

LIBERTY MOTOR IS DECLARED SUCCESS

Real Facts About Engine Told by President of Society of Automotive Engineers.

CRITICISM NOT DESERVED

Charles F. Kettering, in Important Article, Says If Liberty Motor Knew Things Said About It, It Would Be Discouraged.

BY CHARLES F. KETTERING, President Society of Automotive Engineers.

Our country has produced several classic, I believe that none of us doubts the success, the fundamental success, of the recent Government standard designs of automobile apparatus. Any of you who have been around the plants where the articles are being built must be impressed, regardless of bias, with the fact that the product is fundamentally correct.

We have produced the so-called Liberty motor. I found to my surprise the other day that many people did not know that one of these had even been completed. The lack of appreciation by many of what real manufacturing is of what is necessary to produce things so essential as those Government standard designs, has caused a waste of much printer's ink and paper. National issues have developed out of the length of a bolt and the depth of a radiator to an extent that I did not believe possible.

In ordinary manufacture, if a radiator did not cool an engine under certain conditions, it would be discarded. The question is, do you want the radiator so large that you can cool the engine perfectly at wide-open throttle going up the first 10,000 feet, or do you want the radiator so proportioned that it will cool the engine properly or keep it warmed properly up in the business district.

Liberty Oiling System. Nobody cares anything about this sort of thing down here. Up there is where you are doing your work. There are a few problems regarding the matter of cooling that are more a matter of opinion than of mechanism. We know enough about the subject of radiation to provide the particular type of cooling needed without making it a national issue.

They say we are having all kinds of difficulty with the engine, that we are having trouble with the oiling. I have seen a good many engines of all sorts, and I believe that we have not had more trouble with the Liberty engine than is usual in engine manufacture. As a matter of fact, in every new model of engine produced there is always a certain amount of difficulty in the design of the lubricating system.

I am going to give you a very simple account of an incident in Dayton the other day. Two gentlemen from Chicago came there to see me regarding some business matters. Each of them had two sons in the aviation corps. They looked worried, and I said to them: "What is wrong with you fellows?"

One said: "If you had two sons in the aviation corps, you certainly would be worried. We have no engines, airplanes or anything else. This confounded Liberty motor is a failure, a great joke perpetrated on the American public. I am going to Washington."

I said: "There is a train at 3 and another at 8. I will skip the 3 and take the 8 o'clock train."

We went to an airplane factory in Dayton and came to one lone Liberty engine. He said: "My God! Have they got one done? Have you had this in a plane?" I said: "No, never had this in a plane." He said: "Why don't you put it in a plane?"

He walked about and finally into an aisle and saw about 75 Liberty engines in a row. He said: "What are they?" I said: "Liberty engines." Where did you get them?" I said: "The nameplates on them tell where they are from, some from the Packard company, some from the Lincoln Motor Company."

Critic Goes On. He asked: "How long have you been getting them?" "Right along." "How many have you had?" "Two hundred fifty or 300." He said: "I have seen Chicago the other day they never made one of them." I said: "We can't control what you are told in Chicago, we can only take the engines as they ship them in."

He went about and saw one of the airplanes and that we not actually built a machine. He said: "You can't get the engines off the ground. I said: 'Partially true; you can't get them off the ground unless you run them.' He asked: 'How fast do they go?' I said: 'That is a question. Would you like to ride behind one of these engines? I can't show you by conversation anything about it.'

He said: "I have never been up." I said: "You had better take your initiation right now. Here is a stopwatch. Just as you leave the ground press that and when you pass 10,000 feet press it again, and when you come back tell us."

