Willys-Garford Sales Co.

THE

Garford

SIX-FIFTY

THE *Garford* SIX-FIFTY

SIMPLE - FLEXIBLE
RELIABLE

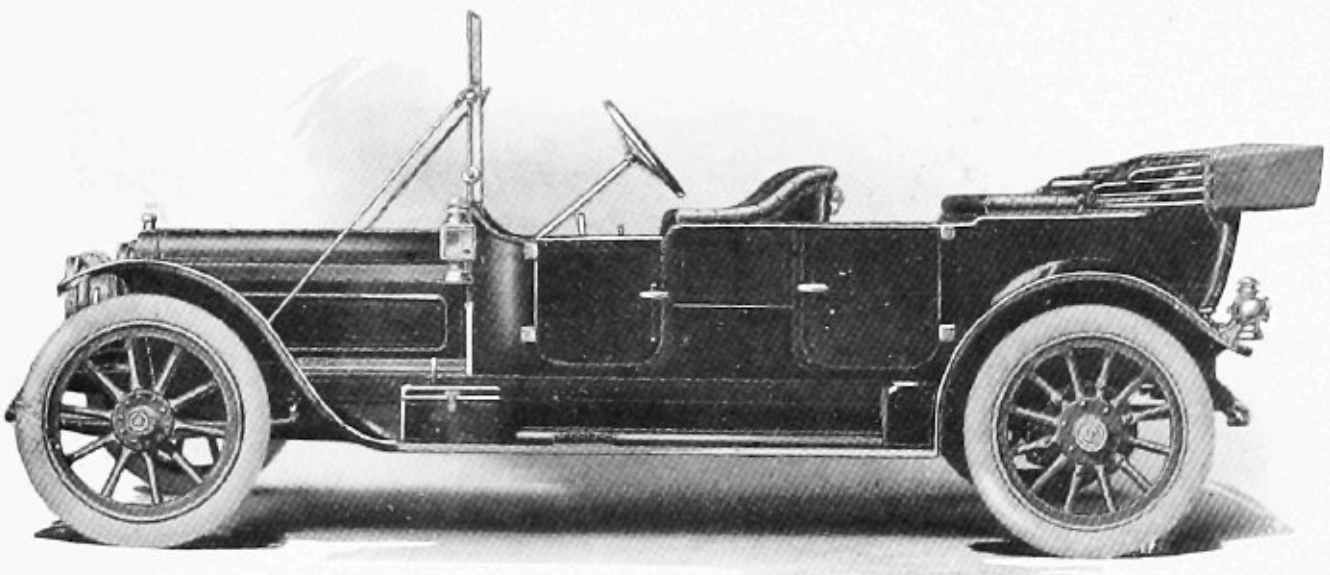
GARFORD CARS EMBODY ALL
THOSE RARE TOUCHES OF
REFINEMENT AND ELEGANCE
WHICH TRULY DISTINGUISH
THE *BEST* FROM THE *REST*

THE GARFORD COMPANY
ELYRIA, OHIO, U. S. A.

GARFORD MOTOR CARS

AFTER nine years of experience in the manufacture of high grade automobile parts and chassis, distributed through selected agents, the management of the Garford Company determined to manufacture only completed cars and market them through its own agents and under its own name. Accordingly all relations were severed with those who had heretofore been furnished complete chassis; a body plant was built embodying the most up-to-date facilities and equipment for high class product, and Garford cars designed and manufactured complete in the Garford Company's own plant became a reality. The same high grade product that has made the name Garford a synonym for quality and all that is most refined in chassis now characterizes Garford cars and justly merits the class and reputation accorded by the purchasing public.

The Garford Six-Cylinder cars for 1912 are herein illustrated with specifications. The Garford line includes "Thirties" and "Forties" with four cylinders. Particular details descriptive of any or all models will be mailed on application.



