

## Census Bureau Records Growth of Auto Industry

Uncle Sam Makes Summary of the Cars Manufactured for Five Years.

### MACHINES OF ALL KINDS MADE

WASHINGTON, Feb. 13.—A preliminary statement of the general results of the 1914 census of manufactures for the automobile industry has been issued by Director Samuel L. Rogers of the bureau of the census, Department of Commerce. It consists of a summary comparing the United States totals for 1909 and 1914, prepared under the direction of William M. Stewart, chief statistician for manufactures.

The figures are preliminary and subject to such change and correction as may be necessary from a further examination of the original reports.

The returns show that during 1914 there were in the United States 228 establishments manufacturing complete automobiles, their output being 573,114 machines, valued at \$48,042,471. Thirty-eight of these establishments were engaged primarily in the manufacture of bodies and parts, agricultural implements and other products, and reported the manufacture of complete automobiles as a subsidiary product. In addition there were twelve establishments which manufactured twenty cars, either for experimental purposes or for their own use, upon which no market value could be placed.

**Increase Noted.**  
At the 1909 census 215 establishments were reported as engaged in the manufacture of automobiles, either as a primary or as a subsidiary product; and their output was 177,257 machines, valued at \$18,098,464. During the five years 1909-1914 there has been an increase of 59.3 per cent in the number of automobiles manufactured, and of 151.7 per cent in their total value. The fact that the increase in value of output during the five years was much smaller, relatively, than the increase in number of machines made is accounted for not only by a general reduction in prices, but also by the production of a larger proportion of machines of low-priced makes in the later year as compared with the earlier.

Of the total number of automobiles manufactured during 1914, those operated by gasoline or steam power numbered 568,209, and those operated by electric power, 4,775, as compared with 123,423 operated by gasoline or steam, and 2,835 by electric power, manufactured in 1909. The increase during the five years in the number of gasoline and steam machines manufactured was thus 360.4 per cent.

and in the number of electric 22.3 per cent.

### Most of Touring Cars.

Touring cars formed the principal type manufactured during both census years. In 1914 the output of this class of machines was 454,876, valued at \$37,568,518, compared with 76,139, valued at \$11,815,478, in 1909. Of the total production for 1914, the number designed for pleasure or family use was 44,326, compared with 119,199 in 1909. For business purposes and for use as public cars, omnibuses, ambulances, patrol wagons, fire-fighting machines, and for other business purposes, 84,144 machines were manufactured in 1914, compared with 4,362 in 1909. The output of delivery wagons and trucks was 22,753 in 1914, compared with 2,771 in 1909. The report also classifies the gasoline and steam automobiles manufactured in 1914 according to their horsepower. The production of vehicles of less than ten-horsepower amounted to only 334; of from ten to nineteen horsepower, to 45,113; of from twenty to twenty-nine horsepower, to 246,209; of from thirty to forty-nine horsepower, to 163,466, and of fifty-horsepower or more, to 13,625.

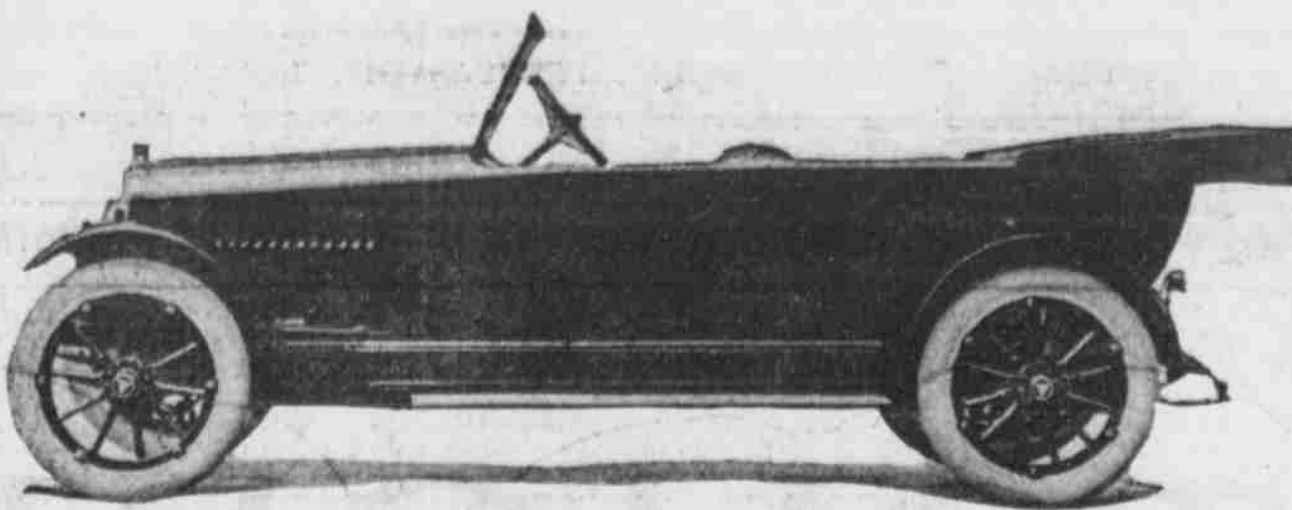
### Only Complete Autos.