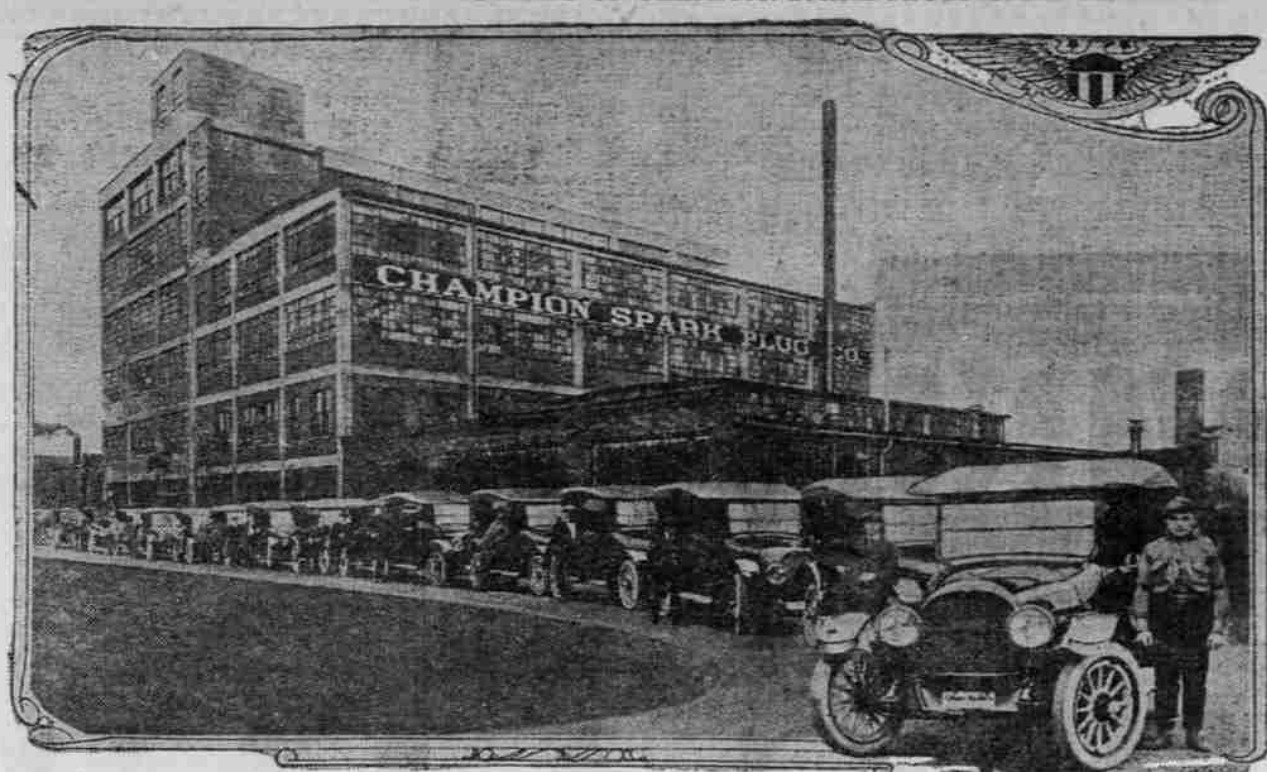
We sent him up and he came back. Talk about a transformation. He was not the same fellow that went up at all. He had forgotten everything about being scared and being 10,000 feet in the air. He said: "My God, we got up 10,000 feet in a little over seven minutes." We said if you would like to take another ride, we want to show you how fast we can go. He said: "No, I don't care to go up again, but my friend will go on the trip." The friend went up and we ran him over a measured course and he came back saying: "Getting better than 135 miles an hour."

Those men went back to Chicago contented with their experience. They said: "Wait till we get back there, we want to see some of those fellows who have been telling us that we have no engines or airplanes." They had some facts they had gotten first-hand.

There are a few very important facts and here is a very simple one that perhaps the other side of the Liberty engine cannot read; it has no ears; therefore it does not know anything about the criticism that is going on about it. However, I do as if I know whether some of them would get off the ground. I think they would be too discouraged to try.

But knowing nothing of the situation, they are doing admirably, and the engine today, as near as I have been able to analyze it, knowing something of aviation engines, is as good as if not better than has ever been created. It is being produced in quantities. They shipped the thousandth engine several days ago, only two companies having been in production. One of these has been in production for about 40 days. The Ford Motor Company has tested its first engine and put it

WILLYS-KNIGHT CARS TOTE THOUSANDS OF CHAMPION SPARK PLUGS IN BIG DRIVEAWAY.



EACH CAR WAS EQUIPPED WITH AT LEAST FOUR CHAMPIONS AND, IN ADDITION, CARRIED A BIG LOAD OF THEM.

In one respect at least the drive-away shown in the picture is probably the largest ever undertaken by any dealer in the country since this method of delivering motor cars came into vogue. Not in the number of cars involved, but in the number of spark plugs they carried. Being Willys-Knights and Overlands, each car was equipped with no less than four champion spark plugs when it left the factory, but before they arrived at their destination they were carrying thousands.

The Gibson Company, of Indianapolis, one of the biggest distributors of Overland cars in the United States, has kept the dust flying between Toledo and that city with drive-aways ever since the Spring selling season opened. During one of these recent drives the manager conceived the happy thought of killing two birds with one stone. He wired his drive-away captain in Toledo to stop his cars at the Champion spark plug plant and load up with a shipment of plugs that were needed in a hurry. The stop-over was made and in less than an hour each car was loaded with a case of Champion spark plugs snugly fixed into the tonneau and padded all around so as to prevent any injury to the interior finish of the car.

