

Horsepower of Engines Proven by James Watt

Scientist in 1765 Had to Show Comparative Strength of His Novel Invention.

By E. A. DEWATERS, Chief Engineer Buick Motor Company.

To get at a clear idea of the term "horsepower," as it applies to power producing mechanism, we must go back to the year 1765. At that time James Watt had perfected his steam engine to a degree that made it practical and he was trying to build up a market for it. Like all inventors, Watt found a great deal of opposition to his efforts, and in order to stimulate sales he first found it necessary to educate the people to the value of his invention.

Watt knew that he would have to find some way of accurately contrasting the power of his steam engine against the power of horses, because the mine owners were not familiar with any other form of power. His first task, therefore, was to find out just how much power the average work horse possessed, or, in other words, just how much work a horse could do in a certain length of time.

Long Series of Tests.

Watt conducted a long series of tests, and as a result he ascertained that the average work horse could lift a weight of 150 pounds two and one-half miles per hour for 10 hours a day. To express this in other terms, he found that the average horse could do work equivalent to lifting 33,000 pounds one foot in one minute.

The term "horsepower," therefore, means the amount of power required to lift 33,000 pounds one foot in one minute. It has exactly the same meaning whether applied to a steam engine, a gasoline engine or an electric motor.

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In testing an automobile for actual horsepower, the gasoline motor and the electric dynamo are hitched together. The gasoline motor is then started, and its capacity for work is determined by suitable resistance and measuring instruments.

Electrical horsepower is measured in watts, one mechanical horsepower being equal to 746 watts of electric current. In other words, 746 watts is equal to 33,000-foot pounds per minute.

In the dynamometer test all factors are taken into consideration. The motor is put on a stand and connected up just as it is when in use. It is then started and as it develops power the indicating dials show the exact amount of resistance offered. The dials show when the motor reaches the top of its power curve; that is, the speed at which the motor develops its maximum of power. If, at the top of its power curve, the dials show that enough electrical units to equal 50 horsepower are operating against it, then the actual horsepower of that motor is 50 horsepower.

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Hudson-Essex Is Liked by Dealers

Local Distributor Finds Complaints on Models of Some Cars.

"Hudson-Essex coaches appeal to the dealer," said R. H. Davison of the Omaha Hudson-Essex company, local distributor.

"The dealer has become convinced that he must get out of the automobile 'game' and into the automobile business and merchandise his goods the same as does the dry goods or grocery man.

"Three years ago Hudson-Essex introduced the coach. Today most of the manufacturers of automobiles are building coaches.

"The closed car is the logical car and one that the public is demanding today. Over 90 per cent of the factory production at Hudson factory today is of closed cars and the tremendous gain made in 1924 of this company justifies the claim to the saying that it is building cars for the public and is looking forward to the time when the automobile business will be one of the leading merchandising units of the small retailer."

Davison states that the outside dealer complains that he cannot make money because of the large number of slow-moving models some manufacturers force him into buying. The capital is not available for them to handle this on a business basis. Quite a number of inquiries or dealers that we have talked to in the last month are telling us that they are going to handle only one line of cars, because in that way they can realize their aims of proper service to the customers.

"The word service is one of the most misused expressions in the automobile business, but service is one of the vital questions that all dealers and salesmen should give serious thought to at this time. It must be handled the same as other merchandise is handled. Then we will all realize more profit and satisfaction from the automobile business."

BALLOON TYPE SNUBBER MADE

Gabriel Manufacturing Company, according to William Powers, Gabriel Snubbers sales service, local distributor of Gabriel snubbers, was the first to recognize the requirements of the riding problem introduced by low pressure tires.

Gabriel designed the new balloon type Gabriel snubber especially to meet these new requirements.

"The new snubbers have two exclusive features which we regard as Gabriel superiorities," says Mr. Powers, "the necessary amount of free play to allow low air pressure tires to function naturally and absorb the shock of small bumps; the increased braking action required by balloon and low-pressure tires to snub and control the greater upthrow and stop galloping and rolling."

J. H. Hansen Host to His Employees

Cadillac Sales Force Plans to Make 1925 Banner Year in Omaha.

In keeping with the plans to make 1925 the most prosperous year since their establishment, the J. H. Hansen Cadillac company was host to its employees at a banquet held in the Cadillac building last Friday evening.

Mr. Hansen, in a short talk, told of the progress made and of his appreciation of the loyal and efficient services rendered by the employees, many of whom have served him for seven years. Eleven persons were presented with five-year medals. He told of the extensive plans mapped out for the present year and explained that these plans could only be carried out by a concerted effort on the part of every one and every one was unanimous in assuring him of extra efforts in helping put 1925 on the map as Cadillac's best year in this locality.

laboratories, an anti-chatter oil which is a perfect motor lubricant that does not separate and leave the motor in bad condition, and at the same time stops all chatter in the transmission bands.

In speaking of this new product, Mr. Anderson said:

"We tried many anti-chatter lubricants but could not find any that would completely satisfy us, but feeling certain that by the proper compound of materials, we could produce an anti-chatter oil that would give a real lubricant for the motor that would also eliminate the chattering in the bands.

