

Twelve months ago there were about 10 motor 'buses in the whole of London, the pioneer line selecting Edgeware road as its route. At that time the vehicles were about half the size of the present ones, they had no outside seats, and five minutes inside were sufficient to suffocate the passenger with petrol fumes. But one never spent five minutes inside, for the sufficient reason that after about two minutes the rattle-trap broke down, and somebody had to spend half an hour underneath fixing it up again. Also, the ancient motor snail could only go a limited distance, because it couldn't negotiate the hills. At the present moment there are thousands of motor 'buses in London, and they take the hills at a handspring, nor do they stink nor break down. And the monopolistic General Omnibus Company, which grinned contemptuously at the petrol car at first, finds itself outpaced by eight or ten rival concerns, and it is spending the whole of its time placing orders (on the Continent, of course—this

Fig. 4 represents a 16 h.p. 3-cylinder Doctor's Stanhope constructed by the same company. The body of this car is of special aluminium; seating capacity, two; wheel base, 82"; tread, 56½"; drive, bevel gear shaft or double chain, direct on high speed; tyres, 28 x 3"; weight, approximately 1,400 pounds, empty; colour, maroon, dark green or black; top, Stanhope, best buffed leather; upholstery, finest quality of leather or broadcloth, with pockets in the sides of seats and large easy springs at the back; equipment, two oil side and one tail light, horn and tube, tyre pump, two extra spark plugs, extra valve, and Champion repair kit of tools in canvas case.

Fig. 6 depicts a 30 h.p. 4-cylinder Peerless touring car, the following description of which has reached us from the Peerless Motor Car Co., Cleveland, Ohio, U.S.A. —

Motor.—Vertical four cylinders, water cooled.

is new; it does not have to be worn in service before developing its best power and efficiency. Even the head of the combustion chamber is finished so that no fin or projecting point can become unduly heated or collect carbon deposits which cause premature ignition and consequent injury of the motor. This also gives us the same number of cubic inches in each cylinder.

Balance.—The piston and rings, connecting rods and wrist pins are all carefully machined, not only to ensure a perfect fit, but so that they will weigh exactly alike. Therefore, the motor is evenly balanced and runs almost without vibration and with a minimum of wear.

Lubrication.—Lubrication of the pistons is effected through tubes running to cylinders from the forced feed lubricator.

Accessibility.—As an example of the accessibility of the motor, the lower half of the crank case is divided into two parts. The lower section is so designed as to be readily removable

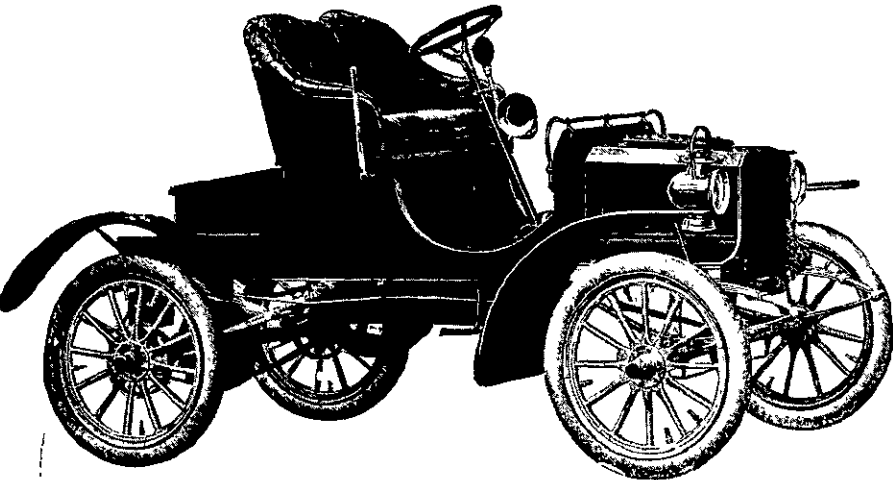


FIG. 3: 8-H.P. REO CAR RECENTLY DELIVERED TO DR. DOUGLASS, NELSON.

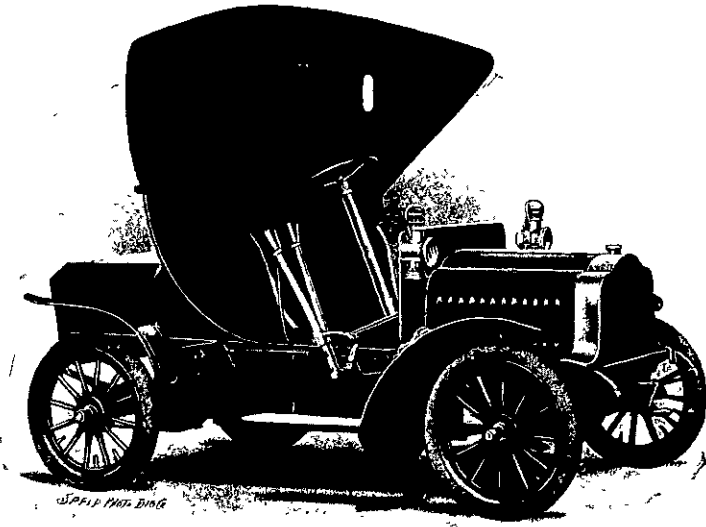


FIG. 4: 3-CYLINDER 16-H.P. COMPOUND DOCTOR'S STANHOPE.

is "Freefood" England) for motor 'buses, and finding new routes for old horse vehicles that took two hours or thereabouts to do six miles. Likewise, it is revising its scales of charges in a tremendous hurry, for you get an extra-sized penn'orth when you take a motor 'bus."

