

METZ'S MARINE MOTORCAR, WHICH WE MAY LIVE TO SEE

FUTURE HOLDS GOLDEN EPOCH FOR MOTORCAR

Marine Auto, Inclosed Mechanism and Powerful Engines, Predicts Metz

4300 CARS MADE A DAY

Forecasts 24-Valve "Six" This Year—U. S. Motor Vehicle Center

Metz's View and Review of Trends in Motorcars

THE PAST PRODIGIOUS growth of industry shown by statistics—6000 cars in 1900; in 1916, 1,395,000 cars, worth \$1,100,000,000.

THE PRESENT Manufacturers are building this year 1,690,291 cars, worth \$1,200,000,000, and \$164,500,000 worth of tires and accessories. About 4300 cars are being produced each working day. There are 3,250,000 cars in use. Lighter, smaller units and higher speed are being developed. Eight and twelve cylinder cars are increasing, with four-cylinder cars predominating. The sixteen-valve four-cylinder car has appeared. All-year motoring is growing because of semiclosed body trend and electric lighting and starting systems and heating devices.

THE FUTURE "Saturation point" is far distant. American makers must meet world demand. Twenty-four-valve six-cylinder cars will appear this year. Radical changes will take place in body design, seating arrangement and, most important of all, mechanical arrangement. Ten years hence motorcars will be small; extremely powerful; kerosene-driven; equipped with electric brakes and transmissions, perfect tires and inclosed springs, wheels and axles, and of mechanism so accessible that owner can make repairs. Aquatic automobiles, equipped with propellers, will swim rivers.

By ALBERT G. METZ, Assistant Managing Editor Automobile Trade Journal

When one glances back into the "dark ages" of the automobile industry in this country, some eighteen or twenty years ago, and compares the production of cars in those days with present production figures, one is astonished at the tremendous growth of this yet-young industry. In the year 1900 the total output of all makers for the year was somewhat like 6000 cars, a sum fading into insignificance when placed side by side with the production figures of the year just closed, which reached the grand total of 1,395,000 pleasure cars, considering 300 working days, the average output at the present time is virtually 4300 cars per day. And when one takes into consideration the prosperous condition of the country, an output of nearly 2,000,000 cars for the year 1917 will assuredly be realized.

1917 OUTPUT

In an article published in the December issue of the Automobile Trade Journal, the production of pleasure cars for the year 1917 is estimated at 1,690,291. This number is not a mere guess, but the result of a careful compilation of figures given out by the active manufacturers of pleasure cars at the present time. In many instances the figures supplied are discounted, for the reason that many new makers are prone to overestimate their output, either as a result of too much optimism or from lack of knowledge as to the capabilities of their factories.

With the difficulty encountered at the present time to obtain material, many makers will find themselves hard pressed and will have to curtail their output accordingly. However, if the figures of the makers were truly based, the output would exceed the two-million mark.

From 1912, when 275,000 cars worth \$475,000,000 were produced, until the end of 1916, the motorcar industry grew at a prodigious rate. Last year 1,395,000 cars, worth \$1,100,000,000, were produced. This year, according to the plans of the manufacturers, 1,690,291 cars, representing a total value of \$1,200,000,000, will be put on the market.

\$1,200,000,000 IN CARS! Just think of it! One billion, two hundred million dollars' worth of automobiles are to be built this year! And these figures will more than likely be exceeded than not reached. It is hard to realize the greatness of this industry; even those intimately acquainted with the business fail to grasp the enormity of it. The average price per car has steadily decreased, even though the majority of manufacturers have increased prices since last year. This reduction is due almost wholly to the reductions made in price by two big quantity manufacturers.

The average price would naturally be higher were not the outputs of these quantity producers included. The average pleasure car in 1912 cost something like \$1700. This year the average price is about \$710.