F. B. Caswell, sales manager of the Champion Spark Plug Company, says this is the first time in the history of their business that a train of passenger cars has left the factory loaded down with the Champion spark plug.

through the official 50-hour test. The same thing is true of the Cadillac Motor Car Company and of Buick Motor Company. The Marmon Company is, I believe, putting its engine through the test now.

Engine Will Answer for Itself.

It has not been a year since the first one of these engines was put together experimentally. It is a new product, a new order of things, which people are not familiar with. It is perhaps because we do not analyze these conditions that so much criticism and gloom have spread over the country. There is only one thing that will answer the criticisms, and that is the engine itself. But I think it will be very gratifying for you to know some of the simple facts. We can show you things in Dayton that would gladden your hearts and brighten your eyes. And Dayton is only one place of activity in this matter.

When I was coming down from Chicago the other night two fellows were talking in the smoking compartment. One said: "I understand this plane they are making in Dayton isn't it off the ground?" A friend of mine was down there the first day they tried it."

I said: "That is right, I was there. He asked: 'Have they ever been able to get it off the ground?' I said: 'Yes, getting an airplane off the ground is like the case of the fellow who bought the barrel of apples from an Irishman and said, 'No, sir, I don't intend to buy any more apples from you, because the other barrel you sold me had a few good apples on the top and the rest were worthless.' The Irishman said, 'My friend, it is not my fault; you opened the barrel at the wrong end.'"

The momentous occasion which was mentioned and of which an account was published, happened in this way: A manufacturer desired to try out some propellers. He sent four experimental ones. His letter read something like this: "I am sending you four experimental propellers. I don't believe the No. 1 propeller will fly the machine, but it is very important that, if you get into the air, you record the revolutions per minute at which the engine is turning. I think the No. 4 propeller will be perfectly satisfactory, but in order to get the data I need I am sending all four."

How a National Fight Was Started. Now the men who unloaded the propeller boxes did not know anything about the letter; they unloaded the propellers and the boys were going to make the test and the boys opened the one nearest the machine, which happened to be the No. 1 propeller. This propeller was tried on a plane, marked no good and put back into its box. It had not run at a sufficient number of revolutions to make a flight worth while. The next propeller which happened to be lying there was No. 4, and a very nice flight was made with it.

There is one thing we ought to get into our heads, that I think we have not appreciated entirely, and that is the fact that if not a single mistake had been made in any one of the Government proceedings we would have been delayed from three to four months in obtaining the amount of tools needed because of the congestion in transportation in addition to the extraordinary demand.

Some months ago I asked a leading automobile manufacturer connected with the aircraft production whether he expected to be able to get the tools he had to have. He said: "In the last 10 years I have put over \$25,000,000 into machine tools and there is not a manufacturer who is not going to give me what I want." He ordered his gear cutters and lathes (the difficulty) machines and what-not. When I saw him a few weeks later he asked: "Look at this sheet. Those are my delivery dates. Now don't you think I can get the stuff?" I am an old hand at this game. That was all right until the priority board said: "These tools are needed more elsewhere." He got only a small percentage of the tools he expected within the specified dates. He endeavored to get thread gauges and other articles, and the same thing happened. I saw him a few weeks ago and he had not received all he had ordered. There is universal delay in such things and it is always interpreted against the particular thing that the particular critic wishes to criticize.

Now For Real Results. The airplane products are coming along fast. There has been some delay on account of our inability to decide finally on machine-gun equipment and types of bombing devices. While waiting until final decisions were received from the other side (the difficulty) has not been all on this side; there has been a change of mind on the other side not infrequently, I assure a thing was started has been stopped and then started again. We have had confusion on account of changes in specifications.

There have been put into the great Governmental and industrial organizations thousands of people who have been unfamiliar with manufacturing methods. We have had that to contend with. That sort of thing is wearing away. It is becoming more appreciated that people who have spent all their lives in the shop really know something about it and that those who are able to produce for the Government

TRUCK LINES WANTED

MOTOR ROUTES TO BE ENCOURAGED AS WAR MEASURE.

Committee Named to Recommend Routes and Arrange for Use by the Rural Population.

WASHINGTON, July 6.—Full use of motor trucks operating on the highways and a great increase in the operation of rural motor express routes are the objects of a campaign of information and encouragement that has been started by the National motor committee of the National Automobile Chamber of Commerce.

