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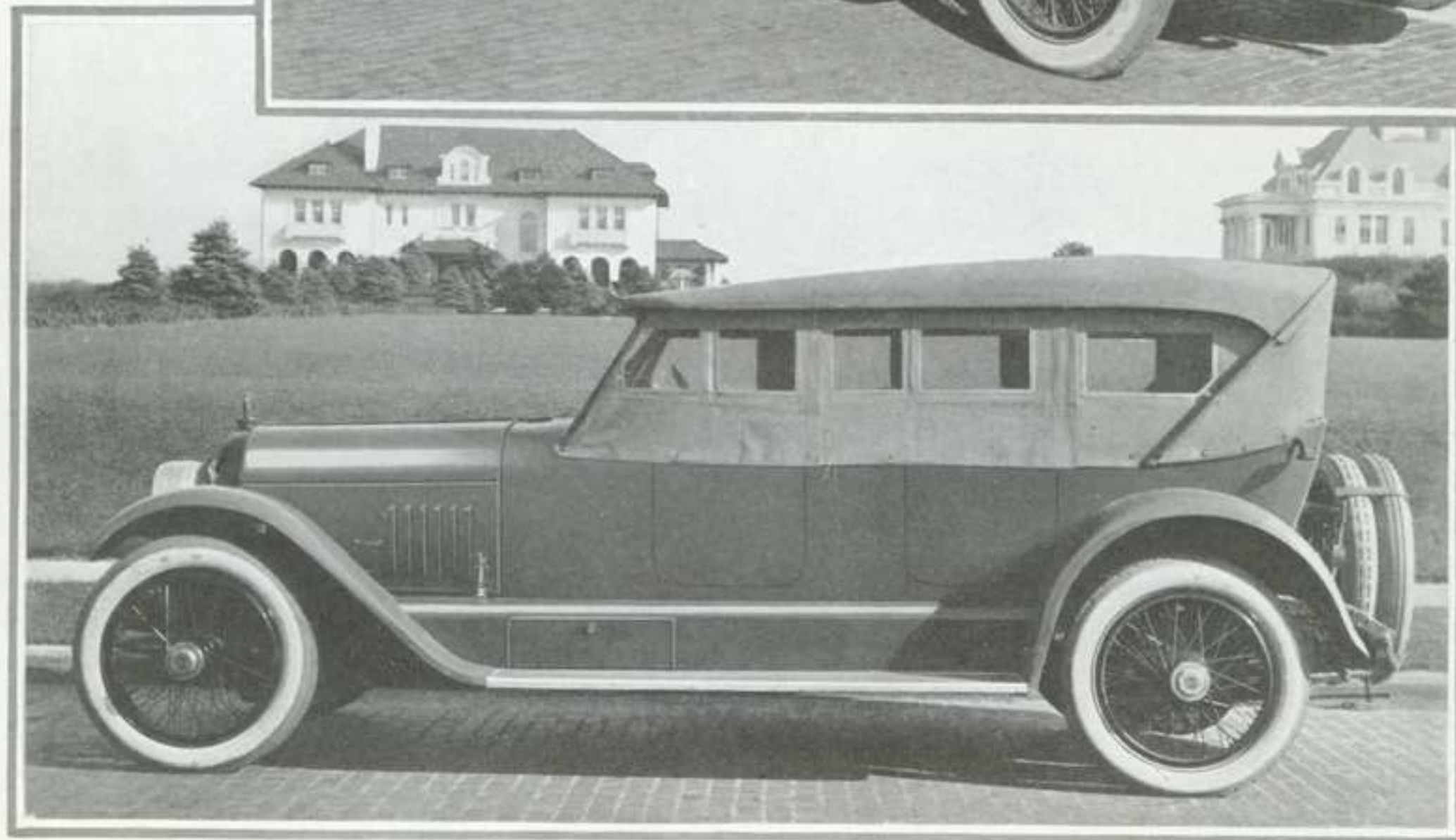
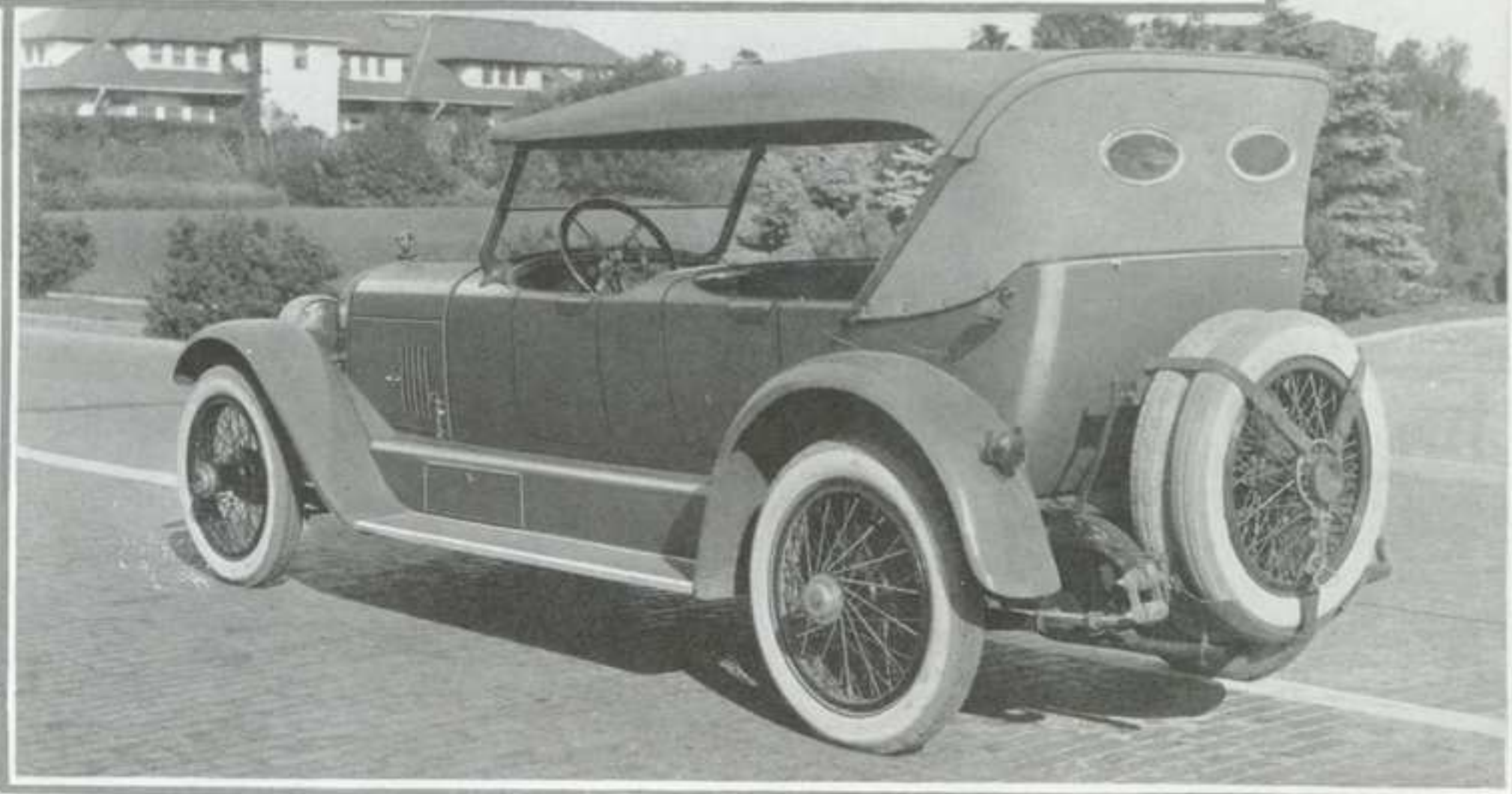
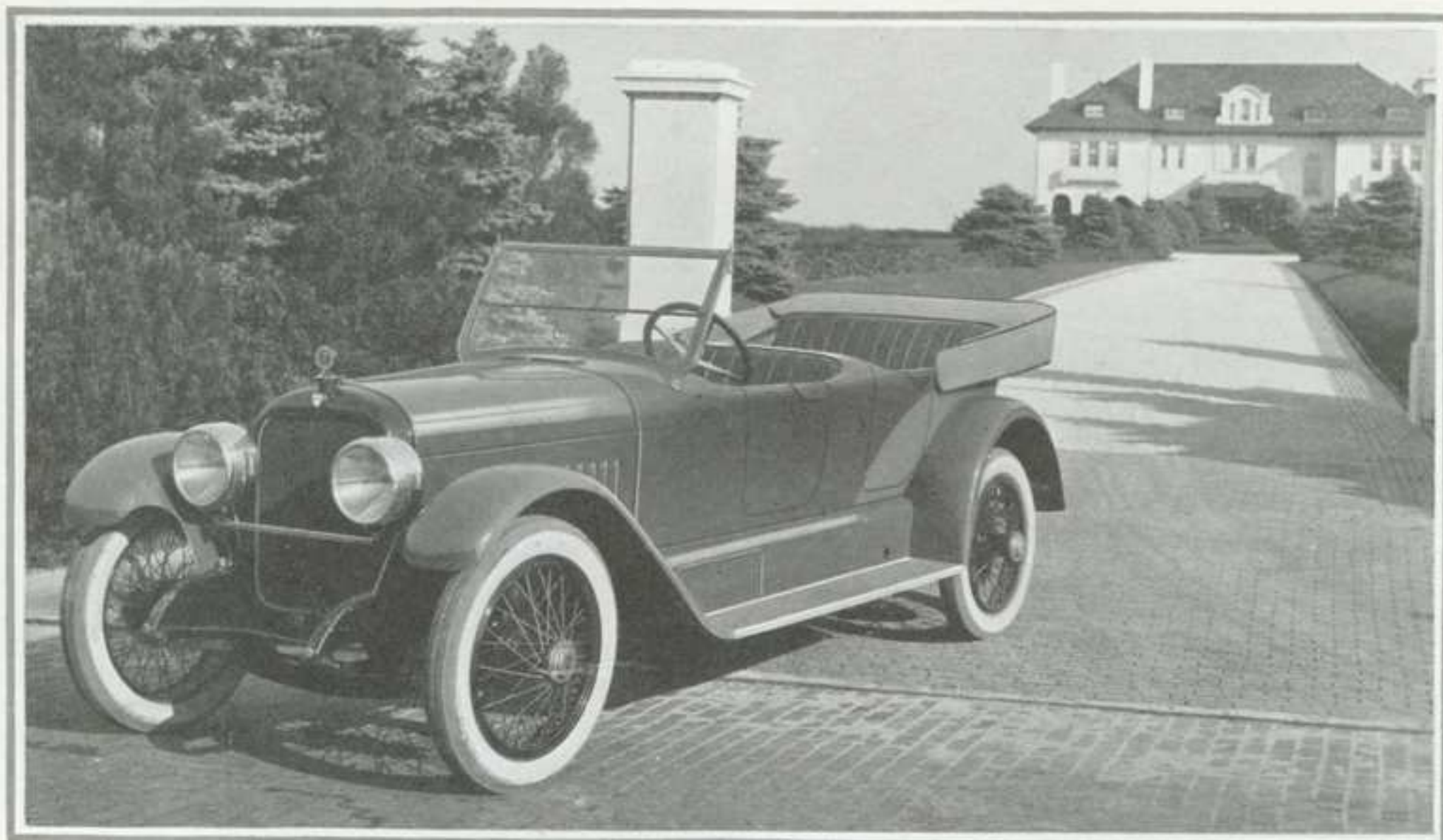
Series Six

