

FOUR-SPEED PLAN POPULAR BY CRITIC

Three-Forward Speed Gear Box Soon Will Be Obsolete, Writes Authority.

BETTER CONTROL IS URGED

Idea Now Prevalent in Europe More
Logical and Destined to Become
Popular Here, Is Prediction
of W. H. Cameron.

"It may sound strange when I make the prediction that the next radical change in automobile engineering will be the general adoption of the four-forward speed transmission," writes W. H. Cameron, a prominent member of the Society of Automobile Engineers. "By that I mean that my opinion of the four-speed transmission is bound to become generally used in all good American cars. Today it is found in this country only in the hands of foreign cars. You can count on the fingers of one hand the cars selling under \$3000 that now have four speeds forward. Abroad, where speed is more highly valued, the use of the four-speed transmission in the large majority of cars, its advantages are better understood.

"One reason for its use in foreign cars is the extremely small bore of cylinders, due to the fact that the tax is graded by the size of the bore. An American car of more than four-cylinder bore has little to recommend it, where a bore of three inches and a fraction is generally used with an extremely long stroke, to give the maximum horsepower.

Four-Speed Plan Economical.
"Under such conditions the four-speed transmission is positively essential, both to economize the power and to gain the required flexibility of control. Its use under these conditions, however, only serves to illustrate the actual money-saving in fuel and less strain upon the machine, as well as the advantages in driving which will come with the widespread adoption of the four-speed gearbox in America. For the same engineering principles apply in our case as in theirs.

"Before passing the point of economy, let me say I believe that the tendency in America will be decidedly to smaller bore. This is due to the fact that everybody knows gasoline is becoming scarcer, and is sure to mount in price. I think the small bore is coming, even with the effort to popularize the six-cylinder car. The popular six-cylinder car of the future will be one with about the same piston displacement as the standard fours of the present.

The four-speed gear box has been confined to high-priced cars in America, primarily because of its prohibitive cost. Engineers and I may say manufacturers, almost unanimously admit the great advantage of four speeds over three, but the cost question has caused the delay until the demand of car buyers has become imperative. It means a complete change of design—more gears—wider gear centers—a big expense for the improvement, when all are totaled.

Advantages Are Manifest.
"The advantages to be gained from it are certainly so manifest, so great, that it is a question of only months when it will be generally accepted. And with our roads, the four-speed transmission comes to general practice none too soon. "Motorists generally realize now that the life of a car depends upon its use and abuse. It does not take a car owner long to reason to the fact that making a car put forth every ounce of power on frequent grades is highly detrimental.

"Learn to control your car exclusively by the gas, as far as possible," says the instructor in motoring. "The salesman says the same thing to the beginner who has purchased his car. Everybody who gives advice on running a car says it, thereby admitting that something is wrong, or lacking in the transmission. Yet everybody realizes on a moment's reflection that the transmission is the logical first means for the control of the speed.

"Now, it takes long experience and special aptness—I may say genius—for driving to know just how far to throttle in regular gear, or by gas. Few ever learn it perfectly. The driver who does it with any degree of skill knows his car like a human friend and brother, and is also guided by some sixth sense of intuition.

Fallacy of Gas Control Cited.
"With the big majority this dependence almost entirely on the gas for regulating the car, and of gas for work. It is a fallacious notion, not only to the pocketbook, but in not a few cases to human life.

"It costs money to pull the engine speed down to the almost quits on high, and then to race the engine to pick up on second, as is so commonly practiced. "We have grown used to the sight of the driver on high gear, killing his motor at street crossings, streetcar tracks and railroad tracks, by throttling down before he can get far enough out. It is a habit that slips into third speed on a proper four-speed transmission, he has a gear ratio which is practically the same as a 1 1/2 to 1 gear ratio. It is a habit which the car easily is throttled down to two or three miles an hour, and still pick up quickly.

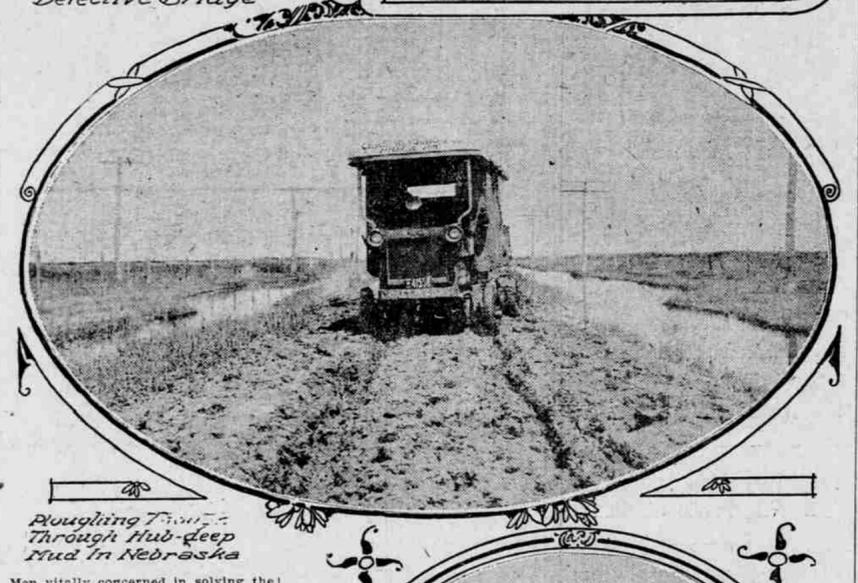
"By this time it should not be necessary to explain that the basic purpose of four-speed transmission is not to satisfy a mania for more speed. This was a common error when the four-speed transmission was first practiced.

