

STEWART EXPLAINS MITCHELL MOTOR

J. T. Stewart Tells How Power, Flexibility and Economy of Engine is Developed.

MUCH CREDIT DUE ENGINEER

To answer the numerous inquiries as to how power, flexibility and economy in the Mitchell six motor with an engine of 35-hp is developed, J. T. Stewart gives some reasons.

"The quality of materials, accurate workmanship, and the ingenious design of J. W. Bate, the engineer, may be analyzed as follows: It being necessary in any five or seven-passenger car to have power, Mr. Bate set to work to give that to his engine without multiplying complicated parts, and by increasing the efficiency of the 'L' head engine, doing away with overhead valves, rocker arms, over head cams, extra gears, etc., he gives a clean cut design with every part enclosed, even to the water manifold and intake manifold being cast inside of the cylinder block. The L head motor makes the large valves with full 1 1/4-inch clearance possible, a size impossible in valve-in head of the same size bore. The removable cylinder head makes it possible to machine flat surfaces at the top of the cylinders, thus avoiding any gas pockets and outgoing exhaust. The timing of the valves being vastly important, this motor has the benefit of seven years of six-cylinder building of Mitchell models by Mr. Bate. The heat generated by the exploding gases giving power to any motor, is taken advantage of by Mr. Bate, and there is no more cooling surface than is absolutely necessary. A sheet of water in the water jacket of the removable cylinder head lays directly over the tops of the cylinders and valves. A sheet of water almost completely surrounds each cylinder and the valves, but these jackets are short, being designed to absorb only the heat necessary.

"The desired flexibility of the red-piston parts is produced by having the pistons and connecting rods just as light as possible. Large holes are drilled through the pistons and the insides are machined to remove any superfluous metal, lightening the weight down to 1 1/2 pounds, which is exactly the right weight. "There could be considerable loss of power in any motor due to leaking of compression between the pistons and cylinder walls. This is taken care of in this motor by use of soft steel leak-proof rings, mounted in multiples of four in each groove on the piston. The crank shaft bearings are ground down true to a limit of one-half thousandth of an inch, and a perfect balance of the crankshaft with fly-wheel attached is required.

Overland Stock Car Grabs Third Place in Phoenix Classic

The showing made by an Overland stock car in the Arizona Grand Prix race held recently at Phoenix, brought the 20,000 spectators of the 150 mile event to their feet.

In competition with an even dozen cars, specially built for racing, and driven by nationally known race drivers, the Overland finished third. Earl Cooper took first place in a whirlwind finish, crossing the line a few seconds ahead of the two other leading cars.

The Overland had the distinction of being the only bona fide stock car in the contest. The motor, chassis, transmission and all other parts were regular equipment. With the exception of an aluminum body, it was identical to the same car that is shipped by hundreds every day from the big Toledo factory.

Its performance in the race was the more remarkable as practically every other entry was a specially built and designed racing machine. Nearly all of them were speed models that had won their spurs in the biggest motor car races held in this country and they were piloted by experts who had gained world fame as winners of many an automobile classic.

Ed Waterman, driver of the Overland, had such well known talent arrayed against him as Cooper, Oldfield, Parsons, Stabe, Wood, Durant and a half dozen others, prominent in racing circles. When it became known that Waterman had entered his Overland against the cream of the racing fraternity, the best his friends could hope for was a creditable showing. No record for him to finish ahead of any of the speed marvels and he was not considered as a dangerous contender for honors.

Saxon Shipments Show Increase of a Thousand Per Cent

Figures just made known show an increase of more than 100 per cent in shipments of Saxon cars during November over the record made in the same month a year ago.

It has also been announced that the month of December opened with orders on hand for 2,500 cars, specifying earliest possible delivery. The business, according to information received, is approximately equally divided between the six-cylinder and four-cylinder models.

The month just closed set a new record for output at this season of the year, and it is certain that December will surpass the November shipment. Production for this month will be triple the number of cars originally scheduled. It is expected that this month will show an output of more than 2,000 Saxon cars.