Patriotic desire to stimulate food production and develop practical means of getting it to market is the motive of the committee, which has organized for the purpose a special department under the direction of S. A. Miles, with headquarters in the offices of the National Automobile Chamber of Commerce, at 7 East 43d street, New York.

An investigation of existing rural motor express lines made by the highway transport committee of the Council of National Defense has produced conclusive evidence that they are of great utility to farmers and rural merchants, that they encourage increased production of food by assuring quick and regular daily means of shipping to market and that there are possibilities throughout the country for establishment of many more similar lines with assurance of success where conditions are favorable.

As a result of this investigation the automobile industry has tendered its enthusiastic support of the movement as a patriotic duty. Manufacturers and dealers will at once be asked by the National motor truck committee to co-operate by searching in their respective localities for routes over which motor express lines may be started and along which the rural population seems to justify expectation of profitable operation. They will also be requested to induce men to place trucks in such service to assist prospective operators in the selection of routes and with advice as to details of operation and management of the business.

CLOSED: FLAG SHOWS WHY Gasoline Filling Station Man Off to the War.

James Newton Gunn, president of the United States Tire Company, who, like other executives of his company, practices what he preaches by using his car to the relief of the railroads when visiting the company's various plants, is the discoverer of a picture that is really an epic and eloquent of the times.

Back in the hills of Connecticut the tire man came across a little roadside gasoline service station, picturesquely set in a hollow. The familiar "red sentry" guarded a neat structure, with boarded windows and barred door. Placed squarely across the door was a service flag bearing a single star.

Save Your Thermos Bottles. It is not uncommon to have the containers of thermos bottles break from the vibration of the car. By placing the bottles with the top end downward

WALLINGFORD AT FACTORIES Liberty and Premier Distributor Hopes to Get More Cars.

W. H. Wallingford, Liberty, Briscoe and Premier distributor here, is in the East for the second time in a few months to arrange if possible for more cars. Both the Liberty and Premier factories are doing so much war work that it has been difficult for some time to obtain cars from them. He intends while East also to see about getting more Parrett tractors, for which he is the Oregon dealer.

See that the wheels are in line once a month.

Out-Grown Our Clothes The splendid patronage of the Portland people compels us to lease larger quarters. We are now prepared to change all batteries inside instead of on the street.

PHILADELPHIA DIAMOND GRID TRADE MARK

Get Van's Advice Before Repairing Your Battery

Rental Batteries for All Makes of Cars Always on Hand

EIGHTEEN MONTHS' FACTORY GUARANTEE made good by us.

SEE US IN OUR NEW HOME Half Block Farther North

VAN MATRE-HOWARD BATTERY CO. 48 North Broadway

Look for the Red Electric Sign "Van the Battery Man."



STYLE-LEADER IN AUTOMOBILES

The Jordan Sport Marine

The Jordan Sport Marine marks the advent of the mechanically excellent, properly dressed, and completely equipped motor carriage. This unusual car is distinguished by striking and exclusive features, including—

A NEW power unit, designed by the master engine builders of the world, produced by Continental and presented to the public for the first time by Jordan.

In this motor vibration is eliminated, speed accentuated, power increased, and a degree of economy attained that is in advance of the times.

A custom built, all-aluminum body, fifty pounds lighter, free from rumbles, and taking that beautiful velvety finish. Paneling in Honduras mahogany; upholstery in special hand-buffed genuine leather; beautiful tonneau rug.

Two optional colors, Briarcliff green and Liberty blue.

Fashionably low with five 32x4-inch wire wheels with carrier and five Silvertown cord tires.

Special speed gear ratio—seventy-five-mile speedometer.

Macbeth dimming lenses; sport clock; tonneau light empaneled in Honduras mahogany in tonneau.

Finest sport windshield made—with east aluminum supports.

Lin-Rubber covering on running boards and front compartment floor.

Traffic bumper; curtains opening with the doors.

At last—a real tailored top—with bevel plate glass.

The price complete \$2475 f. o. b. Cleveland.

JORDAN Suburban Seven, a seven-passenger job similar in design to the Sport Marine, with all aluminum body and other units of the highest quality known to the trade, viz.: Timken Axle, Timken Bearings, Continental Motor, Jaycox Steering Gear, Delco Ignition, Hand-Buffered Leather Trimming, with wood wheels, Firestone tires. Price \$2375 Cleveland. Come and see these new style leaders. They have created a sensation elsewhere and will repeat in Portland.

Mitchell, Lewis & Staver Co.

Distributors for Oregon, Washington and Northern Idaho BROADWAY AT OAK

and securing them so that they cannot move sideways, this trouble will be obviated.

