

COST OF TIRES IS SUBJECT OF STUDY

Replacement Biggest Item of Expense, Next to Salary of Driver.

REDUCTION IS FORECAST

Trouble at Present Attributed by Automobile Chamber of Commerce to Indifference and Also Lack of Knowledge.

For more than a year the subject of solid tire wear and destruction has been analyzed and studied by the commercial vehicle committee of the National Association of Automobile Manufacturers and its successor, the Automobile Chamber of Commerce. This study has included the effects of varying conditions and topography in different cities of the United States from Boston to San Francisco; the greater tire mileage obtained from solid tires in European countries; the effects of overloading and excessive speed; bad distribution of loads; sudden starting and stopping; inadequate tire equipment for load capacity; diameter and contour of tires, and other factors on this subject, even to differences in temperament and mental attitude of truck owners, shipping clerks, garage superintendents and drivers and the helpful effect of the system of bonuses to drivers.

Next to drivers' wages, the largest single item in the cost of operation of a gasoline motor truck in America is the cost of tire replacements and in the larger sizes of electric trucks it equals or exceeds the cost of battery upkeep. Truck users in England, however, are obtaining three times the mileage from solid tires that is usual in this country.

Lower Cost Is Forecast. The truck makers here believe that by the adoption of proper methods the users of commercial vehicles on this side can greatly increase their tire mileage and thereby cut the cost of operation and maintenance very materially.

It is felt that the trouble lies partly in the indifference of the heads of houses using power vehicles to the details of their operation and partly to the lack of knowledge of the cause of tire destruction and wear on the part of shipping clerks, superintendents and drivers. With a view to remedying this condition if possible, the board of directors of the Automobile Chamber of Commerce, at its regular monthly meeting this month, adopted resolutions recommended by the commercial vehicle committee, which included the publication of a pamphlet by the commercial department, requests for aid from the press and the procuring of information from truck and tire manufacturers as to causes of wear.

It is desired particularly to impress on users that abuse of tires not only makes their first cost higher than it would be if the tire companies did not make good the damage done by such abuse, but also that the making of replacements under the guarantee falls on those who take proper care of their tires as well as those who do not. It is also desired to wear the user at the same time reduces damages to the vehicle itself and so saves on his general repair bill.

All Standards Indorsed. Another recommendation approved by the directors was the effect that the executive committee readopt the motor truck standards adopted last year, as embraced in the speed ratings, body weight and chassis, and against overloading and overspeeding, frame widths and lengths back of seat, and demonstration charges. These standards, together with a guarantee covering material and workmanship for a period of three months after delivery of the truck to the purchaser, were established with a view to correcting numerous abuses existing among users and within the trade itself.

BOOKLET TELLS ABOUT AUTO

Ford Manual Gives Information About All Parts of Cars.

Quite a new departure in the way of brochures has just been issued for the first time by the Ford people. It is entitled the Ford Manual, and it contains some genuine information of the sort likely to appeal to owners and also to those who are buying a car but who wish first of all to understand what they are buying.

The whole book is got up in the form of question and answer, and is full of them, with clear illustrations and drawings to supplement the written answers in every case where there might be the least difficulty in understanding.

PACKARD FORCE TAKES CRUISE

Dealers, Salesmen and Factory Executives Make Trip on Lake.

About 200 Packard dealers, salesmen and factory executives left Detroit aboard the steamer City of Detroit II on September 19 for their annual convention cruise.

Three days were consumed in the trip, which extended as far as the Soo. A stop of several hours was made at Mackinac Island.

