MAKES STATISTICS ON COAST-TO-COAST TRIP

Enough Power Generated to Lift Car Fifty Miles in the Air.

A technical mind trained to figures simply cannot help translating anything into statistical terms; and the recent record-breaking trip of the Cadillac Eight furnished the opportunity of a lifetime to the technical men in the Cadillac plant. The result is a mass of intensely interesting data based on the distance covered by the car, 3,371.8 miles.

For example it is found that if the power generated by the engine in its long drive could be concentrated in one tremendous impulse, it would amount to 307,500 horsepower. This, if concentrated and used in the space of one minute, would be sufficient to lift the car and its two passengers 50 miles into the air—which speed would be at the rate of 3,000 miles an hour.

It is found further, that the crankshaft made more than 9,445,000 revolutions—yet there was no visible wear on its bearings and no adjustment of the bearings could be made. For the second hand of a watch to make an equal number of revolutions would require eighteen years of continuous running, and the watch would have to be wound 6,560 times.

While the crankshaft was doing its prodigious task, the camshaft was engaged in making 4,722,500 revolutions, turning at half the speed of the crankshaft. That means that each valve was opened and closed the same number of times, and that each valve, in performing its function, traveled a distance equal to 23.8 miles.

During the seven and a half days of the run, each of the eight pistons traveled, within its cylinder, 1,526 miles in moving up and down its five and a half inch stroke, and the total distance trwaveled by the eight pistons was 12,-200 miles, or about half way around the earth.

The total number of sparks produced was more than 37,780,000, which means that it took that many explosions in the engine to propel the car from Los Angeles to New York.

The water pumps in the cooling system circulated the equivalent of 287,500 gallons of water. The cooling system holds five and a half gallons, but the circulation of this quantity again and again was the equal to the passage of the larger quantity through the pumps. Similarly, the amount of oil circulated through the engine again and again was equivalent of 674 barrels, or 21,240 gallons.

The distance covered by the Cadillac from one coast to the other was 3,371.8 miles, and it was necessary for each wheel of the car to revolve more than 1,889,000 times.

These figures are particularly significant in view of the fact that at the finish the car, mechanically, was in virtually as good condition as at the start.

RAPID DEVELOPMENT IN AEROPLANE TIRES

"Now that increased attention is being given to the employment of aeroplanes as aids in national defense, it is interesting to note the part Goodyear tires play in their use," says E. R. Preston, of the Goodyear Tire and Rubber Company's aeronautic department. "Aeroplane motors, like automobile motors, must be protected from jolts by pneumatic tires. In the earlier days all sorts of makeshifts were used; even bicycle tires were pressed into service on some of the pioneer machines. Some builders went so far as to use full size automobile tires. These were equal to the occasion as far as reducing the shock of landing was concerned, but were far too heavy and offered too much wind resistance.

"Developments in the science of building better aeroplane tires have been rapid and revolutionary. As machines have improved and developed higher speeds in the air with a consequent increase in the speed of starting and landing, Goodyear tires have kept pace.

Need Dependable Tires.

"The old type of aeroplane tire was costly and uncertain. Present day necessity has compelled tire dependability, as machines are now larger and heavier and must carry more passengers and heavier loads.

"About five years ago the Goodyear company began to develop tires to fit the peculiar requirements of the aeroplane. It was early discovered that resiliency was an important factor—that a live, springy tire actually aided the machine to get off the ground and helped to absorb the shock of landing. The Goodyear cord tire for aeroplanes has been refined to a point of efficiency equal to that of its successful big brother for electric and gasolene cars.

Tires for Various Uses.

"On aeroplanes, tires of large cross section are used to provide maximum cushioning ability to resist the lateral thrusts that occur when the machine side-swipes the earth in landing. On machines used for scouting in war, the cross section size is reduced one inch to reduce weight, thereby permitting the carriage of an additional amount of gasolene.

"The eminence of Goodyear in the aeronautic field is evidenced by the fact that more than 90 per cent of the aeroplane tires used by the forty American aeroplane factories, are Goodyears. All of the machines in use by General Pershing's forces in the Mexican expedition are Goodyear equipped. On Curtis, Wright, Burgess, Martin, Thomas and many other machines Goodyear cord aeroplane tires are standard equipment."