At the present rate the Saxon Motor Car corporation will show a production of more than 21,000 cars for the year of 1915, representing a value of approximately \$12,500,000. For the fiscal year from August 1, 1915, to July 31, 1916, the schedule calls for 27,000 machines, with a value of \$17,500,000.

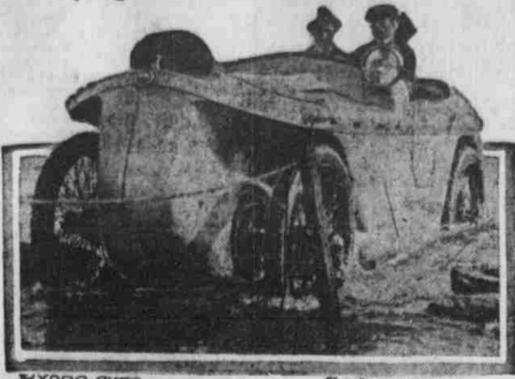
HYATT ROLLER BEARING COMPANY INCREASES FORCE

The rapid extension of the service by the Hyatt Roller Bearing company, now being made nation-wide, has necessitated many additions to the personnel of the various service branches.

J. R. Remington, formerly in charge of the Hyatt direct service branch at Atlanta, Ga., has been made service manager at Chicago. He will succeed J. R. Phillips. R. B. Campbell, recently manager of the service branch at Detroit, goes to Atlanta, Ga., to take charge of the work in that territory. J. W. Taylor, a new man in the Hyatt organization, has been named as service manager at Detroit.

Dr. Bell's Blue-Tar-Homeo comes your cough, loosens the mucous, strengthens the lungs. The first dose helps get a bottle today. Only 50c. All drug stores.

Trying Out New Land-Water Craft



HYDRO AUTO. The picture shows the hydro-auto, the latest type of land and water conveyance, during a tryout. In its trials it showed considerable speed as an automobile on land and attained between thirty and forty miles an hour in the water. It is fitted with both wheels and propellers and needs no change of mechanism in coming from the water to the land.

Heard At the Omaha Automobile Club

Secretary Clarke G. Powell will leave shortly after Christmas on an eastern trip and will visit the large automobile clubs of the east to pick up data concerning membership campaigns. "The Omaha Automobile club has done remarkably well this year and it is going to keep up the good work during 1916," remarked Powell. Powell and achievement have always been synonymous; so that 1,500 membership for next year is as good as gold.

Fat Finances. The sinking fund this year has grown from \$11 last December to nearly \$1,800 at present, or an increase of close to \$1,600. And the general fund, after a year of real accomplishments, which took money to see them through, is right around \$500.

Gould Dietz, treasurer, says he is going to hire a colored boy to lug the money to the bank if the members keep coming in the way they have the last year.

Call for Hustlers. We want more hustlers. Listen, you enthusiastic members. There are dozens of members who have brought in from one to half a dozen new members the last year and we are anxious to see this "honor roll" grow fatter. In the large clubs of the east hustling committees keep their eyes peeled for a "friend in need" of club benefits.

Here are a few of the "willing workers" on our honor roll: Dr. Kam, Samuel Friedman, Sam Burna, Jr., Gould Dietz, E. W. Hart, C. L. Gould, K. F. Peterson, J. E. George, Barton Millard, A. L. Shaffer, E. A. Clark, Randall K. Brown, Frank W. Pfeiging, W. B. Cheek, Clarke G. Powell.

Many Signs Placed. Over 800 square feet of board (or a total of 1,221 signs) was used during 1915 in making direction and danger signs to place on the roads. These signs vary from 6x30 inches to as large as 2x6 feet. The present system of making a uniform sign has been worked out by C. L. Gould, chairman of the road sign committee. Each name is painted in black on a white background, with a red stripe running through the name so that a small arrow can be nailed on the end most convenient for directing traffic. The sign work has cost the club this year about \$400. This includes all cost-making, erection, drivers' time and upkeep of the sign car. The sign car has covered Douglas, Sarpy, Washington, Cass and Dodge counties and there isn't a motorist in Omaha who has not some time been thankful for these direction boards.

