel detour is provided, and

a stretch of a few hundred feet at Pudding River.

Salem to Albany, all paved except a couple of stretches totaling not over a mile at grade crossings and a short stretch in the town of Jefferson. These unpaved portions are rough but solid gravel.

Albany to Corvallis, macadam road in splendid shape for travel, nearly as good as pavement except for a short stretch of rough going at the Albany end.

Corvallis to Eugene, paved the entire distance. This is new pavement for most of the way, just recently opened up and is, of course, splendid traveling.

Road signs pointing the way to Eugene are being put up along the route by Jack W. Benefiel, graduate manager at the university, and these will prove an aid to those unfamiliar with the road. As a big homecoming celebration, in addition to the football game, is planned for next Saturday a

record crowd is expected at the university, and a goodly proportion will undoubtedly motor down from this city.

When Pressure Feed Fails.

It sometimes happens on cars where fuel is fed by pressure supplied by the exhaust gases it becomes increasingly difficult to maintain the pressure at the requisite figure. As a rule, pressure does not drop quickly but seems gradually to ooze away. The first thing to do in a case of this kind is to examine the fiber cap of the tank. A leather or rubber gasket is used at this point and often the rubber becomes spongy or the leather gets hard and cracks, or a small hole in the cap may have lodged between the cap and its seat. On the other hand, it sometimes occurs that the pressure in the system is built up to a point where the small valve operated by the carburetor float will be unable to restrain the fuel and flood

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