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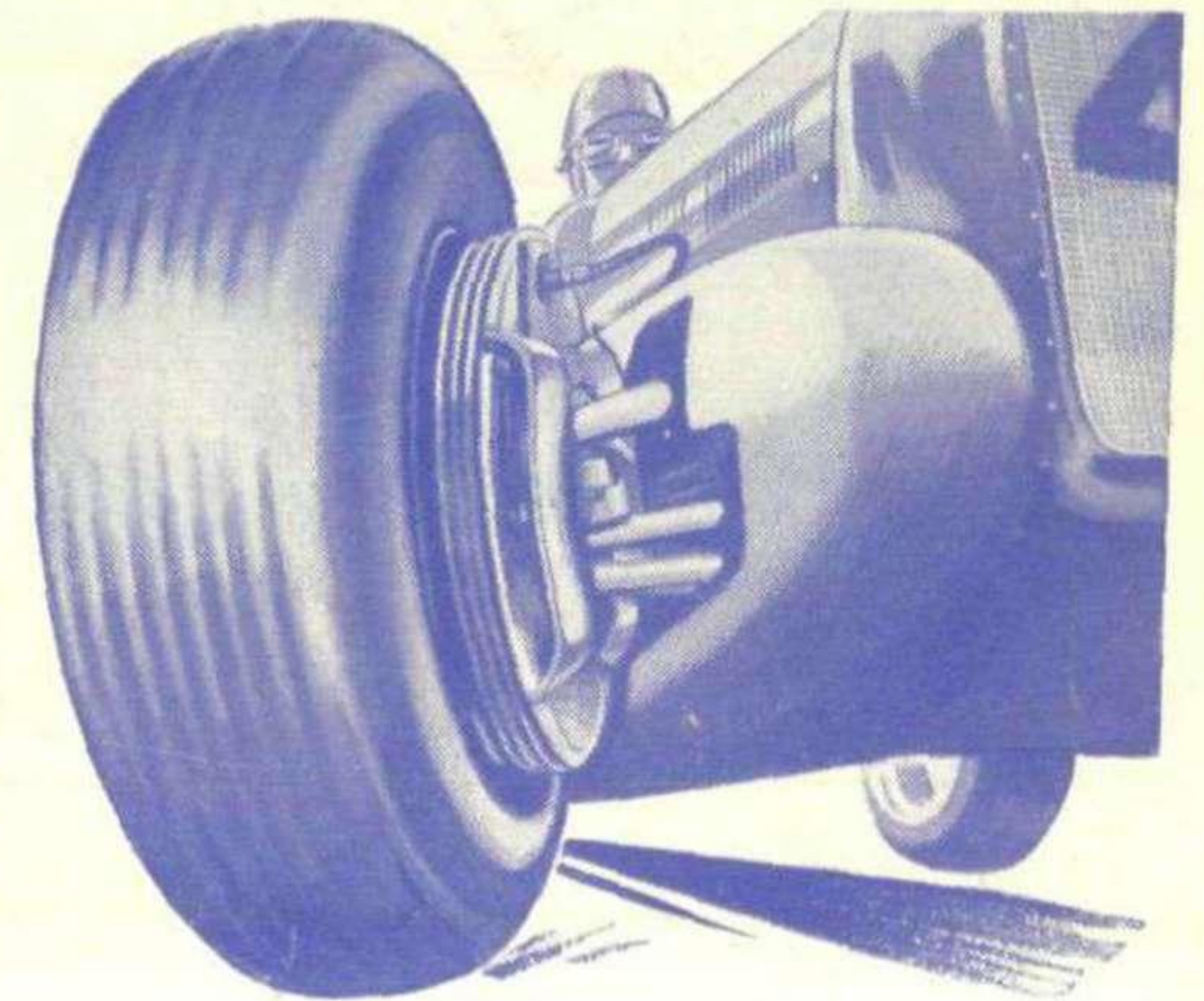


[Photo by F. J. Brymer

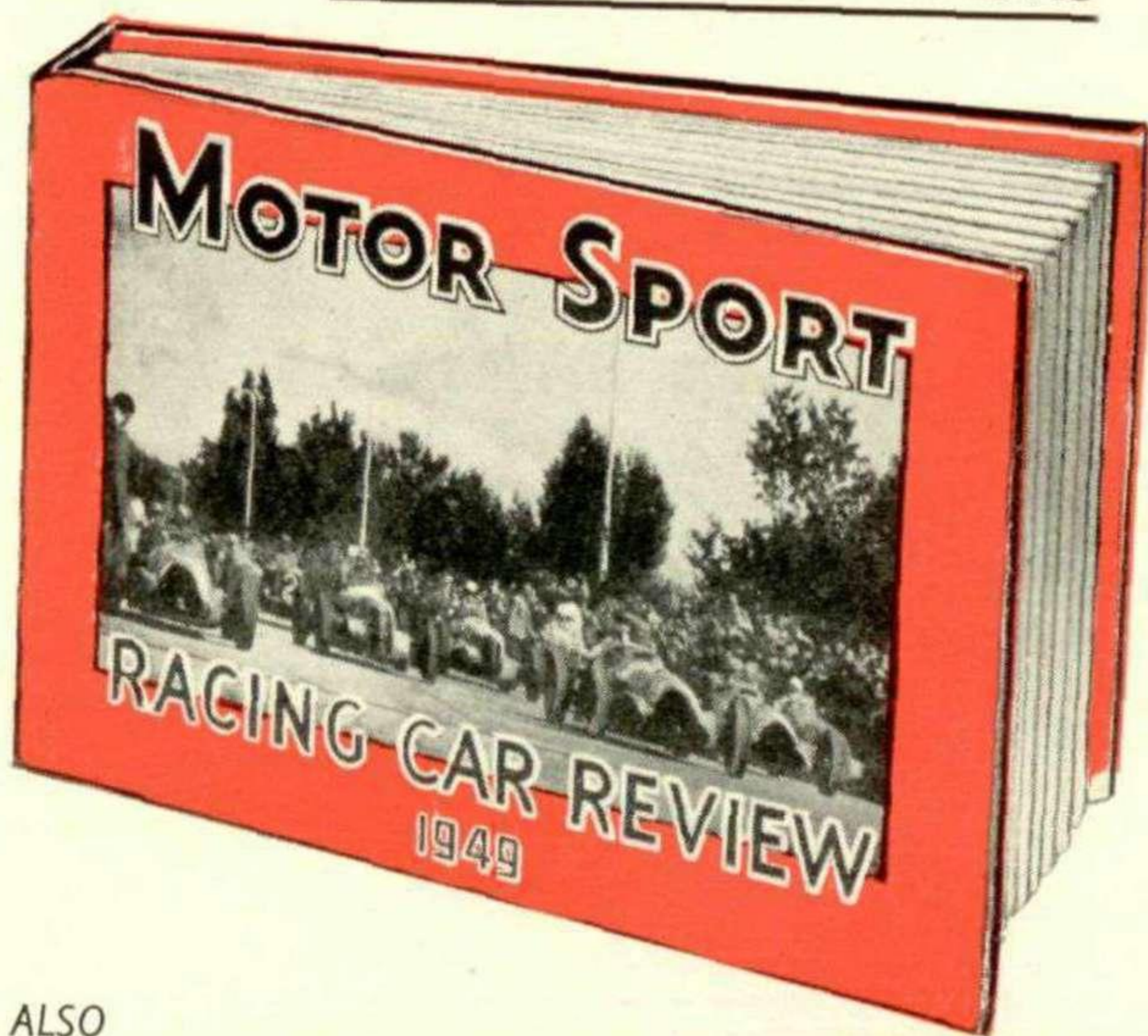
FINGLE BRIDGE.—C. D. F. Buckler's Ford-engined Buckler climbing this mile-long 1-in-5 hill with its ten hairpins, in the first M.C.C. "Exeter" Trial held since the war. The Editor of "Motor Sport" receives his share of the mud and the elements whilst occupying the passenger's seat—Story on page 35.

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—MOTOR WORLD, December 17th, 1948.

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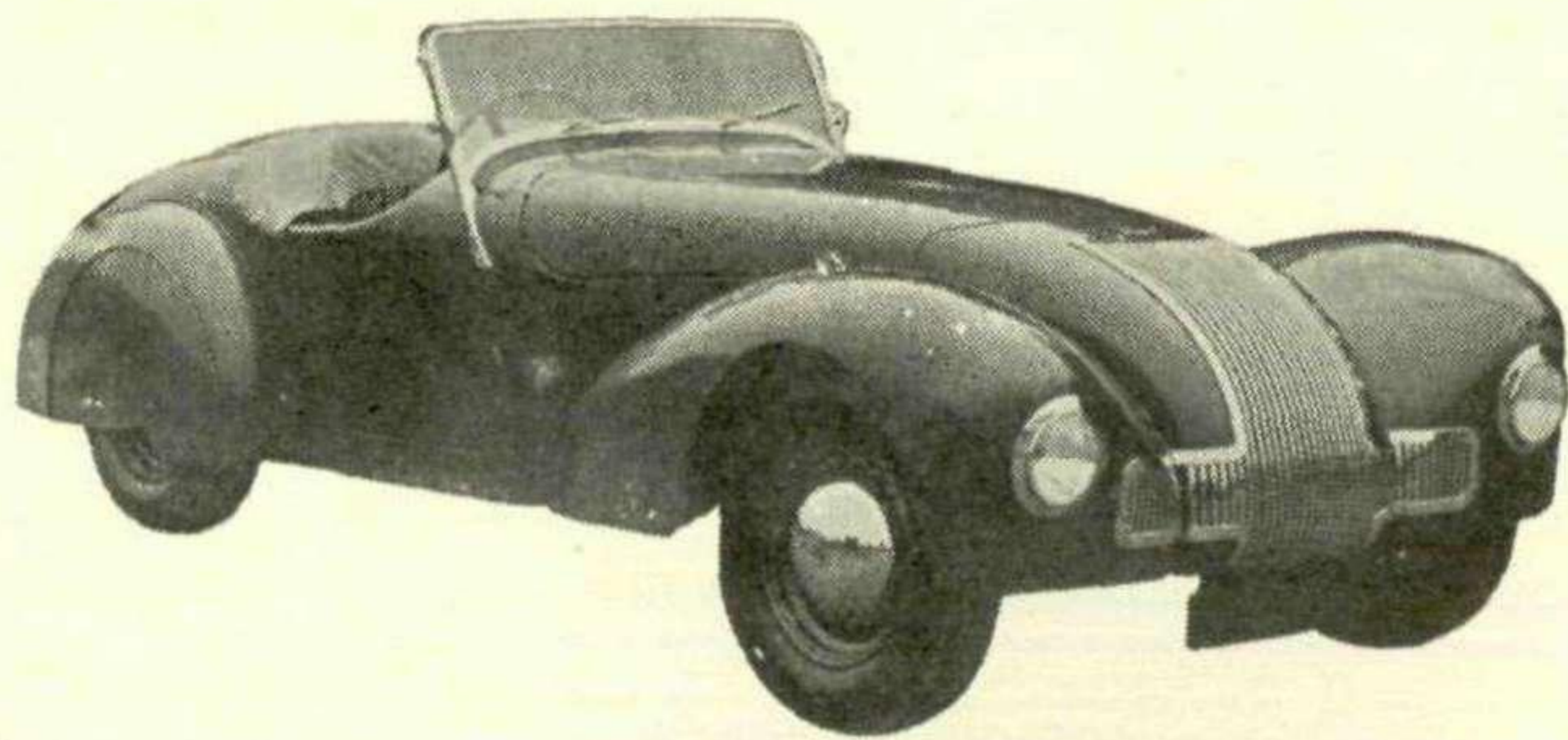
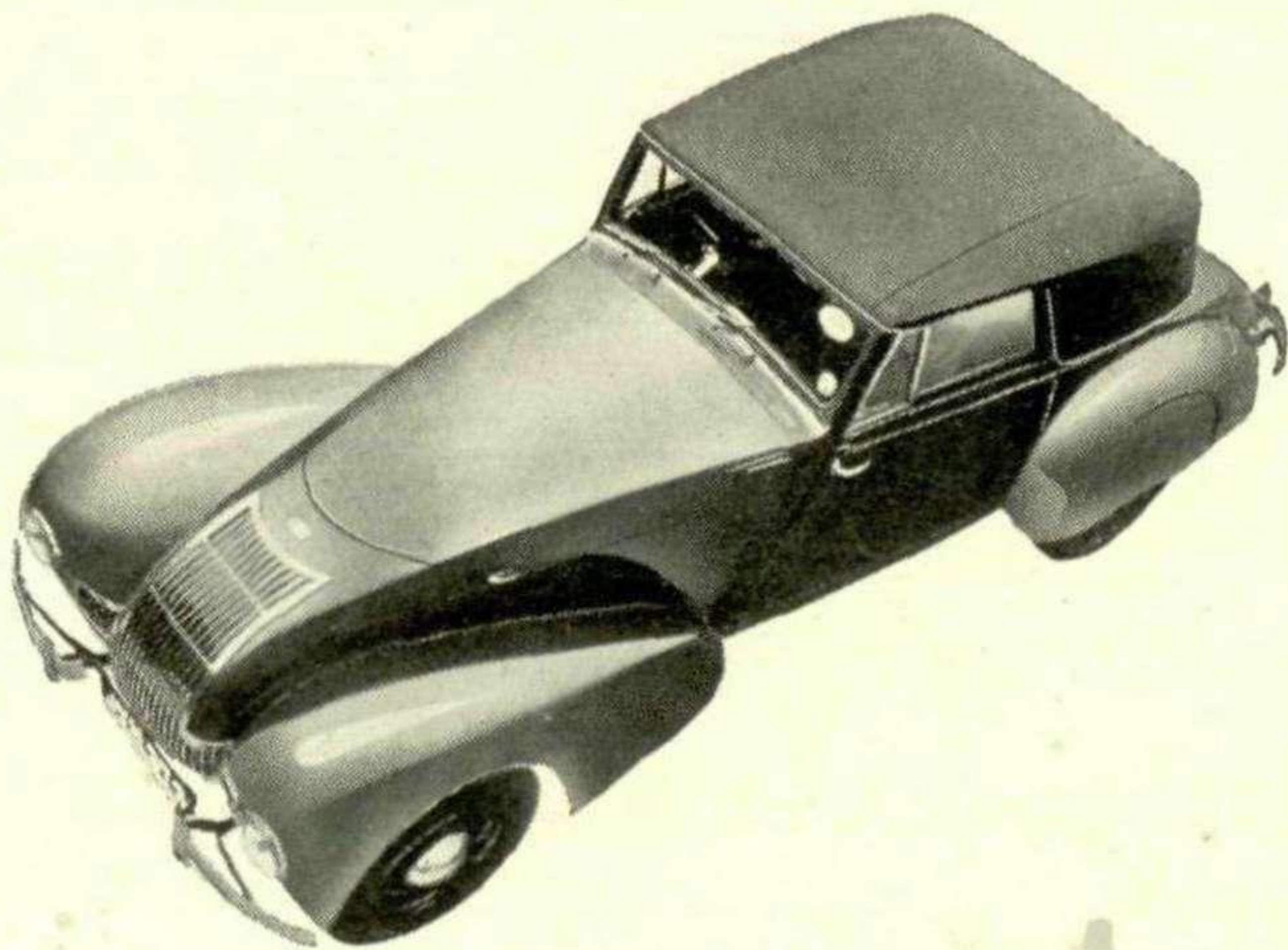
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MATTERS OF THE MOMENT

THE LATE SIR MALCOLM CAMPBELL

The news that Sir Malcolm Campbell passed away in his sleep on December 31st at the age of 63 comes as a great shock, not only to the motoring world but to the entire sporting fraternity. His health and sight had been failing of recent years, but Sir Malcolm made valiant attempts to stave off the depression that had begun to assail him and, indeed, he hoped to attempt to raise his own water speed record with a jet-propelled boat when he was taken from us.

Malcolm Campbell was interested in speed from his school-days and before the 1914-18 war was a regular competitor at Brooklands, at first with motor-cycles, then with his "Bluebird" Gregoire, Sunbeam, Charron and Darracq cars. In one of the latter he had a remarkable escape when both wheels on one side of the car collapsed as it was running up the Finishing straight at full speed. After the war, in which he served with the infantry and then in the R.F.C., Campbell resumed his Brooklands work with an astonishing variety of cars—Lorraine-Dietrich, Talbot, Peugeot, Austro-Daimler, Ballot, Itala, Sunbeam, Star, Ansaldo, La Pearl, Chrysler, Bugatti, Mercedes-Benz and Delage. Campbell moved to a house near Brooklands and took the premises at the track now occupied by the Brooklands Engineering Co., Ltd. His successes were many. In the first year of Mountain racing he set the lap record for the new course, with his 1½-litre straight-eight Grand Prix Delage, and in 1934, in the rebuilt 4-litre V12 Sunbeam, to-day at Monaco, Ltd., he set a Class C Mountain lap record of 76.31 m.p.h., which was never beaten.

It was in the field of record-breaking Campbell really left his mark. He broke the absolute car speed record no fewer than nine times, commencing in 1924 with the V12 350-h.p. Sunbeam to-day owned by Harold Pratley, at 146.16 m.p.h., and making his last record in 1935, at 301.13 m.p.h., in his huge Rolls-Royce-Campbell, being the first man to exceed 300 m.p.h. in a car. His run at Daytona at 276.82 m.p.h. in 1935 is the highest speed ever achieved over a sand course. Not long before this, in 1931, Campbell received a knighthood for his work for Britain in the land speed record sphere, his speed that year being 246.09 m.p.h. in the Napier-Campbell.

Sir Malcolm Campbell was just as successful, just as painstaking over the motor-boat speed record, which he raised to 124.86 m.p.h. in 1937, to 130.86 m.p.h. in 1938, and which he leaves at the magnificent figure of 141.7 m.p.h., a speed attained in 1939.

Campbell even contrived to do dispatch work on a motor-cycle during the last war and gave a very detailed lecture to the N.L.E.C.C. only last winter. He appeared to have many years before him, but possibly his easy withdrawal from a world he must have found increasingly oppressive, was a merciful stroke of fate. Looking back it is hard to recall all this purposeful little man did for his country—he searched for treasure, flew vast distances in light aeroplanes, and broke the land and water speed records with equal facility. He was responsible for the Brooklands road circuit and, less to his credit, the sale of Brooklands. That the world is poorer by far for the loss of such individuals as Sir Malcolm Campbell is undeniable.

A CASE FOR MOTOR RACING.

The year 1949 looks like being the best since the war from the viewpoint of the sporting motorist. At last we can look forward to a full season with two circuits available in this country and permission for the smaller clubs to hold meetings at one of these new venues.

There is no gainsaying the growing public interest in all forms of motor sport. Since the war, at Elstree, at Luton Hoo, at Prescott, at Goodwood and, finally, at Silverstone, as at many other places, crowds greater than any seen pre-war spectated enthusiastically.

At last year's Earls Court Motor Show a record number of persons paid for admission and, if there was a feeling that some amongst them were members of the new sight-seeing class, delighted to have another excuse for spending its money, the increased attendance compared to that at any pre-war Exhibition cannot have been accounted for by these folk alone.

It was, indeed, evident that the British public wants to motor. On all sides at Earls Court the query was "How much?" or "When can we get delivery?" With a General Election imminent, politicians of all parties should reflect on the votes-value of more and cheaper cars, more petrol and fewer motoring restrictions.

However, we are less concerned with the joys that humble personal transportation brings than with the well-being of those who seek to motor competitively—and who by so doing frequently enhance materially the prestige of their country.

Already we can count a few official blessings. The Government, through the R.A.C., saw fit to provide the petrol coupons which British entrants in the Monte Carlo Rally required, and the Board of Trade has agreed to withdraw Purchase Tax from racing cars if and when a water-tight definition of the pure racing car can be thought up. 1949 has started well! Let us hope for further blessings from our politicians.

Listening-in on Boxing Day to the first of the Reith lectures broadcast in the Home Service by the B.B.C., we were profoundly impressed with the sound case Bertrand Russell, speaking on "Social Cohesion and Human Nature," made out for motor racing. He did not actually refer to motor racing, but he did state that human survival depends on combining individual initiative with social cohesion and that the elimination of all danger does not make for human happiness. Man subconsciously seeks a substitute for blood revenge practised in primitive times and suffers from the lack of adventure, danger and contest compatible with civilised existence. Repressions, said Bertrand Russell, are not easily dispelled unless the individual can enjoy an element of danger and an innocent outlet for his competitive instincts. We humbly suggest that, had the learned speaker deliberately set out to do so, he could hardly have made out a better case for motor racing!

1948 showed us that, apart from the fortunates who participated, 100,000 men and women derived excitement and stimulation from spectating at a single British motor race. Surely if the people of this country were able to follow the fortunes of a worthy National Grand Prix team across Europe and witness it in action at their home tracks they would gain

a share in the adventure, the individualism, even in the element of danger that is the very essence of motor racing. Which could not fail to do good to the whole nation, both by way of increased engineering prestige and, based on Bertrand Russell's beliefs, by the enhanced psychological well-being of its citizens.

The Trade has been generous to the B.R.M. project. But a successful team of Grand Prix racing cars can absorb money at the rate of about a quarter of a million pounds per annum. If the Government, intent on a revolutionary building-up of the entire country, can afford to lose several millions a year in respect of civil aviation, it should be able to afford, very easily, the far more modest outlay which would enable it to invest in a team of British racing cars likely to enhance our prestige the world over. If this investment were made, and if, at the same time, legislation adversely affecting the ordinary car owner were to be toned down, 1949 would long be remembered as the year in which the Government's apparently unsympathetic attitude towards motoring was, to some extent, modified.

THE BRITISH AUTOMOBILE RACING CLUB.

It has been known that since before the war the Council of the Junior Car Club has felt uncomfortable about the "Junior" aspect of its club's title. Accordingly, at the annual general meeting on January 27th, it recommended a change of name to that of "British Automobile Racing Club." We closed for press as this meeting was taking place, but we shall be surprised if the new title is not adopted. And, in some ways, we shall be sorry, because the initials J.C.C. cover so much that is traditional.

Founded in 1912 as the Cyclecar Club, the first change of title came soon after the Kaiser war, when that of Junior Car Club was adopted so that membership should embrace not only cyclecars but more ambitious examples of the New Motoring, as the economy-car movement was known at that time. It was stipulated that membership be confined to owners of cars the engine capacity of which did not exceed 1,500 c.c., and it was not until 1929 that this requirement was over-ruled.

Already the Junior Car Club had organised the highly successful series of 200-Mile Races at Brooklands, which have since become the subject of a full-length book by the Editor of MOTOR SPORT. In 1929, under the able guidance of Secretary "Bunny" Dyer, this always enterprising and efficient club organised the ambitious Double Twelve-Hour Race, also at Brooklands, this being replaced in 1932 by the 1,000-Mile Race, and the following year by the highly ingenious International Trophy Race. When Dyer resigned, John Morgan, the present Secretary, carried on just as enthusiastically, and he was responsible for reviving the 200-Mile Race at Donington in 1936 and for those excellent Jersey road races that we were able to enjoy in 1947 and 1948. Certainly the Junior Car Club was "junior" in name only. Yet is that a sufficient reason for changing its name? It is like altering the title of the Junior Carlton Club to "London Carlton Club," or something similar, and just about as disturbing.

However, if the name *must* be altered, "British Automobile Racing Club" seems quite a good title, although one not entirely compatible with the club's social, rally and other non-racing activities. We have heard it suggested that the title will be misleading to foreigners and others not fully conversant with the administrative side of motor sport in this country, inasmuch as "British Automobile Racing Club" suggests the *premier* race-organising body in the British Isles, whereas the club proposes to specialise in short races at Goodwood, which, excellent as they will be and much as enthusiasts are looking forward to them, will not be as important as long-distance races organised by the R.A.C., and probably by the B.R.D.C. at Silverstone. Against that it can be argued that similar inconsistencies existed pre-war—for instance, the great Grands Prix at Donington, which were the only British races to attract the legendary German teams, were organised by a club with the colloquial name of the Derby and District M.C., and other classic long-distance races have been run by the Essex M.C.—and that the Jersey International Road Race held annually by the [late?] Junior Car Club ranks as one of the really important British fixtures.

Certainly the initials "B.A.R.C." carry on the tradition of the Brooklands Automobile Racing Club, which the J.C.C. absorbed, and the goodwill thereof was, we know, not overlooked in putting forward the new title. Indeed, it seems possible that some of the Brooklands' property which the J.C.C. acquired may be useable again, directly on account of the adoption of

identical initials—items, that is, like officials' caps, car badges (if the name "Brooklands" could be deleted), tickets, tankards and so forth, which is something no one should scorn in this age of austerity. This, however, is pure surmise and does not emanate from the Club. Another advantage of the new title is that it is likely to appeal strongly to prospective members to whom the Junior Car Club meant little or nothing. Against that, there are those who, glad as they are to talk and read about Brooklands, regard the B.A.R.C. as a closed chapter, so that the revival of these initials may prove distasteful to them, and even confusing.

On the whole, however, although we are sufficiently old-fashioned to regret that the time has arrived when the well-respected and honoured title "Junior Car Club" is considered to have outlived its purpose, we confess we find it impossible to think of a better new title. And, whatever one's personal opinion, there is no gainsaying the fact that this club will continue to expand in that manner which, by sheer good organisation and keen enthusiasm, caused it to be regarded as junior in name only comparatively early in its career. We believe that most members of the old Junior Car Club will be well pleased with the important new name of British Automobile Racing Club, even though some of them will hope that the emphasis will not be entirely on racing to the detriment of traditional social, rally, evening-trial and day-trial activities.

THE MONTE CARLO RALLY.

This year's Monte Carlo Rally attracted a record entry of 225 cars. It will be a severe test of car efficiency, driving skill and navigation and national prestige will be made or marred as the results come through. British colours will be carried by Vauxhall, Austin, Jowett "Javelin," Lagonda, Jaguar, Hillman, Riley, Allard, Standard "Vanguard," Alvis, A.C., Ford, Triumph, Morris, Sunbeam-Talbot, Bentley, Bristol, Healey and Rover cars. The date of the finish of this great winter competition makes it impossible for us to give results this month. A report will be published next month, and meanwhile let us hope that British cars will continue to uphold the great reputation already established by our products in post-war events.

See also page 38.

RUMBLINGS—continued from page 40

factors which cause the designer to lop off the stroke are the need for the largest possible valves and bearings and a rigid crankcase and crankshaft, to withstand the loadings involved by very high crankshaft speed as distinct from a long stroke, together with the necessity to reduce as far as possible the weight both of moving parts and of the engine as a whole, not to mention a desire for compact dimensions.

One more paragraph before we leave this fascinating topic. We talk of a long-stroke engine if the bore/stroke ratio is extreme. Thus, a 63.5 by 95 mm. engine is definitely "long-stroke," as against a 72.6 by 72.6 mm. engine of identical capacity. The former engine will be credited with all the disadvantages of its type. But if we go outside the capacity limit we must be careful to discriminate between the *apparently* long-stroke engines and those whose stroke is *actually* excessive. For example, an engine of 95 by 95 mm. will be "short-stroke" compared to one of, say, 75 by 152 mm. Between these two engines, all the aforementioned short-stroke advantages are with the first-named. But compare it with our smaller capacity 63.5 by 95 mm. unit and, at a given crankshaft speed, the piston speeds of the two engines are identical. It may be argued that the smaller long-stroke engine will be run faster, but that depends on what output its designer seeks, and the fact remains that, whether or not either or both these engines exceed 2,500 ft. per min. piston speed at peak r.p.m., at any given crankshaft speed they will be stressing their bearings and ovaling their bores to an equal extent, if we discount the detriment of probable greater weight of the larger "short-stroke" engine's reciprocating parts. Unless the related stroke-length is known, the advantages in respect of crankshaft to piston speed cannot be dogmatically asserted, when engines in different capacity divisions are being compared.

The long-stroke engine, it appears, is doomed—unless our designers "do a Bagnall" overnight! The fact remains that 80 by 149-mm. Bentleys and 80 by 180-mm. Hispano-Suizas will continue to charm their owners, who, confronted with convincing arguments in favour of "square" engines, will doubtless imply that they couldn't care less . . .

This Year's M.C.C. Exeter Trial

ROUGEMONT HOTEL, EXETER, 6.30 p.m., January 1st.

WE are just recuperating after coming in from the 25th M.C.C. Exeter Trial—as navigator (flattering term!) to C. D. F. Buckler in his decidedly-spartan Buckler. He had, it is true, fitted a very adequate windscreen, but strip wings, if they save avoirdupois, do not deflect the mud which was such a feature of this year's M.C.C. classic. Continued pre-trial rain and hail-storms and a gale of wind made the event more than usually strenuous in spite of the absence of the traditional night-section.

Entries numbered 32 solo motor-cycles, three motor-cycle combinations, two three-wheelers, and 53 cars. The last-named were intriguing in their diversity. Of the older cars, to which the M.C.C. at least holds out hopes, Goodenough had his re-bodied Horstman, Morrish his Frazer-Nash, Denyer, a travelling marshal, his ageless Meadows Lea-Francis, Abernethy a 1932 Austin "12/6" with full crew, two spare wheels on the lid of its luggage locker, but modern-section tyres on suitable wheels. And Scroggs was there in his famous Trojan, but, be it noted, using a standard engine and two-speed transmission, while, although a 5.00-19 Dunlop graced one rear wheel, its fellow was matched by a tyre of smaller section—the same discrepancy prevailing at the front of the car!

Amongst the more modern entries, Westropp's F.I.A.T. "500" had a Siata o.h.v. head, 500-15 rear tyres, and his ten-year-old son as navigator, Barrow drove a 1,442-c.c. Vauxhall saloon, Crosby his sports supercharged Vauxhall Ten Special, Ben Brown a Ford V8 Special with notably wide rear axle, his charming passenger in her first trial incidentally, while Ginn's early Ford V8 saloon cunningly carried two concrete gate-posts bolted transversely across the rear-end. Imhof's supercharged Allard, its rearward extension abbreviated partly to humour the M.C.C., partly, as he said, from a "desire to live," arrived by rail (this rationing!), and in the garage of the Rougemont Hotel we admired the tractable manoeuvring of one of the Matchless-engined Morgan three-wheelers. E. G. Smith, of twin-gearbox Austin Seven memory, had his A.R.M. Special, the front-end of which owed much to the Raleigh three-wheeler, Lovett's open Rover Twelve had an array of badges on its dumb-iron apron, while Bishop's M.G. Midget had a chain-driven Zoller supercharger and sported a four-branch outside exhaust system.

On the eve of the trial "Jackie" Masters was watching over a flock of competition motorists intent on seeing-in the New Year. In spite of the audible evidence of merriment at midnight, everyone appeared for early breakfast next morning and the previous night's celebrations could not, it seems, be blamed for such non-starters as there were, who numbered Potter's Allard, Dargue's B.M.W., Onslow-Bartlett's Mercury, Hawkins' M.G., Mead's Allard and Inderwick's Batten.

It was not actually raining when we got the Buckler out of the garage, but before the start a sharp hail-shower was experienced, and throughout the day such weather was to prevail. The wind, too, blew at gale force, so that, apart from the eight observed sections, one competitor had to remove a fallen tree from his path, a feat he and his passenger were just able to accomplish, while further on a large tree-root, dislodged from the bank, partially blocked a narrow lane. Considering the weather and these additional hazards, the trial ran very smoothly and did not finish anything like as late as we anticipated.

Hail fell in earnest as we waited our turn to tackle the first hill, Windout. The fast-flowing stream, which had to be forded to reach the start of the section, and beside which two outsize horses with towing equipment waited ominously, caused no concern. Nor did the hill itself, with its right-hand bend and subsequent hairpins, worry the Buckler, which climbed doggedly rather than fast, its driver anxious not to throw up more mud than was necessary. Certainly the 5.75-16 Oxborough retreads on the rear wheels, at somewhat reduced pressure, served us admirably. Quite a spattering of spectators were braving the elements here. Soon after Windout came an ingenious Special Test, competitors being required to coast downhill with dead engine and stop astride a line across the road. The downhill coast was timed, the stopping distance measured, and it was debatable whether it paid to brake early and lose time or brake at the line and increase one's stopping distance. In our case the time was good, the braking distance a record slide, partly because the brakes had not entirely dried-out after Windout's water-splash—which perhaps "Jackie" Masters anticipated? Actually, we believe that two Allard drivers purposely each adopted a different technique, one braking early, the other late, and that both achieved the same figure of merit.

So to that old favourite Fingle Bridge and the disastrous discovery that there were no delays to enable us to patronise the mobile canteen. This long climb proved easy, avoiding a gully on the inside of the third bend, and, although the re-start that preceded the second section looked sticky, we got away without hesitation. Seldom can there have been fewer spectators to witness competitors' fortunes on Fingle.

Knowle was a matter of combating spin on slimy leaf-mould and avoiding a tree-trunk and overhanging branches. Next we were presented with Stonelands, again a matter of leaf-mould on a considerable gradient. By this time we had not only seen the good Devon mud, but had wiped several cubic feet of it from our glasses, and eaten a good deal more. But it was all most enjoyable, as usual, and not too cold, while the crisp bleating of Scroggs' Trojan, which was now behind us, added the right M.C.C. atmosphere to scenes that revived so many pre-war memories.

Waterworks was a short ascent, on which a re-start to a 3 sec. limit again caused Buckler no trouble. Then came the notorious Simms, complete with tractor (petrol, not steam, however) for dealing with unfortunates. A group of spectators, some sheltering under a vast coloured golf-umbrella, watched us take the first right-hand bend and negotiate the steep section beyond. Momentarily we considered bouncing, but the actual necessity never arose. And now a curious thing occurred, not altogether unconnected with the weather! The navigator congratulated the driver on having his "gold" in the bag and suggested that the tyres should be inflated to their normal pressure for the run to the finish. "But," said Buckler, "there is another observed section." And there was, but all mention of it had been neatly deleted from our route-card where rainwater had seeped through a fold—which we discovered only after strenuous work with the tyre-pump, to have to let the pressure down again almost immediately for an assault on Green Lanes. A nasty hill! A deep gully in the water-splash at the foot tore away the underpart of the Buckler's tail, which thereafter grounded ominously for the remainder of this long section of mud and slime. It was, however, a great tribute to the rigidity of the Buckler chassis that over the rough parts of this hill no flexing of the body or floor was evident—and as we emerged on to level ground, a "gold" now really in the bag, Brymer took our triumphant photograph. We were wet, we were plastered in mud, passers-by burst into screams of laughter at the sight of us and we decided it was distinctly fortunate that we had booked our hotel rooms in advance!

For all that, we were well-contented. All that remained was to drive to the finish, eat, drink—and get clean! For some miles we followed Scroggs' Trojan doing its customary 35 m.p.h.—like ourselves, that wonderful car had come through "clean." At the cafe we queued up for a welcome wash, listening the while to talks of high adventure, such as would have gladdened the heart of Bertrand Russell. Of how the F.I.A.T. "500" stopped in the Green Lanes splash, nose submerged, but kept its engine going and re-started; of a Morgan three-wheeler that overturned without damage; of an ex-"Cream Cracker" M.G. Midget, now unblown, which had the drain plug torn from its petrol tank and continued by grace of a cork and its reserve supply. And so on and so forth, as more and more tired and hungry crews came in.

