

WORLD RESTRAIN SPEED AS POSSIBLY

Mr. Reeves Declares Driving Cars at Limit as Preventing Economical Maintenance and Long Life.

By Alfred Reeves, General Sales Manager United States Motor Company.

Speed is costly. To reverse many well known axioms, the saving of time is not always a saving of money. Fast travel, whether in trains, in motor cars or in the pace of human life, inevitably costs something. Just as speed increases, so the ratio of cost runs up. It is known, for instance, that the Twentieth Century train makes no money, and it is equally certain that those who live a fast life seldom live a long time. Why should it be different in the case of the motor car which is run at top speed all the time?

Driving a motor car at its highest speed all the time involves an expense beyond all proportion to the pleasure obtained, and always results in shortening the life of a car that ordinarily would cost but little to maintain.

Most of us know the motorist who tears through the town with a wide open throttle. In gleeful realization of the fact that his machine by being pushed to the very limits of its capabilities will attain and maintain a speed of a mile a minute, or even more.

It is to the everlasting credit of the automobile that the exultations of speed may be continued with comparative impunity for a considerable time. However, he who is familiar with railroad mechanics and knows the intervals within which the average locomotive goes to the round-house for repairs understands that though the locomotive travels on an ideal road surface which is not interrupted by the slightest inequality, every demand upon the engine beyond the normal service conditions for it was designed must result in abnormal wear and tear.

Road Surface Changes.

For purposes of transportation it is impossible to consider the motor vehicle apart from the road on which it travels; the one is as necessary as the other. And ultimately the mechanism of an automobile rests not on the weak foundations of a stationary engine, nor on the ideally conditioned steel rails of the railroad, but on the ordinary road surface which changes during every second of running. Thus the modern automobile acquires itself nobly of its tasks when used sensibly. But the chronic speeder, who is apt to be disgruntled at what to him may seem unreasonable wear and tear, must bear in mind that he is putting his car to severe trials every time he races it over the ever changing road surface with every ounce of reserve power in action.

Similar observations may be made in regard to hill climbing. The persistent high gear hill climber is first cousin to the speeder. Climbing every hill on the high gear, while it may be done, imposes the hardest kind of work, not only on the motor, but on every other part of the car.

Lower gear ratios are provided for hill climbing, and they should be used for it. It may be well to consider a little more carefully the amount of work done by an automobile climbing a gradient on, say, a gear ratio of three to one. This means that one revolution of the driving wheel is produced by three revolutions of the engine crankshaft. With the other gear ratios, the corresponding number of revolutions of the engine becomes still greater, as compared with the number of driving wheel revolutions.

Grade Adds Resistance.

It is not difficult to compute with exactness the distance which a car is propelled by one revolution of the engine and the power consumed in hill climbing. The circumference of a thirty-two inch wheel is approximately one hundred inches, and in covering one mile the driving wheel revolves 633 times. Hence the motor turns over three times as fast as the driving wheel, it will require 1,899 revolutions of the crankshaft to propel the car one mile.

This estimate presumes that the car is propelled over level ground. To mount a hill means simply that grade resistance is added to the various frictional and other resistances. An automobile climbing a hill two hundred feet high (measured vertically) simply performs the task of overcoming the action of gravity, or lifting, and the calculation of the power required to do this must involve the factors from which the horse power unit is derived.

Running up a steep hill on the high gear must subject any car to enormous stresses, which are likely to affect the life and the service to a considerable extent.

Gear shifting is not a cumbersome task, and the mounting of gradients need not be attended by undue wear on the gears or on the use for which they were intended.

INTEREST IN TIRES INCREASING RAPIDLY

Car Owners Now Want to Know All About the Construction of the Shoes.

By Harvey S. Firestone, President Firestone Tire & Rubber Company.

Interest in the construction of automobile tires is rapidly increasing. When a man buys his first car he is not nearly so particular about its equipment as he becomes after he has discovered the important part tires play in the utility and pleasure of the automobile and its expense to maintain. It is experience that creates a desire to know how tires are made and what goes into them.

