

# The Oldtime AUTOMOBILE

by John Bentley



1904 Franklin Touring Car

STUTZ • MERCER • MARMON • POPE  
LOCOMOBILE • PEERLESS • WINTON  
APPERSON • HUPMOBILE • STANLEY  
LOZIER • BAKER • REO • CHALMERS  
SEARS • AUTOCAR



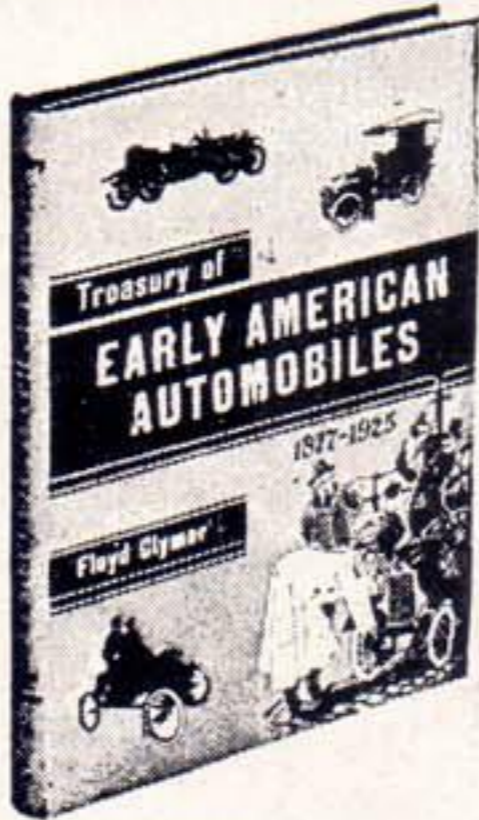
1911 Mercer 30 hp Raceabout

Vol. 1

# Floyd Clymer's POPULAR Motor Books

## Treasury of Early American Autos

Just out. Clymer's new McGraw-Hill book of historical cars, songs, cartoons, data, Vanderbilt Cup, Indianapolis, N. Y.-Paris Races. 22,000 words text, 500 illustrations. Beautiful large gift album. 224 large pages. \$5.00



## MOTOR SCRAPBOOK SERIES

Motor Scrapbook No. 6. Latest and best. Profusely illustrated Auto Scrapbook. 224 pages. Ads, photos, details of 250 early cars. \$2.00 Deluxe Edition \$3.00.

Scrapbook 5 \$2.00, Dlx. \$3.00  
Scrapbook 4 \$1.50, Dlx. \$2.50  
Scrapbook 3 \$1.50, Dlx. \$2.50  
Scrapbook 2 \$1.50, Dlx. \$2.50  
Scrapbook 1 \$1.50, Dlx. \$2.50

## Brand New!

### CATALOG REPRINTS

#### DUESENBERG INSTRUCTION BOOK

We offer this excellent 64-page reprint for owners and collectors. 25 photos of cars . . . charts, drawings, cutaway views of engine, oiling system, camshaft and valves, instrument panel, chassis, transmission, differential, wheels, brakes, complete wiring diagram. Interesting and authentic data on care and operation of the world-famous Model J "Duesie," with parts numbers and descriptions . . . Order Reprint No. 4JDR . . . Postpaid \$1.50

#### CORD OWNER'S MANUAL

This 36-page book gives all driving instructions and necessary servicing information for Cord V-8 cars. Complete specifications, 20 photos, charts, drawings. All about care of engine, trans., front drive, clutch, electrical equipment, timing, cooling system, fuel system, lubrication, front steering data, universals, alignment, hydraulic brakes, shocks, top and tires. A "must" for every Cord owner or enthusiast interested in design of this unique front-wheel-driven car. Order reprint No. 2-C0810. Postpaid \$1.00

#### STUTZ CATALOG REPRINT

25 photos, specifications all famous 4-cylinder Stutz series "E" cars including the fabulous "Bearcat," Roadster and Touring models, in both 4 and 6-cylinder-powered cars. Order No. E-STU. Postpaid \$1.00

#### MERCER CATALOG REPRINTS

Complete data on this World-famous car of early days. Photos and specifications of all models and body styles, including the outstanding RACE-ABOUTS. Series "5" 4 cylinder models. Order Reprint No. 5-Mer. Postpaid \$1.00   
Series "6" 6-cylinder O.H.V. models Order Reprint No. 6-Mer. Postpaid \$1.00

#### STEAM CAR SCRAPBOOK

Lists and describes over 125 makes of Steam Cars. A complete history of steam cars—past and present. Profusely illustrated with early ads and photos \$2.00   
Deluxe \$3.00



## American Horse-Drawn Vehicles

200 ILLUSTRATIONS . . . 106 LARGE PAGES  
Contains largest and most complete assortment ever published of carriages . . . wagons . . . buggies . . . phaetons . . . track sulkies . . . skeleton wagons . . . top buggies . . . jump seats and surreys . . . two-wheelers . . . hearses . . . fire wagons. All styles and sizes clearly shown. A pictorial album compiled in typical style of the days when many different HORSE-DRAWN VEHICLES were common . . . colorful vehicles of every description.

ORDER NOW! Postpaid \$2.00

De Luxe Edition with Fabrikoid binding and gold leaf lettering Postpaid \$3.50

#### NEW YORK TO PARIS RACE, 1908

76 Pages . . . 109 photos. This book tells of World's Longest Race, won by a Thomas-Flyer. Photos of cars in all countries. Start at Times Bldg., N.Y.C., snows in Mid-West, sagebrush and sand in Wyoming, Alaska, Japan, Russian soldiers, Trans-Siberian Railways, Mongolian giants, the return to Times Square. A colorful story about an unbelievable around-the-world race in 1908. The Thomas-Flyer was then acclaimed the "World's Champion Endurance Car." A real book of Americana . . . Postpaid \$1.00

#### HISTORY OF MOTORIZED VEHICLES

Mechanical Traction and Travel—1769 to 1946. 368 charts, photos, drawings of historical vehicles, including steam, gas, electric, Diesel and tractors with a short history. \$2.00  Deluxe \$3.00

#### ALBUM OF STEAM TRACTION ENGINES

U.S. and Foreign makes from 1855 to 1929 are shown with 470 photos including 105 makes. Nostalgic pictures and ads of old time farm equipment. Memories of the early agricultural days on the farm. \$2.50   
Deluxe \$3.50

#### MOTOR HISTORY OF AMERICA

Complete growth of the automobile industry from its beginning. Stories and anecdotes of the men whose names made auto history: Ford, Buick, Chrysler, Willys, Kettering, Haynes, Winton, etc., \$3.00.

## FLOYD CLYMER, Publisher

America's Largest Publisher of Books Pertaining to Automobiles, Motorcycles and Motor Racing  
1268 SO. ALVARADO ST. TAC LOS ANGELES 6, CALIF.

Read Clymer's Test Reports on new cars monthly in Popular Mechanics Magazine

A black and white photograph of a dirt road. In the foreground, a vintage open-top car with two people is driving towards the viewer. In the background, another vintage car is visible. Utility poles line the left side of the road, and trees are on the right. The overall scene is historical and evocative of early 20th-century automobile culture.

# The Oldtime AUTOMOBILE

A FAWCETT BOOK

NUMBER 134

LARRY EISINGER • Editor-In-Chief • Fawcett Books

W. H. Fawcett, Jr. . . . . President

Roger Fawcett . . . . . General Manager

Gordon Fawcett . . . . . Treasurer

Ralph Daigh . . . . . Editorial Director

Al Allard . . . . . Art Director

Lee Wilson . . . . . Production Director

LLOYD MALLAN . . . . . EDITOR

Herb Levy . . . . . Associate Editor

HAROLD KELLY . . . . . ART EDITOR

Toby O'Mara . . . . . Art Associate

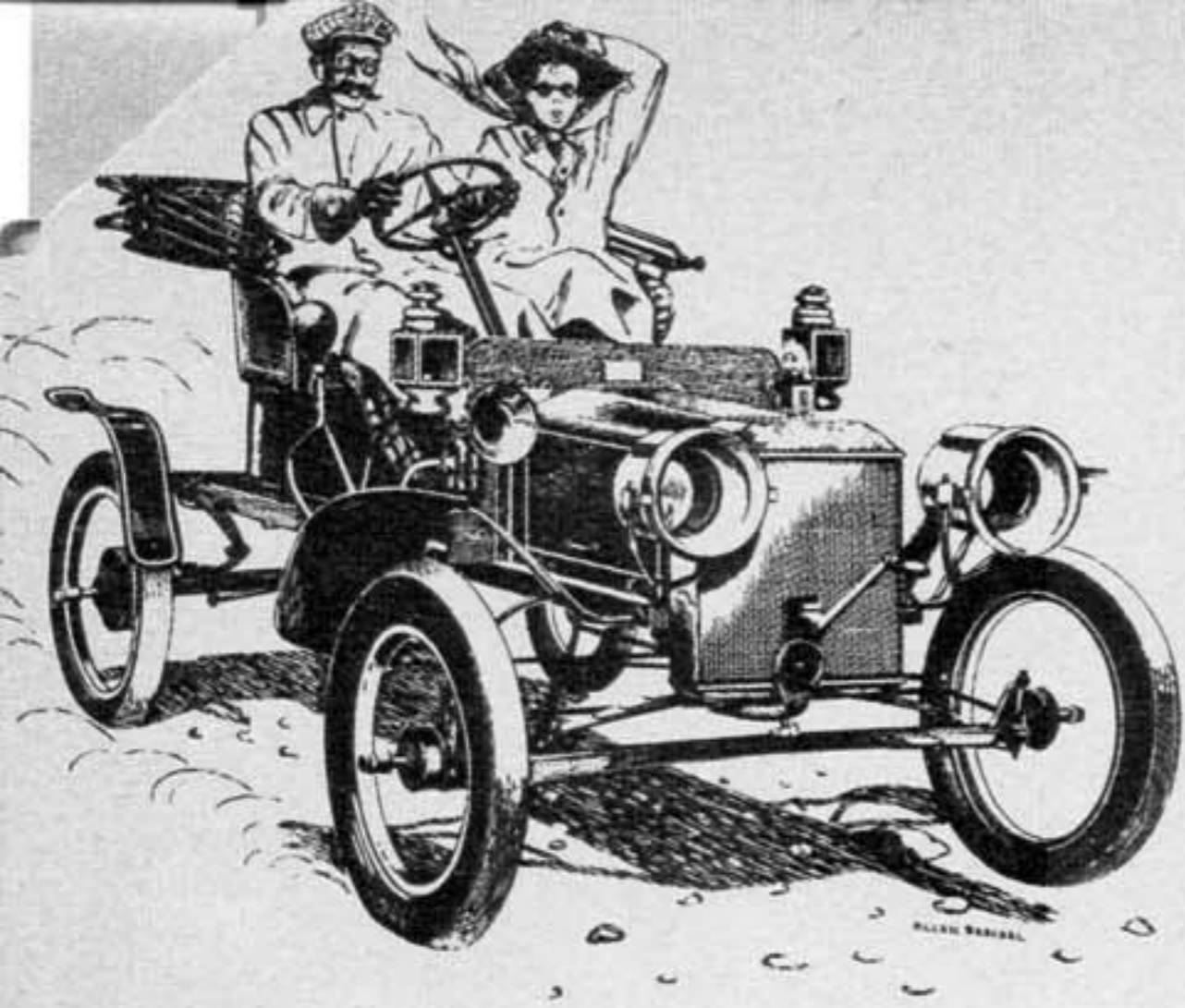
Bob Roche . . . . . Art Associate

Steve Horvath . . . . . Art Associate

John Culin . . . . . Art Associate

Dan Chew . . . . . Art Associate

Jean Galloway . . . . . Production Editor



## DEDICATION

The following persons deserve grateful acknowledgment for their kind cooperative efforts in compiling this book: D. Cameron Peck; Bill Powlison, AMA; T. A. Berchtold, Studebaker; Walter Risely, Peck Museum; Jerry Duryea; Ford News Bureau; Lawrence Riddle, Edison Institute; John Conde, Nash-Kelvinator; Tom Rhoades, Hudson; Ed Ruffin, GMC; Packard Motor Car Company; Delevan Lee; Bill McGaughey, head of AMA; Joseph Wurth; E. J. Reighard of Willys, and many others. Also, special mention must be given Smith Hempstone Oliver, associate curator, Section of Land Transportation at the Smithsonian Institution, Washington, D. C., for his authoritative corrections and additions.

J. B.

# CONTENTS

Introduction . . . . .	3
Early Production Models . . . . .	4
Buick . . . . .	6
Cadillac . . . . .	16
Chevrolet . . . . .	26
Chrysler-Maxwell . . . . .	32
Ford . . . . .	38
Hudson . . . . .	48
Nash . . . . .	54
Oldsmobile . . . . .	64
Packard . . . . .	74
Pontiac-Oakland . . . . .	84
Studebaker . . . . .	92
Willys-Overland . . . . .	100
Old Auto Album . . . . .	108
Index . . . . .	142

The following persons have generously supplied photos for this book: Charles Chayne, vice president of GMC; Tony Koveleski, Scranton Hobby Center; Henry A. Clark, Jr.; Herb Lozier, and two professional photographers: Rudy Arnold, who made the cover pictures at the Long Island Automotive Museum, and Dan Rubin.

The Oldtime Automobile, Fawcett Book 134, is published by Fawcett Publications, Inc., Greenwich, Connecticut. Editorial and Advertising Offices, 67 W. 44th Street, New York 18, New York. General offices: Fawcett Building, Greenwich, Connecticut. Roscoe Fawcett, Circulation Director; Allan Adams, Secretary; Shepard Spink, Advertising Director. Trademark of Fawcett Publications, Inc. Printed in U.S.A. Copyright 1951 by Fawcett Publications, Inc.

# INTRODUCTION



**S**PACE has compelled me to limit this book to the period 1896-1915. These gallant 20 years have purposely been divided into two sections. The first deals with automobiles whose names are, today, household words. The second covers some (too few, unfortunately) of the more than 2,000 Old Timers that fell by the wayside after contributing to the progress of the American automobile industry. There's a reason for this. Probably no single piece of utilitarian equipment in modern American life is taken so much for granted as the automobile. It's ever there, demanding little attention, ready to transport you and your family any place you want to go.

But things weren't always that way. Today's push-button motoring owes as much to those vanished pioneering names as it does to the survivors now forming the world's largest automotive industry.

Features like coil springs and a counterbalanced crankshaft (1907 Brush); overhead valves and camshaft (1906 Ariel); automatic transmissions (1895 Dey-Griswold and 1907 Columbia); independent suspension and V-type engine (1903 Marmon); seats within the wheelbase (1914 American Austin); and streamlined pontoon bodywork (1933 Pierce Arrow), failed mainly because their designers' vision outstripped both public imagination and the technology of the time. However, it's worth remembering that they were introduced by some of the finest American makes no longer with us.

In November 1896, Thomas Edison, friend of pioneers Henry Ford and Harvey Firestone, told a reporter: "Ten years from now you will be able to buy a horseless vehicle for what you have to pay today for a wagon and a pair of horses." He added that these vehicles would not be run by electricity but by a "gasoline or naphtha motor of some kind."

The early gasoline auto—a popping spine-jolter—had to win out both against public prejudice and the fierce competition of steam and electric cars. In 1899, 20 new makes of gasoline buggies appeared, to one steam and three electric; yet only 936 gasoline autos were built, compared with 1,575 electric and 1,681 steam vehicles.

It took until 1904 for the "hydrocarbon" auto to triumph. Then, some 54 new makes of gasoline cars were introduced, compared with only one electric and one steamer. Gasoline auto production soared to 18,699 units against 2,993 steam and electric vehicles combined.

Starting from scratch a brief 50 years ago, when European design was far superior, the U.S. automotive industry has since produced one car for every four Americans, compared with one for each 17 persons in Great Britain; one to every 25 in France and one to every 70 people in Soviet Russia. It can also claim credit for inspiring the three-million mile network of super highways that now patterns the U.S. landscape.

True lovers of Americana are peculiarly sensitive to the nostalgic appeal of the story behind the automobile industry's development. That's because its magnificent pattern is woven from colorful strands of courage, vision and adventure.

*John Bentley*



1914 Chevrolet



1904 Cadillac

1905 Chrysler-Maxwell



**EARLY**

**PRODUCTION**

**MODELS**



1904 Nash-Jeffery-Rambler

1901 Ford

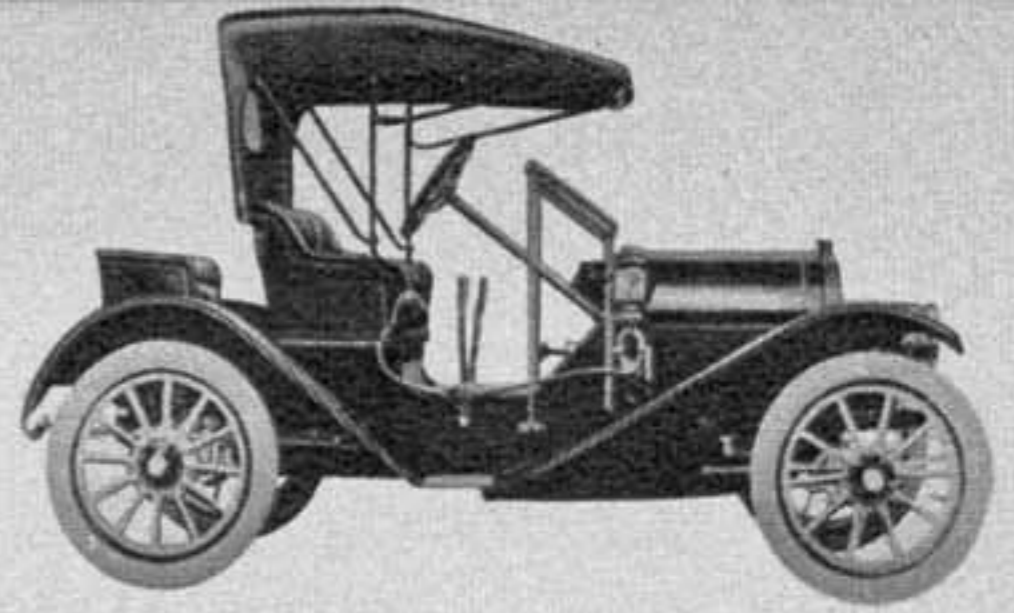


1906 Studebaker





1906 Packard

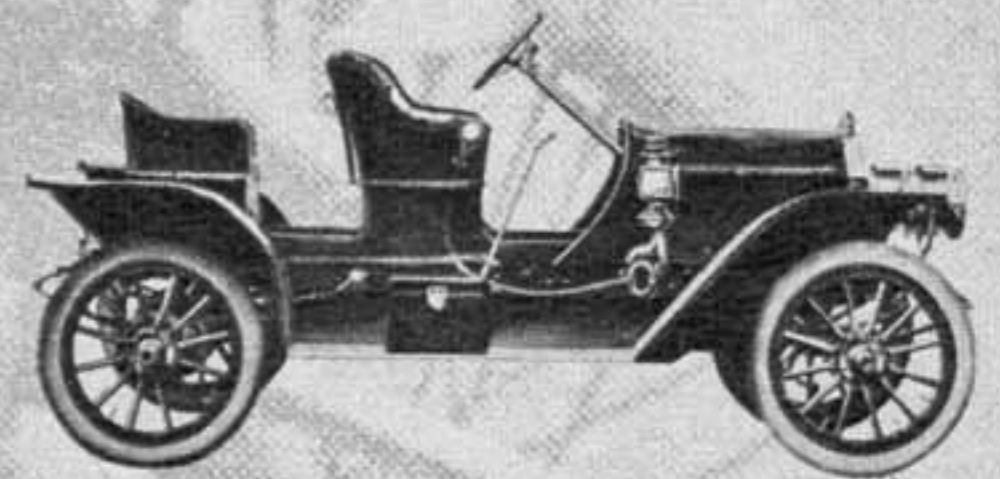
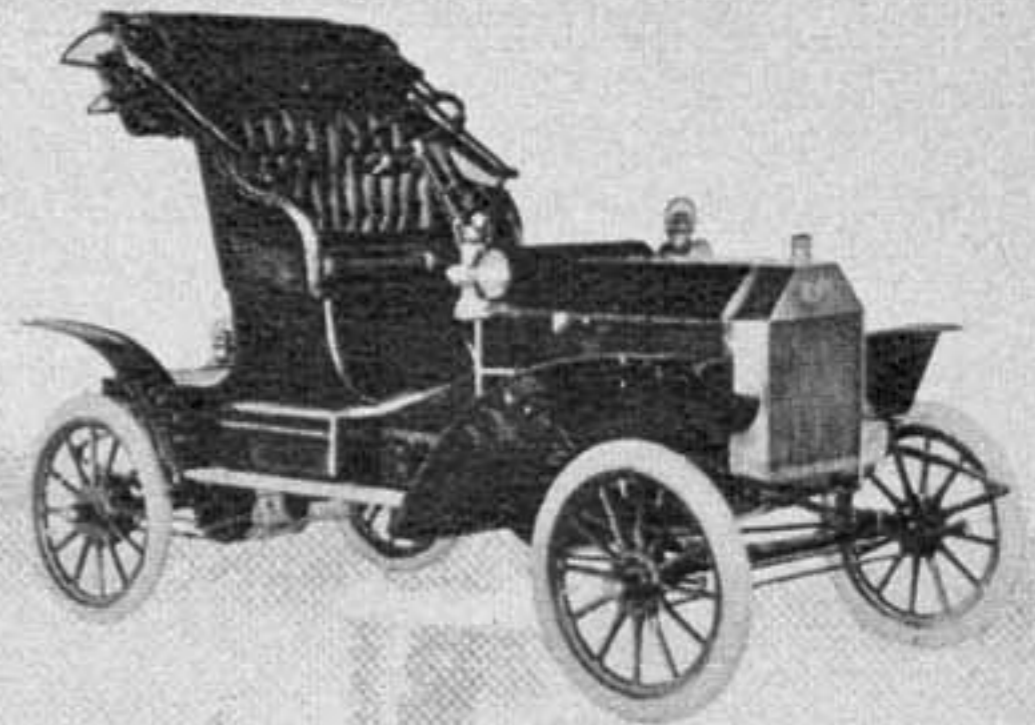


1910 Hudson

A variety of design and engineering imagination was evident even before World War I in these stalwarts of the automobile industry.

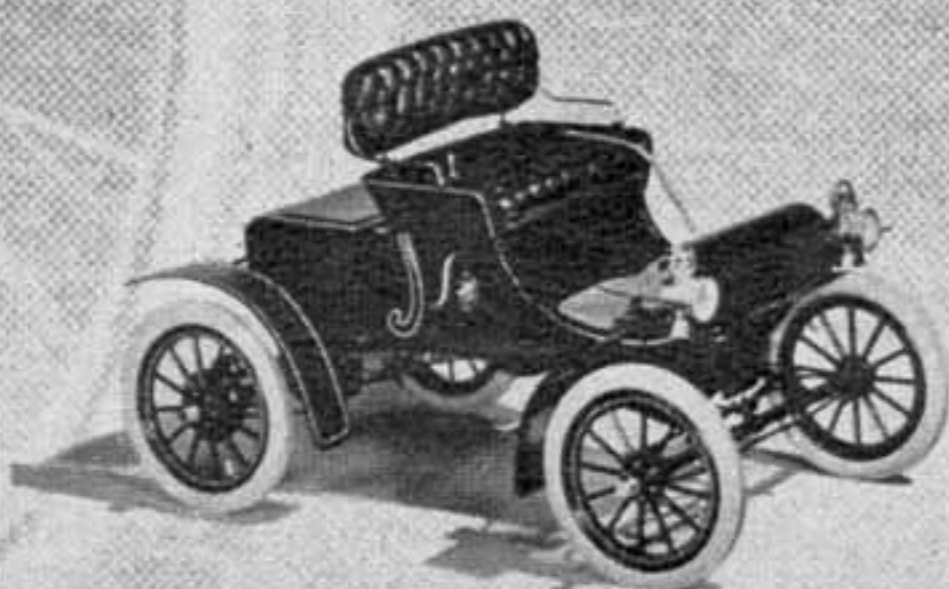
The 12 models on these pages represent the early production efforts of manufacturers who are still in business today. Of several thousands of individual firms that produced automobiles prior to 1915, only an even dozen has survived. Their stories are told in the first section of this book.

1907 Willys-Overland

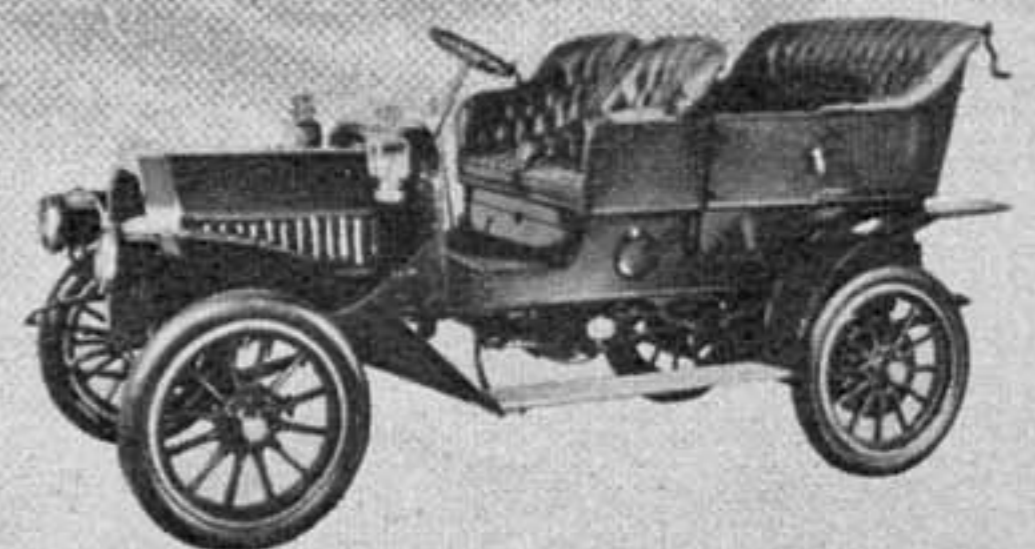


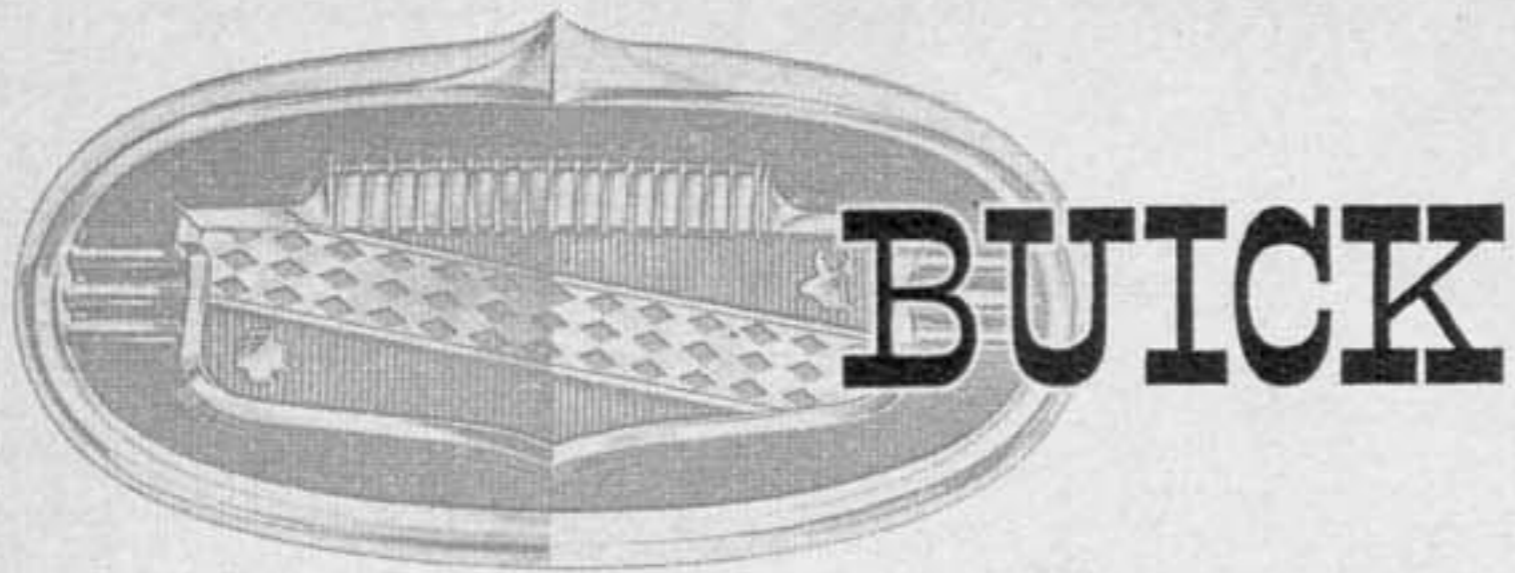
1908 Pontiac-Oakland

1901 Oldsmobile



1908 Buick





***A Detroit plumber foresaw that the future lay in gas-powered autos more than in porcelain bathtubs.***

**A**T the turn of the century, a Detroit plumber and inventor who had grown rich making bathtubs, envisioned a great future for the noisy, acrid-smelling gasoline buggy which was then fighting a merciless battle for supremacy with the steam and electric horseless carriages. How that battle would end, no one at the time could foretell. But David Dunbar Buick felt that it was up to a prophet to fulfill his own prophecy; so he decided to build and market an automobile embodying technical features so new and sound that it would leave all competition be-

1903





hind. Whether in plumbing or in cars, David Buick cared little for the commonplace. He was responsible for launching a process that had made possible the annealing of iron and porcelain, to produce the first white bathtubs. In designing the Buick car, he soon came up with another "first" that ignored accepted ideas of automotive design. He popularized the first production water-cooled, valve-in-head engine.

By 1902, Buick had completed his blueprints, built an experimental engine and obtained results that were so promising they warranted the formation of a company. Thus, the Buick Motor Company of Detroit came into being, and plans for manufacturing the car were set in motion. However, it was not easy in those days to persuade investors to sink money in any such new-fangled idea as the marketing of an automobile; and Buick, lacking capital, ran into financial trouble from the outset. Bills started piling up and it looked as though his venture might go under before it had the chance to get started.

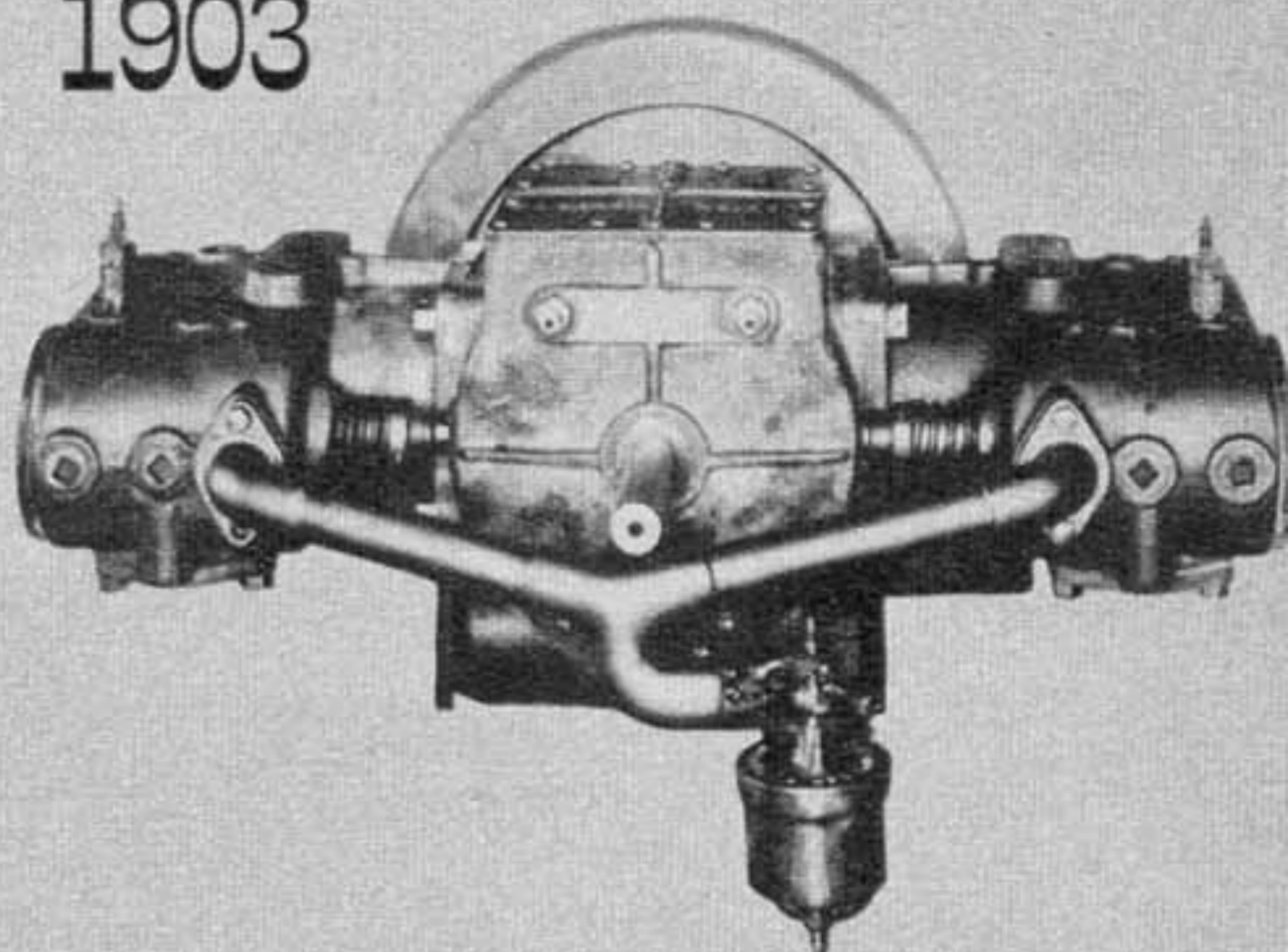
At this crucial moment, an enterprising local businessman named James H. Whiting came to the rescue by persuading his associates at the Flint Wagon Works to buy the firm from Buick's creditors for \$10,000. Whiting had to argue hard, but finally got his way and borrowed the money from a Flint, Michigan, bank. It actually was the largest single loan ever granted in the community up to that time, and on September 10, 1903, Buick was taken over by the Flint Wagon Works.

It was decided to move the infant Buick company from Detroit to Flint and start production with a payroll of about 50 workers. This move was directly responsible for the fact that today General Motors operations provide almost the whole of Flint's industrial employment—about 90 per cent.

Buick's first model sold well, considering the limited production facilities. Between

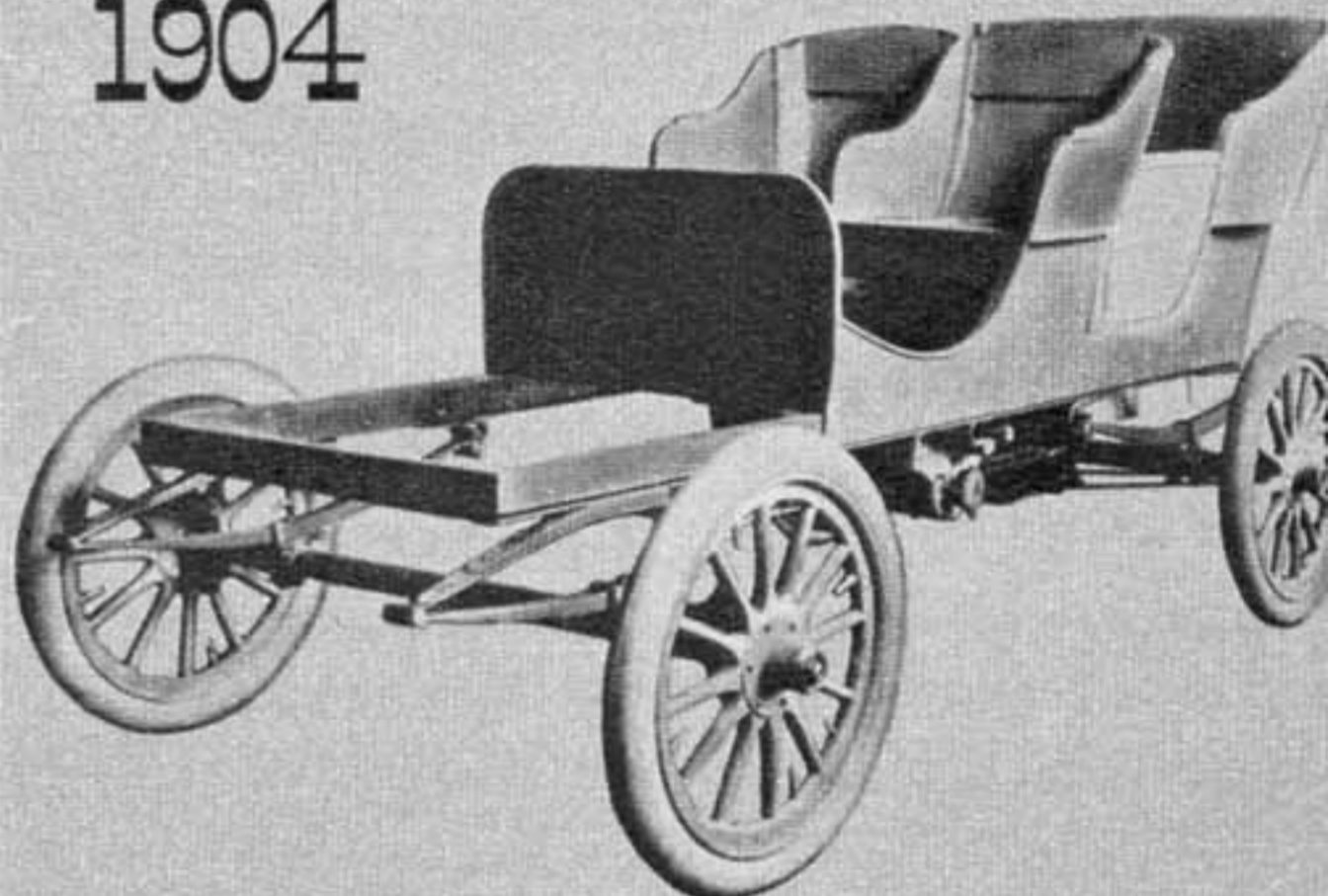
Walter Marr and Buick's son, Tom, arrive at the new Flint factory (left) aboard the first Detroit-built Buick. Because of impassable roads, the 65-mile trip from Detroit was lengthened by detours to 115 miles.

## 1903



First production engine built at Flint: the two horizontally opposed cylinders were water-cooled and maximum output was 21 hp. It was used in first 16 cars sold, then improved.

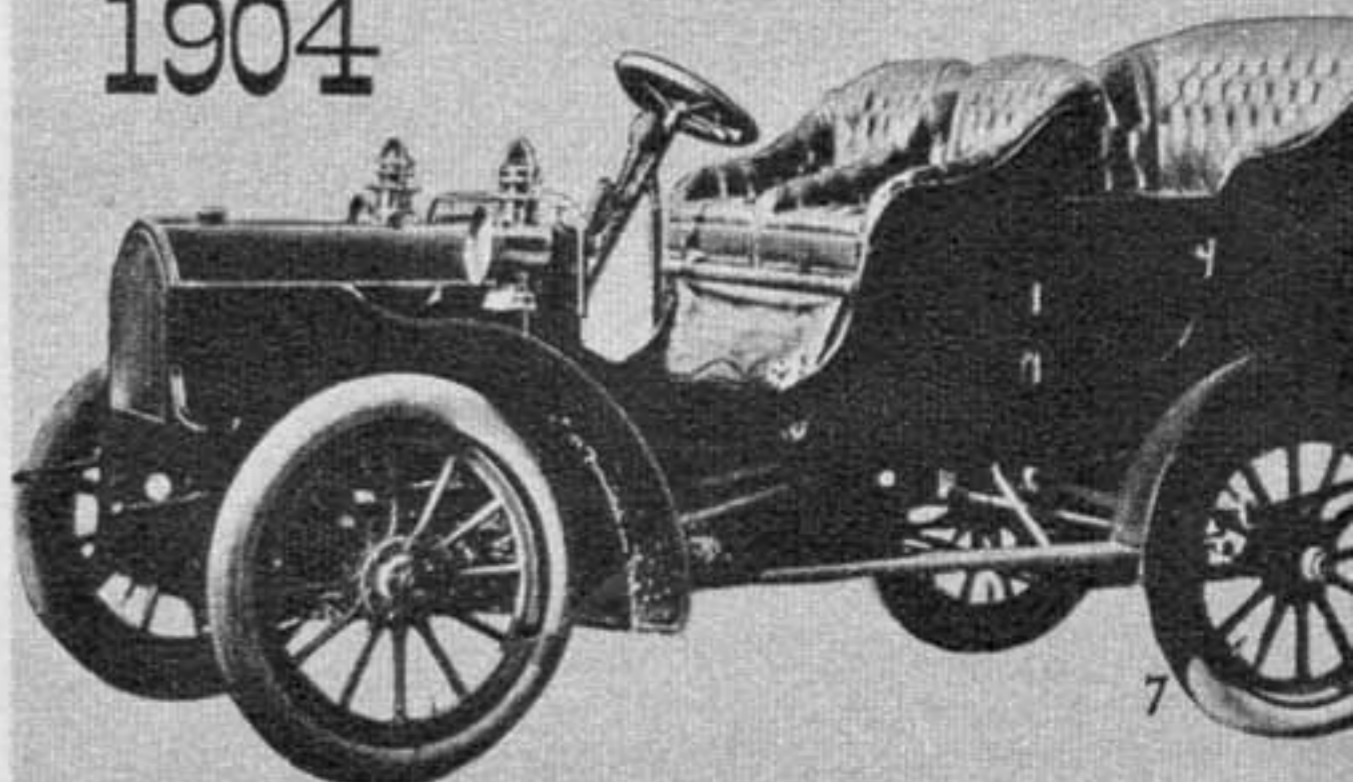
## 1904

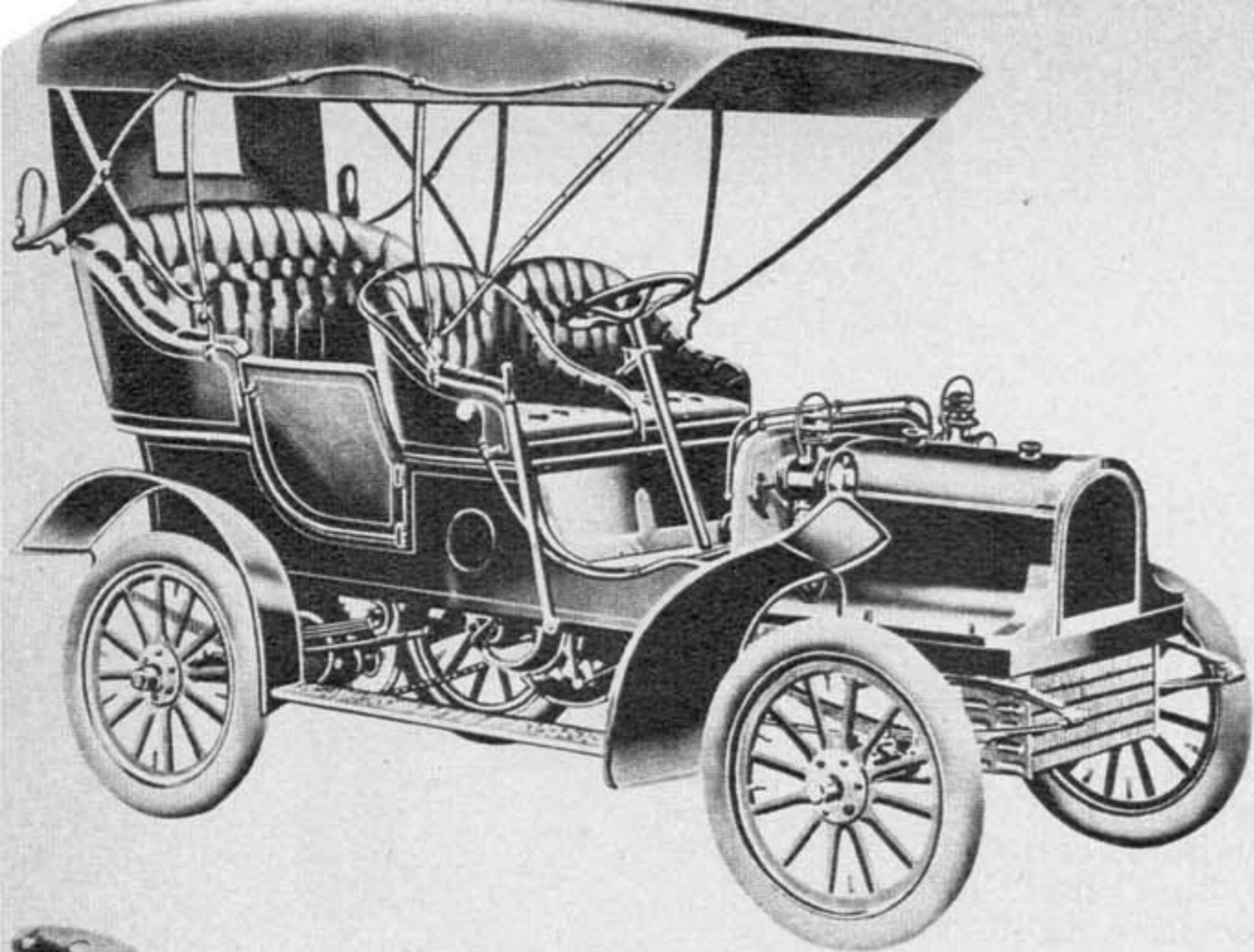


Buick's first production touring body (above) made of wood was the basis for the Model B, which sold at \$1,200. The engine, already set in chassis, is located under the rear seat.

The Model B four-passenger touring car was equipped with a two-cylinder 16 hp engine. It weighed 1,850 pounds. Sold were 37 units. Note side-entrance rear tonneau, flared fenders.

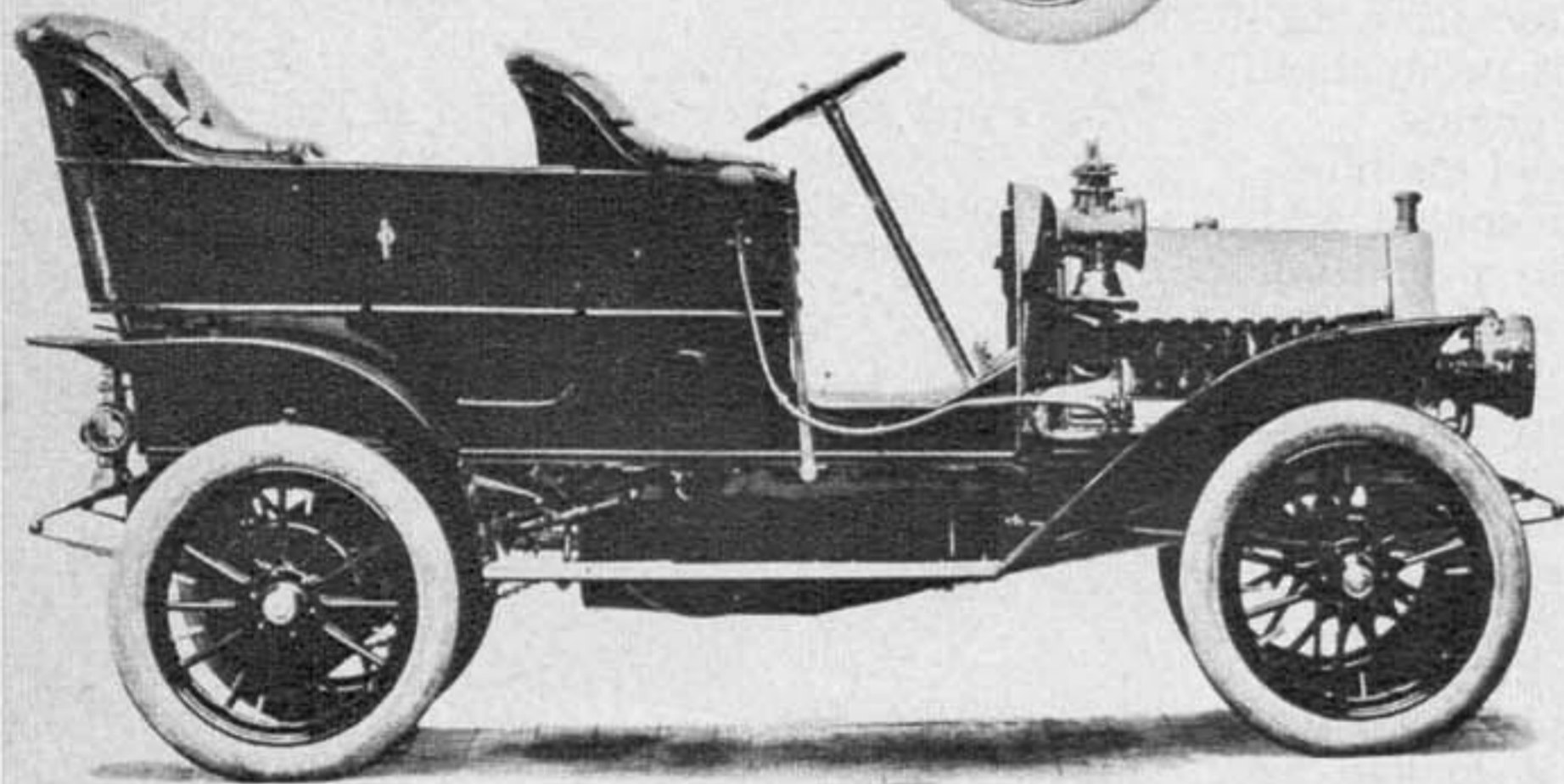
## 1904





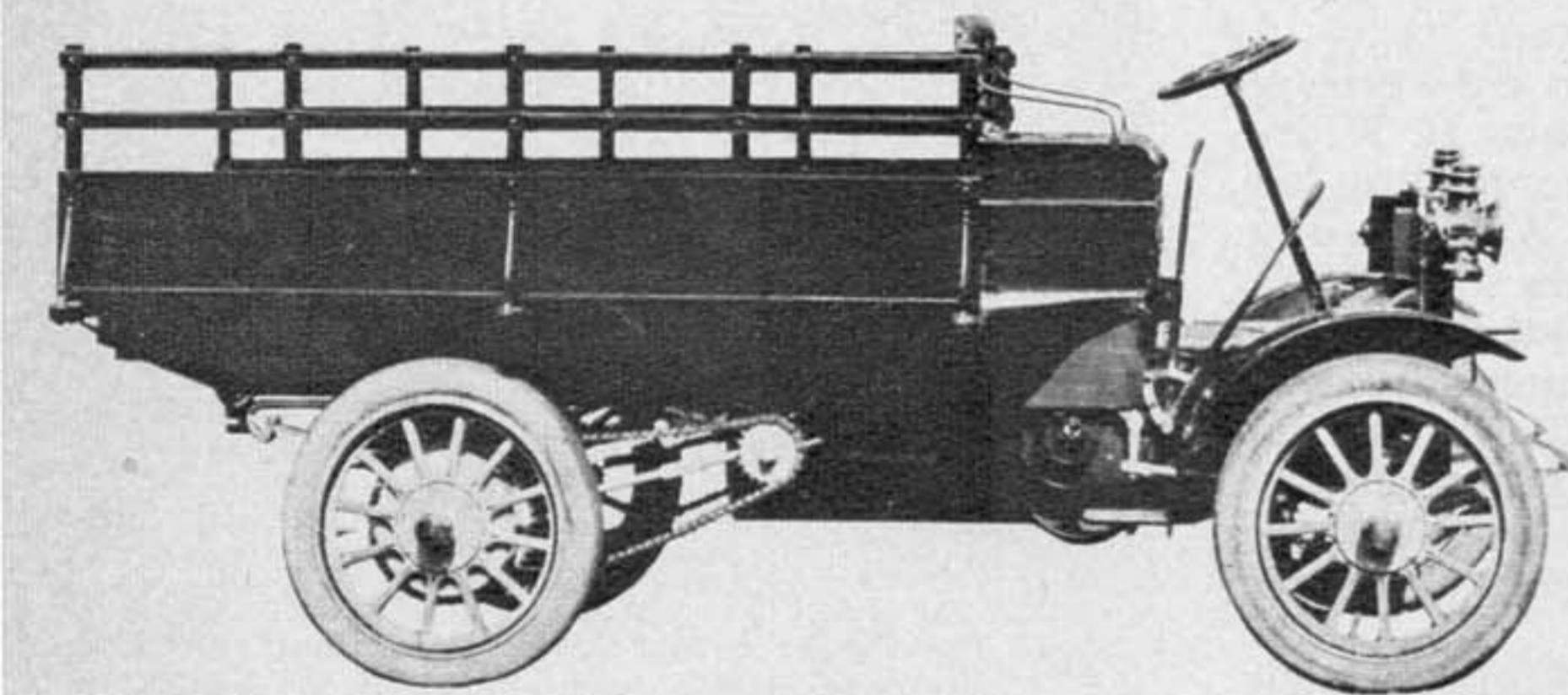
1905

Model C touring car could hold five in a squeeze. It cost \$1,200 with two-cylinder 16 hp engine. Weight: 1,850 pounds. It was only model for that year.



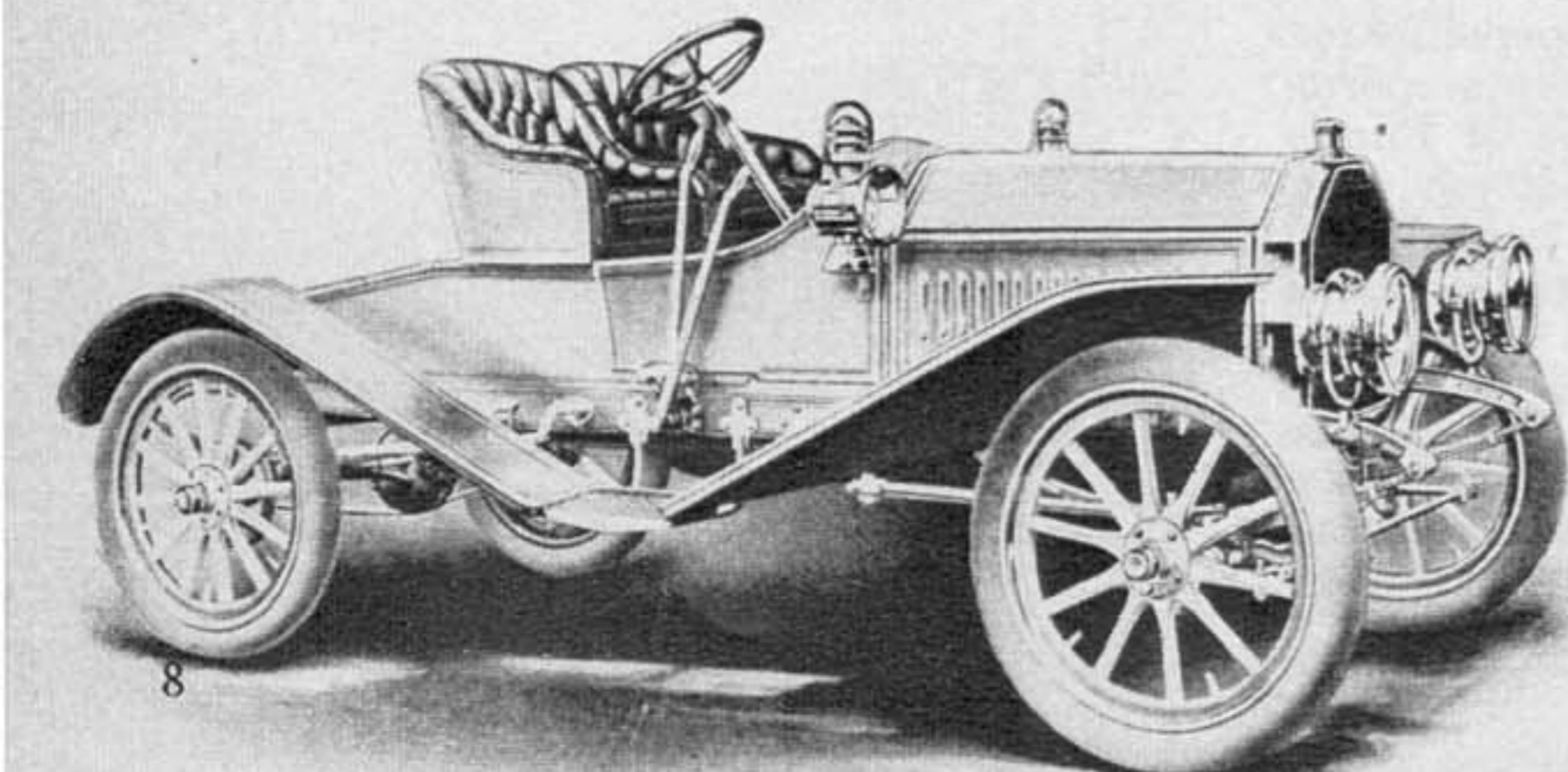
1906

Similar to Model C in price, engine and capacity, the Model F sold 1,400 units (earlier model sold only 750 units). Price did not include top or spare parts.



1907

The Model M-2A Plumbers Body truck carried a maximum load of 2,000 pounds. Priced at \$1,000, it had a two-cylinder 22 hp engine, sold 1,098 units.

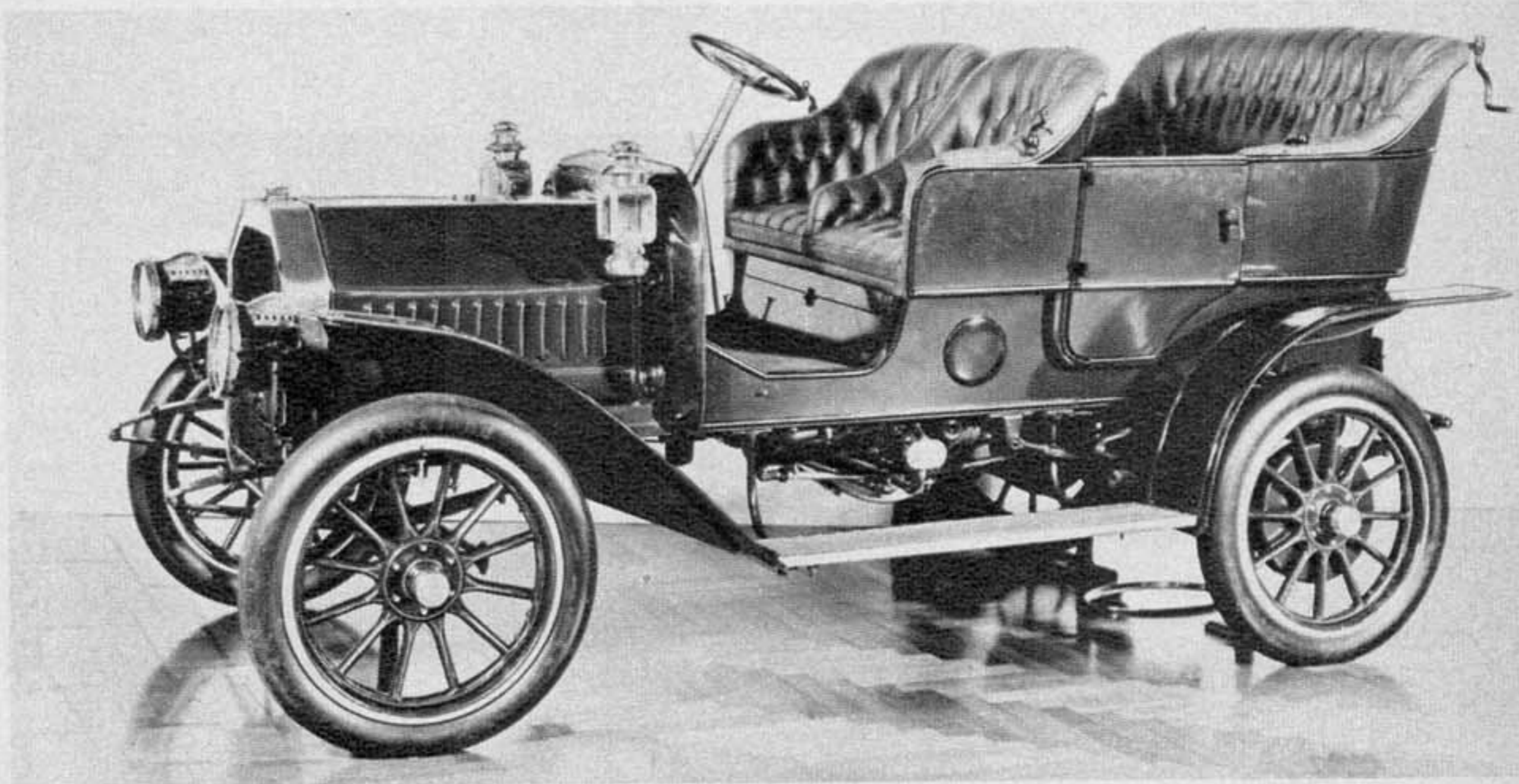


1907

Powered by a four-cylinder 28 hp engine, the Model S two-passenger runabout sold at \$1,750. It weighed 2,000 pounds and was very popular.

## 1908

The Model F touring car was easily outsold by the Model 10 that year. With two-cylinder 16 hp engine, it cost almost \$500 more with top. Weight was 1,850 pounds. Base tag: \$1,250.



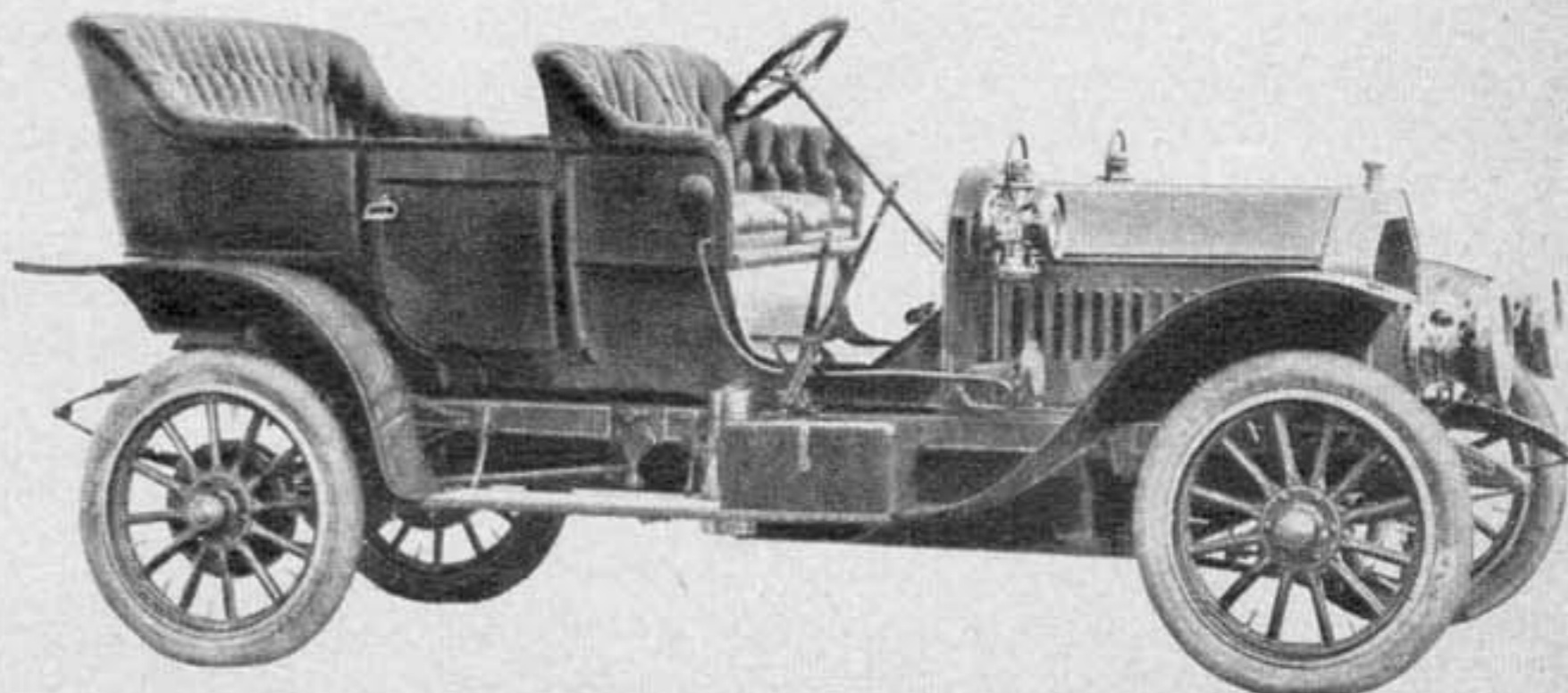
September and December, 1903; 16 cars found their way to private owners. The sales appeal lay in the novel but simple and rugged design of the Buick and the honest workmanship that went into it. The two-cylinder, valve-in-head engine developed 21 hp and ran dependably, offering adequate performance for an over-all weight of 1,675 pounds. A simple two-speed planetary transmission was used. The car sold for \$950. In addition, the engine design produced more horses than was the case

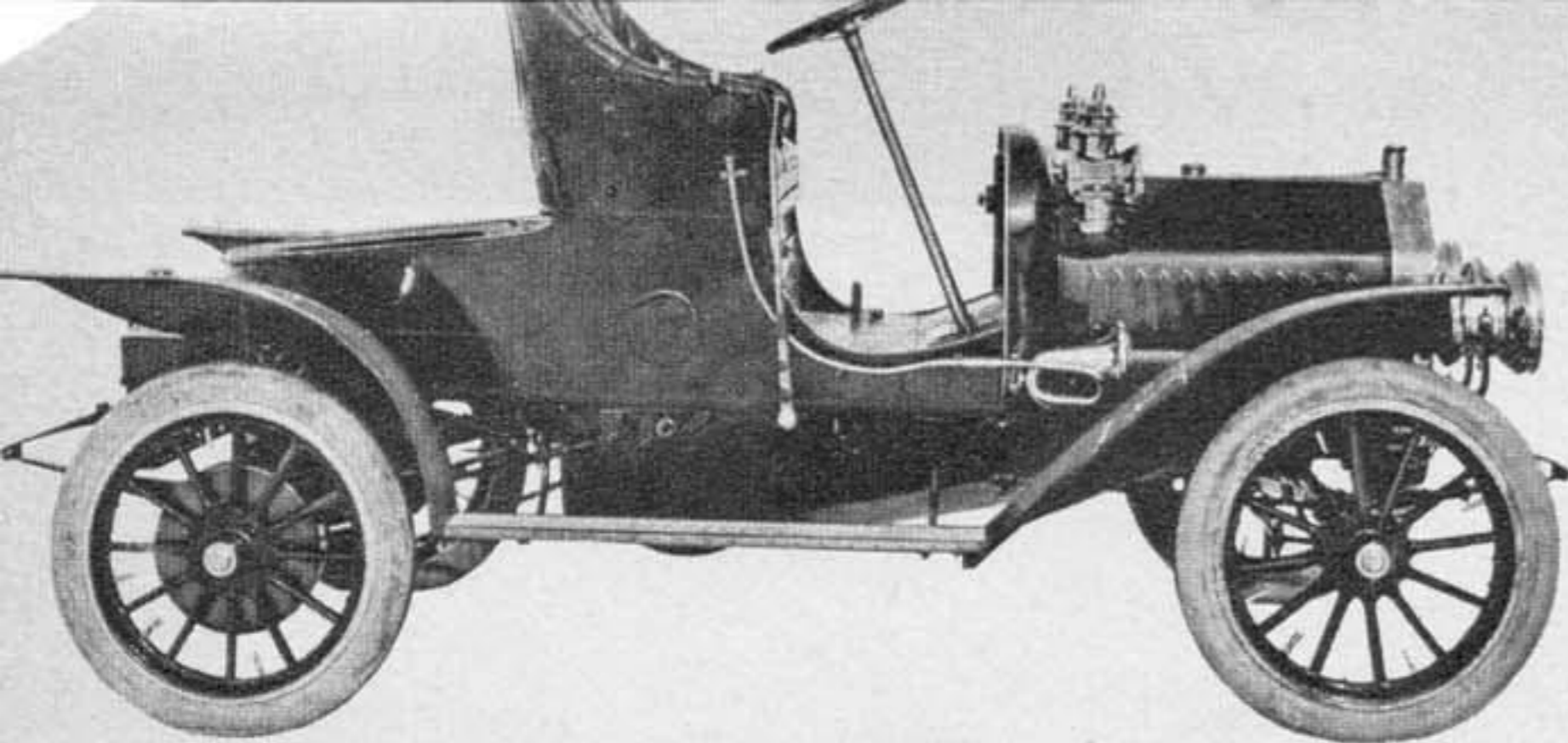
with L-head engines of comparable size.

David Buick moved to Flint as president and general manager of the new company, which quickly increased its capital to \$75,000. Local prejudice, however, was still deep-rooted in favor of horses. This was inevitable in a community which had become famous as "The Vehicle City" long before the advent of the automobile. Only three days after the opening of the Buick plant, a train consisting of 42 carloads of "conventional" carriages left Flint for the

Below is an early version of the Model 17 touring car. Unlike later design (see page 11), it came equipped with tool kit on running board. Weight was 2,790 pounds. Both cars were priced the same.

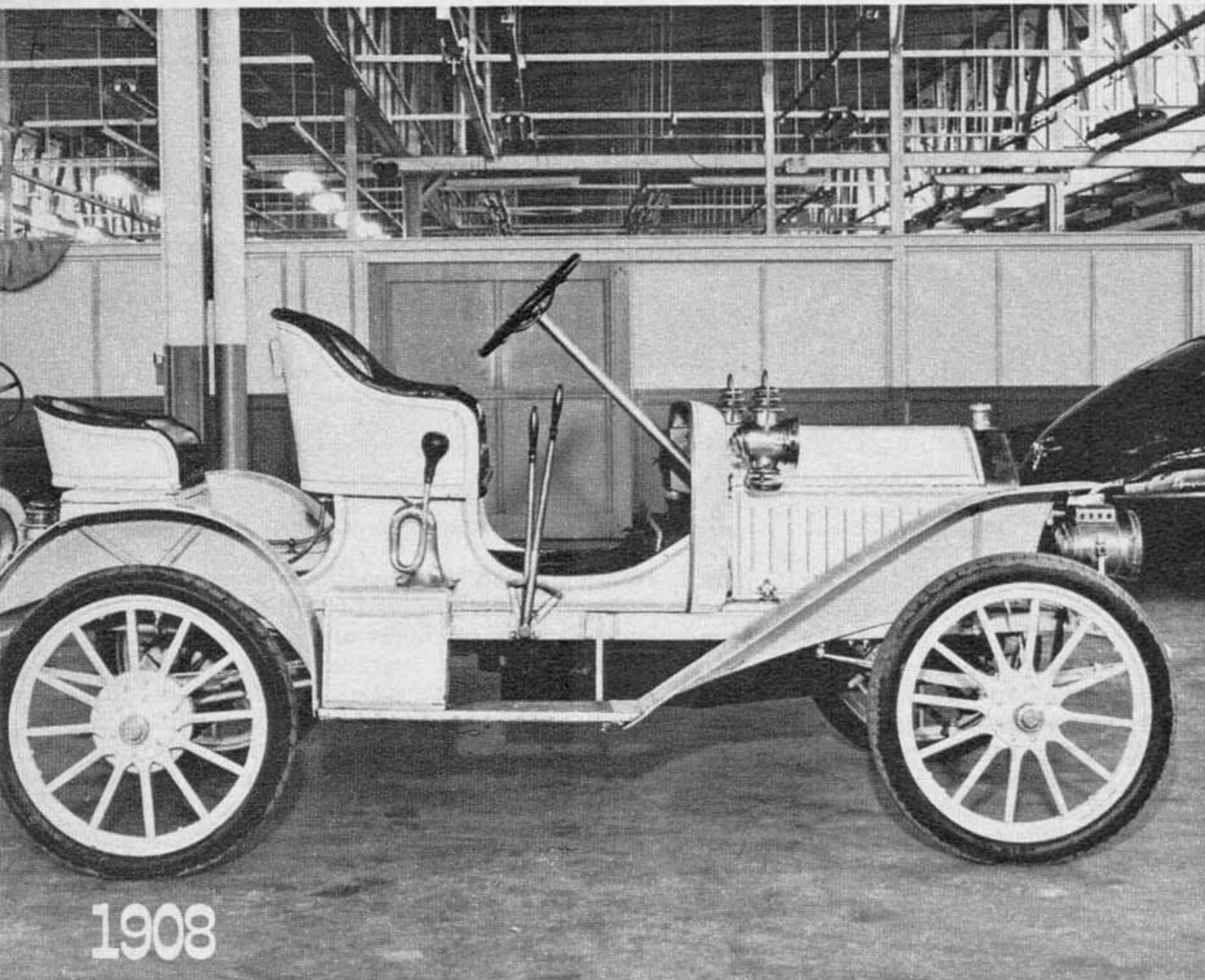
## 1909





1908

The Model G runabout, priced at \$1,250, was powered by a 22 hp two-cylinder engine. It had a 92-inch wheelbase.



1908

The Model 10 was fancier, cheaper. It had a four-cylinder 18 hp engine, sold at \$900. With "mother-in-law seat" and 88-inch wheelbase, 4,002 units were produced.

far west. But this didn't discourage Buick.

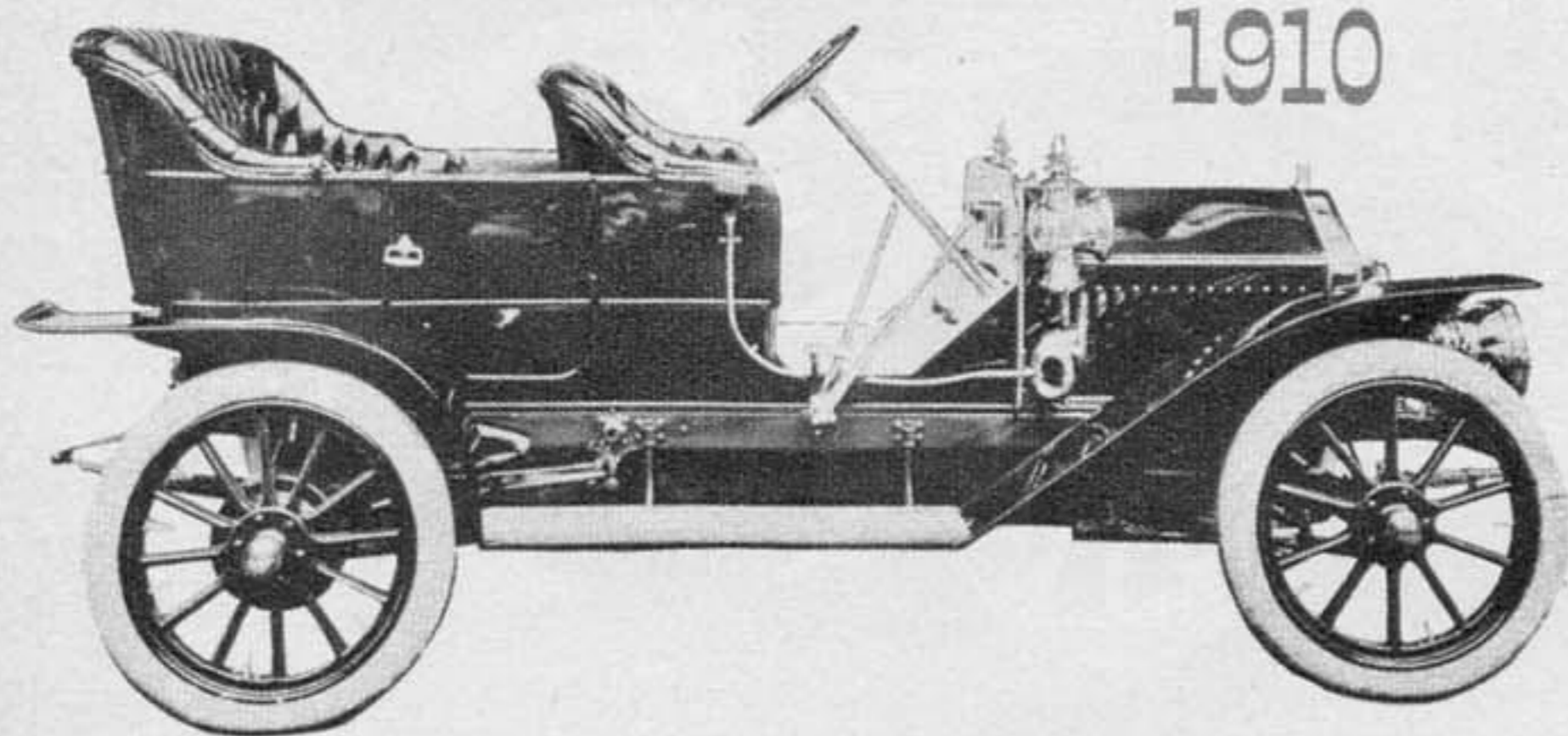
In 1904, some 37 Buick Model B cars priced at \$1,200 were built and sold; but far more important things happened to the company than this production increase. Late that year, William C. Durant, the "financial wizard" of Flint, (who later gave his name to a successful automobile), stepped into the picture. Durant had made

a fortune building and selling horse-drawn carriages, and as a promoter he had no equal. Like all success-promoters, he was a boundless enthusiast, who thought not in hundreds or thousands but in millions of dollars. Soon after he was appointed general manager of the Buick organization, the forceful Durant began selling stock in a big way to Flint residents. In no time, he

increased the firm's capital to \$1,500,000 and started numerous local investors on the road to riches. This was despite the citizenry's preference for horses.

In 1905, things really began to hum. The Model C Buick appeared and 750 cars were sold, representing an output more than 20 times greater than the year before. Even

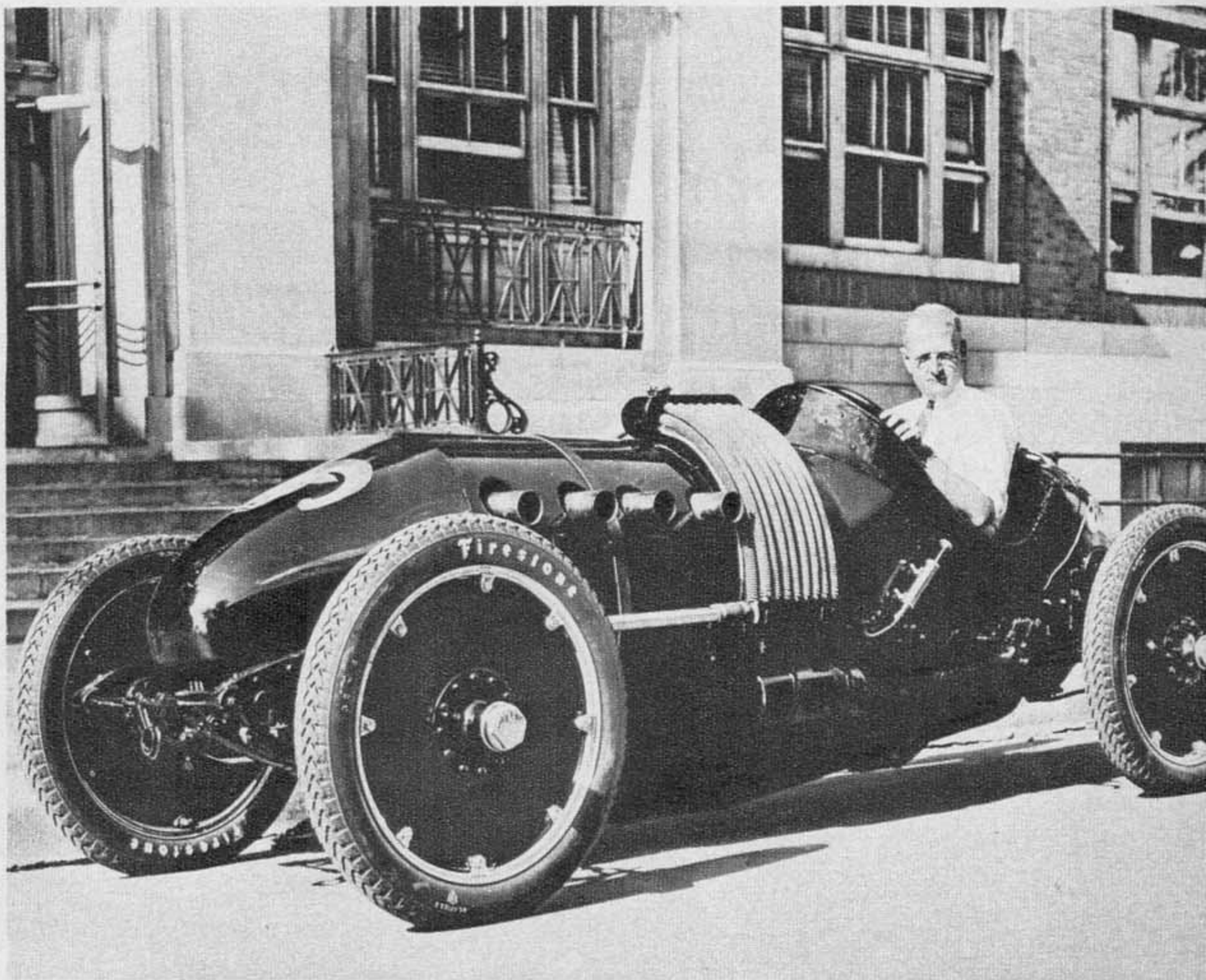
this was just the beginning. Production for 1906 reached 1,400 cars—nearly double that of the previous 12 months—and the Buick achieved new fame, this time in direct competition with other leading makes. A two-cylinder, 22 hp Model G Buick runabout, suitably stripped, won the 100-Mile Free-for-All race at New York's Empire City



Production went even higher with the Model 17 touring car (left). With four-cylinder 30 hp engine, 6,002 were sold at \$1,750. Note high gloss of finish, brasswork.

1909 - 10

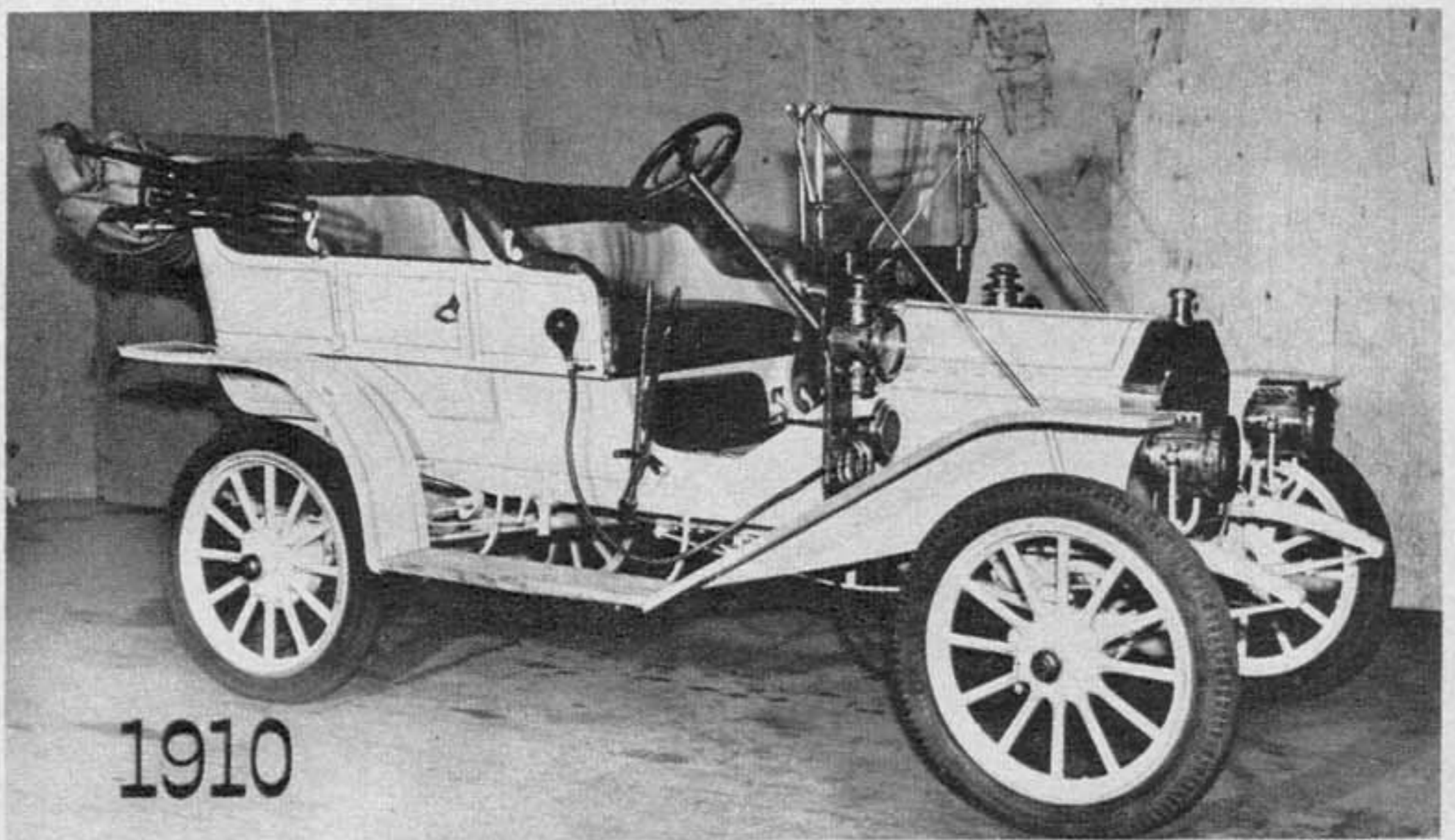
Charley Chayne, vice president of General Motors, in his rebuilt Racing Bug (below). Four-cylinder engine is 144 hp; wheelbase is 102.5 inches.





1910

This Model 16 touring car (above) carried four passengers and sold at \$1,750. It had a four-cylinder 30 hp engine, 112-inch wheelbase. Produced: 2,252 units.



1910

The 1908 Model 10 runabout was continued here as a touring car with similar engine. Priced at \$1,150, it accommodated four. Produced were 11,000 units.

Track, defeating seven other starters. The driver was H. J. Koehler of New York.

In 1907, 4,641 cars rolled out of the Buick plant, more than tripling the previous year's output. During this period also, Durant—to whom nothing was too big, nothing impossible—virtually took over the company's affairs. He hired in quick succession men of outstanding caliber in the automotive industry, such as Walter P. Chrysler and Charles W. Nash and gave their talents free rein. That he picked the right men was evident, for in 1908, with the advent of the famous Model 10 Buick, production jumped to nearly 9,000 cars.

Meantime, Durant completed plans for a merger with Oldsmobile and the formation of a New Jersey corporation to be known as General Motors, of which Buick was to become a division. In September 1908,

General Motors was founded with a capital stock of \$2,000 which increased to \$12,500,000 in a few weeks and to \$60,000,000 in less than a year. At this time, Durant showed more foresight by hiring Louis and Arthur Chevrolet.

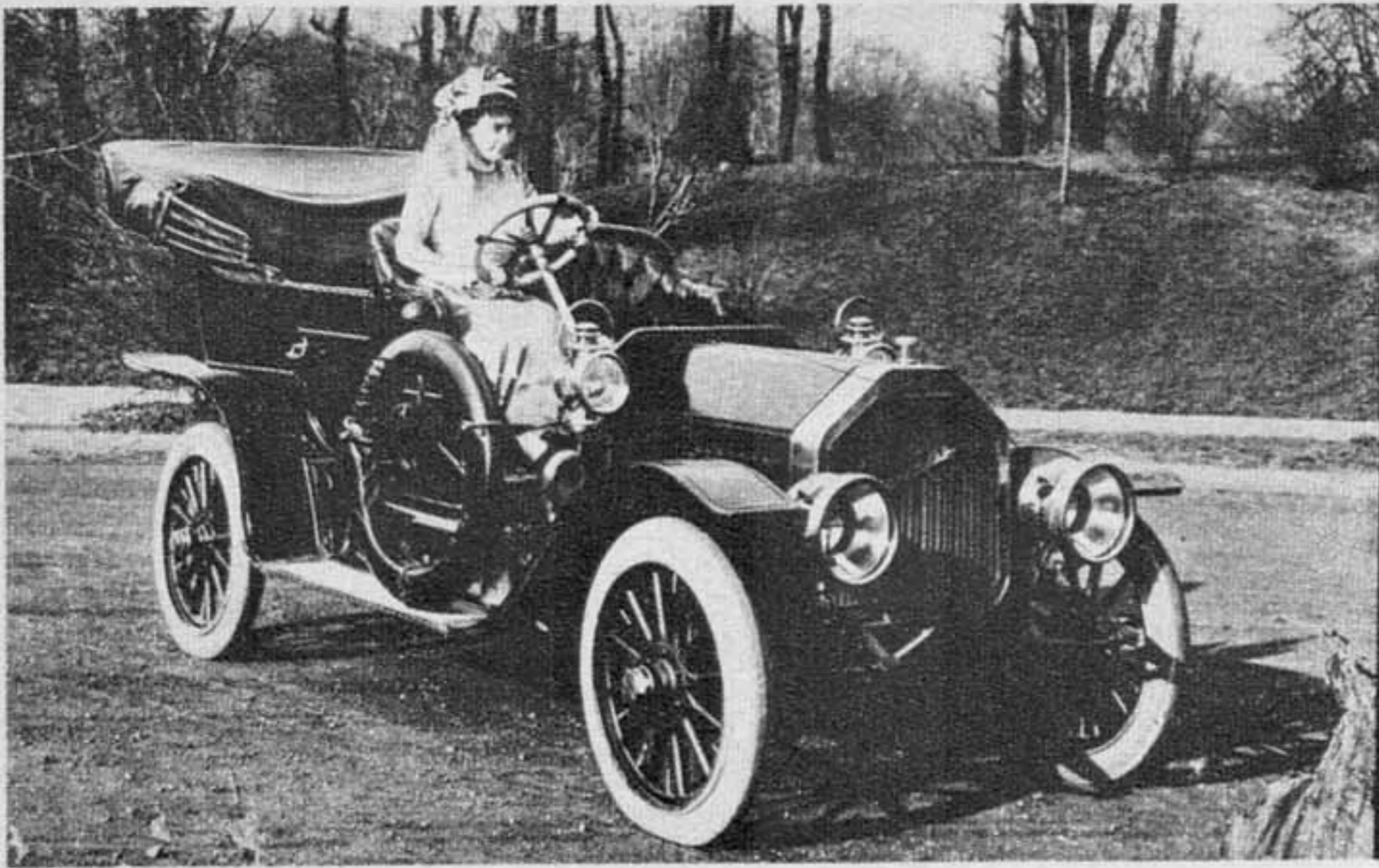
As an entity, the Buick factory continued to expand with breath-taking speed, and with it production figures soared ever higher from year to year, doubling and redoubling themselves as a matter of course. By 1910, a high of 30,525 cars was reached with nine models priced from \$1,000 to \$1,750. This gave Buick 16.9 per cent of the industry's total output.

That same year, Cadillac, already long established as America's number one quality automobile, also merged with GM, to become yet another division.

In 1911, however, something happened

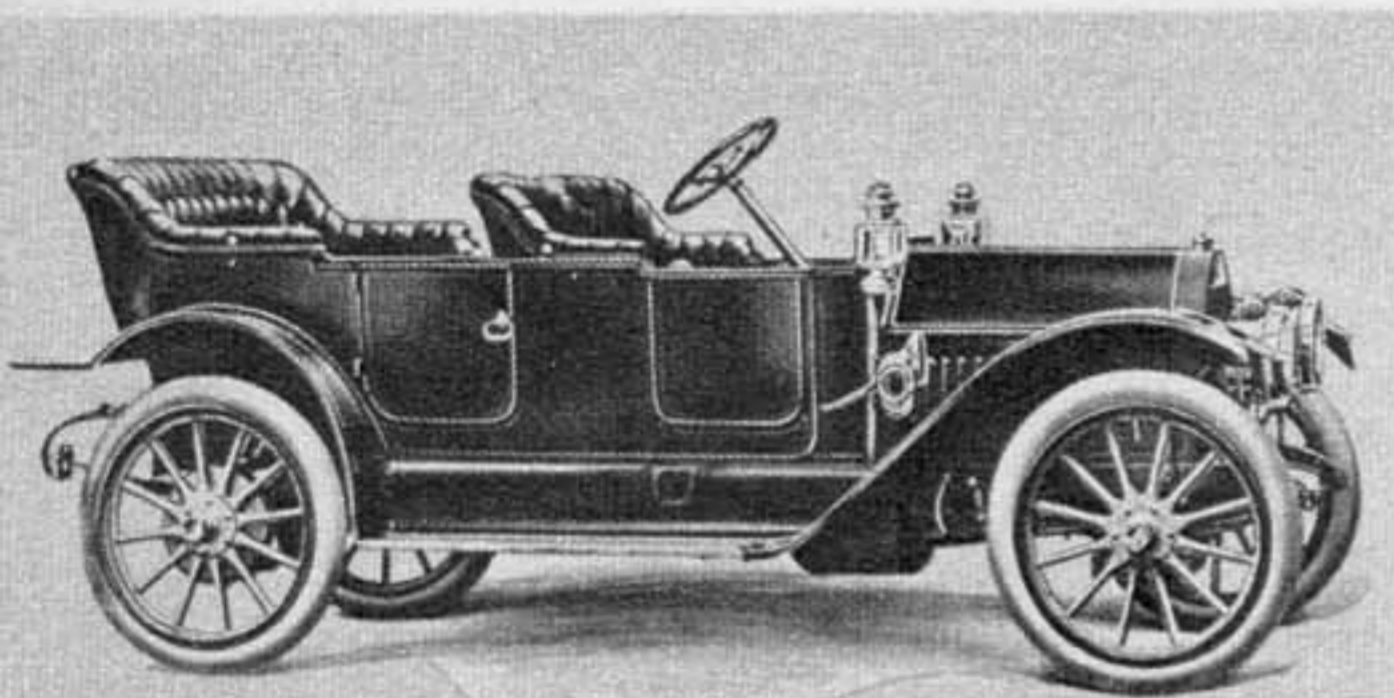
The Model 14 two-passenger roadster had a two-cylinder 16 hp engine, was very popular. Priced at \$1,000, it weighed 1,425 pounds. Note driver's gauntlets.





1910

Windshields were a luxury at this time as can be seen from the Model 17 here with the lady driver behind the wheel. Priced at \$1,750, it boasted a 30 hp four-cylinder power plant.



1911

The Model 39 had a style and engine similar to Model 17. It weighed 435 pounds more (3,225 pounds), cost \$1,850, less top and windshield. Lamps were lit by acetylene or oil. Sales reached 13,381 units in all models, including trucks.

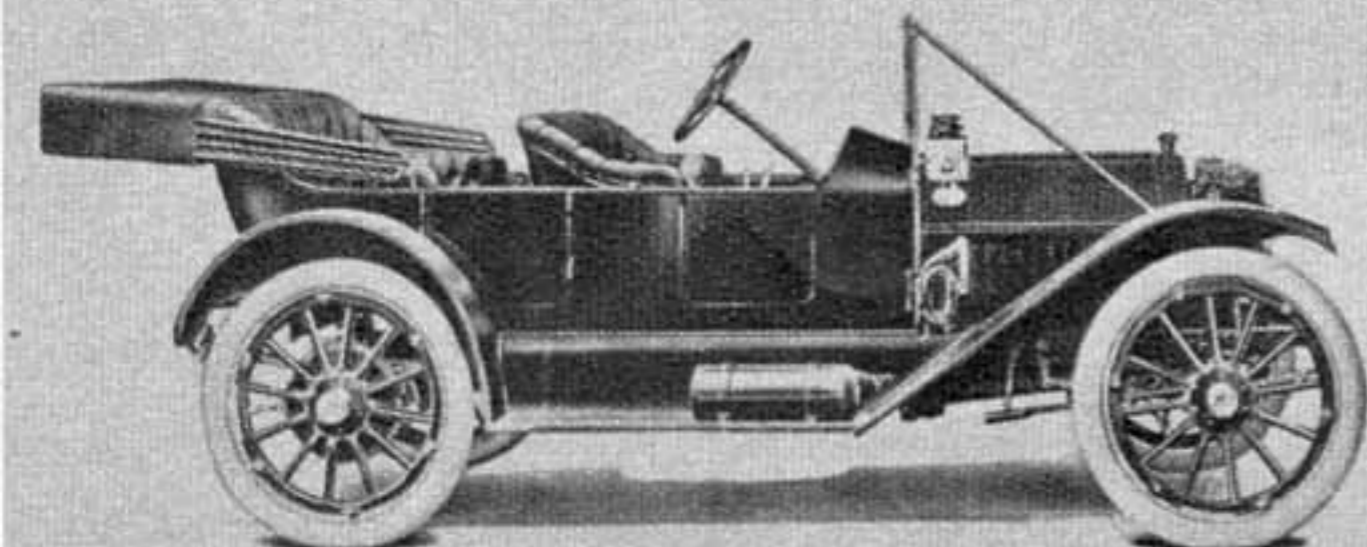


1911

The Model 2-A was first light gas-powered truck to be used by the Saturday Evening Post and allied journals. With 16 hp two-cylinder opposed engine and chain drive, it weighed 2,230 pounds, had a payload of about 1,000 pounds, cost over \$1,200.

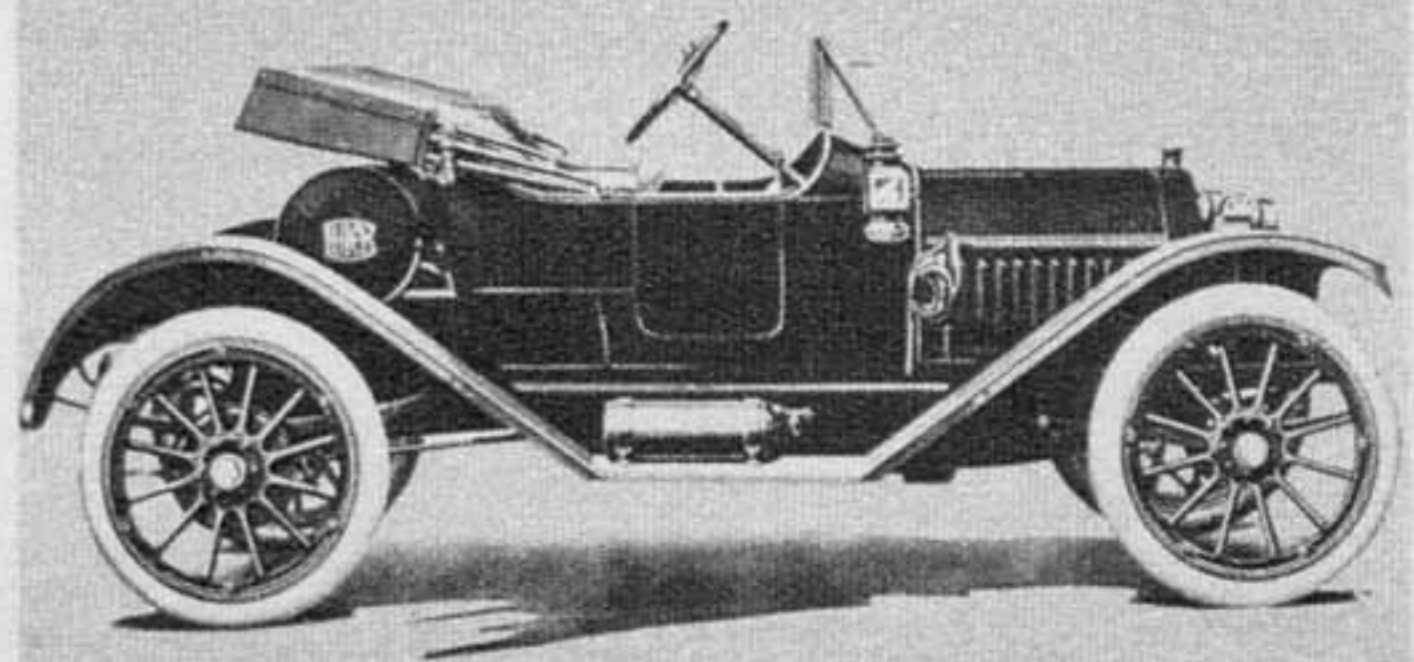
1912

The Model 29 five-passenger touring car was a great hit among medium-income-bracket families. Powered by an engine of 25 hp, it weighed 2,600 pounds and sold at \$1,180. Note side-entrance tonneau and sturdy over-all design.



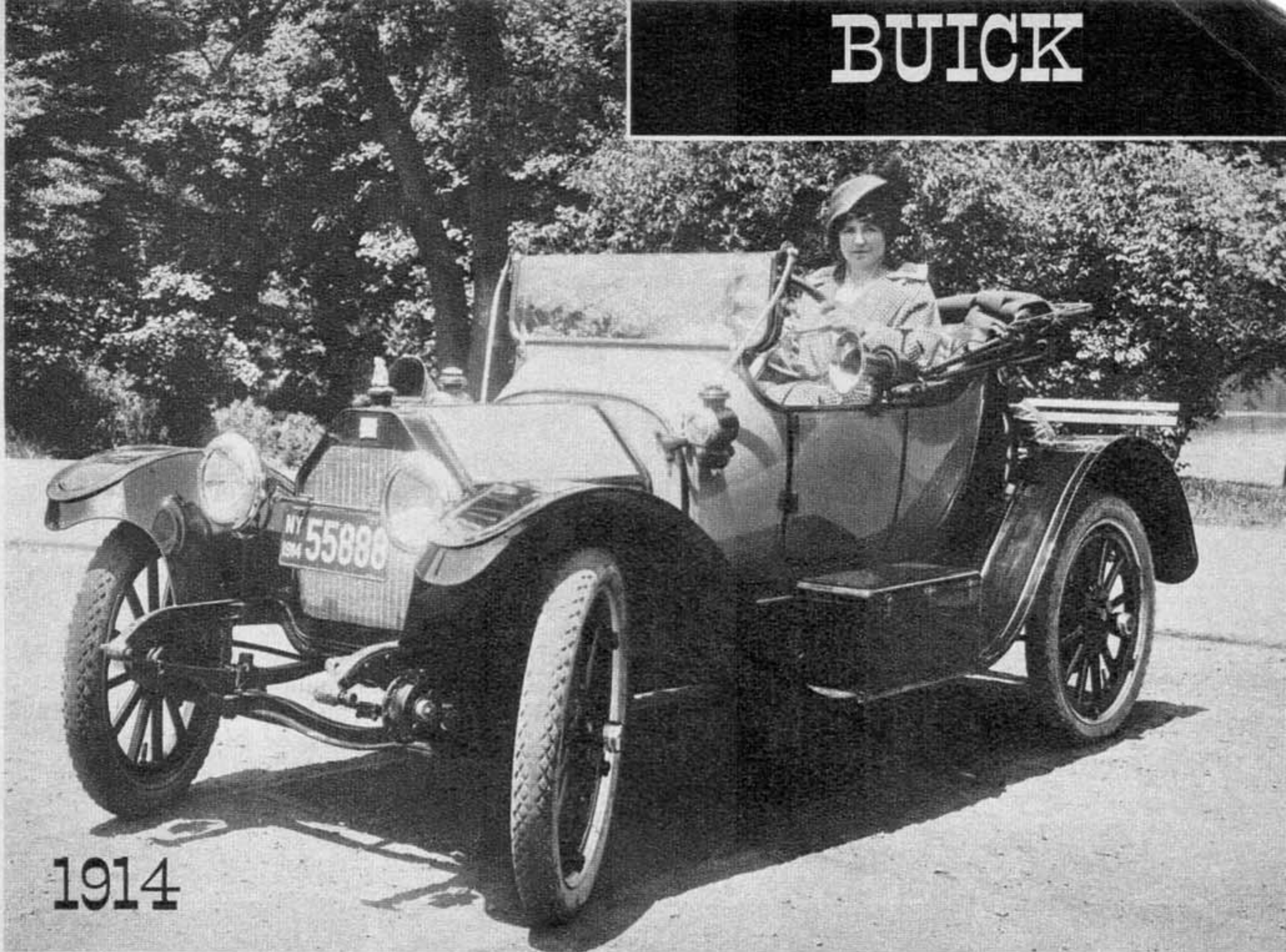
1913

Priced at an attractive \$950, the Model 24 roadster sold 2,850 units. It weighed 2,130 pounds with a four-cylinder 22 hp engine. Gas tank behind seats was a sporty feature that made a big hit with the dashing "bloods" of that day.





# BUICK



1914

Dressed in the height of fashion for her day, this lady driver is ready to go in her Model B roadster. It cost \$1,050, weighed 2,200 pounds and had a four-cylinder 22 hp engine. Note "modern" Klaxon horn.

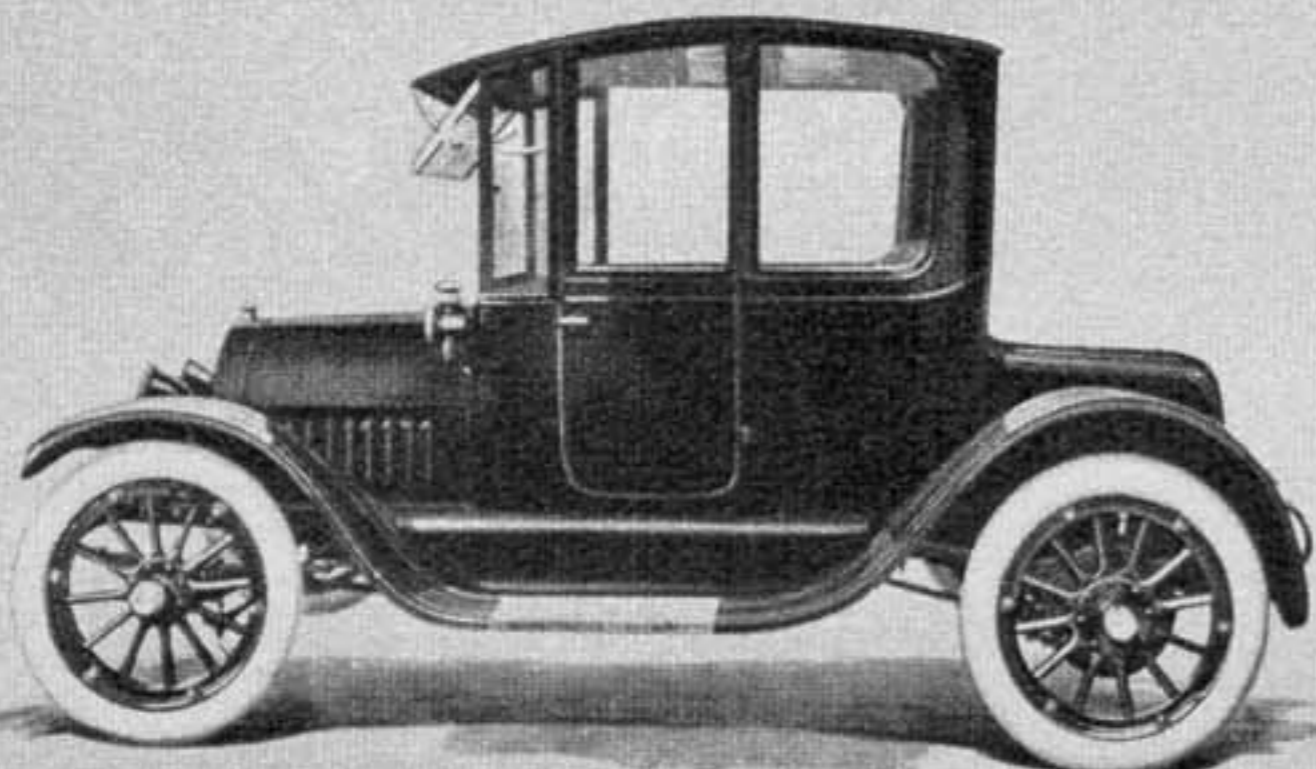
to Buick sales that caused a sharp decline to little more than 13,000 cars. That something was a bad case of financial indigestion suffered by the gangling infant, General Motors. It was caused by trying to swallow too many other enterprises. William Durant had over-reached himself in his jugglery with millions. It took until 1914, when

World War I broke out, for Buick again to reach and surpass the 1910 output—with nearly 33,000 cars. Despite the War, or perhaps because of it, production continued to climb until in 1916 it soared to a new peak of 124,834 cars.

During the first 14 years of its existence, Buick sold more than 322,000 cars. •

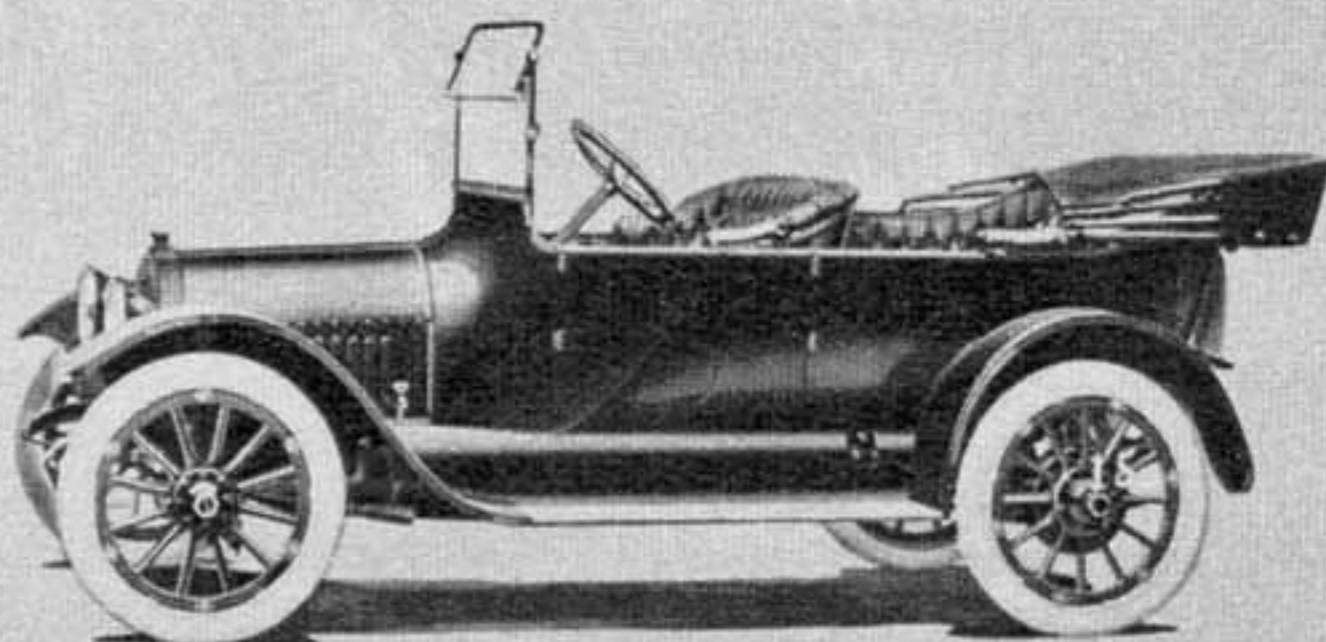
1914

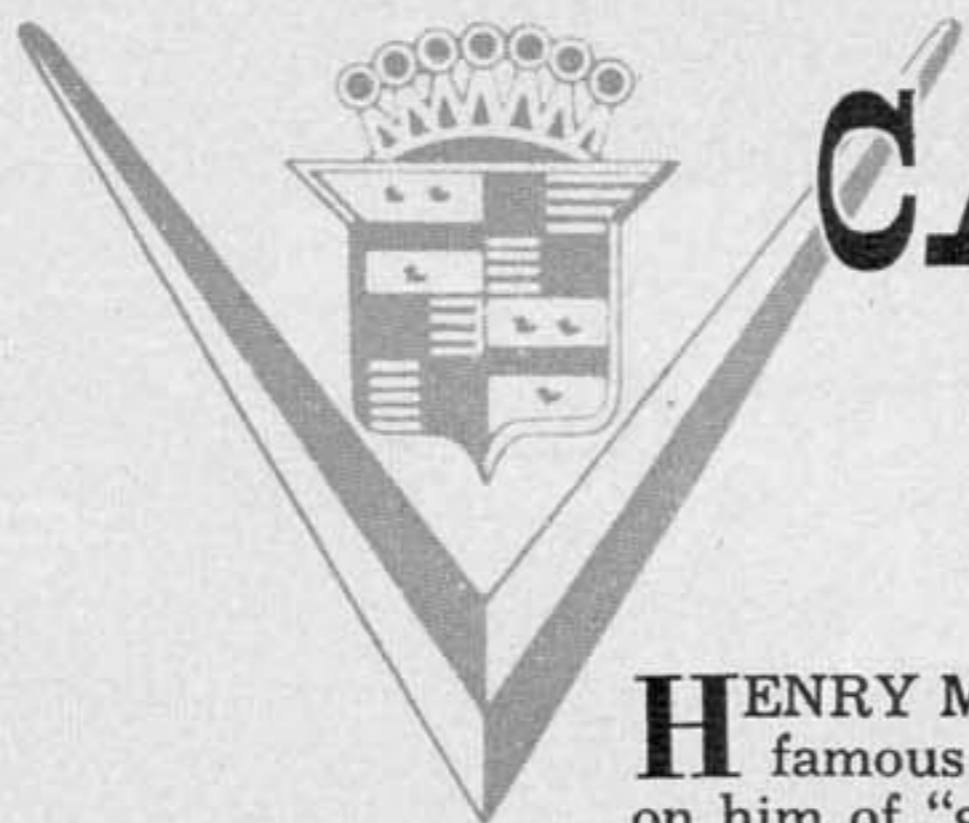
Model B-38 with two-passenger fixed-head coupé body had a 22 hp four-cylinder engine and weighed 2,930 pounds. It was priced at \$1,800. Obviously its design was inspired by the electric broughams of the time. Note upswinging windshield.



1915

Model C-25 touring car with five-passenger body. It sold reasonably at \$950 and found over 20,000 customers. With standard four-cylinder 22 hp engine, over-all weight was 2,334 pounds. Production was now far beyond 30,000 units.





# CADILLAC

*Leland's ideal of quality led the way to precision engineering.*

**H**ENRY M. LELAND, famous progenitor of the equally famous Cadillac car, fully deserved the title bestowed on him of "grand old man of the Industry." Leland's day was a period of distinguished pioneers in the then new-born enterprise of building automobiles, but he went much further than his contemporaries. He strove for ideals of accuracy and quality that were destined to set the standard for modern precision automotive engineering.

In 1890, the firm of Leland, Faulconer and Norton was established at Detroit for the purpose of manufacturing machine tools, gear cutters and grinders. Business prospered and five years later the firm was reorganized as the Leland and Faulconer Manufacturing Company. A gray

1903



# CADILLAC

iron foundry was added in 1896. It soon became famous for the production of quality castings, unmatched in America. These brought high prices, but were well worth the extra cost.

Once equipped with his foundry, Leland was soon embarked on the production of gasoline engines for marine use. At most, they developed about 15 hp, but they were much more complex than the average auto-buggy engine of those times—and more dependable!

This gave Leland an idea: if he could build a successful marine engine, it should be easy to build an engine for an automobile. And if this were possible—as it surely was, he reasoned—then why not build a complete car?

Circumstances appeared to conspire to bring Leland's idea to fruition. In March, 1901, the Olds Motor Works at Lansing was destroyed by fire. Leland and Faulconer were awarded the contract to furnish engines for the Oldsmobile. Following this, the newly formed Detroit Automobile Company also asked Leland's firm to build its engines.

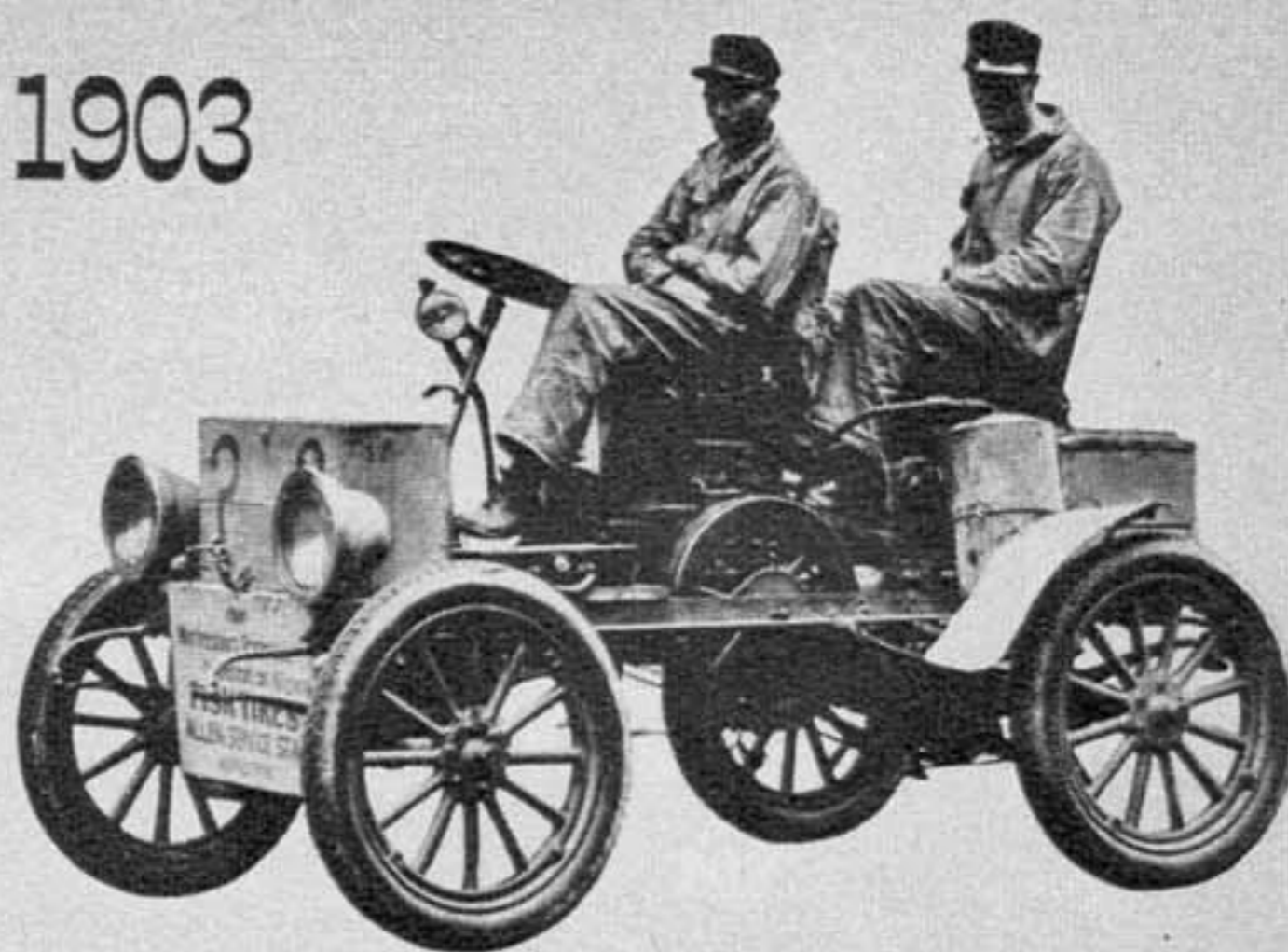
Once started in the production of automobile engines, Henry Leland wasted little time. By September, 1902, he had already begun work on his first car. Modestly, he did not name it after himself. He felt a more appropriate name would be Cadillac. It conveyed the proper impression of dignity: it was attractive, and it was historical. In 1701, the city of Detroit had been founded by a French soldier of fortune and explorer, whose name was Antoine de la Mothe Cadillac.

That same year the Detroit Automobile Company was reorganized. It became the Cadillac Automobile Company and before the year had ended the first Cadillac car was ready for market.

Henry Ford had left the Thomas Edison Company to work with Leland. Such a combination, obviously, could produce only

First production Cadillac (left) had a single-cylinder 6.5 hp overhead valve engine. Weight was 1,400 pounds and it sold for \$750. About 1,700 models of this Cadillac two-seater automobile were sold.

1903



Rugged Cadillac quality was evidenced in this Model A chassis, salvaged after lying submerged in a creek in Tennessee. Dismantled and cleaned, it was driven 700 miles to Detroit without incident.

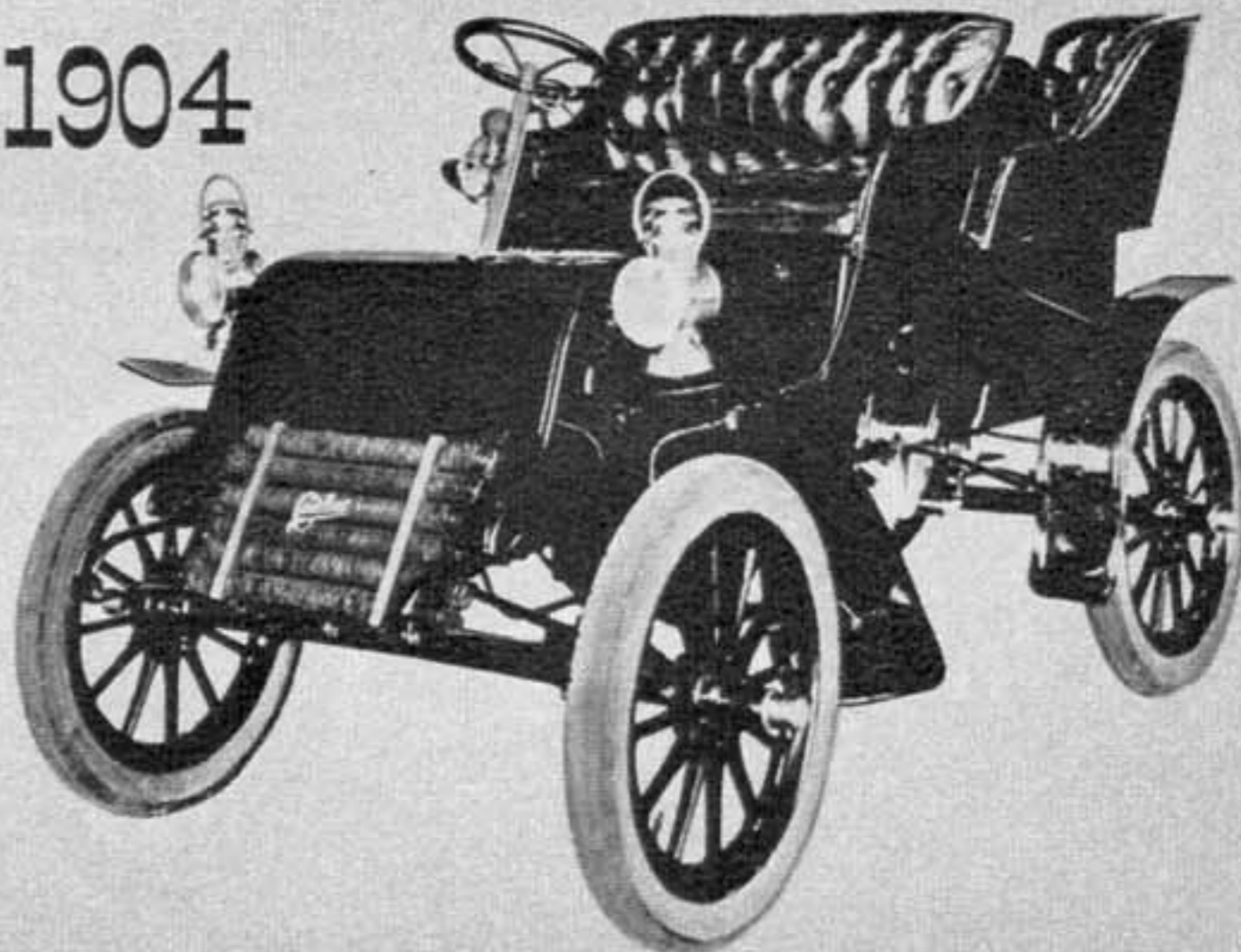
1904



Box-like Model B coupe was Cadillac's earliest try at producing a closed car. Weighing 1,450 pounds, it cost \$1,350. Some 2,450 Cadillacs were built that year, although a fire delayed production.

Detachable tonneau, then popular, was a feature of the Cadillac Model A, built to the ideals of accuracy. A Mr. I. L. Atwood drove this car with three passengers on a 93-mile trip at 13 mph.

1904



1904-1905



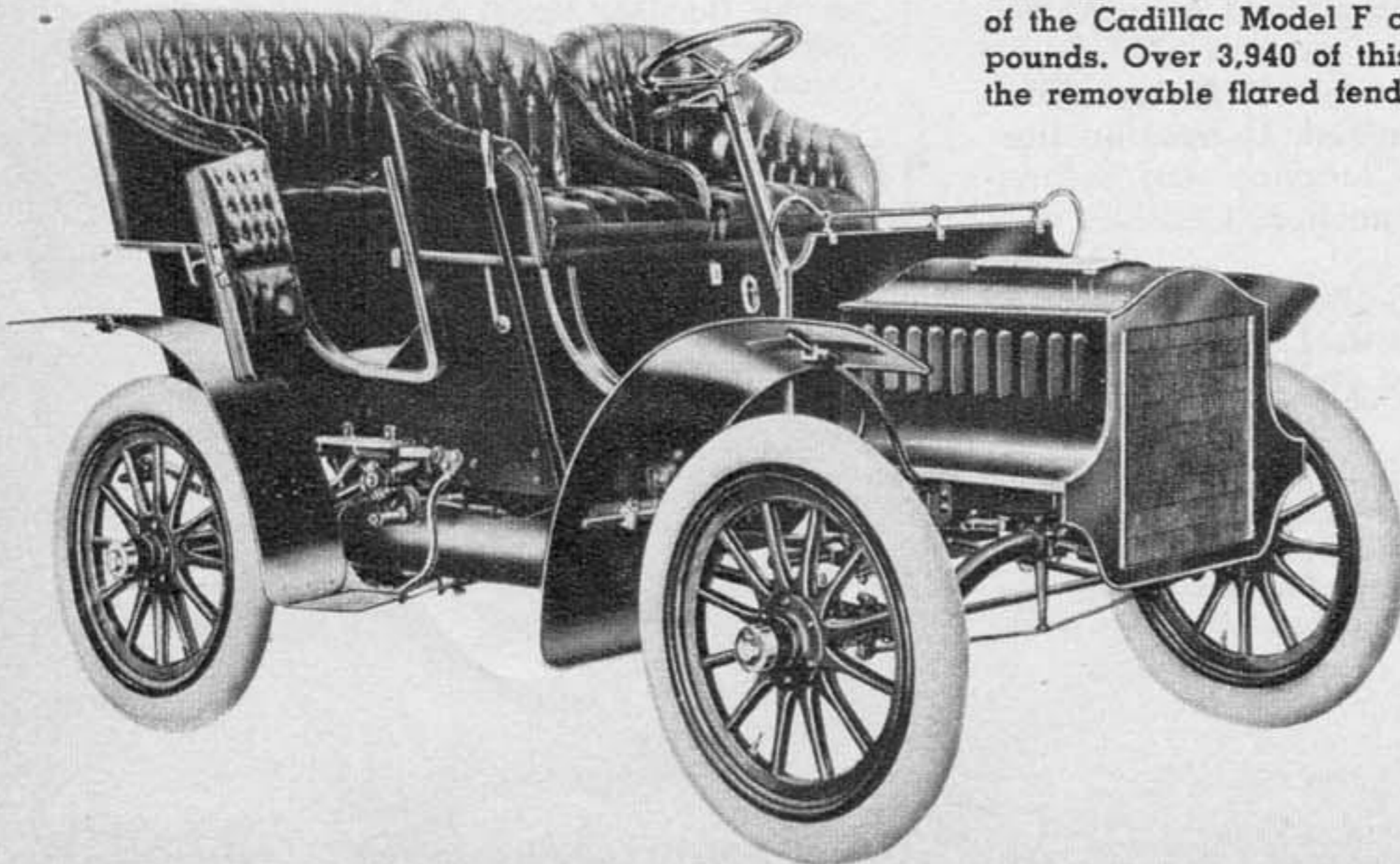
Mustachios were popular at the same time as this Model B Cadillac. It was a one-cylinder 8 hp. job.

one kind of an automotive product—a highly successful one.

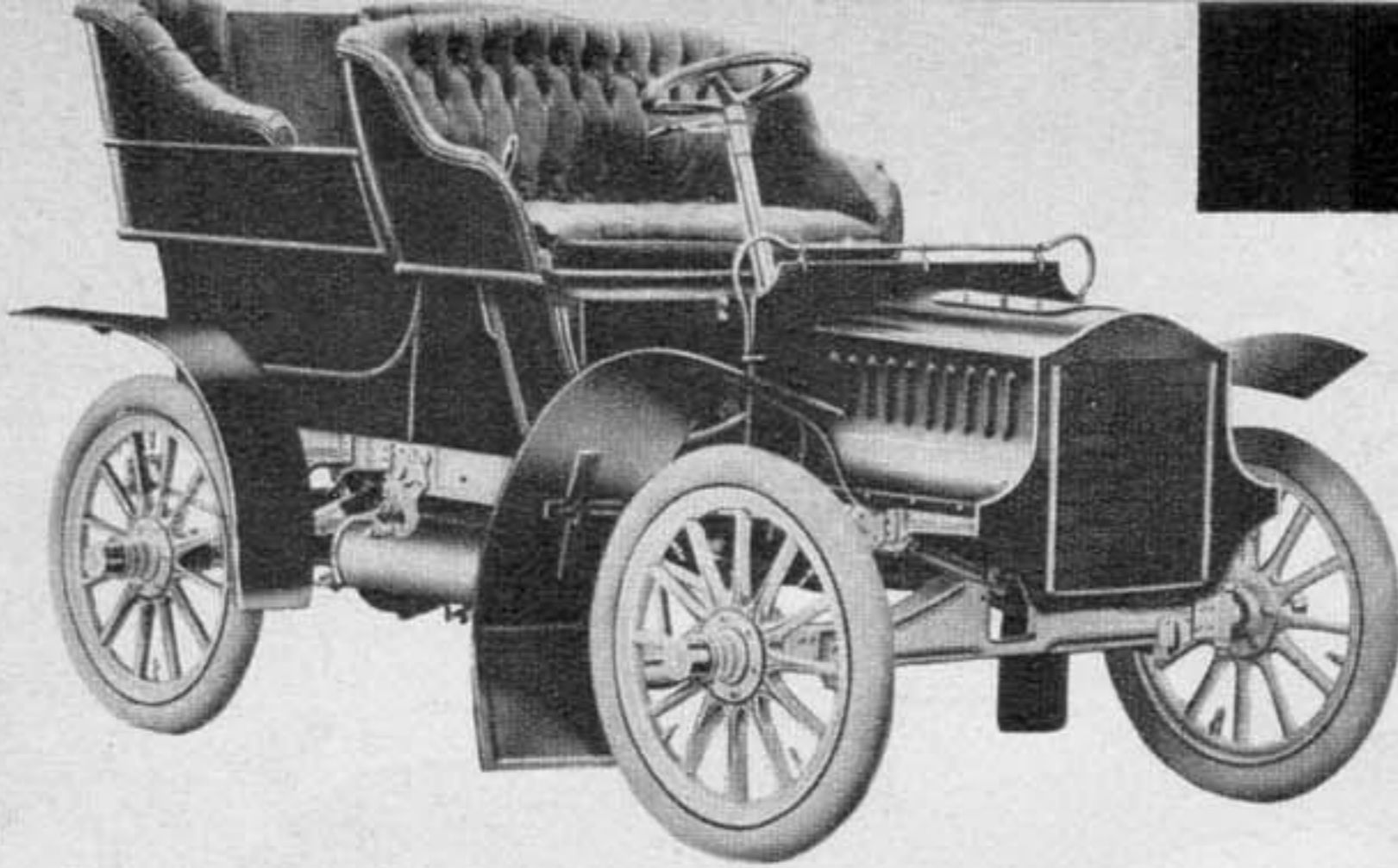
Known as the Model A, the first Cadillac to appear on a production basis made its début in March, 1903. It was a beautiful little car, definitely built up to an ideal and not down to a price. With the exception of indirect overhead valves, its features were conventional enough: a water-cooled single-cylinder engine of 6.5 hp located

1905

This upholstered four-passenger touring version of the Cadillac Model F cost \$950, weighed 1,350 pounds. Over 3,940 of this model were sold. Note the removable flared fenders, big pneumatic tires.