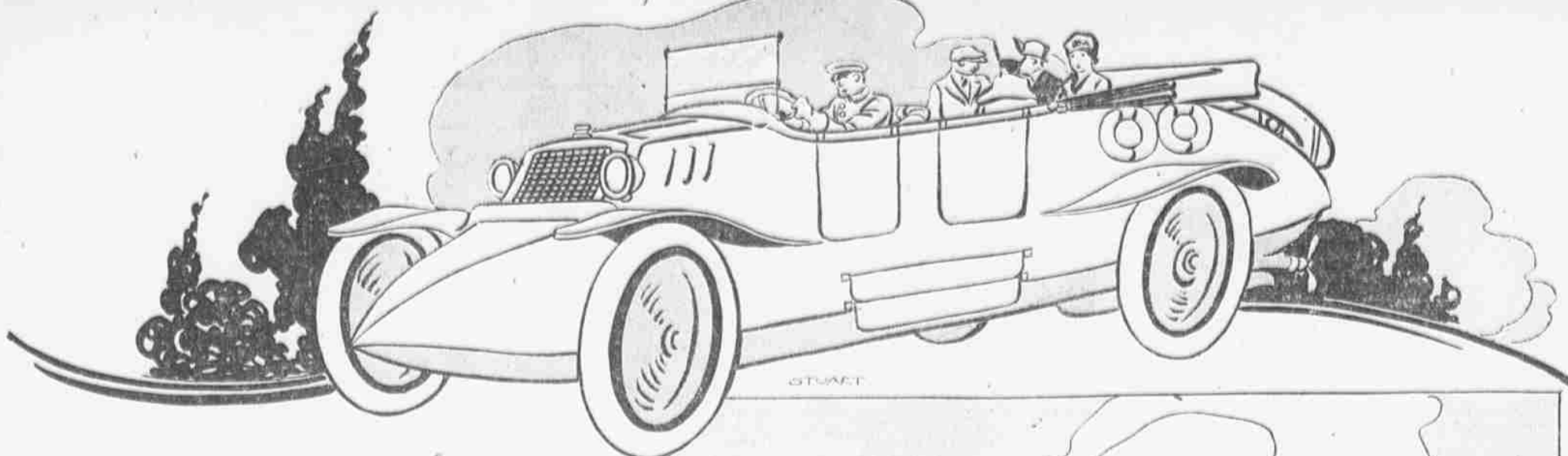
These figures take into consideration only one factor—the output of complete machines. How about the kindred industries that contribute their share to this greatest of all American industries, the manufacturers of tires, accessories, bodies, tops, upholstery, etc. Just imagine the business these concerns do, let alone the garages, repair shops, service stations and the retail sales concerns.

\$164,500,000 FOR EXTRAS At a low average, it is estimated that about \$35 is spent for additional accessories per car during the first year of its existence. In many cars very little is found wanting in the line of accessories, but such parts as bumpers, special jacks, tire chains, seat covers, etc., are usually purchased in addition to the regular equipment. A number of the 1917 cars are fitted with bumpers, spot lights and such parts as were formerly regarded as unnecessary.

Therefore, considering \$35 as a fair estimate, and multiplying the same by the number of cars to be built for 1917, we get the sum of \$59,500,000 for accessories alone. This does not include replacements or repairs parts. Now add to this sum the low estimate of \$60 per car for a set of tires and we get a few additional millions—\$165,000,000. And so one could keep on piling up the millions.

"SATURATION" NOT NEAR These figures naturally astound the layman, who has no conception of the immense business done in this industry. The question naturally is asked, "When will this increase in production cease? Will it be one year, two years, five or ten? Certainly not within the next five years. Even though the war should terminate tomorrow, the result would be the same. Europe will need plenty of the lower-priced cars. And it will be up to American manufacturers to produce them; that is, if they are "on the job."

With many factories now way behind in production schedules, due to shortage in repair shops, see on Page 10, Column One.