He learns why the carcass of a tire consists of that upon this structure depends its strength. He learns that the tread of a tire cannot give its utmost efficiency unless it is built upon a strong body, and that the making of a tire is a careful operation, with just as important niceties of building and computations of strength and stress, as the building of a motor.

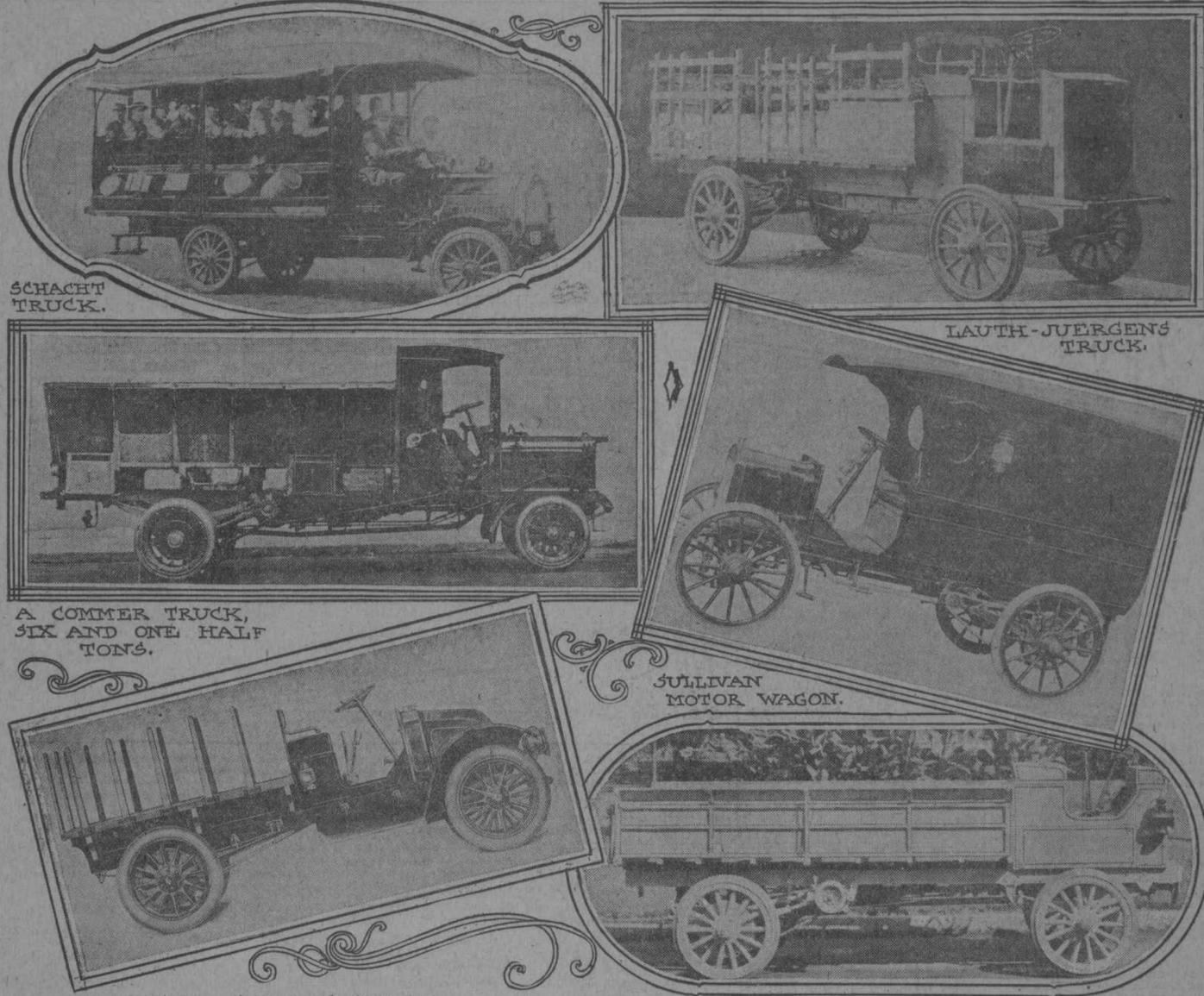
The most efficient tire built to-day is undoubtedly the non-skid, and into its making has gone years of experience to give it the efficiency demanded by its heavy all rubber tread. For if the carcass possesses a weakness, the strain and wear on the tread would quickly destroy the tire's usefulness. Thus, it is essential to build these tires with the utmost care, for their parts must possess a strength and cohesion that the smooth tread, as the stress is so much greater.

