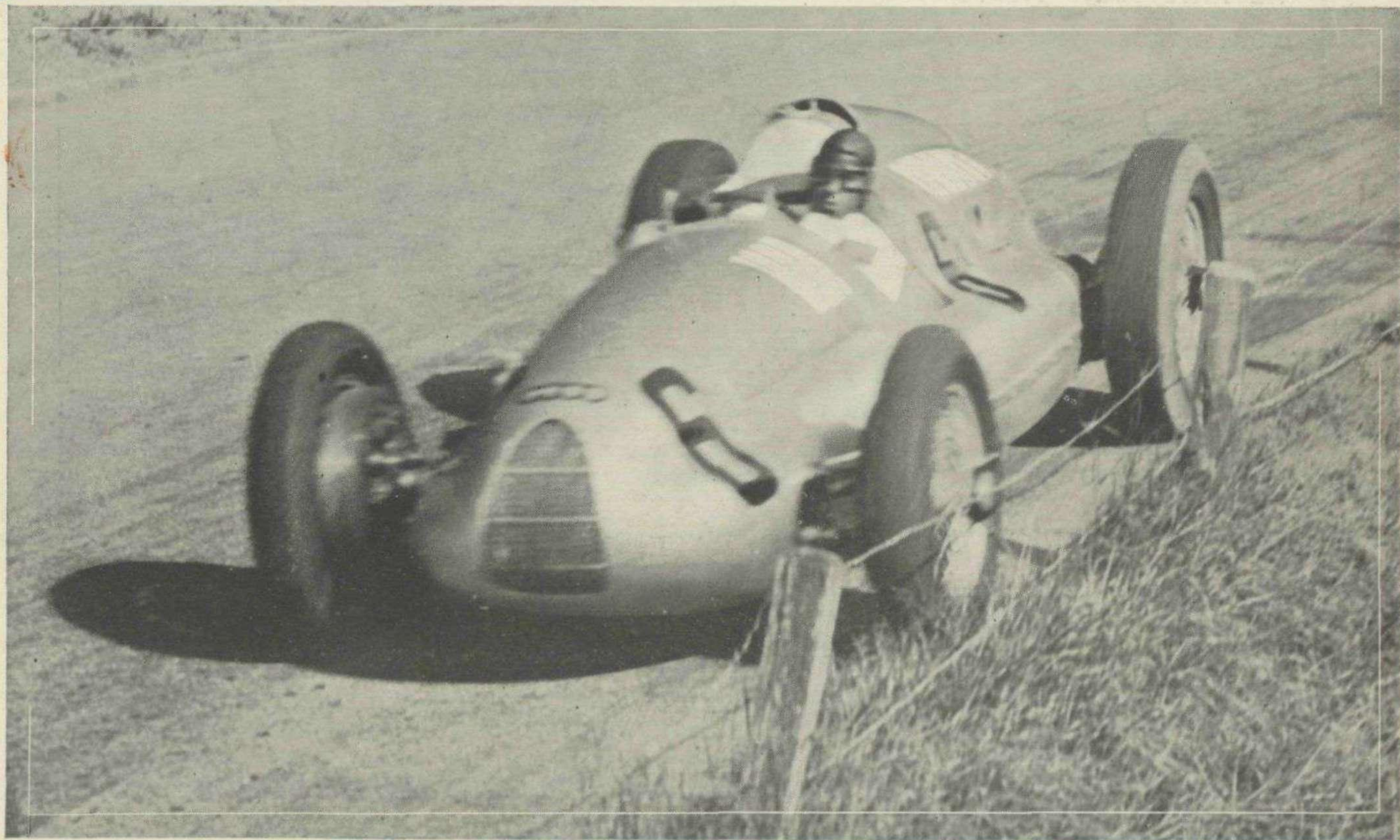


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SIXPENCE MONTHLY



An action study of Tazio Nuvolari with his Auto-Union in the Swiss Grand Prix this year.