Fig. 7 represents a 16 h.p. 3-cylinder compound light touring car constructed by the E.H.V. Co., Middletown, Conn., U.S.A., and from the specifications received by last mail we take the following particulars:—

Seating capacity, five; wheel base, 96½"; tread, 56½"; drive bevel gear shaft or double chain, direct on high speed; tyres, 28 x 3½"; weight, approximately 1,650 pounds, empty; colour, maroon and dark red; upholstery, best of leather, genuine hair filling, double woven springs in cushion; equipment, two oil side and one tail light, horn and tube, tyre pump, two extra spark plugs, extra valve and Champion repair kit of tools in canvas case.

Cylinders cast in pairs, valves on side, interchangeable and mechanically operated. Crank shaft, connecting rods and bearings readily accessible. All gears housed and oiled by splash. The Peerless 1906 motor, like all other Peerless motors, is so built as to give the greatest possible power and speed. At the same time the greatest care has been taken to make the 1906 engine so simple in construction and so readily accessible that it is easy to keep in perfect condition, even in the hands of the layman who knows very little about gasoline engines. The cylinders are cast in pairs for compactness and rigidity.

Valves.—The intake and exhaust valves are located in offset ports on either side of the engine, and are mechanically operated by half-time shafts. Intake, exhaust valves and springs are all interchangeable.

Compression.—The cylinders are of a special material, carefully bored out, reamed, then lapped or polished, so that the inside surfaces are smooth and perfect when cars are shipped out. The advantage is good compression, even when the motor

without taking the motor from the frame or removing the dust pan or any part of the car. By simply removing a number of bolts this lower part of the crank case can be dropped, exposing the crank shaft, connecting rods and bearings for inspection and repairs. In this lower section a long groove or pocket projects below the bottom of the crank case and is tapped out at each end to receive a plug. These plugs can be removed in a minute's time, and with them all foreign matter and dirty oil. The crank case can then be flushed and refilled, and the owner satisfied that his crank case has clean oil and that his lubrication is properly taken care of.

Crank Shaft.—The crank shaft is of solid drop forging, specially hardened and ground to exact size. The bearings, three in number, are unusually large and are of a special white bronze metal, which affords the very best wearing qualities.

Gear Housing.—Every gear of the motor is housed in an oil-tight compartment of the crank case and runs in oil. Even the water-pump gear is housed, and likewise the governor which is carried in the half-time gear wheel, and only its working arm protrudes through the case. This ensures an almost noiseless motor, and one where wear of working parts is reduced to the lowest possible factor. Oiling of the crank-shaft bearings and wrist pins, cam shaft and cams, is by splash from the dip of the connecting rods into the oil in the crank case.

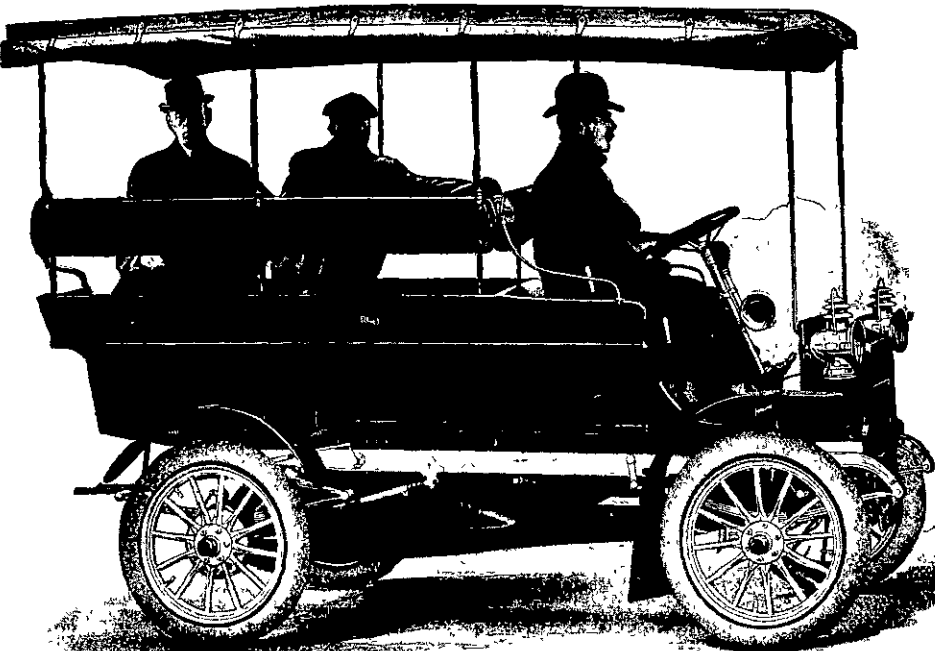


FIG. 5: REO 16-H.P. 10-PASSENGER 'BUS.

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