A "Darn" Good Ring
The
GILL
PISTON RING
Washington Branch,
1322 14th St.
Phone North 6035

Fill Out This Coupon: The Fund Needs Your Help and You Need the Road To Be Built.

To the Fund Committee,
A. A. A. District of Columbia Club,
Riggs Building,
Washington, D. C.

Gentlemen:—Herewith is my check in the sum of $——— to be applied to the fund for the construction of a roadway through the Chopawamsic swamp.

Name ....

Address ....

MOTORISTS SEEKING FUNDS FOR ROADWAY

Campaign on to Collect $4,870 Here Toward Reclaiming Chopawamsic Swamp.

Under the auspices of the American Automobile Association, District of Columbia Club, the work of collecting $4,870 in the National Capital for the construction of a roadway through the Chopawamsic swamp is now in full swing.

Not only have the club's efforts to banish the Prince William bog from the Richmond-Washington highway started in earnest, but they are being accorded generous support by both commercial and motoring Washington.

While the first letters seeking contributions to the fund and explaining what the Chopawamsic swamp means to the merchants of this city, did not go out until the day preceding the preparedness parade, which set the work back twenty-four hours, the results thus far have been highly satisfactory and the substitution of a fine, modern highway for the swampland is an early probability, officials of the club state.

In this, as in all other propagandas where public aid is sought, contributions are coming in from individuals and business institutions who cannot look for any but the most indirect benefits from the building of the road.

Subscriptions previously acknowledged in this paper totaled $347.17. Contributions received since the inauguration of the letter campaign bring this sum up to $427.17.

The Contributors.

Those who contributed are as follows: John Oliver La Gorce, Robert Rose, C. O. Bohrer, Lanman Engraving Company, Ralph W. Lee, Byron S. Adams, John Curtin, Angelos H. Bacas, C. J. Stockman, W. A. H. Church, Spear, Middleton, Donaldson & Spear, Whitmore, Lynn & Alden Co., Harris & Ewing, E. W. Bradford, Home Beneficial Association, and Erle E. Stacy.

While only $5 is being asked of each Washington business house Byron S. Adams more than measured up to his slogan of "I never Disappoint" by sending in his check for $10.

That club officials have reason to be hopeful regarding the outcome of their efforts is seen in some of the letters which accompanied contributions. The following from Harris & Ewing is particularly encouraging:

"Find enclosed check for $5 to be credited to the Chopawamsic swamp road fund. If more help is needed let us know."

A splendid example of public-spiritedness is found in the following letter from E. W. Bradford, patent lawyer of this city:

"I contribute solely for this reason: I do not own a car and am not in a business that will be benefited, but I sympathize with the spirit of the letter."

Whitmore, Lynn & Alden Company expressed what club officials believe to be an index to the sentiment of commercial Washington relative to the building of the road:

"We take pleasure in enclosing our check for $5 as a subscription for improvements to be made in the Chopawamsic swamp roadway, and we hope, ineed, that you will carry on a very vigorous and successful campaign in Washington for this project. All business men, we feel assured, will commend your good offices in same."

"Within the next ten days we shall send a letter to every merchant and motorist in the city asking them to contribute," said one club official, "but if those who learn of the club's work through the newspapers will only realize that no time should be lost in initiating construction work, they will not await a letter, but immediately send their subscription to A. A. A. headquarters in the Riggs building, and thus hasten throwing open to motorists a fine new touring field, and to merchants thousands of dollars in trade."

Oilless Bearings Replace Grease Cups on Marmon

In the Marmon 34, oilless bearings have taken the place of grease cups. The bearing consists of a couple of steel tubes and asbestos and graphite fabric in between the two.

It works out that the wear is extremely slow, and even when wear does come there is no rattle. The makers claim that these bearings will give as much service as the ordinary bearings used for these parts for which lubrication is necessary.

TRAVEL ON DEFLATED TIRES RUINS THEM

Local Michelin Representative Shows How a Bit of Care Will Prolong Life.

"Don't travel on deflated tires," says R. W. Wheat, of Barber & Ross, Michelin tire representatives.