* * *

On the morrow there was a sequel. When we had started out on the Friday the sky had been clear, except for some ominous cloud banks and very prominent vapour trails from an aeroplane over Basingstoke, rain holding off until tea time. The same kind of weather prevailed on the Sunday, and soon the Buckler was cruising merrily with its speedometer needle above the sixty mark, any down

grade taking the car beyond 70 m.p.h. or some 5,000 r.p.m. Oil pressure sat at around 20 lb./sq. in. and water temperature at 90 deg. C., while oil temperature was normally 100 deg. C., rising to 115 deg. C. after prolonged 70+ speeds beyond Salisbury. Taking the wheel after lunch at the "Coombe Lodge" at Shaftesbury we averaged just over 50 m.p.h. for the 70-mile run home, which is something of a testimony to the Buckler, especially after the ordeal it had come through and the fact that the driver was not familiar with the car. The road-clinging and cornering qualities, allied to absence of road-shocks, the pleasant action of the remote gear control and the braking power available at a light touch on the pedal made this run up A30 in the wintry sunshine a most enjoyable one, especially as Buckler assured us that the engine was unburstable even going all-out downhill. The little car was mostly in top gear, in which ratio it was quite tractable and picked up well above 20 m.p.h. Incidentally, the average speed was calculated from the map, which disclosed that, with the rear tyres we were using, the mileometer was underestimating by 3 per cent.

We had taken a careful check of fuel consumption and the out-and-home figure came out to 34½ m.p.g. in spite of some cross-country work, the "Exeter" itself and an overall average speed up and down A30 of better than 45 m.p.h. for 273 miles, this speed figure including some cautious going as the writer warmed-up to the job of driving a car quite strange to him. As far as could be ascertained oil consumption was in the region of one quart, while a fair quantity of water was added to the behind-engine radiator at odd times, as, running without a fan, the car boiled towards the end of the longer observed sections, although this was never serious and no water was added during the Trial. The only indications of the buffeting the Buckler had received were the torn tail panel where hidden hazards in the Green Lanes water-splash had taken their toll and a loose near-side rear wing, the latter rectified

in a few minutes during the homeward-bound lunch stop. That evening, after we were warm, dry and clean once more, Buckler stepped out into an icy sleet, started his car on the starter, and drove off into the night, well pleased, we imagine, with *his* Exeter.

Reverting to the Trial, many of the competitors waited patiently in the hotel lounge on the Saturday evening, while the B.B.C. Western Region described the day's sport in that area—a football match at Exeter, they told us, had been terminated ten minutes early on account of the severe weather conditions! After a generous quota of soccer and rugger quite a good account of the "Exeter" was broadcast, and we picked up a few bits of isolated news. Wonnacott's three-wheeler Morgan had failed on Waterworks, where Smith's A.R.M. Special had impressed the B.B.C. man, but Lovett's Rover had stopped. Westropp's F.I.A.T. "500" stopped on Green Lanes, while Abernethy's Austin Antique failed early on Simms—although he and his crew told us, after the finish, that they had had grand fun, nevertheless. The Car Team Award was won by a mixed team—Whitefield's Ford Ten, Buncombe's H.R.G. and Fitzwater's M.G. Midget, the next best team being that composed of three Morgan "4/4s," driven by Peter Morgan, Goodall and McCann. How the other cars fared can be seen from the following results list.

W. B.

FIRST-CLASS AWARDS: E. G. Smith (A.R.M. Special), F. Morrish (Frazer-Nash), J. J. Whitefield (Ford Ten), J. Buncombe (H.R.G.), W. A. G. Goodall (Morgan "4/4"), S. S. Turner (Allard), W. P. Uglow (H.R.G.), A. W. Morrish (s/c "PB" M.G.), C. D. F. Buckler (Buckler), D. J. Hase (s/c "PB" M.G.), H. W. Tucker-Peake (M.G. Magnette), A. L. S. Denyer (Lea-Francis), A. F. Scroggs (Trojan), C. R. L. Nicholl (M.G. Magnette), C. F. Crossby (s/c Vauxhall Special), B. H. Brown (Ford V8 Special), K. E. O. Burgess (s/c Allard), J. H. Appleton (Allard), R. W. Faulkner (Mercury), A. G. Imhof (s/c Allard), B. D. S. Ginn (Ford V8), K. Wharton (Wharton), R. W. Christmas ("PB" M.G.), H. Clayton (C.S.), D. Murkett (s/c "PB" M.G.), S. G. E. Tett (s/c "PB" M.G.).

SECOND-CLASS AWARDS: B. Fitzwater (M.G. Midget), P. H. G. Morgan (Morgan "4/4"), C. J. McCann (Morgan "4/4"), J. H. Radbourne (H.R.G.), E. D. Scobey (H.R.G.), H. C. Roberts (Allard),

S. C. Clarke (H.R.G.), P. Scott (H.R.G.), J. H. Lockyer (Allard).

THIRD-CLASS AWARDS: H. W. Burman (Lea-Francis), C. J. Mores (M.G. 2.3-litre), D. C. Bishop (s/c M.G. Midget), J. H. Barrow (Vauxhall), L. J. Hawkins (Standard).

RESULTS BY MAKES (numbers in brackets indicate number of entries and n.s. = non-starters):—

ALLARD (8):—four 1sts, two 2nds, two n.s.
A.R.M. Special (1):—one 1st.
AUSTIN (1):—no award.
BATTEN (1):—n.s.
BUCKLER (1):—one 1st.
C.C.S. (1):—retired.
C.S. (1):—one 1st.
FRAZER-NASH (1):—one 1st.
FRAZER-NASH-B.M.W. (1):—n.s.
F.I.A.T. "500" (1):—no award.
FORD (2):—two 1sts.
FORD V8 SPECIAL (1):—one 1st.
HORSTMAN (1):—no award.
H.R.G. (7):—two 1sts, four 2nds, one no award.
LEA-FRANCIS (2):—one 1st, one 3rd.
MERCURY (2):—one 1st, one n.s.
M.G. (11):—seven 1sts, one 2nd, two 3rds, one n.s.
MORGAN (5):—one 1st, two 2nds, two no award.
MORRIS SPECIAL (1):—no award.
ROVER (1):—no award.
STANDARD (1):—one 3rd.
TROJAN (1):—one 1st.
VAUXHALL (2):—one 1st, one 3rd.
WHARTON (1):—one 1st.

EXETER ECHOES

Imhof finished *sans* windscreen on his supercharged Allard, much to the disgust of navigator Nina Imhof!

Burman drove a comparatively modern Lea-Francis, in contrast to Denyer's vintage specimen.

Scroggs, who now resides in a caravan, had had all too little time to prepare his famous Trojan and he feared binding of its single brake! It was giving about 35 m.p.g. under the prevailing weather conditions and attaining over 40 m.p.h. downhill, to a distinctly crisp two-stroke exhaust beat.

Mr. and Mrs. "Jackie" Masters were in great form, and spent much of their time when off duty with the competitors. They came down in their faithful old Rover saloon.

Mrs. Anning rode a Triumph motor-cycle through the trial.

Query? How did postage stamps contrive to be adhering to the high ceiling of the Rougemont's drawing room?

Of the 55 car and tri-car competitors, 27 gained "golds" (1sts), nine "silvers" (2nds) and five bronze medals (3rds), while six non-started, one retired (Corbishley's C.C.S.) and eight failed to take an award—so, in spite of its "toughness," the "Exeter" should still make a strong appeal to newcomers to the Sport. Next M.C.C. fixture—the Land's End Trial on April 15th and 16th.

CALLING COMPETITION ORGANISERS

With the renewed growth of recently-formed Clubs and speculation amongst organisers as to how to introduce novelty into Club programmes, we beg to put forward again a suggestion for an entirely novel form of event.

We suggest that if trials hills, rally tests, re-start and braking tests, a speed hill-climb, a timed sprint and a slow-running or easy-starting contest were incorporated in one glorious one-day competition, then the winner would be proved a very fine all-round driver, his or her car would obviously be a highly versatile one and, quite apart from that, competitors, being able to enjoy a wide variety of tests in a day's motoring, should find such a competition very enjoyable.

The speed trial and speed hill-climb would have to be held at real sprint venues, but no very elaborate organisation would be required, because paying spectators would not be present, nor

would the public address system and Paddock marshalling be needed, for cars would arrive as at the foot of a trials hill, would make their timed run, and then motor straight off to the next test. Obviously, a car able to clock a good time up a hill-climb course with corners, be sufficiently well-tuned and highly geared to cope with a quarter-mile or so of sprinting, yet have that elusive weight-distribution and other factors that spell success up slimy hills, together with the divers other qualities necessary to make a good showing in the remaining tests, would be a pretty useful sort of vehicle. One difficulty of organising such an event, apart from rather more elaborate preparations that an ordinary trial entails, would be that of obtaining permission to use known sprint venues and of finding a suitable hill and straight speed course in reasonably close proximity both to one another and to the required trials gradients.

However, the event would be such good entertainment that many drivers would probably feel disposed to devote two months' standard petrol ration to it, so that a route length of nearly 200 miles would be possible, which would go far towards solving this difficulty, particularly in view of the increased number of sprint venues now in existence in this country.

The event could be contested either against the organisers or between the competitors and we feel sure that a sound marking scheme, calling for equal prowess in all the tests, could be devised, where-with to find the winner. Such an event might be a pleasing substitute for such "off-the-ration" fixtures as the R.A.C. Rally.

Whether or not any Club will successfully organise such a competition we do not know, but if such does materialise MOTOR SPORT will at least have the satisfaction of saying, "We told you so!"

Reports of Recent Events

BRISTOL M.C. & L.C.C. ROY FEDDEN TROPHY TRIAL

There were 64 starters. The first dozen or more set off in a fog, but it soon cleared and the day was bright and sunny.

One of the first casualties was G. Best (M.G.) who had rear axle trouble and had to fall out. Tin Pan Alley was negotiated by most competitors in a shower of mud and much bouncing.

Breakheart took its expected heavy toll. Merrick (Dellow) being the first to climb clean, to be followed later by K. E. O. Burgess, driving one-handed, Wharton, Newton and Bold.

Fort, a very slippery hill with a sharp hairpin at the bottom, soon had competitors in trouble. Wharton climbed this in his usual manner, and Vincent (M.G.) put up a very good clean run. F. Morrish (Frazer-Nash) went up with a lot of noise and plenty of urge, Imhof (Allard) in leaps and bounds.

Newton, Wharton and Bold all came through with clean cards.

The deciding factor was the acceleration test held at Old Hallow where Newton clocked 14.0 sec. and Wharton 15.1 sec.

Competitors then returned to the "Prince of Wales" Hotel for refreshments of all kinds and the results were out in a very short time:—

Results

THE ROY FEDDEN TROPHY AND SOUVENIR: Newton (H.R.G.).
 THE ALEXANDER DUCKHAM CUP AND SOUVENIR (for the Runner-up): K. Wharton (Wharton).
 THE DAPHNE TROPHY AND SOUVENIR: Bold (Bold).
 THE CLUB CUP AND SOUVENIR: Uglow (H.R.G.).
 THE BASIL BARBER MEMORIAL TROPHY AND SOUVENIR: C. A. N. May (Ford Special).
 THE J. H. KING CUP AND SOUVENIR: Burgess (Allard).
 TEAM PRIZE—THE JAMES RUSSELL SHIELD: Appleton, Burgess, Potter (Allards).
 FIRST-CLASS AWARDS.—Class A: Dyer (Riley), Oliver (Austin Seven), Cleave (Morris). Class B: F. Morrish (Frazer-Nash), A. Morrish (M.G.), Delingpole (H.R.G.), Penn (Dellow). Class C: Merrick (Dellow), Cox (M.G.-Ford), Imhof (Allard).
 SECOND-CLASS AWARDS.—Class A: Radford (Austin-Ford), Cracknell (Forstin). Class B: Buncombe (H.R.G.), Rawlings (Rawlings), Jesty (Darracq-Nash), Lowe (Dellow). Class C: Waldron (Dellow), Appleton (Allard), Potter (Allard).

SHEFFIELD & HALLAMSHIRE M.C. CHRISTMAS SPORTING TRIAL

This trial was followed by a Christmas dinner at the George Hotel, Taddington, also a very excellent Film Show given by

Mr. Habbershon on this season's racing. T. C. Harrison gave a commentary with the films and a talk on his Continental racing experiences this year.

Results

JAMES CUP FOR BEST PERFORMANCE: G. R. Holt (G. R. Special).
 FIRST-CLASS AWARDS: J. Clegg (Clegg), M. Wilde (Ford Special), A. M. Beardshaw (A.M.B. Special).
 SECOND-CLASS AWARDS: T. C. Wise (C.W.S.), H. Morgan (Blakar), E. Wadsworth (Ford Special).
 TEAM AWARD: Messrs. J. Clegg, G. R. Holt and R. E. Holt.

V.S.C.C. of A. MOTOR SHOW

The V.S.C.C. of Australia held an ambitious Concours d'Elegance, called the "Olympia Show," last year in the Sydney Sports Ground. Results:—

VINTAGE

1st: J. A. Jeffery (Bentley 3-litre Le Mans).
 2nd: J. L. Hood (Sunbeam 3-litre Twin-Cam).
 3rd: H. T. Tompsitt (Vauxhall "30/98" O.E. 238).

VETERAN

1st: E. D. Ansell (Vauxhall Prince Henry 1912).
 2nd: J. F. Crouch (Renault Touring 1908).

INDIVIDUALLY BUILT SPECIALS

1st: E. J. Read (Read Special).
 2nd: J. F. Crouch (Allarday V8 Special).
 3rd: G. R. Reed (G. Reed Special).

RACING AND SPEED CARS

1st: C. H. James (M.G. NE-Type Magnette).
 2nd: G. T. Stewart (M.G. Magna).
 3rd: F. Elbourne (M.G. Magna).

PRE-WAR SPORTS AND CONVERTIBLES

1st: J. A. Jeffery (Jaguar S.S.100).
 2nd: R. S. Ward (M.G. "TB").
 3rd: S. Todhunter (M.G. "J2").

POST-WAR SPORTS AND CONVERTIBLES

1st: H. Morson (Jaguar 2½-litre drophead).
 2nd: Barclay Motors, Ltd. (Alvis Fourteen drop-head).
 3rd: Peter Lloyd Pty. Ltd. (Riley 2½-litre Roadster).

POST-WAR CLOSED CAR UNDER 10 H.P.

1st: T. Patterson (1½-litre M.G. saloon).
 2nd: E. Larkin (Morris "8/40" saloon).
 3rd: T. Jackson (Bradford Station Waggon).

POST-WAR CLOSED CARS UNDER 20 H.P.

1st: Standard Cars, Ltd. (Triumph "1,800" saloon).
 2nd: Peter Lloyd, Ltd. (Riley 1½ saloon).
 3rd: Messrs. Barclay Motors (Alvis saloon).

POST-WAR CLOSED CARS OVER 20 H.P.

1st: F. Nichols (3½-litre Jaguar saloon).
 2nd: R. Quigley (3½-litre Jaguar saloon).
 3rd: York Motors, Ltd. (Chrysler New Yorker).

BEST KEPT SPORTS CAR ANY AGE

1st: J. A. Jeffery (Jaguar S.S. 100).
 2nd: W. Cogan (M.G. "TB").
 3rd: E. D. Ansell (Vauxhall Prince Henry 1912).

BEST KEPT SPORTS CAR, LADY OWNER-DRIVER

1st: Mrs. Cogan (M.G. "TB").
 2nd: Mrs. H. T. Tompsitt (Vauxhall "30/98" O.E. 238).

BEST KEPT CLOSED CAR ANY AGE

1st: Peter Lloyd, Ltd. (1½ Riley saloon).
 2nd: R. B. Campbell (Nash Ambassador Six).
 3rd: T. Patterson (M.G. 1½-litre saloon).

BEST KEPT DEALER-ENTRY

1st: G. L. Robinson (Jowett Javelin).
 2nd: R. S. Ward (M.G. 1½-litre saloon).
 3rd: Master Motors (Morgan super-sports three-wheeler).

M.G.C.C. CECIL KIMBER TROPHY TRIAL

This event was held on December 12th last and attracted 30 entries:—

Results

1st: K. A. Scales (M.G. 1,706-c.c.), Cecil Kimber Trophy, First, Class II.
 2nd: P. S. Reade (M.G. 939-c.c.), First, Class I.
 3rd: A. B. Rogers (M.G. 847-c.c. [Sup.]), Second, Class II.
 4th: R. Beasley (M.G. 1,292-c.c.), Second, Class I.
 5th: D. P. Baker (M.G. 1,292-c.c.), Third, Class I.
 TEAM AWARD: "Norwesters 1" K. A. Scales, R. E. Holt, A. B. Rogers.

NORTH-WEST LONDON M.C. GLOUCESTER TRIAL

Amendments to the provisional results of the Gloucester Trial are as follows:—

E. J. Newton: The Committee have awarded Mr. Newton a special Runner-Up Award in place of the First Class Award notified in the provisional results in view of Mr. Newton's outstanding performance in the Trial. This award was not provided for in the Regulations.

E. J. Tracey: Mr. Tracey has been awarded a Second Class Award in place of the Third Class Award shown in the provisional results.

J. M. Readings: Mr. Readings has been awarded a Second Class Award.

N.I.E.C.C. CLOSED TOURIST TRIAL

This event was contested on December 19th last. The winner was G. T. Jones (M.G.) with 26 marks, the runners-up being S. R. Doland (Allard) and K. G. Jones (M.G.), with 28 and 32 marks respectively.

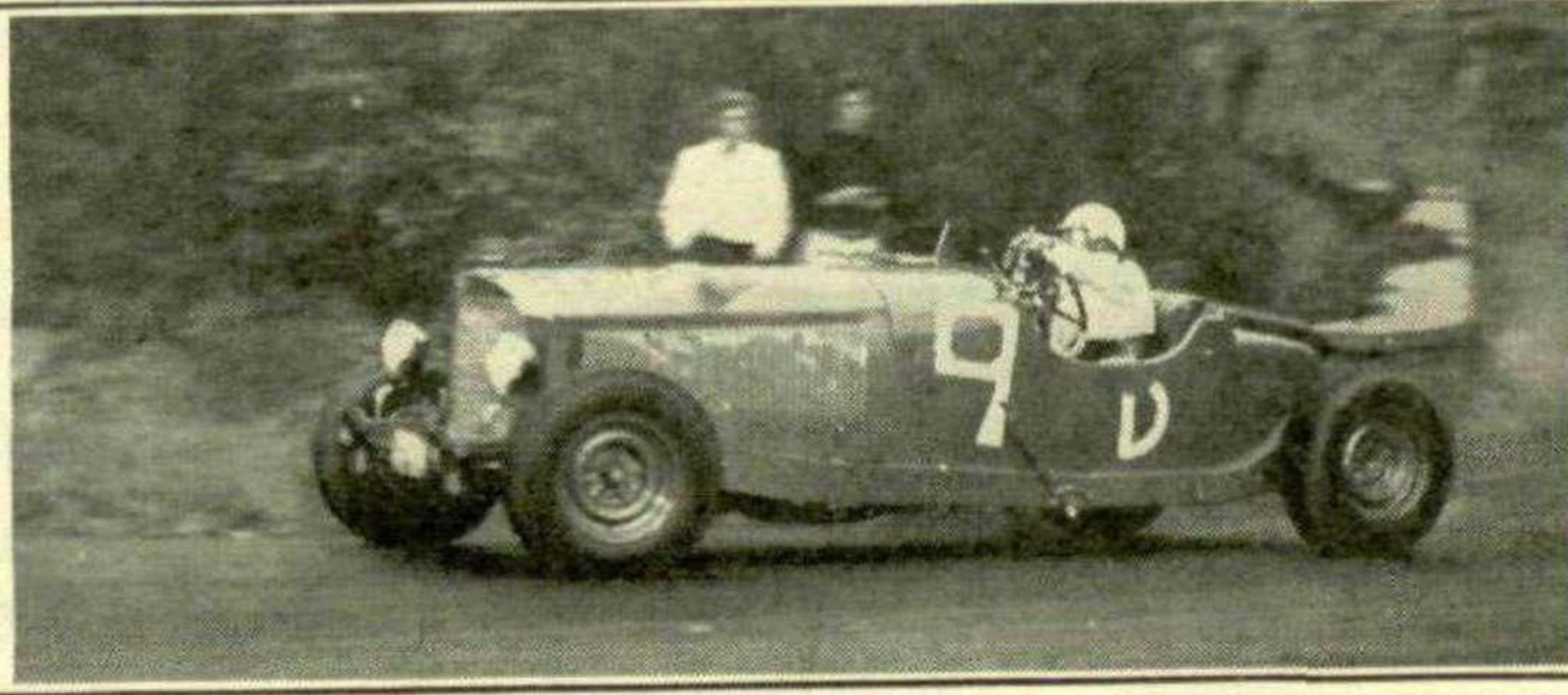
ALPINE RALLY

Leonard Potter who, with C. A. N. May as co-driver in an Allard two-seater, won a Coupe des Alpes, the Coupe de Paris-Press and the Coupe de Mont Ventoux in the Alpine Rally, has belatedly received a further award for his performance in that event. This is a Silver Medallion awarded by the Commissariat General de Tourisme for the best performance in all tests in which the fastest time counted.

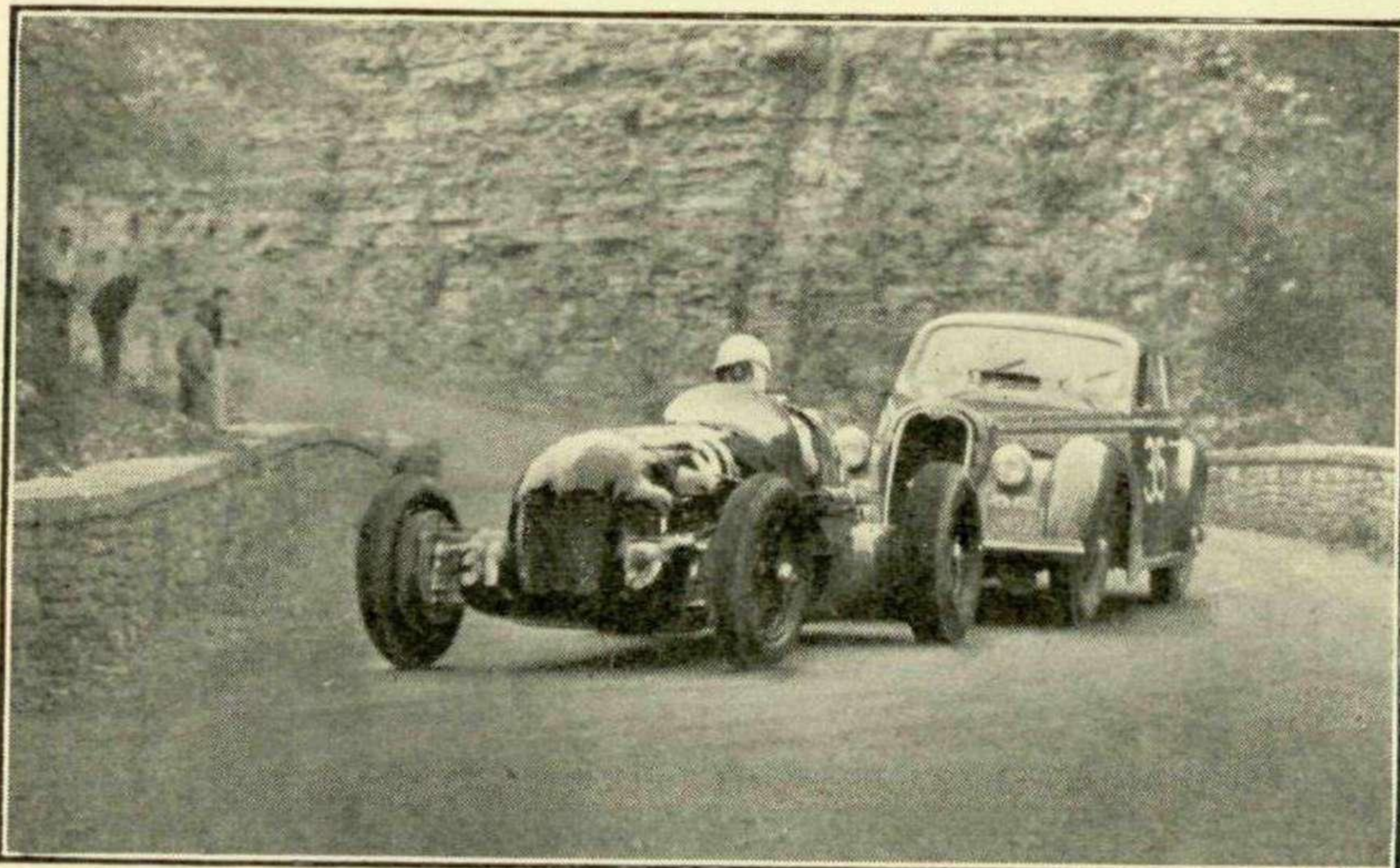
Coupled with the Coupe de Paris-Press, this award places Allard as best in all tests and the fastest aggregate performer in the timed tests.

B.T.D.A. "CHAMPIONSHIP STAR"

The heartiest congratulations must be extended to Ken Wharton for not only winning the 1948 R.A.C. Trials Championship, but for taking the British Trials Drivers' Association 1948 "Star." Wharton gained this honour by 30 marks from Onslow-Bartlett, who, in turn, was eight marks ahead of J. Clegg for second place.



ROAD RACING—AMERICAN STYLE.—On the left, Griswold's Alfa-Romeo, which won the 52-mile, 8-lap Grand Prix at 63.5 m.p.h. after winning the 26-mile race. On the right, Cunningham's Bu-Merc., with Buick Century engine and chassis and Mercedes radiator, which was second in both races.



MORE WATKIN'S GLEN.—The Watkin's Glen race in Central New York State, organized last year by the Sports Car Club of America, was America's first post-war road race. Here the ultimate winner, Griswold's "2.9" supercharged Alfa-Romeo saloon, is baulked, or so it appears, by Weaver's 3-litre V8 Maserati, which retired with faulty brakes.

ULSTER A.C. BOXING DAY TRIAL

The traditional Boxing Day "Experts' Trial" was held in very inclement weather conditions and attracted thirty competitors on mounts ranging from Robb's half-bodied Mercury Special to Todd's diesel-engined Vauxhall saloon. The stiff course included Porg Hill, Carnamrock and—for the first time—a timed climb of Gleno. Porg and

Carnamrock were in good condition after a wet twenty-four hours, and Mrs. Dowling (vintage Buick) and Dr. Jones (Singer) succeeded in blocking the former for nearly an hour, causing much chest-slapping and foot-stamping by wet officials on the other hills. The hill at Gleno is one of those old country roads that have been by-passed owing to the gradient and was nicely carpeted

with wet grass. It didn't stop anyone, but proved an excellent venue for a climb against the watch. Clapham's Brooklands Riley—nostalgically beautiful—did not, unfortunately, possess the right assortment of gears for muddy hills and had to resort to man-power.

Results

1st: C. S. Porter (H.R.G.), lost 96.2 marks.
2nd: J. McMichael (H.R.G.), lost 96.6 marks.
BEST SALOON: W. T. Todd (diesel Vauxhall).

THE RALLY — FIRST STAGE

FOLKESTONE, 10 a.m., January 25th

Weather conditions were not too arduous for the Glasgow contingent, but icy surfaces caused some difficulty and fog extended for about 20 miles near Newark. Not far from the start, Lt.-Col. Finnigan's Standard Vanguard hit a lorry and crumpled its off-side front wing but was able to continue. Some of the Jowett Javelin drivers experienced skids, and Wise's car seemed to have a big load in the boot, but was actually the first to reach Folkestone, followed by the Hall-Heath V12 Lagonda. As the cars were hoisted aboard the *Dinard* old-time scenes prevailed, many carrying B.A.R.C., B.R.D.C. and Monte Carlo badges, while Mrs. Harman's Alvis had a spade strapped to its spare wheel and the Hillman Minx team of 1948 dropheads were nicely appointed, with spade and fire-extinguisher mounted over the boot. Many cars carried luggage on the roof, including Wharton's Ford Pilot, with comp-shod

Continued on page 42

NEW INTERNATIONAL SPEED RECORDS
with

LODGE
PLUGS

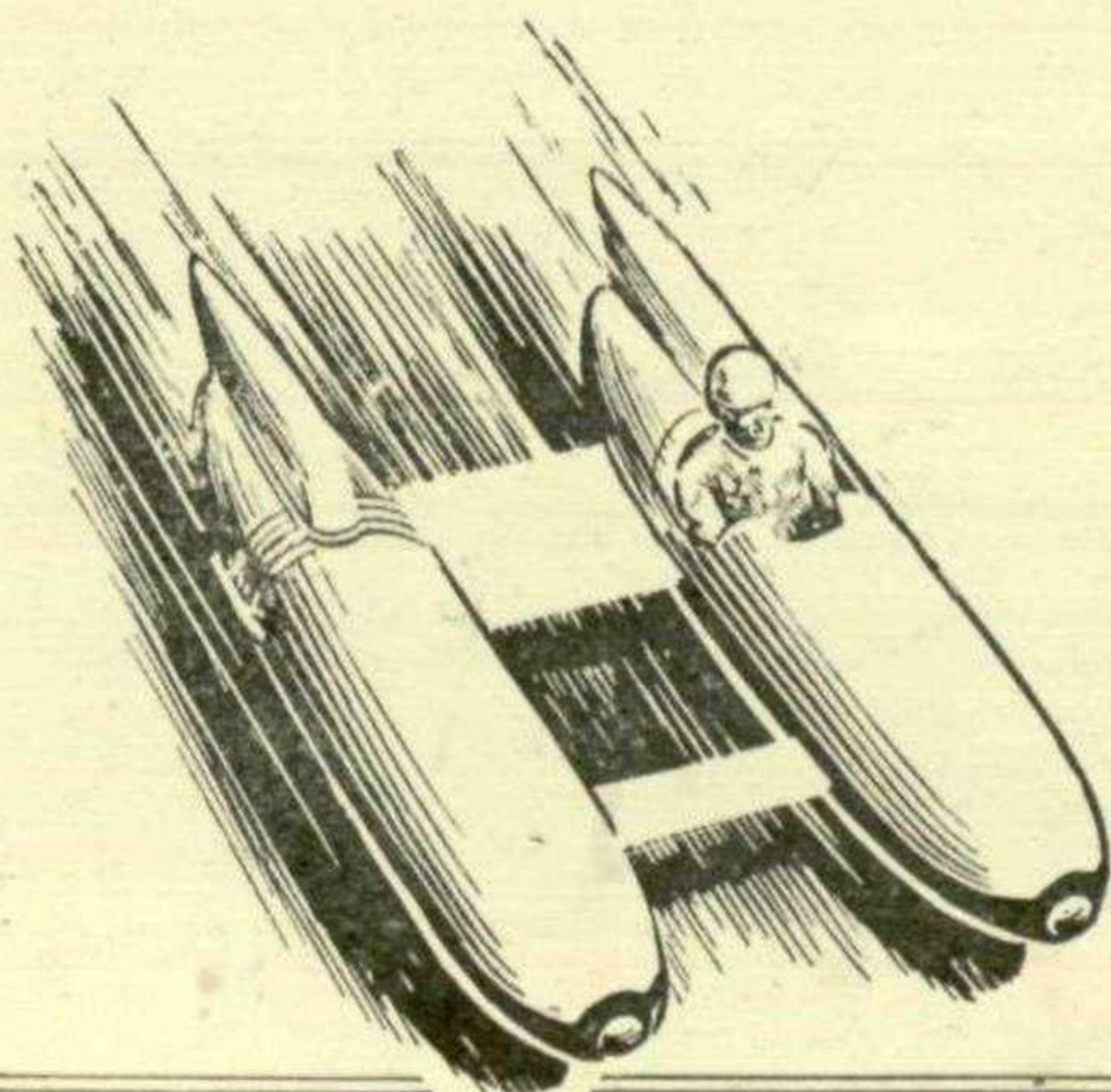
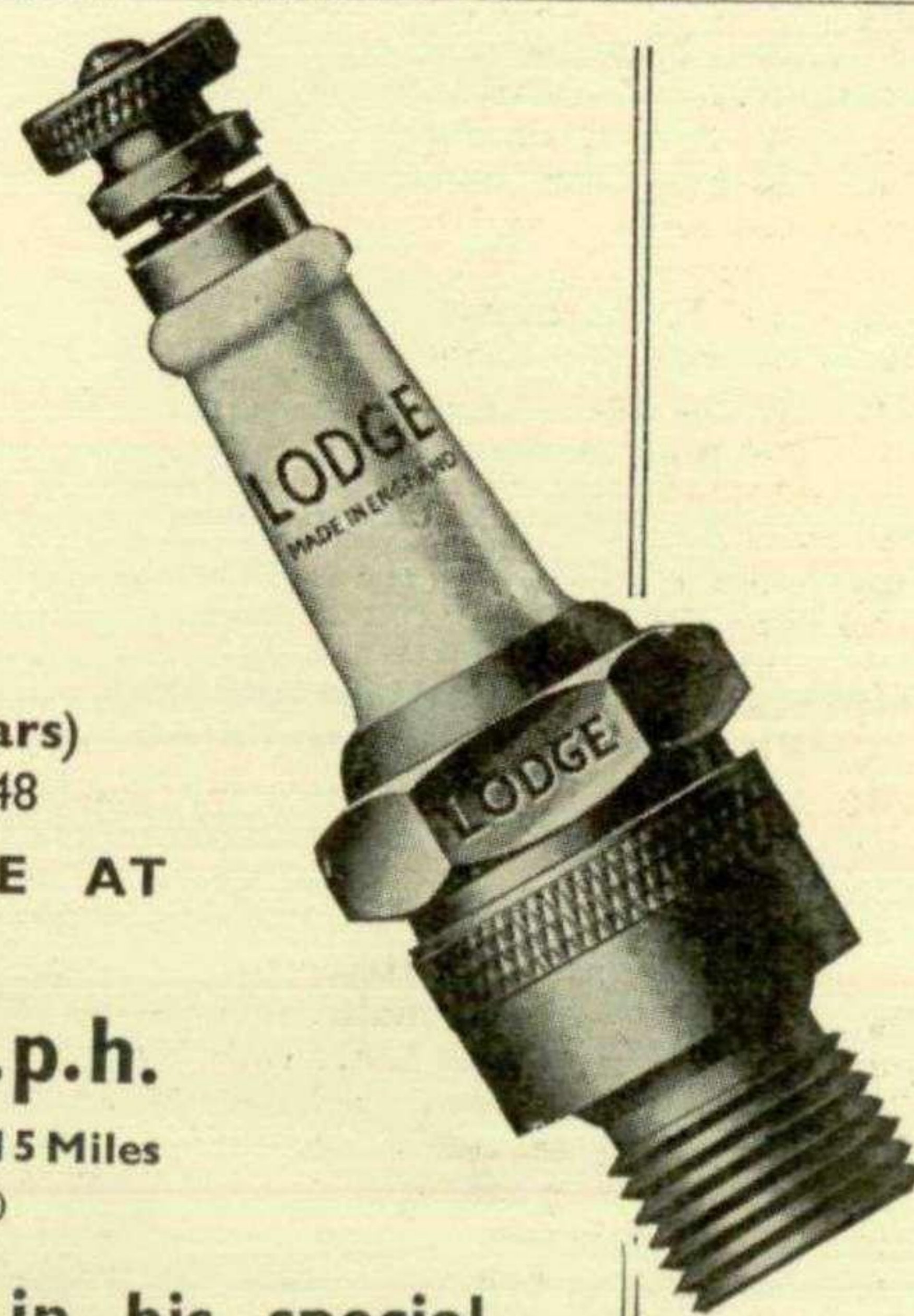
CLASS I (500 c.c. Cars)
Italy, November, 1948

FLYING KILOMETRE AT

128.8 m.p.h.

also Flying Mile, 5 Kiloms. and 5 Miles
(Subject to usual confirmation)

by Piero Taruffi in his special
Tarf "twin-fuselage" car, with a
500 c.c. Guzzi engine fitted with
LODGE PLUGS



Lodge Plugs Ltd., Rugby, England

RUMBLINGS

At this time of year speculation is rife concerning prospects for the coming racing season. Certainly they are brighter than they have been for some years. However, the many races and speed events that we are destined to see during 1949 may seriously aggravate last year's difficulty of making aged racing machinery hold together through so many spells of highly-competitive speed work. It may be that one of the season's more absorbing features will be the incursion into the headlines of comparatively slow but reliable cars that have out-lasted their faster rivals. Certainly Formula II racing will be intensely competitive and immensely worth following.