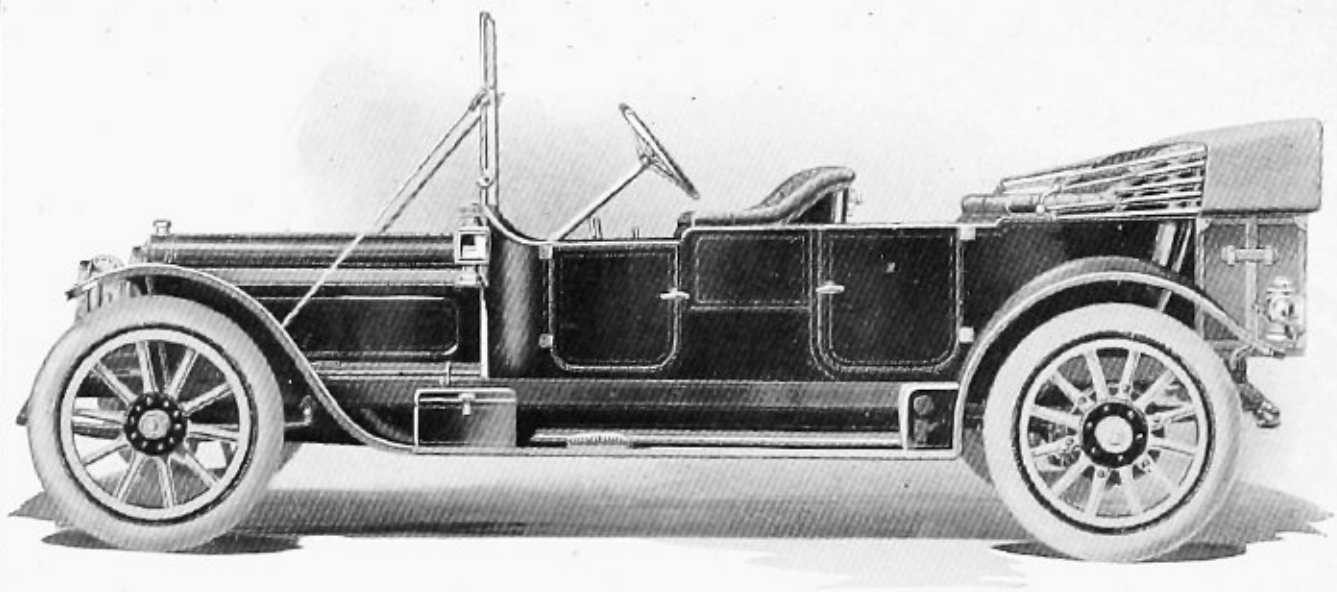
GARFORD SIX-FIFTY TOURING

SEVEN PASSENGER

The SIX-FIFTY TOURING CAR in the seven passenger model is an ideal car for touring, ample power and speed being provided to meet every requirement. The car is built on splendid lines. The two forward body seats are of the Garford disappearing type, giving the maximum of body space and comfort at all times.

In the six passenger car, the main features of the Seven Passenger model have been retained. The distinction lies in the narrower body lines to accommodate but two passengers on the divided rear seat.