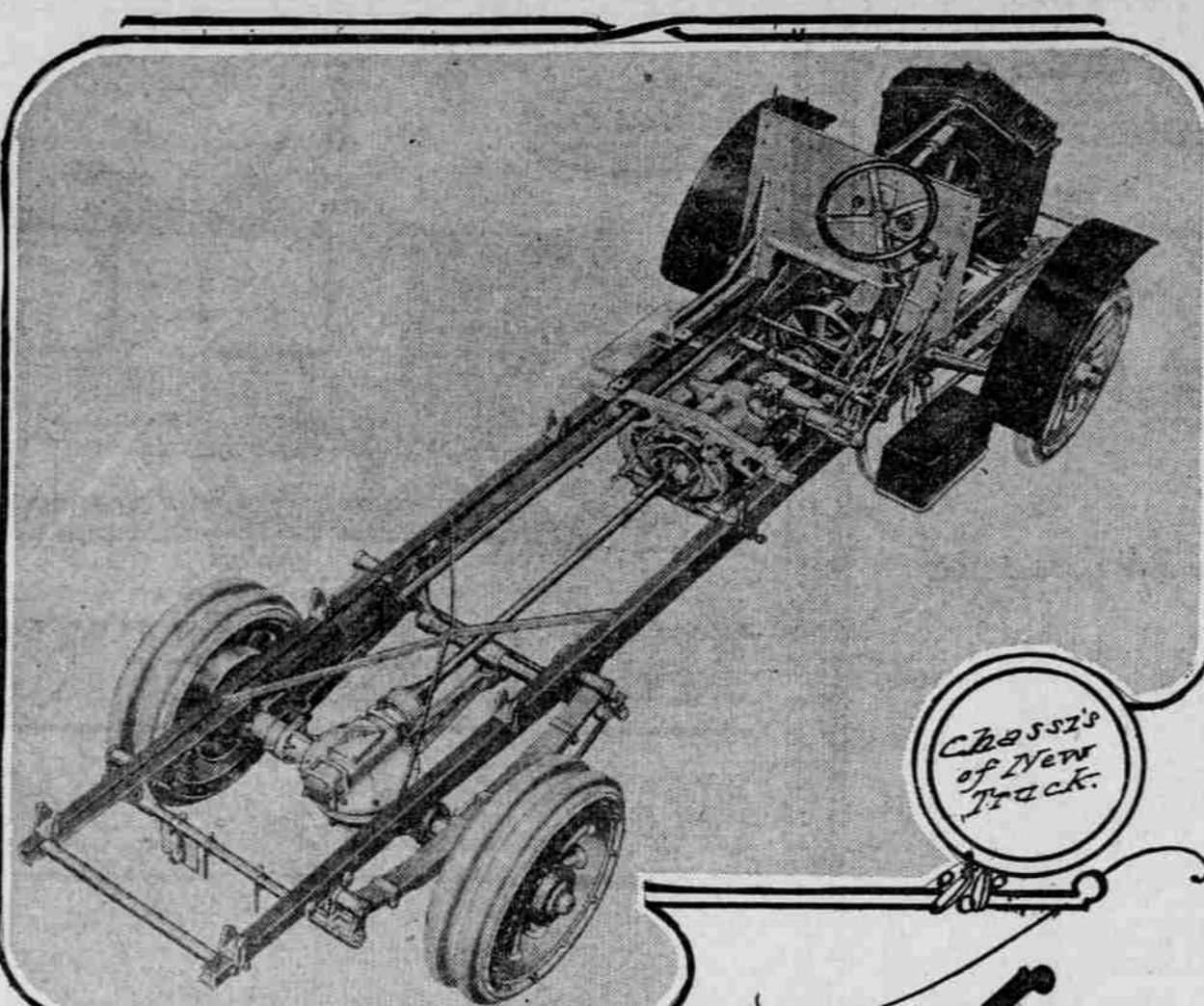
Business meetings, talks by executives of the company and open discussions were part of the daily programme. The Packard factory band furnished music and the Packard orchestra with professional vocalists from Detroit gave a programme every evening.

Six cars of the new Packard "38" model were taken aboard the boat so that the dealers could become familiar with the details of its construction.

Kissel Kar Makes Fast Time. Nicholas Walsh, of Escanaba, Mich., claims record time between that city and Green Bay, Wis., a distance of 120 miles, largely over heavy roads. Mr. Walsh, in his Kissel Kar, made the run in four hours and 30 minutes, although six hours had theretofore been considered good speed. The road part of the distance are of sand and frequently motorists experienced no little difficulty in making the trip. Mr. Walsh's party consisted of five passengers.

Hunting antelope by motorcycle is a sport enjoyed by Harold Eastman and a friend of San Diego, Cal.

PIERCE-ARROW COMPANY ANNOUNCE MANUFACTURE OF TWO-TON TRUCK.



TWO-TON TRUCK OUT

Pierce-Arrow Company Has New Worm-Driven Motor.

HORSEPOWER ABOVE RATE

Four Speeds Are Provided and Oil Tubes Arranged So Possible Leakage Drips Back Into Pumps and Is Not Lost.

After an exhaustive period of experimentation the Pierce-Arrow Motor Car Company has placed on the market a two-ton, worm-driven motor truck.

The general design of this new Pierce-Arrow product is along exactly the same lines as that of the five-ton truck, which has proved so successful. The motor is rated by the S. A. E. formula at 25.6 horsepower. It actually develops 30 horsepower at 1000 revolutions per minute; bore four-inch diameter; stroke, five and one-half inches; four-cylinder, four-cycle, governed automatically to a speed of 1650 revolutions per minute, or with standard gearing, 16 miles per hour on the road.