Prospects

Down at Tolworth a lightened, shortened H.R.G. is in course of preparation under the care of Marcus Chambers for this form of racing, the power-unit being a 2-litre Standard Vanguard, complete with its steering-column-control gearbox, and the body an aerodynamic single-seater. In the same field the Hutchison/Poore stable has the imported B.M.W.-engined Veritas, while Horsfall's Aston-Martin, Heath's Alta and the O.B.M. should constitute worthy rivals. The Alta, by the way, will be new, with a chassis devised by Heath and Abecassis for their four-carburettor engine, of short wheelbase and with i.f.s. and $\frac{1}{4}$ -elliptic rear springs. The body will resemble that of the Ferrari.

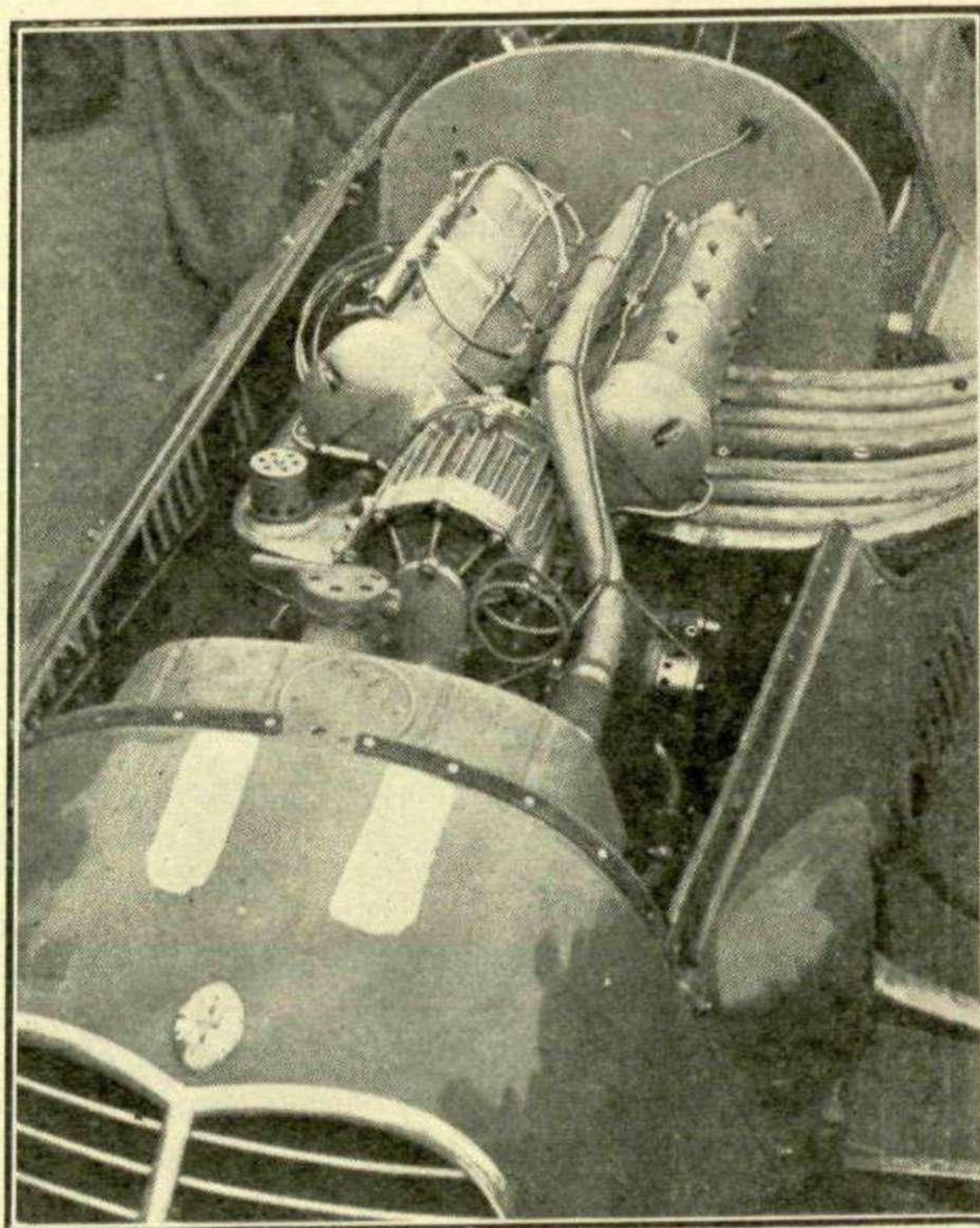
Sports-car racing will obviously be well to the fore and we believe the R.A.C. has already made enquiries as to whether sufficient support from manufacturers would be forthcoming to justify holding the T.T. Allard has had to say no, but if Aston-Martin, Lea-Francis, Frazer-Nash, Riley, M.G., Healey, Jaguar and H.R.G. would play, what a race we should see! Certainly we must not allow the prestige built up at Spa and Paris to lapse. The great Le Mans 24 Hour Race is being revived this year, in any case. Class I racing to the 500 Club Formula is clearly going to expand in 1949, for amateur constructors seem quite resigned to competition from such factory-built cars as the Coopers, Marwyns, Bonds and Iotas, and the R.A.C. will quite likely again stage a long-distance classic for the "little fellows" at Silverstone. C. A. N. May is known to have disposed of his trials Ford V8 in order to concentrate on racing the Cooper 500 that 18-year-old Stirling Moss used to such good effect last season, and the Swiss, Hubert Patthey, has ordered a new Cooper. Several drivers have Cooper 1,000s with V-twin Vincent-H.R.D. engines, which those of you who have read the 1949 edition of the "MOTOR SPORT Racing Car Review" know to be quite something (approx. 80 b.h.p. and 600 lb.), and Moss a J.A.P.-engined Cooper 1,000, which will presumably fluctuate between sprint meetings and Formula II races. In the 500-c.c. field, too, Lones has been busy converting the rear suspension of his fearsome Tiger Kitten to reversed $\frac{1}{4}$ -elliptic, while the Frys intend to stick to a J.A.P. engine in their very light Iota, their interest in the Cross rotary valve having concluded.

Grand Prix Formula I racing will doubtless resolve itself into a fascinating struggle between Alfa-Romeo, Maserati and Ferrari, with subsidiary interest in what the B.R.M. will achieve in its first season and whether the French will get the C.T.A. Arsenal to perform properly. Whether Maserati will pull out a surprise and cause Alfa-Romeo to bring out their rear-engined, flat-twelve Type 512 remains to be seen, although our personal guess is that the Type 158A Alfa-Romeo will remain supreme. Certainly we shall hope to see a team of such cars at Silverstone before the 1949 season is over. What Britain will do in this, the most exacting motor-racing of all, it is difficult to predict, despite all our hopes. The B.R.M. will be new, very new, and unless more than one car is run it is difficult to see how it can fend off the best that experienced Italy will put in the field. We can merely extend Raymond Mays our very best wishes and go on hoping . . .

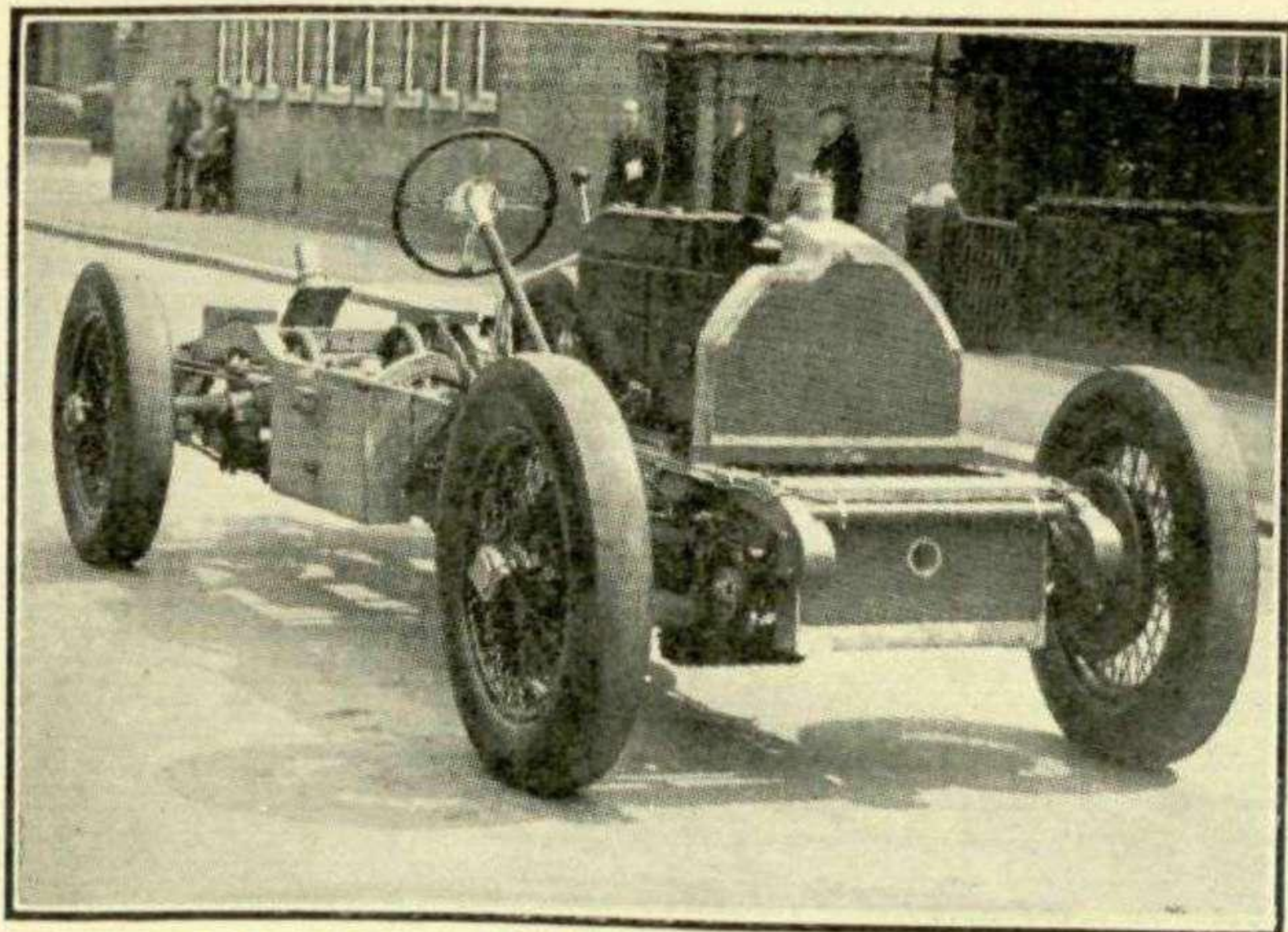
Incidentally, in a recent review published in a popular weekly, Mays spoke of retiring from driving so as to act as manager to the B.R.M. team; but we believe he was looking forward to the year 1951 or 1952 and that he will presumably handle the first of the B.R.M. cars. Rumour, fickle jade, also speaks of Gerard in this capacity and, teasingly, points out that he has released Frank Woolley, his invaluable racing manager, from his stable. More definite is the news that one Englishman, at least, should be well up in the Grand Prix

sphere, Reg. Parnell having joined the Scuderia Ambrosiana, with Villoresi and Ascari as his team-mates. He intends to use his own 4 CLT/48 Maserati, but hopes to fit it with the latest blowers and brakes. Parnell was potent enough as an independent and now we shall see him as a member of a leading Continental team—it should be worth watching! Moreover, Fred Ashmore may join them, also with a 4 CLT/48 Maserati. Then Leslie Johnson is doggedly persevering with the E-type E.R.A. These unlucky cars will have a good chance of retrieving their bad reputation, for "Taso" Mathieson has bought Johnson's GP2, a new car is being built for Johnson, and Peter Walker's GP1 is being rebuilt, although not at Dunstable. We have heard of no further G.P. Altas being built, but must hope that Abecassis has got over the teething troubles in his car.

Sprint events will have to meet competition from Goodwood and Silverstone, but support for Prescott and Shelsley Walsh, etc., will probably be not too drastically affected. We imagine that Raymond May's famous D-type E.R.A. will again be in evidence. It is the most effective sprint car in this country today, and if it could carry Mays to a hat-trick—winning the R.A.C. British Hill-Climbing Championship for the third year in succession—well, in view of this ace-driver's remarks about retiring, what a very fitting climax this would be to a long and brilliant career. The opposition will be stiff and Mays would be the last to wish it otherwise. Kenneth Hutchison has acquired the ex-Dobson, ex-Brooke 2-litre B-type E.R.A. (R7B) and intends to have it completely revamped by Robin Jackson, who looked after Hutchison's Alfa-Romeo last season. Independent front suspension, ZF differential, probably new bodywork, and perhaps two-stage supercharging, may be expected to make this E.R.A. a very exciting sprint car indeed. As a matter of fact, the older cars of this make will need to look to their laurels, for Peter Walker has a 2-litre E.R.A. engine that



[Photo by Sir Anthony Stamer, Bart.]
4 CLT/48.—The engine of the famous two-stage 16-valve four-cylinder racing Maserati, as caught by Tony Stamer's camera. Query—Will Maserati be able to make any impression on the Type 158 Alfa-Romeo during 1949, using improved versions of this car?



FEBRUARY QUIZ.—Make on a postcard, please, by February 10th, so that we can publish the Names of the Knowledgeable in the March issue.

he intends to put to good use. Hampshire will have his effectively modified 1½-litre A-type out again and hopes, too, to share Murray's ex-Parnell Maserati and the ex-"Bira" E.R.A. "Hanuman." Then Butterworth has been carefully going over his four-wheel-drive Steyr-engined A.J.B. this winter and contemplates circuits as well as sprints, while Sydney Allard's Steyr-Allard single-seater is being expanded from 3.6 to nearly 5 litres, and he is said to have on the stocks another Allard in which he intends to install a V8 engine having water-cooled blocks and Steyr air-cooled heads. Busy time ahead!

Over and above which Miss Betty Haig hopes to compete again in the Rallye Femina Paris-St. Raphael and Lt.-Col. Goldie Gardner intends to attempt to recapture his Class I records from Taruffi, and Frank Kennington talks of having his 150-b.h.p. M.G. Magnette engine installed in an Italian Nardi and Darrese chassis, while Robert Baird, hopeful of completing an 1,100-c.c. and a G.P. 1½-litre car before the end of the season, has sold the straight-eight Duesenberg engine from his Emeryson to Hardy, who intends to use it in a hill-climb car. Rivers Fletcher will continue to drive his non-supercharged M.G. Magnette in sprint events, but is having the chassis shortened and the engine bored out and fitted with a longer-throw crankshaft to put the car in the 1½-litre class.

* * *

Amongst enthusiasts there are many who were brought up, as it were, on the long-stroke low speed type of sports car, so well represented by the 3-litre Bentley, or the "Alphonso" Hispano-Suiza of a slightly earlier era. To such persons, it must be sad to say farewell to the long-stroke engine.

Long-Stroke
Even in the past year, bore/stroke ratios have decreased, on British cars, from about 1:1.45 to 1:1.2. In 1912 increasing the stroke was a recognised method of putting up the power output under the prevailing taxation basis and race regulations. Even in those days, however, the late Mr. L. H. Pomeroy was advocating the shorter stroke, as "Baladeur" showed in an entertaining "Sideslips" in the November, 1947, *MOTOR SPORT*. Robert Brewer, too, in his 1912 edition of *Motor Car Construction*, began to doubt whether inertia loads and cylinder wall friction might not soon put a limit on piston speed and therefore piston stroke.

Incidentally, in those days the friction set up by the obliquity of the connecting rod was considered one of the disadvantages of the long-stroke engine and led to the use of offset cylinders, but later it was decided that, providing good lubrication was maintained, this source of power loss and bore wear was negligible. After the Kaiser war, despite the tax on bore size, technicians began to call for shorter strokes and in Grand Prix racing, the capacity limit having replaced bore-size restrictions, short-stroke engines able to turn at high speeds by reason of light reciprocating parts and rigid construction, ruled supreme. With the recent introduction of the £10 flat rate of taxation on new cars in this country, all the old arguments against the long-stroke power unit were trumped up with double emphasis. The short-stroke engine, then, claims to score in the following respects:—

- (a) Higher crankshaft speed in relation to piston speed.
- (b) Larger area of valve space.
- (c) Lighter, less costly construction.
- (d) Smoother running due to shorter crankshaft webs.
- (e) More space for bearings and a better length con.-rod.
- (f) More efficient piston rings and longer area of piston contact.

Other arguments in favour of short-stroke engines concern the tendency of long-stroke engines to overheat, to show a drop in m.e.p. at low r.p.m. due to heat loss to the cylinder walls and to call for a comparatively high bonnet line or, conversely, loss of ground clearance. To those stalwarts who crave the slogging power in traffic and uphill of the long-stroke engine, coupled with a delightful ability to work leisurely on high gear-ratios, the case is a black one indeed.

In a mass of technical literature published since the Kaiser war I have found only one advocate of the long-stroke. Who is he, and what are his arguments? He is Flt.-Lt. Bagnall, R.A.F., who, in 1944, wrote a letter to the *Motor* pointing out that in the motor-cycle world, where capacity limits in racing have encouraged short strokes, such notable manufacturers as J.A.P. and A.J.S. scrapped "square" engines in favour of longer-stroke units with direct improvement and that, despite the capacity classes, a bore/stroke ratio of 1:1.25 was usual. Bagnall suggested that if the stroke of a square engine be doubled but the overall gear-ratios of the car in which it were installed be halved, then, while performance would be unaffected, inertia stresses would be halved, so would valve speeds, while bore wear should be lower, because while piston speed would be unchanged, cylinder area would be doubled. Larger valves would not be required, weight would be about the same in view of the lower inertia stresses, while gas leakage past the piston rings would be reduced because the ratio of piston circumference to cylinder volume is halved. Bagnall emphasised one of the long-standing claims of the long-stroke engine, namely that a high compression ratio is simple to achieve, and generously admitted that his proposed re-design might result in a more bulky power unit. Now his motor-cycle engine argument is convincing, for the highest possible efficiency is required from racing versions, while, as ultra-rapid foot-change gearboxes are universal even on production motor-cycles, the slogging-on-top-gear properties of the long-stroke engine are hardly likely to outweigh its alleged shortcomings. Let us, then, analyse Bagnall's other theory. The Standard Vanguard, for instance, has an 85 by 92 mm., 2,088-c.c. engine and a top gear ratio of 4.6 to 1. Bagnall would re-design it as an 85 by 184 mm., 4,176-c.c. unit pulling a top gear of 2.3 to 1. Now the Vanguard gives 68 b.h.p. at 4,200 r.p.m. and reaches a piston velocity of 2,540 ft. per min. at that speed, or at 67 m.p.h. in top gear. There is every reason to believe that our new 4-litre engine would give the same power at 2,000-2,500 r.p.m., for the 1912 15T Hispano-Suiza, with a T-head engine of 80 by 180 mm., developed 64 b.h.p. at 2,300 r.p.m.

This being so, there would seem to be some case for the long-stroke engine, and it is not without interest that, amongst modern British cars, the two extreme advocates of the long-stroke principle, the Healey and Riley (for a stroke of 120 mm. in an 80-bore engine is extreme for this day and age) are renowned as very fast cars.

Originally the most obvious claim of the short-stroke school, that piston speed was reduced for a given crankshaft speed, was ignored so far as touring engines were concerned, for they seldom ran much above 2,000 r.p.m. When Pomeroy challenged Coatalen's long-stroke tendencies he criticised weight and lack of rigidity, not piston speed. This was entirely logical, for a 150-mm.-stroke engine turning at 2,000 r.p.m. will not appreciably exceed 2,000 ft. per min. piston speed, and apparently even in those days bearing loads were not deemed critical until some 2,500 ft. per min. was reached by the pistons. To-day, of course, the tendency to employ shorter and shorter strokes is due to a desire to reduce piston speeds, in order to reduce loadings and check bore wear, besides taking advantage of the factors set out tabularly above, particularly items c and d. While this same requirement at first resulted in shorter-stroke racing engines, it was hardly maintained, for it can be shown, for instance, that the piston speed of the 1927 1½-litre G.P. Delage, with a stroke of 76 mm., was 4,000 ft. per min. at peak r.p.m. Bore wear is of little consequence in a racing engine while its bearings, of great size and copiously lubricated, can withstand the loading implied by its piston speeds, which sound so shocking to designers of ordinary cars. In the more recent racing engines, built to a capacity limit, the individual

Continued on page 34

CHARLES GOODACRE ON AUSTIN RACING CARS

A VERY interesting lecture, illustrated by lantern slides, was given by Charles Goodacre, ex-Austin racing driver, to the 750 Club on January 5th. Goodacre had a great deal to do with the development of the "works" Austin racing cars and, although he apologised for any errors consequent on having to think back a great many years, his talk was not only extremely interesting, but his replies to technical queries were given concisely and with confidence. We gained the impression that Goodacre enjoyed being reminded of the good old days by the questions, every bit as much as the audience enjoyed his capable lecture.

The Austin Seven, said Mr. Goodacre, was developed by the late Lord Austin to meet the need for a post-Kaiser war economy car, and admittedly the little Peugeot provided the inspiration. That was in 1921 and work proceeded in the billiards-room of Lord Austin's house, Austin doing almost all the work himself, aided by one draughtsman. At first a flat-twin engine was intended, but was not proceeded with.

The first post-war "works" racing Austin formed the subject of the first slide. It was the two-seater Twenty "Black Maria," driven at Brooklands by L. Kings, who, Goodacre told us, is still at Longbridge, in charge of road-testing. This car used twin Zenith carburettors, had outrigger rear springs, gave about 70 b.h.p. and weighed about 23 cwt., its whippy chassis making it quite a handful for Kings to bring off the Members' banking. Goodacre spoke of a lap speed of 104 m.p.h., but "The Story of Brooklands" quotes Scriven's Austin Twenty as the fastest car of this sort at the Track, with a lap at 94.99 m.p.h.

The next slide showed the original racing Austin Seven, which Goodacre explained had 1-in. dia. crank-pins, 6.8-to-1 compression ratio and two carburettors, giving 23 b.h.p. and 70 to 75 m.p.h. Next he showed us the first supercharged car, lengthened 6 in., with 1½-in. crank-pins, alterations to the gearbox layshaft to give closer gear ratios, and an Austin-Roots blower driven by gears from the front of the crankshaft. This engine ran up to 5,000 r.p.m. and the car, very well streamlined, did about 90 m.p.h. on 50/50 petrol/benzole. The chassis of this car broke, and it was rebuilt with 6-in. instead of 5-in. brake drums, a modification subsequently adopted for the production Seven. The carburetter was a Cox Atmos and the fuel tank was in the tail. Much gasket trouble was experienced.

We were then shown "Mrs. Jo Jo," which, about the year 1929, gave some 28 b.h.p. unblown. The car, constructed at short notice for Capt. (now Colonel) Arthur Waite when, being out in Australia on a sales-drive, he wished to win the Australian Grand Prix, was shown next. It had a standard chassis, Cozette supercharger blowing at 7 lb./sq. in., a 5½-to-1 compression ratio and 1½-in. crank-pins. The blower ran at engine speed and gave plenty of trouble, but, on 50/50 petrol/benzole, about 28 to 30 b.h.p.

was developed, and Waite achieved his ambition of winning the Australian G.P.

This car was virtually the forerunner of the "Ulster," and two were built, one running at Southport. At Brooklands, using a 14-stud cylinder block, gaskets and plugs gave up the ghost continuously, but it was possible to attain 5,250 r.p.m., after which the blower flew to pieces. That was 80 to 85 m.p.h. on the 4.9-to-1 axle ratio. On the line K.L.G. 244 plugs were put in, but even then to avoid oiling-up was an ever-present problem. Holbrook and Poppe did their best, however.

Goodacre rather glossed over the "Ulster" cars and took us on to a special fabric-bodied car produced for Capt. Waite to use on the Mountain circuit. This had a blower giving 11 lb./sq. in. boost at 6,500 r.p.m. when the engine was doing 5,000 r.p.m., 1½-in. crank-pins, and gave 38 b.h.p. The weak point was the off-set transmission, to give lower seating, this being done by moving the banjo case on the axle over 12 in. but keeping a straight torque-tube, an ordinary double-block universal joint taking care of the angularity—or, rather, not taking care of it, because, do what the lubrication experts might, after a very short distance the universal blocks came out looking like cinders.

It was this car which was modified for Malcolm Campbell to take to Daytona, where he did just under 100 m.p.h., hampered by a 4.4-to-1 axle ratio. For publicity purposes a standard radiator was fitted. This car was bought by a keen Argentinian and never heard of again.

In 1930 Lord Austin called for a real racing car, but the budget to cover it was none too large. The top-hat-section frame was retained, but off-set transmission was again used, though with a properly-adapted crown-wheel and pinion. A non-counterbalanced 1½-in. crankshaft was used, and a Roots blower driven vertically from the front of the engine. Brockhouse was the mechanic mainly responsible for preparing these cars. With Solex carburetter and 15 lb./sq. in. boost, 45 b.h.p. was developed. Solid copper gaskets were used with alloy heads, and new water passages and a 28-stud block, using ¾-in. instead of ½-in. studs, was employed, also coil ignition and a three-speed gearbox. A lap speed of 101 m.p.h. was realised and Cushman achieved an official 100 m.p.h. with this car. Later, on methanol, 60 b.h.p. was developed and Mrs. Stewart went for records at Montlhéry. She was successful, but the inter-wheel wind-boxes fell off and these had to be completely removed and the tail shortened.

From this car were evolved the three "Dutch clog" cars, known to the works as the "rubber ducks." They were never very successful, were extremely uncomfortable and used 10-gauge steel plate to strengthen the body sides! Lord Austin said they looked horrid and expressed general disappointment. One of these cars went to South Africa and a slide of it was shown, its frontal appearance improved by a "Ruby"-type cowl.

The late Murray Jamieson, from Amherst Villiers, was hired at this time to design a real racing car. His first was a record car—a white well-faired machine—having a blower about 4 in. long, with steel rotors, running at three times engine speed. A 32-stud block, 1½-in. counter-balanced crank and 6.5-to-1 compression-ratio were used and 8,000 r.p.m. was achieved. This car did 122 m.p.h. and formed the basis of a road-racing car, which did 9,500 r.p.m. at 24 lb./sq. in. boost but cracked its blocks like fun.

So to the twin-cam Austins, Jamieson calling in Bill Appleby and Tom Brown to assist in the design. Three of these famous cars were built, and six sets of parts. One was crashed at Backwell and written off, even to the engine, but two are rotting under dust-sheets at Longbridge to this day. Inspired by the Lory Delage, these cars were built almost regardless of cost, and in original trim gave 98 b.h.p. at 7,800 r.p.m. on a fuel composed of 75 per cent. methanol, 15 per cent. ethyl alcohol, 10 per cent. water and 3 c.c. per gallon t.e.l. The crankshaft had 1½-in. crank-pins and ran in roller bearings with a 2½-in. lead-bronze centre bearing; 6.0, 6.8 and 7.5-to-1 compression ratios were used as conditions demanded, and the ultimate road speed was 125 m.p.h., while with a lower boost, higher compression ratio and Brooklands axle-ratio, 126 to 127 m.p.h. was attained, and Goodacre mentioned a lap at 132 m.p.h. on methanol. [The record 750-c.c. lap was set up by an M.G. at 122.4 m.p.h.—ED.] Jamieson used his own 13-plate friction shock-absorbers and soft suspension. The engines were very smooth and the slightest roughness meant trouble, but the direct-acting cams gave rise to a few headaches.

For Crystal Palace racing the cars were geared low and the engines allowed to rev. their heads off—at Shelsley Walsh the same applied, and the life of the valve heads was then about ten minutes! Goodacre emphasised how futile it is for a private individual to try to race such cars. They not only required a factory backing but the "know-how" to arrive at a satisfactory compromise between boost-pressure, compression-ratio and axle-ratio for any given race or event. Thus, high boost and low compression-ratio were called for in sprints, low boost and high compression-ratio for long races, but the exact figures were a matter of accumulated experience.

Of the Crystal Palace circuit Goodacre remarked that it was very slippery and called for no steering castor action of any sort, or you got so tired the car felt like a tractor after a few laps. The twin-cam Austin was admirably suited to this circuit when allowed to rev. drastically.

Goodacre generously concluded his lecture with a slide showing Maclachlan's well-known single-seater Austin Seven, which, he said, could even beat up the "works" cars on occasion, being 2½ cwt. or so lighter, and which "hasn't cracked its block yet, no one knows why!"

Question time brought out a host of absorbing Austin facts. Goodacre thought

Continued on page 53

RACING AND THE INDUSTRY

In Reading on January 21st, Col. Waite, managing director of the Austin Export Corporation, addressed the I.M.I. on "Motor Racing as viewed by the Manufacturer." James Allday introduced him and Claude Wallis took the chair.

Col. Waite traced the racing history of Austin [MOTOR SPORT covered the Seven's career in March-April, 1947] starting with the Twenty, which did 50-55 m.p.h. but, given a new camshaft, lighter parts, etc., achieved 95 m.p.h. in 1921-22. Waite said he would much rather do 150 m.p.h. in a modern racing car! He made the important point that racing was decided on expressly to stimulate sales of the Twenty. A one-model policy proved wrong, so the Twelve was introduced, but did not lend itself to racing. When the Seven was introduced, racing it was considered essential. After winning the 1923 Italian G.P. des Cyclecars the publicity broadcast from 2LO was invaluable. In a 400-mile French race the 15-gallon scuttle fuel tank broke loose after two miles, but Waite's mechanic jammed it with his fist for the rest of the race! After the Italian victory, a keen schoolboy was given a ride—he was Johnnie Lurani, referred to by Waite as "to-day, one of Italy's most famous drivers." Waite claimed to be the first to supercharge an engine in this country when, in 1925, he applied a works built Roots blower to the Seven—it blew at 7½ lb./sq. in. as the crankshaft wouldn't stand more. In the 1926 Geneva G.P. Waite's clutch broke up with four miles to go, but he won the Australian G.P., using fresh water when other competitors suffered boiling due to the chalky local water. When appointed to the Board, Austin made him give up racing. His last race was the 1931 T.T., when he overturned, swallowing his tongue, a doctor using a pair of pliers to pull it out of his throat before he suffocated! He referred to Jamieson as killed by a flying tyre [actually, by a burning car].

Waite said racing has much value in respect of experience and prestige, but you *must be successful*. Private owners cannot race properly and he would ask them not to do so at all. Individual makers cannot afford £100,000 to build a team and £50,000 a year to maintain it. A team sponsored by a group of manufacturers Waite thought fatal, as those who contributed most would dictate policy. The only way we can have a British team is by Government subsidy, selecting a good firm and letting it set up a separate racing section. British tax-payers should

demand it. The Export Drive precludes active stock-car racing. Waite emphasised how to-day Italy makes us look stupid in International motor-racing. He suggested that those intending to race should bear in mind that in 1952 we may see a 2-litre Formula, rendering 1½ litre cars obsolete. The twin-cam Austins Waite regards as museum-pieces in cotton wool; he will never let them race again for fear of crystallisation. The Mayor of Reading was most enthusiastic about this lecture, and gave an excellent speech saying that visiting the U.S.A., he realised although America is proud of her production and streamline, she fully appreciates British quality; he confessed to knowing something about cars, as he runs a 1932 Morris! Loud applause greeted Waite's statement that only that day he had received Austin's 1948 car-production figure—71,500.

THE SEVENTEENTH REMBRANDT

Cameron Earl gave a really excellent talk at the "Rembrandt" on January 22nd on his report on the German G.P. cars. Bob Gerard took the chair and George Monkhouse supported Earl. Gerard said it was disgraceful that we have lost Donington—Silverstone is certainly not a substitute and we want a road-circuit; Hyde Park would be ideal. He thought 350 b.h.p. is needed to beat the Alfas and said driving technique would need to be very advanced to handle such cars. Monkhouse felt that 400 b.h.p. from a 1½ litre will be needed, as the later 1948 Alfas gave 340 b.h.p.

Earl said that after the difficult task of getting Government permission to compile his report, he completed it after one week's visit to Germany; 650 copies were run off, and sold out in ten days! It was difficult to assess the cost in £ sterling of each German team, but £156,000 a year was about right, of which one-fifth was met by subsidy. He touched on the opposite approach to given problems, such as weight distribution, bearings, blower pressures, lubrication, braking, etc., which characterised the efforts of Mercedes-Benz and Auto-Union. He felt that Auto-Union made the better engines, Mercedes the better running gear. The 3-litre A-U gave 500 b.h.p. at 7,000 r.p.m. and good torque at lower r.p.m.; Mercedes got only 485 b.h.p. at 8,000 r.p.m. and needed 47 different gear-

box combinations, where A-U used one box combination and four different final-drive sets. Mercedes attacked brake fade by reducing temperature, A-U by using flexible shoes able to accommodate drum expansion. Both teams found De Dion rear-axes what they wanted.