AUTOMOBILES ON EXHIBITION

- Car, Space and Exhibitor. Allen, 15, Eastern Motors Co. Apperson, 55, Fiat Motor Co. Auburn, 64, The Stewart Auto Co. Bell, 13, W. W. Gawthrop. Biddle, 3, Biddle Motor Car Co. Briscoe, 52, W. Clarke Grieb. Buick, 24, Buick Motor Co. Cadillac, 17 and 19, Automobile Sales Corp. Chalmers, 33, Chalmers Motor Co. of Philadelphia. Chandler, 22, Herbert-Cook Co. Chevrolet, 20 and 21, Chevrolet Motor Company. Cole, 34, L. S. Bowers Co. Detroit Electric, 11, S. A. Tolman. Dodge, 39, Thornton-Fuller Auto Co. Dorris, special space in far right-hand corner, J. H. Schumaker & Co. Empire, 35, Bell Motor Co. Fiat, 43, Fiat Motor Co. Franklin, 36, Sweeten Auto Co. Grant, 34, L. S. Bowers Co. Hal, 50, Stratford Motors Co. Haynes, 59, Johnson Motor Car Co. Hudson, 58, Gomery-Schwartz Motor Car Co. Humobile, 5, Humobile Sales Corp. Jackson, 19, Stoeber-Hannold Motor Company. Jeffery, 7, Hurley & Earley. Jordan, 6, McCurdy-Brainard Co. King, 44 and 56, King Car, Philadelphia Agency. Lexington, 53, Rogers, Lexington Co. Liberty, 48, Richwine-Haines Co. Locomobile, 10, Locomobile Co. of America. McFarland, 35, Bell Motor Co. Marmon, 40, Fanning-Mathis Co. Maxwell, 66, Maxwell Motor Sales Corporation. Mercer, 65, Mercer Co. of Philadelphia. Metz, 57, Metz Co. Milburn Electric, 18, Detroit Electric Company. Mitchell, 60, Carl H. Page Motor Co. Moline-Knight, 12, Moline-Knight Sales Co. Monroe, 46, Monroe Motors Co. National, 8, Hurley & Earley. Oakland, 32, Oakland Motor Co. Oldsmobile, 23, Oldsmobile Co. Overland, 9 and 27, Overland Motor Company. Packard, 42 and 54, Packard Motor Car Co. Paire, 1, Bigelow-Wiley Motor Co. Pathfinder, 63, Hetherington Motor Company. Peckless, 26, Girard Auto Co. Pierce-Arrow, 41, Foss-Hughes Co. Pullman, 45, Standard Motor Car Co. R. & L. Electric, 4, Baker R. & L. Motor Car Co. Reo, 30, B. L. P. Motor Co. Saxon, 62, Orin S. Wilson. Simplex, 61, Thornton-Fuller Auto Company. Standard, 15, Eastern Motors Co. Stanley, 47, Stanley Motor Carriage Company. Stearns, 16, William C. Yerkes Co. Studebaker, 37, Studebaker Corp. of America. Studebaker, 49, Phila. Sales Corp. Stutz, 31, S. R. Blockson Motor Co. Velle, 38, La Roche Bros. Westcott, 61, Baker-Price Co. White, 25, White Co. Winton, 14, Winton Motor Co. Winton, 26, Winton Co.

TWO BILLION DOLLARS IS AUTO BILL FOR 1916

Uncle Sam Spent Fortune of Fortunes for Motorcars and Operation

The country's automobile bill for both business and pleasure during 1916 reaches a staggering total, a sum as huge that one can scarcely believe it until he goes over the figures for himself. The amount is \$2,000,000,000 in round numbers. It is obtained by adding to the value of the new cars purchased the cost of operating the 3,000,000 cars in use during the year. If presented, the national motoring bill would read something like this:

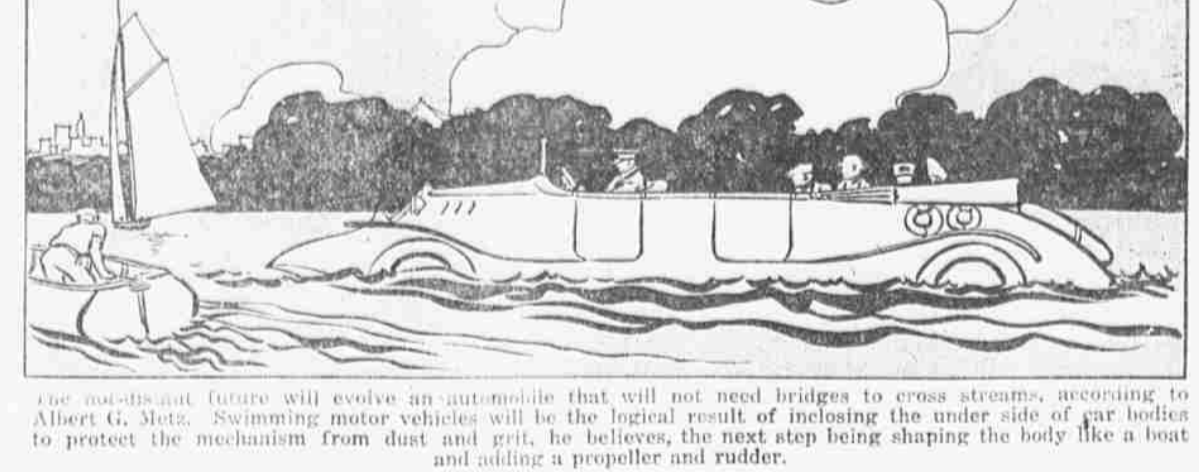
TO UNCLE SAM, DR. 1,500,000,000 saloons gasoline @ 20 cents 300,000,000 gallons lubricating oil 200,000,000 tires @ \$10 2,000,000,000 accessories and auto equipment 150,000,000 150 a car 150,000,000 1,000,000 cars @ 150 150,000,000 Total operating expenses 1,200,000,000 1,000,000 new cars at \$200 200,000,000 Grand total 2,000,000,000 This bill undoubtedly would stagger Uncle Sam were he not so prosperous.