Roads and Bond Issues. Sandwiched in among paragraph after paragraph in the road maker, telling of the bond issues in different states and counties for the paving of county highways, we find this unenviable record of what Nebraska is doing for permanent roads: "This state (Nebraska) is not feeling particularly proud of the report of the Department of Agriculture, which shows that it stands next to the bottom in permanent road improvement with .3 of 1 per cent of surface roads." Vote for the bond issue next spring!

Cost of Bad Roads. The road committee of the county board of Brown county, Wisconsin, declares that over \$200,000 has been wasted in the last ten years by constructing cheap (dirt) roads. A bond issue for \$20,000 for paving eighty-five miles of highway is certain to pass up there. State engineers of West Virginia produced figures which proved that bad roads cost that state \$20,000,000 a year.

What Others Are Doing. King county, Washington, in which Seattle is located, has over \$2,000,000 available for road construction. Doug county has more population and it is time for the bond issue.

One hundred and sixty miles of permanent highway at a cost of \$400,000 have been built in Montana and Idaho in the last two years.

Massachusetts will have nearly half of its counties using prison labor on roads next year.

Green county, Iowa, on the Lincoln Highway, will build six additional miles of gravel road next year on this overland route.

Indiana has, during the last eighteen months, built sixty-eight miles of paved road on the Lincoln Highway. Noble county, same state, will vote on a bond issue to build a permanent road twenty-one miles long and fourteen-foot wide across the county.

Hubbard county, Minnesota, has just completed ninety-one miles of fine highway, built under direction of the State Highway commission.

State Highway Commission Needed. Nebraska is one of only four states in the country which has no State Highway commission. Talk it up for the next legislature.

Electricos Are Growing Popular

According to H. H. Hawke, in charge of the Detroit electric unit of W. L. Huffman's business, Omaha looks with great favor on the electric automobile. The following sales were made during the last few days: W. A. Leet, Lem Hill, W. A. Gordon and Charles Grotts of Omaha; Mrs. Flora Grimes, Lincoln, and W. A. Mauerer and E. H. Luncey, Council Bluffs.

Gossip Along the Automobile Row

M. O. Wolcott has joined the sales force of the W. L. Huffman Auto company. He seems to be as enthusiastic as the rest of the Huffman crowd over the new Chalmers 6-30.

L. R. Kesterson, manager of the W. L. Huffman's Sioux City branch, was in the city for a few days last week. Mr. Kesterson says that the new Chalmers 6-30 is the "talk of the town" up in that territory.

R. L. Alley, branch manager of the Lincoln branch of the W. L. Huffman company, came to Omaha last week to be on hand to welcome the new Chalmers.

T. M. Bromwell of the Oldsmobile Sales company is very much elated over the good news just received from the Olds Motor works advising that the eight-cylinder production is being increased every day and that Omaha is going to receive a number of eight-cylinder cars for delivery this month. "Let them come," says Bromwell, "as we have a waiting list as long as your arm that will grab them as fast as they arrive."

"The good weather that we have been having has brought about such an increase in demand for Oldsmobiles that if we did not look at the calendar we would think that spring was opening. Our dealers during the last two weeks have been using more cars than at any time since last fall and every indication

points to one of the best winter selling seasons that we have ever had," said one of the officers of the Oldsmobile sales company.

How Much Does Your Name Weigh?

How much does your name weigh? Not with the cashier at the bank, but what is the actual, physical weight of the pencil marking of your signature? Think it can't be weighed, eh? Well, it can, and if it consisted of, say, seven letters and two initials with periods, the weight would be about four ten-thousandths of a gram. And there are 453 grams in a pound. And the delicate apparatus that weighs it could weigh it if it was a thousand times as light.

Of course, the "analytical balance" (don't call it a scale unless you want to earn the contempt of the chemist) is not ordinarily used for weighing names. It has a definite place in laboratory work and at the plant of Dodge Brothers, Detroit. It is used in the fine tests on the composition of the materials which enter into the making of motor cars.