A-U took up racing voluntarily, but later the N.S.K.K. insisted on the appearance of both teams in the Vanderbilt Cup and Donington races. Answering Robin Jackson Earl said both teams sought understeer, which is why swing-axes at the rear were abandoned. Monkhouse said starting money was £500-£1,000 a car, averaging three cars in twelve events a year. The drivers made £1,000-£2,000 a year, took all prize money and part of the starting money. It was great to be a team mechanic, but if you made one mistake you were disgraced for life. At present Mercedes is making 600 1.7 litre cars a month and hopes to resume racing, probably using fuel injection. After all, they have raced on and off since 1894! Monkhouse was certainly pro-anything British and should go on being so until there is no need to be!

THE RALLY—continued from page 38

spare wheels, Page's Riley, with sledgehammer across the front, and the A.C. saloon. Fowler's odd-looking Healey saloon appeared to have little ground clearance for Rally work. Sydney Allard checked in early at Folkestone. Black was driving an early Sunbeam-Talbot tourer with hood and screens erect; Allison a Lancia "Astura"; the Bristol was a left-hand drive saloon; while Potter's Allard was well provided with lamps, Harper's Vauxhall Velox had competition tyres all round, and Descamps, with the baby Renault, wore white helmet and true Continental garb. The *Dinard* sailed 4½ minutes before its scheduled 10 a.m. departure, under a sunny sky, most of the cars' crews snatching some much-needed sleep.

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A CONTRIBUTOR to one of our contemporaries has been deploring, in a recent article, the trend, or rather the stagnation, in the design of racing engines. For twenty years, he says in effect, designers have been concentrating on the chassis to the exclusion of the power-plant. I agree; and, while agreeing, I have been glowing with a sense of quite unjustifiable pride.

Rather over twenty years ago, in April, 1927, to be exact, there appeared in MOTOR SPORT an article signed by "E. K.", who was in fact none other than "Baladeur" under a different *nom de plume*, in the course of which the author complained that "the tendency at present . . . is to develop engines at the expense of the rest of the chassis," and entered the plea, "let us by all means avoid emulating the three-speed American track racer, in which nothing but the engine is studied." After this interval of time, the complaint, it seems to me, was fully justified; and the plea, to judge by the reactions of our contemporary's contributor, was answered to an almost embarrassing degree.

Not, of course, that anyone in the racing world took the slightest notice of "E. K." His proposed solution, in any case, was to remove the French and Italian Grands Prix from Montlhéry and Monza, to concentrate on the Targa Florio and to find an equally difficult course over which to run the big race of the year in France. Such a course, incidentally, although the fact was not mentioned, had already been mapped out, in the shape of the Puy de Dôme circuit near Clermont-Ferrand, a really good mountain course in the *massif central* which was to have been used for the 1914 Coupe de l'Auto, if Europe had not begun committing suicide instead. As the circuit is over 17 miles in length, it would, I suppose, be considered much too long in these latter days, even though the Italians seem to prefer the much longer tour of Sicily to the old Madonie Circuit. In the meantime, racing round the houses, particularly in Monte Carlo, has, I suppose, something of the same effect, which may perhaps be taken as an example of extremes meeting.

However, the reason why designers took "E. K.'s" advice and switched their attention from engines to chassis had very little to do with the courses over which races were run, and was really the result of a fundamental change in racing rules. But before going into this question, it seems advisable to go back a bit from 1927 and examine the grounds of the then complaint that it was engines rather than chassis that were monopolising attention. I am, I know, frequently accused of taking any opportunity of going back to Methuselah, but on the present occasion I propose to limit my incursion into the past to the year 1910.

In that year Paul Zucarelli won the Coupe de l'Auto on an Hispano-Suiza with a side-valve, T-head four-cylinder engine, of 65 by 200 mm. bore and stroke, giving a capacity of 2,653 c.c. This engine is said to have developed over 60 h.p., but by 1914, Peugeot, using a slightly smaller engine of 75 by 140 mm. bore and stroke (2,472 c.c.) to fit the new 2½-litre capacity limit, had pushed the output up to 80 h.p. In the meantime, Delage had proved successful in 1911

SIDESLIPS

by

"BALADEUR"



with a horizontal-valve engine, Sunbeam in 1912 with a side-valve L-head engine; but by 1914 both had come round to the overhead valve design with two overhead camshafts as introduced by M. Henry on the Peugeot of 1912. It is a design which, for racing engines, has remained unchallenged to this day.

By the time the French Grand Prix was revived in 1921, Henry had moved from Peugeot to Ballot, and in the race for 3-litre cars at Le Mans, a 2-litre Ballot actually finished third. The engine of this car closely followed the lines of the 1914 Peugeot, although with a bore and stroke of 69.9 by 130 mm., the capacity was some 20 per cent. smaller. On the other hand, its speed had been advanced from 3,000 r.p.m. to 3,400 r.p.m., and the output in consequence maintained at 80 h.p.

It was, moreover, rapidly coming to be realised that if engine speed was to be progressively increased, the weight of the reciprocating parts must be reduced, and the easiest means of doing so seemed to be by the use of a multiplicity of cylinders. The 1921 race was won by a straight-eight 3-litre Duesenberg, and the Italian Grand Prix that same autumn by a straight-eight 3-litre Ballot. Then, in 1922, came the reduction in the capacity limit to two litres, and at Strasbourg, F.I.A.T., chiefly, it would seem, for reasons of manufacturing convenience, substituted a six-cylinder for the previous year's eight-cylinder engine. The speed, nevertheless, was pushed up to between 4,000 and 5,000 r.p.m., the output to 92 h.p. In 1923 the successful, and very similar, Sunbeam engine was getting up to nearly 6,000 r.p.m., and developing 108 h.p., or more than the 105 h.p. of the 3-litre Duesenberg of only two years earlier.

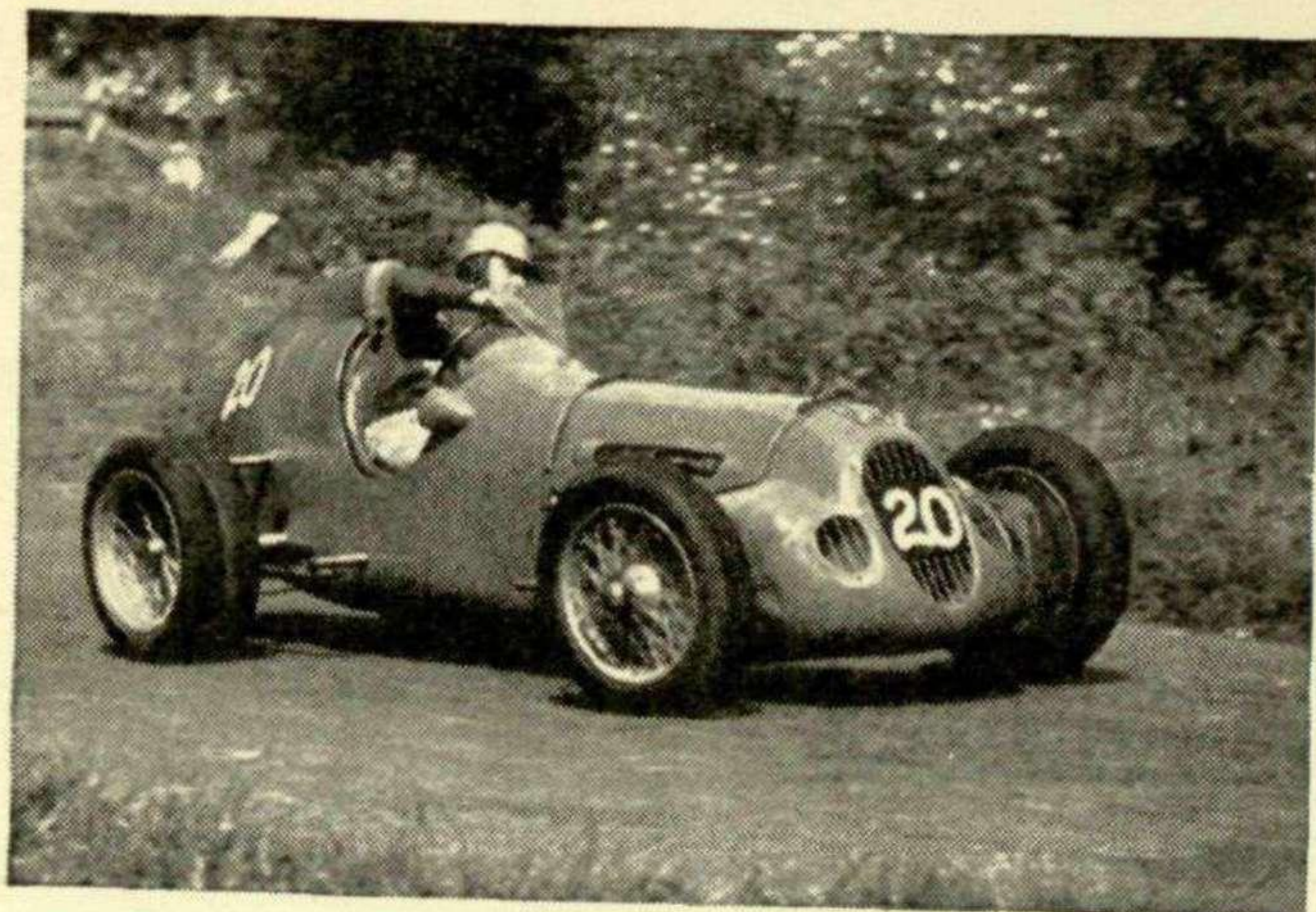
But at these extravagant engine speeds it was found that, even with best design of inlet pipe, valves and cylinder-head, it was impossible for the pistons to suck in a full charge of gas. The only answer to that was to blow it in, and in 1923 at Tours, F.I.A.T. appeared with a straight-eight 2-litre, fitted with a supercharger. The new device proved the Italians' undoing, but while it lasted, the new engine developed 118 h.p., 10 h.p. more than the successful Sunbeam and 16 h.p. more than the F.I.A.T. engine of the previous year. And in 1924 the rather similar Alfa-Romeo engine not only developed 134 h.p., but got away with it; by 1927, the year in which "E. K.'s" article was written, the successful straight-eight Delage was attaining an engine speed of 7,500 r.p.m., and, although its capacity was only 1,500 c.c., was developing 150 h.p. Thus in the twelve active seasons, 1910-14 and 1921-27, the successful racing engine had developed from a side-valve four-cylinder 2½-litre turning

at 2,500 r.p.m., or a little more, and giving 60 h.p., or 24 h.p. per litre, into a double-overhead camshaft supercharged eight-cylinder 1½-litre turning three times as fast and giving four times the output per litre. It was enough to take your breath away; no wonder that designers and commentators alike felt that they, too, were in need of a supercharger.

In the meantime, what had happened to the chassis? Well, really only one thing of note. The choice of the hilly Lyons course for the 1914 Grand Prix and of the mountainous Auvergne course for the 1914 Coupe de l'Auto had convinced the more perspicacious designers of the necessity of providing their racing cars with front wheel brakes; and in 1927 there was hardly a touring car left without them. But apart from this, the chassis of the 1927 Delage hardly differed in any essentials from that of the 1910 Hispano-Suiza; and as a result of the enormous increase in the power available, racing cars were becoming exceedingly difficult to control. "I have always insisted," declared Louis Delage, in an interview with *The Autocar* at the end of 1925, "that the present type of racing car is too fast for safety; it has become so fast, indeed, that I do not consider there are more than half a dozen men at the present time capable of driving a modern racing car at its maximum speed on the open road. With cars equipped with a 2-litre engine we now obtain speeds of 130 miles an hour or more . . . It does not appear to be sufficiently realised that we have now developed a type of racing car which is not tested to the utmost because the driver is humanly incapable of handling it, on the road at any rate, at its maximum speed." And he advocated some change in racing rules which would limit the speed of racing cars to, say, 110 miles an hour.

But the authorities paid no more attention to Louis Delage than they did to "E. K."; in fact, rather less, for while they did return races from the track to rather awkward road circuits, they so arranged the rules that designers were able to build cars that would do a great deal more than 130 m.p.h.; and yet they found a good many more than half a dozen drivers who could handle them. In the process they had to give the most intensive study to chassis design, while, from the point of view of technical progress, the engine department could be left to take care of itself. Of this, two facts stand out in striking illustration. The first is that while the 1927 Delage is still able, after more than 20 years, to give an exceedingly good account of itself in the 1,500-c.c. class, it has been found desirable, at any rate in some quarters, to modify its suspension. The second is that M. Lory, who designed it, has made very little change in the basic design of his latest product, the C.T.A.-Arsenal engine, except that the latter is a V-eight instead of a straight-eight; and I suspect that this change has been made more for the sake of the chassis than the engine.

Having had my way over chassis, therefore, it is time, it seems to me, that we went back and had a look at engines. Admittedly, I should have expected in 1927 that we should have got four-wheel drive by now, but that, perhaps, will



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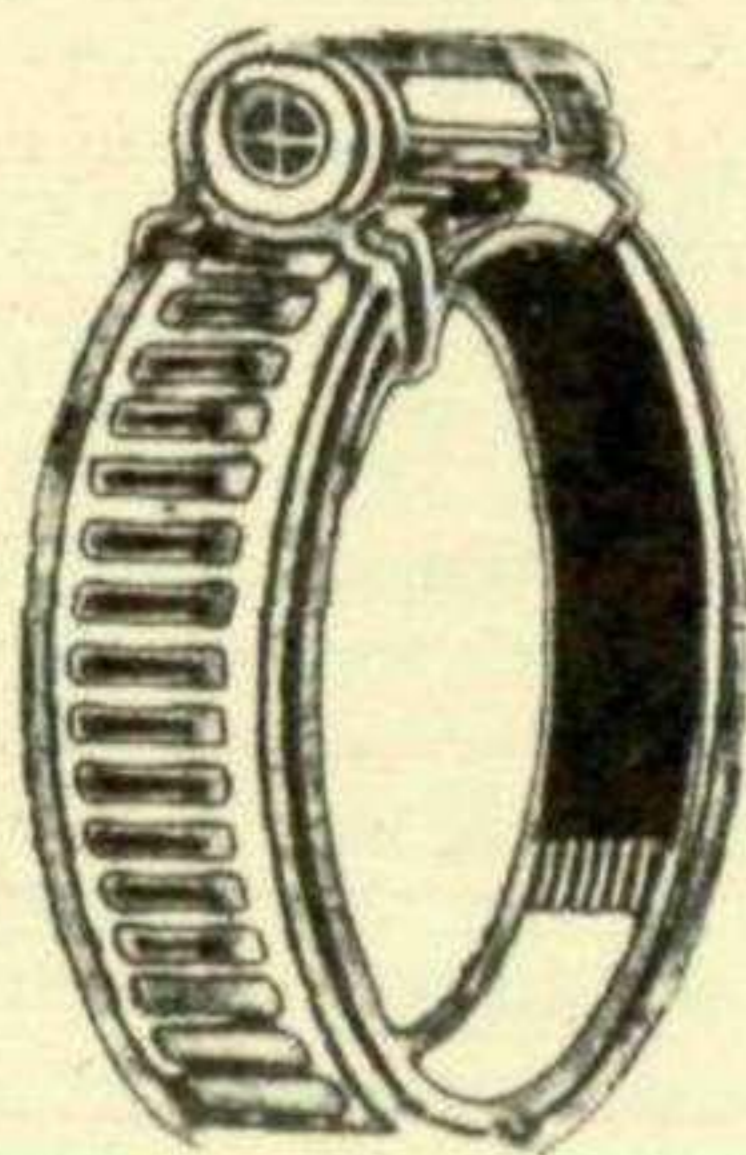
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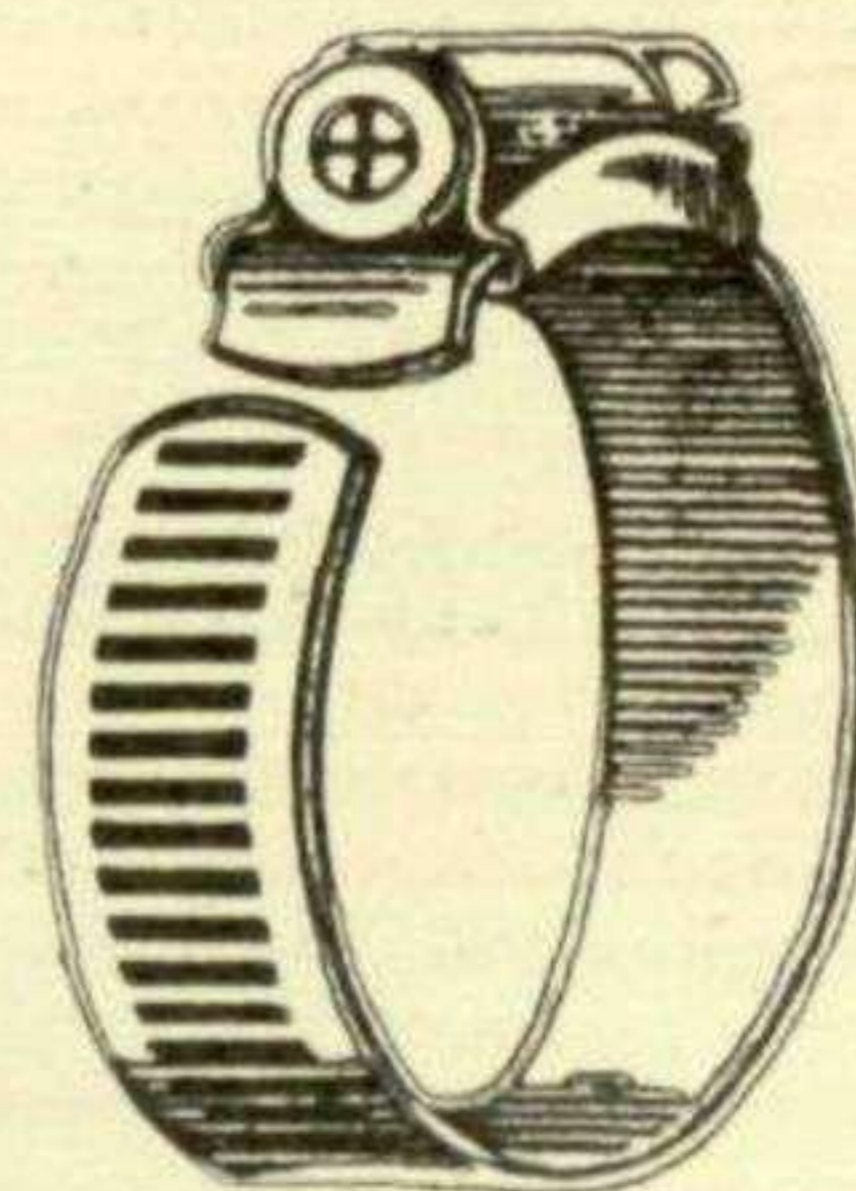
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have to wait until we switch back from engines to chassis again. As far as the former are concerned, it is illuminating to turn back and see what lines of development seemed to be opening out when interest in engines virtually ceased.

In 1911, the formula for the Coupe de l'Auto was changed from the limited bore rule to the limited capacity rule. The former had left designers the choice between increasing the capacity per revolution (or rather per two revolutions) by increasing the stroke, or increasing the number of revolutions per minute. The latter restricted their aims to increasing the number of revolutions per minute, or rather the number of power strokes per minute. This immediately led to two schools of thought, of which one plumped for higher engine speeds, among its disciples being Marc Birkigt, the Hispano-Suiza engineer, and Georges and Maurice Sizaire of Sizaire-Naudin. Both of them pretty quickly came up against the difficulty of inadequate cylinder filling at high engine speeds, and both turned to the supercharger as the solution, a solution, incidentally, which had been suggested by Louis Renault as long before as 1902. In the case of the Hispano-Suiza engine designed for the 1912 race, the supercharger consisted of two pumping cylinders, with pistons operated by the crankshaft, and placed in front of the four working cylinders. According to M. Charles Faroux, this 3-litre engine developed 100 h.p., which, if accurate, means that its output was almost equal to the 105 h.p. developed by the successful unsupercharged 3-litre Duesenberg of 1921. There must have been snags, however, for the Hispano-Suizas did not appear in the race, and by 1923, when F.I.A.T. caused a sensation by reintroducing the supercharger in French racing, M. Birkigt expressed himself as most hostile to its use.

The Sizaires, eschewing pumping cylinders, chose a rotary blower, but although the Sizaire-Naudins did start in the 1912 race, it was with ordinary atmospheric induction, the blowers, apparently, having been abandoned because no plugs could be found to stand up to them.

The second school of thought, represented by MM. Côte and Koechlin, set out not just to increase piston speed, but to reduce the unproductive proportion of piston travel by employing a two-stroke cycle. There was, of course, nothing very novel about this—the very first Benz petrol engine was, I believe, a two-stroke, but it was considered too complicated for cars, and in practice it had (and has) been virtually left for use in motor-cycles. The Koechlin, like the Hispano-Suiza, was a non-starter both in 1911 and in 1912; the Côte appeared on both occasions—and proved itself even less successful than the Sizaire-Naudins, which without their blowers were most disappointing.

The curious thing is that these two progressive schools of thought did not combine. The organisers of the Coupe de l'Auto were from the first rather doubtful as to whether the use of superchargers infringed at least the spirit of a limited capacity rule, and in 1913 they made the position quite clear by banning the device—except as an adjunct to two-stroke engines. This apparently so greatly discouraged Hispano-Suiza and

Sizaire-Naudin that both of them gave up building racing cars altogether. Koechlin made a rather half-hearted appearance in 1913 with a two-stroke but without a supercharger; and very soon both seemed to have been forgotten.

And yet as far as the two-stroke was concerned, the supercharger, one would have thought, was just what the doctor ordered. The development of the former had by this date already progressed far beyond what the French call the "rustic" stage of the ordinary single-cylinder design, in which a larger proportion of the charge only fails to escape through the exhaust port because so large a proportion of the exhaust gases also fails to escape through it. The engine of the Valveless car of about this period, for example, had two cylinders with a common combustion chamber, in which respect it resembled the Violet two-stroke engine of the 1920's, and two pistons with their crankshafts geared together. The exhaust port was in one cylinder, the inlet in the other, and the cylinder wall between the two pistons acted as a considerably more effective baffle than the spur on the ordinary two-stroke piston.

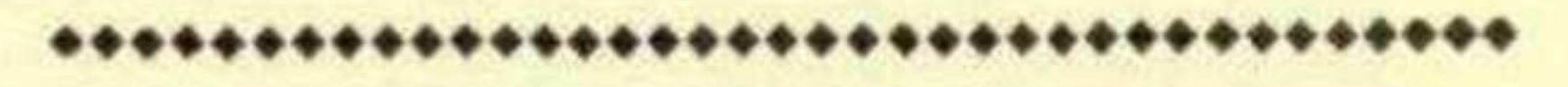
But the Valveless still employed crankcase compression, although it compressed only air, to which petrol vapour was subsequently added, and its scavenging was admittedly poor. The supercharger, by providing an external compressor, solved one of the most obstinate problems of two-stroke design, and in the Silent Snow, designed by Major Snow for the first 200 Mile Race at Brooklands, a pumping cylinder, concentric with the working cylinder, and containing an annular piston oscillated by eccentrics, forced the charge into the working cylinder through ring valves. Of even greater significance, and of considerably earlier date, was the N.E.C. two-stroke aero engine of 1910, which employed what was contemporaneously described as a "Roots blower," and rotary valves. The Roots blower, though not necessarily the rotary valves, presumably reappeared in the stillborn F.I.A.T. Grand Prix engine of 1924, which was reported to be a 2-litre six-cylinder two-stroke, developing 150 h.p. Actually when the racing cars appeared at Lyons, they were found to have modified versions of the 1923 straight-eight four-stroke supercharged engines, developing about 130 h.p., and the two-stroke, as far as I know, never saw the light of day.

It may be conjectured, however, that if the cylinders were arranged in a V, they may have resembled the Valveless design in being in pairs with a common combustion chamber, the V formation obviating the necessity for gearing the crankshafts together. By arranging the pistons in an engine of this type so that one has a lead on the other it is possible to combine some of the niceties of valve timing without the use of valves, and the idea has, if I remember rightly, been put into practice both by Ricardo and Arnold Zoller.

Probably, however, the two-stroke would be a very much better engine if its designers did not yield to the temptation to dispense with valves, just because they are not absolutely necessary. Sleeve valves, or even better, rotary valves, would seem likely to suit it admirably.

The objections to their use in four-stroke engines centre round the difficulties of lubricating them at high engine speeds; but obviously one of the main objects of a two-stroke is to reduce crankshaft speed without reducing power.

At any rate, by 1927, the date when "E. K." was pleading for less attention to be paid to engines, A. Caputo was writing in *Omnia*, "the progress of tomorrow will be with the two-stroke engine. Forced induction by a light rotary blower has added to it one of the elements it lacked . . . the two-stroke is racing's most immediate promise . . ." Unfortunately, perhaps, the world preferred, it would seem, to listen to "E. K." instead of to the erudite Monsieur Caputo; and to-day, after more than twenty years, mighty little more seems to have been heard of the two-stroke racing car. It is high time, it seems to me, that it was.



ADJUSTING BUILT-IN LAMPS

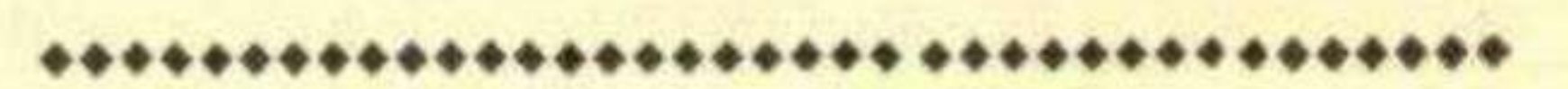
Sir,

I have just read your road test of the new production Jowett "Javelin" in the Oct. 1948 issue of *MOTOR SPORT* and note a remark made regarding the built-in lamps fitted on these cars. This is to the effect that "one cannot alight and slap built-in parts into happier positions," I would imagine that this would not improve any external lamps that were correctly mounted on any vehicle and with regard to the built-in type of lamp this of course can be adjusted quite easily with the aid of a screwdriver both vertically and horizontally by set screws beneath the lamp rims.

I would like to point out that I have no connection with Messrs. Lucas, but this comment does seem to me to be rather misleading for anybody who is unfamiliar with the modern built-in lamp.

As a regular reader of your journal for some considerable number of years I would like to enquire whether it would not be possible to include a road test on a current high-performance car in each month's issue instead of the occasional road test which does appear quite often in connection with cars of the more conventional utility class, good though they undoubtedly are.

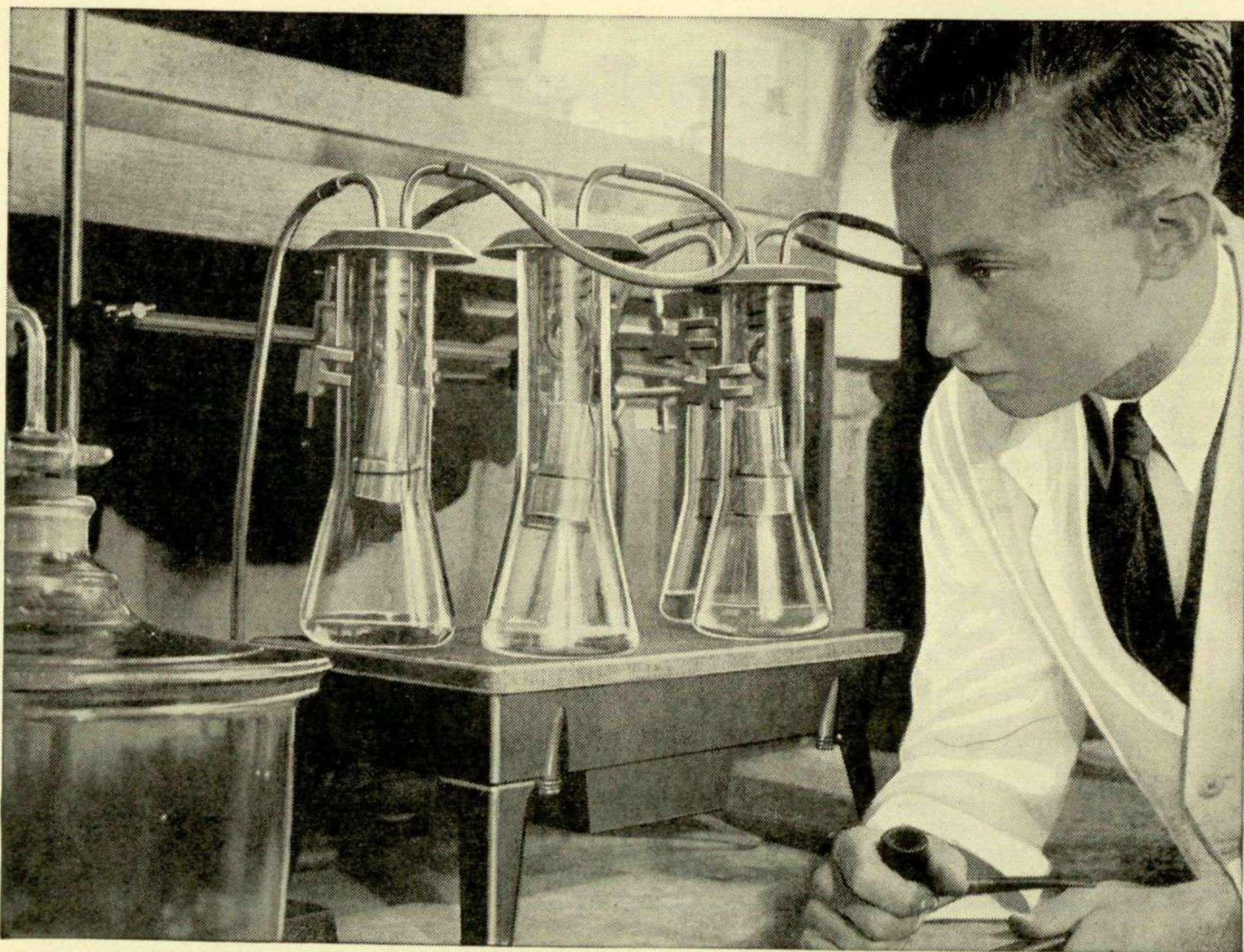
I am, Yours, etc.
Hampton-in-Arden, J. B. MADELEY
Warwickshire.



BOOK REVIEW

"MOTOR RACING WITH MERCEDES-BENZ."
(New edition.) By George Monkhouse
(Foulis 21s.).

Everyone will be enormously pleased to learn that this classic account of the part Mercedes-Benz played in Grand Prix racing from 1937 to 1939 has been re-issued. The new edition contains photographic reproductions of all those magnificent Kodak-caught pictures from the first edition and many new ones, revised chapters on "Motor Racing Photography," "Personalities" and "In Retrospect," and tabulated results of all the Grands Prix from 1934 to 1939. It is one of those very splendid books with which the critic, as such, has no reason to deal.—W. B.



At the Shell Thornton Research Centre: an experiment in the solvent extraction of oil insolubles.

THE CONTINUAL SEARCH FOR “something better”...

Continually, as new engines are produced, the need arises for new, better lubricating oils to suit them. That is why one of the most important activities of an oil firm is the work done in its research laboratories and engine-testing stations.

The Shell Research Centre at Thornton, in Cheshire, is the biggest in Britain, and one of the best equipped in the world. Knowledge gained at this centre is pooled with knowledge gained at Shell Research Centres in other parts of the world.

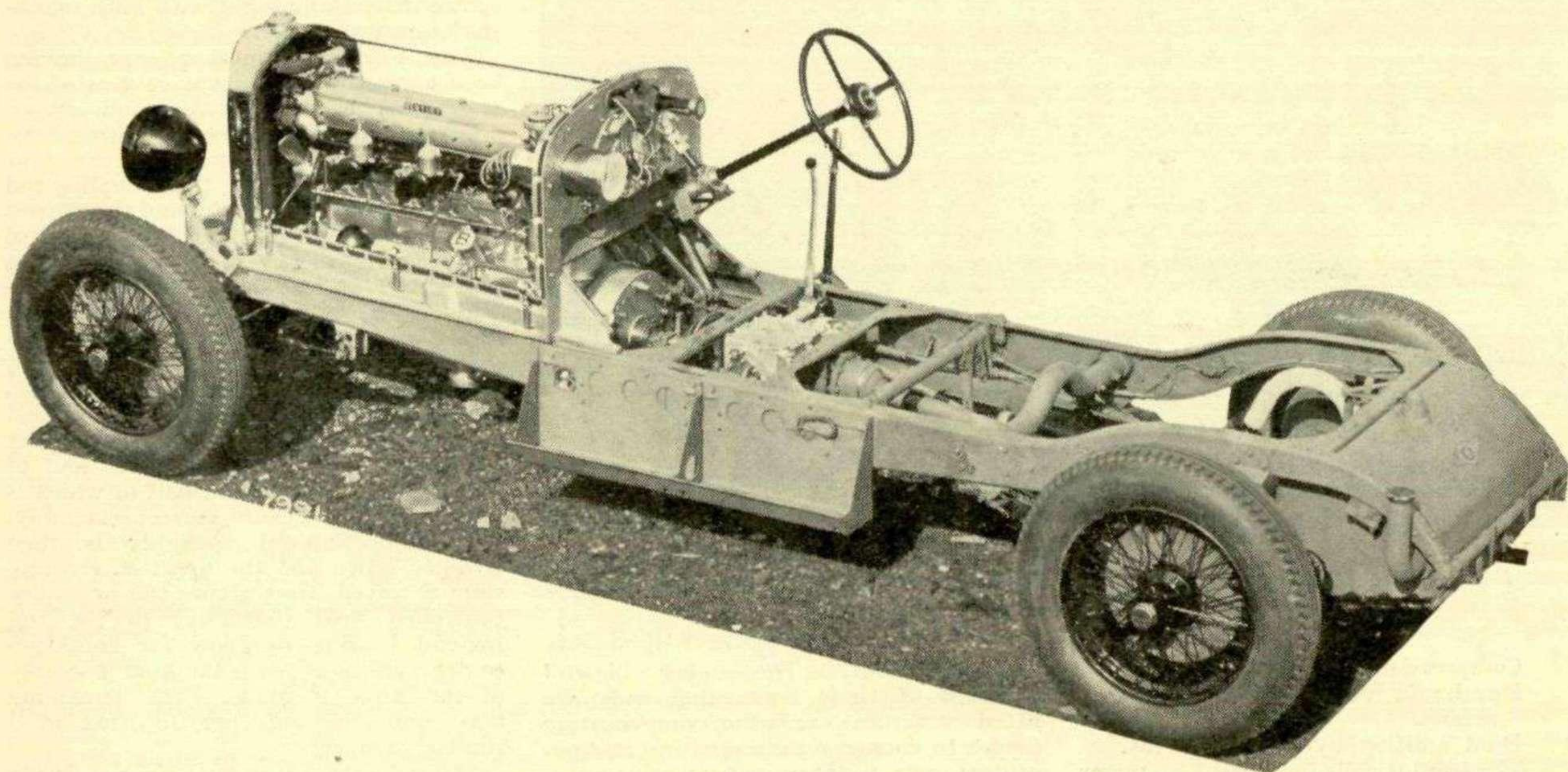
Shell's continual search for “something better” is one reason why Motor Manufacturers recommend the use of Shell Oil for their cars.