COMPLETE $4500.00



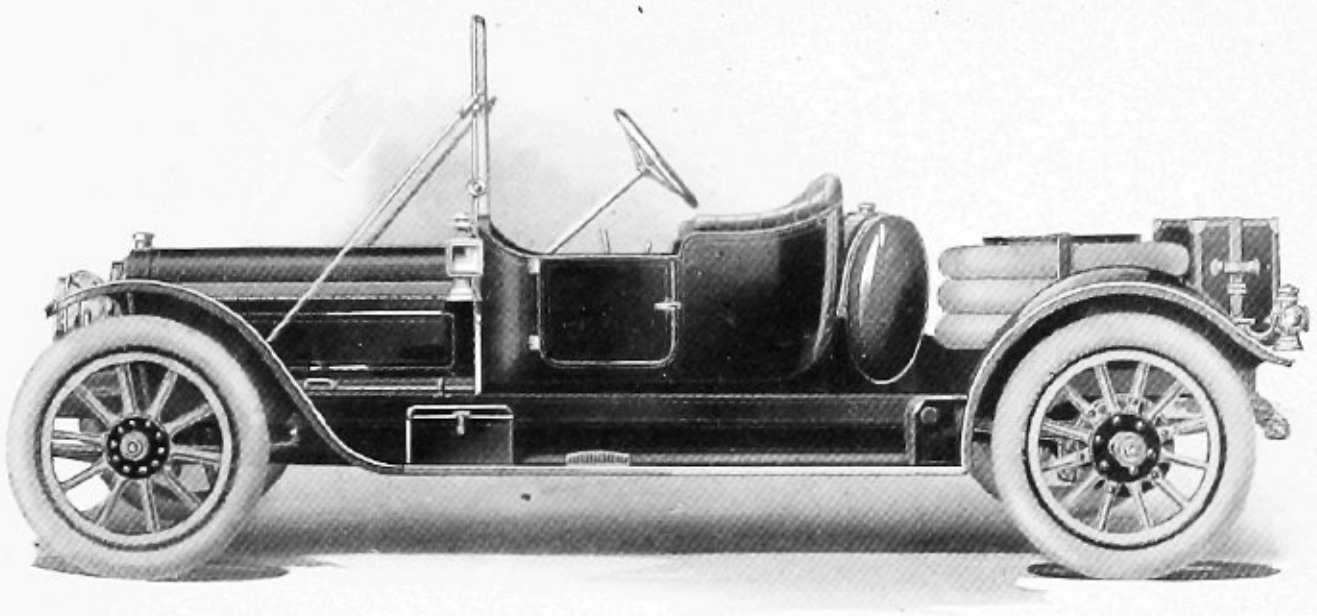
GARFORD SIX-FIFTY TOURING

FIVE PASSENGER

The SIX-FIFTY TOURING CAR with the five passenger body is especially well adapted for city and suburban use. The body design affords comfort and luxury. This model is a splendid, general service car without any limitation of speed or power.

The Standard Six-Fifty Chassis equipped with the four passenger body is an excellent car for use where a limited number of passengers are to be carried. The car is an ideal one for country club use or touring in small parties. The power and easy riding qualities of the six cylinder chassis have been combined with the smaller and more exclusive body effecting an unusually advantageous combination.