The figures shown above do not represent the number of establishments, nor the value of products of the entire automobile industry, but only the figures for establishments making complete automobiles. In addition to these establishments there were a large number engaged in the manufacture of automobile parts and accessories, and the statistics for the establishments that manufactured the complete machines do not represent the extent of the industry. The value of automobile tires made by establishments in the rubber industry is very large, and many of these tires, as well as other parts and accessories, are sold to repair shops and automobile owners, and therefore do not appear in the value of products of the automobile industry.

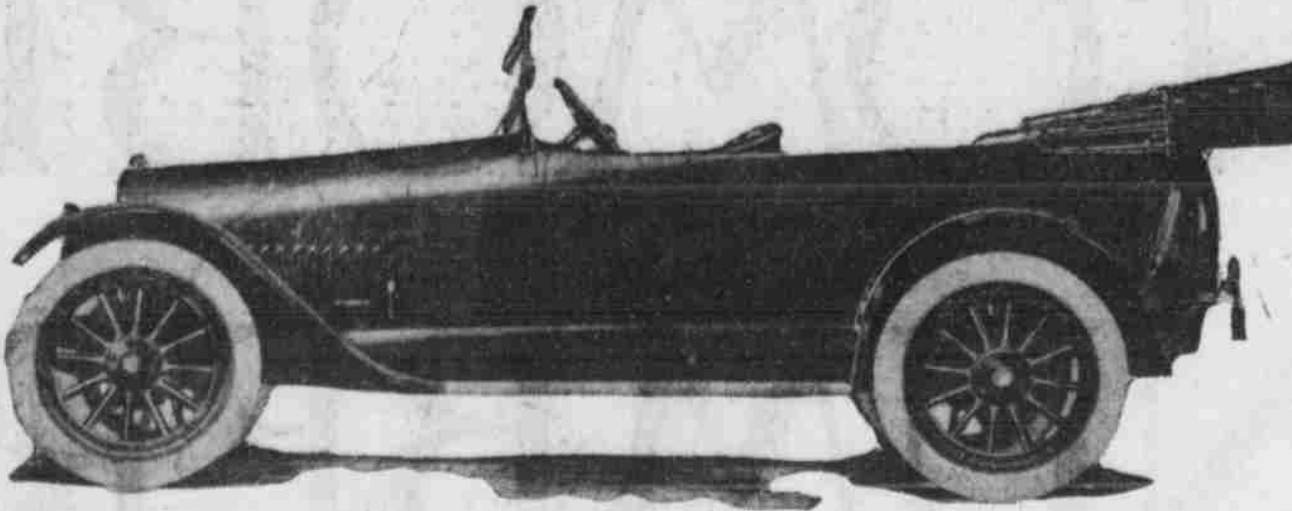
Comparative summary of number of automobiles manufactured, as reported for the censuses of 1914 and 1909:

TYPE	Census		Per Cent of Increase, 1909-1914.
	1914	1909	
Total	573,114	177,297	323.2
Gasoline & steam	568,209	123,423	360.4
Family and pleasure	44,326	119,199	35.4
Touring cars	454,876	76,139	497.0
Delivery wagons and trucks	22,753	2,771	721.1
All others	1,332	1,401	48.7
Electric	4,775	2,835	26.9

## Two Classy Cars Exhibited at the Auto Show



HUDSON SUPER SIX.



MITCHELL.

## OPEN SEASON IS EXTENDED

John N. Willys Writes of the Changes Wrought in Manufacturing Automobiles.

