# Auto Sales in 1920 Total Three and a Half Billions

## Exports Double Those in the Preceding Year—Production Increase Was 12 Per Cent—The Gain in Registrations Amounted to 22 Per Cent

All previous production, sales, export and registration marks were passed by the automobile industry in 1920, according to statistics contained in Facts and Figures, 1921 edition, issued by the National Automobile Chamber of Commerce on May 1.

General prosperity and the increasing use of cars and trucks as economic transport units on farm and in industry are believed to be the leading factors in the increased business of the industry during the past year.

"The motor car has become an indispensable instrument in our political, social and industrial life," said President Harding in his first message to Congress on April 12. This statement, which appears on the cover of the annual review of the industry, is the keynote of the 1921 edition, supported by many pages of research on the use of the car in many avenues of business. Three million motor vehicles are used by farmers, 100,000 by doctors, 30,000 are used by state governments, 10,000 by municipalities, 12,000 by rural schools, 4,000 by packing houses, several thousand by the Postoffice Department and thousands more by telephone companies, salesmen, bus lines and other commercial and professional activities.

**Sales of $3,500,000,000**

The total wholesale business of motor vehicles, parts, tires and accessories in 1920 amounted to $3,594,814,620. This included car and truck sales of $2,232,927,678, parts and accessories of over $725,000,000 and tire replacement business of $636,750,000.

Automobile registration in the United States for 1920 totaled 9,211,295 or 22 per cent more than 1919. Approximately 990,000 of these vehicles were motor trucks.

The automobile to-day pays more special taxes than any other industry. Total levies assessed upon the automobile exceed $316,720,000. Over $148,000,000 of this is in Federal taxes, a sum large enough to cover the Federal judiciary, Congressional and executive expenses, as well as the costs of the Department of Interior, Commerce, Treasury, Justice, Labor and Agriculture, plus the expense of the diplomatic and consular service.

# Farming States Have Most Cars On Per Capita Basis

## New York State, With More Autos Than South Dakota Has People. Has Fewer Machines in Proportion

The Pacific Coast and the Northwest rank first in automobile density, based on population; New England and Atlantic seaboard states rank second; the middle Southern states take third position. For the entire country there are 11.4 persons per automobile. This information comes from the B. F. Goodrich Rubber Company, which has just completed a nation-wide survey of automobile density.

The states in the first group, which includes Ohio, Indiana and Michigan, have more cars in proportion to population than the country's general average. Every state excepting the three mentioned can be classed as an agricultural state. The average runs from five to ten persons a car.

A close race between South Dakota, Iowa and Nebraska has been waged for the greatest proportionate automobile ownership. South Dakota boasts one car for every 5.2 persons; Iowa has one auto for every 5.5 persons, and Nebraska possesses a car for every 5.9 persons. Fully 85 per cent of the cars in these states are owned by farmers who purchased their cars principally for business purposes.

Although Ohio, Indiana and Michigan are quasi-agricultural states, their dense automobile ownership probably can be traced to the fact that over 90 per cent of the country's total motor vehicle output is manufactured within their confines.

New York State, which leads the country in registration, has more motor vehicles than South Dakota has inhabitants, although South Dakota leads the country in auto density. New York has 658,155 motor vehicles and South Dakota has a population of 653,047. New York has 15.8 persons per automobile.

Florida and Texas are the only Southern states in the second group, which comprises states with ten to fifteen persons a car. In this group are also the New England states, Pennsylvania, Illinois, Missouri and Utah. The last named state leads the group with 10.6 persons per auto; Vermont ranks second with 11.1; Illinois and Missouri are tied for third with 11.4 persons to a car.

The third group has fifteen to twenty persons a car, and includes the following states: New York, Virginia, North and South Carolina, Georgia and New Mexico. New York leads this group.

The fourth group—more than twenty persons a car—contains all the middle Southern states. They are West Virginia, Kentucky, Tennessee, Alabama, Louisiana, Mississippi and Arkansas. This group is led by Kentucky with 21.4. The state with the fewest cars in proportion to population in the United States is Alabama, with 31.5 persons a car.

That the Southern states rank last in the density column is attributed to the fact that this section has poor roads. However, the South is engaged in a gigantic road building campaign and has now available for expenditure on good roads more than $275,000,000. Invariably increased automobile ownership follows good roads construction.

# Uniform Color Signals On Highways Is Plan

## Red, Yellow and Green Signs To Be Used Wherever Traffic Warnings Are Needed

Installation of a national system of color signals for the control of motor traffic on national and state highways, similar to the standardized use of red, yellow and green in railroad systems, is suggested by highway officials of New Jersey, who have approved a bill for adoption of the plan in that state.