TIRES ATTRACTS ATTENTION.

The Motz tire is the subject of much attention at the Palace Show. It is especially designed for light delivery trucks and electric vehicles. While this particular tire is designed to give a longer service than a solid tire, it is resilient on account of its construction. It has double treads, under-cut sides and slantwise bridges which all contribute to its resiliency and take up the jar of the car.

The Motz solid tires for heavy duty trucks can be fitted on demountable rims, so that there is no need of removing the wheel to change the tire, as is customary with this type of equipment.

Latest Ideas of Designers Embodied in Trucks Now on Exhibition



Results of Ten Years' Work Seen in Machines Displayed for Public Inspection.

Heavy trucks at the Palace show embody the latest ideas of men who have worked on the commercial vehicle problem for the last decade.

PROFIT IN TRUCKS IF USED RIGHT

Systematic Arrangement of Schedules Necessary for Most Economical Handling of Commercial Cars.

By A. N. Bingham, of the Hewitt Motor Company.

The last year has impressed upon the manufacturers and owners of motor trucks more than in all the previous years of their production the one point on which satisfaction hinges, namely, service. The owner must keep the truck running by an intelligent arrangement of his transportation service and by reasonable care of the truck itself. The manufacturer must keep the truck running by having on hand an ample supply of repair parts and be ready to install them at a moment's notice.

A motor truck is a piece of machinery, and as such is always liable to breakage. A driver is always human, and as such is prone to carelessness and accident. A shipping clerk has not the brains of a bank president, and therefore each requires some supervision from the man who uses the repair bills of the truck and in whose interest the delivery system is operated.

In order to obtain the best results there must be harmony among the three interests, the owner, represented by the driver, the manufacturer and the shipping clerk. The former must take a personal pride in the truck he is driving, for without this he had better be digging a ditch. Only when this personal interest is displayed and the driver is willing to do a little overtime work when required, in lightening up when necessary, is the maximum of efficiency reached. The manufacturer or dealer must second this disposition by a readiness to send a mechanic promptly to the rescue when the driver gets into serious trouble, and the shipping clerk must have his goods and packages ready when the truck calls.

An instance of this was recently brought to the attention of the Motor Truck Club in New York by one of the automobile engineers returning from a European trip. He stated that in one delivery system in London the helper on the truck reported at the store at eight o'clock in the morning, assorted his packages and had them arranged on the shipping platform. The driver of the truck reported at the store of half-past eight, having spent half an hour at the garage oiling up and properly preparing the truck for its day's work. In many cases an extra helper was engaged on each truck; that is, while helper No. 1 was making the first trip, helper No. 2 was preparing the next load, and the moment the truck drew up at the end of the first trip, he was ready to put his load on and leave at once, while helper No. 1 remained behind and prepared for the following trip.

On short haul work this would greatly facilitate matters and prove economical in any cases over horse delivery. On long haul work the supremacy of the mo-

trucks in the show. The gears, shafts and the relating dog clutches are made of Ubas steel. The chassis frames are made of acid open hearth high manganese steel. The crankshaft is very much enlarged at the flywheel end. The clutch is of the one type with a leather face.

Lippard-Stewart.
A gold leaf chassis is the most conspicuous feature of the Lippard-Stewart Motor Car Company's exhibit. The chassis has been completely overlaid with gold leaf. Every part—frame springs, motor, trans-

mission, clutch, axles, steering gear and wheels—has been covered with pure gold leaf. Even the smallest bolts, nuts and screws have not been overlooked.