MERCER MOTOR CARS

BEING A COMPREHENSIVE
DESCRIPTION *of* SERIES SIX
MODELS WITH PHOTO-
GRAPHIC ILLUSTRATIONS

MERCER MOTORS COMPANY
TRENTON, NEW JERSEY

BRUNNEN
LITHOGRAPH



MERCER MOTOR CARS

SERIES SIX SIX-CYLINDER MODELS

THE rare qualities which have long identified the Mercer Four as America's finest road car have finally been recreated into a six-cylinder car of surprising flexibility and amazing smoothness. In the Series Six six-cylinder models is found that same vigorous flow of power in abundance, the same dependability of sustained performance, and the same rugged construction and stamina that has always characterized the Mercer Four.

But to these qualities have been added a quick and eager flexibility, a quiet smoothness at all speeds, and a virility of performance that establish entirely new standards of comfort and security for those who drive in congested places. Mere words cannot fittingly describe the performance of the new Mercer. It has to be experienced before it can be properly realized.

Quality has always been the keynote of Mercer construction, and this factor has been predominant in the development of the Series Six Mercers, which have been offered to the public only after the most thorough and exhaustive experimental tests extending over a period of a year and a half. Manufacturing short-cuts, expedients and substitution of materials, which are the recognized means employed when compe-

tion has to be met, have been religiously avoided in the production of Mercer cars.

The careful and analytical buyer of motor cars has learned by experience that price is not the chief consideration in the purchase of an automobile. He realizes that the only safe way to measure value in the car he purchases is to carefully determine whether quality of both material and workmanship has been considered in preference to the meeting of competition.

Measured on this basis, Mercer has always proven itself a car of intrinsic value. Mercer motor cars are manufactured by an organization all members of which subordinate everything to the one thought of quality.

The Series Six Mercer models appeal to those discriminating buyers desiring the greatest precision and care in manufacture, consistency in performance, lasting, dependable, and luxurious transportation, and, in the last analysis, real dollars and cents value in every way that term can be measured.

Mercer's new six-cylinder valve-in-the-head engine reveals many fine details of design and construction. It is simple, trim, and clean-cut in appearance. All parts are

immediately accessible. The engine can be removed without disturbing the arrangement of the pipe lines or wiring, all of which disconnect at the nearest point on the body. The head is easily and quickly removable. Carbon can be scraped or valves reground in a third the usual time.

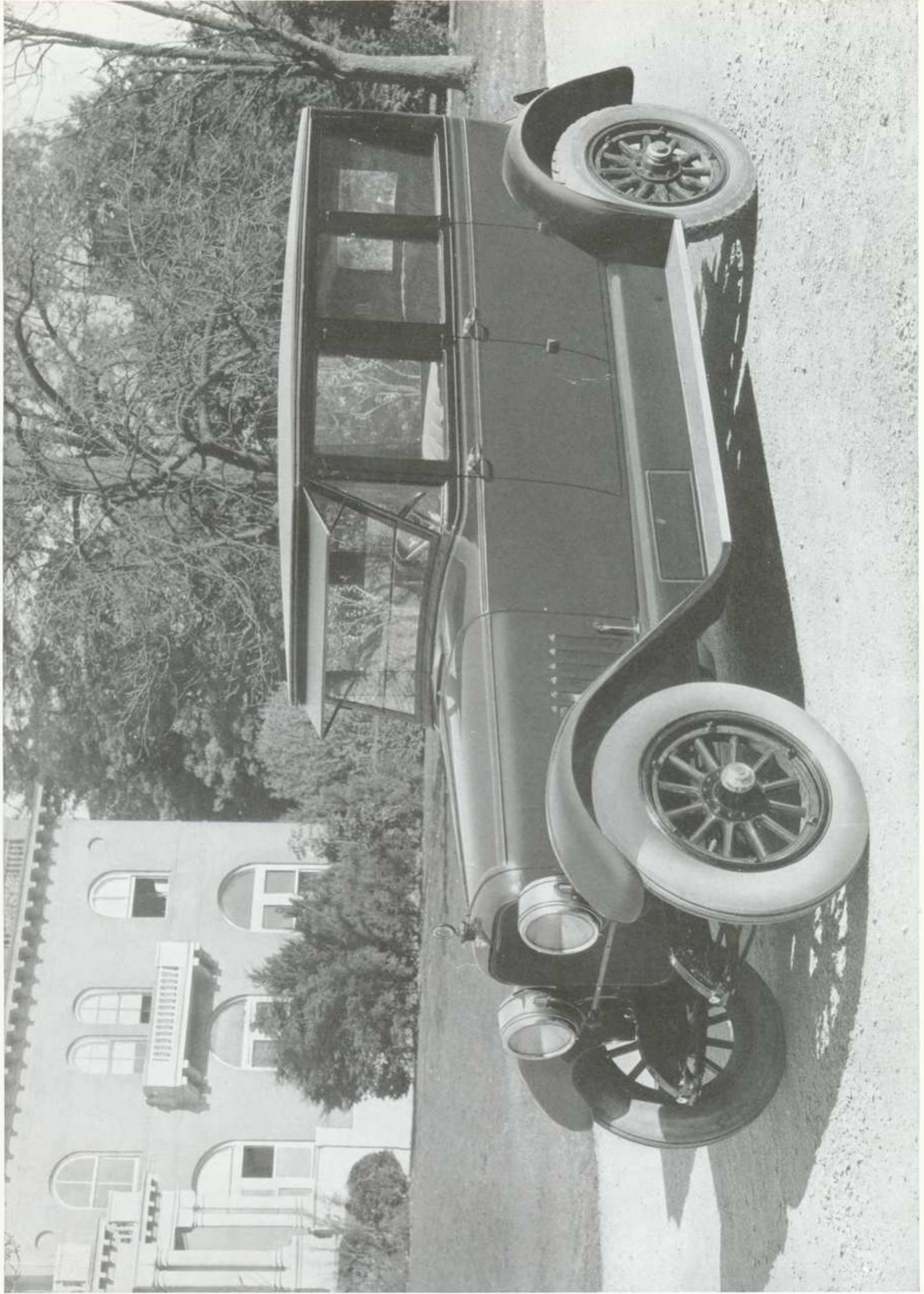
The entire valve mechanism is fully inclosed, thoroughly lubricated, and noiseless. The valves are easily accessible, and all twelve can be adjusted, in case of necessity, in less than twenty minutes. The crankshaft is most accurately balanced, and drilled to provide full pressure lubrication to main and connecting rod bearings.

Mercer chassis construction is likewise simple and accessible. It is perfect as to correct distribution of weight and balance, with the result that Mercer has long been recognized as America's premier road car,

its ability to travel long distances under any and all conditions, in complete safety and without fatigue to driver or passenger, being absolutely unsurpassed.

Mercer bodies have often been pronounced as having the most artistic lines of any automobile ever produced in this country. The harmonious blending of radiator, hood, and fenders with the curved-wall body construction, has produced an effect that has always given Mercer very distinctive and pleasing characteristics. Full aluminum is used in the construction of Mercer bodies. All material, appointments, and details are the very finest the body-building art can produce.

Complete photographic illustrations and construction details of Series Six six-cylinder Mercer models will be found on the following pages.