The cylinders are of the T-head type, while the valves and valve-operating mechanism, the cam shafts, crank shaft and gears are designed and manufactured exactly as on the five-ton truck.

A large rotary pump directly coupled to the cam shaft takes oil from a well at the bottom of the crank case chamber and delivers it under pressure to a large tube running the length of the crank case. Easy passages run from this tube to the main bearings, and thence through drilled holes in the crank shaft to the connecting rod bearings.

Lubrication is by Spray. The cam-shaft and wrist-plate bearings, as well as the cylinder walls, are lubricated by the spray of oil thrown off by the crank shaft. This spray falls into the base of the crank case and is thoroughly strained before being used over again.

Practically all oil tubes, passages and connections are inside the motor crank case, so that if a small leak develops the oil merely drips back into the pump and is not lost, thus economizing the oil. Only two tubes go outside; one up to the pressure gauge and relief valve on the dash; the other the return pipe. There are only four outside joints to keep tight.

A Bosch independent magneto generates the current producing the spark inside the cylinders. Ignition is controlled by a single switch on the dash, leading directly to the magneto. The high tension wires run through fiber blocks and are strung through the air, thus affording the maximum insulation possible.

Modified Carburetor Used. The standard Pierce-Arrow carburetor, modified to suit the special demands of this truck motor has been used.

A centrifugal pump directly coupled to the engine gears forces water under pressure through the engine system, thence to a vertical tube radiator.

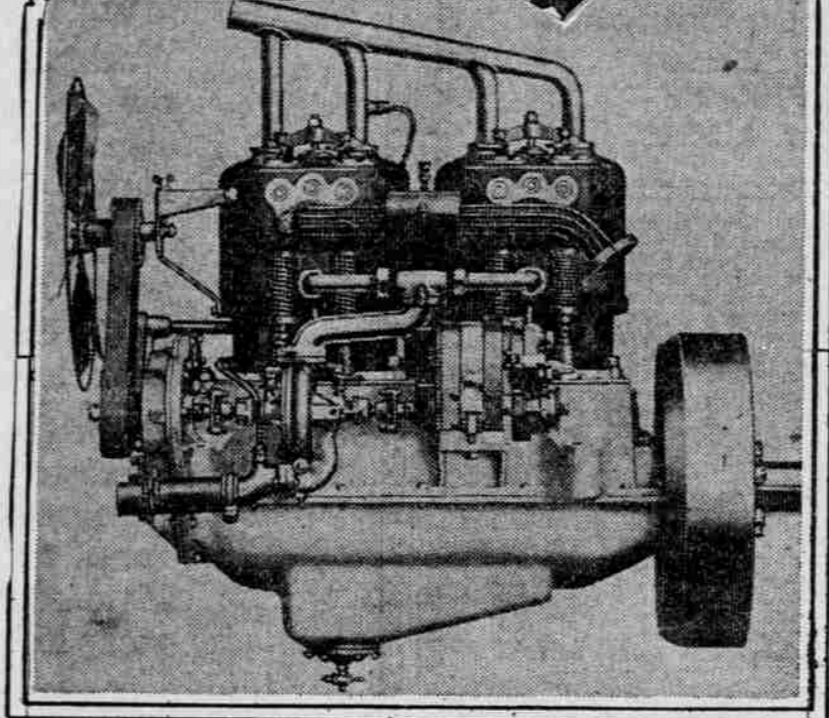
The clutch is of the Pierce-Arrow standard cone type, faced with leather. Surfaces are of large diameter and width. Withdrawal is effected by pedal, throwing out two ball bearings mounted on a fork. These, in their turn, act on the flange of the clutch, throwing it out.

There is a double universal joint between clutch and transmission to compensate for any small errors in alignment. This joint is of the internal and external gear type with large bearing surfaces. The joint is completely cased in and its shape insures the grease reaching the bearing surfaces and keeping them constantly lubricated.

The transmission, or gearset, is of the three-speed, selective type—three speeds forward and one reverse. By means of a safety catch it is impossible to have more than one gear in mesh at a time.

The speeds are as follows: Maximum on direct drive, 16 miles per hour; maximum on second speed, eight miles per hour; maximum on low speed, four miles per hour; maximum on reverse, three and one-third miles per hour.

The design and construction of the rear axle follows that of the five-ton worm-drive truck. The worm drive is mounted rigidly in a dust-proof case of steel that carries the full weight of the load, the shafts to wheel transmitting the power only. These shafts are of extra large diameter, giving an extreme factor of safety to take care of road shocks and vibrations. The engine and transmission are mounted rigidly on a subsidiary frame itself very rigid. This frame is secured to the main frame by a hinged joint at front, two widely-spaced fixed joints at the rear, thus giving a perfect three-point support.