### THERE IS NOW NO CLOSED SEASON

By JOHN N. WILLYS, President Willys-Overland Company

Before the automobile industry had attained its present development, the open season for selling cars was confined almost entirely to the summer months. A salesman, in order to sell a car after the first cold snap of winter, had to be endowed with an unusual amount of persuasive power.

Automobiles at that time were looked upon as fair weather vehicles, to be used only when the sun was shining and to be stored away in a garage when cold weather set in. From April to November was the harvest time for manufacturers, after which there was nothing much left to do but take inventory and prepare for the next spring campaign.

But with the advent of electric lights and starting devices, motorists began to show more enthusiasm about winter travel. It was a great relief to be able to light up the car without having to fuss around with matches in the cold. And the self-starter eliminated the back-breaking efforts that proved so objectionable to the old system of cranking the car by hand.

Improvements followed in rapid order and with each new development the motor car was made more practical for winter driving.

### Motors More Dependable.

The weight of the car was reduced. Motors were made more dependable. Dependable rims enabled the driver to change a tire without the assistance of a corps of men. The simple construction and ease of operation of the modern car

have made thousands of converts to the army of winter motorists.

Closed cars, such as the Willys-Knight coupe and limousine, have accomplished wonders towards popularizing the motor car for winter use. Though not in demand in such large numbers as the open touring car, the closed body types have become a big factor in the business of every automobile manufacturer.

But, all things considered, probably no other development has done more to make automobiling a winter sport than the detachable tops that convert the Overland Model 83-B touring car and roadster into weather proof closed cars on short notice.

With the first cold wave, these detachable tops can be adjusted to the open body design, giving the owner a smart looking closed car that has the comforts and conveniences of a limousine or coupe.

The lines of these detachable tops are in perfect harmony with those of the touring car and roadster, as the two were designed at the same time. By their use owners are enabled to ride in comfort both winter and summer at a minimum of expense.

## AUTOIST MUST KEEP IN TOUCH WITH HIS BATTERY

The peculiar attitude of many car owners toward the storage battery costs them a lot of money for repairs and new batteries which they might easily save, according to the Nebraska Storage Battery company.

The idea prevails that a storage battery is a mystery which it behooves the average man to let severely alone. This is gradually being overcome, however, by vigorous efforts of the Nebraska company to educate the car owner up to the point where he will give the same sort of care to his battery that he does to his motor, his tires and other important parts of his car.

## DEFINITE SERVICE IS NEW AUTO IDEA

Studebaker Corporation First to Adopt Regular Inspection Plan.

### STITCH IN TIME SAVES NINE

With the development of the automobile industry, the item of service, from manufacturer and dealer, has come to play a more important part than ever, and this despite the fact that motor cars today have reliability and fool-proofness to a degree undreamed of only a few years ago.

Not only has service assumed great importance within the last few years, but it has quite logically become service of a definite kind, periodically given and designed to prevent troubles rather than to cure them after they occur.

Among automobile manufacturers, the Studebaker Corporation was the pioneer in rendering definite service. The plan now in force among all branches, most of the larger dealers, and many of the smaller dealers, was first adopted and perfected nearly two years ago. This plan is regarded as the highest development in motor car service. It can not be improved upon, say experts, and sooner or later all manufacturers will be forced to come to this definite plan of service. The wonder of it all is that a definite service scheme did not spring into being with the building of the first motor car, instead of coming at a late period.

### Have Set Dates.

Instead of giving a car good for a certain number of hours of labor to each buyer of a new car, thus leaving it optional with him when to bring his car in, the Studebaker dealers who use the definite service plan actually name the dates and insist that owners bring their cars in for inspection and adjustment.

The Studebaker plan, which is the result of long experience and investigation, extends over a period of six months without expense to owners. Two inspections are provided for the first month, on definite dates, and one each month thereafter during the six months. On each occasion the owner's car is thoroughly examined by experts, who make forty-one distinct inspections, adjustments, oilings, etc., and tune the car up. The experts also give the owner advice on the care of the car.