The bill, which contains measures approved by the committee on standards of the American Association of State Highway Officials, would have red signs to indicate first degree danger, such as railroad crossings, dead ends of roads, or lift bridges; yellow, indicating second degree danger at curves or grades, and green, showing moving or traffic danger, to be used only at road intersections.

Many national organizations interested in the move to reduce annual automobile tolls have expressed their indorsement of the bill's proposals.

Recent investigation, it is pointed out, shows that many leading American cities have failed to unite on a uniform use of color in highway signalling. Red, for instance, meaning first degree danger or an absolute stop signal in one town, is used in the next town at a place where green should be employed.

Two hundred American cities and towns are reported already to have adopted this color signal project and many more, highway officials believe, will fall in line the coming year.

# New Encyclopedia Is Replete With Valuable Advice

Dyke's Automobile Encyclopedia is just off the press. It contains 960 pages, 3,362 illustrations and 6,000 lines of index. The book has again been revised and greatly improved. It could approximately be termed a "Repairman's Guide." In addition to its mass of information on automobiles, covering every detail from the construction and repair of the axle to the repair of radiator and top, many new subjects have been added. For instance: how to make electric tests of the starting motor, generator, battery, coils, magnetos, etc.

The storage battery subject is profusely illustrated, and any one who can read plain English can soon learn how to diagnose trouble, disassemble, repair, assemble and recharge batteries. A feature of this instruction is a simplified explanation of the "cadmium test" of a storage battery. One naturally thinks this a very technical and complicated subject, but after reading this article with a glance at the numerous illustrations, the "tech" part becomes perefctly clear.

Then there are many other subjects which the average repairman must know about, such as fitting pistons and piston rings, etc. In order to do this work intelligently he must know how to work in thousandth parts of an inch. This subject is so simplified that even the layman could do this work after studying the instructions. The tire subject is very interesting. One learns the difference between the "molded" tire and "wrapped tread" tire, the difference between the "fabric" tire and the "cord" tire and the advantage and disadvantage of each. Such subjects as blowouts, stone bruises, loose treads, etc., are thoroughly treated, with an explanation of the cause and how to repair.

The subject of vulcanizing not only deals with the sectional method, but also the wrapped thread method. The equipment necessary to start in the tire business is also dealt with. In fact, many pages are devoted to the subject of how to start in the different branches of the automobile business, from building and equipping a home garage to one for business.

The book covers practically every phase of an automobile industry, and deals with automobiles, trucks, tractors, motorcycles, airplanes, airplane engines, including the Liberty engine, fully illustrated.

There are supplements with 332 illustrations on the Ford and Packard car, part printed in colors. Every detail of the Ford is explained. For instance, how to rebuild a Ford and make it do sixty miles an hour; how to make every known repair from axle to the engine. The new Ford electric system is fully illustrated; in fact, the illustrations go so far as to show the internal wiring of the cut-out and its principle of operation. There also are five colored inserts, a dictionary and a lot of valuable information too numerous to mention.

The author, A. L. Dyke, is a pioneer. He published the first practical book on automobiles and manufactured and marketed the first constant level float feed carburetor in America. Mr. Dyke's latest origination is that of working models of parts of the automobile, for instruction by mail. The book is published at St. Louis, Mo.

## "No Parking" Signs Are Needed in Safety Zones

No move has been made by the police to regulate parking alongside safety zones. "No parking" signs ought to be put up in such places. A truck or touring left standing at the curb doubles the traffic congestion at such a point. Vehicles have to move in single file. There should be strict regulation of such a thing and attention has been called to it before this.

Some day when automobiles come really "fully equipped" bumpers will be a part of such equipment. Particularly in cities, bumpers—they should be fore and aft—are vitally necessary. The great numbers of cars with bent fenders to be seen on the streets bear witness to the need of bumpers.

Many attacks come from the rear. The average motorist receives these assaults upon the spare tire and because no damage is done to his fuel tank or fenders feels he has got off scot free. No so, however, because every blow to a tire registers and acts to reduce the life of the casing. Many a mysterious and premature blow-out may be traced to just this. Anyway, why carry on the rear an unyielding protection in the form of a rigidly attached spare tire and sport a spring bumper in front?

Then, too, remember that a reduction in insurance rates, now soaring high, can be got in case an approved bumper is carried. And if bumpers are carried front and rear both the reduction is greater. The peace of mind in traffic also is greater.