COMPLETE $4500.00

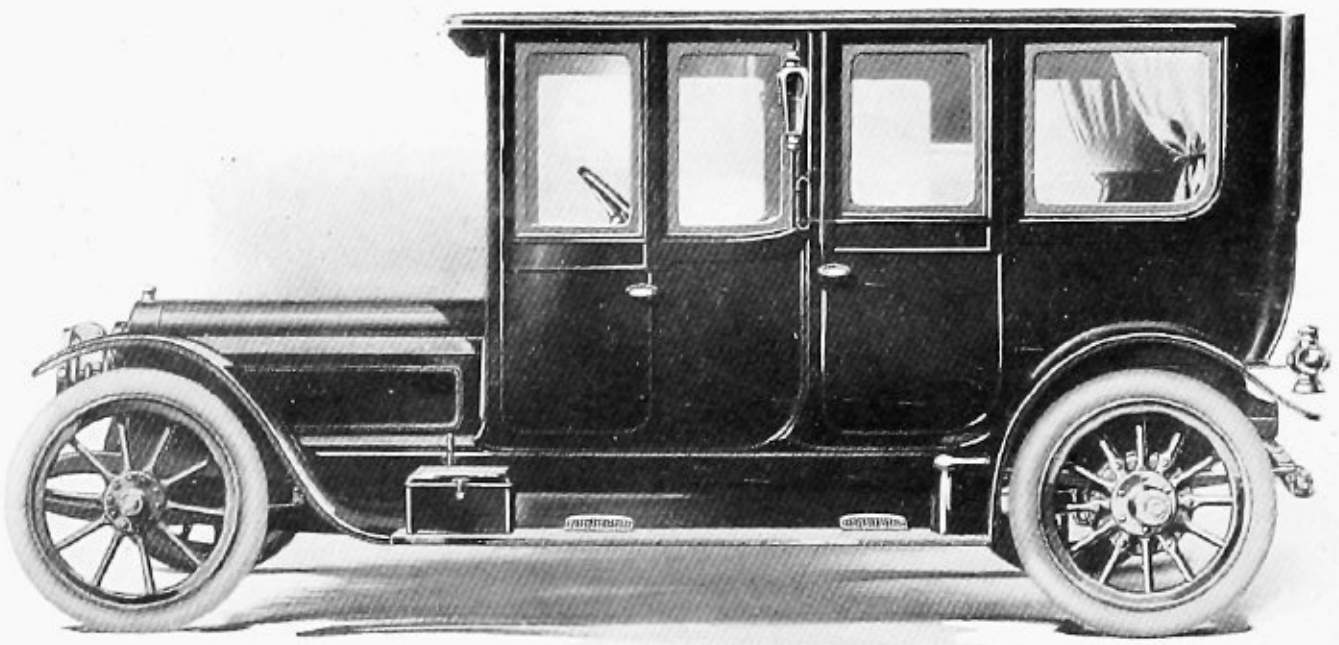


GARFORD SIX-FIFTY TOURING

TWO PASSENGER

The SIX-FIFTY TOURING CAR with the two passenger roadster body represents the maximum of speed and power combined with the minimum seating capacity. This type of car lends itself especially well to touring as the comfort and ease of the occupants have been the prime considerations in the designing of the body. This model has extreme speed and power with none of the discomforts of a freak racing car.

COMPLETE **$4500.00**

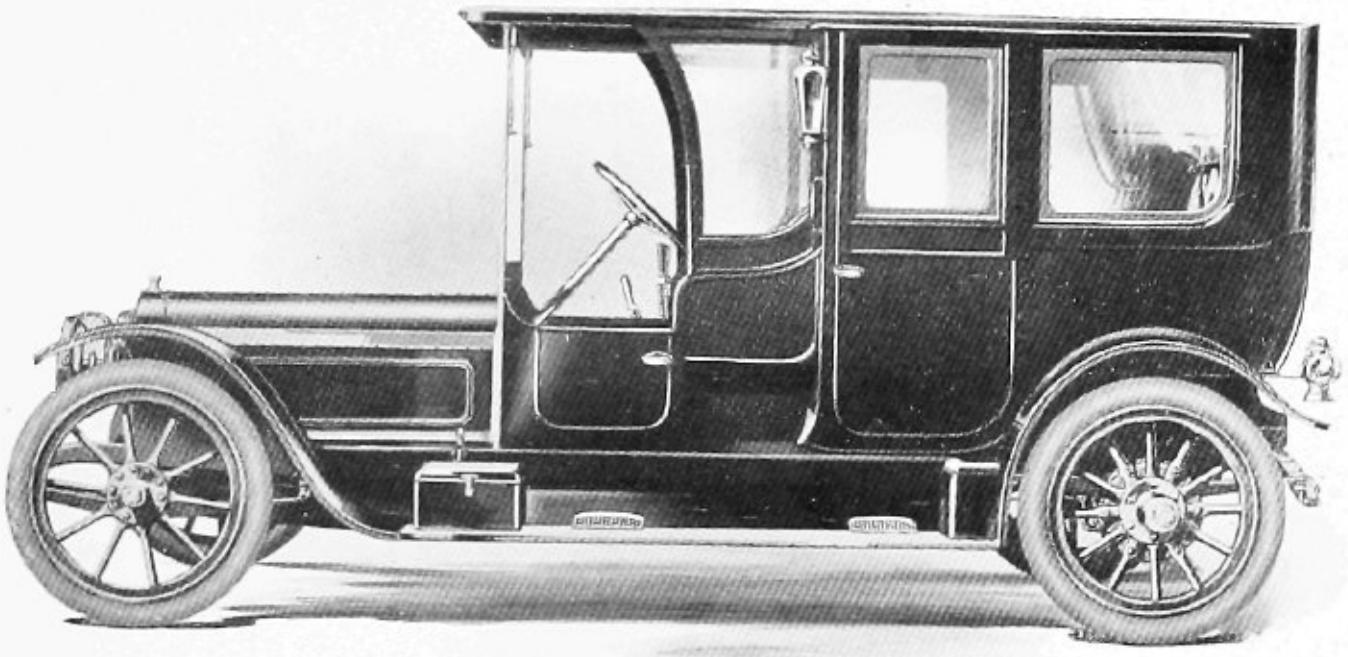


GARFORD SIX-FIFTY BERLIN

The SIX-FIFTY BERLIN represents the very acme of closed car construction. The aim has been to produce a car, adapted for the Fall and Winter months, suitable for a suburban family car. To the splendid riding qualities of the six cylinder chassis have been added the utmost skill of the body builder resulting in a perfect car.

