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THE FRONTMOBILE

EMPLOYS
NEW DRIVING SYSTEM



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CAMDEN MOTORS CORPORATION

CAMDEN, N. J.

Frontmobile Employs New Driving System

All Power Plant Parts are Under the Hood



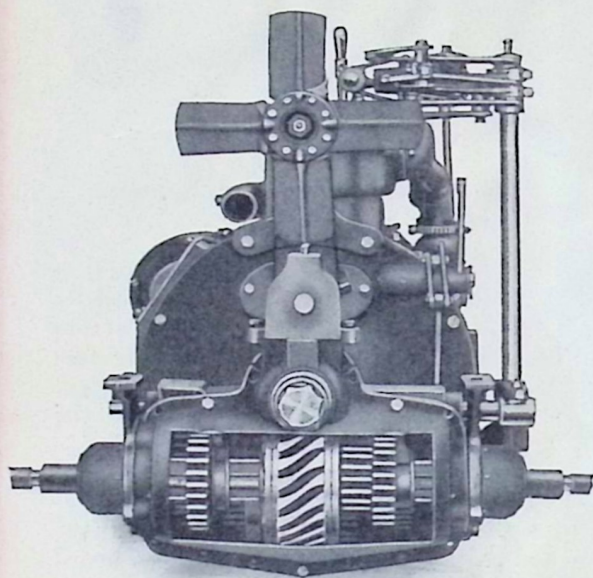
AMONG the new and novel models disclosed at the New York Automobile Show, the Frontmobile, sold by the Safety Motor Co., Grenloch, N. J., and made by the Bateman Mfg. Co. of the same city, easily ranked first in the interest of sightseers. It was conspicuous among the other hundreds of models because it was the only front drive car in the Palace, embodying many principles that were new to the average motorist. The Frontmobile has its power plant and all working parts under the hood in a compact unit, consisting of engine, clutch, transmission gearset, differential, gear shift, control members and radiator. Contrary to conventional design,

there is no power mechanism back of the hood, which allows of the frame, particularly on the roadster, being dropped very close to the ground, as will be seen by the accompanying illustration of the stripped chassis. In this way extremely low centre of gravity is obtained, though the road clearance is 14 inches.

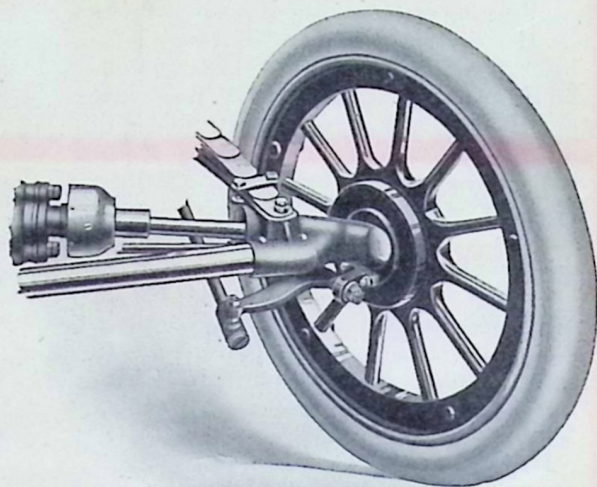
Generally considered, the chassis details do not exhibit very great departures from conventional practice of construction, though their arrangement and location are unique. Though unusual, the principles have, according to the maker, been indorsed by leading motor vehicle engineers.

In the words of the manufacturer of the Frontmobile "the front drive principle is correct and logical. One of the chief advantages is its freedom from skidding and overturning, due to the front drive principle, which pulls instead of pushes the car."