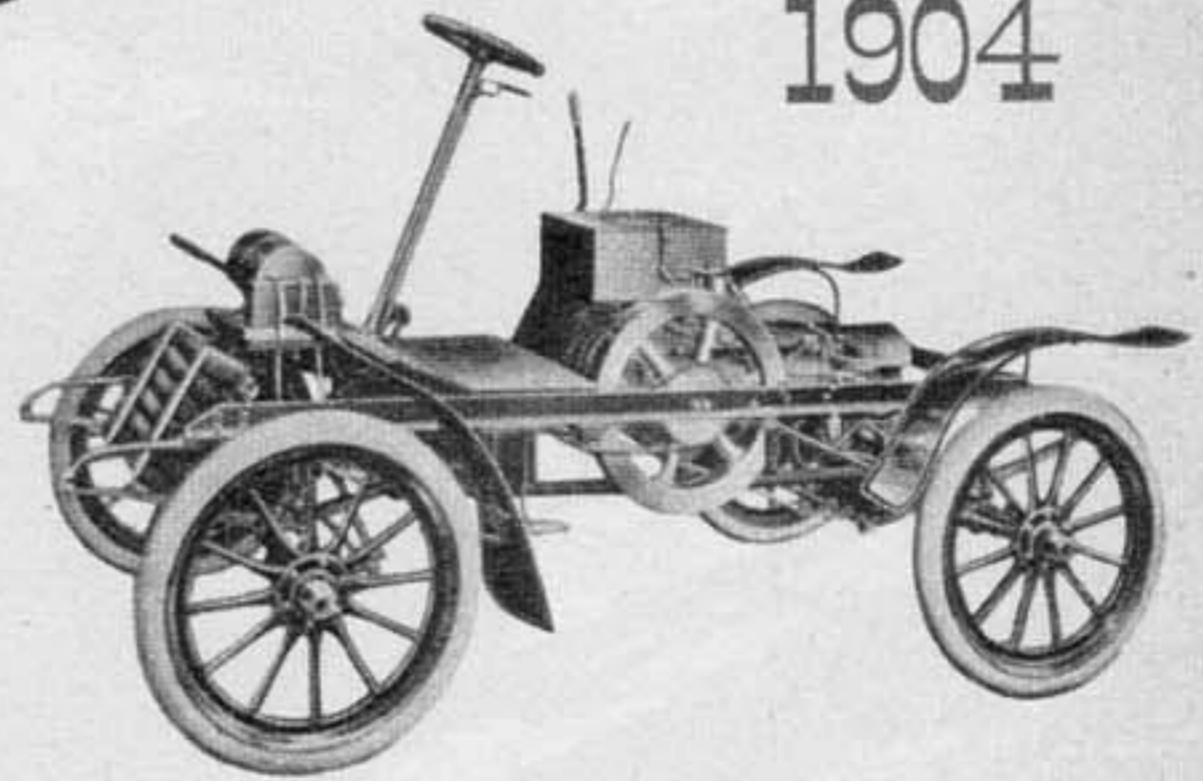
# CADILLAC



1905

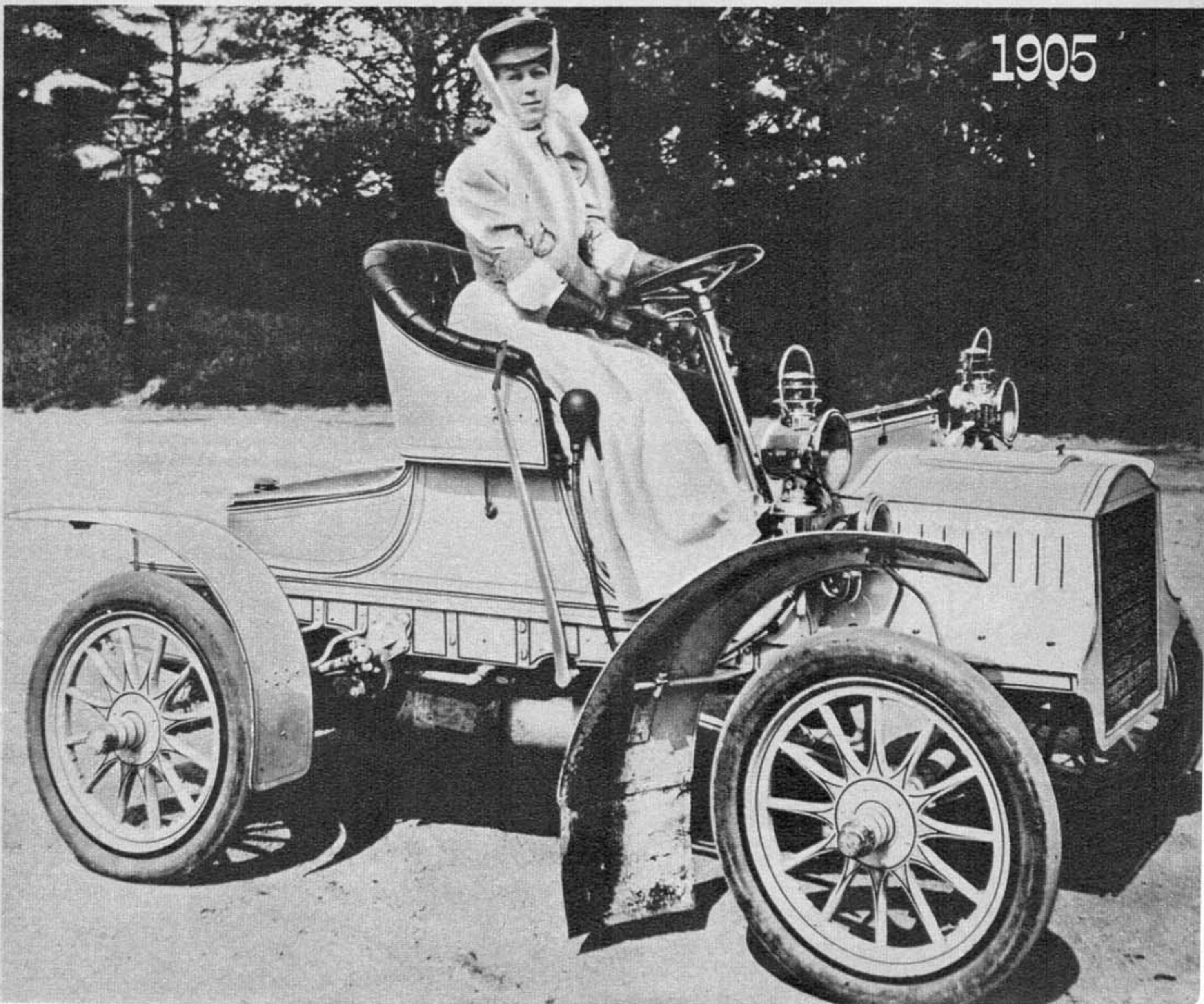
Model B Cadillac rear-entrance tonneau, powered by a single-cylinder 9 hp engine, weighed 1,460 pounds and cost \$950. That year, Cadillac Auto Company consolidated with Leland and Faulconer.

Model A Cadillac chassis retained the previous year's dependable engine. With a four-passenger tonneau body it cost \$850, would do up to 30 mph. At 18 mph, it could stop in "twice its length."

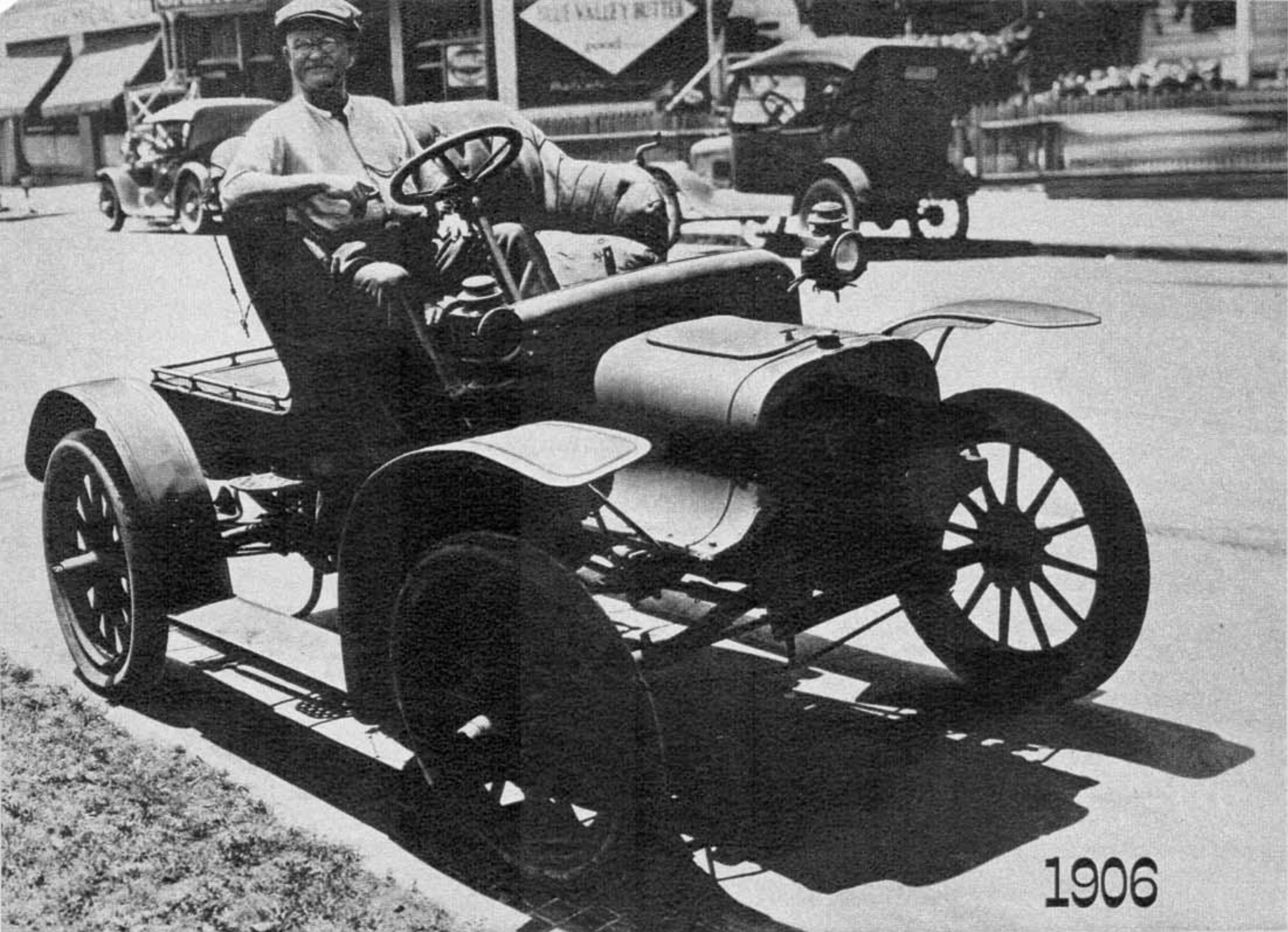


1904

Favorite with milady was the Model F Cadillac with a single-cylinder 9 hp engine. It sold for \$850.



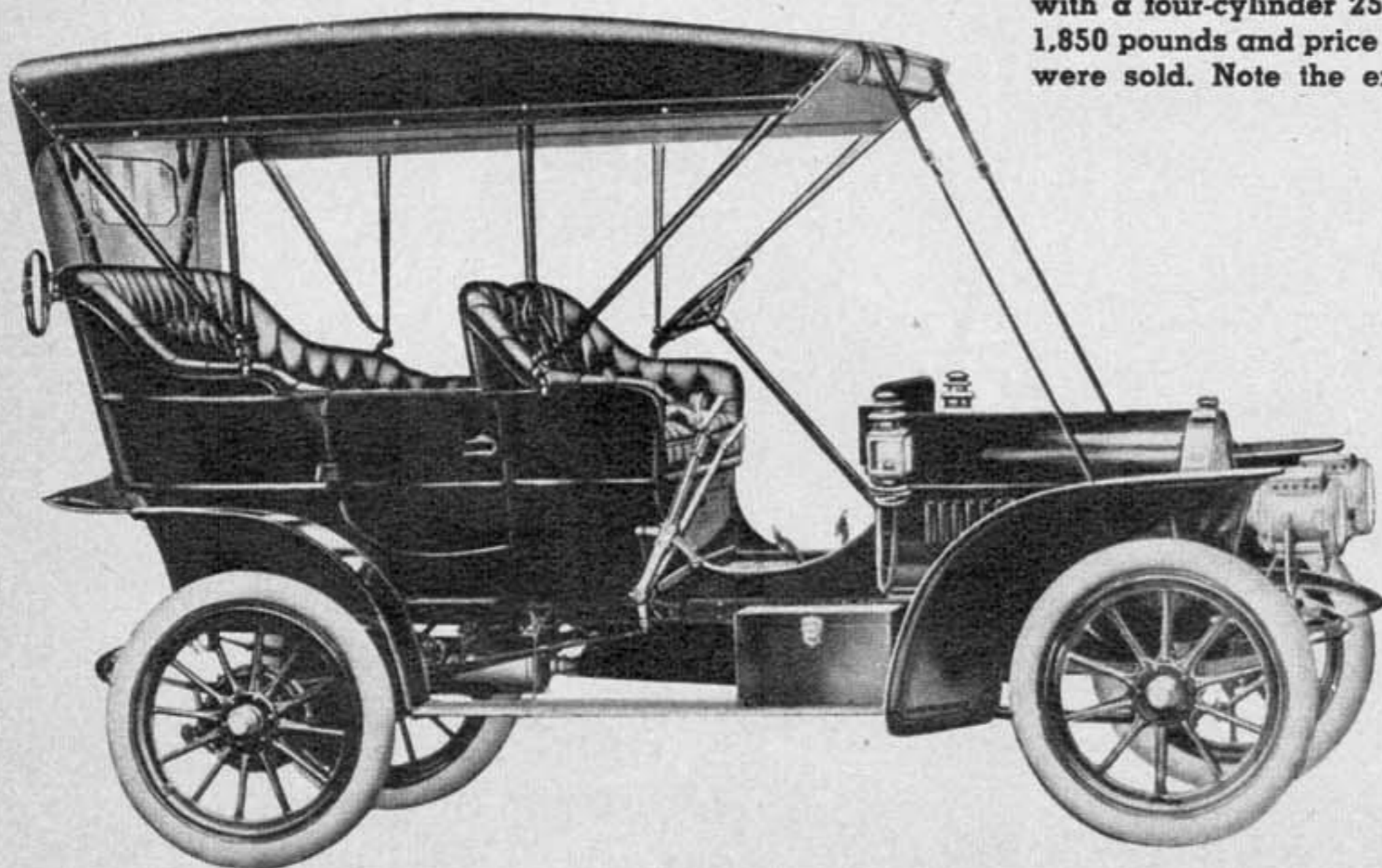
1905



1906

**Model K Cadillac runabout had one-cylinder 10 hp engine, weighed 1,100 pounds and brought \$750.**

1907



**Popular was this Model G Cadillac touring car with a four-cylinder 25 hp engine. Weight was 1,850 pounds and price tag, \$2,000. Nearly 2,900 were sold. Note the extremely high cloth top.**

under the driving seat and a two-speed planetary transmission. But it was in a class by itself for superlative detail and ultra-fine finish.

The price tag of \$750 was not a real cause of worry to Henry Ford; the thing that bothered him most was that automobiles manufactured in accordance with Leland's policy could not hope to find a mass market. Leland clearly was not interested in catering to the thousands who then still owned horse-drawn buggies, whereas Ford was more interested in this than in anything else. Their divergence of views finally caused a rift. After not more than a year's association with Leland, Ford went off on his own to build and sell a car which would appeal to every purse.

As things turned out, both these pioneers—though at opposite ends of the scale—came to be noted among the most successful men in the industry.

Until 1905, Leland and Faulconer had remained a separate entity from the Cadillac Company. That year, however, a merger was formed and Henry M. Leland became

general manager of the new Cadillac Motor Car Company. Each successive model became bigger, more powerful, more ambitious in detail, more divorced from price considerations. In fact (if this were possible), the car was increasingly being slanted toward the man whose sole concern was not "How much?" but "How good?" and yet it sold.

Cadillac sales figures proved that there were plenty of ultra-discriminating car enthusiasts: 1,895 cars were built during 1903 and 1904. In this latter year, Leland introduced a Model B, which continued in production for some time and sold a total of 16,126 units. In 1905, the four-cylinder Model 30 went into production; it caught on quickly and by 1908 approximately 8,000 of these were being sold annually. The price was \$1,400.

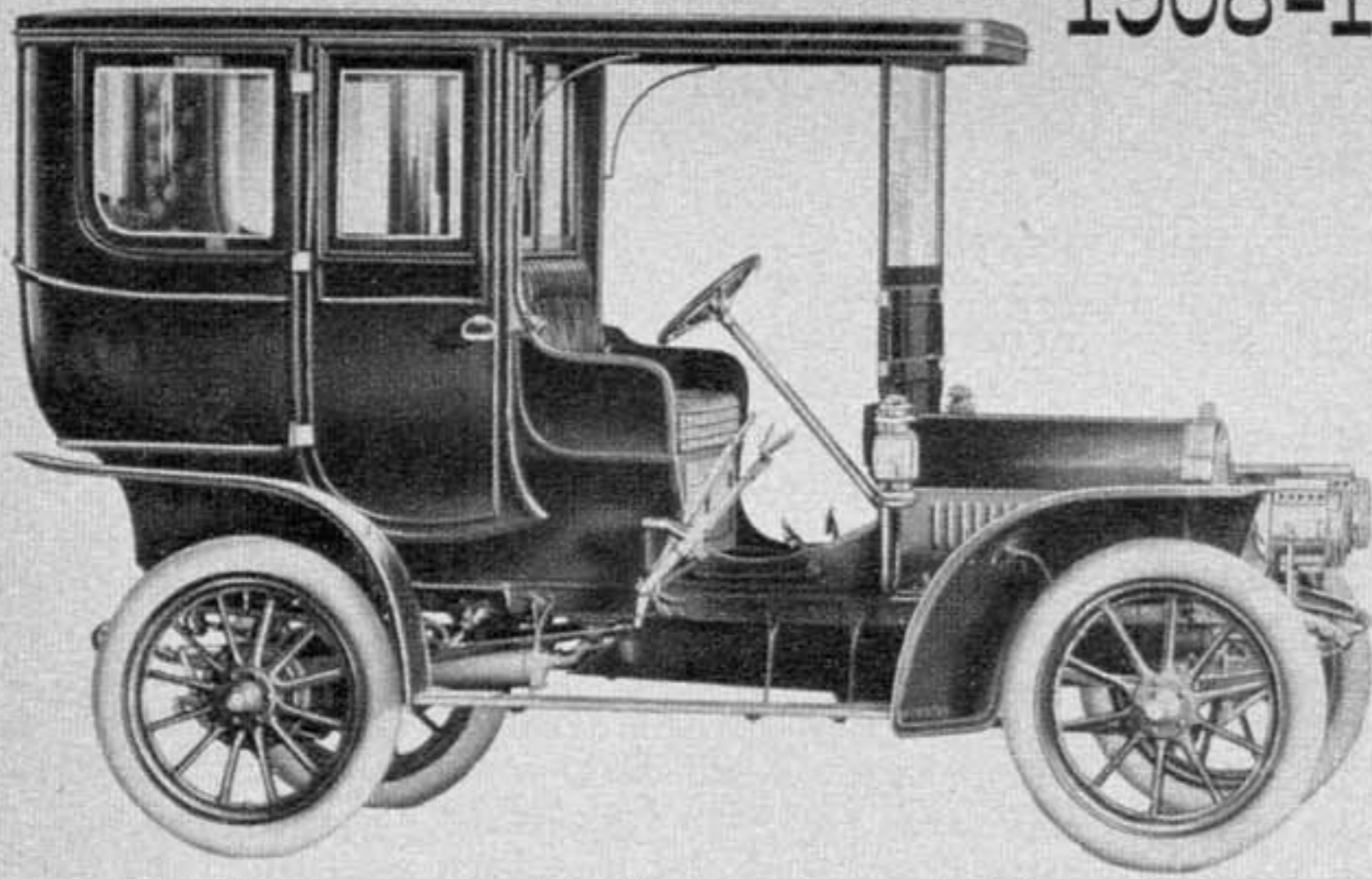
But still Leland, the perfectionist, was not satisfied. In 1907, his devotion to the principle of accuracy led him to import from Sweden the first set of Johansson gauge blocks to be used in the United States. They revolutionized manufacturing.

Cadillacs won Dewar Trophy in first practical test of standardized parts at Surrey, England.

1908

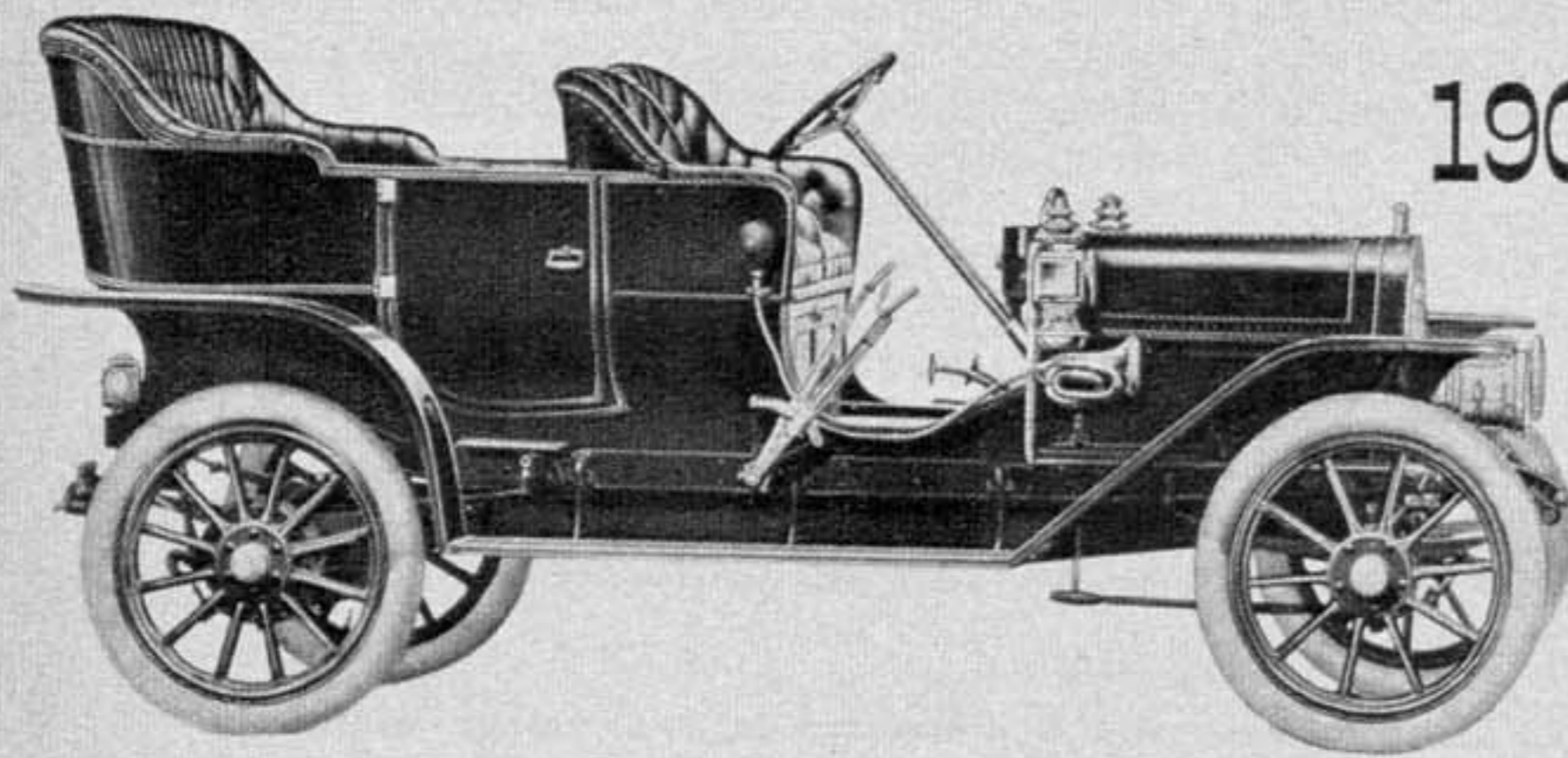


1908-1909



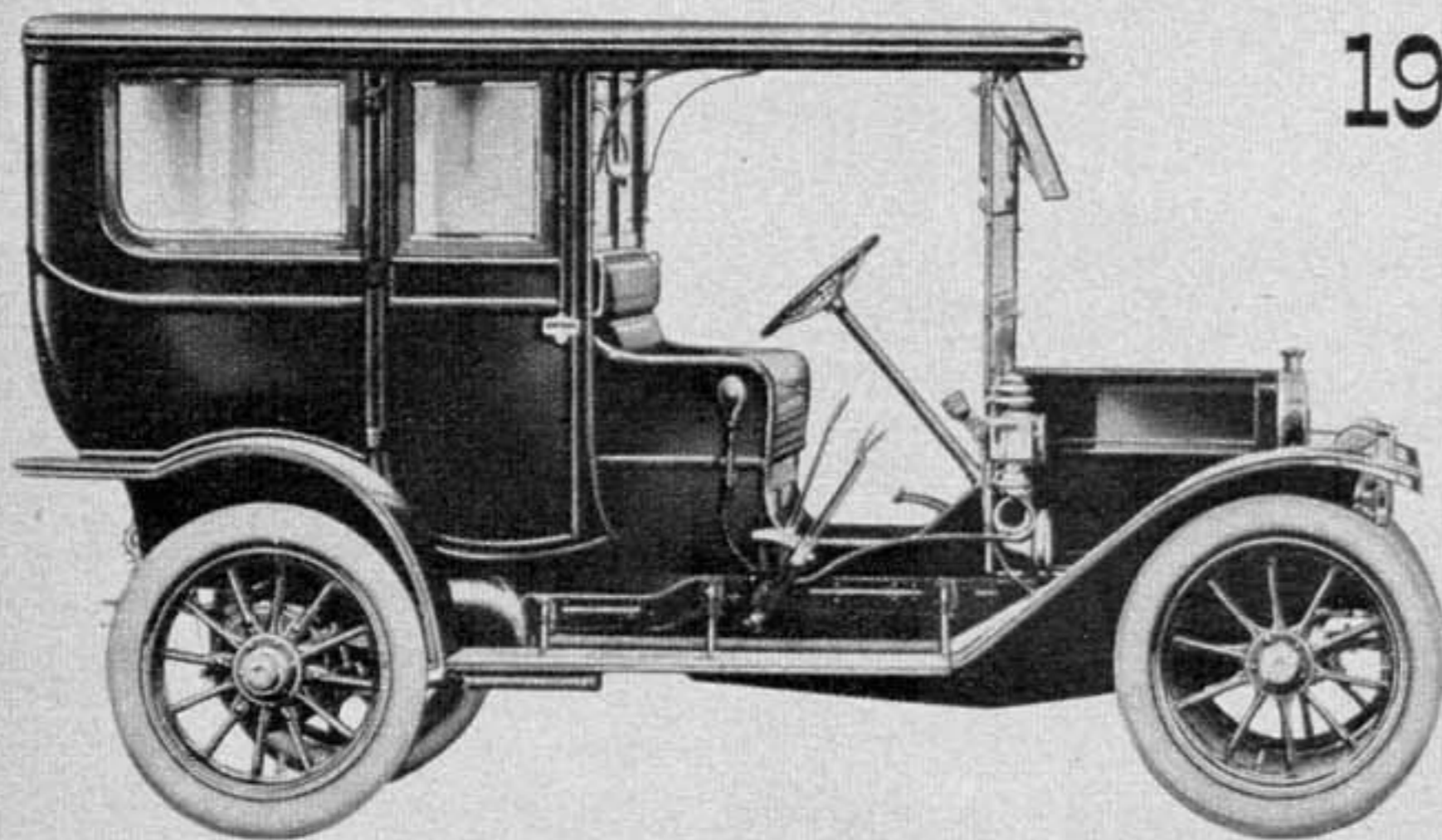
Stately four-cylinder 25 hp Caddie scaled 2,200 pounds, sold for \$3,000. Year's production of Model G was 2,377. Prim look was well thought of.

1909



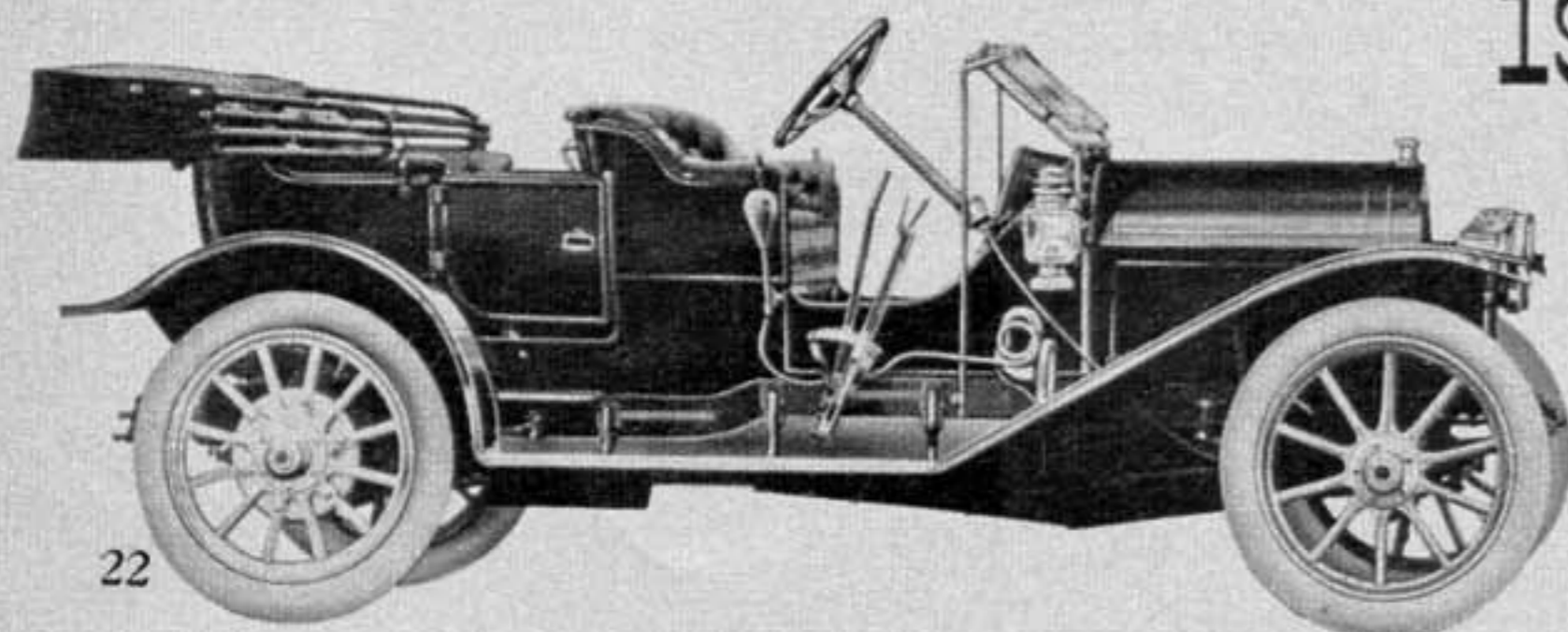
Model 30 Caddie five-seater touring car carried a four-cylinder 28.9 hp engine and weighed 2,000 pounds. July, 1910, GMC absorbed Cadillac firm.

1910



Cadillac pioneered closed production bodies with this Model 30 limousine. The four-cylinder 28.9 hp engine was retained. Car cost was approximately \$3,000.

1911



Famous Model 30 demitonneau retailed for \$1,700, had the regular four-cylinder engine. It had "112 parts that are accurate to one-thousandth of an inch."



# CADILLAC

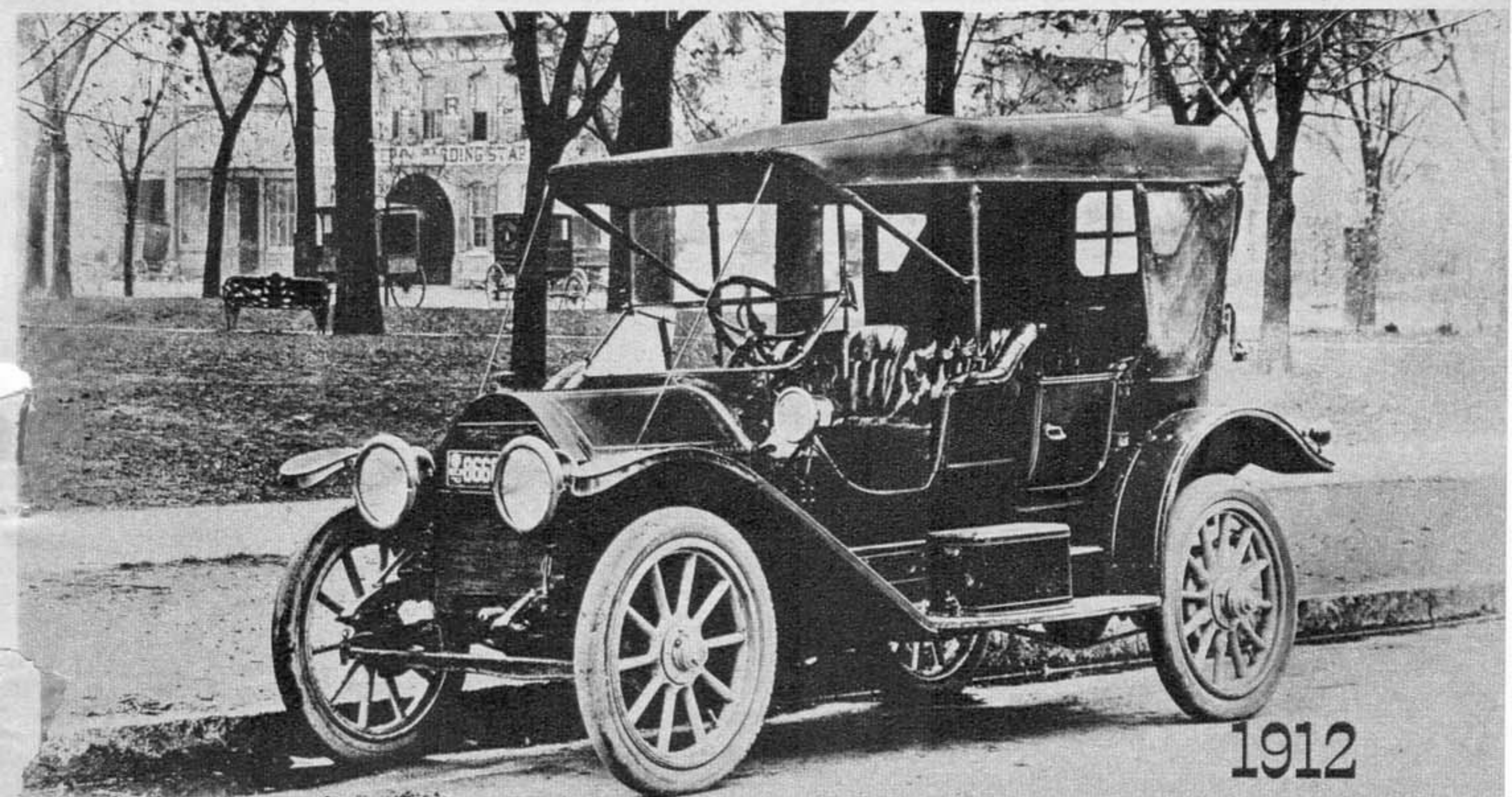


1912

These blocks represented the practical metric absolute from which measurements could be taken. They virtually guaranteed that if their basic tolerance were held, two parts of exactly the same size and shape could be machined, measured and checked. Nothing like it had ever been seen in this country prior to that time.

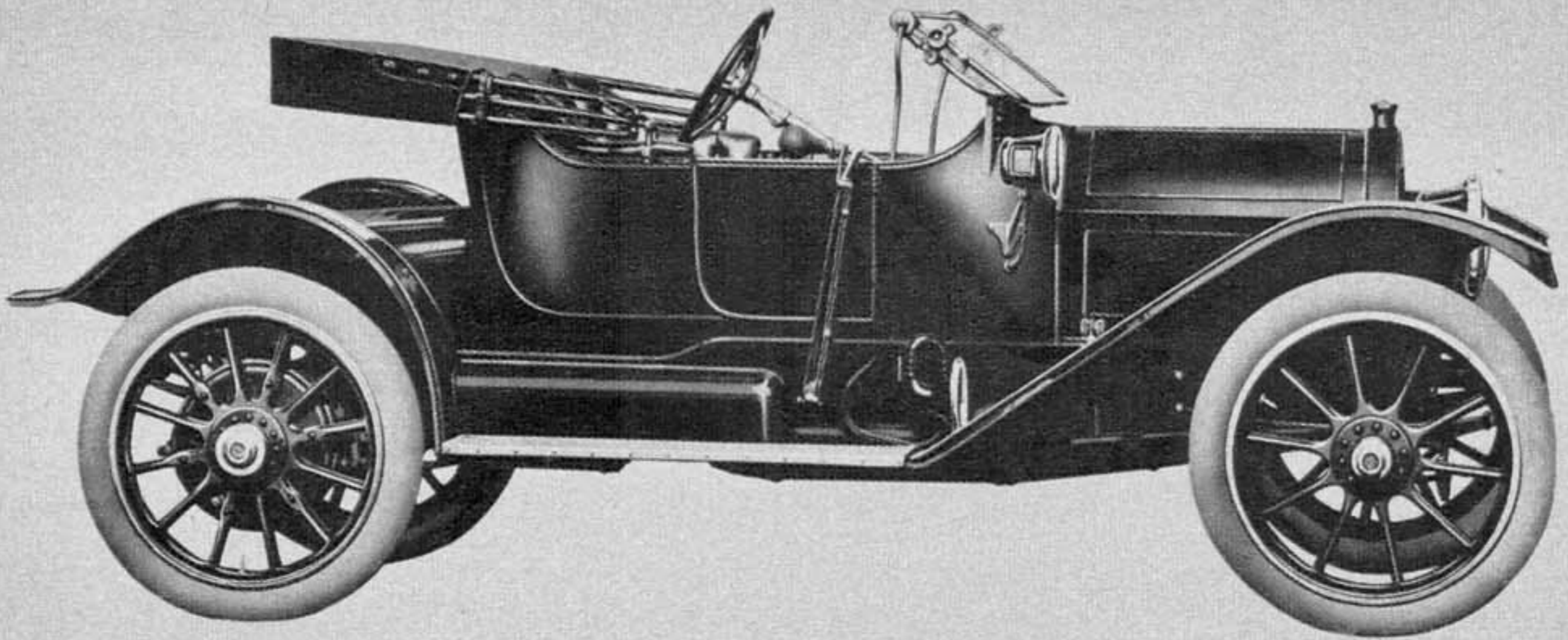
Pictured at the Detroit factory are all the Cadillac car and truck models in use in that year. Passenger cars, mostly four-cylinders, cost up to \$1,800. Note that all cars have right-hand drive.

Caddie touring car powered by 32 hp engine was the first auto to use Delco electric lighting and starter. It won the company a second Dewar Trophy. Production that year exceeded 12,500.



1912

# 1912



High-grade finish characterized this Cadillac 32 hp roadster. A 2,100-pounder, it cost \$1,800.

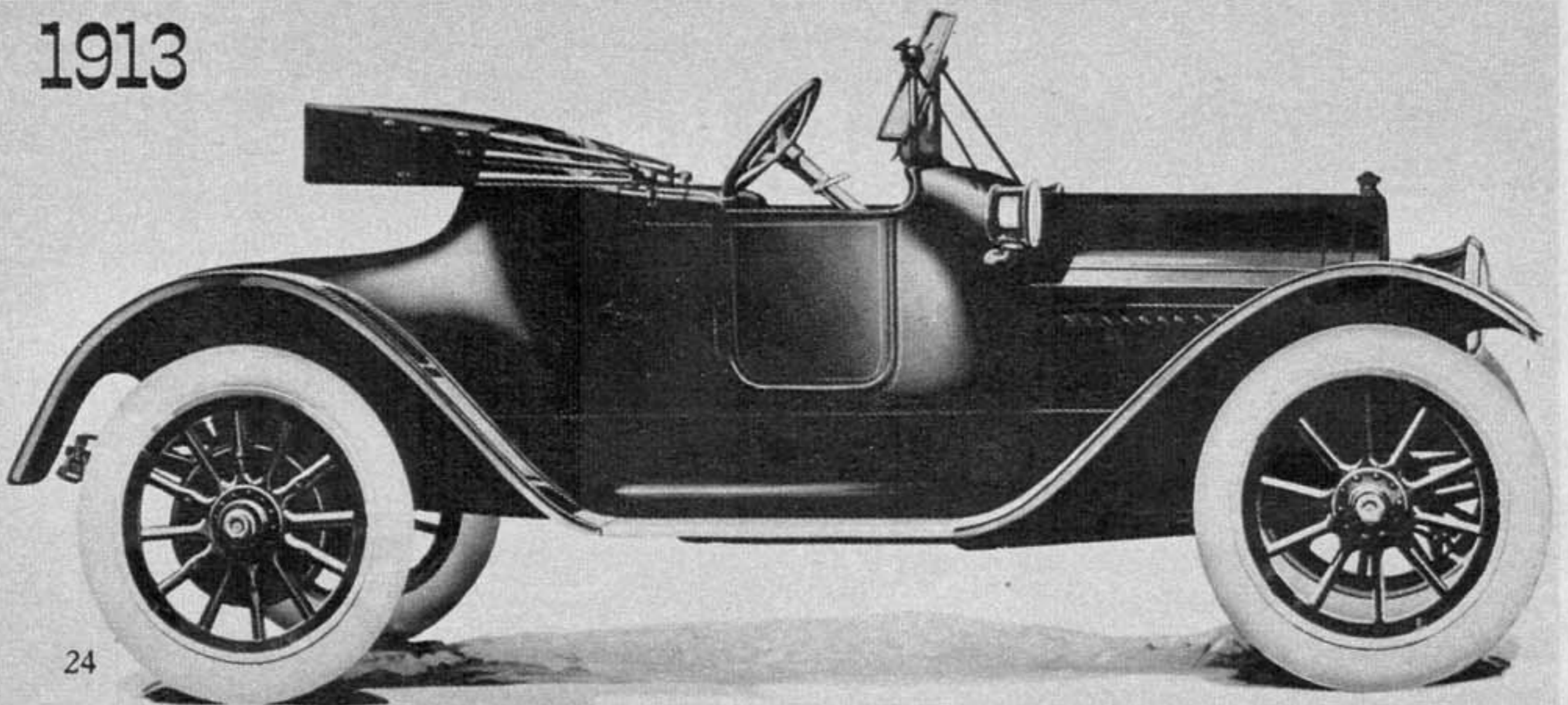
The wisdom of Leland was dramatically demonstrated in 1908, when Cadillac won the coveted Sir Thomas Dewar Trophy for interchangeability of manufactured parts. Under auspices of the Royal Automobile Club, Leland traveled to London with three of his cars. They were publicly dismantled by his mechanics and the parts thoroughly scrambled in a heap so that there was no way of telling which component belonged to which automobile. The mechanics then calmly went to work and rebuilt three cars from the heap. All three started at once and ran perfectly. With this one demonstration, Leland had laid the foundation stone

of American automotive engineering. He not only proved the value of precision manufacturing, but he also became the basic inspiration toward the establishment of American industrial might in the field of mass-production techniques.

Leland, however, was not one to rest on past achievements. No sooner had an improvement been tested and found worthy of his cars, than another was under way. When Cadillac became a division of General Motors, in 1910, Leland's company was the first to introduce closed bodywork as standard factory-built equipment. True, there were limousines to be seen in those

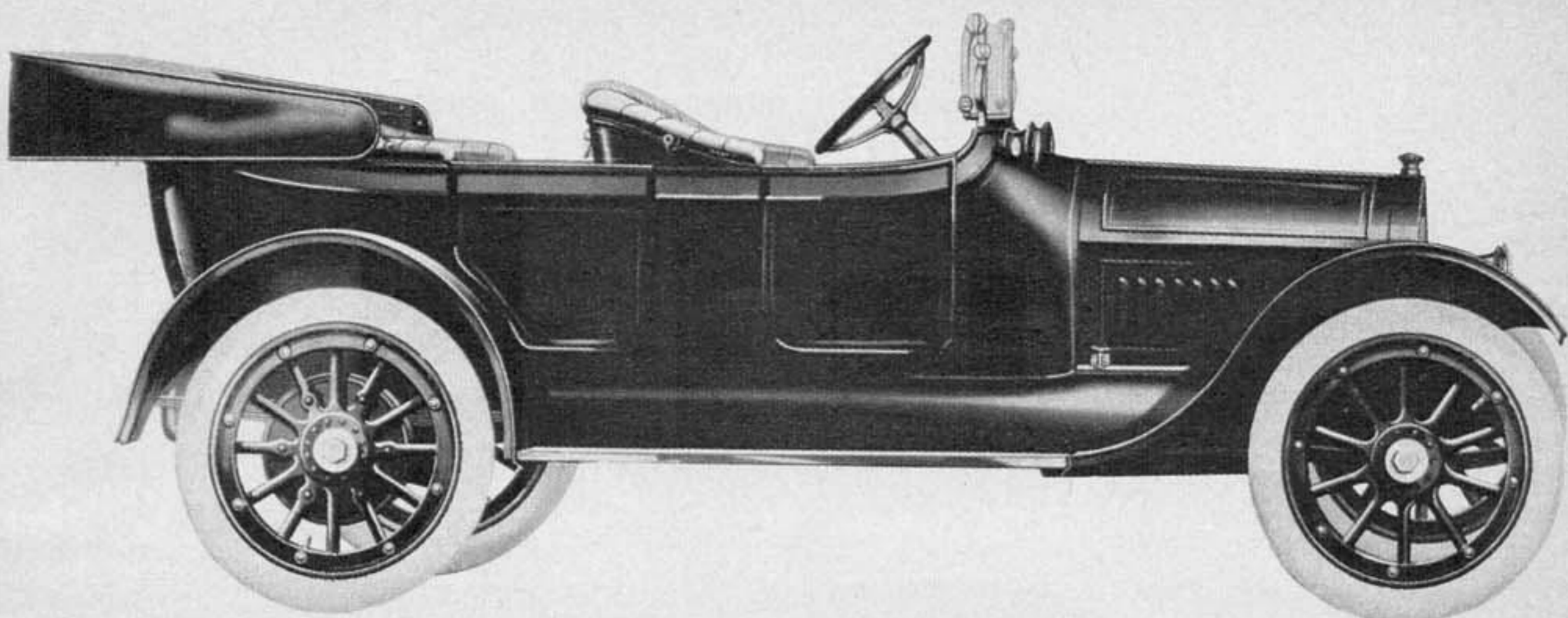
Four-cylinder Caddie roadster featured electric lights and starter. It was priced at \$1,975.

# 1913



1914

CADILLAC



Model 51 Cadillac four-passenger phaeton launched new era in smooth motoring, pioneered V-8 engine.

days, but invariably the bodywork was custom-built, just like a carriage body.

The general trend was in the direction of phaetons and it continued that way for at least another decade. But those who wanted an enclosed Cadillac could have one without unnecessary bother.

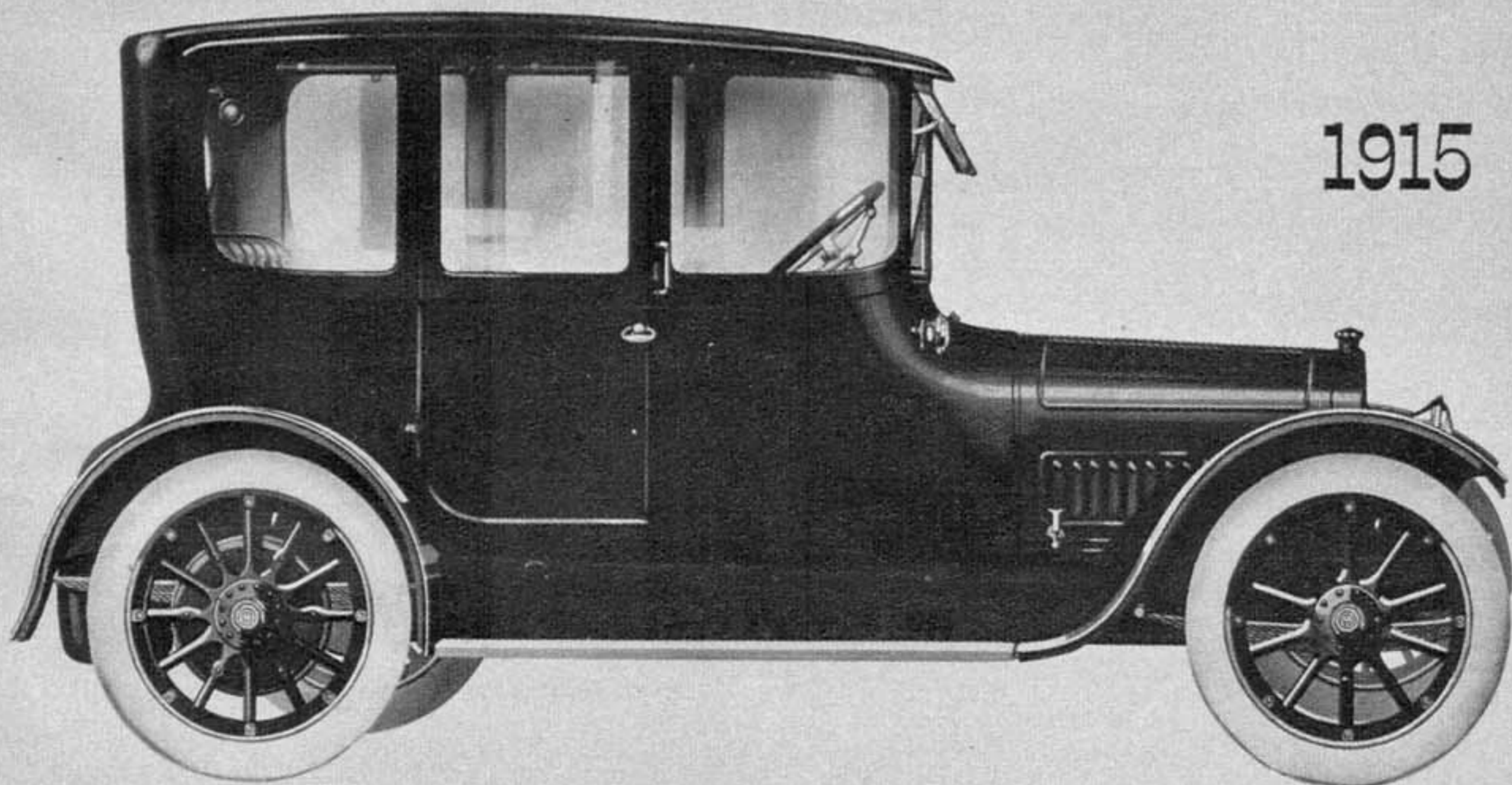
Two years later, Cadillac startled the industry with another "first." Included as standard equipment were an electric lighting and starting system. This again won

Cadillac the Dewar Trophy and placed the company in the enviable position of being the only two-time winner of this award.

The beginning of World War I, in 1914, saw Cadillac production at a new high of more than 17,000 cars a year. This was despite a top price of \$3,250.

At this time, too, the company released its biggest bombshell: a V-8 water-cooled engine. It was the first production car to be powered in this way. •

Improved Model 51 V-8 Cadillac landaulet coupé was good for 60 mph, had tilt-beam headlights.




1915



# CHEVROLET

*When Bill Durant hired the Chevrolet brothers to race for him, he never realized that later the success of their own car would put him right back in the GM saddle.*

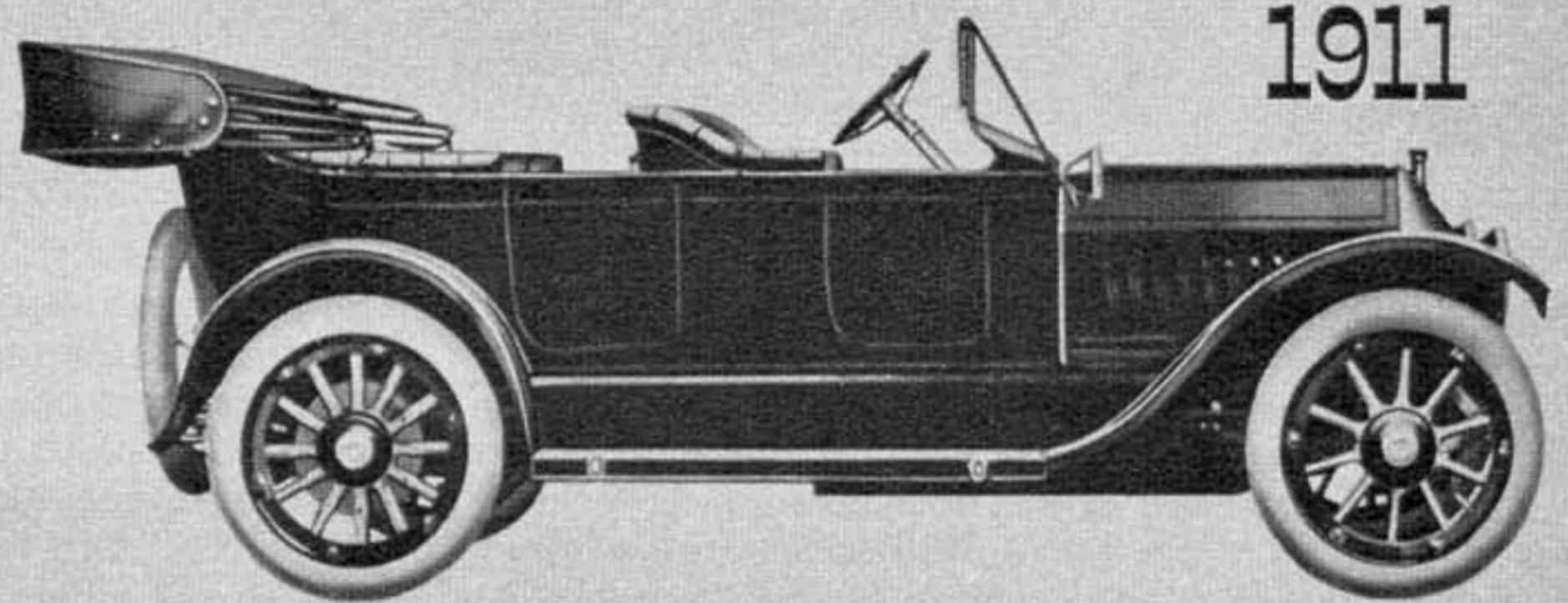
1913



The first Baby Grand Model touring car appeared late in the year, cost \$1,000. Its four-cylinder 24 hp engine had an overhead-valve design. Short wheelbase and moderate weight added to the performance.

**I**T all began in 1909, when William C. Durant, creator of General Motors, was juggling with a score of simultaneous irons-in-the-fire. The brothers Arthur and Louis Chevrolet one day visited Durant at Flint, looking for a job. The great man staged a dirt track race for the two brothers, which was won by Louis. It was Arthur, however, who got the job as Durant's chauffeur, because of his more conservative style of driving. Soon, both Louis and Arthur were given a place in the official Buick racing team and found themselves in company with such famous drivers as Louis Strang and Bob Burman.

But Louis Chevrolet had more talents than could be satisfied by driving a race car. He dreamed of designing and building a light automobile along lines popular in France; he figured that with rapidly improving roads in the U. S. this car was bound to succeed. Durant,



First prototype of later production model was this six-cylinder touring car. Louis Chevrolet built five of these before the company was incorporated. Later, it became the famous Classic Six, which was priced at \$2,150. Over-all weight of car was approximately 3,500 pounds.

1912



Impressive total of 216,000 miles credited to this early Model 790-4 roadster gives an idea of stamina and quality. Car had seen 35 years of service when photographed in 1947. It was the 64th unit built. At right is C. J. Hylton, the Milwaukee service manager for Chevrolet.

impressed by his visionary ideas, agreed to finance Louis' experiments, and pretty soon Chevrolet was working on two different models—a four- and a six-cylinder.

When Durant lost control of General Motors in 1910, he bought out the Flint Wagon Works and organized the Little Motor Car Company. The latter was incorporated in October, 1911, as a namesake of William H. Little, one-time general manager of the Buick Division of GM, under Durant. A small, low-powered four-cylinder model was produced and offered for sale at under \$700, in competition with Ford; but meantime Louis Chevrolet finalized his tests and came up with a Model C (bearing his name) which Durant accepted for production.

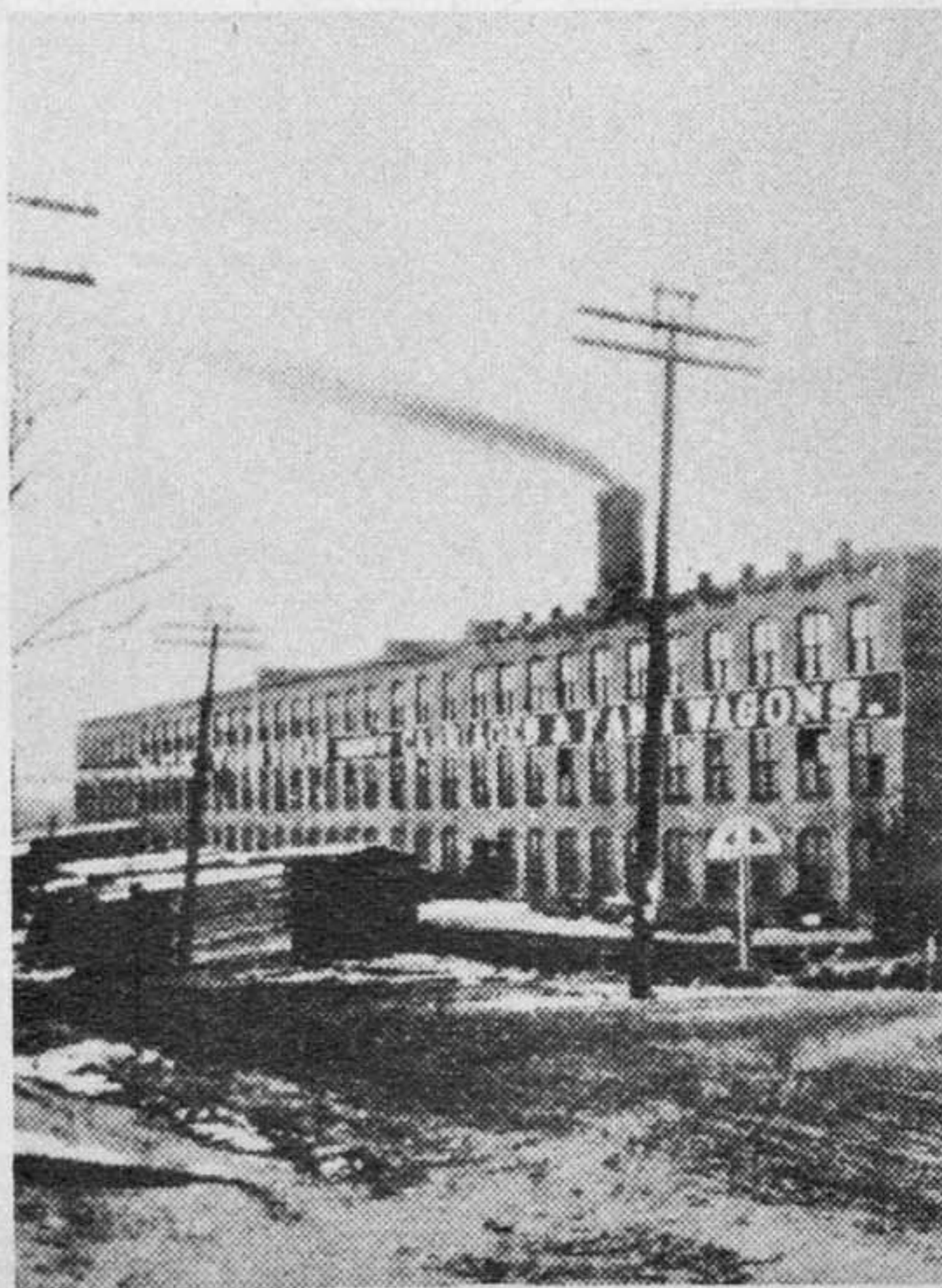
In November, 1911, the Chevrolet Motor Company of Michigan was formed, with Louis Chevrolet as one of the principals, and the groundwork for production was laid at a small plant in Detroit. During that year, and even before the Company was incorporated, Chevrolet built five test cars that underwent various modifications. Now the newcomers went so far as to buy land opposite the Ford factory and announced on a huge billboard that a new Chevrolet plant was to be erected there. This scheme was abandoned when Durant realized that the Flint factory of the Little

Company offered far greater scope for expansion; but meanwhile, work on the Chevrolet progressed rapidly in the rented premises on West Grand Boulevard and toward the close of 1912 the first production car rolled off the line. Known as the Classic Six, the original Chevy was a six-cylinder touring car that weighed 3,500 pounds and cost \$2,150. Its appeal to the public was instantaneous and almost 3,000 of these cars found their way to customers. The demand did not diminish even after the model was retained for 1913, with a \$350 price increase. (Chevrolet also came out with another touring car called the Little Six, which weighed 2,375 pounds and retailed for \$1,475.)

Notwithstanding this success, the Chevrolet plant proved to be operating uneconomically and found itself in the red, while the Flint Wagon Works showed a profit on the other car. At this time the engines for both the Chevrolet and the Little were being supplied by the Mason Motor Company. Durant therefore revised his estimates and planned for greatly increased production of the Little, which was to add a six-cylinder model to its line. He also transferred Chevrolet operations from Detroit to the premises in Flint.

It was the Chevrolet, however, and not the Little which captured public fancy and

**Old Flint Wagon Works, where first Chevrolets were produced. This plant turned out 2,999 cars the first year, making immediate expansion necessary. Earlier, the plant had been jammed with buggies.**



by the end of 1913, close on to 6,000 Chevrolets were in use.

For 1914, the Classic Six and the Little Six Chevrolets continued in production and were joined by two new models—the Baby Grand touring car and Royal Mail roadster, both of them four-cylinder, 24 hp cars with valve-in-head engines and a very modest price range of from \$750 to \$1,000. World War I brought about a sharp revival in business activity, and with it more spending money, so that Chevrolet had no trouble selling for cash every single car it could possibly build. Strangely enough, the final 1914 production schedule allowed for 5,000 Chevrolets, while in fact, 5,005 were sold.

William C. Durant now began to recoup financially and moved his offices to New York, while the company opened Chevrolet sales outlets in Chicago, Philadelphia and Boston. Shortly thereafter, this territory was enlarged to include Kansas City, Atlanta and Oakland. To Durant, all this success was primarily a means to an end—the end being somehow to regain control of his lost General Motors empire. He liquidated the Little Company, upon which the Chevrolet's fortunes had been founded, and concentrated solely on this money-maker. For 1915, the Baby Grand and Royal Mail were retained on the four-

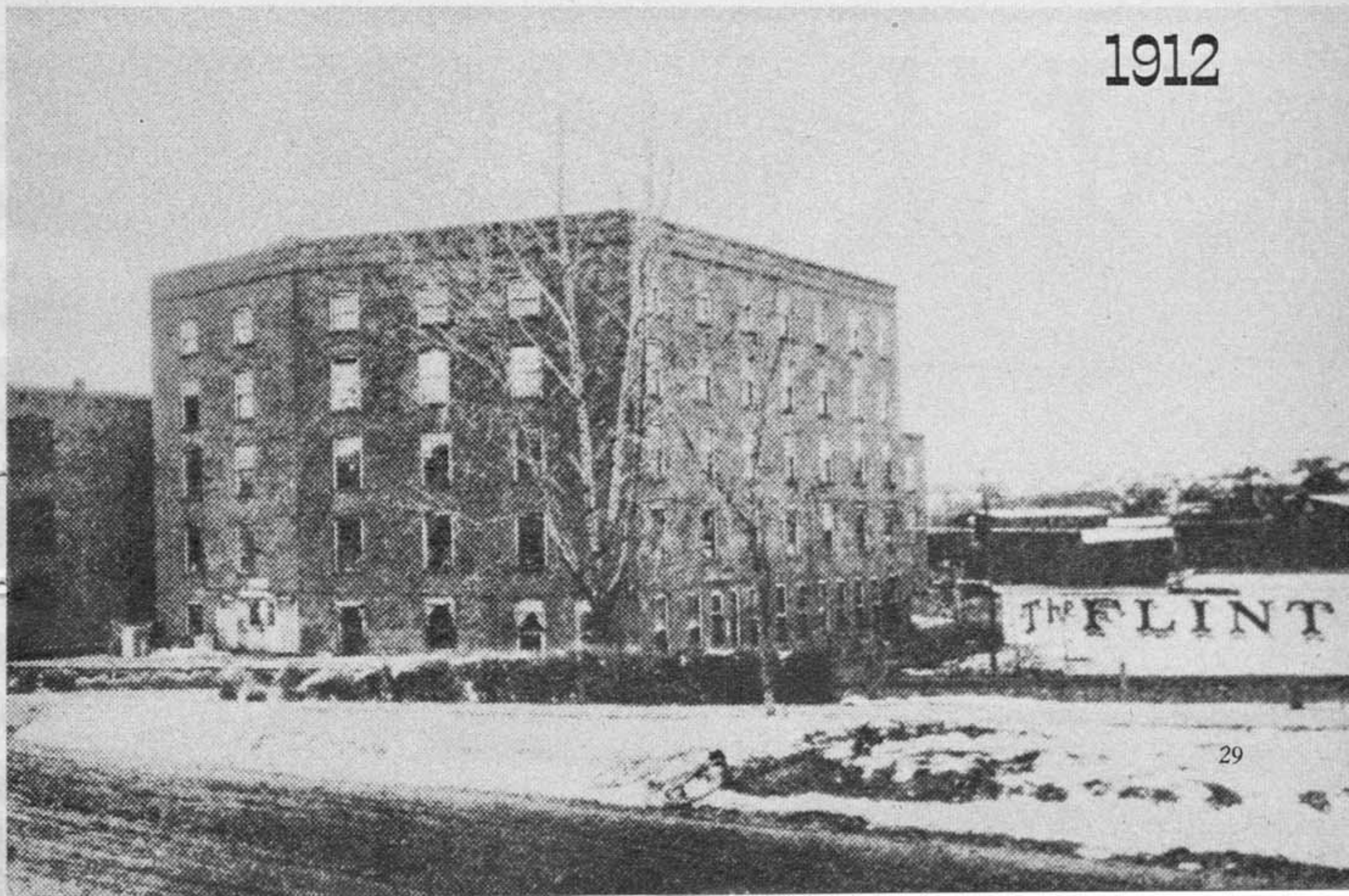
cylinder, 24 hp chassis, and a second roadster was added, called the Amesbury Special. This was the costliest model of the lot, retailing at \$985; its weight was 2,300 pounds.

During 1915, Chevrolet sales rose to over 13,600 cars, representing a production increase of more than 160 per cent. Yet this was only the beginning.

The 1916 Chevrolet program achieved the apparently impossible by producing a new model inspired by Durant, known as the 490. This model also had the four-cylinder, 24 hp engine, yet cost only \$490! The 490 was offered at one price, whether with touring or roadster body, and became the greatest hit of them all. That year the Amesbury Special roadster was dropped and an additional Royal Mail roadster with a torpedo deck was substituted for it. The original Baby Grand touring car and Royal Mail roadster were retained, but the 490 outsold them easily. Chevrolet sales for 1916 reached the fabulous figure of 70,701 cars, or more than 14 times the 1914 output! That year, Chevrolet took over the Mason Motor Company and assumed direct control of engine production.

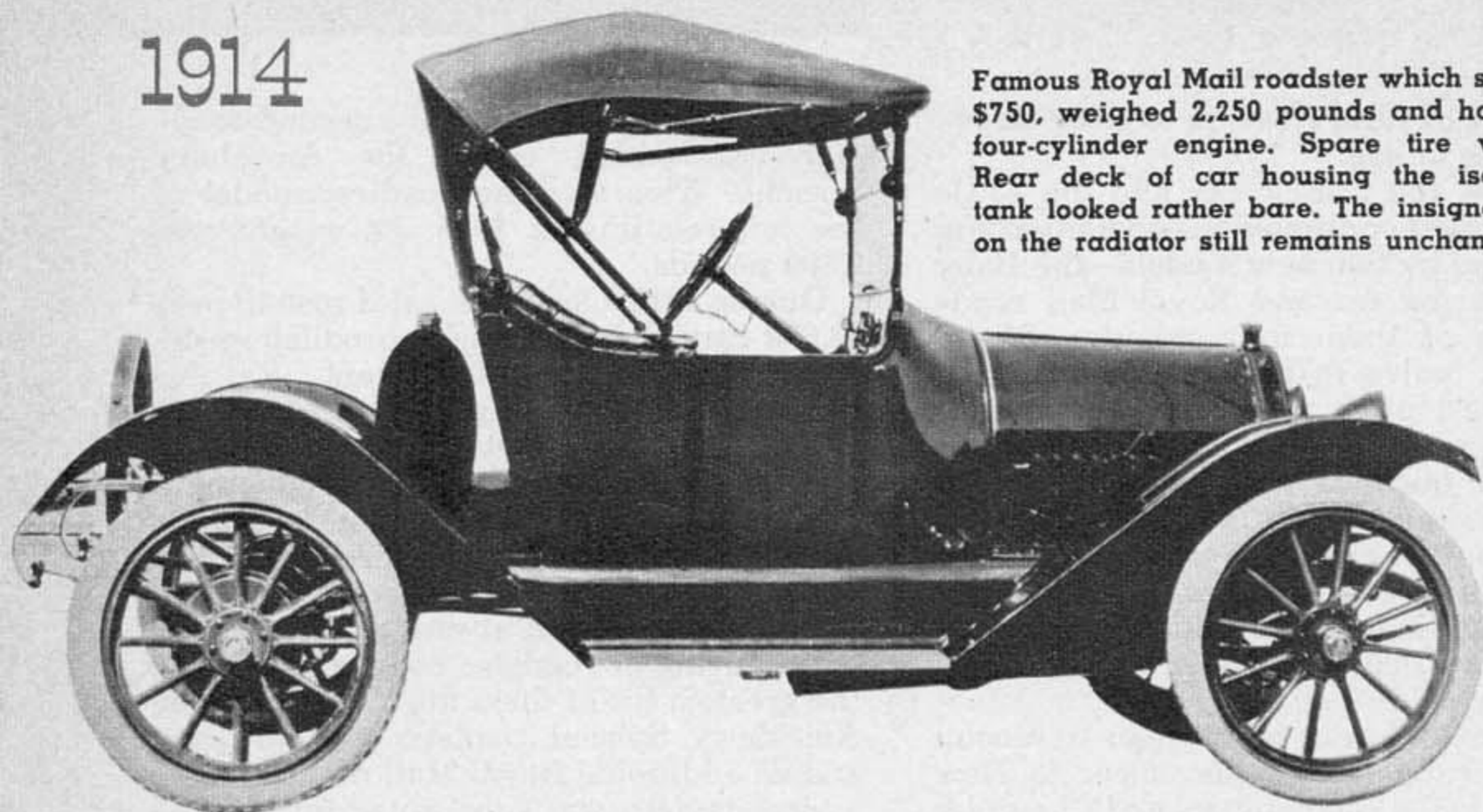
William C. Durant was now within visible distance of achieving his dream to get back at the helm of General Motors; while the Chevrolet, after starting in an anti-

1912



# 1914

Famous Royal Mail roadster which sold at only \$750, weighed 2,250 pounds and had a 24 hp four-cylinder engine. Spare tire was extra. Rear deck of car housing the isolated gas tank looked rather bare. The insigne or badge on the radiator still remains unchanged today.



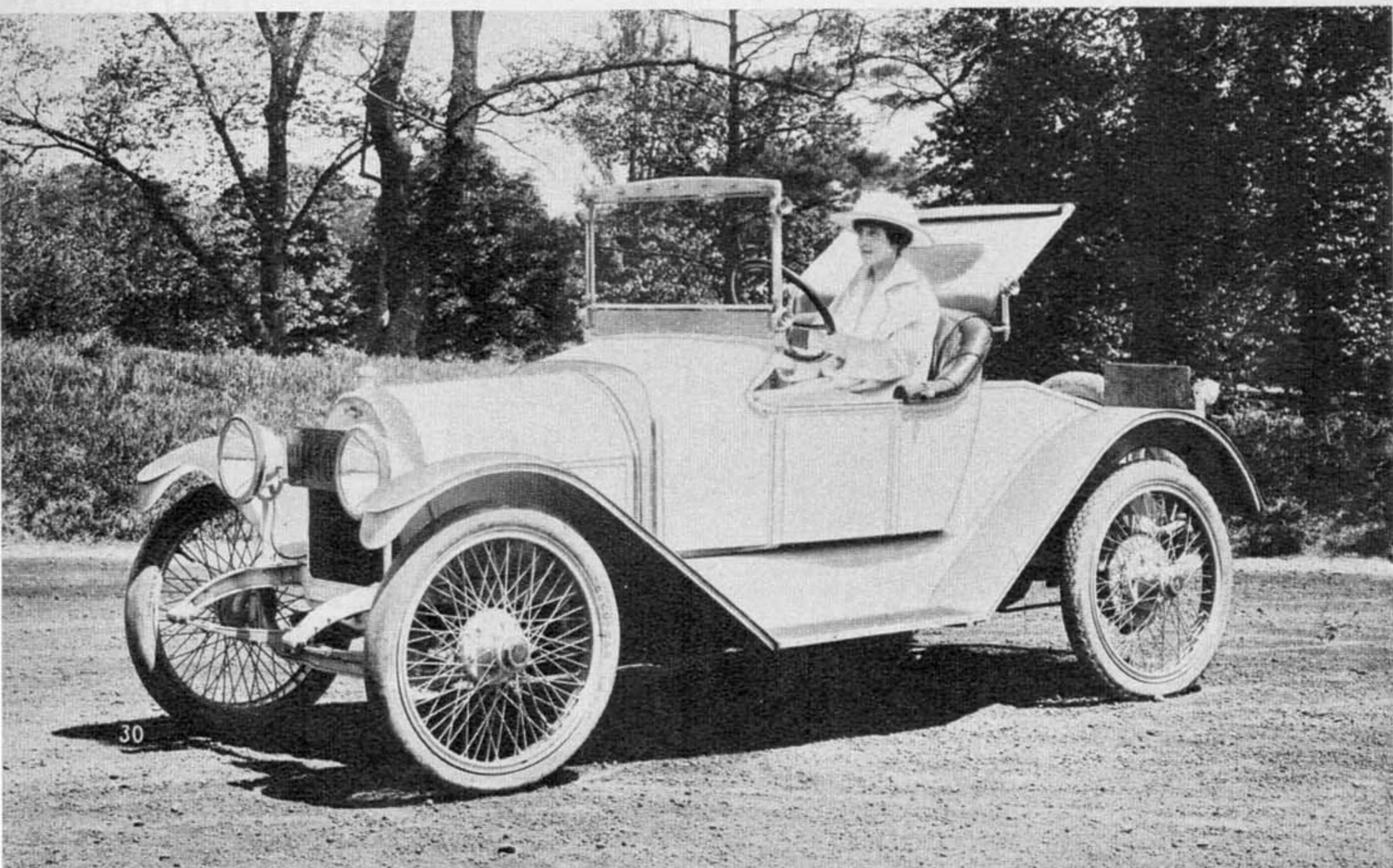
quoted plant with hardly any money behind it, was on the way toward making a tidy profit of over \$6,000,000!

It took two more years for the Chevrolet

Motor Company to merge with General Motors and acquire at the same time a controlling interest which put the wizard Durant back in the saddle. •

The immaculate Amesbury Special (below) was one of three models which sold well over 13,600 units the year it was introduced. This roadster boasted a 24 hp four-cylinder engine and weighed 2,300 pounds. Price was \$985. Note unusual canvas wind deflector behind the lady driver.

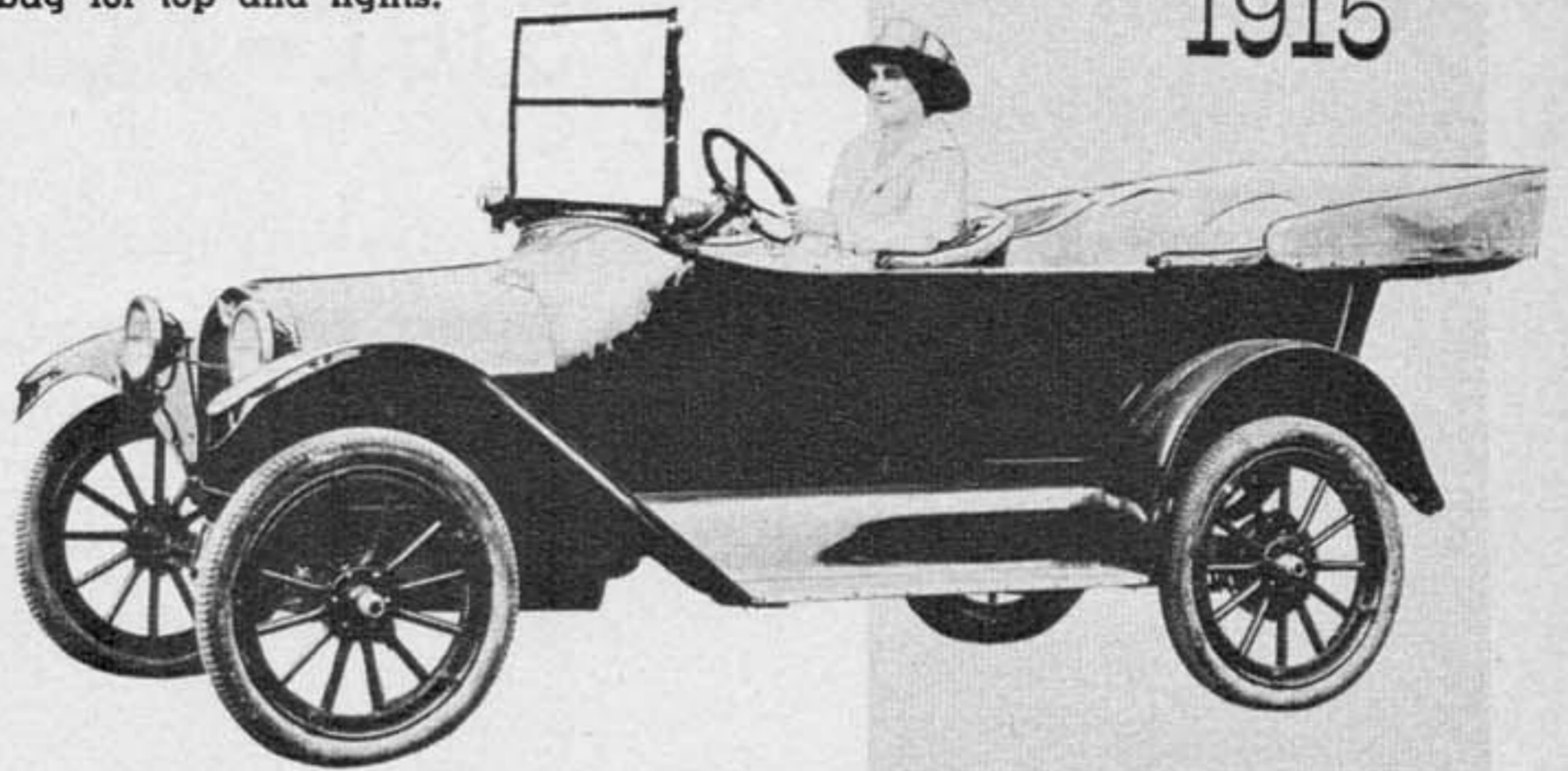
# 1915





# CHEVROLET

Another lady driver poses in her Baby Grand touring car. It had a 24 hp four-cylinder engine also, but cost only \$750. Included in the price were windshield, canvas bag for top and lights.



1915

The first example produced of the popular Model 490 touring car rolled out of the factory on April 29 that year. At \$490, it had an engine similar to that in the Baby Grand, weighed 1,830 pounds. Beside car is H. H. Grant, master salesman who was promoted to a GM vice presidency in 1929.



1915

This Royal Mail roadster was first produced late in 1915. With a modified body for the sake of lightness, it had an original price of \$750. At the time, wire wheels were becoming very popular. When photographed, bearing a 1938 California plate, the car was still in good shape. Again, it made use of the time-tested four-cylinder 24 hp chassis.



1915



# Chrysler-Maxwell

*The first popular, quantity-produced car to use shaft drive instead of chains, this Chrysler forerunner challenged all comers.*

**T**HE story of the Maxwell car—which 20 years after its inception became the sensational Chrysler—is one of determination, constant endeavor and well-earned success.

Back in 1903, Jonathan Dixon Maxwell and Benjamin Briscoe designed, built and tested a little car which ran so well that they decided to put it into production. Both Maxwell and Briscoe were outstanding personalities and pioneers in the automotive business. It was Maxwell, for example, who in 1894 joined the Apperson brothers in helping Elwood Haynes build the first Haynes auto buggy—which later evolved into a famous car.

Model L runabout cost \$750. Unit below restored by F. McKenrick, Ebensburg, Pennsylvania.

1905

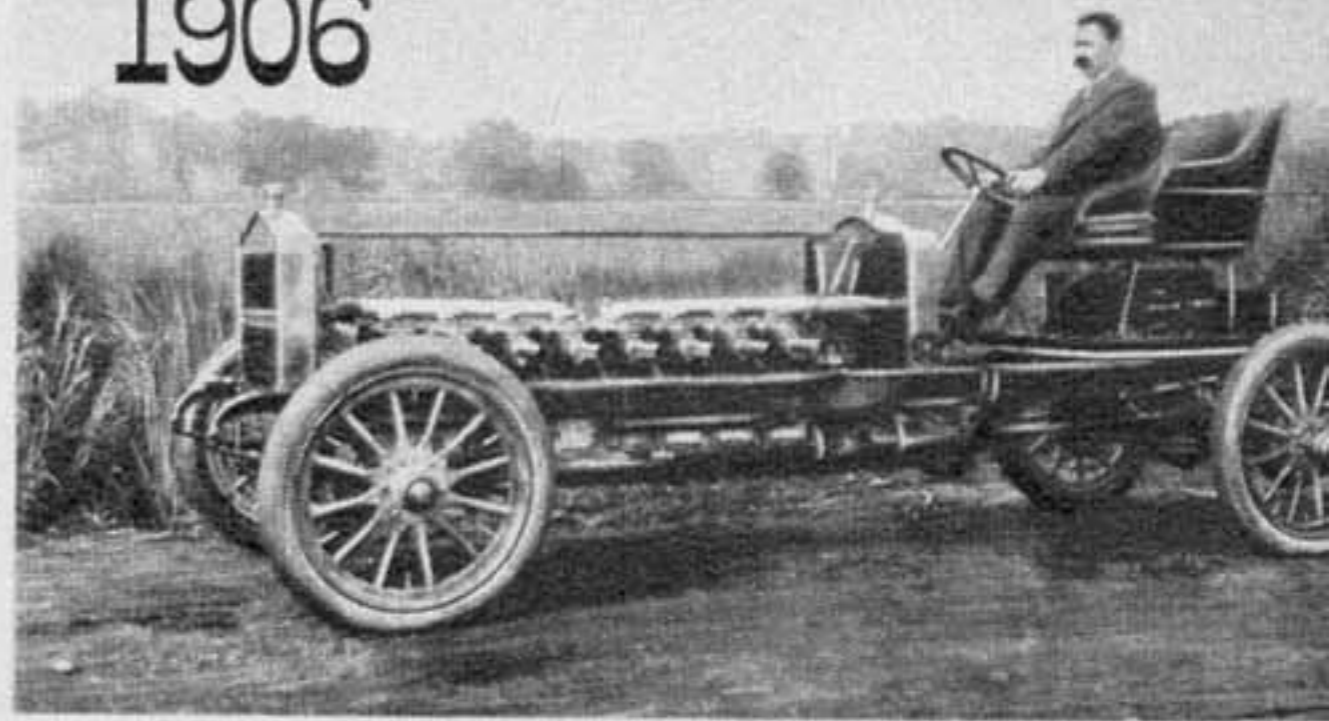


Anyway, in 1904 the partners, Jonathan and Benjamin incorporated their firm as the Maxwell-Briscoe Company and produced their first two models during the fall of that year. Both were two-cylinder cars, but one had an eight hp engine while the other rated 15 hp. The engines of both had a bore and stroke of equal dimensions, designed to limit piston speed; quite a progressive idea for those days, since it has been only during the past decade that designers have become actively conscious of the direct influence of this factor on engine life and efficiency. The cylinders of the smaller engine were four inches by four, and of the larger, five by five.

Prices were \$750 and \$1,550 respectively and the cars found a ready sale. By August, 1905, in fact, 532 Maxwells were built and delivered from the factory at Tarrytown, New York. While on the subject of progressive features, the Maxwell was the first popular, quantity-produced car to use shaft drive in place of the usual chains. It also was one of the earliest to employ the principle of thermo-siphon cooling.

Encouraged by their success, Maxwell and Briscoe entered their product in the Glidden Tour, where it tied with a Pierce-

## 1906

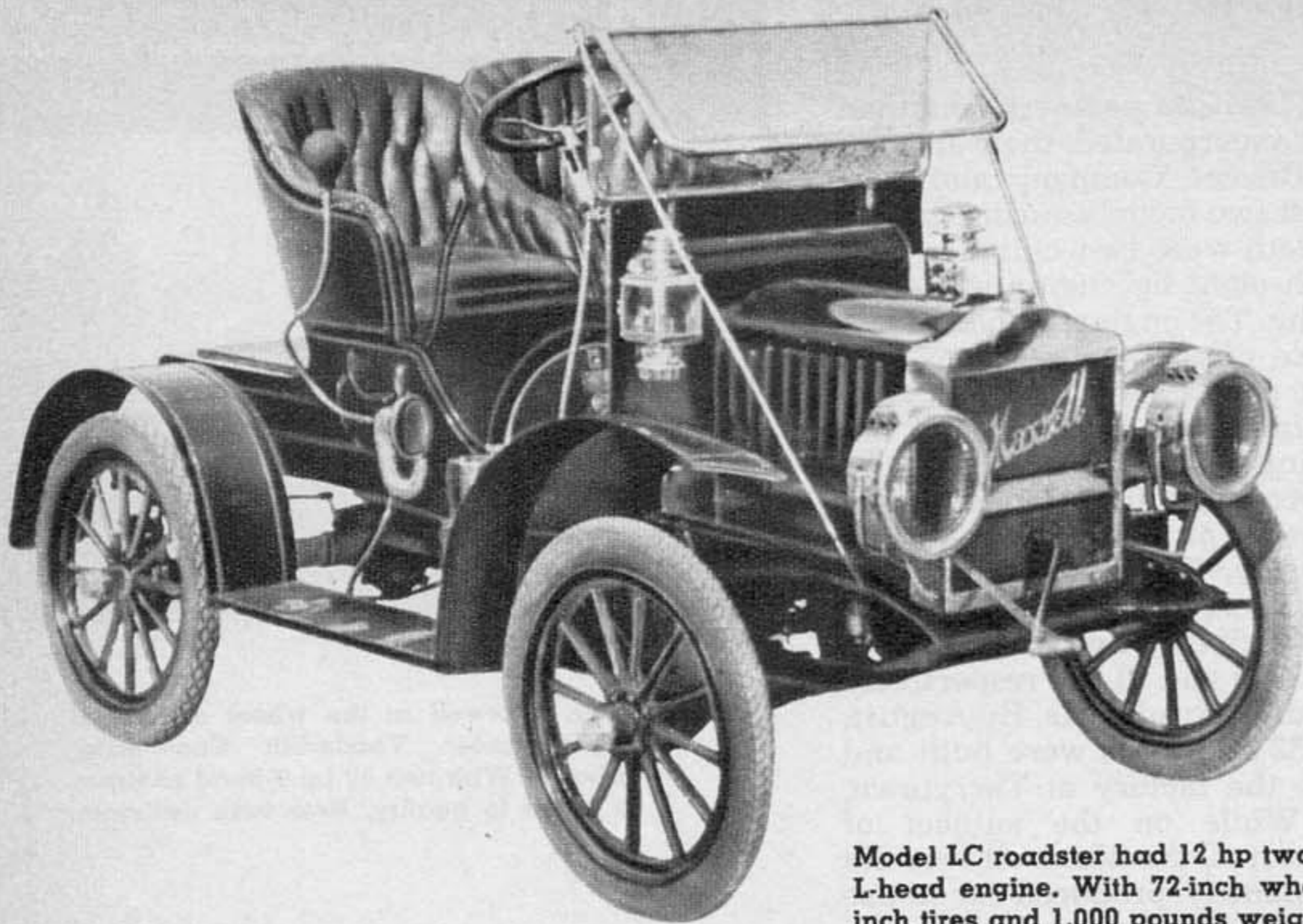


J. D. Maxwell at the wheel of special eight-cylinder Vanderbilt Cup entry (above). With two 40 hp T-head engines, it failed to qualify. Note twin radiators.

Model HB touring car (below) weighed 1,600 pounds, cost \$1,450. Engine was 20 hp, two-cylinder. Charles Price drove it 4,778 miles, for new economy record.



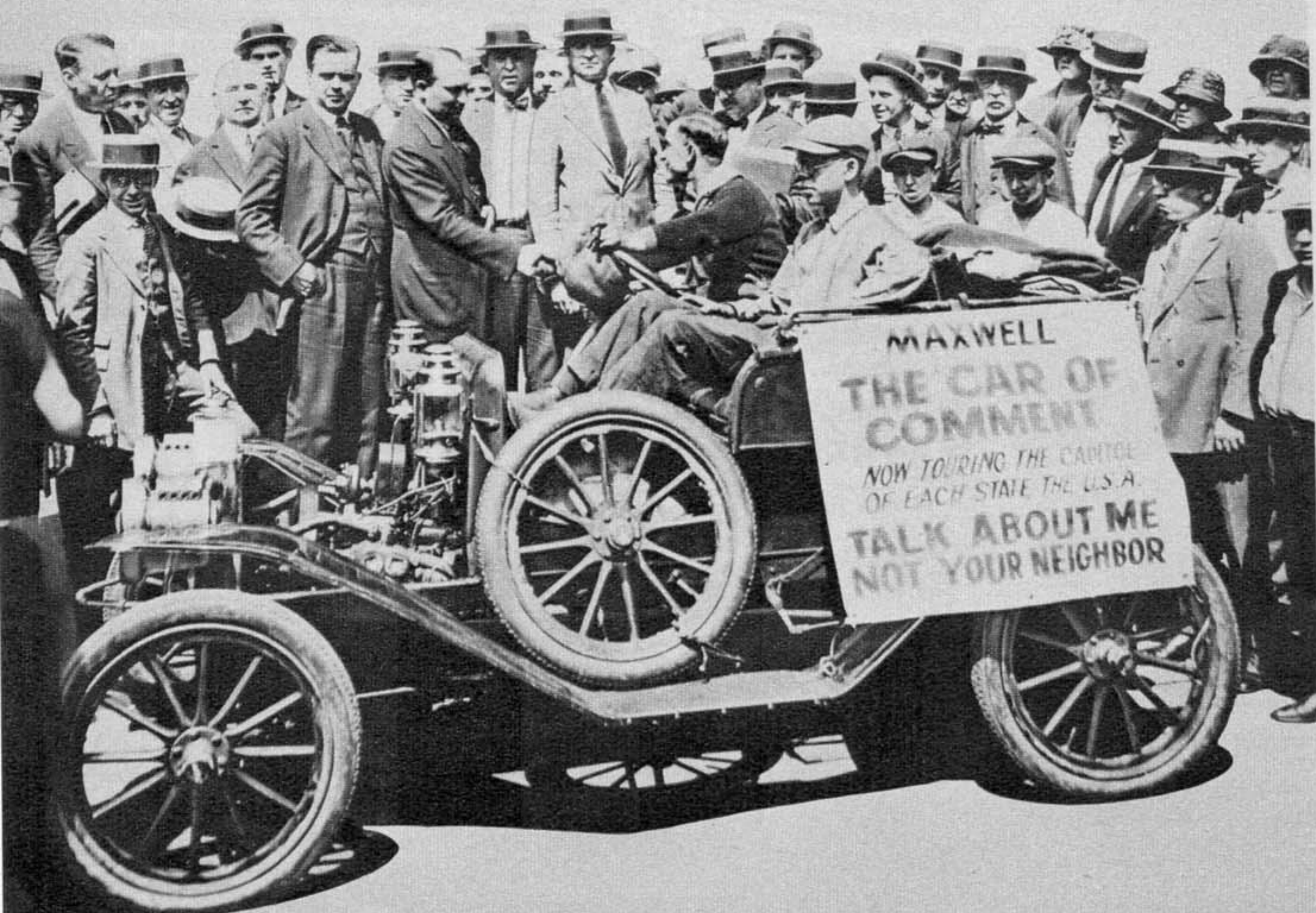
## 1907



1907

Model LC roadster had 12 hp two-cylinder opposed L-head engine. With 72-inch wheelbase, 28 x 3½-inch tires and 1,000 pounds weight, it sold for \$750. Restored unit here owned by D. S. Lee, Detroit.

1910



Arrow for premier award. It was then entered in just about every competitive event that was going. The following year, a Maxwell won the Deming Trophy in the Glidden Tour and the partners were busy building two special cars for the Vanderbilt Cup. Unfortunately, though both showed promise in the early stages, neither turned out to be a success.

In November of 1906, the factory moved to Newcastle, Indiana, although the Tarrytown plant was retained.

The first four-cylinder Maxwell was produced in 1907. It was a machine similar in basic design to its predecessors, but more powerful and still moderately priced at \$1,500. This was followed by a much larger car with a four-cylinder engine of 30-40 hp, known as the Model D and priced at \$3,000. Very probably, the search for power in the Vanderbilt Cup models inspired the design of this model, but the price caused some raising of eyebrows.

There already was plenty of well-established competition in the luxury bracket and the Model D Maxwell could make little headway against such contenders as Aperson, Thomas Flyer, Northern, Locomobile, Pierce-Arrow, Marmon and others. However, the original two-cylinder cars of eight and 15 hp were retained—the former as the RS or RL Runabout (with divided or undivided seat), selling for \$825; and

the latter as the Model HB Light Touring Car priced at \$1,450. These continued to find a ready market.

Next came the 1908 Model D, a four-cylinder, 24 hp touring car that weighed 2,100 pounds, cost \$1,750 and had a good sale. The change of rules in the 1908 Glidden Tour angered the partners, who alleged that the new regulations favored the costlier autos. The Maxwell Company therefore issued a sharp challenge to the winner of that year's Glidden Tour, and plastered the challenge in a dozen contemporary ads. "Come out and fight," Maxwell and Briscoe said, in effect, "but under 1907 Glidden rules which will put the Maxwell on equal footing with the highest priced and most powerful cars made. We challenge you to a race from New York to San Francisco, with no quarter asked or given!"

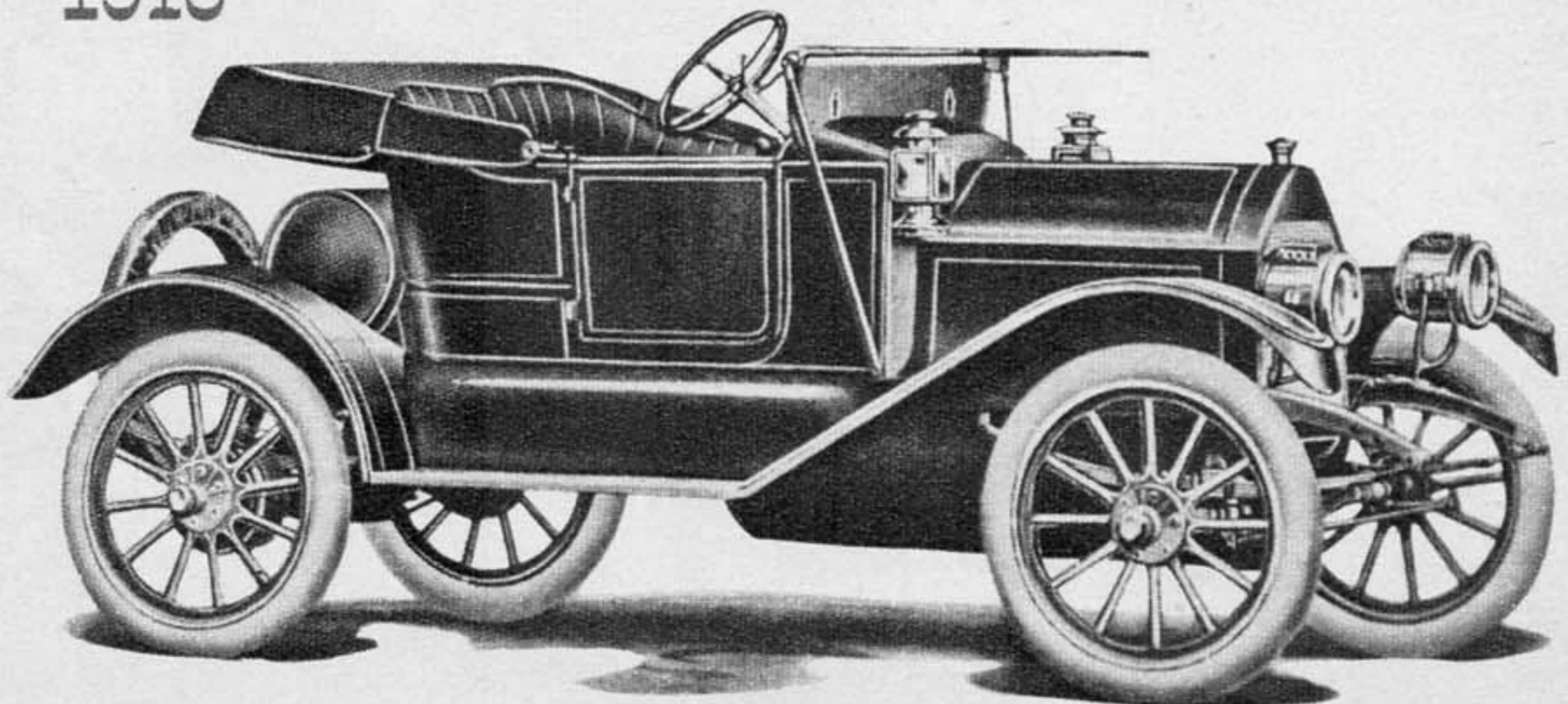
The challenge went unanswered, and that same year a proposed merger between Maxwell and Buick failed to materialize—for the good reason that Buick became a part of the infant giant, General Motors. This seemed to cause the partners little worry. Benjamin Briscoe now became president of the company.

By August, 1909, more than 9,000 Maxwell cars had been sold. That same year, a Model LD, 14 hp runabout appeared, priced at \$825. The following year, Briscoe retired to organize the United States Motor

Publicity stunts like the one shown at left were popular with auto manufacturers of the day. This Model AA runabout had two-cylinder engine that was sloped to line up with the drive shaft.

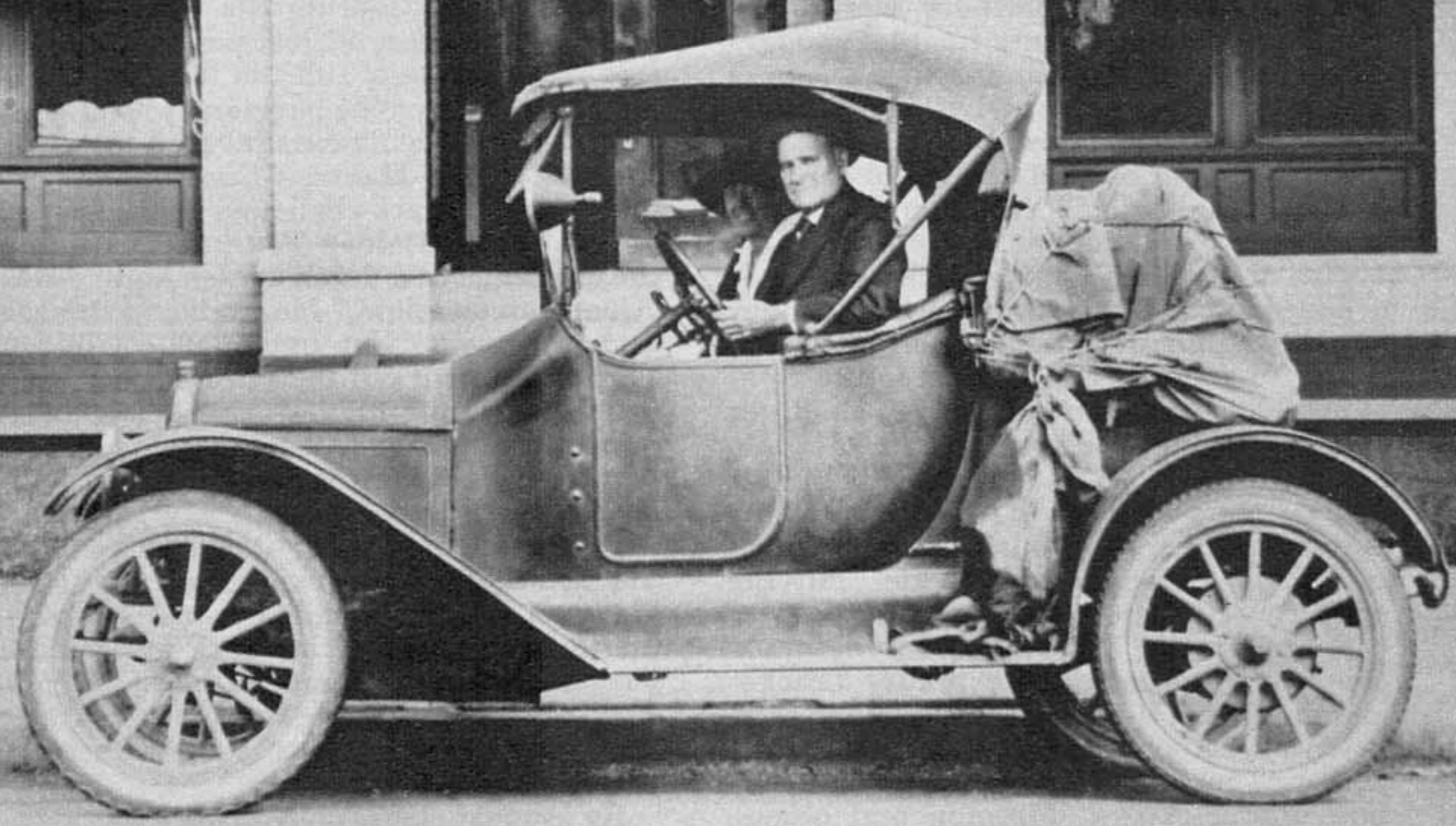
Model 22 roadster (below) was one of three types with similar T-head engine. A sporty four-cylinder job, it boasted a folding windshield and round gas tank at rear. Many of these were sold at \$785.

## 1913



MAXWELL MOTOR CORPORATION

1915



A Model 25 four-cylinder roadster sits for its portrait in front of the Maxwell plant, Detroit. Ruggedly built, with reasonably low center of gravity, it was priced modestly at \$695 and up.

Mary Pickford, then darling of the screen, poses in her two-passenger cabriolet (below). Engine was four-cylinder 25 hp. Price: \$840. Note the white rubber tires. They didn't stay white long!

1915



# Chrysler-Maxwell

Company, which was formed in combination with several other firms.

By 1912, the United States Motor Company had failed and Benjamin Briscoe went off to France with a couple of engineers to study European design.

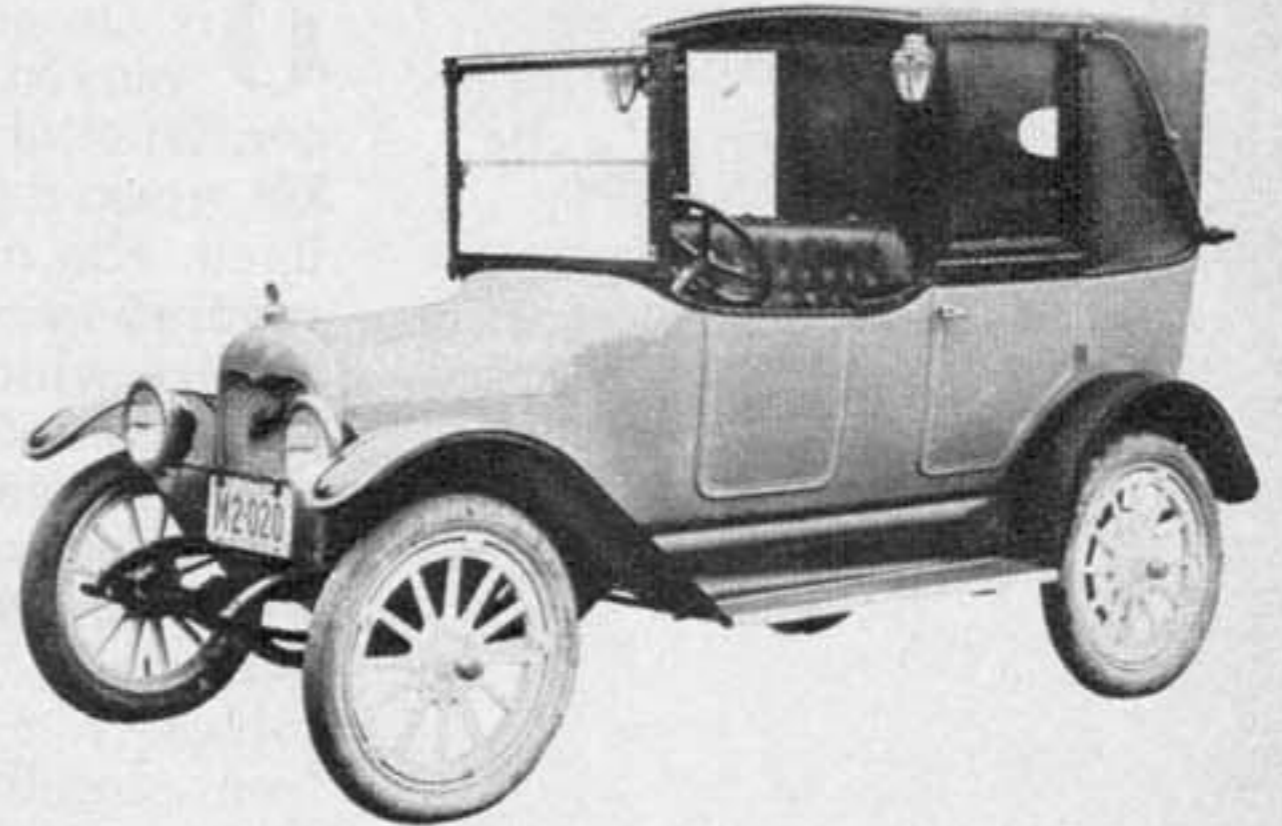
In 1913, the Maxwell-Briscoe Motor Company, Incorporated, was organized to succeed United States Motors and production continued as before. That year the first six-cylinder Maxwell made its appearance and was priced at \$2,350.

The firm now sold its Tarrytown, New York, plant and moved to Detroit. For two years running thereafter, it achieved a generally forgotten success in the grueling 500-Mile Indianapolis Memorial Day race. In 1914, a four-cylinder, 445-cubic-inch Maxwell, driven by Carlson, finished ninth at an average of 70.97 mph, and in 1915 a 298-cubic-inch Maxwell occupied the same position at 78.96 mph, handled by Carlson and Hughes. Pretty good going for a firm with almost no previous racing experience. Meantime, in 1914 at Corona track, California, the great Barney Oldfield drove a Maxwell to second spot in a 301-mile grind, which he covered non-stop.

In 1916, the firm leased part of the Chalmers plant in Detroit. Nine years later, Walter P. Chrysler appeared on the scene. •

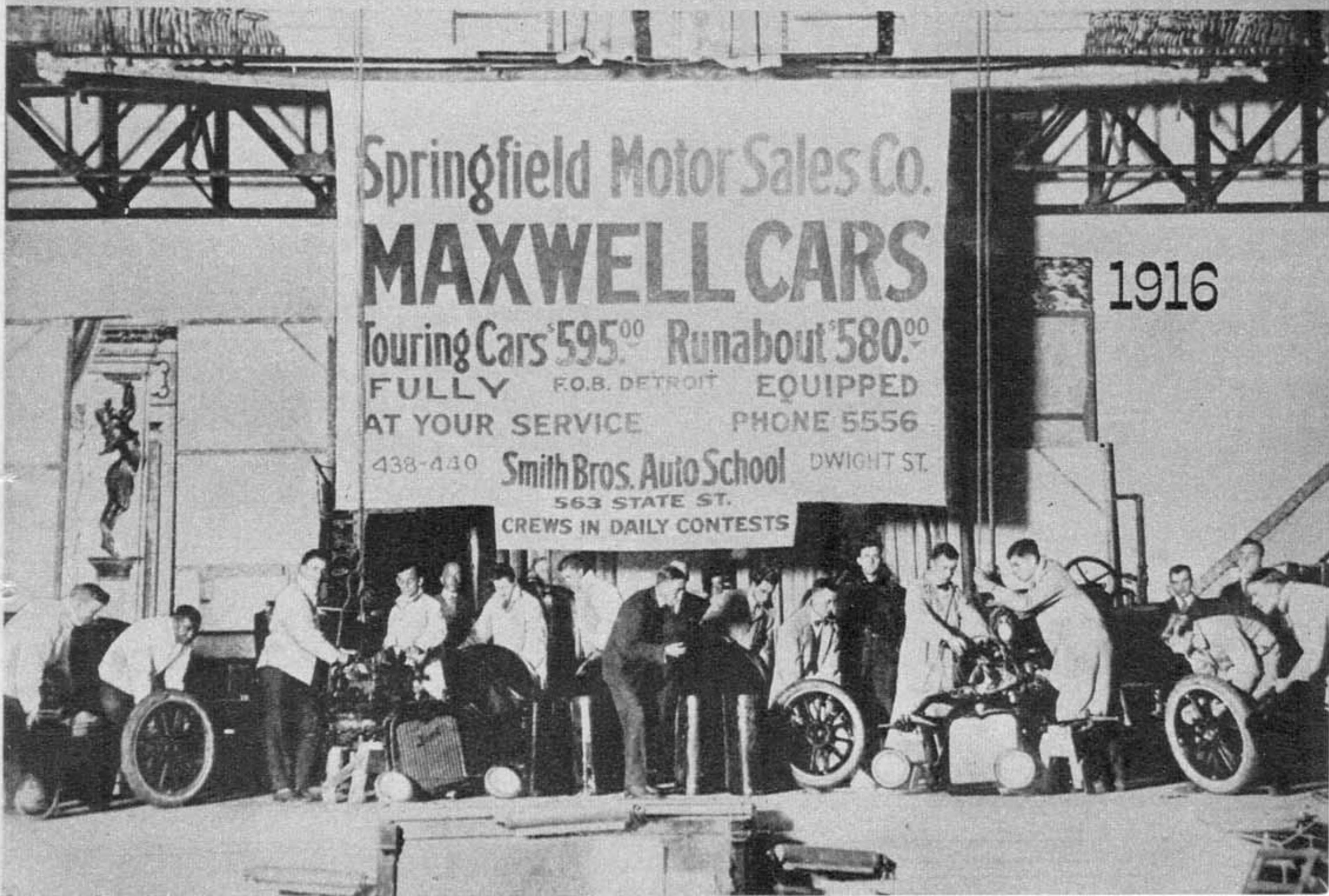
Four-cylinder town car with landaulet body cost \$915, weighed 2,000 pounds. Same model with touring body covered 22,022 miles in 44 days without stopping, driven by a dealer, Harry Lord.

## 1915-1916



Contest between dealer's mechanics and auto school students drew huge crowds. Six-man teams assembled a dismantled runabout and touring car on theater stage. Record: a minute, 37 seconds.

## MAXWELL CAR ASSEMBLED ON STAGE OF THEATRE





# FORD

***With pipe and scrap metal, Henry Ford laid the foundation of an automotive empire.***

**O**N December 29, 1893, a thirty-year-old engineer employed by the Edison Illuminating Company began construction of a new type of two-cylinder gasoline engine. He worked in a small shop at 59 Bagley Avenue, where he lived. His name was Henry Ford and he was destined to revolutionize the automobile industry by building a vast empire which would bring personal transportation within the means of literally millions.

Three years later, after countless hours of research, toil and experimentation carried out in his spare time, and with considerable financial sacrifice (Mrs. Ford justly lamented: "It seems we never have any money for ourselves!"), Henry completed his first auto buggy. Built from plumbing pipe, bicycle wheels, carriage cushions and

1896

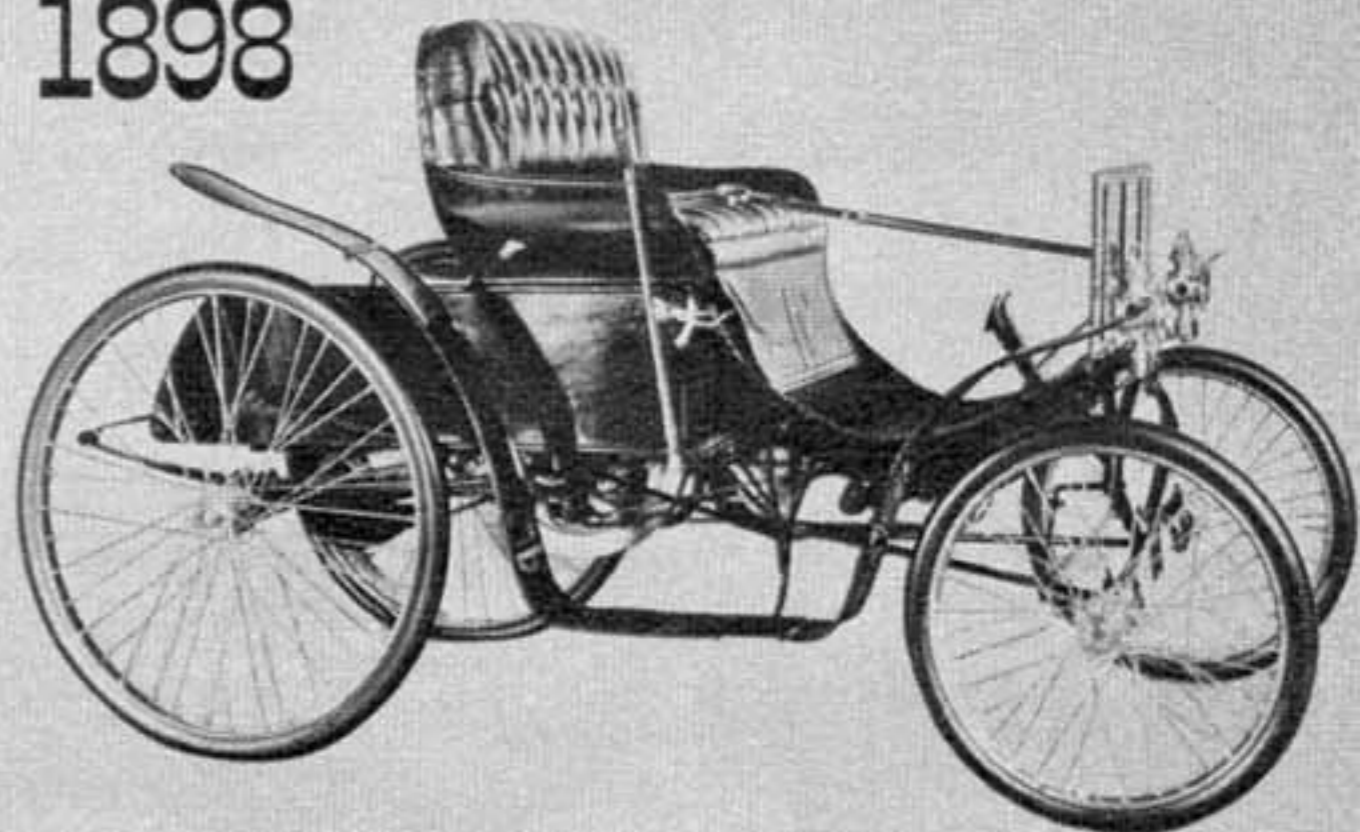
The late Henry Ford at tiller of his first car. All parts were hand-made, including crankshaft. Engine was two-cylinder side by side. The two-speed chain and belt transmission did not have a reverse.





# FORD

1898

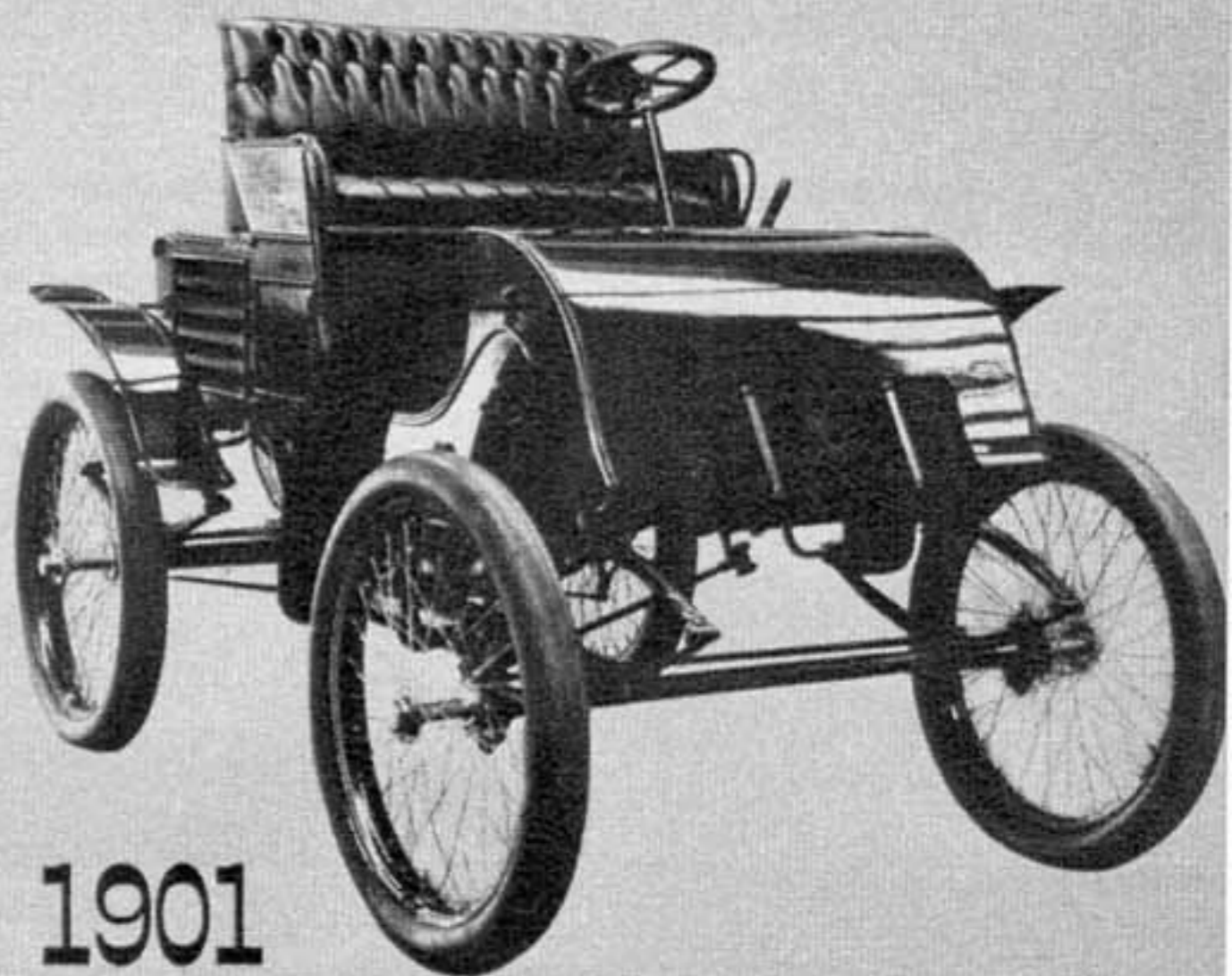


Second Ford ever built was an auto buggy in the truest sense: fenders were of patent leather, light was by brass kerosene lamps and the tire sizes were 30 x 2½ in front and 40 x 2½ in rear.

bits of scrap metal machined on a lathe, the first Ford car ever built had a two-cylinder, 10 hp engine with a crankshaft forged by hand! Its speed was 10 mph in low and 20 mph in high. It ran moodily. Undaunted, in June, 1896, Ford cranked up, climbed aboard and drove all the way to his father's farm in Dearborn, a Detroit suburb. To clear a path through traffic, he used a loud gong, but the engine was so noisy with its popping and banging that he could have dispensed with the warning! This was three months after Charles Brady King, another automotive pioneer, had appeared on the streets of Detroit with his own car. King was the first ever to do so in a horseless carriage. In fact, he gave Ford some assistance and contributed the engine's intake valves, the two men being rather close friends.

In 1899, Ford gave up his job at the Edison plant to help organize the Detroit Automobile Company. His third car was already on the drawing board. He took one-sixth of the new company's stock in exchange for becoming its chief engineer. By 1901, he had introduced the steering wheel as a production feature, to replace tillers. That same year, driving a two-cylinder car, he defeated a serious competitor, the dashing Alexander Winton, in a race at Grosse Pointe, Michigan. Shortly afterwards a sharp divergence of views between Ford and his associates grew into open warfare. Ford's dream was to produce a low-price car that would be within the reach of most people: whereas his associates thought in opposite terms, preferring to cater to a small and exclusive clientele. As a result, in 1902 Ford broke off with the Detroit Automobile Company (which was later to become the highly successful Cadillac Automobile Company), and started to manufacture his own cars.

Ford's new enterprise attracted \$7,000 from Alexander Malcolmson, a coal dealer, and smaller investments from a number of other interested parties—including a candy maker named John F. Gray. Another \$5,000 was forthcoming from Ford's attorneys, John W. Anderson and Horace H. Rackham, while John and Horace Dodge (later



1901

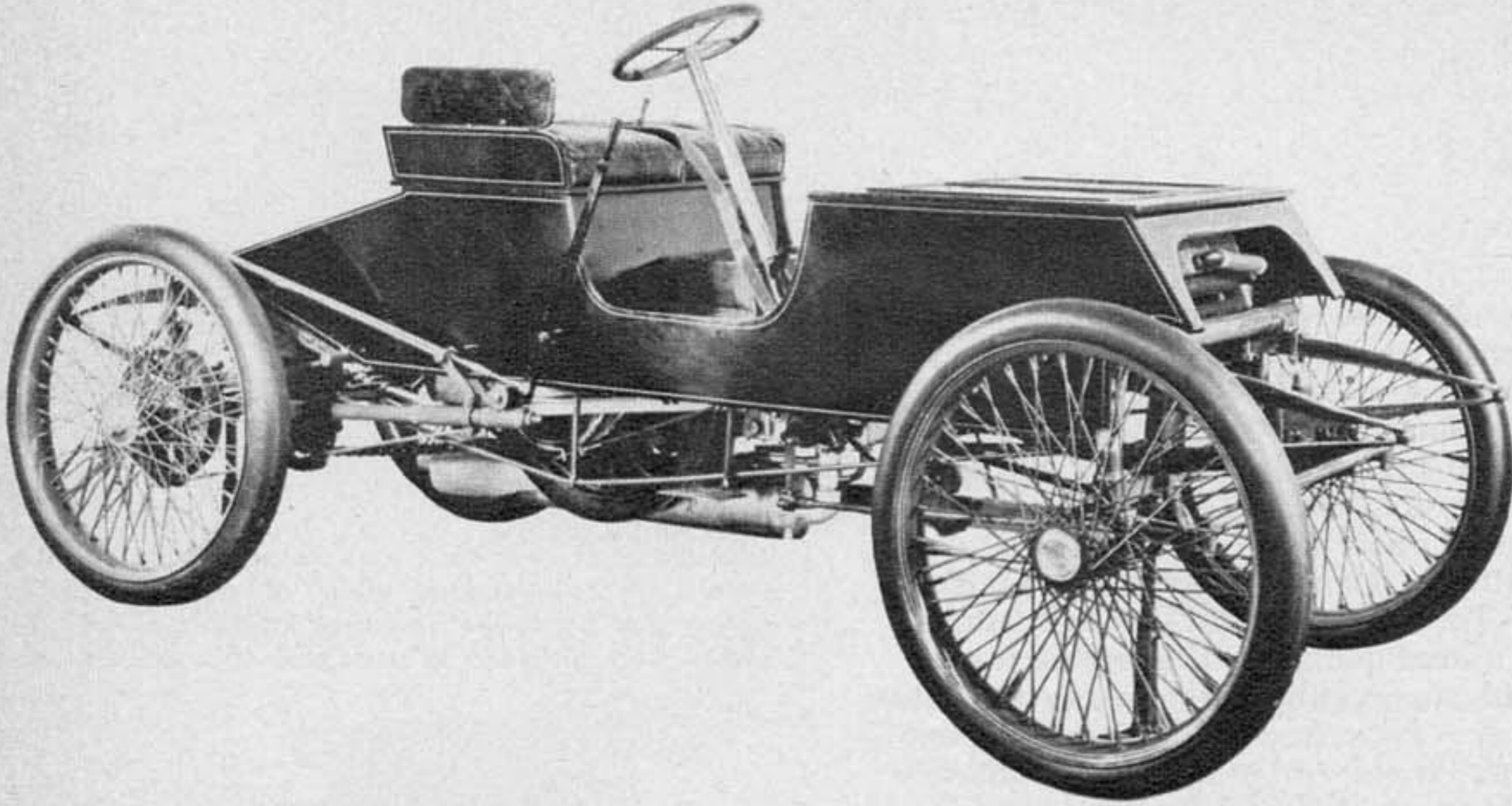
The third car was completed after Ford had joined the Detroit Automobile Company. It served as a useful prototype for production. It had steering wheel, planetary transmission and a steel frame.

Below is original Ford workshop—a small brick shed that once stood behind his home on Bagley Avenue. Today it is preserved intact for history and for all to see at Greenfield Village, Dearborn.



1901

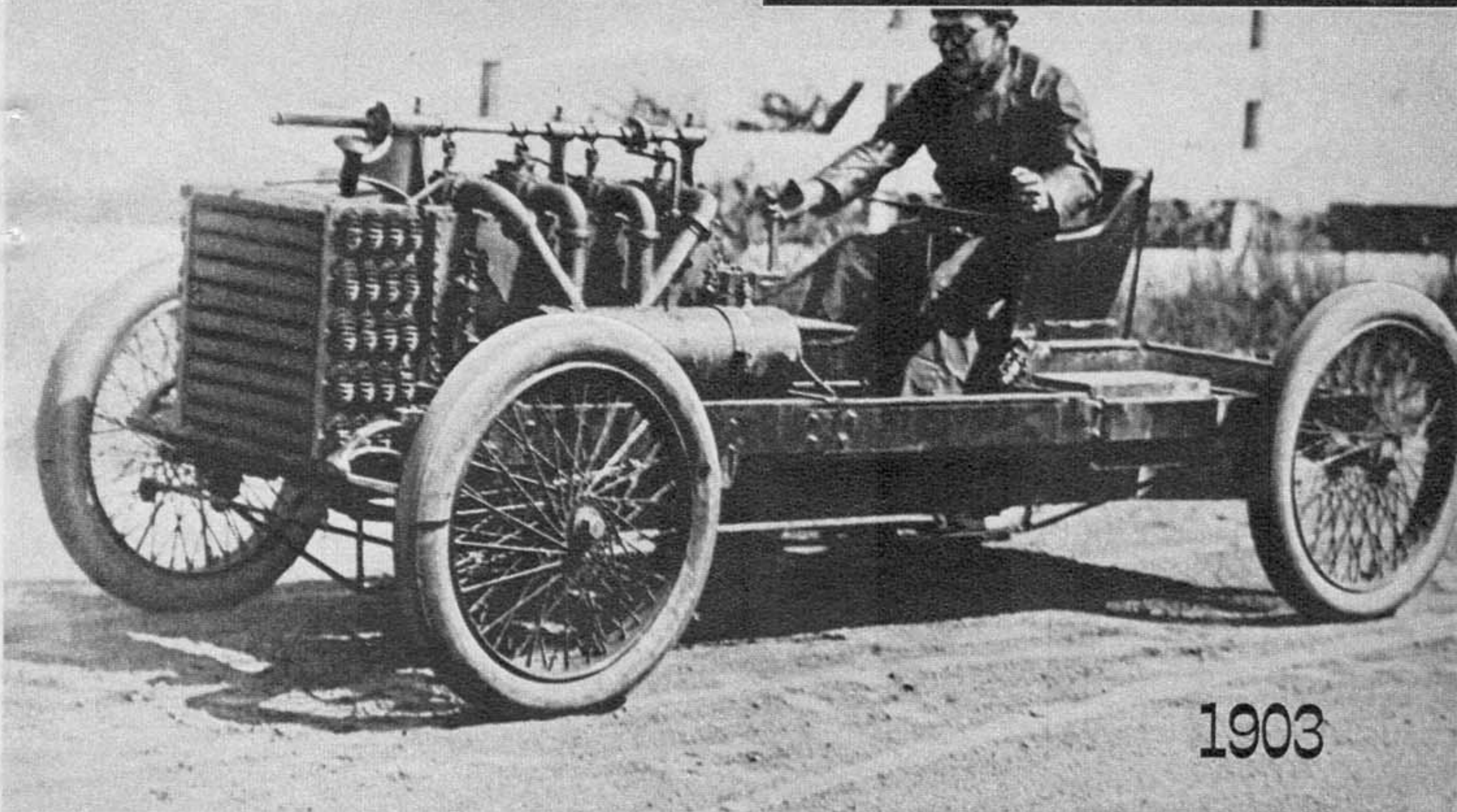
In this starkly simple race car, Henry Ford was able to do 69.2 mph. Powered by a two-cylinder 26 hp engine, it had a steel-reinforced wooden frame, jump-spark ignition and two rear brakes.



The first practical two-cylinder production auto (below) was designed by Ford when he was chief engineer at the Detroit Automobile Company. Later models had steering wheels. Speed was 10 mph.

1901





Barney Oldfield at tiller of Ford's famous 999 four-cylinder racer. Not knowing how to work the brakes (he'd never driven before), Barney took the curves wide open and finished a half mile ahead of the pack in competition at Grosse Pointe, Michigan. Among the defeated were Winton and Packard automobiles.

to become famous as the Dodge brothers), took stock in exchange for tooling up their small machine shop to build Ford engines. For another block of stock, Albert Strelow, a carpenter, converted his workshop into an assembly plant.

On June 16, 1903, Henry Ford organized the Ford Motor Company with a stock issue of \$100,000, of which only \$28,000 in cash was paid in by a dozen shareholders. But the newly established automobile manufacturer had abundant confidence in his ability to succeed. Ford was elected vice president of the company with a holding of 25½ per cent of the original stock, while John Gray was made president. Just five weeks after the company's incorporation, the first production Ford was sold. Known as the Model A, it was an eight hp rear-entrance tonneau, priced at a modest \$850. The next three cars were shipped in less than a month and 1,708 units were built and sold that year. It was a promising beginning. Ford was the third manufacturer to employ mass-assembly methods.