"With this goal in view, some two years ago we started experimenting. After many disappointments and many times thinking we had solved the problem, we finally hit upon the combination which we are using today. This we have tried out thoroughly, giving it the most rigid tests, under all weather and road conditions so that we could be absolutely certain of its ability to thoroughly lubricate, and at the same time leave no sediment in the motor or transmission that would be harmful to them.

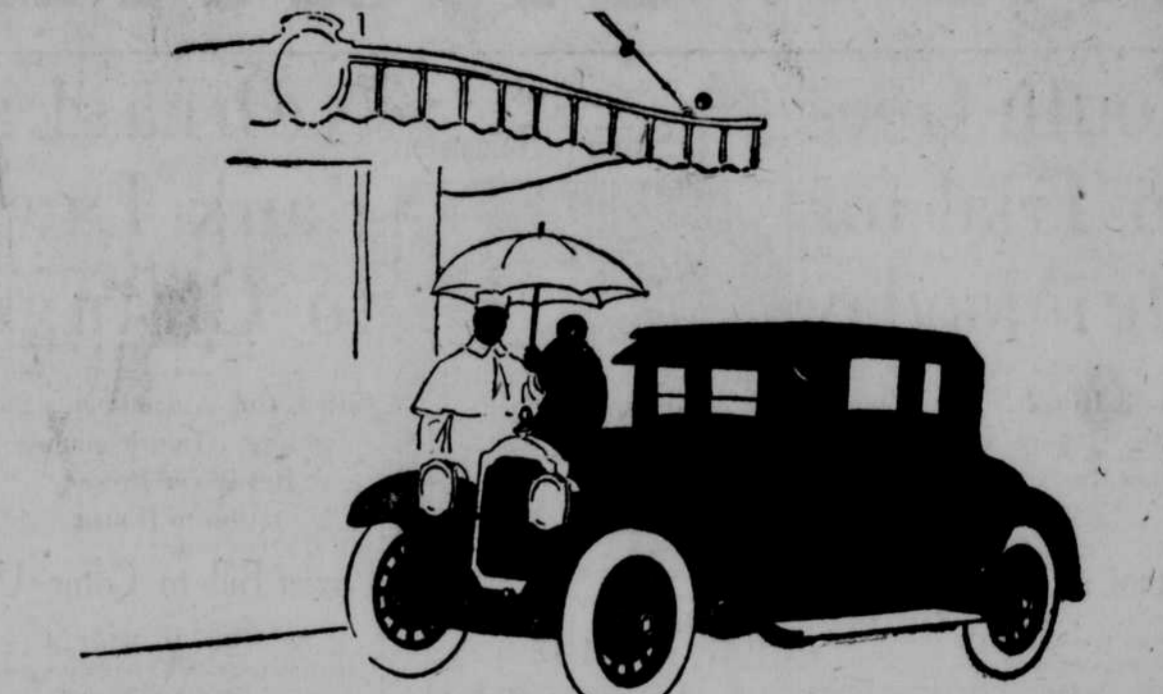
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ONLY PACKARD CAN BUILD A PACKARD



YOUR PACKARD IS WAITING

No car that Packard ever built has made friends so quickly and so numerously as the Packard Six.

Thousands who have always wanted the quality and distinction belonging to Packard now can gratify that desire.

Now, because of recently announced price reductions of the enclosed models, the Packard Six, in unchanged quality, is available to more men and women.

For example, the price of the Packard Six Four-Passenger Coupe has been reduced \$855—now \$2,985 in Omaha—with 5 balloon tires.

Richardson Motor Car Company
3016 Harney Street AT lantic 3250
PACKARD SIX
ASK THE MAN WHO OWNS ONE

Overland Price Cut Announced

Reduction on All Models, From \$35 to \$135 Now in Effect.

John N. Willys, president of Willys-Overland, Inc., at the New York show on January 6, announced substantial price reductions on the entire Overland line, ranging from \$35 to \$135. The touring and roadster were reduced \$35 each, the coupe \$50 and the sedan \$125.

This announcement, coming as it does, at the same time that the Overland is bringing out an all-steel line, creates a price and value never before equaled in the light car field. This announcement was coincident with Willys-Overland bringing out a new six-cylinder Overland line and a new six-cylinder Willys-Knight line, which attracted the greatest interest and comment at the show. Over 1,200 people attended the first showing of these models at the Broadway show room.

The two new lines brought out by the company whose activities have covered every phase of automobile manufacturing, created the greatest possible interest. The values on the Overland line, with the price reductions before mentioned, incorporated into a product such as has never before been presented to the public, will give the buyer the greatest value at the lowest unit cost as has ever before been presented.

Two cooks with but a single thought; two eggs that beat as one.

First Hup Made in Dingy Shed

Manufacturer Worked Night and Day Building Car for the 1909 Show.

"Turn out the lights, Charlie, it's morning."