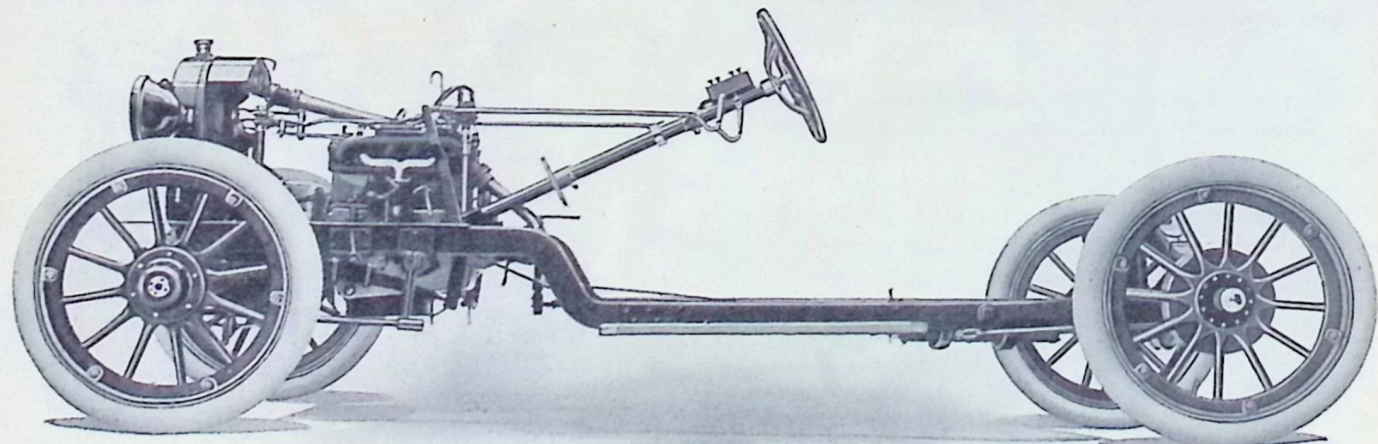
Entering into details it is pointed out that the road clearance is greater than ordinary; that there is greater tractive effort—pulling out of deep ruts without danger of stalling engine or losing control of car; that sharp



FRONT OF ENGINE WITH CUT-AWAY VIEW OF GEAR BOX AND DIFFERENTIAL



FRONT WHEEL ASSEMBLY, SHOWING DRIVE SHAFT CONNECTION AND OTHER DETAILS

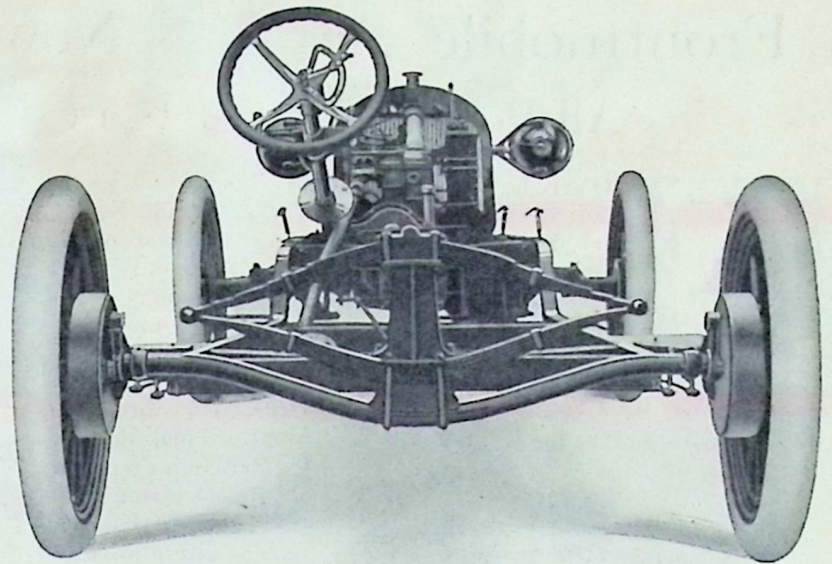


BACK OF POWER PLANT. FRAME IS DROPPED NINE INCHES, WHICH LOWERS CENTRE OF GRAVITY

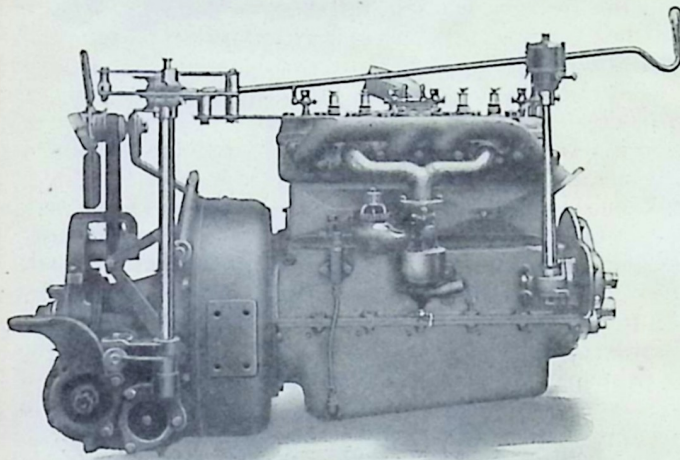
corners may be turned without perceptible loss of speed, due to the fact that driving is done on the same line as the wheels are turned; that driving and steering are all accomplished by the front wheels, making it much safer and easier for the operator to control, as the tendency is for the wheels to keep running in a straight path.