For 1904, three new cars, Models B, C and F were introduced, with a price range of from \$850 to \$2,000. These found 3,403

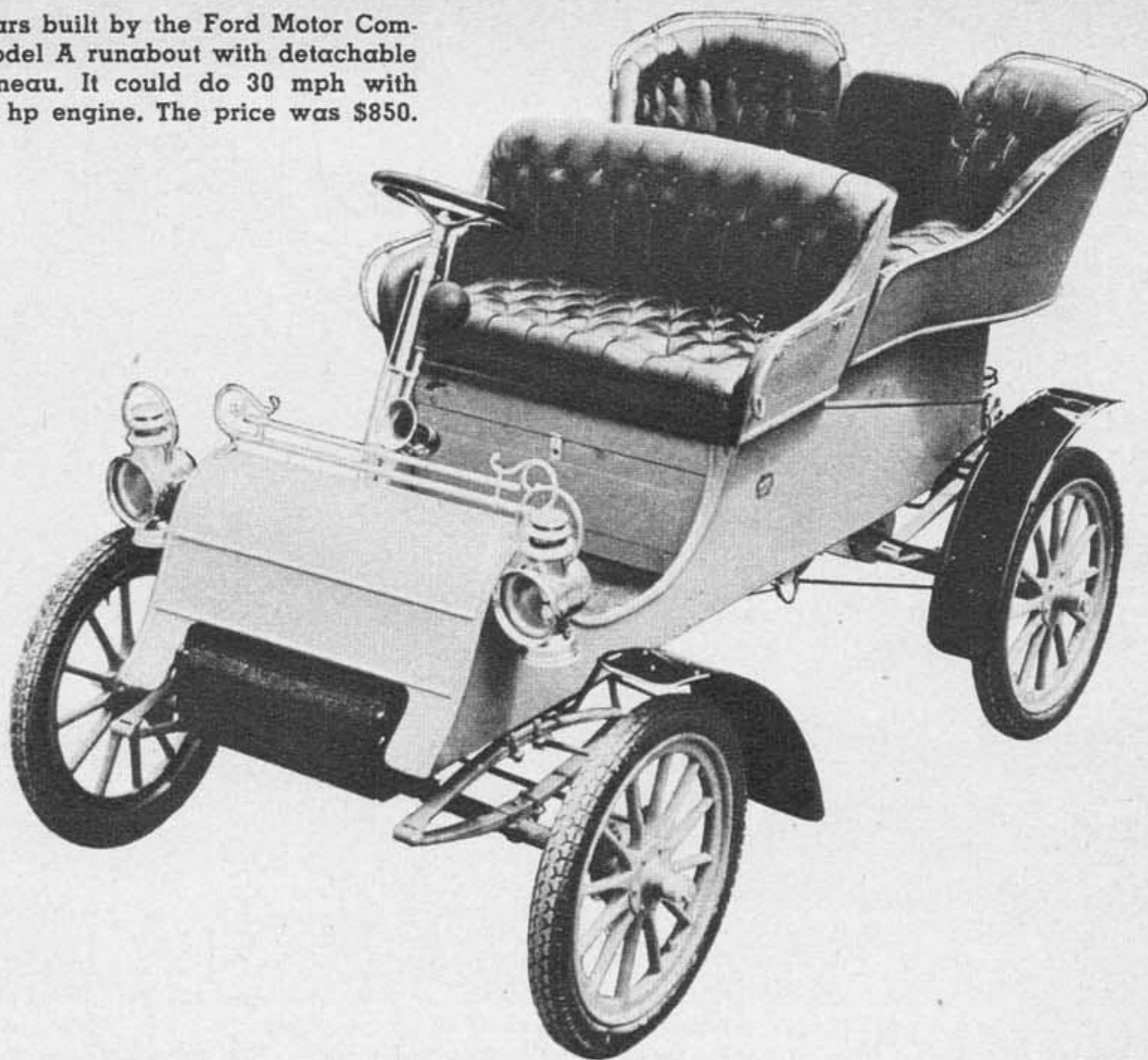
customers. The Model B with Ford's first four-cylinder engine was the most ambitious of the lot and to some extent contradicted his basic aims of low-priced, mass transportation. But it was designed obviously in an attempt to cater to the widest possible buying public. That same year he also introduced the torque tube drive in production cars. In addition, he broke all previous speed records on the ice track at Lake St. Clair, Michigan; grasping the tiller of his already famous 999 racer, Ford covered a mile in 39.4 seconds (91.4 mph). Up until that time, tops at the track was a mile-a-minute.

The following year saw the company plant moved to Piquette Avenue and Beau-bien Street, Detroit. By 1906, having acquired 51 per cent of the stock, Henry Ford replaced John Gray as president of the growing organization.

Four new Ford models appeared during that period, three of them with four-cylinder engines (the N, S and R), and the fourth, known as the Model K, was powered by the first Ford six-cylinder engine. Nevertheless, these incursions into the luxury field were not a success and the

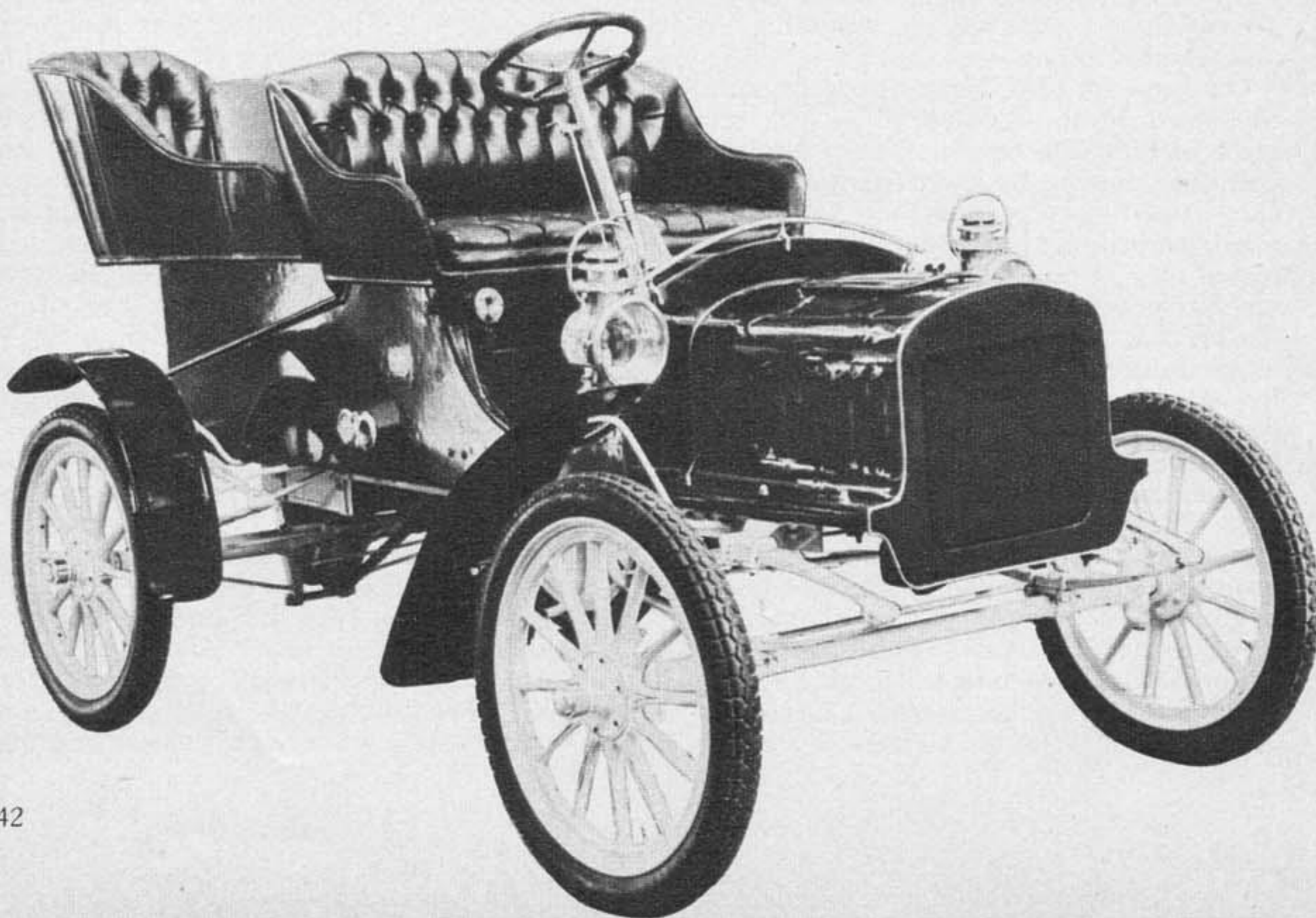
One of the first cars built by the Ford Motor Company was this Model A runabout with detachable rear-entrance tonneau. It could do 30 mph with its two-cylinder 8 hp engine. The price was \$850.

1903

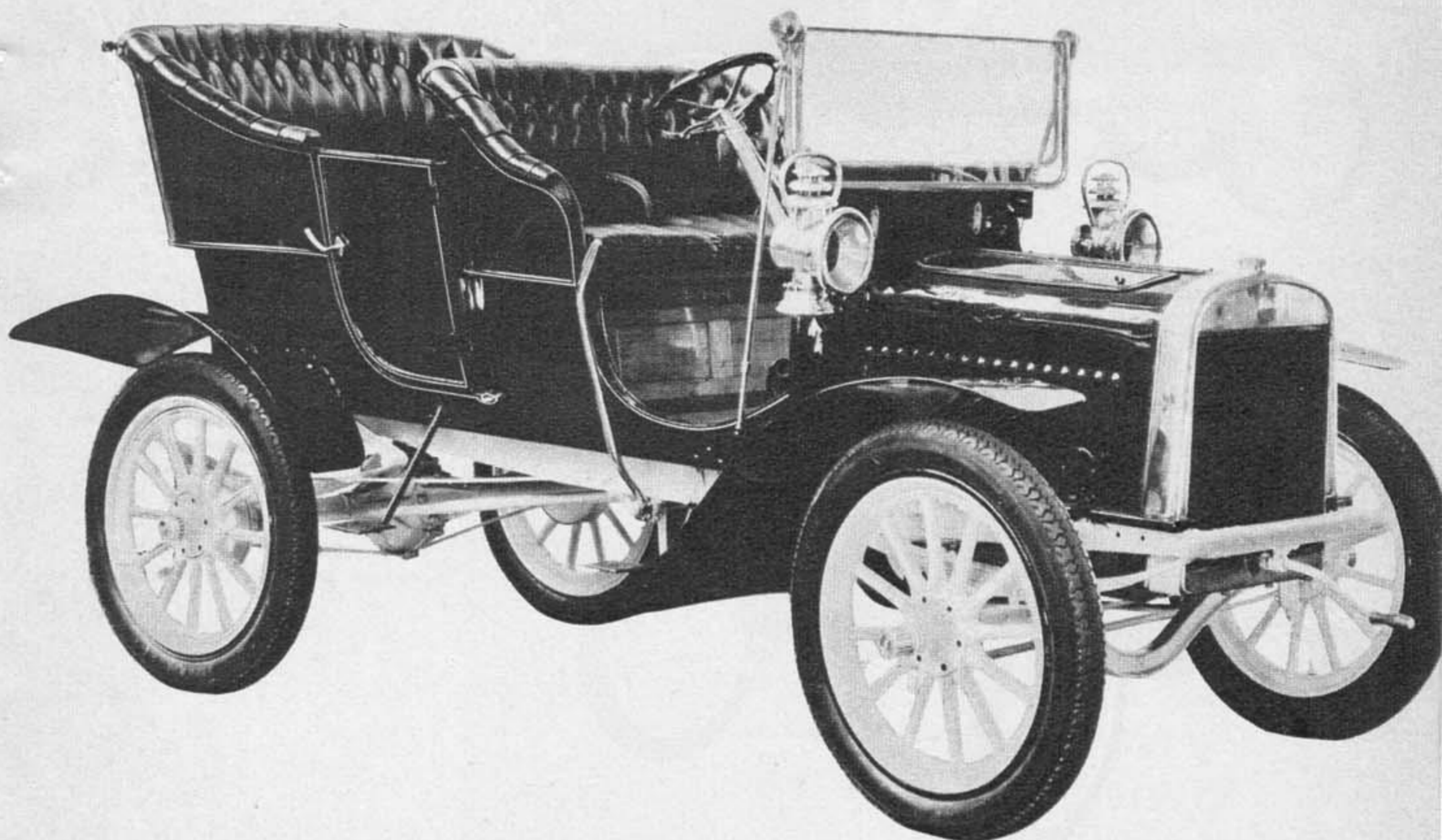


The Model C (below), with 14 hp two-cylinder opposed engine and rear-entrance tonneau, carried five passengers. Wheelbase was 78 inches. Engine was under the seat. Price was \$950.

1904



## 1905



resultant sales drop made them a costly experiment for Ford.

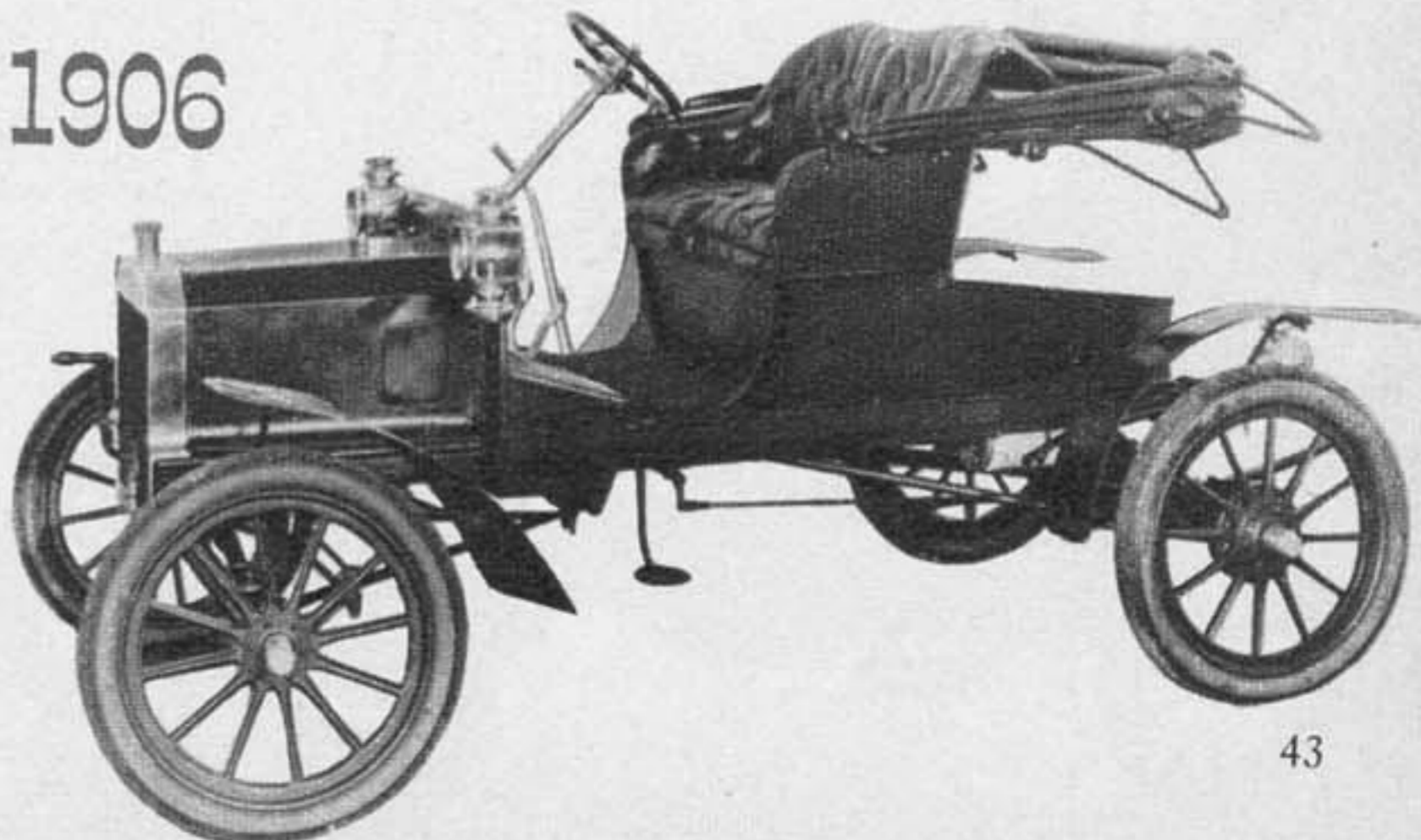
Business did not recover for another two years, but meantime the company came out with some important innovations—the removable cylinder head and a fin and tube radiator, which replaced the cellular type.

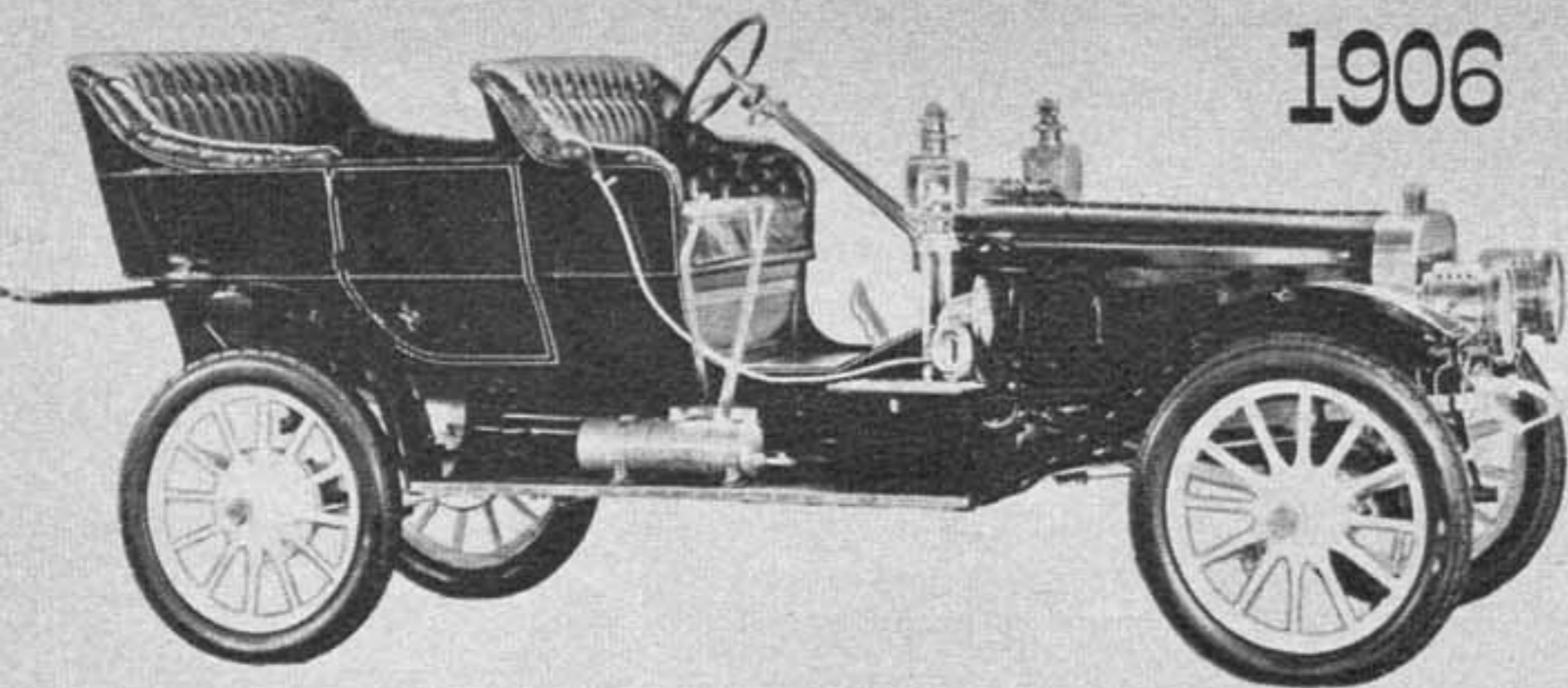
Undoubtedly, Ford's greatest inspiration was the Model T, the first example of which was completed October 1, 1908. This 20 hp, four-cylinder touring car, costing only \$850 complete, had a speed of 40 mph and fulfilled Ford's promise of a dependable, high-grade automobile at a price

The Model B was Ford's first touring car. It was powered by a 20 hp four-cylinder engine, with copper water jackets and a two-speed-and-reverse planetary transmission. The price was \$2,000.

First car ever driven by Edsel Ford was this Model N runabout (below). With a four-cylinder 15 hp engine featuring a front flywheel and open valve tappets, it sold for \$600 (with oil lamps).

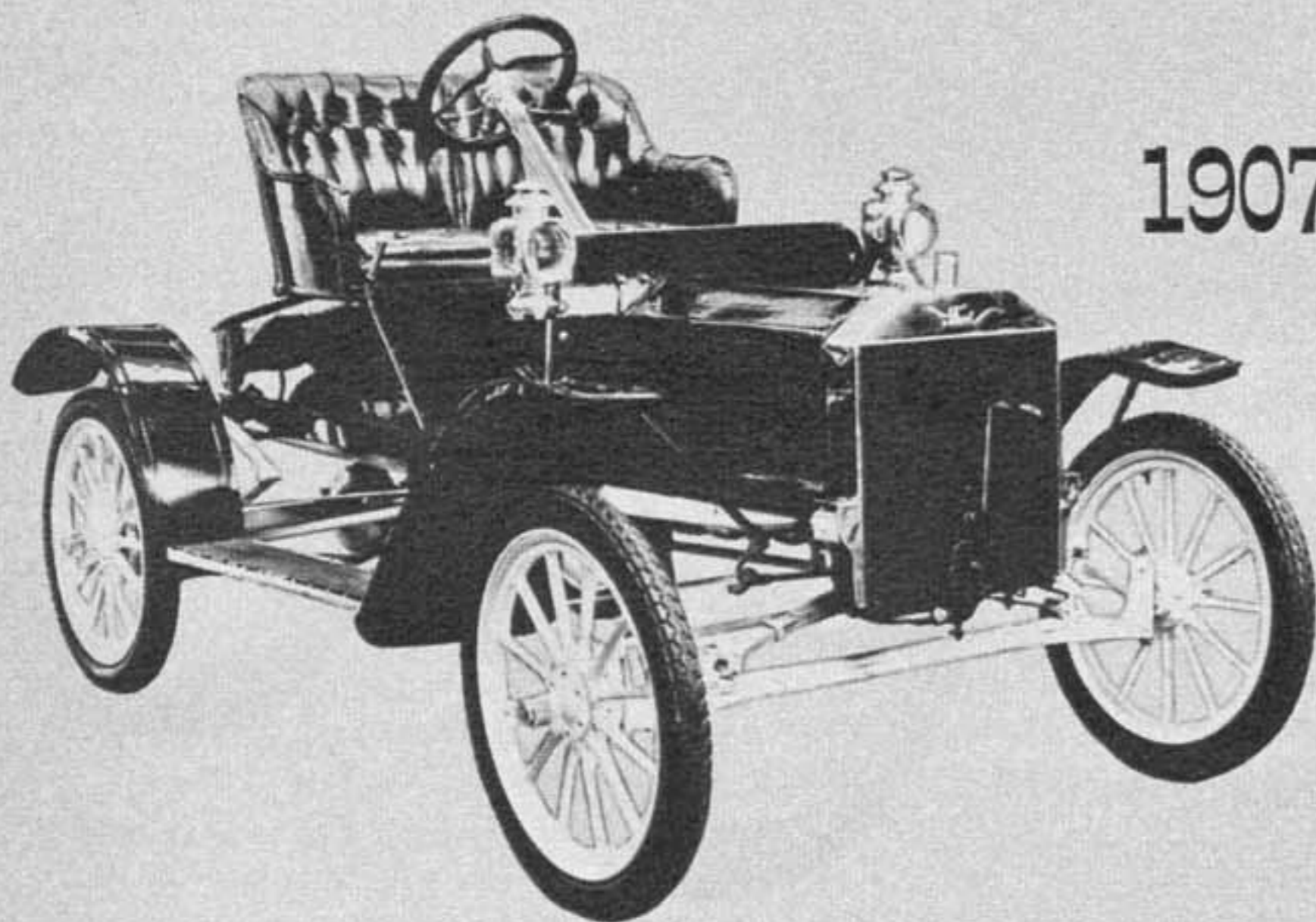
## 1906





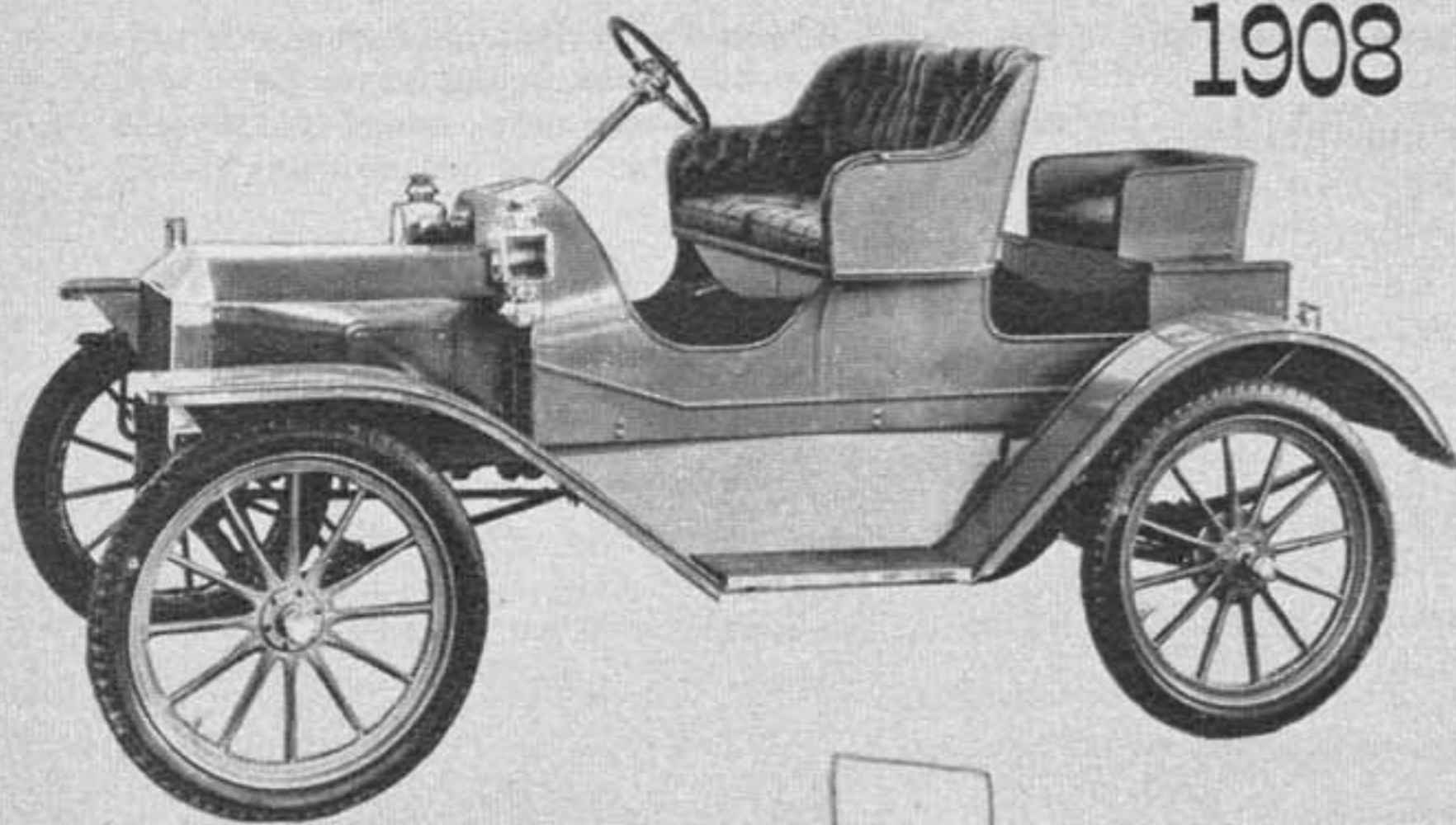
1906

The 40 hp six-cylinder Model K touring car might be called Henry Ford's only mistake. With superb finish, 114-inch wheelbase and 2,000-pound weight, it just cost too much—\$2,500.



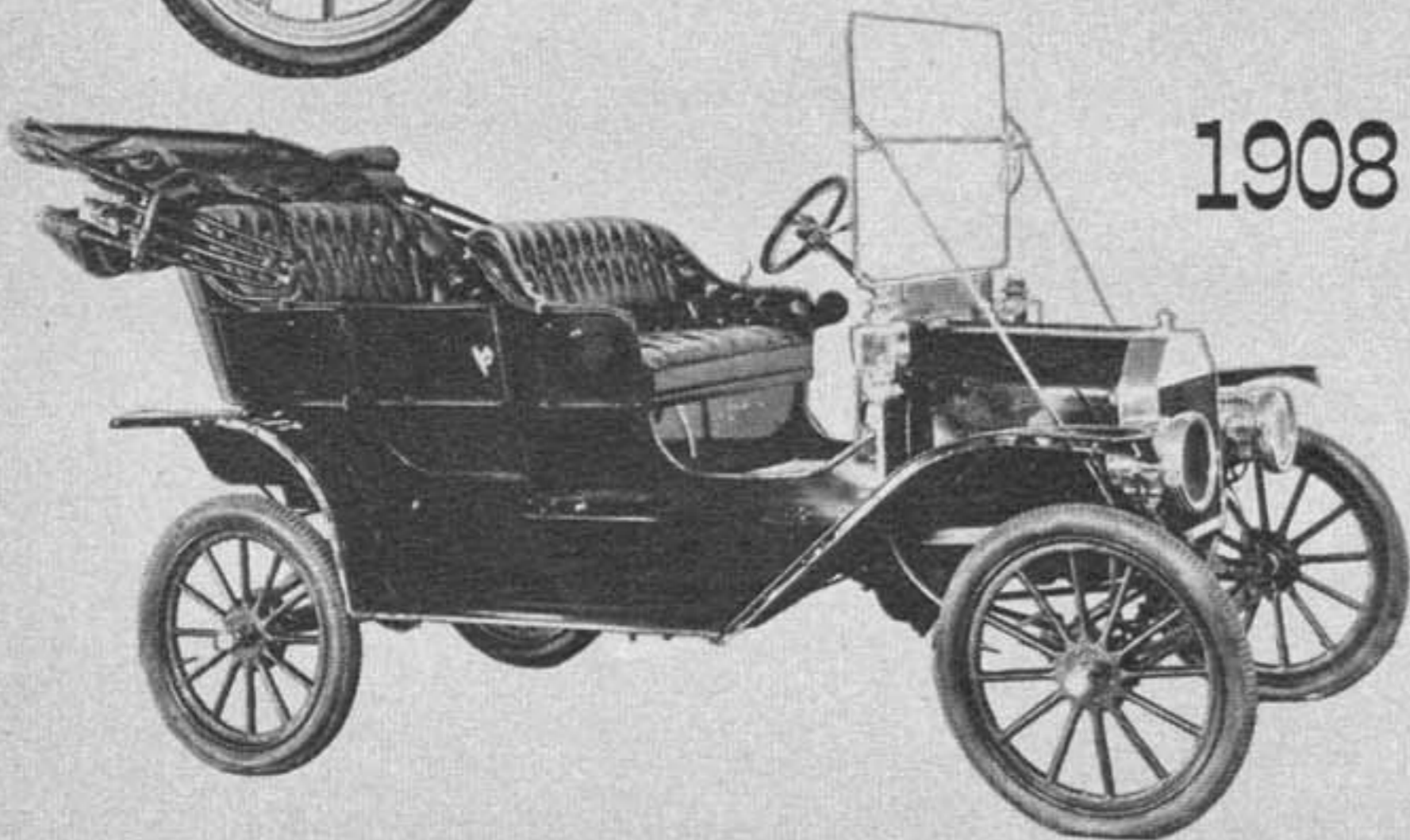
1907

The Model R roadster featured a handsome polished brass radiator. With four-cylinder 15 hp engine, it sold at \$750—without top. Color was dark green with fenders painted in black.



1908

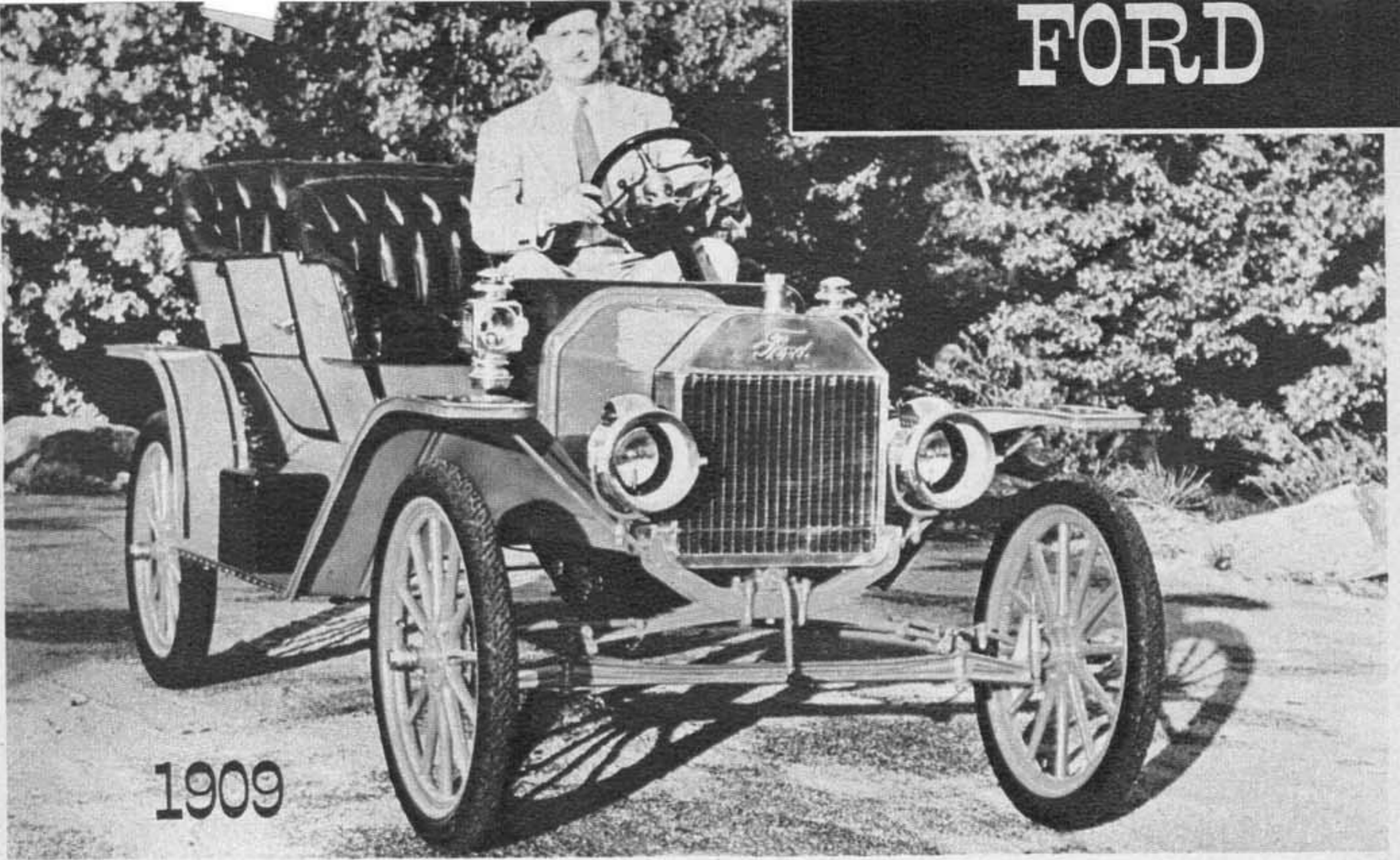
This Model S was soon discontinued because the popularity of its contemporary—the famous Model T—overshadowed it. Last of right-drive Fords, it sold at the modest price of \$750.



1908

Presenting the Model T—the car that built an industrial empire. This first T was a touring car, sold for \$850 and averaged 23 miles to a gallon, despite its four-cylinder engine.

# FORD



**Tony Koveleski of Scranton, Pennsylvania, is one of the few old car collectors now owning an original first production year Model T. Here he poses proudly in it. Note crank and tool kit.**

hitherto unheard of in the industry.

In June, 1909, Ford hit a new production record of 100 cars in a single day, and in December a greatly expanded plant was opened at Highland Park, Michigan. From 1909 on, the company concentrated solely on the Model T, improving it year by year as production scaled new peaks.

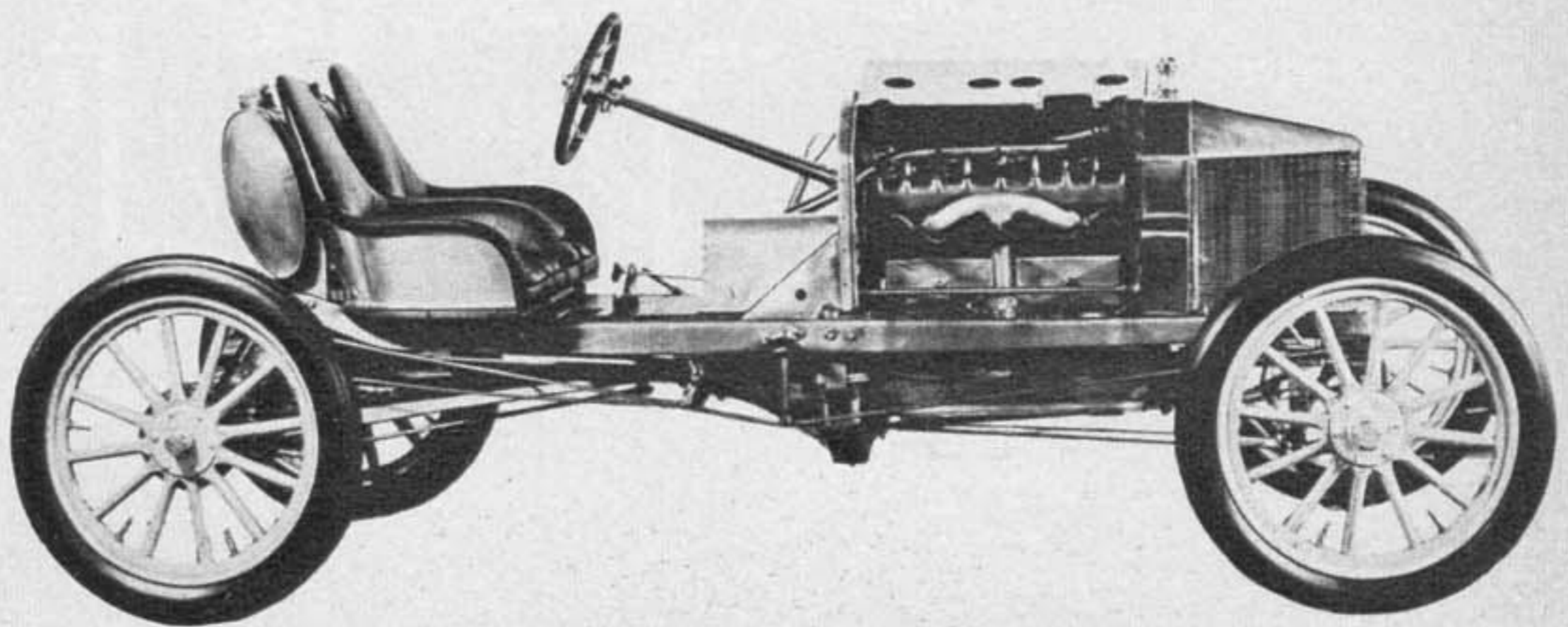
By 1911, Ford had installed the first endless floor conveyor chain to speed up mass production. Also he was building a

British factory, at Dagenham, near London, capable of turning out complete Ford cars. In 1914, with a new annual production high of 300,000 cars, he pioneered a minimum working wage of \$5 a day for an eight-hour workday. On April 16 of that same year the first Model T sedan was produced.

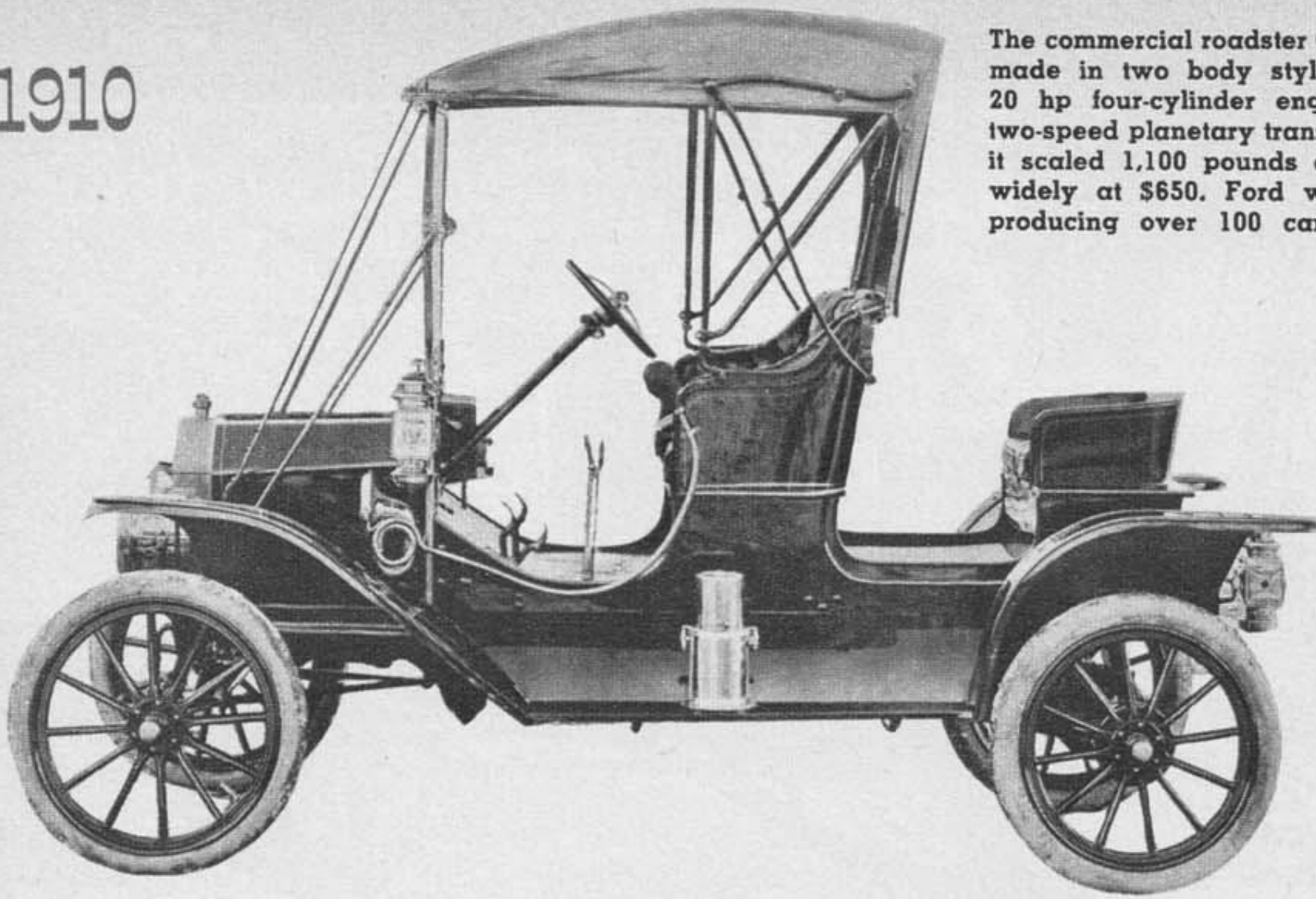
The immense River Rouge Plant property was acquired by the company in July, 1915. Three months later saw the opening of the Henry Ford Hospital. That

**Compact in design, the lightweight Kulick racer was powered by an L-head four-cylinder engine. Ford's theory that high power alone does not win races was proved when it beat a 100 hp Buick.**

## 1910



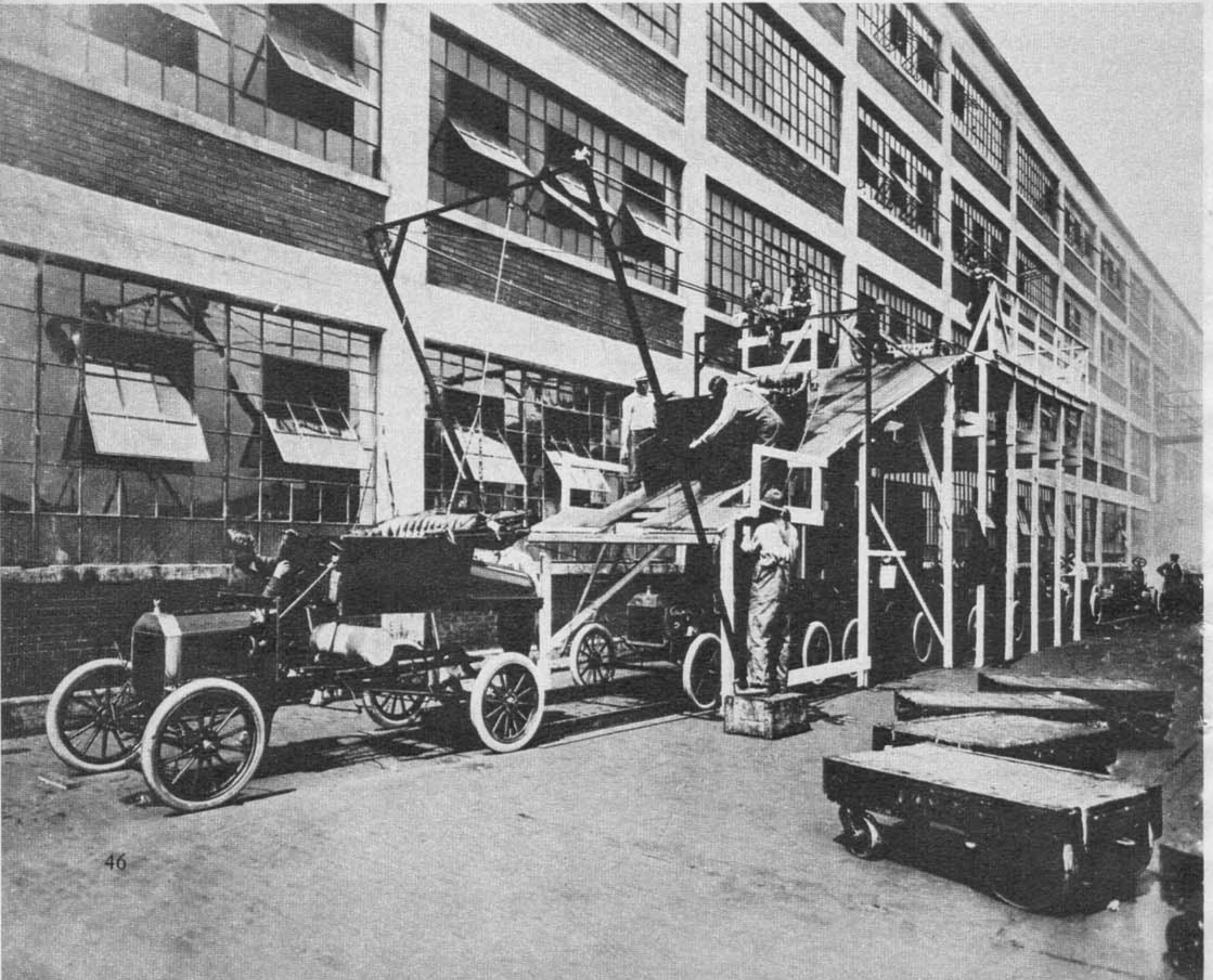
1910



The commercial roadster (left) was made in two body styles. With 20 hp four-cylinder engine and two-speed planetary transmission, it scaled 1,100 pounds and sold widely at \$650. Ford was then producing over 100 cars daily.

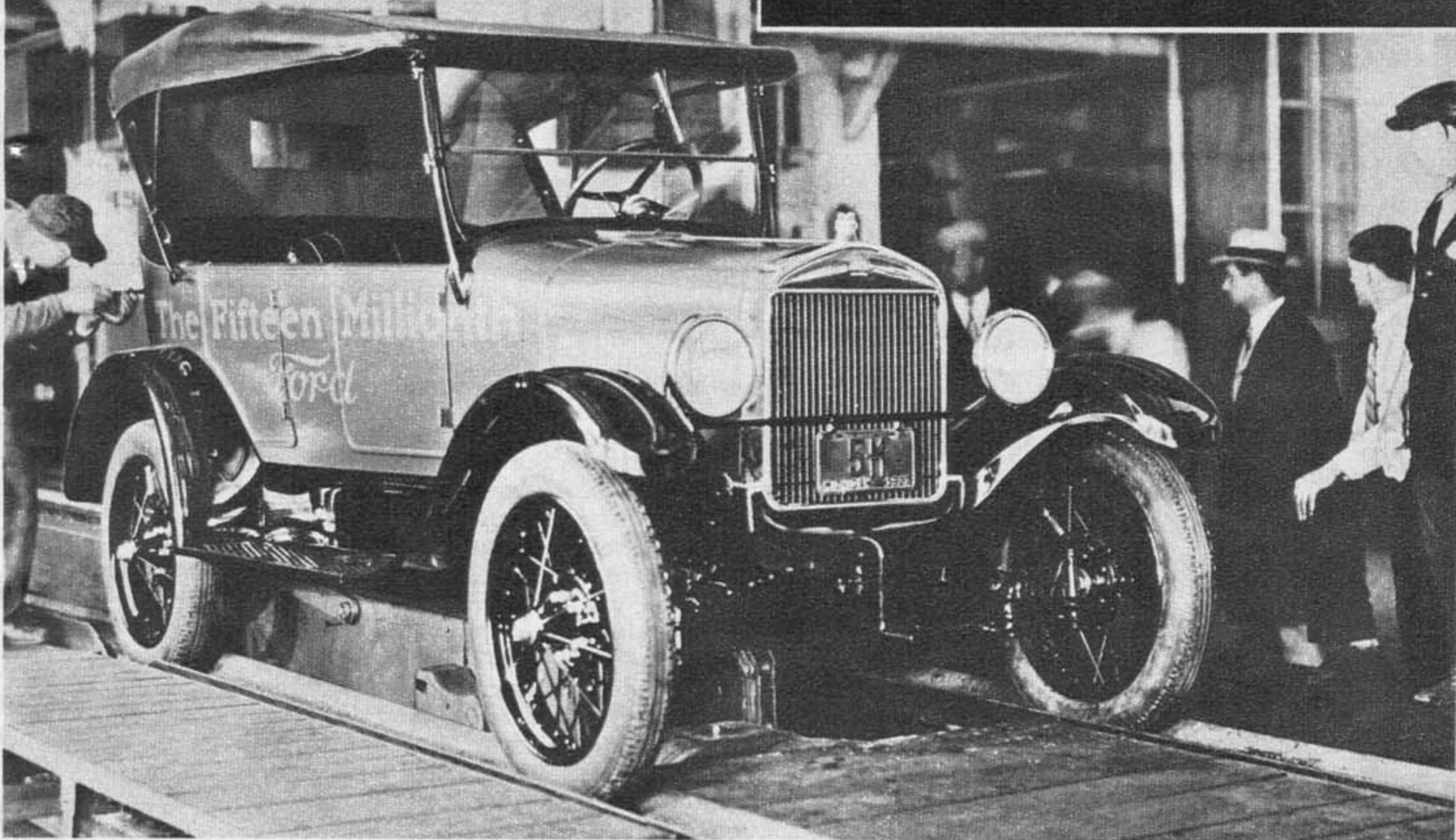
1914

To speed up mass-production, Ford innovated the body drop. Here, Model T runabout and touring bodies are lowered onto chassis. Yearly output was then 300,000 units.





# FORD

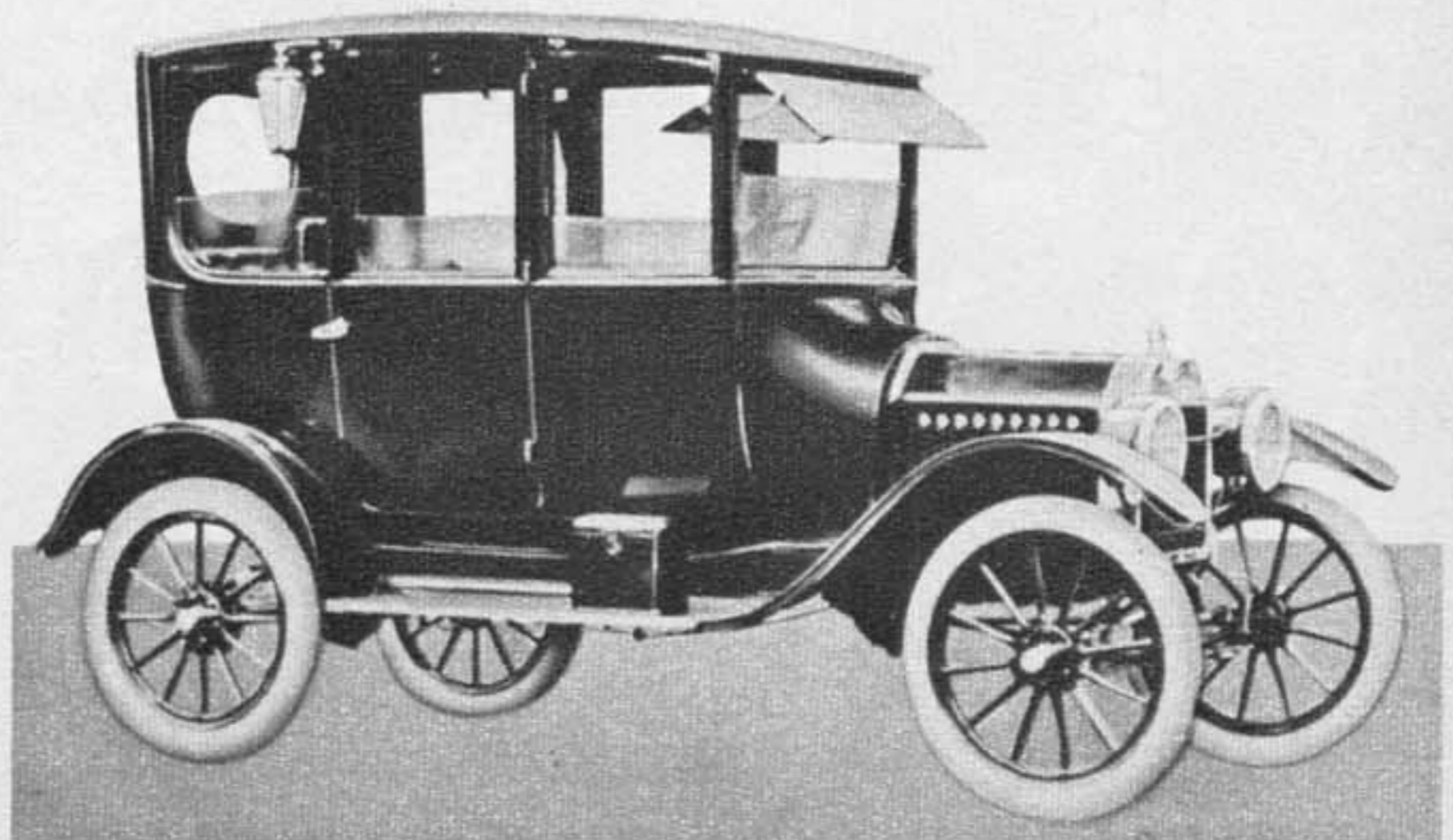


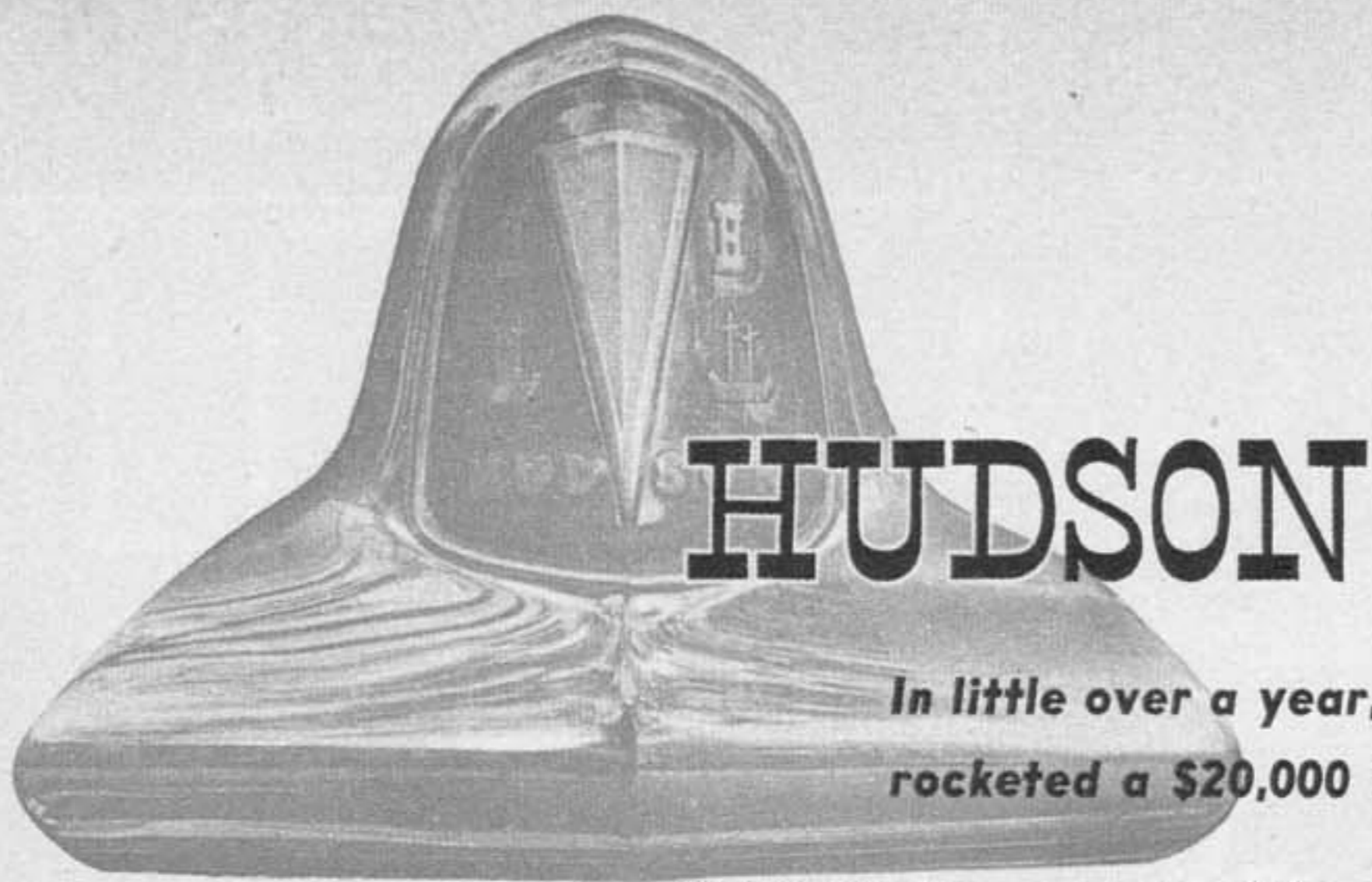
year the first Ford farm tractors appeared. These eventually reached the staggering sales total of 1,300,000 units. On December 10, the millionth Ford car rolled off the assembly line. The same month saw the introduction of the first coach-type body on the Model T. The last (and 15 millionth) of these great cars was completed on May 26, 1927, following which the Ford plants closed down for three months to re-tool for the equally famous Model A, its immediate successor. Priced at a staggeringly low \$395, the Model A was destined to sell five million units in five years. Ford was now world's master of mass-production. •

Last of the Model Ts, as it rolled off assembly line at the Highland Park plant on May 26, 1927. An era had ended in the low-price field. Completely equipped, the Model T that final year sold at \$385!

A deluxe example of the T (below) sold at \$975. It boasted fancy carriage lamps and "sun visor." But it had no door on the driver's side! As with all early Model Ts, it had a brass radiator.

## 1915



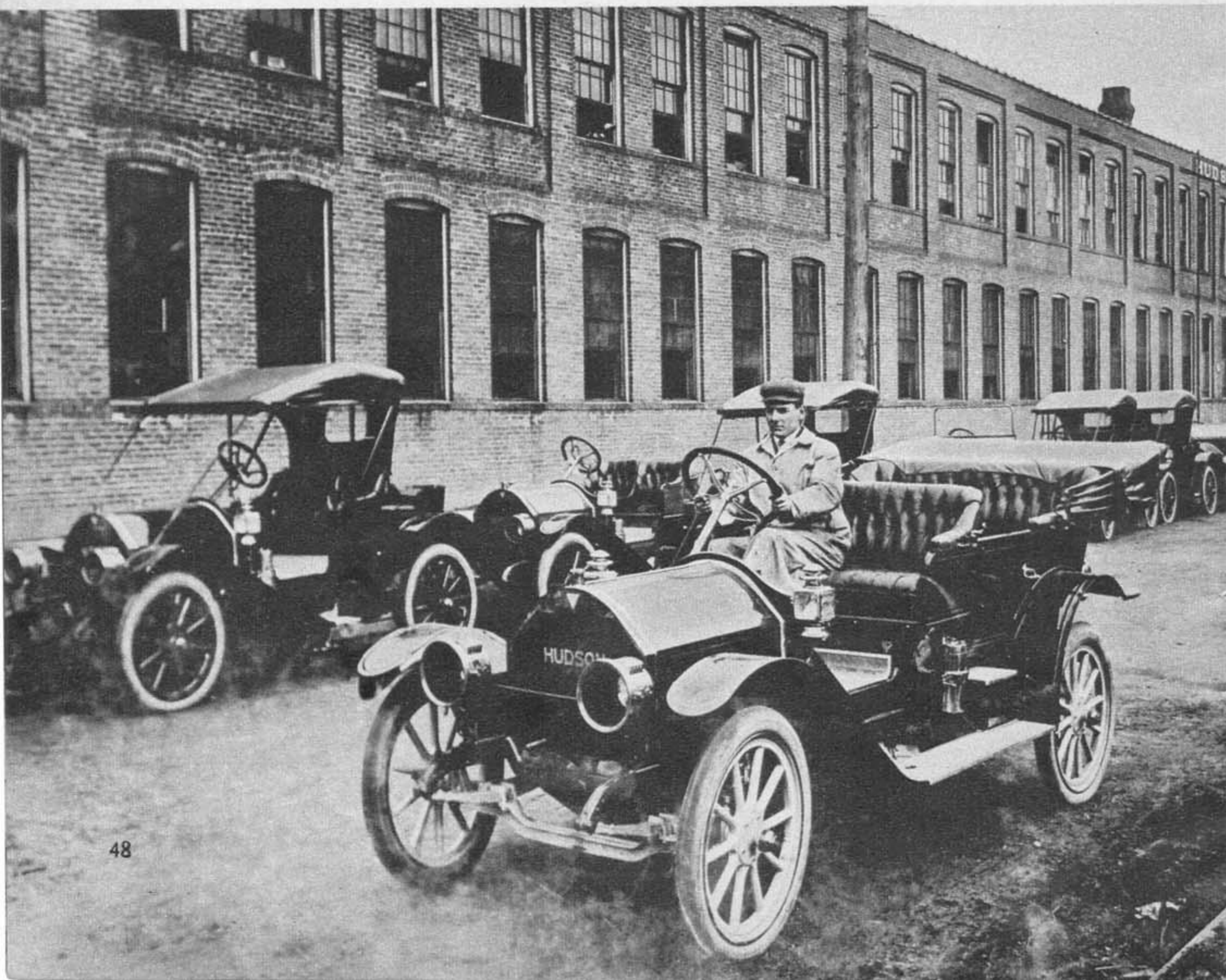


# HUDSON

*In little over a year, originality and brains rocketed a \$20,000 investment to millions.*

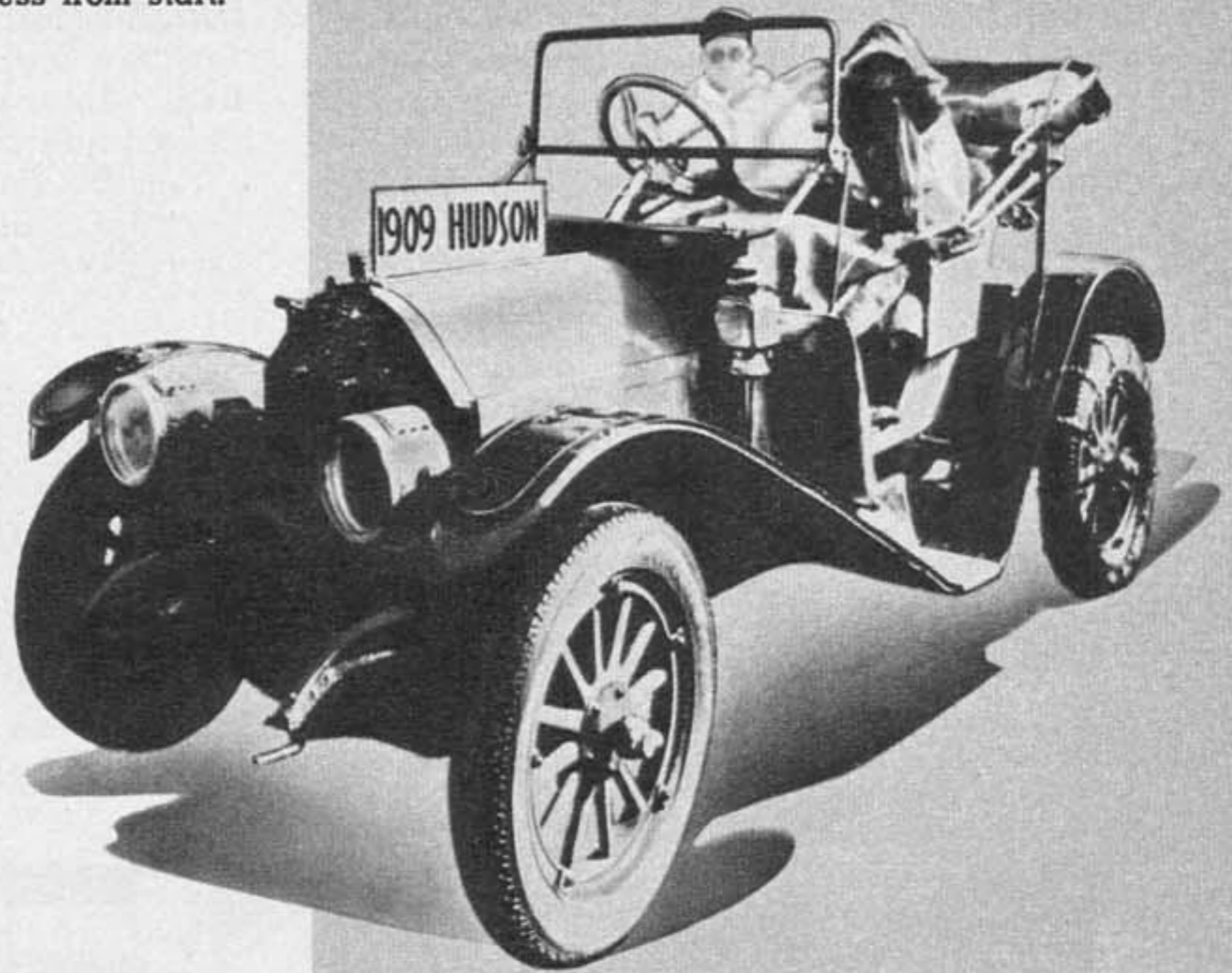
**T**HE Hudson car entered the automotive field later than most of its present-day contemporaries, but its designers and backers hit the nail right on the head with their first attempt. One good reason was that the original Hudson 20 embodied features well ahead of its day. The aim was to produce the first low-cost automobile with a selective sliding-gear type of transmission, with ample power and a price tag of under \$1,000.

Besides J. L. Hudson, seven other outstanding men were in on the venture—including Roy D. Chapin, late of Oldsmobile, whose drive from Michigan to New York in a Curved Dash model, nine years earlier, had been one of the sensations of the New York Automobile Show.



1909

The first production roadster rolled off the line July 3rd. With 22.5 hp four-cylinder L-head engine, it weighed 1,900 pounds and was a huge success from start.

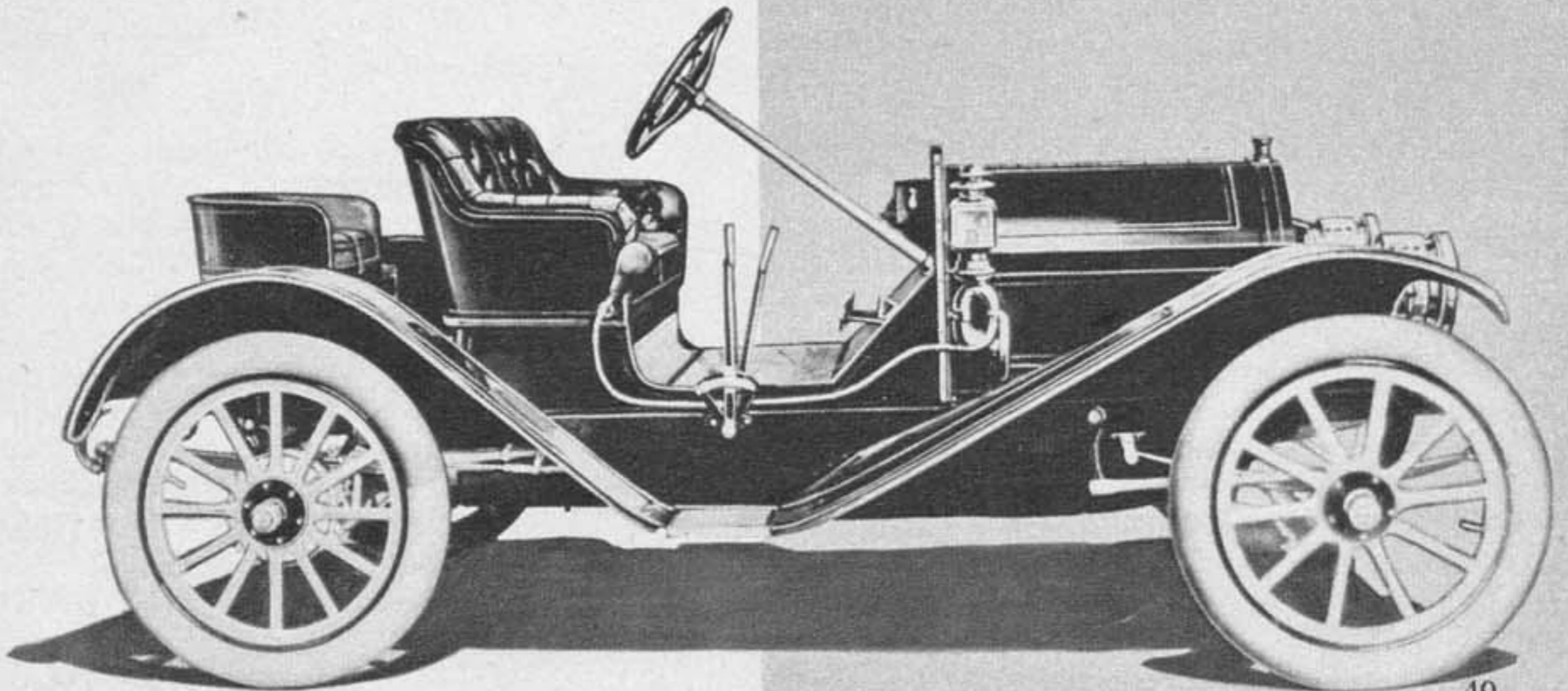


1910

Output for a single day at the Detroit plant (left), enlarged to 172,000 square feet. The Model 20 (at front) had four-cylinder 22.5 hp engine and sold at \$900.

1909

This Model 20 three-speed early roadster (below) sold 4,000 units the first year. It offered as an attraction a special "mother-in-law seat" at the rear. Note fender lines.

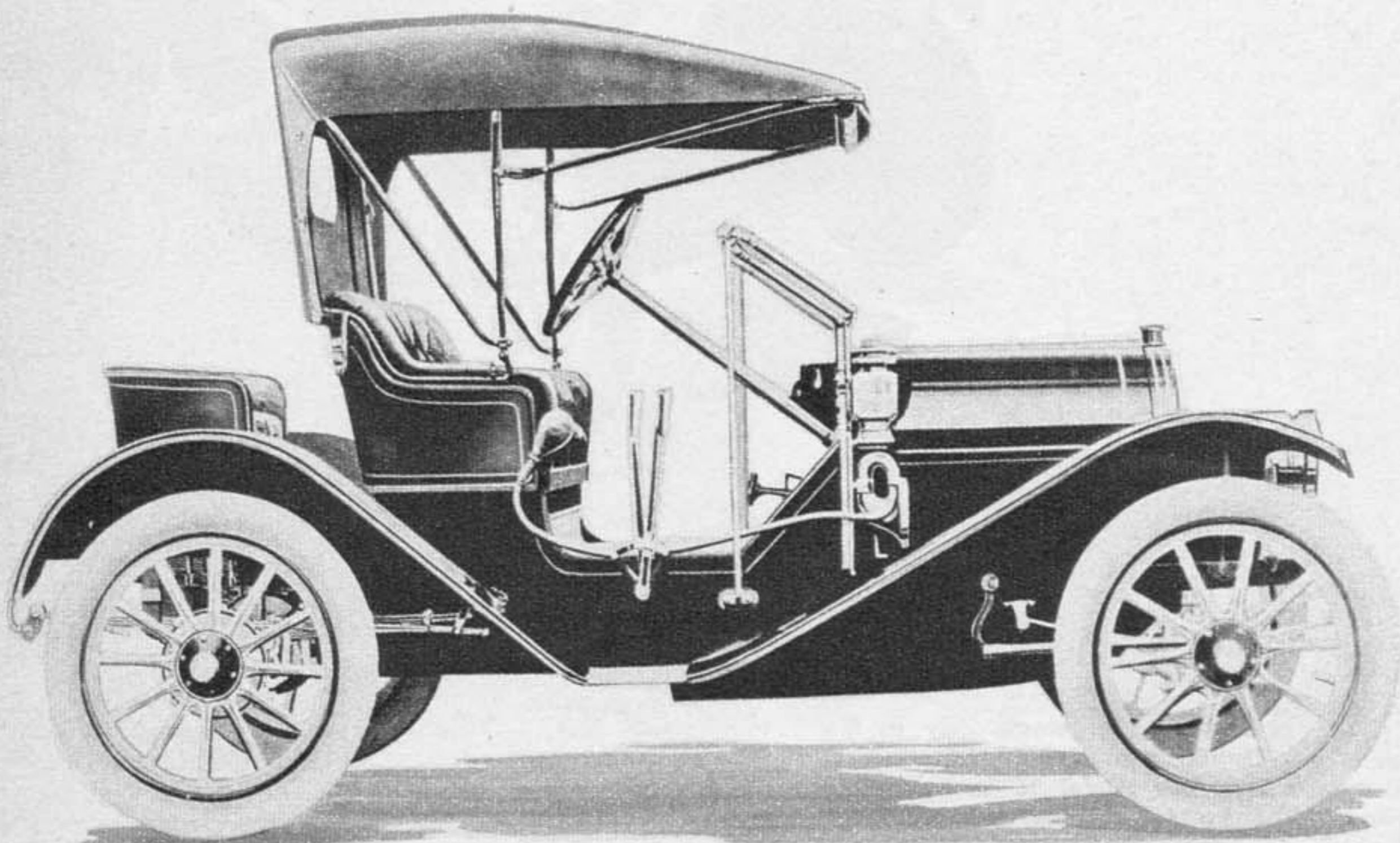


In February, 1909, with the designs for the new Hudson car finalized on the drawing board, the men incorporated their firm under the laws of Michigan. A two-story plant with 80,000 square feet of floor space was purchased and 500 workers were hired to build the car—all this on a working capital of \$20,000! Not much margin in case of error!

On July 3, 1909, the first production model of the Hudson 20 rolled off the line to become an immediate success. More than 4,000 cars were built and sold

hind them—creating a distinctly sporting effect. The text said: "Here's a car that is good looking. It is big and racy. Note the graceful and harmonious lines. Observe the sweep of the fenders and the frame. The Hudson 20 has a sliding gear transmission, selective type, three speeds forward and reverse. The motor is vertical, four-cylinder, four-cycle, water-cooled and known as the Renault type. . ."

All this for \$900, f.o.b. Detroit. No wonder the Hudson was on its way like a skyrocket, from the very beginning.



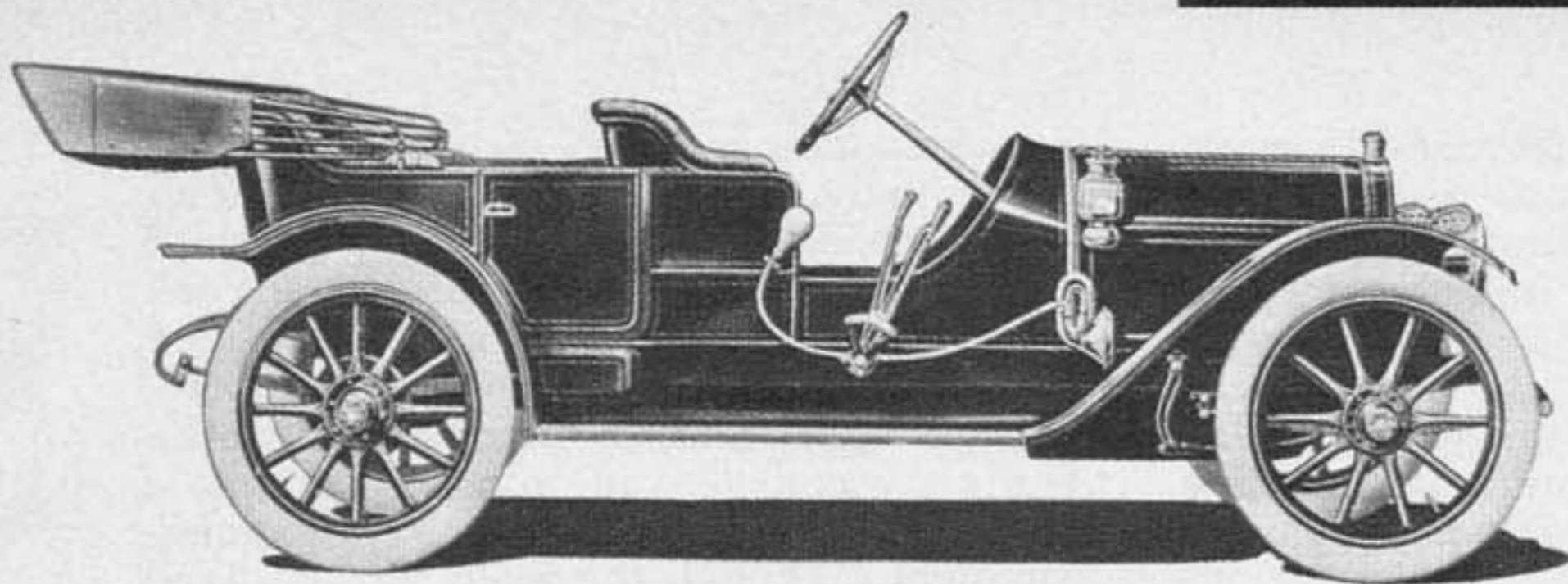
**1909** Addition of top gave a swaggering look to Model 20 roadster. Engine was same as that used in Model 20 touring car shown previously (page 48) and it cost \$1,000.

by the end of that year, setting up a first-year business record for the automotive industry at the time. Sales during the first 16 months of the company's existence totaled nearly \$4,000,000.

Perhaps this was partially due to the fact that the company did not overlook the importance of advertising. On June 19, 1909, a Hudson advertisement appeared in the *Saturday Evening Post*, heralding the arrival of the new car. The cut showed a rakish roadster-type automobile with bucket seats and a gas tank mounted be-

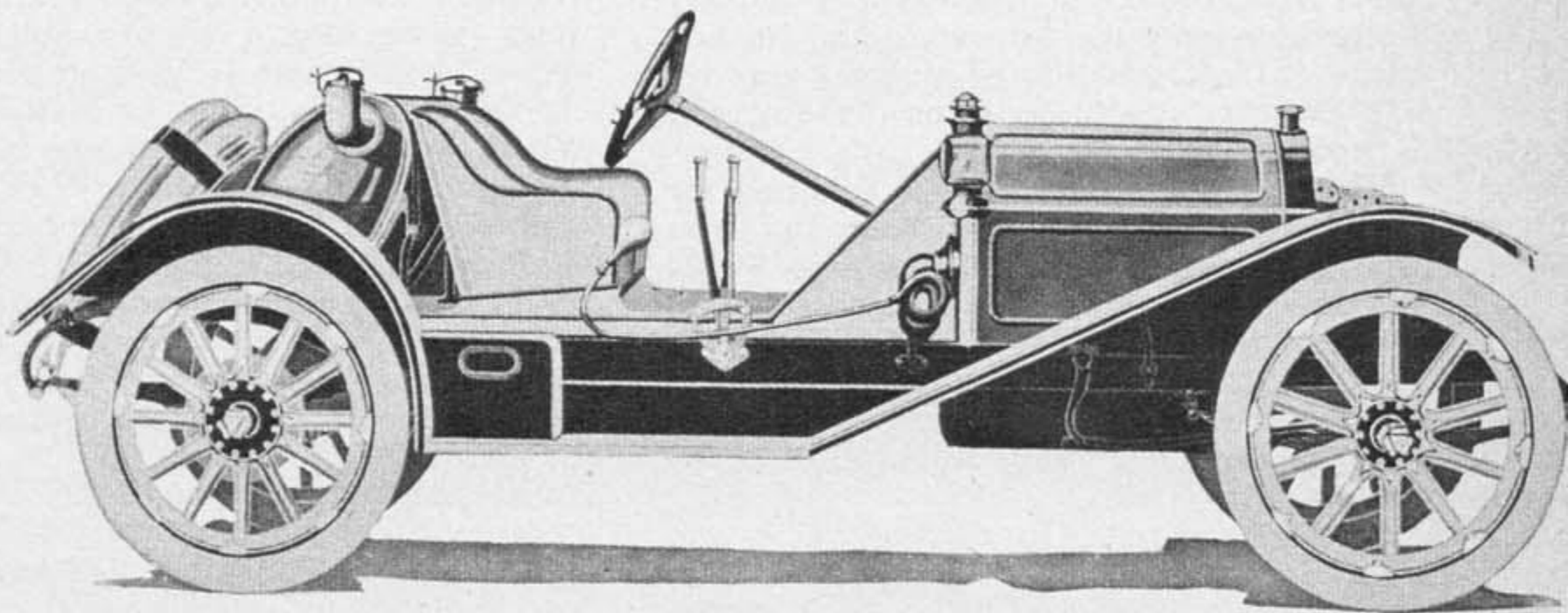
The following year the company purchased part of the ground occupied by its present-day plant, at Jefferson and Conner Avenues, about five miles from Detroit's City Hall. The enlarged building, put up in 1910, provided 172,000 square feet of space, with plenty of room for expansion.

From the outset, a policy was adopted of concentrating on as many new features as possible, instead of on a vast number of new models. Hudson engineers were quick to respond with several interesting "firsts." Through the years, the company has pio-

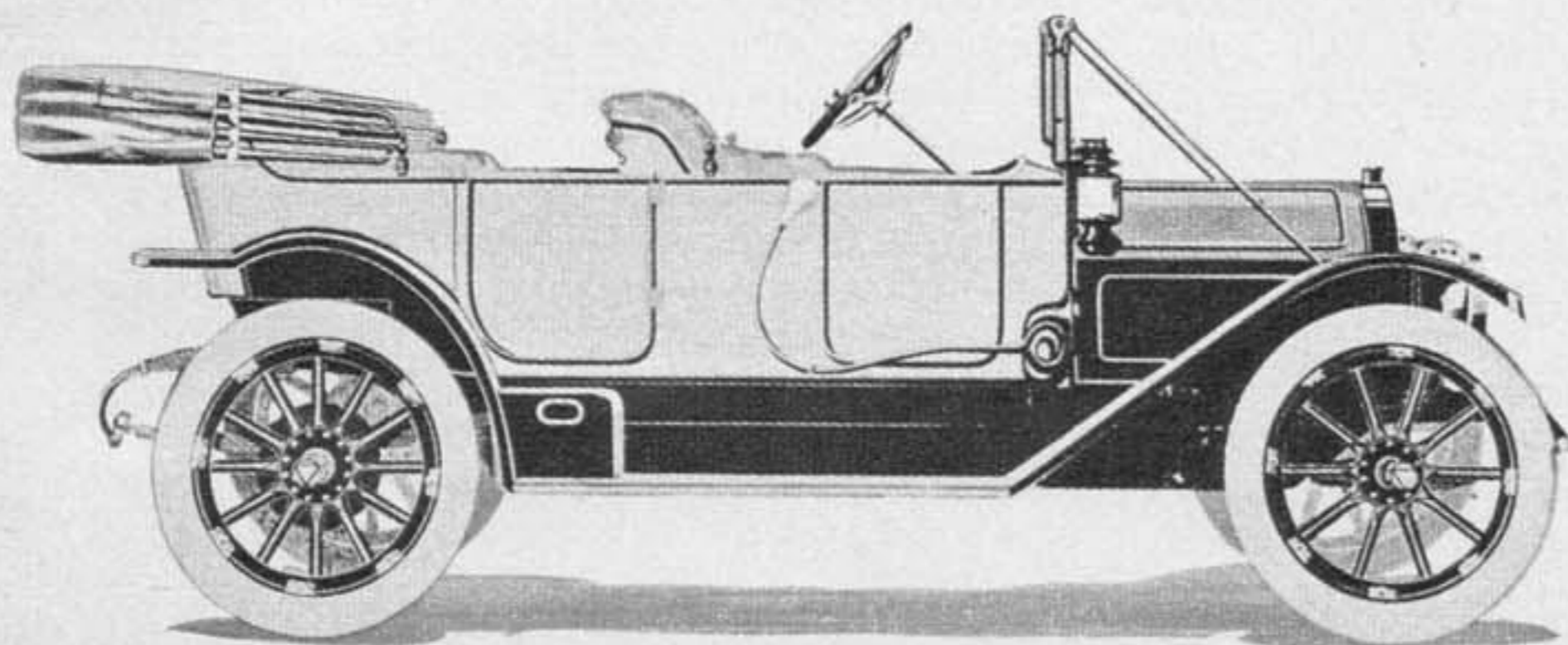


**1911** Model 33 torpedo touring car (above) had a four-cylinder 25.6 hp engine. It scaled 2,460 pounds, sold at \$1,450. Nearly 6,000 units of this model were produced in 1911.

**1912** Able to do 60 mph, this sports car was called the Mile-a-Minute Model. It was powered with the same engine as Model 33 and weighed 2,327 pounds, was priced at \$1,600.



**1912** More sedate was this Model 33 touring car, also priced at \$1,600. With similar engine, it weighed 2,757 pounds. That year, over-all production went above 5,700 units.



neered nearly 60 new features in cars.

In 1910, Hudson came out with the first die-cast bearings and the first fluid-cushion clutch to be used in the industry. These were embodied in the Model 20 roadster, the open roadster, the touring car and the fore-door roadster, all of which had one chassis in common. It was very similar to the previous year's design and of identical engine power.

For 1911, Hudson introduced the Model 33, with four cylinders cast in bloc. This was the debut of the "unit power plant" idea, in which engine, clutch and transmission are assembled as one compact and rigid unit. The chassis was simplified and an improved multiple disc clutch with cork inserts was used.

Public approval was expressed by a sale of 6,486 units for the year. Prices ranged from \$1,000 for the roadster to \$1,450 for the Torpedo, and demand was so great that immediate plans were drawn up for the addition of factory buildings covering another 128,000 square feet. Work on these started late in the year.

The popular Model 33 was retained for 1912 with a choice of seven body styles on the same chassis. Price range was \$1,600 to \$2,250. Meanwhile, long impressed with the superiority and added smoothness of the six-cylinder engine, Hudson engineers set to work producing the first quantity-built six-cylinder automobile to sell in the medium price field.

The car was ready for testing in July and went into production for 1913 as the 54 Model. It was offered in six body styles, priced from \$2,350 for the roadster to \$3,750 for the limousine. The 145-inch wheelbase offered ample scope for roomy body work: Hudson quickly became the leading producer of sixes. That same year saw the introduction of another idea pioneered by Hudson—the first low-priced roadster offered for sale with a guarantee of 60 mph. Known as the "Mile-a-Minute Roadster," this car was evolved on the Type 33 four-cylinder chassis and was priced at \$1,600. Over 5,700 Hudsons were sold in 1912 and 6,401 cars found customers in 1913. During the latter period, the company also came out with the first production sedan and cabriolet-type cowled bodies which broke away from the tradition of the ugly vertical dash—a relic of the buggy days.

By then, the over-all weights of the cars (which had begun with a modest 1,900 pounds in 1909) were starting to run a bit high. The Model 54 six-cylinder limou-

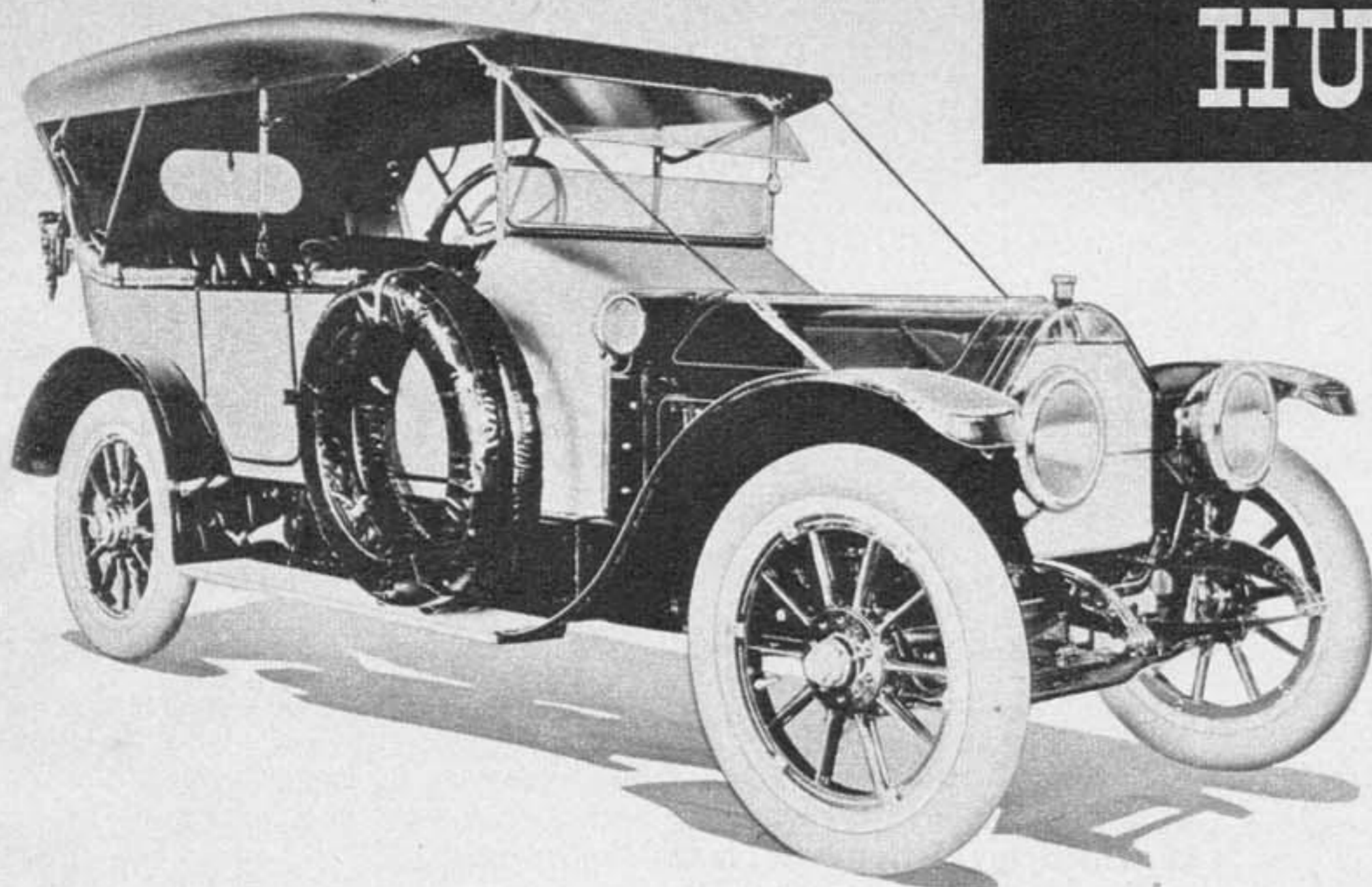
sine, for example, scaled over 4,100 pounds. Accordingly, Hudson turned its attention to the weight problem and came up with the answer just prior to the 1914 New York Automobile Show. This was the Model 6-40, first six-cylinder automobile of moderate weight built in the United States. The car was displayed on a platform scale at the show and attracted much favorable comment. Though the scale showed 2,680 pounds, this was still several hundred pounds lighter than other contemporary sixes. Hudson sales for 1914 topped 10,260 cars: the record was bolstered by another company "first"—the four-speed overdrive type of transmission. Two body styles were available on the Model 54 and four on the 6-40. The mounting of the spare tire on the front fender was standardized. Hudson had left the four-cylinder field for good.

While these models were being continued for 1915 and attained a sale of 12,864 units (more than a 300 per cent sales increase in six years!), Hudson brains proceeded to develop another history-maker. When the new Hudson Super-Six engine appeared in the 1916 New York Show, it contained the first fully balanced crankshaft and the first high-compression, non-detonating cylinder head. Today, every automobile built uses this type of crankshaft; and while Hudson "high" compression was then low by modern standards, the 5 to 1 ratio offered that year was several notches higher than that of any other competitor. Smoothness and increased power were so marked on the first Super-Six engine that the output jumped from 48 to 76 bhp without increasing either bore or stroke. The new design also resulted in greatly increased running economy and much longer engine life.

Demand for the new car was so great that 1916 sales topped 26,390 units and company activity expanded hard on the heels of the builders who were pushing at top speed to enlarge factory space to 847,000 square feet.

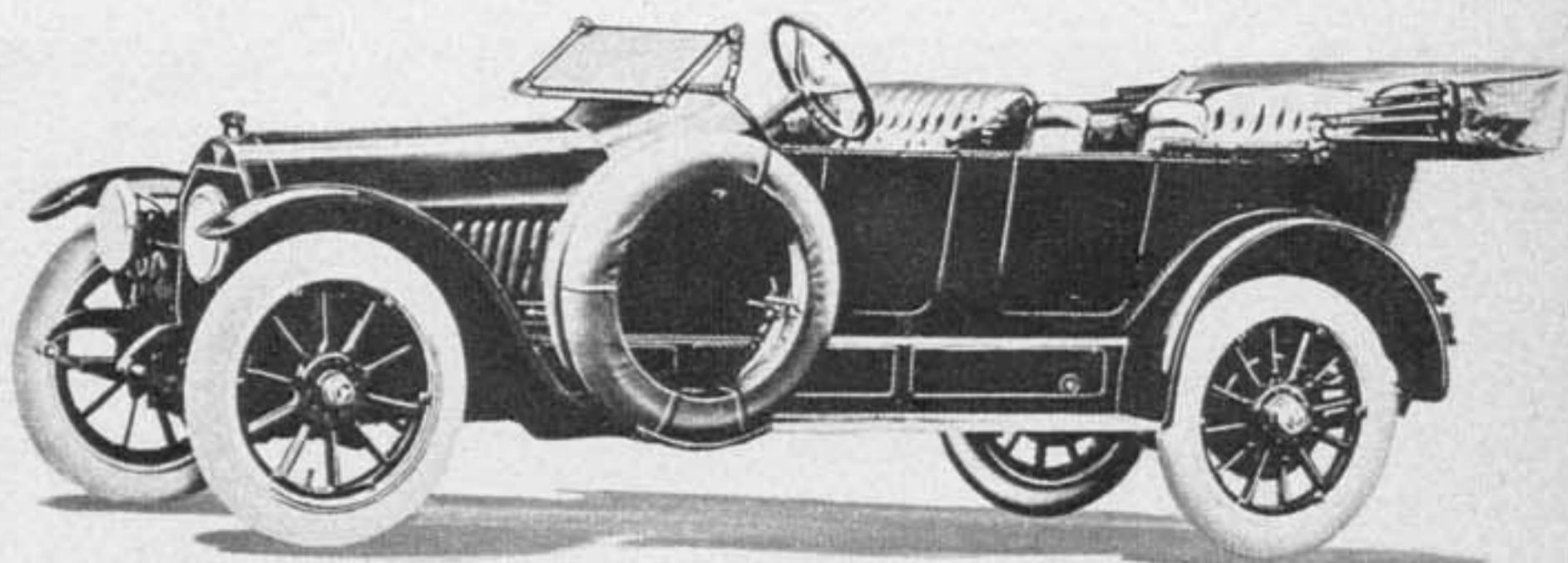
The Hudson now staked its reputation on the speedways of America where tough competition offered no quarter. The result was the greatest string of victories ever achieved by any stock car manufacturer.

In a sense, J. L. Hudson may be compared to the great tycoons of America—men who formed railroads, drilled wells, sunk mines and built bridges. It was their foresight, their ability to organize and direct the minds of technicians as well as the efforts of laborers that lifted this nation out of a vast and formidable wilderness. •

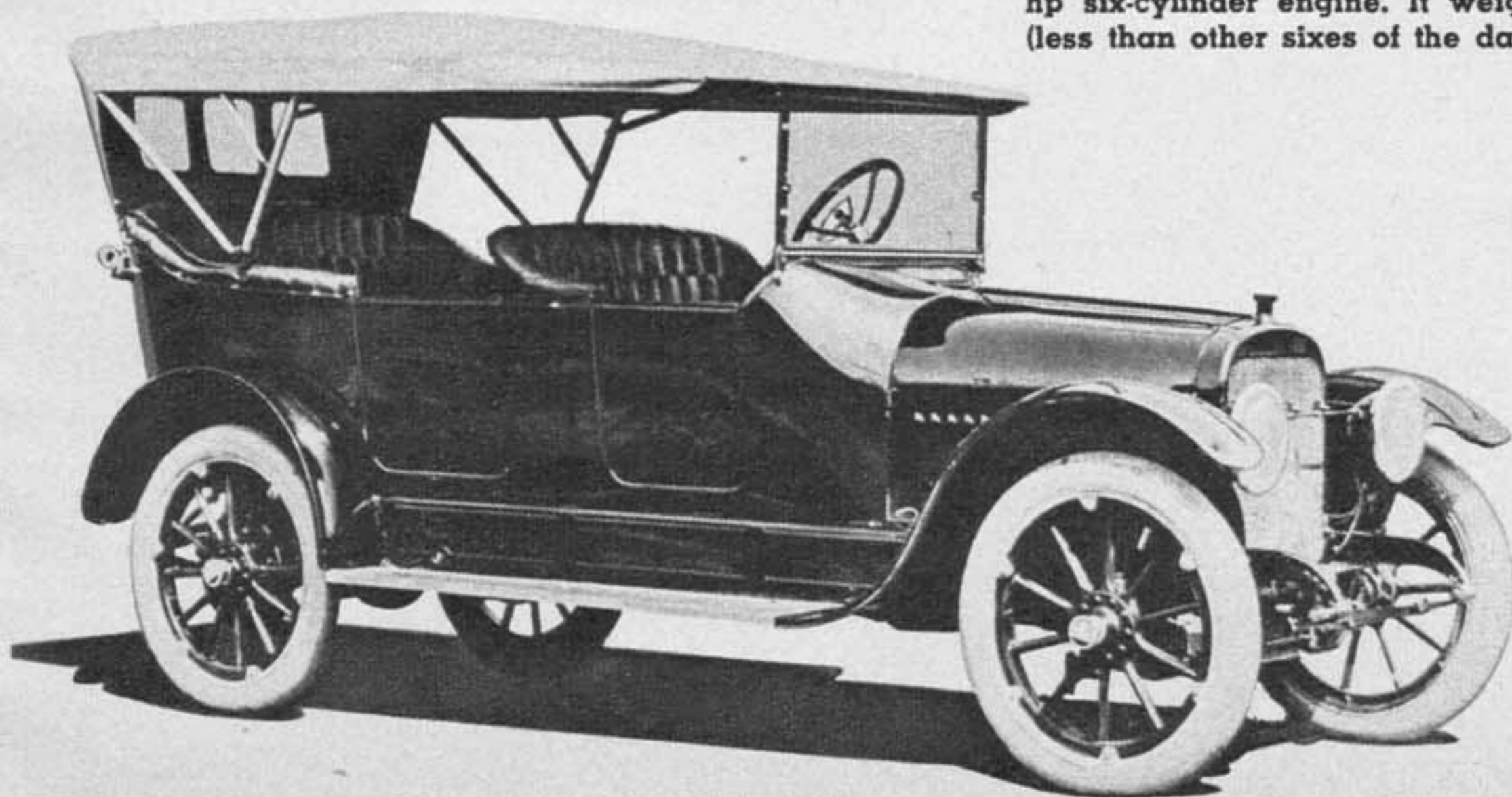


**1913** The first six-cylinder Hudson was Model 54 (above). It rated 40.84 hp and weighed 3,748 pounds with torpedo body. Lowest price was \$2,350. Extras built up the cost.

**1914** Model 6-54 was phaeton (right) and first medium-cost six to include a 145-inch wheelbase.



**1915** The Model 6-40 touring car (below) carried five passengers with its 29.4 hp six-cylinder engine. It weighed 2,772 pounds (less than other sixes of the day) and cost \$1,550.



# Nash-Jeffery-Rambler

*Inspired by an English bicycle, the modern Nash began its career a half-century ago.*

**B**EHIND today's Nash lies an unusual and romantic story. It encompasses three changes of name, half a century of steady progress and a tradition, the source of which lay a hundred years in the past.

In May, 1847, Alonzo Duretto Seaman of New York set up as a furniture-maker in the brand new city of Milwaukee. He delivered his wares in an ox-driven cart. Before dying in 1868, Seaman made a fortune. His two sons, William and Henry, carried on the business. William Seaman pioneered the idea of a phone booth and was awarded contracts by the Western Electric Company, adding further to his firm's reputation.

In 1906, the original Seaman plant was destroyed by

1902





# Nash-Jeffery-Rambler

fire and was started anew on larger premises. With more space than they needed for their usual commitments, the brothers began to build automobile bodies for the makers of the Petrel friction-drive car. Soon, they had similar contracts with a dozen other manufacturers of cars, including the Rambler—one of the most popular runabouts of its day.

A flashback to the birth of the Rambler car, direct ancestor of today's Nash, reveals that it was originally inspired by a bicycle. In 1879, English-born Thomas Buckland Jeffery offered for sale in the U. S. a bicycle assembled from parts made in England. Named the Rambler, it was an immediate success and led to the formation in 1881 of an enterprise named the G & J Manufacturing Company—whose partners were Thomas Jeffery and Philip Gormully.

In 1895, Thomas Jeffery and his son, Charles, witnessed the Times-Herald automobile race held in Chicago—the first event of this kind ever run in America. They saw J. Frank Duryea pilot the winning Duryea car at an average speed of 5.05 mph over the 52-mile course and decided to give up bicycles and manufacture automobiles instead.

Father, son and partner Gormully wasted no time. They sold out to the American Bicycle Company. Then they hand-built a prototype car, designed by Charles Jeffery.

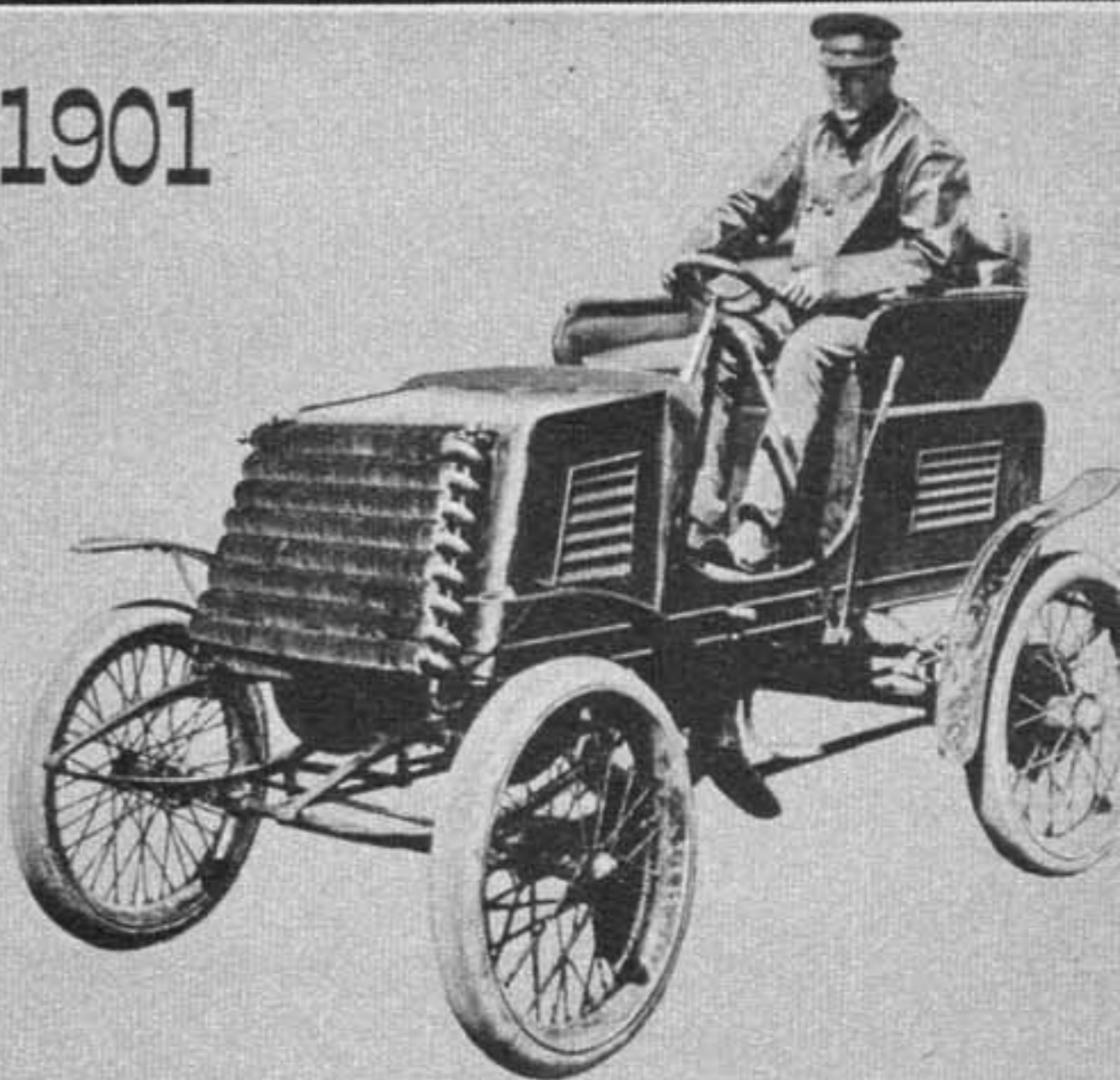
Experiments on the new car continued at the Sterling Bicycle Plant, purchased by Thomas B. Jeffery and converted for the purpose. But the new company was not yet ready to market. In 1901, father and son built two test cars called Models A and B. These were followed by a C and a D (a runabout and a stanhope) which were the finalized and more conventional versions, aimed at a conservative public.

Now named the Rambler, the car was exhibited at the Chicago Coliseum Automobile Exposition in March, 1902. The two models were priced at \$750 and \$825 respectively. So great was the demand that 1,500 Ramblers were built and sold during that year. The Rambler had become the world's second mass-produced automobile—a year later than the Olds Curved Dash, but a year ahead of the Ford.

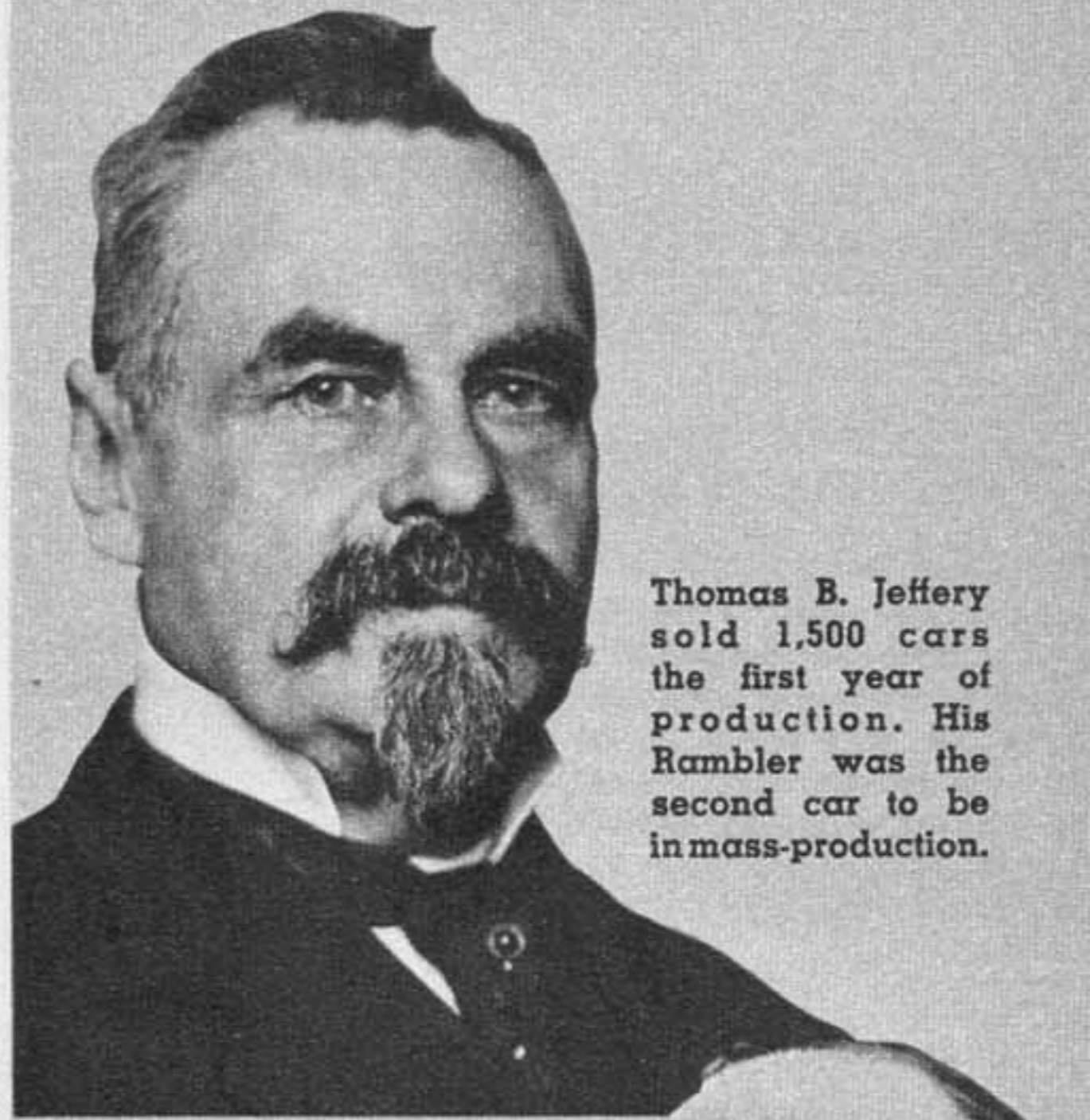
Typical of satisfied Rambler customers

The Model C Rambler, left, was one of two first production models designed by Thomas Jeffery. Speed was 25 mph, from 8 hp engine underneath the seat. With 72-inch wheelbase and weight of 1,200 pounds, it sold at \$750. Finish was green and red.

1901

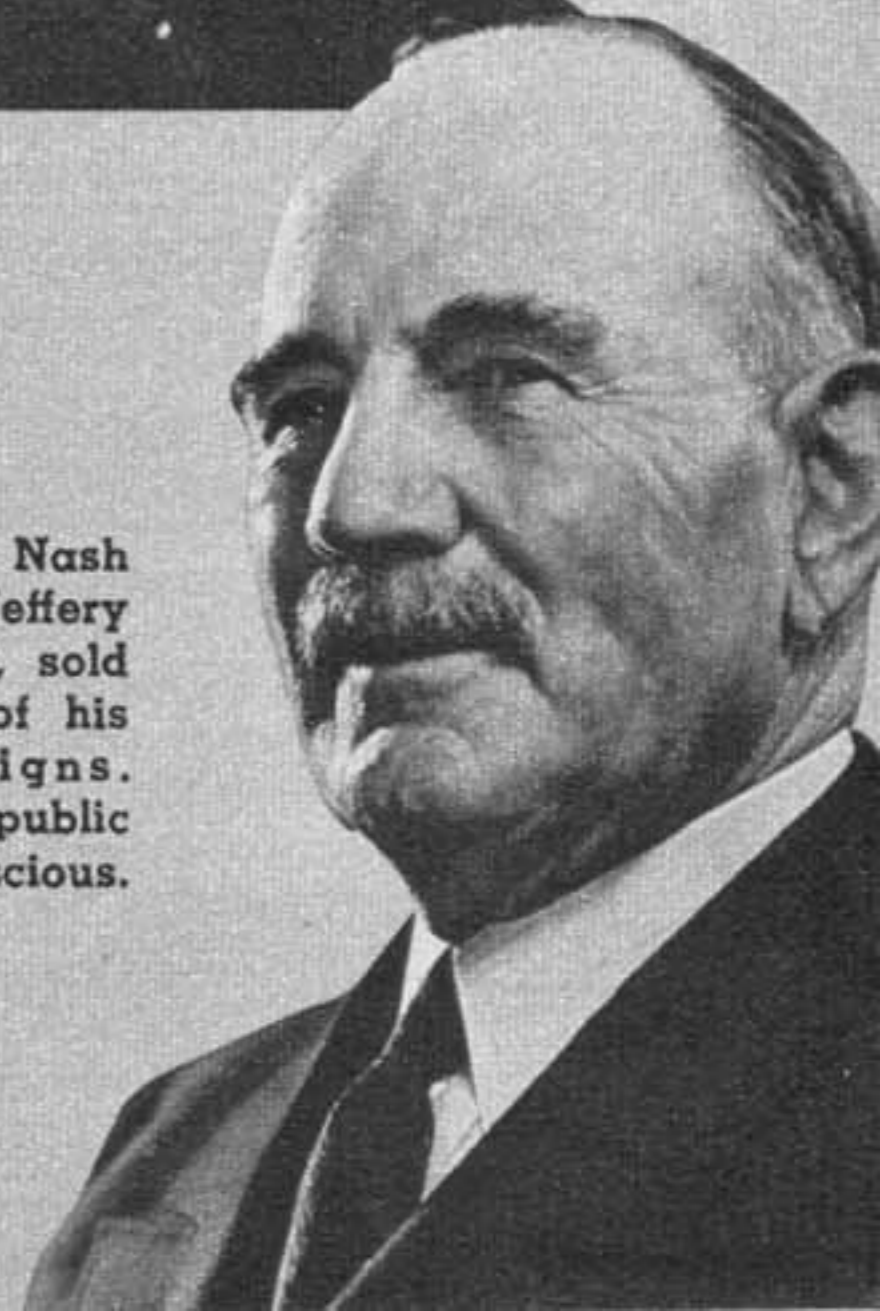


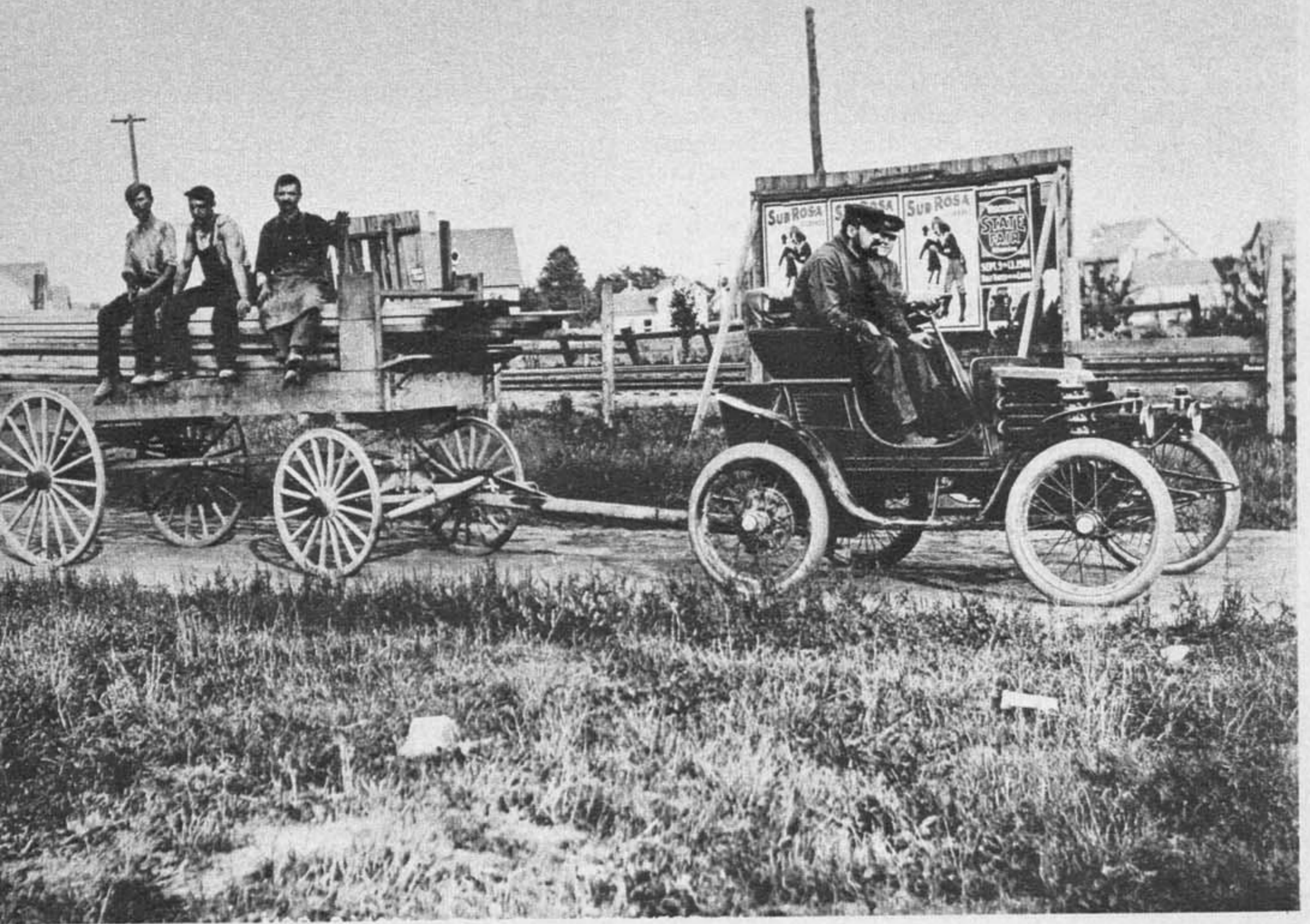
The first Rambler was never marketed. Designed by Charles Jeffery, it was thought too radical with steering wheel, front engine and radiator.



Thomas B. Jeffery sold 1,500 cars the first year of production. His Rambler was the second car to be in mass-production.

Charles W. Nash bought the Jeffery plant in 1916, sold 10,000 units of his first-year designs. By then, the public was car-conscious.





## 1901

Power test of second Rambler ever built. Photo was taken at Wisconsin State Fair, September, 1901. This Model B also was not produced. Again, too radical.

One of the first production Model C Ramblers was bought by Dr. George B. Crossman, Davenport, Iowa. Photo shows the Doctor (still practicing today) with Mrs. Crossman, then his fiancée.

## 1902



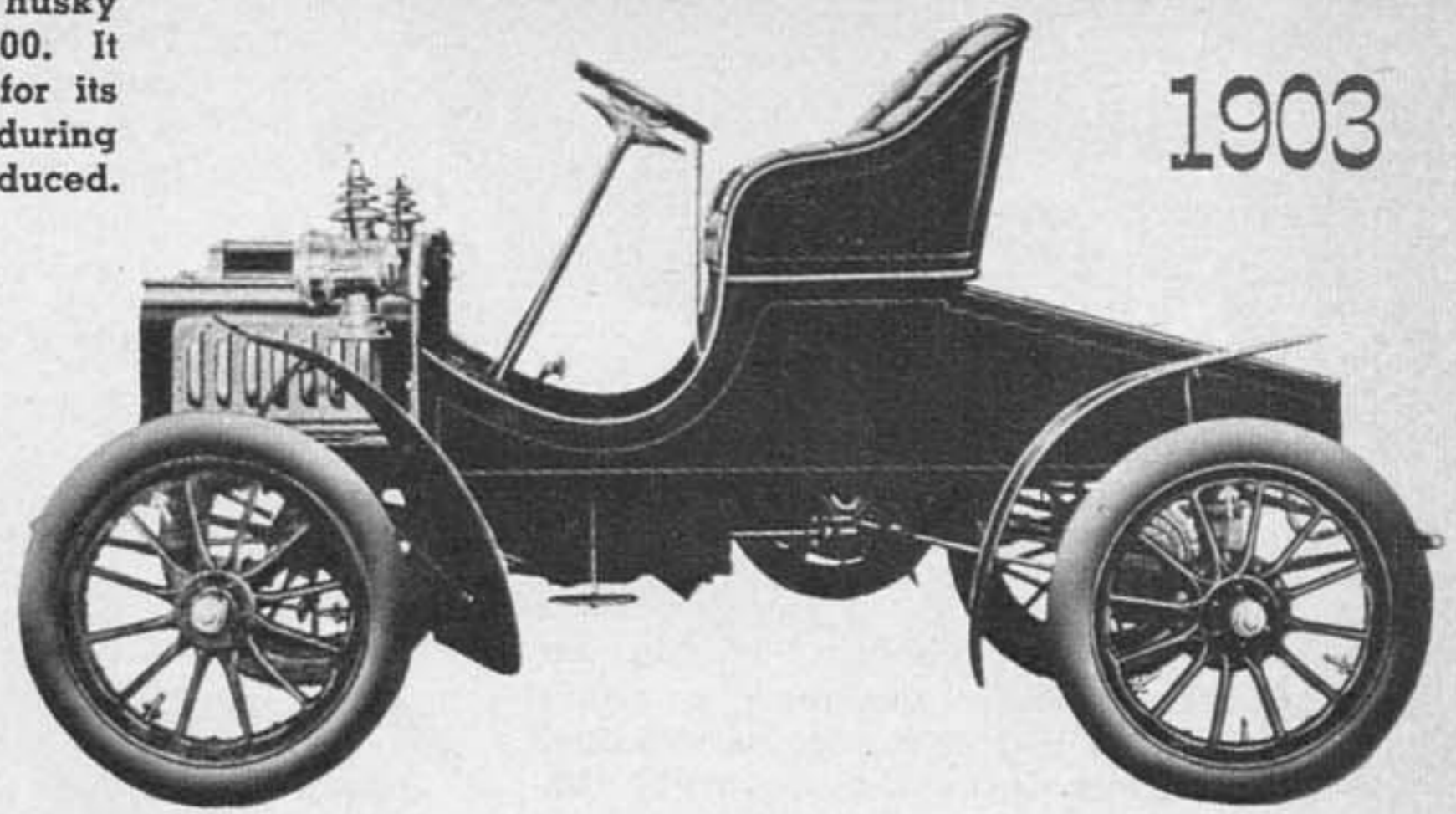
was a Lima, Ohio, owner who wrote: ". . . It is a truly wonderful piece of mechanism. It starts immediately, runs like a jack rabbit and stops only at our will."

Soon, the Thomas B. Jeffery Company began building larger cars and introduced a novel feature in a production auto—the spare wheel and tire, offered as optional extras. By 1905, the factory site in Kenosha, Wisconsin, occupied 14 acres with an additional 33½ acres available for expansion and testing.

Thomas B. Jeffery died in March, 1910, after 35 years of valuable pioneer work in

# Nash-Jeffery-Rambler

Improved Model F roadster with 10 hp single-cylinder engine and big, husky flywheel was marketed at \$800. It weighed 1,400 pounds. Popular for its day, sales exceeded 1,800 units during the year that the car was introduced.



1903

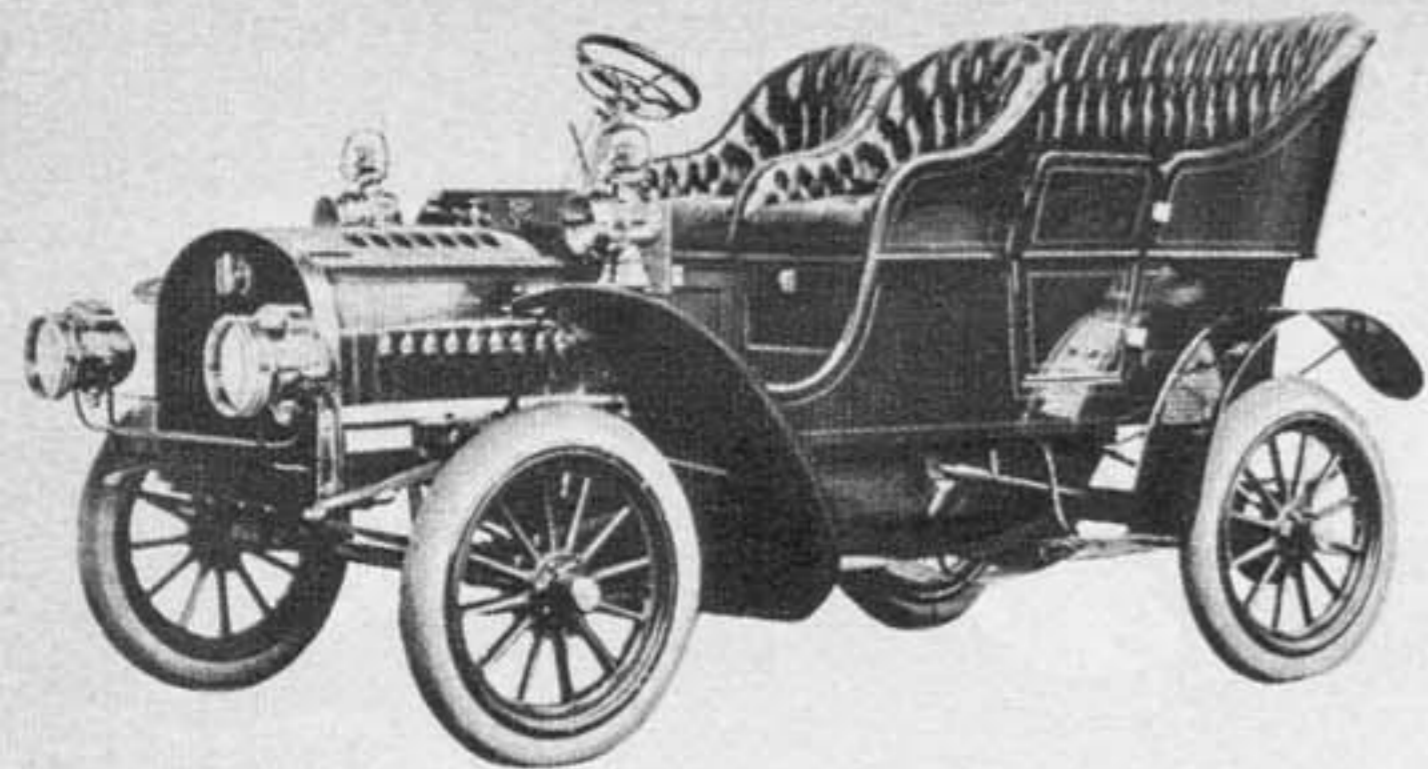
the automotive industry, but his heirs carried on the business.

The publicity highlight in the popular little Rambler's life was a photo of President Taft sitting in one of the cars. By 1910, however, it had moved out of the low-price bracket for good. That year, a Rambler five-passenger limousine was marketed for \$3,350 and was described in the catalog as having:

The Rambler factory at Kenosha, Wisconsin, was a converted bicycle plant. At right are completed chassis of the Model C. First year production was 1,500 units, a record.

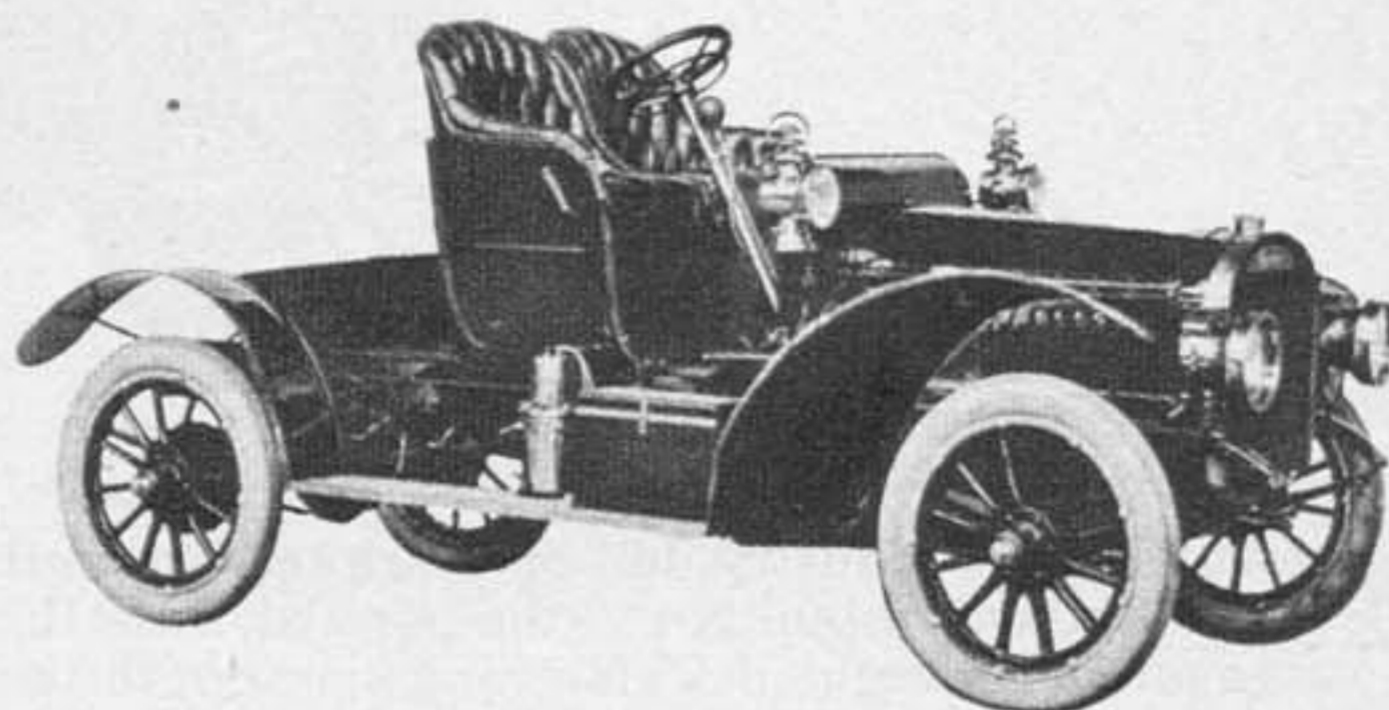
1902





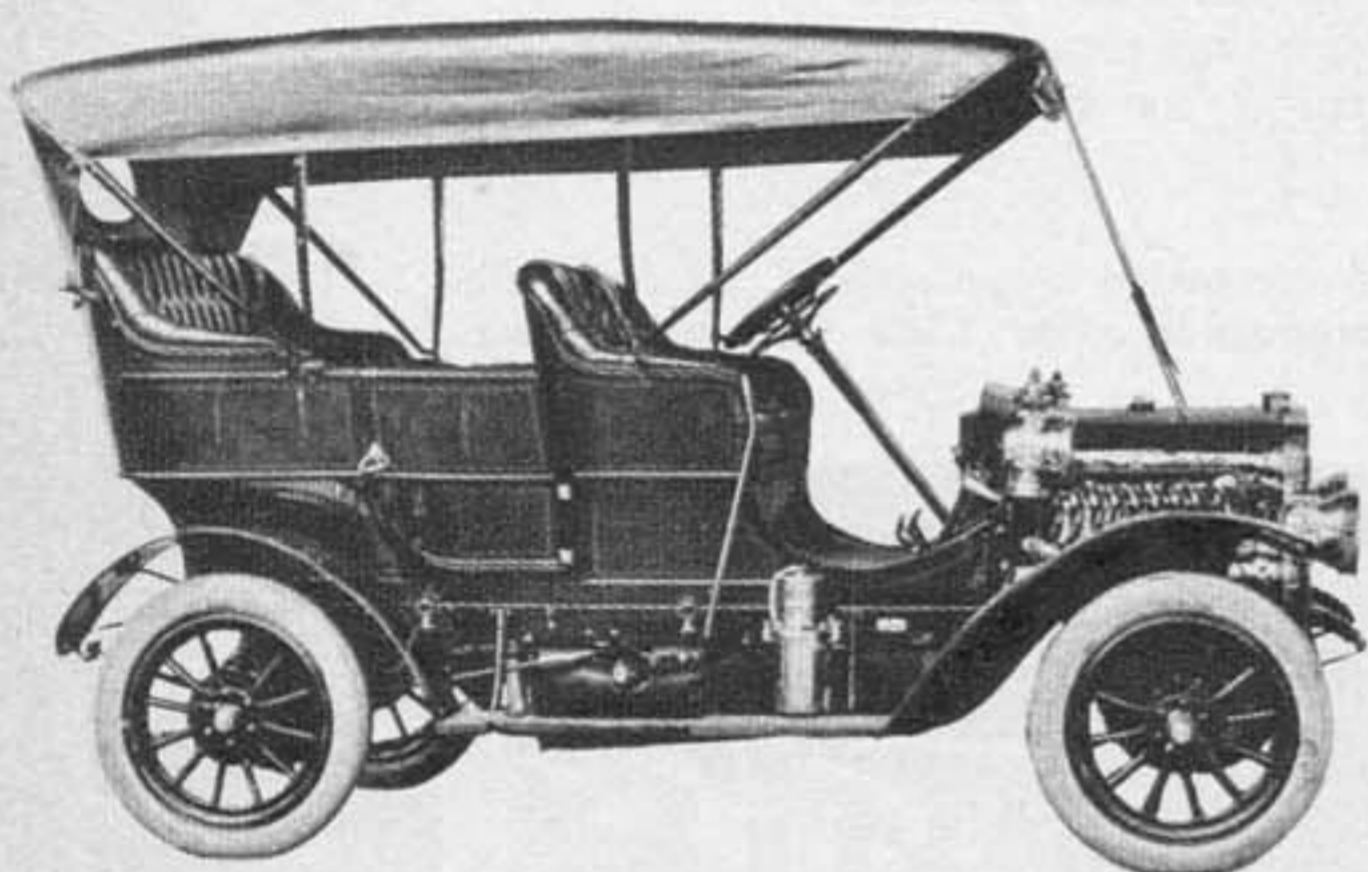
The Model 2 (left) was a side-entrance touring car. Bigger and roomier, it weighed a short ton and was priced at \$1,650. Its sales appeal attracted over 2,000 customers.