## Harding Blue a Car Color

One of the striking cars of the Brooklyn Automobile Show was a Lexington roadster done in Florence Harding blue. This very up-to-date scheme was worked out by Harry Gaston, who also made the Lexington space attractive to women by distributing samples of silk in this shade. Although a great many of the women visitors had heard a lot about the color, it was, for some of them, their first close-up view of it.

# Magistrates Get Broader Powers Under New Laws

## After June 30 Can Suspend or Revoke Auto Licenses for Flagrant Violations; Plates Earlier This Year

With the state's automobile year hereafter beginning on January 1, it is planned to begin distributing plates in November. By starting early it is expected that several hundred thousand plates will be in the hands of automobilists by the latter part of December, and that the annual jam in January will be that much less.

As it is now planned, the county clerks, at least during the first year, will distribute passenger and commercial automobile plates and the smaller motorcycle plates. All other plates, such as those going to dealers, etc., are to be handled direct from the Albany and New York bureaus.

That the magistrates of first, second and third class cities are much interested in the additional power that is to be given them on July 1, of suspending and revoking the licenses of autoists and motorcyclists for flagrant violations of the motor vehicle law, is evident from the many inquiries which are now being received at Albany, asking for detailed information, and also for copies of the motor vehicle law.

**To Start on Booklet Soon**

Just as soon as Governor Miller acts on such motor vehicle bills as are included in the thirty-day measures now before him the work of preparing the motor vehicle law booklet will get under way. While it will carry no changes in so far as registration fees are concerned, the book will carry many changes which are embodied in the bill transferring the automobile bureau to the Tax Commission and outlining its duties.

Governor Miller signed last Wednesday Assemblyman T. C. Moore's bill which makes it a misdemeanor to use any seal, coat of arms, sign, lettering or insignia of the United States or New York State on any privately owned automobile. The law becomes effective at once.

On the same day the Governor also signed the Duke bill, relative to the negligent operation of motor vehicles. This is now effective. This bill, perhaps better known as the Cobb bill, provides that any one who "operates or drives, or directs, or knowingly and wilfully permits any one subject to his commands to operate or drive any vehicle of any kind in a culpably negligent manner, whereby another suffers bodily injury," is guilty of third degree assault.

# Retarded Spark Overheats and Damages a Car

By William H. Stewart Jr.
*President Stewart Automobile School*

You have all seen the fellow who runs his "steaming," clanking car around town. It looks for all the world like a baby locomotive, but perhaps he does not know that this overheated condition injures the pistons, cylinders, bearings and all internal parts of the engine. Shortly he learns this for himself—after he has paid a big repair bill for information that could have been obtained from any instruction book.

If you run the car with the spark retarded, the engine will overheat and carbonize. A similar effect is caused by a crippled fan or an impeded water flow. If your engine overheats it is advisable to stop instantly and find the trouble. In an emergency a very wise thing to do is to pour an abundance of oil into the crank case. Your exhaust will smoke, but the additional oil will offer protection to the inside of the engine until relief is at hand.

Clean the belt occasionally and rid it of the oil and gummy matter. Hitch up your garden hose and send its spray through the openings in the radiator, which probably is clogged with mud. Do this from the engine side of the radiator; otherwise you may short circuit the electrical system. As a further precaution see that all hose connections are good and not partially closed on the inside, thereby retarding the water flow. This coating, though very slight, will retard radiation and cause trouble.

## Poor Practice to Start Tour Without a Spare

Why spoil the pleasure of a motor trip by setting off on a trip without a spare tire? With a view to economy many drivers are carrying no spares to-day, but it is a form of economy that does not pay. A spare tire of good quality is one of the absolute essentials for a car; it is the tire you depend on to bring you home.

The spare ought to be covered to protect it from the effects of sunlight and heat, says the United States Tire Company. Sunlight has a bad effect on rubber even in the coldest weather, for it produces a "cracking" or "checking" on the surface which rapidly extends to the interior, causing deterioration. Heat has an even more destructive effect. Spares sometimes are carried uncovered near the exhaust. This is poor practice if the heat strikes an uncovered tire directly.

## Used Car Shortage Is Predicted Before June

The official Used Car Buyers' Guide, issued weekly by the Automobile Dealers' Association of New York, 1845 Broadway, in its latest issue predicts a shortage of used cars before June. This prediction is something of a surprise to the trade and the public as well. Until very recently the leading new car distributors of New York, who list their exchange cars in this consolidated shopping list, have been heavily stocked with excellent used car models, for the most part reconditioned for service.

Henry Caldwell, editor of The Official Used Car Buyers' Guide, takes the view after a careful survey of the market that the present stocks of reconditioned cars will be practically exhausted before June. He also says the tendency of prices on good used models is upward instead of downward and advises the public to make selections as soon as possible, even if the cars are not to be used immediately.