Driving Made Easier.
"Four-speed transmission provides an efficient, feasible and logical control of the car—a control not based on guesswork, but upon an accurate, proved and dependable gear-box, built in accordance with universally acknowledged mechanical principles and in accordance with the best engineering practice the world over. It provides this control without wasting the fuel, without racing the motor, and without the quantity with far less vibration. It relieves the motor of undue strain, especially in taking heavy grades. With four speeds (the direct drive being in the fourth), the long same stretches the heavy mud roads, the miles of axle-deep slush, the hills and mountains may be negotiated without fear of punishing the motor, in the way that now works havoc, and shortens by years the life of the best car built.

"Unless one has actually driven with a four-speed transmission he does not know the satisfaction and pleasure that it adds to driving. "To those who have not tried it I would say: Make a test of two cars, one with a proper four-speed gear-box and the other with three speeds, both having the same top-gear ratio, and thus having the same speed possibilities. You will be amazed at the difference in efficiency of control—the certainty of having just the speed you want when you want it—the reduction of the work of driving. You will never want to go back to a three-speed transmission.

"Grade climbing is one of the prob-

MOTOR TRUCK STEADILY PLOWING ITS WAY ACROSS CONTINENT WITH LOAD OF MERCHANDISE



Men vitally concerned in solving the transportation problem are watching closely the work of the Alco truck now on its way across the continent with the first consignment of merchandise ever shipped by motor truck to the Pacific Coast. The run is being made between Philadelphia and San Francisco. Present road conditions make impossible this method of transportation, as a general thing, and the spot now is progressing simply to show the worth of the modern motor truck and what it is capable of doing. Thus far the truck has made fine progress, roads, condition accelerated, and is plainly demonstrating that the automobile of today is of such improved nature as to be fit to cope with any emergency that may arise.

lems most satisfactorily solved by the four-speed gear-box. Every motorist knows that unless he has an engine on which he can depend for a practically unlimited pull, he will find the inclination of many grades just a trifle too much for his top-speed. On such a grade, with a four-speed gear-box he can drop to third speed and it takes his car up like a bird.

"With a three-speed car he has to drop from top speed to second—and he makes an awful drop—in fact, almost 50 per cent lower than high, but in the same condition is encountered on many roads which are just a little too heavy for top speed. The funeral pace then has to be taken on second speed, and the car is actually capable of much better speed on these roads.

"We shall understand the necessity of the four-speed transmission more perfectly, if we say that while the speed ratios of a proper four-speed car are 1, 2, 3, 4 (the fourth being the top speed) when we put in a four-speed gear-box we are actually adding a third speed to the car.

"I have talked to many veteran motorists, and they agree with me that the four-speed gear-box is needed everywhere, everyday, not only to climb grades and not only to do away with unnecessary engine racing, but to provide a really essential speed, between second and high where the gap now exists."

TRIP IS EASY FOR MITCHELL.
Portland-Medford Run Made in 23 Hours.

When William Von der Hellen was in Portland recently he selected a five-passenger four-cylinder Mitchell from the stock of Mitchell, Lewis & Staver Company. On account of the high freight rate to Medford he decided to drive his new machine home.

Making the start from Portland he drove to Cottage Grove in a day and proceeded on to Medford the next morning, arriving there that evening, having covered the 354 miles in 23 hours running time, an average of better than 15 miles per hour.

Mr. Von der Hellen says the Mitchell behaved splendidly, taking most of the hills on high and seeming to be perfectly at home on the rough roads. He says the roads between Portland and Medford were dusty.

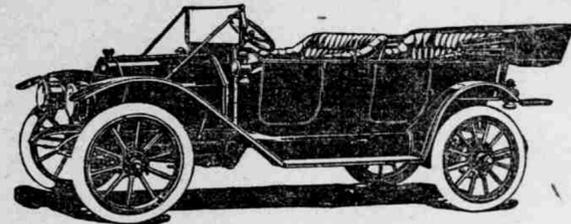
ELECTRICITY GAINING FAVOR
Makers Leaning Toward New Lighting Systems, Says Hudson Man.

In another year every automobile above \$1000 will come from the factory equipped with a self-starter and an electric lighting system, is the prediction of Eugene Bamb, Western representative of the Hudson. He was in Portland last week visiting Neate & McCarthy, who have the Oregon agency for the car.

"Electricity is the cheapest, simplest and most efficient form of lighting an automobile," declared the Hudson man. "Take the lighting system on the Hudson, for instance. It is simple, efficient and economical.