SHELL OIL



LEADERSHIP IN LUBRICATION

THE 6½-LITRE BENTLEY



SO much publicity has been attracted by both the famous four-cylinder Bentleys, by reason of the niche which they carved for themselves in the annals of motoring sport during the 1920s, that it is not easy to write an article capable of doing justice to that rather more dignified big brother, the 6½-litre "Big Six," which was outstanding among the cars of nearly twenty years ago.

Dignified—yes—but let us not forget that it was one of these models which, in the hands of those immortal drivers "Babe" Barnato and "Tim" Birkin, set the final seals on the racing career of the Bentley in those memorable years at Le Mans in 1929 and 1930.

Readers of this journal will not need to be reminded of the more recent achievements of the 6½-litre in the hands of enthusiasts, and future successes will doubtless be chronicled as they arise.

This article was planned three years ago as the third in a series on Bentleys, and it is hoped that it will prove a worthy successor to those on the 3-litre and 4½-litre which have already appeared in MOTOR SPORT.

As early as 1925 it became apparent to the designer of the, by then, world-famous 3-litre, that an entirely different type of car was required, to meet the needs of a different class of motorist. Such a car should have the attributes of a high-speed touring chassis, should be capable of carrying the enclosed coachwork of the time, and should handle like a dignified town-carriage. The development of such a car was no mean task and "W.O.", ably assisted by the redoubtable "K.M.", set about designing a prototype based on their experience with the 3-litre. The

This authoritative article on the 6½-litre Bentley, both standard "Big Six" and "Speed Six" versions, has been compiled for us with great care and no little research by the Bentley Drivers' Club, under the guidance of its President, Stanley Sedgwick. It follows similar very popular articles on other Bentley cars, the 3-litre having been covered in February, 1947, and the 4½-litre in February, 1948.

The "Speed Six" Bentley upheld British prestige in the nineteen-thirties at Le Mans and elsewhere in a truly noble manner, and, to-day, something like an eighth of the total cars of this type produced are owned by members of the B.D.C. Consequently, we are delighted to be able to reveal hitherto unpublished facts relating to the origin and evolution of these fine cars, and to give useful technical and servicing data. We know Mr. Sedgwick would wish us to say that Mr. R. A. Clarke, of the old Bentley Company, provided the basis for this article, which also has the blessing of Mr. H. Kensington Moir, L. C. McKenzie, and of W. O. Bentley himself. It certainly requires no further recommendation!—Ed.

//////
 six-cylinder evolved closely followed the well-tried layout of the 3-litre, but incorporated several new features, of which the more important were:—

Six-cylinder engine, 80-mm. bore by 140-mm. stroke.

Coupling-rod-driven overhead camshaft. Redesigned frame to carry coachwork of more generous proportions.

Redesigned rear axle gear-case to take a new range of rear axle ratios.

Gearbox with different ratios to suit this class of car.

Redesigned steering assembly.

As far as is known it was the first motor-car engine to be flexibly mounted on rubber blocks.

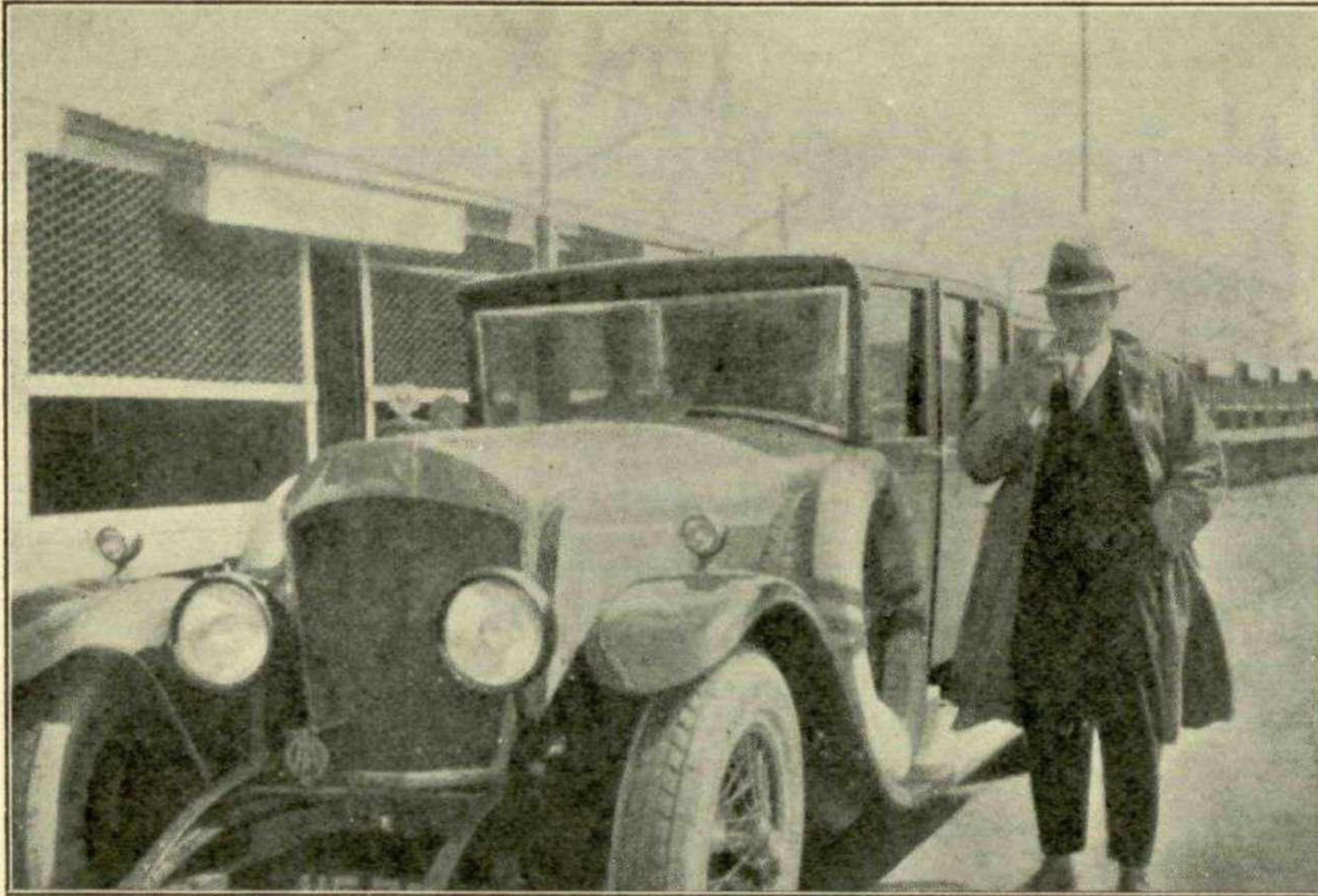
(The mathematically-minded will have observed that this first "6½-litre" was indeed a 4½-litre!)

Experimental work proved the necessity for various alterations and culminated in the adoption of a 100-mm. bore 6½-litre engine as the standard power unit. The increase in engine size was not entirely unconnected with an unpremeditated "dice," in France, between the prototype and the first experimental "Phantom I" Rolls-Royce, in which "The Sun"—for that is the name under which the first Bentley Six was registered—had too little in hand for the liking of "W.O.", who was driving at the time. The 6½-litre engine developed 140 b.h.p. at 3,500 r.p.m., and its excellent power output at low r.p.m. met the demands likely to be made upon a chassis designed for the dual role of town carriage and high-speed touring car.

The specification of the first production models was as follows:—

Engine.—Six-cylinder, 100-mm. bore by 140-mm. stroke, 6,597 c.c.

Four overhead valves per cylinder. Coupling-rod-driven overhead camshaft.



EXPERIMENTAL.—This is, we believe, the first published picture of the Sun, which was the original six-cylinder Bentley, an experimental 4½-litre car. Its creator, W. O. Bentley, is standing beside it.

Compression ratio: 4.4 to 1.

Duralumin rockers. Ball-end tappet screws.

Dual ignition by two magnetos.

Thermostatically-controlled water circulation.

Celeron reduction gears, 30 by 60T.

Autovac fuel feed. Single Smith Type 50 BVS./C. carburetter.

Clutch.—Single-plate type, Halo lined. Single-plate clutch-stop.

Gearbox.—B.S. type. Indirect ratios: 3rd, 1.278; 2nd, 1.823; 1st and reverse, 3.364.

Steering.—Worm and sector type.

Rear axle.—Spiral bevel gears, ratio 4.16 to 1.

General.—Wheelbase 11 ft. and 12 ft. 33 in. by 6.75-in. tyres; 21-in. rims. 19-gallon petrol tank. "Telegauge" petrol gauge. Smith double-pole lighting and starting.

Road speed at 3,500 r.p.m. = 84 m.p.h. Chassis price, £1,450.

The first models had a half engine-speed dynamo, driven from the camshaft and located on the aluminium bulkhead as in the 3-litre, but the majority of these chassis were later modified to the engine-speed dynamo driven from the nose of the crankshaft, the radiator shell being altered to suit. Few, if any, of the original radiator shells are in existence today.

At this point it is convenient to deal with some aspects of the operation of that somewhat complicated, but nevertheless reliable type of camshaft drive, the coupling-rod crank-drive—frequently referred to incorrectly as the "eccentric drive."

Broadly, the system consists of a helical gear-driven, three-throw crankshaft, having the crank throws at 120 deg., to which are coupled three specially-designed connecting-rods, which in turn are connected to a driven crankshaft of similar dimensions direct coupled to the over-

head camshaft. The upper big-end bearings of these connecting rods are fitted with an expansion-compensating device to counteract changes in crankpin centres due to temperature variations, and it is this device at the camshaft end of the coupling rods which appears so complicated to the uninitiated. In the early production models the device comprised four heavy, square-section coil springs per coupling-rod, two on either side of each big-end bearing, so adjusted, by means of suitable spacing-washers and spring pressures, as to allow automatic self-adjustment of the centres of the connecting-rod bearings to suit the alterations in the centres of the driving and driven crankshafts, as the direct result of any expansion or contraction caused by temperature variations in the engine unit. The actual dimensional centre variations are comparatively small, being of the order of from 0.016 in. to 0.018 in.

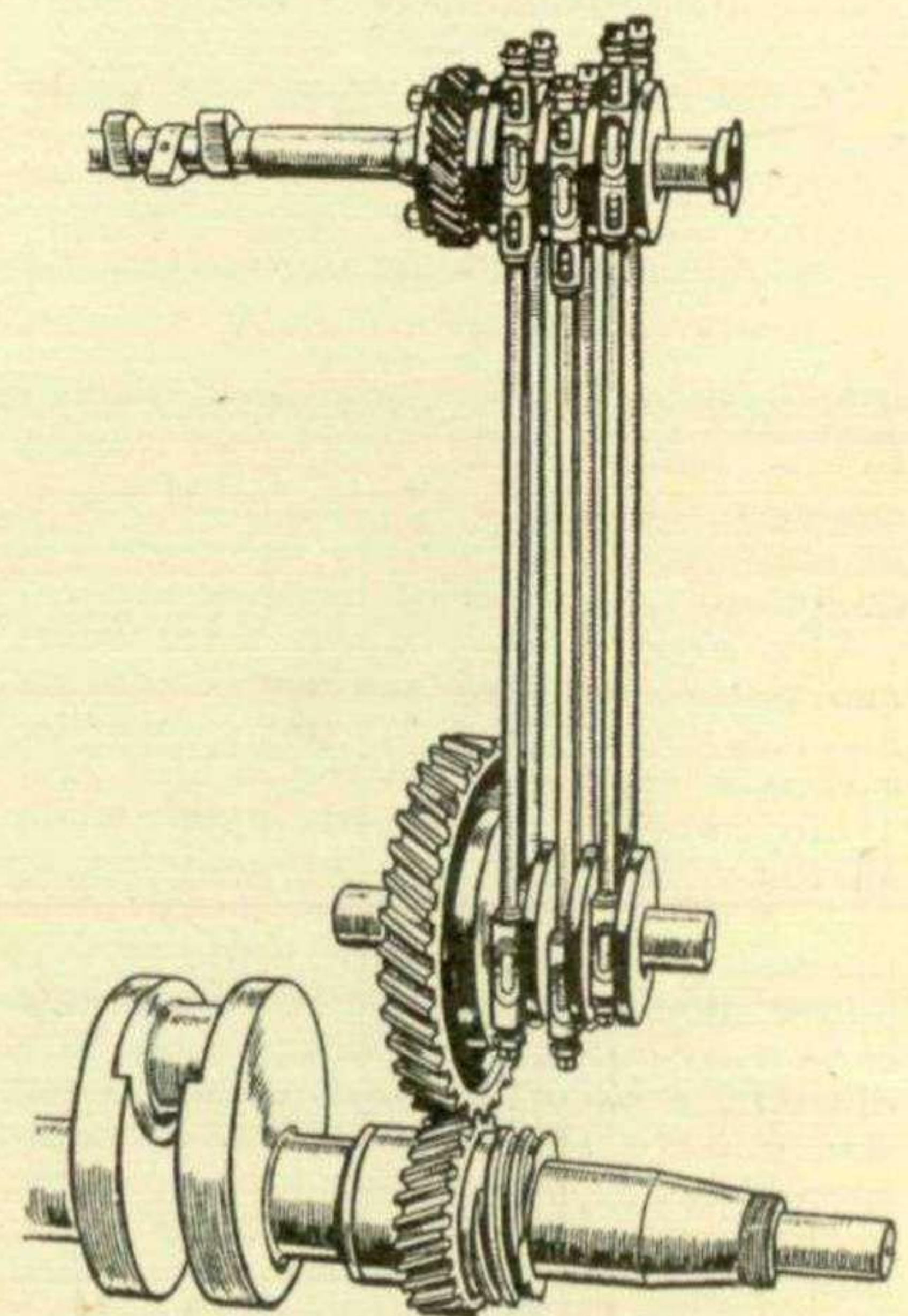
It was soon found that these heavy coil springs were prone to fatigue fracture under certain engine running-conditions (periodicity) and, although the number of failures was small, they were replaced by a novel substitute known as the "washer drive." This washer-drive substitute for the spring drive consisted of a tubular steel spool upon which were assembled forty-nine 25-s.w.g. (0.020 in.) spring steel washers, each assembly being dimensionally the same as the coil spring it replaced. The successful operation of this washer assembly depended upon the slight "dish" in the thin spring-steel washers, plus the oil-film between each of the washers, for the necessary spring pressures to compensate for the centre variations. In practice these washer-drive units, once correctly adjusted, remained constant dimensionally for practically the life of the car.

The setting of these drive unit coupling-rods is a simple operation requiring two ground mandrels 4 in. in length, the diameters of which are ground parallel

to suit the bores of the connecting-rods (*i.e.*, the driving and driven crankshaft diameters), and a V-footed vernier measuring-rig for measuring between the top diameters of the centre driving crank-pin and the underside of the centre driven crank-pin with both crankshafts on top centre.

The Celeron reduction gear having been correctly meshed, the centres of the crank-pins of the driving and driven crankshafts are measured with the vernier. The two mandrels are now inserted into one of the coupling-rod big-end bearing assemblies and the centres for the crank-pins checked, and so adjusted by means of spacing washers under the bottom pair of washer-drive units as to give the crankshaft centre dimension plus 0.018 in. with the assembly "tightened down" on to a 0.022-in. erecting shim under each washer-drive. The bearing securing-studs are then filed flush with the top of each securing-nut and are stamped with an "O," half of which is on the stud and half of which is on the nut, to ensure correct assembly. The connecting-rod assembly is then stripped down and the 0.022-in. erecting shim removed, thus giving the necessary controlled float (0.022 in.) to the top big-end bearing to allow for crank-pin centre variations when the final assembly of the drive is made. The remaining two connecting-rods are adjusted in a similar manner.

Due allowance was made in the design of the reduction gear assembly for any gear-meshing adjustments by the incorporation of eccentrically-machined bearing bushes in the driving crankshaft bearing design. These bushes are flanged; the flanges are slotted and the slots are numbered for reference purposes and are locked by a steel-tab extension from the bearing-cap housing. The movement of



SILENT DRIVE.—The famous connecting-rod drive for the o.h. camshaft of the 6½-litre Bentley. Compensation for expansion and contraction was incorporated and the method of adjustment is described in the text.

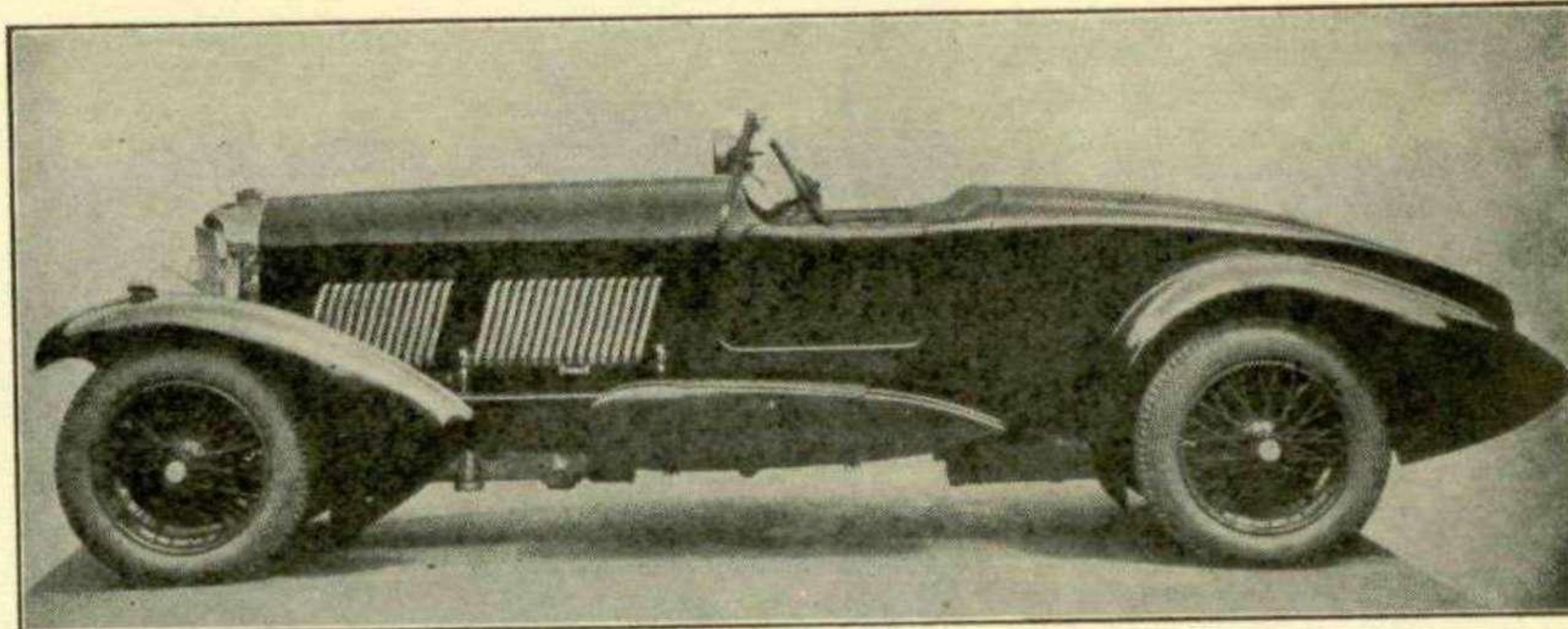
these bearings from one slot position to the next moves the camshaft driving crank approximately 0.005 in. into or out of mesh, according to the direction of rotation of the bushings. The total slot movements are :

From 0 to 1, zero ; from 1 to 2, 0.004 in.; from 1 to 3, 0.009 in.; from 1 to 4, 0.014 in.; from 1 to 5, 0.020 in.; from 1 to 6, 0.026 in.; from 1 to 7, 0.031 in.; from 1 to 8, 0.035 in.; from 1 to 9, 0.039 in.; or one millimetre travel from minimum to maximum.

Another development introduced with the advent of the 6½-litre was the ball-ended tappet screw, designed to give 100 per cent. valve-tip contact with the tappet-adjuster screw, despite the use of overhead rockers, thus eliminating the centre-punch effect of the orthodox tappet-screw on the valve stem face, and, by so doing, reducing the need for tappet adjustment to very infrequent intervals. These ball-ended tappet-adjuster screws have, however, one vice which presents little difficulty to those with the "know how." If used in an inadequately vented closed valve-chest they sometimes develop a squeak or "stick" slightly when the car has stood idle for a week or so. This trouble is due to the formation of rust between the ball and socket and can be eliminated by the introduction of a small quantity of paraffin into the offending hollow tappet-screw.

Another refinement used for the first time as standard equipment was the crankshaft torsional damper of the conventional multi-disc type. Fitted to the front end of the crankshaft, this self-contained unit, when adjusted to slip at 60 to 80 foot-pounds, required attention only at infrequent intervals.

A thermostatically-controlled cooling circuit of unconventional design completed the layout of this very efficient power unit. It consisted of two distinct water circulation circuits regulated by a thermostatically-controlled valve of ample proportions. In the "cold-engine" circuit the thermostat by-passed the radiator except for a small leakage to prevent freezing-up. With the engine hot, the valve in the open position allowed the



SPECIAL COACHWORK.—The "Speed Six" Bentley chassis lent itself to special coachwork, such as the advanced Park Ward sports two-seater here depicted.

coolant access to the radiator. The whole system of cylinder block circuits was concealed within the cylinder block and the front cylinder-block jacket-plate.

The single Smith 5-jet Type 50 BVS/C carburetter supplied the mixture to a water-jacketed induction pipe of the "Ram's Horn" balanced-flow type. In view of the frequent queries raised concerning correct jet sizes and positions in the jet-platform, perhaps a few words on this subject would not be out of place.

The 5-jet Smith carburetter consists of an orthodox float chamber and float mechanism feeding a jet platform, in which are drilled and tapped five holes to take the five screw-in "pedestal" jets; *i.e.*, four power jets and one slow-running well-jet. This jet carrier is secured to the base of the carburetter, the four power-jets projecting into the port block choke or ports. The port block, cylindrical in form, projects into the body of the carburetter proper, its flanged base being secured to the carburetter base, forming the joint cover of the slow-running annulus machined in the carburetter base fed by the slow-running tube and the fifth, or well, jet. Mounted on a cylindrical bronze guide, a streamlined air valve slides over the machined cylindrical extension of the port block. This air valve is suction-operated

by the depression in the induction pipe, and governs the mixture supply and strength according to engine demands by opening and closing the port openings in the port block leading from the chokes in the base of the port block.

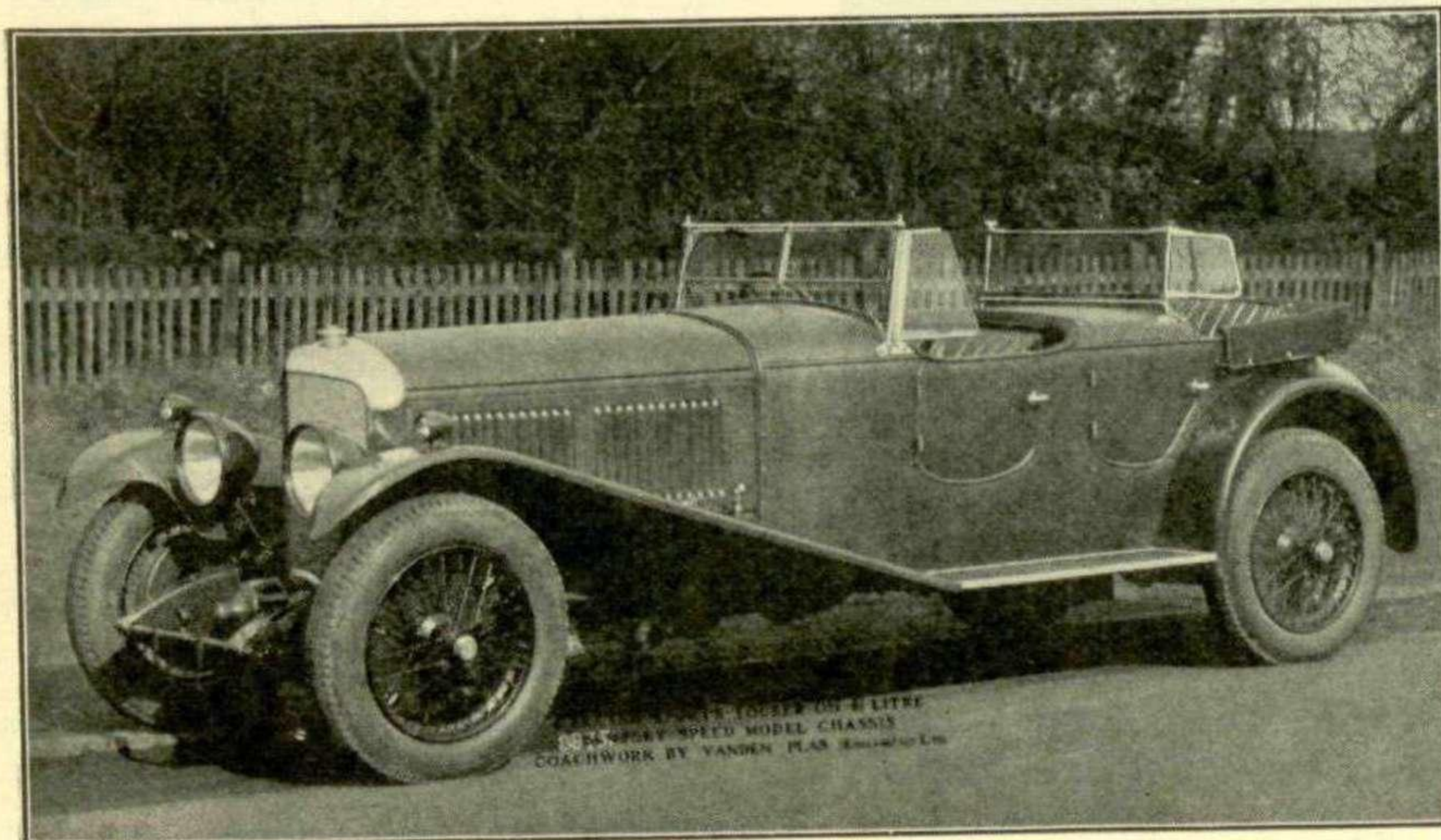
As these chokes or ports are of varying sizes, the jets are of varying sizes, and it is of paramount importance that the correct size jet is fitted to the correctly numbered jet orifice in the jet platform. The jet sizes are: Well, 40/45; No. 1, 50/65; No. 2, 140; No. 3, 120/130; No. 4, 85/115.

A starting device or strangler and a mixture control is incorporated in the design and consists of a cam-operated sleeve sliding over the well jet which, in the "full rich" position, closes the air supply to the well jet, and in the "full weak" position, opens a series of holes in the base of the port block. This carburetter is very reliable and, apart from choked jets, the only troubles likely to occur are: (a) air valve inclined to stick or become sluggish in action, and (b) slow-running annulus choked or orifice masked by new joint.

The steering-box, of the orthodox semi-reversible worm and segment type, was of entirely new design incorporating a meshing arrangement consisting of an eccentrically-machined, slotted-sleeve bearing for the segment shaft. After removing the securing tab and slackening off the sleeve pinch-bolt, the rotation of this sleeve moved the segment into or out of mesh, according to the direction of rotation. End float was adjusted by the method common to all Bentley chassis, *viz.*, the steel sleeve with inclined slots secured by two pinch-bolts at the base of the box casting.

As in the 3-litre, the brakes were fully mechanically operated, but the front brakes were "push-rod" operated in order to utilize the considerable self-energisation developed by the torsional effect of the brakes on the front axle assembly. The method was a phase in the development of the "reversed action" front brakes used so effectively at Le Mans.

The first 6½-litre chassis (WB 2551) took the road in March, 1926. In frontal appearance it differed slightly from later models by reason of the absence of the casing carrying the engine-speed dynamo driven from the crankshaft, as the dynamo was camshaft-driven at the rear end of the engine.



STANDARD TOURER.—The Vanden Plas touring version of the 6½-litre "Speed Six" Bentley, a very fine car indeed.

One of the first modifications was the introduction of the long-range E.R.6 magneto to cope with the extra flexibility demanded from the engine by town-running conditions.

Clutch judder evidenced itself in those cars used chiefly for town work and at first the use of first engagement cork inserts was tried effectively, until the advent of the spring-loaded pressure plate at chassis No. DH 2204 in February, 1927.

The drain on batteries resulting from starting an engine of this capacity coupled with the difficulty in keeping batteries in a fully-charged condition on cars used solely for town work led to the fitting of Ki-gass injectors to all chassis and the development of the five-brush, crankshaft-driven dynamo referred to earlier. The first chassis with the re-designed radiator allowing for this dynamo, the casing of which was secured to the front engine-bearer, appeared at the 1927 Motor Show. The radiator with its fuller profile and deeper (100 mm. section) matrix greatly enhanced the frontal aspect and was to remain a distinguishing feature throughout the 6½-litre's career.

Other modifications incorporated in the 1927 Show model, and introduced as standard from chassis No. KD 2121, included a torsional camshaft damper to replace the damping effect of the camshaft-driven dynamo; coil ignition for the first time as a standard fitment to Bentleys; the enclosed-joint, balanced propeller shaft (soon to become known as the Hardy-Spicer shaft) in place of the open shaft and plunging joint used hitherto; and Dewandre servo brakes. These chassis had an enthusiastic reception from discerning motorists and develop-

ment work proceeded apace. A magneto anti-vibrator was added at chassis No. MD 2649 and single-pole wiring at chassis No. FA 2514. At the same time the camshaft oilbath was introduced to prevent "rocker roller pick-up," a modification which proved to be the most effective as yet produced to overcome this spasmodic trouble.

About this time (September, 1928) rumours were afoot that there was every possibility that a "Speed Model" of this chassis had been scheduled for development and early production. Much development work was, in fact, proceeding behind the scenes and culminated in the

production of an entirely new type of chassis to be known as the "Speed Six."

The first of these chassis to be laid down was chassis No. WT 2265 and the principal alterations in design were as follows:—

High-compression pistons, giving 5.3 to 1 compression-ratio.

Twin S.U. carburetters. BM 7032 camshaft. 0.019 in. tappet clearance.

"C"-type gearbox with indirect ratios—3rd, 1.357 to 1; 2nd, 1.823 to 1; 1st and reverse, 3.364 to 1.

3.84 to 1 rear axle ratio.

(BM 7055 camshaft with 0.006 in. tappet clearance was available as an alternative to BM 7032 for use with closed coachwork.)

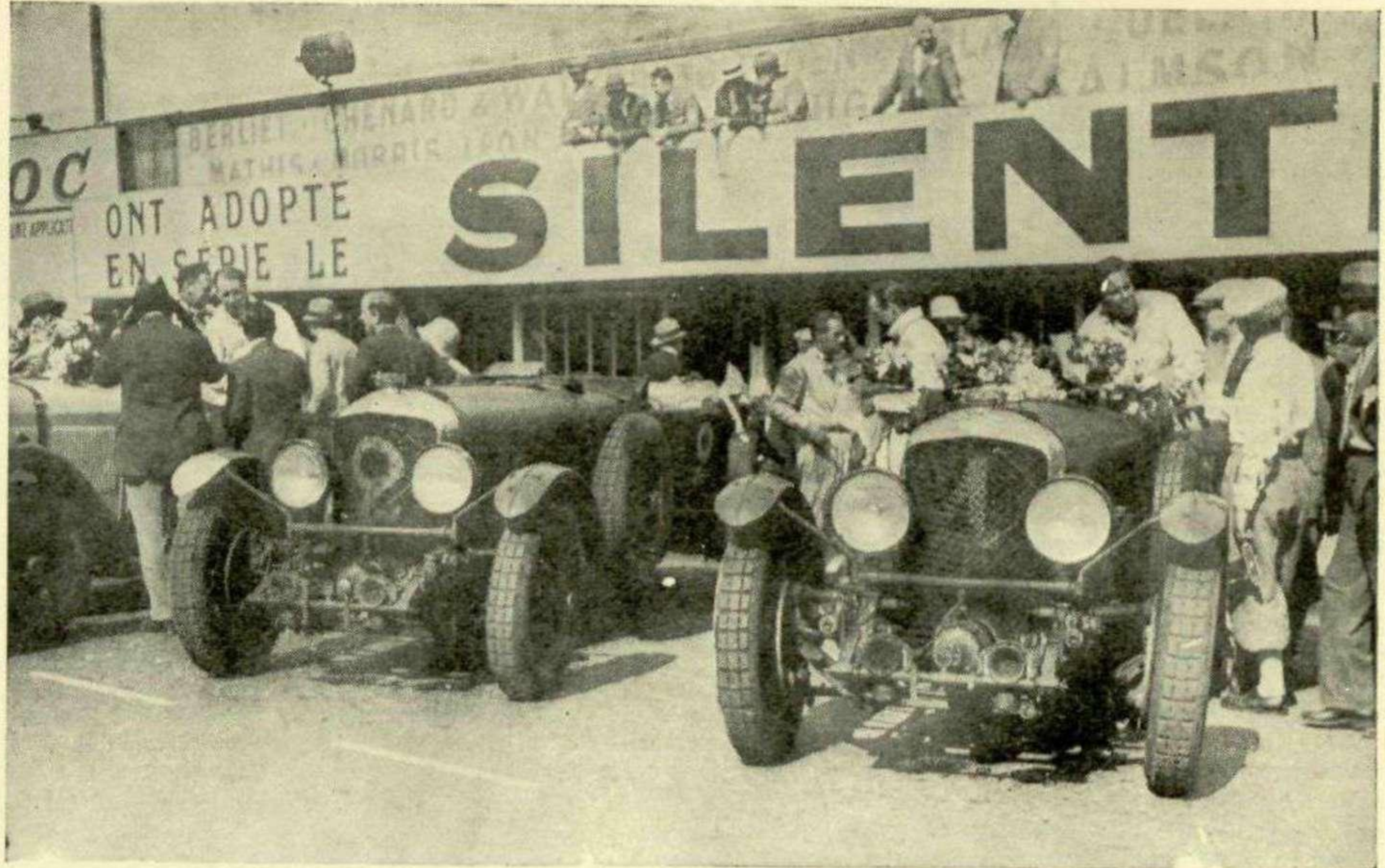
The radiator was redesigned—the sides were parallel whereas the "standard" 6½-litre radiator had a pronounced taper inwards at the bottom—and the "winged-B" had a green label.

From a commercial standpoint the "Speed Six" development had to include exploration of the probabilities and possibilities of this car superseding the now hard-pressed 4½-litre in the competition field. Intensive development work was carried out unobtrusively. Air flow tests were made, the cylinder block was redesigned, port areas were altered, and Lrake endurance tests were carried out.