1905



The Model 19 two-passenger touring car (right) was carefully designed to retain earlier twin-cylinder 20 hp engine to propel its 2,200 pounds. Cost of the car was \$1,250.

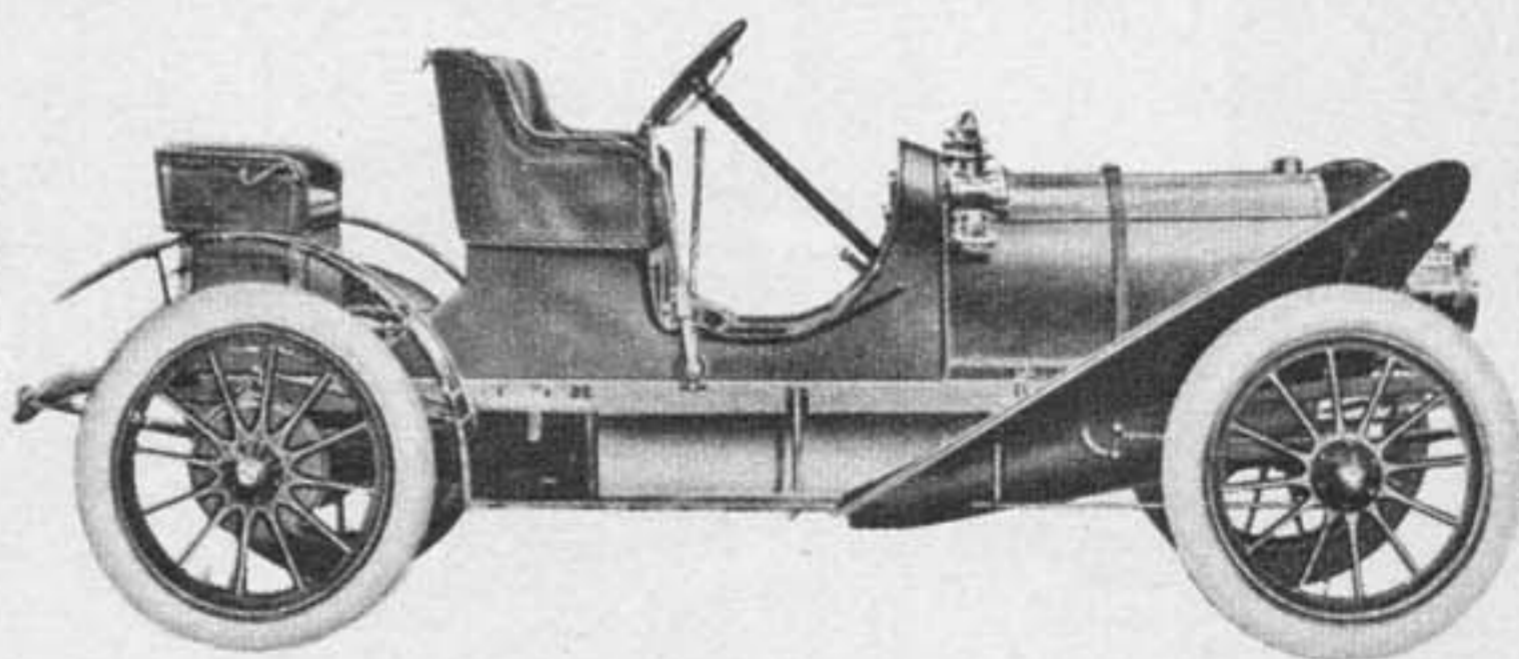
1906



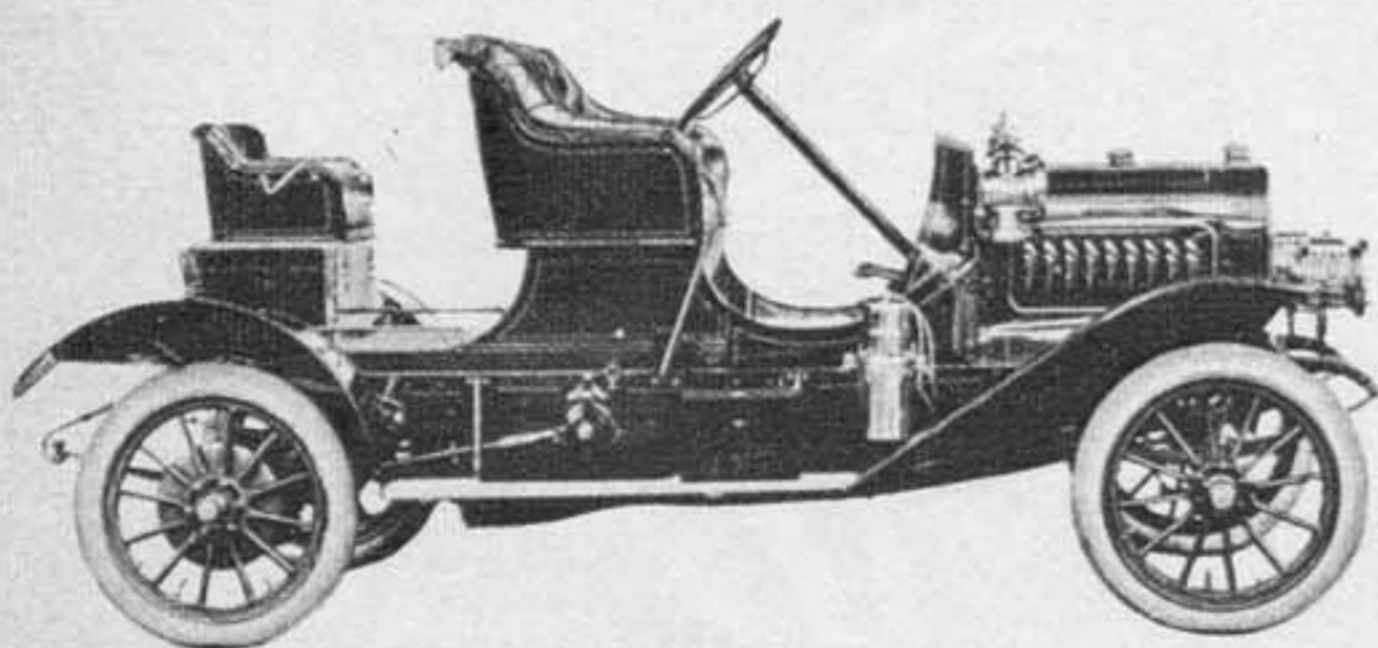
An imposing cape top was featured on this Model 25 touring car (left). With 40 hp four-cylinder engine, it was priced at \$2,500. Sold that year were 6,000 units.

1907

Rakish fenders helped to sell 5,000 units of this Model 34-A roadster (right). With a four-cylinder 32.4 hp engine, it scaled 2,700 pounds. It was a steal at \$2,250.



1908



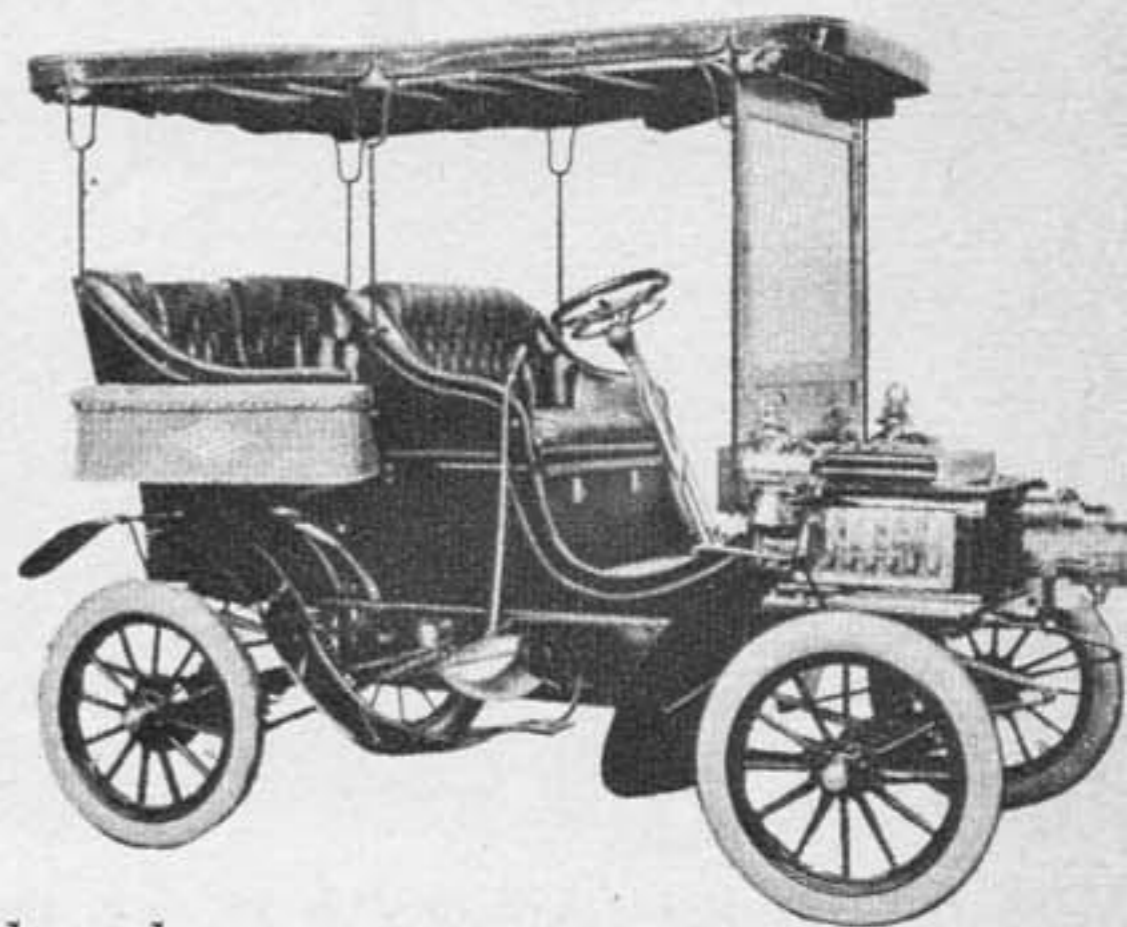
The twin-cylinder 20 hp engine was also continued in the Model 47 three-passenger roadster (left), which cost \$1,200. Weight was 2,300 pounds. Sold were 4,500 units.

1909

# Nash-Jeffery-Rambler

First car of more than one cylinder was Model L with twin-cylinder 20 hp engine. Scaling 1,800 pounds, 1,800 units sold at \$1,350. Extra were heavy windshield, elaborate top, lunch baskets.

1904



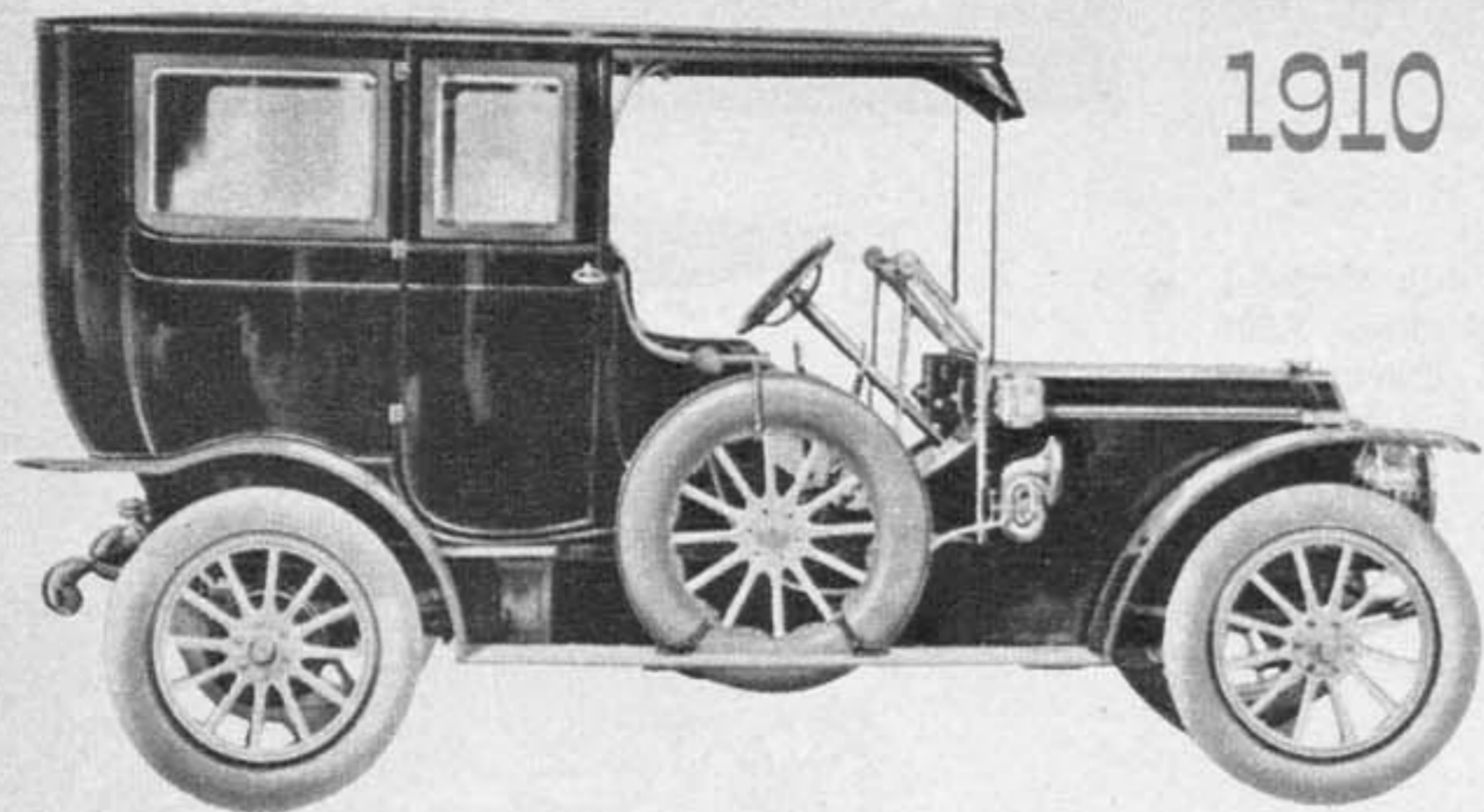
“... 36 x 5 inch tires, the interior finished in Bedford cord, electrically lighted, mahogany ceiling and sides, speaking tube, mirror, clock, cigar case and broom holder. . .” There was an even more expensive model—the seven-passenger limousine which retailed at \$3,750 and epitomized luxury.

It was already a year since Seaman had become the first auto body builder to reinforce woodwork with steel, and now

New and larger plant of the W. S. Seaman Company, Milwaukee, Wisconsin. The original plant was gutted by fire, 1906. Seaman built Rambler bodies, was bought by Nash, 1919.

1909



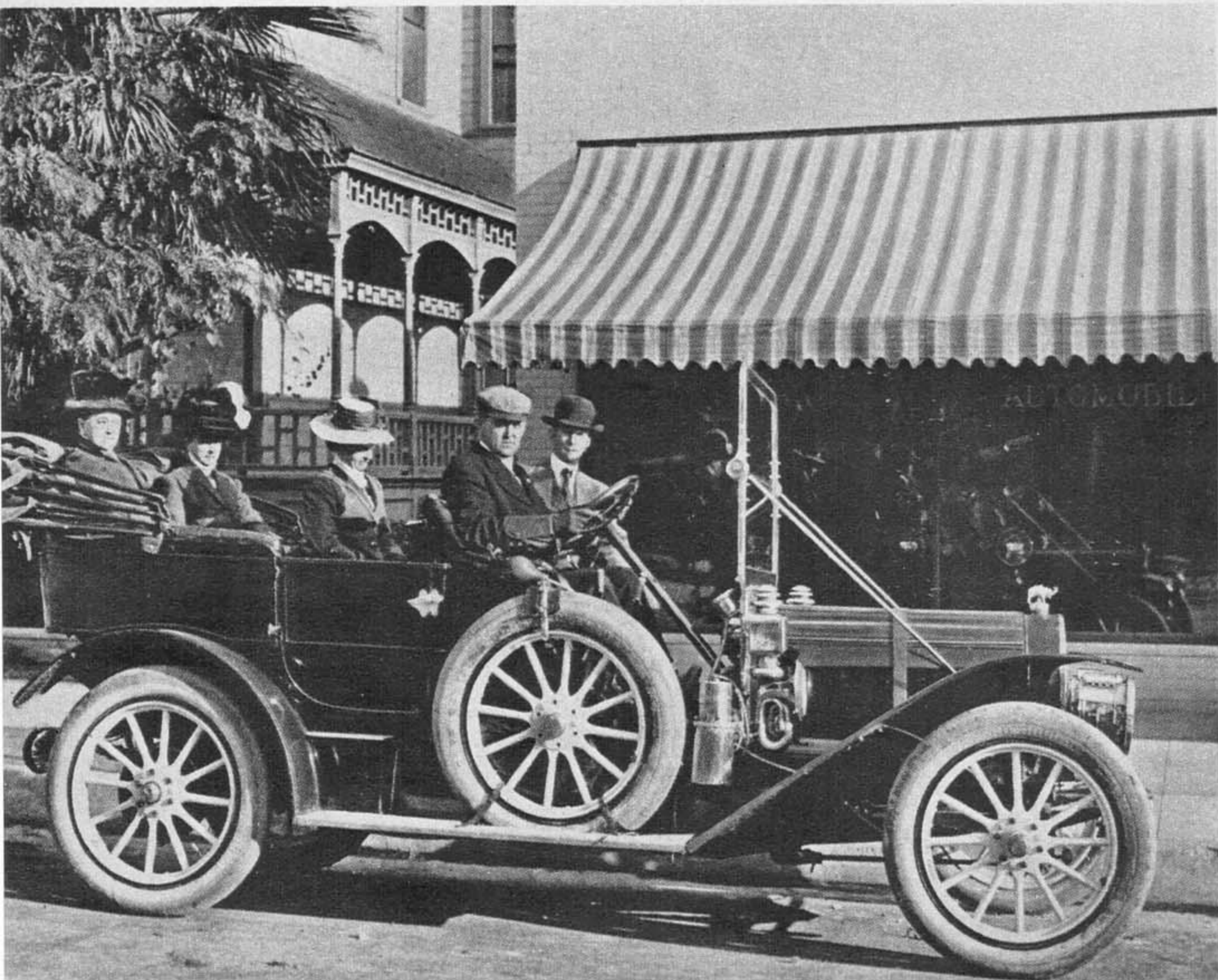


1910

The last word in luxury in its day, the Model 55-L limousine (above) was considered low-cost for a closed car, at \$3,750. Powered by a 40 hp four-cylinder engine, the car scaled 3,300 pounds.

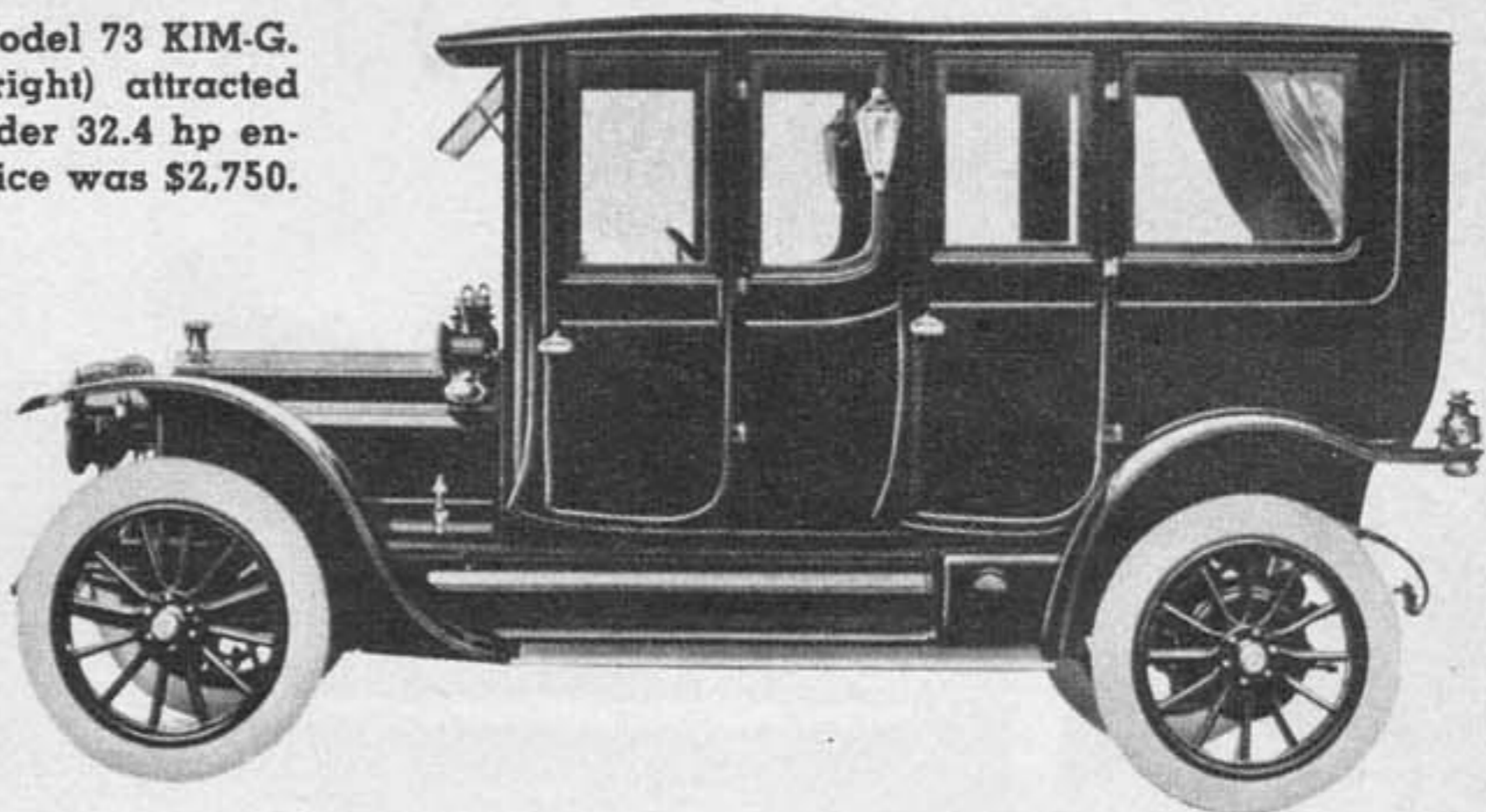
1910

Seven-passenger Model 55 touring car (below) was heavier than the 55-L limousine, but used same chassis. It weighed an extra 100 pounds, cost \$1,250 less. Note motoring dress of the period.



## 1912

Surprising was the large sale of Model 73 KIM-G. This seven-passenger limousine (right) attracted 3,500 customers. It had a four-cylinder 32.4 hp engine and weighed 3,600 pounds. Price was \$2,750.



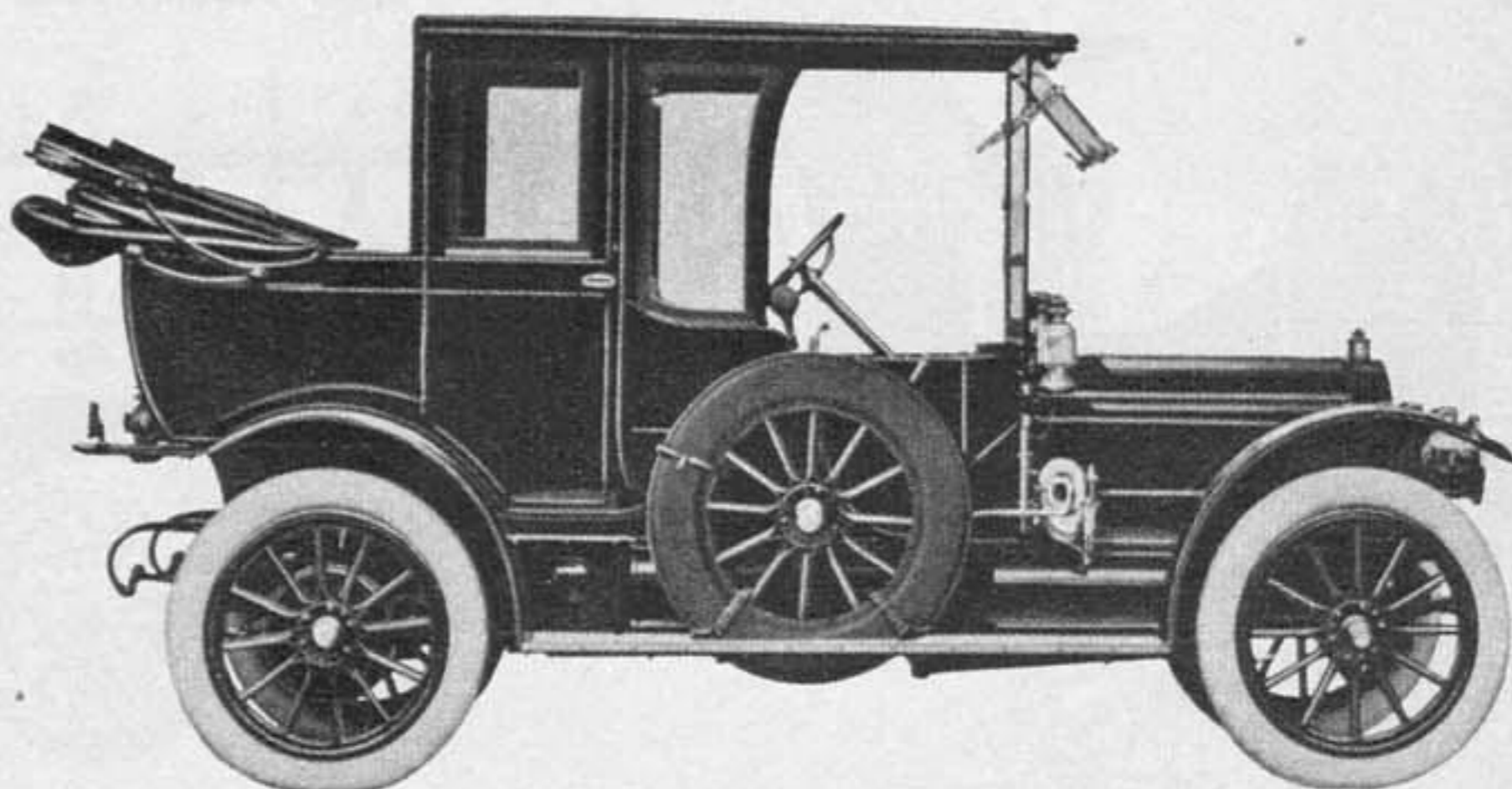
the Rambler demand for bodies was absorbing more and more of the Seaman Company's activities.

With the coming of 1914, the Thomas B. Jeffery heirs decided to drop the name Rambler and perpetuate the family name in the automobile. Accordingly, when the Rambler Cross Country model went out of production at the close of 1913, a new model bearing the Jeffery emblem was introduced. This was a four-cylinder, sporty-looking roadster with wire wheels and a long hood. The public went for it with equal enthusiasm, knowing that even though the name had changed, the quality of the company's products could be counted on to remain the same.

The Company's activities by this time were not confined to pleasure cars. Jeffery had already been a year in the truck business, with a Rambler model. In 1914, came the first Jeffery delivery truck with a 1,500-pound payload. A one-ton truck was also introduced that year. These were followed by three-quarter and one-and-a-half ton trucks, and then

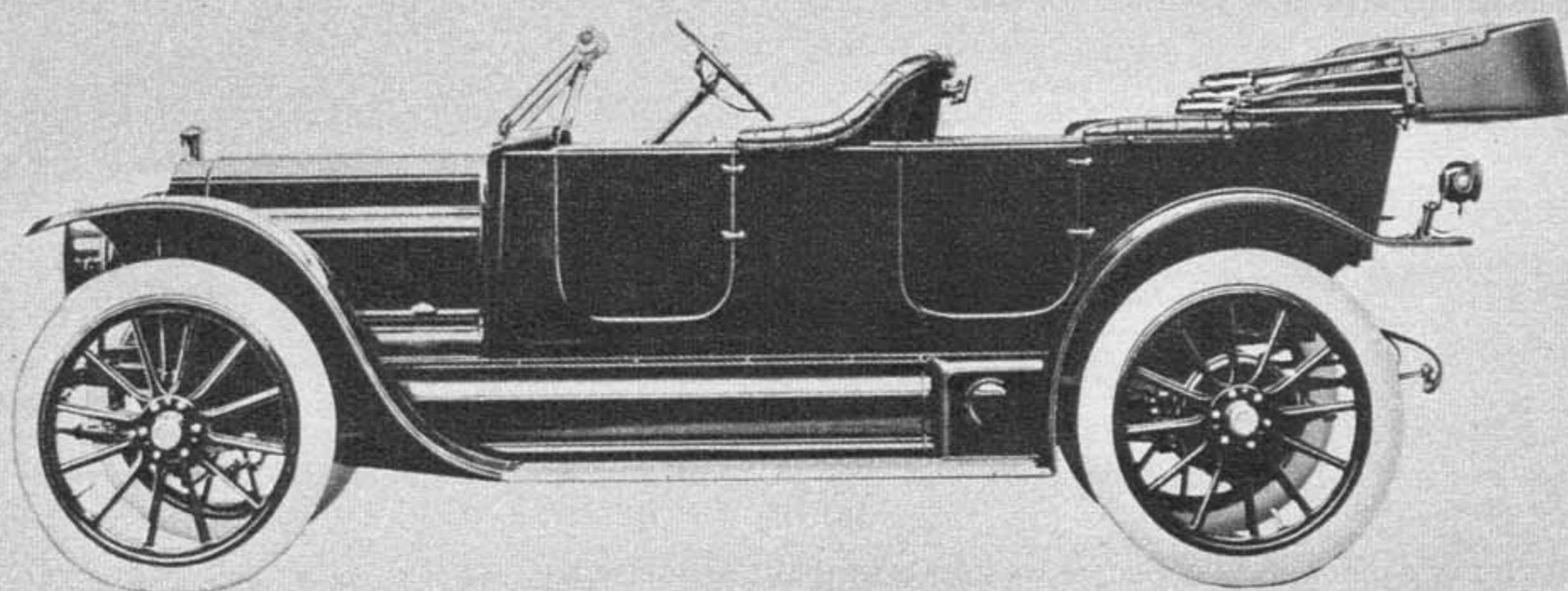
## 1911

Another big seller was the Model 64-L convertible landaulet (below). Price was \$3,650. Power plant was four-cylinder at 40 hp. Sold in a year were 3,000 units. Note the side-windows for chauffeur.



# 1913

The Model 83-4 CC touring car was among the last Rambler models built. Sold were 4,500 units at \$1,875. Weight was 3,600 pounds. The 32.4 hp engine was used again.



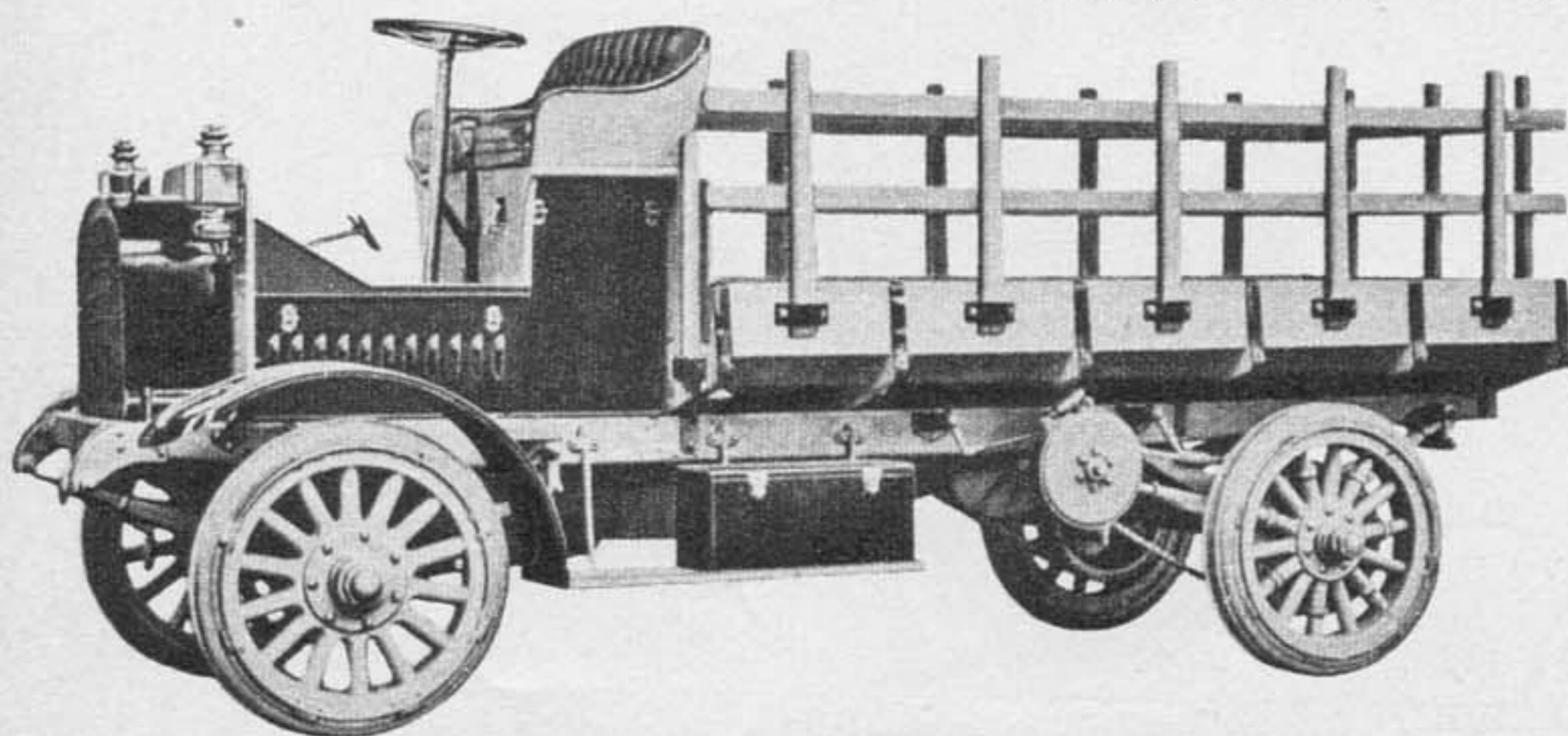
by the famous Jeffery Quad truck—extensively used in World War I.

The Jeffery car, however, retained its new identity for but a brief spell. Nevertheless, it contributed one more historical “stepping stone.” A combined Jeffery-Chesterfield advertisement, which appeared in the *Saturday Evening Post* during 1915, was the first ever accepted by a magazine to show, openly, a woman smoking a cigarette.

By 1916, with business about at peak, the Jeffery owners decided to retire from the industry. On July 13, 1916, the *Kenosha Evening News* carried a banner headline consisting of three terse words: JEFFERY PLANT SOLD. The buyer was Charles W. Nash, one of the great men of the automotive in-

# 1913

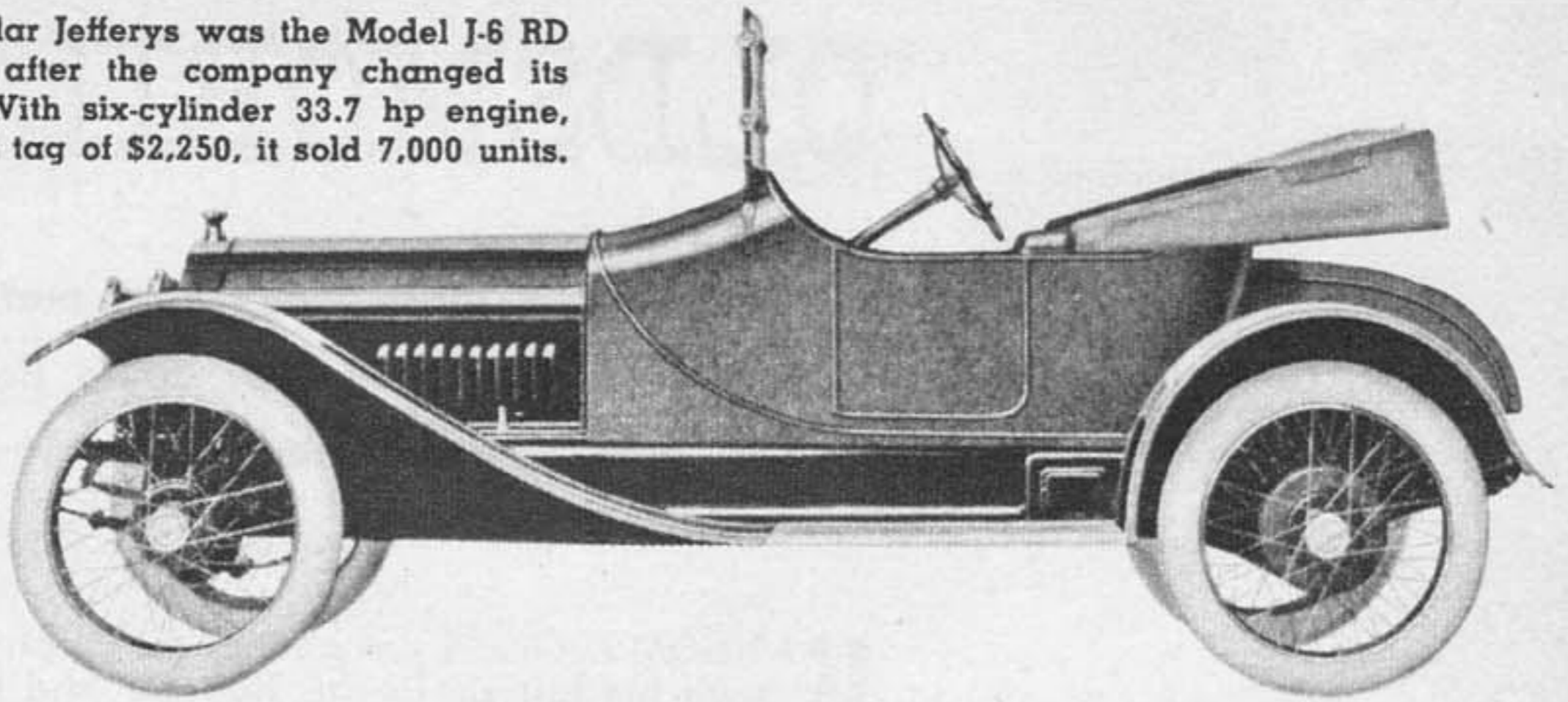
The Model 2013 truck also used the familiar 32.4 hp four-cylinder engine. But the Rambler name was not used. Called the Jeffery, it weighed 3,900 pounds. Sold were 6,000 units, at \$1,575.





## 1914

First of the popular Jefferys was the Model J-6 RD sports roadster, after the company changed its name in 1913. With six-cylinder 33.7 hp engine, wire wheels and tag of \$2,250, it sold 7,000 units.

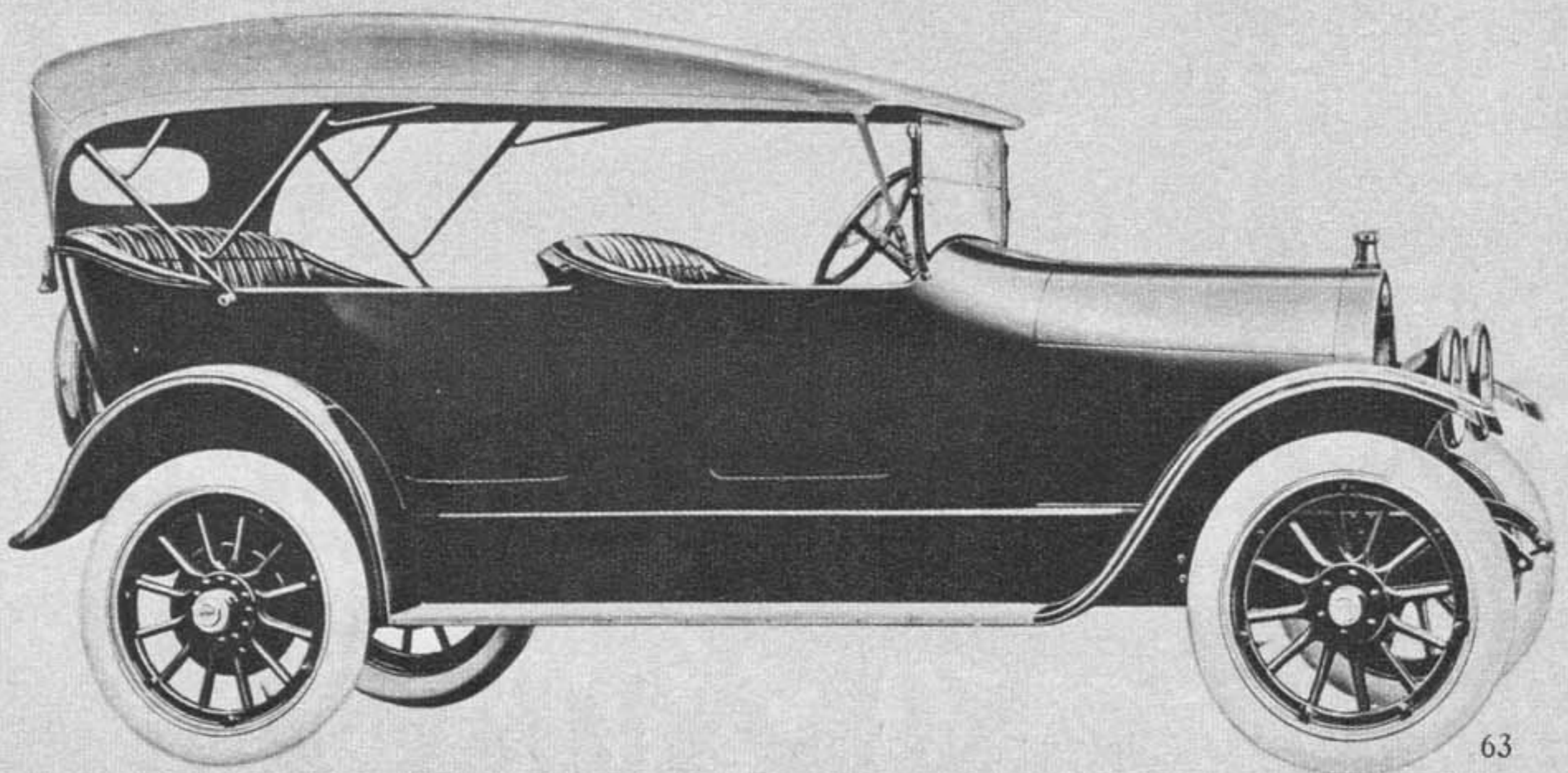


dustry, who had retired from the presidency of General Motors Corporation.

The new owner took active command of the business in September of that year, but it was not until 1918 that the first Nash-designed car appeared on the market. Meantime, the manufacture of Jeffery products continued uninterrupted right up until the fall of 1917. That year more bodies than ever before were produced by Seaman for the Nash organization. The old firm's continuing good fortune was due not merely to some lucky star, but to the wisdom of the new management. The year that the Nash was introduced brought sales totaling 10,000 units—which proved that the public, faithful to the old Jeffery, also recognized a good thing when it was new. •

The Chesterfield touring car (Model J-4) was named thus because it appeared in first cigarette advertisements ever to show a woman smoking. This sold 13,000 cars at \$1,500.

## 1915





# OLDSMOBILE

*First to use mass-production methods and first to build a car that could do 60 mph, R. E. Olds' genius pioneered the modern auto.*

**R**ANSOM E. OLDS, designer of the Oldsmobile, who also gave his initials to the Reo car and truck and was associated with the creation of other famous makes, can claim, in a sense, to be the source of inspiration of the modern automobile.

As a young man, he worked for his father, Pliny F. Olds, a Lansing, Michigan, manufacturer of gas engines. But as far back as 1887 his ambition was to build complete motor vehicles. Early private experiments with crude

1891



# OLDSMOBILE

steam-powered machines soon led him to something more practical.

Already the owner of a half-stake in his father's enterprise—purchased with hard-earned and hard-saved dollars—Olds bought out the balance of the business in 1892 and incorporated the Olds Gasoline Engine Works. The following year he quit experimenting with steamers. Yet with almost the last steam car he built—sold to a firm in Bombay—he achieved a certain amount of fame in India. This, incidentally, was the first export sale of an American-built self-propelled vehicle.

Now he devoted himself entirely to gasoline-driven automobiles. But designing a competent car was one thing, and producing it, another—as Olds soon found out. However, at a company directors' meeting held August 21, 1897, he was authorized to build "one carriage in as nearly perfect a manner as possible and complete it at the earliest possible moment."

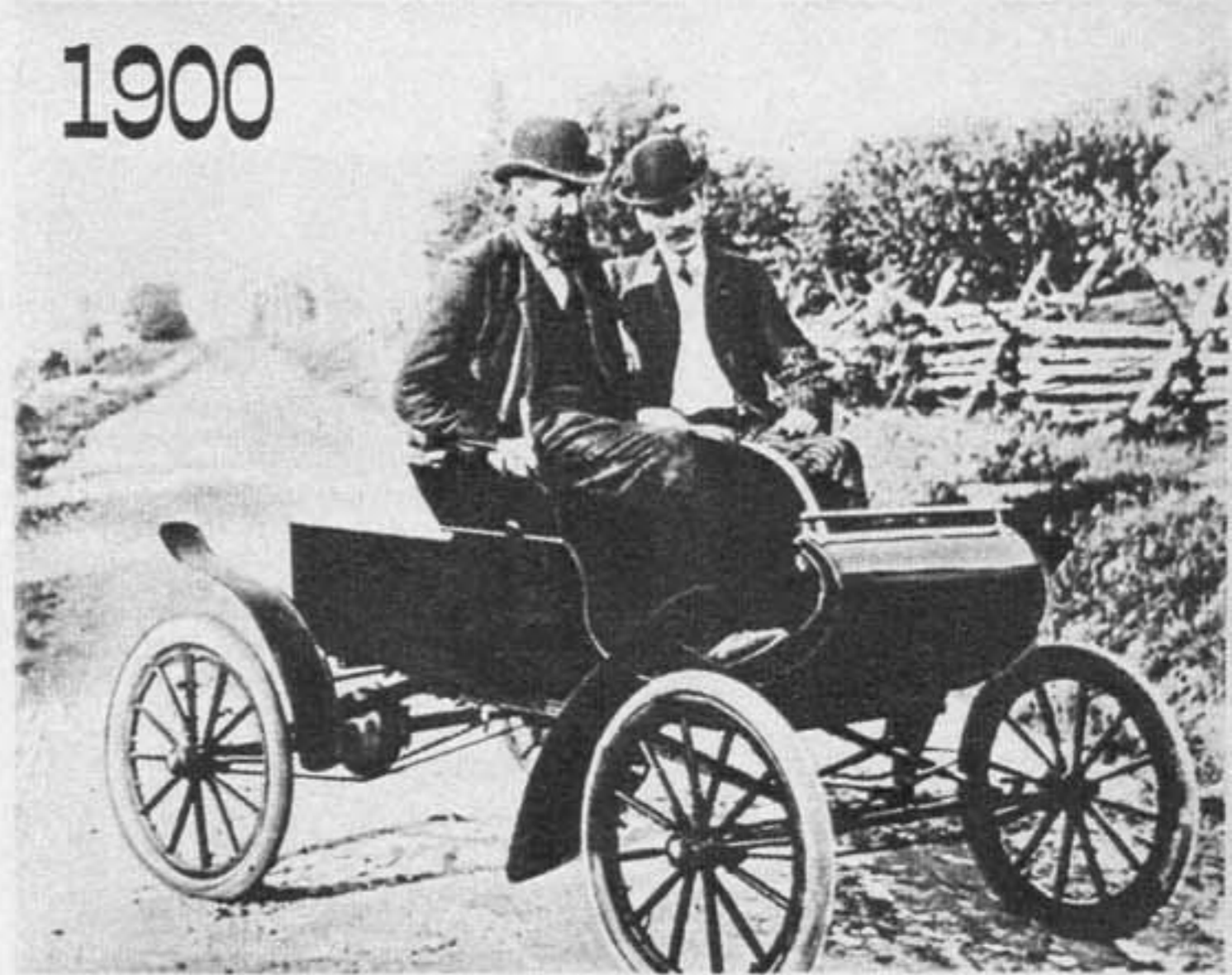
Assisted by Frank G. Clark of the Lansing Carriage Factory, who contributed the body and helped with the suspension, Ransom Olds had his first internal combustion automobile running that year. Powered by a single-cylinder engine located under the seats, this horseless carriage had a speed of 10 mph; it carried a load of four passengers and ran on one-and-a-half-inch solid-rubber tires. It proved so dependable that even the hard-headed bankers were impressed and the

Ransom Olds at the tiller of his first self-propelled vehicle—a steamer (left). Built in his father's gas engine plant at Lansing, Michigan, it ran on wheels with steel rims. Note the fancy fringed surret top.

The Curved Dash runabout (right) was first quantity-produced gasoline-powered auto in America. Over 16,000 were sold at \$650. They inspired the very popular song, "In My Merry Oldsmobile."



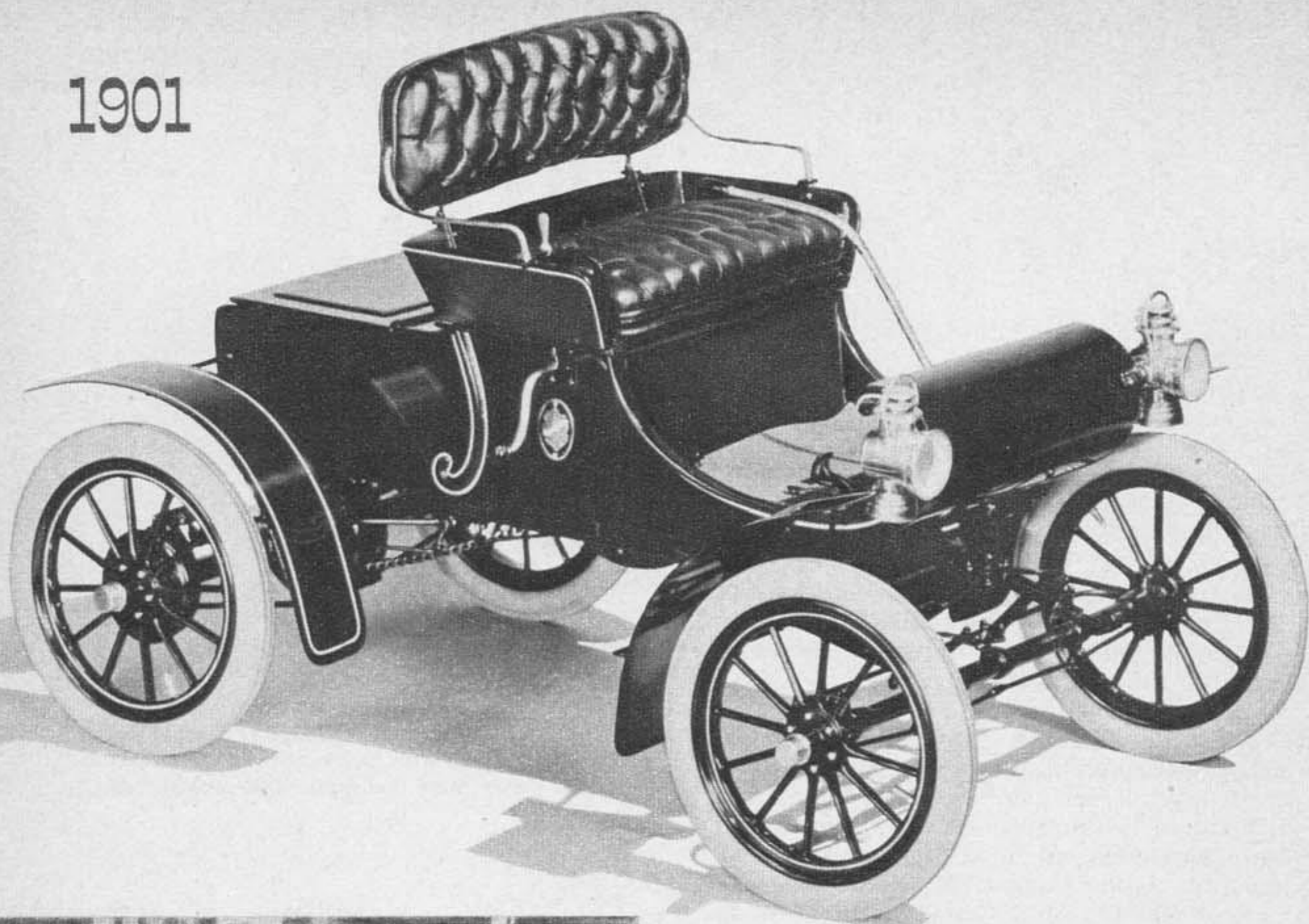
The first Olds auto (above) was built in a small shop, with help of Frank Clark. Speed was 10 mph, from a 9 hp engine with an oversized flywheel. Not for three years was the name Oldsmobile used.



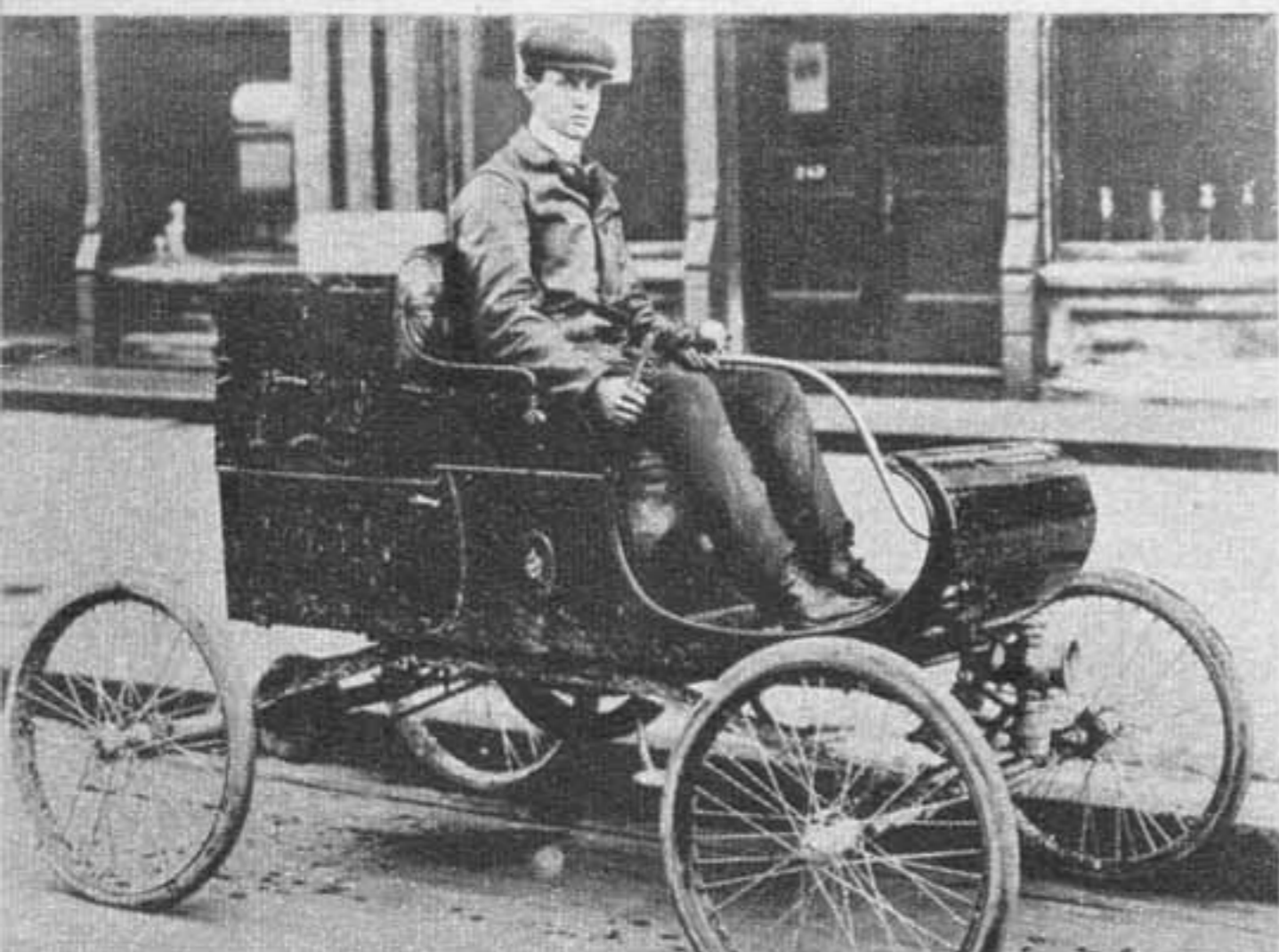
The earliest Curved Dash model (above) had a single-cylinder, watercooled engine of seven hp which propelled the car at 20 mph. Gas and water tanks held five gallons each. Folding top was extra.



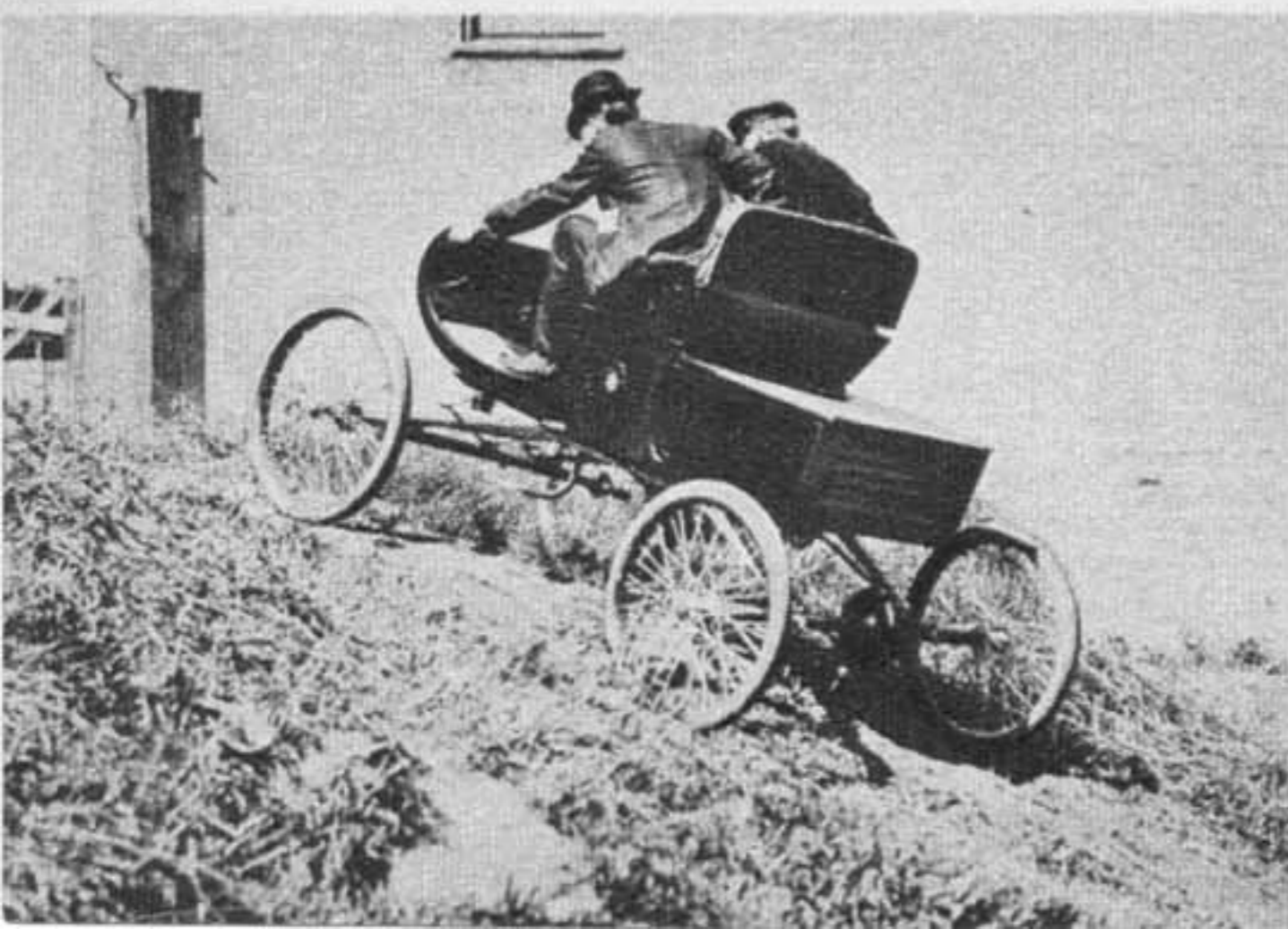
1901



Scale model (above) of the famous runabout, owned by the Oldsmobile Division of GM. Perfect in every detail, it includes the single-tube pneumatic tires which were then standard equipment.



After a seven-and-half-day drive from Detroit, Roy Chapin (above) arrives in New York on time for the first Auto Show. He had to fight mule teams on Erie Canal towpath, but made headlines.



1901

Olds Motor Vehicle Company was formed in September, 1897, with a capital of \$50,000.

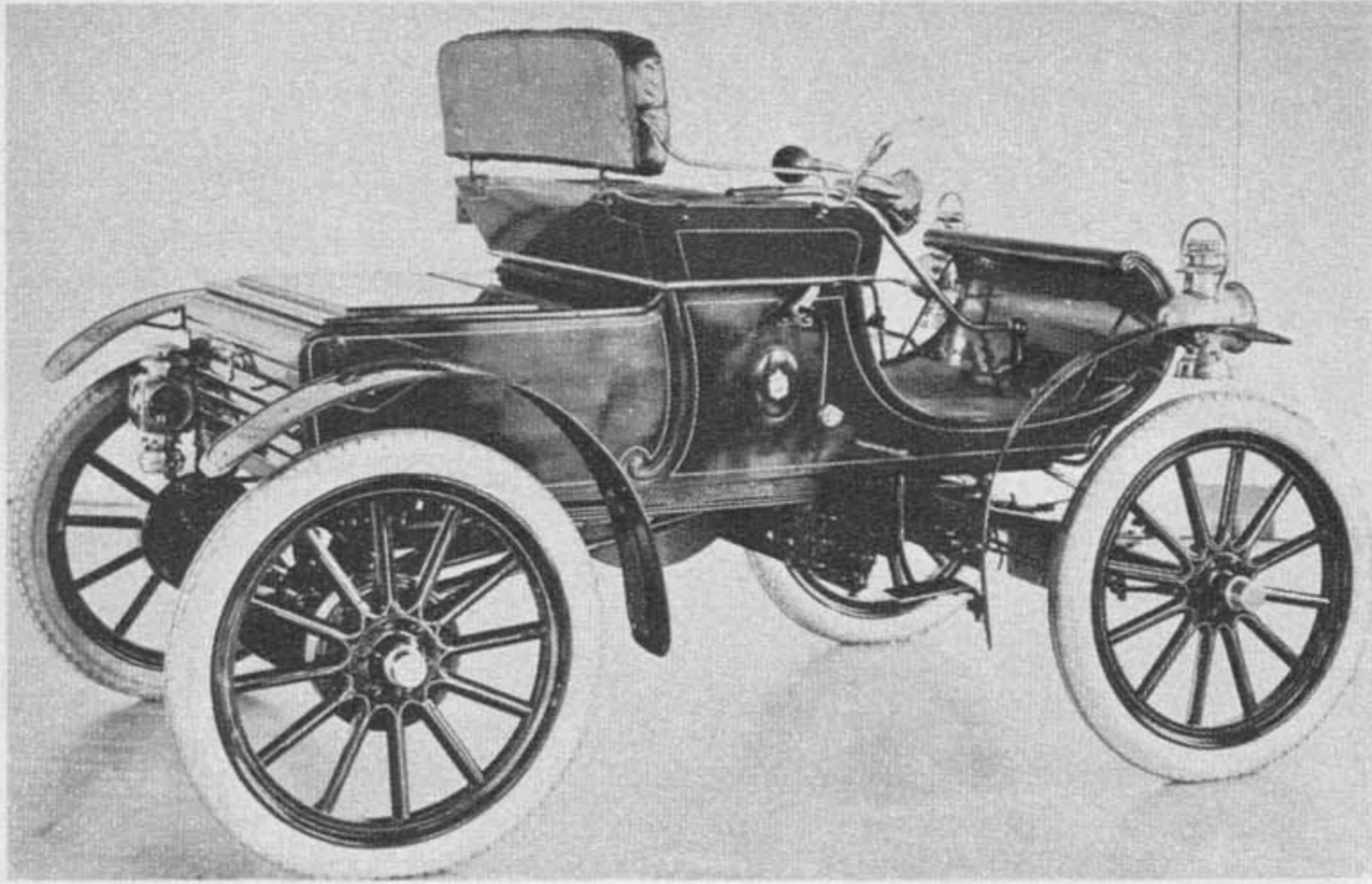
After considering various locations for his factory (Lansing was then unsuitable because of labor and housing problems), Olds finally settled on Detroit and in May, 1899, the Olds Motor Vehicle Company merged with the original Olds Gasoline Engine Works to become the Olds Motor Works with a capital of \$500,000.

During 1899 and 1900, Olds built and sold five electric cars, as well as a few units of a gasoline-powered car that retailed for \$1,250. It was not a success. The public

R. E. Olds and John Maxwell test the Curved Dash model (left) on a hill alongside the factory. Part of the car's great popular appeal was its ability to climb the steepest grades, without faltering.

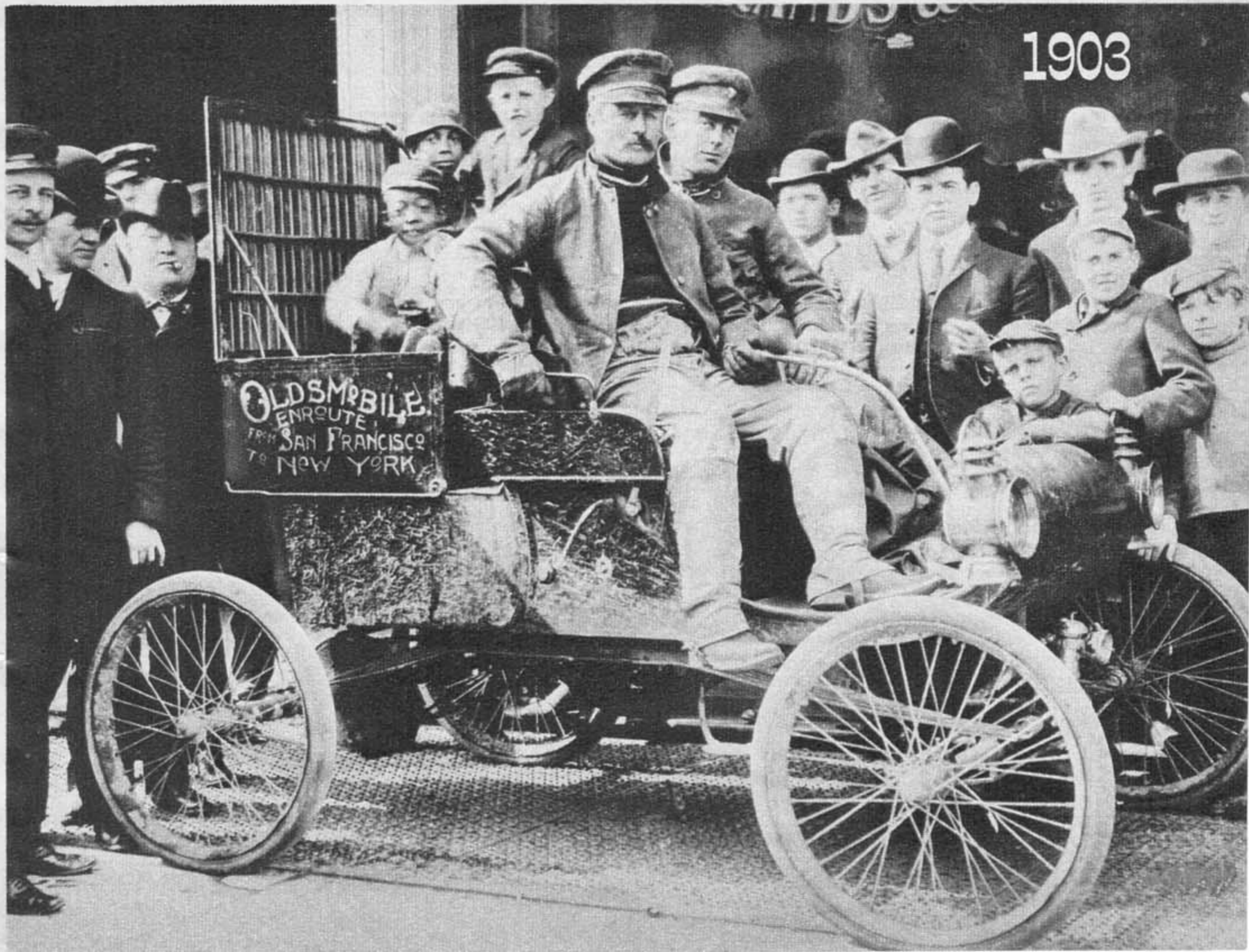
1901

1903



Famous Oldsmobile (above) was first light car to make a transcontinental run. Driven by Dwight Huss and T. R. McGargle, it covered 4,400 miles in 44 days—from New York to Portland, Oregon.

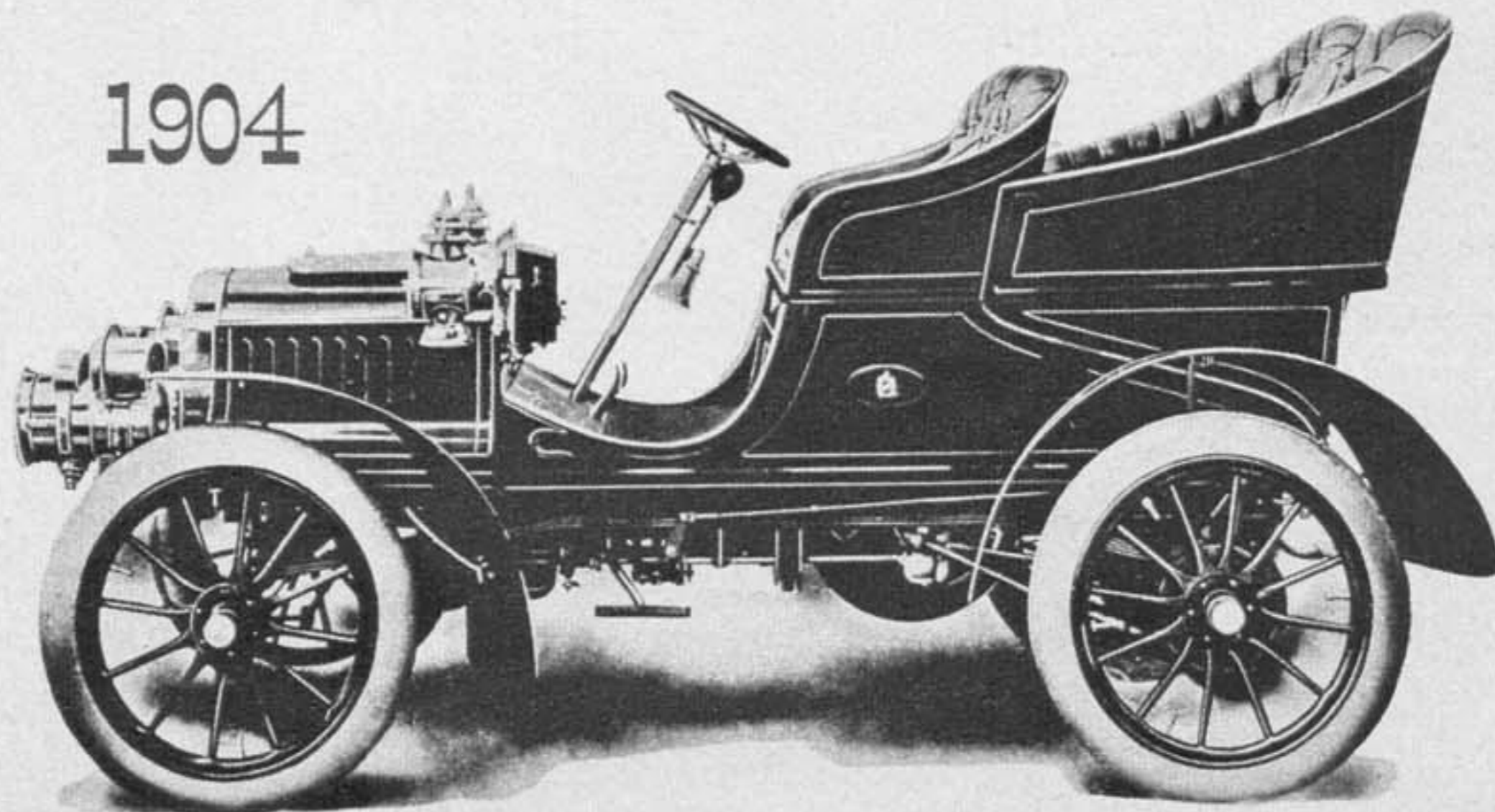
Another pioneer car was the Curved Dash model below, shown as it arrived in New York after a grueling 73-day run from San Francisco. At the tiller is L. L. Whitman; co-driver is E. Hammond.





**Charles H. Blades (left), late dean of the auto industry, greets Mr. and Mrs. George Green, Lambertville, New Jersey, during their 1938 vacation tour. The Greens did 7,000 miles in this single-cylinder Olds, which they bought used for \$165 in 1907.**

**The Oldsmobile Model 6-C was a light tonneau car with a single-cylinder 10 hp engine located under the seat. More than 5,500 units of this model were sold at a price of \$950 each. Rear tonneau could be removed. Note horn on steering wheel.**



apparently found some of Olds' mechanical refinements too complicated and the company lost \$80,000 that first year.

But in 1900, the tide began to turn. Olds produced a single-cylinder runabout that was extremely simple to operate. It was built with a foolproof ruggedness. Known as the Curved Dash model, it weighed 700 pounds, cost \$650 and proved an immediate success.

During the next four years, this Oldsmobile grew in popularity. It sold 425 units in 1901; 2,100 in 1902; 3,750 in 1903 and 5,000 in 1904. The latter year represented a sales increase of more than 11 times the first year's output. Dealers in 1902 could easily have absorbed 4,000 Oldsmobiles, had the factory been able to produce them. As it was, more than twice as many Curved Dash runabouts were sold as there were cars in the entire State of New York.

The year before, however, in March, 1901, a disastrous fire consumed the Olds plant. It destroyed stock, blueprints, equip-

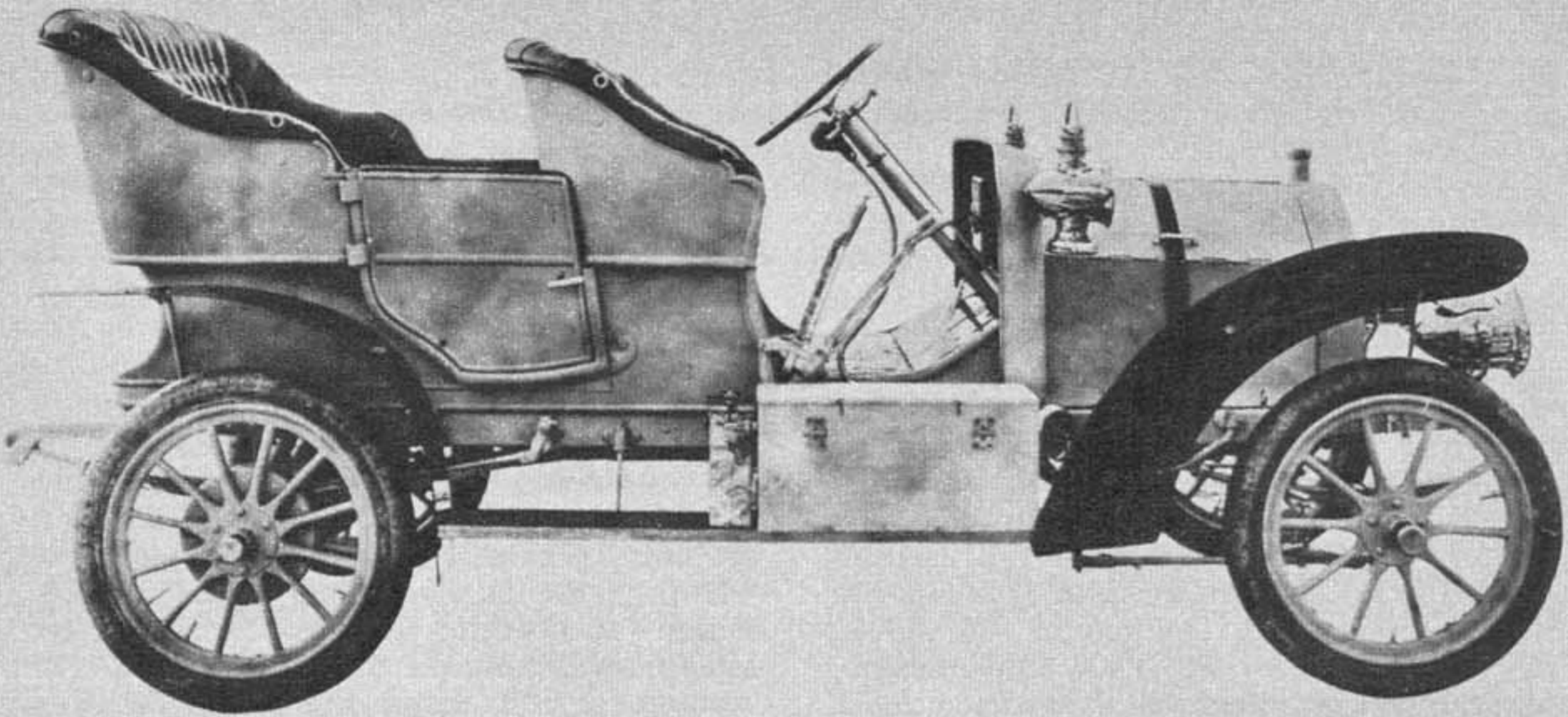
ment and most of the dies and patterns for the runabout. The only thing rescued was a single car from which new patterns were made; but within one month a completely new runabout chugged out under its own power. From these patterns, 400 more cars were constructed and sold by the end of that year.

The factory then moved to new premises (in Lansing, where economic conditions had improved) and, for the first time in the automobile industry, R. E. Olds made use of an organized, progressive assembly system. Chassis, rolling on their own wheels, were pushed along a line, during which succeeding groups of workmen added something to the car until it was completed. In using this method, Olds was one year ahead of the Rambler car and two years ahead of Ford.

Meanwhile, Roy D. Chapin's drive in a Curved Dash Olds from Detroit to New York in seven-and-one-half days (in time for the 1901 Auto Show at Madison

Farmer and family in five-passenger Olds touring car. Powered by a 22 hp two-cylinder, two-stroke engine, it cost \$1,400 without top. Featured were flared fenders and long leaf spring. Weight: 2,350 pounds.





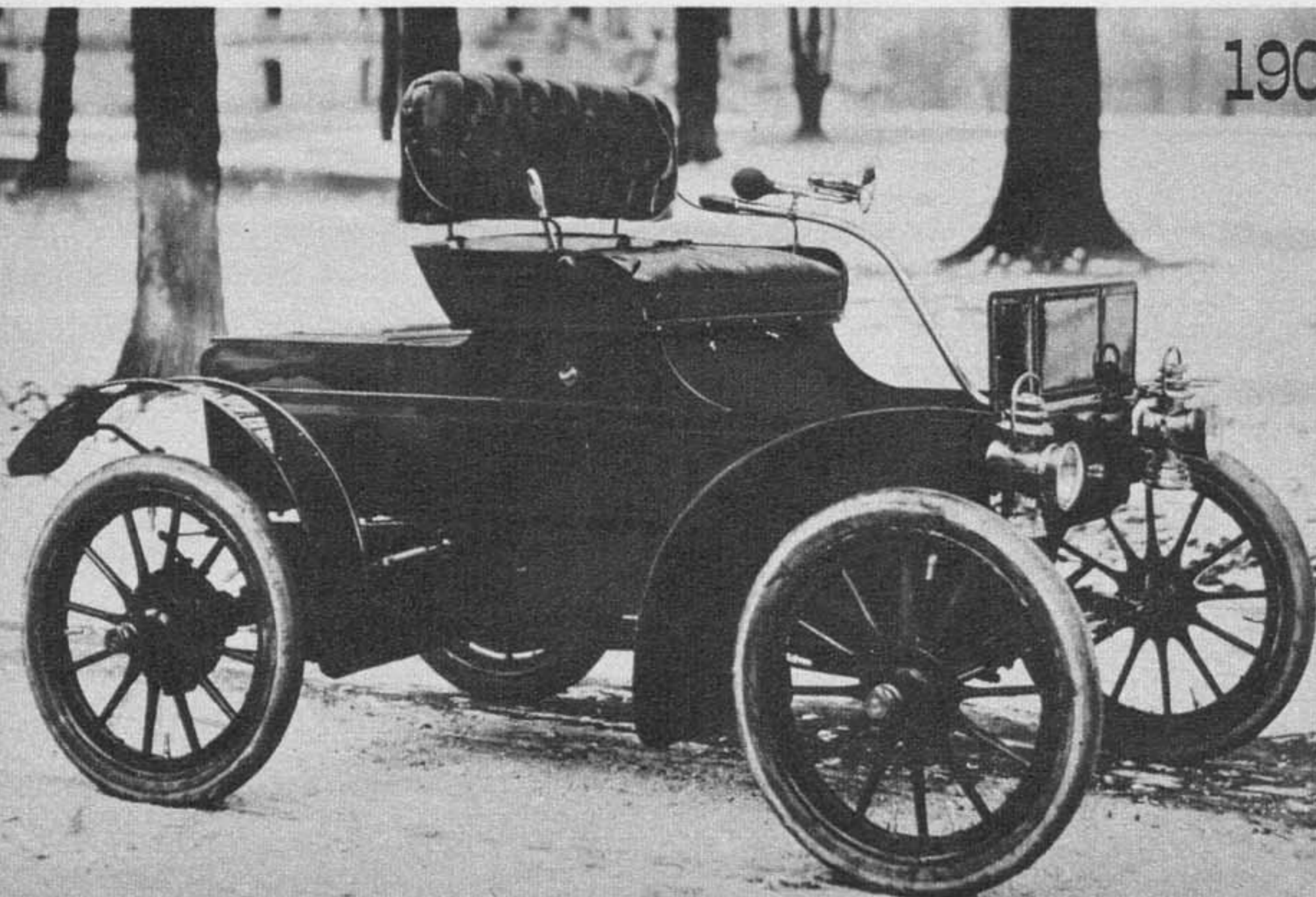
The Model S touring car featured four separate carriage springs. At \$2,250, the company claimed it to be the first "medium-priced" four-cylinder car in production. Note strap used to secure the hood.

Square Garden) was a terrific publicity stunt, perfectly timed and executed. It resulted in Ray M. Owen, a New York auto dealer, signing a contract to sell 1,000 cars. This cut the Oldsmobile right into a fertile and ready market where light vehicle competition was as yet virtually non-existent.

Chapin, a twenty-one-year-old youngster employed at the Olds Works as an apprentice and photographer, later became sales manager of the company and then went on to bigger things.

Several highlights marked Oldsmobile progress in 1903. Not only was the pro-

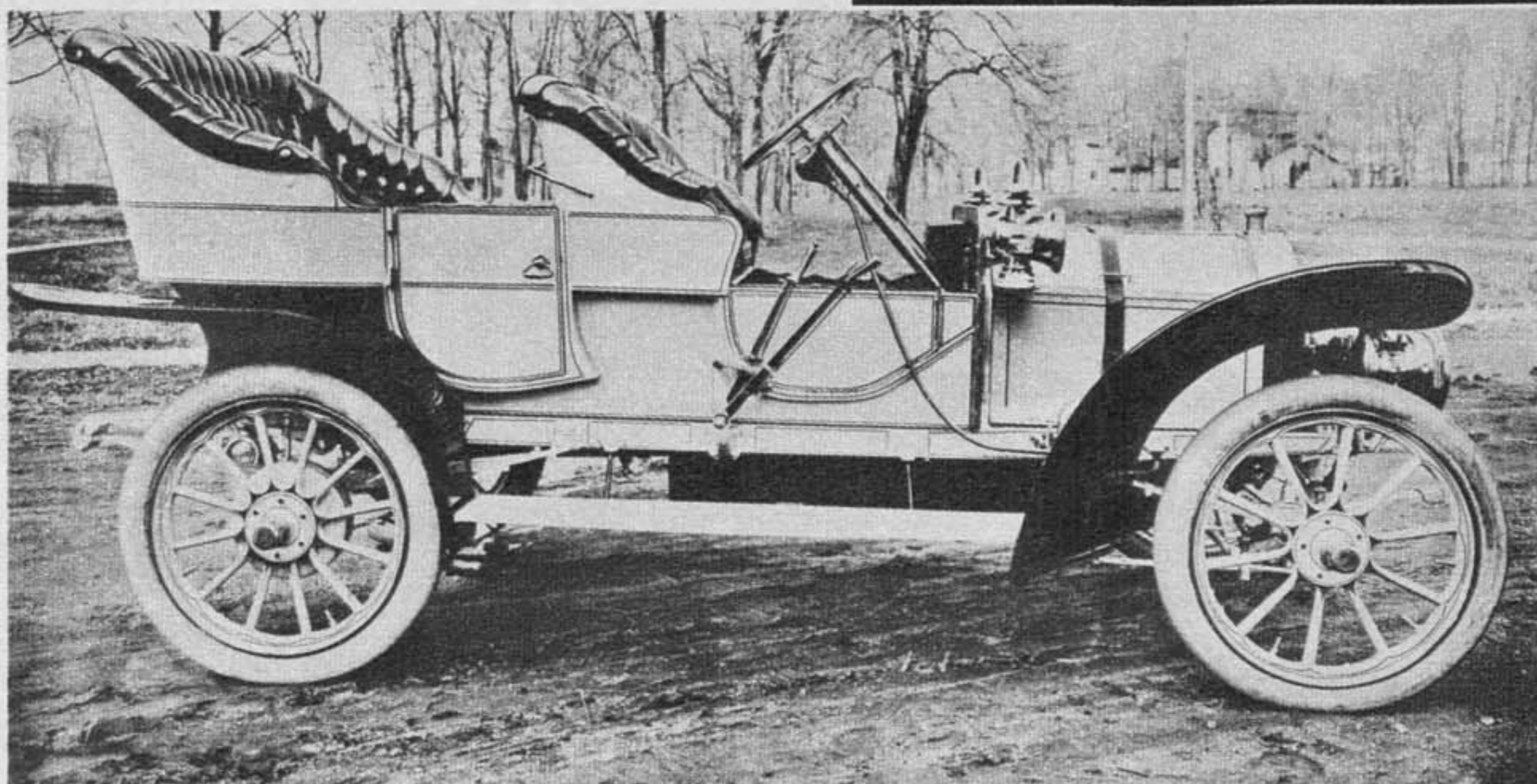
The Model B Straight Dash standard runabout was powered by a single-cylinder water-cooled engine. It was popular with persons who preferred a light car. As with previous light runabouts, its price was \$650.





1907

OLDSMOBILE



The Model AH five-passenger touring car used nickel-plated trim for the first time. With four-cylinder engine, it sold at \$2,750. Only model produced in that Depression year, sales amounted to 1,200 units.

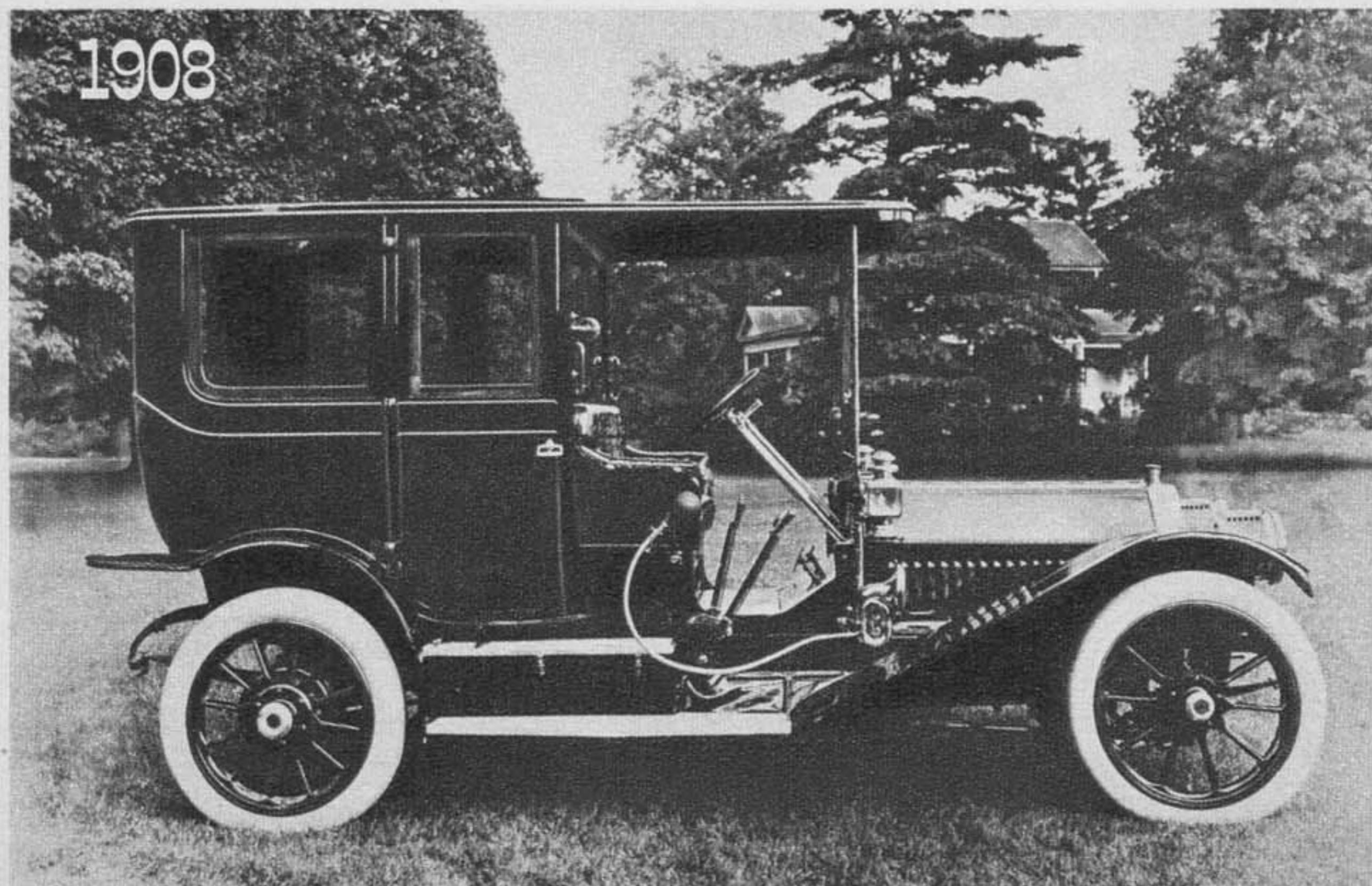
duction figure at a record high, but an Olds driven by H. T. Thomas was the first American car to cover a mile in under a minute. That year, also, an Oldsmobile won the famous Tour de France; and one of the earliest transcontinental trips (from San Francisco to New York) was completed

in 73 days by L. L. Whitman and Eugene Hammond in a Curved Dash runabout.

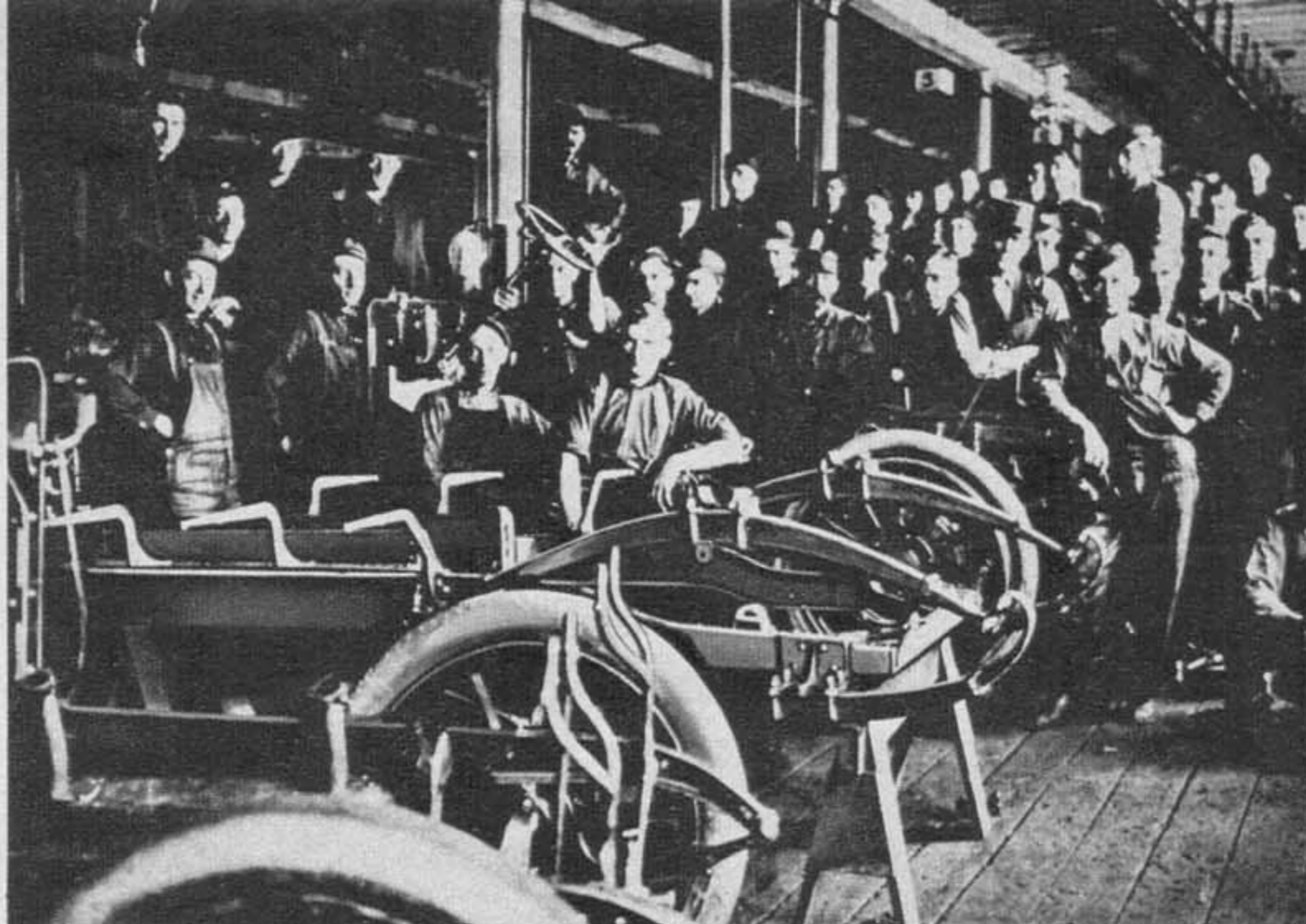
In 1904, with sales steadily climbing, Ransom E. Olds sold out his interest in the Olds Motor Works and helped organize the Reo Company which paid him handsomely for the use of his initials. Still in

Below is Model Z-KR, first six-cylinder Olds marketed. With six-passenger town sedan body, price was \$5,000. Also one of first production closed-body cars on sale the year that General Motors took over.

1908



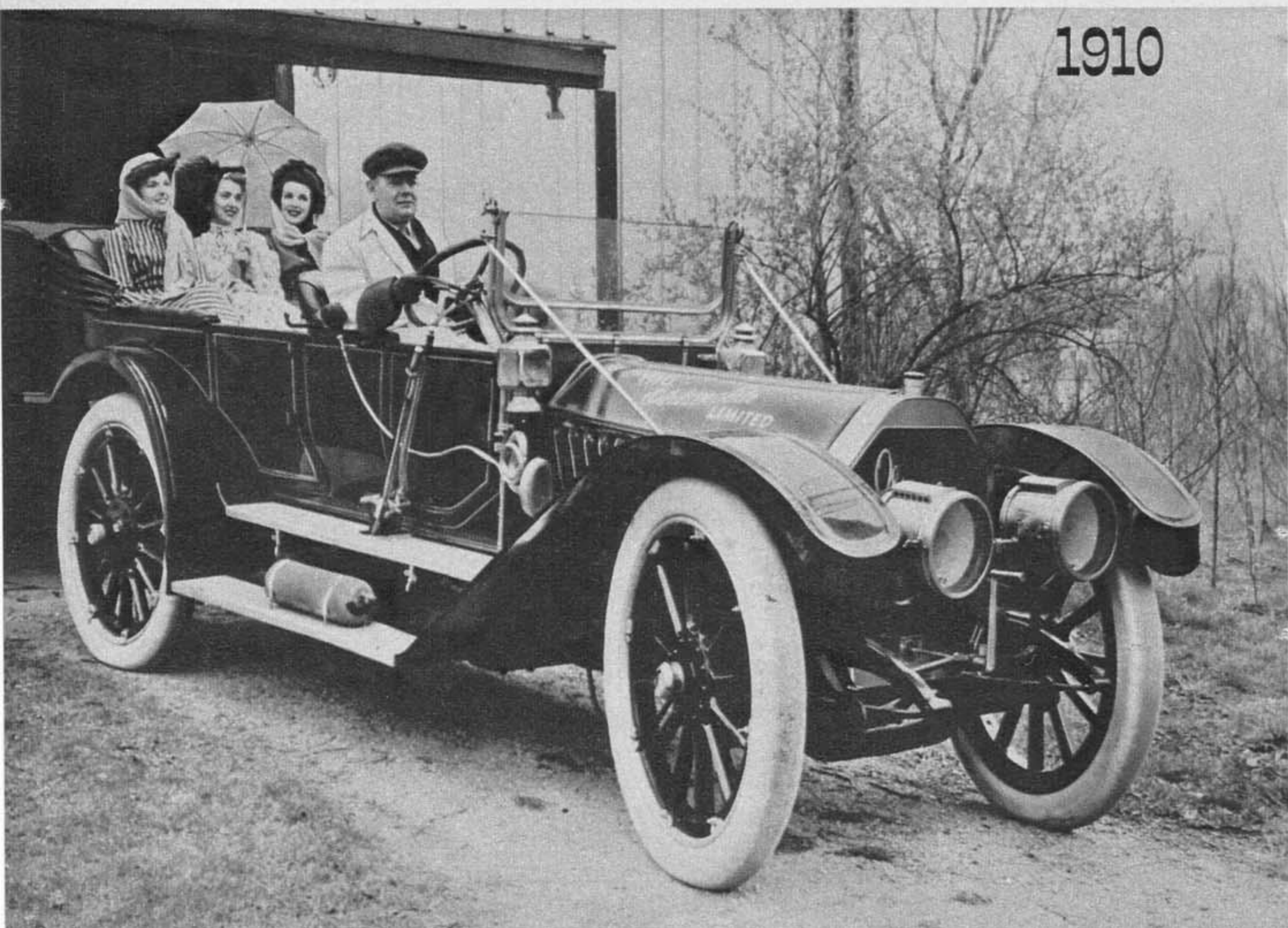
1909



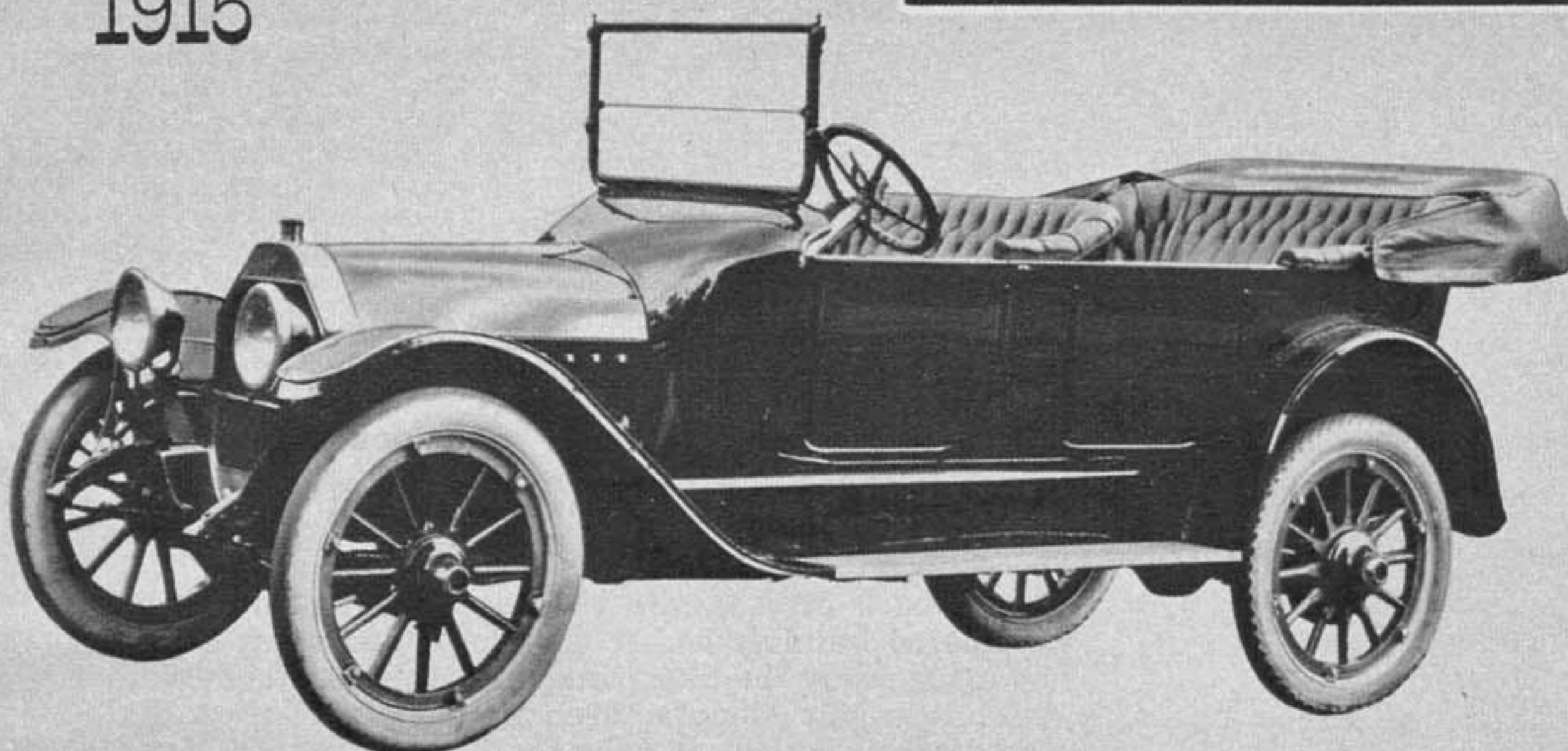
Assembly plant of the Olds Motor Works at Lansing, Michigan. Shown are chassis (second one is inverted) of Model Z-ZR, a large six-cylinder car. Under supervision of William C. Durant, Oldsmobile production and sales reached a new high that year: 6,575 units.

With six-cylinder 60 hp engine, the Limited was the largest and most powerful Olds model at that time. Better than 75 mph was claimed for this giant, which inspired W. H. Foster's famous painting of the car racing a speedy train. Less than 1,000 sold at \$4,725.

1910



## 1915



The Model 42 five-passenger touring car was powered by a four-cylinder 30 hp engine. Price of \$1,285 included electric self-starter, windshield and top. Sale of 7,696 units brought company out of the red.

his prime, Olds was now a rich man with few worries.

In 1905, a new production peak of 36 cars a day was reached and the company already had plans to invade the two- and four-cylinder markets. Despite the newcomers, however, total sales slumped to 1,600 units for the year, possibly because of the fickleness of public taste and the fact that competition by other famous makes was now far more active.

By 1908, when the company was about a million dollars in the red, General Motors came forward with an offer and the Olds Motor Works became one more GM Division. But still the slump continued.

In fact there was nothing wrong with Oldsmobile design, much less with its workmanship, and the car's reputation suffered little despite the drop in business. What was needed to put the company back on its feet was a new and more enterprising sales approach. William C. Durant soon fixed that, launching among other things the first Oldsmobiles with production closed bodywork. A vast improvement in purchases created a new high in Oldsmobile sales history: 6,575 cars in 1909.

For 1910, the Olds moved entirely out of the low-price field and the cheapest four-cylinder car—the 22-25—cost \$3,000. Once again sales dipped, this time to a year's total of 1,850 units. But now the shaky financial condition of the overgrown General Motors structure was prob-

ably one of the main causes of the decline.

In 1911, the four-cylinder Autocrat Oldsmobile, priced at \$3,500, made use of a compressed air self-starter for the first time. It was not until 1915, however, that sales really began to recover and the 1909 level was reached and surpassed. Sold were 7,696 cars.

The list of famous men who at one time or another served or were connected with the Oldsmobile company is one of the most impressive on record. Included are Roy D. Chapin who helped found the Chalmers-Detroit company, was Secretary of Commerce in the Hoover Cabinet and later became president of Hudson; Charles B. King, first man to drive a car in the streets of Detroit; John D. Maxwell, pioneer of the Maxwell car; Howard E. Coffin of the Hudson Motor Car Company and spark plug of the War Industries Board; Carl Fisher who built the Indianapolis Speedway and developed the Prest-O-Lite Company; Benjamin Briscoe, founder of the United States Motor Company; George and Earl Holley, responsible for the Holley carburetor; Charles B. Wilson who later organized the Wilson foundry of Pontiac, one-time largest producer of automobile castings; John F. and Horace Dodge of the Dodge Brothers Company; Charles D. Hastings of the Hupp Motor Company; Charles B. Rose, president of American La France, and many, many others. •



# PACKARD

*"If you're so smart, Mr. Packard," a car manufacturer asked, "why don't you build a car yourself?" And a new car was born.*

**W**AY back in 1893, two progressive young men considered building an automobile of their own design. They made ready the blueprints and even negotiated with a gasoline engine manufacturer for the power-plant that would replace Dobbin. But the business depression of that epoch put an end to their plans and each went back to his respective occupation—the one to operate an electric plant and the other to run a telegraph office. The names of these two men were James Ward and William Dowd Packard, brothers by birth as well as in adventure, and the sons of Warren Packard, a Warren, Ohio, pioneer, for whom the

1901



town was named. The Packard family owned sawmills, a hardware store and a summer hotel, so JW and WD, as their friends called them, knew no hardships.

Though the Packard brothers shelved their plan to become automobile builders, the idea remained very much alive in their minds and was rekindled when James Ward returned from a vacation in Europe, bringing with him a French De Dion Bouton gasoline-powered tricycle. It was a crude machine, but certain basic features in its design offered possibilities that had aroused his keen interest. He was a graduate in mechanical engineering at Lehigh University.

Again, on August 13, 1898, James Ward purchased the 12th car built by the successful Alexander Winton, and this proved to be the turning point. Attempting to drive the car from the Cleveland factory to his home in Warren, a mere fifty miles, he was frustrated and angered by repeated breakdowns and finally reached his destination late at night behind a team of horses.

JW returned to Cleveland, confronted Winton in his office and told him exactly what he thought of the car. Alexander Winton, a quick-tempered man with a large dark mustache, was more annoyed than sympathetic. The interview ended abruptly when Winton burst forth: "If you're so smart, Mr. Packard, why don't you build a car yourself?"

JW's reaction was provocative. He considered the challenge for a moment, then said quietly: "You know, Mr. Winton, I think I will."

Though he never even dreamed it at the time, Winton had provoked James Ward into being a competitor who was to outstrip him with ease and grow to far greater stature. Long after the Winton car was forgotten, the Packard would be traveling the highways of America.

For months the Packard brothers studied construction details of European cars and engines. Then they equipped a workshop at the back of the electrical plant which supplied their Lakewood hotel. To help build their car, they enlisted the services of George L. Weiss, Cleveland's first car owner and garage proprietor, and W. A. Hatcher, formerly a shop superintendent at the Winton plant.

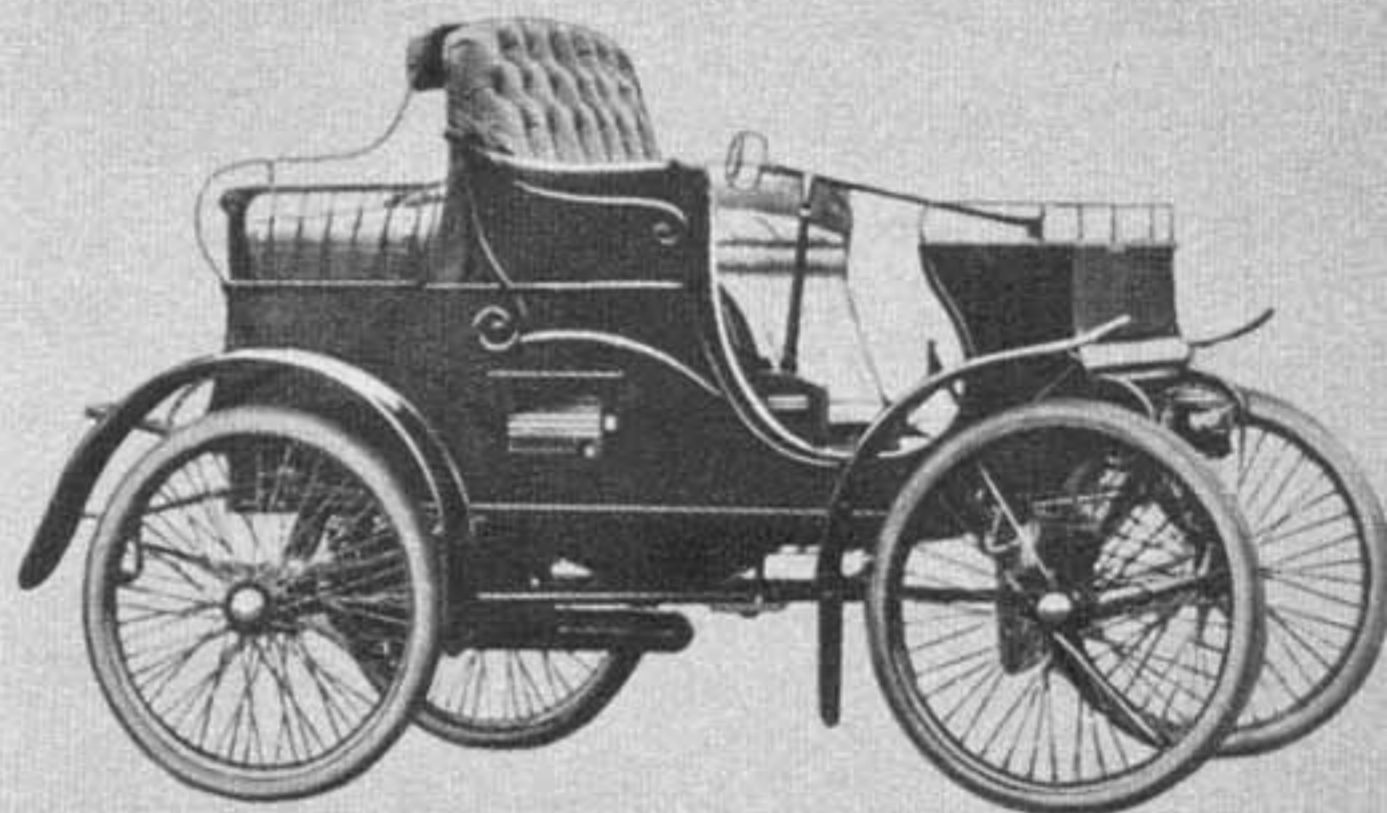
Speeding through Warren, Ohio, at 40 mph, Alden McMurtry made this single-cylinder 12 hp (left) Packard a newsworthy car. Engine is under seat.

## 1899



This Model A Packard, the first ever built, was completed at Warren, Ohio, was priced at \$1,250. Powered by a single-cylinder engine of 12 hp, it boasted a three-speed transmission.

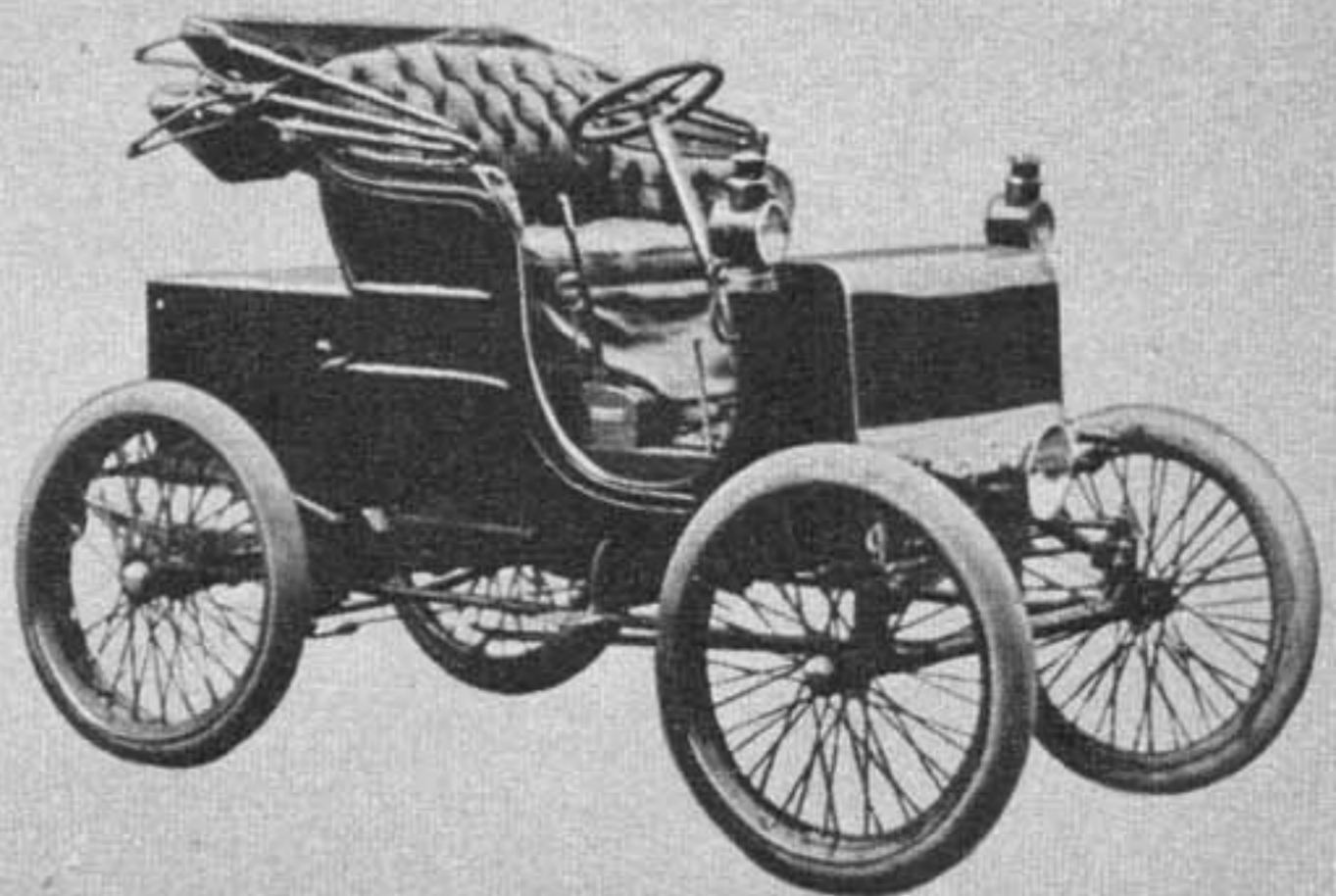
## 1900



A 950-pound, 22 mph car, the Model B pictured had a single horizontal cylinder that could develop 12 hp. Note "shovel-handle" steering.

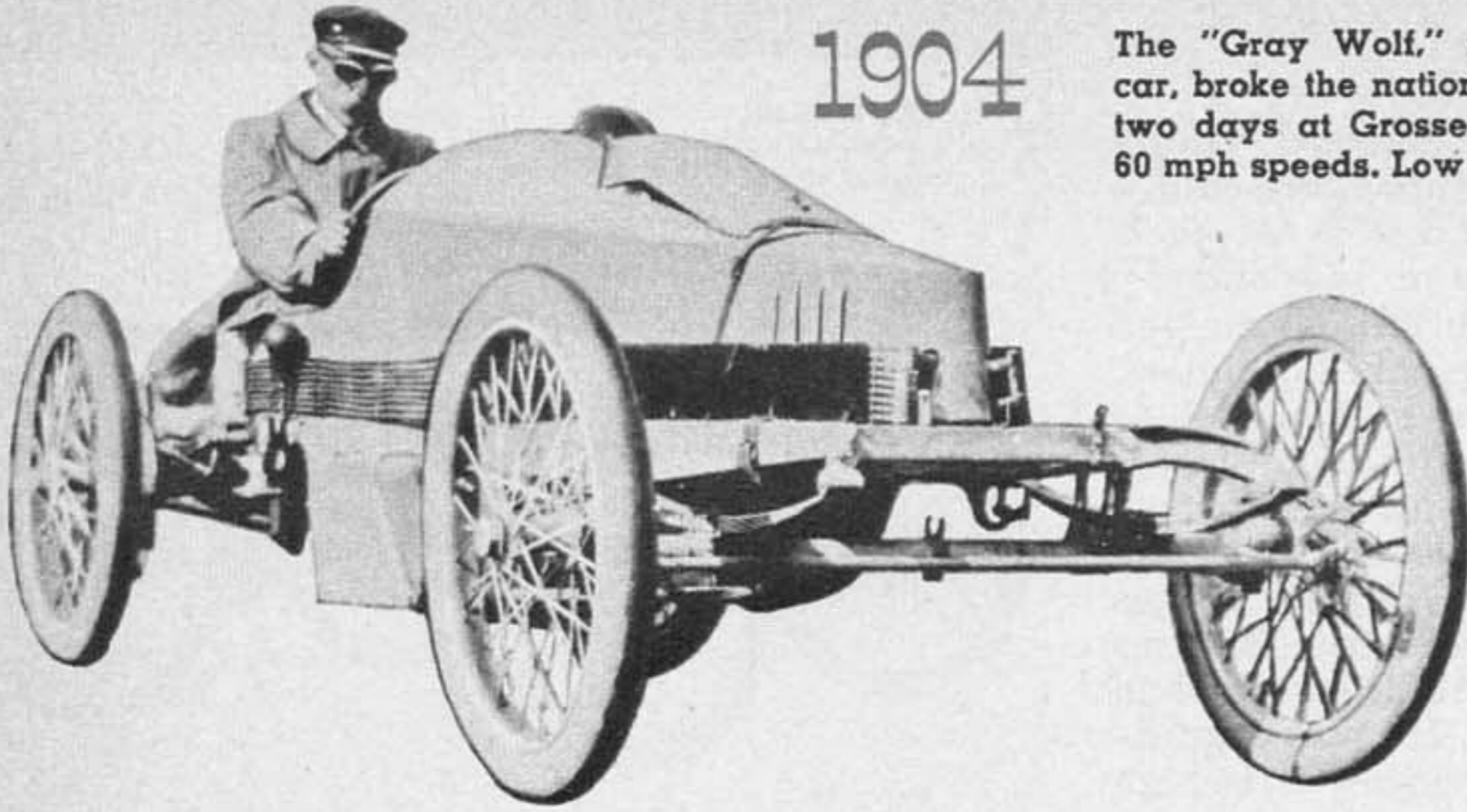
Outstanding feature of the Model C was the introducing of a steering wheel, replacing the tiller. Five finished a New York-Buffalo run.

## 1901



1904

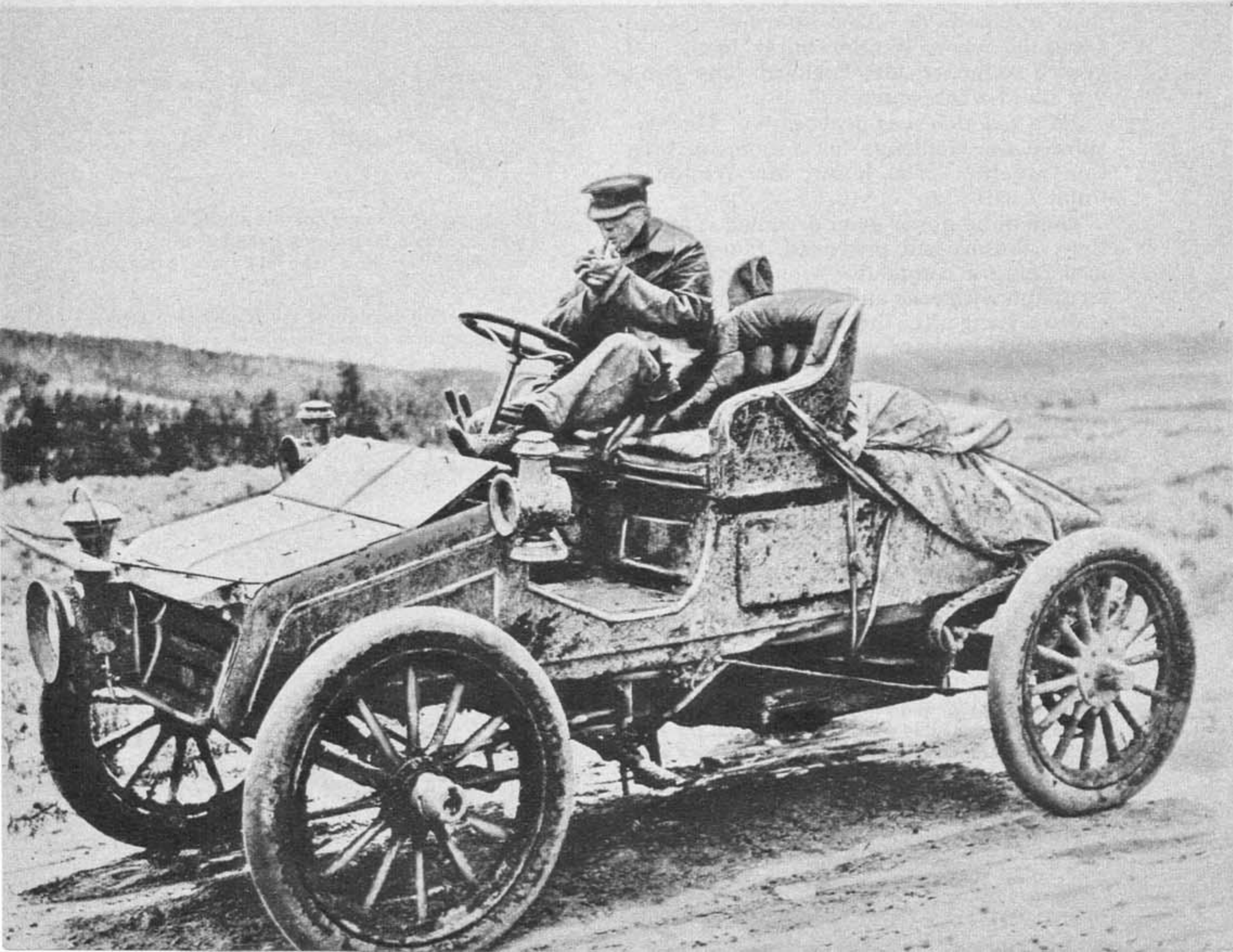
The "Gray Wolf," record-breaking Packard race car, broke the national one-mile record 13 times in two days at Grosse Pointe, Michigan, by topping 60 mph speeds. Low frontal area was very modern.

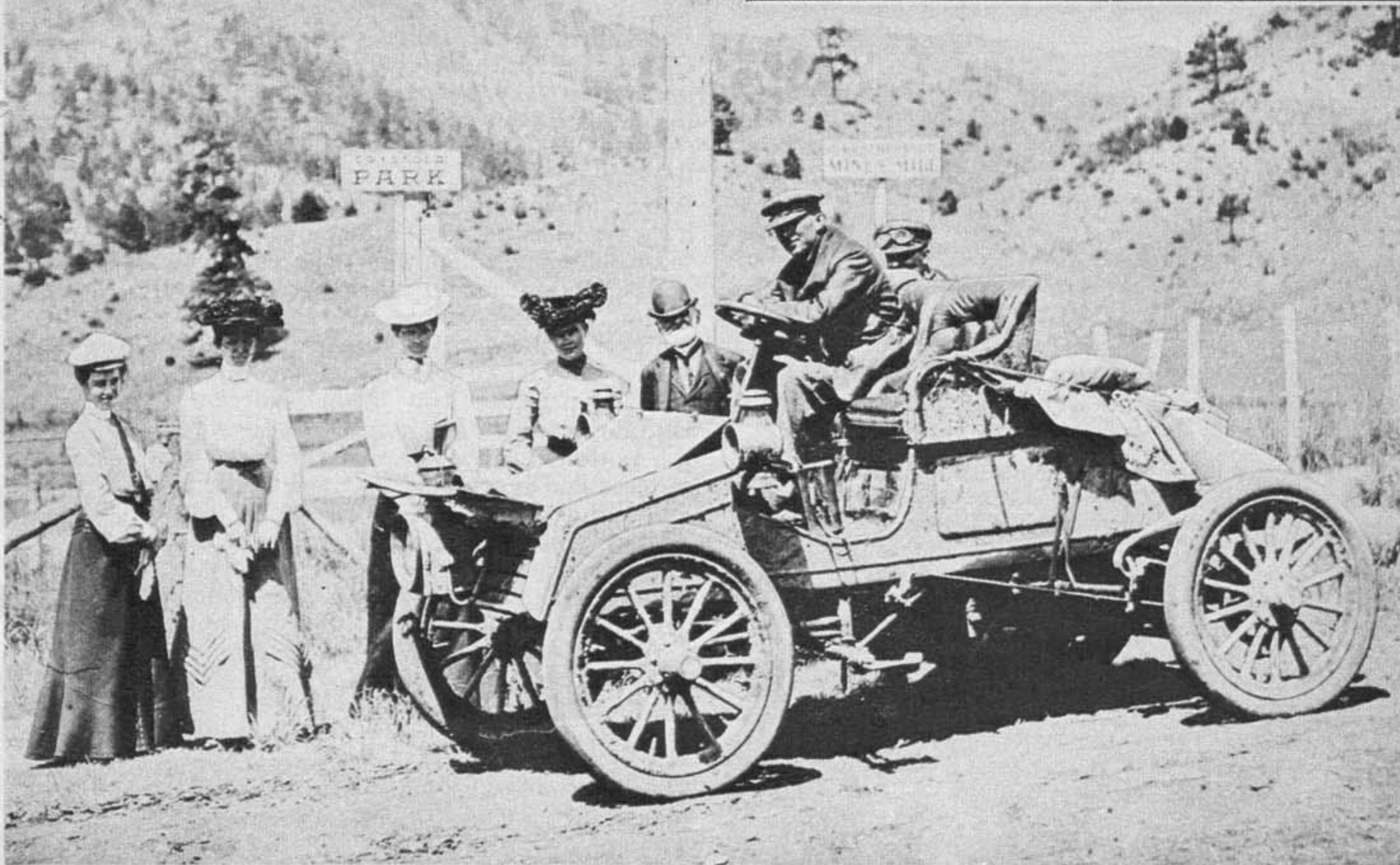


Some 15 months after Winton's challenge, November 6, 1899, the first Packard emerged under its own power into the quiet streets of Warren. It caused a sensation. Conceived as an auto-buggy in the true sense of the word, it had only one seat, wire wheels and tiller steering; but the engine was something the Packard brothers could be proud of. Consisting of a single cylinder located horizontally under the driving seat, it nevertheless put out 12 hp, transmitted to the rear wheels by means of three forward speeds and a reverse gear. One feature well ahead of its time

1903

Adventurous 3,500-mile San Francisco to New York trip was made in the trail-blazing automobile, "Old Pacific," in 61 days. Tom Fetch, who drove the car of 12 hp, is at wheel.





The Model C "Old Pacific" made the transcontinental trip after 30 attempts by most competitors failed. It beat H. N. Jackson's earlier record (in a Winton!) by two days.