The upholstering, trimming and fittings are in perfect accord. Six passengers may be carried, fully protected from the most severe weather. Nothing has been spared to make this an ideal car.

BERLIN $6000.00

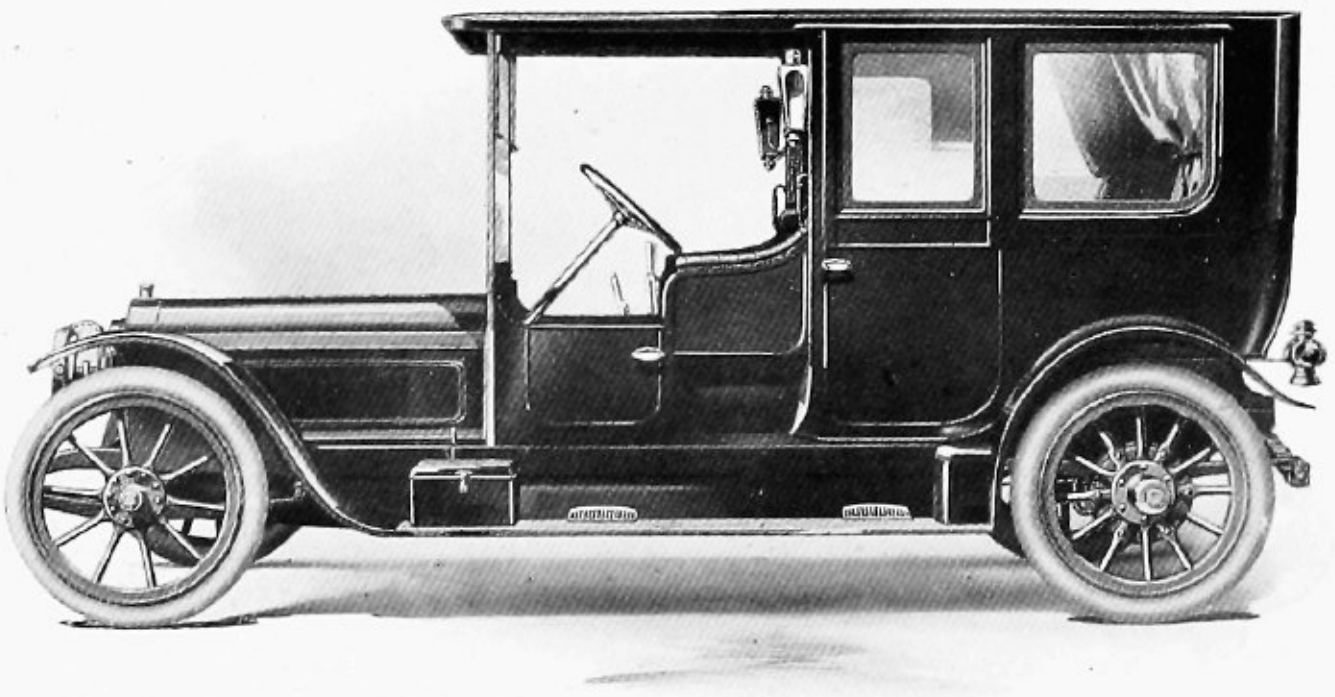


GARFORD SIX-FIFTY HALF BERLIN

The SIX-FIFTY HALF BERLIN stands for excellence in the many details of comfort, luxury and elegance. The artistic features of body construction have been fully developed in this model. Engineering ability coupled with the skill of the body designer has produced a car replete with refinement and luxury. The interior of the body is very roomy, seating five passengers with ease while the design provides a protected seat in front.