"If there is any one thing that contributes most toward premature tire destruction it is undoubtedly traveling on tires that are not sufficiently inflated.

"Many motorists give so little care to their tires that the first intimation of their improper condition comes when a muffled sound or a jolt, caused by one of the wheels coming in contact with some hard object on the road, discloses the fact that the rim is touching the ground.

Then Patched.

"The envelope is then patched, a new tube fitted, and a sleeve put on for the purpose of increased strength. The driver then proceeds to the nearest garage, where a new casing is obtained, the damaged one being left for repair.

"Nearly always it is found that the tread is the only part of the casing that has not been totally destroyed. The beads are found to be broken or torn away.

"The walls of the casing are scored and scraped inside and out. The canvas is torn and frayed and has broken away from the rubber. The tire has lost its shape entirely; its several parts are disintegrated.

Tube Beyond Repair.

"The tube, replaced on the road, which was perhaps new or nearly new when the journey started, has been torn beyond all hope of repair, and scraped and scored all over, some of the incisions being almost as deep as the thickness of the rubber itself.

"All this delay, trouble, and expense is the direct result of traveling on a deflated tire, whereas periodic inspection of the air pressure would have entirely prevented the damage."

Didn't Need Them.

Mistress—Didn't the ladies who called leave cards?

Maid—They wanted to, ma'am, but I said you had plenty of your own, and better, too.—Exchange.

CANTILEVER SPRINGS MAKE CAR RIDE EASY

Claude E. Miller Explains Advantages of Cantilever as He Sees Them.

"Almost every automobilist today recognizes a cantiliver spring on sight. This construction, which has been generally adopted by those manufacturers who build the best, is familiar to nearly all of us, but how many drivers really know why a cantilever spring makes a car ride easier than other types of rear suspension?"

Claude E. Miller, local Dort distributer, recently made the above statement, which he accompanied with an interesting explanation of the workings of the cantilever spring as he sees them.

"An automobile engineer," said Mr. Miller, "would probably describe a cantilever spring with many technical terms, but this is a little too deep for the average man. My own idea of the cantilever is a spring that is so anchored or attached to the chassis that the rebound of the spring is downward instead of upward.

"Thus the occupants of the car get the benefit of the flexing of the springs when road shocks are encountered and the downward rebound of the springs tends to keep the rear wheels of the car on the ground, instead of lifting them clear of the road, as is the case with the semi-elliptic, three-quarter elliptic, or full-elliptic spring. This means not only easier riding, but less wear on the tires, as the rear wheels are kept on the ground practically all the time.

"The length of the spring has considerable to do with its riding qualities, and a long, wide spring is particularly desirable. Mr. Planche, the chief engineer and designer of the Dort, has taken advantage of this, in the full cantilever springs that form the rear suspensions of his car, and he has made these very wide and 50½ inches long."

A Good Car, Like a Good Friend, Is Reliable Always. It's the Fact That

RELIABLE USED AUTOS

Are Reliable Always—All Ways. That Has Made Our Customers Our Best Friends.

1916 HUDSON 6 cyl. touring; tip-top mechanical shape; bargain.
1916 STUTZ Roadster; run only 700 miles; splendidly equipped; low price.
1916 SCRIPPS-BOOTH Roadster; tip-top condition; $550.
1916 BUICK Touring; D-45; used only four months. Snap.
1916 OVERLAND Touring; like new; $560.
1916 HUPMOBILE Touring car; good as new; $725.
1916 DODGE Touring; fully equipped; $500.
1916 CHANDLER Touring; 6 cyl.; 7 passenger; $775.
1915 BUICK Roadster; used very little; shows no wear whatever; model C-36; $650.

1914 MERCER Roadster; wire wheels; one extra wheel and tire; big bargain.
1915 FORD Touring; fully equipped; $290.
1916 MAXWELL Touring; excellent condition; fully equipped; $400.
KRIT Touring car; 25-H. P.; fully equipped; $250.
1914 OAKLAND Touring car; electrically equipped; $400.
HUP "20" Roadster; splendid little car; $250.
MARMON Touring; 32-H. P.; very powerful; excellent condition; $375.
1915 PACKARD; 6 cyl.; touring; splendidly equipped; perfect mechanical shape; $900.
1915 FORD Roadster; $265.