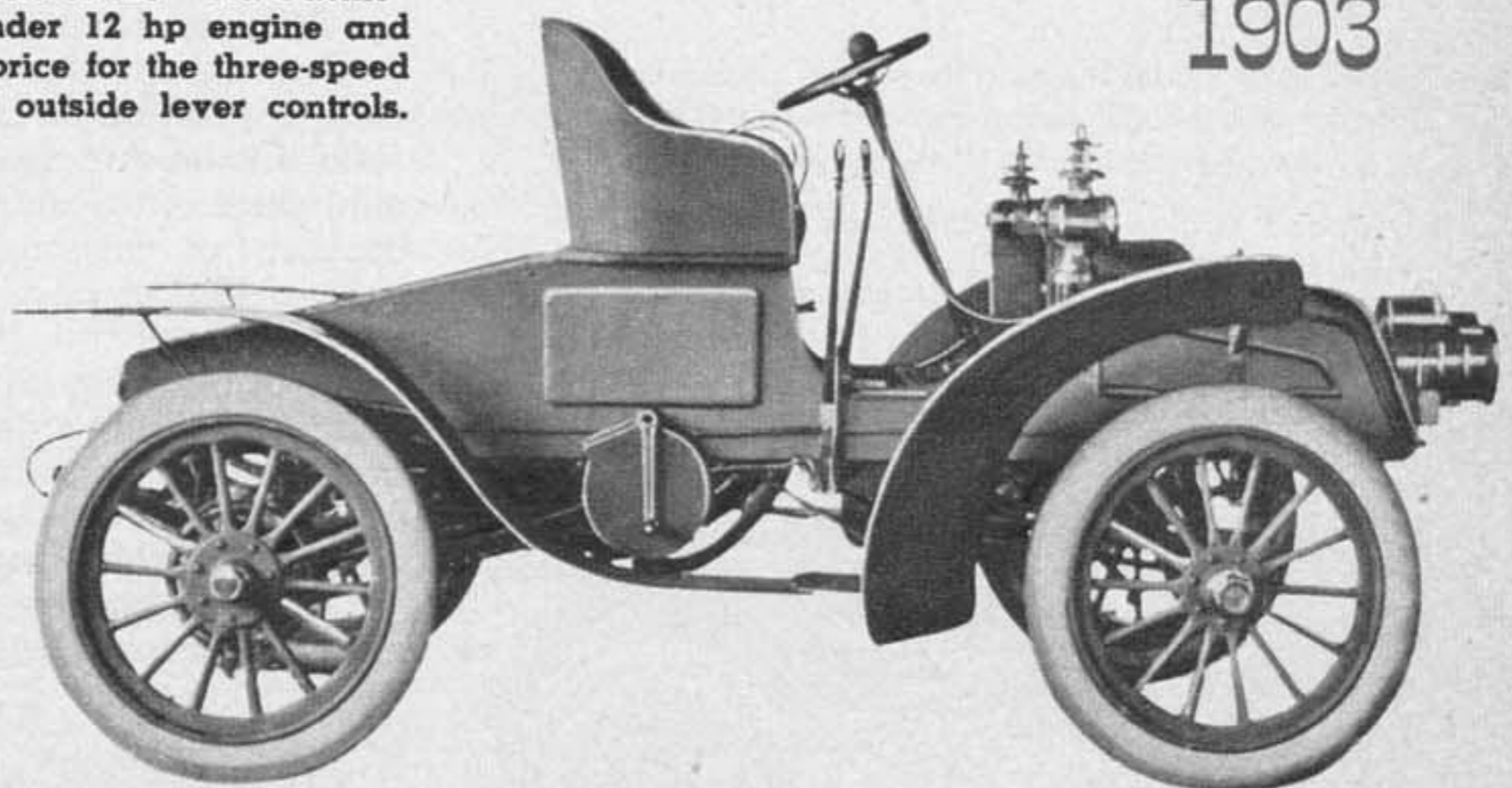
1903

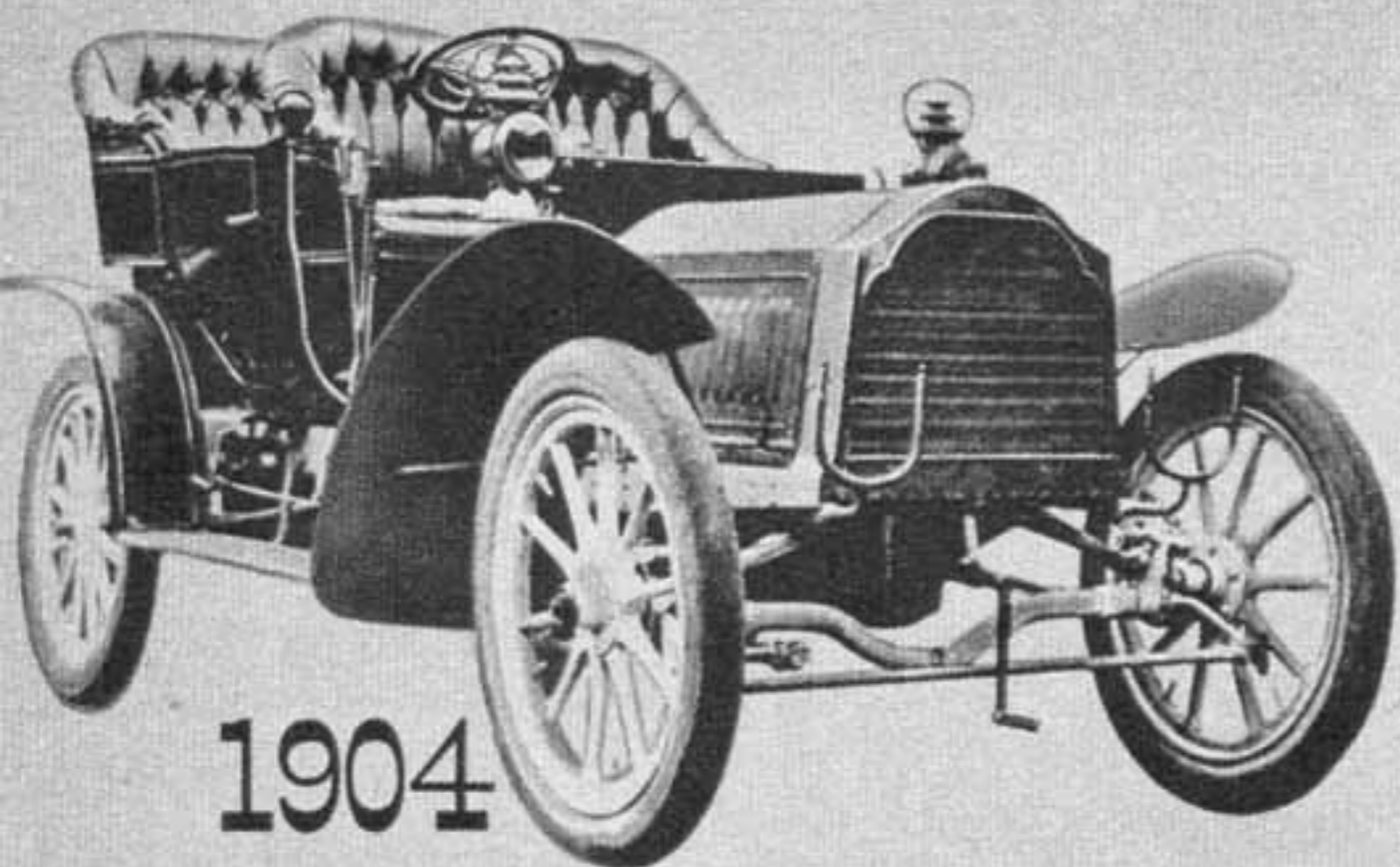
was the automatic spark advance, functioning with the same purpose as it does today.

The original Packard amply fulfilled the expectations of its builders by lugging tenaciously up hills and hauling its weight unaided through sand and mud, thereby earning the respect and admiration of neighbors. So encouraged were JW and WD that the following month, December 30, 1899, they formed a partnership with George Weiss and started work on the second car, a two-seater.

Packard's production version of the "Old Pacific" had the usual single-cylinder 12 hp engine and could do 40 mph. Asking price for the three-speed car was \$2,500. Note the outside lever controls.

1903

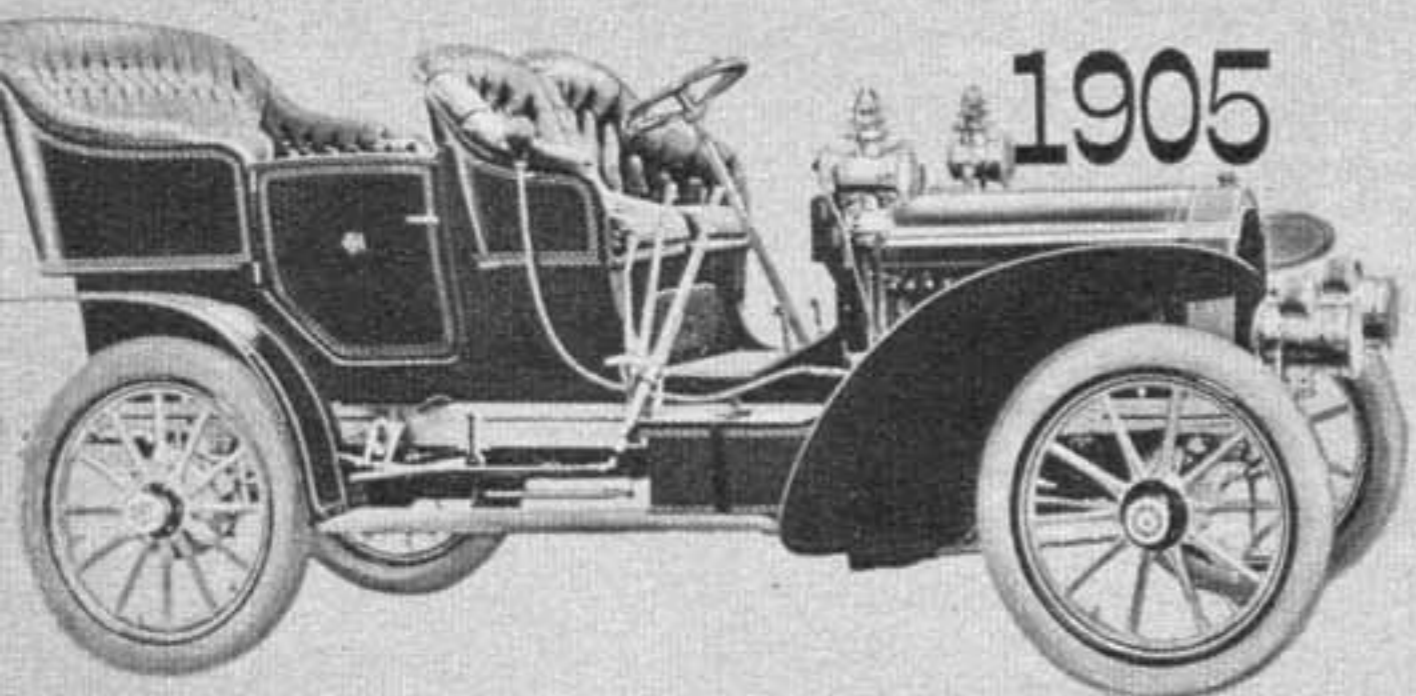




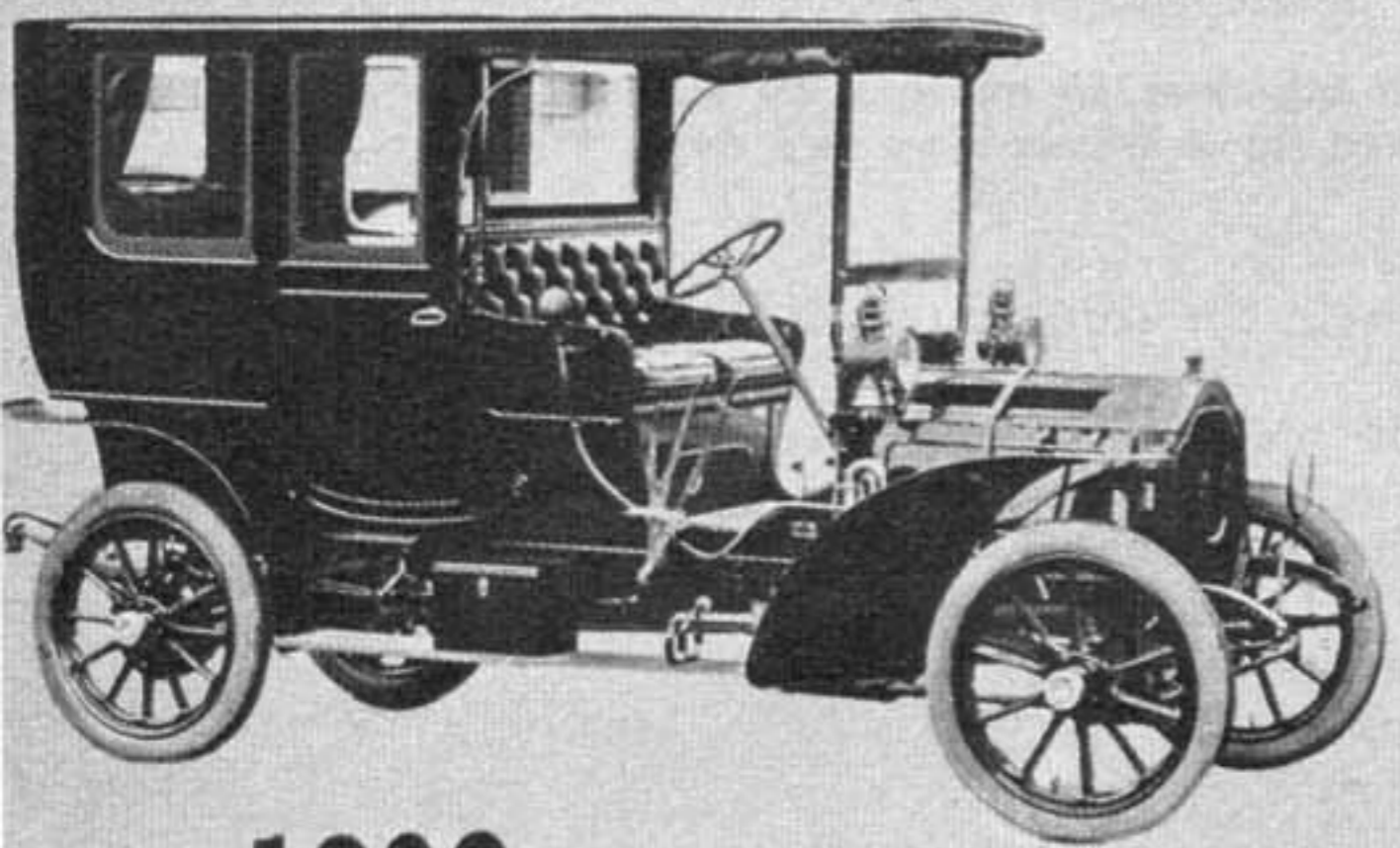
1904

The Model L Packard with side-entrance touring body was the first of the line with distinctive radiator. Four-cylinder 20 hp car cost \$3,000.

A favorite in its day, the Model N was 28 hp four-cylinder, 2,300-pound car that sold for \$2,400. Total production was over 400 units.



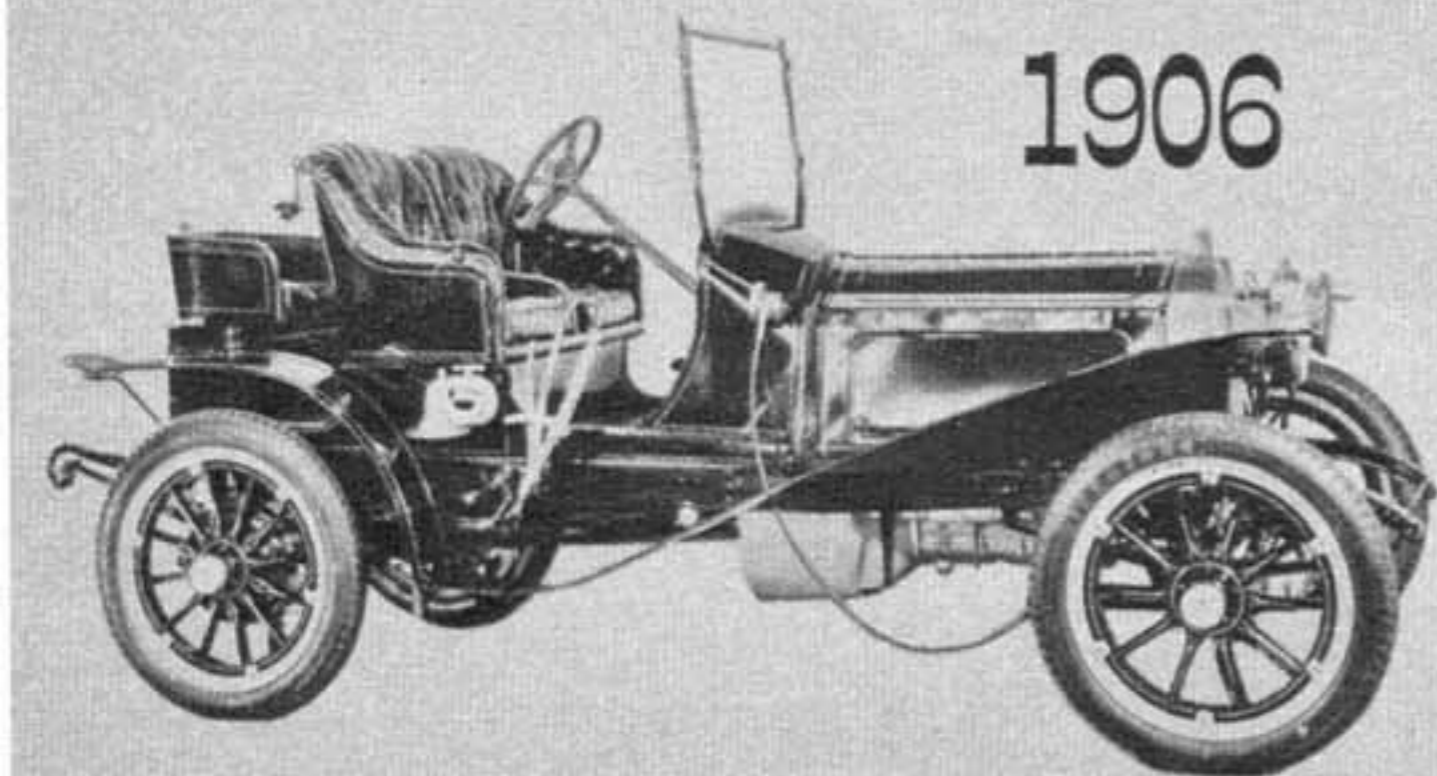
1905



1906

Packard Model S had a limousine custom body, was one of the more expensive cars at turn of the century. Note familiar lines of hood.

T-head engine of four cylinders was standard equipment on this 24 hp Model 24. Priced at \$4,100 with top, the car had a "rumble seat."



1906

Meantime, on January 3, 1900, one George D. Kirkham gladly purchased the prototype for the sum of \$1,250, and the Packard brothers were in business. Packard Number Two was completed in the spring, and on May 21, 1900, JW and Weiss drove it from Warren to Cleveland by way of Ashtabula—a distance of better than 100 miles, which they covered in eight hours, 55 minutes on the same day, maintaining an impressive average of 11.21 mph. The successful run inspired another.

Five days later, the same crew completed an adventurous run from Warren to Buffalo, in only 43½ hours. At Westfield, the bottom dropped out of the large box of tools and spare parts carried in the car, and sundry pieces fell into the transmission gears which scattered them in all directions. On several other occasions, either driver or mechanic undertook to get down and hold some nervous horses while the car was driven gingerly by. But the great thing was that they made it, and no doubt Winton heard the news.

Following incorporation of the Company, James Ward Packard was elected president and general manager on October 24, 1900; George Weiss became vice-president and William Dowd Packard was named secretary-treasurer. That same day, a special Packard with a copper-jacketed cylinder found a ready buyer at \$1,750 in the person of a Mr. W. D. Sargent from Chicago, Illinois.

It was at the New York Automobile Show (Madison Square Garden, November 5-10, 1900), the first ever held in this country, that the Packard exhibit caught the public eye in a big way. A board track, studded with obstacles, coursed around the big arena, and manufacturers demonstrated the handling qualities of their vehicles by driving them on this track. Demonstrations of the Packard sold three cars in five days. Two of these were bought by William Rockefeller, brother of John D. Sr., and the third by Mr. Hollis Honeywell, a prominent Bostonian.

Of all the American manufacturers who exhibited at the show, Packard is the only builder of private cars that survives today. The Autocar long ago became a truck, while the Peerless somehow was transformed into a beer company.

It was during this automobile show that the famous Packard slogan was accidentally coined by James Ward. Receiving among his voluminous mail a request for "literature" on the car, Packard, who had none, instructed his secretary: "Tell him





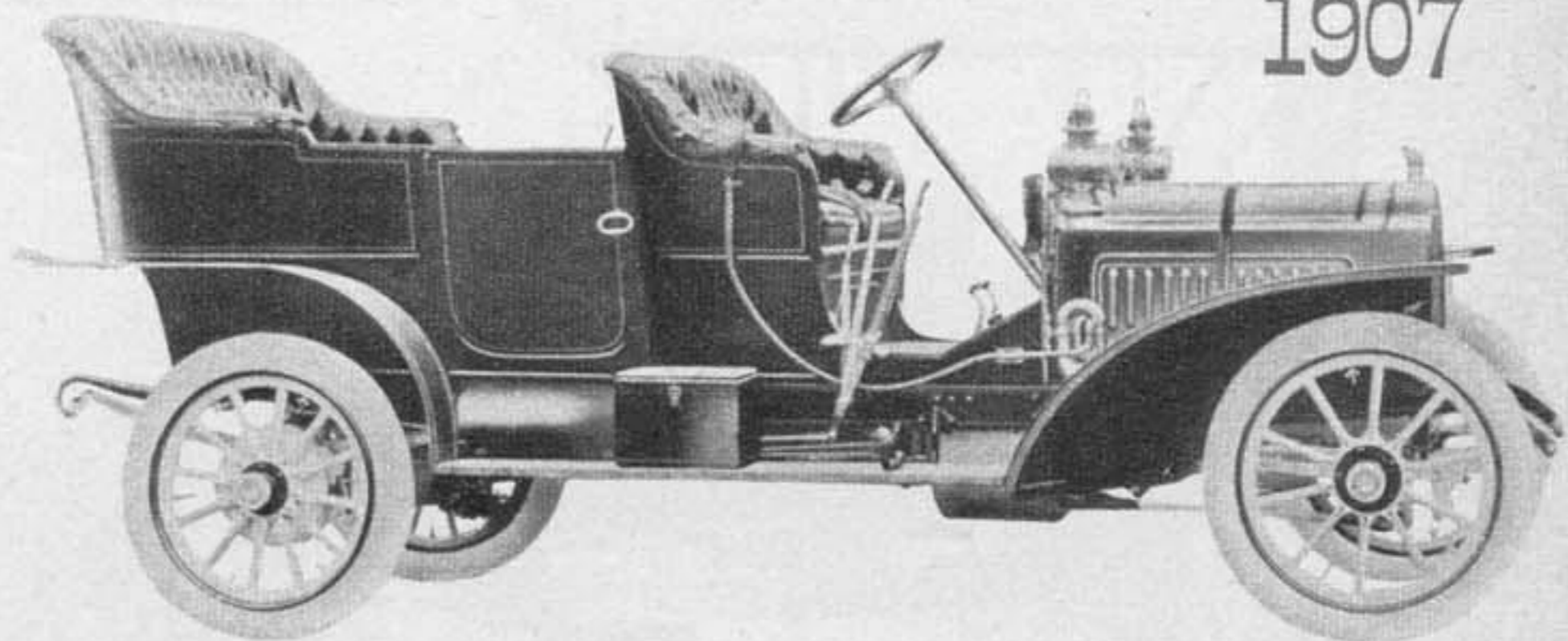
Charles Schmidt seated at the wheel of the record-breaking Model L which did 1,000 miles non-stop at an average  $33\frac{1}{2}$  mph. Timing for the record was done at Grosse Pointe.

1904

we don't have any sales literature. Tell him—just tell him to ask the man who owns one!"

Early automobiles were in serious danger of overturning if they hit a large bump, because if one wheel was raised much higher than the other, the whole car tended to swing over. This caused many of them to end up in ditches. To JW and William

Year's production of the Model 30 topped 1,300 units. The four-cylinder 30 hp car brought sum of \$4,200, was a dark blue as were all the early Packards. Choice of six body styles was offered.



1907



1907

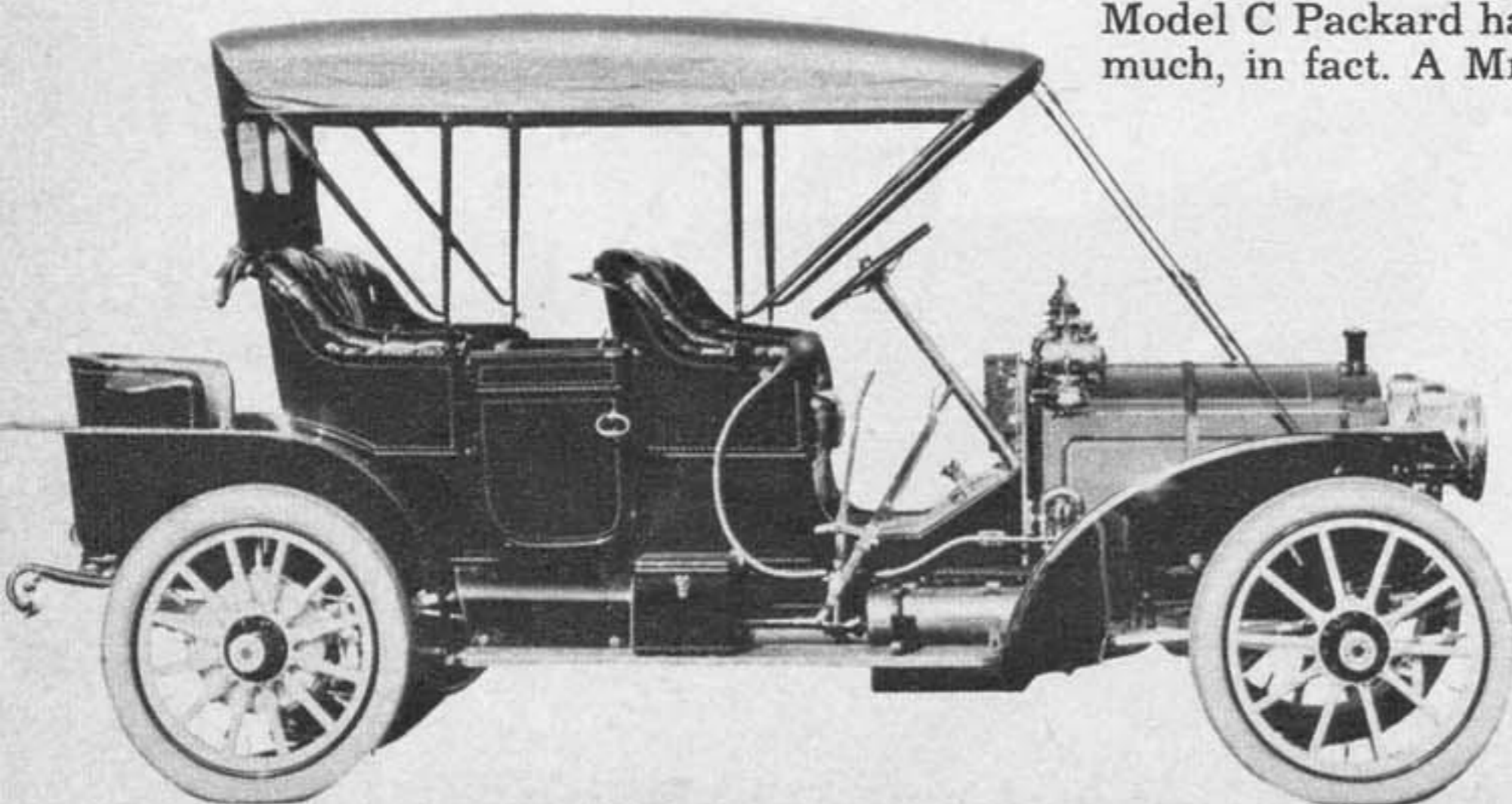
Metal in the mud was this Packard 30 runabout. Taken near Pittsburgh, the photo illustrates the bad road conditions at that time. The driver's comments were unavailable.

1909

An interesting item on the improved version of the Packard Model 30 was its "mother-in-law" seat at rear. First to be equipped with cellular radiator, the four-cylinder 30 hp car retailed for \$4,200.

Hatcher went the credit for developing the radius rod (still used on many cars) which counteracts this tendency. The pair also developed and patented the now generally used H-type of gear slot, besides introducing the first steering wheel on a production automobile. This was in 1901.

Despite its single cylinder, the 1901 Model C Packard had plenty of speed; too much, in fact. A Mr. Alden S. McMurtry,



# PACKARD

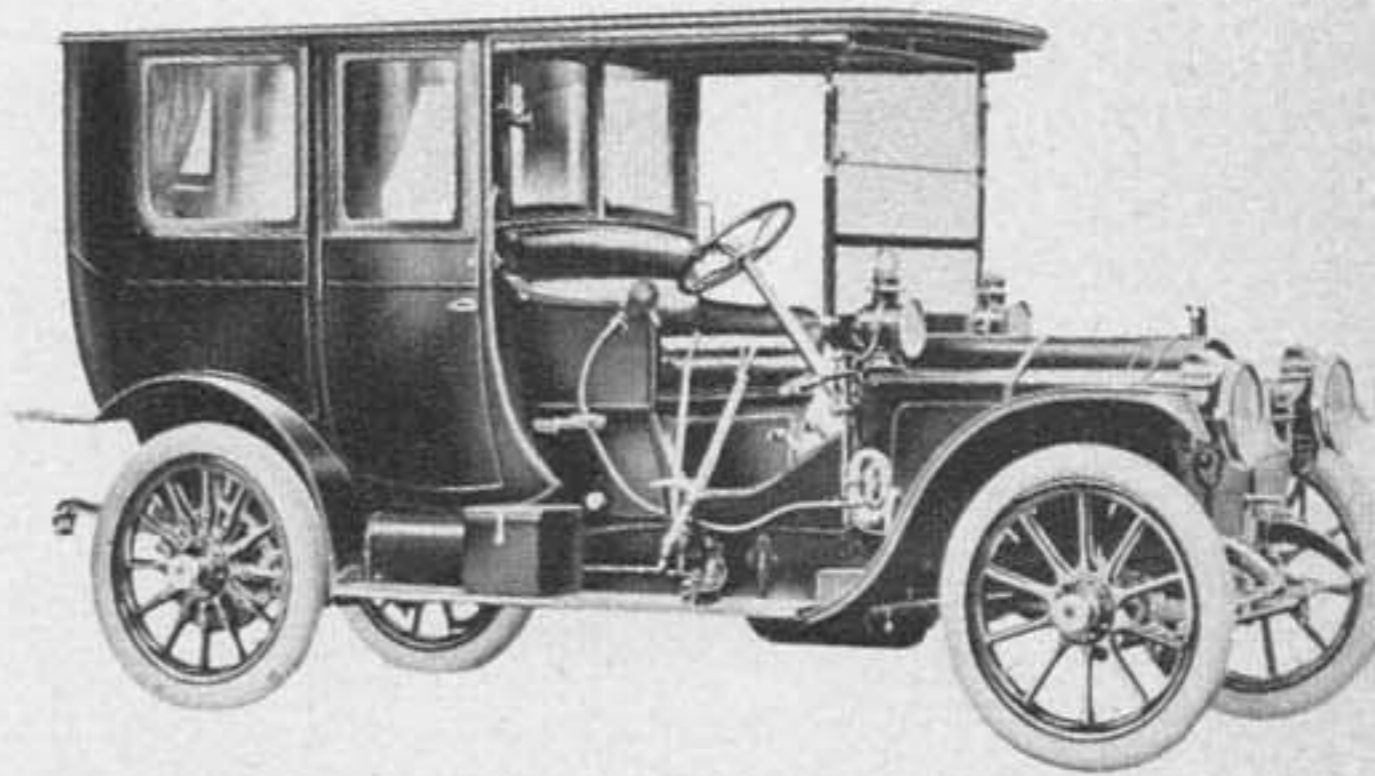
for instance, was arrested early that year for driving along a Warren street at 40 mph. This was sensational news that found its way into the world's press.

During the summer of that year also, five Packards entered the New York to Buffalo endurance run and all five finished, though less than half of the 89 entrants completed the course.

Tires lagged far behind technical improvements in cars and J. W. Packard racked his brains to overcome this bugbear. One expedient he tried consisted of a double inner tube stuffed with glue and chicken feathers. This was effective in plugging a small puncture, but a blow-out resulted in driver and passenger being showered with this concoction, to look as though they had been tarred and feathered.

A dry-plate clutch and shock absorbers were on this Packard 30 limousine, known as Model UC at the factory. It weighed 3,900 pounds and sold for \$5,000, was one of 2,500 units of this type made.

1910

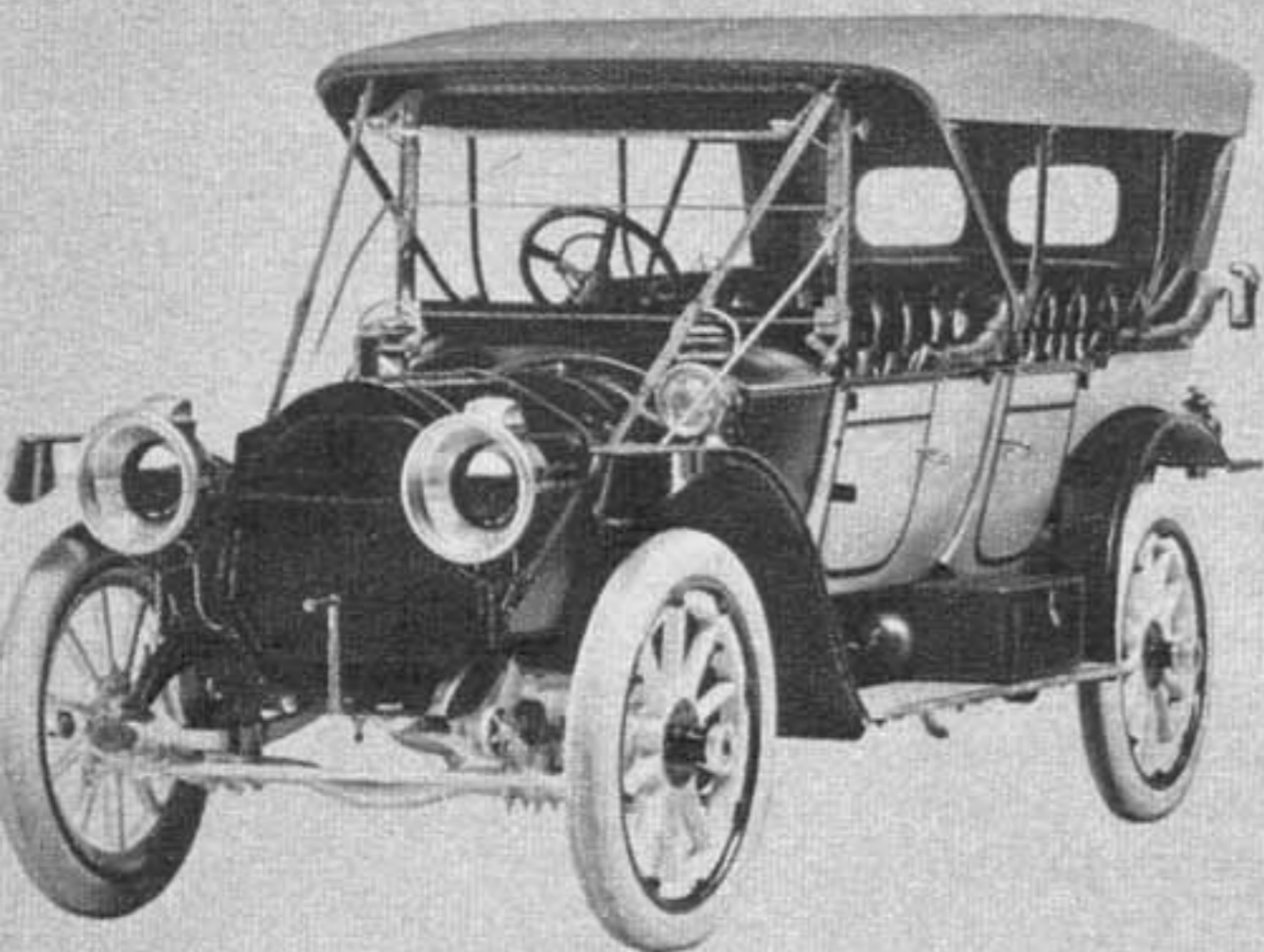


Delivery of a Model 30 is here being made to the New York showroom at 61st Street and Broadway. Automobile pictured sold for \$5,200. Note the hard-rubber truck tires.

1908

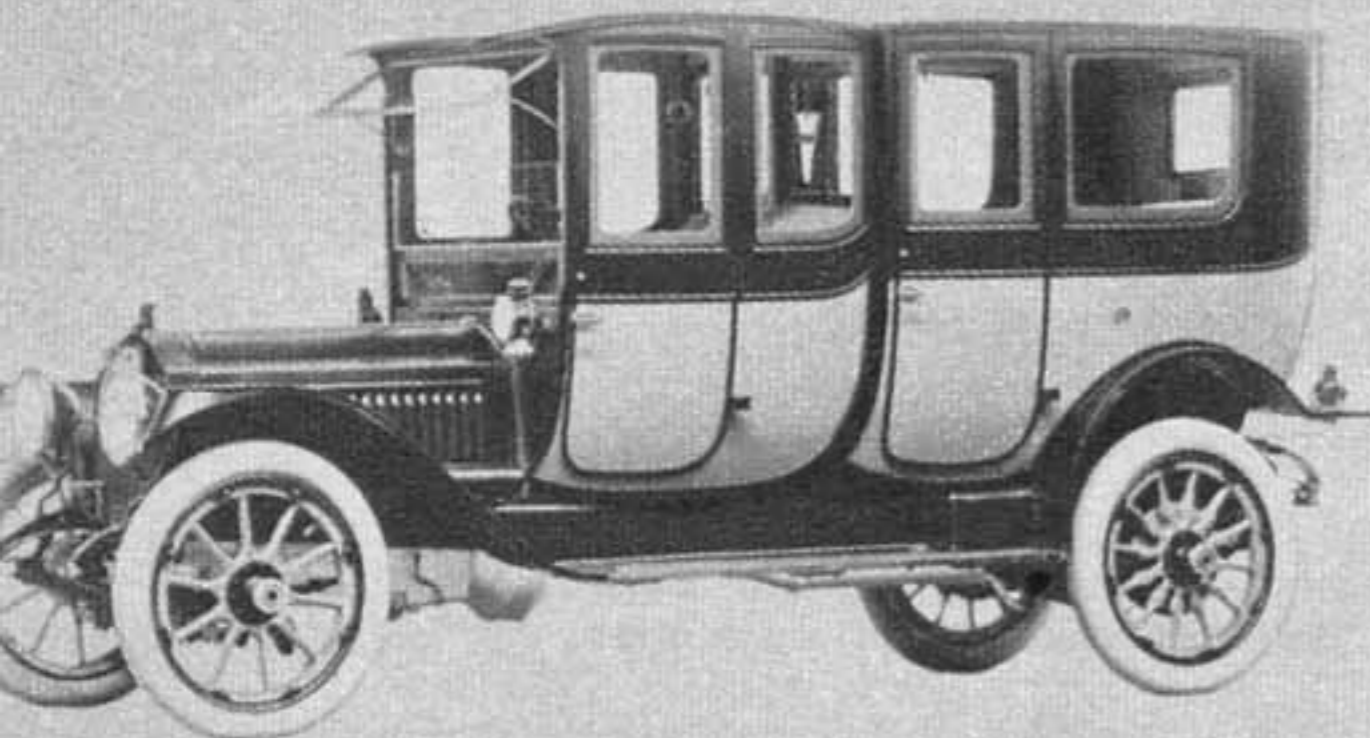


# 1911



More than 1,860 of the Model UD touring cars were sold. This sporty sedan had a 123-inch wheelbase, a shipping weight of 3,800 pounds and cost \$4,200. Production tripled 1907 output.

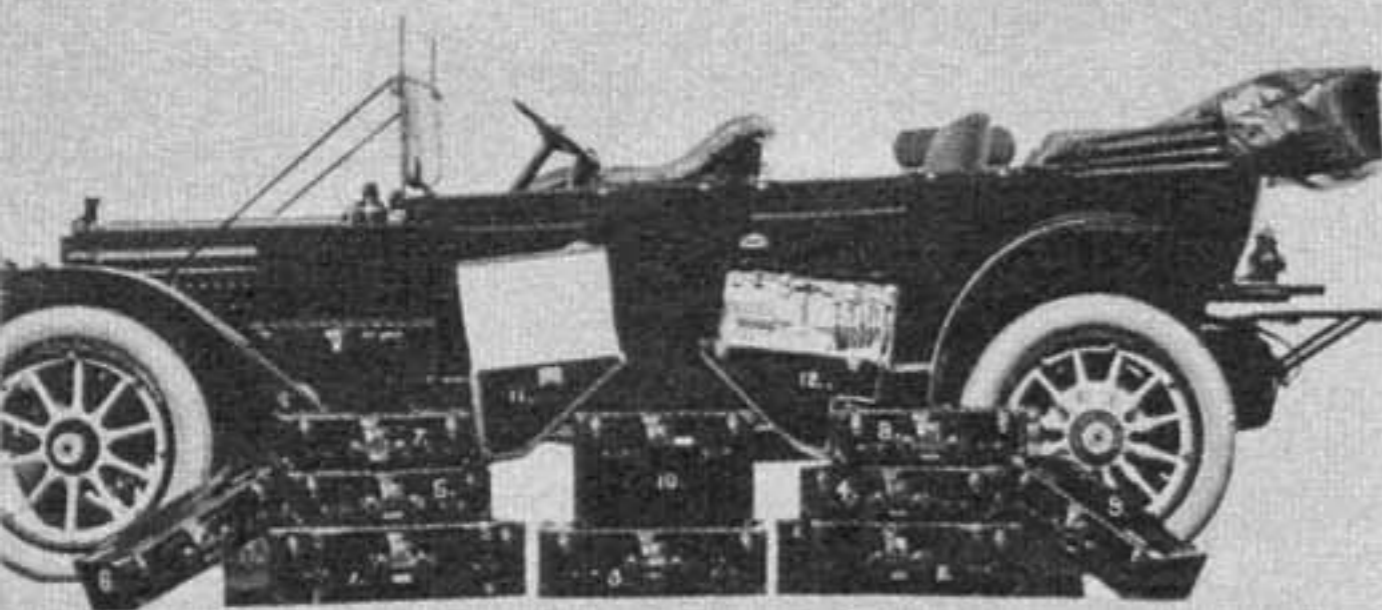
# 1912



First of the famed Packard town cars was this Model UEFQ, a four-cylinder 4,000-pound car that sold for \$5,650. Note the two-tone paint job, the "double-car" look created by the body.

The six-cylinder 48 hp touring car, tagged the "48," was exactly that—a tourist's car. It had facilities for carrying 13 suitcases placed around running boards. Price: \$4,150.

# 1912



Prizing dependability above all else, JW made capital out of the fact that his cars had only one cylinder. His claim was that with a four- or six-cylinder engine you multiplied your chances of trouble by that much more. This was not without foundation at the time. The 1903 epic drive by Tom Fetch (Packard's plant foreman) and a companion named Marius Krarup—during which they covered 3,500 appalling miles from San Francisco to New York in 61 days—vindicated the single-cylinder engine installed in their Packard, which was called "Old Pacific."

Yet James Ward Packard was no die-hard. While Fetch made his record run, a four-cylinder, 26 hp Packard was being announced to the public. Known as the Model K, it had a front-mounted engine and sold in a variety of body styles—including the limousine. Some of these styles were priced as high as \$7,500. The standards of quality built into Packards found a ready customer response, even at such prices and despite certain rear axle defects, later corrected. The company did much better than this, however, when the once-jailed speed demon of Warren, Mr. McMurtry, opened a Packard showroom in New York.

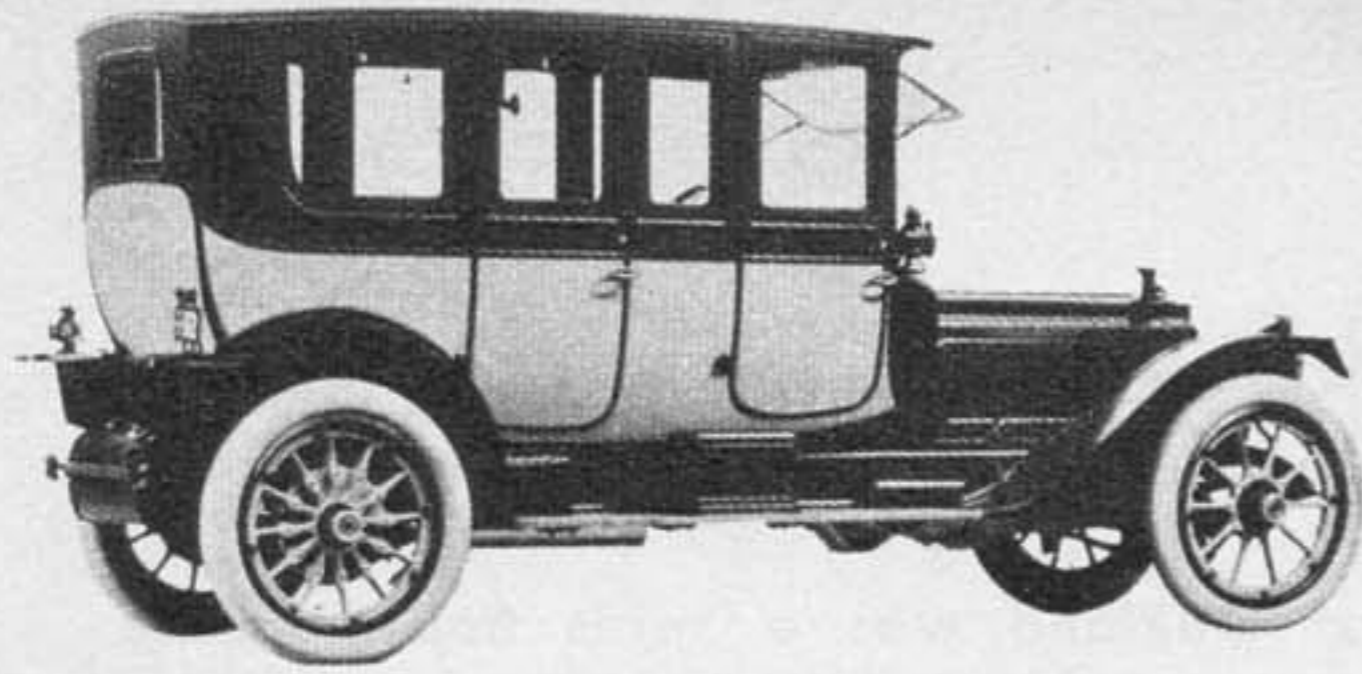
Henry Bourne Joy, a wealthy Detroit car enthusiast, bought the first Packard offered for sale by McMurtry and paid \$100 bonus for immediate delivery. He was so pleased with it that he immediately invested \$25,000 in the company. Soon he persuaded 10 other Detroiters that Packard was one of the best of 128 makes of cars then on the market and got them to invest \$250,000 in the venture.

By 1902, the company was reorganized as a West Virginia corporation. Its capital then was \$525,000. From that point on—and although profits did not roll in immediately—the Packard Company never once looked back. A year later, the factory with its 160 employees was moved to Detroit. In 1904, some 500 Packards were sold—at a loss. This was the Model L. But in 1905, sales pulled the company out of the red.

The original Thirty Packard (powered by a 30 hp engine) appeared in 1907, with a \$4,200 price tag. The price included a beautifully printed booklet, costing \$35 per copy to produce!

The Packard 38 of 1912, a big six-cylinder car and the first of this type produced by the company, had one of the most elaborate production touring bodies of all times; while the three-ton Packard truck that travelled from New York to San Francisco that summer was the pioneer heavy vehicle

# PACKARD



Highest priced car of that year, the \$6,450 Model TQ had a 138-inch wheelbase, a six-cylinder engine that developed 105 hp. Of 45 makes displayed at first automobile show, Packard alone has survived.

1913

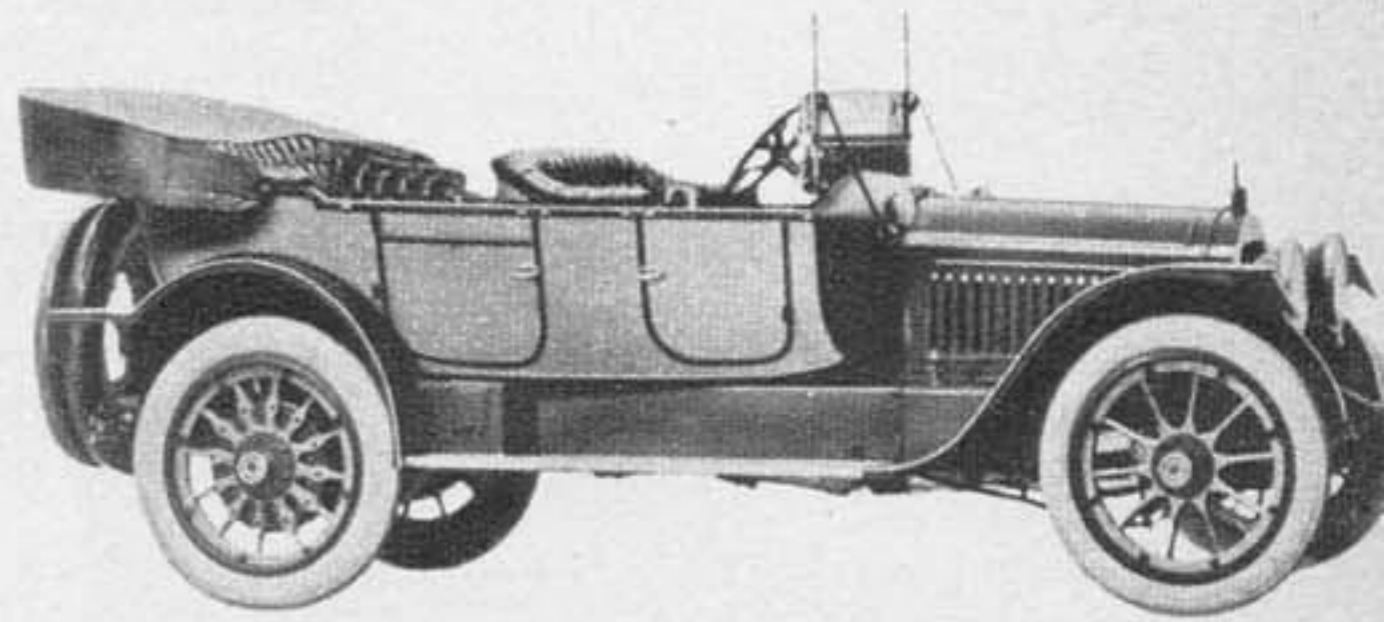
to cross the American continent under its own power.

In 1913, Packard factory inspectors hit on the idea of the red hexagon as a symbol that cars had passed their tests and were ready for delivery. The notion stuck and was adopted as a distinctive Packard trade-mark.

On New Year's Day, 1915, Jesse G. Vincent, Packard's chief engineer, began drafting plans for the famous Packard Twin Six which went into production a few months later and was the first V-12 offered by an American company. So successful was this car that 10,000 were sold in 1916 and the design led Packard into the aviation field and the production of the renowned Liberty engine of World War I. •

First of the Twin Six series was this Packard phaeton, Model 125. That year, production was over 3,600 cars and represented nine different body styles of the twelve-cylinder automobile.

1915



Siberian snow didn't slow down Czar Nicholas II. Pictured is his ski-equipped Packard Twin Six, one of his favorite automobiles. The posing pensive peasants are unidentified.

1915

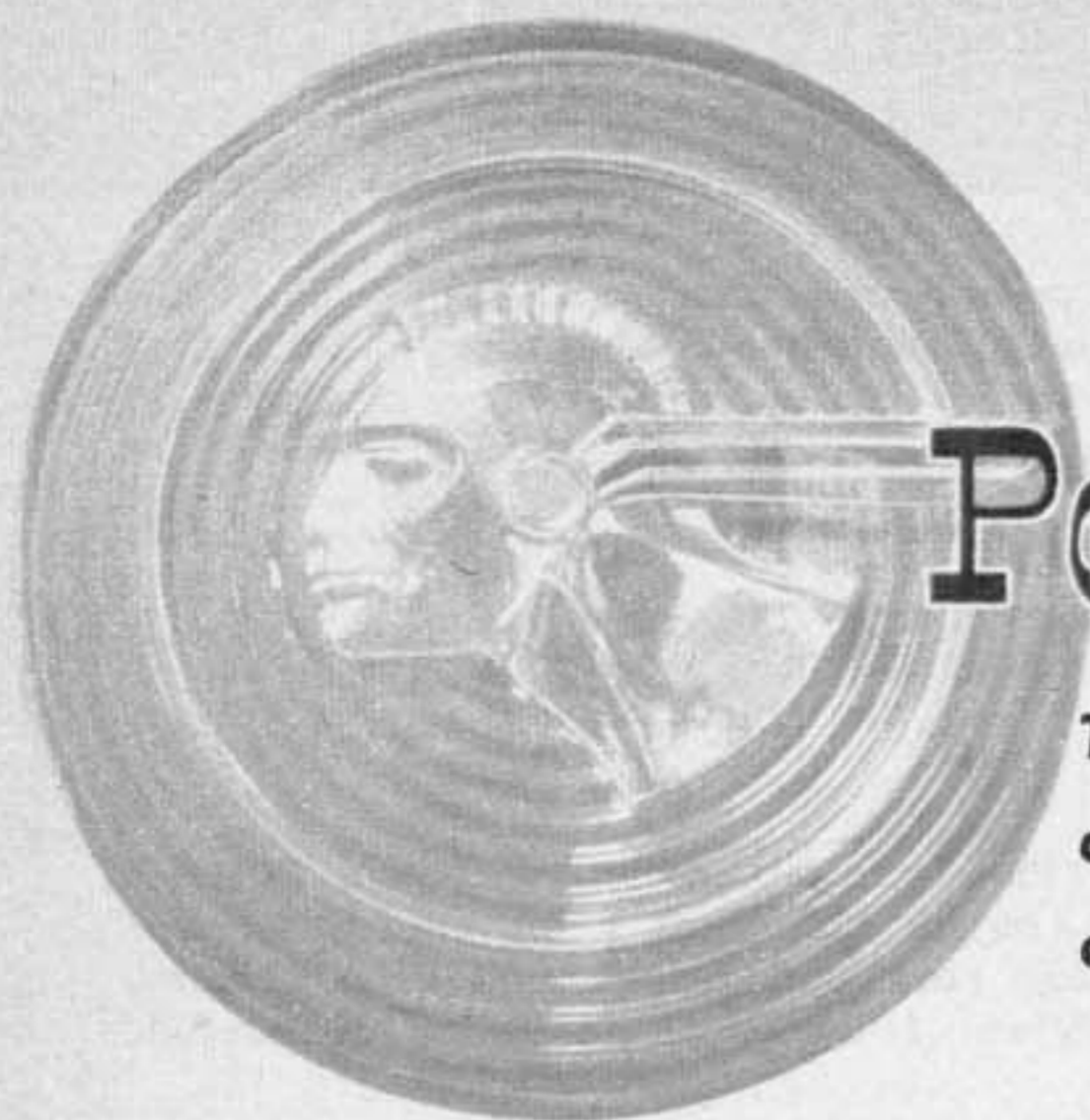


1917.

Дни революции.

Автомобиль-сани бывшего царя Николая II.

"Revolution Day" Auto-Sled,<sup>2</sup> belonging to the late Nicholas II.



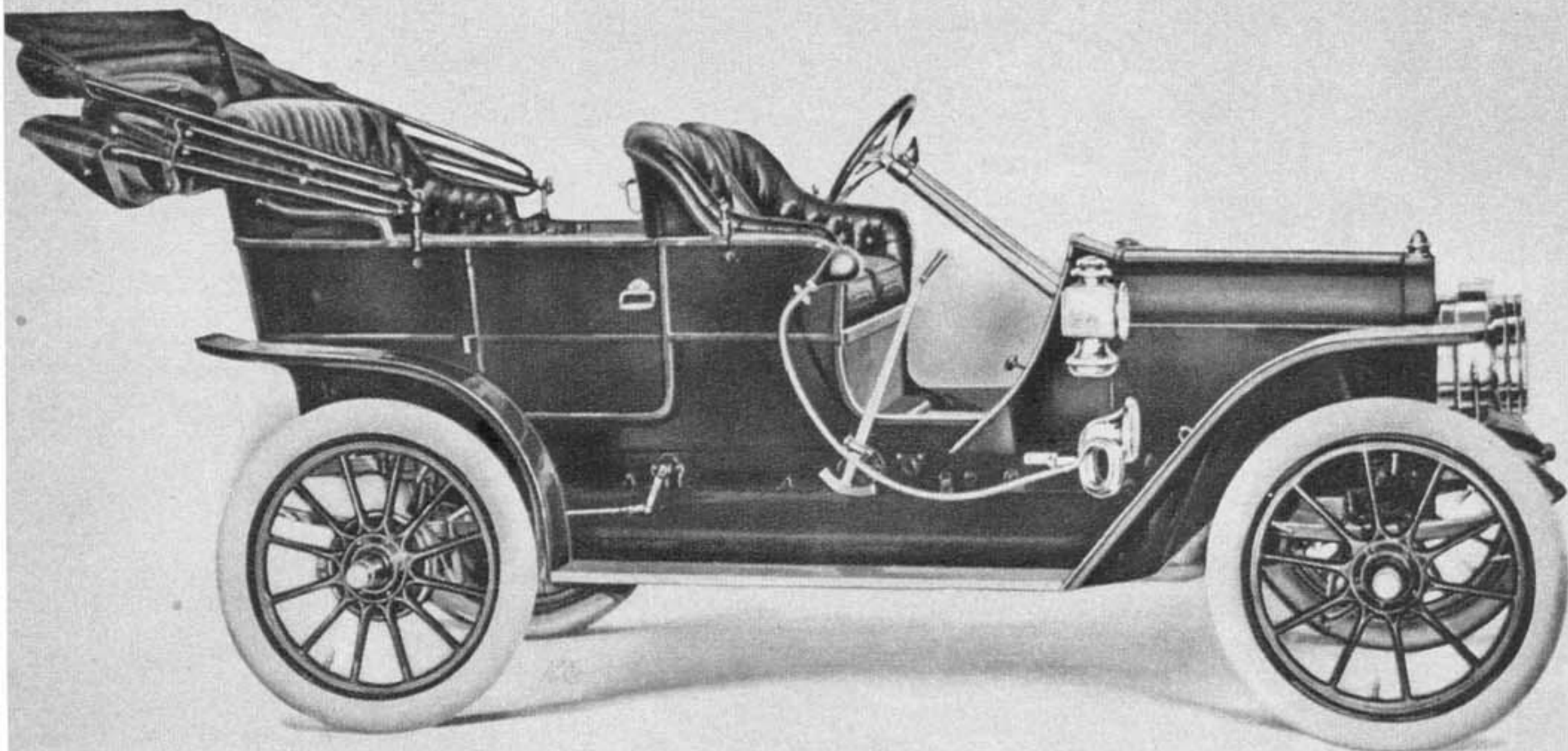
# Pontiac - Oakland

*The first Oakland was a sales flop because of too many novel features. But this Pontiac ancestor made a quick comeback the next year.*

**T**HE Oakland car was the ancestor of the present day Pontiac, which it preceded by 19 years. It had an interesting career. The first Oakland, a two-cylinder gasoline buggy, appeared in 1907 and was powered by an engine that rotated counterclockwise. The first Pontiac, a light six-cylinder job with modern refinements and an enclosed body, was introduced at the New York Automobile Show in January, 1926.

The whole thing started back in 1893 with a carriage and wagon factory, incorporated as the Pontiac Buggy Company. One of its founders, Edward M. Murphy, was an

1908



# Pontiac-Oakland

organization genius of unusual drive. Toward the close of the century, Murphy realized that the new-born automobile trade was beginning to draw skilled carriage builders away from their jobs.

Faced with rising production costs all around, which caused a slump in the carriage trade, Murphy decided to become an automobile manufacturer. He did not immediately forsake the horse-drawn vehicle, however, but made another attempt in that field by establishing the Dunlap Vehicle Company in 1898. His purpose was to build lighter buggies than those made at the Pontiac Company. Murphy was also responsible for a subsidiary known as the Crescent Carriage Company, formed in 1903. This was his final attempt, for by the following year he could plainly see the handwriting on the wall.

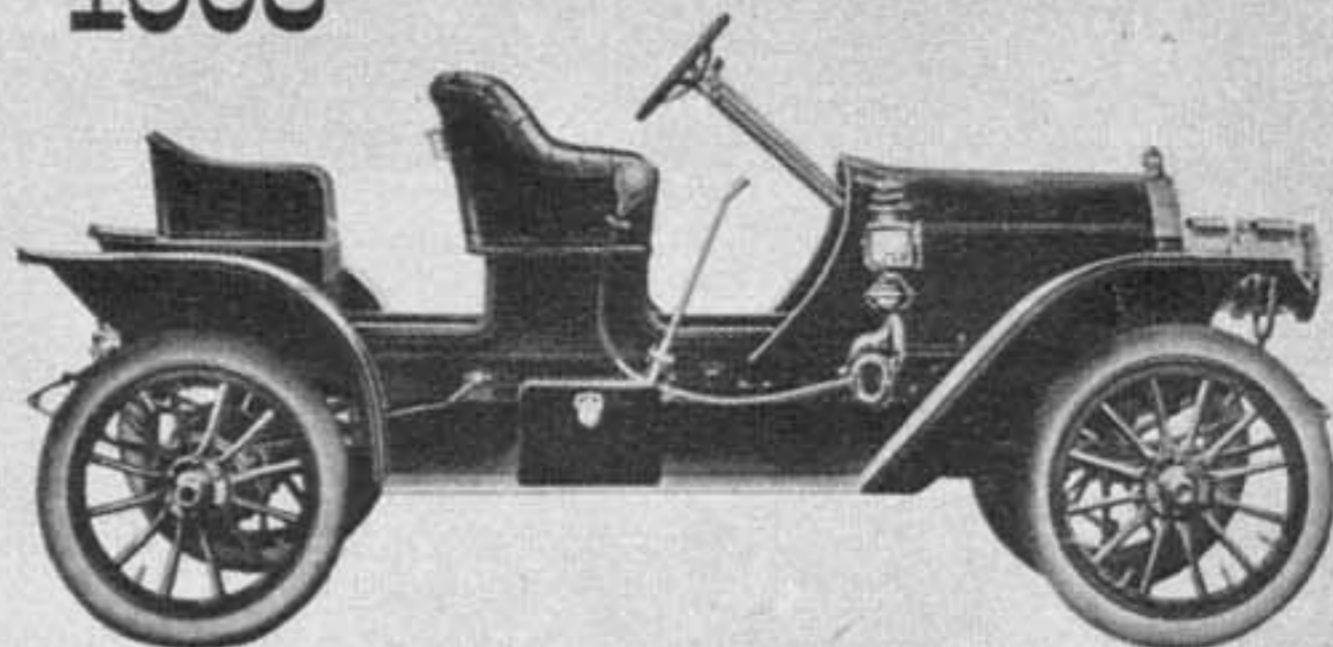
His first plan was to assemble cars from purchased parts and so reduce manufacturing costs. But Alanson P. Brush, creator of the highly successful Brush Runabout, had designed a sample two-cylinder car for Cadillac, which that fastidious company did not seem to want. Murphy stepped in, tested the car and thought it satisfactory. He made an agreement with Brush to manufacture under license, and in August, 1907, formed the Oakland Motor Car Company. He started production with a capital of \$200,000.

The first Oakland looked good enough but was a sales flop. Maybe the customers didn't care about cranking their autos the opposite way around; but more likely this newcomer featured too many novelties, among which were a crankshaft balancer and coil suspension.

Undismayed, Murphy had the design revamped and the following year came out with another two-cylinder Model A two-passenger runabout, selling for \$1,300. Powered by a rugged 20 hp engine, it was

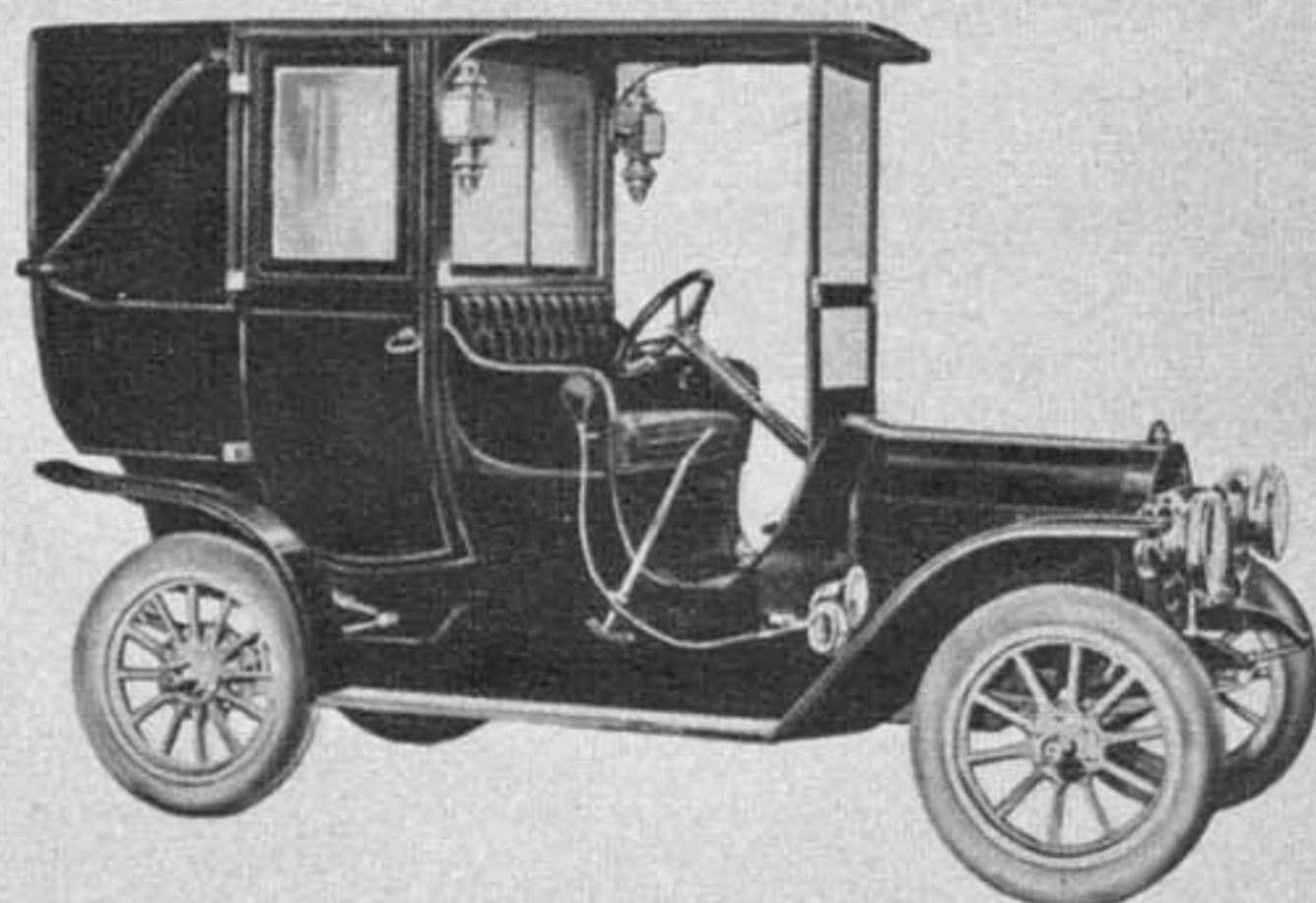
Oakland Model B (left) was a 1,600 pound, five-passenger touring car priced at \$1,350. It was claimed to have 20 to 40 per cent less weight than any other car in its class. Note extension on horn.

## 1908



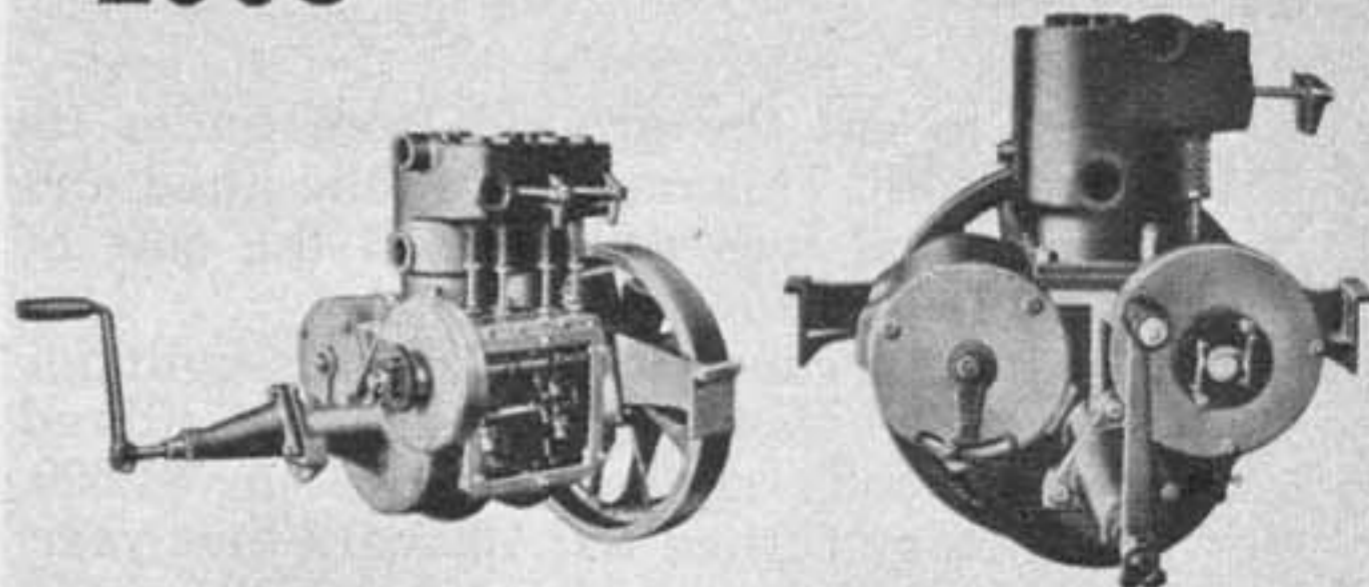
The "noiseless" Model A Oakland was a sporty car that featured a two-cylinder motor and a 56-inch tread. The three-seater 20-hp car had two forward speeds, one reverse.

## 1908

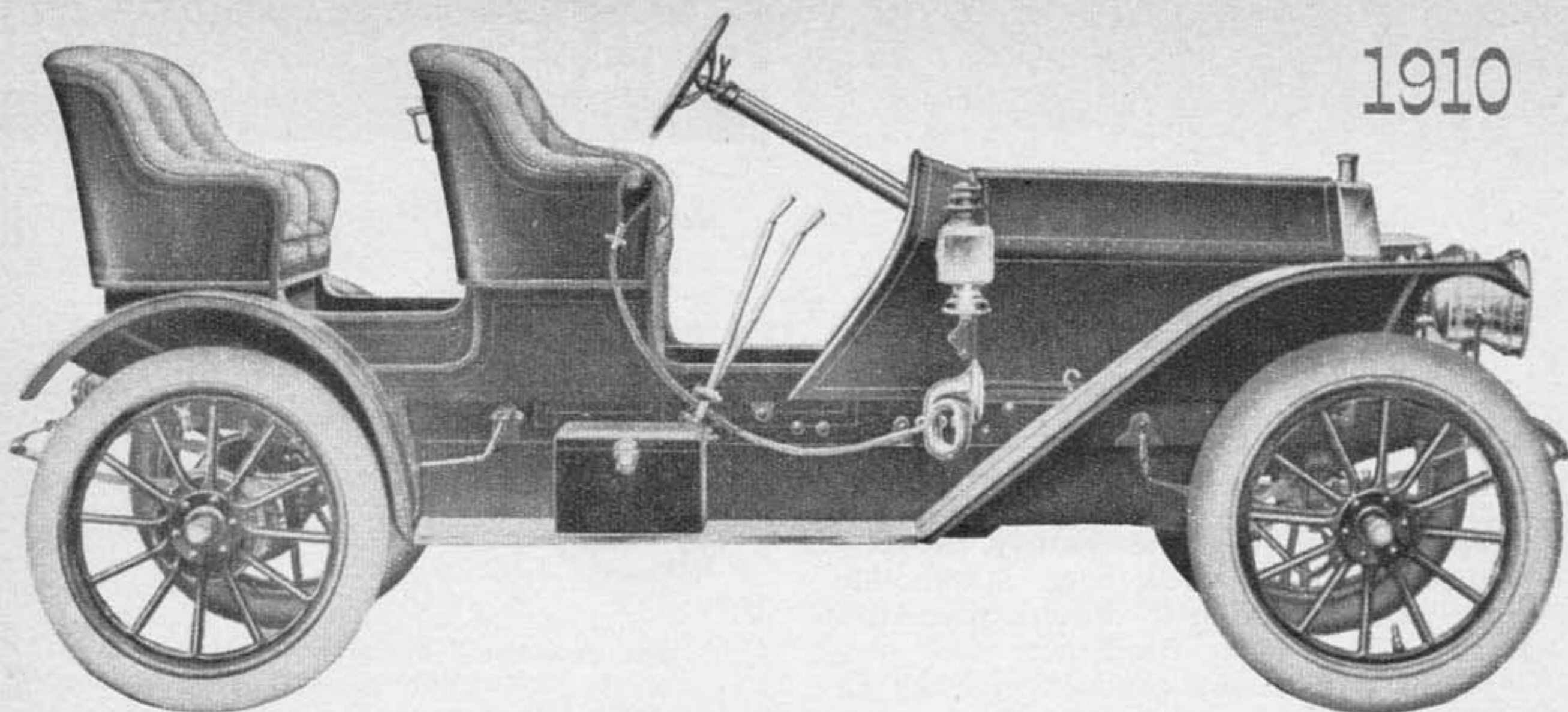


Oakland Model E landaulet was a progressive car for its time, featuring shaft drive. Powered by a two-cylinder vertical engine, it weighed 1,900 pounds and cost \$2,150.

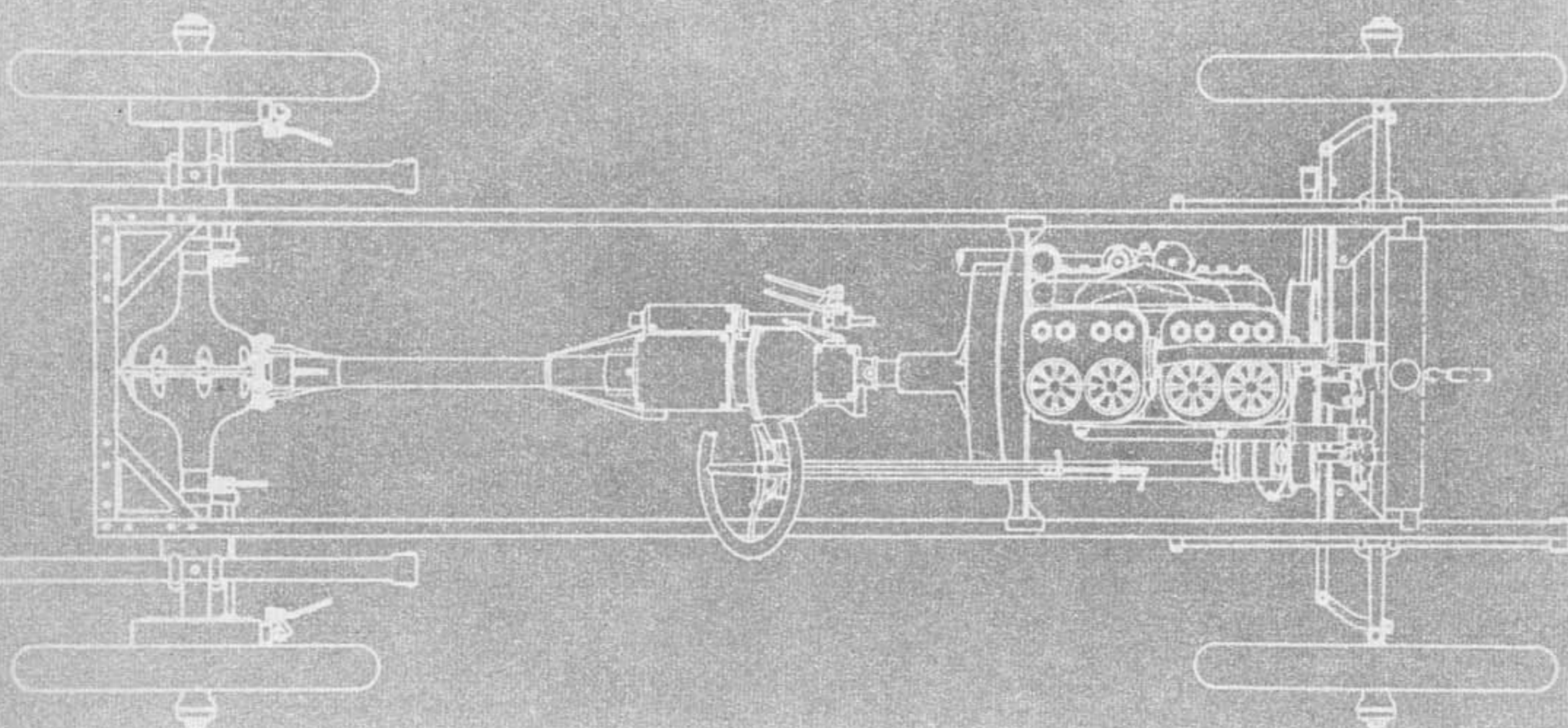
## 1908



Two-cylinder 20 hp water-cooled engine of the Oakland had a "balancing device" that consisted of crankshaft weights. Vibration of the car motor was termed "imperceptible."



1910



OAKLAND "40" CHASSIS.

1909

priced to cut the ground from under its competitors. This one the public liked and its approval was reflected in the sale of 491 Oaklands during 1908.

In 1909, a completely new four-cylinder 40 hp model was introduced. It was offered in three body styles, priced from \$1,600. The factory turned out 735 cars that year. Then it was bought out by William C. Durant, who made it another General Motors Division.

At this time, the Oakland Company was marketing under its own name suitable lubricants for Oakland cars. These were known as Oakland Anti-Carbon Motor Oil;

Oakland Model 40 (above) was noted for its clean design, though the chassis "without a cross-member between the ends" probably whipped a good deal on rough roads. Engine had "modern" mounting.

Flywheels on all Oakland engines were equipped (right) with cooling blades which acted as fans. Gasoline tank on the car was under the seat, had capacity of 15 gallons, plus two in reserve tank.

At far right is a front view of the Oakland Model 30 which was claimed to feature "correct design and the use of only high-grade materials." The Oakland cars were designed by Alanson P. Brush.



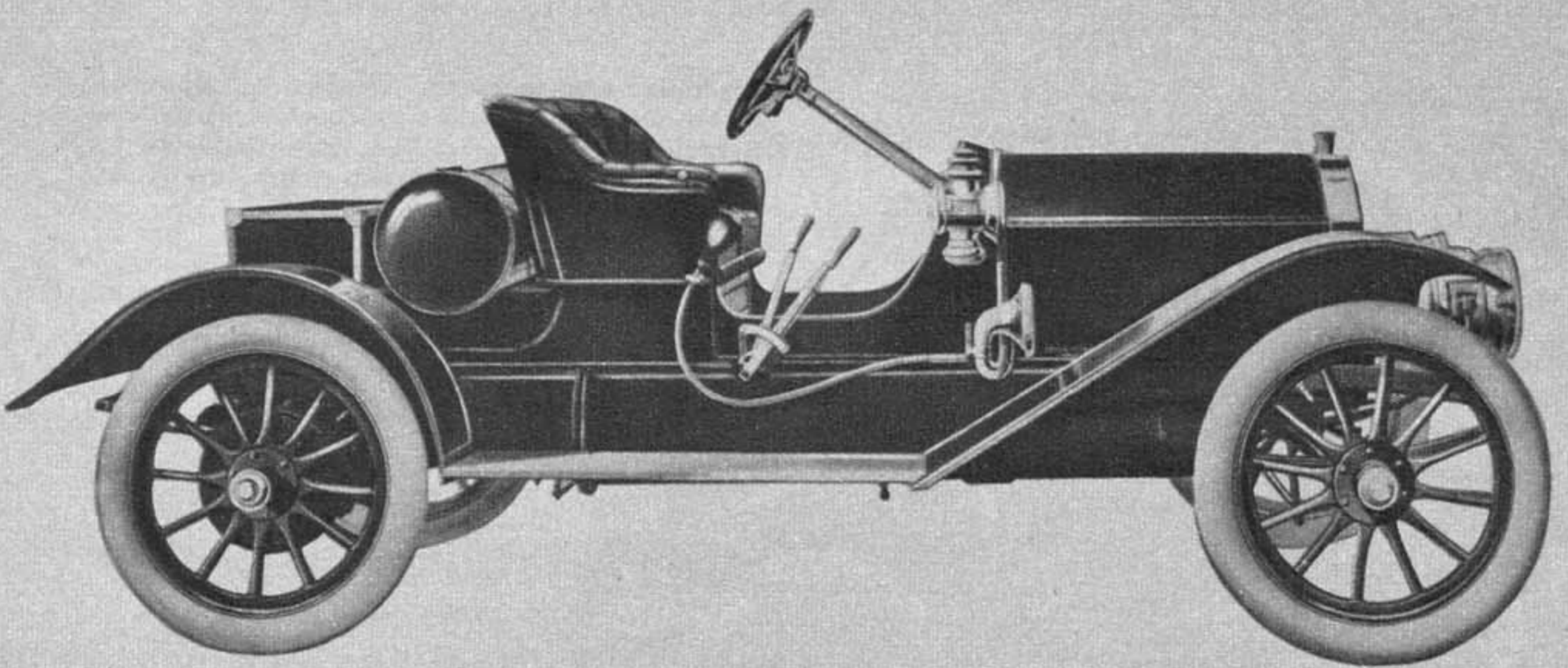
# Pontiac - Oakland

This Oakland 40 Model G (left) touring roadster had twin bucket seats perched over the rear axle, no doors. Engine was a four-cylinder 40 hp job. Scaling 2,100 pounds, the car brought \$1,600. Top came extra.

Oakland Transmission Lubricant; Oakland Cup Grease and so on.

Edward M. Murphy, sparkplug of the Oakland enterprise, died following the GM merger and just failed to witness a spectacular production rise one year later—2,124 units. This represented practically a 200 per cent sales increase.

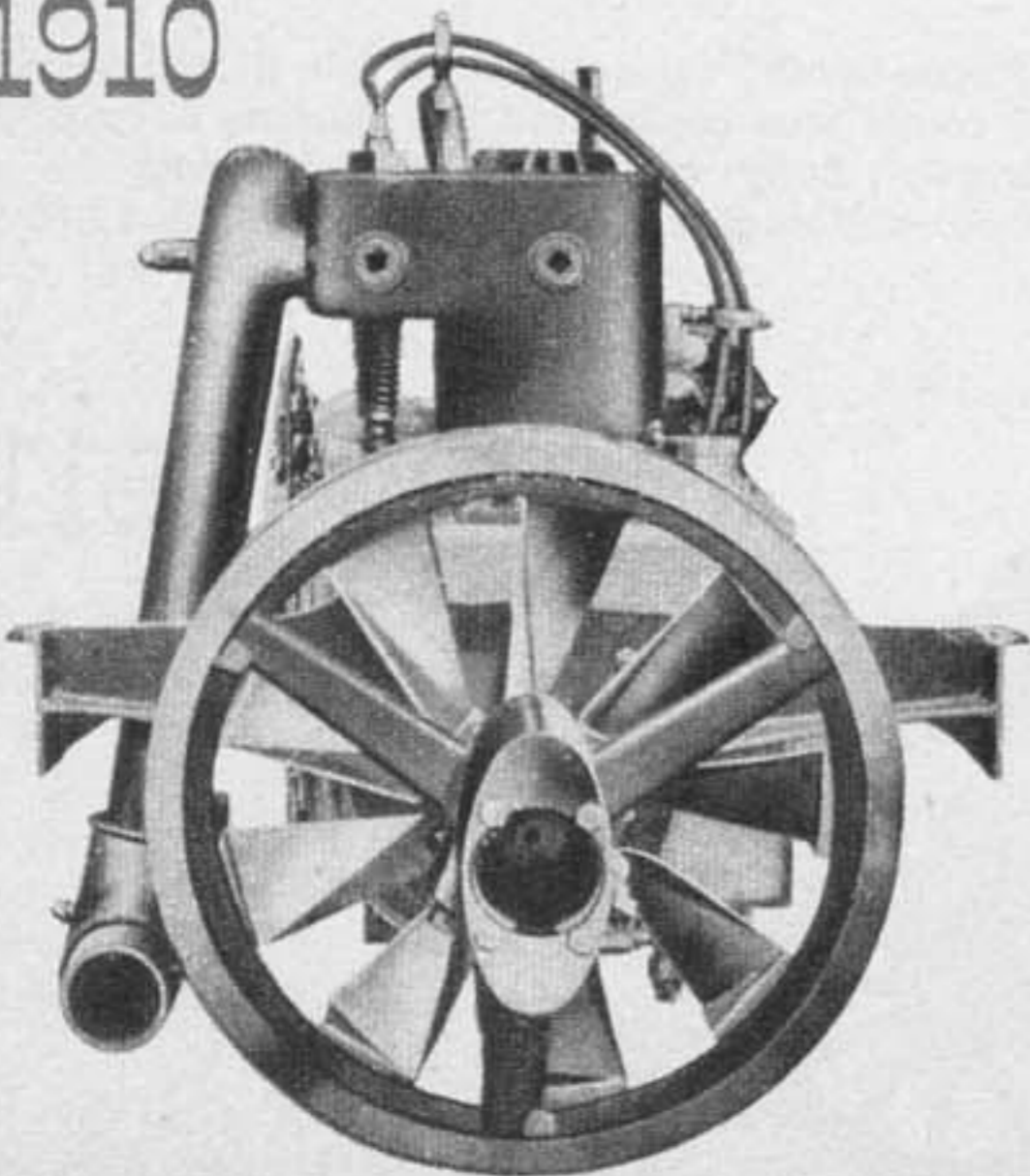
The outstanding Oakland for 1910 was the Model K five-passenger touring car, powered by a four-cylinder 40 hp engine and weighing 2,250 pounds. Priced at \$1,700,



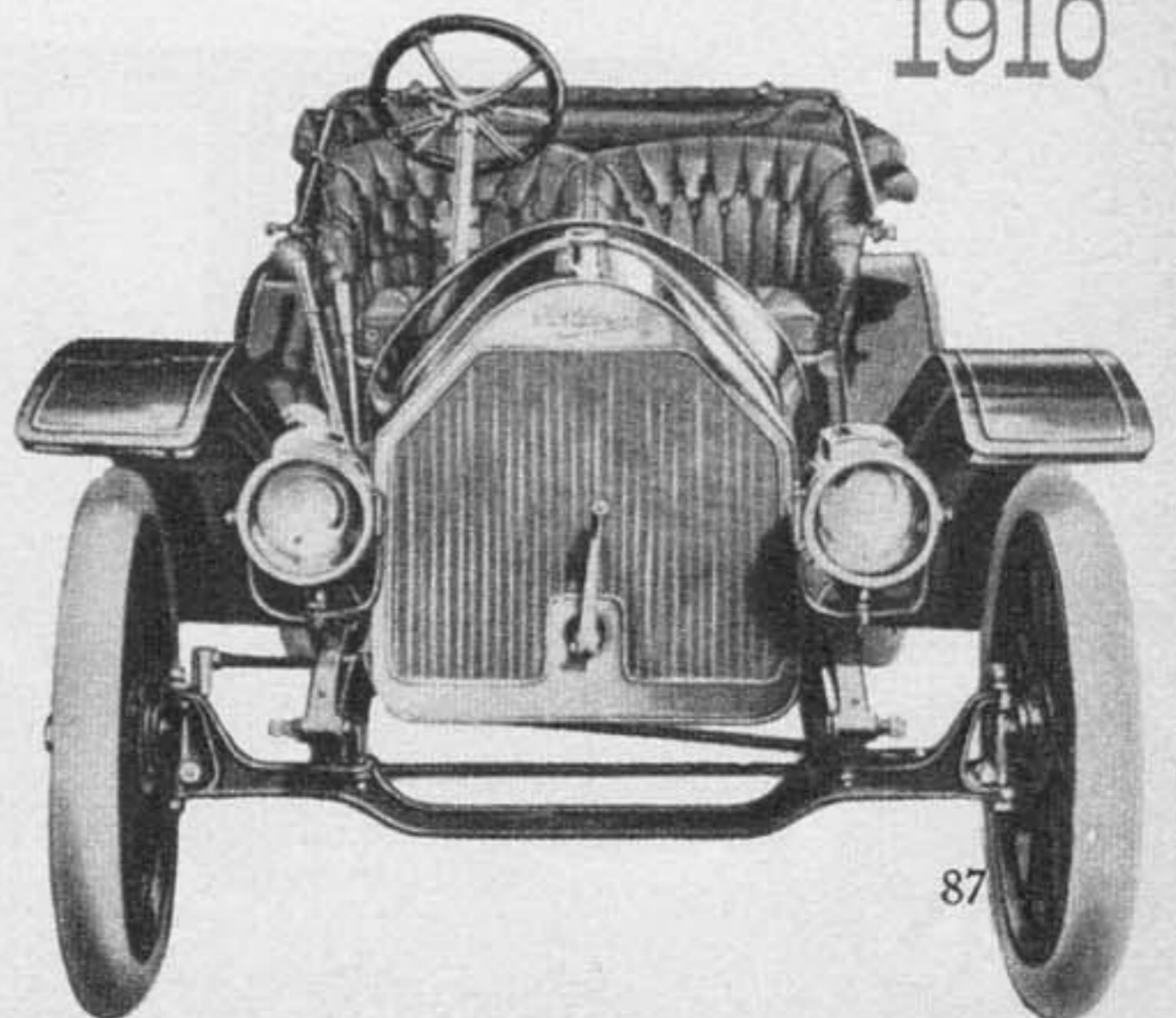
A sporting rig priced at \$1,700, the Oakland Model M roadster had a four-cylinder 40 hp engine cast in two blocks. Total weight of automobile came to 2,050 pounds. Note cylindrical tank, luggage box.

1910

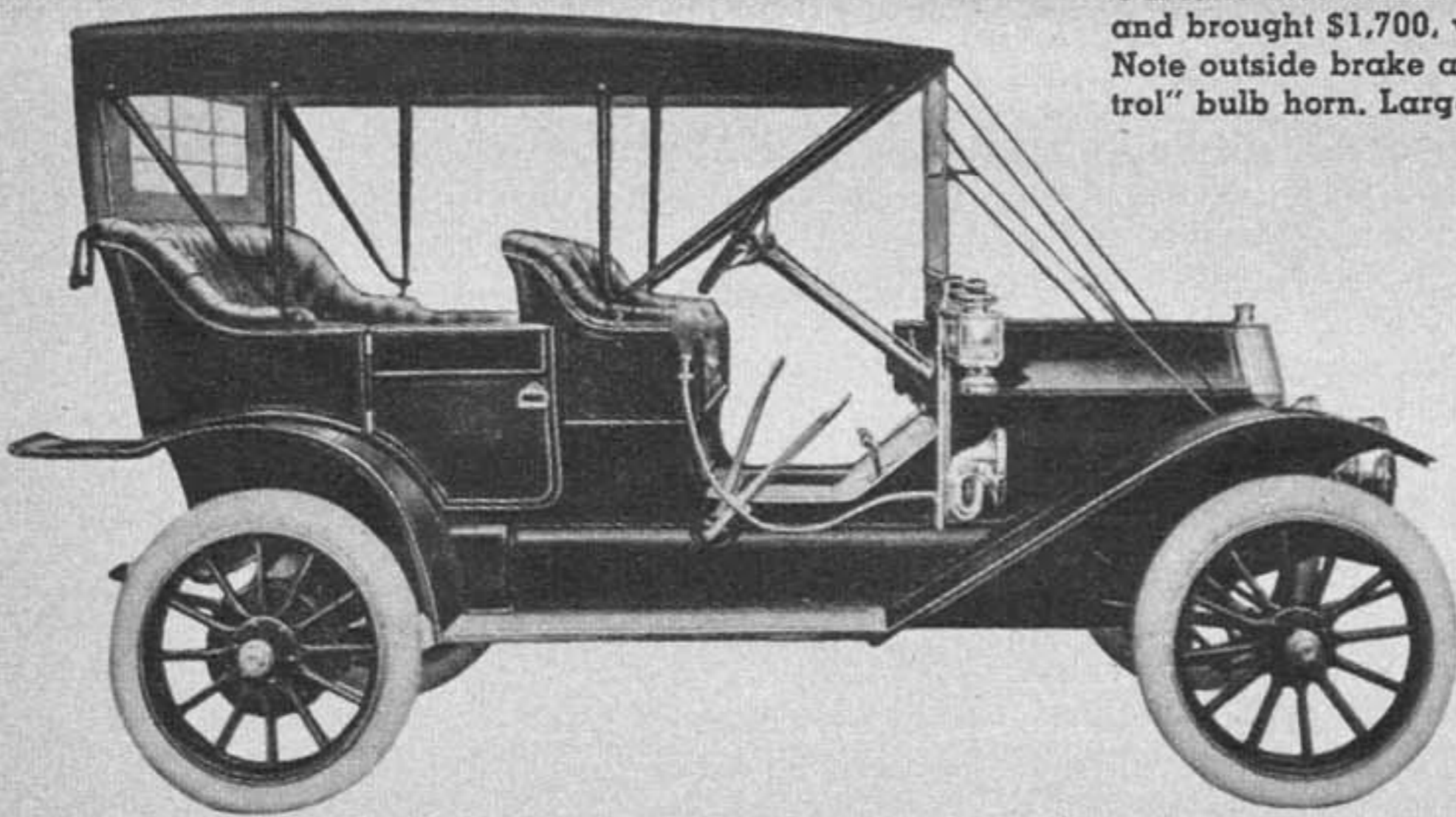
1910



1910

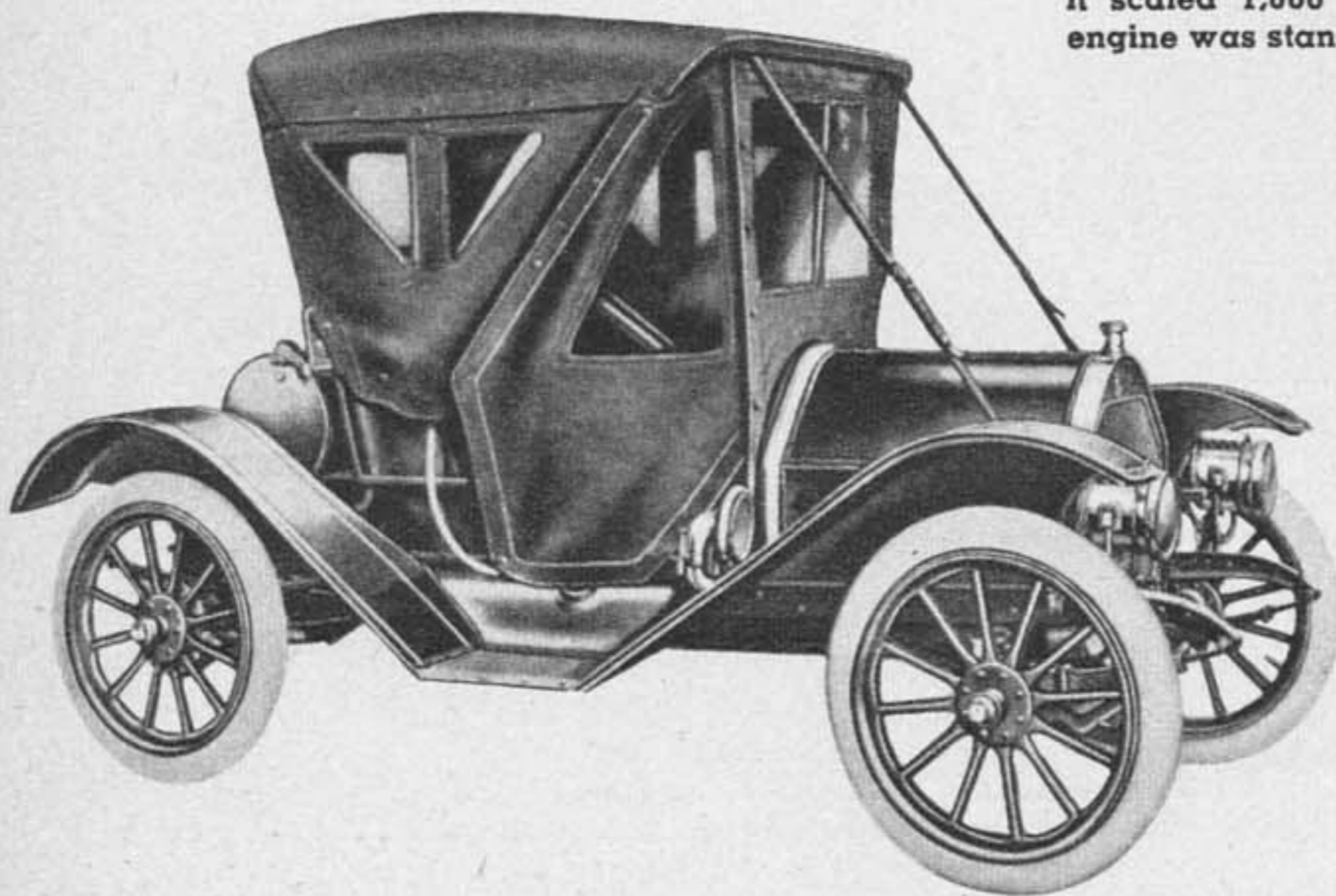


Oakland Model K touring car weighed 2,250 pounds and brought \$1,700, with top and windshield extra. Note outside brake and gear controls, "remote control" bulb horn. Large brake drums were standard.



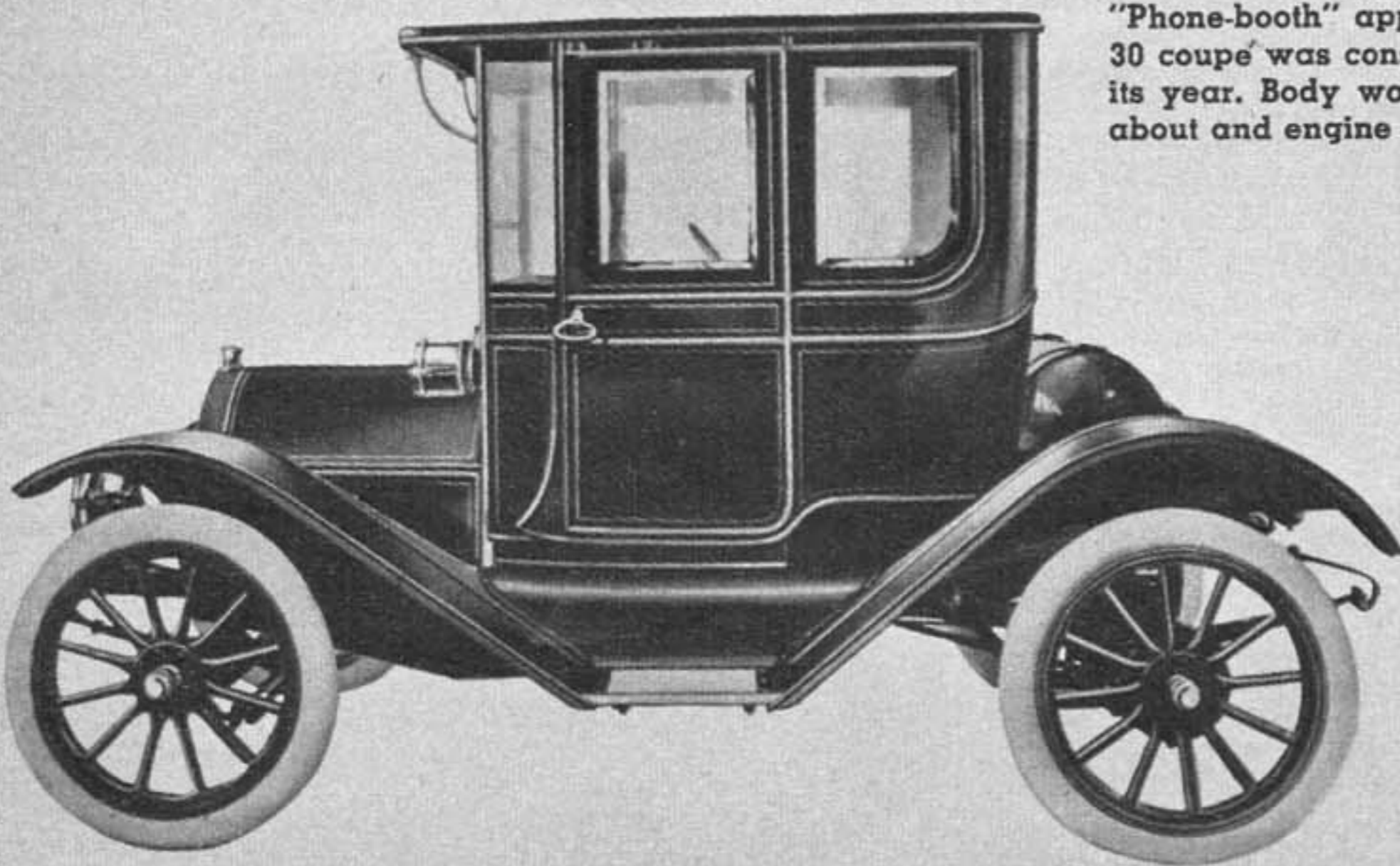
1910

Visibility was sacrificed for weather protection on the Oakland Model 24 runabout. A \$1,000 car, it scaled 1,600 pounds. The four-cylinder 30 hp engine was standard equipment on this racy model.



1910

"Phone-booth" appearance of this \$1,500 Oakland 30 coupe was considered the ultimate in beauty in its year. Body was interchangeable with the runabout and engine was identical. Weight: 1,900 lbs.

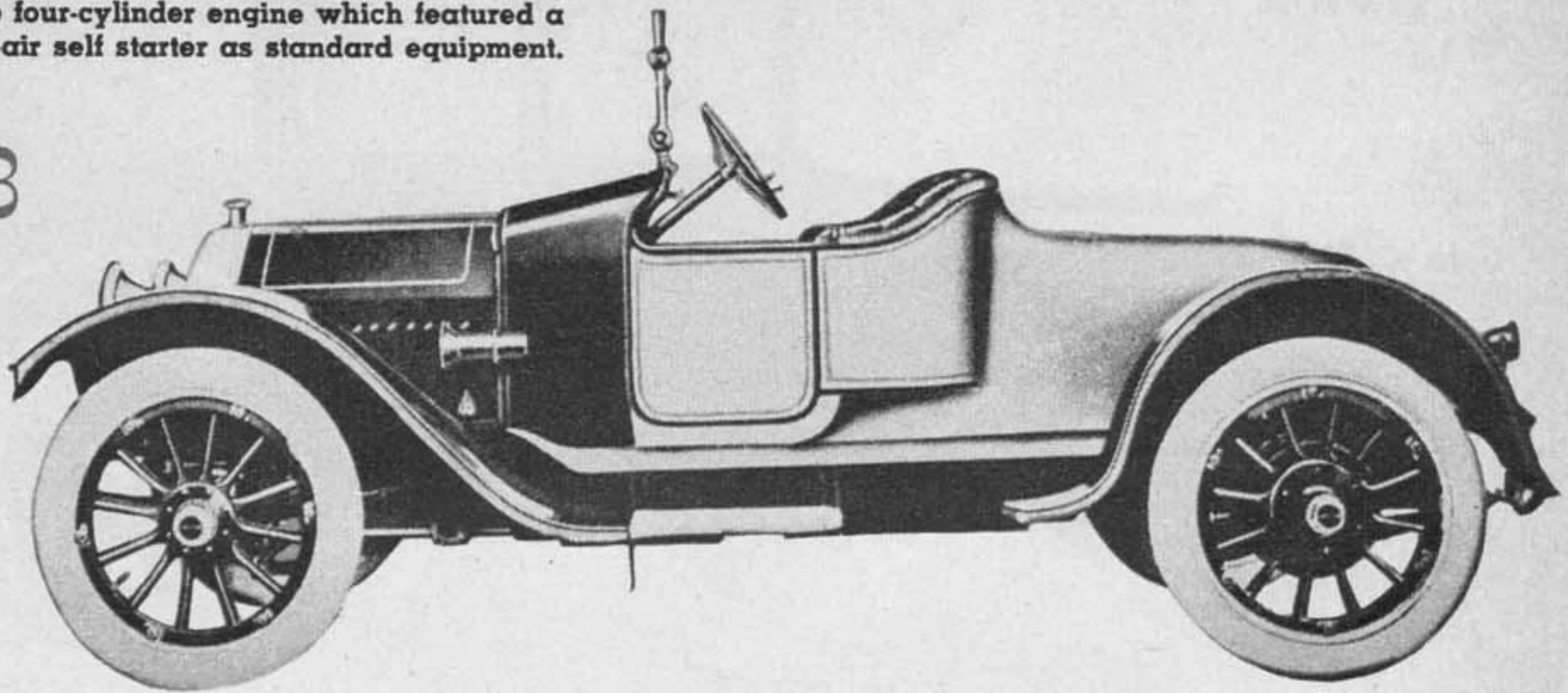


1911

# Pontiac - Oakland

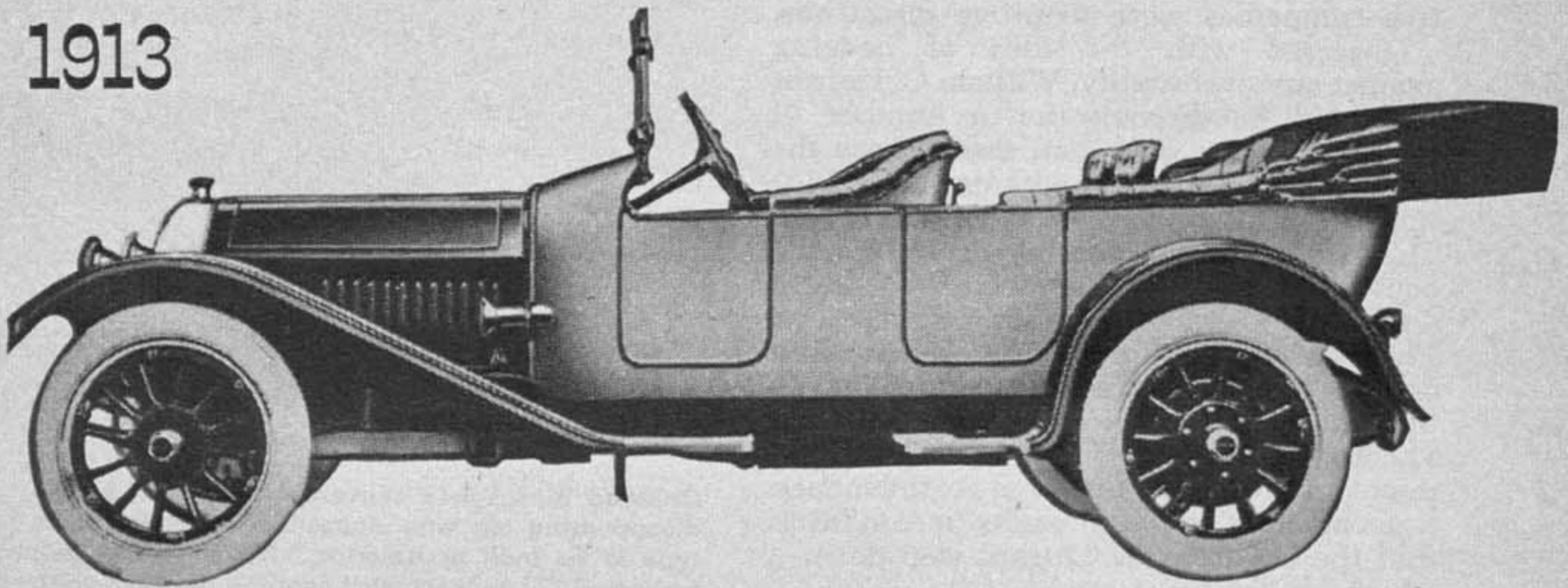
Three-abreast seating was a feature of this Model 42 Oakland. Possessing a \$1,600 price tag, the car had a 40 hp four-cylinder engine which featured a compressed-air self starter as standard equipment.

1913



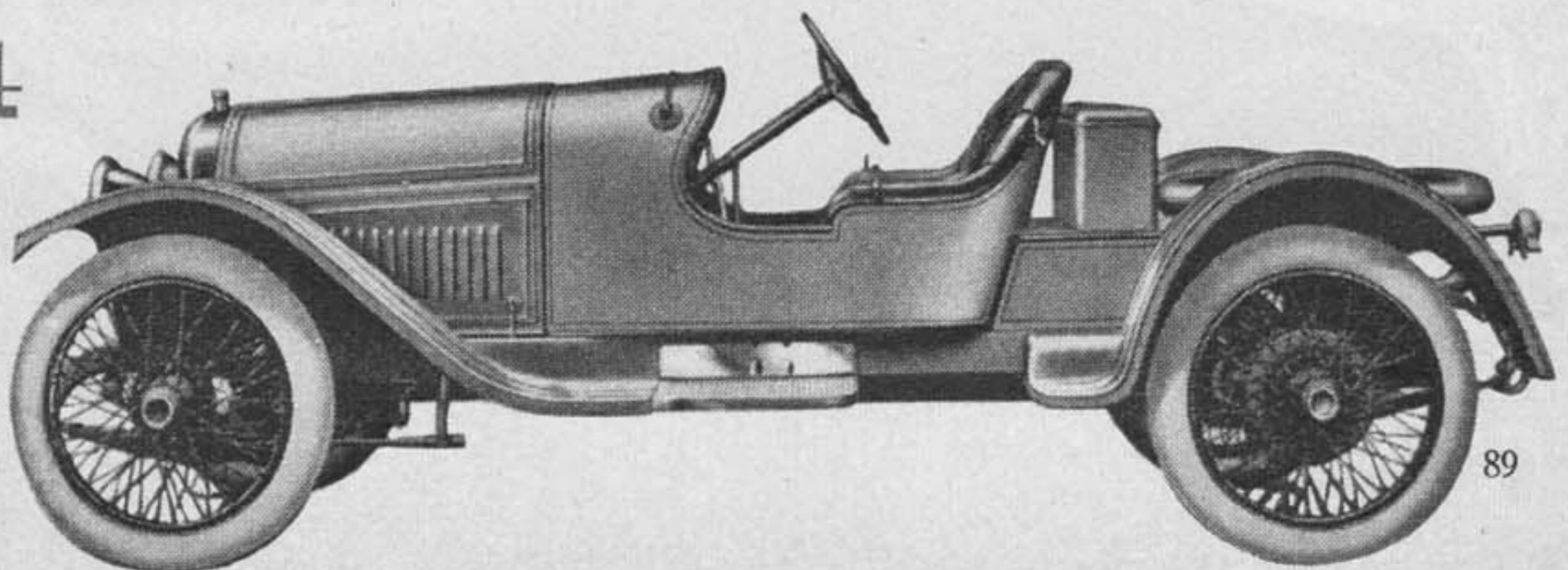
Oakland Greyhound 6-60 seven-passenger touring car carried slogan, "the car with a conscience." Model designation indicated the number of cylinders, hp. Price, \$2,400, included Delco equipment.

1913

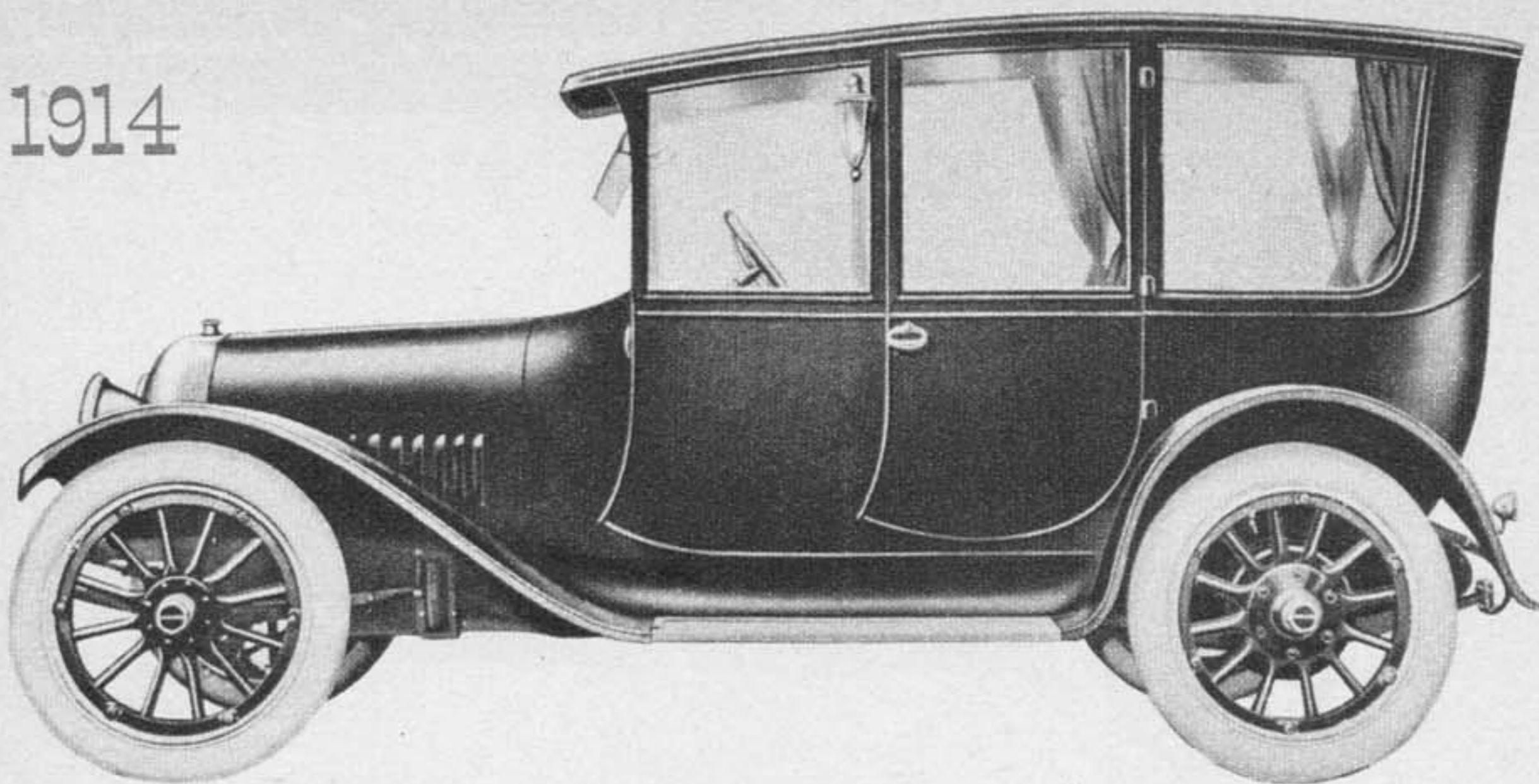


Racy-looking Model 6-48 Oakland "Light Six" cost \$1,785, including the top and windshield, which are not shown. Wire wheels, however, came extra. Note the spare-wheel mounting at rear of the car.

1914



1914

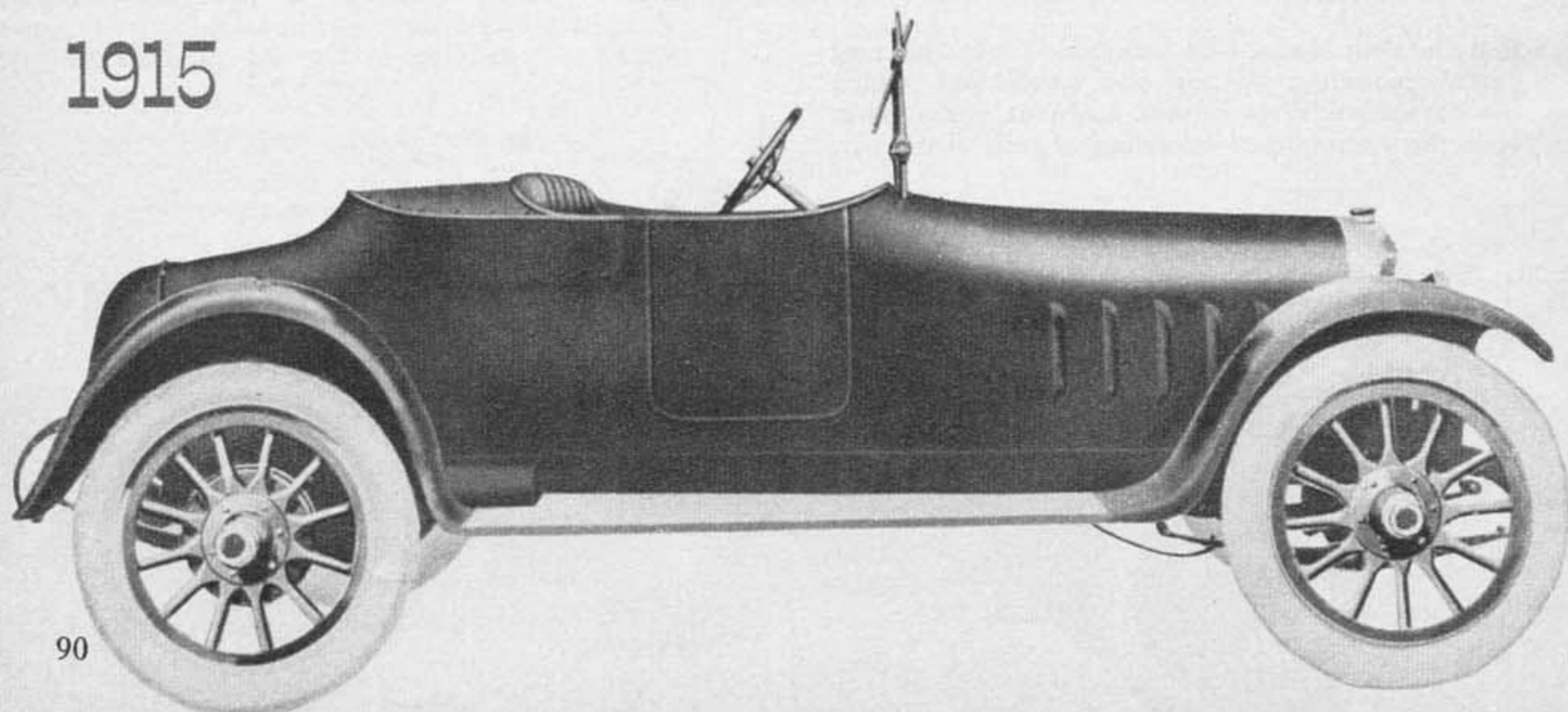


it was an unbeatable value and was largely responsible for the increased sales. Nevertheless, Oakland gains could not help General Motors out of current economic difficulties. Over-rapid plant expansion and the acquisition of too many unproductive companies were to prove disastrous.

Obsessed with the idea of hedging against any eventuality, William C. Durant had paid handsomely for a number of concerns whose only real assets were the possible value of their patents. The friction-drive Cartercar was a case in point. The issue between friction-drive and the conventional gear transmission was still in doubt and Durant was taking no chances. These friction-drive patents ended as a dead loss; and for a while it looked as though General Motors—in the hole for \$12,000,000, borrowed from the banks—might go the same way. Even so, the money was only lent by these banks on condition that the adventurous Durant step down—which he did.

**Oakland Model 43 four-passenger sedan was billed as a car with a "tone of exclusiveness" due to its wide doors, silk curtains and built-in dome lights. Selling for \$2,600, it had a four-cylinder engine.**

1915



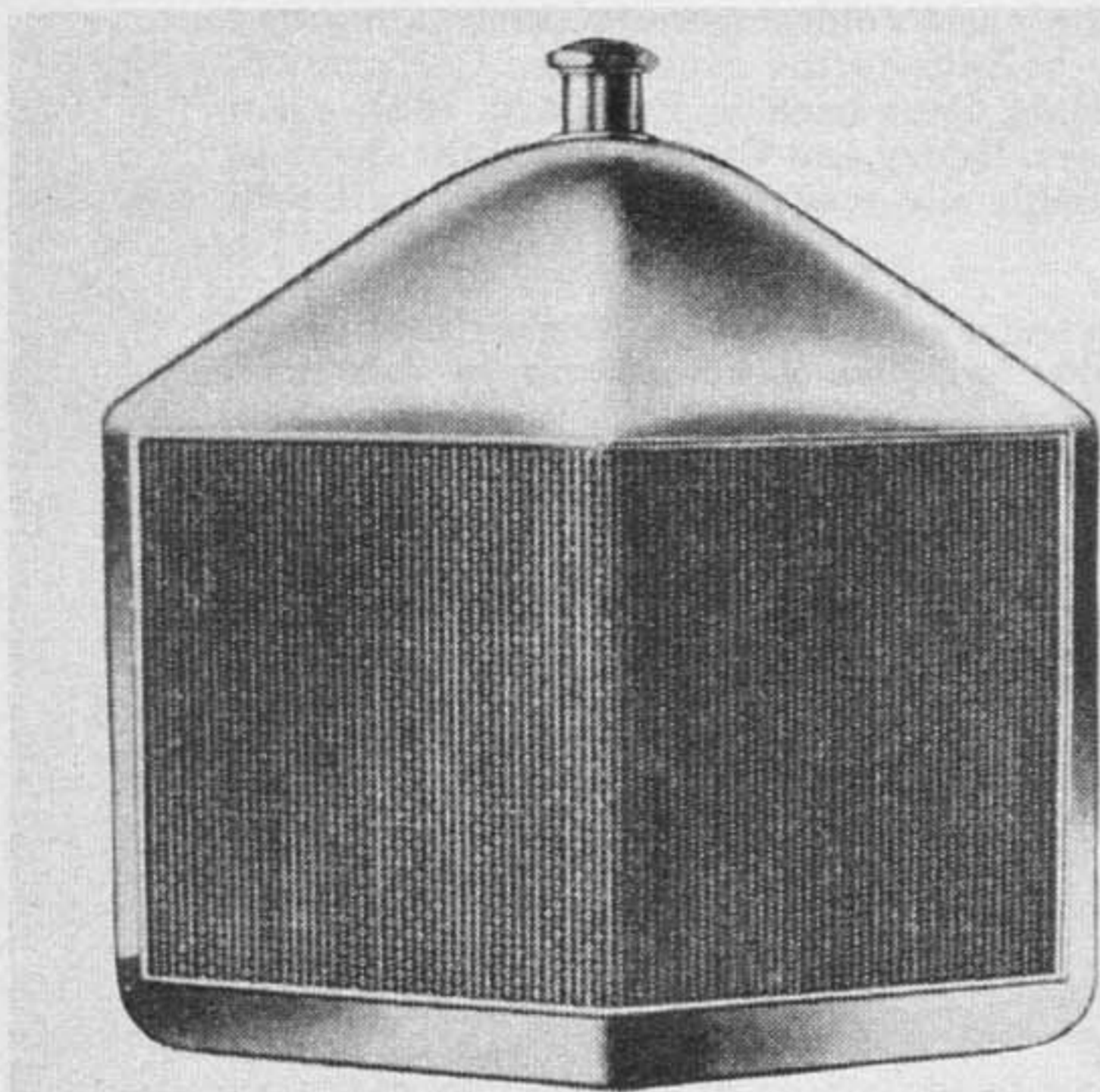
**Oakland Model 6-49 convertible roadster with a disappearing top was claimed as "the first of its type to be built in America." It cost \$1,685 and embodied "51 refinements" over the old Oaklands.**

# Pontiac - Oakland

That same year, Charles W. Nash was promoted to head the Buick Division, with Walter P. Chrysler as his works manager. Both men were brilliant, versatile and born to leadership. By 1912, when Nash rose still higher to become president of General Motors, and Chrysler took his place at the helm of Buick, the gangling giant created by Durant was fast regaining strength.

The Oakland Division, meanwhile, kept rolling out cars and making them better all the time. Sales for 1912 were well over 6,000 units and in 1913 reached a new peak of more than 8,600 units, representing gross receipts of over \$10,000,000. Largely responsible for this was the introduction of the Model 35 runabout, a new and fast light four with an electric self-starter. Oakland's first six-cylinder design—the Model 6-60 seven-passenger touring car, priced at a

1914



A distinctive feature of the Oakland was this V-shaped German silver radiator, boomed as a trademark due to its racy appearance. It was standard equipment on both four- and six-cylinder models.

1915



Oakland Model 37 touring car seated five, cost \$1,200 f.o.b. Pontiac, Michigan. It had a four-cylinder engine and came in battleship gray or in royal blue. "Sturdy as the Oak" was another slogan.

reasonable \$2,400, also helped the Oakland Division's reputation.

The new Oakland of 1915 included two models, each offered in two body styles—a roadster and a five-passenger touring car. The smaller, known as the Model 37, had a four-cylinder engine and a 112-inch wheelbase. The larger was the Model 6-49, a six-cylinder job with an Oakland-Northway long-stroke engine, which was silent.

The following year, Durant's financial magic regained him control of General Motors from the bankers.

Introduction of the Pontiac, ten years later, did not mean the end of the Oakland car. This fine make continued in parallel production with the newcomer, right on up to 1930-31, when the last Oakland was also the first V-8 in the low-priced field. •



# STUDEBAKER

*The world's oldest manufacturer of highway vehicles was founded in a blacksmith shop.*

**T**HE Studebaker fortunes were founded and consolidated a hundred years ago by the five Studebaker brothers—Henry, Clem, John Mohler, Peter and Jacob. But the only one still alive when the first Studebaker gasoline car appeared in 1904 was John Mohler, or JM, as he was known.

The title of "the world's oldest manufacturer of highway vehicles" rightly belongs to the Studebaker Corporation, whose colorful start dates back to February, 1852, when two of the brothers, Henry and Clem, opened the doors of a modest blacksmith and wagon-building shop in South

**1906**

Typical Studebaker electric runabout. It had a speed of 20 mph, weighed 1,500 pounds and cost \$1,110 with top. Popular with the ladies, it was suitable for short trips.



# STUDEBAKER



Conservative souls still preferred this "Canopy Top Surrey." It found a ready sale at \$550 (less the horse). The company continued to make such vehicles until 1920.

1907

Bend, Indiana. In their first year of business, aside from shoeing horses, they built and sold three wagons. By 1856, they had completed a pleasure carriage. The following year, they were given their first big order: a Government contract for 100 wagons, to be used by Federal troops in Utah.

When John Mohler finally joined Henry and Clem in 1858, theirs was a rapidly expanding enterprise; but he brought them more than energy and goodwill. JM invested into the business \$8,000—hard-earned and carefully saved over a period of five years, while making wheelbarrows and doing repair jobs for gold miners in the far West.

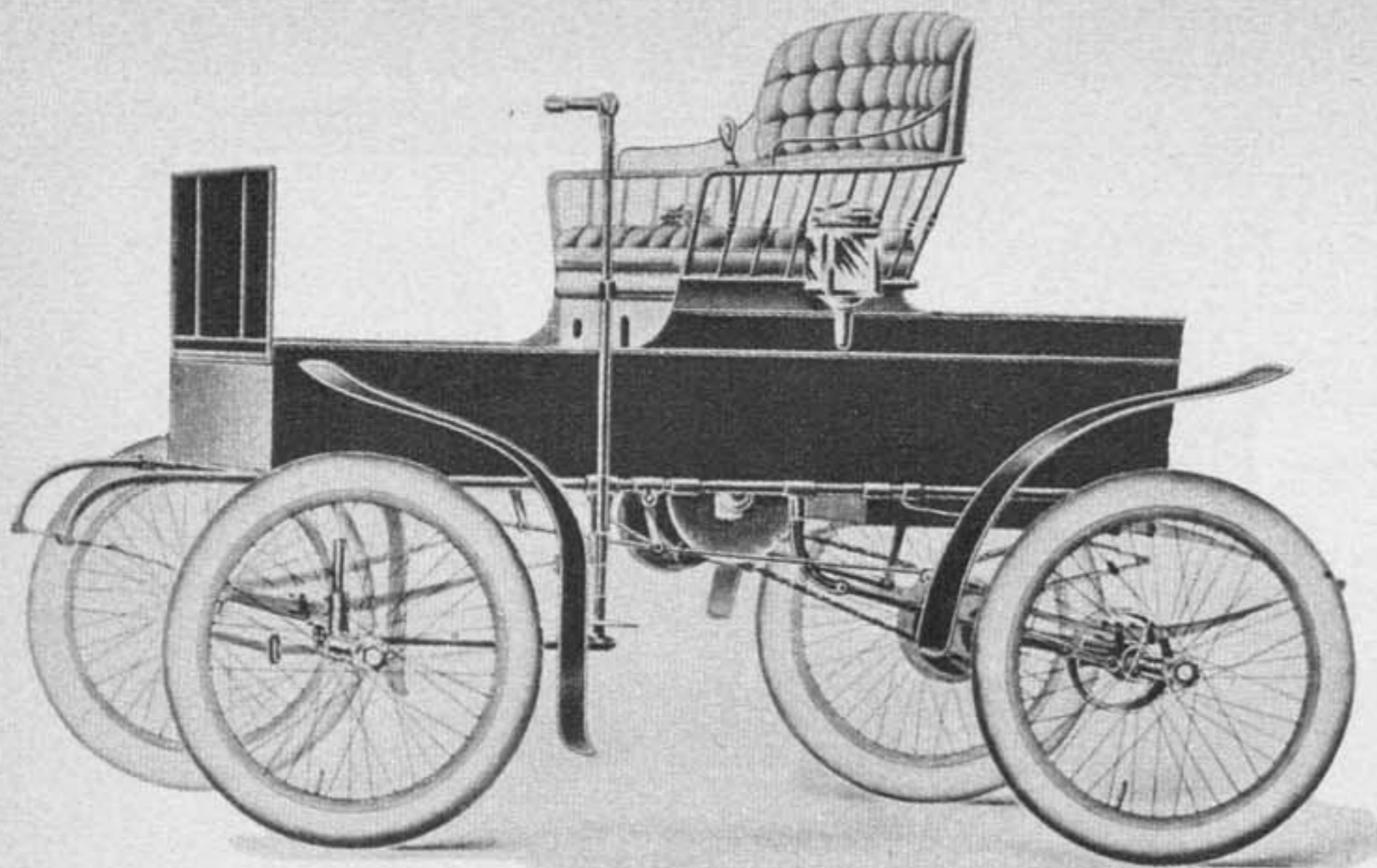
Next, Peter Studebaker came into the organization. It was 1860 and by that time the company had a capital of \$10,000.

Peter took the job of chief salesman. The original smithy had now turned into a big shop, with facilities for building both wagons and carriages. There was also a "showroom" where company products were placed on view.

During the next seven years, business prospered so greatly that the four brothers were faced with the need of immediate reorganization. The firm's assets amounted to over \$223,000. The Civil War brought a further boom to the company. It was kept working at top pressure, building carts and wagons and making harness sets for the Union armies.