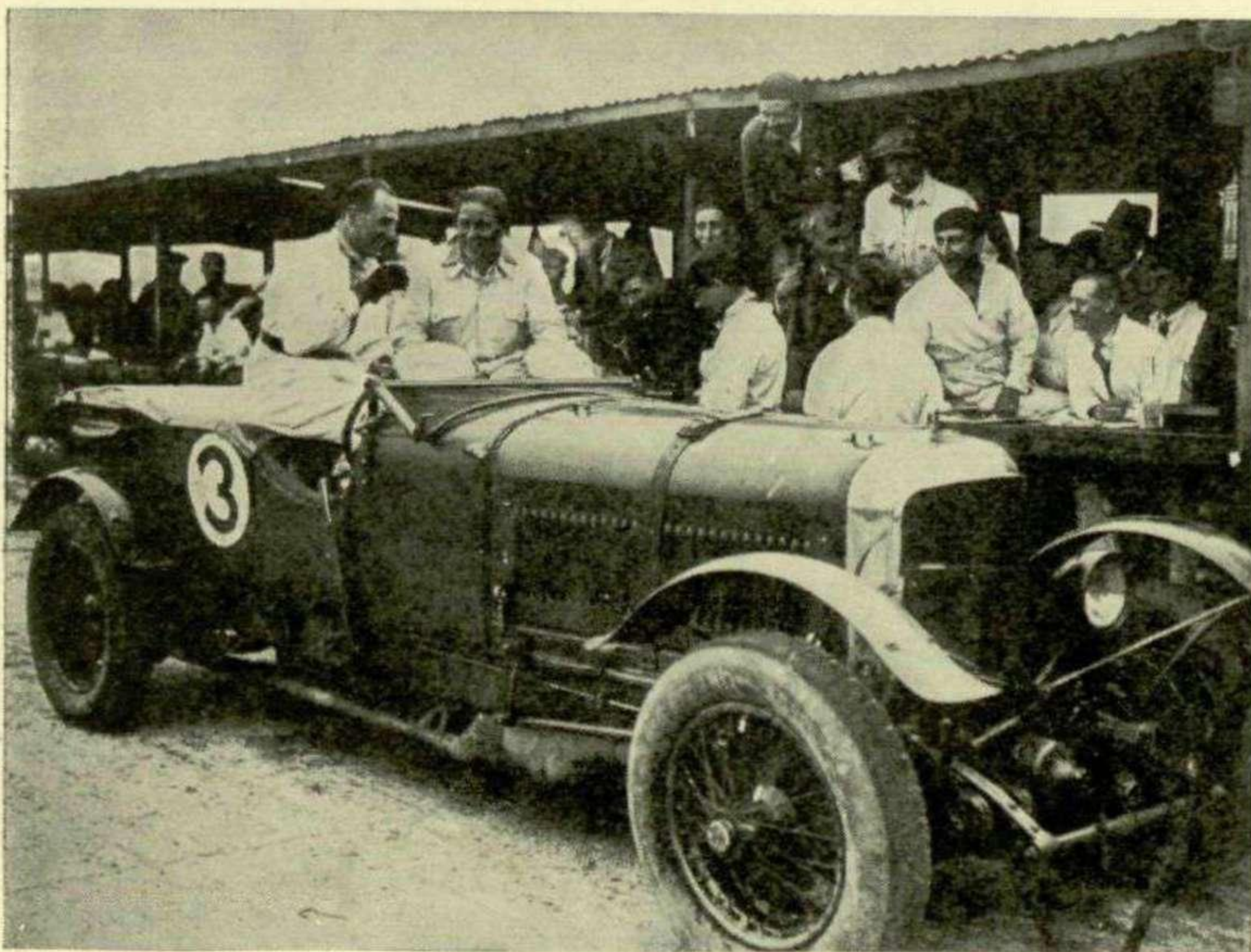
Eventually the first Le Mans-type "Speed Six," chassis No. LB 2332, took the road and as its preliminary try-out ran in the "Double-Twelve" race at Brooklands in May, 1929. Although ill-luck dogged the chassis *premiere*, the dynamo coupling disintegrating when victory seemed assured, the general performance exceeded all expectations.

The brief specification of the first "Le Mans Speed Six" chassis was as follows:—

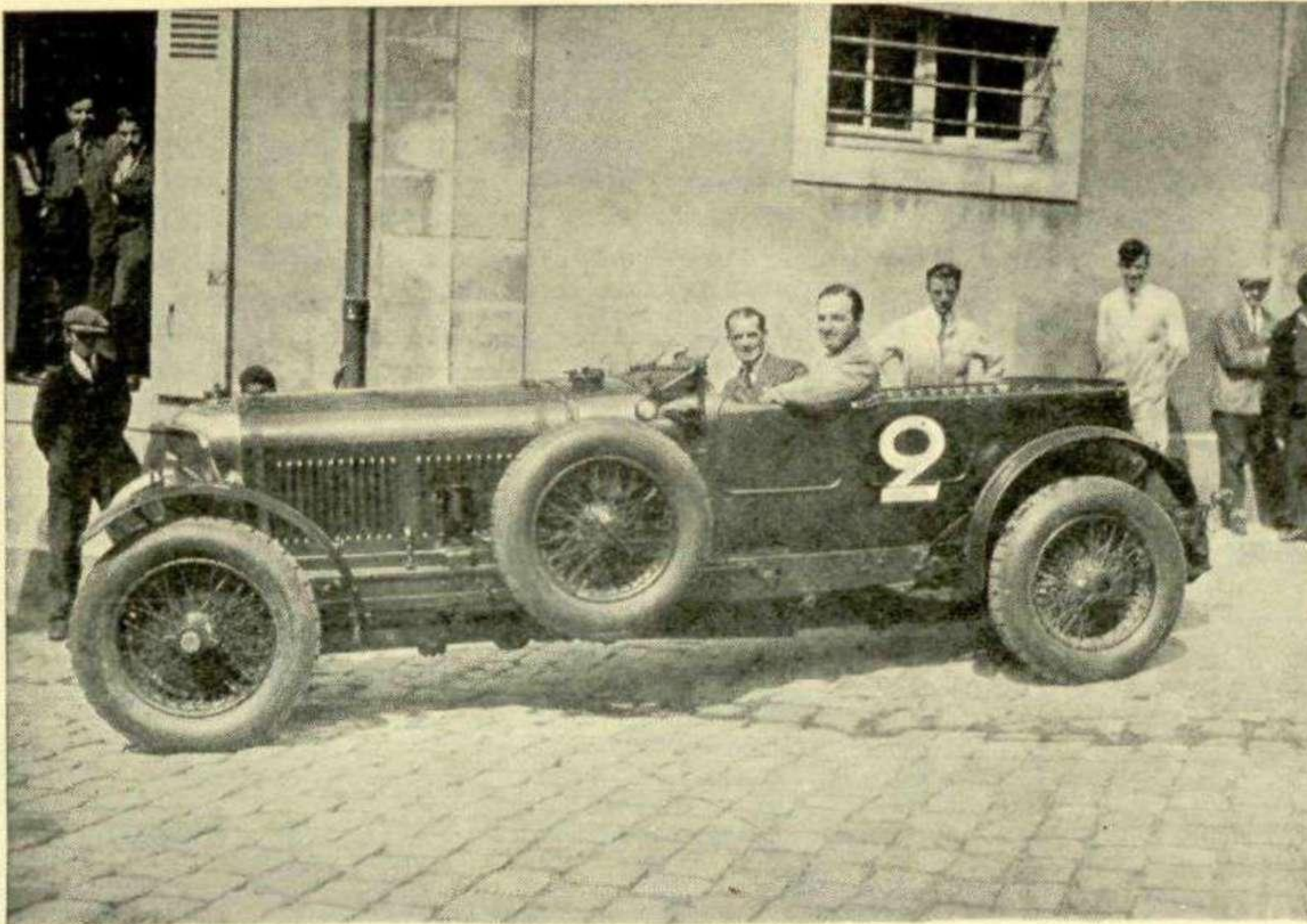
Engine—Hour-glass pistons, 5.8 to 1 compression-ratio. BM 7032 camshaft. Single-port cylinder block.



THE GLORY THAT WAS ENGLAND.—On the left the "Speed Six" Bentley that was second at Le Mans in 1930; on the right the "Speed Six" which won the race at 75.87 m.p.h. for the 24 hours, driven by Barnato and Kidston.



"SIX HOURS" SUCCESS.—Dunfee and Barnato after winning the 1929 "Six Hours" Race at Brooklands in "Old No. 2," at 75.88 m.p.h.



STILL GOING STRONG.—Another picture of the "team" 6½-litre with which Clement and Watney finished second at Le Mans in 1930, at 73.33 m.p.h. This car is owned, today, by Lt.-Cdr. J. D. Percy.

Flat type inlet valves. Five-gallon sump. Large capacity oil pump. Increased oil feed to main and big-end bearings. Heavy-section, direct-metalled connecting rods. "Mintex" crankshaft torsional damper. Twin S.U. carburettors, Type HVG5. Straight-toothed metal reduction gears.

Clutch—Single plate. Steel pressure plate. Reinforced clutch stop.

Gearbox—"D" type. Indirect ratios—3rd, 1.33 to 1; 2nd, 1.63 to 1; 1st and reverse, 2.64 to 1.

Rear axle—Straight-toothed bevels. (16/48=3 to 1 ratio.)

Brakes—Standard.

General—Wheelbase 11 ft. 6 in. 32-in. by 6 in. road-racing tyres. 45-gallon petrol tank. Autopulse petrol feed. Duplex fuel lines. Smith five-brush dynamo. 4LSA starter motor. Lucas lamps. Young 84-amp. hour-capacity battery.

The "Speed Six" entered the lists of competition in 1929 and immediately combined with its four-cylinder stable companions to set England's star higher in the firmament of international motor racing than ever before or, alas, since.

On May 10th, the car which was afterwards to be dubbed "Old No. 1" came to the starting line for the "Double-Twelve" at Brooklands. It was driven by "Babe" Barnato and J. D. Benjafield, bore the number 2 and, after an excellent performance during which several laps in the region of 92 m.p.h. were completed, retired owing to a fracture in the dynamo-drive.

The 24-hour race at Le Mans that year needs little recapitulation to any enthusiast, for Bentleys filled the first four places and nobody else had a look in. No. 1 "Speed Six" more than made amends for her failure in the "Double-Twelve" by winning the race, in the experienced hands of Woolf Barnato and "Tim" Birkin. She averaged 73.63 m.p.h., covered 1,767 miles in the process

and, just for good measure, gained the Rudge Cup as well. It was the first occasion upon which the winner of the Grand Prix d'Endurance had also carried off this cup.

It is most interesting to read the contemporary report of Mr. Clarke on this chassis:—

"(a) *During practice*: Slight steering instability reported and rectified by balancing the practice wheels and adjusting shock-dampers. Oil pressure—60 lbs.

(b) *During race*: Brake adjustment used up at the 20th hour.

(c) *After race*: (strip report)
Engine: Nothing to report. Exhaust valves and valve springs changed as a precautionary measure only.

Clutch: Nothing to report. Clutch-stop locating ears fractured.

Gearbox: Nothing to report. Mainshaft, first motion shaft and journal bearings changed as a precautionary measure.

Rear axle: Crown-wheel and pinion—slight signs of pitting, otherwise O.K. Pinion thrust-race disintegrated. Otherwise O.K.

Brakes: Relined: Two rear drums changed as a precautionary measure (local hot spot).

Frame: Small fracture through front engine bearer engine securing bolt hole. Signs of fracture where front wing stay palms connected to neutral section of frame channel due to 'fidgeting.'

Truly a remarkable strip report after a gruelling race of this calibre.

On the 29th of the same month, "Old No. 1" was back again at Brooklands for the Six-Hour Race, still driven by "Babe," but this time with Jack Dunfee as co-driver. It bore the number 3 and again won, averaging 75.88 m.p.h. for the race.

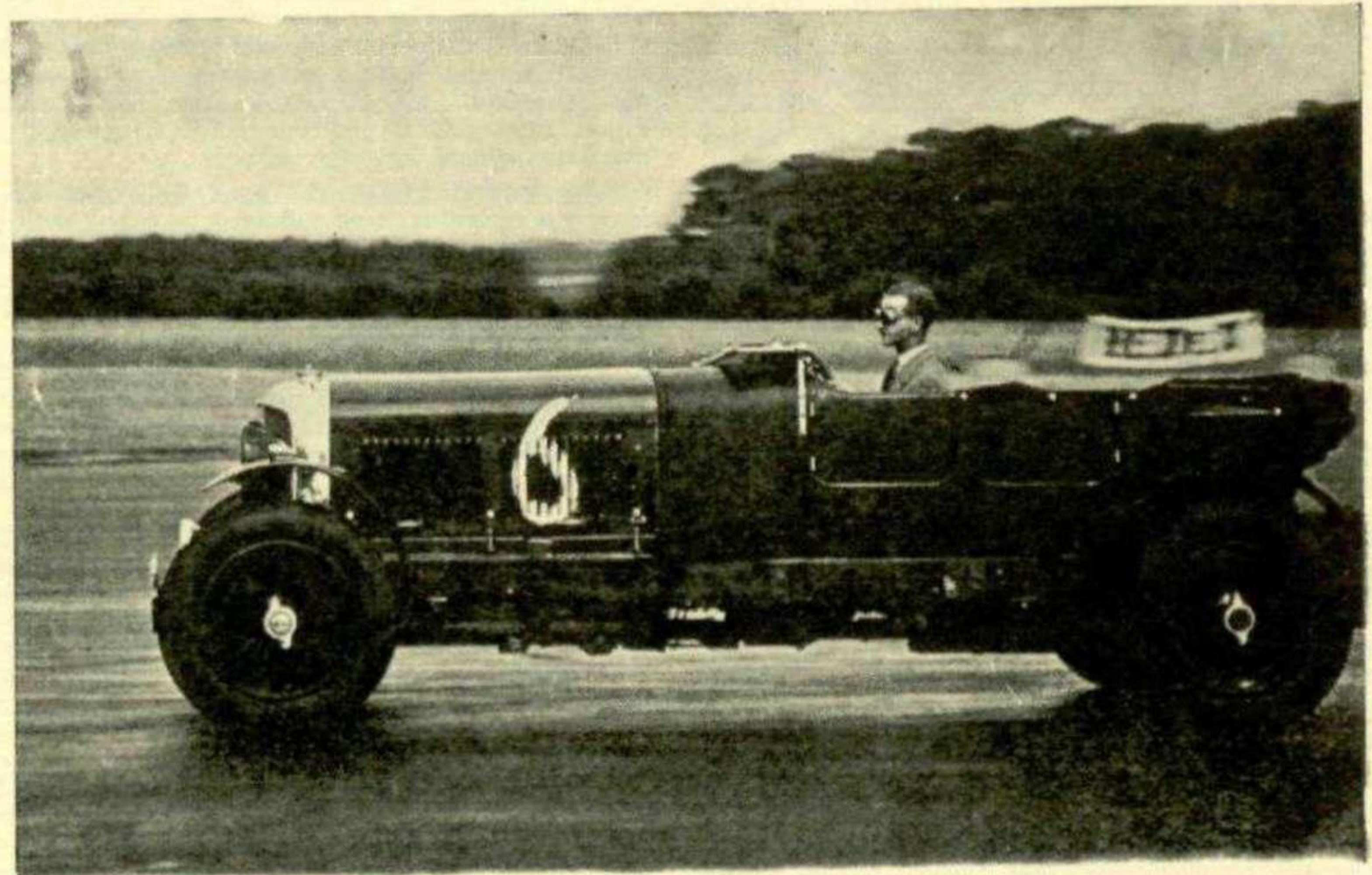
On July 13th, Glen Kidston took the big Bentley over to Phoenix Park for the Irish Grand Prix and came in 2nd behind Ivanovski's Alfa-Romeo. Its speed was 79.80 m.p.h.

The T.T. that August broke, temporarily, the big car's run of success, for, in company with Glen Kidston, it ran out of road at Bradshaw's Brae and was too badly damaged to continue. Its race number, incidentally, was 73.

The final event in "Old No. 1's" 1929 season was the classic 500-Mile Race at Brooklands. It had a special two-seater body with a short, stubby tail, was driven by Sammy Davis and Clive Dunfee, and came 2nd, averaging 109.40 m.p.h.

Following the racing successes of 1929, the cars at the 1929 Show incorporated the following modifications (in the KR-series chassis):—

Single-port cylinder block. 5.3 to 1 compression-ratio. BM 7055 camshaft. Bosch magnetos. Shell-type connecting-rods. 38.4 to 1 rear axle



MODERN REPRESENTATION.—Pierre Marechal's "Speed Six" exceeding 100 m.p.h. at Grandsen in 1947. This car and driver won the annual awards for best performances by B.D.C. and V.S.C.C. members last year.

ratio. Electron steering box and rear axle casing.

At chassis No. LR 2783 the three-quarter engine speed magneto and coil ignition became standard.

Le Mans in 1930 was to see the final appearance of the "works" team of Bentleys and the cars were, for all practical purposes, identical mechanically with those of the previous year with the following exceptions:—

Engine—6.1 to 1 compression-ratio.

Three-quarter engine speed magneto and coil ignition. Shell-type connecting-rods.

Clutch—Reinforced clutch stop.

Rear axle—15/47 gears=3.13 to 1.

In this last season of the Bentley team the "Big Sixes" acquitted themselves gloriously indeed.

Two of them were entered for the "Double-Twelve" on May 9th and 10th, being numbered 2 (Barnato and Clement) and 3 (Davis and Clive Dunfee). In shocking weather conditions these Bentleys came in 1st and 2nd, respectively, at 86.68 m.p.h. and 85.68 m.p.h. No. 3 gained its place despite a certain amount of trouble with a seized crankshaft-damper and some (probably consequent) valve-spring breakage.

Three of the big Bentleys went to the line for the last Le Mans of all in June, 1930. They were numbered 2, 3 and 4, being driven by Clement and Watney, "Sammy" Davis and Clive Dunfee, "Babe" Barnato and Glen Kidston, and these last two roared past the chequered flag, 24 hours later, having won the race without in any way extending their car, at an average of 75.87 m.p.h. This was "Babe's" third consecutive win at Le Mans. Clement and Watney were 2nd, at 73.33 m.p.h., whilst Dunfee shortly after taking over No. 3 from Davis, had the misfortune to charge the sandbags

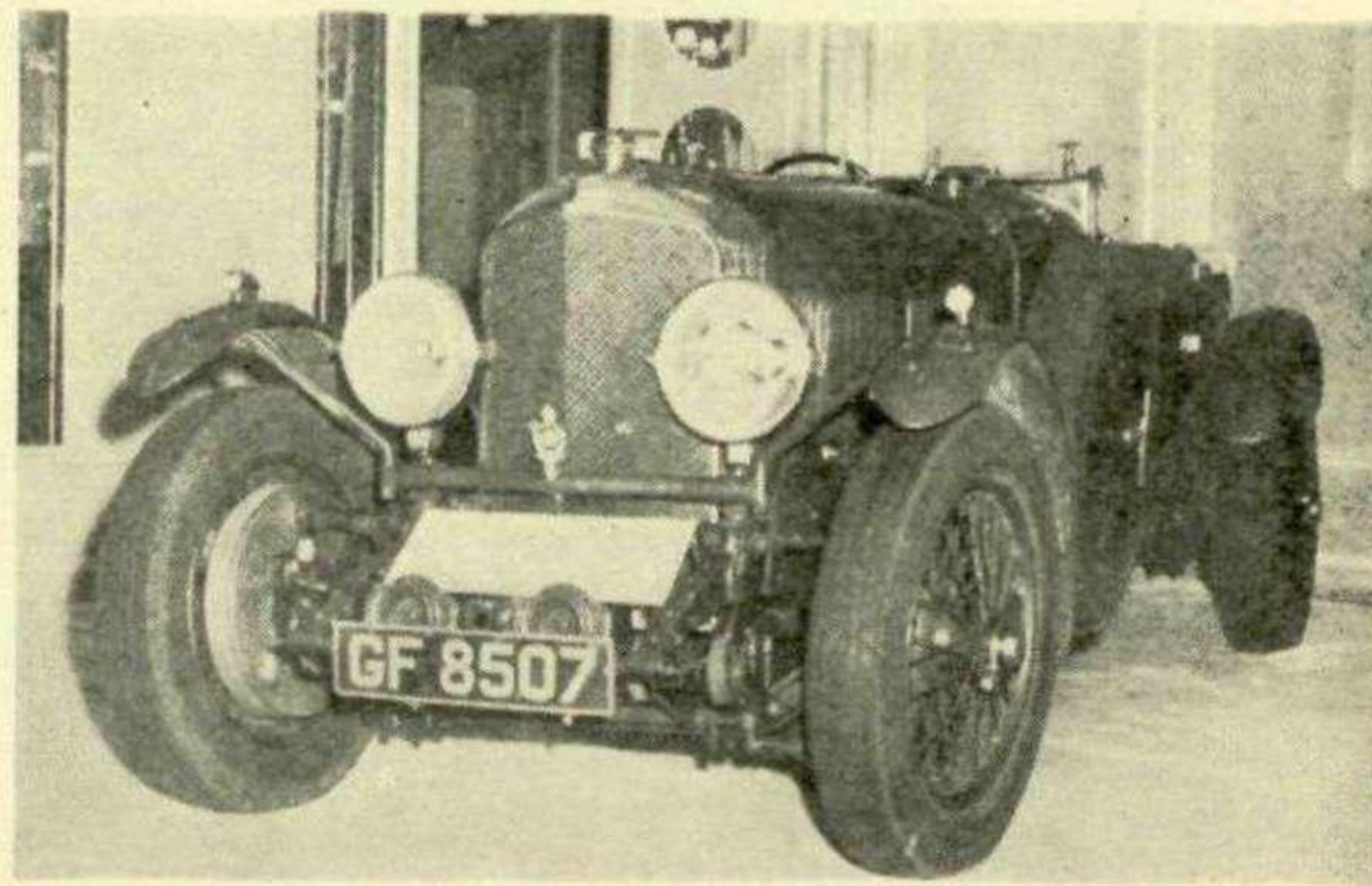
on his first bend, sustaining damage which enforced retirement.

The team, nevertheless, again won the Rudge Cup, in addition to the entire race.

Such was the way of the closing of the greatest chapter which any single *marque* has ever added to the annals of British motor racing history—and the departure of the Bentley Team from racing left a gap which has not since been filled.

Altogether 544 6½-litre Bentleys were made, of which 171 were "Speed Sixes"

LONG LIFE.—J. D. Percy's "Speed Six" is, today, as hale and hearty as when, one of the "works" team, it finished second at Le Mans nineteen years ago.



and, of these, more than 70 are on the roads to-day in the hands of Bentley Drivers' Club members, including two of the team cars. GF 8507 (chassis No. HM 2868) is owned by J. D. Percy and is in its original form and beautifully kept. It was this car in which "Babe" Barnato won Le Mans for the third time and, fittingly, it led his funeral cortege bearing floral tributes, driven by "Babe's" chauffeur. GF 8511 has recently come to light in the north of England and the ravages of time are being removed. MT 3464, the "Old No. 1," winner of Le Mans in 1929, 2nd in the 1929 "500," and 1st in that year's Six-

Hour Race, continued her wonderful career until 1931 when she took that fated plunge over the top of the banking at Brooklands killing Clive Dunfee. The engine of this car was used for a time in the Barnato-Hassan before the 8-litre was installed, and other bits were used in a special 8-litre road car built for "Babe" Barnato. Its identity has thus been lost.

The modified "Speed Six" used in post-war competition motoring sport

with signal success by Pierre Marechal is one of the very few short-chassis cars (11 ft. wheelbase) and is thought to have been a spare car for the "works" team.

So concludes the story of truly one of the giants of the road, which never fails to impress wherever it appears. The majesty of the "Speed Six" will continue for many years to dwarf motor cars of younger vintage, and the rear view, if not as imposing as the front end, will frequently impinge itself upon the vision of the driver of many a modern car who thought that he himself wasn't exactly hanging about.

B.R.M. PROGRESS REPORT

We are pleased to publish another progress report on the B.R.M. Grand Prix team, dated December and issued by Mr. A. G. B. Owen, Chairman of the British Motor Racing Research Trust Production Committee. It reads as follows:—

Since our last bulletin a month ago, substantial progress can be reported. Whilst every effort is being concentrated on the completion of sub-assemblies for final delivery to Bourne, on the first car set, capacity is also being utilised for the following up of other components on the second and third car sets for which purposes all raw material is to hand.

The supercharger on the first prototype has now been finally assembled and is undergoing stringent tests closely watched by the development engineers. It is expected to be delivered to Bourne shortly. Another set of assemblies and components for the supercharger on the second car is now available and preparatory assembly work is in progress.

Much progress has been made during the past month (November) on the processing of engine parts. Various items outstanding in our last report have now been delivered, including valve rockers, driving and pressure pump gears, pistons and con-rods.

There remain approximately thirty items to be completed, mainly small precision components, which will be available this month. The major items outstanding are the upper and lower crank-cases and cylinder heads, which has involved hundreds of hours of specialised precision machining. We are reasonably assured that these will be completed, together with crank and camshaft assemblies and all engine parts at Bourne during January for final

assembly and subsequent test. Difficulties in the production of gears have now been largely overcome. Many specialised gears have been delivered and one complete set will be ready at the end of this month. This includes all assemblies where gears are used. Material such as gear blanks is to hand for further sets and work has already commenced on machining. Regarding the balance of engines, all castings and raw materials are available and components, including crankshaft, pistons, camshafts, water pumps, etc., have been fully processed.

The second frame has been delivered since our last report and will be followed in early 1949 by the third and fourth frames. Preliminary assembly work is being done on the rear and front suspensions and it is expected to commence assembly of these units to the No. 1 frame forthwith.

The first set of gearboxes and selectors are now available and gears and shafts are ready for delivery to Bourne. Castings and all materials are to hand for extra units. Machining is continuing for the second and third gear units. The propeller shaft is now entirely cleared and in course of assembly. The second and third sets are in hand for the follow up sequence. The two special clutch assemblies continue to make good progress, the one for the first set having undergone test. The necessary coupling units, pedals and linkage have been finalised and delivery assured to meet the main assembly schedule. Excellent progress can be reported on the steering. Delivery will be made well to time for the assembly programme. In addition, steering control units have been completely finalised and the majority of ancillary equipment is in course of manufacture. Main design details are complete; these units will be available as and when required for the final building programme. A preliminary prototype model has been made for testing on the many problems that arise under actual racing conditions.

First sets of Lucas ignition distributor units are available.

At the test house at Bourne, good progress is being maintained and specially machined tools have been installed for the development of the project. A team of highly skilled operators is being kept busy by delivery of components processed in their various stages by over 50 firms co-operating in an all-out effort to make the B.R.M. a worthy example of British engineering. There is every reason to believe that all sub-assemblies on the first car will be complete by the end of January and that Bourne engineers will then be in a position to press on with confidence.

TOURING J.B.M.

Sir,

Under "Matters of the Moment" in your October issue, I read with interest your remarks on pseudo sports cars.

In all fairness may I be permitted to say that my J.B.M. used Pool spirit at any event in which it was entered, also Lodge touring plugs. The car is used every day to travel forty miles to and from business and has crossed London on several occasions in a perfectly normal manner.

I feel that this car is a touring-cum-sports car and not in any way a Special.

I shall be pleased to demonstrate the above statements at any time.

I am, Yours, etc.

E. R. JAY

James Boothby Motors, Ltd.
Lowfield Heath, Sussex.

LETTERS from READERS

RADIO PIT CONTROL

Sir,

As a member of the Radio Society of Great Britain and an ex R.A.F. wireless mechanic, I was interested to read the letter from Jack M. Reiss published in your July issue and your editorial comment thereon.

As you state Clark's would appear to be the first really successful attempt at radio pit control and this was probably due to the application of V.H.F. technique.

You are probably aware that wireless waves travel at a speed of 300,000,000 metres per second, and if this figure is divided by the wavelength in metres we arrive at the number of "waves" per second or frequency.

In 1922 and 1923 when the first attempts were made to establish radio communication between racing cars and the pits it was generally believed that frequencies above 1.5 megacycles per second (wavelengths below 200 metres) were impracticable and it was, in fact, customary in those days to refer to the present medium wave band as "short waves." I am not aware of the actual frequencies used by Edge and Alvis, but in each case it was probably considerably less than 1.5 mc/s., and for several technical reasons these comparatively low frequencies are unsuitable for radio pit control.

As more became known about the propagation of electro-magnetic waves it was found that frequencies above 1.5 mc/s. could be used, and this ultimately led to the widespread use of the short waves for broadcast and communications purposes. These frequencies are, however, more suitable for long-distance work than for local working, although they can be used for this purpose.

Experimental work continued and by using special components and technique it was found that very high frequencies above 28 mc/s. could be used and these frequencies (V.H.F.) were excellent for short-distance work. This was particularly noticeable in the R.A.F. Prior to the introduction of V.H.F., communication between aircraft was by means of the ordinary short waves and results were far from ideal. When V.H.F. gear was installed it was found to be highly successful and for many reasons this form of transmission appears extremely suitable for radio pit control. One disadvantage of V.H.F. is its susceptibility to "man-made" static (e.g., ignition interference) as many owners of television sets are only too well aware. It can be, however, and probably is in the case of Clark's installation, overcome by the use of frequency modulation.

It will thus be seen that although there have been several attempts to use radio as a means of communication in motor racing, the methods of utilising this medium differ considerably and might well be compared with the fundamental differences between the modern high-speed car engine and the slow-revving Edwardian.

Please do not think that I am trying

to set myself up as an authority on the above subject—even if I possessed the qualifications of Professor A. M. Low, I should hesitate to do so without further data as to the actual equipment used in each instance. The foregoing remarks are merely my own personal deductions.

Turning to other matters, I have been interested to read of the recent re-emergence of Spike Rhiando. The last I had heard of Spike was in the mid-1930s when he was cinder-shifting at the Crystal Palace.

And talking of cinder-shifting, you appear to have slipped up in the caption to the photograph of the departing American Dirt Track Circus. You state that they only held two meetings (or should I say performances), but I think you will find they held more. However, who cares! I am, Yours, etc.
Chingford, E.4. R. S. MARRIOTT.

* * *

Sir,

The following notes, taken in Chiron's pit [at Silverstone], might be of value.

A quarter of an hour before the start, Chiron's manager Vallet was endeavouring to fix with wire the driver's classical metal bottle with rubber tube for refreshment on the way. Chiron finally decided that the bottle would probably come astray among his feet and he left it in the pit. His rev. counter ceased to function. Somebody suggested that the reserve Talbot's rev. counter could be removed and fitted to Chiron's car, but Chiron said it was of a different type. His own had given trouble in practice, but he said he trusts his ear for r.p.m. information. When he came in with excessive tyre pressure trouble, after having passed the pits several times shaking his fist and pointing to the tyres, he got half-way out of the car and shouted: "Merde, bande de salauds," and called for a man who appeared to be the French Dunlop representative, to whom he made a number of unusual and energetic remarks, the Dunlop man defending himself as best he could. Etancelin regretted having refused his wife's offer of his sun-glasses. When he retired, he consoled himself with a large Hennessy's brandy from a bottle hugged by his wife and poured out by Vallet, who said it was good for colds. The Freikaiserwagen's piston was an evil shape, like a pushed-in melon, and light-grey and pitted, but the bore appeared perfect. The machine was examined in the potato-field.

It was an excellent race, which I enjoyed almost as much as my first, the Grand Prix de Boulogne in 1922 (Circuit de Boulogne, I think).

I am, Yours, etc.

BERNARD COULTER.

Caterham, Surrey.

[It is just these intimate aspects of a long-distance event that make this form of racing so enthralling.—ED.]

* * *

Sir,

Some of your readers may be interested in details of my 1932 Lagonda which differs from standard in several respects.

Mainly it is a 3-litre, but: its rating is 20 instead of 21 h.p. The engine has a Ricardo head with side exhaust and o.h. inlet valves. The carburettors are on the off side and the exhaust system on the near side. It has a finned aluminium oil-cooler on the near side.

The chassis is a 4½-litre and is fitted with vacuum brakes.

The dashboard is also 4½-litre with a 120-m.p.h. speedo., and coil ignition switch. The ignition is by Scintilla magneto only, the switch being on the right-hand side of the dash.

The car has a "fold-flat" windscreen which cannot be folded flat because of the standard Lagonda wiper motor mounted externally!

Davies Motors have afforded me the courtesy of seeing the original works card of this car which confirms the original 3/4½-litre mixture, but I have found no one who can remember its origin and the why thereof.

The car is in excellent condition and I am very pleased with it, but am intrigued by its queer ingredients.

I'm hoping all this will strike a chord of memory somewhere.

I am, Yours, etc.

J. W. AIRD.

Brighton.

* * *

NO 1921 T.T.

Sir,

I notice that both in the text of the article "A New Zealand 'Veteran Type'" in your January issue, and in the Editorial comment, the car in question is referred to as a "1921 T.T. Sunbeam." Is this a slip or a trap? There was, of course, no T.T. in 1921, but the 3-litre straight-eight Sunbeams, which ran in the 1922 race, had been entered for the previous year's French Grand Prix, and although they were not ready in time for it, were doubtless mainly built in 1921.

I am, Yours, etc.