"Electric headlights are by far the best. Manufacturers generally realize this and they will all be using the electric system next year, as well as a self-starter."

The New VELIE "32" 1913 "The Car for You"—Is Here



The Only Popular-Priced, American-Made Car Using
Silent Chains Instead of Timing-Gears

Specifications: Roomy, five-passenger body; Motor, 3 3/4-inch bore, 5 1/2-inch stroke; Dual ignition; Thermo-Syphon cooling system; Circulating Oil system; Silent chain cam and magneto shaft drive; Double universal joints; Unit Power Plant with clutch and motor enclosed in single case; 113-inch wheel base; Underslung rear springs, giving low body line and center of gravity; 34-inch wheels; Demountable rims; equipped with mohair top and envelope, high-class wind shield, all lamps, self-starter, gasoline pressure system and complete set of tools. An extremely quiet, smooth-running and comfortable car.

It's "A YEAR AHEAD." Price, fully equipped, \$1525 F.O.B. Portland
Dealers Wanted in All Unoccupied Territory

John Deere Plow Co.

East Second and Morrison Phones: East 1034, B 6125

BUICK HEAD REWARDED

NASH MADE VICE-PRESIDENT OF
GENERAL MOTORS.

Successful Reign Over Flint Plant
Leads to Supervision of Big Corporation's Interests.

There are things doing in the Buick domain. Advice has been received by Manager Mel G. Johnson, of the Howard Automobile Company, announcing the appointment of Charles W. Nash, vice-president and general manager of the Buick Motor Company, to the office of vice-president of the General Motors Corporation.

The appointment just made does not mean that Mr. Nash will relinquish the management of the Buick Motor Company, which he has held for the past two years. It is simply a recognition on the part of the General Motors organization of the splendid work he has done as manager of the subsidiary plant in Flint, Mich., and is in line with the corporation's policy to reward merit and ability with promotion.

It places him in a position where his ability and managerial judgment, which have been devoted exclusively in the past to the extension of the business of the Buick Motor Company, will now be used to assist President Neal in carrying forward the projects of the big automobile enterprise.

Among his records as a driver are the following runs: Oakland to Sacramento, San Francisco to Del Monte and return around the bay and Los Angeles to Santa Barbara. He was also one of the drivers of the Cadillac that now holds the San Francisco to Los Angeles record.

ELECTRIC CAR MAPPING ROUTE
Flanders Machine Pathfinding Way for Next Glidden Tour.

Gradually the electric car is widening its scope and gaining the confidence of the gasoline men. Last week a Flanders electric left Detroit to pathfind the route of the next Glidden tour, which will start at the hub of the automobile industry and terminate at New Orleans. This is the first time that the notable endurance run will be mapped out by an electric car.

The Flanders car is well equipped for the grueling experience. Two speedometers are placed in front of the driver's seat. One will be used to check the other and make accuracy in mileage certain.

The car will be on the road at least three weeks and W. O. Westgard, official representative of the American Automobile Association, has a big job on his hands making a minute-by-minute map of the entire distance from Detroit to New Orleans. Every school house, church and distinctive dwelling, as well as every road crossing, river

and bridge, will be down on the finished map.

New Goodyear Branch Opened.
San Francisco's automobile row was given an added tone of elegance recently, when the magnificent new branch of the Goodyear Tire & Rubber Company was opened. The two-story building now occupied by the tire concern is located at the northwest corner of Van Ness avenue and Sutter street. It is one of the most handsome structures along the row.

Marshfield-Portland Trip Made.
Mr. and Mrs. William Grimes, of Marshfield, motored to Portland from their home town last week. Mr. Grimes declared on his arrival at the Cornelius Hotel that the roads, for the most part, were fairly good. He found few really bad spots and had no particular difficulty in making the trip.

Packard Agent Returns.
Frank C. Riggs, distributor for the Packard, returned yesterday from a six weeks' trip through the East. He was accompanied by his family. Mr. Riggs toured extensively and spent a few days at the Packard factory.

The pleasant girls of Russia sell their hair for a sum which amounts to less than a dollar a pound, and their tresses bring \$1 or \$1.5 in the London hair market.

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Get a Little
**TELEPHONE
HERALD**
You know what it is, don't you?
No! Well—see full explanation,
page 6, section 1.

Cartercar
Friction Transmission. Self Starter, Certainly!
**Speed with safety—
power with easy control**
The Cartercar has speed for the good roads and plenty of power for the bad—with such easy control and comfortable design—that it rides and drives easily at all times.
A tremendous pulling power is provided by the friction transmission. It has no gears and is jerkless and noiseless. You also have any number of speeds—controlled with one lever. This adapts the car especially to country conditions.
The self-starter makes driving very delightful—especially for ladies. Full floating rear axle, chain-in-oil drive, three strong brakes and many other features combine to produce the remarkable Cartercar efficiency.
Five splendid models, touring cars, roadsters and coupes. Priced at from \$1200 to \$2100. Let us send you complete information.
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