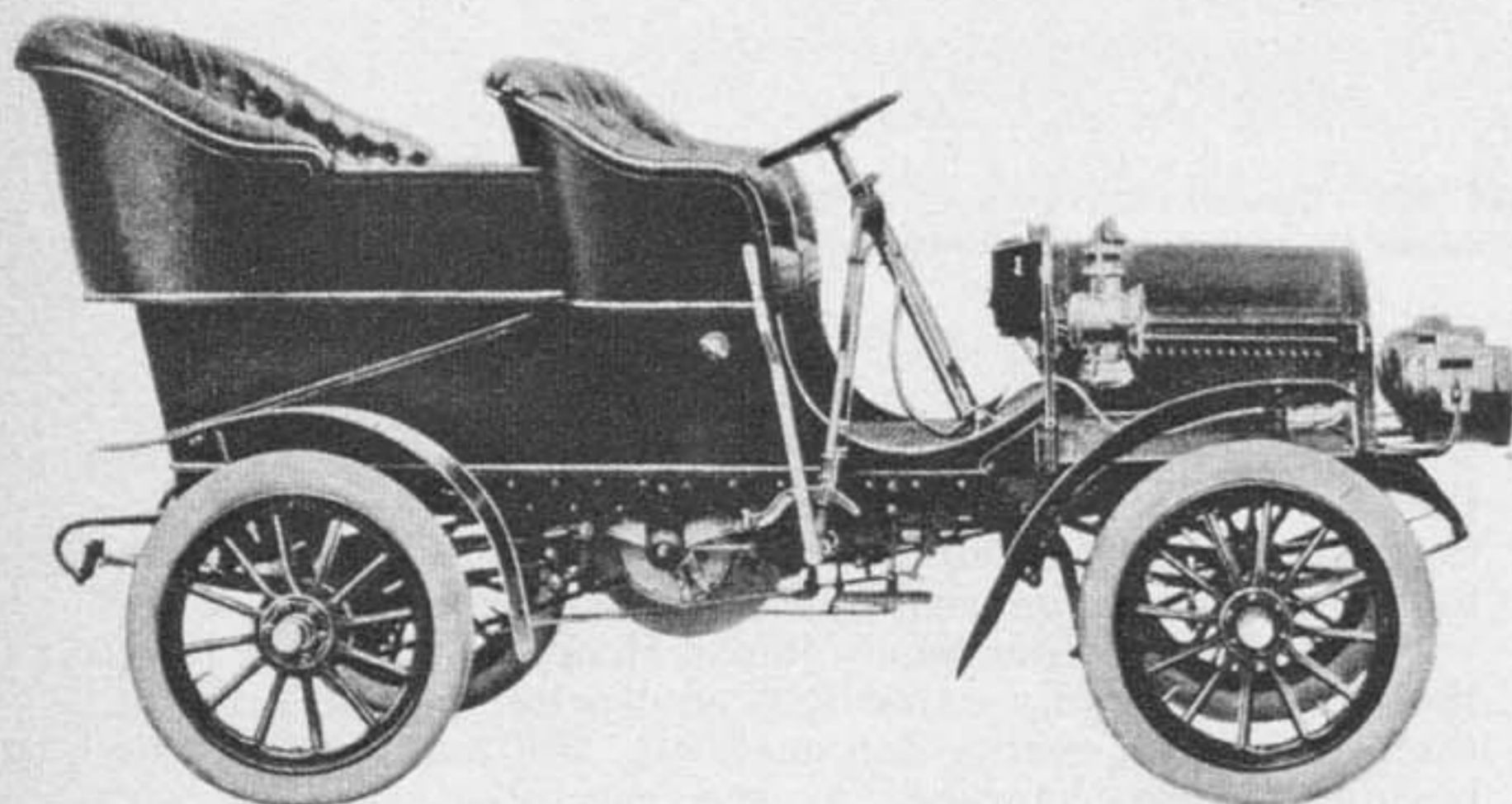
In 1868, therefore, the Studebaker Brothers Manufacturing Company was formed, with Clem as president, JM as treasurer and Peter holding the job of secretary. The payroll had grown from two to 190 employees and there was work for many more.

By 1870, a branch was opened in St. Joseph, Missouri. That same year, a fifth brother, Jacob, threw in his lot with the



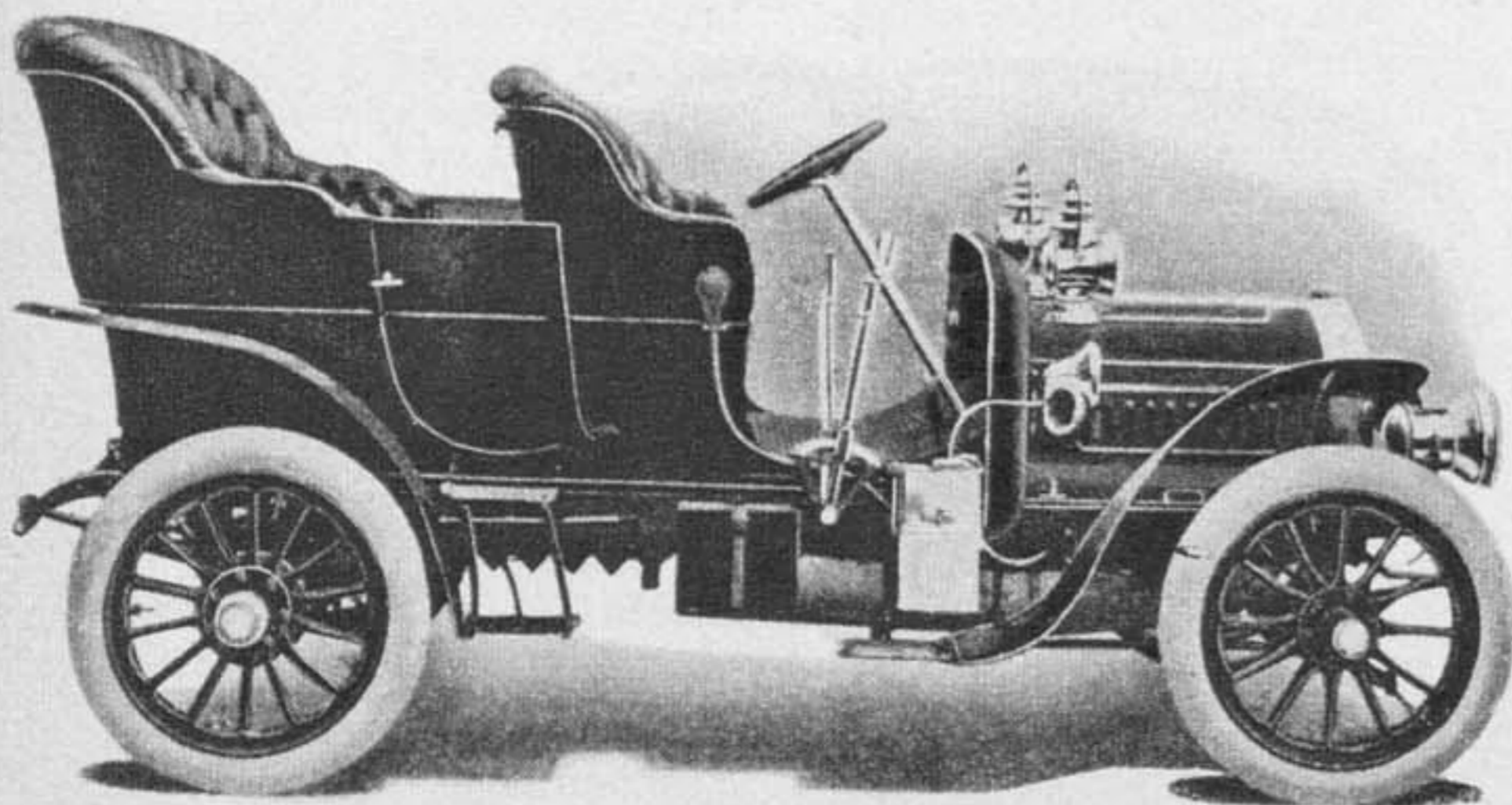
First venture into horseless carriage field was with this electric runabout. With 24-cell wet battery power, it did 3, 5, 9 and 13 mph. Of medium weight, this old time vehicle cost \$950.

1902



First gasoline car was this Model C, a two-cylinder 16 hp-driven touring car that carried five passengers and cost \$1,250. Top was not included and came to an added sum of \$150.

1904



Model 9503 was the second production auto. It sold at a high price: \$3,000 and was equipped with front-mounted four-cylinder 20 hp engine. Wheelbase was 96 inches.

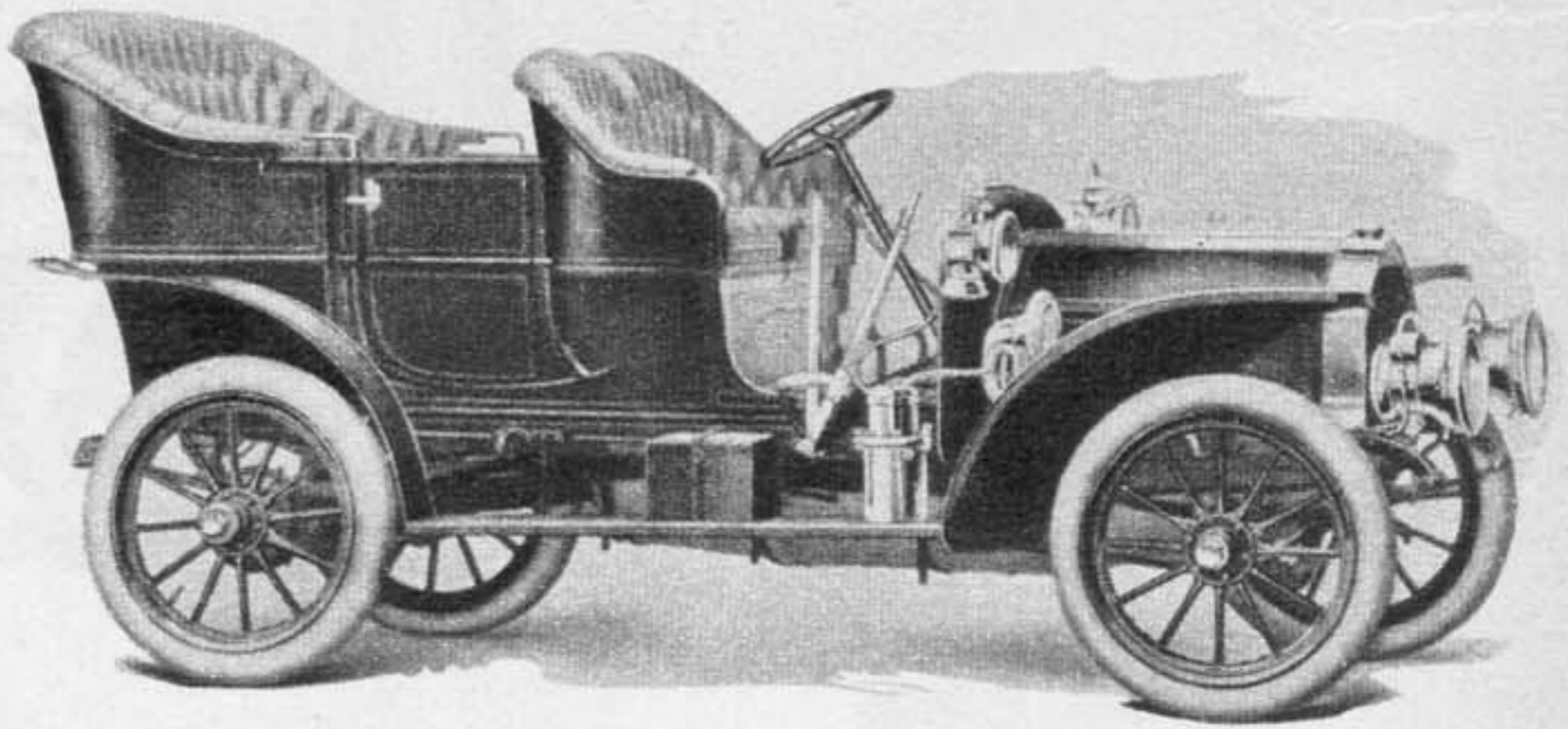
1905



# STUDEBAKER

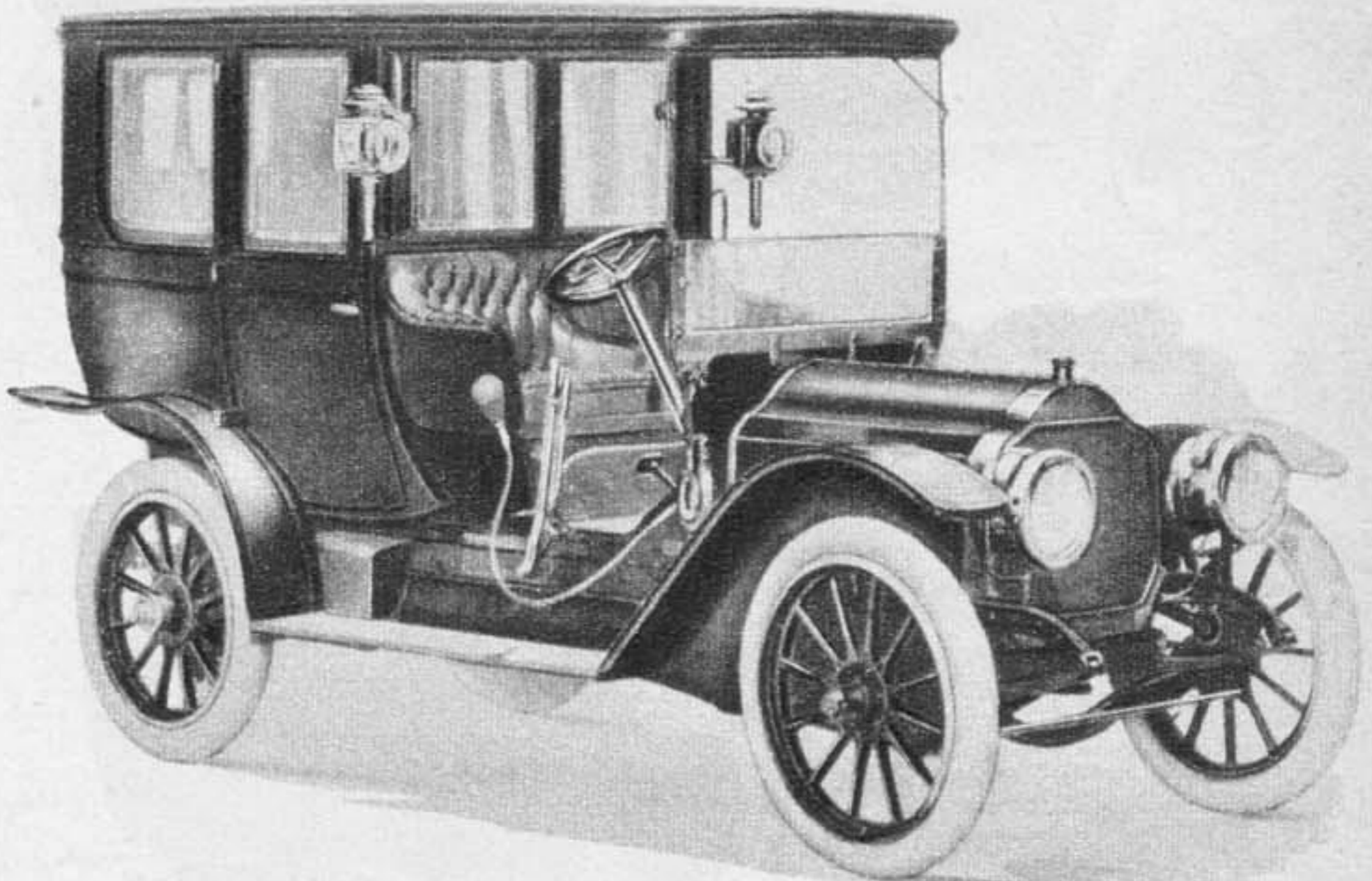
The Model L touring car was powered by a 28 hp four-cylinder engine, had 104-inch wheelbase and 34x4-inch tires. Price, including cape top, was \$3,200. Sales volume that year rose to \$8,000,000.

1907



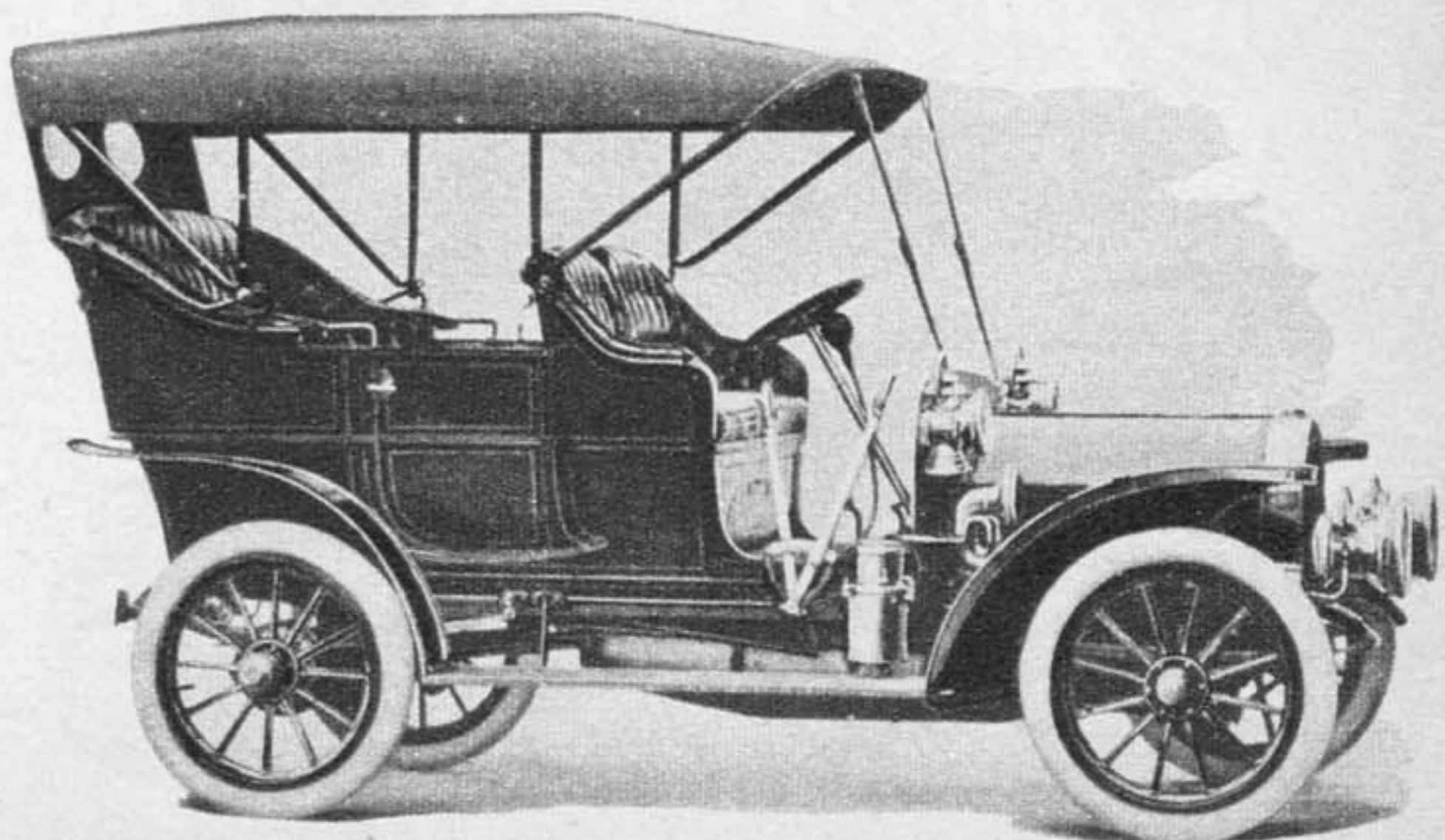
Model E-20 town car had elaborate limousine body on 96-inch wheelbase. Four-cylinder engine at 20 hp offered extra-fine performance, but \$4,000 price tag was beyond most budgets. Note brass lamps.

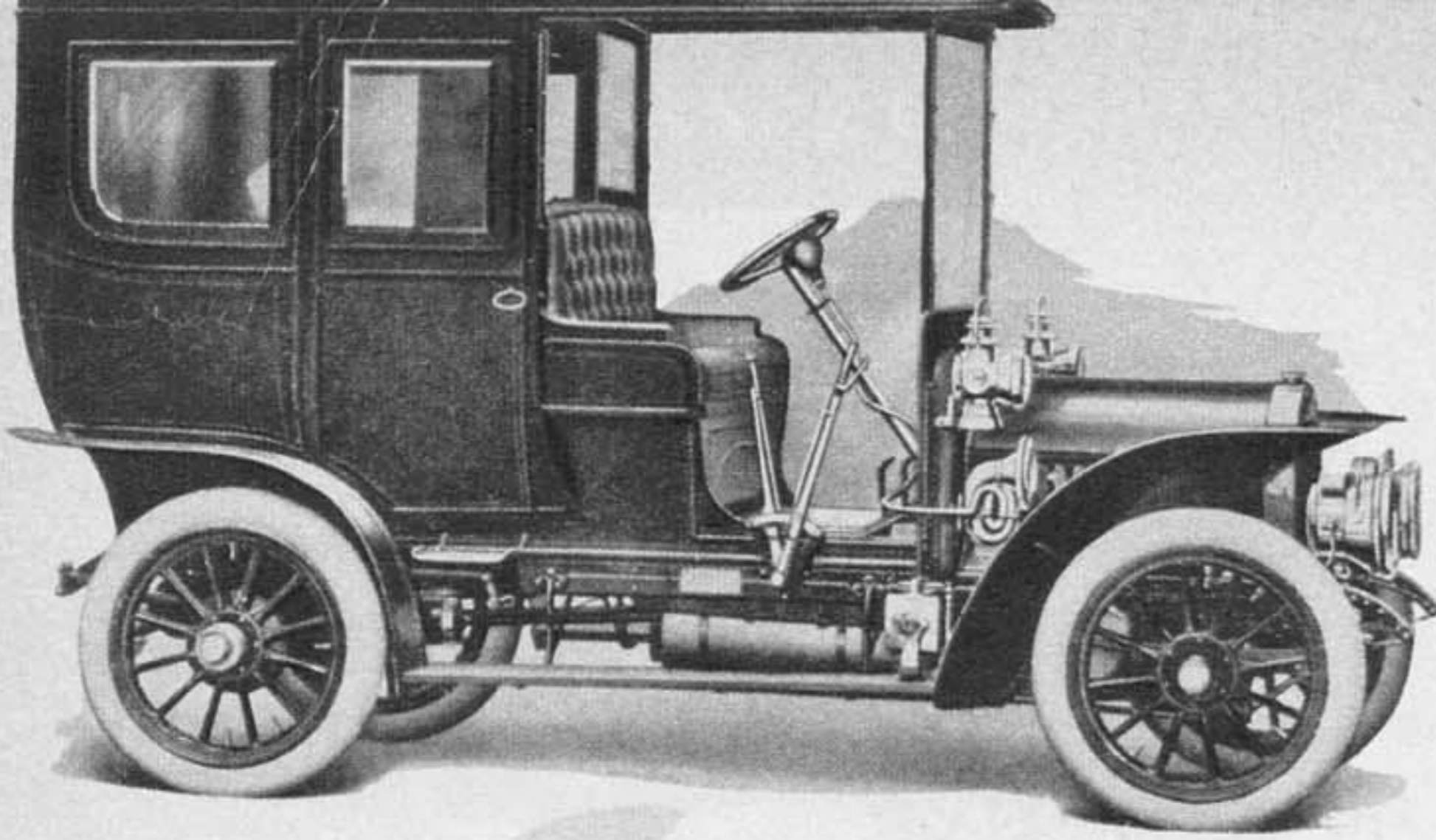
1906



The Model G-30 touring car was an earlier version of the Model L: it had a wheelbase of 104 inches as well as a four-cylinder 30 hp engine. The list price, however, was \$500 more, again including the top.

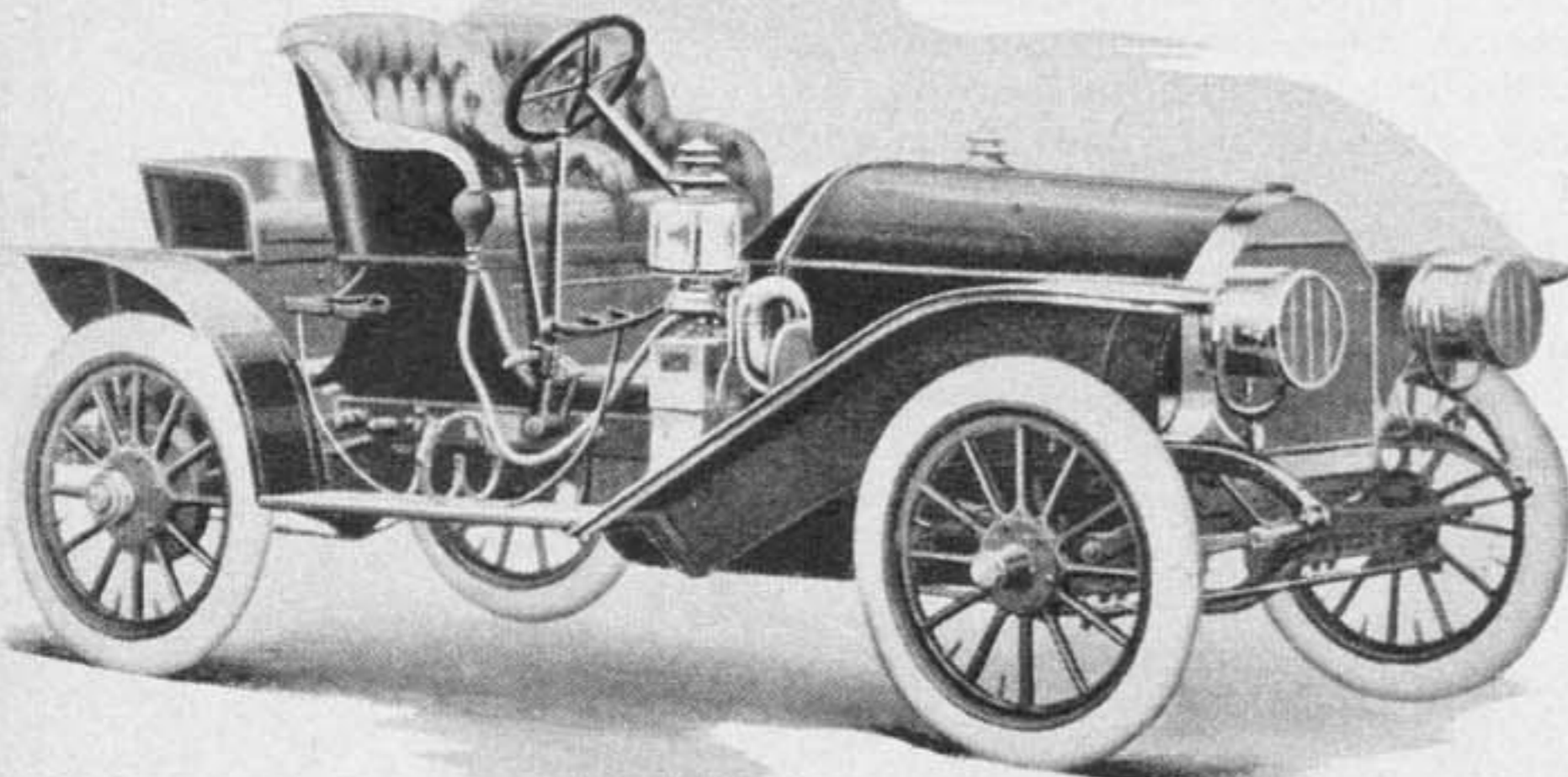
1906





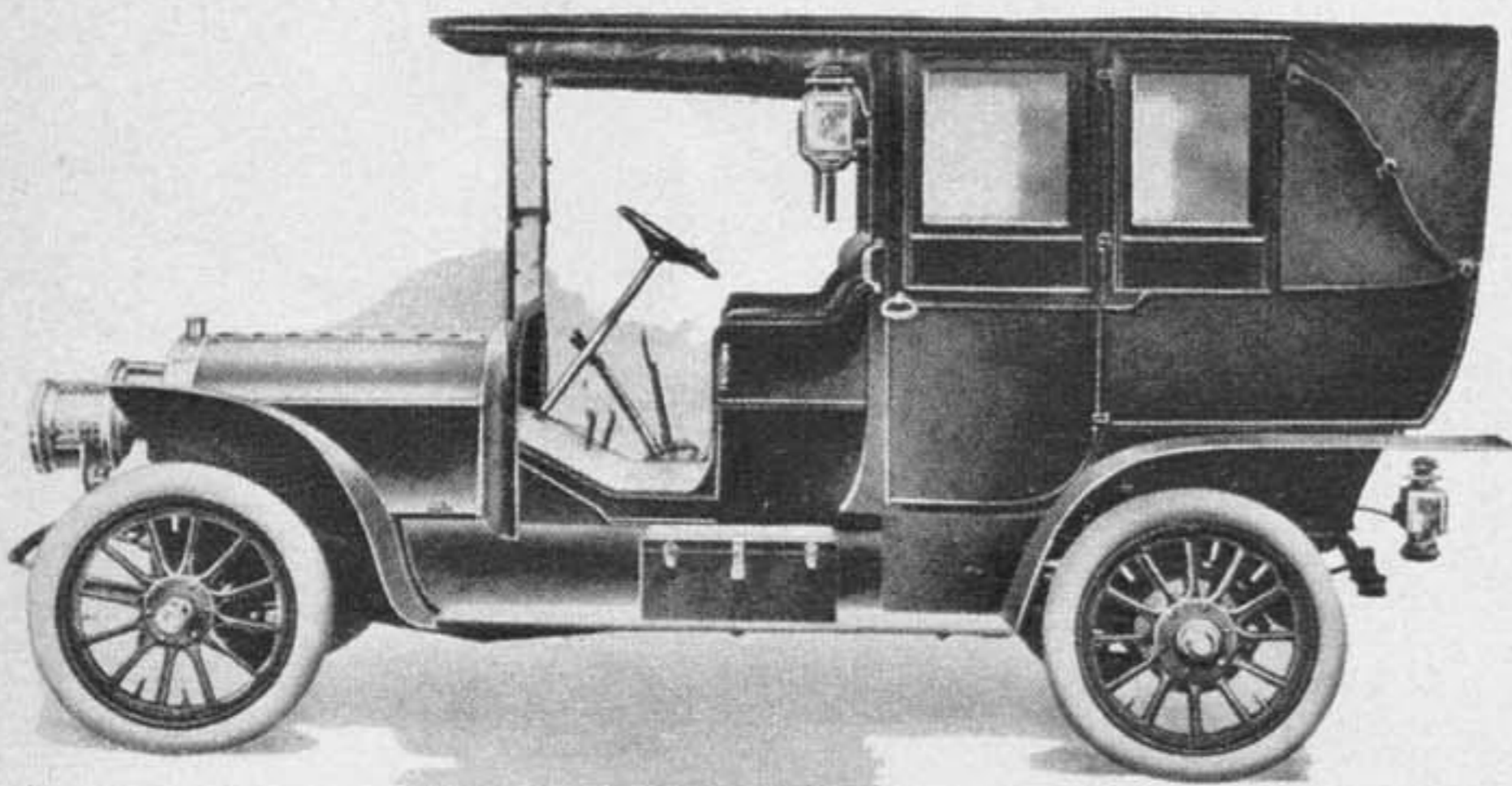
At \$5,000 the Model H limousine was a real luxury item. It carried seven passengers on the same chassis as used on Model G-30. Buyers had choice of three glossy colors: dark blue, dark green and also maroon.

1907



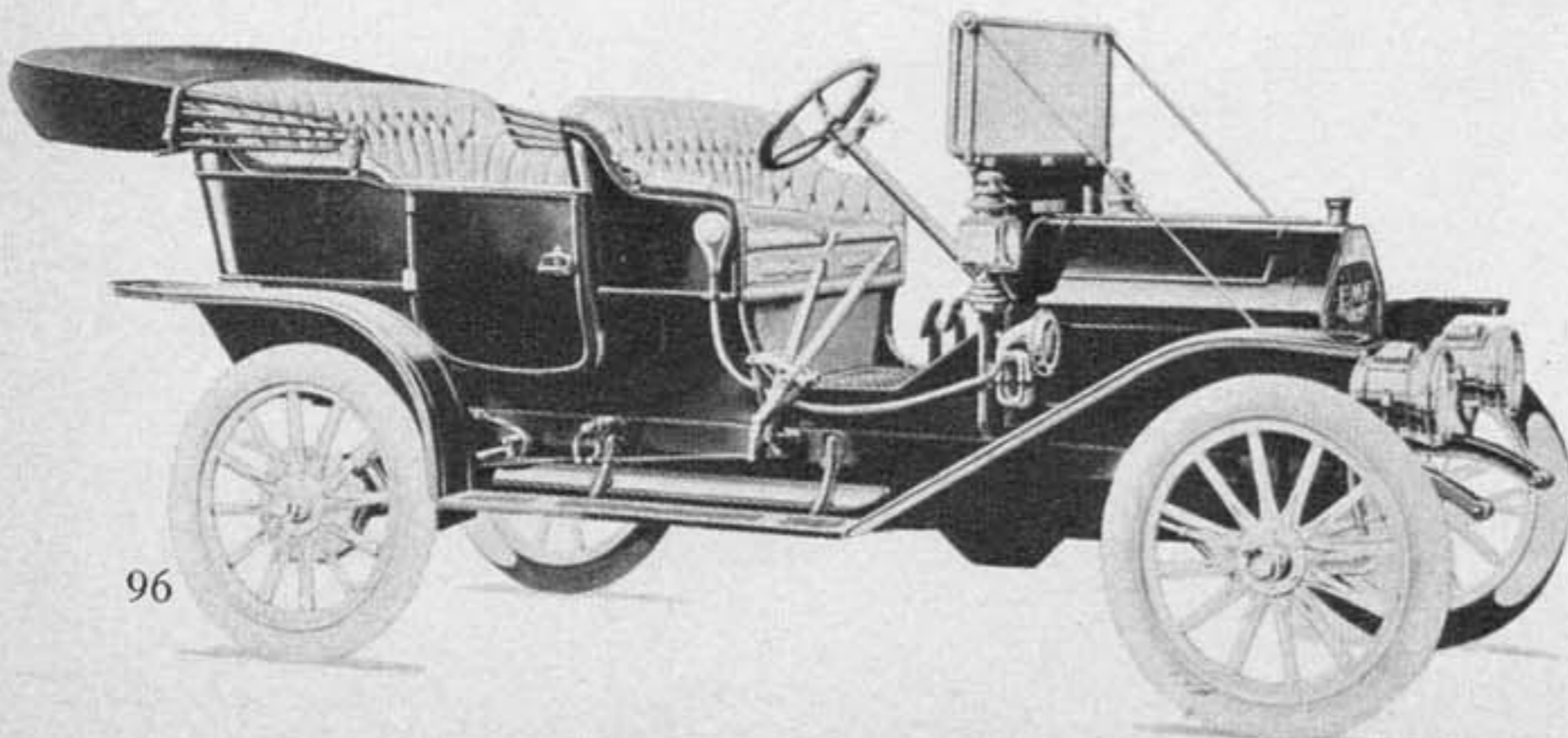
The Model A roadster with "mother-in-law seat" sold well among sportsmen. Using the Garford chassis with four-cylinder 28 hp engine, its price was \$3,250. The bulk of auto sales that year was made up of the Garford models.

1908



This top-heavy landaulet represented another price increase—\$5,100. It had the same engine as the Model G-30 and was one of the last of the Garford models, all of which were rapidly being replaced by the E-M-F line of cars.

1909

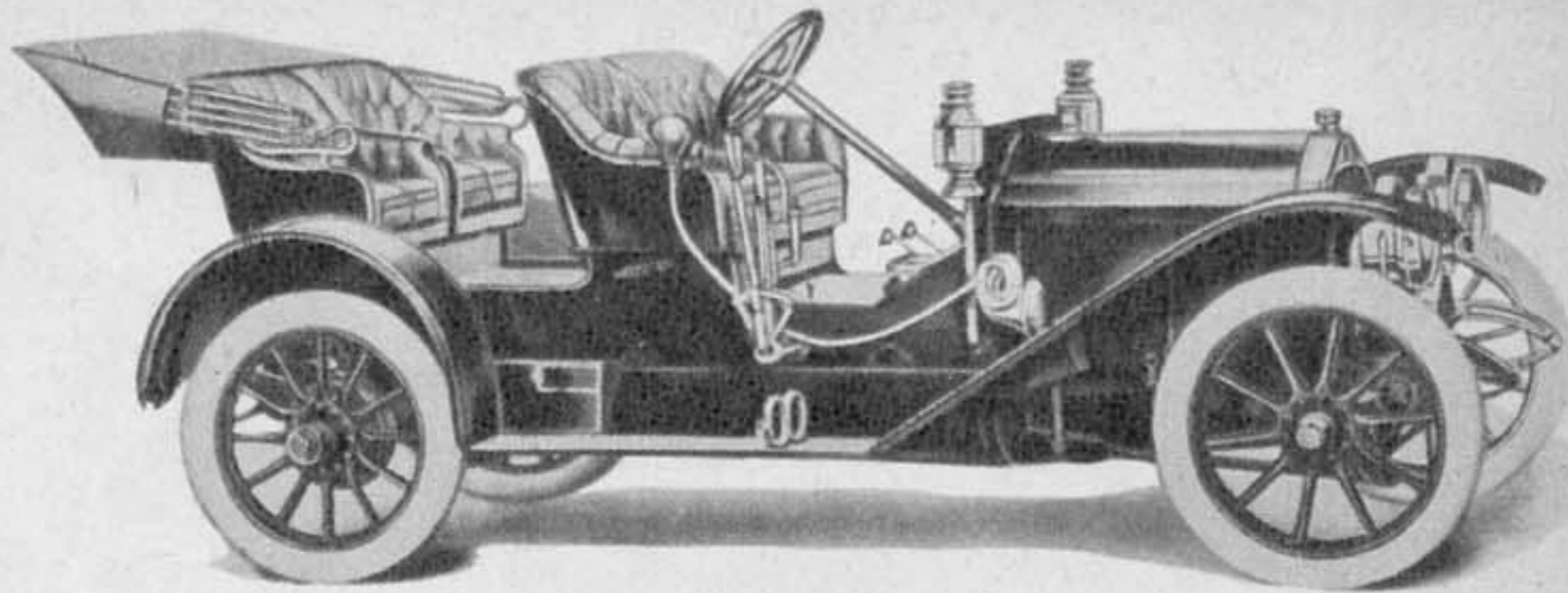


The E-M-F Model A-30, with four-cylinder 25.6 hp engine, was the larger of two models which sold between them almost 10,000 units that year. Car could make better than 50 mph and price was low: \$1,000. Note outside controls.

1910

This four-passenger luxury tourabout was more expensive again, but it had a lot to offer: four-cylinder 40 hp engine, 117-inch wheelbase and friction shock absorbers. The price for the automobile was \$3,500.

## 1911



company and became manager of the carriage division.

By 1874, Studebaker sales had reached the \$1,000,000 mark and the company's facilities were such that a completed horse-drawn vehicle was rolling out of the factory every seven minutes. In 1878, the Studebakers went after the European market by displaying a range of carriages and wagons at the International Exposition in Paris. Again they were highly successful, winning numerous awards.

It was only logical that the company should at last explore the possibilities of the "horseless carriage." So in 1897, experiments were begun with an electric car. By 1902, the first self-propelled Studebaker was on the market in the form of an electric runabout, and 20 of these were built and sold.

Two years later came the first gasoline-powered Studebaker, known as the Studebaker-Garford. Right away it proved to be a hit, even though motoring was still for the hardy and auto-buggies in general were the object of hostility and ridicule. The very first production gas-powered Studebaker was delivered at the factory gates to a Mr. H. D. Johnson of South Bend, who paid \$1,750 for it in cold cash, while a band struck up a popular tune of the day: "There'll Be a Hot Time in The Old Town Tonight!"

In 1905, the gasoline-powered line was increased to two types by the addition of Model No. 9503, the company's first four-cylinder car. It sold for \$3,000. A year later, the volume of business had reached \$7,000,000 and the first limousine was put on the market. Supply had now become a rather serious problem.

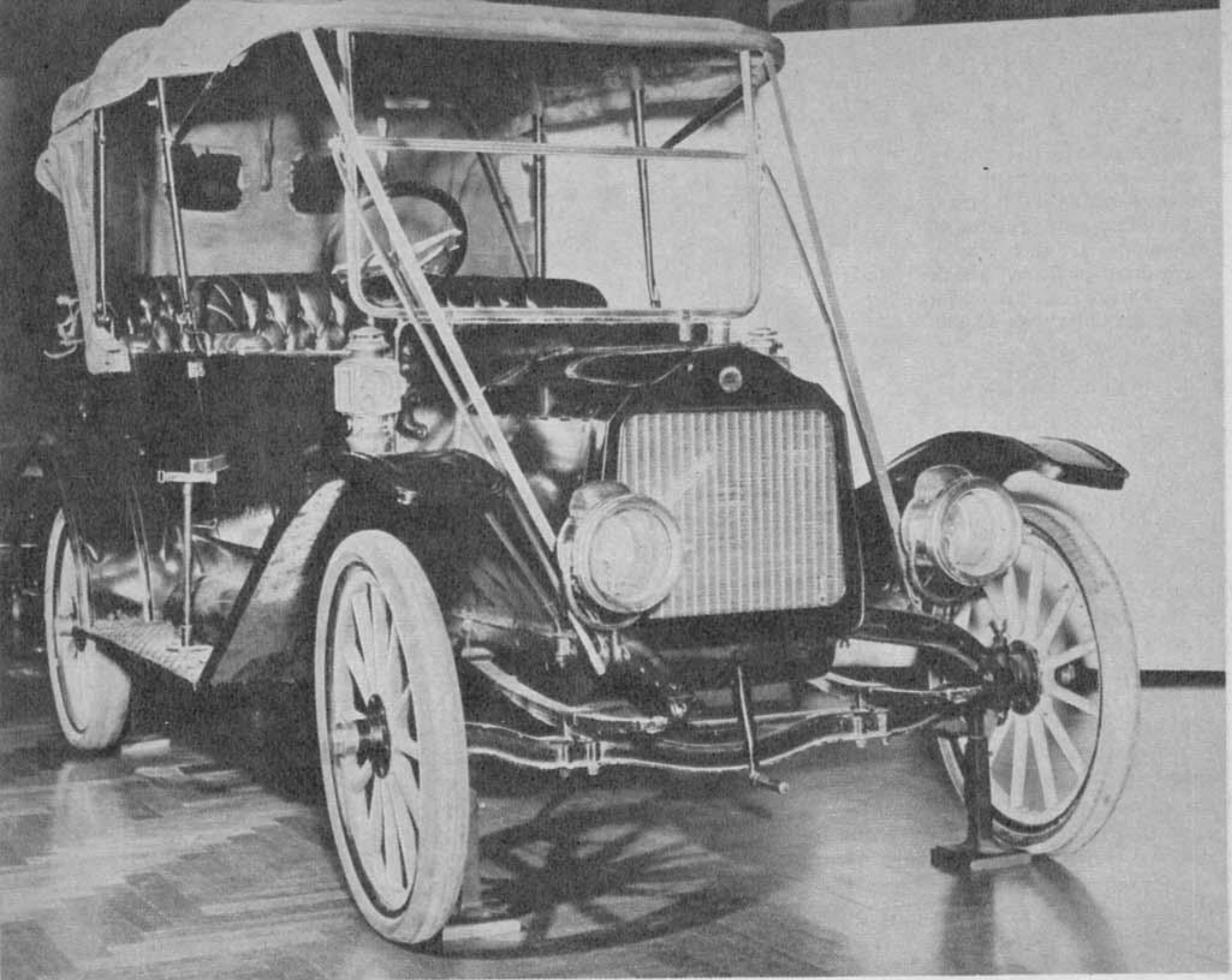
The agreement between Studebaker and the Everett, Metzger and Flanders Company of Detroit, made in 1908, helped considerably to ease the supply situation. This firm had originally been incorporated for

the purpose of building and marketing a car of its own design, but was without any distribution outlets. It thus faced a serious problem. Studebaker offered to absorb and sell the company's entire output. The new car was to be known as the Studebaker-E-M-F, combining both the well-known Studebaker name and the initials of Everett, Metzger and Flanders. During the remainder of 1908, the E-M-F 30 (Model A), offered as a touring car, demitonneau, tourabout or roadster, accounted for only 172 units in the total of Studebaker gasoline car sales; the bulk of sales still went to the Garford models H, A and B, whose chassis were built by the Garford Company, of Ohio, and were then shipped to South Bend for assembly.

But by 1909, the picture was different. Nearly 8,000 E-M-F 30 and 20 cars were built that year and the over-all sales volume reached \$9,500,000. This brought with it fantastic profits, added problems and some internal company clashes.

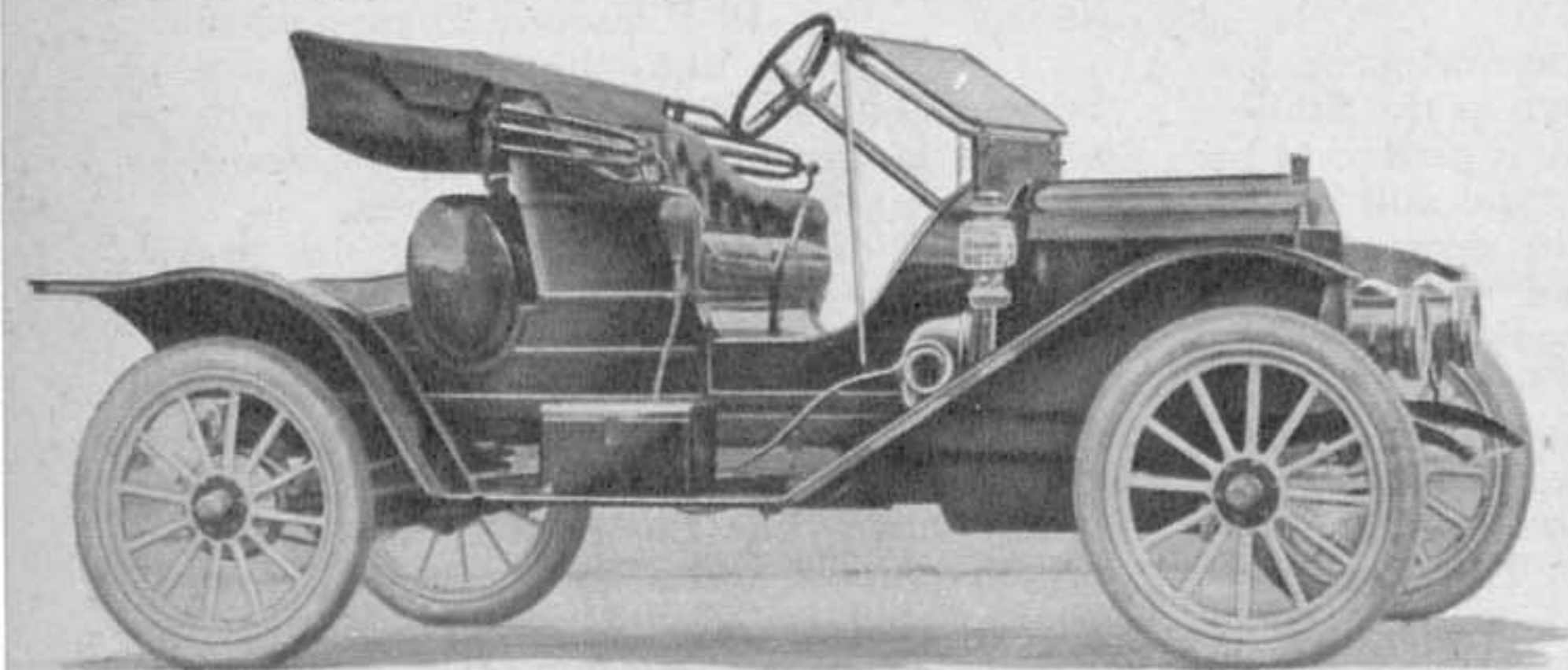
In 1910, despite jealous criticisms by competitors—who claimed that the initials E-M-F stood for "Every Mechanical Fault"—these two models sold nearly 9,700 units, aside from the Studebaker-Garford cars and trucks. The following year, Studebaker bought out the E-M-F firm for a million dollars and a new company was incorporated in New Jersey in January, 1911, with assets of \$25,000,000.

Thus, the Studebaker Brothers Manufacturing Company made way, after a magnificent record, for the Studebaker Corporation. During the 43 years of the old company's existence—1868 to 1911—over a million vehicles of all types had been built. From 1904 to 1911, Studebaker-Garford models alone, most of them high-priced (\$3,500 to \$5,000), had sold 2,481 units, while the electric cars, discontinued in 1912, accounted for 1,841 satisfied Studebaker customers.



**1911**

The Garford 40 touring car with four-cylinder engine and four-speed sliding-gear transmission was claimed to cost "less than one cent per hundred miles for repairs."

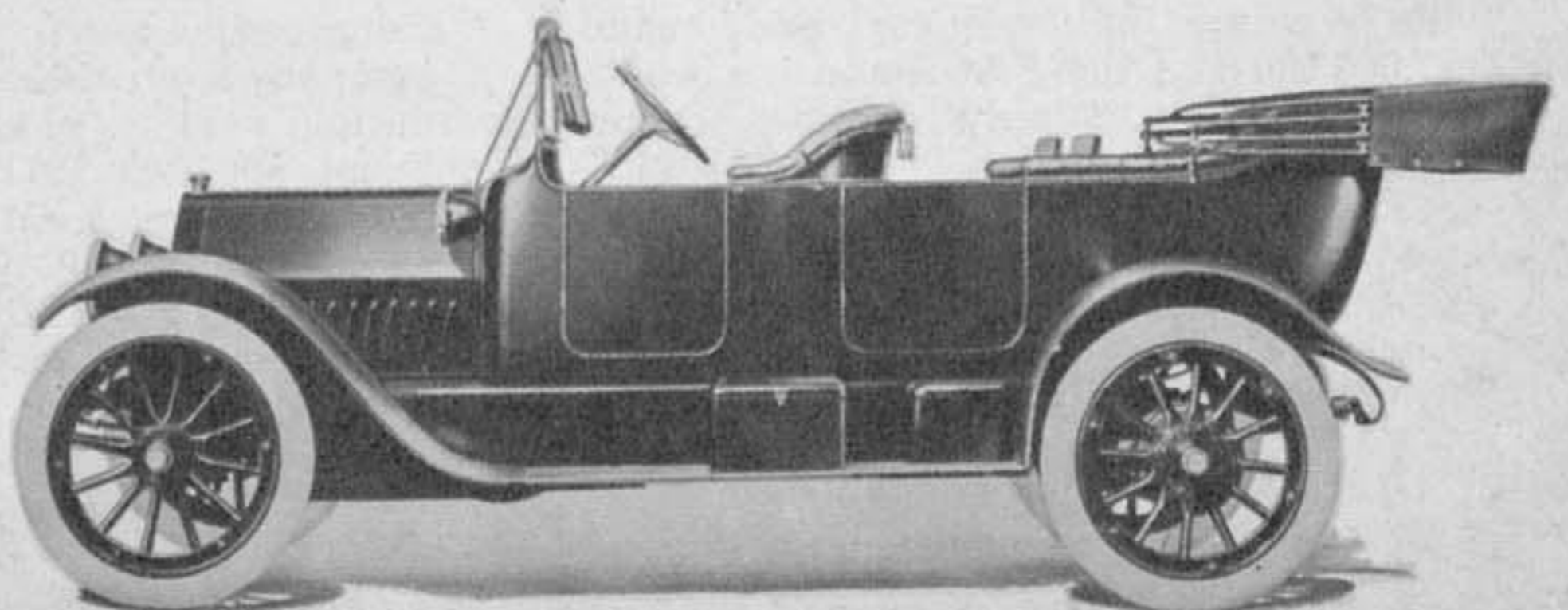


The Flanders Model S was a sporting rig quite typical of the times, with its elliptical gas tank behind the driver's seat. It had a four-cylinder 20.2 hp engine, weighed 1,200 pounds, sold at low price of \$830.

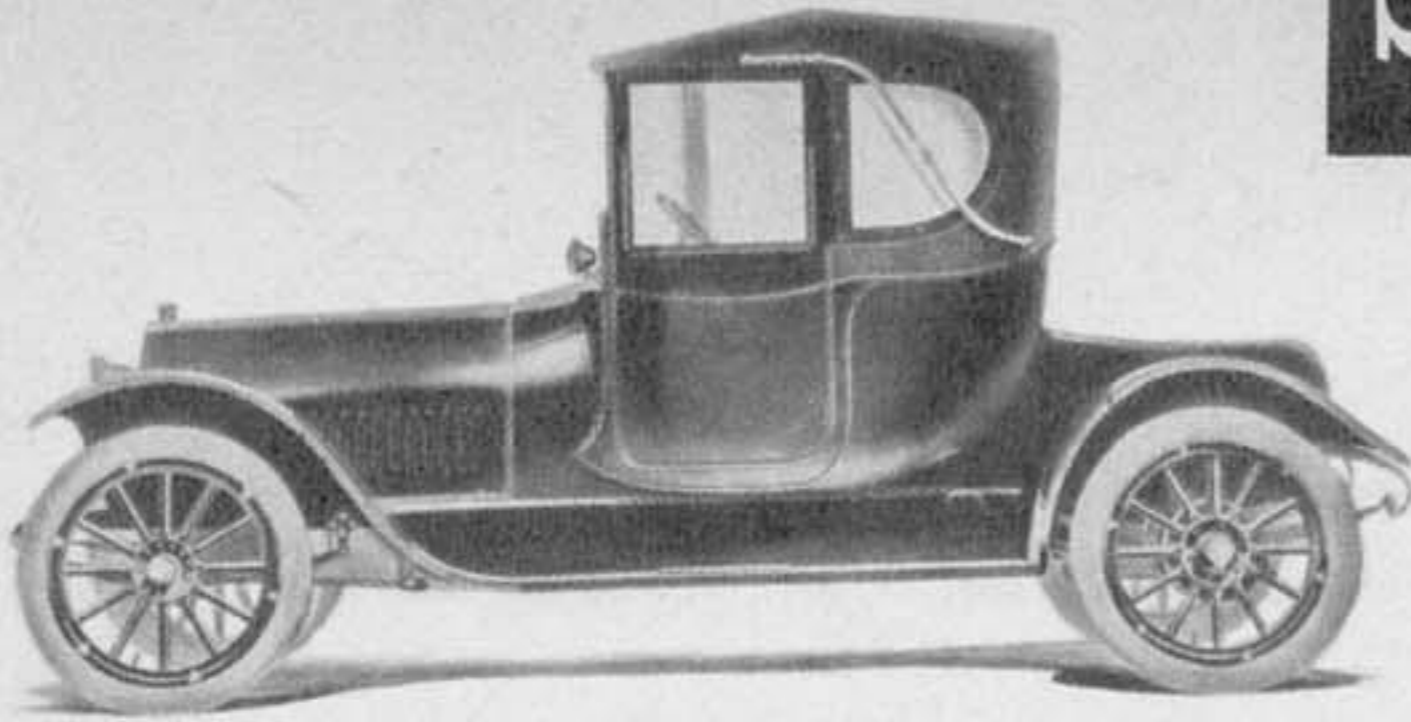
**1912**

**1913**

The Model AA touring car, with four-cylinder 27.2 hp engine, had folding seat, electric lighting and right-hand drive. Carrying capacity was seven passengers. At \$1,290, the year's sale topped 9,800 units.



# STUDEBAKER

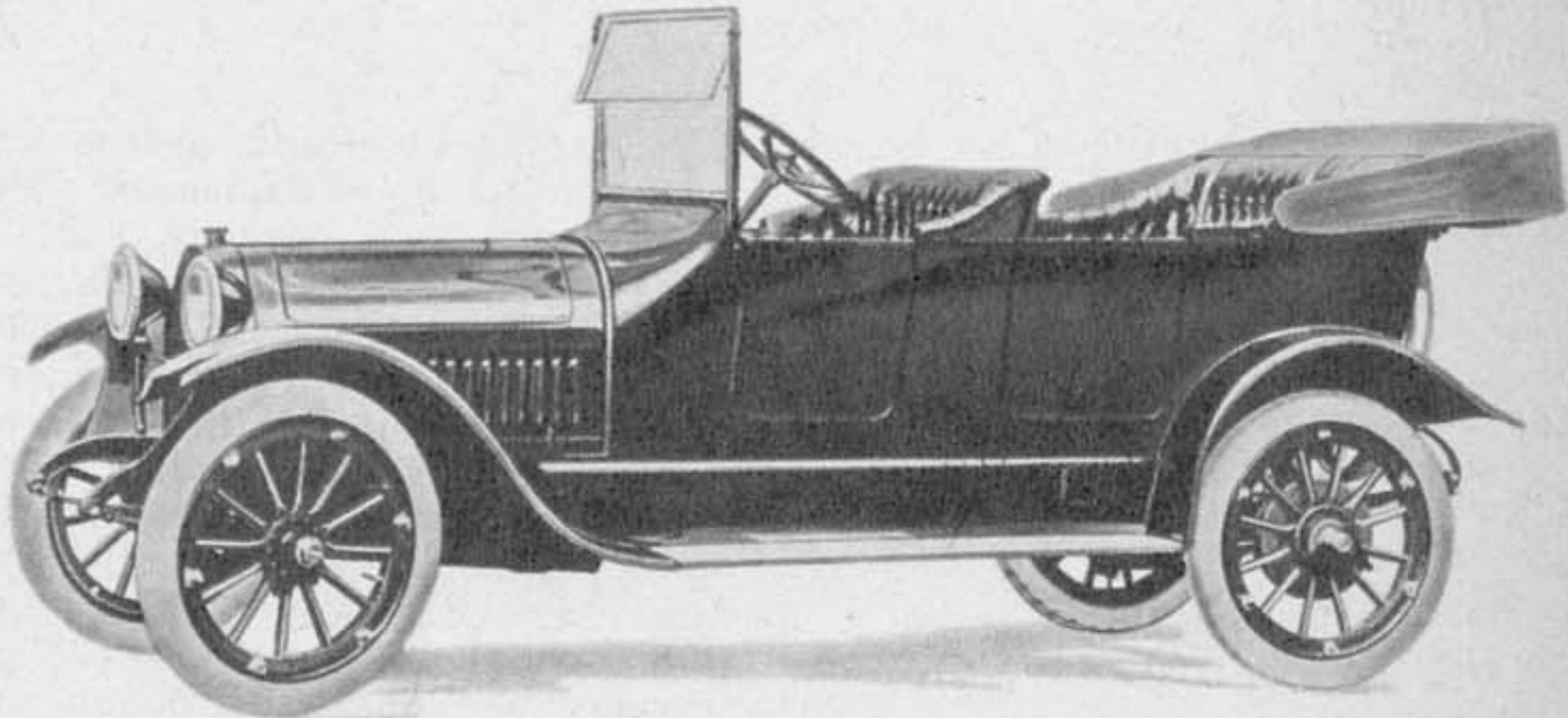


First announced in October, 1913, this Series 14 Model EB landau roadster featured a folding top. Considered quite distinctive, it sold at \$1,950, with six-cylinder 29.45 hp engine and "streamlined" body. Note the lightweight look.

1914

1915

The Series 15 Model EC five-passenger touring car had an engine almost the same as the Model EB. Price was \$1,385 (\$1,450 for seven-passenger body) and more than 8,700 were built and sold between July, 1914 and June, 1915.

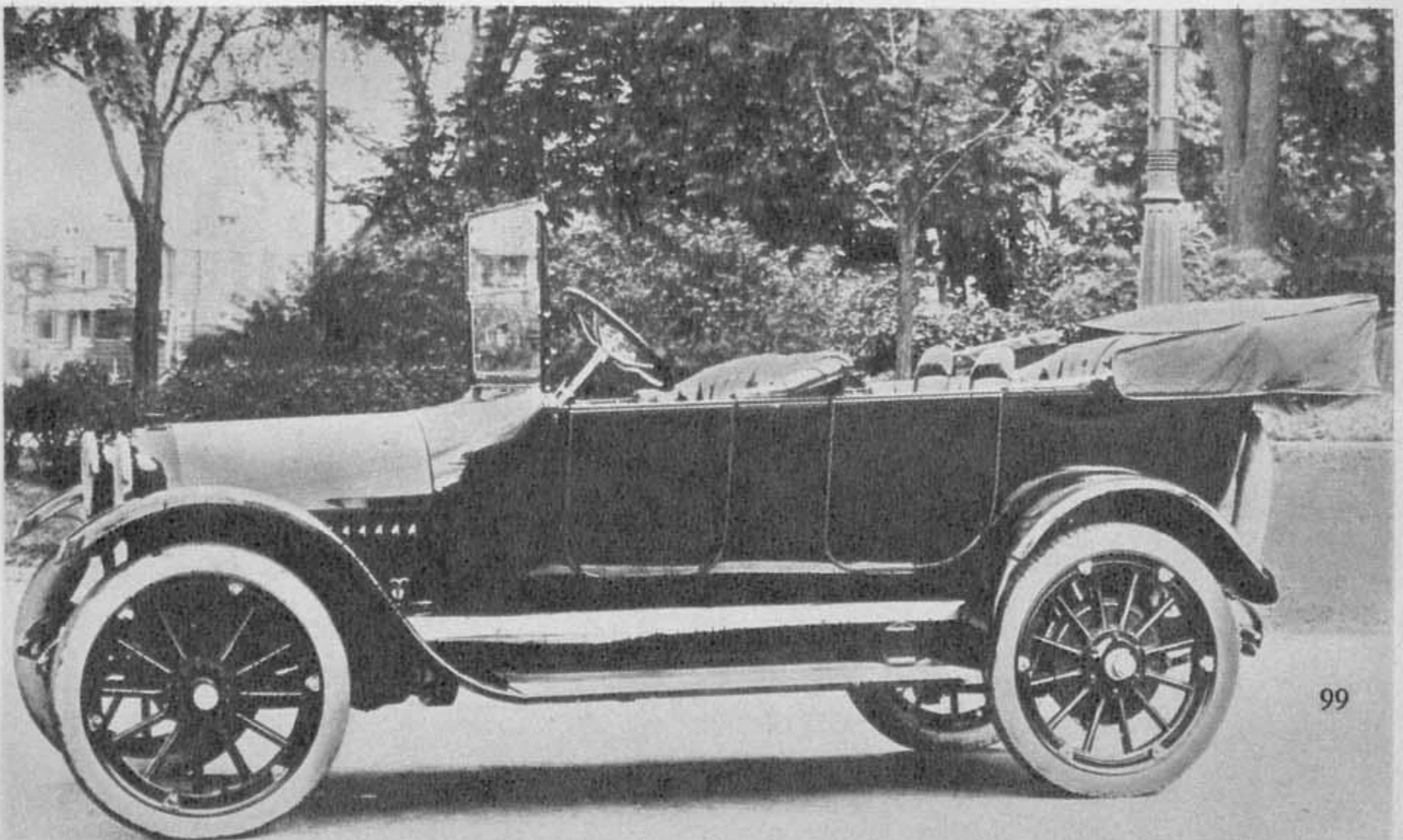


The typical Studebaker Electric, both pleasure and commercial models, was equipped with batteries of between 40 and 80 volts and of 24 amps. They varied from 24 to 36 cells. The car-range was 40 miles with a speed of 3 to 18 mph, and weight varied between 1,500 and 2,350 pounds.

After August, 1912, the name plates E-M-F and Garford were dropped entirely and all models became known simply as Studebaker. •

First produced in June, 1915, the Series 16 Model F touring car featured large brake drums. With four-cylinder 24 hp engine, it sold at \$885 and found 19,445 customers.

1916

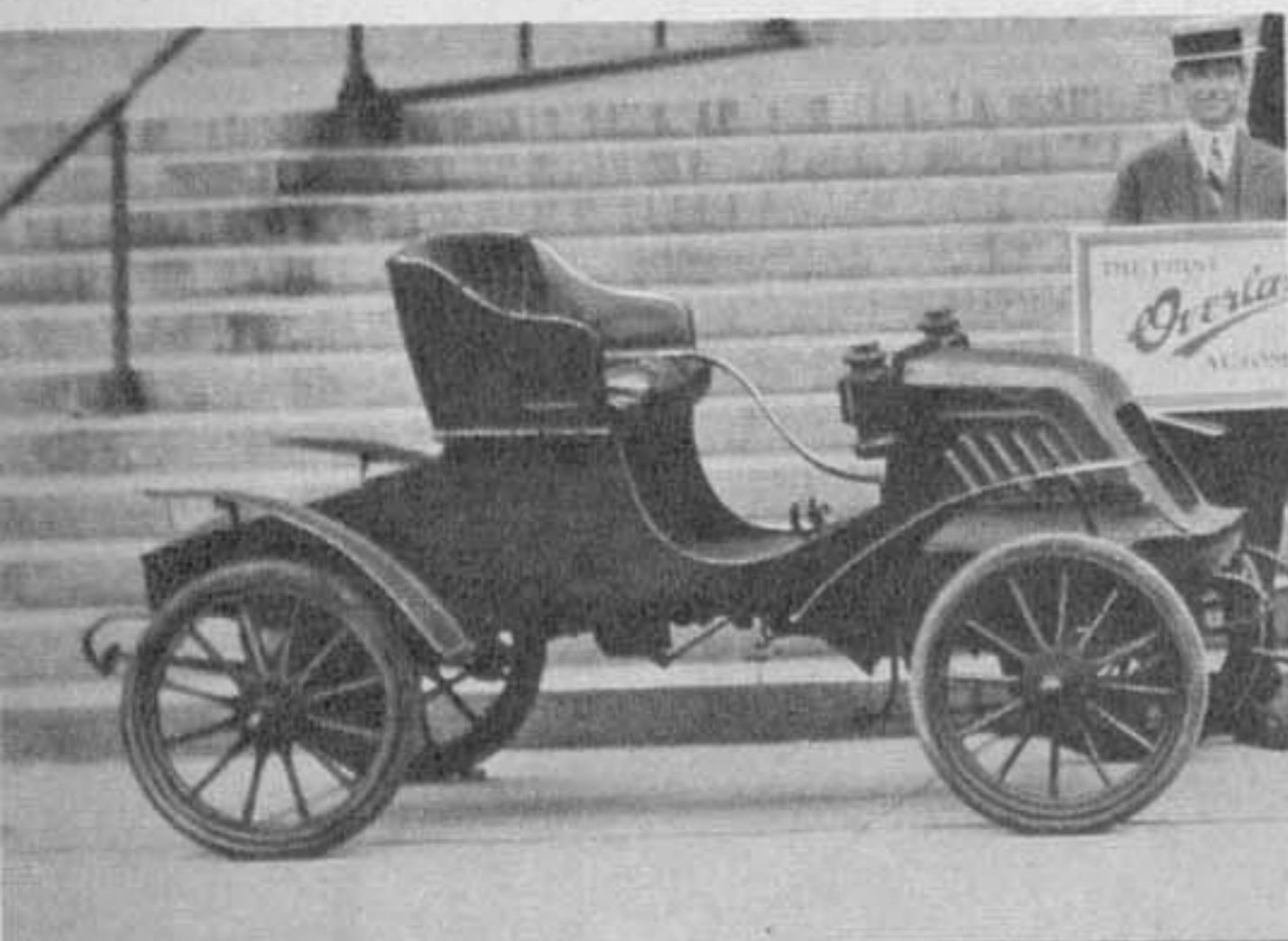




# Willys-Overland

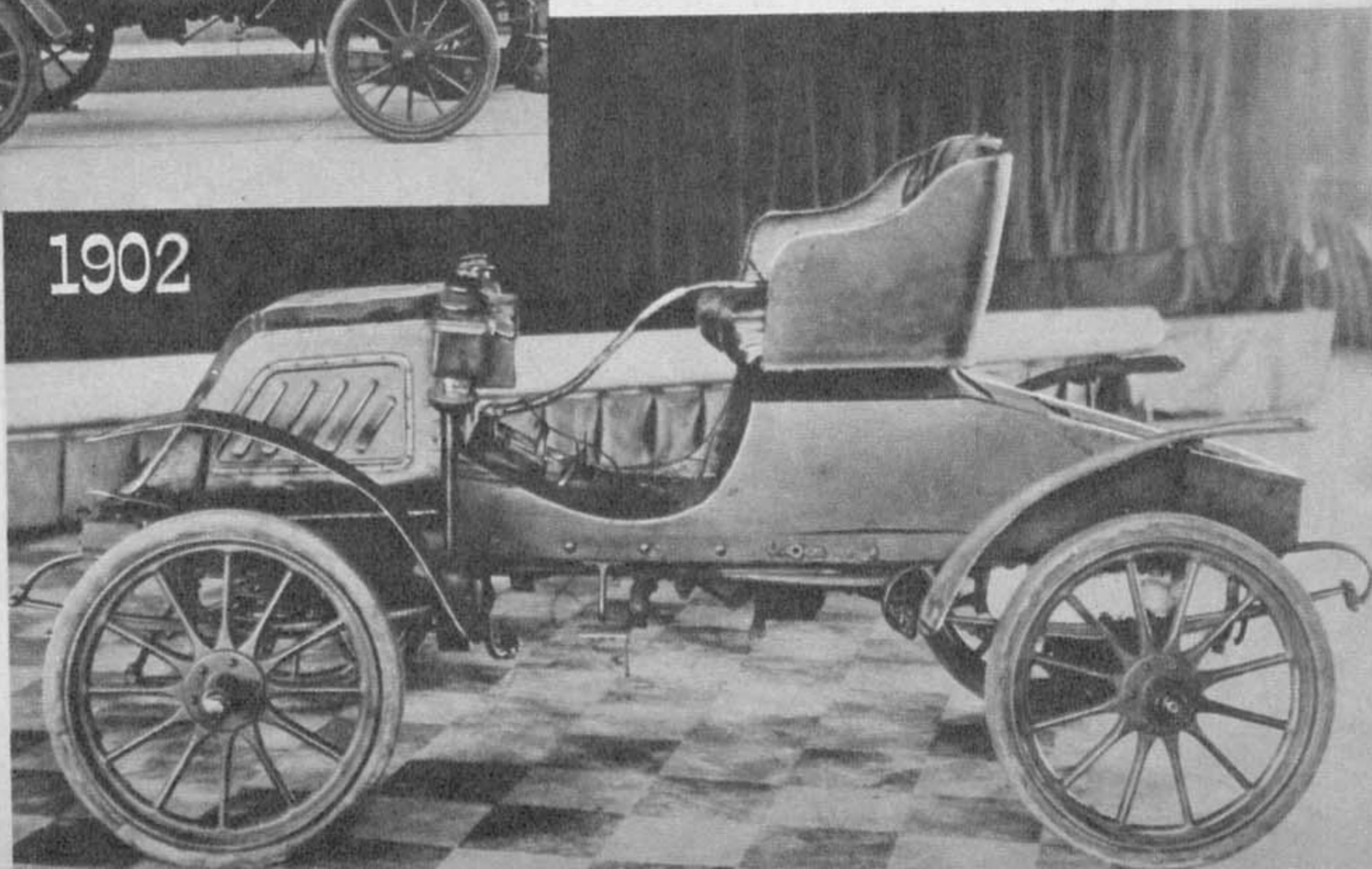
*Because he never liked to lose a sale,  
John Willys saved an auto industry.*

**T**HE first Overland, grandfather of the famous World War II Jeep and ancestor of today's Jeepster and Station Wagon, was born in 1902. That year, the Standard Wheel Company of Terre Haute (later of Indianapolis) put on the market a low-priced runabout of starkly functional appearance. It used a tiller as a means to control the steering. The power unit was a single-cylinder, water-cooled engine that embodied at least one "modern" design feature—it was located under the hood at a time when many automobiles still had their engines below the driving seat. The company claimed that the "long wheelbase" (78 inches), "large tires" (28 x 2½ inches) and "long springs" were major contributions to "pleasure in driving."



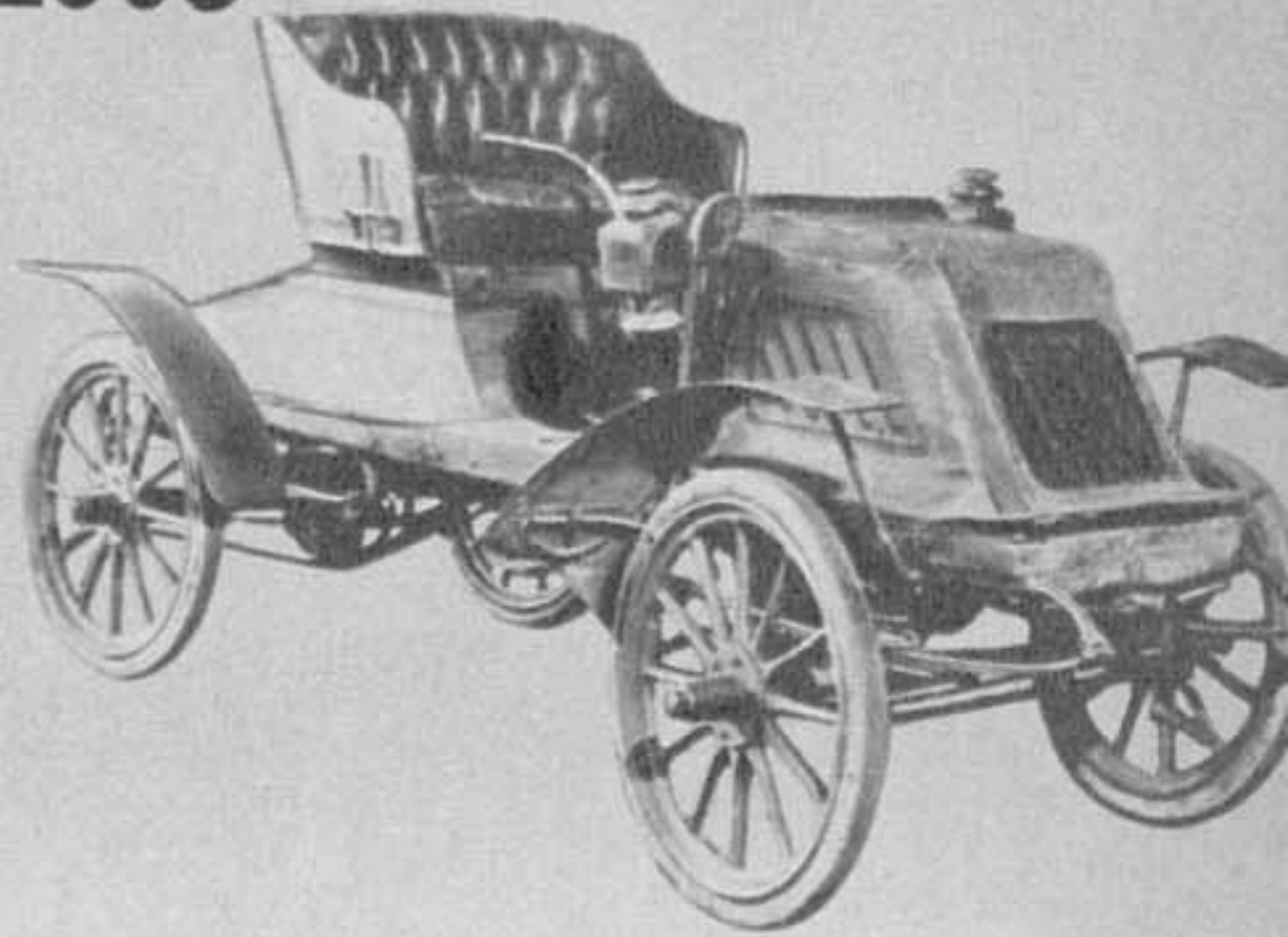
The first Overland (left) was built in 1902 by the Standard Wheel Company of Terre Haute. It had a single-cylinder engine thought "modern" because under a hood. It was popular at once.

Devoid of frills, this first manufactured model (close-up below) developed about 5 hp, seated two, weighed 600 pounds and cost \$595. Note extra-long springs, an early "comfort" feature.



# Willys-Overland

## 1903



Model 13 was the company's earliest "production" unit. Still made almost wholly by hand, its price rose to \$650. Radiator location of car anticipated modern style by almost half a century.

For one reason or another, people took to the Overland, and after three years the concern (which had now become the Overland Motor Car Company), dropped its one-cylinder engine in favor of more powerful two- and four-cylinder versions, the first of which appeared in 1905. These two models were known as 17 and 18 and developed nine and 16 hp respectively. The wheelbase was lengthened to 86 inches. The two-cylinder car sold for \$750 and the four cost \$100 more.

For 1906, a Special Runabout was introduced. It featured not only a steering wheel with controls "at your fingers' ends," but also a brand new color known as "Silk Green." Priced at \$600, it evoked lavish praise from a Gulfport, Mississippi, dealer: "I received the car and sold it the day it came to a man who never rode in one before. I instructed him for two hours and he has not had one minute's trouble since he started it. . ."

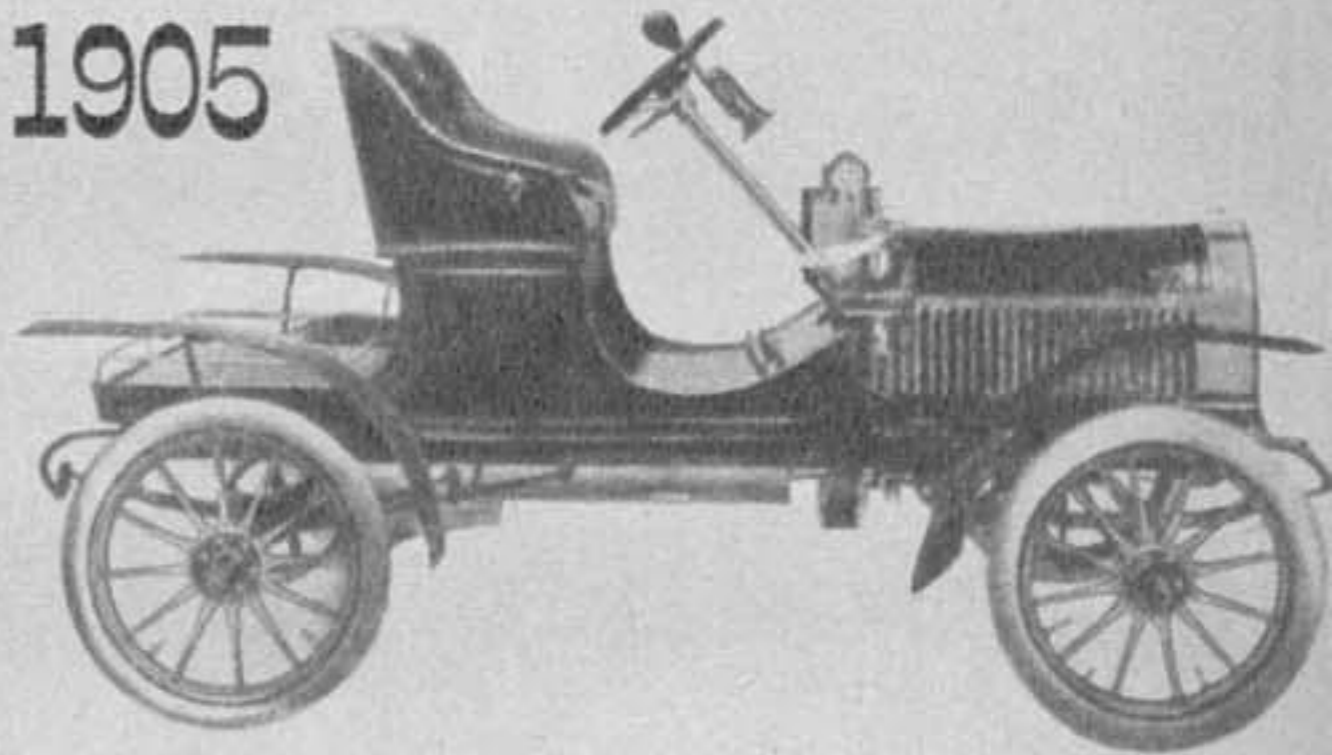
The steady upsweep in the Overland's popularity, coinciding with the failure of the Knickerbocker Trust Company in 1907, produced a paradoxical chain of circumstances that in turn changed the entire future of the firm. The Overland Motor Car Company found itself in virtual bankruptcy, while at the same time it had on hand a large unfilled order from an Elmira, New York, dealer named John N. Willys. Mr. Willys had contracted to buy the entire Overland output for that year.

A dynamic individual, he made a quick decision. If he let the firm close down he would be unable to get delivery of a large number of cars he had already sold. This being out of the question, Willys took a train for Indianapolis. He financed and reorganized the company so efficiently, that by the end of 1907 some 323 cars were produced and delivered.

In 1908, Willys became president, treasurer, sales manager and purchasing agent for the re-formed Overland Company, and was responsible for the production and sale of 465 cars, all of which were variations of one model known as the 24. It was priced at \$1,250.

This was just the beginning. The first six-cylinder Overland appeared the fol-

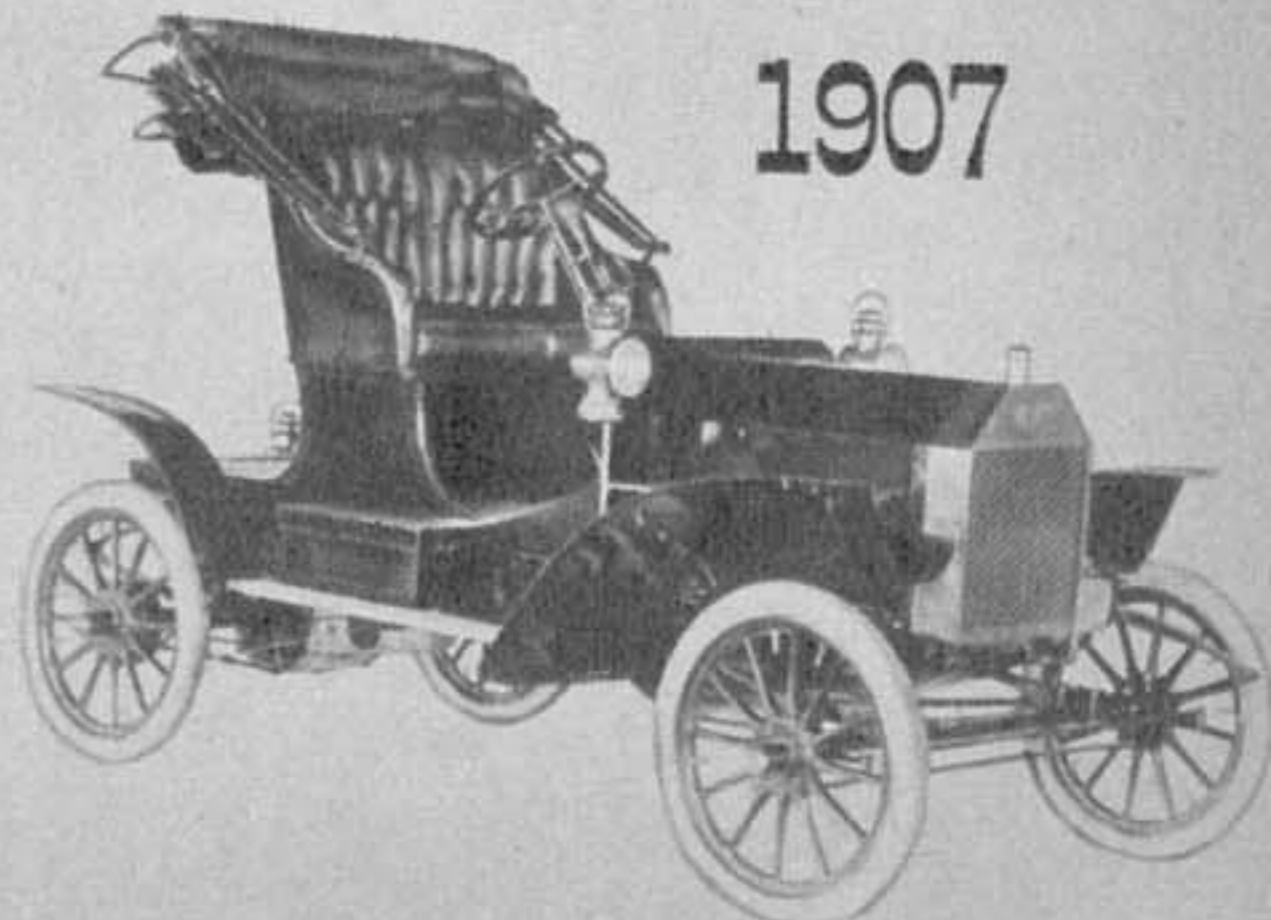
## 1905

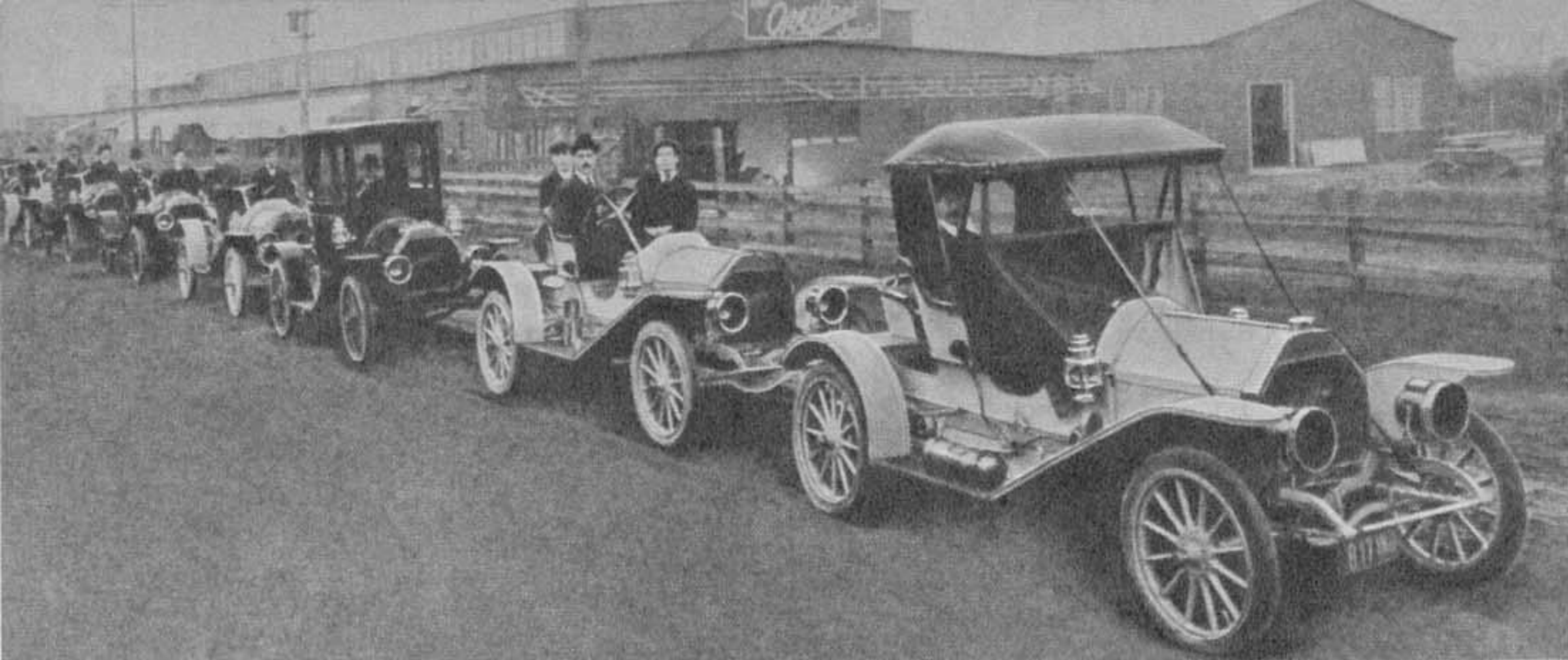


Model 17 could do 30 mph, but company advised owners to hold it down on "ordinary roads." With 8 hp two-cylinder vertical engine, it cost \$750 (with bulb horn and two spare spark plugs).

Model 22, a special runabout, featured double carriage springs and steering post gear shift. With 8 hp four-cylinder engine, it cost \$1,250. This model saved the company from bankruptcy.

## 1907





1909

First shipment of the year from Indianapolis factory. In foreground are two Model 30 runabouts (\$1,250). Third unit is same car with coupé body (\$1,650). All were 30 hp.

Stripped-down Model 34 increased speed but also discomfort for crew. Weight was 1,900 pounds; engine was six-cylinder 45 hp. Price fully equipped was \$2,000.



1909

lowing year and retailed for \$2,000. It was known as the 34. So enthusiastic was public response that Willys-Overland sales for 1909 jumped to 4,000 cars—a production increase of nearly 900 per cent over the previous year! The appearance of the first Willys Six, costing \$2,250, added still further to the company's prestige, although the four-cylinder Overland continued to sell in a big way in the \$1,000-1,500 price range. It had attractive specifications, which included three-point engine suspension, shaft drive, a planetary transmission, double ignition and a "long wheelbase" (110 inches). The Company claimed that ". . . In the Overland you get actually \$3,000 worth of real car value for one half or less than one half the price. . ." This pleased the customers so much that in December, 1909, John Willys was able to purchase the Pope-Toledo automobile plant in Toledo, Ohio. He converted it into a new assembly plant for his cars. This was a building 600 feet long, 90 feet wide and three stories high located on Central Avenue. It soon was working at capacity, in addition to the Indianapolis factory.

For 1910, there were four models known as the 38, 40, 41 and 42, all of them four-cylinder cars, with the largest having a displace-



ment of 255.3 cubic inches and a wheelbase of 122 inches. This last, with a fore door touring body, sold at the low price of \$1,250.

The following year Willys moved the Indianapolis plant to Toledo and launched another expansion program to cope with public demand. The 1911 Overland fore door touring car, with 118-inch wheelbase and a 40 hp engine, was an immediate favorite.

That year the Kinney Manufacturing Company was organized to supply sheet metal parts for Willys-Overland; and in 1912, John Willys brought the Warner Gear Company to Toledo to make gears and other machined parts for his products. In 1914, the Tillotson Carburetor Company was organized with Harry Tillotson at the head. Prior to that time, Tillotson was chief salesman for Stromberg carburetors. In that job he had acquired immensely valuable knowledge and experience. Tillotson carburetors now went into all Overland cars, improving performance and cutting down on gas expense.

Willys next acquired control of the Morrow Manufacturing Company at Elmira, New York. It was renamed Willys-Morrow and put on a full-time basis making Willys transmissions. This move was

Despite the chauffeur's confident look, this smart Model 36 did not survive its market. With 45 hp six-cylinder engine, weight of 2,000 pounds and European air to it, the car was priced at \$2,250.

1909



Tread 56 inches

Vertical Flat-Tube Radiator on Artillery Trunnions

3-Point Motor Suspension

Valves all on Left Side

Filler for Crank-Case Reservoir

Offset Crank Shaft on 5 Large Bearings

3-Point Motor Suspension

Swiveled Yoke on Torsion Tube Preventing Disalignment

Wheel Base 112 Inches

Frames Heavy Pressed Steel Joints Hot-Riveted

Large Exhaust Pipe Prevents Back Pressure

Four Powerful Brakes Internal and External

All Wheels and Tires, 34 x 4 inches

1/2 Elliptic Front Springs

Large Water Pipes Without Bends

Steering Levers Protected by Front Axle

High Grade Magneto Included—Dual Ignition System

All Cylinders Cast Singly

3-Point Motor Suspension

Only One Universal Joint

Muffler Cut-Out

Selective Sliding Gear Transmission

Straight Line Shaft Drive

Equalizers on all Brakes

Gear Set Directly in Front of Differential—No Lost Power

3/4 Elliptic Rear Springs

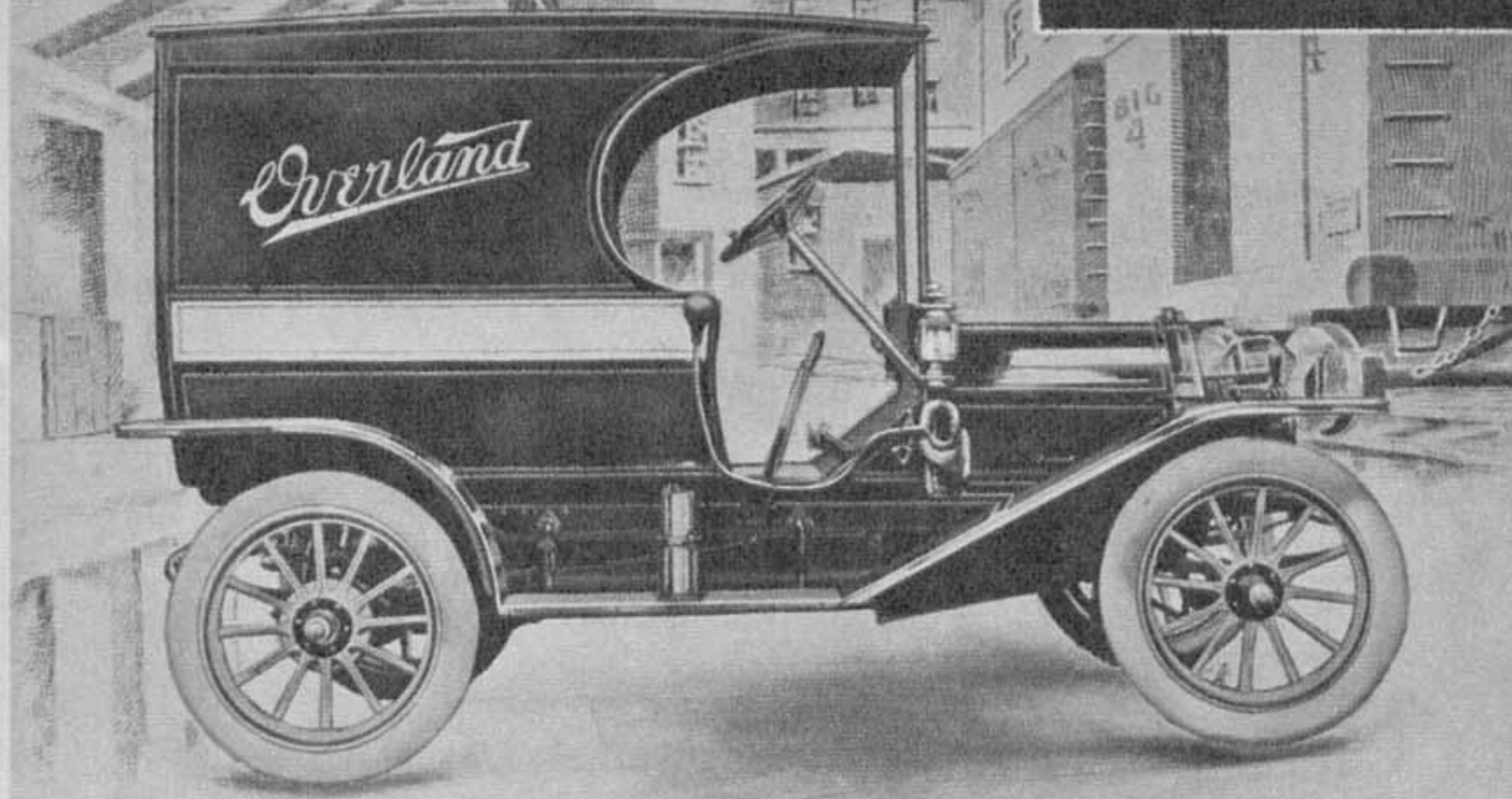
Transmission and Rear System Thoroughly Trussed

Muffler so Placed as to get all Odor and Smoke away from Car

1910

CHASSIS MODEL FORTY-TWO

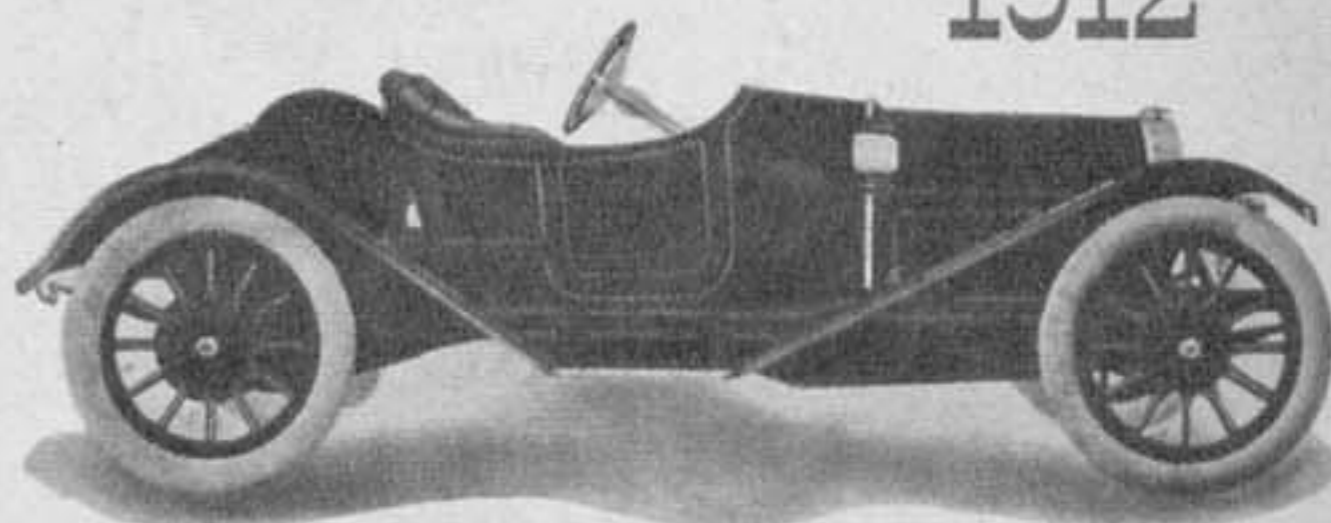
Birdseye view of Model 42 chassis, offered with choice of two open bodies. The 40 hp four-cylinder engine had compression taps for each cylinder and three-speed transmission located at rear. Price: \$1,500.



1910

Used by the U. S. Postal Service, this light truck body was mounted on the Model 37 four-cylinder 25 hp chassis. With 102-inch wheelbase, it could carry 800 pounds and sold for \$1,000 complete.

1912



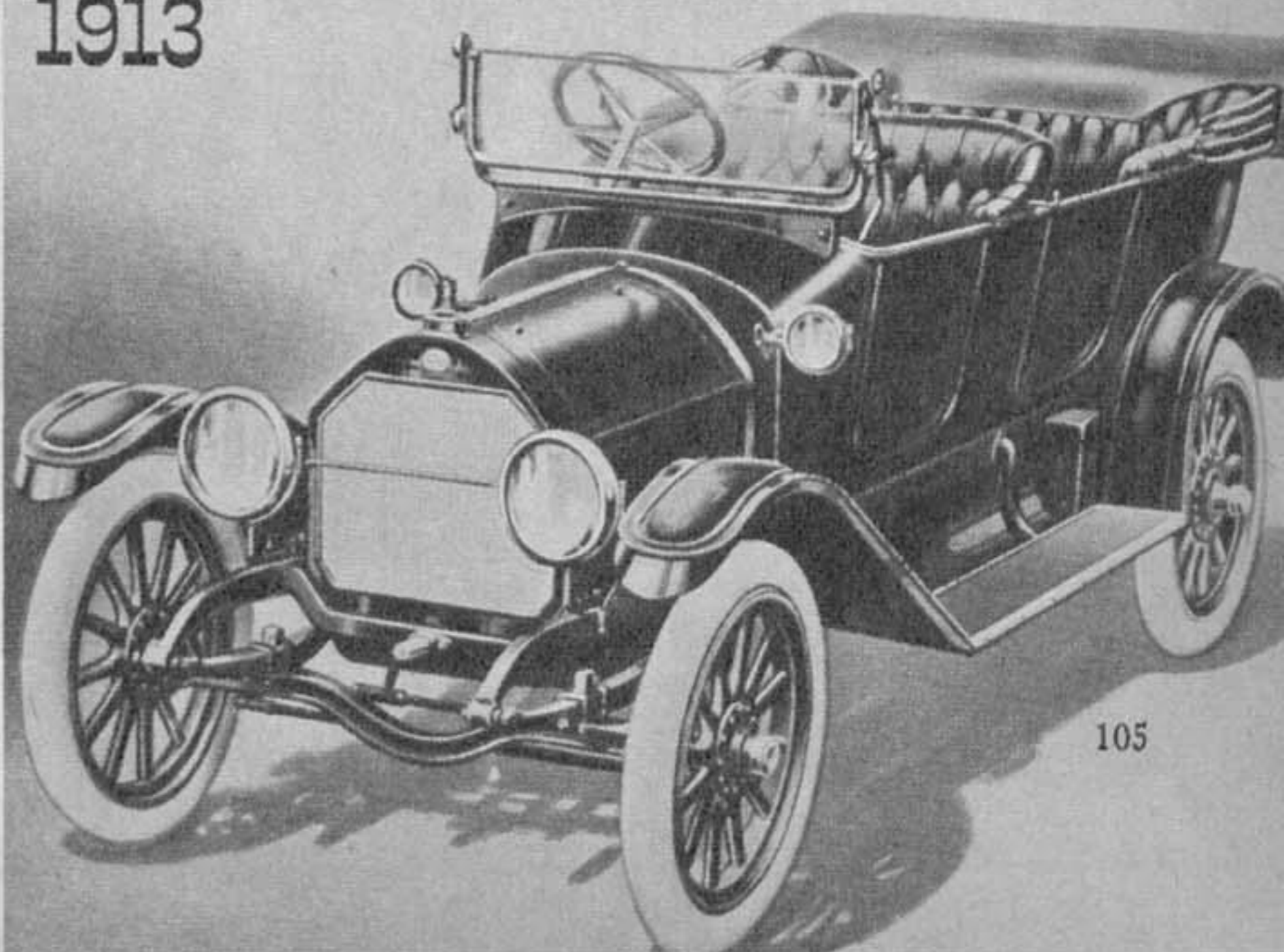
The Model 61-R Torpedo took Overland into the sports car field. With 45 hp four-cylinder engine and dual ignition (magneto and battery), it cost \$1,500. Color was brewster green with ivory trim.

followed by the acquisition of the Electric Auto-Lite Company of Toledo, which devoted its facilities from then on to the construction of generators and starters for the parent concern.

At the start of World War I, Willys-Overland was one of the leaders in the production of factory-built, enclosed bodywork—the primary appeal of which was to the womenfolk. Most popular was the 1914 Overland Model 79 with a four-

The Model 79-T touring car had a four-cylinder 35 hp engine. It carried five passengers, cost only \$950. Lighting was by storage battery. But the starter and generator were extras, at \$125.

1913

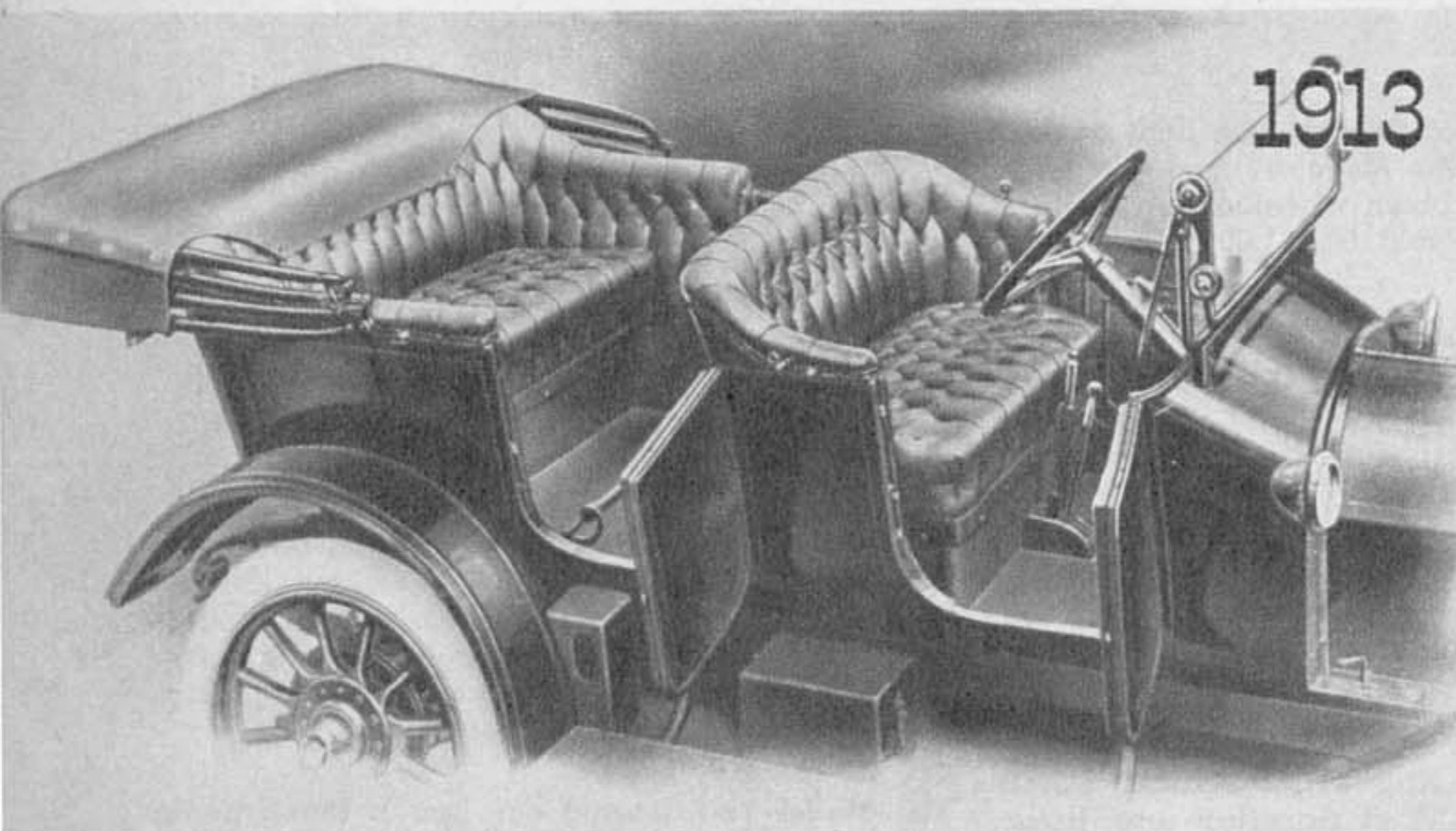


cylinder, 35 hp engine, 114-inch wheelbase and a coupé body that had almost the window area of a small greenhouse. Priced at \$1,550, it was described as "The Reigning Electrically Started and Lighted Coupé for Women." Over-all sales hit the 80,000 mark.

By 1915, the company had risen to the position of second largest automobile manufacturer in the U. S. and production reached a new high of 91,780 units, taking second place only to Ford.

In 1916, Willys-Overland was making 140,000 vehicles, and as later events proved, this was still to be nowhere near the peak of the company's achievement.

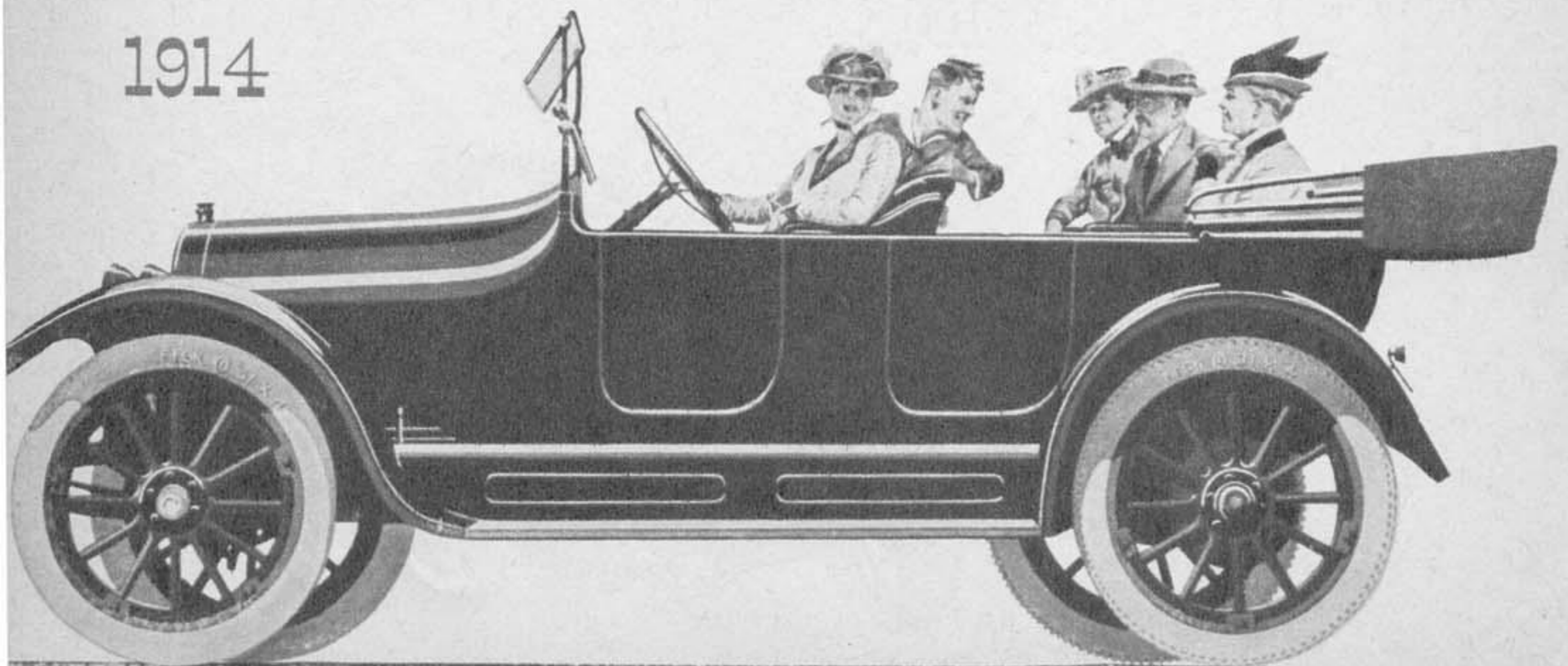
The foresight, shrewd business mind and courageous energy of John N. Willys undoubtedly has stamped him for all time as one of the giants of a giant industry in which the most intense competition left no room for any but the best brains. ♦



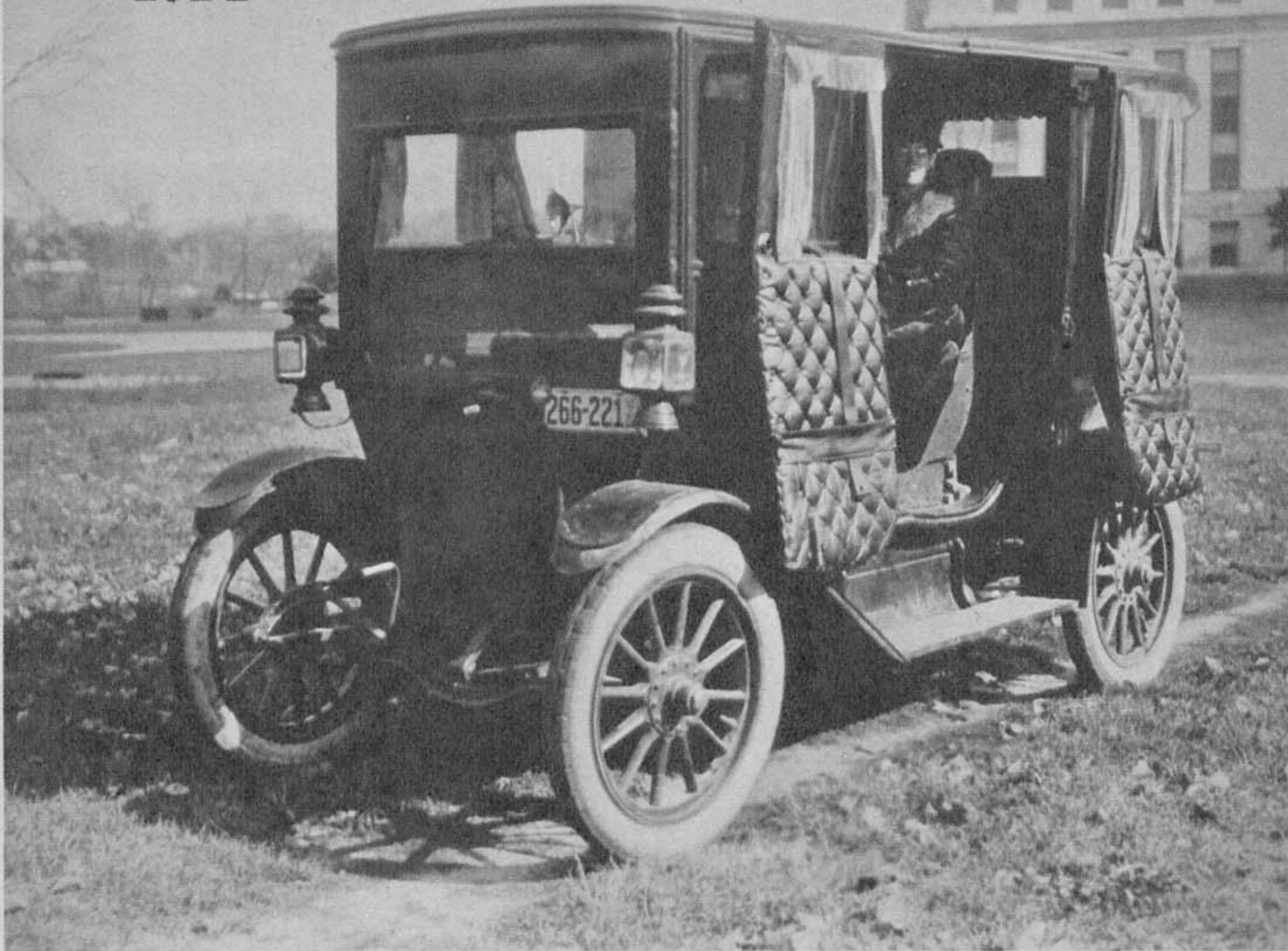
The company advertised "luxurious upholstery that gave armchair comfort and a feeling of roomy ease" in the Model 79-T. Featured also were foot rests, hood bag and folding windshield.

The Model 75 five-passenger touring car (below) sold for very low price of \$615 complete. It had a four-cylinder 20-25 hp "long-stroke motor," magneto ignition and a wheelbase of 104 inches.

1914



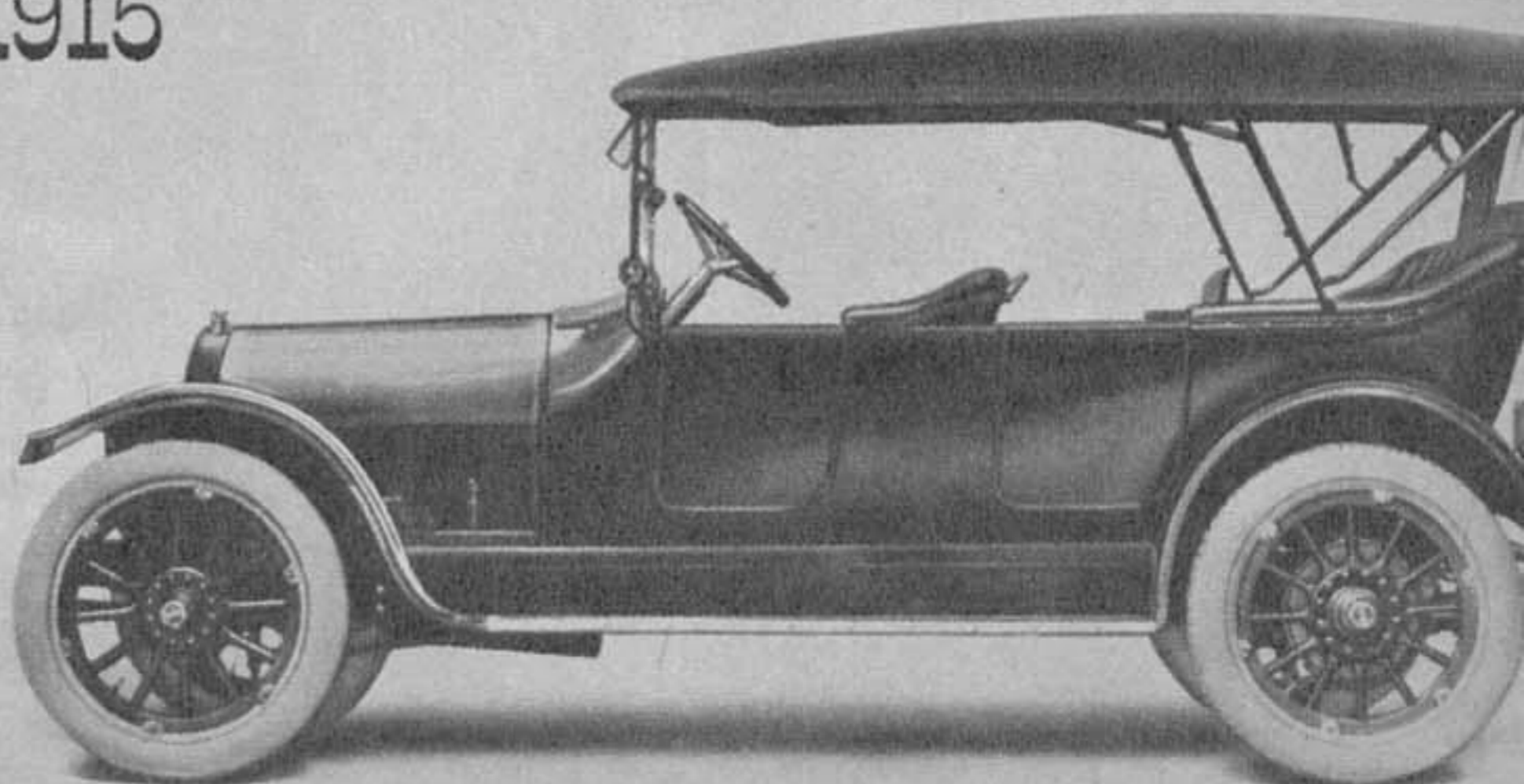
1914



The whim of an eccentric millionaire with strange ideas of design caused this monstrosity (above) to be built on the Model 79 four-cylinder 35 hp chassis. Vogue at the time was for fancy coupés.

Low in price but high in quality was this 45 hp six-cylinder touring car. With three-quarter-elliptic underslung springs and "one-person top," it cost \$1,145. Willys production was then 600 units daily.

1915



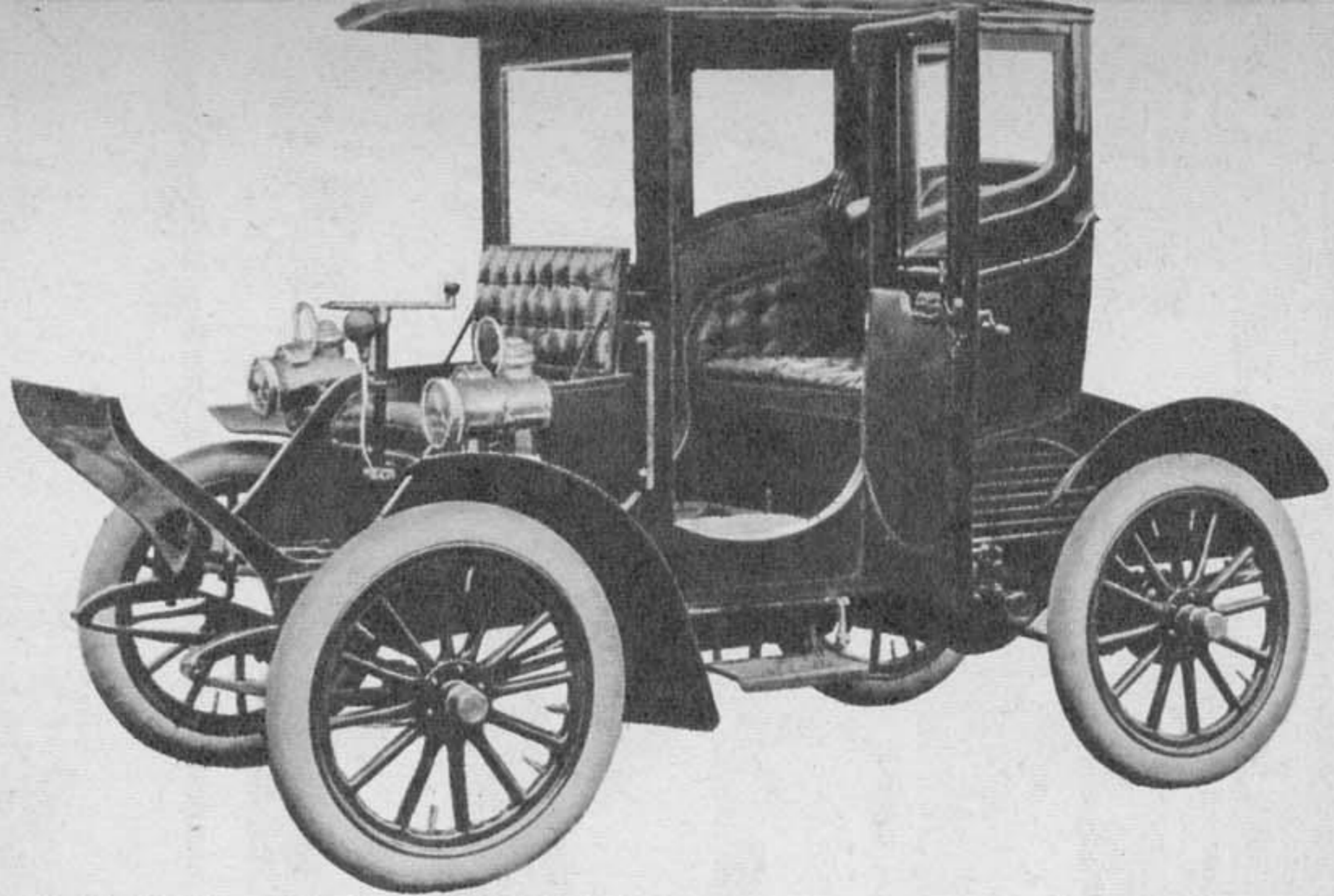
# OLD AUTO ALBUM

A PICTORIAL MISCELLANY  
OF PAST EVENTS AND CARS  
THAT CONTRIBUTED TO THE  
ACHIEVEMENT OF TODAY'S AUTOMOBILE



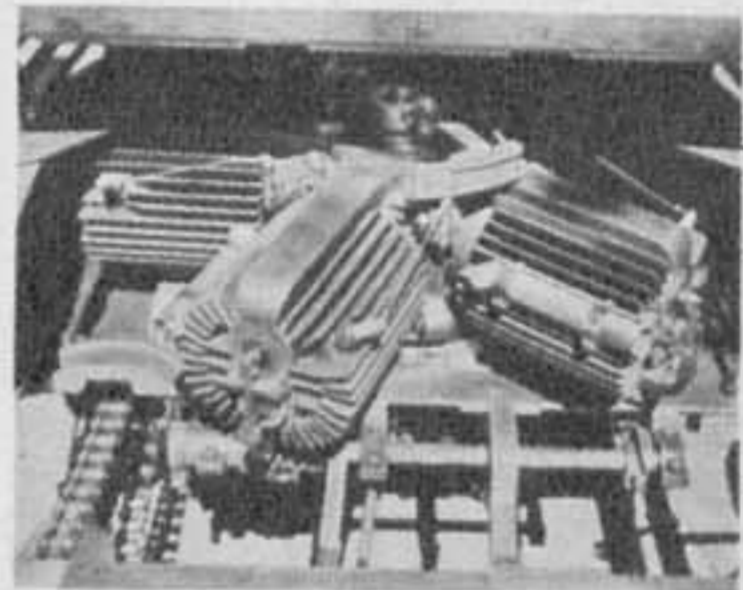


Looking north on Fifth Avenue at Forty-Second Street, New York in the year 1909. No traffic lights then, but plenty of traffic. Cop in summer white (fifth from lamppost) seems timid. Locomobile custom job (front, left) cost \$5,900. Beside it is Pierce-Arrow landau (\$6,250). In background may be seen a horse-drawn hansom cab racing its gasoline-powered brother. Early top-deck bus towers over the familiar scene and passersby are not aware that soon all this will be another lost moment of history.



