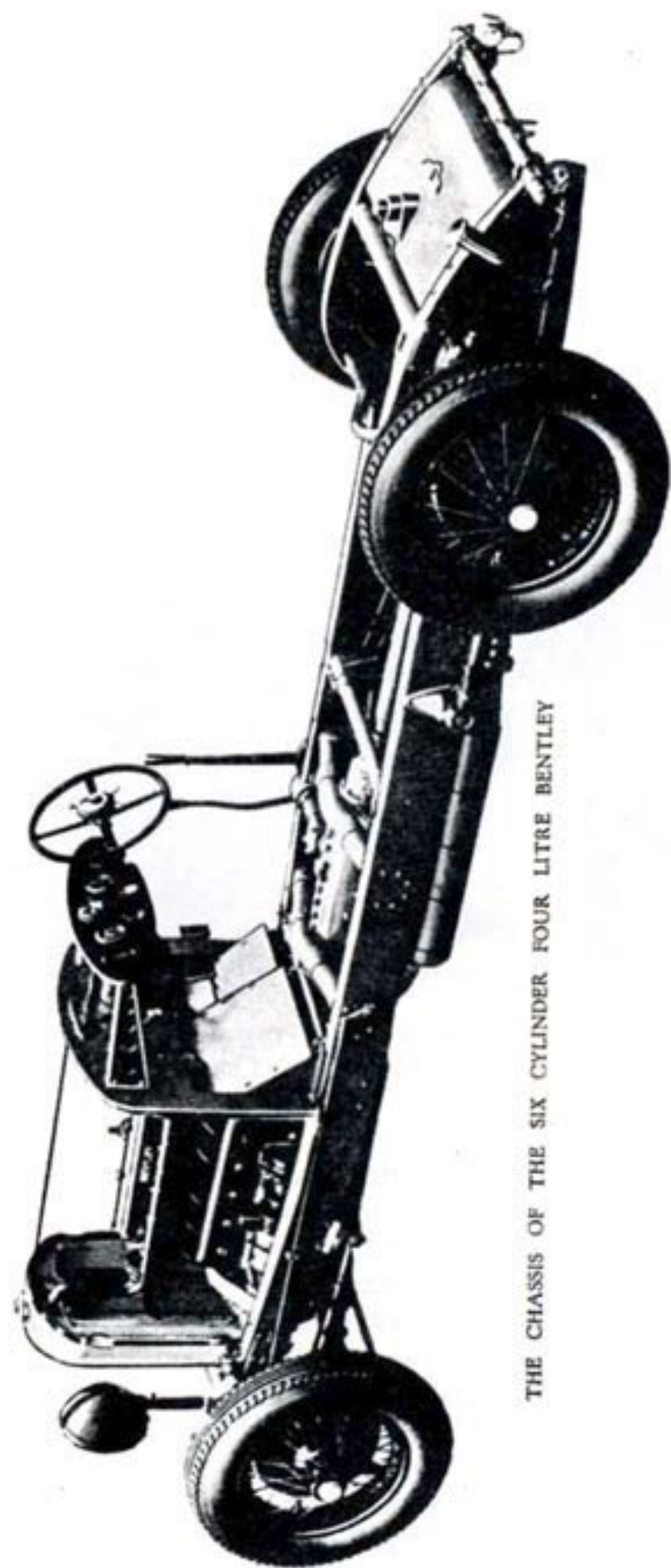
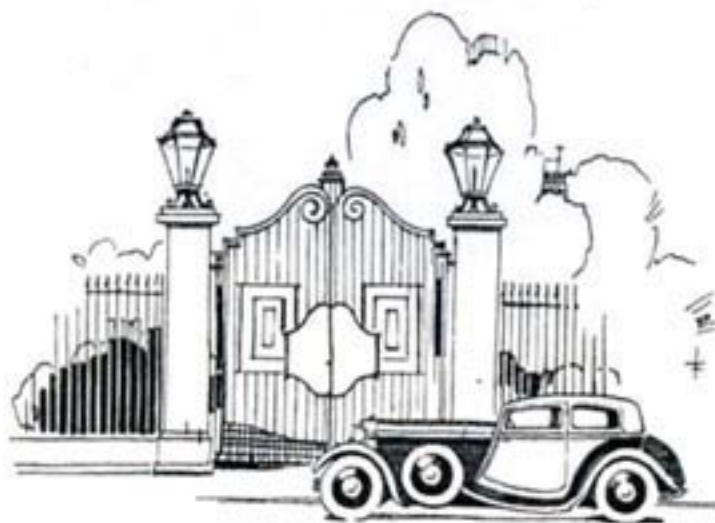


THE MEDIUM SIZE
SIX CYLINDER
CAR OF CLASSIC
QUALITY WITH
ECONOMY & BENTLEY
PERFORMANCE
DESIGNED FOR THOSE
WHO DESIRE DIS-
TINCTION & SUITABLE
FOR ALL TYPES OF
COACHWORK



THE CHASSIS OF THE SIX CYLINDER FOUR LITRE BENTLEY

BENTLEY MOTORS LIMITED

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POLLEN HOUSE · CORK STREET · LONDON · W. 1

Telephones : Regent 6911 (3 lines)

THE DESIGN OF THE SIX CYLINDER FOUR LITRE BENTLEY

SILENT, FLEXIBLE, AND SMOOTH, ATTAINING A PERFORMANCE NOT HITHERTO GIVEN WITH THESE FEATURES. ONE SHOT LUBRICATION. TAX £27.