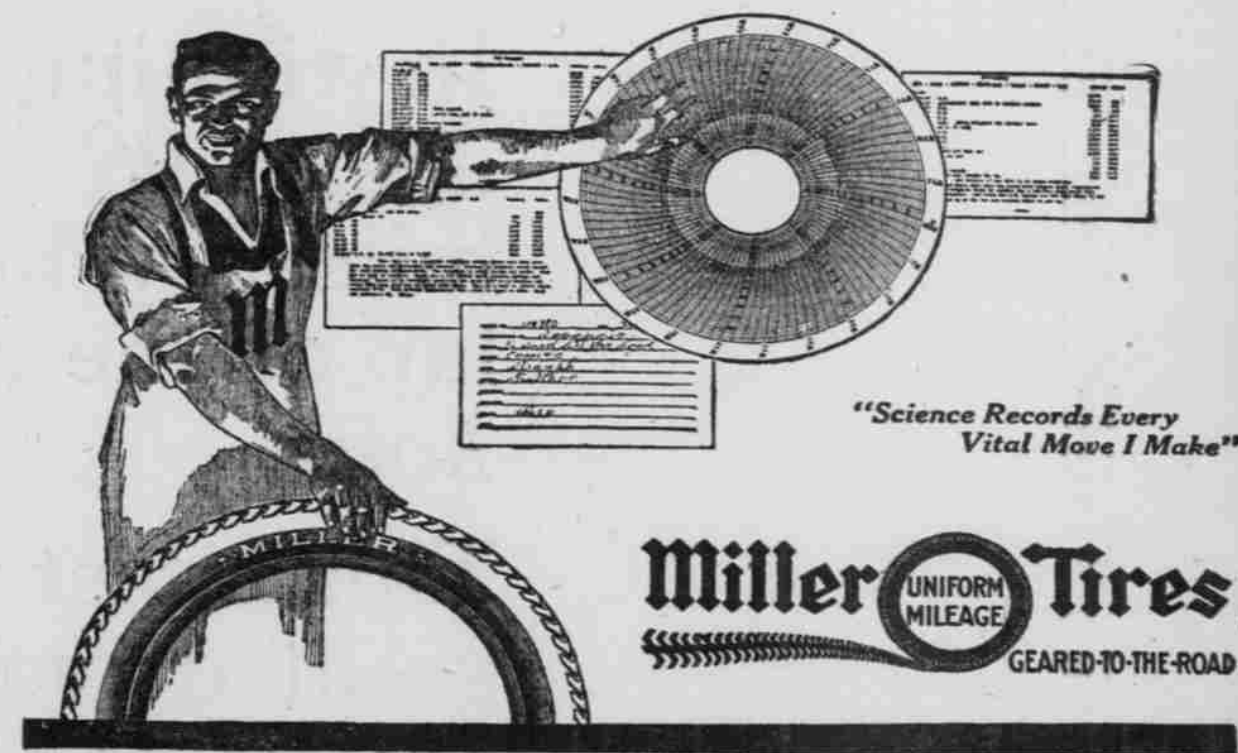
Ugh! Ugh! Ugh! Pete Lester, a roving prospector of

th modern school, brought a nice bunch of "samples" on his last trip off the desert to San Bernardino. When he reached into the tonneau of his Chevrolet to pull out a sack of

foats two large and lively rattlesnakes dropped to the running board. San

Bernardino County is "dry," so Lester says he is unable to account for the two wriggling motor enthusiasts he hauled for many miles.

Take up all lost motion in your steering gear and oil.



Uniform Mileage

The Crowning Tire Triumph—Due to Uniform Tires—Built by Champions

A MIGHTY response has greeted Miller's announcement that Uniform Tires are now an achieved fact. That this world-gift is ready—that stabilized mileage is here after years of vain trials.

Previously, Miller Tires differed in mileage as others do. Now 99 Millers in 100 outrun standard guarantees.

Mechanical methods do not account for this triumph. For they are shared by all makers. But Tires contain much handwork. And Miller has excelled by conquering "human variables."

To make workmanship uniform, Miller had to make workmen uniform. They had to take picked men only. Then they had to make each man a master tire builder.

Tires 99% Excellent Today these Miller experts are called world champions.

Miller Cord Tires are the fine, big fellows with the extra large air capacity. There is nothing more luxurious, yet they cost less per mile than the regulation type.

NORTHWEST AUTO CO. F. W. Vogler, Pres. C. M. Menzies, Mgr. Broadway at Couch, Alder at Chapman