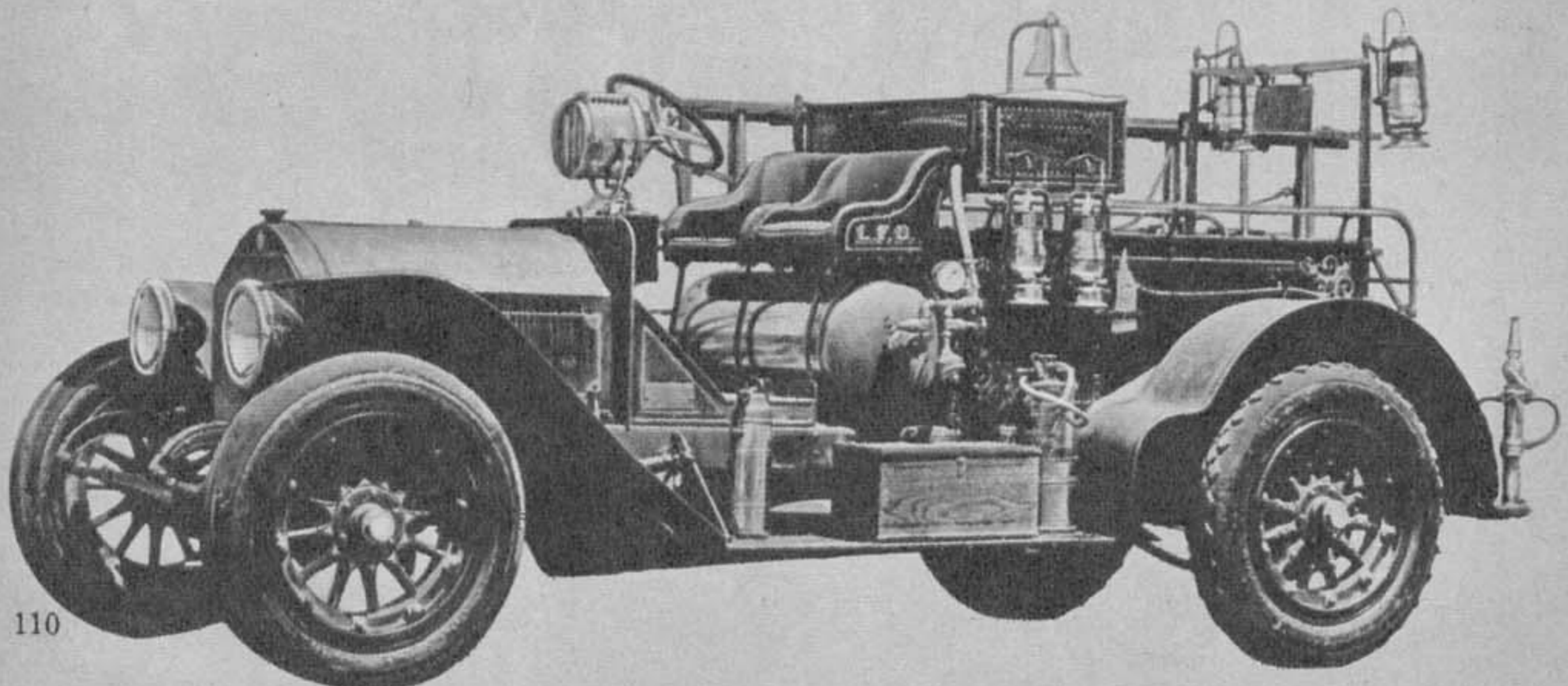
## ADAMS-FARWELL

**F**ROM 1904 until 1913 this car was on the market, built by the Adams Foundry, Dubuque, Iowa. At its rear was a three- or five-cylinder rotary engine of 25 or 45 hp (see picture at right). The innocent carriage appearance did not suggest to a passenger that he might have the sensation of sitting on a spinning wheel as the engine rotated. The car cost \$2,500 and weighed 2,200 pounds. •

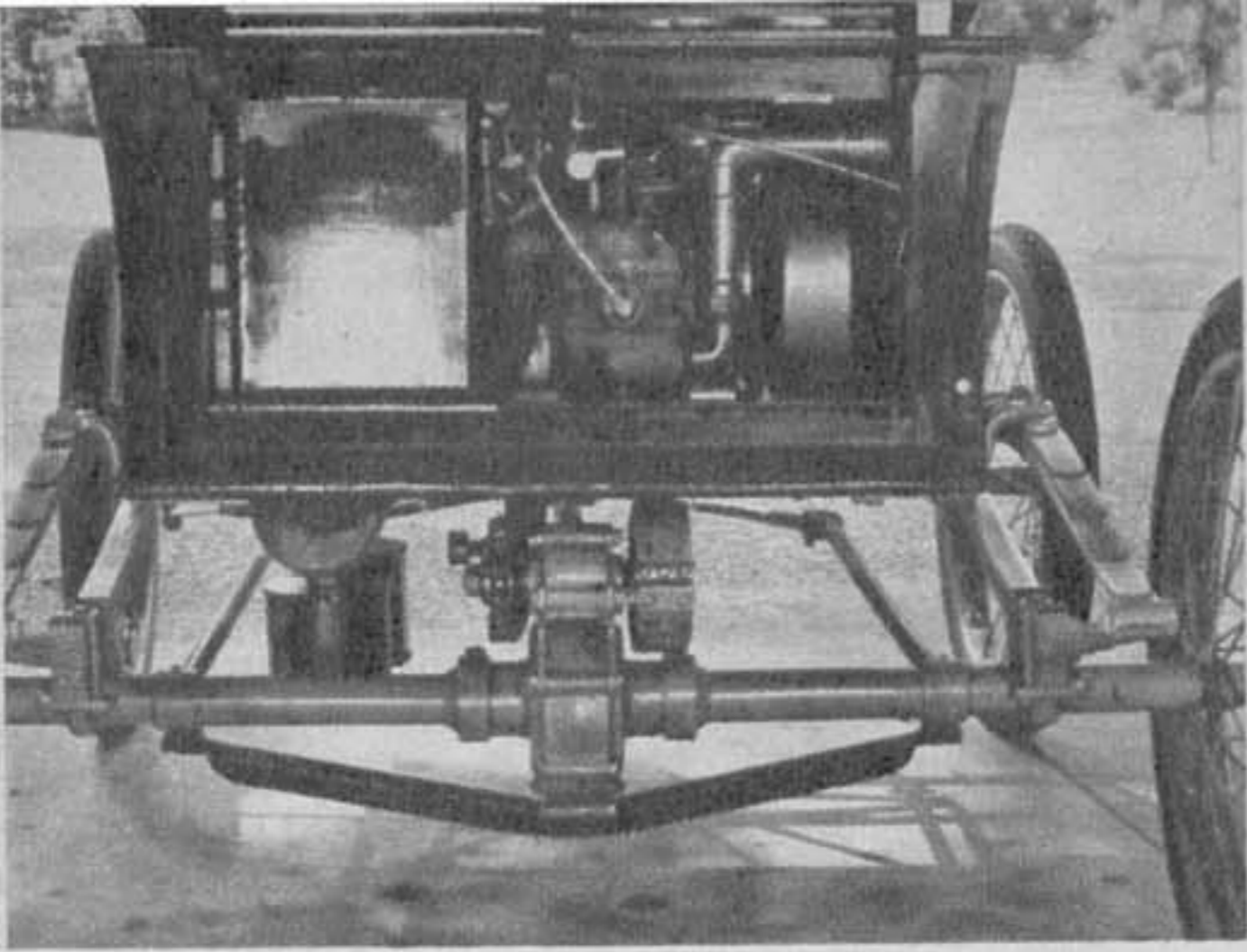


## AMERICAN

**T**HE first gasoline-powered vehicle equipped for fire-fighting was the American La France truck. With hydraulic drive (revolutionary feature then) from a four-cylinder watercooled engine, it weighed over 8,000 pounds. Note giant 36x6 inch tires. •





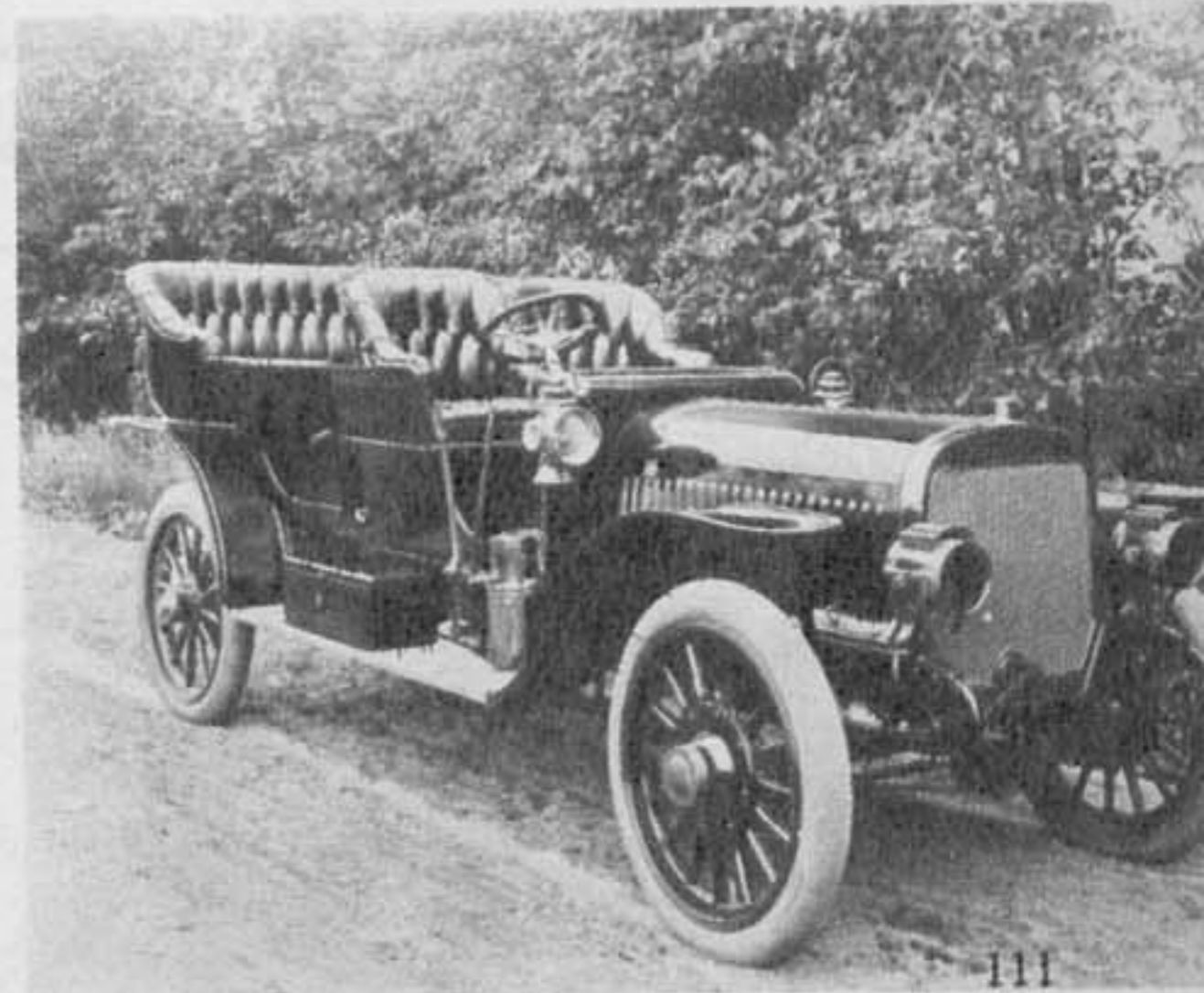


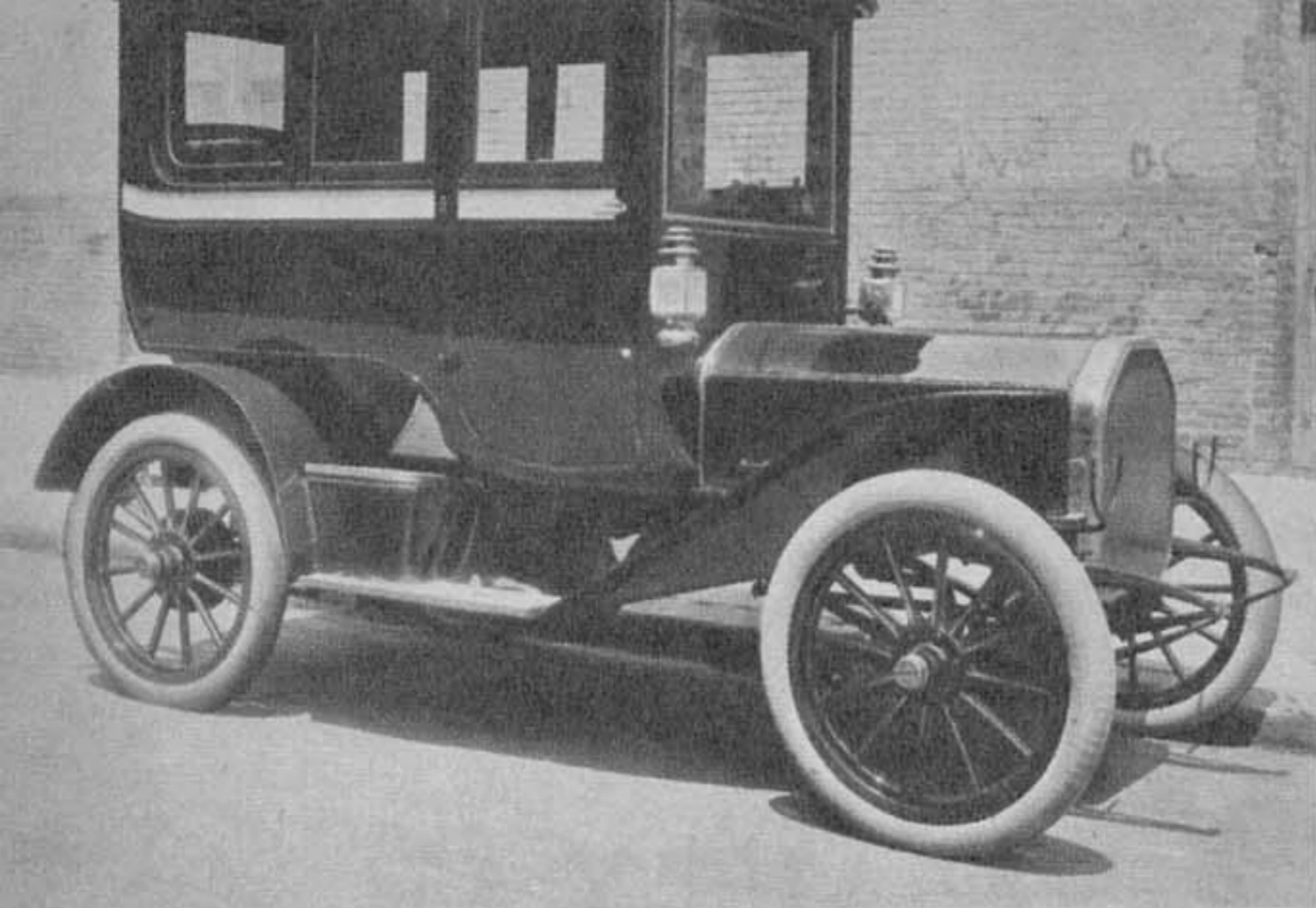
## AUTOCAR

**F**ORERUNNER of today's successful truck of the same name, the first Autocars were passenger vehicles. Above is the second model, built in 1898. With six hp, two-cylinder engine it cost \$825. At left is the 1902 phaeton. Built in 1901, it was the first production auto of more than one cylinder in the U. S. to feature shaft drive instead of chains. Another novelty was internal expanding brakes, working on same principle as those of today. Speed was 21 mph with two-cylinder power plant. Price was \$1,100. View at top left shows engine of 1898 Autocar. •

## BADGER

**P**IONEER designers Otto Zachow and William Besserdich (left below) watch car's ability to move through deep snow. They devised the four-wheel drive system used on these 1908 Badgers. Produced by the FWD Automobile Company of Clintonville, Wisconsin, the car was built in limited numbers, sold at \$4,500. It had a four-cylinder, 55-60 hp engine. •



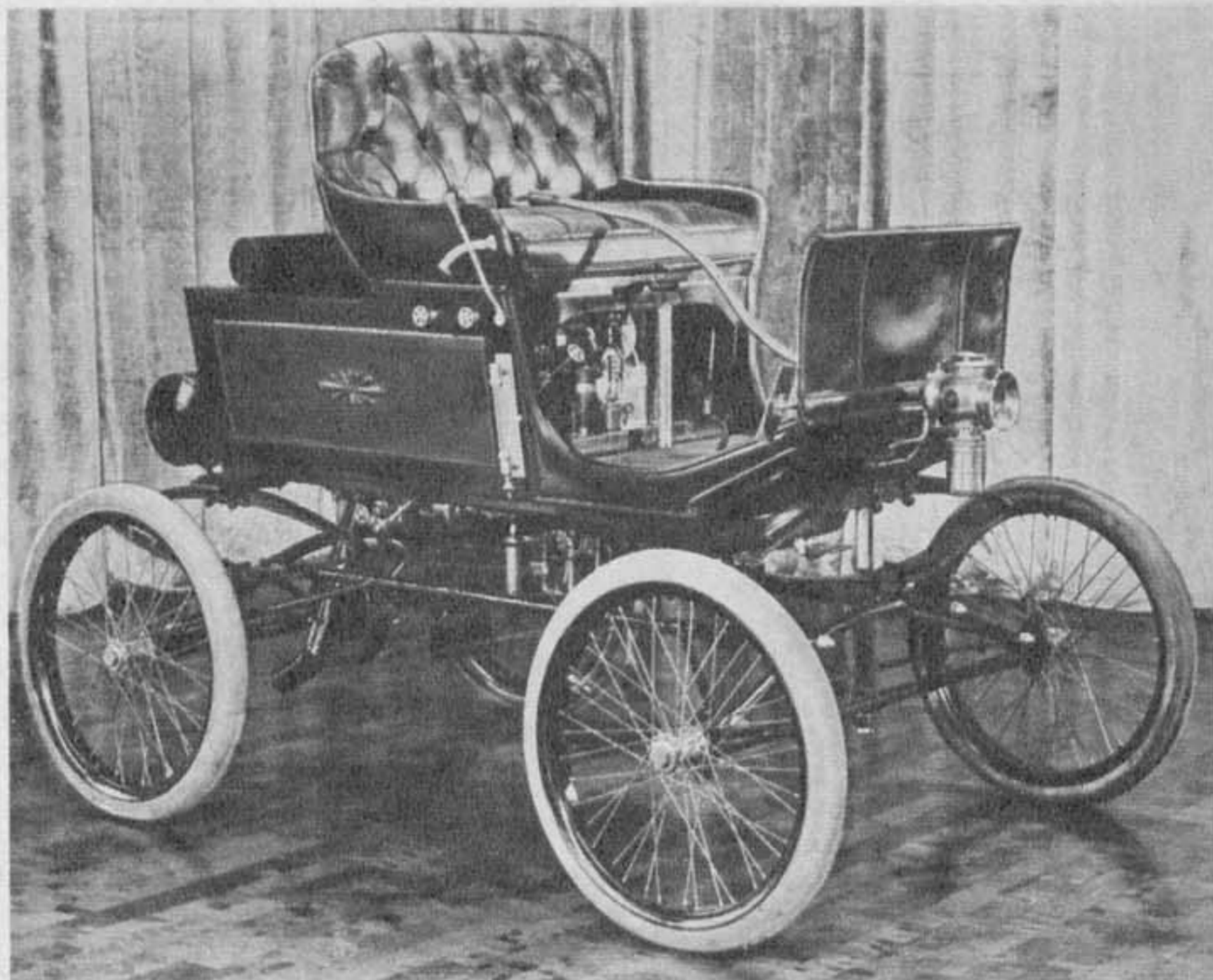


## BAKER

**F**ASTEST electric car on the market was this 1910 Baker custom limousine. Easy control gave 11 speeds forward, from 3 to 30 mph. Elongated hood with dummy radiator housed the 40-cell battery. Car was shaft-driven. At \$3,000 per unit, it was a favorite of prosperous elderly ladies and timid old gentlemen. •

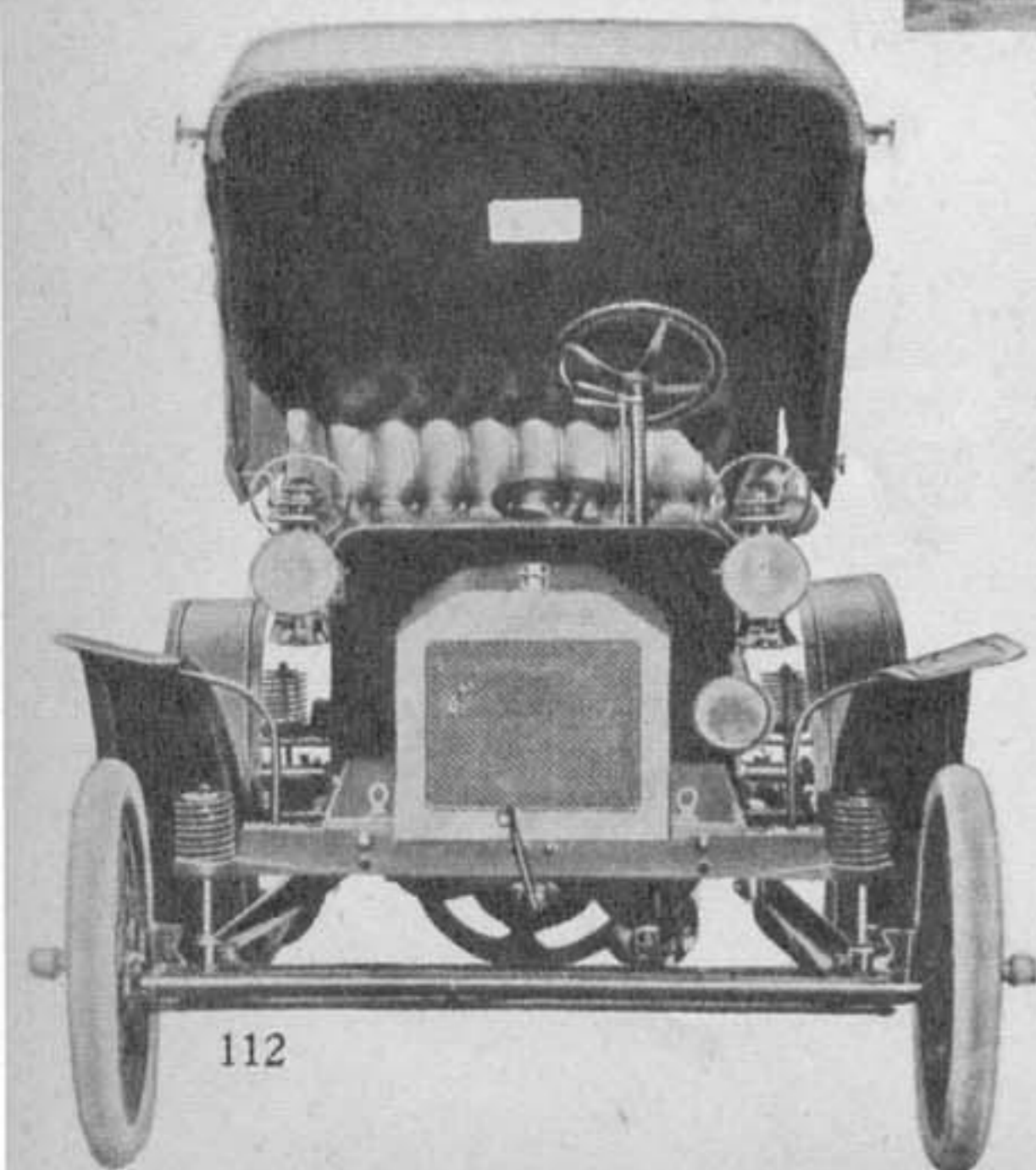
## BREER

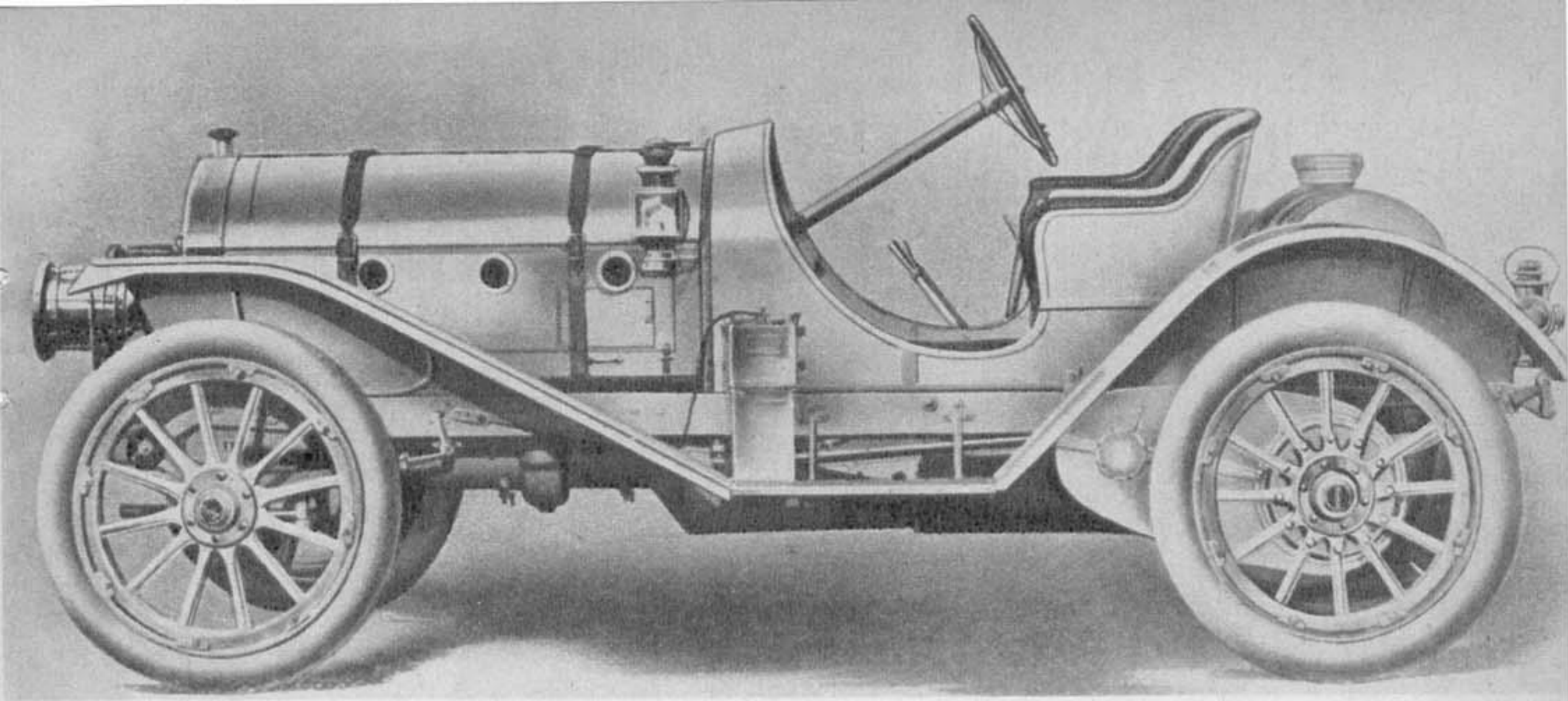
**F**ASTIDIOUS workmanship and highest grade finish characterized this 1900 hand-built steam car—designed and assembled by Carl Breer. Only one unit was ever constructed. Model never reached the production stage. Later, however, Breer joined the Chrysler Corporation and became a well-known, successful automotive engineer. •



## BRUSH

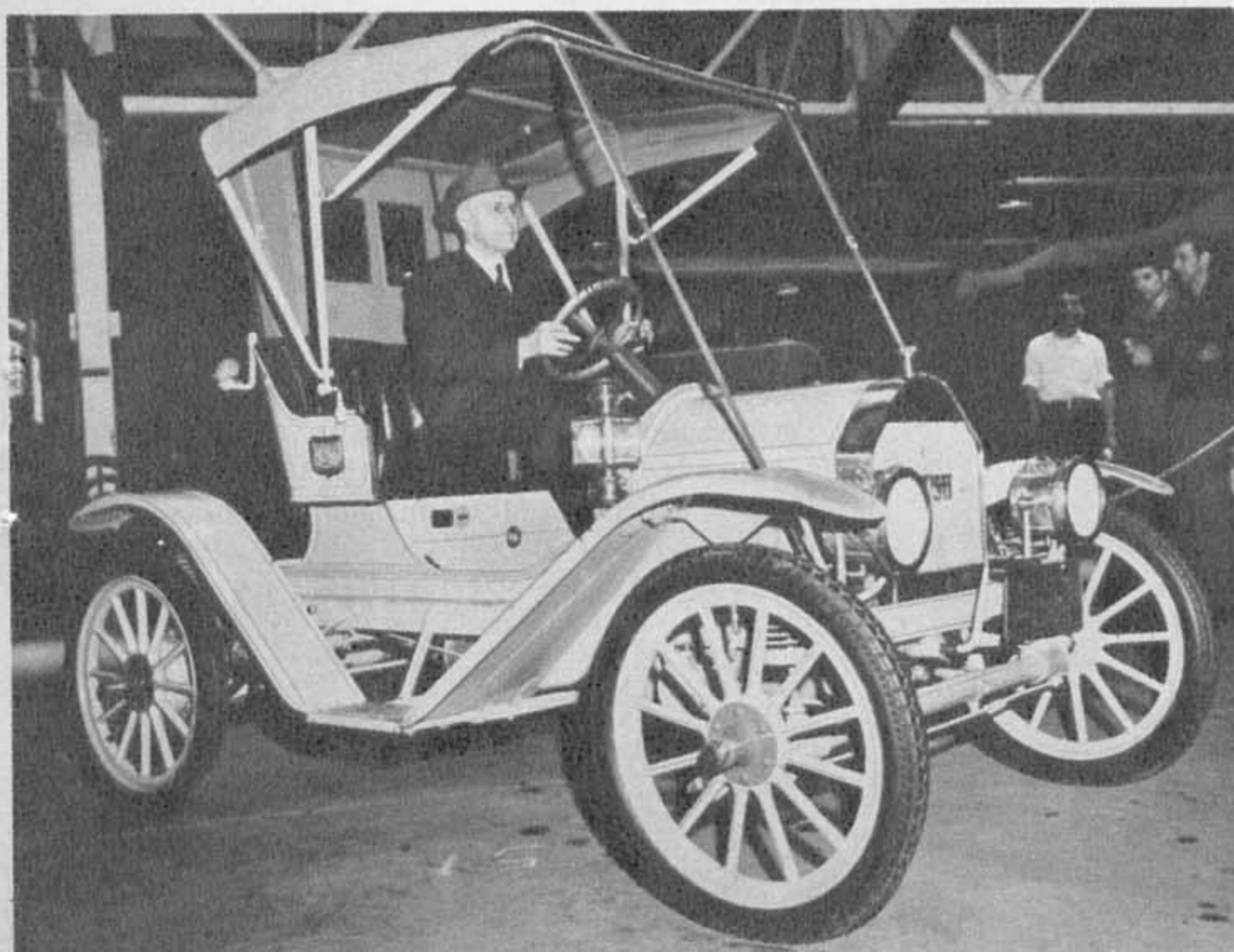
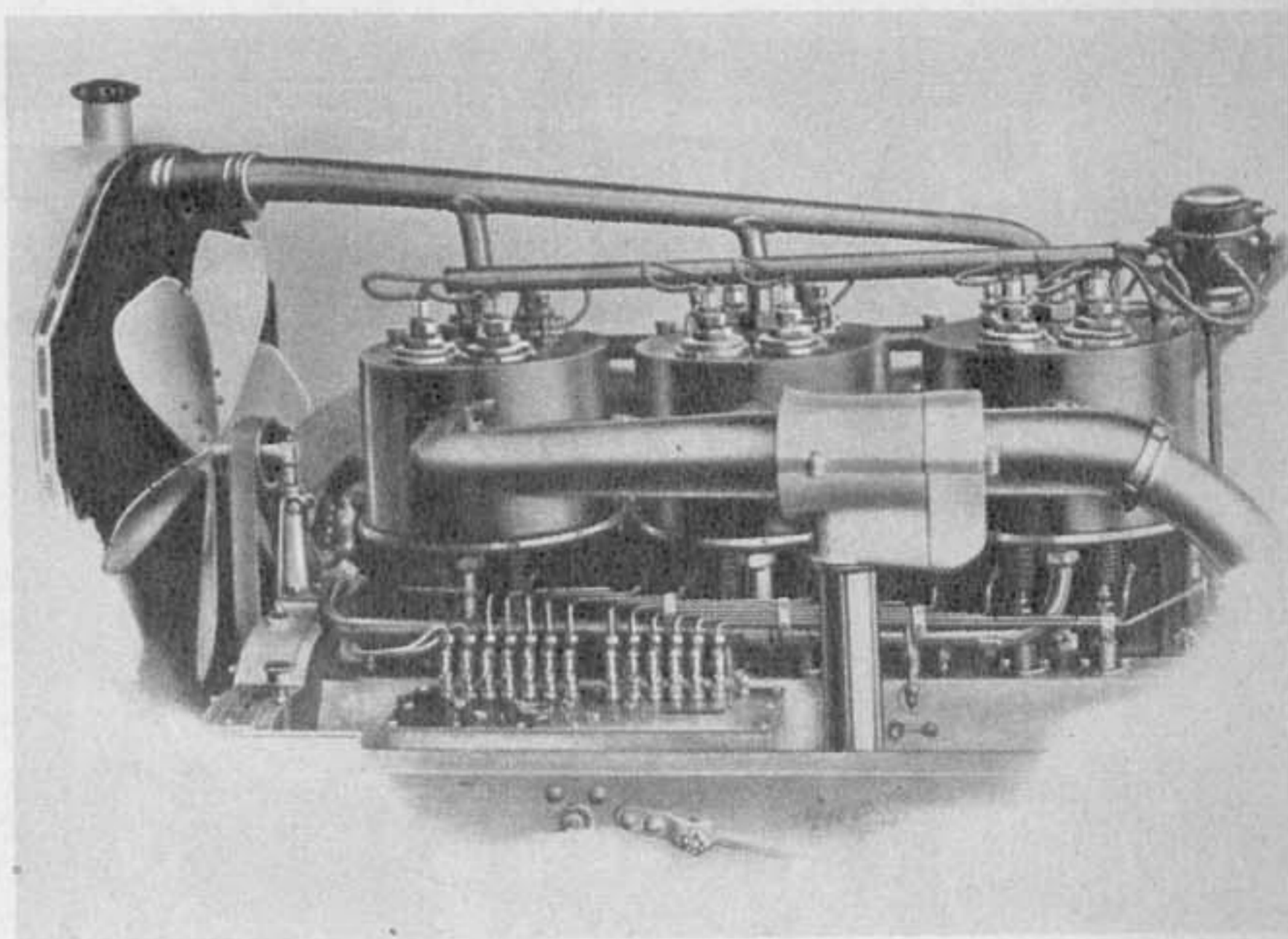
**T**HE 1907 Brush Runabout (left) anticipated modern ideas by over 30 years. It used coil suspension—although springs carried the load under tension instead of compression, as now. Counterweighted crankshaft of single-cylinder 12 hp engine provided 2,500 rpm, high at the time. With oil-treated oak and hickory chassis and axles, it weighed 1,200 pounds, sold at \$750. Picture at right shows Alanson P. Brush at wheel of restored 1910 model. He was once called “world’s greatest designer of runabouts” and well-deserved the title. •



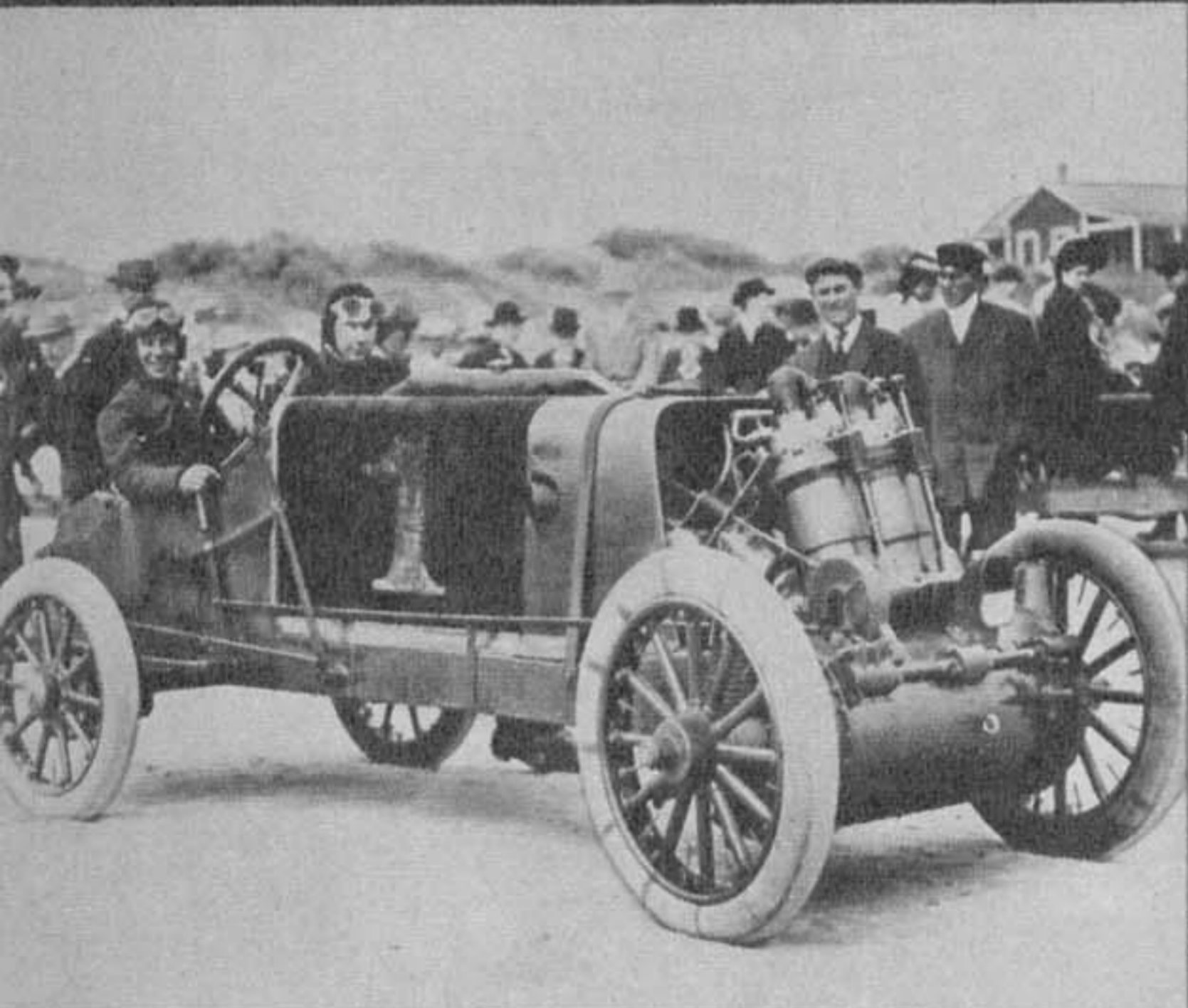
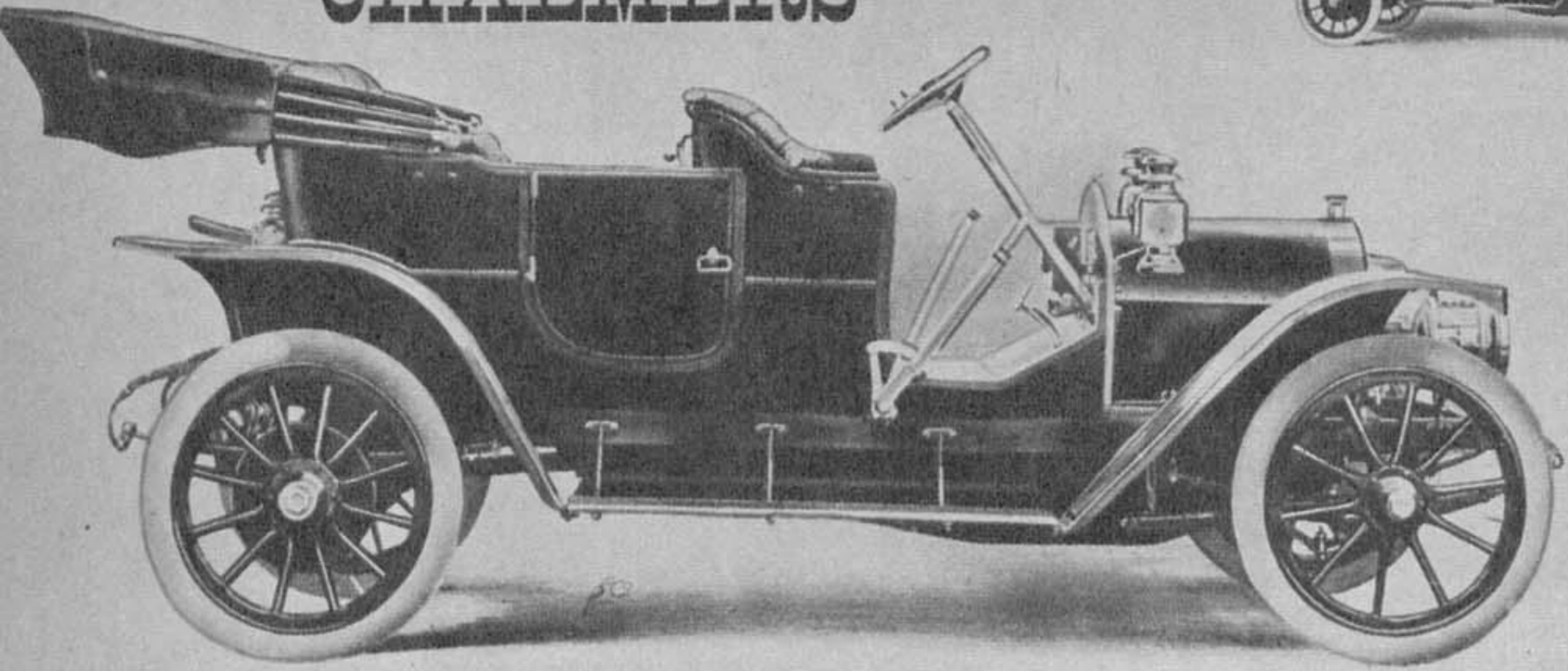


## CHADWICK

**T**HE 1910 Chadwick Six (above) was called the "speediest stock car in the world." While practicing for the Vanderbilt Cup races that year it reached 107 mph. Power of the massive engine (right) was unspecified. It featured twin spark plugs and an elaborate lubrication system that fed oil by direct pipes to each cylinder and bearing. Portholes were real exhaust outlets. Price of car with aluminum body was \$6,500, f.o.b. Pottstown, Pennsylvania. Production stopped in 1912, due to price-resistance. •



# CHALMERS



# CHRISTIE

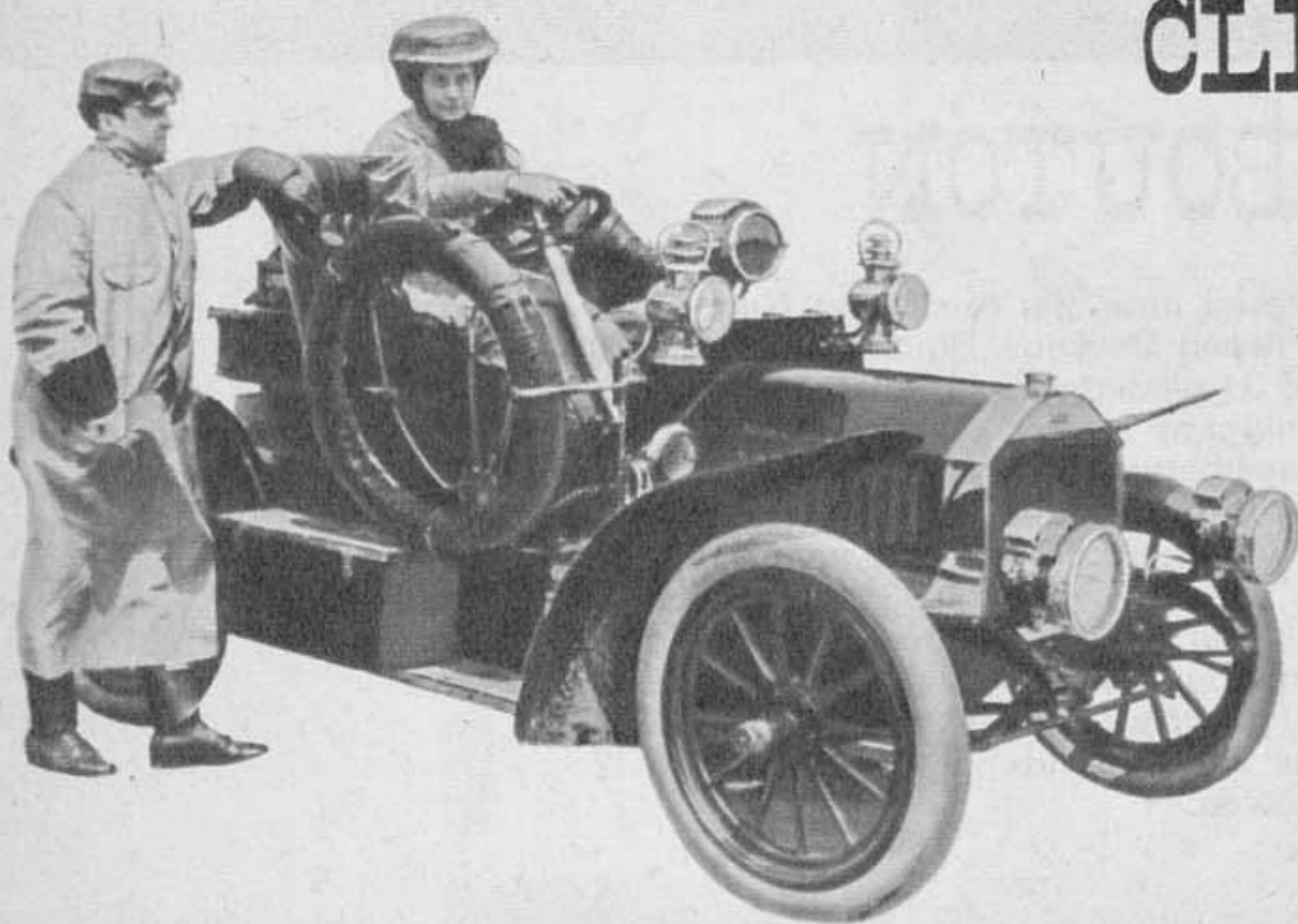
**F**ORERUNNER of the front-wheel-drive cars of the present day was the race car at the left, designed and produced by J. Walter Christie in 1908. Although none of his cars went into commercial production, Christie held distinctions with the cars he built. The pictured race car had a V-type four-cylinder, 120 hp engine that pushed it to a record 102.8 mph at Atlantic City Beach. Left, below is an experimental front-drive taxicab built in 1909. Note independent front suspension by coil springs and transverse mounting of four-cylinder engine. •



**T**HE Chalmers-Detroit Model 30 at left, a 1909 product, was a favorite in its day. It boasted a 50 mph speed and a four-cylinder, 30 hp engine. Following European practice, it was the first production auto in the United States to feature a cylinder block cast in one piece, which gave it the advantage of a shorter, stiffer crankshaft and a lighter, more compact and better cooled engine. The \$1,500 car had another advanced feature—transmission and engine were in one unit. At right, two pre-World War I gay blades inhale some up-river air a few miles from Manhattan while touring a “road” in their 1915 Chalmers Six. This six-cylinder, 23 hp car brought \$1,400. •



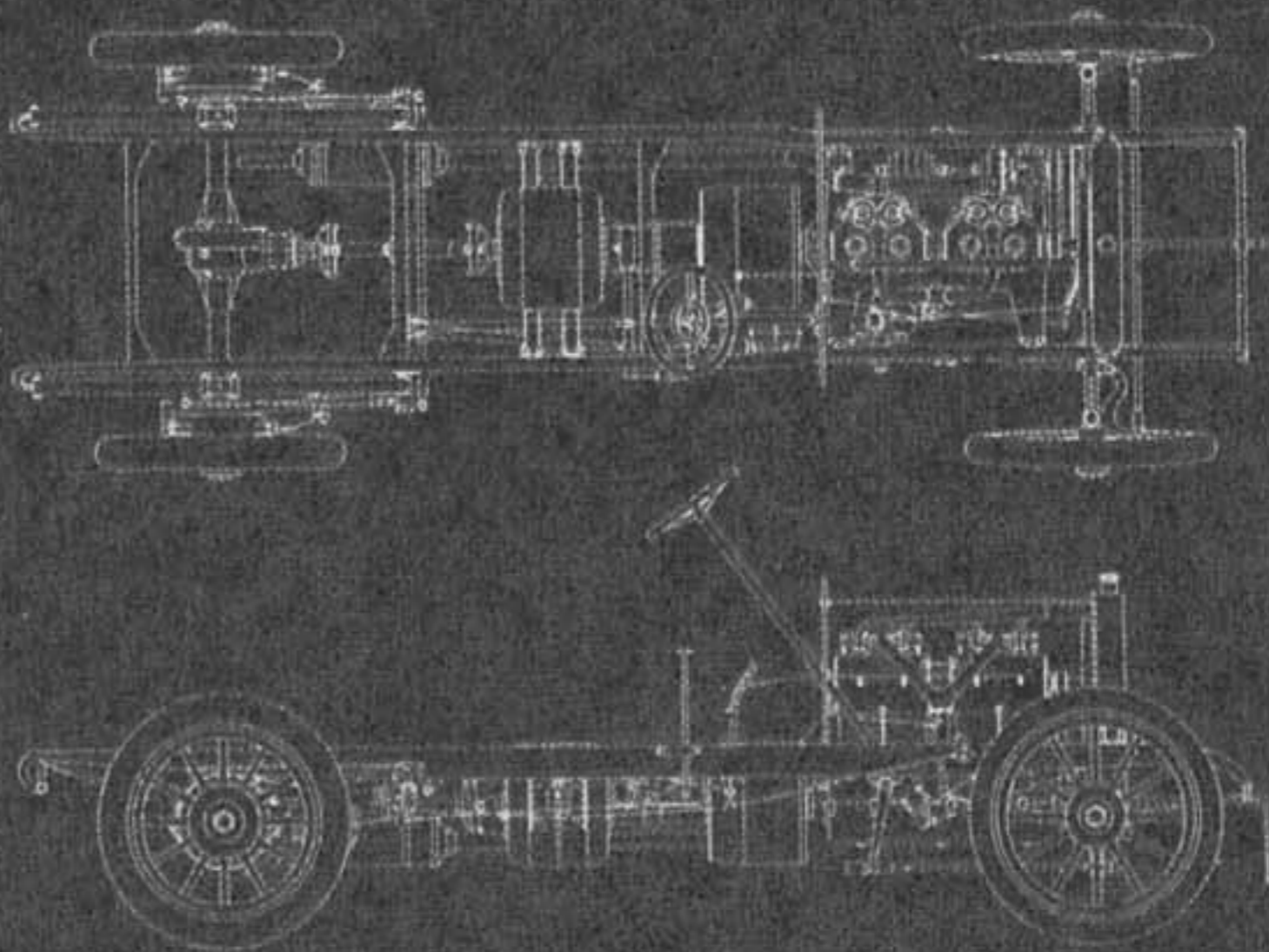
## CLEVELAND



**A**UTOMOTIVE adventure was the spice of life in 1906 to Mr. and Mrs. Walter Hale, a writer-actor team pictured in their Model D Cleveland roadster. The car, a 20 hp, four-cylinder job, weighed 2,000 pounds and cost \$2,800. The object of the trip was to gather material for articles to be published in various magazines. •

## COLUMBIA

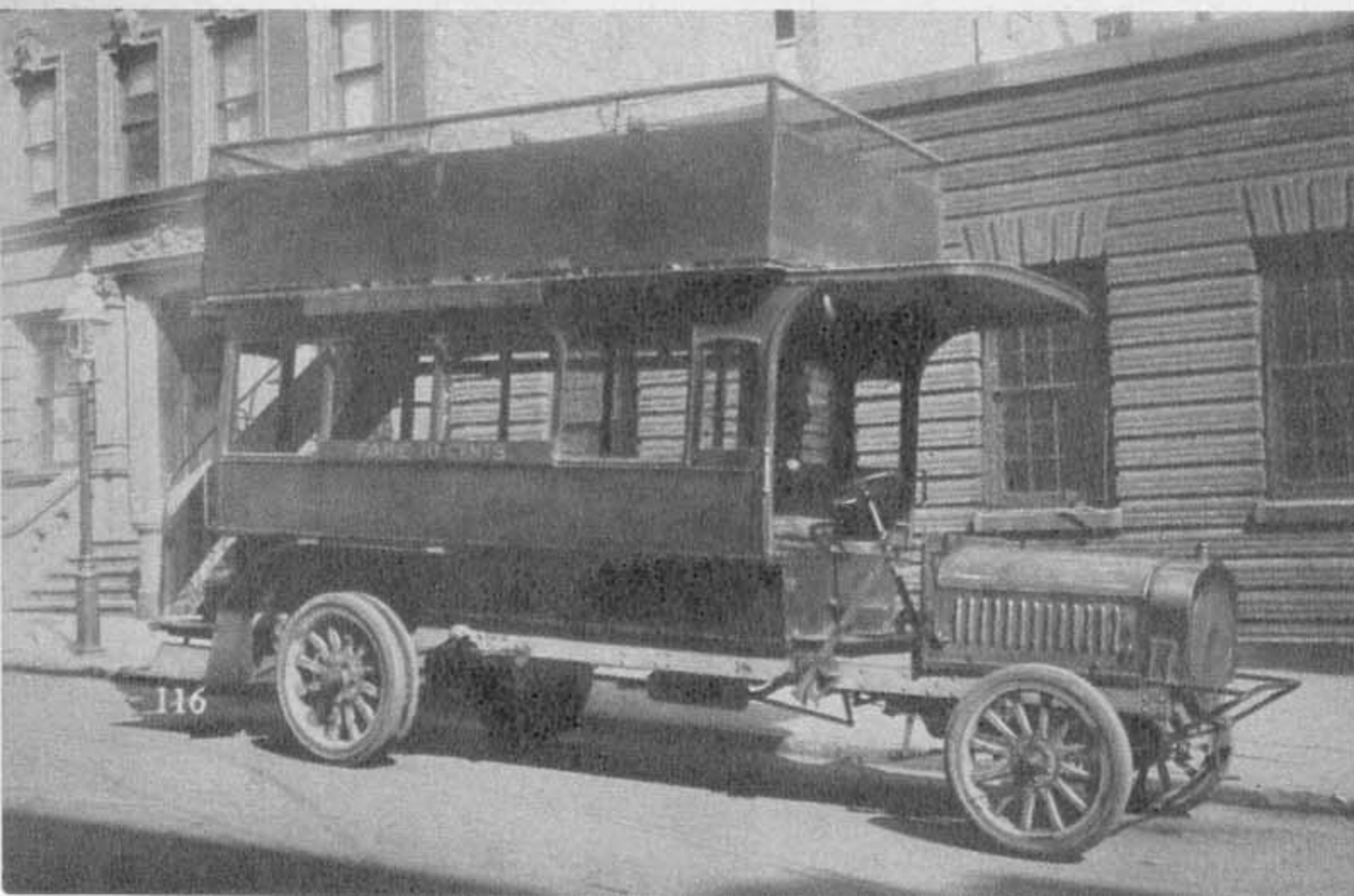
**T**HE electric transmission featured on the diagrammed 1907 Columbia Model 66-3 was another early attempt to side-step noise and the complexities of conventional gears. This 48 hp four-cylinder car cost \$6,500, could do 60 mph, and had seven speeds. •



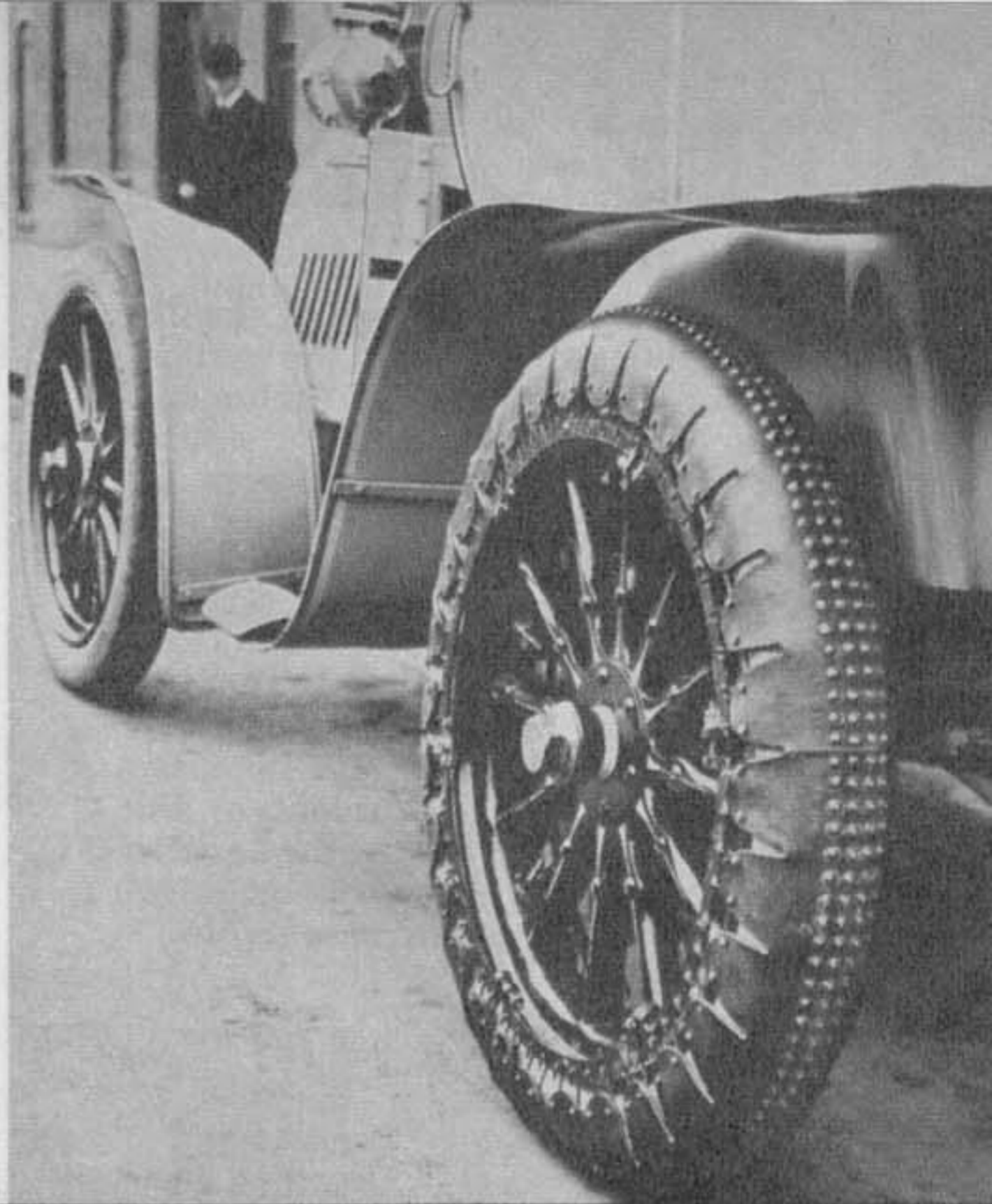


## DE DION BOUTON

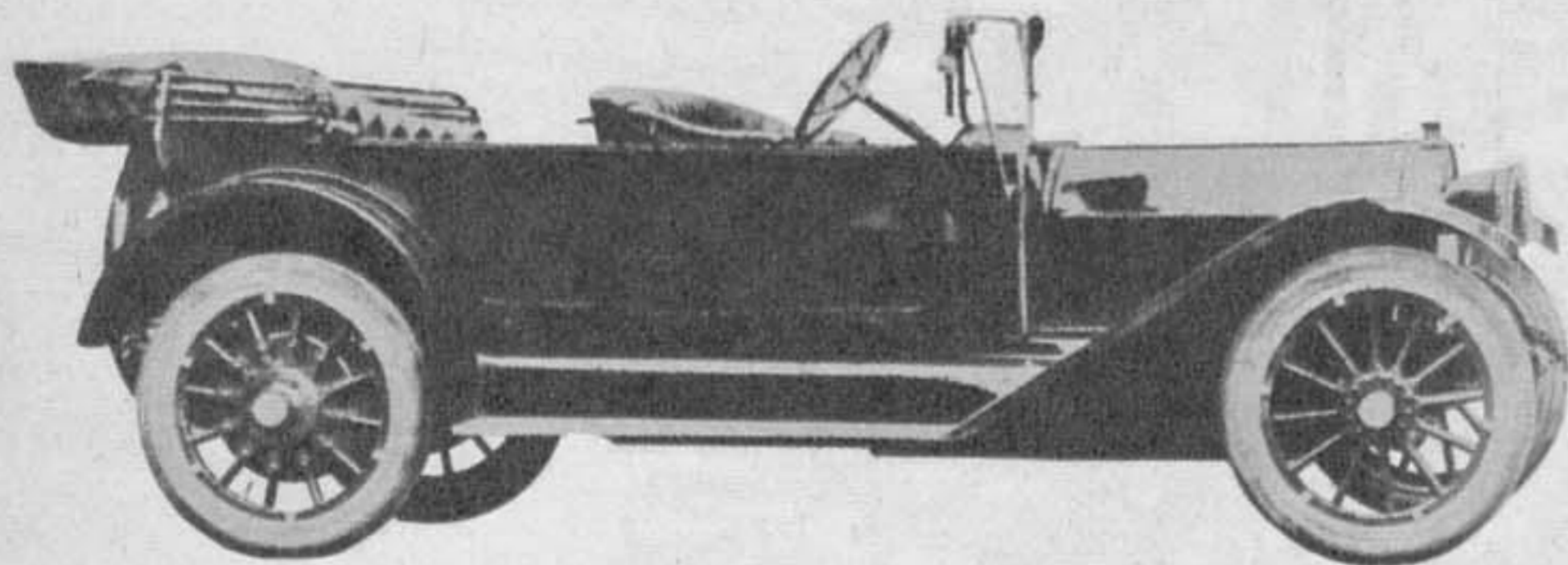
**E**ARLIEST gasoline-powered omnibus to run on New York streets was this 1907 French De Dion Bouton chassis with high-built body that carried 34 passengers (16 inside, 18 on top deck). Fifth Avenue Bus Company started operations with fleet of 15 buses, running both ways between Washington Square and 90th Street. Of these, 13 were in constant use and two held in reserve. Bus company was worried because two years of previous experience in London with these vehicles showed need of replacement, on the average, after 14 days service. Constant gear shifting entailed by a 14-hour daily service swiftly wore transmission gears. High center of gravity (top deck was 12 feet above ground, representing load of 2,500 pounds) limited speed to 12 mph. No standing was allowed. •



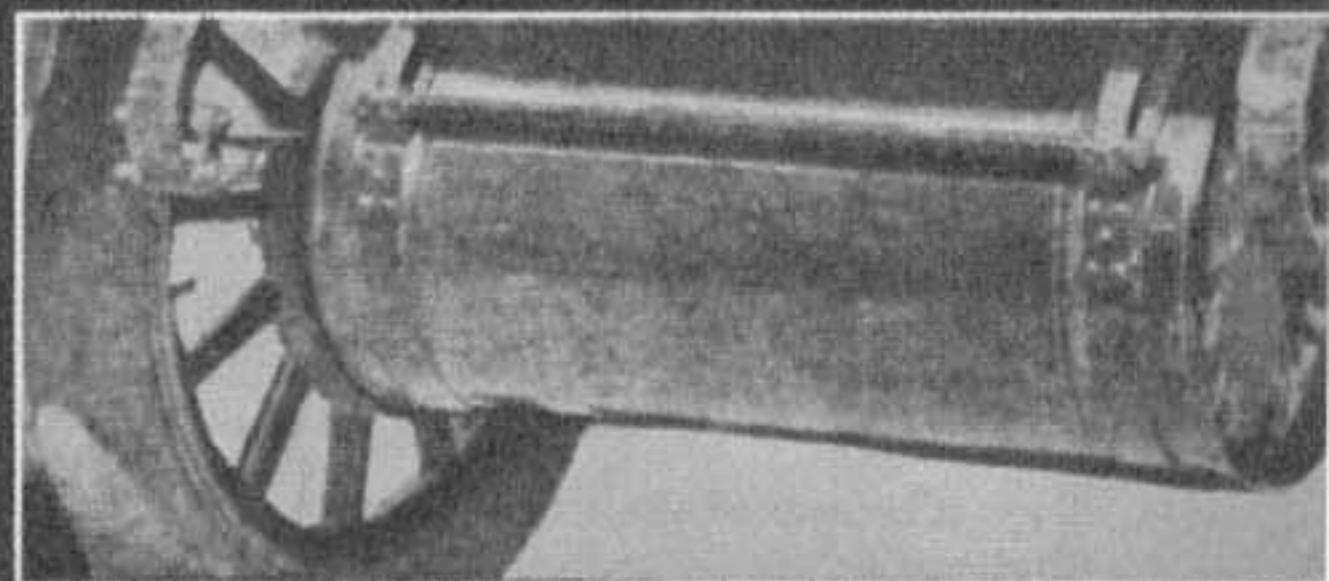
**T**HE 1908 Darracq touring car pictured at left was one of that French manufacturer's first six-cylinder units. It sold for approximately \$3,000. In 1907, Darracq was the popular gas-powered taxicab on New York Streets. There was a fleet of 105 being operated by the New York Taxicab Company—which had 500 more on order. Most of these had four-cylinder, 16 hp engines. American firms trying unsuccessfully to compete in the cab market were Elmore, Northern, Franklin and Frayer-Miller (the latter two, aircooled). Cabbies then received no salary, but got 20 per cent of total fares. At right may be seen the detachable tire-tread used on 1904 Darracq. Made of chrome-studded leather, it was claimed to be non-skid and puncture-proof. Darracq popularity in America was probably result of record 122.46 mph speed achieved in a two-mile race at Daytona Beach, Florida, in January of 1906. Driver was the famed Demgeot. •



## DE SOTO

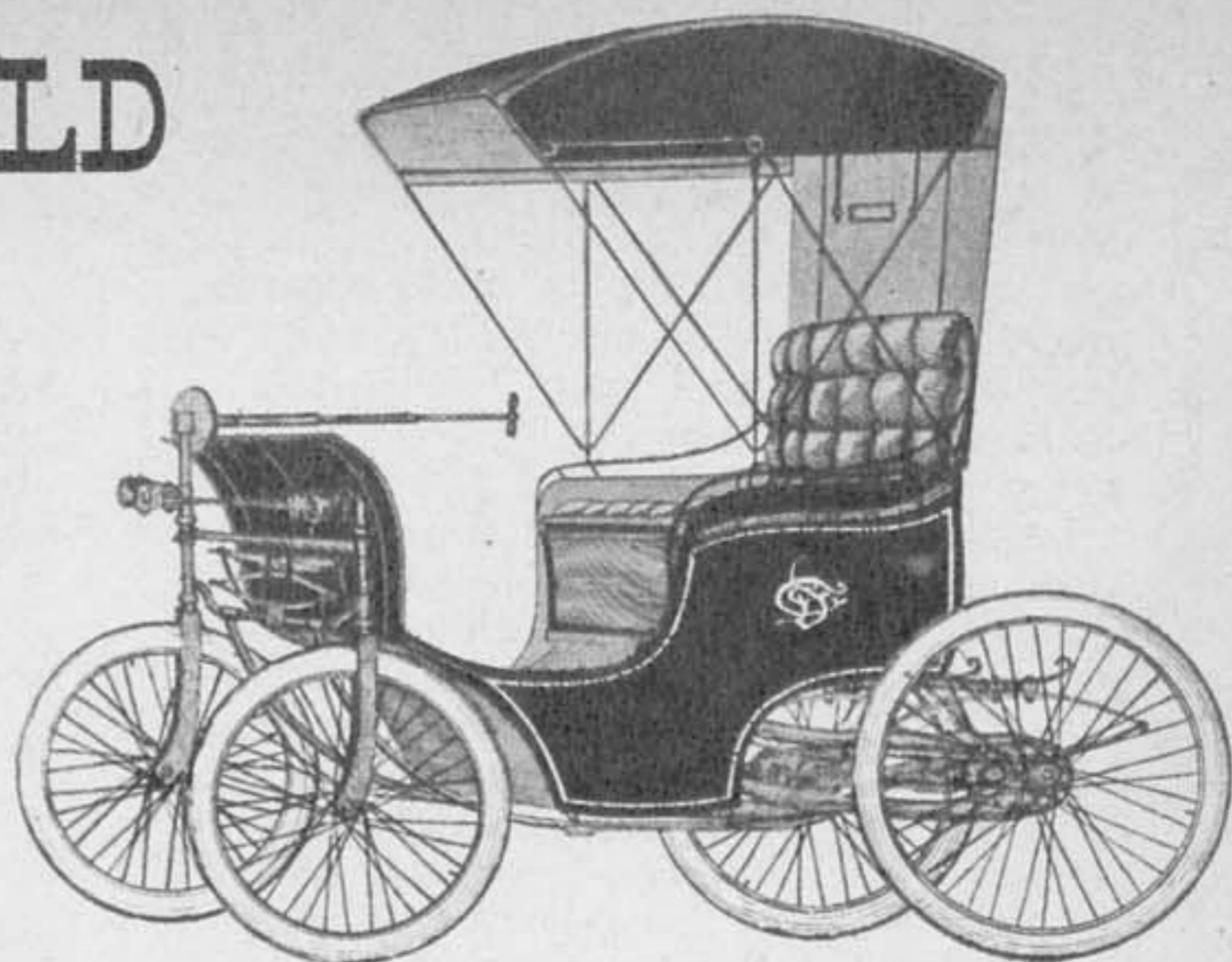


**N**AMESAKE but no ancestor of today's Chrysler products was the 1913 De Soto phaeton (above) manufactured by the De Soto Motor Car Company, Auburn, Indiana. Pushed by a six-cylinder 55 hp engine, this car sold at \$2,185 (\$100 less if compressed air starter was not included). Features were a suspended rear fuel tank of "novel construction" (at right) and center shift through a gate in the floor. A contemporary ad also made much of the fact that the bodywork had no "blind doors." Fake doors of this kind were often used in those days, to embellish car's appearance. •



# DEY-GRISWOLD

**T**HIS 1895 Dey-Griswold electric phaeton was probably the earliest known design to have fluid drive and torque converter (automatic shift). An electric motor drove two oil pumps, which in turn forced oil through lines to the simple fluid gear turbines on rear wheels. On down-grades, action was reversed: turbines drove pumps, causing them to rotate motor, making it a generator and thus charging battery. Invented by Harry E. Dey, president of the New York Dey Company, the car was never produced because technical bugs proved to be insurmountable. •



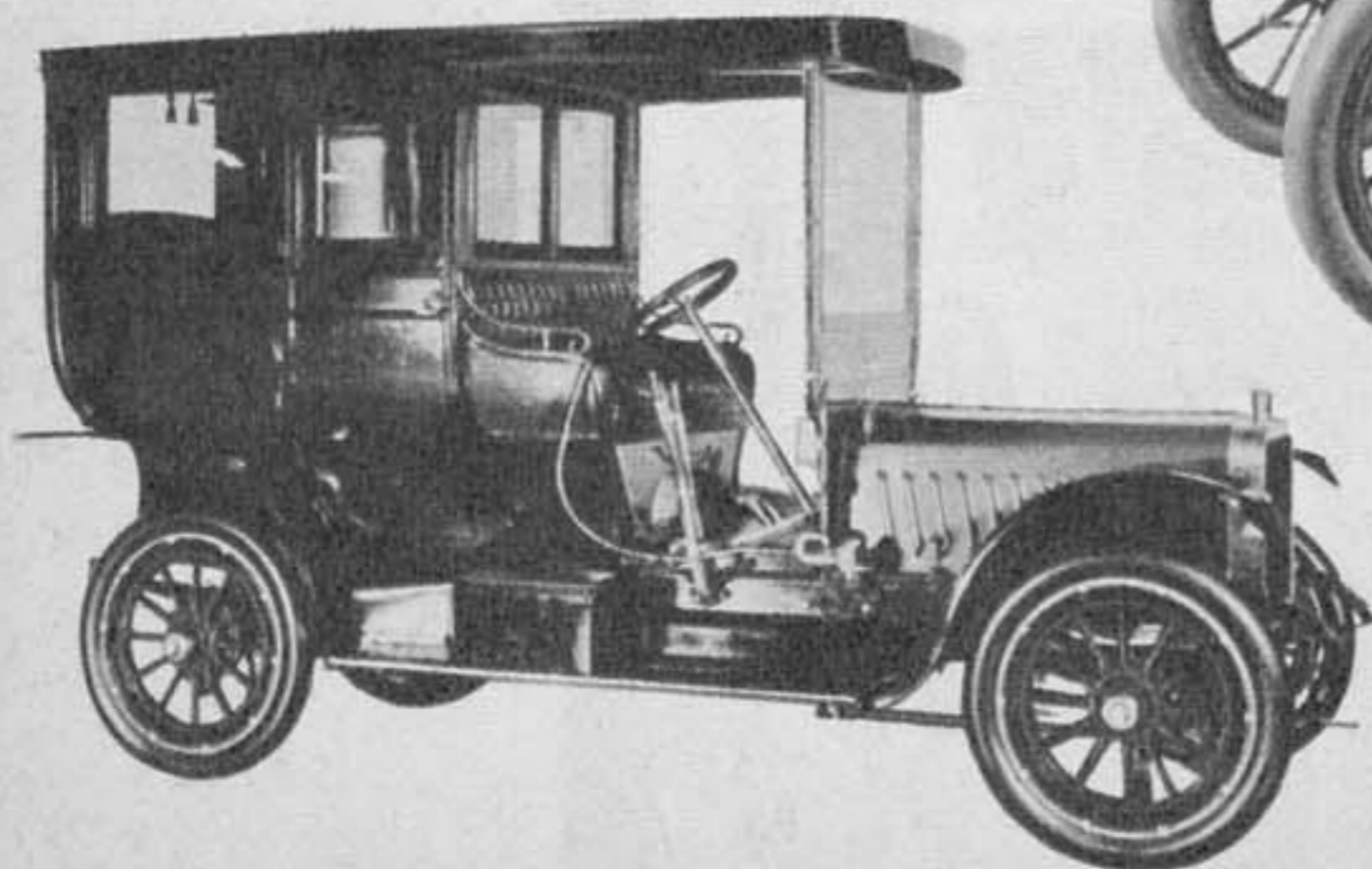
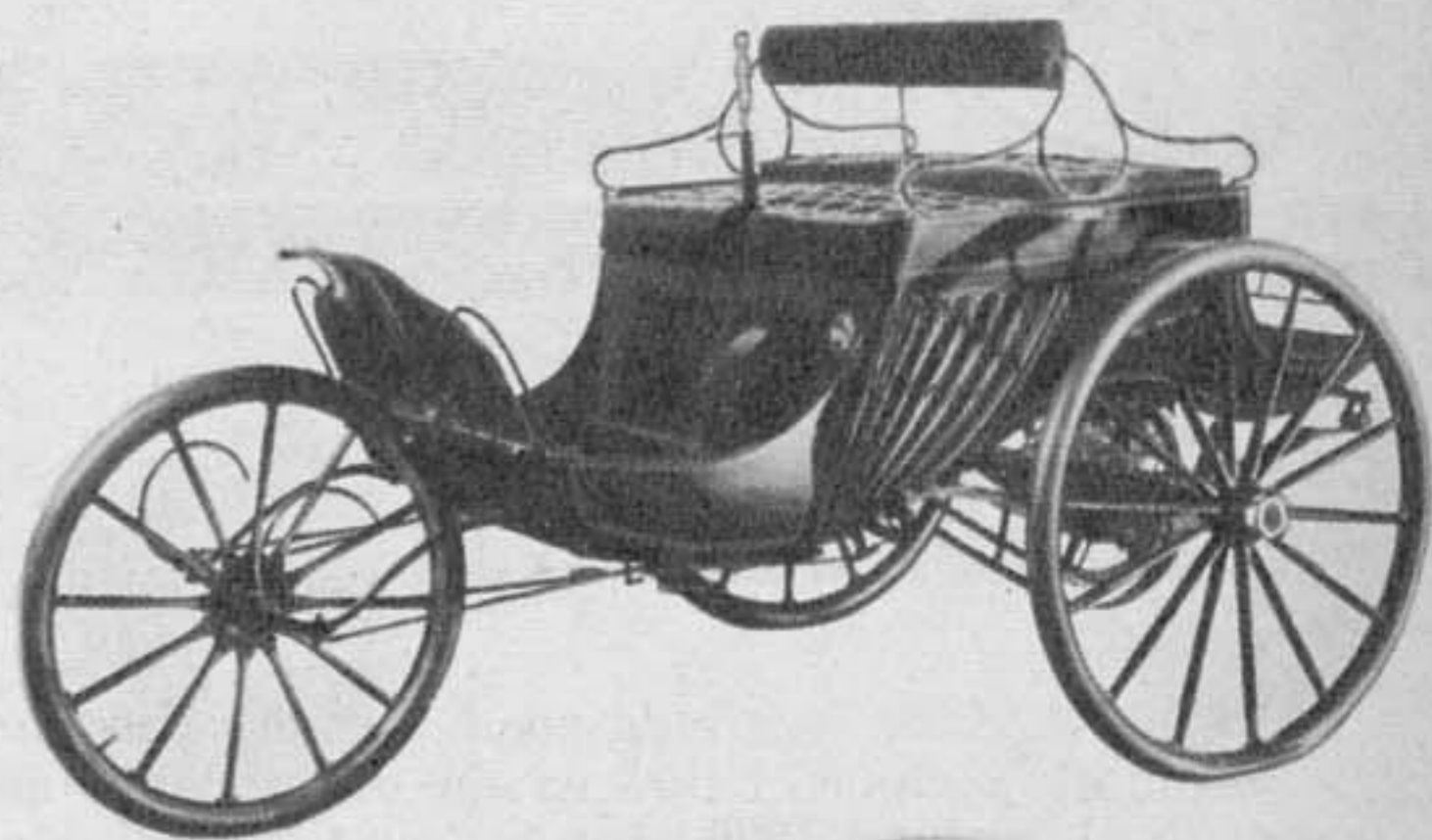
Over-all view of the first Automobile Show ever held in America. It ran from November 3-10, 1900, in Madison Square Garden, New York. Of 31 exhibits, six were of electric, four of steam and 21 of gas autos.





## DURYEA

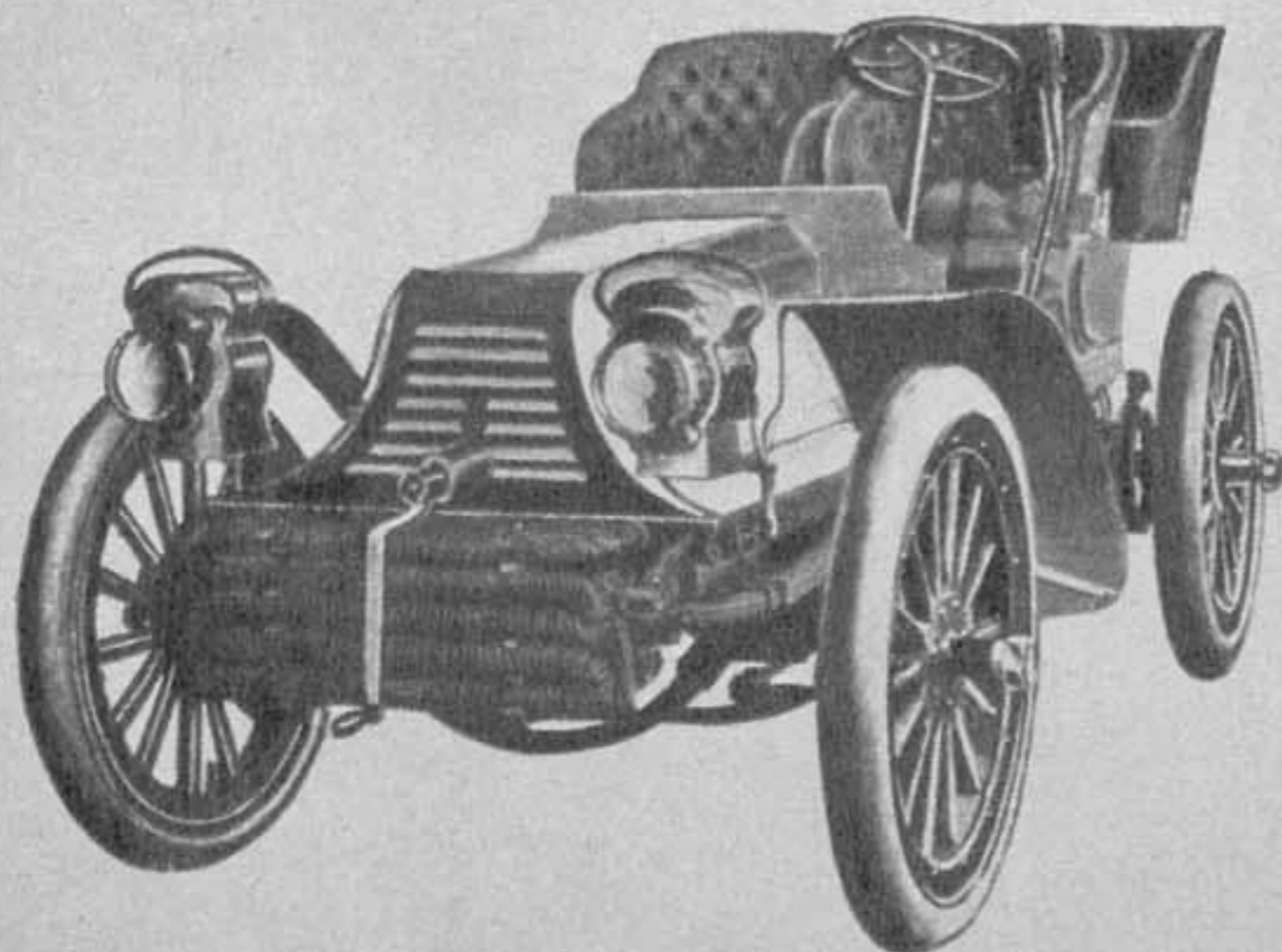
**T**HE first gasoline vehicle to appear in the United States (above, left) was the Duryea buggy. Started in 1892 at Springfield, Massachusetts, by Charles E. and J. Frank Duryea, it had single-cylinder, four hp horizontal engine at the rear. Friction-type transmission was replaced in 1894 by a system of constant-mesh gears, giving two speeds and reverse. In 1895, the model won the Chicago Times-Herald race, averaging 7 mph. Charles Duryea is shown (above, right) in the winner, which was driven by his brother, Frank. At right is the 1898 three-wheeler. It had a three-cylinder, 6-10 hp engine and sold at \$1,600. Below it is the 1904 phaeton. Back to four wheels, it was similar in body design, sold at \$1,500. At bottom is the Stevens-Duryea Light Six limousine for 1908, a 35 hp car that cost \$4,500. •





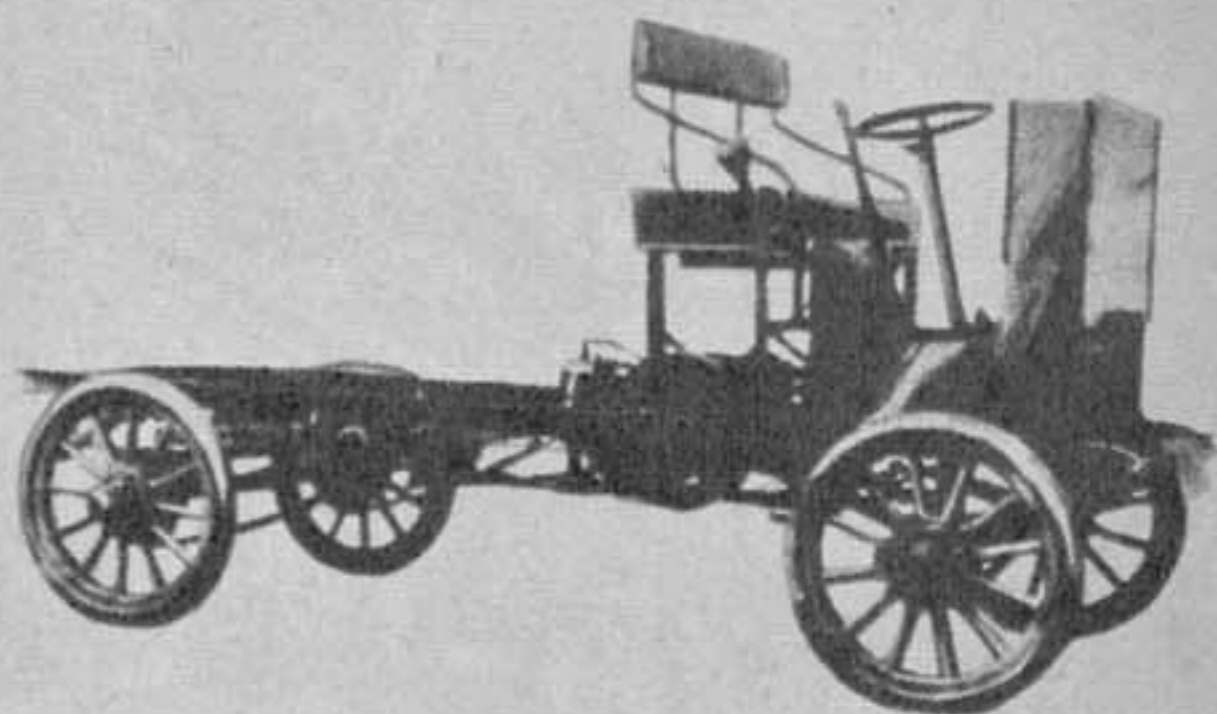
## GASMOBILE

**T**ODAY'S six-barreled road-burners can claim the Gasmobile pictured below as one of their true ancestors. This car, built around 1900, was the first six-cylinder production job ever offered for sale. It took first prize in 1900 at the New York Auto Show and again at Philadelphia in 1901 for its "futuristic approach." Actually, the 35 hp power plant consisted of two upright three-cylinder engines, placed end to end as one unit. The catalog blurb said of it: "We present the highest type of carriage ever evolved, combining practicability with extreme speed. Its hydrocarbon system of motive power has never been beaten in any contest." A left-hand-drive auto, it could transport six passengers—two in front seats and the rest in the rear. Despite their grand entry on the automotive scene, the company failed in 1902. •



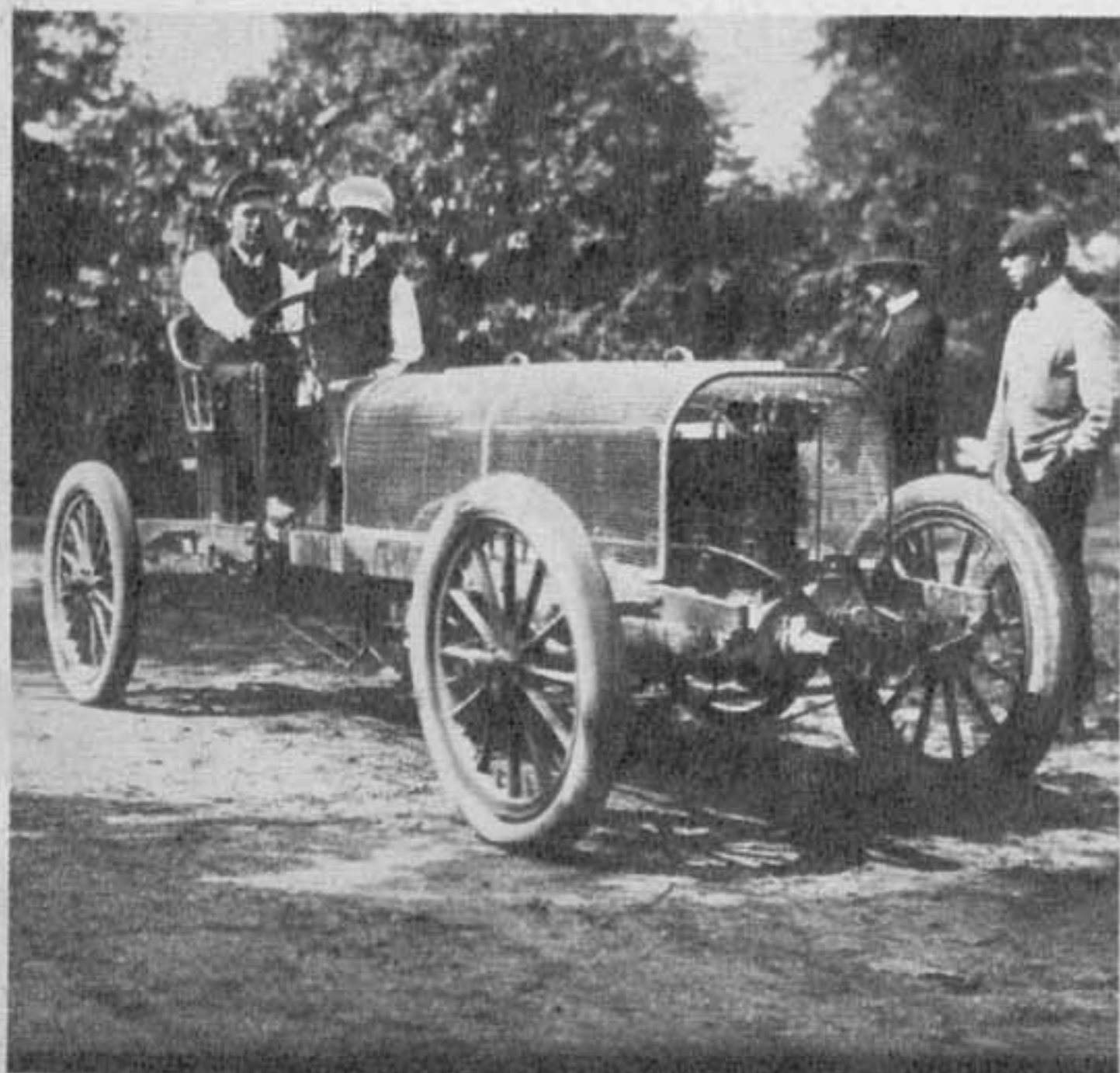
# GMC (General Motors)

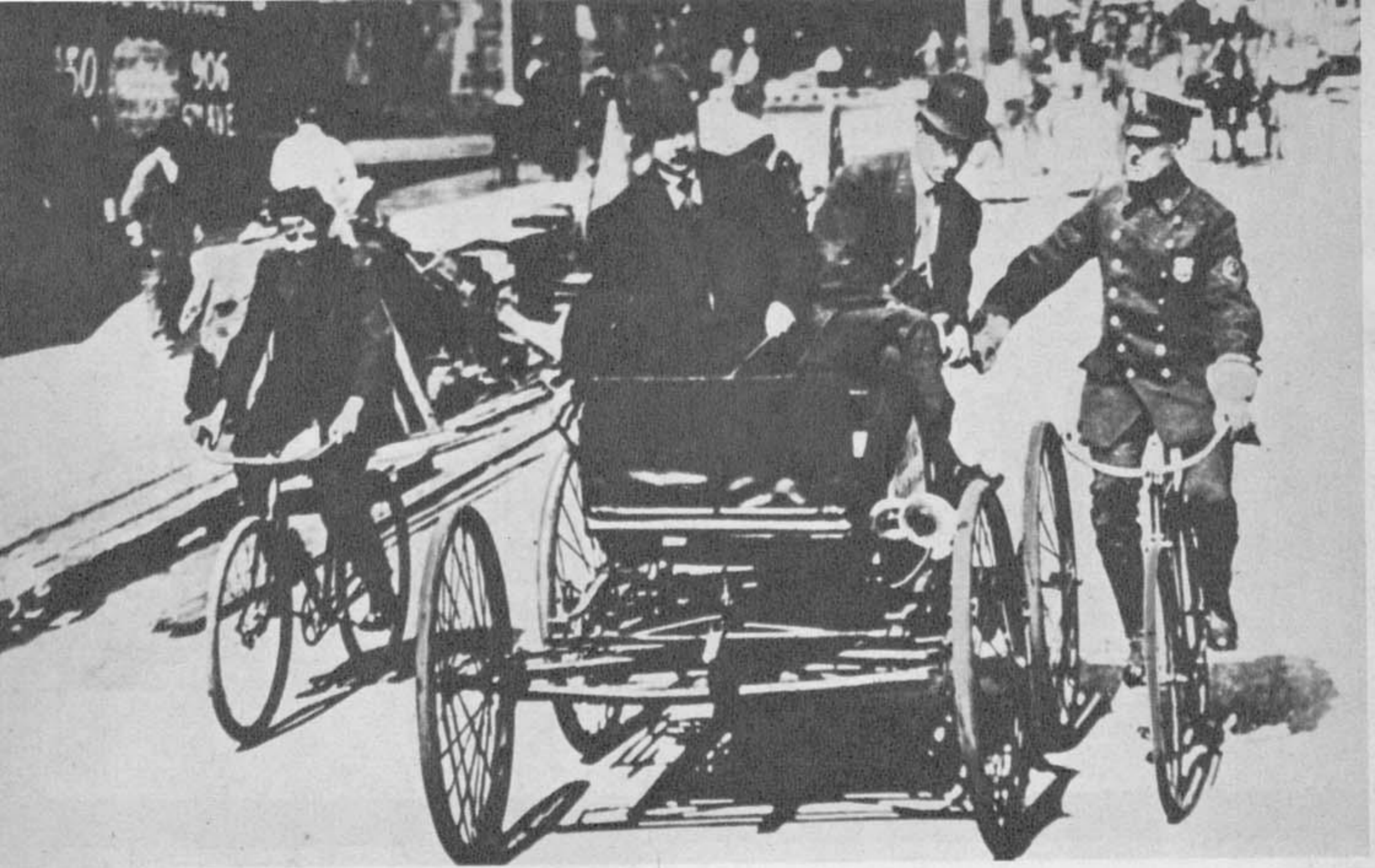
**G**MC—these letters have been synonymous with motor cars and trucks since 1902. The Rapid truck, pictured at the right, forerunner of all General Motors commercial transportation and the first heavy-duty gasoline-powered vehicle to go into production in the United States, was produced in that year. Designed by Max Grabowsky, who sold his first truck to the American Garment Cleaning Company, it had a payload of 3,000 pounds despite its single-cylinder engine. Some 200 of these were built in 1902. The company was absorbed by GM in 1908. Another vehicle built for a purpose was the taxicab at left, a chain-driven electric unit which appeared around 1912 in South Bethlehem, Pennsylvania. Later, General Motors Corporation mass-produced gasoline-powered taxicabs. Today it is one of largest vehicle manufacturers. •



## FRANKLIN

**T**HE practicality of the auto was about to be proved when the photo at the right was taken in Brooklyn in June of 1905. It was the start of a two-day economy run to Southampton and back, a distance of 180 miles. The two Franklins (in front) made the top showing with an outlay of some 80 cents a passenger for the trip. Below (left), a Franklin air-cooled race car built for the 1905 Vanderbilt Cup event is warmed up. Unfortunately, it failed to qualify for the race. Lower right is a 1906 Model G Franklin that cost \$1,800. •

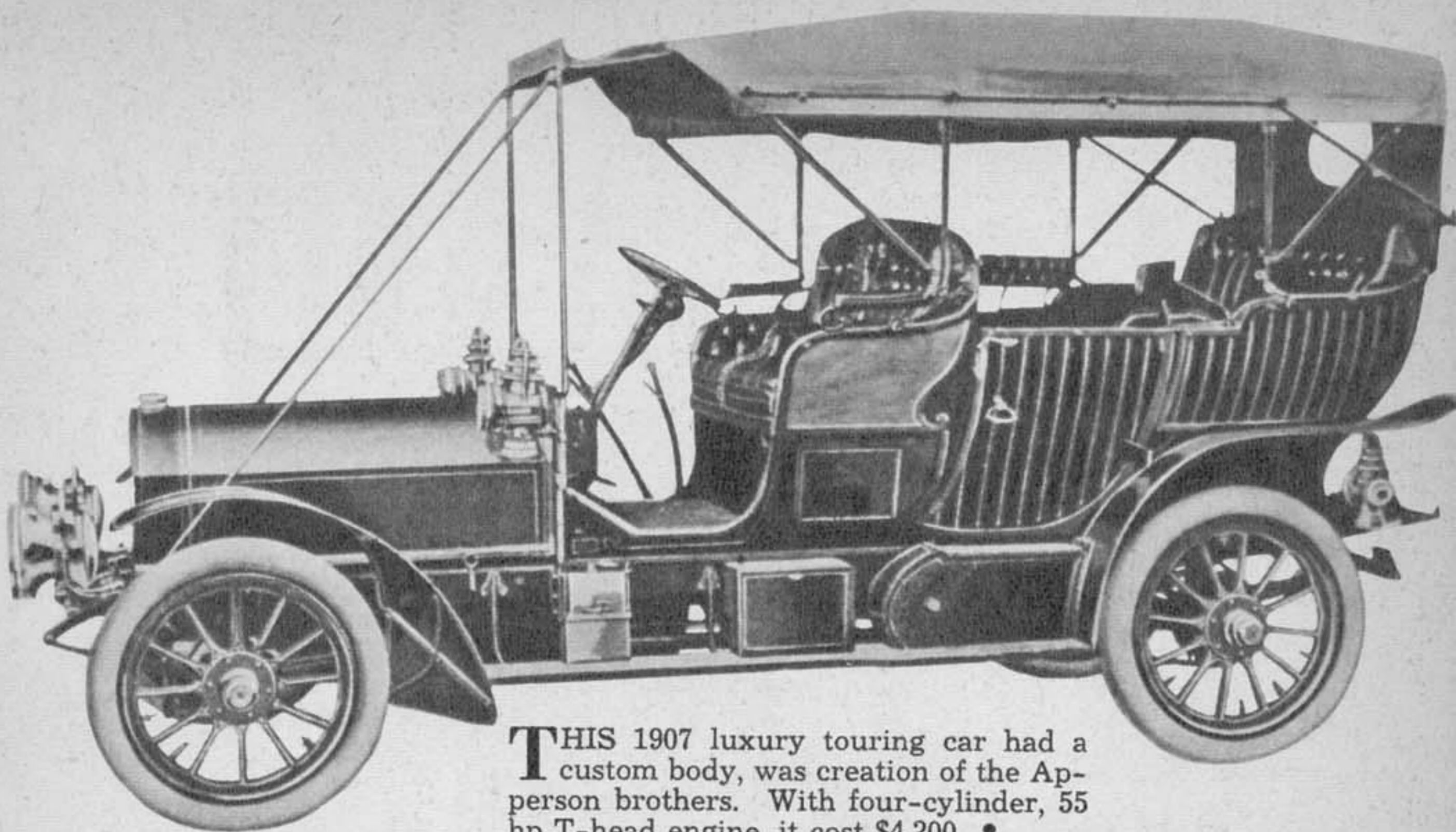




## HAYNES-APPERSON

ONE of the earliest automotive publicity stunts was this posed situation of a bicycle-riding cop telling Elwood Haynes to "Get that horseless carriage off the streets!" Caught on Michigan Avenue, Chicago, by a *New York Daily News* photographer, exact date of photo is not known. Company claimed it was shot in 1895, but bulb horn—unknown then—belies this. Haynes, a brilliant metallurgist, invented both carburetor and muffler. In collaboration with Elmer and Edgar Apperson, he produced a distinguished line of autos. Publicity-car above was actually made in 1894 and horn added later. Below is 1901 runabout, with two-cylinder, five hp engine. It could do 30 mph, weighed 1,000 pounds, cost \$1,000. •





**T**HIS 1907 luxury touring car had a custom body, was creation of the Apperson brothers. With four-cylinder, 55 hp T-head engine, it cost \$4,200. •

Test track to convince customers of performance was feature of the 1900 Auto Show. At the moment, a Model 4 Mobile steamer is on its way down from the roof. Price was \$925, with two-cylinder, 10 hp engine. Weight was 700 pounds. It could climb like a mountain goat, with or without an extra passenger along.



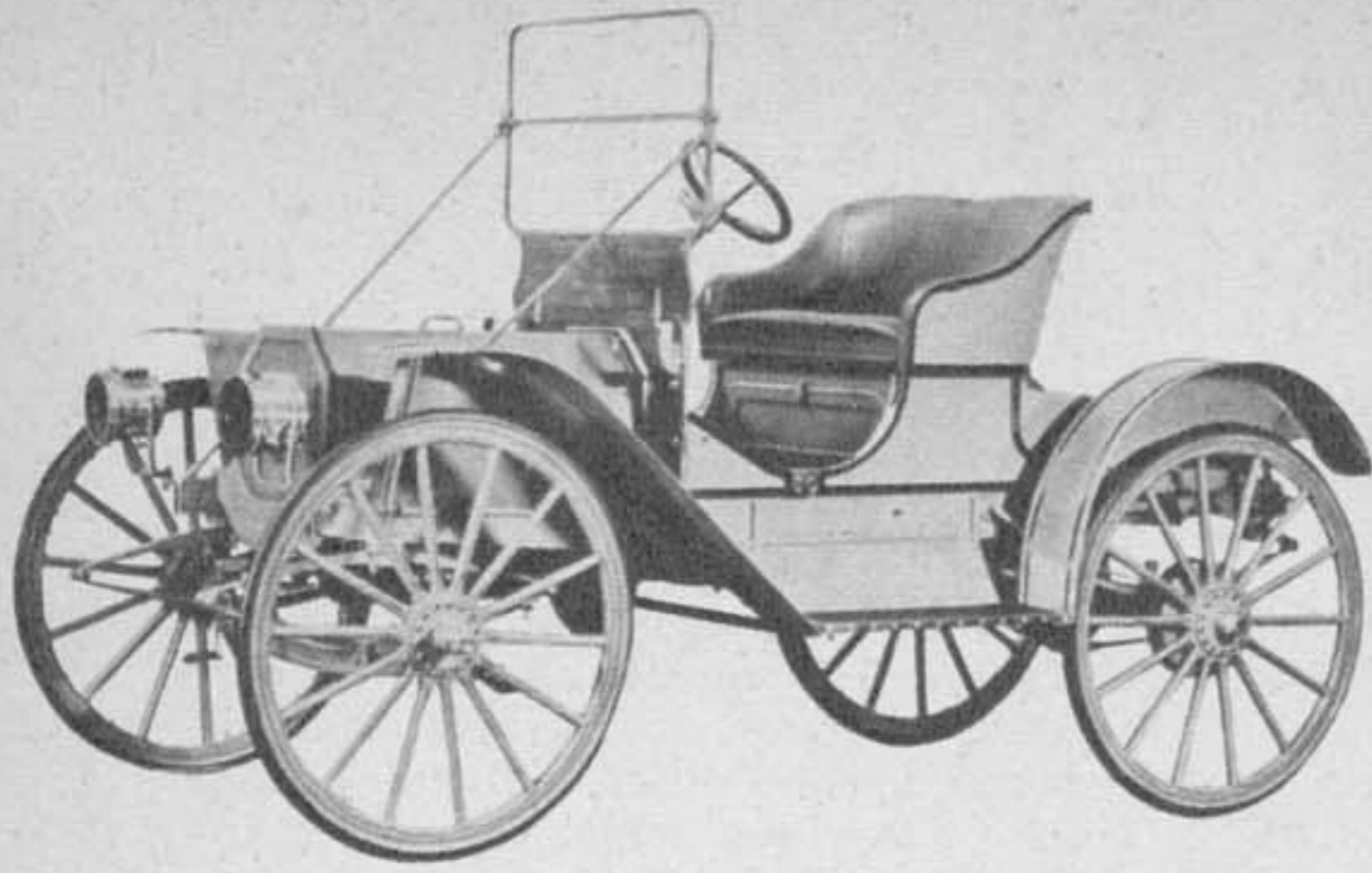


# HEWITT

**P**ERFECTLY noiseless was the description given to this 1900 electric omnibus manufactured by the Hewitt-Lindstrom Company of Chicago. The bus was in use along New York's Fifth Avenue route seven years before the first gasoline-powered vehicles. •



# HUPMOBILE



## INTERNATIONAL HARVESTER

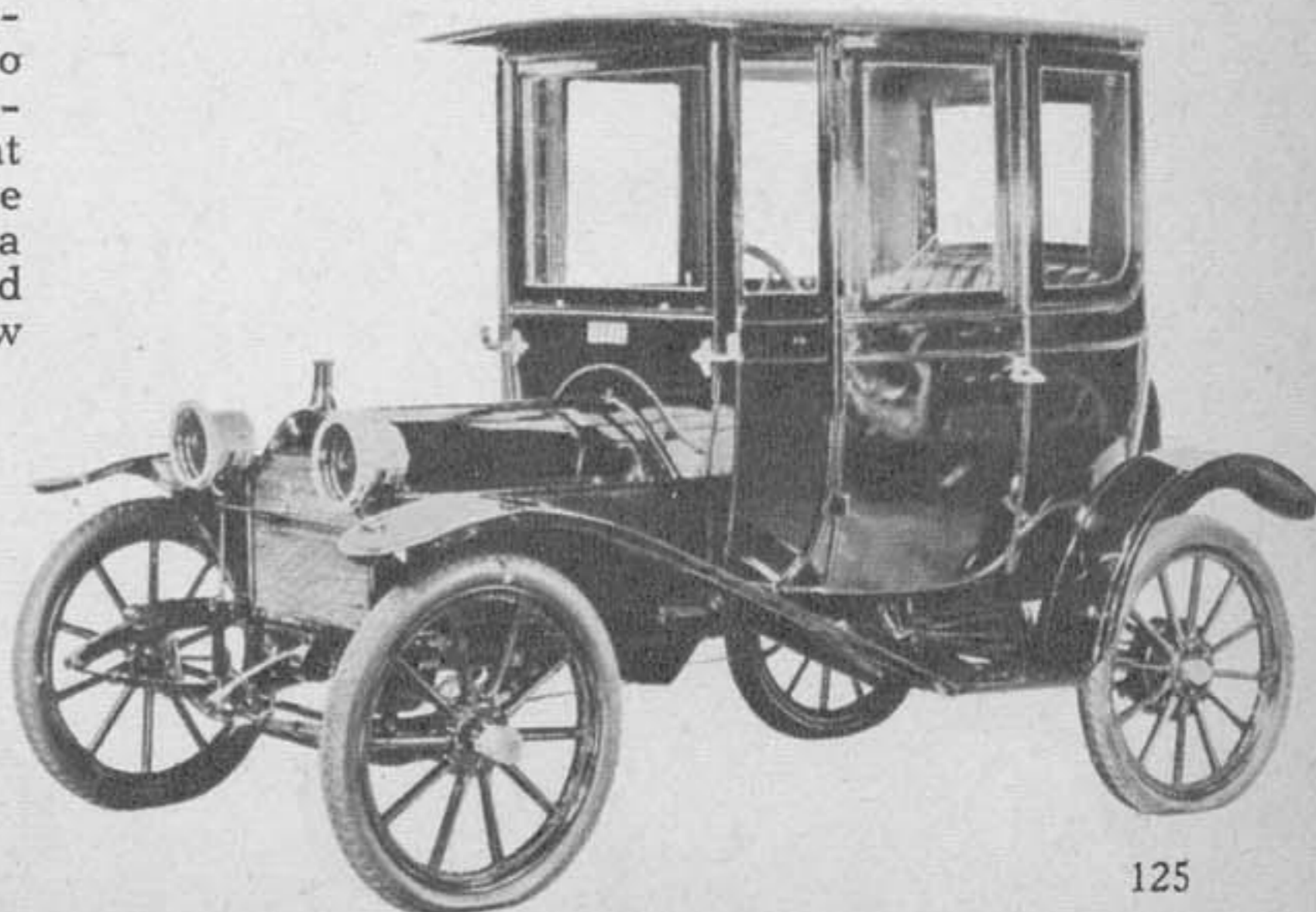
**T**HE International Harvester Auto Buggy had a definite horse-carriage look with its huge buggy-type wheels, hard rubber tires and full-elliptic carriage springs. This Model G four-cylinder car was 20 hp, had an air-cooled engine and cost \$1,000. •

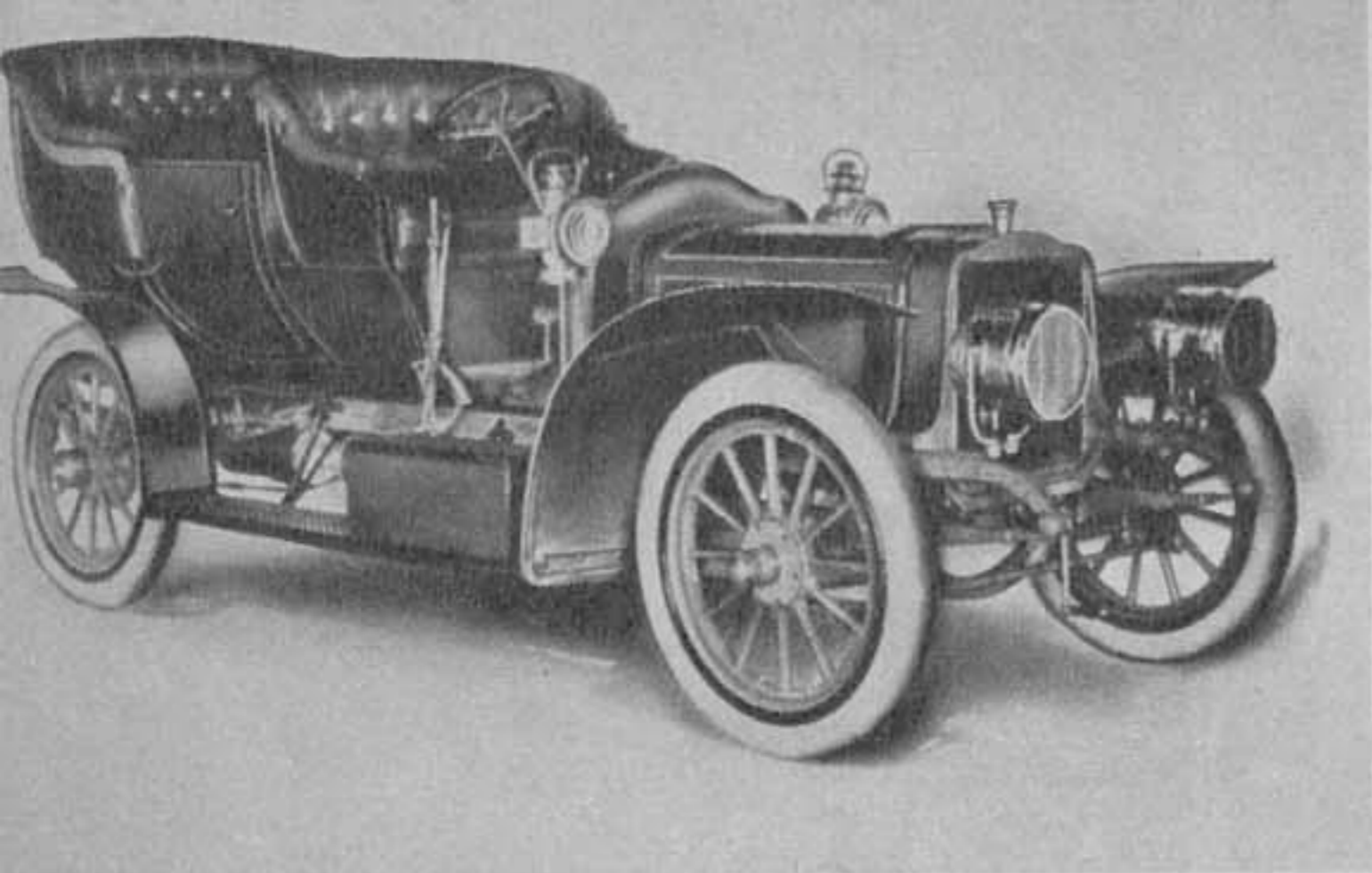


## KING

**T**HE King gasoline wagon, in 1896, was the first horseless carriage with a hydrocarbon motor to appear in Detroit. A four-cylinder, 20 hp water-cooled engine powered it to 20 mph. King is at tiller. •

**P**ROMINENT in competitive events, Hupmobiles were popular with sportsmen of moderate means. The two Model B roadsters (left) were entered in the Flag-to-Flag Contest from Denver to Mexico City, May, 1910. Both completed the trip. At right is a quaint but distinctive 1912 Hupmobile Model 20 coupé which sported a four-cylinder, 20 hp engine. It sold for \$1,250 and pioneered a low gravity center. •





**N**OT a song, but a car was the Silent Knight, the 1905 automobile pictured at the left. Built by Charles Y. Knight and L. B. Kilbourne, this old-timer was the first to have sleeve-valves. Knight, of newspaper chain fame, also invented the sleeve valve, an idea that made the car the hit of the 1906 Chicago Auto Show. Failure in the Glidden Tour discouraged United States acceptance of the double sleeve valve idea, however. In Europe, Daimler, Mercedes and other companies made use of the idea, which impressed the Stoddard-Dayton Company to the extent that they bought out Knight and Kilbourne in 1911. The original Knight was a four-cylinder, 40 hp car costing \$3,500. •

## KNIGHT

## KNOX

**O**NE of the earliest gasoline mail wagons used by the Post Office was the Knox Waterless delivery truck (right) employed at the St. Louis Exposition in 1904. It carried a 1,000-pound payload, though powered by a one-cylinder, six hp engine. Motor of the 1902 Knoxmobile pictured (below, left) had about 2,000 grooved steel pins screwed into the block to dissipate heat. Eight hp job could do 25 mph. Entered in the 1905 Glidden Tour was the Knox Waterless Model F (below, right) touring car. This two-cylinder, 16 hp car cost \$2,000 and belonged to Mr. and Mrs. J. Mehlig (seated), who drove it all the way from New Orleans to the East Coast to enter the contest. •

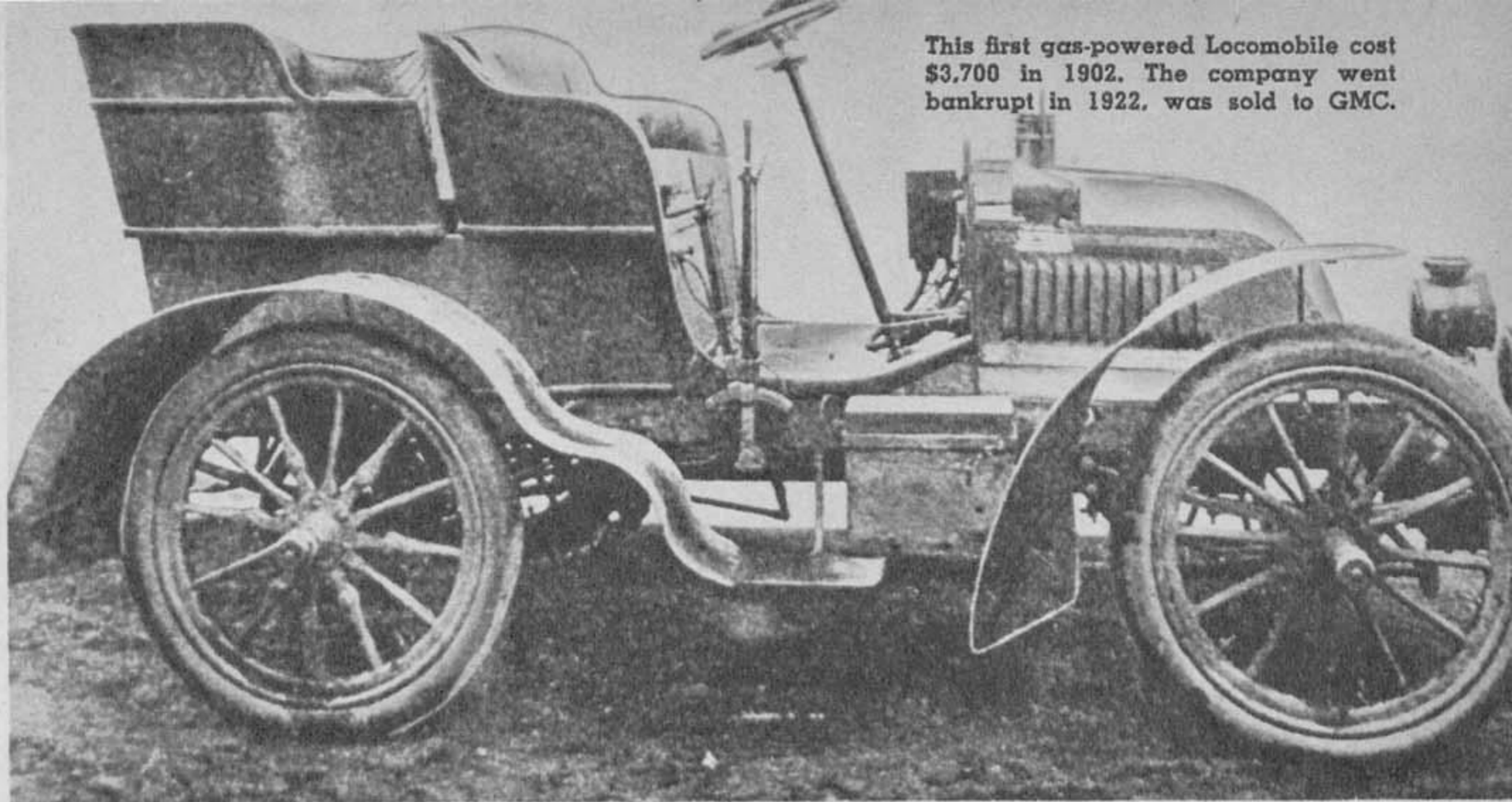


126



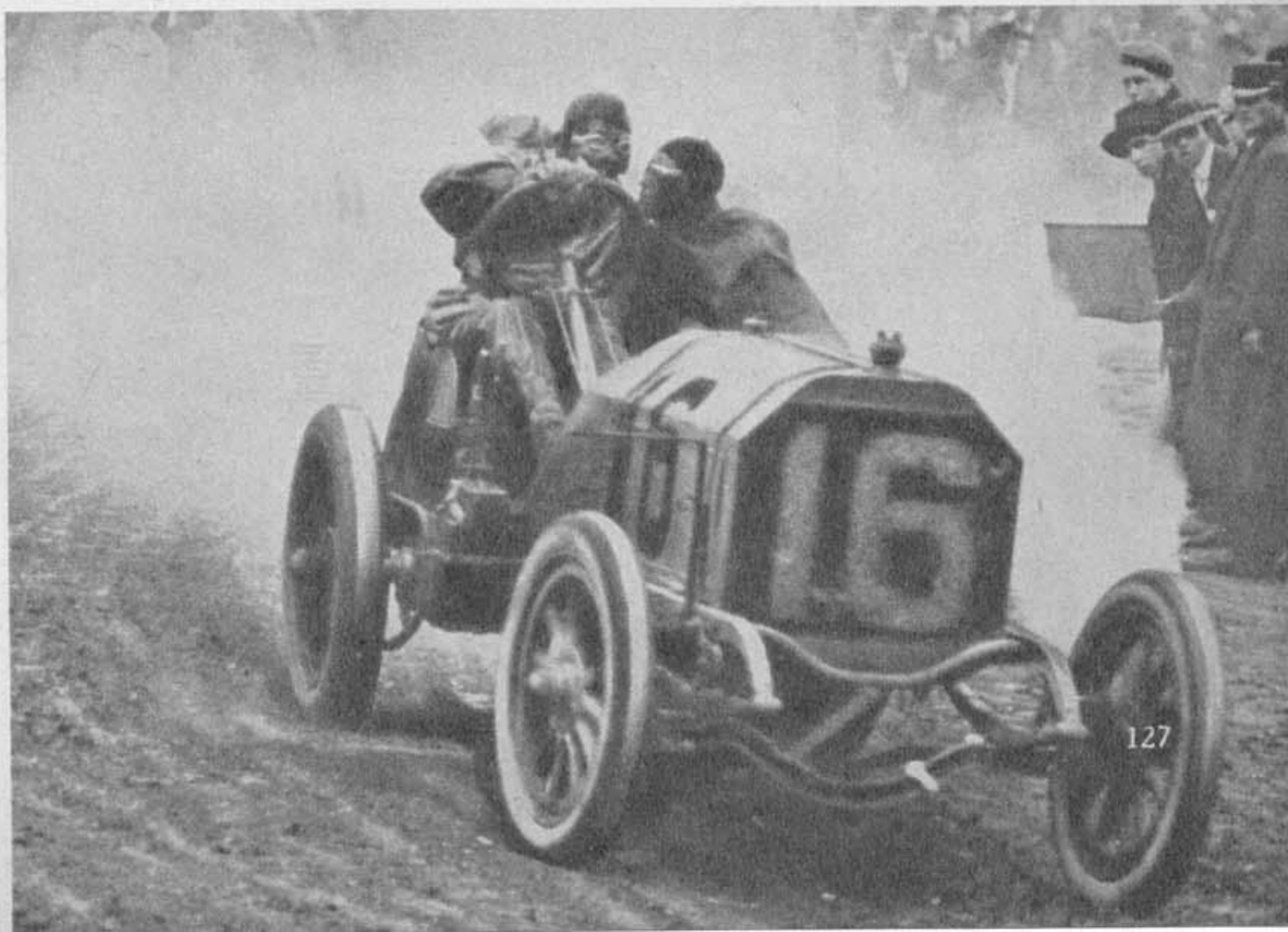
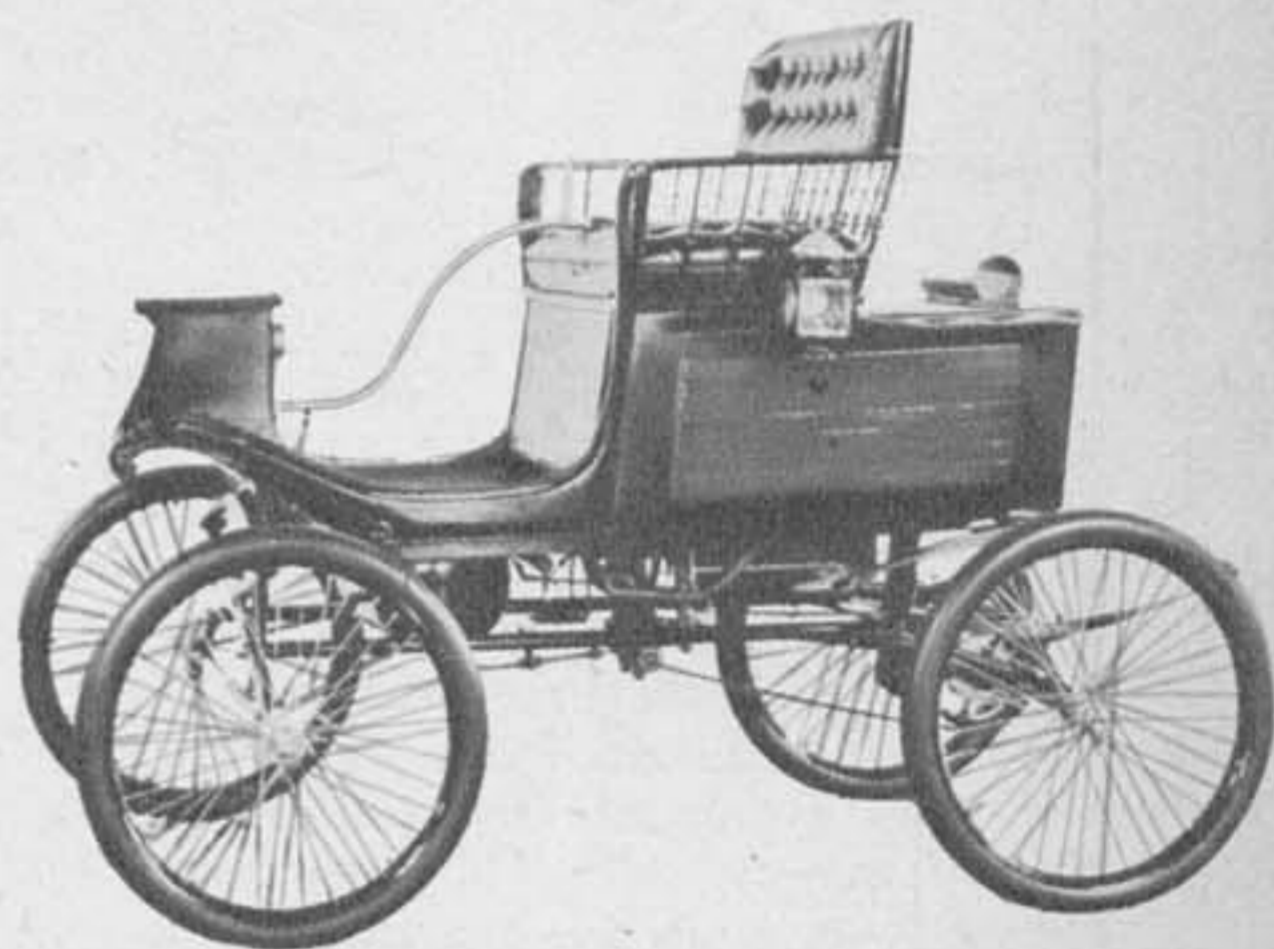


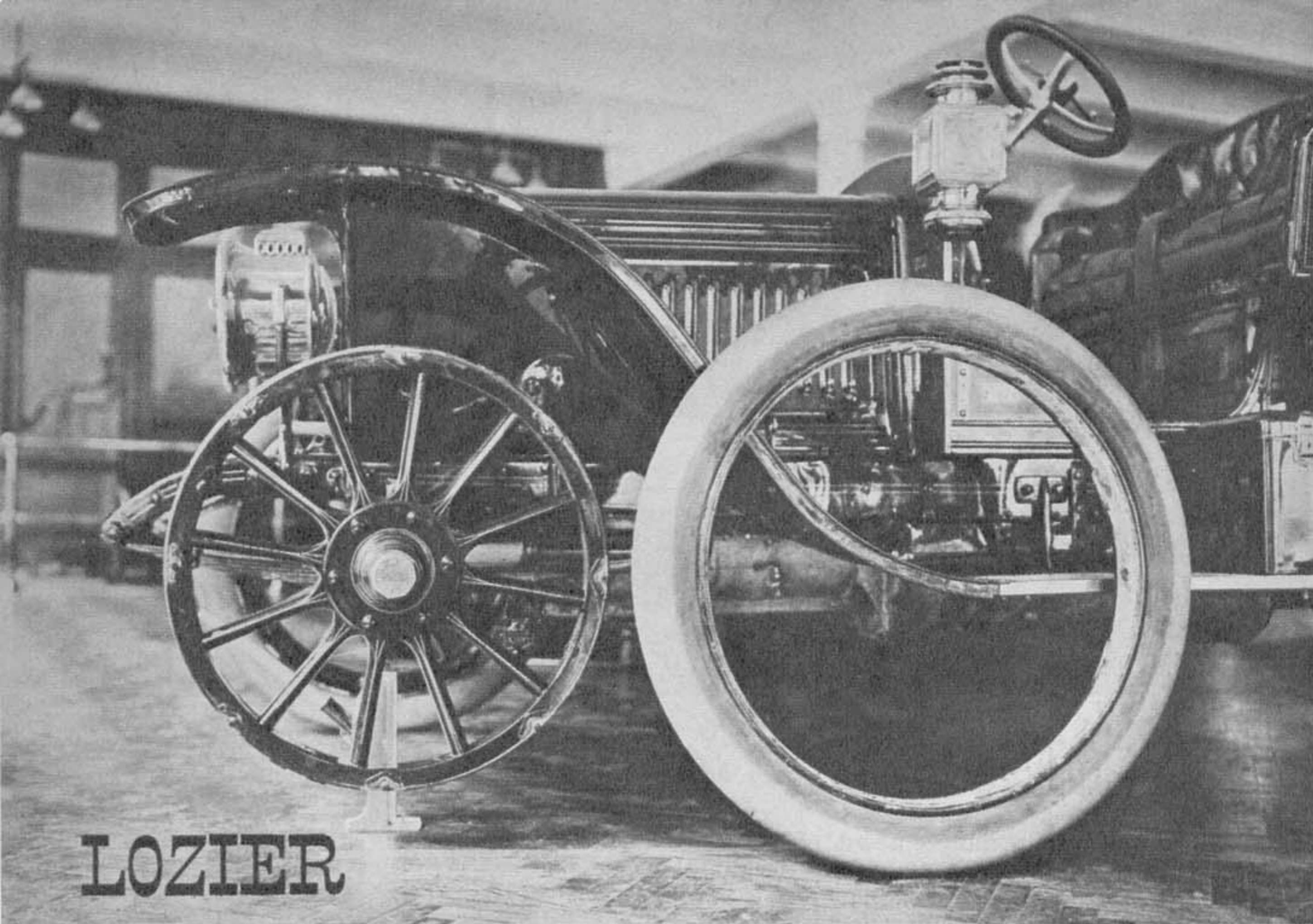
This first gas-powered Locomobile cost \$3,700 in 1902. The company went bankrupt in 1922, was sold to GMC.