As compared with the conventional gasoline power plant, the Le Roi unit used has the components reversed; that is, the clutch, gear box, transmission, differential and drive shafts are in front of the engine. In the bell housing is a multiple dry disc clutch, the shaft of which carries a worm that meshes with a worm wheel floating on the differential housing. All transmission gears and the differential are carried in a conventional gear box, which is mounted transversely across the front of the car. The transmission gears run at axle speed, instead of engine speed, which reduces to a minimum the clashing when shifting gears.

Each drive shaft incorporates two universal joints, one being carried where the



REAR OF ROADSTER CHASSIS, SHOWING NEAT AND SIMPLE SPRING MOUNTING AND CLEAR REAR AXLE



CARBURETOR SIDE OF THE LE ROI FOUR-CYLINDER POWER PLANT USED IN FRONTMOBILE

is a simple design and with spring hangers, brake and dust flanges weighs only about 30 pounds. All four wheels are cambered.

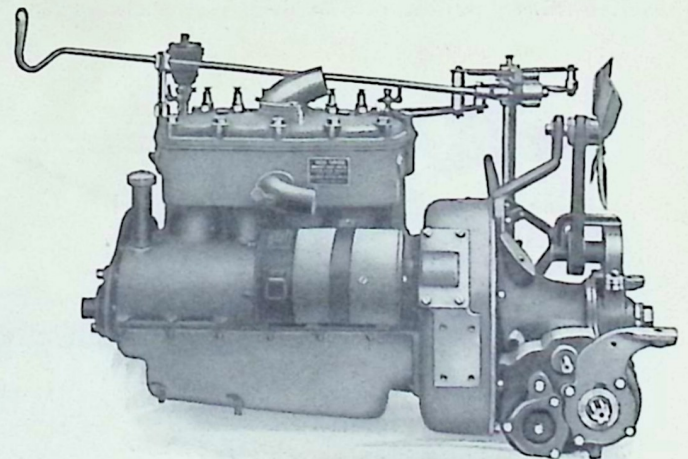
The spring assembly is an interesting feature. They are full cantilever type all around on the touring car model and all parts are under tension instead of compression, which is designed to eliminate buckling or jerky effects. On the roadster full cantilevers are used on the front only.

The engine is a four-cylinder Le Roi model C, 3½ by 4¼ inches, high speed, L head block type, developing 26 horse-power at 2250 revolutions per minute. The action of the valves follows conventional practice, with mushroom push rods and rather large diameters. The lift is moderate and adjustment is provided for clearance. The timing gears used are helical type.

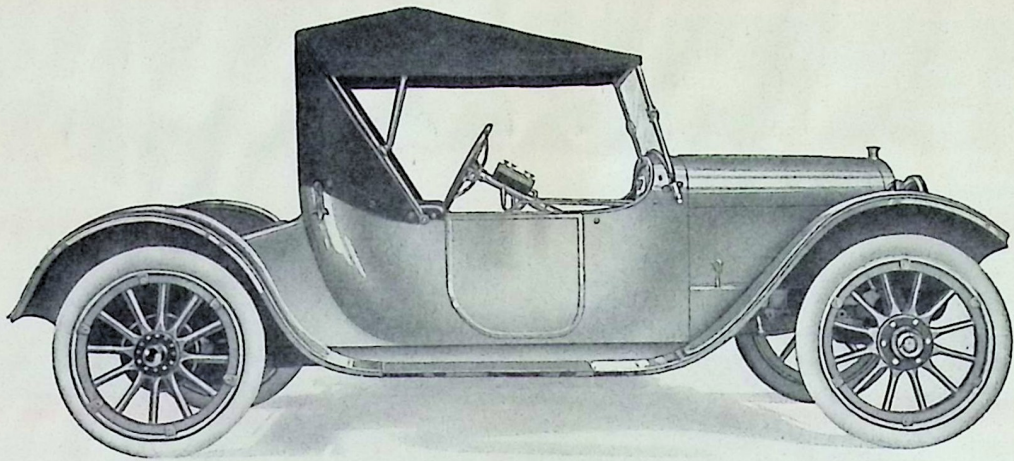
shaft comes from the gear box and another where it is connected directly to the centre of the front wheel by a knuckle pivot. In this manner a full universal action is provided for the driving member, permitting free steering. The front axle is of the full floating type, all the weight being carried on a dead axle and the power being transmitted by means of a live member.