MERCER SEDAN—SERIES SIX

CONSTRUCTION DETAILS

Engine A six-cylinder, four cycle valve-in-the-head type of motor is used. The motor is cast en bloc, and has a cylinder bore of $3\frac{3}{4}$ inches, with a stroke of 5 inches. The piston displacement is 331.3 cubic inches, and the rating, according to the S. A. E. formula, is 33.75 horse-power. The brake horse-power of the motor, however, is 84 at 2550 R. P. M. Light reciprocating parts are used throughout. The motor presents a very clean appearance, and all parts are unusually accessible. It is suspended on the frame at three points, one in front and two in the rear, the front suspension forming a regular ball-and-socket joint.

Cylinders The block cylinder casting is made from a particularly high grade, specially hard cylinder iron, and is very carefully ground to size.

Crankcase The cylinder block is bolted to an aluminum crankcase, the lower half of which acts as an oil reservoir. Oil pipes are cast into the crankcase, and supply oil to the main and connecting rod bearings.

Bearings The three main bearings are carried in the upper crankcase and are held by aluminum bearing caps with a drop forged reinforcement. They are bronze-backed, babbitt-lined,

each $2\frac{1}{4}$ inches in diameter. The length of the front and center main bearing is $2\frac{1}{2}$ inches, and the rear bearing $3\frac{1}{2}$ inches. The camshaft bearings are die-cast babbitt, and are pressed into the crankcase.

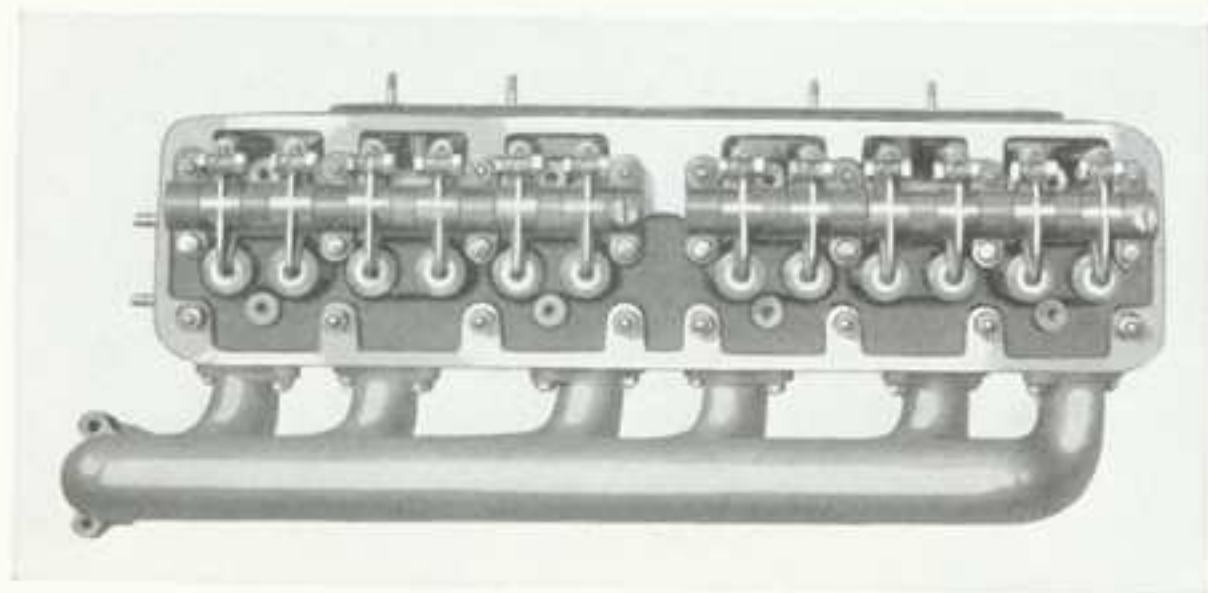
Crankshaft The crankshaft is a drop forging with moon-shaped throws to give perfect balance. It is drilled, providing full pressure lubrication to all main and connecting rod bearings, and is given a most careful static and running balance on the most accurate balancing machine obtainable.

Camshaft The camshaft is a drop forging with cams and oil pump drive gear integral. It is finished all over, hardened, and carefully ground to size.

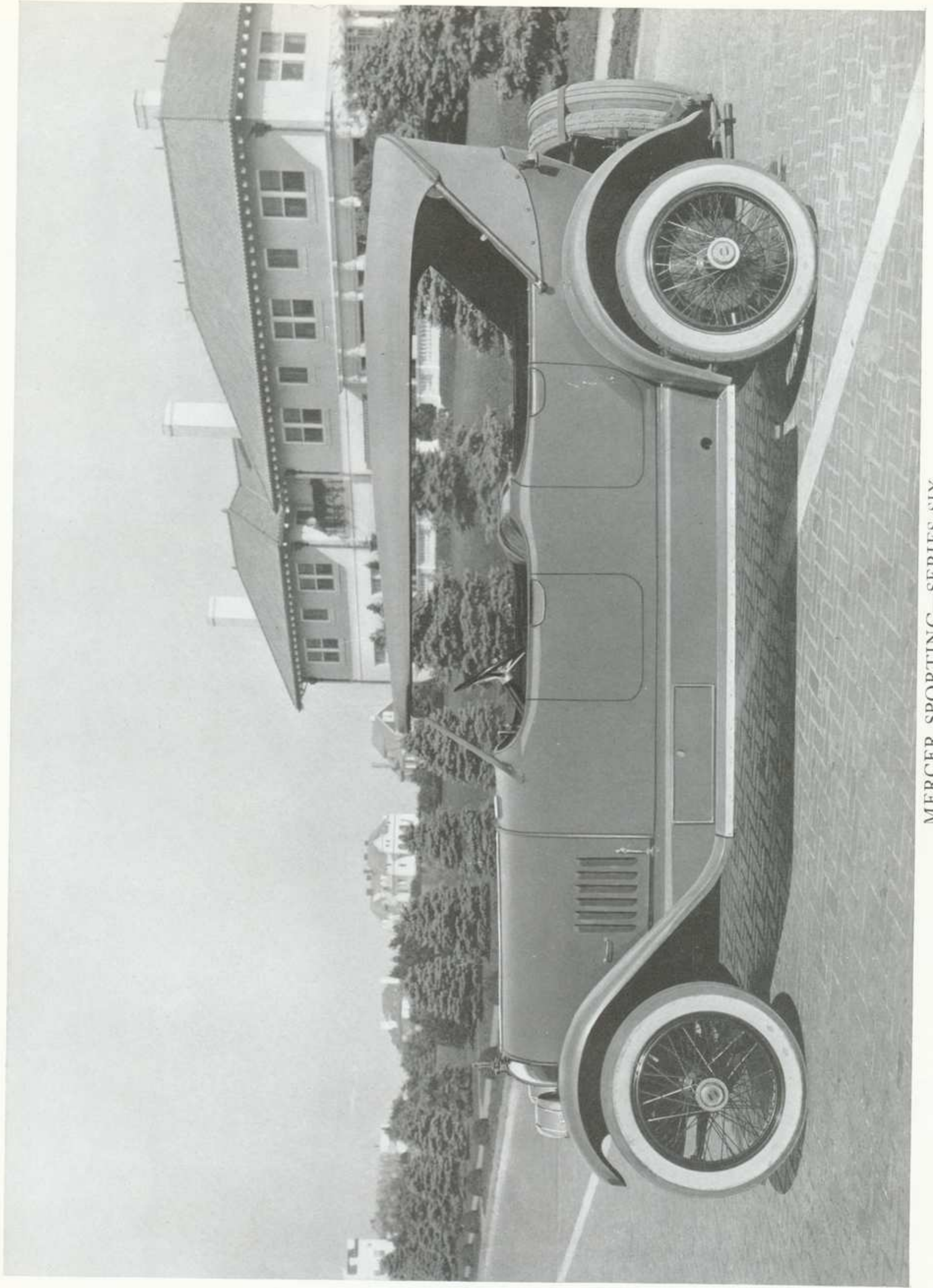
Timing Gears After exhaustive experiments a group of helically cut timing gears have been adopted. The durability and quietness of these gears under all conditions has been proven. They consist of a forged steel gear on the crankshaft, driving a Bakelite gear on the camshaft, which in turn drives a forged steel gear on the pump and magneto shaft.

Cooling Water circulation is maintained by a centrifugal pump, located at the right forward end of the motor. The pump has a cast-iron body and a bronze impeller. The radiator is of cellular construction.