The Lippard-Stewart line includes but one chassis of 1,500 pounds capacity, fitted with different bodies for various lines of business. The chassis design includes sliding gear transmission, multiple disc clutch, full floating rear axle, magneto ignition, left hand drive, etc.

Sullivan.
The Sullivan Motor Car Company is ex-

hibiting a Plumber's Special delivery wagon of a capacity of 1,500 pounds. It has an eighteen horse power motor. Another model is of 1,000 pounds capacity and is fitted with a full wood panel top. It also has an eighteen horse power engine.

Dayton.
The Dayton Auto Truck Company, of Dayton, Ohio, is showing a one and one-half ton truck, a three ton truck and a five ton truck. The engines are thirty horse power, forty-five horse power and sixty horse power respectively. They are of four

cylinder, vertical, water cooled construction.

Schacht.
Schacht chassis of two, three and four ton trucks are on exhibition. The engines are of four cylinders, water cooled.

Lauth-Juergens.
The Lauth-Juergens company has a one ton truck, a two ton truck and a three ton truck. They have engines rated at twenty-four horse power, thirty-five-horse power and forty-five-horse power respectively.

Remarkable Mileage
Obtained from

Swinehart

CELLULAR TRUCK TIRES

Because the tread is perforated. Because the internal heat is carried away by the perforations. Because the rubber has room to compress and flow.

Because the tire is more resilient. Applied with the Swinehart Quick Attachable Flange Rims—the greatest time-savers in the truck-tire world.

You will see them on the trucks of most of the leading manufacturers exhibiting at the Shows.

THE SWINEHART TIRE & RUBBER COMPANY, 1,924 Broadway, Telephone, 7070 Columbus.

FINDS CONFIDENCE IN PRICE STABILITY

H. O. Smith Forecasts Increase in Use of Commercial Cars for the Coming Year.

By H. O. Smith, President Premier Motor Manufacturing Company.

It would not be reasonable to expect the increase in demand for automobiles in 1912 to equal the percentage increase of the last few years. When we consider that in 1909 this country absorbed more than twice as many as in 1908 and in 1910 four times as many as in 1908 and in 1911 slightly more than in 1910, it could only be pronounced a favorable outlook if we have in excess of a demand equal to or slightly in excess of the best year we have had up to this time. It is safe to say that this is a fact.

Another very wholesome indication is found in the fact that a year ago almost every purchaser seemed sceptical as to the stability of the list price of the motor car. List prices did not drop, but like every other year each manufacturer has given a little more value for the money than in previous years.

This year it is the exception and an almost unheard of occurrence for the prospective buyer to express any doubt as to the stability of the list price. Most of the old and best established manufacturers have abandoned the annual model. Their product has been practically standardized over the last few years, and while there have been minor changes and modifications the cars have not differed materially in their essentials.

With features conforming to the best practice, the Oldsmobile stands in the front rank of cars offered for the 1911-1912 season. In this, its fourteenth year, this make is built in three types of chassis which the makers designate the Limited, the Autocrat and Defender.

OLDSMOBILE TYPES.

MAKE TRUCK TIRES.

The Goodyear Tire & Rubber Company has spent a large part of the past year designing tires for the various types of trucks now on the market. One of the first requirements was a tire adapted to the new standard wheel adopted by the Society of Automobile Engineers. The company has concentrated on the manufacture of a truck tire that is expected to prove economical to the truck owner from a mileage point of view.

The aim of the Goodyear Company has been to produce a tire for every service, for light duty and for heavy duty as well. At the Palace Show the Goodyear Company exhibits three types of solid tire from its display for special attention. Two of these are this year appearing for the first time at any show. One of the two is an individual block tire, for heavy duty service. This tire consists of a series of rubber blocks. Each block is held in position by a plate with bevelled edges. One edge of the plate wedges under a centre ring and the outer edge rests upon an outside ring. Two bolts through outer edge of plate and outside ring securely attaches block to wheel.