## Along Motor Row

The direction of the affairs of the Marmon Automobile Company of New York, Inc., has been placed under the management of officers of the Nordyke & Marmon Company, of Indianapolis. A. H. Meiskell, treasurer of the Nordyke & Marmon Company, has been elected president of the local company. P. G. Carrie continues his old duties under the new arrangement and has been elected a vice-president. S. S. Toback, formerly general sales manager, also has been elected a vice-president.

M. W. Bartlett is the new general manager of the Splitdorf Electrical Company, with headquarters at the main factory, Newark, N. J. The board of directors of the company held a special meeting last Wednesday to make the appointment.

Morton W. Smith Company, distributors of automobiles, have been appointed local sales agents for the Apperson.

Frank Bowen and L. J. Keenan, who are both well known along the row, have taken on the distribution for New York and New Jersey of the Rex headlight controller. The name of the new concern is Bowen-Keenan Company. They are located at 47 West Sixty-third Street.


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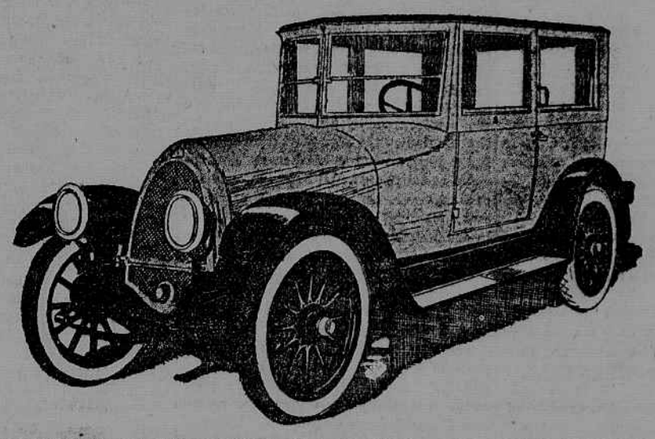

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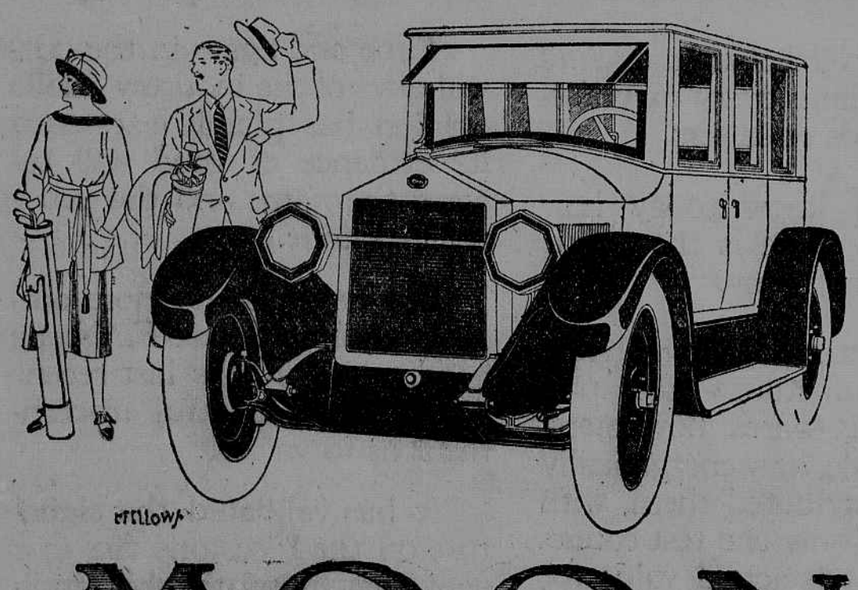

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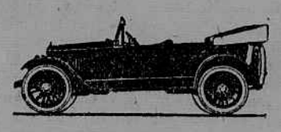

What Do You Know about an Automobile?

YOU may know more than most people about an automobile, but life is too short to learn everything about it unless you intend to be an automobile engineer.

So, after all, the safe way to buy a car is the same way you buy your typewriter, for instance, consider the intent and reputation of the makers.

The Standard Steel Car Company of Pittsburgh entered into the manufacture of Standard Eight cars with the idea of creating a sound, permanent business which would be based on an ever-growing public confidence. This fact is the big feature of Standard Eight Cars.

Other features are power, easy gear-shifting, double ignition, lightning pick-up, effortless hill climbing, extremely low speed possible in high—and other points that make motoring a pleasure. All cars have some of these features; the difference is in degree—and that can only be expressed by a trial.

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