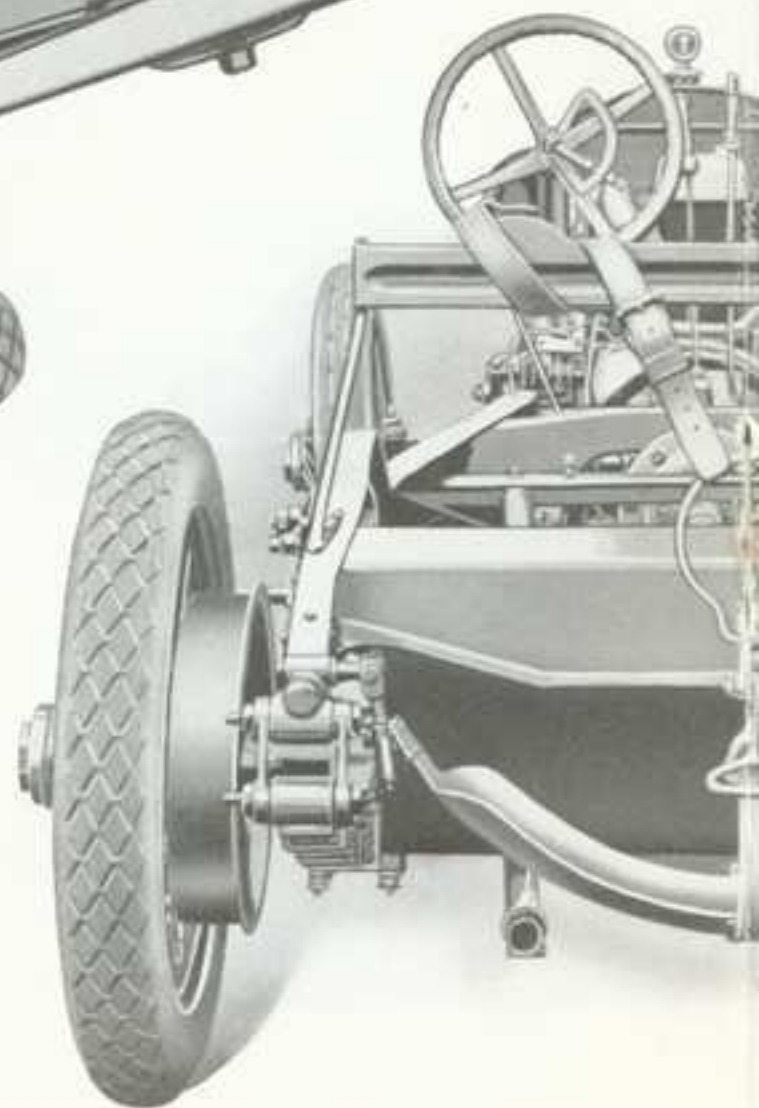
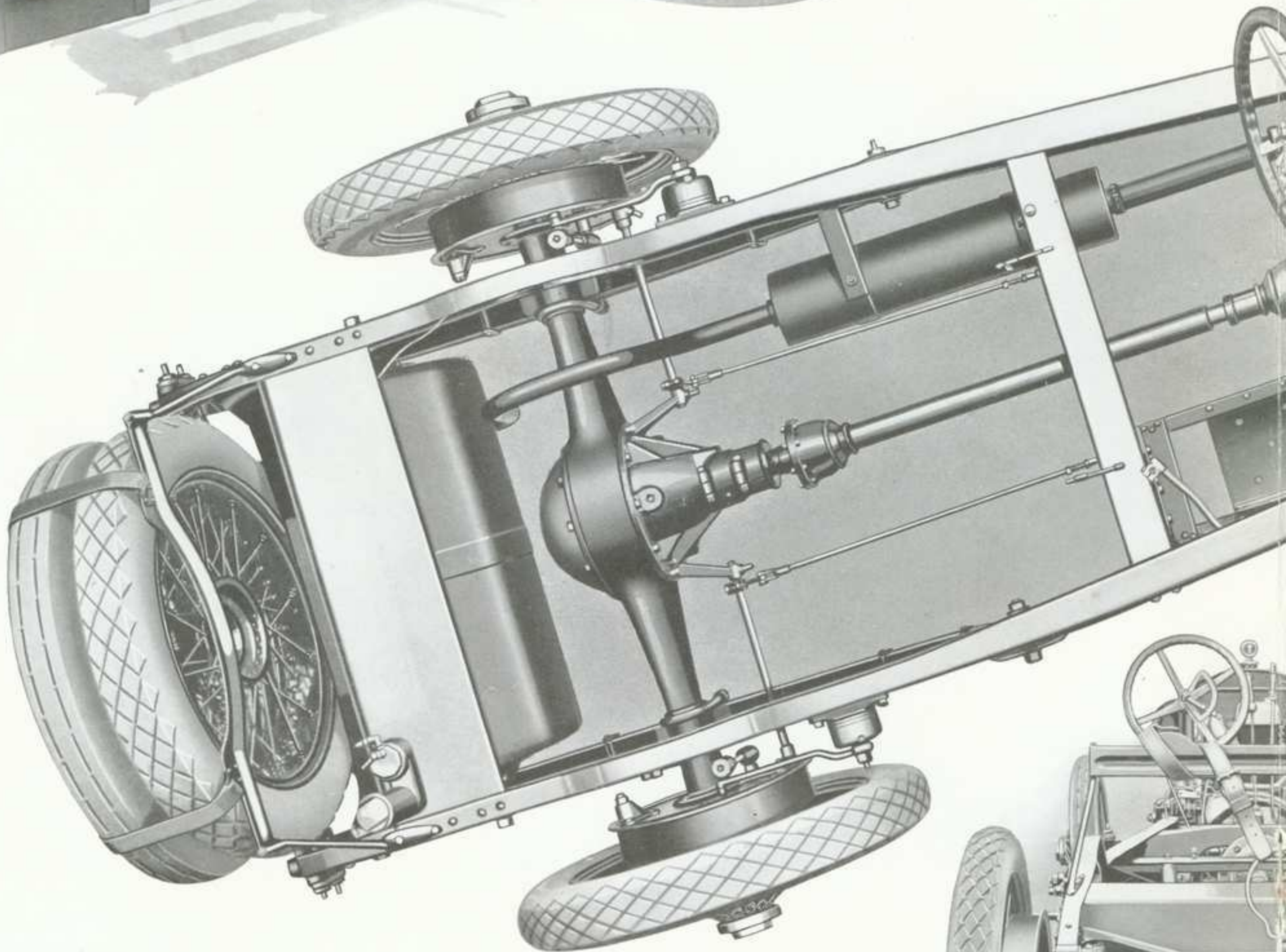
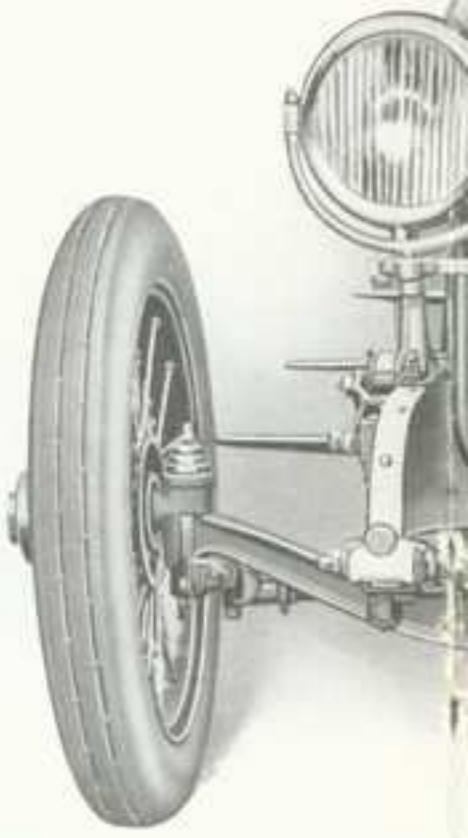
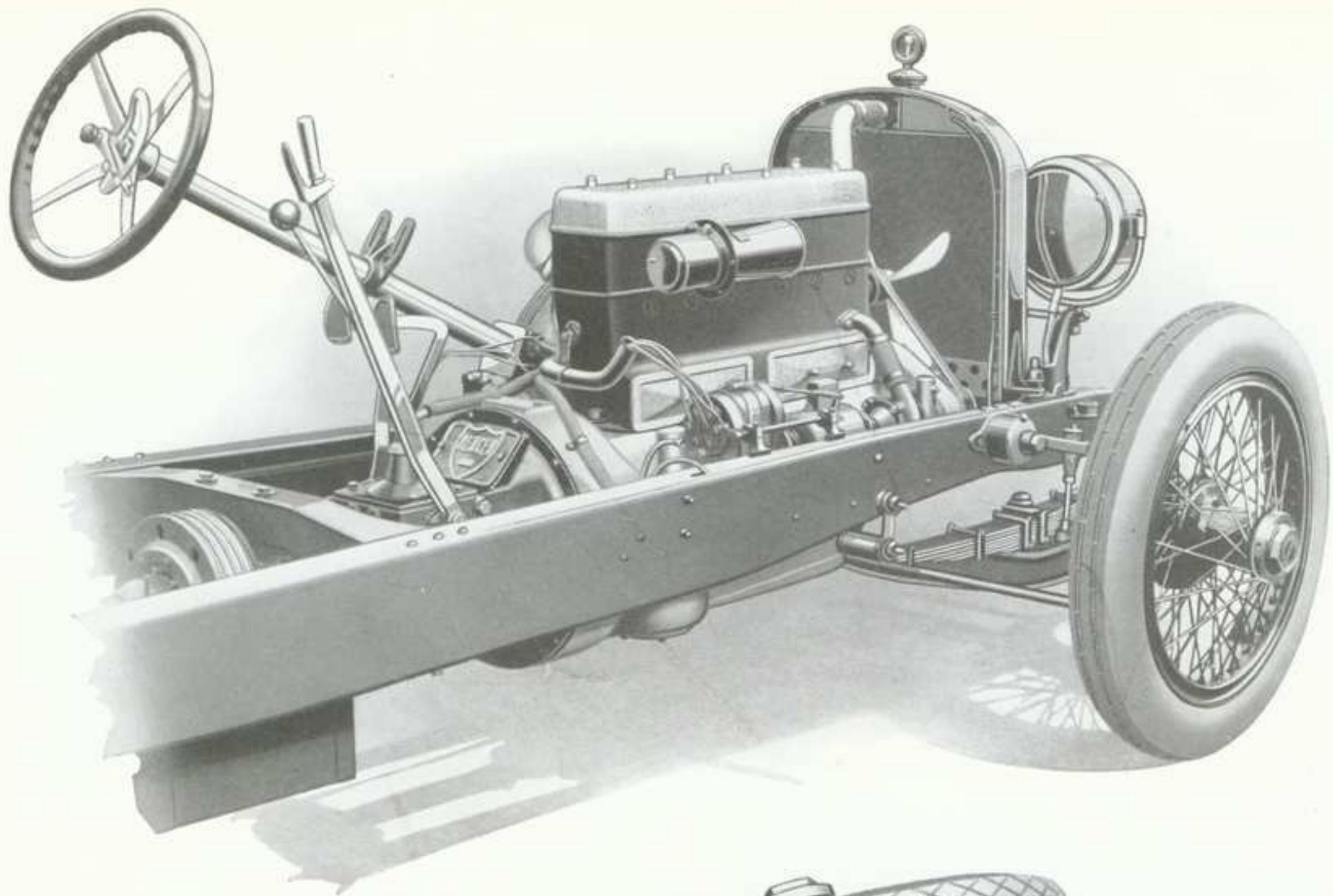
Flywheel The flywheel is a steel forging with starter gear teeth cut in periphery. It is covered with an aluminum housing.