"BALADEUR"

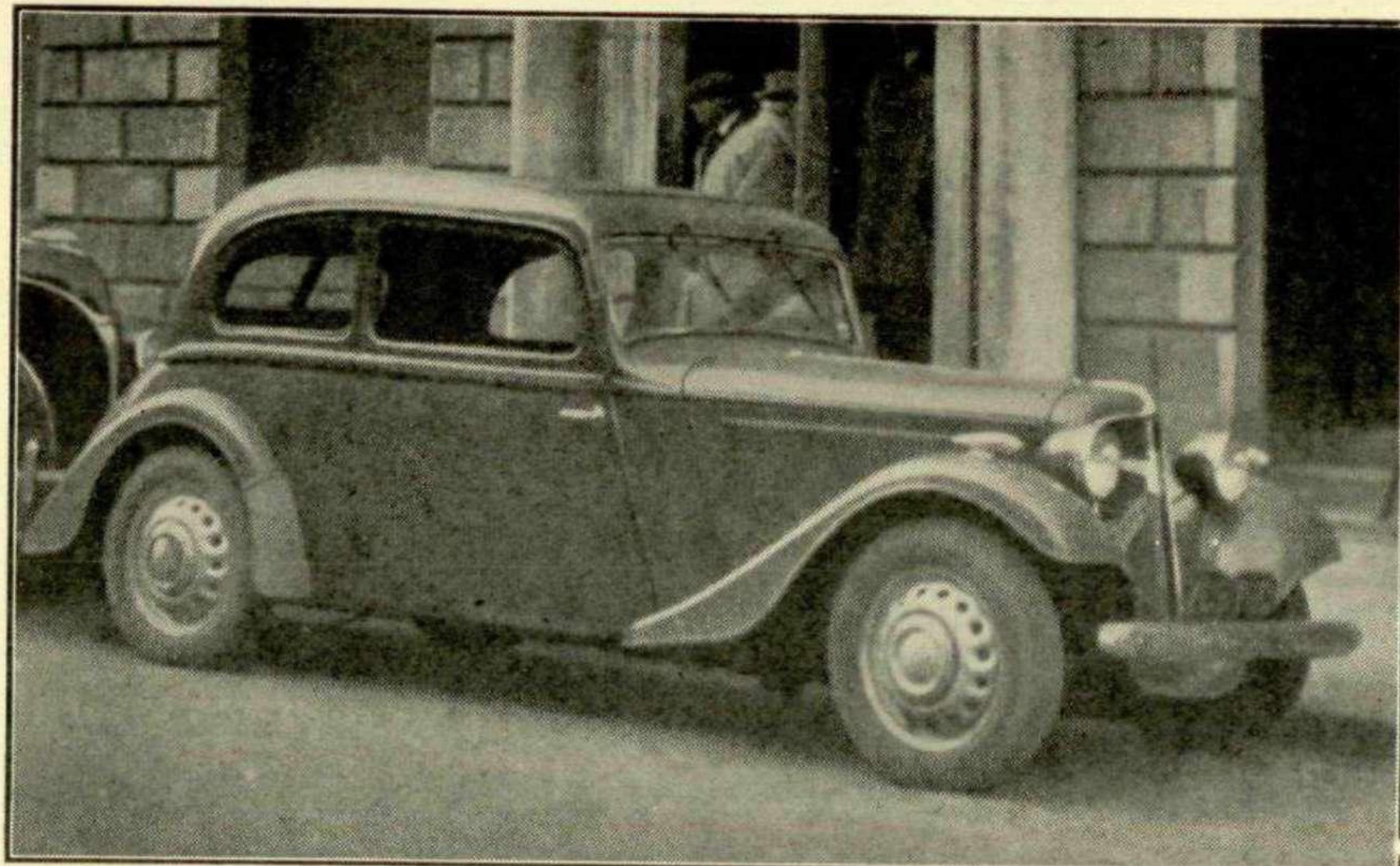
[We agree that no T.T. was held in 1921, but we dated the Sunbeam in accordance with their probable year of assembly.—ED.]

CHARLES GOODACRE

—continued from page 41

the "Le Mans" engine a poor thing; it used a single downdraught carburettor as this was as effective as two carburettors. The "Grasshoppers" had three-bearing cranks with slightly non-standard webs, and the works never broke one. Goodacre adopted War Office springs on his "Le Mans" car and thus were born the "Grasshoppers." He spoke of 60 or more b.h.p. in trials, and a road maximum of 100 m.p.h., making the cars very tricky to handle and top-gear cars in the truest sense of the word. The interesting point was made that methanol can sometimes aggravate or promote cracking of the cylinder block, due to the cooling effect on the inlet side being excessive. Cozette carburettors were discarded as difficult to clean—they caused starvation to the rear cylinders unless the carburettor was turned through 90 deg. from its original position. Goodacre felt that the two-bearing crank should do all that a three-bearing can do.

Altogether a most interesting evening, greatly enjoyed by all Austin-minded 750-ists.



The Diplomat, which is a very rare specimen indeed (I knew of only one in Ireland), had rear drive and an engine of about 3 litres.

The Adler was first introduced into Ireland in 1934 by Mr. R. Briscoe, T.D., and later was taken over by Mr. "Charlie" Manders, a well-known figure in Irish motoring sport, who assembled it for the Irish market. For an unfamiliar make its success was astonishing, and it easily outsold other better-known Continentals. I have no idea how many were sold, but in Ireland one sees five Adlers to every "1,100" F.I.A.T. or Citroen. I am convinced that its popularity was greatly enhanced by the successes of Mr. Manders' Adler racing team, which operated from 1934 to 1939. Its best-remembered victory was in 1934, when a Trümpf won the Leinster Trophy race, driven by Miss Fay Tylour. Adler's other racing achievements in Ireland I do not recall—as I am at present separated from my motoring literature I am relying on my memory for the material for this article. The team cars were road-equipped two-seaters, though Mr. Manders later developed a pretty good single-seater.

Standard saloon Adlers have always been prominent in Irish trials. An Adler saloon team, the drivers being C. H. Manders, G. A. S. Moran, and V. L. M. O'Reilly, competed regularly in 1938 and 1939. The 1938 Hewison Trophy, an award given for best aggregate performance in all the trials of the year, saw Adlers tie for first place, and also take third and fourth. The Hewison Team Trophy was won that year by the team mentioned above. While the Adlers weren't encountering any mud-pluggers of the Allard calibre, nevertheless, of the sixty or so regular trials men of that time the greater part drove some form of sports car, so this was a splendid show by three small saloons, in everyday use.

The Junior first appeared with a boxy-looking saloon body in the 1934 tradition, but in 1936 the body was redesigned, though the machinery remained basically unchanged. This later model is the best-known, and I have heard much said for and against its appearance. Personally, I regard it as the smartest of all "modest men's motors," with its long bonnet, rakish mudguards, wide windscreen and stylishly swept tail. Internally it is plain but good. The dashboard is metal, with two cubby-holes, between which a large speedometer, shaped like an ellipse with the ends cut off, contains oil and petrol gauges. No ammeter was fitted, but there was a red light to warn you of something-or-other. The equipment included a cigarette lighter, which generally got tired after a few months. The gear lever is on the left-hand side of the steering column, and a similar lever on the other side operates the lights. The six-volt electrical system is by Bosch, and is very reliable (except, of course, for the cigarette lighter). No starting-handle accommodation is provided, and I have never heard an Adler owner deplore this. The saloon weighs 16½ cwt., which is far too much, but at least shows that the car is not flimsily built. Petrol consumption is heavy, about 30 m.p.g. being normal. Body styles are: Saloon

DURING the war some interest was aroused by descriptions of popular Continental cars, which appeared in MOTOR SPORT. Now that a further hiatus in joy-through-motoring has occurred, and MOTOR SPORT has again room for reminiscences, I venture to offer some information on the car which I consider to be the best of the Continentals—the Adler.

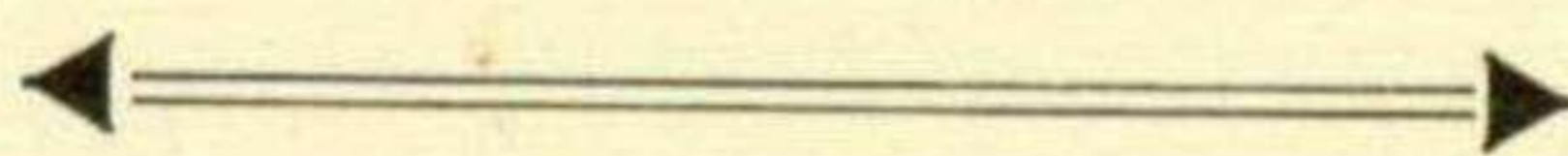
The Adler deserves to be better known in England than it appears to be, as it could not but bring joy to those who admire Continental trends. It should be of particular interest to Citroen enthusiasts, as the Adler possesses most of the features which have made the Citroen so famous, and a few more besides. I once heard a well-known Irish racing driver say that the Adler had all the virtues of the Citroen, without its faults. It is not, however, an imitation of the Citroen, as the two cars—front-drive Adler and front-drive Citroen—came out at about the same time (I do not remember which came first, but a few months covered both appearances).

Adler cars were produced since before the first world war, by Adlerwerke, Frankfort-am-Main, Germany. In 1934 they became of interest to enthusiasts by the introduction of a range of unorthodox cars, designed by the former chief engineer of the Rohr company, which had closed down some time before. The range consisted of three models—"Diplomat," "Trümpf," and "Trümpf-Junior." The last-named, commonly called "the Junior," was by far the most popular model of the range, and it is with it that I shall chiefly concern myself. In brief its specification was as follows:—

Engine—4 cylinders, 65 by 75 mm., 995 c.c., RAC rating 10.48 h.p., inclined side-valves, three-bearing crankshaft, 25 b.h.p. at 4,000 r.p.m. Updraught Solex carburetter fed by a scuttle tank of 5½ gallons capacity, including ¾ gallon reserve. The engine drove forward to a single-plate dry clutch and four-speed gearbox. From the gearbox the drive was to the front wheels by half-shafts, each having two universal joints. Final drive ratio was 5.42 to 1. Front sus-

About the ADLER

—a rather rare
Continental Car



pension was by twin transverse half-elliptic springs mounted one above the other. Steering was by rack-and-pinion. The frame was a box-section structure, to which was welded the metal-floored body, the whole being closely akin to an integral construction, but the frame was quite strong enough to permit open and convertible coachwork. Across the rear of the frame was a transverse hollow tube containing two co-axial torsion bars, each of which was splined to a rigid support in the centre of the tube, and ran to the outer end. Each brake back-plate was attached to a swinging arm which was splined to the torsion bar at its other end. The arrangement was thus somewhat similar to the Porsche system, but the swinging arms were leading instead of trailing. Damping front and rear was by Adler hydraulic dampers, and I have heard it suggested that the back dampers were expected to do far too much of the suspension work. Be that as it may, there are few cars, and no low-priced cars, which give a more stable ride than the Adler. The wheelbase of the Junior was 8 ft. 2¾ ins. and track 4 ft. 0 in. Prices were £245-£275.

The Trümpf followed closely on the lines of the Junior, but had orthodox rear suspension, by half-elliptics, and had an engine of 1,645-c.c.

(two and four-door), cabriolet, and drop-head coupé. The latter is by Karmann, and is of great aesthetic appeal.

On the road, the Junior is a delight to handle. The seating position is superb—one sits well up behind the almost vertical steering wheel, and the visibility is excellent. The roadholding and suspension are splendid, and there is no trace of roll on fast corners, though the tail will slide if provoked. As the front track is not constant the tyres scrub, and wear themselves out in 12,000-15,000 miles. This rapid wear, however, must to some extent be due to the natural tendency to drive the car in a rather "dashing" manner. It will take indifferent surfaces without a jar, though, as insinuated earlier, if the rear dampers are in poor condition, it bounces excessively. The steering is very high-g geared and rather heavy, firm but not lively. It is very accurate, and does not appear to develop much backlash with age. Incidentally, this remark applies to the whole car, which keeps its tune amazingly. I have driven ten-year old, 70,000-mile models, the freedom from rattle and slackness of which would put much less-used products of Coventry to shame. But you must keep your Adler well lubricated, especially the transmission and front suspension. This, of course, is the chief guarantee of long life with any car, and very much so with the Adler.

I have no authoritative knowledge of performance figures and can only say that it can hold its own with most cars in

its class, and is brisker than the "Eights" of comparable cylinder capacity. The brakes, which are cable-operated, are adequate but not outstanding. The handbrake operates on all four wheels.

The Trümpf was also available with various forms of convertible coachwork, which were so popular that I have seen only one saloon in Ireland. Ireland's only Diplomat is a cabriolet which resembles a Horch in appearance.

The German company entered regularly for lesser Continental sports-car races and trials, but as these were rarely reported in the British motoring Press, I don't know how these Adlers fared. However, it may be recalled that a team of streamlined Trümpf saloons won the Team Prize in the 1936 Spa 24-Hour Race, and a Trümpf saloon carried off the 1938 Biennial Cup at Le Mans. The firm also went in for long-distance records—a Trümpf took the 24 Hours' Class E record at 99 m.p.h. in 1936, and a 995-c.c. Junior took the Class C Six Days' and 10,000 mile records at 66 m.p.h. in the same year. The firm always displayed much interest in streamlining, and the 1938 range included a streamlined saloon, possibly on the Diplomat chassis, which was at Earls Court in 1937. It was probably very efficient aerodynamically, but aerodynamics are not everything, and this Adler is one of the ugliest and clumsiest cars I have ever seen.

A car of such individual design as the Adler is not made for fools and is not

foolproof. Hence it needs understanding and skilled assistance when mishaps occur. Such is not to be found in Ireland, outside the chief cities, and this probably accounts for the prejudice against the Adler which one occasionally encounters. However, I have never met anyone whose Adler had proved unsatisfactory, without discovering, on investigation, that the fault was on the part of the owner, rather than that of the car. Ordinary maintenance is simple as everything is intelligently laid-out and quite accessible. The firm evidently believed in concentrating on the essentials, as distinct from the astonishing present-day policy of calling-in a gentleman to "style" (ugh!) the body, afterwards rigging up some sort of machinery to fit conveniently into the "stylist's conception." I am horrified at the growth of this iniquitous practice, which has got so bad that even serious enthusiasts discuss the appearance of new cars as though nothing else mattered.

After the war I endeavoured continually to ascertain the probable future of the Adlerwerke, without success, until I learned from a recent issue of the *Autocar* that the works are scheduled for dismantling.

[This article provides an "eye-witness account," as it were, of yet another Continental utility car with sporting tendencies. Would anyone like to give us practical experience of any remaining European cars of this kind which have not yet been covered—the Renault Eight, for instance?—ED.]

CLASSIFIED ADVERTISEMENTS

WANTED—continued

SENSPRAY JET-DAMPING CARBURETTER as fitted to 1926 Rudge 500-c.c. motor-cycle or parts of same. B. C. Peerless, 28, Vale Road, Northfleet, Kent.

AUSTIN SEVEN 2-seater in sound running order required for a lady. Reliability of more importance than super sports performance. Not over £100. Full particulars and photo (if non-standard) to: Rankin, Old Post House, Helidon, Daventry.

ILLUSTRATED INSTRUCTION BOOK for Lancia "Aprilia." C. Hartridge, Findon Place, Findon, Sussex.

"**MOTOR SPORT**" volumes I to V inclusive. Rambaut, Great Corby, Carlisle.

1934 TALBOT "65" RUDGE-WHITWORTH WHEEL required. Particulars to F. A. Dawes, 122, Foresters Drive, Wallington, Surrey.

URGENTLY REQUIRED BY ENTHUSIASTS OVERSEAS. Scintilla for a 1934 Ford V8. Engine spares for a 1925 O.M. Superba and any information concerning these cars or hints on tuning, cuttings, etc. Also any information, cuttings, handbooks, etc., on the Sunbeam "14/40." All letters answered. Box No. 31, MOTOR SPORT, 15, City Road, E.C.1.

URGENT! Pair long-flanged Mellowtone or Lucas dual-tone horns. Good condition. 12 volts. Dalton, "Moorings," Belper, Derbyshire.

"**MOTOR SPORT**," volumes XVI to XXII, 1940 to 1946, inclusive. Bound or unbound, but must be complete and in good condition. Good price paid. Emmott, Old School House, Kenilworth, Warwickshire.

COMPLETE HOOD FRAME for 1925 3-litre "Red Label" Bentley, V.D.P. body. Hadley, 16, Kenilworth Road, St. Annes-on-Sea, Lancs.

WANTED FOR MARENDAZ 1936 17-H.P. 6-cylinder sports tourer: Crown-wheel and pinion, propeller-shaft assembly, two wire road wheels. Beardmore Service, 26, Queensway, London, W.2. Tel.: Bayswater 0136.

FOUR OR MORE 18 OR 19-IN. RUDGE-WHITWORTH WHEELS, fit "14/40" Sunbeam. Robins, Wrotherham Place, Yeovil.

1½-LITRE H.R.G., RILEY "IMP" OR "SPRITE." Box No. 38, MOTOR SPORT, 15, City Road, E.C.1.

SCINTILLA MAGNETO and adaptor for Ford V8. G. Healey, Perranporth, Kenilworth Road, Leamington Spa.

"**P**" **TYPE HANDBOOK.** Good price paid. Moffat, The Park, Yeovil, Somerset. Tel. 344.

TRIALS CAR in good condition, Ford-engined preferred. Box No. 42, MOTOR SPORT, 15, City Road, E.C.1.

INSTRUCTION BOOK for M.G. "18/80," Mark I or II, wanted. Smyth, St. Vincent, Woodland Grove, Weybridge.

INSTRUCTION MANUAL and any other useful information relating to 1936 Railton tourer. Eyre, Garth Carbery, Tuckton Road, Bournemouth.

CLOSE-RATIO GEARS, or gearbox complete, for Riley Nine "Gamecock," 1932; "crash" type. 29, Trentvale Road, Beeston, Notts.

FLYWHEEL, MEADOWS 4ED. Four-bolt fixing, good set teeth. Pair S.U.s, 30 mm., good condition. Gostling, Lincoln Hill, Ross-on-Wye, Hereford.

A SERVICEABLE CYLINDER BLOCK for Type 40 Bugatti. Sunnydale, Victoria Road, Sutton Coldfield. Tel.: Sutton Coldfield 2527.

RILEY "GAMECOCK" 2-seater, with or without engine. Condition immaculate. Please send particulars. "Cantuar," Brooke Road, Ashford, Kent.

P OR J-TYPE M.G. two or four-seater urgently wanted for cash. Price the operative word. Other model M.G.s considered. Box No. 48, MOTOR SPORT, 15, City Road, E.C.1.

AUSTIN SEVEN "Nippy" or "Speedy" type, sports front axle, with springs if possible. R. Bates, 22, Starley Road, Coventry.

RILEY NINE saloon. All replies considered. Full particulars, mileage, condition, etc. Waddington, Stafford Lane, West Haddon, near Rugby.

TWO-SEATER SPORTS VEHICLE. Good engine, solid body. £150 or cash exchange 1946 350-c.c. Triumph Twin. Mackintosh, Langfield House, Barnet By-Pass, Hatfield, Herts.

AUSTIN "NIPPY" DOWNDRAUGHT INDUCTION MANIFOLD urgently required. 102, Deaconsfield Road, Hemel Hempstead. Tel.: Boxmoor 644.

M.G. MIDGET named "Blythe Spirit," seen Silverstone G.P. Advertiser wishes contact owner for first chance when selling. Assistance of readers acquainted with owner welcomed. Box No. 52, MOTOR SPORT, 15, City Road, E.C.1.

SINGER "LE MANS" NINE OR "1½" chassis and engine wanted, or complete car considered. Full details. Kemplen, Litterigg, Seven Hills Road, Cobham, Surrey.

I WANT TO BUY for my Edwardian cars, two each period mirrors, oil rear lamps and bulb horns with flex. Brass if possible. I am interested in any period fitting or accessory and will exchange gas or electric head and sidelamps. S. J. Skinner, Basingstoke Motor Co., Basingstoke.

"**30/98**" **VAUXHALL E-TYPE BACK AXLE.** Also 20-in. wheel, 62-mm. hub. 8, Aldersmead Road, Beckenham, Kent. Tel.: Sydenham 5084.

ALVIS "SILVER EAGLE" RADIATOR MASCOT. Good condition. Reasonable price. Box No. 54, MOTOR SPORT, 15, City Road, E.C.1.

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WANTED, EXPERIENCED MECHANIC for country garage specialising in sports and vintage cars of all types. Applicant must be good engineer and hard worker, and be prepared to tackle all branches of maintenance and repair work; enthusiast preferred but must have sound background and sense of responsibility. Apply, with fullest particulars, to Box No. 53, MOTOR SPORT, 15, City Road, E.C.1.

SITUATIONS WANTED

EDUCATED ENTHUSIAST, 24, seeks position in sales and practical side of firm dealing in sports and racing cars. Good general knowledge of motor trade. London or S.W. area preferred. Willing to travel. Anything reasonable considered. Box No. 45, MOTOR SPORT, 15, City Road, E.C.1.

ADAPTABLE AND ENTERPRISING YOUNG MAN, 28, single, ex-public school, varied mechanical experience, member V.S.C.C. and V.C.C., seeks interesting and progressive occupation. Interested in journalism and travel. All suggestions welcomed. Some capital available. Box No. 37, MOTOR SPORT, 15, City Road, E.C.1.

MISCELLANEOUS

OXFORD AND DISTRICT.—SPECIAL OFFER: Your sports or special sprayed your colour for £12 10s. Satisfaction guaranteed. Cars collected, returned, radius 10 miles. Callers welcomed at Bentley Garage, Milton Common, Oxford.

WE HEAR

The bull-nose M.G. tourer we encountered on the last Veteran Run to Brighton was apparently owned by Ben Walker of Ascot, and was originally the late Eric Fernihough's personal means of transport, appearing as tender car at all manner of Continental motor-cycle races. Its present owner says it has given him many thousands of miles of trouble-free motoring and is still going well after 22 years service. Incidentally, Walker also has a 1909 Wolseley Fifteen. Another square-radiator Super Sports M.G. four-seater has been encountered in Aldershot.

In many homes Christmas was enlivened by the brisk lappery of the "Mighty Midget," an electrically-driven miniature racing car which runs several miles on a 4d. torch battery and, having an Ackermann steering layout, holds an admirable circular course. It is pleasing to note that in this case Britain can make it, for these models are made by Victory Industries Ltd., of Guildford, Surrey, and sell for 19s. 3d. The tiny electric motor which propels them runs up to 10,000 r.p.m., and if you haven't got one, you should pay an early visit to the local toy shop. Axel-Berg got in some Christmas motoring in the very fine, blood-red Series I 1932 "2.3" supercharged Alfa-Romeo two-seater that he recently imported into this country—not surprising that he expressed no great regret at having disposed of a vintage F.I.A.T. Eight. Daphne Tolson, likewise, has transferred her affections from a D.I. Delage to a 2-litre Lagonda. A large pre-1914 Napier landaulette, described as just about saveable, is reported from Stourbridge, along with a quite reasonable post-1918 "Silver Ghost" Rolls-Royce limousine. Early examples of Crossley, Delage and Wolseley Twelve have been spotted in use in the same area, together with one of the rare 12-h.p. Sunbeam tourers of about 1924 vintage.

We regret to learn of the death of G. L. Grace, who found, and was restoring, a 1912 chain-driven Cottin-Desgouttes. A recent Allard achievement was that of Fernando Bellandi, whose two-seater broke the five-mile lap record for sports cars at the Interlagos circuit, San Paulo. The previous record was held by Fabio Crespi's Alfa-Romeo. J. W. H. Pritchard, who owns a 1931 2-litre "Speed Model" Lagonda, wonders if there are sufficient vintage car owners in the Newquay area to warrant some "natters and noggins" and perhaps later a proper organisation. His address is Towan House, Fore Street, Newquay, Cornwall. The only suitable car in his district seems to be a "12/50" Alvis tourer, but he hopes owners of others will come forward.

The 2.9-litre *monoposto* Alfa-Romeo once raced by the late Richard Shuttleworth has been converted into an imposing sports two-seater by Charles Brackenbury's Byfleet garage to the order of Geoffrey Barnard.

S. M. Frost has acquired the "Grasshopper" Austin Seven formerly driven by R. K. N. Clarkson.

In America, Alec Ulmann has at last acquired his "Alphonso XIII" Hispano-Suiza, a three-speed model with French three-seater sporting bodywork. But the apple of his eye is a 1913 model C Mercer Raceabout, which has a 300-cub. in. T-head engine, two-spark ZU4 Bosch

Club News



magnetos, 32 by 4 Rudge Whitworth wire wheels, three-speed gearbox and 2.25 to 1 final drive ratio. This Mercer still covers half a mile in 42 seconds, a speed of 42.35 m.p.h., and is, according to Ulmann, the U.S. equivalent of our 3-litre Bentley. St. J. Nixon has resigned from the secretaryship of the Veteran Car Club, and as Editor of the Club's "Gazette."

Later in the season the Hagley and D.M.C. intends to run a trial for standard cars, saloons only being eligible and the sections intended to do no harm to cars, bodily or mechanically. The organisation is in the hands of Ken Wharton. J. L. Reading of Taunton hopes to run an old Riley Nine in a local club's events.

In South Australia David Pearse proudly maintains a 1920-22 G.N., aided by three spare i.o.e. engines and a spare chassis. Fitted with two Amal carburettors, this car, even when off colour, could hold a 5th Series Lancia "Lambda" up to about 45 m.p.h., and beat a D.I. Delage on acceleration. These cars were owned by Pearse's cousin, who now has an Amilcar. Other cars in this enthusiastic stable include a 1924 twin-cam Vulcan Twelve tourer, used for trials, and a 1915 Calthorpe with T-Ford generator, Bentley screen, Wilkinson radiator, A.C. lamps, Bean ammeter and Solex carburetter. Pearse remarks that the G.N.'s 3.85 by 27 tyres are rather a nuisance and that he badly wants to know what h.p. the early G.N. engine gave and whether anyone has a spares list. A veteran Gladiator engine, radiator and other parts have come to light in a West Country coach house and might help a V.C.C. member seeking such spares. C. A. Hartridge has acquired the 1925 21-h.p. Lorraine-Dietrich drophead coupé formerly owned by Major Blake.

Arising out of the paragraphs headed "Old Bean" in last month's issue, Peter M. Caporn, Rector of Eastwood, reports excellent service from a 1924

Bean Fourteen, although maximum speed is 42 m.p.h.; 40 m.p.h., however, can be maintained all day on $\frac{3}{4}$ throttle at a fuel consumption of 20 m.p.g. on a long run, this dropping to 17 m.p.g. in town. The Rector would be glad to hear of another car or spare parts. Much interest has been evoked by the article, also in last month's issue, on an owner's modifications to a 1½-litre Invicta; the enthusiast who wrote this article is Mr. F. Warburton of Matlock. Still they come—articles in the American Press about European cars. The latest we have seen is in *The Pure Oil News* for last December, entitled "Engines Have Style and Character." It is the sort of thing that can do our export drive a power of good, although it is amusing to see the "TC" M.G. Midget engine described as "fast enough to drive this famous sports car to nearly every *World's* record for its class."

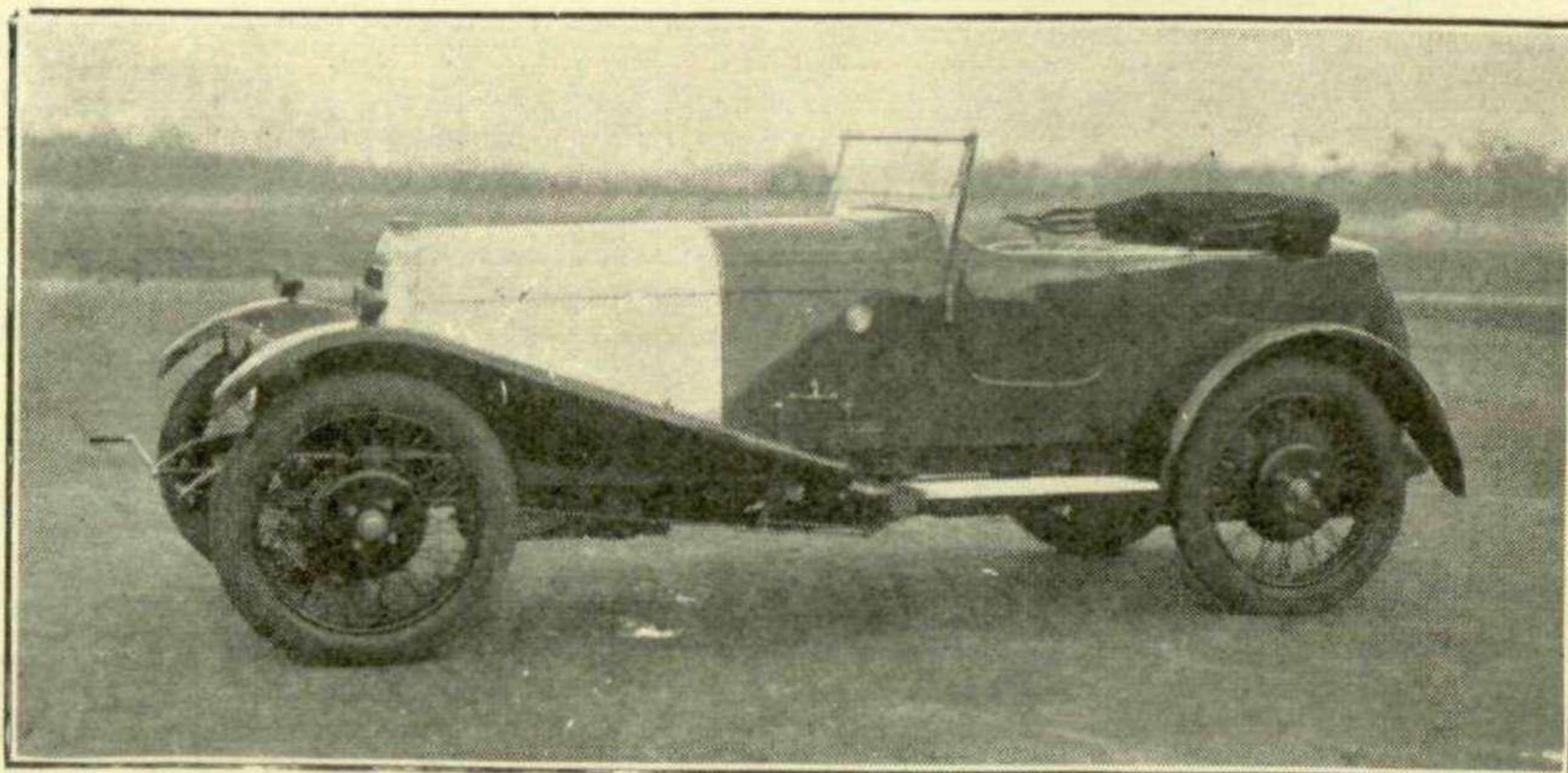
A friction-drive 1923 G.W.K., in original condition, has been seen in an Ealing garage. Esmond Seal is overhauling a 5th series Lancia "Lambda" with 6th series Nardini-shortened chassis, which was at one time owned by the Editor of MOTOR SPORT. J. A. K. Fergie has exchanged two Lancia "Augustas" for a twin o.h.c. Alfa-Romeo. A 1924-5 solid-tyred Trojan "Chummy," in saveable condition, is reported from Exeter.

P. A. Richards, who drove M.G., Aston-Martin, Rapier and Singer cars at Brooklands, Donington and in trials here before the war is now in Bloemfontein and entered a "TC" M.G. for the recent Fairfield Handicap. He has raced a 3½-litre Jaguar in East London events and reports the formation of a club in his town. He hopes to acquire an XK 120 Jaguar in due course.

V.M.C.C.



We cannot resist logging the continuance of interest in vintage motor-cycles. The Christmas issue of the Vintage Motor Cycle Club's "Bulletin" lists eight new members, possessing 1914 B.A.T., 1925 o.h.v. New Hudson, 1926 Sunbeam, two 1929 Scott "Flyers," 1926 model-18 Norton, 1921 two-stroke Royal Enfield,



RARE TYPES No. 7.—The 2-litre Marlborough, announced during 1924. The specification included 2-litre 65 by 100 mm., six-cylinder push-rod o.h.v. engine, four-speed gearbox and half-elliptic suspension. The car was made at Brooklands Track, and the chassis price was £400.

and a 1926 Scott. This Club hopes to organise a rally at Eastbourne in the summer. Hon. Sec.: M. F. Walker, 170, Woodcock Hill, Harrow, Middlesex.



PETERBOROUGH M.C.

The growth of the recently formed Peterborough Motor Club is typical of the enthusiasm that, since the war, has been evident in all motoring matters. Membership approaches 120 after eight months' existence, and while the Club caters for owners of ordinary cars, it also numbers a K3 M.G. Magnette, a brace of Frazer-Nashes, a Bristol and a G'hia-bodied Lancia on the roll. Monthly meetings are held and Tony Curtis has given a film-show. A magazine is about to be produced and future plans include a dance in February, a trial in March and another rally during Annual Regatta Week in June. Hon. Sec.: J. R. L. Barrett, "The Cottage," 230, Lincoln Road, Walton, Peterborough.



CHRISTMAS !

One of the compensations of being the Proprietor or Editor of MOTOR SPORT is the number of greetings that pour in by every post just before Christmas, reminders of a good season completed and another not too far distant. 1948 was no exception and amongst the cards and good wishes received were a Roy Nockolds impression of dawn at Le Mans from the Bentley Drivers Club, a Brockbank woodcut of the sprint Alfa-Romeo in action from Ken Hutchison and his wife, a card depicting the 1904 Mercedes at the Vintage S.C.C. Prescott Meeting from C. R. Abbott, an applicable Brockbank racing cartoon from John and Betty Bolster, a sketch of the Formula II H.R.G. in a B.R.D.C. card from Ariel and Peter Clark, an impression of the ex-Hughes "30/98" Vauxhall at speed from Kenneth and Jo Neve, a fine photograph of the special-bodied H.R.G. going through the courtyard at Bo'ness from Bill Hoare, near-vintage M.G. Midget, Edwardian single-cylinder Rover and veteran Humber tri-car on a card from S. J. Humphries, familiar racing Austin "Ulster" on J. V. Bowles' card, the G.P. Alta at Berne from a Swiss reader, a Christmas picture of a Jowett Javelin from Colin Baldwin of Jowett's, a cartoon card from H. R. Godfrey of the H.R.G. Engineering Company Ltd., the Silverstone start on cards from F. Stanley Barnes and the R.A.C. Competitions Department, an impression of the Gardner Special doing 180 m.p.h. in Belgium from Lt.-Col. A. T. "Goldie" Gardner, M.C., another fine impression of the same car at the same venue from Lodge Plugs Ltd., a fine photograph of a Meadows Frazer-Nash he once owned, from Edward Hyde, a most interesting picture of Vizcaya's Full Brescia Bugatti in the 1920 Voiturette Grand Prix on the Sarthe Circuit, just before Ettore Bugatti unwittingly caused it to be disqualified by touching the radiator cap, from Jack and Rose Lemon Burton, a view of the summit of the Susten Pass and the hope that we shall be on the top of the world in 1949, from Joseph Lowrey, a Prescott paddock scene from Rivers and Penny Fletcher and family, another B.D.C. card from Mr. and Mrs. John Morton, an

impression of his Ford V8 Special on a trials hill from C. A. N. May, a speed impression from Don Pitt, another, of his Frazer-Nash, from Ronald Palmer, the familiar D-type E.R.A. from Raymond Mays, "Spider" in furious action from Basil Davenport, a fine picture of a "Speed Twenty-Five" Alvis radiator from Alton Garage, and a humorous study involving his Stanley steamer from Leonard Taylor. Not to mention a cable from Mr. Harrington in New Zealand, and cards, many of a character which made non-motoring relatives and friends goggle, from the Aston-Martin Owners' Club, Sir Anthony Stamer, Bt., Dr. and Mrs. J. R. Edisbury, Joan and Ted Hunter, Mr. and Mrs. Holland Birkett, Stuart Wilton, Mr. and Mrs. Francis Hutton-Stott, Guy Griffiths and family, Alan Southon, Julian Fall, K.I.M. Royal Dutch Airlines, the Jersey M.C. and L.C.C., Martin Brunt, John Morgan of the Junior Car Club, Rodney Clarke,

Group, Mr. and Mrs. Floyd Clymer, and Geoffrey Sykes of the Brighton and Hove M.C., as well as very fine calendars from the Jowett Motor Co., Ltd., T. P. Breen and Co., David Brown Tractors, Ltd., Paul Street Garage, Ltd., the Antone Company and Jack Leeson and Partners, and diaries from Norman Freeman of Dunlops and Stanley Blake-Reece. Also New Year greetings from L'A.G.A.C.I. of Paris, the Jabivers Racing Stable of Switzerland, John Hugenholz of Holland and P.S. Motors, Ltd.