1916 PAIGE "6-46;" Fairfield model; exceptionally fine shape; $950.
1912 MERCER Touring; exceptionally fast; $975.
1915 BUICK; C-55; 6 cyl.; $800.
1913 LOCO Limousine; tip-top condition; $575.
1916 COLE Touring; 8 cyl.; mechanically perfect; used only a short time; bargain.
1916 CHEVROLET Touring; splendidly equipped; $450.
1915 STUDEBAKER; 6 cyl.; touring; tip-top shape; $500.
1914 CADILLAC Touring; 7 passenger; mechanically perfect; $875.
OVERLAND Touring; late model; fully equipped; $350.

TRUCKS & DELIVERY WAGONS, ½-ton to 5-ton capacity

AUTOCAR; 1 ton; $475.
AUTOCAR; 1½ ton; $650.
FEDERAL; 1½ ton; practically new; $775.
ALCO; 3 ton; excellent mechanical shape; $850.
SAMPSON; 5 ton; splendid condition; tires like new; $1000.
WHITE, 1 ton; big bargain.
FORD Delivery; $250.
VIM Delivery; excellent equip shape; $425.

Reliable Automobile Company
(All That the Name Implies)
249-251 N. BROAD ST., PHILADELPHIA
Agents Wanted. Open Sunday 9 to 2.

Send for Bargain Bulletin

Why Pay Exorbitant Prices When You Can Get Diamond Squeegee Black Tread Tires

—with stylish RED SIDE WALLS which are giving customers of ours 6,000, 7,000, 8,000 and still greater mileage? We can sell you "DIAMONDS" at prices that require no excuses or excessive promises.

¶Don't be fooled by printed price lists.

—We have confidence in "DIAMONDS"—they are made of the toughest, longest-wearing rubber that the biggest rubber factory in the world knows how to produce, after 15 years of tire manufacture.

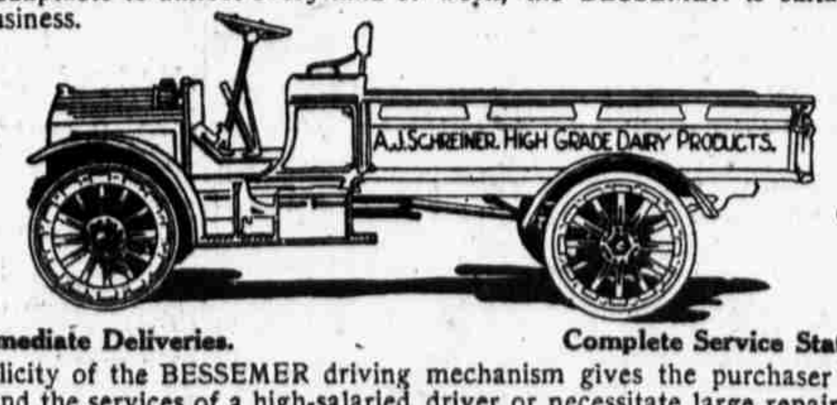
FORD SIZES } 30x3 . . . $9.00
30x3½ . $11.65

National Electrical Supply Co.
1328-1330 New York Ave. Phone Main 6800

BESSEMER TRUCKS Are Here!

The sole local agency for this, the most popular size truck being marketed, is vested in us. Being readily adaptable to almost every kind of work, the BESSEMER is suitable for almost any kind of business.

$975 Chassis in Lead



$995 Complete With Express Body

Immediate Deliveries. Complete Service Station.

The simplicity of the BESSEMER driving mechanism gives the purchaser a truck which does not demand the services of a high-salaried driver or necessitate large repair bills.

That the quality of the BESSEMER is known in Washington is proven by the fact that the BESSEMER demonstrator was sold upon the very day of its arrival.

Capacity, 2,000 pounds. Loading space, 9 ft. 4 in.