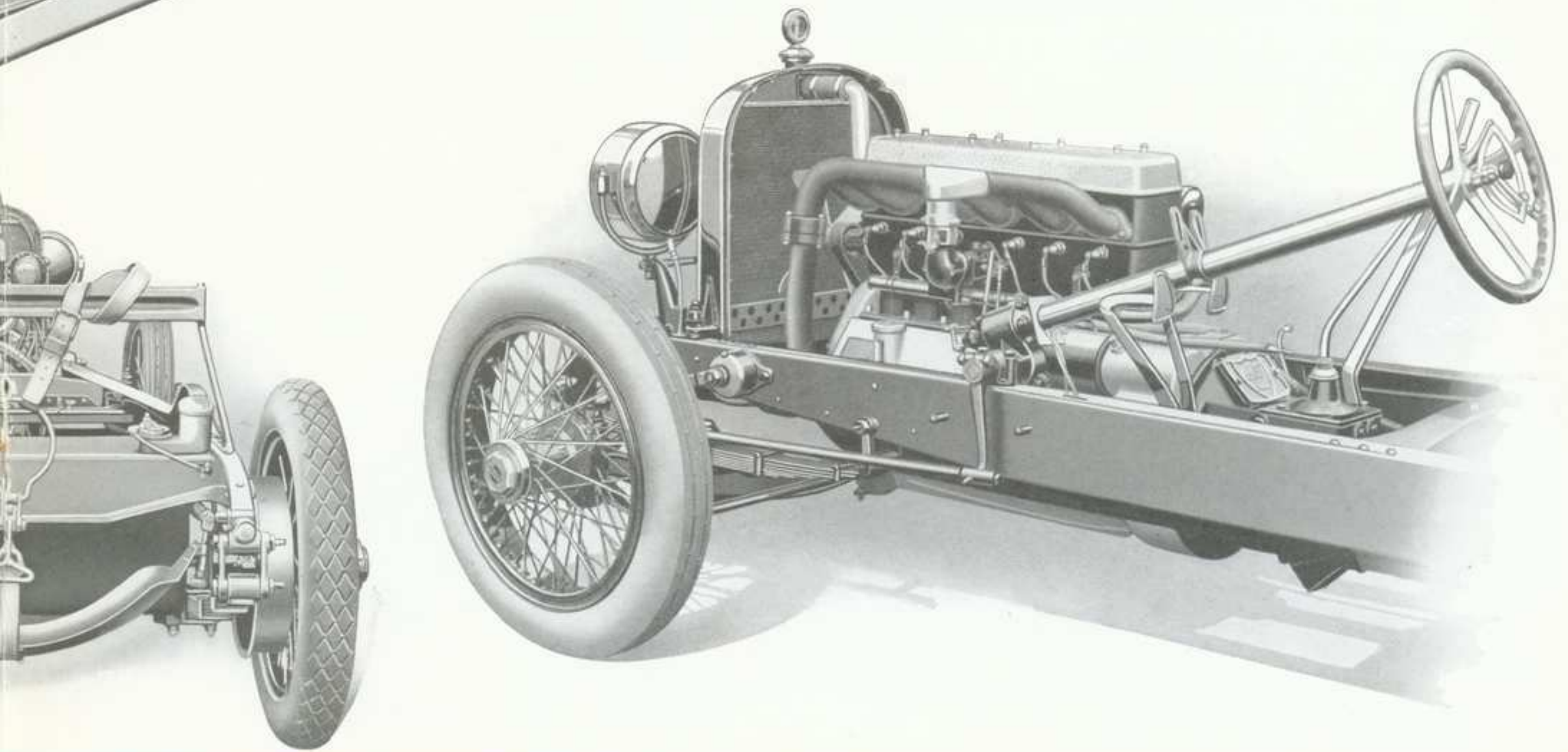
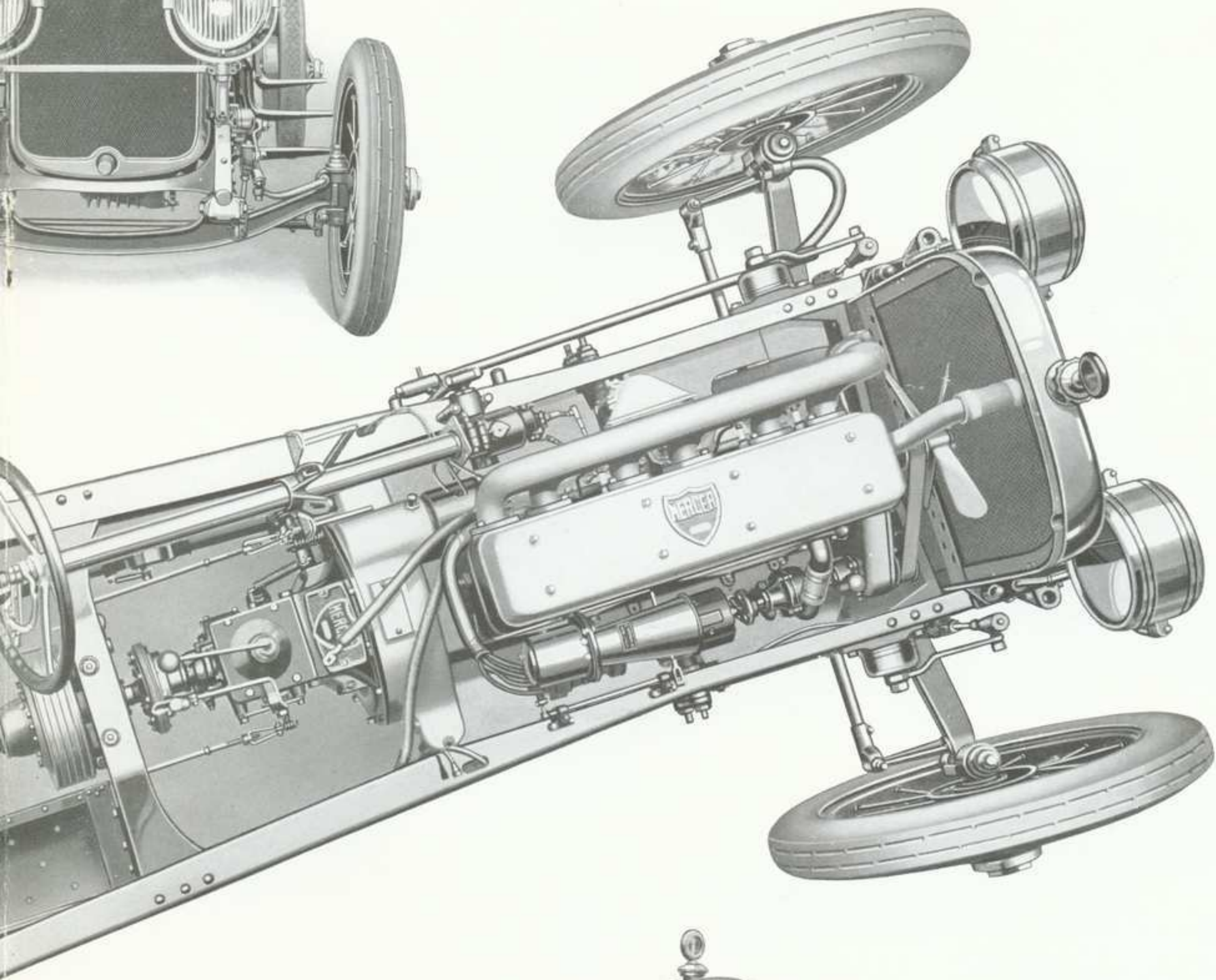
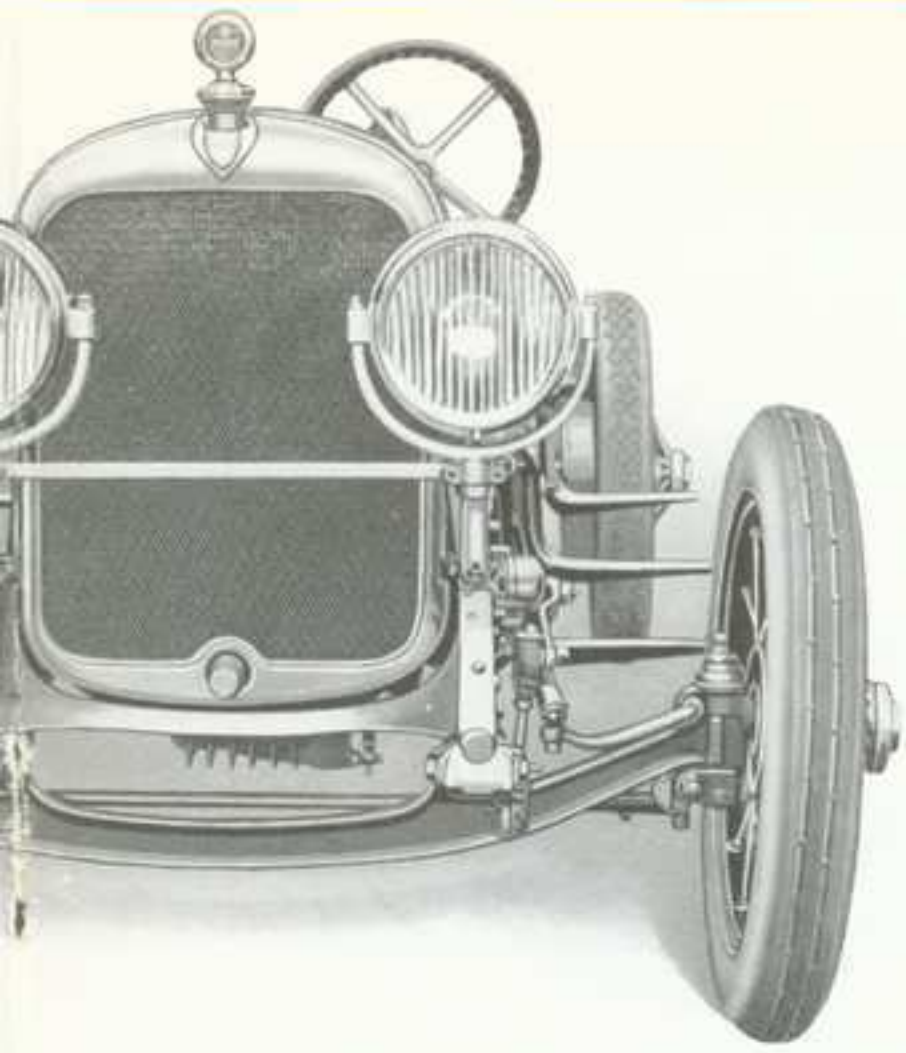