Side View of the Engine

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AUTO TOPS ARE FITTED

PRACTICE OF USING "MASTER BODY" GOING OUT.

Up-to-Date Firm "Tailors" Coverings of Cars to Each Individual Machine, Avoiding Wrinkles.

If you ever went through a body department of an automobile plant, you probably noticed that in fitting the tops there was a so-called model or "master body" on which each top is fitted, as a dressmaker fits a garment to a model. In other words, top fitting as defined by other motor-car builders is analogous to making a ready-made clothing manufacturer's practice of fitting a certain size garment to a definite form and fashioning all garments bearing that size label on a specific model.

This is why one sees the collar of a coat worn by a man with a long neck, purchasing the size garment, sagging ridiculously out of line, or why the sleeve-length is too long for another man wearing that size.

In other words, the individual deviation from a standard cannot be compensated for, in any ready-made method of fitting a garment or an automobile top. It is true that the bodies may be built on the same model to exact measures, but when the top is fitted the slight deviation in its measurements will bring about slight displacement of the body and the top which develop into wrinkles or sagging or warping of the top at some point.

In the Stevens-Duryea plant they hand-tailor each top to its own body. There is no such thing as a model to which all tops are fitted; each individual body is its own model for its special top. This process positively prevents the slightest variation in the uniformity of fit of the top. It is claimed by the company that the Stevens-Duryea plant stands alone of all body building plants in this country, in its definition of how to fit a top properly to a motor car.

FIRESTONE WINS CORONA RACE

Tire Takes Fifth Victory in Contest Since May 30.

Victory came again to Firestone tires at Corona, Cal. September 9, when Earl Cooper, in a Stutz, won this great annual contest at a speed of 77 1/2 miles an hour, distance 250 miles.

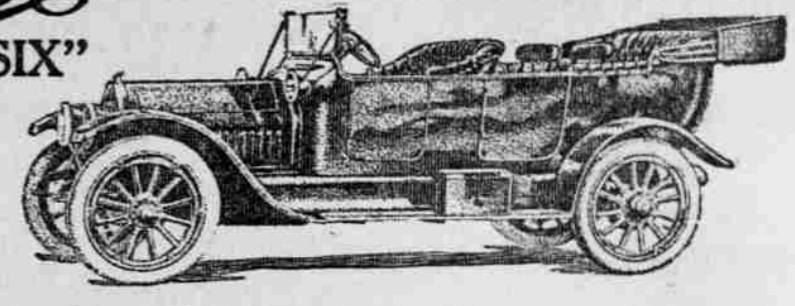
This is the fifth victory for Firestones since May 30, and includes all the important racing events of the season, namely: Indianapolis sweepstakes, May 30; Panama-Pacific road race, July 4; Montanara Feste race, July 5 and 7; Santa Monica race, August 9; Corona race, September 9.

Never before in the history of tire freedom has one make of tire captured such a string of unparalleled successes. The victories are doubly significant, when one considers that Firestone makes no racing tires, every event being won on the regular tires that any motorist gets when he buys Firestone.

Frank E. Smith Elected. Announcement has just been made

Studebaker "SIX"

Six Cylinders
Six Passengers
Electric Starter
Electric Lights



\$1550

"Look Around To Your Heart's Content— You'll Surely Come Back"

Your Studebaker dealer is not only willing, but glad, to have you "look around", after you have seen the Studebaker "SIX". He means what he says. He feels perfectly safe. There is nothing in the market that can win you away. It is not easy for him, or for us, to tell the simple truth about the car without seeming to indulge in braggadocio. Because the simple truth is bound to sound disparaging to competing cars.

The Question of Price
Let's assume that you do "look around".

lower price—and gain nothing in the higher. Check Two for the Studebaker.

Practically every other Six with which you will compare it is an assembled Six.

The first thing you discover is that the Studebaker "SIX" is in a price division all by itself.

The Question of Beauty
There are those who contend that the Studebaker is the handsomest Six on the market.

We mean by this, Sixes which are no larger, no more beautiful, but which sell for considerably more.

You've got to begin several hundred dollars higher up in your hunt for a car comparable with it.

Never mind that—it is a distinguished-looking Six at any rate.

This almost ends the hunt right here, doesn't it? Add fifty points to the other three we've checked for the Studebaker.

Check One for the Studebaker.

There are none more beautiful—none more graceful.