An automobile, like any other piece of machinery, requires at certain periods of use to be thoroughly worked in and understood by its owner. It has been found that during the first six months the new owner is most likely to abuse his car, unless by a service plan of prevention the chances are practically removed. There are two ways of giving service. One is to administer it when the customer has trouble with his car and brings it in. The other way is to anticipate troubles by removing their cause. The experience of the Studebaker Corporation is that this second method is best, if only for its value in building and retaining the goodwill of owners. Other companies are coming to the plan and it is only a question of time when it will be universally adopted.

## OIL COMPANY BUYS 25 NEW HUDSON SUPER-SIX CARS

Twenty-five of the new, patented seven-horse power Hudson Super-Sixes have just been sold to the Quapaw Oil and Gas company of Bartlesville, Okl., by the McClelland-Gentry Motor company of Oklahoma City. At the present time the company is selling twenty-seven cars of eighteen different makes, which they have been testing for the last two years. As a result of the super-six purchase all these cars now in use have been offered for sale and the twenty-five Super-Sixes will be called on to do the work that the twenty-seven have been doing.

## FARMER BUYS MOST AUTOS

Manufacturers Now Relying on Selling Product to the Great Middle West.

### BUILD CAR TO SUIT THEIR NEED

"It appears to me that the automobile industry is entering into the biggest year in the history of the trade," said A. R. Cosgrove, general sales manager of the Pullman Motor Car company.

"The manufacture of automobiles has been reduced to a science. Values which ten years ago were undreamed of are now being offered to the automobile enthusiast, and the field of buyers is increasing in number and in scope to such an extent that today the automobile is as much a family necessity as the cottage organ was thirty years ago.

"By far the most important class of buyers will be found upon the great farms of the middle west and the west, a condition which is not at all remarkable when it is considered that the crops of the last year sold at war-time prices have netted the farmers of this country over \$5,000,000,000. Further, the farmers have come to realize that for a saving of time and consequent increase of their productive power, the automobile was the most important piece of machinery which they could own.

"The demands of the farmers are largely responsible for the development of the medium-priced car of light construction, and economy of operation. The farmer wants a car big enough to carry his whole family. He wants a car that is powerful enough to take him over a reasonable hill, and through sandy roads, or mud holes with the greatest economy. This has resulted in the production of cars appearing now to be the ideal farmer's car.

### Use More Machinery.

"Farmers, as a class, have in the last fifteen or twenty years depended more and more largely upon machinery. To such an extent that the average farmer of today is well up in mechanics. He knows a husky motor when he tests its performance. He knows all about carburetion and ignition. He knows that to be certain of proper scope at the proper time, he must have the very best high-tension magnets. He is fully competent to take down a motor, examine its insides, make necessary adjustments, and other stunts with his car that would stagger the city dweller, and by this token he is well able to pass an opinion upon any car which is offered to him by the automobile manufacturer.

"The time is going by when the automobile owner placed his reliance on manufacturers. He does not believe the glittering statements of generalities of the manufacturer, but insists upon an inspection and a demonstration. This is becoming possible because the selling organization of the automobile industry has become so thoroughly established that competent dealers are to be found in almost every village and town in the United States.

### Matched to Needs.

"One of the most remarkable successes in the development of the car best suited to the farmer's needs as well as to the requirements of the city owner, is the record which has been achieved by the manufacture of the Pullman 1916 Four. This car was first produced in 1915, and being the first low-priced four-cylinder car complete in every respect, it met with instant success. Automobile buyers, who are motor wise, readily approved of its specifications with the result that the production of the Pullman factory in York, Pa., has increased in leaps and bounds until today the Pullman name is rapidly becoming known and favorably mentioned from coast to coast."

Murray is sold. Little Rock has sold outfielder Jimmy Murray, formerly with the Browns and Braves, to the Galveston club of the Texas league.



Be sure to see  
the Studebaker GOLD Chassis  
at the Automobile Show

It is a STOCK chassis—taken from the regular day's production in the great Studebaker factories in Detroit.

But it is finished entirely in GOLD.

And it is the costliest, the most magnificent chassis that has ever been displayed in New York or in any other city on the face of the earth.

It is the only Gold chassis in existence, and it is valued at more than \$25,000. And for any man who thinks of buying a car, it is a liberal education in the mechanism of a car, for the GOLD discloses the delicacy of design, the refinement of finish, the perfection of manufacture of this famous Studebaker chassis as nothing else can.

See this GOLD chassis at the show!

## STUDEBAKER

SOUTH BEND, IND. DETROIT, MICH. WALKERVILLE, ONT.

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