But the weighing of a signature is used to carry to the lay mind the delicacy of the instrument. A piece of paper is placed on the balance and accurately weighed, and then a name written on the paper and it is weighed again. The difference in the weights gives the weight of the name and, as in the case cited above, the weight of a signature of nine letters with two periods was four ten-thousandths of a gram.

A Room for the Roomer, or a Roomer for the Room. See Want Ads Do the Work.

Hupmobile Makes Record Run Across the Hawkeye State

Starting from Clinton, Ia., at 6 a. m. and arriving in Omaha at 4:42 p. m., including all stops, over the Lincoln Highway, in a 1916 Hupmobile, was the remarkable run made by C. J. Rose, Hupmobile district manager, and W. H. Crossman, Hupmobile dealer, of Clinton, Ia. The distance is 280 miles. W. H. Huffman, Omaha distributor of Hupmobiles, met the party at Missouri Valley and escorted them to Omaha.

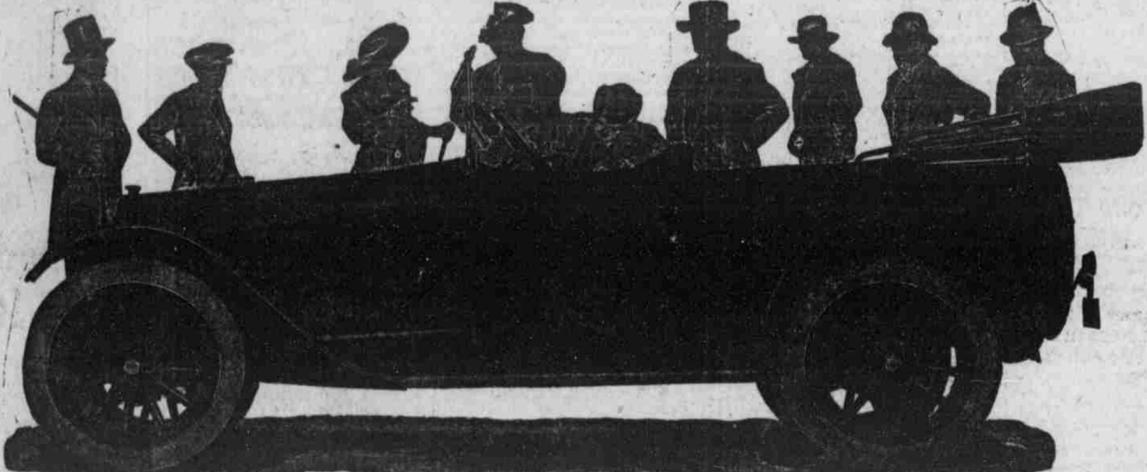
"Mr. Crossman, driver of the car, said: "We feel that we have clearly demonstrated the wonderful power and flexibility of the Hupmobile motor by making this run with only our high gear in the car."

Mr. Rose said: "After making this run it is easy for me to understand why we are getting repeat orders from the warring nations. Hupmobiles in war service have responded to the most severe tests, as did ours in making this record run today."

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On any corner where the Mitchell SIX of '16 stops you will find an admiring crowd. The sturdy beauty of line—long wheelbase—impresses itself even on casual acquaintance.

Its value is apparent at first sight. Its equal has never before been offered by us or anyone else. Every car delivered creates an enthusiasm that sells another.

Words cannot describe "THE SIX of '16." You must see it—handle it—get the personal touch. The Mitchell dealer in your town has a car ready to demonstrate for you.

It is a real car, with powerful, flexible motor, long wheelbase, and all this implies in satisfaction, comfort, roominess and beautiful line. It is the most successful car built. Its light weight—2925 pounds—insures fuel economy and ease of handling.

Three-Passenger Roadster **\$1250**
Five-Passenger Touring Car
Seven-Passenger Body \$35 extra. Demountable Sedan Top—making all year round Car—\$165 extra.
ALL PRICES F. O. B. RACINE

The new Bate Cantilever Spring—which has earned the admiration of the motor world—insures a riding quality that smooths out the roughest road—gives to riding an added pleasure.

Prompt deliveries are now being made by Mitchell dealers everywhere.

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