The car is perfect in appointment and trimming with furnishings to match the color scheme.

HALF BERLIN . . . $5650.00



GARFORD SIX-FIFTY LIMOUSINE

The SIX-FIFTY LIMOUSINE meets the demands for a car to form the link that joins the country to the town in all seasons, and is built to meet all weather conditions. This model makes possible a country place throughout the winter months without sacrifice of town comforts. The body seats five with ease. Luxurious upholstering with fittings and trimmings to harmonize make a splendid car.

The SIX-FIFTY LANDAULET offers the advantages of both the open and closed cars. In the landaulet form, the SIX-FIFTY is a perfect car for all seasons.

LIMOUSINE	$5600.00
LANDAULET	5750.00

MECHANICAL SPECIFICATIONS

MOTOR—Cylinders cast in two sets of three each en bloc, L head type. Cylinders are bored and ground, 4¼" bore x 5¼" stroke. The pistons are made from a special grade, uniform grain cast iron, and are machined to make them light as possible. They are provided with four eccentric rings, three at upper and one at lower end. The wrist pins are a special grade of steel, case hardened and ground. The connecting rods are nickel steel drop forgings carefully machined and heat treated. The connecting rod bearings are large babbitt lined, bronze bushings. The crank shaft is a drop forging of 35 O. H. steel, heat treated and ground to size. Valves are made of nickel steel. Valve lifters are adjustable. Valve springs and lifters are enclosed by an easily removable aluminum cover.

The cooling of the motor is by means of a radiator of ample size in conjunction with a carefully developed circulating system. Water from a large size centrifugal pump enters the cylinders under the valves and leaves at the top, the point of highest temperature. All the water passages are of sufficient and ample size to insure maximum circulation.

The cams and cam shafts are made of high carbon steel. Cams are integral with shaft. All bearings and cam surfaces are hardened and ground. The helical timing gears are of cast iron on cam shaft and steel on crank shaft.

The crank case consists of two aluminum castings of sufficient weight to give the motor great rigidity. The upper half is provided with brackets, by which the motor is suspended, to sub-frame of chassis. The lower half is designed to facilitate the withdrawal of connecting rods, inspection of bearings, and the cleaning of the crank case. The fan is a one-piece aluminum stamping, reinforced by means of a heavy wire on the outer edge and a pressed steel spider in the center, and is mounted on ball bearings. The fan is driven by a V belt.

IGNITION—Bosch two point synchronized, high tension, dual type magneto, using two sets of spark plugs, one located above inlet valves, the other on opposite side of cylinder in combustion chamber. A switch is provided on the dash for starting from seat.

CARBURETOR—Float feed, water jacketed, double jet, venturi tube type. Intake manifold water jacketed and auxiliary air adjustment operated from the seat. Gasoline strainer is conveniently placed in the gasoline line.

MECHANICAL SPECIFICATIONS

OILING SYSTEM—The oiling system is self contained. The oil is forced from base of crank case by a gear pump driven from the cam shaft, through a copper tube to all crank shaft bearings, thence through the crank shaft to connecting rod bearings, through copper tubes on connecting rods to wrist pins. Splash is also provided for cylinder lubrication. The three cam shaft bearings are lubricated by the same system. A by-pass valve for keeping oil at a constant pressure is integral with gear pump. Oil, before being pumped to bearings, passes through a fine mesh screen. Gauge is provided on dash to indicate pressure of oil.

CONTROL—The control pedals for clutch and service brake, are of the gooseneck type and adjustable for different lengths of limb. Their stroke is limited by stops. Rattling and backlash are prevented by inserting springs in suitable places. The hand lever operating the emergency brakes is set in action by pulling instead of pushing. The change speed lever moves in a solid bronze quadrant. The accelerator pedal is conveniently located on the foot board and is independent of hand throttle lever. The spark and hand throttle levers are mounted on top of steering wheel.

CLUTCH—The clutch is a leather faced cone provided with cork inserts to prevent slipping and springs to insure easy engagement. A clutch brake serves to facilitate gear shifting. A double universal joint is inserted between the clutch and transmission.