THE FRAME. In the Four-Litre model, as in the Eight-Litre, the frame is of an unusual type. Enormous strength is furnished by the very deep section of the side members and by the big diameter cross tubes which brace them together and resist any tendency for the chassis frame to twist when one road wheel passes over a road inequality which escapes that at the other end of the same axle. A frame of such inherent geometrical sturdiness is the best possible insurance that the body will at

all times be relieved of stress, and will thus have the longest life possible. It will be seen that the side members are down-swept between the axles. The main object of this is to secure a low centre of gravity in the interest of road stability, without reducing the headroom of the body. This is a factor of safety the importance of which it is impossible to over-estimate.

A secondary, though none the less valuable object, is that a frame of this kind lends itself—as only such a frame can—to the mounting of commodious body-work having the character of an exceptionally suave and attractive line.

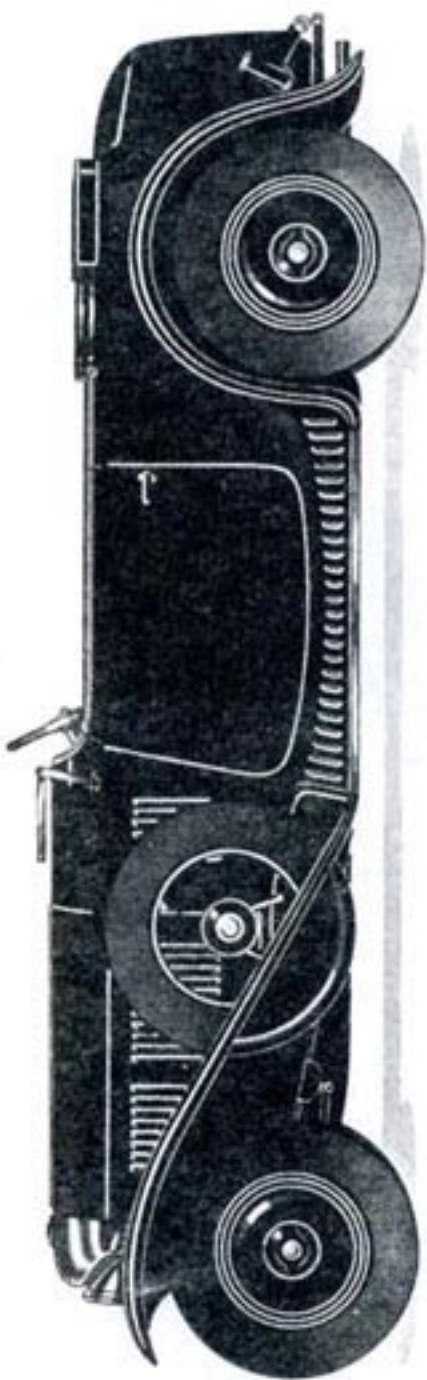
It is largely in consequence of this frame construction—though, as will be shown, other factors contribute to the same end—that the Four-Litre Bentley is so extraordinarily comfortable and so stable under all kinds of road conditions. It also permits the car to be driven hard over rough surfaces without the liability of undesirable stresses being set up either in the mechanism or the body.

THE ENGINE. The Four-Litre Engine is a six-cylinder monobloc having many features of commanding interest. Its bore and stroke are 85 m/m and 115 m/m giving a cubic capacity just under 4 litres. The R.A.C. rating is 26.8 h.p. It develops approximately 120 h.p. at 4,000 revolutions.

The most careful experimentation over a period of years, during which a large number of valve arrangements have been constructed and tried under full-scale



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conditions has proved that, with a cylinder of the size in question, the design adopted gives the best results. It is exceptionally quiet in action, whilst its efficiency is amply proved by the yield of 30 b.h.p. per litre.

Owing to the employment of a seven bearing crankshaft of a diameter but little short of the bore of the cylinder, and of exceeding stiffness, the engine is totally free from vibration at all speeds. Special attention has been devoted to the reduction in weight of the reciprocating parts. The connecting rods are of steel, machined all over, and accurately balanced against one another. The pistons are of special aluminium alloy, and are proof against slap. They bring oil consumption down to a strikingly low figure.

To a considerable extent the unusual efficiency of the Four-Litre Bentley engine is attributable to the form of combustion chamber adopted. This has been designed in conjunction with Mr. H. R. Ricardo under his patents and has been the subject of lengthy and searching test. It gives "liveliness" without "sensitiveness." That is to say, whilst the power output is very high, there is no tendency to "pinking" so that ordinary fuels can safely be used.