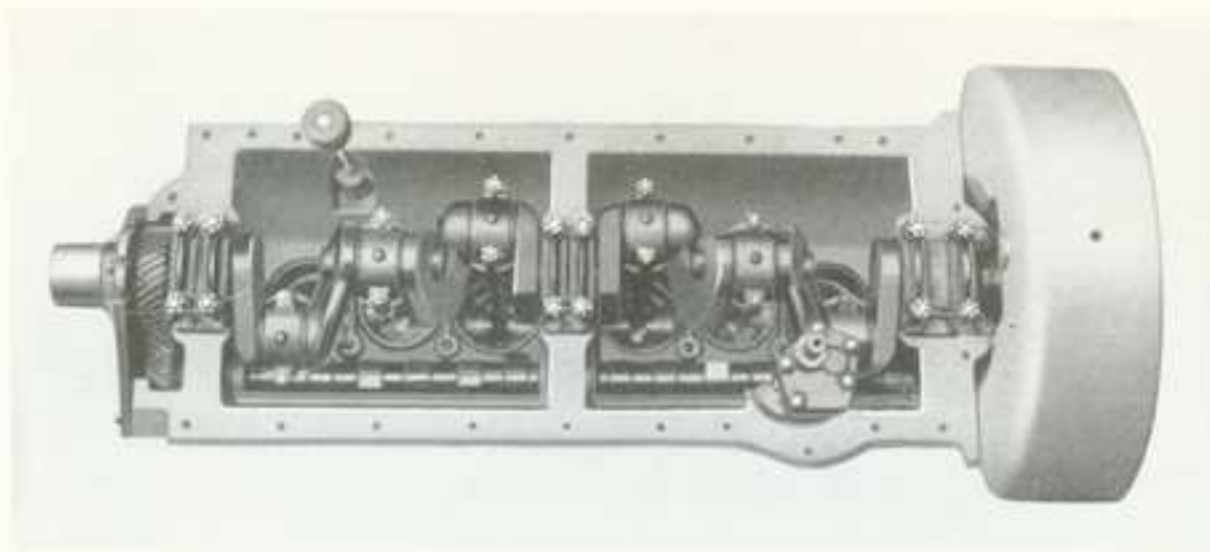
ROCKER ARM ASSEMBLY



MERCER SPORTING—SERIES SIX







CRANKSHAFT ASSEMBLED IN CRANKCASE

Lubrication Pressure feed lubrication is maintained by gear driven pump, the pressure varying from 5 to 15 pounds at slow speeds to 40 pounds at high speeds. The oil reservoir has a capacity of 6 quarts. It is fitted with a fine screen, through which the oil must filter before it is circulated again by the pump.

Connecting Rods The connecting rods are drop forged in the conventional "I" beam shape. They are 10 inches between centers, and are fitted with bronze-backed, babbitt-lined bearings, $2\frac{1}{2}$ inches long. The diameter of the bearings is $2\frac{1}{4}$ inches, and they are held in the bearing caps by nickel-steel bolts. The connecting rods are machined on the outside, and drilled to reduce weight, providing the lightest rods obtainable consistent with the strength required.

Piston Pin Hardened and ground steel tubing piston pins are employed. The pin is locked in the connecting rod and floats in the piston. It is lubricated by oil scraped off the cylinder wall by the lower ring.

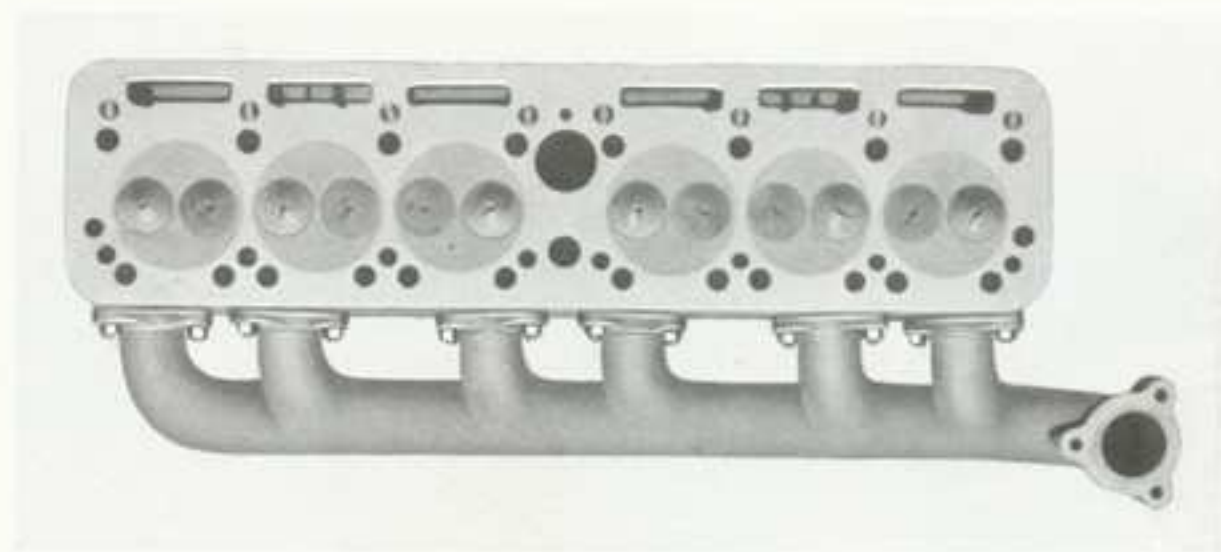
Piston Aluminum alloy pistons of the constant clearance type are employed, the clearance being maintained regardless of temperature. Three rings are used on each piston.

Oil Pump The oil pump is driven from the camshaft by a bronze spiral gear. Pressure is maintained at all speeds, oil being supplied to main, connecting rod, and camshaft bearings, and to the timing gears and water pump gear. Pressure also carries oil to the rocker arm shaft, which is hollow, thence to the rocker arms, and through a drilled hole in each arm to the ball sockets on the push rods, insuring complete lubrication of these rapidly moving parts at all times.

Oil Sump The oil sump is 5 inches in diameter, and has an easily removable cap with extra large oil strainer screen fastened to it. It is possible to remove and clean the oil strainer in less than five minutes without disturbing or removing any other part. A drain cock with an accessible lever is provided on the side of the crankcase, permitting the crankcase to be drained without having to get under the car.

Oil Filler The oil filler is cast as part of crankcase on left side of motor in a most accessible place. An accurate oil level gauge is employed.