## LOCOMOBILE

**S**TEAM was the motive power of the first Locomobile production auto (right), known as the 'mobile steamer and also as the stanhope. This machine had a two-cylinder engine, weighed 800 pounds and cost \$750. The firebox of the chain-driven job was under the seat and rear deck, and the boiler operated at a pressure of 50 pounds. "Old 16," winner of the 1908 Vanderbilt Cup, was a four-cylinder, 120 hp overhead valve racer specially built at a cost of \$20,000. Driven by George Robertson (Glenn Ethridge was his mechanic), the big "Loco" was the first American car to win a road-racing classic. •



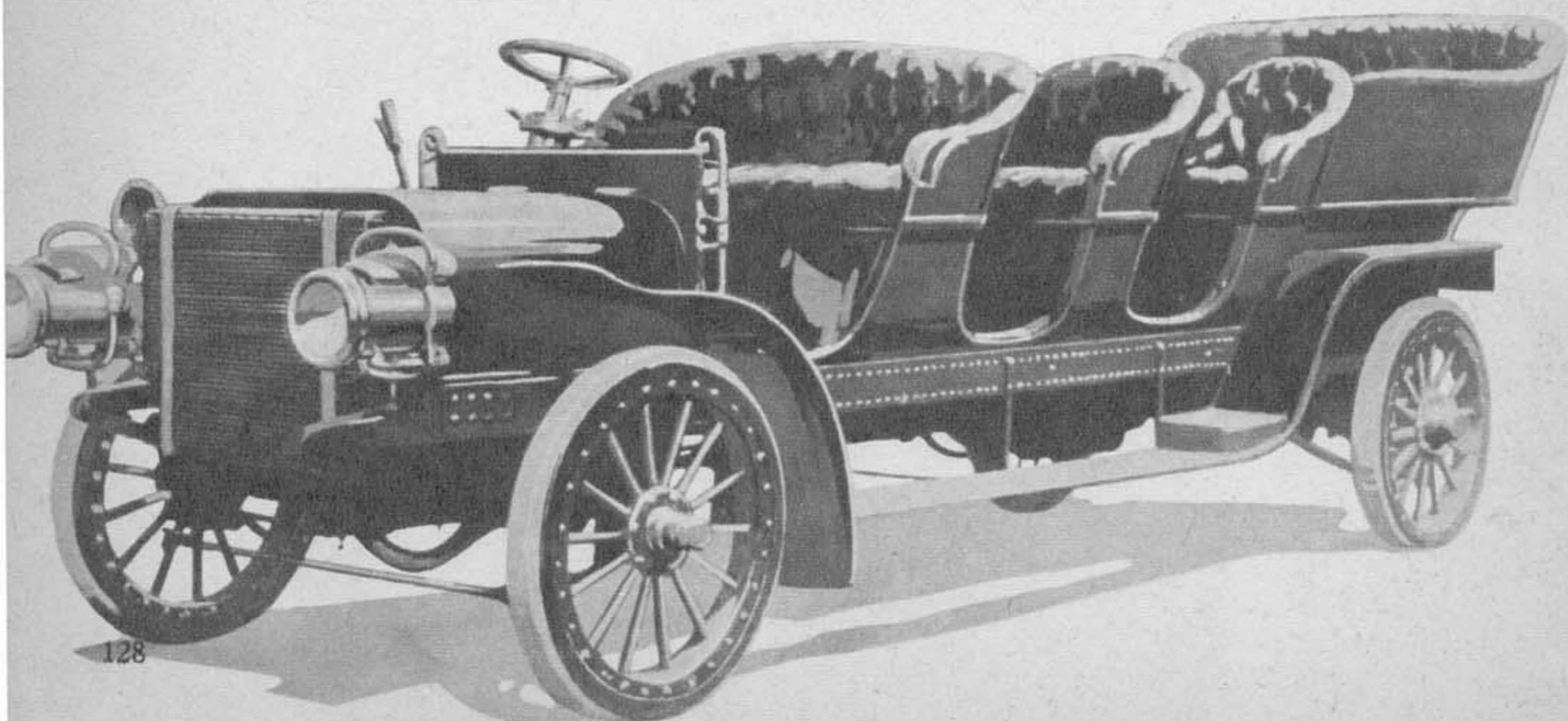


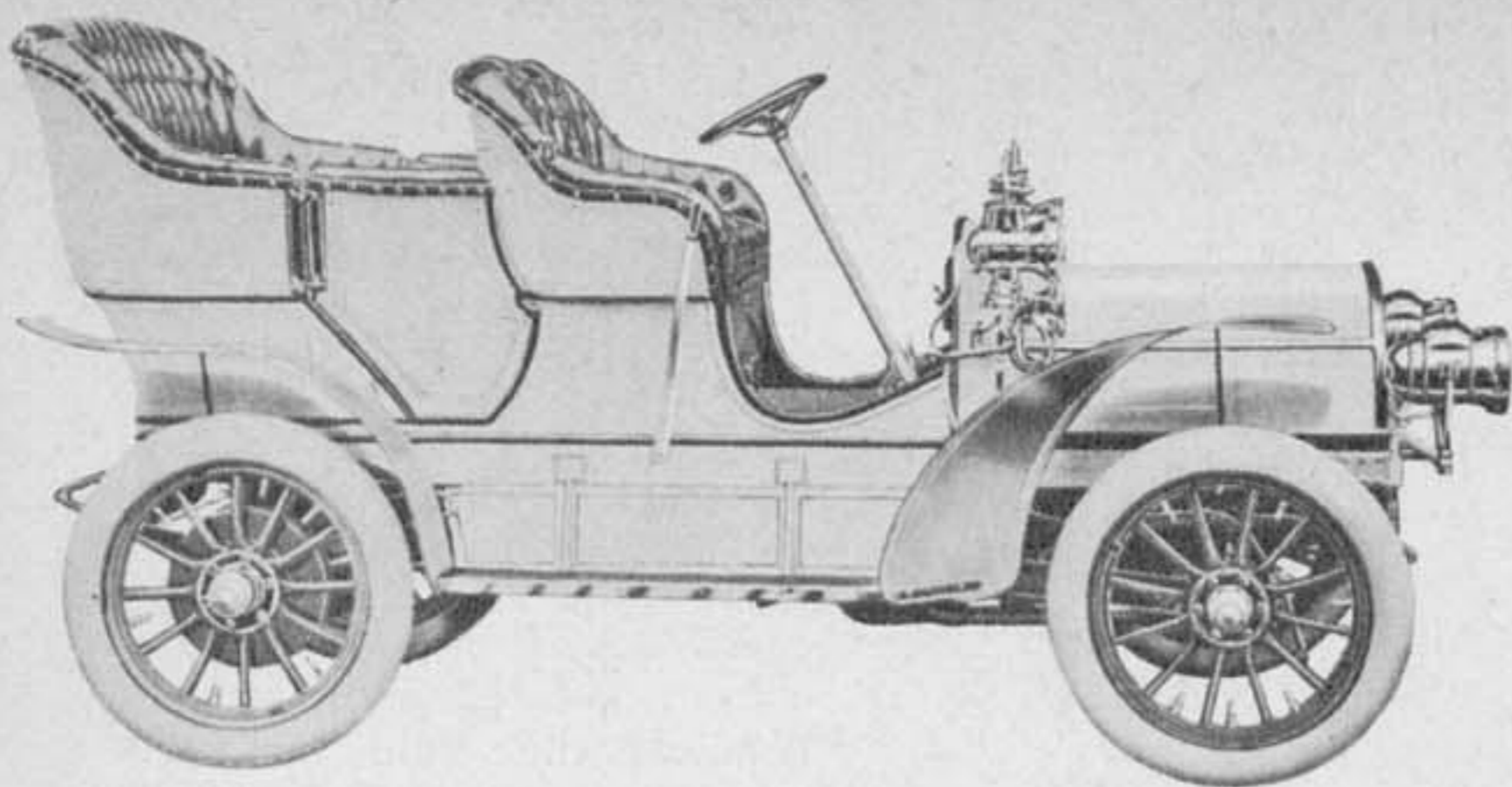
**LOZIER**

**D**EMOUNTABLE rim was standard equipment on this 1910 luxury Lozier touring model, priced at \$6,175. Manufacturing rights to the rim were obtained from its French inventor, Vinet. An unusual feature of the six-cylinder, 50 hp Lozier engine was a roller-bearing crankshaft. Earlier, in 1906, Walter Christie had designed a similar wheel. •

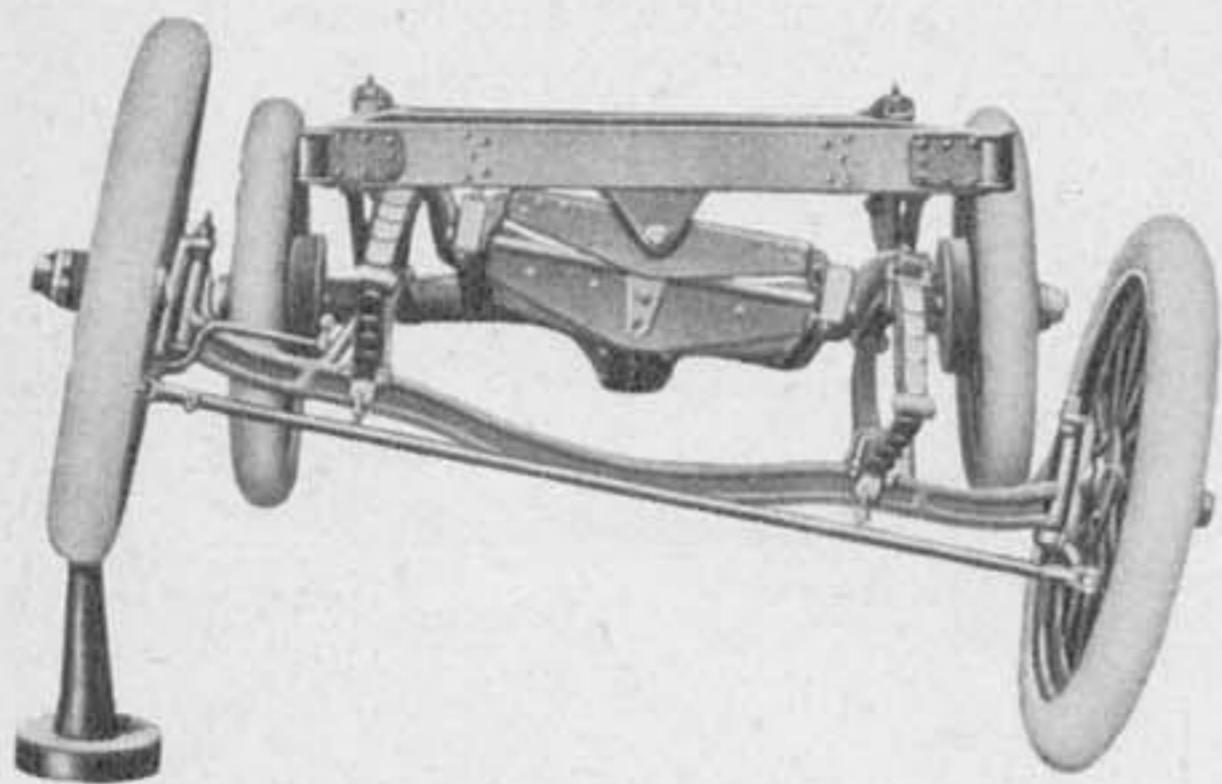
## **MACK**

**T**HE first Mack truck: this surrey-type bus introduced in 1904 by the Mack brothers of Allentown, Pennsylvania, had a four-cylinder, 36 hp engine. It weighed 4,500 pounds and could carry 15 passengers. Model below served 17 years for both bus and truck transportation. •





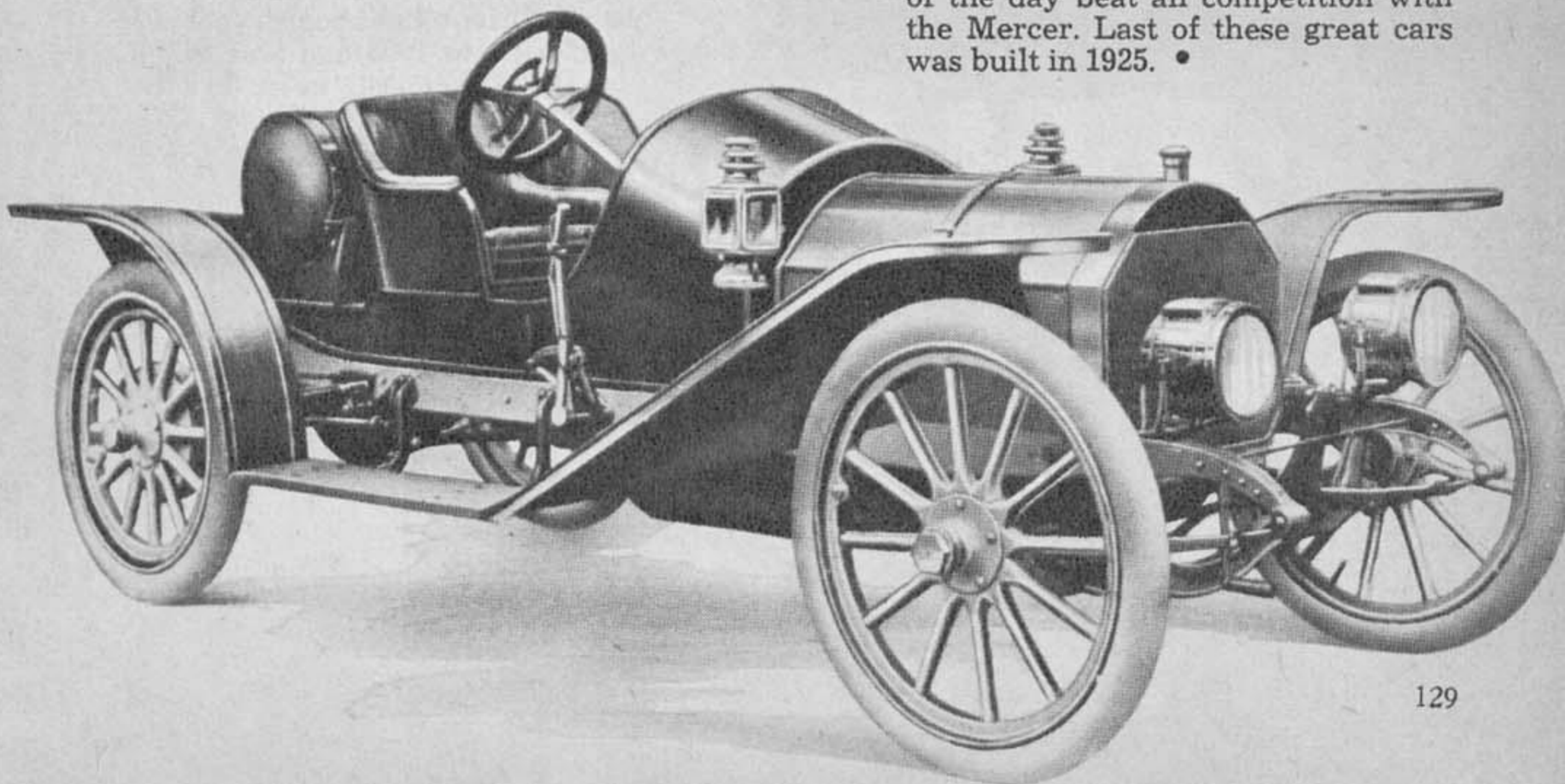
## MARMON

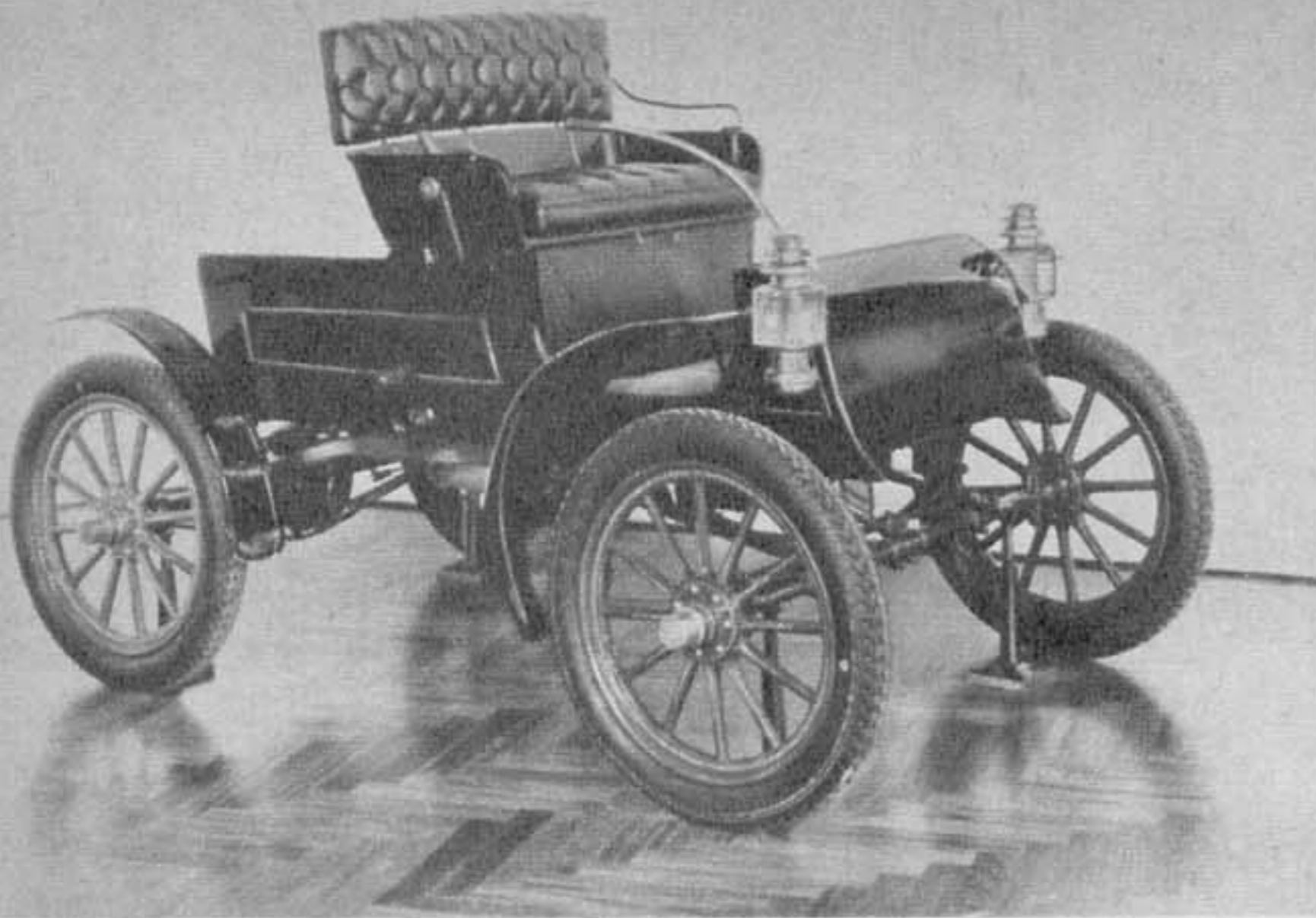


**T**HE Marmon Model C touring car boasted several advanced features when it appeared in 1903. It had a four-cylinder, 24 hp V-type overhead valve engine lubricated by pressure through a drilled crankshaft and two separate chassis frames—one for the body and one for the engine—thus coming close to the modern principle of independent suspension. See picture at left, which shows how axles and engine on sub-frame can tilt at steep angle while body remains level. Price of car was \$2,500, fully equipped. Final production: 1933. •

## MERCER

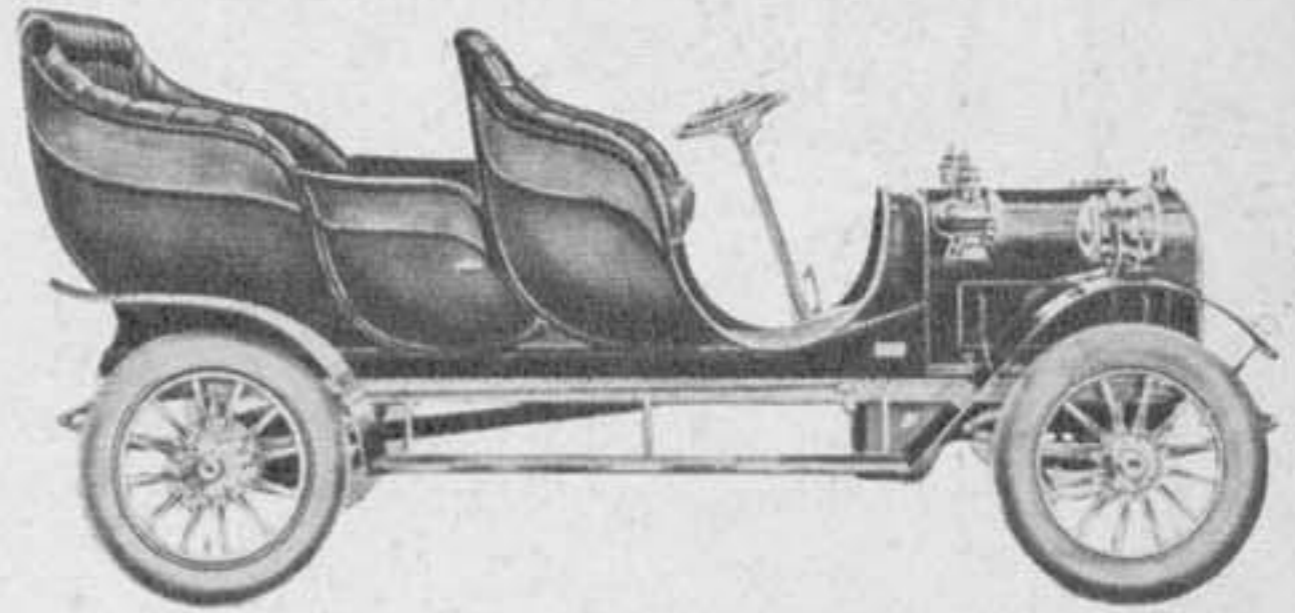
**O**NE of the first production cars ever equipped with torpedo body was this 1910 Speedster Model Mercer. With sturdy four-cylinder, 34 hp engine and dual ignition by magneto and battery, it sold at \$1,950. Another feature was a 40-gallon rear tank which held enough gas for 500 miles. Barney Oldfield and other aces of the day beat all competition with the Mercer. Last of these great cars was built in 1925. •



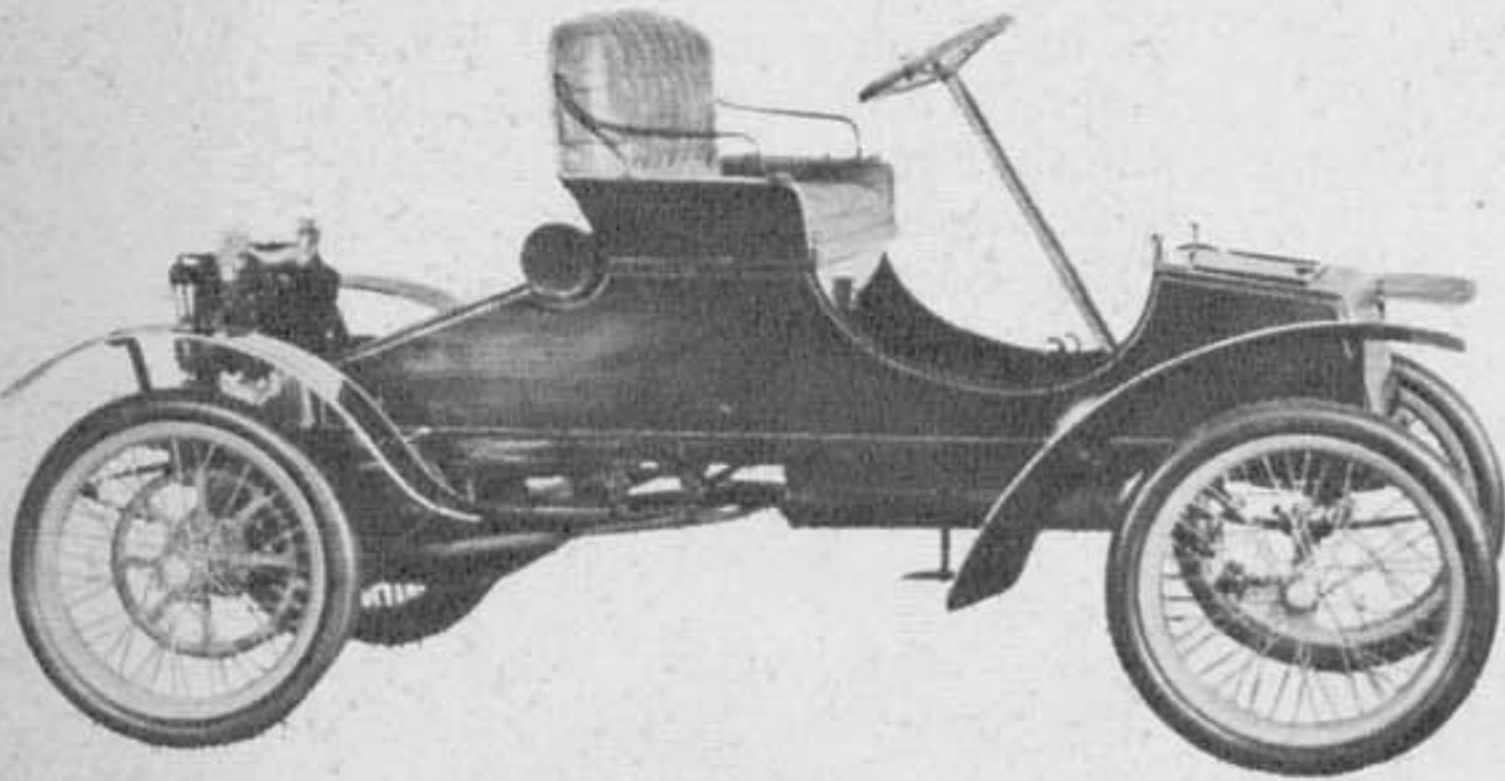


# NORTHERN

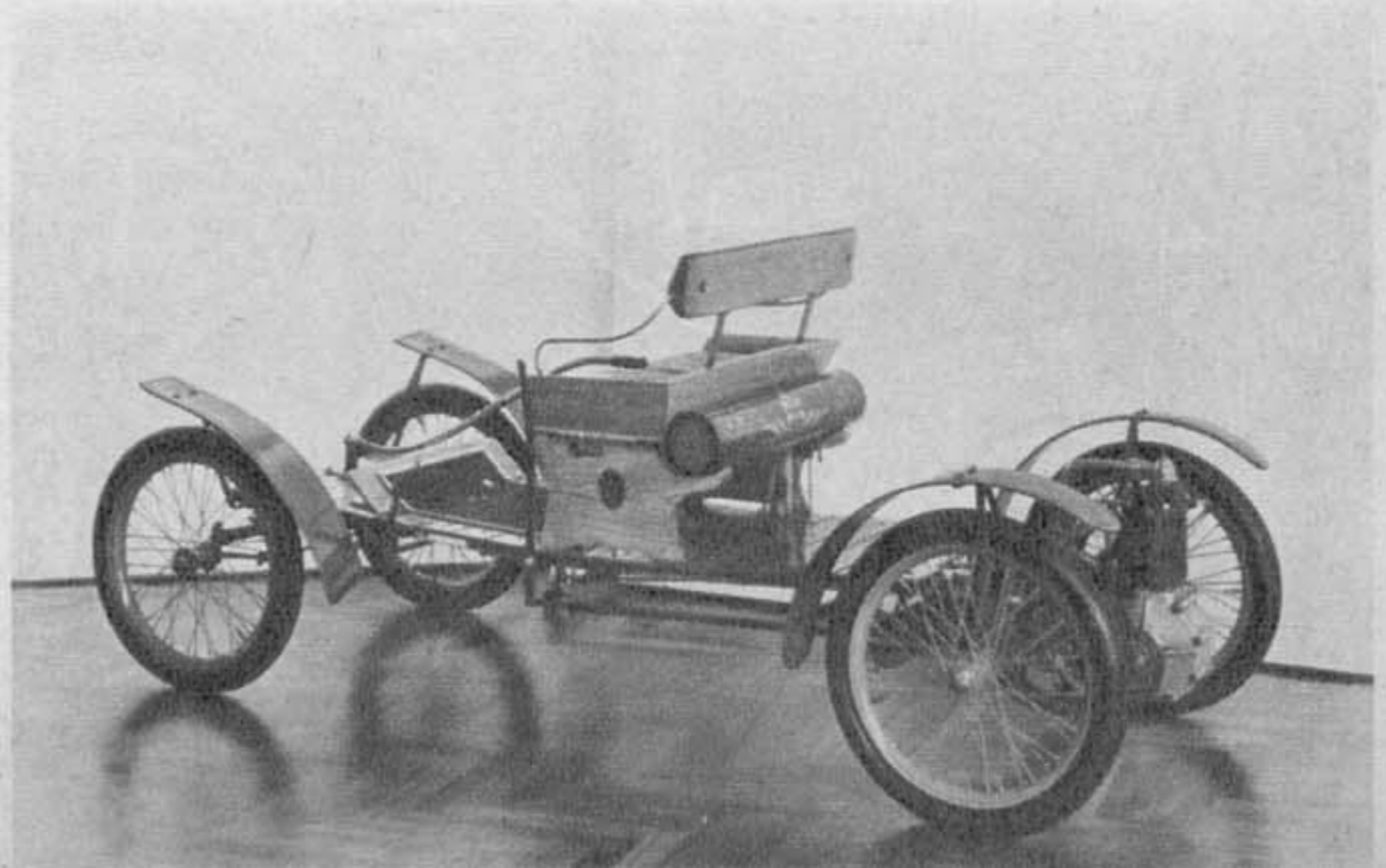
**B**RAINCHILD of pioneers Charles B. King and Jonathan Maxwell, the Northern was said to "make less noise than an electric car." At left is the 1904 runabout, a single-cylinder, six hp car that sold for \$750. Below is the 1906 Model K which used compressed air for clutch and brakes. It was four-cylindered. •



# ORIENT

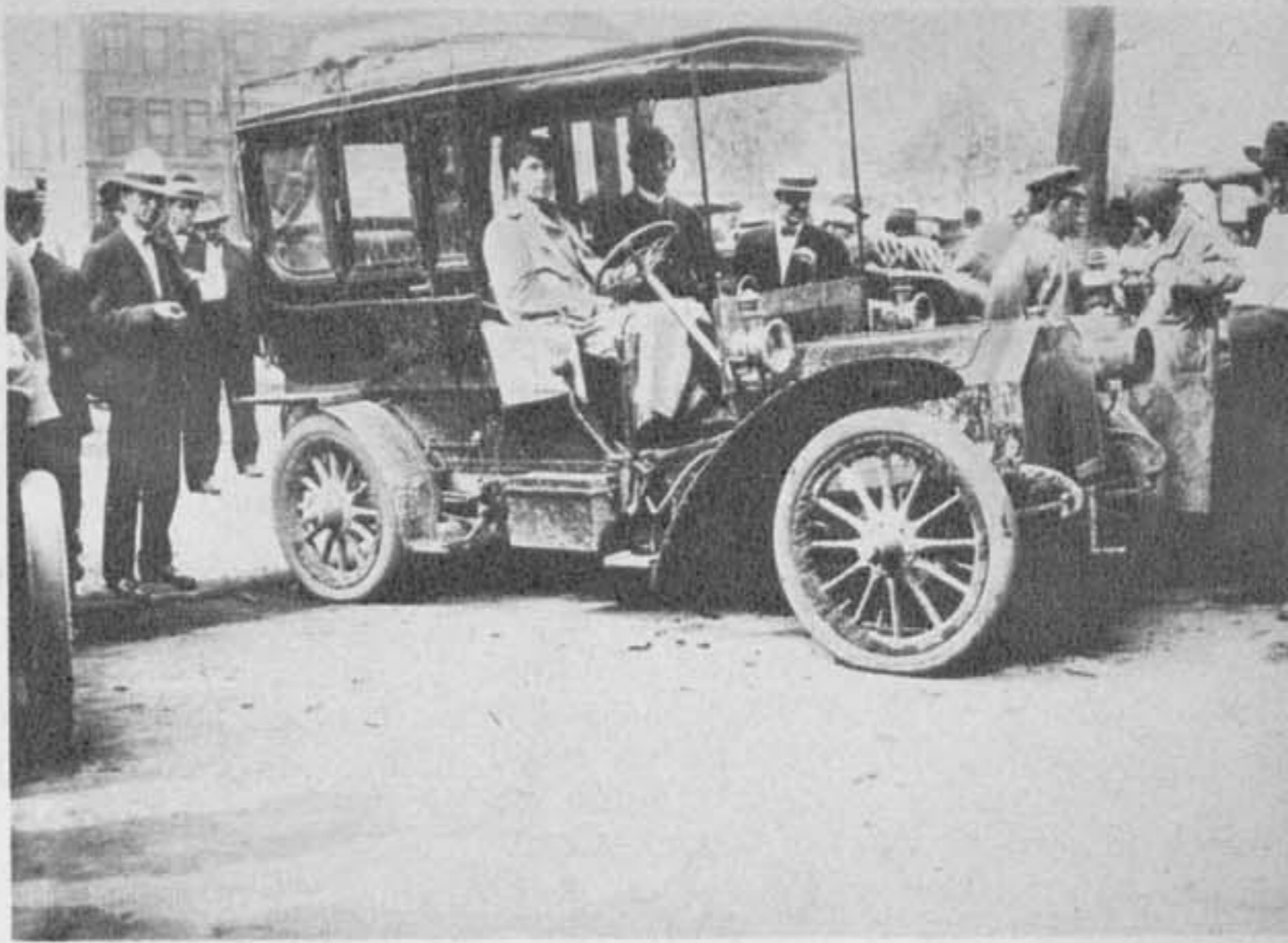


**O**RIENT Runabout of 1907 (left), a product of the Waltham Manufacturing Company, had a modern design engine—V-type, air-cooled and rear-mounted. The two cylinders could power it to 40 mph and it cost \$600, less than a dollar a pound. The starkly functional Orient Buckboard (below) goes back to 1903 and was billed as the "cheapest auto in the world." It sold for a low \$375. Waltham sold out to the Metz Company in 1909. •



# PEERLESS

**T**HE interested crowd is gathered around a real road pioneer. This 1904 Peerless limousine was one of a number of cars that attempted and completed a 1,500-mile New York to St. Louis trip. The picture was taken in Cleveland, a stop-over point. Other distinctions the car held: it was the only closed car in the tour; the largest American pleasure car built in 1904; and the first limousine to run in a contest. •

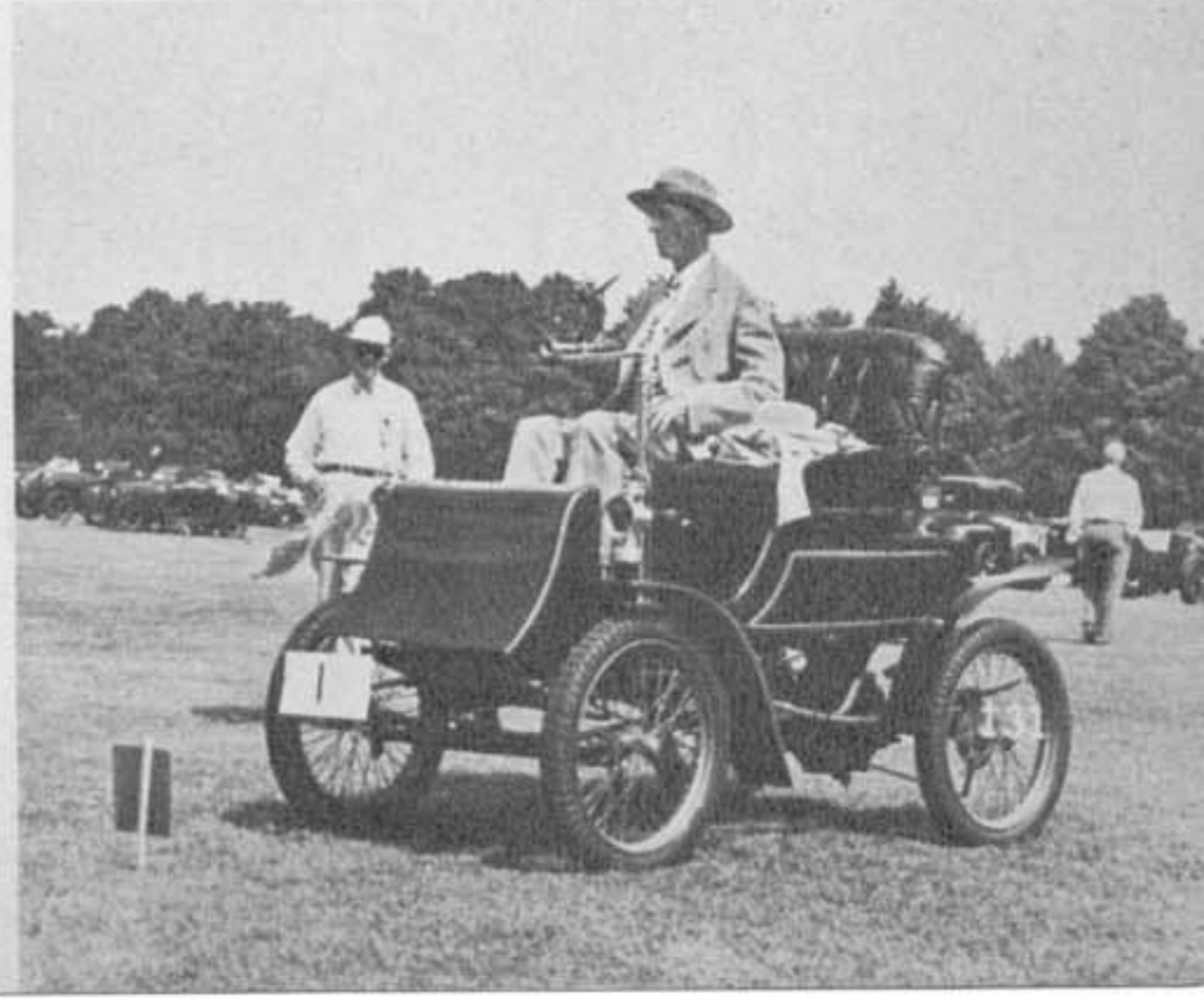
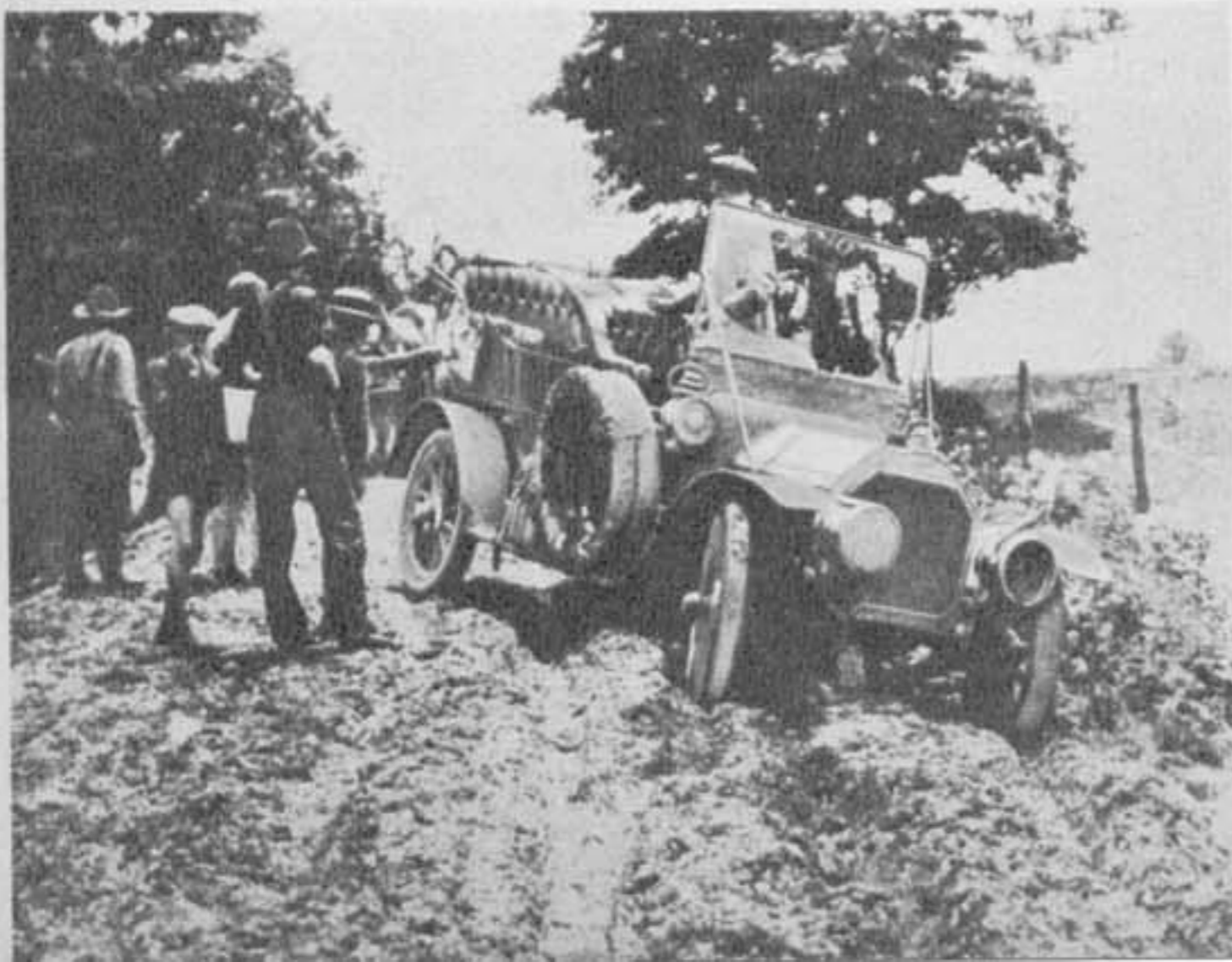
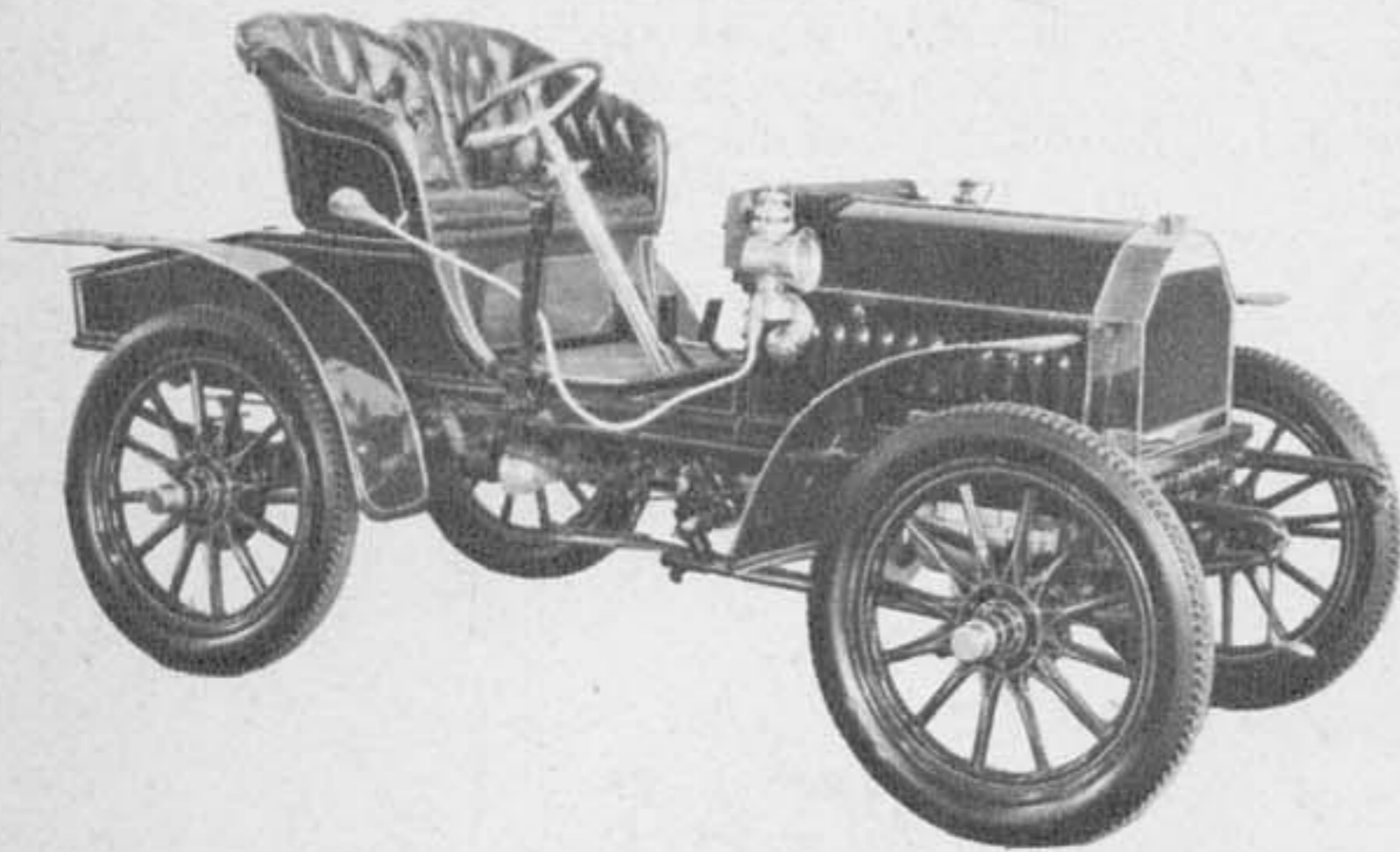


# PIERCE-ARROW

**A** name that became a household word among car-minded folk of the last generation was the Pierce-Arrow. The two-cylinder 15 hp water-cooled roadster at left was one of the first to be manufactured. It weighed 1,600 pounds and cost \$2,500.

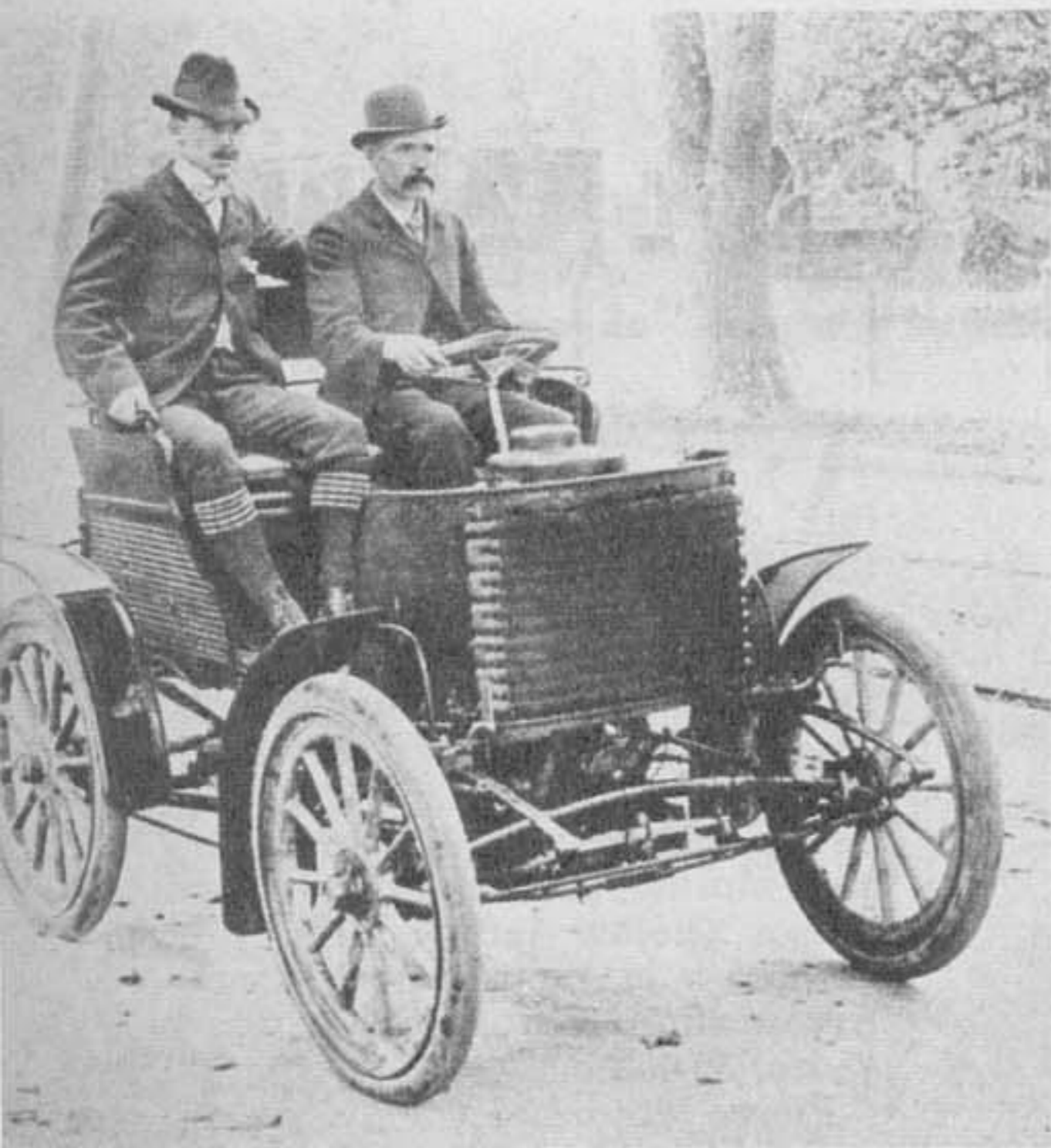
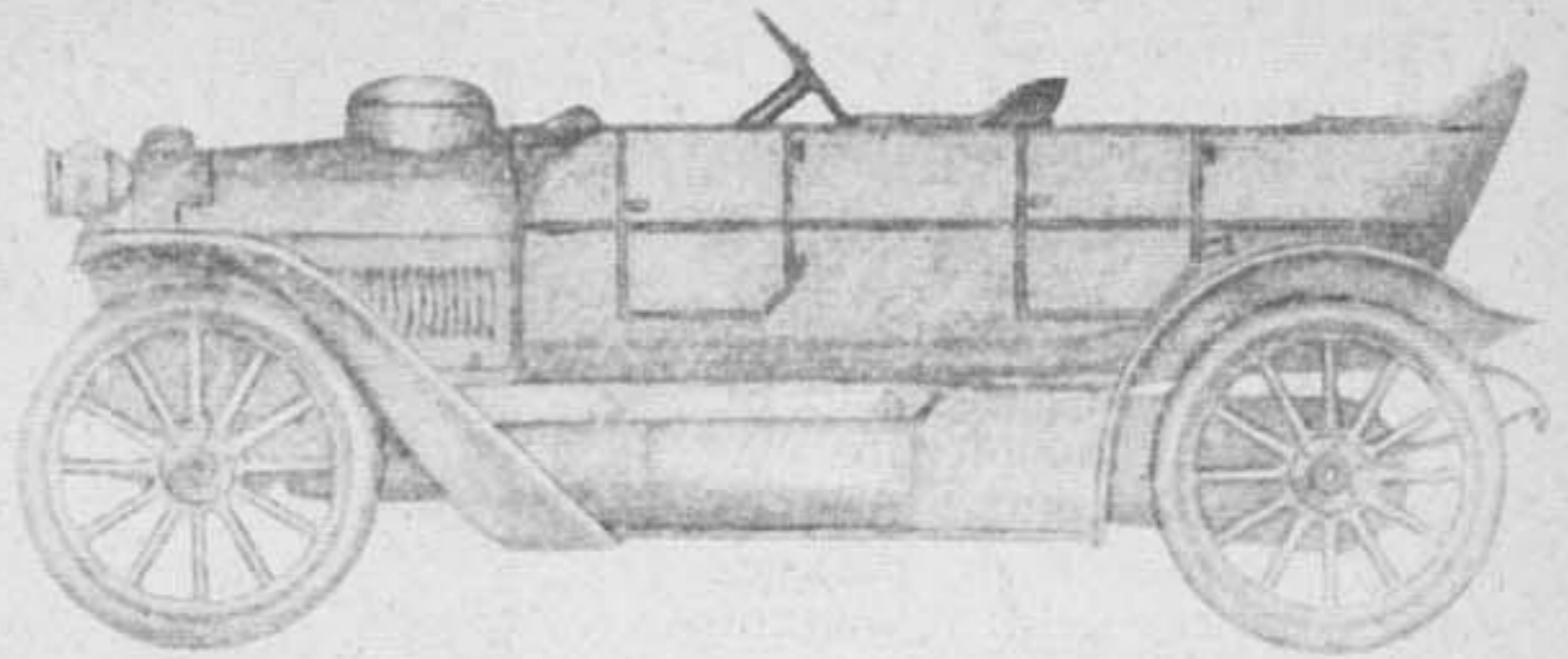
One of 20 four-cylinder cars to be entered in an 870-mile endurance run in 1905, the Pierce Great Arrow (below, left) ended up in a morass of mud, but a Pierce-Arrow similar to it won. It was a 45 hp, \$5,000 car.

Pierce Motorette (below, right), powered by a small single-cylinder DeDion engine, set an endurance record on a run between New York and Buffalo in 1901. Some 390 miles were covered in five days at a cost of \$7. •

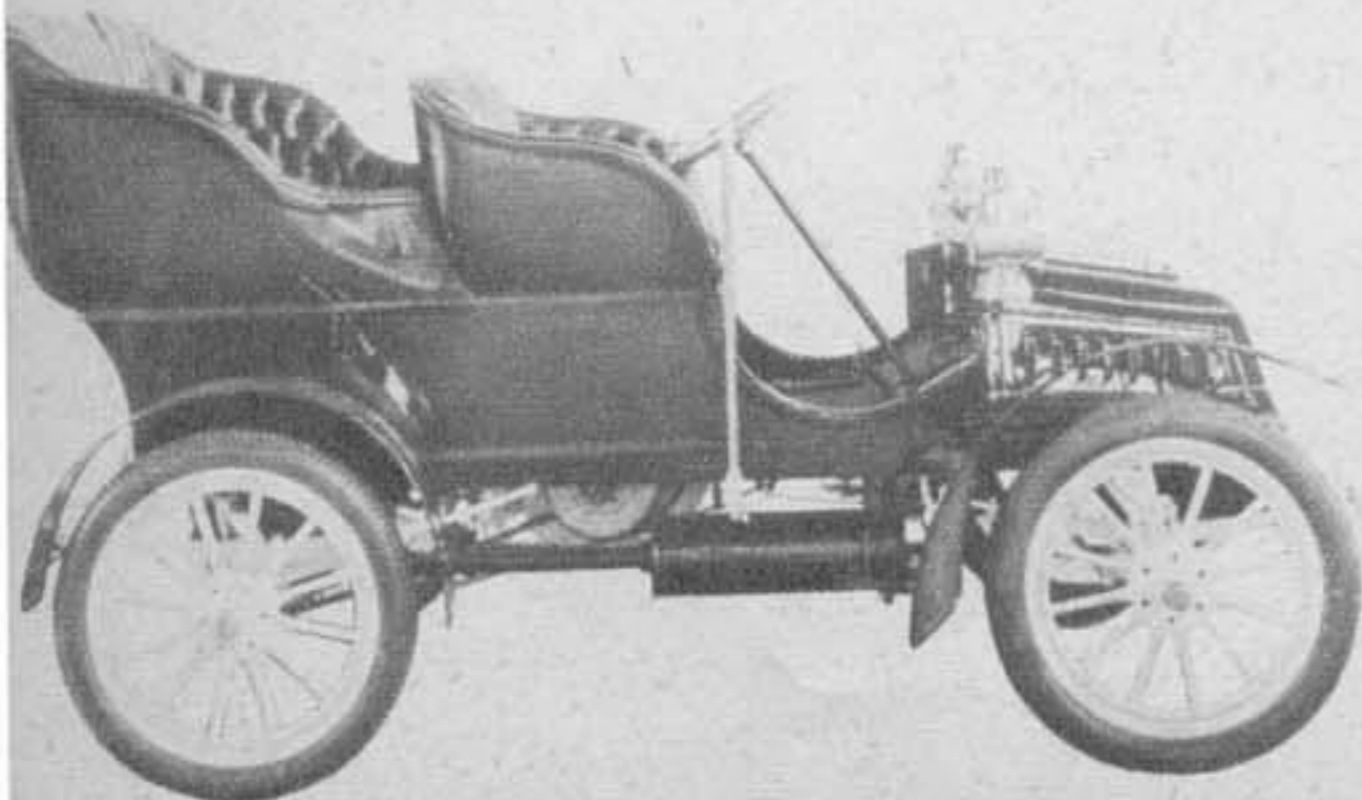


# PLYMOUTH

**T**HERE was a Plymouth, too, in 1909—just 19 years before the Chrysler Plymouth was built. But it was no relative. This earlier one was called the Plymouth Gasoline Pleasure Vehicle. It had a four-cylinder, 40 hp engine and cost \$2,500, with a five-passenger torpedo body. Bulge on hood is anybody's guess. Made by Plymouth Motor Truck Company, which yet survives. •



The 1904 Pope-Hartford Model B cost \$1,200 with single-cylinder 10 hp engine, less top.

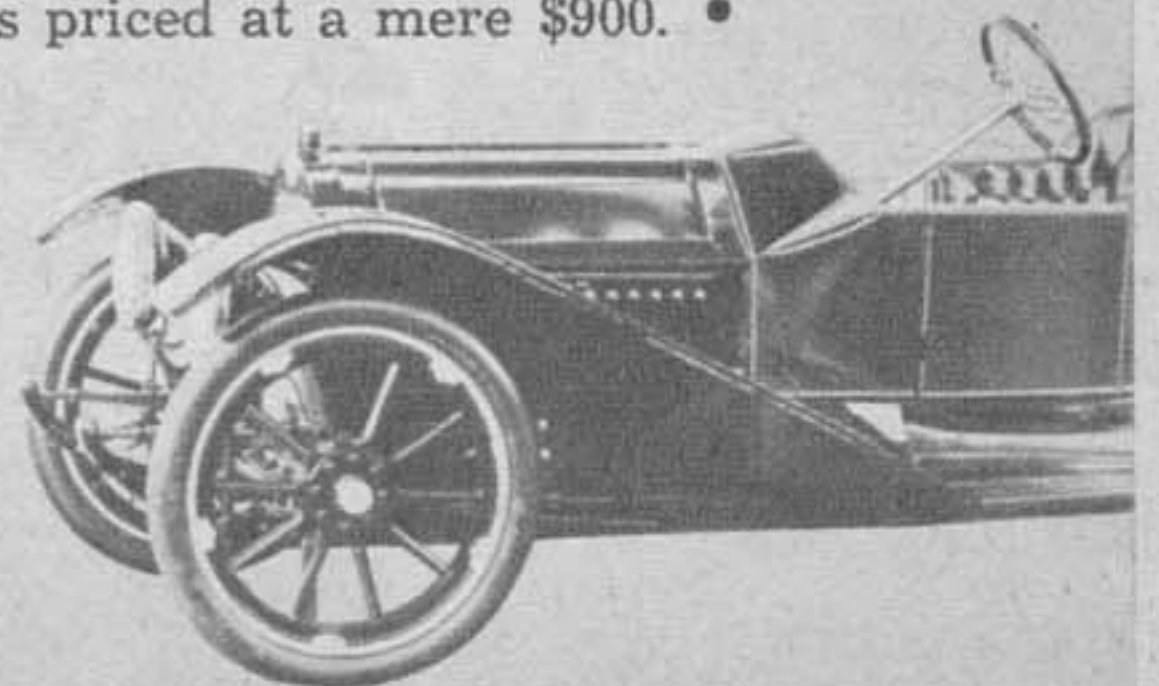


# POPE

**A**T left is the 1898 Pope-Columbia, considered radical in its day because of steering wheel. Hiram P. Maxim (next to driver) was designer of the car. Son of a pioneer builder of flying machines, he was also inventor of the Maxim silencer for guns. In this car, he placed the single-cylinder engine at the front, unlike others of the time. Note the large radiator and simplicity. •

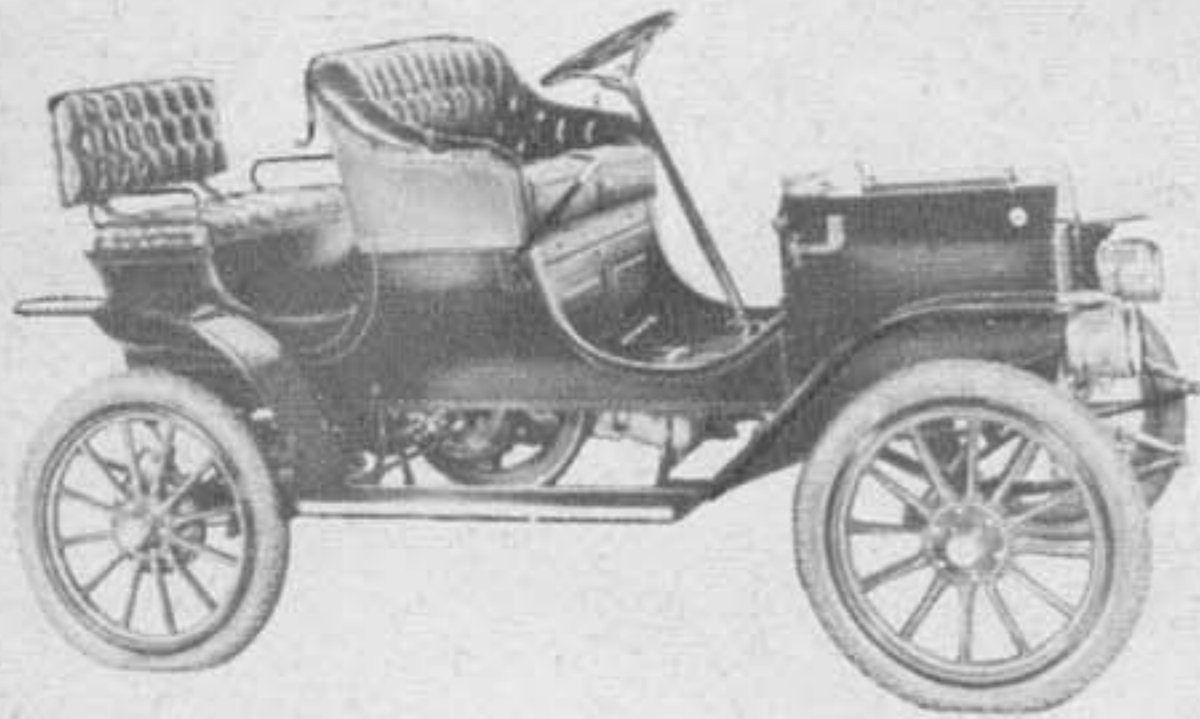
# REGAL

**T**HIS 1910 Regal roadster was sporty with underslung chassis and rakish body lines. Known as Model N-25, it steered from the left, had a four-cylinder 25 hp engine, weighed 1,900 pounds and was priced at a mere \$900. •



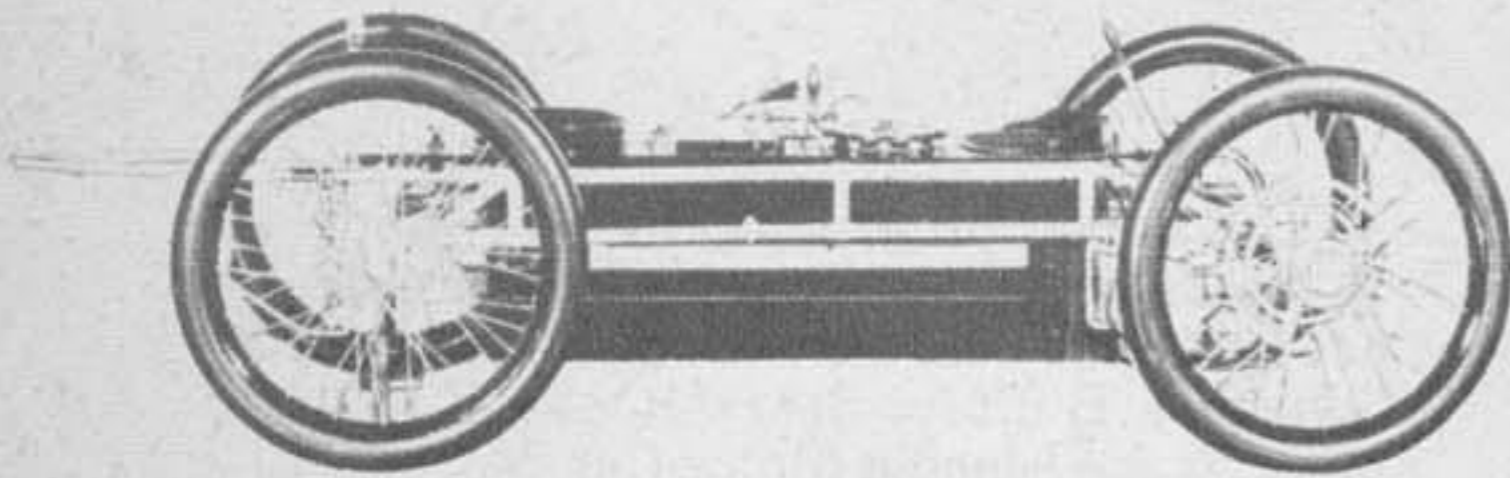
# REO

**O**RPHANS Day in 1905 found this red Reo on the job carrying 19 young picnickers. The car was designed for only five passengers by R. E. Olds. It was powered by a two-cylinder, 16 hp engine and sped along at 35 mph. Weighing 1,500 pounds (with the tonneau), it cost only \$1,250. •

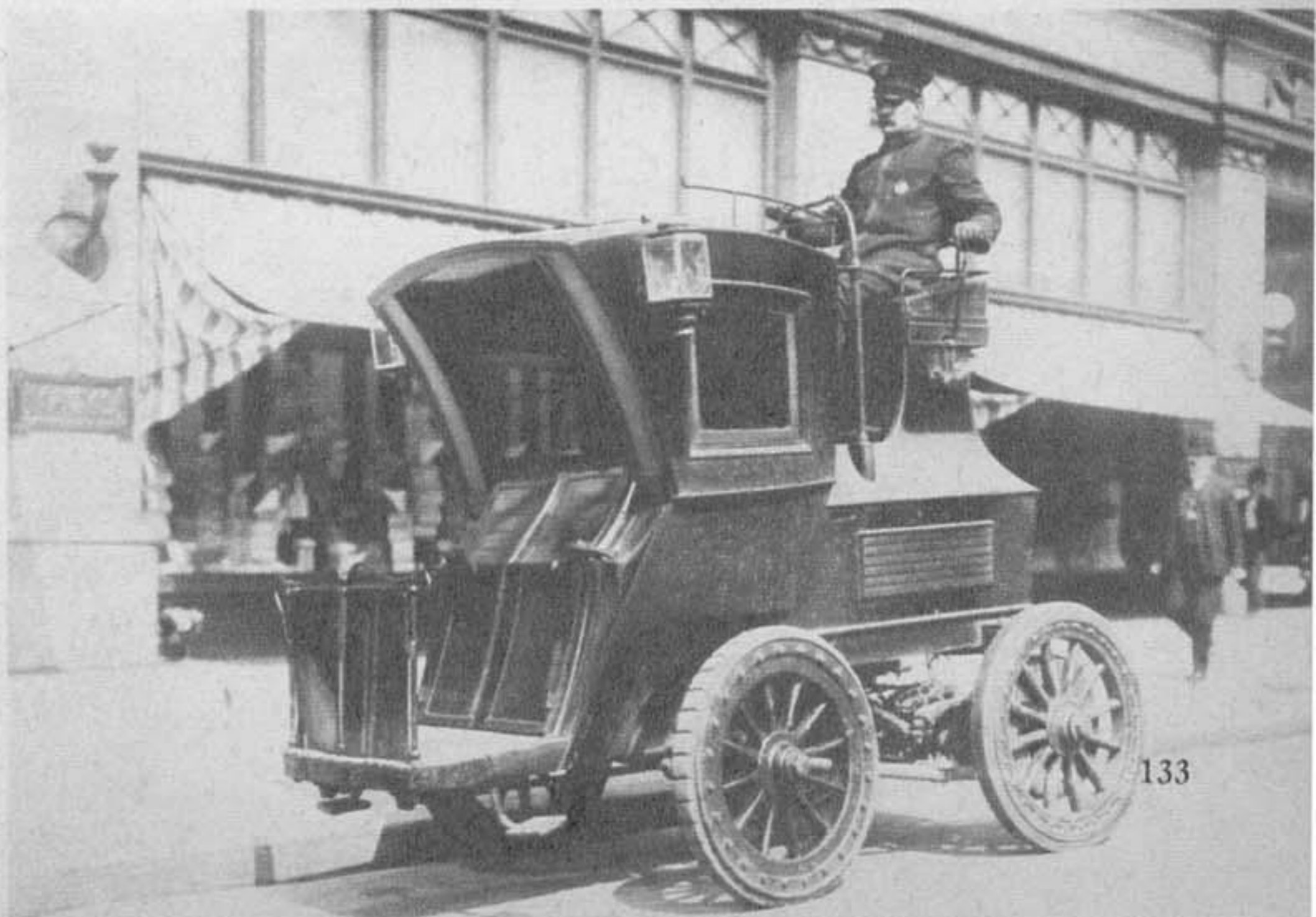
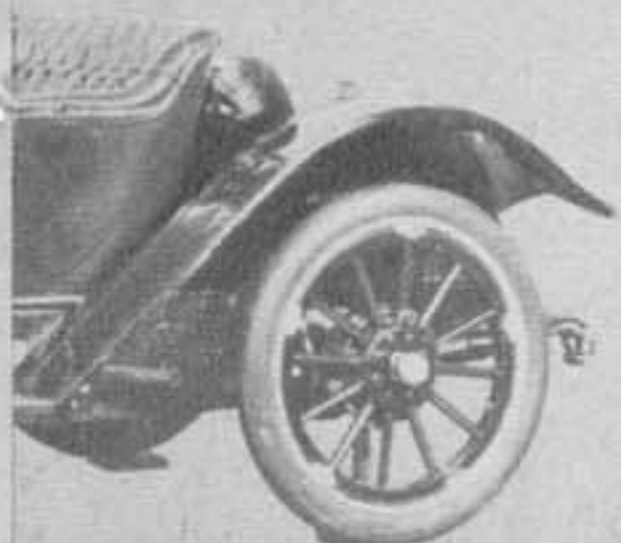


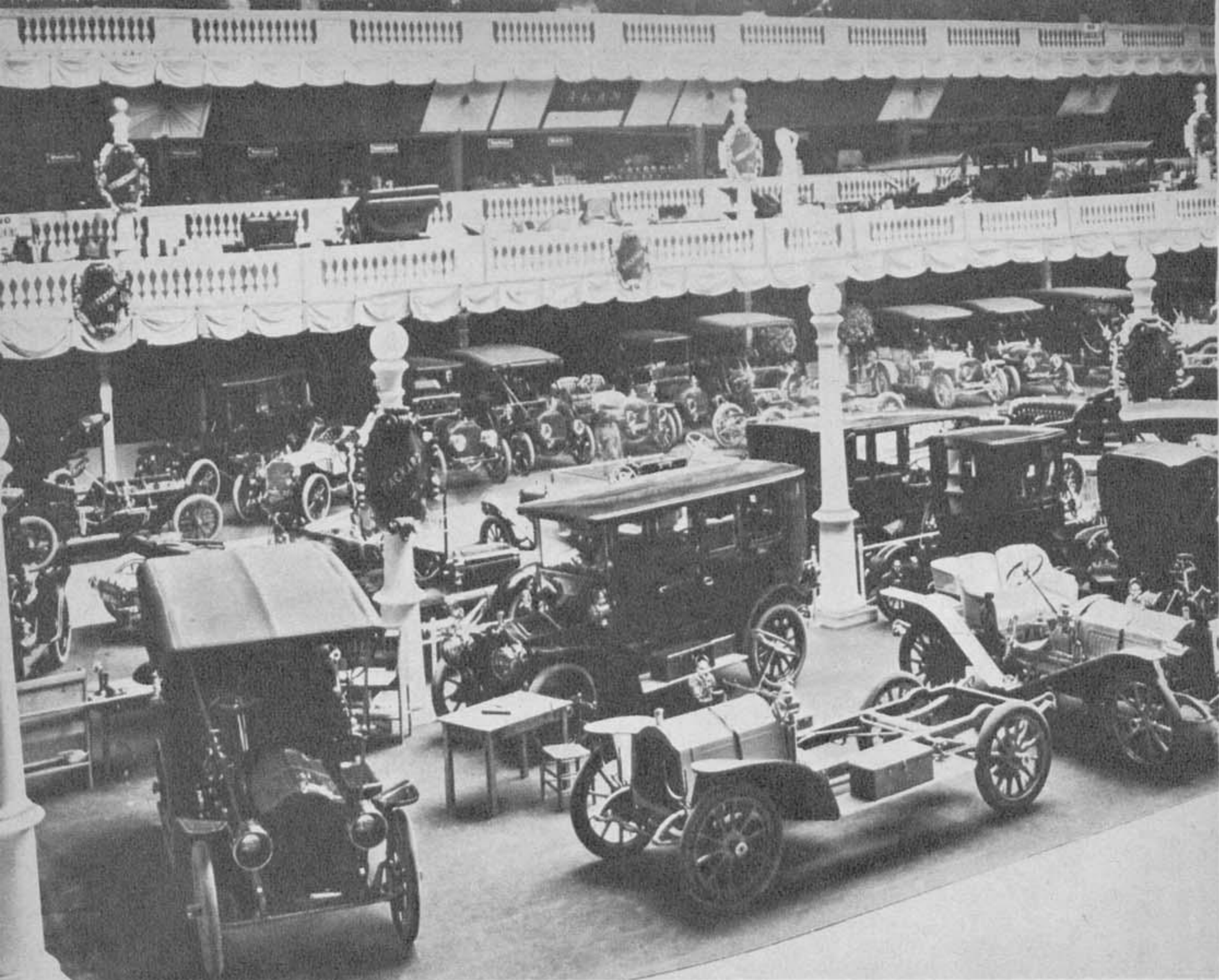
**T**HE two-passenger Reo roadster with rumble seat (at left) set an economy record on October 1, 1907. With four passengers, it averaged 32.5 mpg on a 682-mile run. Its single-cylinder, 10 hp engine gave a speed of 26 mph. Cost was \$650. Top was an extra \$25; lamps, standard equipment. •

# RIKER



**A**T left is the Riker Torpedo, electric-powered racer which approached a top record for a mile run in 1901: 57.14 mph. With appearance of a chassis, it was built and driven by A. L. Riker of cab and bus fame. Below is 1900 Riker hansom cab shown in front of Macy's, New York. It weighed 3,500 pounds and did 12 mph. •

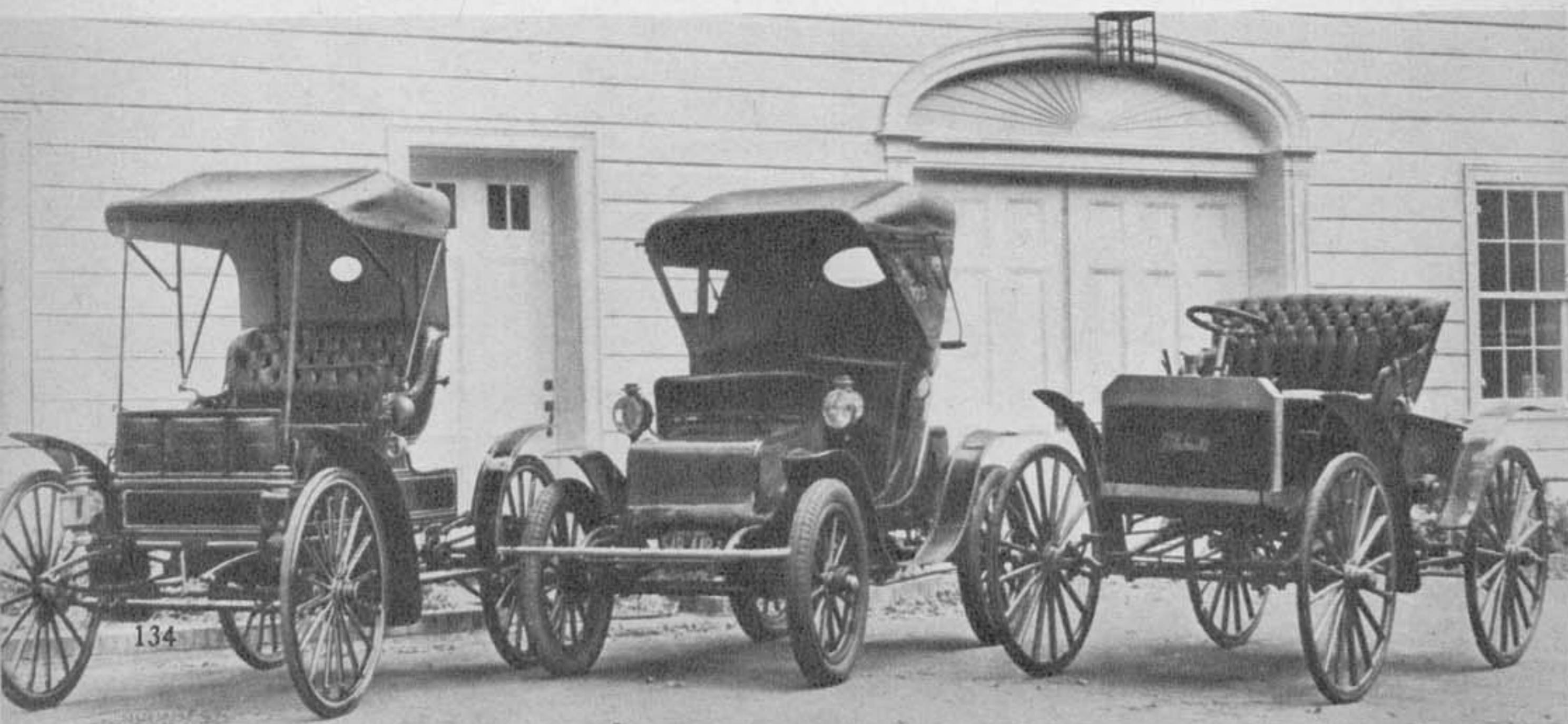




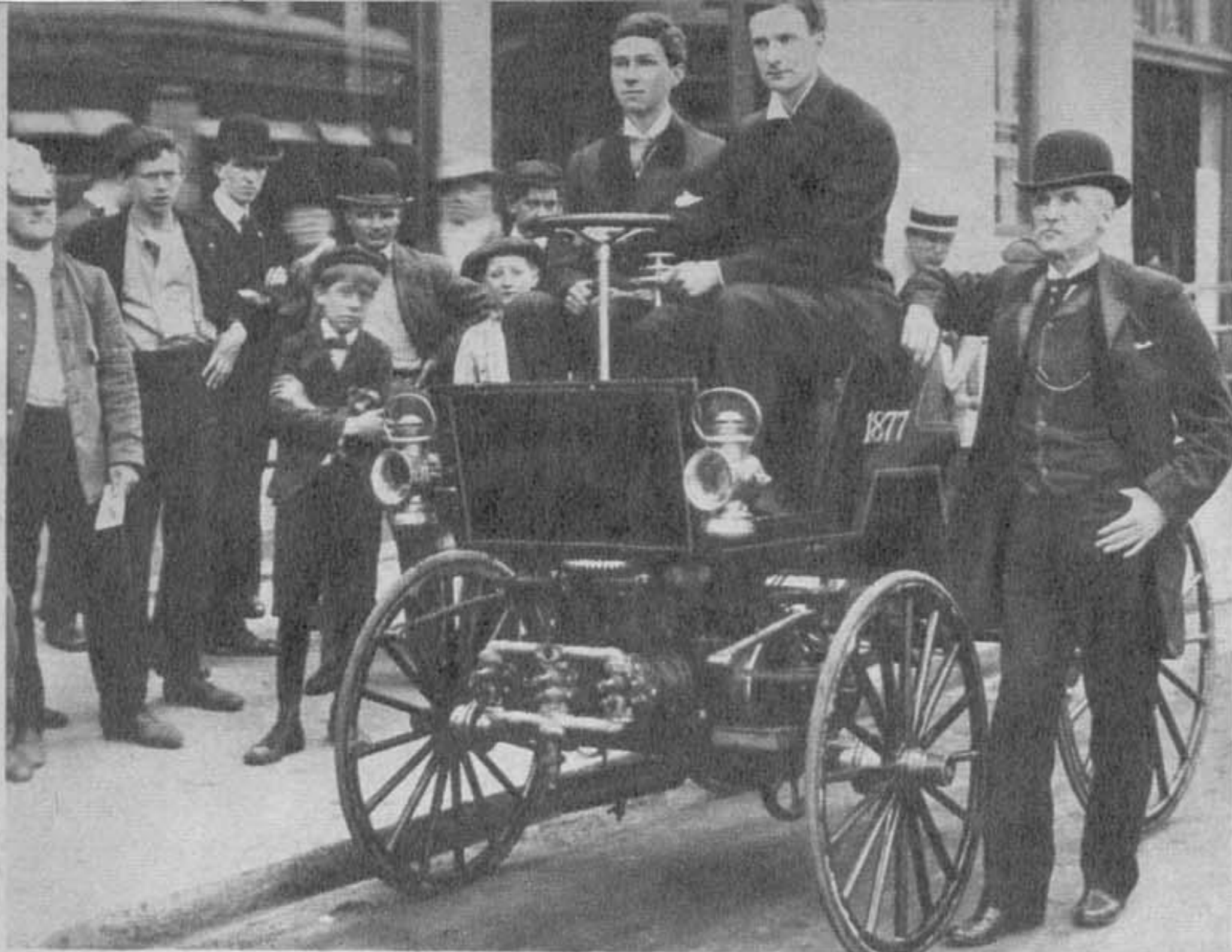
New York Auto Show of 1908 displayed 128 complete vehicles at average price of \$2,840.

# SEARS

**F**IRST mail order car was 1909 Model K Sears buggy, at extreme left. (Beside it are a 1910 Baker Electric and 1908 Schacht). Built for Sears, Roebuck & Company by the Lincoln Motor Car Works, Chicago, it had a two-cylinder, 14 hp engine. •



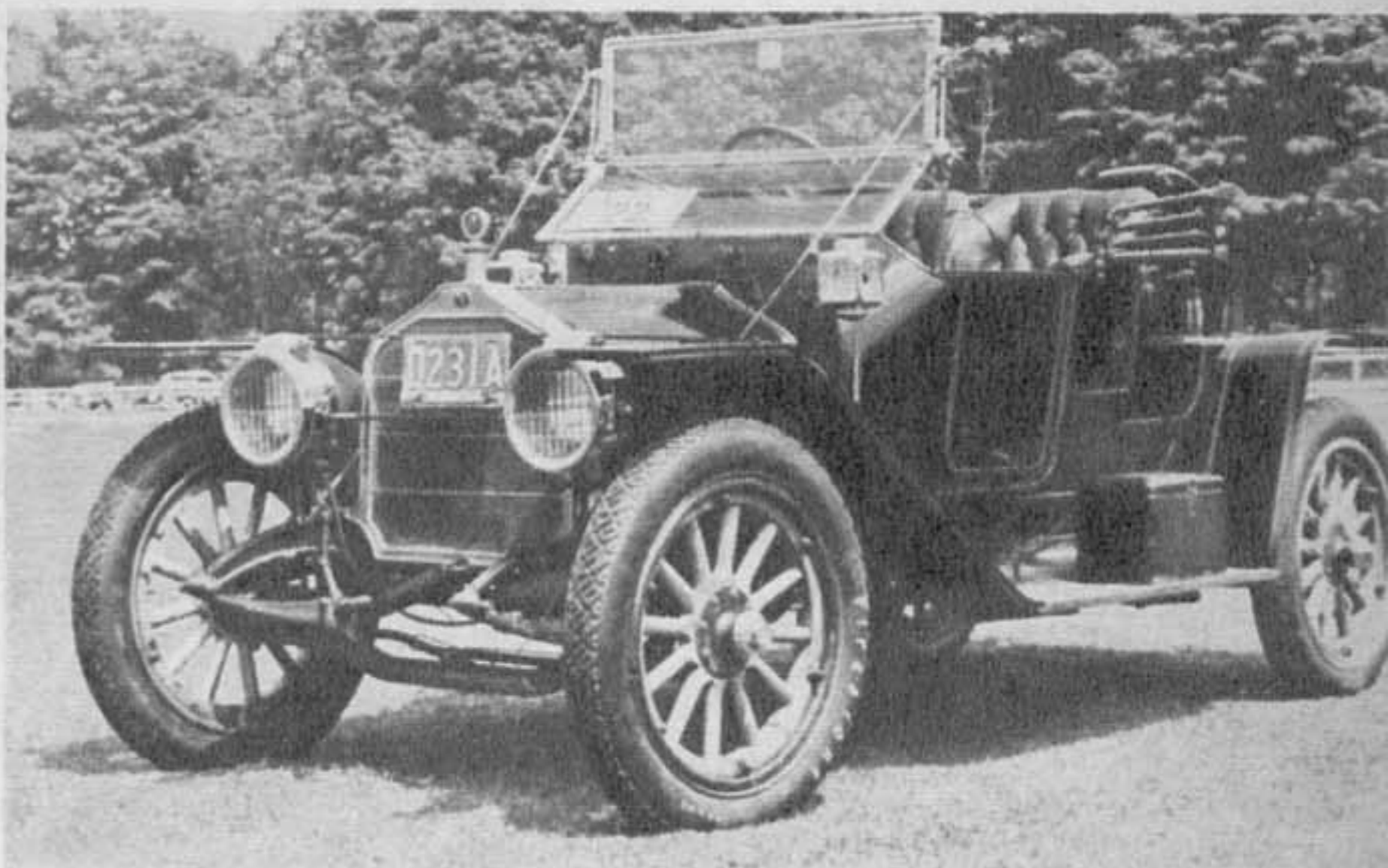




**U**P until 1911, cars not carrying above plate were liable to law suit. In 1895, Selden was granted a blanket patent covering all road vehicles powered by gas. He applied for patent in 1879. In 1911, the Federal District Court supported Ford's right not to pay royalties. Selden had received \$6,000,000. •

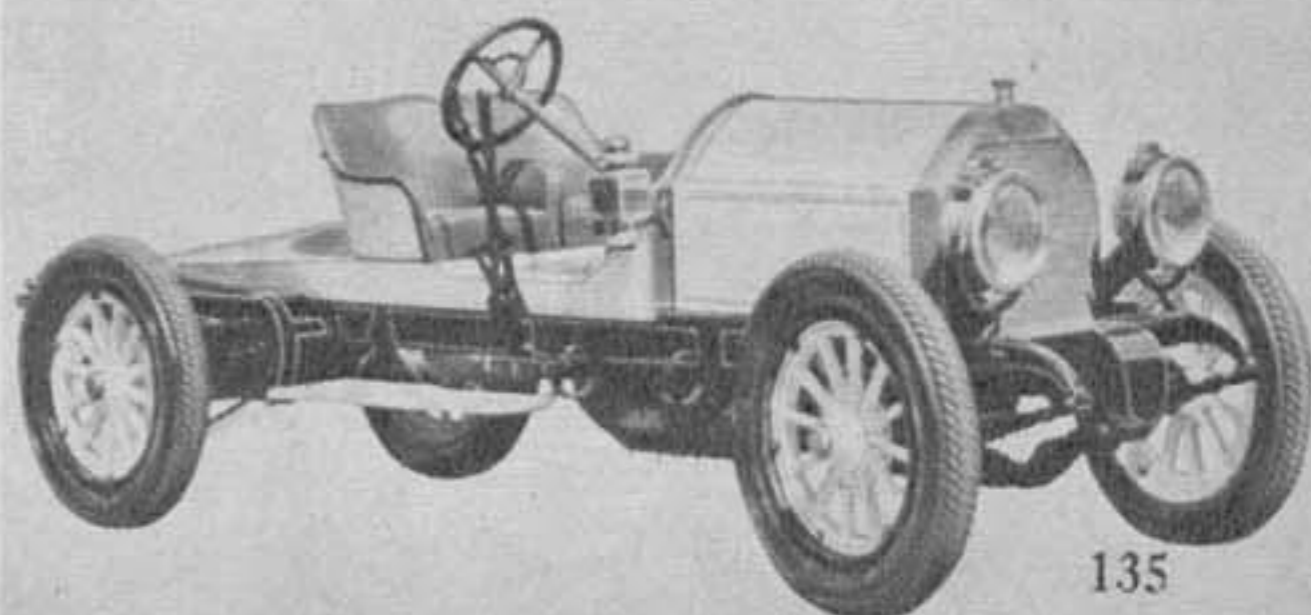
## SELDEN

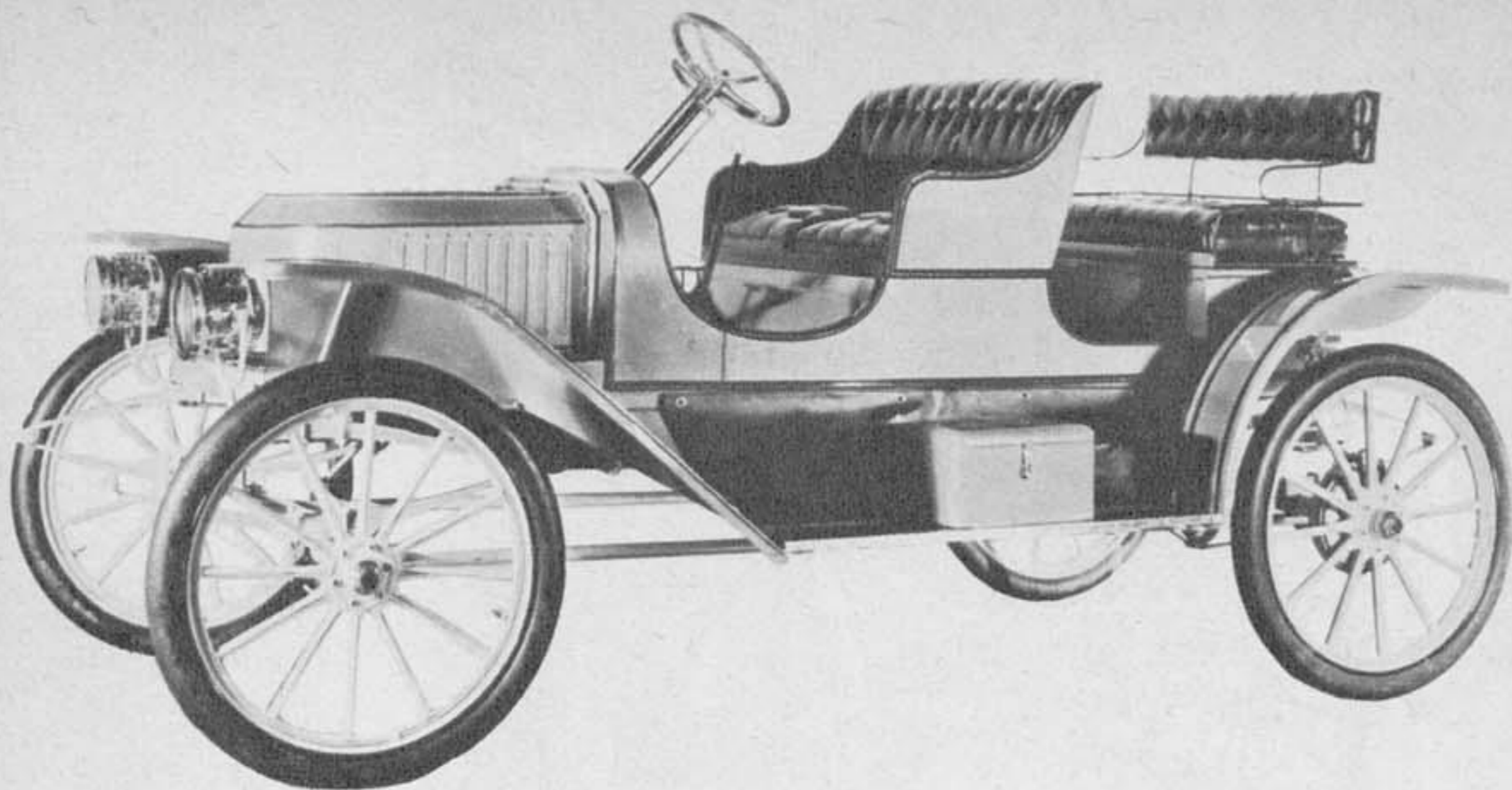
**T**HE restored Selden roadster at right now owned by P. J. Clark is Model 44 with four-cylinder, 36 hp engine. Solidly built, it sold at \$2,500. The Selden Company was in business from 1903 to 1912. Photo above shows George Selden, a patent attorney of Rochester, New York, standing beside his two sons in car. •



**T**HE 1910 Simplex Boat-Tail roadster (below, right) has a four-cylinder, 50 hp T-head engine. Capable of over 80 mph, it weighs 4,000 pounds, cost \$5,000. This restored model is in the Cameron Peck collection, Evans-ton. At left is a Simplex chassis fitted with town car body. Also of 1910, it was originally owned by Mrs. George Conklin, New Jersey. •

## SIMPLEX

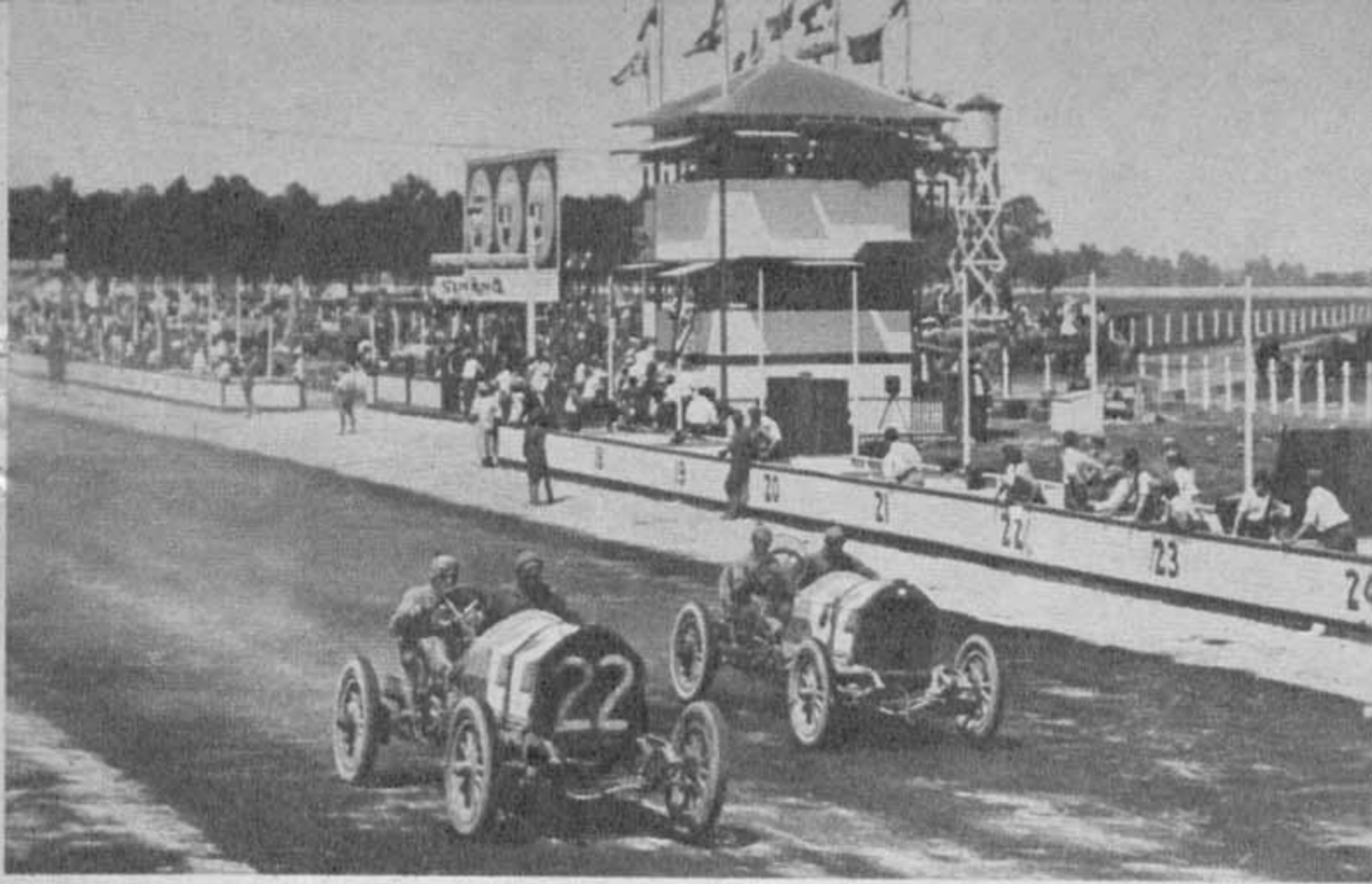




## STANLEY

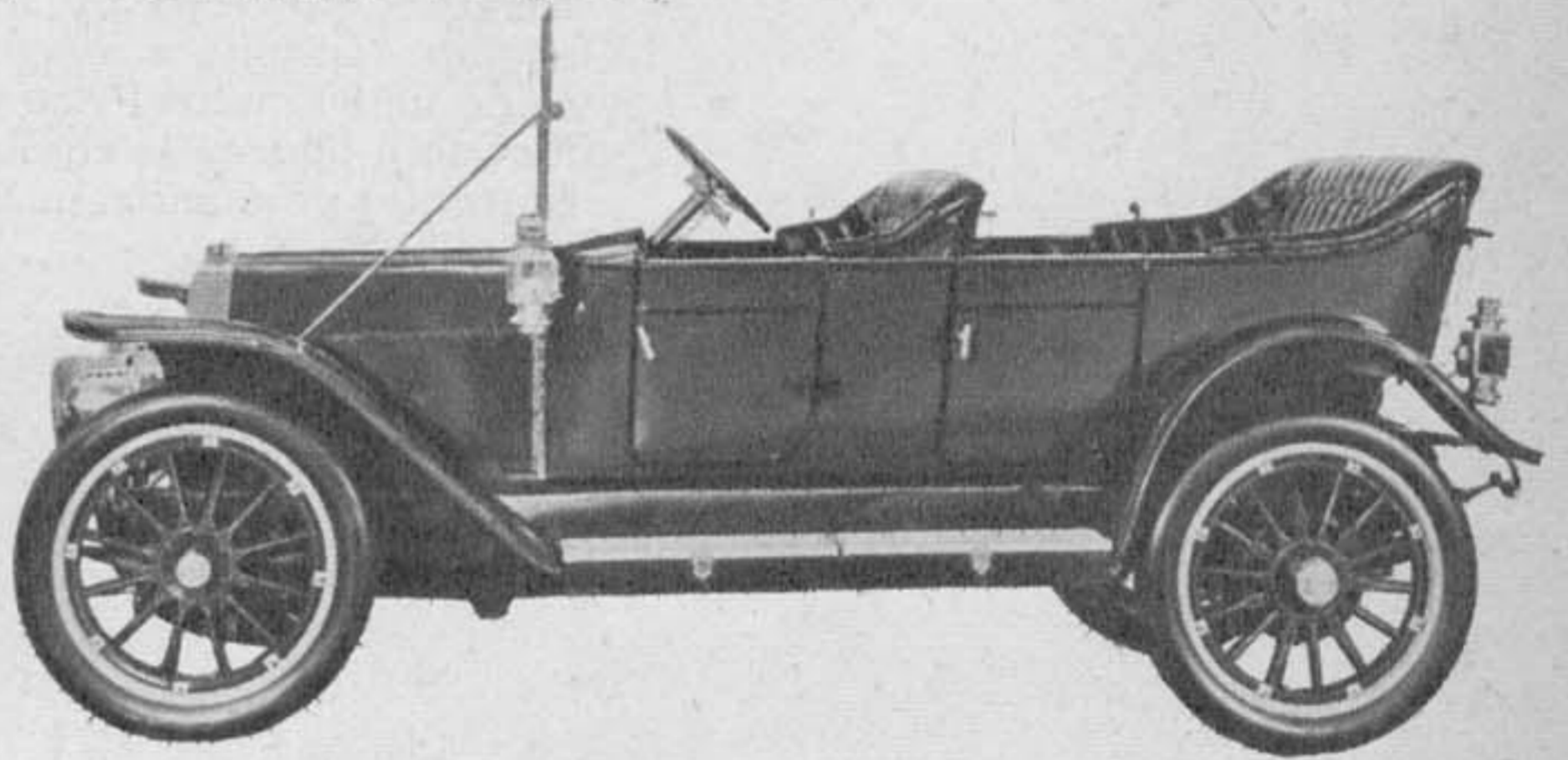
**L**ESS weight was becoming the keynote of cars in 1910, and the Stanley Steamer stayed with the trend, as above. This model, the 60, was two-cylindered and sold for a modest \$850. The five-passenger touring model (right), was a three-jet, 30 hp car that cost \$2,000. Seated is twin Francis E. Stanley, one of the builders. Below, the Stanley twins, Francis and Freeland, proudly sit in their first steam car, built in 1897. Stanley autos were produced until 1925. •





## STODDARD-DAYTON

**T**HE only Indianapolis race entered by the Stoddard-Dayton car was the first one, held in 1909. Clement, driving No. 22, finished second, but a track fatality prompted the company to discontinue racing. At right, the touring model, powered by a four-cylinder, 36 hp T-head engine, sold for \$2,450. The firm folded in the early 1920s. •



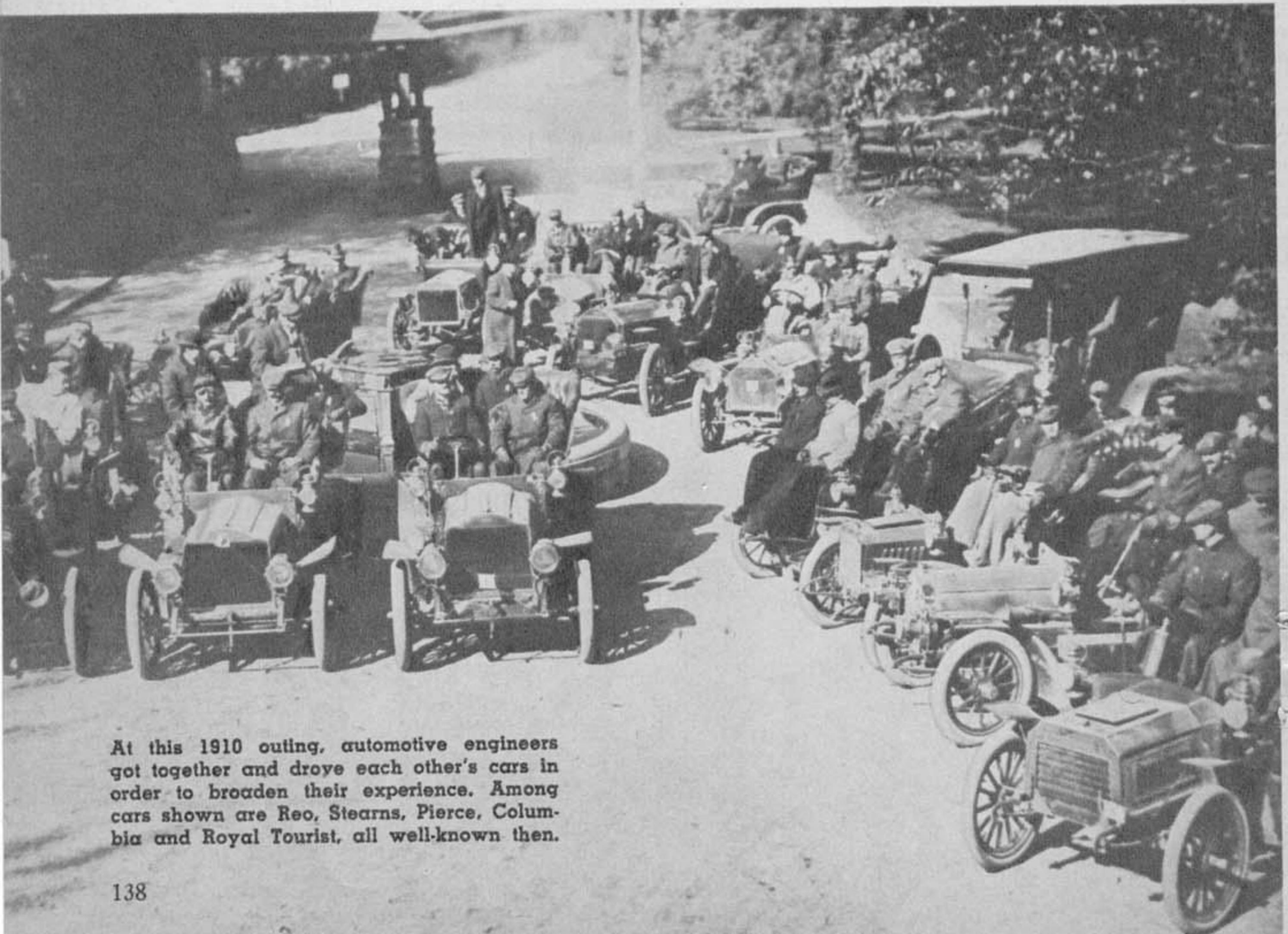
## STRUSS

**P**ICTURED is the Struss runabout, the first custom-built, four-cylinder gasoline-powered car ever ordered, accepted and paid for in the United States—year: 1897. Chassis was built by Henry Struss of New York City and Richard Burr constructed the four hp water-cooled, three-speed engine. It averaged seven mph. •



## STUTZ

**P**ICTURED above is a rebuilt Stutz Bearcat, owned by Tony Koveleski of Scranton, Pennsylvania. Seated in the famous 1914 car is Tom McCahill, who tested it and found it "fast and powerful." This model was a two-seat roadster, powered by a four-cylinder, 60 hp engine. Despite a weight of 4,500 pounds, it could do 80 mph. Price was \$2,000—which, as McCahill figures, is equivalent to \$5,000 today. Stutz quit production in 1930s. •



At this 1910 outing, automotive engineers got together and drove each other's cars in order to broaden their experience. Among cars shown are Reo, Stearns, Pierce, Columbia and Royal Tourist, all well-known then.

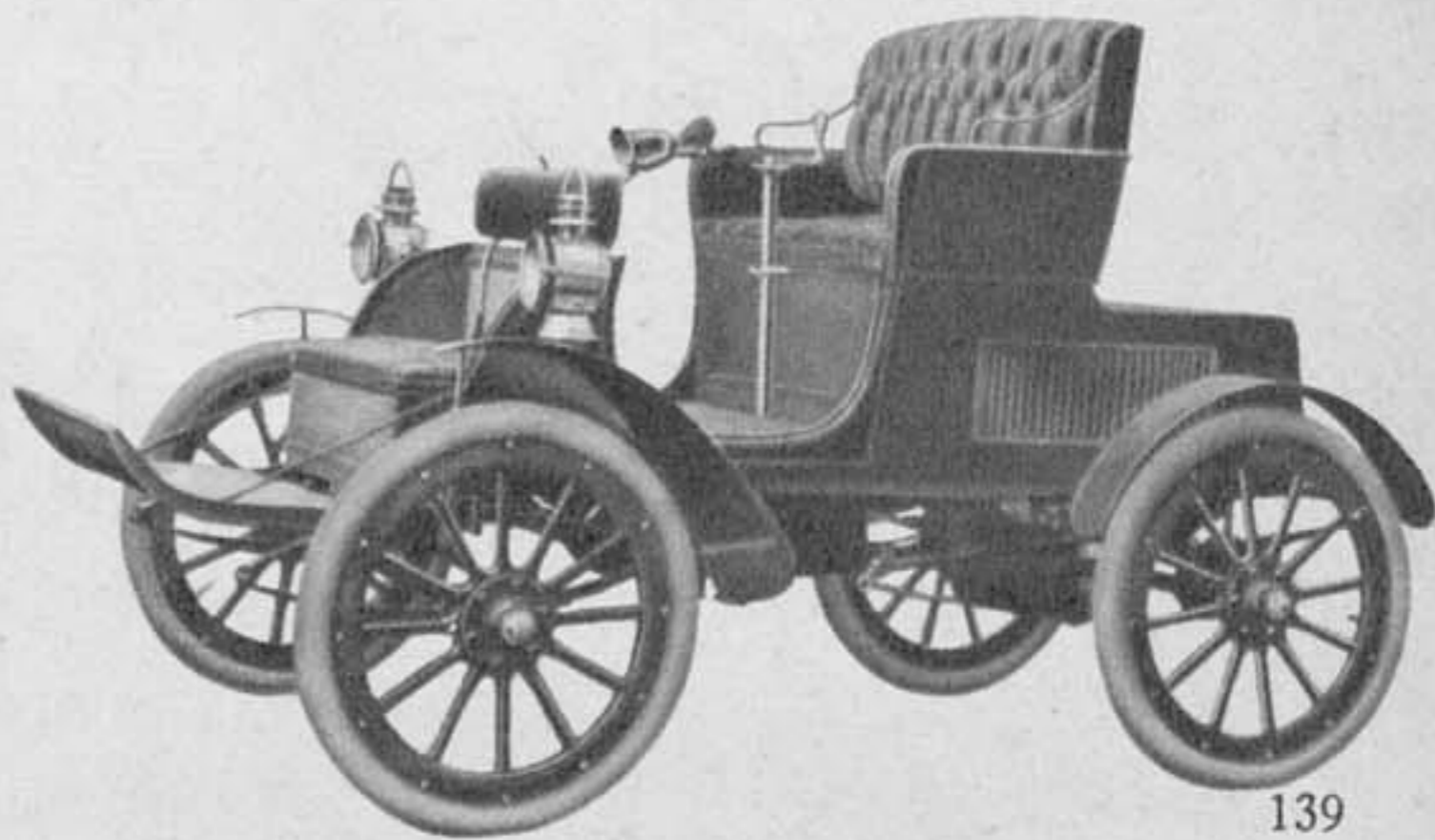
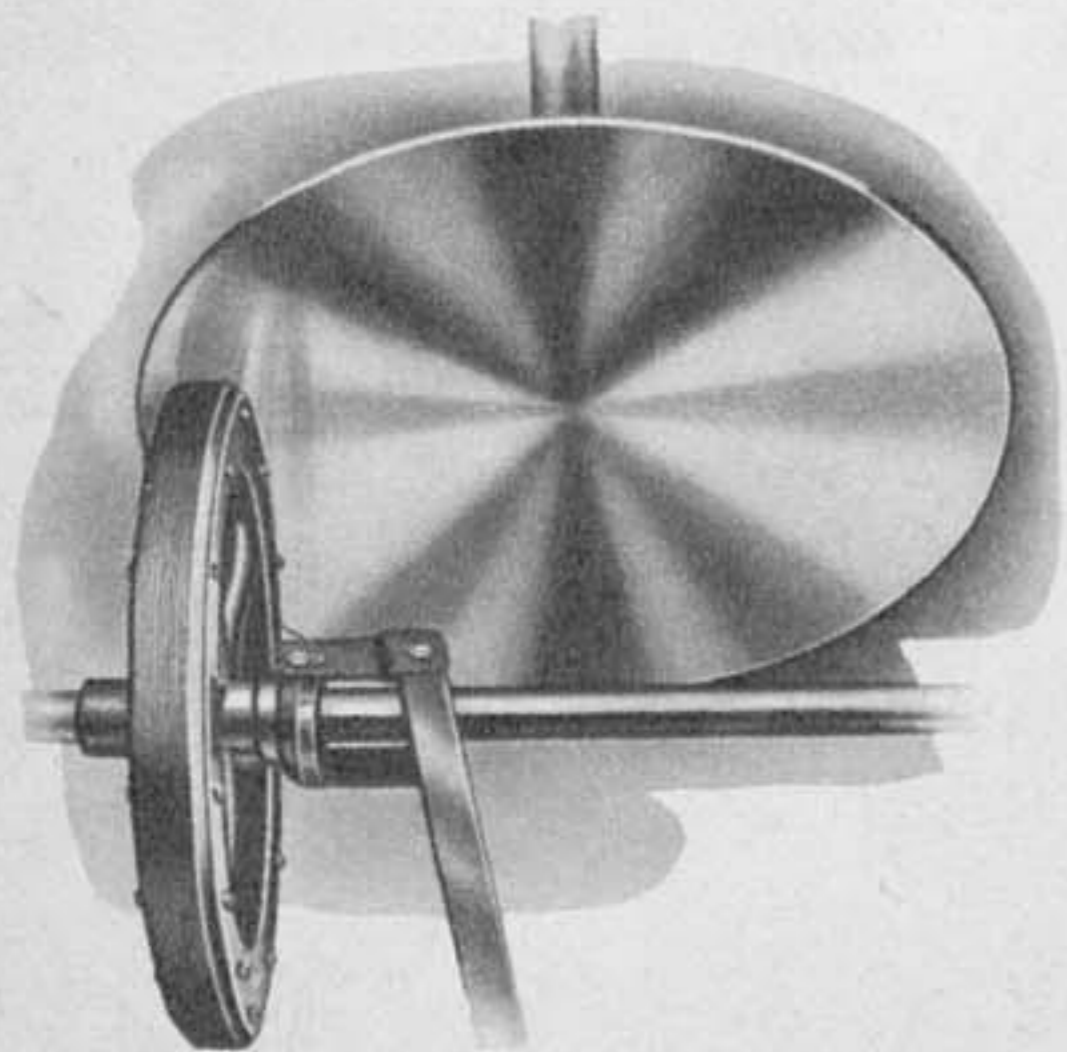


## THOMAS

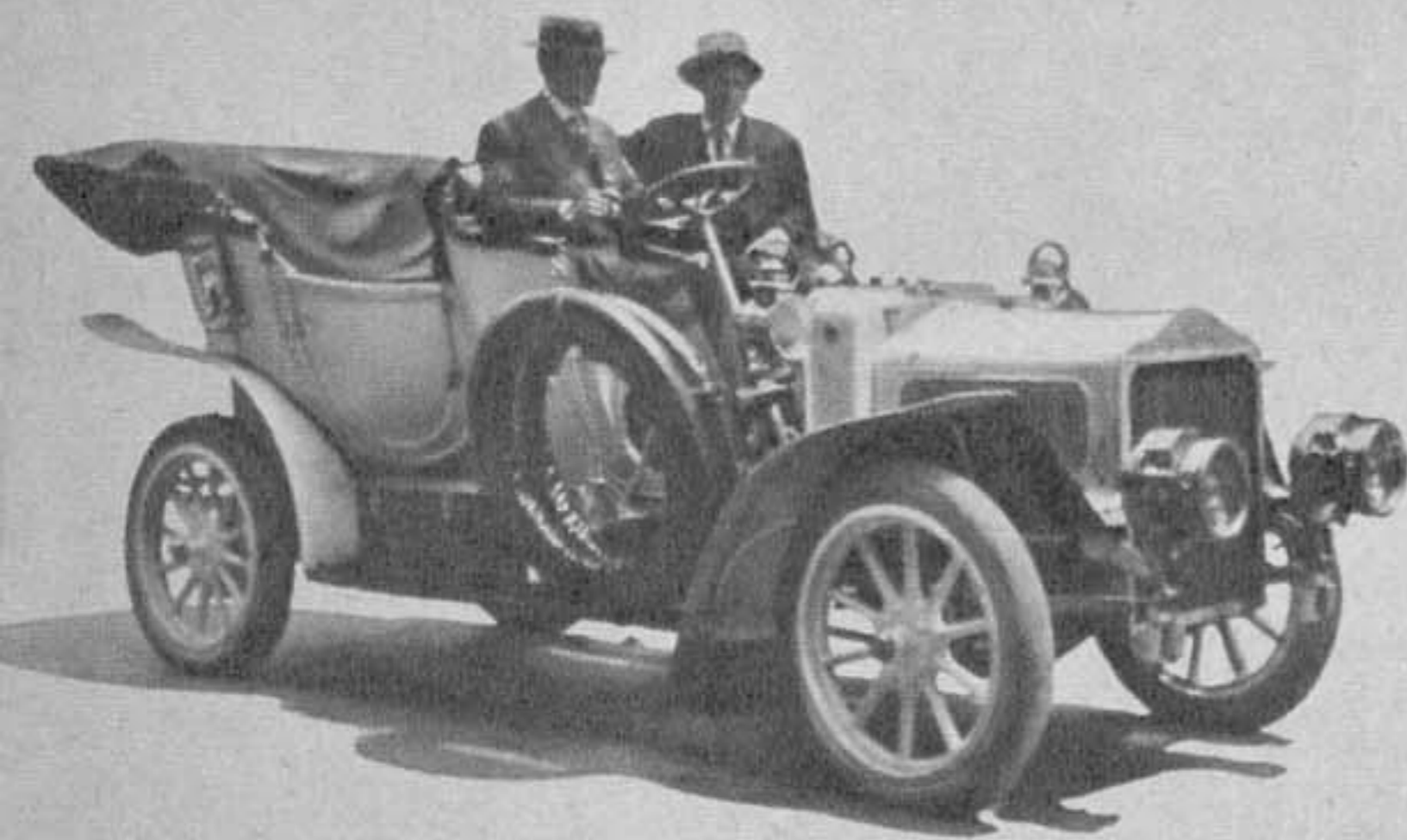
**T**HE 1908 Thomas Flyer was winner of grueling New York-Paris race. Route originally was by Alaska to Siberia, across Russia, Germany and France. Later revised, via Japan. Only three of six cars finished the race. •

## UNION

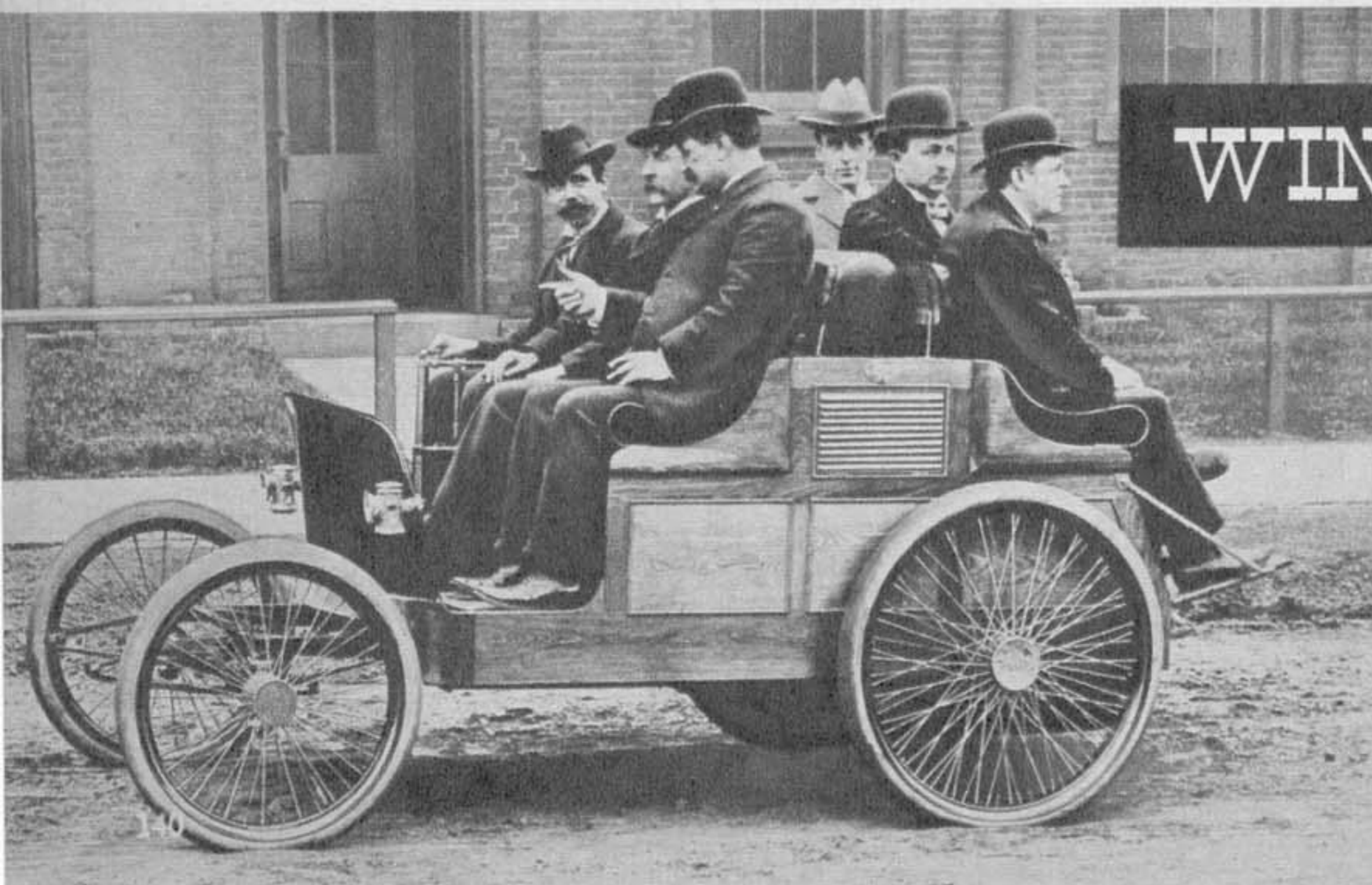
**F**RICTION-drive transmission first appeared in this 1903 Union stanhope. John Lambert pioneered this type of drive, completed the design in 1897. During 1902, more than 300 of these cars sold at \$1,250. The Union was powered by a two-cylinder, eight hp job, manufactured by the Lambert Gas and Gasoline Engineering Company, which in 1905 took over the Union Automobile Company of Union City, Indiana (original makers of the car). Friction-drive had no gears. •



# WHITE



**T**HE stupendous job of American road building accomplished during the past generation is emphasized by the plight of this 1905 White Steamer (above), which was stuck somewhere in New Jersey. The two-cylinder car had a wooden frame and possessed a 15 hp compound steam engine. Car (left) weighed 2,433 pounds, cost \$2,500 and was owned by Ezra Fitch of Abercrombie & Fitch. From 1909 till its failure in 1920, company made gasoline cars. •



# WINTON



A chapter in automotive history was written in the dirt roads of the nation by the Wintons pictured. Below, left, Alexander Winton and five friends are seated in an experimental car that broke records in Cleveland, 1897, by circling a mile track at over 33 mph. The first gasoline-powered wagon ever used for mail collection (1899) was the 18 mph truck pictured above. A successful test run was conducted in Cleveland during a snow storm. Below, Percy Owen, first New York City Winton dealer, at the wheel of a 1905 four-cylinder car. It sold for \$1,800. •



# INDEX

## A

Adams-Farwell	110
American	110
American Bicycle Company	55
Anderson, John W.	41
Apperson	35
Apperson brothers	32, 122
Ariel	3
Atwood, I. L.	17
Austin	3
Autocar	78, 111

## B

Badger	111
Baker	112
Beaubien Street	41
Besserlich, William	111
Blades, Charles H.	68
Breer	112
Breer, Carl	112
Briscoe, Benjamin	32, 33, 35
Brush	3, 112
Brush, Alanson P.	85, 86
Buick	5-15, 28, 91
Buick, David Dunbar	6, 15
Buick Motor Company	7
Buick, Tom	7
Burman, Bob	27
Burr, Richard	137

## C

Cadillac	4, 16-25, 85
Cadillac, Antoine de la Mothe	17
Cadillac Automobile Company	39
Cartercar	90
Chadwick	113
Chalmers	114, 115
Chapin, Roy D.	48, 70
Chayne, Charles	11
Chevrolet	4, 26-31
Chevrolet, Louis	13, 27, 28
Chicago	55
Chicago Coliseum Automobile Exposition	55
Christie	114
Christie, Walter	128
Chrysler	117
Chrysler Corporation	112
Chrysler-Maxwell	4, 32-37

Chrysler, Walter P.	13, 37, 91
Civil War	93
Clark, Frank	65
Cleveland	115
Columbia	3, 115
Corona Track, California	37
Crescent Carriage Company	85
Crossman, Dr. George B.	56
Czar Nicholas II	83

## D

Dagenham	45
Daimler	126
Darracq	116, 117
Davenport, Iowa	56
Dearborn, Michigan	39
De Dion-Bouton	75
Delco	23
Deming Trophy	33
De Soto	117
Detroit Automobile Company	17, 39, 40
Dewar Trophy	21, 23, 24, 25
Dey-Griswold	3, 118
Dey, Harry E.	118
Dodge brothers	41
Dunlap Vehicle Company	85
Durant, William C.	10, 13, 15, 27, 28, 29, 90
Duryea	119
Duryea, Charles E.	119
Duryea, J. Frank	55, 119

## E

Edison Illuminating Company	38
Edison, Thomas	3
Electric Auto-Lite Company	105
Elmore	117
Everett, Metzger and Flanders Company	96, 97

## F

Fetch, Tom	76, 82
Flint, Michigan	9, 10, 28
Flint Wagon Works	7, 28
Ford	4, 28, 38-47
Ford, Edsel	43
Ford, Henry	17, 21, 38, 40, 41, 44
Ford, Model A	41
Ford, Model T	44, 45, 46, 47



Franklin 117, 121  
 Frayer-Miller 117  
 FWD Automobile Company 111

**G**

G and J Manufacturing Company 55  
 Gasmobile 120  
 General Motors Corporation 7, 11, 13, 15, 22, 24,  
 26, 28, 29, 31, 37, 71, 73, 86, 90, 121  
 Glidden Tour 33, 35, 126  
 Gormully, Philip 55  
 Grabowsky, Max 121  
 Grant, A. H. 31  
 Gray, John F. 41  
 Grosse Pointe, Michigan 39, 41, 76

**H**

Hammond, E. 67  
 Hatcher, William A. 75, 79  
 Haynes-Apperson 122, 123  
 Haynes, Elwood 32, 122  
 Hewitt 124  
 Hewitt-Lindstrom Company 124  
 Highland Park 45  
 Honeywell, Hollis 78  
 Hudson 5, 48-53  
 Hudson, J. L. 48, 52  
 Hupmobile 124-125  
 Huss, Dwight 67

**I**

Indianapolis Race 37  
 International Harvester 125

**J**

Jeep 100  
 Jeffery, Charles 55  
 Jeffery, Thomas Buckley 55  
 Johansson gauge blocks 21  
 Joy, Henry Bourne 82

**K**

Kilbourne, L. B. 126  
 King 125  
 King, Charles B. 130  
 Kinney Manufacturing Company 103  
 Kirkham, George D. 78  
 Knickerbocker Trust Company 101  
 Knight 126  
 Knight, Charles Y. 126  
 Knox 126

Koehler, H. J. 13  
 Koveleski, Tony 45  
 Krarup, Marius 82

**L**

Lake St. Clair, Michigan 41  
 Lambert, John 139  
 Lansing Carriage Factory 65  
 Lansing, Michigan 64, 69, 72  
 Leland, Faulconer and Norton Company 16, 69  
 Leland, Henry M. 16, 17, 21, 24  
 Lima, Ohio 56  
 Little Motor Car Company 28, 29  
 Little, William H. 28  
 Locomobile 35, 127  
 Lord, Harry 37  
 Lozier 128

**M**

Mack 128  
 Malcolmson, Alexander 39  
 Marmon 3, 35, 129  
 Marr, Walter 7  
 Mason Motor Company 28  
 Maxwell-Briscoe Company 33, 35  
 Maxwell, Jonathan Dixon 32, 33, 35, 130  
 McGargle, T. R. 67  
 McMurtry, Alden S. 80  
 Mercedes 126  
 Mercer 129  
 Metz Company 130  
 Milwaukee, Wisconsin 54, 59  
 Mobile Steamer 127  
 Model A Ford 41  
 Model T Ford 44, 45, 46, 47  
 Morrow Manufacturing Company 105  
 Mother-in-law seat 82  
 Murphy, Edward M. 84, 85, 87

**N**

Nash, Charles W. 13, 55, 63, 91  
 Nash-Jeffery-Rambler 4, 54-63  
 New York Automobile Show 48  
 Northern 35, 117, 130

**O**

Oakland 84-91  
 Oakland Motor Car Company 85, 87  
 Oldsmobile 5, 64-73  
 Olds Gasoline Engine Works 65, 66

Olds Motor Vehicle Company	66	Stanhope	127
Olds Motor Works	17, 66, 70, 72, 73	Stanley	136
Olds, Pliny F.	64	Stanley twins	136
Olds, Ransom E.	64, 65, 69, 71, 133	Sterling Bicycle Plant	55
Oldfield, Barney	37, 41, 129	Stoddard Dayton	126, 137
Orient	130	Strang, Louis	27
Overland	101, 102	Struss	137
Overland Motor Company	101	Struss, Henry	137
Owen, Ray M.	70	Studebaker	4, 92-99
		Studebaker brothers	92, 93, 97
		Studebaker Electric	99
		Studebaker-Garford	97, 98
		Stutz	138
		Stutz, Harry C.	138
		<b>T</b>	
		Tarrytown	33, 37
		Thomas	139
		Thomas Edison Company	17
		Thomas Flyer	35
		Tillotson Carburetor Company	103
		Tillotson, Harry	103
		Tour de France	71
		<b>U</b>	
		Union	139
		United States Motor Company	35
		<b>V</b>	
		Vanderbilt Cup	33, 35, 113, 121, 127
		<b>W</b>	
		Waltham Manufacturing Company	130
		Warner Gear Company	103
		Warren, Ohio	74, 75
		Western Electric Company	54
		Weiss, George L.	75, 77, 78
		White	140
		Whiting, James H.	7
		Whitman, L. L.	67, 71
		Willys, John N.	101, 102, 103, 106
		Willys-Morrow	105
		Willys-Overland	5, 100-107
		Winton	140, 141
		Winton, Alexander	39, 75, 78, 141
		Wisconsin State Fair	56
		World War I	15, 25
		W. S. Seaman Company	59, 61
		<b>Z</b>	
		Zachow, Otto	111

# Floyd Clymer's POPULAR MOTOR BOOKS

## New Titles

### THE MODERN CHASSIS

Here is a new, informative handbook just off the press. Has interesting, valuable data concerning all phases of chassis construction, modern practices in suspension, shock absorbers, steering, weight distribution, & allied subjects. Deals with U.S. & foreign cars. A very handy book for sport car enthusiast, hot rod or stock car owner. 112 pages illustrated, over 160 charts, drawings, photos. Attractive 3-color cover. Postpaid.

\$2.00



### CATALOG OF 1951 BRITISH CARS

The latest, most complete survey of all 53 new British cars. Contains full details, specifications, body styles, as well as names and addresses of all manufacturers in England. New Ford Consul and Zephyr models, and newest sports cars are included. Size 8 1/2 x 11 inches, 112 pages, over 170 illustrations, photos. Postpaid.....\$2.00



### CATALOG OF 1951 U.S. AUTOMOBILES

Another annual revision of Floyd Clymer's well-known catalog series. Has full coverage of every stock production car made in America today, including General Motors, Chrysler, Ford, and all independent firms such as K-F, Hudson, Nash and Studebaker. Also contains descriptive data on new sports cars—the Cunningham, Muntz, and Nash Healey, as well as a number of informative charts, specifications, comparative prices, interesting service data. Some 130 sharp photos show nearly every available body style. Of interest for every car owner or enthusiast. 80 pages, attractive 2-color leatherette cover. Postpaid.....\$2.00

### SOUPING THE STOCK ENGINE

Explains fully the 5 PATHS TO POWER. Covers everything from road to track engines . . . effective theories on speed tuning . . . tells you HOW and WHY . . . how to get the most from your "souping" dollar. Complete data on speed tuning ALL MAKES of STOCK ENGINES. Best book on speed ever written! 150 photos, charts, drawings. Every speed enthusiast will want this ALL-NEW, complete manual of speed by Roger Huntington. 192 pages. Postpaid .....



\$2.00

### CHEVROLET OWNERS' HANDBOOK

Complete new service data book, all Chevrolets 1929 to 1950 including Powerglide model. Every Chev. owner needs this manual. Many charts, drawings, sketches on every important unit. Postpaid .....

\$1.50

### FORD OWNER'S HANDBOOK

Complete maintenance and repair data. Covers ALL models 1932 to 1950. Charts, drawings, pictures, and tables of clearances and adjustments. Data on Ford SIX included. The only COMPLETE Ford repair book on the market. Postpaid .....

\$1.50

### 1951 INDIANAPOLIS RACE OFFICIAL YEARBOOK

(With enlarged, authentic technical section included)



The complete story of the great 500-mile race held on Memorial Day, 1951 . . . 112 pages filled with interesting and informative text, over 300 photos — of drivers, their cars, important personalities . . . special new section devoted exclusively to technical aspects of the race . . . facts concerning front and rear-drive cars, the successful Meyer-Drake (Offenhauser) racing engine, the

story of the fabulous Novi Specials. The many excellent photos, drawings, cartoons, provide an accurate account of the qualifying trials, the race itself, post-race activities and winner Lee Wallard's victory celebration. Postpaid.....\$1.50   
DeLuxe Edition Fabrikoid bound, Gold Leaf Lettering .....\$3.00

### INDIANAPOLIS HISTORY

320 pages . . . 1100 illustrations . . . Covers every Indianapolis Race from 1909 to 1946 . . . Complete data on every car and driver thru the years . . . Packed with photographs and mechanical information. \$3.50  Same—Deluxe edition.....\$5.00

### 1951 GRAND CANYON ECONOMY RUN

32 American stock cars competed from Los Angeles over mountains and desert to Boulder Dam and Death Valley, ending at Grand Canyon. A.A.A. Sanction. 64 pages . . . 150 photos, charts and drawings. Articles by automotive authorities . . . Technical engineering details . . . Rules . . . data each car . . . See how your favorite car performed! . . . Auto Editor's stories . . . famous personalities . . . Travelogue by Clymer . . . photos and data on interesting Boulder Dam and Grand Canyon . . . An impartial, colorful report on world's greatest Economy Test. Postpaid.....\$1.50

### MODERN AUTOMATIC TRANSMISSIONS AND TORQUE CONVERTERS

This book contains the latest data on modern automatics and torque converters . . . including Hydra-Matic, Ultramatic, Dynaflo, Powerglide, Studebaker, Automatic Drive, Mercury-Ford, Chrysler M-6, Allison, Fuller and White Hydro-Torque. Technical articles written so the layman can understand them. Profusely illustrated as a finger-tip reference. This manual contains a full series of exclusive articles published in "Automotive Industries," written by noted S.A.E. authorities. 80 pages, 8 1/2 x 11 inches, 2-color leatherette cover \$2.00

### FLOYD CLYMER MOTORBOOKS

1268 S. Alvarado, L. A. 6, Calif.

### ORDER BLANK

ALL BOOKS POSTPAID

SEND FOR FREE MOTORBOOK CATALOG

FLOYD CLYMER MOTORBOOKS

1268 S. Alvarado, TAC, L.A. 6, Calif.

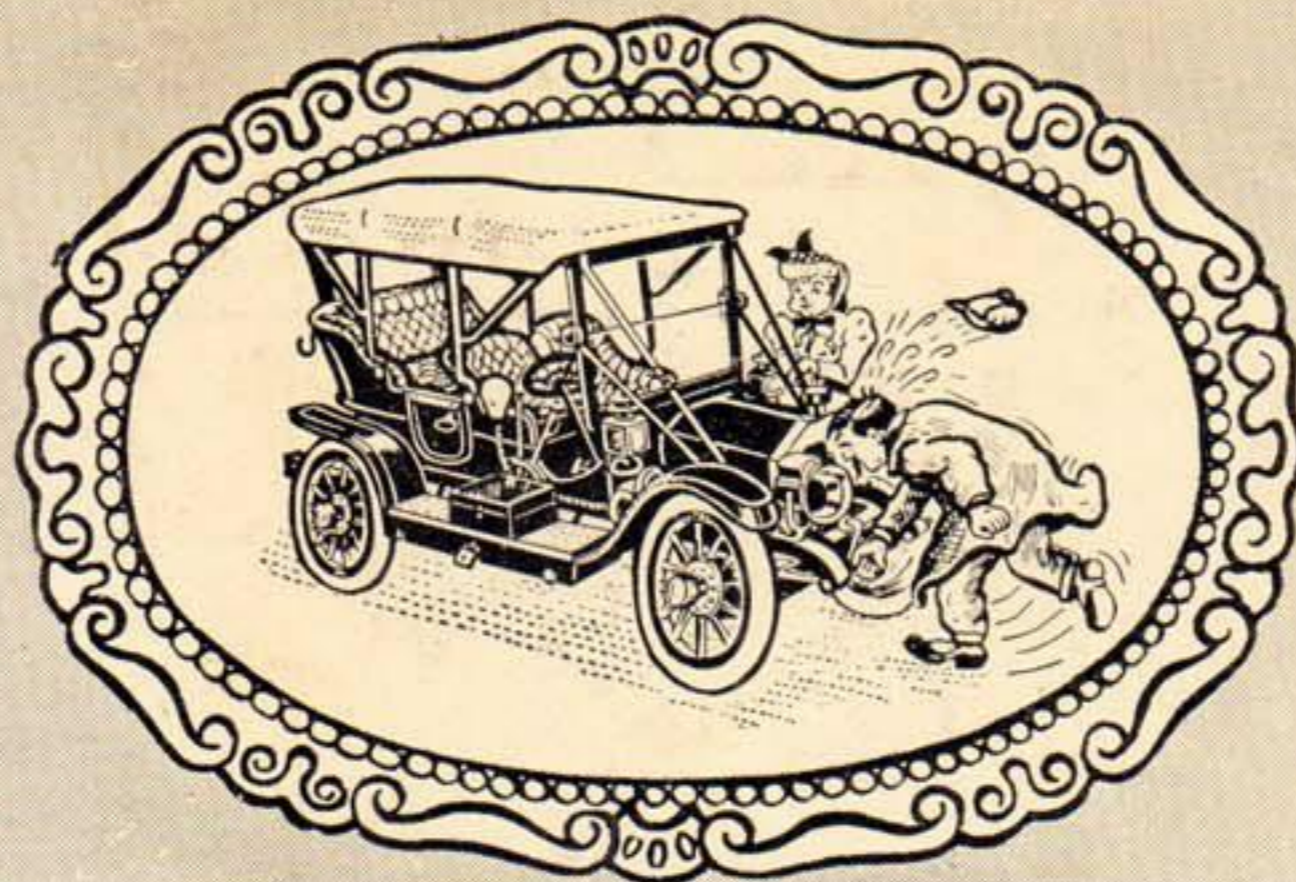
Please send books marked  to:

NAME \_\_\_\_\_





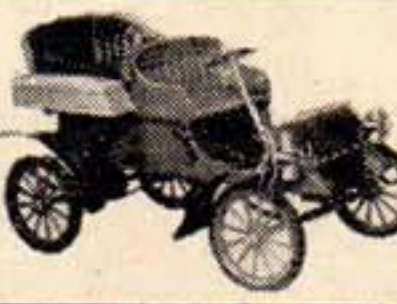




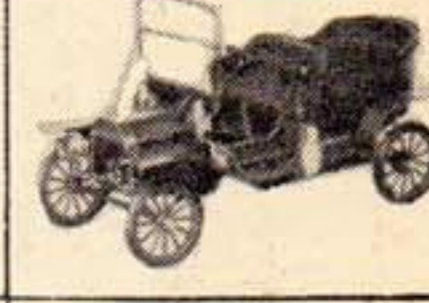

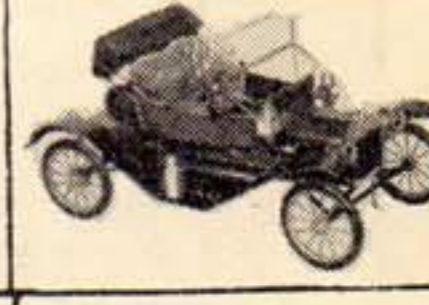
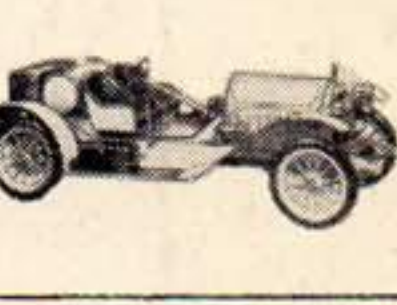
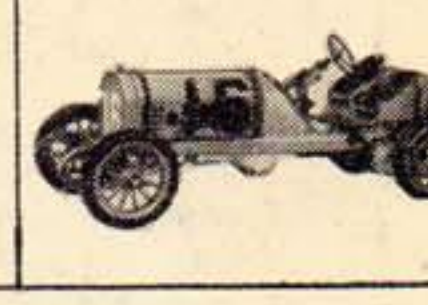

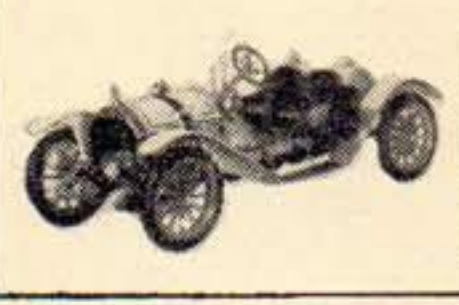
ADDRESS \_\_\_\_\_

CITY & STATE \_\_\_\_\_

For Lovers of  
The Oldtime  
Automobiles—  
Our Authentic  
and Detailed  
3/4" Scale  
Model Kits!



For Hobbyists  
and Oldtime  
Automobile  
Collectors . . .  
16 of the Most  
Famous Autos  
In Scale Models!

	1904 Oldsmobile 1.95 Length 6"	<p>Everyone who is interested in the Old-time Automobile will be thrilled with these authentic, historical and educational "Old Timer" antique auto construction kits!</p> <p>As originators and pioneers of this fascinating new hobby we are pleased to present the 16 famous antique autos in our miniature collection! What a thrilling gift they will make for every hobbyist and collector! What a joy they are to build and what fine decorations they make on your mantel, desk or in your den!</p> <p>Easy to assemble in a few leisure hours, these "Old Timers" pre-fabricated Kits include ready-shaped die-cast plastic parts, cast wheels, lights, horn, radiator, etc. Each kit includes easy to follow step-by-step instructions. Nationally known; satisfaction guaranteed. At toy, hobby and department stores.</p> <p>Or write to us. Add 25c for postage and handling. No. C. O. D.'s please</p>	1902 Franklin 2.50 Length 7"	
	1911 Maxwell 2.50 Length 7 1/2"		1906 Columbia Electric 2.50 Length 6 1/2"	
	1903 Model "A" Ford 2.50 Length 8"		1909 Stanley Steamer 2.95 Length 8"	
	1900 Packard 2.50 Length 6 3/4"		1910 International Harvester 2.95 Length 8 1/2"	
	1911 Buick "Bug" 2.50 Length 7 1/2"		1909 Model "T" Ford 2.95 Length 8"	
	1903 Rambler 2.50 Length 6 1/2"		1910 Model "T" Ford 2.50 Length 8"	
	1914 Stutz Bearcat 3.95 Length 10 1/2"		1906 "Old 16" Locomobile 3.95 Length 10"	
			1903 Cadillac 2.50 Length 7"	
			1913 Mercer Raceabout 3.95 Length 9 1/4"	

**h m** hudson miniatures **OLD TIMERS**  
"Originators of Antique Autos in Miniature"  
SCRANTON HOBBY CENTER — DEPT. 63, 315 Adams Ave., Scranton 10, Pa.