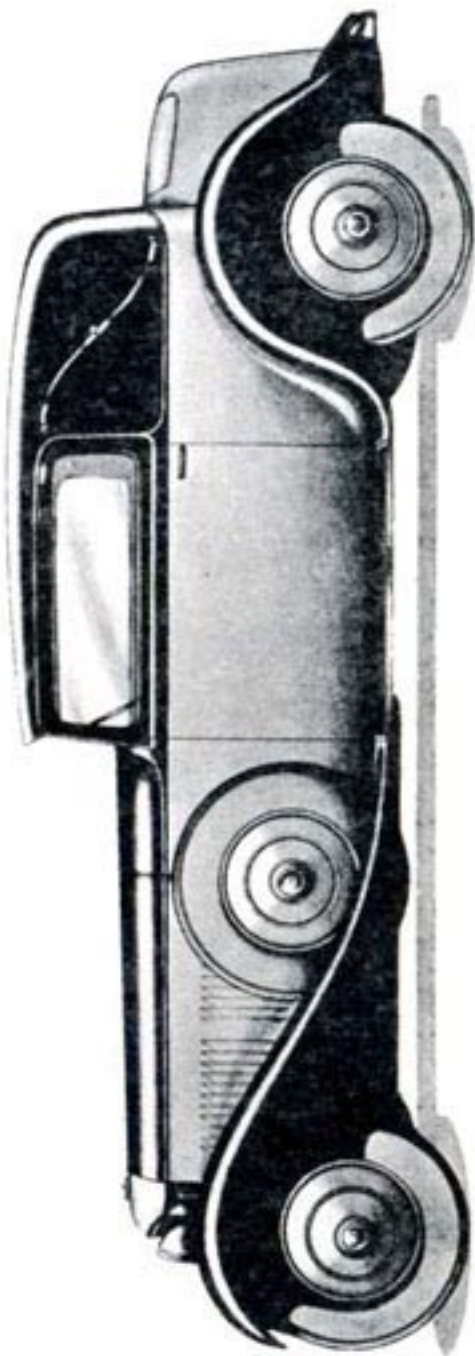
For purposes of decarbonisation the cylinder head as a whole is readily removable. It will, however, be found that this is an operation necessary at only lengthy intervals.

IGNITION. Just as the best disposition of the valves has been ascertained by lengthy research, so the same method of obtaining the very best results has been applied to the ignition. Single sparking plugs are employed in conjunction with the coil system of which the contact breaker and distributor head are mounted in an exceedingly accessible situation for purposes of occasional inspection.

Dual coils are provided, and in the unlikely event of one coil failing a spare is immediately available, it being necessary only to change over the leads.

An exceptionally wide range is given to the ignition timing by means of automatic and hand control. This is a great advantage, as it not only makes the maximum of top gear controllability, but also lowers the "idling" speed of the engine, as well as facilitating starting-up.

CARBURATION. Twin S.U. carburetters are fitted, coupled up in such a manner as to work at all times in absolute unison. This applies to both throttle opening and to the mechanism whereby the mixture is enriched for easy starting.



A notable feature of the Bentley induction system is that, in the ordinary sense of the term, there is no inlet manifold whatever. The twin carburettors connect with a long chamber, removal of the cover of which discloses all the inlet valves. This method of distribution has been proved to give optimum results in all desirable respects, particularly those of even running at all speeds, instant acceleration, and the attainment of maximum power with reasonable fuel economy.

ENGINE LUBRICATION. A straight-forward and complete high pressure system is adopted, exactly similar to that which has been used in previous Bentley models and the efficiency of which has been so well proved under the most strenuous racing conditions.

Oil replenishment is readily and cleanly carried out, thanks to the fact that the drain cock is controlled by a lever, mounted upon the upper side of the crankcase and immediately accessible upon opening the bonnet.

COOLING. As in the Eight-Litre model the radiator is furnished with vertical shutters worked by an automatic thermostat. This is set so as to maintain the water at the most efficient temperature. There is no risk of boiling even under the most trying conditions. The shutters close at about 75°C. and the engine, therefore, when left standing keeps warm for a considerable time.

MOUNTING. A striking feature in the design of the Four-Litre Bentley engine is the manner in which it is carried in the frame. On either side of the crankcase is a large diameter steel tube, passing through holes in the arms of the casting, and terminating at each end in an attachment containing a rubber buffer. This scheme relieves the engine of all chassis strain, whilst it is also an additional preventive of vibration from the power plant due to torque reaction, when picking up the load.

GEAR BOX. This is of an entirely new and original design and is similar to that used in the Eight-Litre chassis. It is mounted upon rubber insulating supports. Thanks to its especially rigid construction, the employment of a new form of tooth profile, and to the exceptionally large number of bearings, the lower ratios are extremely quiet in action. Third gear is practically as noiseless as the direct drive and is ideal when unusually quick acceleration is required.