TRANSMISSION—The transmission is the selective type having four speeds forward and a reverse. The third speed is the "Direct" with no gears in engagement. The fourth speed is the step-up or high speed gear. Short driving shafts make for rigid construction and noiseless gears. The countershaft is located below the main shaft to prevent oil leakage through main shaft bearings. The main shaft on which the gears slide is provided with six integral flutes. All gears are stub toothed, made of special gear steel and are case hardened. All shafts, excepting the reverse, run on imported annular bearings of generous size. The hubs of the sliding trains are long to prevent undue overloading of the engaging gear surfaces, and to insure a small service pressure on the flutes. The gear case is a one piece aluminum casting. The selective mechanism, with the exception of the hand lever and the tube leading to it is fully enclosed. The three selective rods with forks are held in position by plungers pressed down by springs.

MECHANICAL SPECIFICATIONS

FRONT AXLE—The drop forged front axle is of I beam section heat treated to give it high ductility. The axle is dropped in the center. The spring seats are integral. Steering knuckles of the Mercedes type are made from carefully heat treated steel forgings. The drag link or tie rod is placed in the rear and the steering arm is over the axle. The hubs are malleable castings of an approved design and are equipped with ball bearings of an ample size to withstand all road shocks.

REAR AXLE—The rear axle is of the full floating type, the axle tubes being seamless, and the nickel steel driving shafts having the driving clutch integral with the shaft. The differential is of the bevel gear type and has a malleable cast housing with removable cover. Drop forged spring seats, made in two halves are located on an extension of the brake support and can be adjusted in case of wear. The chassis is driven through the springs while a torsion rod takes care of the driving torque. A standard reduction of 3.4:1 and the optional reduction of 3.8:1 are furnished. Annular and radial ball bearings of ample size are used throughout. Rear hubs are malleable castings with ball bearings of ample size, and brake drums made from steel stampings are used.

STEERING GEAR—The steering gear is of the standard worm and worm gear type, case hardened steel surfaces discounting excessive wear and suitable bearings taking up thrust. Provisions for perfect adjustment are provided throughout and all working parts are enclosed in a grease packed gear case.

BRAKES—The car is equipped with two brakes both operating on rear wheel hubs. The service brake is operated by a foot pedal and consists of a contracting band lined with a reinforced asbestos fabric. The emergency brakes are operated by a hand lever, and consist of an internal expanding jaw brake operated by a cam. They are lined same as service brake. Special provision has been made to prevent the dragging of both brakes, which are very effective and work equally well in both directions. The leverage of the brakes is sufficient to keep the car under control at all speeds and adjustment for wear has been provided in both.

MECHANICAL SPECIFICATIONS

MODEL G-14 6 CYLINDER 50 H. P.

MOTOR—Six cylinder, vertical, water-cooled, cylinders cast in two sets of three each with integral water jackets.

DIMENSIONS—4 1/4" bore by 5 1/4" stroke.

RATING—50 H. P.

COOLING—By centrifugal pump, gear-driven, with cellular radiator and fan.

CARBURETOR—Float feed, automatic type with venturi tube and air adjustment controlled from dash.

IGNITION—Bosch-dual system.

VALVES—All valves mechanically actuated, exhaust and intake interchangeable.

FRAME—Pressed steel.

TRANSMISSION—Selective type, four speeds forward, one reverse. Direct drive on third speed.

WHEEL BASE—135 inches.

LUBRICATION—Gear-driven oil pump.

WHEELS AND TIRES—36"x4 1/2" front; 37"x5" rear.

BRAKES—On rear axle, internal expanding, actuated by hand lever; external contracting actuated by foot pedal on same drums.

FRONT AXLE—Drop forged steel, I beam section with ball bearings.

REAR AXLE—Full floating type, ball bearings and bevel gear drive.

EQUIPMENT—Two acetylene headlights with Prest-o-Lite tank, two combination oil and electric side lights, one combination oil and electric rear light, horn, tire carries, jack and complete outfit of tools, top, speedometer and windshield.

GARFORD QUALITY is made possible and maintained by a loyal organization embued with the spirit of sincere co-operation and devoted to the best practices of efficient manufacture.