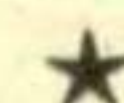
MORE PUBLICITY

Not only did the Brighton Run and Gloucester Trial appear on the newsreel at one's local cinema, but the latter event, started incidentally by Kenneth Horne, was the subject of a television broadcast. And a useful little article, illustrated with MOTOR SPORT's photograph of the start of the Silverstone Grand Prix, appeared in the December issue of the Journal of Rubber Improvement Ltd., emphasising that motor racing has returned to Britain and that the B.R.M. is on the way, unhampered by the Board of Trade. We particularly liked the author's suggestion that, if you are acquiring a factory-built 500-c.c. racing car and cannot arrange to pay the purchase tax, it might be possible to arrange a spell in prison in lieu—Viva la Sport!



SOUTHSEA M.C.

The very-much-alive Southsea Motor Club continues to issue its monthly magazine. S. R. H. Critchett and A. W. Finch have been elected to the Committee and a most interesting announcement concerns a proposed race meeting at Goodwood Track this year, in conjunction with two or three other clubs and with the permission of the J.C.C. Geoffrey Ansell, the Club's President, sent a Christmas Message to the Club's members. Hon. Sec.: C. S. Dervey, 10, Park Mansions, Magdala Road, Cosham, Hampshire.



THE V.S.C.C. A.G.M.

At the A.G.M. of the Vintage Sports Car Club in London on January 21st, the 1948 awards were presented. John Bolster took the Lyett Trophy for his achievements with "Bloody Mary," J. P. Maréchal (6½-litre Bentley) the Proxime Accessit Cup, F. A. Norris (Norris Special) the 1,500-c.c. Trophy and C. R. Abbott (1904 Mercedes) the Edwardian Trophy. The Pomeroy Trophy competition was not possible because of the too little petrol, so it was awarded to Harry Bowler for his fine work as Competitions Secretary. Runners-up for the 1,500-c.c. Cup were J. V. Bowles (Austin Seven "Ulster") and Owen Finch (Amilcar Six) while Peter Clarke (1914 G.P. Mercedes) was placed second to Abbott for the Edwardian Trophy.

Three of the excellently-produced and illustrated "Bulletins" were published during 1948, these being the inimitable work of Cecil Clutton. He hints at retiring from these editorial pursuits.

FIXTURES FOR FEBRUARY

- 6th.—Herts C. Aero and A.C. Closed Trial.
- Hagley and D.M.C. Clee-Hill Invitation Trial, Midlands.
- 12th.—Bristol M.C. and L.C.C. Trial.
- 12th—13th.—Bugatti O.C. Night Trial, Surrey.
- 13th.—Leicestershire C.C. Closed Trial.
- Tunbridge Wells M.C. Invitation Trial, Crowborough.
- W. Hants and Dorset Closed Trial.
- 20th.—Chiltern C.C. Closed Trial.
- Southsea M.C. President's Trophy Trial.
- 26th.—Lancia M.C. Annual Dinner, Talbot Hotel, Ripley.
- Ulster A.C. Closed Trial.
- 27th.—Maidstone and Mid-Kent Trial.
- V.S.C.C. Rally and Driving Tests, Bisley.

Mike Oliver and Guy Gale, J. E. G. Fairman, Anthony Brooke, The Car Mart Ltd., Leonard Potter, the Directors and Staff of W. D. Horrocks and Sons Ltd., John F. Snow, F. J. Findon and the Staff of the *Light Car*, John Barrett of the Peterborough Motor Club, Mr. and Mrs. Jack M. Reiss, W. Husband of Blue Peter Re-Treads, the Allard Motor Co., Ltd., Mr. and Mrs. H. Tymms, G. James Allday, M.B.E., of the V.C.C., C. E. Allen and family, of the Vintage Motor Cycle Club, R. M. Stratford of Rolls-Royce, Ltd., Mr. and Mrs. Bob Newton, Twink and Monica Whincop, Alfred H. Ball, Paddy Halion, Mr. and Mrs. Anning, Prima Motors, Geoffrey Smith, Reg. Phillips of the Sheffield and Hallamshire M.C., "Steady" Barker, Mr. and Mrs. C. H. Peacock, Mr. and Mrs. Peter Monkhouse, Buckler's of Reading, Mr. and Mrs. Butterworth, Billie North, Alan May, Ken Wharton, Harry C. Shaw of Joseph Lucas, Ltd., the Committee and members of the West Essex C.C., the Public Relations Department of the Rootes

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JOHN BLAND offers a reliable and reasonably-priced service to Vintage and Edwardian enthusiasts. King-pins, shackle bolts, valves and guides, piston rings, bushes and bearings of every description, to pattern or drawing. 27, Southfields Road, S.W.18. Tel.: Putney 1612.

ENTHUSIAST desires to reduce stable including Type 35C road equipped, £750. Type 43, road equipped, £490. Type 35, racing trim, £425. All beautifully kept full roller-bearing Bugattis. Box No. 668, MOTOR SPORT, 15, City Road, E.C.1.

BOOKS ON MOTOR SPORT.—Grant, "British Sports Cars," 9s.; Mays, "Shelsley Walsh," 9s.; Mays, "More Wheelspin," 9s.; Prince Chula, "Road-Racing, 1936," "Road Star Hat-Trick"; Dick Seaman, "Racing Motorist," 9s. each; Birkin, "Full Throttle," 8s.; Monkhouse, "Motor-Racing with Mercedes-Benz," 21s. 6d. All new books and post free. Ewen Kerr, 2, Kent Street, Kendal, Westmorland.

FOR SALE—continued

ALUMINIUM OR DURAL SHEETS, 1s. sq. ft., c.w.o., c.for. S.A.E. for leaflet. Bullanco, 66, Queens Road, S.E.15. Tel.: New Cross 1092.

£450 OR OFFER. Short chassis "Red Label" Bentley; attractive 2/4-seater body fitted 1935; now undergoing top overhaul. Unique car, immaculate condition, with startlingly true Bentley performance. Can be seen whilst stripped at C.M.S., Ltd., 346, Lewisham High Street, London, S.E.13. Tel.: Lee Green 2344.

"MOTOR SPORT" INDEX AND BOUND VOLUMES

The Index for Volume XXIV (1948) is now available, price 1s. 6d. post free. We are also in a position to bind loose issues in yearly volumes, but readers must submit their own copies for this purpose. The charge is 15s. per volume. Apply in both instances to the MOTOR SPORT offices.

1947 "TC" M.G., black and beige, fully equipped with all our extras; genuine 10,000 miles; £585. Every model F.I.A.T. in stock, 500's from £175, 1,100's from £325, 1,500's from £350, reconditioned and recellulosed. Send stamp for descriptive list of sports and racing cars, always a choice of over 25 reconditioned cars. V. W. Derrington, Ltd., 159 and 200, London Road, Kingston-on-Thames. Tel.: 5621-2.

B.M.W. ENGINE. Brand new 1½-litre. 1942, with Boseh vertical magneto, starter dynamo, carburettor manifolds, water pump, filters. £135. Morris Ten to similar specification, specially works tuned with clutch, gearbox. £110. Grand Prix twin-o.h.c. Salmson. £35. 1,000-c.c. Indian. 1944. £20. V. W. Derrington, 159, London Road, Kingston. Tel.: 5621-2.

FOR SALE—continued

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V. W. DERRINGTON LTD., for all sports spares and equipment. Chromium-plated tubular luggage grids from £6. "Brooklands" aero-screens with quickly detachable universal fittings, 48s. Bonora quick-acting filler caps, chromium-plated, from 2½-in. at 21s., to 4-in. 70s., with locks 5s. extra. "Deep Note" exhaust systems from £3. Cycle wings, 6-in. 15s., 8-in. 18s. 6d. Sheet aluminium 6 ft. by 3 ft. by 22g., 25s., 18g., 40s. Duralumin 19s., 30s. Light alloy bucket seats 55s. Steel-framed bucket seats with Latex upholstery, trimmed best leather cloth, 85s. each; real leather 95s. Huge stocks Scintillas, Lucas and B.T.H. Vertex magnetos, from £8 10s. Superchargers, most makes, instruments, speedometers, rev.-counters, headlamps, spot and fog-lamps, Windtone horns. F.I.A.T. spares, largest stockist 500, 1,100 and 1,500, reconditioned engines, starters, dynamos and radiators, complete servicing facilities. M.G. spares, vertical drive roller races 8s. 6d. pair, rocker bushes, M-type, 8s. 6d., "J" onwards 7s. 6d.; valve guides 7s. 6d.; gaskets, ball-races, axle shafts, hub units, representative stock at reasonable prices. Brooklands flexible steering wheels with fixed boss, 85s. Adjustable boss, 95s. V. W. Derrington, 159, London Road, Kingston. Tel.: 5621-2.

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MERCEDES. Pioneer of an industry. A history of the first automobile and its development from 1885 to 1921 with 100 drawings and illustrations and important racing history; 17s. 6d. post paid, from Mr. R. Foote, Midland Bank Chambers, 34, High Street, Walton-on-Thames, Surrey.

J. H. BARTLETT, 27a, Pembridge Villas, W.11, offers Riley Nine engine and gearbox, £15. Vauxhall Ten engine, £12 10s. B.M.W. 326, engine reconditioned, £125. Arnott supercharger with carburettor, £15. Lagonda 2-litre engine spares. M.G. P-type spares, gearbox and crown and pinion wheels, carburettors, s/h, headlamps, wire wheels, Girling brakes. Singer Nine gearbox and other spares.

1927 VINTAGE ROVER. 9-h.p. sports 2-seater and dickey, aluminium body, two owners, small mileage, immaculate condition, 35 m.p.g., oil nil, new tyres, mechanically sound, £125. 1932 Vintage Rover. 12.9-h.p., recellulosed black and maroon, maroon hide interior, new tyres, battery, engine rebored 1948, gearbox and rear axle overhauled. Immaculate condition. 30 m.p.g., oil nil. 1936 Austin "16/6" saloon. Used private hire. Mechanically sound. Good appearance. 1936 C.Y.C. Auto-cycle. Good order. £27 10s. Any of above open to A.A. or R.A.C. inspection. Reliance Auto Ltd., Burgh Road, Skegness.

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£475—Alvis 1935 "Speed 20." V.D.P. 4-seater. Excellent mechanically. Good body. £250 deposit.

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SALOON BODY ex "E. W. Hornet Special" complete with bonnet and chromium radiator grill. £10. Hornet gearbox. £8 10s. Hornet engine. £30. Ford Eight engine. £25. Opel engine, less head. £15. Four B.S.A. "Scout" wheels. £4 the lot. G. R. Furley, "Newstead," Slad Road, Stroud. Tel.: 408.

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JAMIESON SUPERCHARGER (Zoller type), as new, "Ulster" Austin three-branch outside exhaust manifold. One pair front brake shoes and speedo cable (outer) for 1932 Frazer-Nash. Set of h.c. pistons, .060 in. oversize, for Meadows 4ED engine, and set of new gudgeon pins (latest type), also cast exhaust manifold. Lucas chrome pass-lamp. Everything reasonable. S.A.E. please. D. A. Armstrong, Chalet Cottage, Farnham Royal, Bucks.

LAGONDA OWNER, reluctantly reverting to motorcycle, offers: 3 1/2-litre chassis (1935), complete and in running order, £175 or offer. 2-litre Utility, professional body just completed, available on completion mechanical overhaul. 11.9-h.p. 1924 drophead coupé; rare model, completely restored mechanically and bodily at considerable expense. Many 2-litre spares, including 1928 S.M. block, rebored and fitted h.c. Specialoids, crank reground, all new bearings, etc. 14-mm. "blower" cylinder head, brand new; special valves and guides. Ex-"blower" block, crank and rods. "Blower" Y-manifold and S.U. carb. Various 21-in. and 18-in. wheels. Numerous other spares. Also Centric, Type 260 AH (ex-"12/60" Alvis), with carb., etc. S.A.E., inquiries to: Barker, 14, Fenton Avenue, Staines.

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including Complete Chassis Frames, 16" dia. Brake Drums, Electron Brake Plates and Shoes, Crown Wheels and Pinions, Bishop Cam Steering Boxes, Warner Overdrive Gearboxes, Arnott and Marshall Blowers. 1 1/2- and 2-litre Gough engine parts, including fully counterbalanced Laystall Crankshafts. Petrol Tanks, Radiators, Shock Absorbers and many useful parts for Special builders. Also small quantity Frazer-Nash Chains.

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RILEY NINE SPECIAL SERIES "KESTREL" saloon, 1934, manual gearbox. This car has been restored to as near original condition as possible. Engine lined to standard size, new parts fitted throughout entire car wherever required; rewired throughout; body panels removed, new body timbers fitted where necessary. Recellulosed black, original red leather upholstery very good. New tyres. A very thorough examination will be welcomed. £395. Canford Cliffs Motors Ltd., Canford Cliffs, Bournemouth. Tel.: Canford Cliffs 88.

1937 LINCOLN ZEPHYR V12 ENGINE, complete with radiator, distributor, carburetter, etc. £25. Howard, 94, Greenford Road, Harrow. Tel.: Byron 3209.

M.G. "PA." Completely rebuilt at cost of £100; 1,500 miles since resleeve. Excellent condition throughout. Offers to Nash, 52, Avenue Road, Belmont, Surrey. Week-ends only.

12-VOLT CHROMIUM BOSCH HORN, Type UK 12CS6; "PB" M.G. h.c. head gasket, new; "TA" timing chain and sprockets; "TA" steering wheel; M.G. radiator cap, chromium, with flying bird mascot; M.G. chromium side mirror, with bracket. What offers? Argent, Laindon Common, Billericay.

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LATEST MODEL FORD 8-H.P. ENGINE, complete with gearbox and all accessories, fitted with special low-type Marshall supercharger. All in perfect condition, ready to install in car. Price for lot, £85. Dellow Motors Ltd., Alvechurch, Worcs. Tel.: Hillside 1191.

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2-LITRE MORRIS "MAJOR" saloon. Engine rebored and thoroughly overhauled; new plugs and leads; Runbaken oil-coil; oil and water thermometers; new radiator core, shell rechromed, hand-operated shutters; all wheels rebuilt to 17 in.; two spare wheels, four new 5.25/50 covers and tubes; two good spares, two good extra covers. Dynamo rebuilt; new battery, with secret switch; independent parking lights; reversing light; horn ring; tow bar. Crown-wheel and pinion renewed; steering perfect; Vokes rectifier; brakes relined; springs set up; clock and speedometer working, etc. Basic available. Over £300 spent. Accept £100 for quick sale, space needed. Turner, 41, Kenley Road, London, S.W.19. Tel.: Liberty 4100 (evenings).

TRIALS SPECIAL AND SPRINT M.G. "F," 1,172 c.c. Dellow supercharged; standing $\frac{1}{4}$ -mile 32 sec. Numerous extras, including eight wheels, ten tyres, giving four axle ratios. Fullest details and successes, including photograph and any reasonable demonstration to genuine inquiries. J. W. Cox, 15A, Stratford Road, Shirley, Birmingham.

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PIPPBROOK GARAGES LTD., London Road, Dorking (Tel.: Dorking 3891/2/3), offer Type 135 1937 drophead coupé Delahaye. This car has been tuned by our racing dept. and is perfect. Price £975.

INVICTA 1½-LITRE saloon, preselector change. Blue leather upholstery; Rudge wheels; good tyres, etc. £175. Alex Richardson, 2, Athole Gardens, Glasgow, W.2.

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FOR SALE—continued

3-LITRE BENTLEY "BLUE LABEL" tourer. Resprayed, engine reconditioned, new hood and tonneau cover, plus considerable spares, including almost complete engine. Seen near Edinburgh. £230. Also Bentley "A" type gearbox, £15. Box No. 43, MOTOR SPORT, 15, City Road, E.C.1.

"GLORIA" TRIUMPH "10.8" saloon, 1935. Mechanical overhaul; excellent tyres; taxed; petrol; radio. £180, offers. Tel.: SHE 4369.

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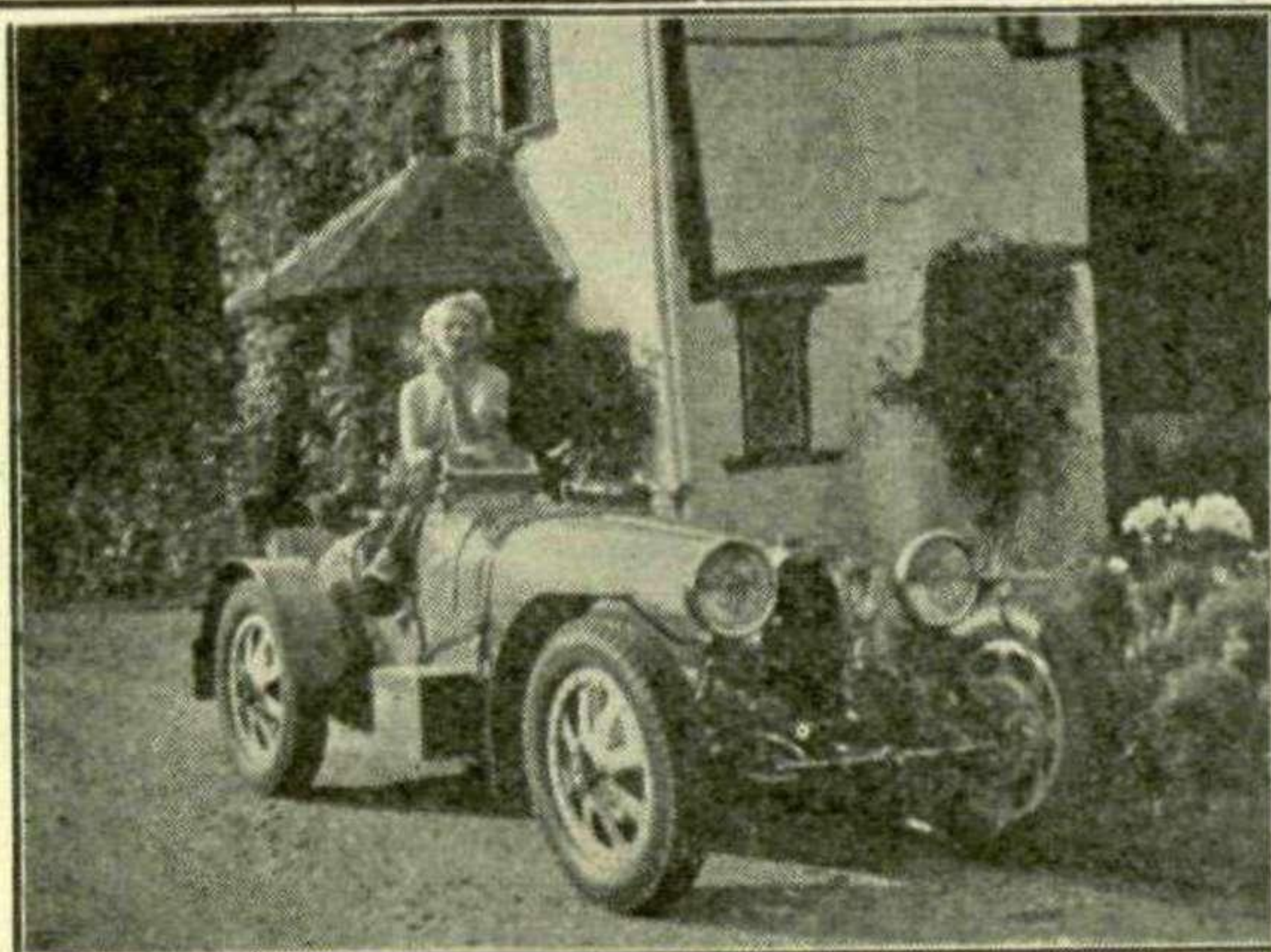
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BENTLEY 3-LITRE AND "4½" SPARES available cheap, including gearboxes, springs, radiators (3-litre), half-shafts (£5 each), two new tyres (list price). Many other bits. £50 the lot, or sell separately. J. Bobby, 23, The Mall, Surbiton, Surrey. Tel.: Elm. 1944.



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SCHNEIDER 12.8-H.P., reg. 6.10.33. Open 4-seater. Mechanically sound; well tyred; new hood and sidescreens; clean body; taxed; full coupons; £85. Apply, 22, St. John's Road, Balby, Doncaster.

LAGONDA, 1931, 2-LITRE, partly rebuilt. Must sell. Tow away, bargain, £80. Sgt. Hannam, R.A.F., Moreton-in-Marsh, Glos.

TRIUMPH "GLORIA" 2-seater (very occasional four), 10.8 h.p.; July, 1936. 8 ft. wheelbase. Manual control freewheel; telecontrol shockers; fold-flat aero-screens; tonneau and full weather protection. Superb mechanically and spotless. Grey, red wheels and leather. 12-gall. slab tank; two spare wheels. £325, or offer. 6, Malvern Road, Surbiton, Surrey. Tel.: Elmbridge 8665.

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BUGATTI, TYPE 23, SPORTS 2-seater. Over £150 spent on replacements; £225, exchange considered. Full details and appointment to view from: Knight, Nately Towers, Hook, Basingstoke, Hants. Tel.: Hook 60.

HEALEY, genuine 4,000 miles, immaculate condition, fitted special aerodynamic saloon, body by firm of repute; beautiful lines; weight under 22 cwt.; fitted special engine; 110 m.p.h. Sell outright at well under list price or exchange for smaller car and cash. Write Box No. 4760, Williams's Advertisement Offices, Bradford.

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VAUXHALL "23/60". Two engines, one complete all accessories; two front axles; six tyres, 880 by 120, one brand new, and tubes; two radiators. Haslett, Darrington, near Pontefract. Tel.: Wentbridge 13.

1948 AUSFOD COMPETITION 2-seater, Ford Ten engine, independent front suspension, aluminium body and doors, folding screen, hood, remote control; Scintilla mag.; 16-in. rear wheels; mileage 1,000. £250, or exchange open 4-seater. 1, Oakfield Gardens, Wembdon, Bridgwater, Som.

APPROX. 115 COPIES "SPEED" AND MOTOR SPORT, 1935-47, free to first enthusiast who cares to collect. Jarvis, 15, Park House, Foxgrove Road, Beckenham. Tel.: Beckenham 5605 for appointment.

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ENTHUSIAST HAS FOLLOWING FOR DISPOSAL.—1928 Lagonda gearbox; large, small H.T. tube, suitable chassis construction; A.C. "V" screen; spotlights; veteran acetylene headlamp; large S.U.; fuel tanks; 600 by 21 retard; s.a.e. for details. Girling, "Freshfields," Falkenham, Ipswich.

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RATHER STARK 1934 SINGER 9-H.P. "LE MANS" 2-seater, ABP 973, described in MOTOR SPORT June, 1948. Rebuilt 1947; bills for £145 shown. Needs some attention. For eight years faithful servant of ungrateful owner, who has now bought Allard. Nearest to £200, with a few bits. Apply, Charman, Motor Engineer, Coldharbour, near Dorking, Surrey.

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"12/50" ALVIS 1931 open 4-seater; excellent mechanical order throughout; fast; economical; new tyres; recently overhauled. £190. John Haining, Plex Farm, Broad Oak, near Shrewsbury.

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SIMMS 6-CYL. MAGNETO, new, £4 10s. Dewandre brake servo (ex-Daimler), £3. Riley Nine, 1934, rear brake shoes, differential housing and differential gears only. Many engine spares for early Austin Sevens. Bland, 27, Southfields Road, S.W.18. Tel.: Putney 1612.

SUNBEAM, 1930, 24-H.P. Young drophead, perfect, just rebored. Magnificent motor. Photos. Maxwell, 12, The Mount, N.W.3. Tel.: Hampstead 6168.

COZETTE BLOWER, No. 8, £10. Also a number of Riley Nine engine spares: gearbox, radiators, etc. O. Hopkinson, 119A, King Street, Ramsgate, Kent.

SPARES FOR 1927 14-H.P. TWIN O.H.C. LEA-FRANCIS. Engine complete, rear axle complete, gearbox complete. Will sell as units or break down for spares. Dynamo, starter, magneto, wheels. New 710 by 130, also 935 by 135, £5 11s. 6d. Inquiries to: James Boothby Motors Ltd., Mary Farm Works, Lowfield Heath, Crawley, Sussex. Tel.: Crawley 600.

LEA-FRANCIS "HYPER" (1929), in good condition throughout. Fitted with special all-metal body (4-seater). This car was fully described in the Autocar 8.12.44. Welford, 12, Opal Street, Leicester. Tel.: 65903.

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LAGONDA 1931 blue and black sports saloon, engine and accessories recently overhauled. Reupholstered throughout. Dunlopillo cushions. Five Dunlop tyres practically new. All petrol. Best offer over £295. Sabelli, Ground floor flat, 7, Langley Road, Surbiton.

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SET OF THREE BRONZE 28-MM. S.U.s on manifold to suit "NA" Magnette, complete with six float chambers for 45-deg. or horizontal fitting, £8. "NA" gearbox, new bearings throughout, £10. Wolseley Hornet 2/4-seater, Witteringham & Mitchell body, recently fitted flared rear wings and sprayed black; nearly new hood, full tonneau cover; wind-screen, front and rear seats; ready to bolt on; £80. Two rear wings for above, £1. 12-gallon slab tank, £6. Set of Aerolite pistons, rings and liners for Magnette, 57 mm. standard; 2,000 miles only; £12. Set ditto, B.H.B., £6. Set .020 B.H.B., one chipped, £3. 30. Trueway Road, Leicester.

1938 M.G. "TA." Cream and red. Excellent condition throughout. New tyres. 325 guineas. Welling, Flat C, 3, Bessborough Road, S.W.15.

ALVIS TWELVE "FIREFLY" 4-door sports tourer. Olive green. Pre-selector. New hood; tyres; radio. Recent complete overhaul; inspected and passed for insurance by makers. 235 guineas, or would consider exchange recent 10-h.p. Tel.: Putney 8587, or 2, River Terrace, Sunbury.

ALVIS "12/50" "TG" tourer (1927), good tyres, with new hood, battery, and in fine running order, £85. Diatto 16-h.p. 3-litre sports, 1923 vintage; half sports body, six fine tyres, £80; designed by Maserati. Unic pre-1914 Paris landaulette, seven seats; five good tyres; in running order (spare chassis); £55. Rolls "Ghost," 1924; startling performance; shocking 3-seater body; modern tyres; £35. Galloway 12-h.p. 1928 vintage tourer, sound, £35. Pair new 700 by 21 tyres, also number of assorted Bibendum S.H. tyres. Pair of R.W.s with 860 by 160 tyres and tubes. Three 12-volt Bosch horns, £3 each. R. S. Baker, c/o Chipstead Post Office, Surrey.

"12/70" M.G. MAGNA ENGINE, with starter, dynamo and carbs., and E.N.V. gearbox for same, nearest £20. Also Standard Little Nine engine and gearbox, £5. 11, Ashdown Drive, Swinton, Manchester.

1927 LEA-FRANCIS 1,696-C.C., twin o.h.c. 6-cylinder; Scintilla; recently rebuilt all-aluminium 2-seater body; new hood, sidescreens, tonneau; five tyres, etc. £225. Seen London or Birmingham. Tel.: Vigilant 2405.

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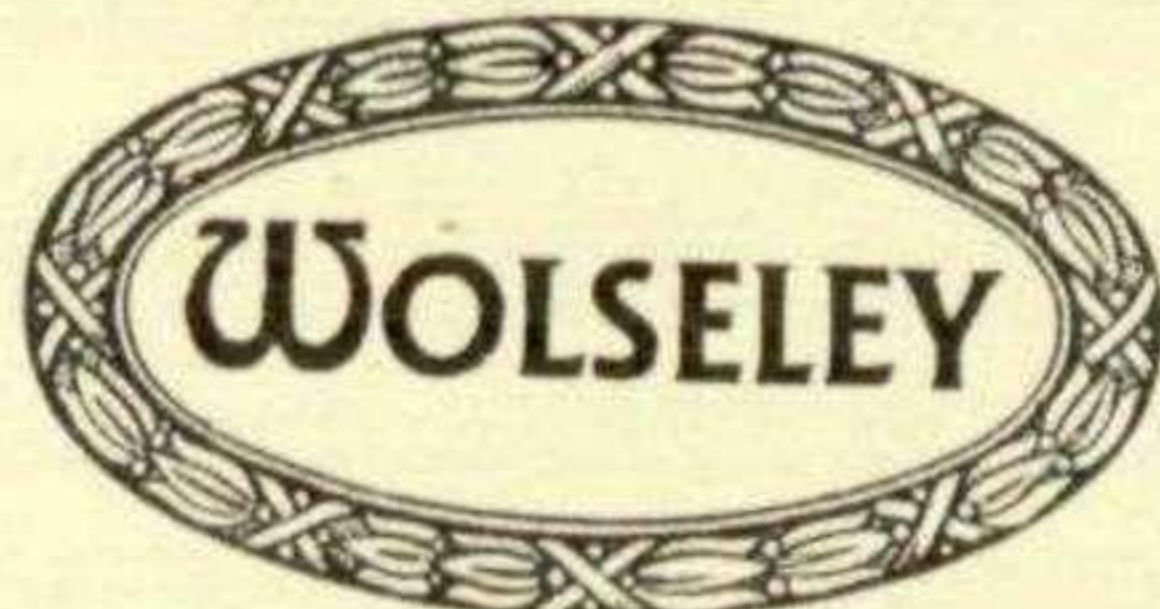
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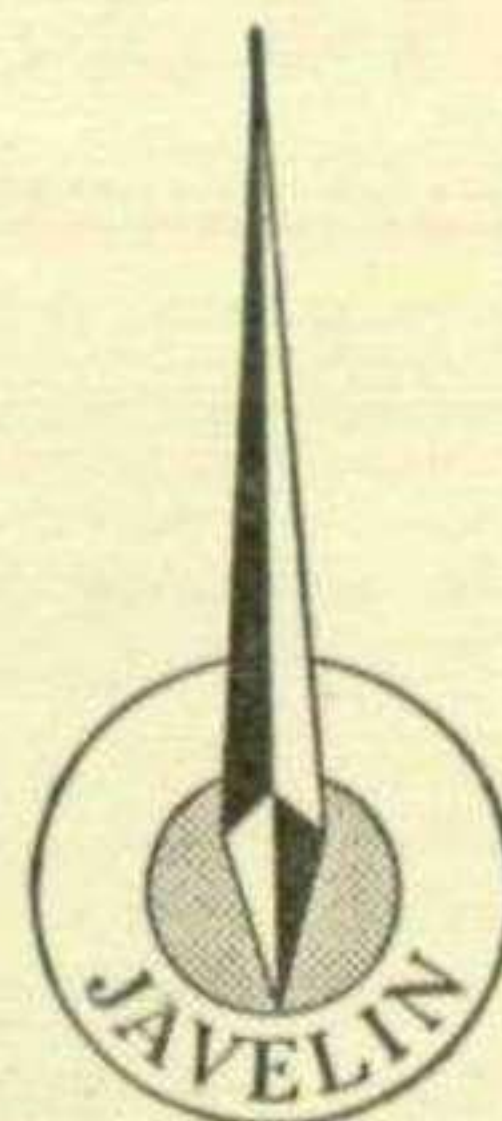
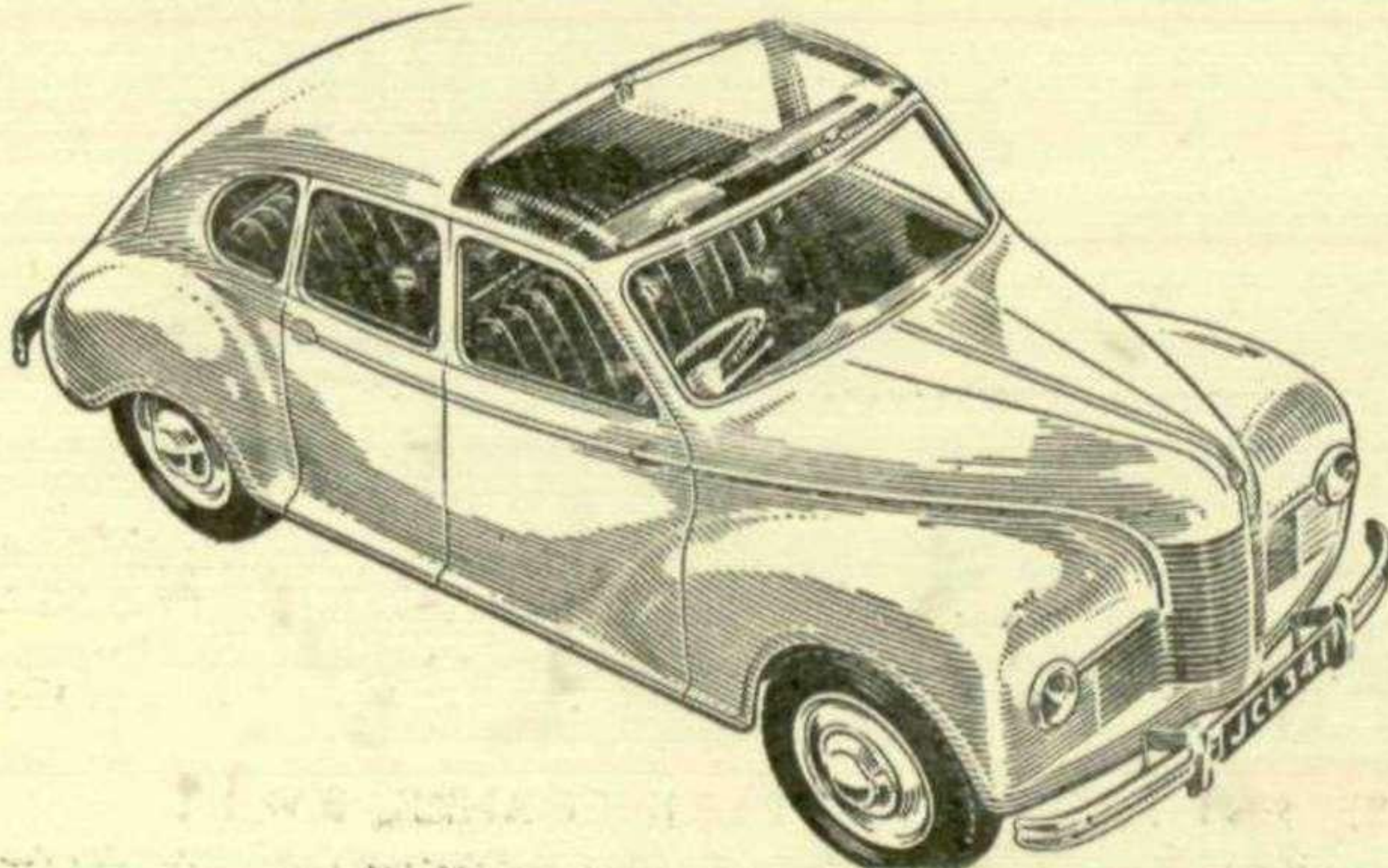
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Continued on page 55

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