They Hearken to Farmer SPOKANE, Wash., Jan. 17.—Promoters of the third annual Spokane automobile show plan to hold the exhibition next month, instead of on the customary May date because of the inability of the farmer to attend in the spring month. May is the busiest time of the year for the farmer, excepting the harvest, and previous shows, held in May, have been characterized by poor attendance from the agricultural districts. "We must cater to the farmer," is the general opinion among dealers. Some automobile men declared that they would rather have no show at all than stage it again in May.

SIXTEEN TYPES OF MOTORCAR BODIES GROUPED INTO FOUR BIG CLASSES

THE bewildering outlay of automobiles at the show will puzzle the uninitiated unless he remember that there are four general classes of car bodies, which are divided into sixteen types. In the words of the Society of Automobile Engineers they are:

- ROADSTERS AND COUPES First, Roadster—An open car seating two or three. It may have additional seats on the running board or in the rear deck. Second, Coupelet—Seats two or three. It has a folding top and full-height doors with disappearing panels of glass. Third, Coupe—An inside inclosed car seating two or three. A fourth seat looking backward is sometimes added. Fourth, Convertible coupe—A roadster provided with detachable coupe top. Fifth, Clover Leaf—An open car seating three or four. The rear seat is close to the divided front seat and the entrance is only through doors in front of the front seat. TOURING CARS Sixth, Touring Car—An open car seating four or more with direct entrance to tonneau and undivided front seat. Seventh, Salon Touring Car—A touring car with passage between the two front seats, with or without separate entrance to front seats. Eighth, Convertible Touring Car—A touring car with folding top and disappearing or removable glass sides. This type is less frequently seen than others in the list. SEDANS Ninth, Sedan—A closed car seating four or more, all in one compartment. Tenth, Convertible Sedan—A salon touring car provided with a detachable sedan top. Eleventh, Open Sedan—A sedan so constructed that the sides can be removed or stowed so as to leave the entire space clear from glass front to back. LIMOUSINES Twelfth, Limousine—A closed car seating three to five inside, with driver's seat outside covered with roof. Thirteenth, Open Limousine—A touring car with permanent standing top and disappearing or removable glass sides. May or may not have a partition between the driver and the passengers. Fourteenth, Berline—A limousine having the driver's seat entirely inclosed. Fifteenth, Landulet—A closed car with folding top, with seats for three or more inside and the driver's seat outside. Sixteenth, Brougham—A limousine with no roof over the driver's seat.



CITY'S AUTO SALES TOTAL \$43,000,000

63,360 Pleasure Cars to Be Sold This Year—50 Per Cent Increase

SIGN OF PROSPERITY

Philadelphia sales of motorcars for 1916 doubled those of the preceding year and advanced beyond the \$40,000,000 mark. An increase of fifty per cent is anticipated this year, reflecting the prosperity of the city and the reaction of the country of which it is the center.

These estimates were obtained from a questionnaire submitted to sixty Philadelphia dealers in pleasure cars, not quite half of whom responded with figures showing their past business in the sales territory covered by this city and announcing their expectations for 1917. To add the element of conservatism, a deduction of ten per cent was made from the totals obtained. 41,650 CARS SOLD

The estimates based on the furnished reports show that the sale of motorcars tripled in the half decade 1914-15, doubled in 1916 and will add another half this year. A total of 41,650 pleasure cars was sold in 1916 for \$43,000,000. This year 62,360 cars, valued at \$55,250,000, is the sales outlook from the point of view of the Quaker City manufacturer and distributor.