One of the advantages claimed for this tire is that each block can be removed without disturbing any other block. Only simple tools are necessary—a small wrench and a thumb clamp. Two other tires to which the Goodyear Company call attention are the Goodyear demountable solid truck tire and the Goodyear metal base tire.

Henry Ford, who will manufacture 100,000 automobiles in 1912, after examining with his engineers the various types of motors now on exhibition in New York, selected for his personal use a 16 H. P. MINERVA Chassis, Silent Knight Motor with Worm Drive.

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J. J. Quinby & Co., Newark, N. J.

GIVES LIFE-SAVING HINTS FOR TIRES

D. C. Swander Tells of Simple Precautions Needed to Combat Oil, Rust, Pressure and Other Foes.

By D. C. Swander, Manager Local Branch Firestone Tire and Rubber Company.

Great care should be taken by owners when laying up cars and putting them into commission again.

Don't just drive the car into the garage and let it stand there, but jack it up clear of the floor. Let the air out of the tires, except enough to shape them. Examine both tires and rims carefully, removing all oil and grease from the former. This is important and must not be neglected.

All cuts, etc., should be repaired at this time, and tires, whether on the car or not, wrapped to exclude light. Don't store in a room that is too warm. Heat and light are both injurious to tires.

This is a good time to examine the rims and have dents and imperfections removed. Motorists should always remember that water seeping into the casing through a flaw or break in the rim will ruin the best tire made. Rims should be sandpapered and painted with graphite to prevent rust.

A little attention to these features will keep the tires in good shape until you use the car again, while a little neglect may mean a new set of tires.

AUTOMOBILES.

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Fully equipped, good as new, run 1,500 miles. Price \$1,000.00. Motor, with 1912. 16-horsepower. 1912. Columbus, Ohio. Motor Hotel.

VALUE OF TRUCKS JUST RECOGNIZED

Mr. Houpt Declares Business Men Have but Recently Appreciated Need of Motor Wagon.

BY HARRY S. HOUPPT, Manager of Alco Sales, American Locomotive Company.

It is impossible to ignore the locomotive influence in the motor truck to-day because both go back in origin to the same vehicle.

The difference to-day is that the locomotive travels on steel rails, while the motor truck travels on the road. In other words, the motor truck is a road locomotive. But in actual years the motor truck is older than the locomotive itself.

Before the locomotive was adapted to steel rails it ran over roads just as the commercial vehicle of this age does. It developed features of course, and along different lines, because it was called upon to pull a heavier load and to go further in a day.

The possibilities of the motor truck as an economy in time and money, therefore, have but recently dawned upon business men. Modern business has brought about a demand for labor saving machinery, for speed in getting goods from one place to another, and the natural result is that the horse has been found wanting.

It is only within recent times that competition has become so keen that the transportation of merchandise safely and on time became an important factor in the success of a concern. Before this awakening came automobile manufacturers had begun to build pleasure vehicles. This enterprise so occupied them that they were not able to give the consideration due the motor truck.

The truck up almost to the present time has been an engineering project, and is only just now passing into the field of the merchandiser. It was an odd case of business after pleasure—the business vehicle after the pleasure vehicle.

To-day the situation is vastly different. The pioneers have blazed the way so that there is not a single large, progressive company without motor trucks. Investigation further will reveal the fact that the leaders in commerce and industry are fast replacing their horses with motor trucks.

Before installing motor trucks the big companies spent much money and hired experts to compare the relative merits of the horse and the truck. The verdict has been unanimous in favor of the unquestioned superiority of the power vehicle.

To show how general the awakening has been to the almost unlimited possibilities of the motor truck, it is estimated that there is a need to-day of four hundred thousand. On account of the few years of the truck's existence there are to-day only twenty thousand in use.

Space J2 Palace Show



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Because the tread is perforated. Because the internal heat is carried away by the perforations. Because the rubber has room to compress and flow.

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