Valves and Mechanism The valves are located in the removable cylinder head, and are operated by rocker arms, push rods, and cam followers from the camshaft located



CYLINDER HEAD AND EXHAUST MANIFOLD ASSEMBLY



MERCER TOURING—SERIES SIX

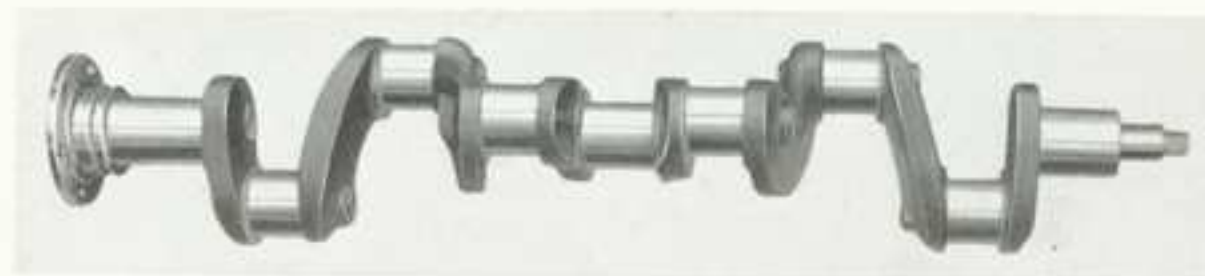
in the crankcase. The entire valve mechanism is fully inclosed and at all times is thoroughly lubricated. The camshaft is so designed as to very slowly open and close the valves, thereby eliminating the noise usually accompanying an overhead camshaft motor. The Mercer valve mechanism is exceptionally silent.

Cam Followers The cam followers are of the mushroom type, carefully hardened and ground to size. These followers are held in sets of six in cast-iron guides which are bolted into the cylinder block and are, therefore, easily removable should this ever become necessary.

Cylinder Head The cylinder head is a block casting. Great care has been exercised in the thorough water cooling of the head. The valve seats are generously water cooled, and there is a circulation of water between each intake and exhaust valve, thereby assuring the valve seating for considerable periods of time.



PISTON AND CONNECTING ROD ASSEMBLY



CRANKSHAFT

Motor Adjustments Owing to the material used in the valves, their design, the design of the head which permits of adequate valve cooling, etc., it is rarely ever necessary that they be adjusted, but in case of necessity, all twelve valves can be adjusted in less than twenty minutes. The pistons and rods are removable through the lower case without the removal of the cylinder block. The cylinder head may be removed and the valves ground by one man in less than three hours.

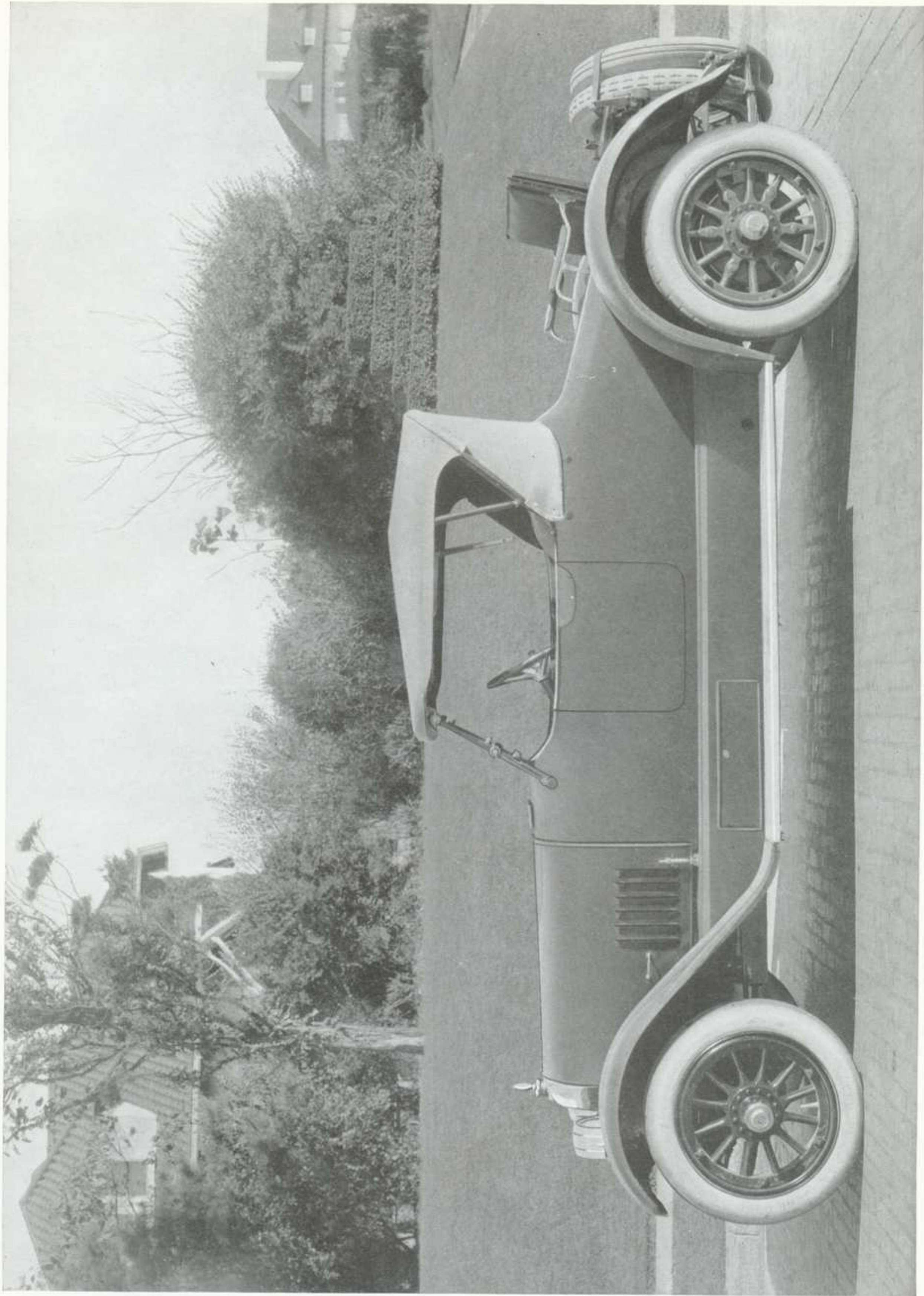
Ignition An independent single spark magneto is used.

Clutch A dry plate multiple disc type of clutch is employed. It is an extremely easy operating clutch.

Gear Set and Gear Ratio A three-speed forward and reverse selective gear set is used, direct drive being on third. Gear ratios: Touring Limousine, Sedan, and all closed models—3d speed (high), 4.08 to 1; 2d speed, 6.85 to 1; 1st speed, 13.95 to 1. Touring, Sporting, and Runabout—3d speed (high), 3.77 to 1; 2d speed, 6.33 to 1; 1st speed, 12.55 to 1.

Drive Shaft drive, with two universal joints. The driving strains are taken through the rear springs.

Axles The front axle is of the inverted Elliott type; it is a special one-piece nickel steel forging with spring seats



MERCER RUNABOUT—SERIES SIX

forged integral. The steering spindles and arms are made of heat-treated chrome nickel steel.

The rear axle is of the shaft driven three-quarter floating type, of a specially sound construction.

The rear axle housing is made of one piece of sheet steel with one weld only. The driving gears are of the spiral bevel gear type, and made of heat-treated nickel steel. An entirely novel design has been used in fastening the ring gear to the differential housing; instead of the conventional rivets, serrations are cut on the outside of the differential housing and corresponding notches cut in the ring gear, the rivets being merely used to hold the two parts in contact. This construction insures a tight fit between the two parts for the life of the car. Taper roller bearings are used throughout in the rear axle.

Brakes A very powerful and effective service brake of the internal expanding type operates on the propeller shaft. The emergency brake is also internal expanding, operating on rear wheel drums of 16 inches diameter; simple brake adjustments directly underneath the floorboard are provided. All brakes are lined with heavy asbestos fabric.

Steering Gear and Controlling System A worm and gear type steering gear is used, the full gear providing four different positions for wear. The spark and throttle levers are mounted at the top of the steering post. The electric horn button is also