The Question of Fitness

The Question of Size
You are astonished to discover that the lesser price of the Studebaker is not explained by a lesser size.

So you won't be won away on that score. Check Three for the Studebaker.

Studebaker will build more Sixes than anyone else in the world this season. Almost as many as all the other makers combined.

The Studebaker "SIX" is a normal six—which means a six of the most generous proportions.

The Question of Workmanship
Bear in mind that you are supposed to be hunting for something that will justify you in not buying a Studebaker.

That accounts largely for the price. It accounts also for that accuracy without which a Six is a dangerous experiment.

A seven-passenger six, in other words, (if used to its utmost) with perfect freedom of movement front and back. So you lose nothing here in the

And immediately you encounter an insurmountable objection to buying any other car. The Studebaker "SIX" is a manufactured Six.

It accounts for mechanical niceties and full jeweled workmanship which amaze you at the Studebaker figure.

Buy It Because It's a Studebaker

"SIX"

We say to you what your dealer will say to you—"Look around to your heart's content, you're bound to come back". You'll buy this Six because it's a Studebaker "SIX". You'll buy it because its superiority will be forced upon you by comparison.

\$1550

\$885 Studebaker "25" \$1290 Studebaker "35"

STUDEBAKER, Detroit, Mich.

Portland Dealer—OREGON MOTOR CAR CO. 58 N. 23d St. Dealers in All Important Cities.

of the election of Frank E. Smith, formerly of the Maxwell-Briscoe Company, of New Castle, as vice-president of the American Motors Company, in direct charge of production. Mr. Smith is probably one of the most experienced and best-informed men in the automobile industry and his connection with the American Motors Company is in keeping with Mr. Handley's well-defined plans of specific concentration and efficiency.

NEW RECORD IS HUNG UP

Cadillac Establishes Mark Between Detroit and Omaha.

George F. Reim, of Omaha, recently broke two records in driving his 1914 Cadillac from Detroit to Omaha. Mr. Reim, who was accompanied by four friends, covered the 911 miles between the Tulea Hotel in Detroit and the Rome Hotel of Omaha in a total elapsed time of 31 hours and 54 minutes. The actual running time was 23:12, stops aggregating two hours and 42 minutes having been made, which is not much in excess of the time required to make the run by railroad. By this performance Mr. Reim beat his own time of 36 hours, 57 minutes, which was the record up to the recent performance.

In reality two records were shattered, as the party established a new time for the north transcontinental route from Chicago to Omaha, driving the 500 miles in 19 hours, 32 minutes, as against the previous time of 21 hours.

The 1914 Cadillac on its arrival at Omaha was simply washed and put into demonstrating service. The start was made without preliminary tuning up. Mr. Reim simply taking the car out of the factory and beginning the journey.

Studebaker Man Promoted.

By virtue of a recent increase in responsibility, James G. Heaslet, chief engineer of the Studebaker Corporation, has been placed in general supervision of all Studebaker automobile

manufacturing, receiving direct reports from Max Wollering, production manager, to whom report the superintendents of all the plants of the system. Mr. Heaslet retains general charge of the designing and other departments of engineering at the Studebaker plant 10, which is, however, in immediate charge of Assistant Chief Engineer Austin.

New Route to Yellowstone.

Under the auspices of the Chicago, Black Hills and Yellowstone Park Highway Association, a party in a Studebaker car has just laid out an improved and direct motoring route to the park from Chicago. The route runs through Madison, Racine, Manly, Pierre, Rapid City, the Black Hills and Cody, Wyo. It is said to be both shorter and better than the former route by way of Denver.

Western Australia produces more gold than any American state, sends more pearls to Europe than any other country except Ceylon, and is said to have the richest belt of hardwood timber in the world.

MID THE FOREST TREES IN CENTRAL OREGON.



JOHN STEIDL AND PARTY IN HUDSON "37". John Steidl, a large property-owner of Bend, Or., is one of the owners of a Hudson "37," which, for light running expenses, he considers cannot be beaten. He has had the car five months, has run over 5000 miles, and has yet to experience his first repair bill.

ZEROLENE

THE STANDARD OIL FOR MOTOR CARS

"STANDARD" because it is recognized by automobilists as the best or standard product for motor lubrication.

"STANDARD" because it is standardized or uniform in quality.

"STANDARD" because it is a product of the STANDARD OIL COMPANY—which in itself is a guarantee of absolute quality.

USE RED CROWN

THE GASOLINE OF QUALITY

Standard Oil Company (CALIFORNIA)

PORTLAND SAN FRANCISCO

Sold by dealers everywhere and at all agencies of the