Following is given in concise form the number and value of cars sold for several past years and the 1917 outlook:

A TABLE OF GROWTH

YEAR	NUMBER	VALUE
1910	6,430	\$11,701,204
1911	22,600	\$23,962,104
1912	41,650	\$40,000,000
1913	62,360	\$55,250,000
1914	83,000	\$75,000,000

THE PRICE INDEX The average price of the Philadelphia automobile for 1916 was \$1022, some \$100 greater than the average price of the automobile in the country at large. Next year, according to the indications furnished by the dealers, the average price for the city will be \$1015.

"GAS" OUTLOOK GOOD FOR 1917; FUTURE BETTER

Dr. W. F. Rittman, Fuel Expert, Sees No Need of Worry

SOLUTION: "CRACK" OIL Gasoline Price in East to Range Between 25 and 28 Cents

This is an exclusive interview with Dr. Walter F. Rittman, of Pittsburgh, inventor of the Bureau of Mines, it should dispel whatever anxiety attends the matter of motorcars, with his invested millions, and the motorcar user, who has come to depend upon the automobile as never before. For Doctor Rittman is the chemist who nearly a year ago, when gasoline prices threatened to jump to prohibitive heights, saw relief in sight, and in the face of the most gloomy prospects, predicted the "break" that came.

With the New Year, in spite of the unquestionably huge output of automobiles that the future holds in store, Doctor Rittman has a solution.

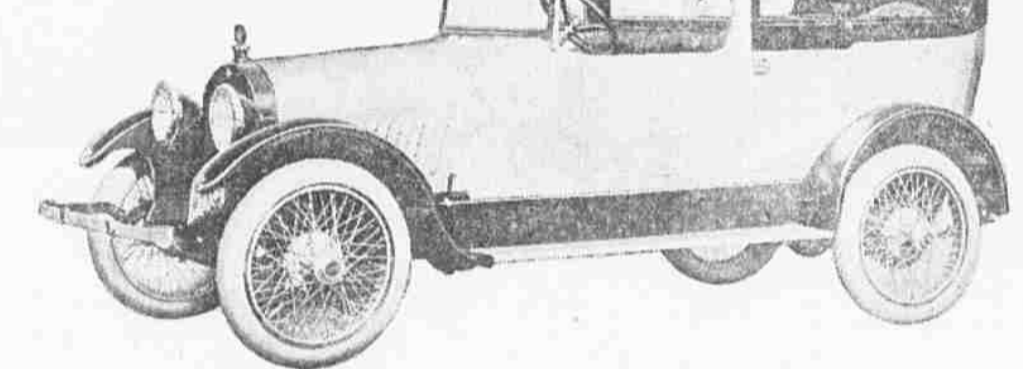
This assurance comes from Dr. Walter F. Rittman, consulting chemical engineer of the Bureau of Mines. It should dispel whatever anxiety attends the matter of motorcars, with his invested millions, and the motorcar user, who has come to depend upon the automobile as never before. For Doctor Rittman is the chemist who nearly a year ago, when gasoline prices threatened to jump to prohibitive heights, saw relief in sight, and in the face of the most gloomy prospects, predicted the "break" that came.

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Continued on Page Eleven, Column Two

Lexington

"Minute Man" Town Car



22.8% More power on less gasoline

More power from less gasoline—and more power than your car can possibly use, because it is fully developed at ordinary speed. Stripped of technical expression, this is what you get from the exclusive patented improvements that place the Lexington a decade in advance of all other cars. Its refinements alone mark the Lexington the exceptional car; but with 22.8% more power, its constant torque at low speed, and its decided fuel economy, it must be the choice of any one who makes a thoughtful comparison.

Touring, \$1185; Clubster, \$1185; Sedan, \$1350; Coupe, \$1350

We Cordially Invite YOU to Examine These Models in Booth 54 at the Show.

THE ROGERS-LEXINGTON MOTOR CO. 202-204 North Broad Street Telephone—Spring 1293 and 1294

Our Automobile Show



at 1835 Chestnut Street. THE OWEN MAGNETIC CAR CO. OF PHILADELPHIA INC. 1835 CHESTNUT ST.

During Automobile Show Week at the Bellevue-Stratford and in our Salon, there will be on view some of the exquisite models of Owen Magnetic Cars

from 9 am. until 10 pm.

The Board of Directors cordially extend their invitation to the Motoring Public