CAMSHAFT

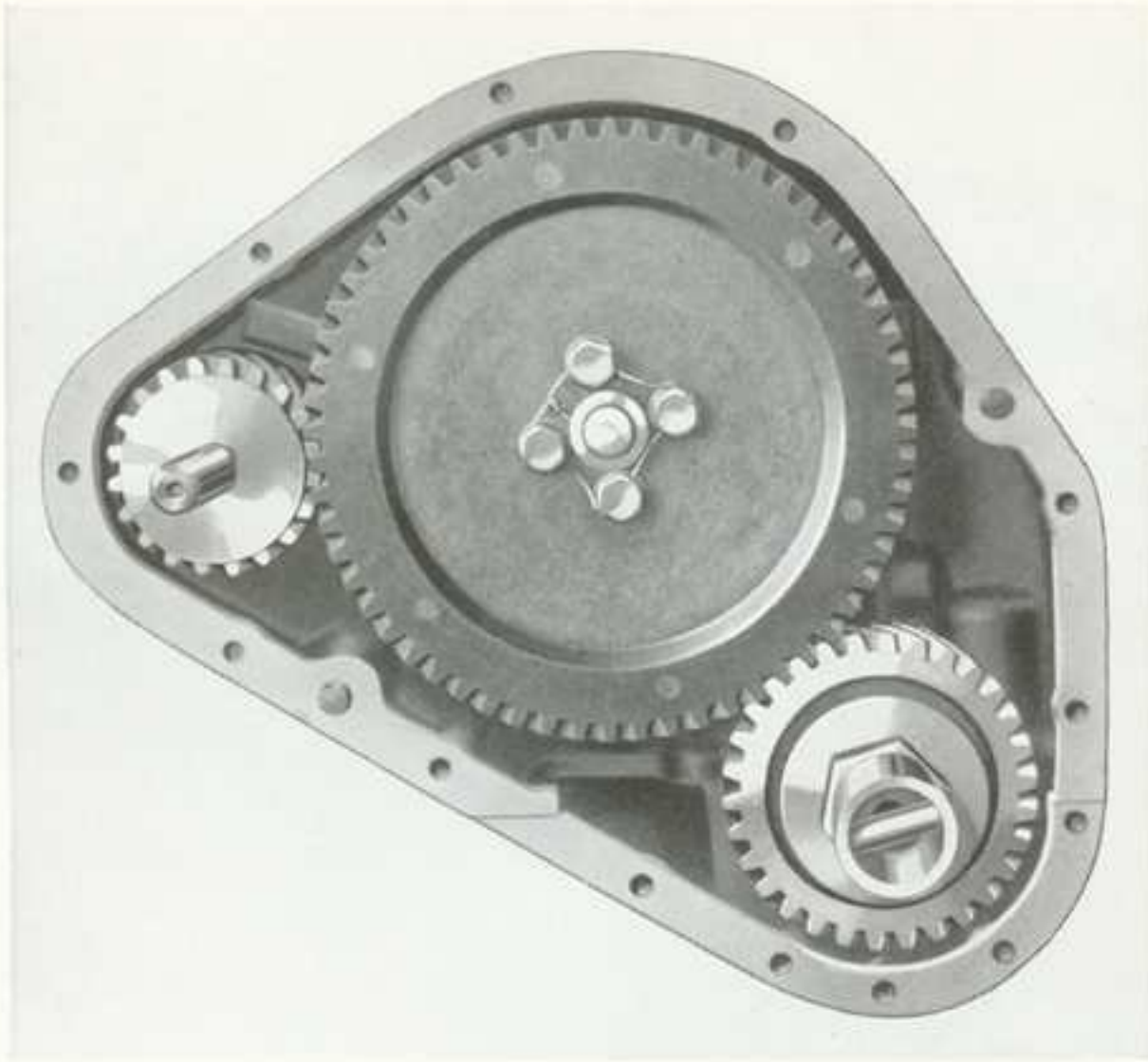
located at the top of the post. The steering post is swung on an adjustable bracket, permitting of its being raised or lowered to suit drivers of different stature. Left-hand drive and center control are employed.

Frame The frame is a heavy channel section type with arch construction over the rear axle; special improved cross members form a substantial platform at the rear. The frame is narrowed in front, permitting short turning radius.



OIL PUMP

Springs Semi-elliptic springs, both front and rear, are used. All springs are 2½ inches wide, the front springs 39 inches long and the rear springs 59 inches long. The rear springs are under-slung and are directly underneath the side rail. The nearly flat construction and method of mounting does away with any twist or side sway when driving at speed over rough roads, and the generous length of the springs makes for easy riding under all conditions.



TIMING GEAR ASSEMBLY

Bodies The Touring body has two auxiliary seats, and when not in use they are folded up under the center cowl. This body has all the grace and distinguished characteristics of the other Mercer models, but having greater seating capacity, is more suited for family use. A few changes in the design of the body have recently been brought about, so that the Touring car now has more nearly the appearance of the Sporting model, which has always been popular.

The Sporting model is a four-passenger car designed to meet the demand for a car to carry more than two passengers, and having unusual roadability and speed possibilities. Black walnut paneling is used back of the front seats on this model, inclosing a large compartment built in under the center cowl. This compartment holds side curtains for the top, and the larger tools.

The doors are two inches wider than formerly, making the front compartment, particularly from the driver's seat, decidedly more accessible. The doors are set flush with the main sill, doing away with a sub-sill. This permits of easier entrance and exit.

The Runabout model is provided with a two-passenger auxiliary seat, which folds into the rear deck. It is also provided with a large-sized compartment built in back of the driver's seat. The auxiliary seat is made more comfortable and practical by means of substantial arm-rests.

The finest leather obtainable is used in the construction of these bodies, and the contour of the cushions and backs is such as to provide most comfortable riding positions for all passengers. Very accessible tool compartments are provided.

The Touring Limousine and Sedan bodies are both for six passengers. Both of these bodies conform to the usual Mercer lines and are extremely beautiful. The



INSTRUMENT BOARD ASSEMBLY

former is provided with a glass partition between the front and rear compartments. This glass partition may be raised or dropped completely from sight as desired. The Sedan is of the conventional type, and the rear compartment seats four people, two on the rear seat and two on the folding auxiliary seats which face forward. These auxiliary seats are so constructed that people of all statures can comfortably occupy them. All side windows drop completely out of sight, a feature found on few other cars.

SPECIFICATIONS

SERIES SIX

MERCER MOTOR CARS

MOTOR—Six cylinders, cast en bloc. Four cycle. Bore $3\frac{3}{4}$ inches, stroke 5 inches, three bearing crankshaft, valves located in the head. Camshaft driven by silent gears. Light reciprocating parts throughout. Piston displacement 331.3 cubic inches. Three points suspension, one in front and two in the rear, the front one forming a regular ball-and-socket joint.

HORSE-POWER—33.75 S. A. E. rating.

COOLING—Cellular radiator. Gear driven centrifugal pump of large capacity. Belt-driven fan.

LUBRICATION—Pressure-feed by gear driven pump. Pressure varies from 5 to 15 pounds at slow speeds to 40 pounds at high speeds. Oil capacity, 6 quarts in reservoir. The oil reservoir is fitted with a fine screen, through which the oil must filter before it is circulated again by the pump.

IGNITION—Independent single spark magneto.

CLUTCH—Dry plate multiple disc type.

GEAR SET—Selective type, three speeds forward and reverse. Direct drive on third.

GEAR RATIOS—Touring Limousine, Sedan, Sport Sedan, and Coupe: 3d speed (high), 4.08 to 1; 2d speed, 6.85 to 1; 1st speed, 13.95 to 1.

Touring, Sporting, and Runabout: 3d speed (high), 3.77 to 1; 2d speed, 6.33 to 1; 1st speed, 12.55 to 1.

DRIVE—Shaft drive with two universal joints. Driving strains taken through rear springs.

AXLES—Front axle is of the inverted Elliott type; one-piece nickel steel forging. The rear axle gears are of the spiral bevel gear type, and Bock taper roller bearings are used throughout the axle.

BRAKES—Service brake is of the internal expanding type, operating on the propeller shaft. Simple brake adjustment directly underneath floor-board. Emergency brake is internal expanding type on rear wheel drums of 16 inches diameter.

STEERING GEAR—Worm and gear type. The full gear provides four different positions for wear.

FRAME—Heavy 7-inch channel section type with arch construction over rear axle. Special improved cross members forming substantial platform at the rear. The frame is narrowed in the front, permitting short turning radius.

WHEEL BASE—Touring, Sporting, Runabout, Touring Limousine, Sedan, Sport Sedan, and Coupe, 132 inches.

TIRES—Touring, Sporting, and Runabout, 32x4½ straight side cord, both front and rear. The Touring Limousine, Sedan, Sport Sedan, and Coupe, 33x5 straight side cord, both front and rear.

SPRINGS—Semi-elliptic, both front and rear. Front springs of all models, 39 inches long. Rear springs of all models, 59 inches long. All springs 2½ inches wide.

CONTROL—Left-hand drive, center control. Spark and throttle levers located on top of steering wheel.

LIGHTING AND CRANKING SYSTEM—6-volt, 2-unit system.

GASOLINE TANK—On Touring, Sporting, Runabout, Touring Limousine, Sedan, Sport Sedan, and Coupe, tank is swung under frame in rear; capacity, 22 gallons, with compartment for 2 gallons reserve.

EQUIPMENT—All cars include the following equipment: Shock absorbers; combination speedometer and clock; motometer; electric horn; tool equipment.

The following equipment varies with the different models:

Runabout—one-man top, quickly adjustable side curtains, specially designed sloping windshield; Firestone demountable rims, with two extras.

Touring and Sporting—One man top, quickly adjustable side curtains, specially designed sloping windshield. Firestone demountable rims, with two extras, are equipment on Touring car. Rudge-Whitworth wire wheels, with one extra, are equipment on Sporting model.

Touring Limousine and Sedan—Two spare rims, robe rail, wool carpet to match upholstery, walnut toilet cases, dictograph, foot-rests, two corner lights, dome light, reflecting mirror over driver's seat, silk curtains to match trimming, cowl ventilator, Sargent locking system, nickel-plated metal fittings.

Prices, F. O. B. Factory, Trenton, N. J.

Touring	\$3750.00
Sporting	3750.00
Runabout	3750.00
Touring Limousine	5000.00
Sedan	5000.00
Sport Sedan	4700.00

STANDARD WARRANTY

WE warrant each new motor vehicle manufactured by us to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at our factory any part or parts thereof which shall, within ninety (90) days after delivery of such vehicle to the original purchaser, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part; and we neither assume nor authorize any other person to assume for us any other liability in connection with the sale of our vehicles.

This warranty shall not apply to any vehicle which shall have been repaired or altered outside of our factory in any way so as, in our judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence, or accident.

We make no warranty whatever in respect to tires, rims, ignition apparatus, horns or other signaling devices, starting devices, generators, batteries, speedometers, or other trade accessories, inasmuch as they are usually warranted separately by their respective manufacturers.

MERCER MOTORS COMPANY

MEMBER NATIONAL AUTOMOBILE CHAMBER OF COMMERCE, INC.

As the Mercer policy is to build automobiles in series rather than on the yearly model basis, we will put into immediate service any newly perfected device, rather than hold it for embodiment in a later model of our car.

Along these lines of progressive advancement we reserve the right to make changes in the construction of Mercer cars at any time and in such manner as in our judgment will result in the betterment of the car.