A man, worn out from the strain of almost continuous day and night work for weeks, pulled himself up with an effort from beside the car at which he had been working, and walked slowly toward the window. Through its frost-covered glass he endeavored to look out toward the street. It was bitter cold outside, and the wind was howling a gale, driving the snow before it. He looked at his watch. It was after 7.

Slowly he turned and reached for the little carbon light—one of the two which the dingy shed boasted.

That was in December, 1908. The shed was the combined engineering department, laboratory, manufacturing building and executive quarters of the company that is now the Hupp Motor Car corporation. The speaker was Robert C. Hupp, for whom the car was named, and the car on which both he and "Charlie" had been working feverishly, in order to have it completed for the automobile shows, was the first Hupmobile.

"Charlie" is better known to the world today as Charles D. Hastings. For nearly 10 years he has been president and general manager of the Hupp Motor Car corporation.

On Sunday morning, January 4, 1925, Mr. Hastings arose to find that Hupp's newest car, the Hupmobile Eight, was one of the sensations of the annual New York automobile show.

The new eight is the companion car to the successful four-cylinder Hupmobile which Hupp has been building since the first car of 15 years ago.

The striking features of the new car, according to those among the thousands of applicants fortunate enough to secure a ride in it, are its freedom from roughness at all speeds, its flashing acceleration, the sheer simplicity of its design and its outstanding ease of handling, both in heavy traffic and at high speeds on the open road.

NEW CHEVROLET SHOW FEATURE

More interest was aroused by the display of the new Chevrolet line at the New York automobile show than has been accorded any new car introduced for more than a decade, according to veteran automobile men who have been present at the greater majority, if not all, of the 25 national automotive exhibits held in the eastern metropolises.

The exhibit was visited by practically every automobile representative present Friday and Saturday, the two days reserved for the trade, and it proved the mecca for the general public throughout the eight days following.

The general beauty of the line was most commented upon. The new semi-elliptic springs and longer frame vied with the new lines and roomier bodies in exciting praise. The Duco finish in colors for all models was another feature favorably commented upon.

Chevrolet factories are working day and night to full capacity to supply the demand for the new cars.

MOTOR CAR SALES SCHOOLS OPENED

Merchandising schools have been established by the Oakland Motor Car company of Pontiac, Mich., for the benefit of its entire dealer organization.

The first school was inaugurated at the home office December 17. Other schools will be located in geographical centers early this year.

In addition to the conduct of schools, the sales development department will treat such fundamentals as territorial analysis to determine sales possibilities; the duties of a modern retail sales manager; special selling campaigns; fleet business and how to get it, etc. Used car campaigns and a variety of similar subjects with which the automobile dealer is faced as he enters upon the new year, also demand more intelligent, intensive, systematic effort than past years have required.

MAXWELL'S NEW FOUR-DOOR SEDAN

Maxwell Motor Sales company last week announced a new four-door sedan at a price so low as to cause quite a stir in auto circles.

O. A. Wilson of Andrew Murphy & Son, distributors, says, "This new four-door sedan at \$1,995 price is going to meet a long felt want among the buying public.

"It is a very fine body both from appearance and quality and we expect a very heavy run on this model."

NEW LUBRICANT FOR FORD AUTOS

Having tried many brands of so-called anti-chatter lubricants for Ford cars and none meeting their requirements, the Nicholas Oil company has produced, in their own

A GUARANTEED Chatterless Oil for Ford Cars

AFTER approximately two years of experimenting in our laboratories we have at last perfected what we think is the best Lubricant for Ford cars on the market. This Special Oil for Ford Cars will eliminate the chattering of the bands and at the same time will not separate or leave any stringy substance in the motor.

Drive in at any of these stations---have your car drained out and refilled with Nicholas Chatterless Oil, drive fifteen miles. If the chattering of the bands is not eliminated your money will be refunded, provided the bands were in good condition at start.

- STATIONS
- 17th and Davenport
 - 12th and Harney
 - 18th and Jackson
 - 24th and H Sts.
 - 29th and Leavenworth
 - 30th and Farnam
 - 38th Ave. and Farnam
 - 30th and Cuming
 - 24th at Willis Ave.
 - 16th and Sprague
 - 49th Ave. and Dodge
 - 60th and Military
 - Main and Military, Fremont

Nicholas Oil Corporation
"Business Is Good, Thank You"

THE UNIVERSAL CAR

The most practical personal car for winter driving

The Ford Coupe is equally satisfactory for business or social needs in cold weather. Driving this convenient enclosed car, you will never hesitate to venture forth no matter how raw or blustery the day.

Light, yet affording all the power you will ever need, it will serve you faithfully every day. When heavy snow falls impede traffic, a Ford will carry you where heavier cars might fail. The seat is generously broad and comfortable. Unusual luggage capacity is provided in the rear compartment. Its low price and low cost of operation are factors that should influence your decision to buy at once.

Coupe \$520

Fordor Sedan - \$660
Tudor Sedan - \$580
Touring Car - \$290
Runabout - \$260

On open cars demountable rims and starter are \$85 extra
All prices f. o. b. Detroit

Ford Motor Company
Detroit

SEE THE NEAREST AUTHORIZED FORD DEALER