The control lever, which is hand-operated, as will be seen in the illustrations of the unit power plant, is connected to a rocker shaft located in front of the transmission and passing through the instrument board to the right hand side of the steering column, which arrangement leaves the floor of the driver's compartment free of pedals.

The rear axle is a full floating type and is cambered, the wheels being mounted on ball bearings. It



RIGHT HAND SIDE OF THE POWER PLANT, SUGGESTING COMPACTNESS OF THE UNIT



THREE-PASSENGER FRONTMOBILE ROADSTER, WHICH IS DRIVEN THROUGH FRONT WHEELS

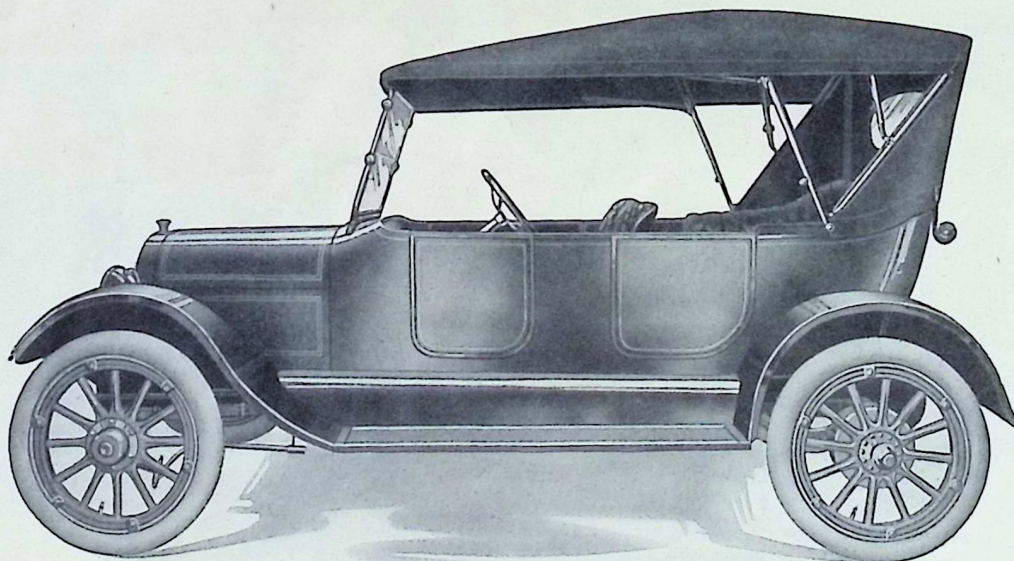
Cooling is by the thermo-syphon system, and there are no less than 14 openings between the cylinders and cylinder heads through which the water circulates, the head being made detachable. Lubrication is accomplished by the combination pump and splash system. A sight feed is located on the dash.

The carburetor is a Schebler automatic model R with hot air drum and dash control assembled, with gasoline feed of the gravity type. Battery ignition with a Connecticut distributor and coil is used, while the starting and lighting equipment consists of an Allis-Chalmers motor generator driven by chain.

The transmission has been described in some detail in the foregoing, except to state that it is a selective three-speed forward and reverse type, and that due to the floating feature of the worm gear thorough oiling of the transmission is assured before load can be applied. This construction also makes for easy running when coasting with gears in neutral position. The transmission is very accessible, it being possible to take apart all working parts and reassemble them in less than an hour's time. Likewise, the wheels and shafts are very easily removed.

Two sets of brakes, service and emergency, operate on 12-inch drums on the rear wheels, and are actuated by a horizontal hand lever located on the left hand side of the steering column. The wheels are wood artillery type and carry 32 by 3½-inch Goodyear oversize, straight side tires on demountable rims. The tread is 56 inches.

The wheelbase of the Frontmobile models is 112 inches, and the complete line now offered consists of a five-passenger touring car with streamline body and individual adjustable front seats, a three-passenger low-down roadster and a 1000-pound light delivery wagon. The touring car and roadster are priced at \$1000 and the delivery wagon at \$900. The standard equipment included in the prices of the pleasure cars consists of one-man top and cover and side curtains, slanting windshield, electric horn, and tool kit, including pump and jack.



FIVE-PASSENGER FRONTMOBILE TOURING CAR — EXTRA TIRES ARE CARRIED UNDERNEATH REAR ON ALL MODELS