Columbia Auto Supply Co.
13th and H Sts. N. W. — Telephone Main 4866
14th and Irving Sts. N. W. — Telephone Columbia 3999

THE RECORD WAS BROKEN ON EMPIRE TIRES
THERE WERE NO TIRE CHANGES MADE

AMERICA'S GREATEST "LIGHT SIX"

HAYNES

Stock Touring Car

Breaks New York-Washington Road Record by 1 Hour 26 Minutes

A Haynes Stock Model Touring Car, driven by D. B. Gish, Official Observer H. E. Duckstien, automobile editor of The Washington Post, left New York (Jersey City ferry) at 5:23 a. m., June 14, and checked in at the Municipal building, Washington, D. C., at 12:49 noon the same day, thus making the run between the two cities in

7 Hours 26 Minutes—Distance, 238.2 Miles

The former record was held by E. B. Terry, of this city, who made the run in an APPERSON a little more than a year ago in 8 hours and 52 minutes.

The elapsed time, as stated above, was 7 hours 26 minutes. The actual running time was 14 minutes less, making an average of nearly 33 miles per hour.

The only stops that were made—a total of five—were due, in four instances to traffic conditions, and the fifth was a voluntary stop for the replenishing of gasoline and oil.

From the time the car left New York until it arrived in Washington there was not the slightest trouble of any kind with either the motor or Empire Tires.

A maximum speed of 70 miles per hour was recorded on the speedometer upon several occasions, the car seldom moving at a rate of speed less than 55 miles per hour.

Not a cylinder missed fire from start to finish, and the motor did not heat up. Not a tool was used. The Haynes made a perfect run in every respect.

Owing to the easy riding qualities of the car no discomfort was felt on the entire trip.

TIME SCHEDULE
Haynes Six Record Run, New York to Washington
JUNE 14, 1916

D. BRAILEY GISH, Driver. H. E. DUCKSTIEN, Observer.

Miles.	Place.	Time. A. M.	Miles.	Place.	Time. A. M.
0.0	New York (Jersey City Ferry)	5:23	141.4	Elkton, Md	9:45
8.2	Newark, N. J	5:45	148.3	Northeast, Md	9:55
14.6	Elizabeth, N. J	5:54	151.2	Charlestown, Md	10:00
20.8	Rahway, N. J	6:03	158.9	Perryville, Md	10:12
24.7	Iselin, N. J	6:11	159.8	Havre de Grace, Md	10:20
28.8	Metuchen, N. J	6:18	168.1	Churchville, Md	10:37
33.1	New Brunswick, N. J	6:26	175.3	Belair, Md	10:45
46.0	Monmouth Junction, N. J	6:45	182.7	Kingsville, Md	10:56
60.9	Trenton, N. J	7:10	198.0	Baltimore, Md. (North Ave. and Charles St.)	11:23
70.3	Langhorne, Pa	7:23	207.8	Elkridge, Md.	11:47
89.4	Philadelphia, Pa. (Broad and Rising Sun Ave.)	7:53			P. M.
99.8	Darby, Pa.	8:17	217.8	Laurel, Md	12:06
108.2	Chester, Pa	8:33	223.6	Beltsville, Md	12:14
111.1	Marcus Hook, Pa	8:42	230.2	Hyattsville, Md	12:23
120.4	Washington, Del.	9:05	235.5	Fifteenth and H Sts	12:32
134.7	Newark, Del	9:35	238.2	Washington (14th St. and Pa. Ave.)	12:49

PREVIOUS RECORD.
E. B. Terry, in Apperson.......8 hrs. 52 mins.

PRESENT RECORD.
D. B. Gish, in Haynes.......7 hrs. 26 mins.

STOPS.

Drawbridge open	Newark, N. J	2 minutes
Gas, oil	Marcus Hook	3 minutes
Freight train	Elsemere Junction	1 minute
Freight train	Marshallton	3 minutes
Traffic	Susquehanna Bridge	5 minutes

THE HAYNES SIX RECORD HOLDER
Is on Exhibition in Our Salesroom

Haynes "Light Six" Prices
3-passenger Roadster, $1,485
5-passenger Touring Car, $1,485
7-passenger Touring Car, $1,585
F. O. B. Kokomo, Ind.

HAYNES MOTOR COMPANY, Inc.
Tel. North 695. 1113 14th St. N. W. D. B. GISH, Manager.
Distributer for Empire Tires