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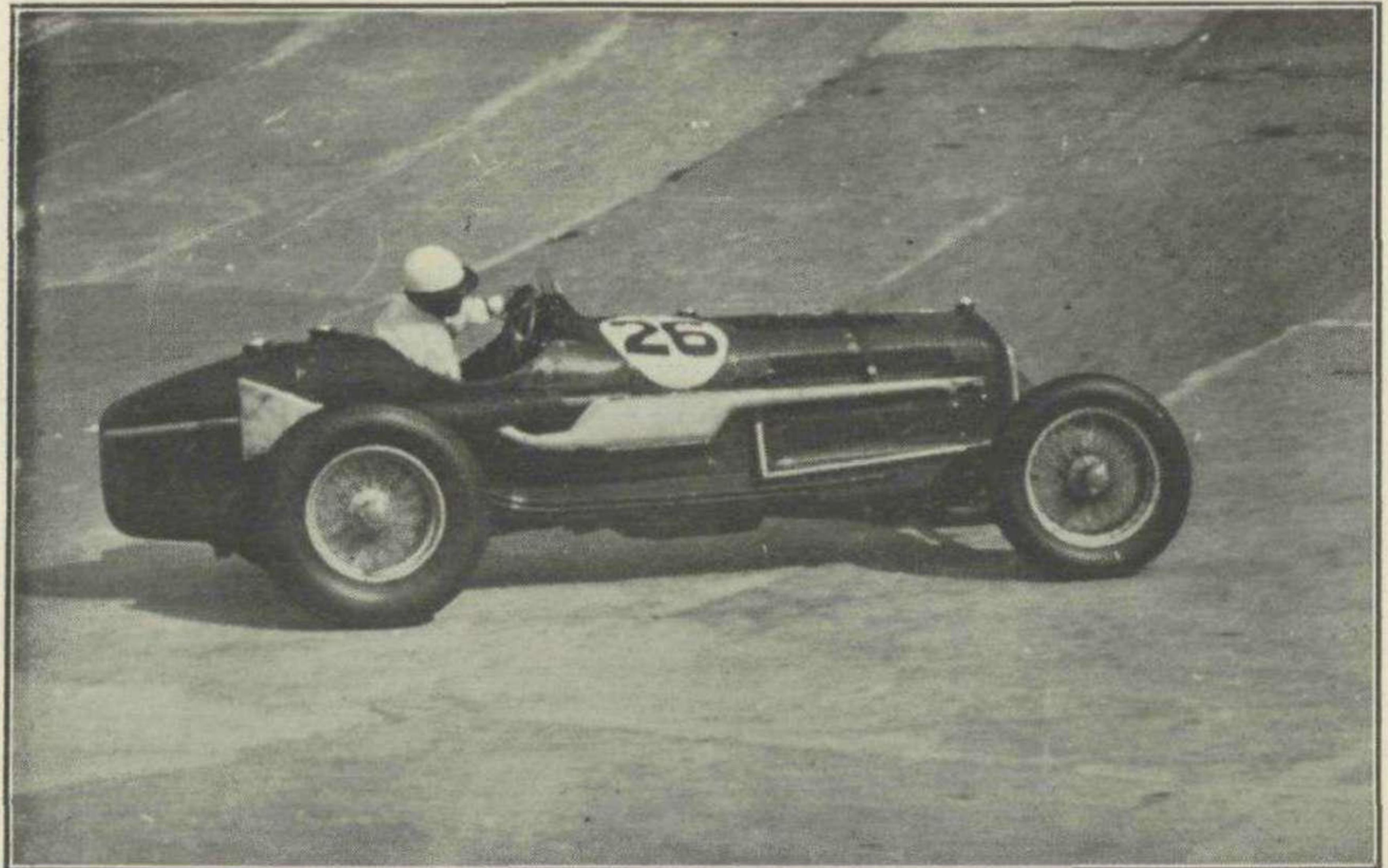
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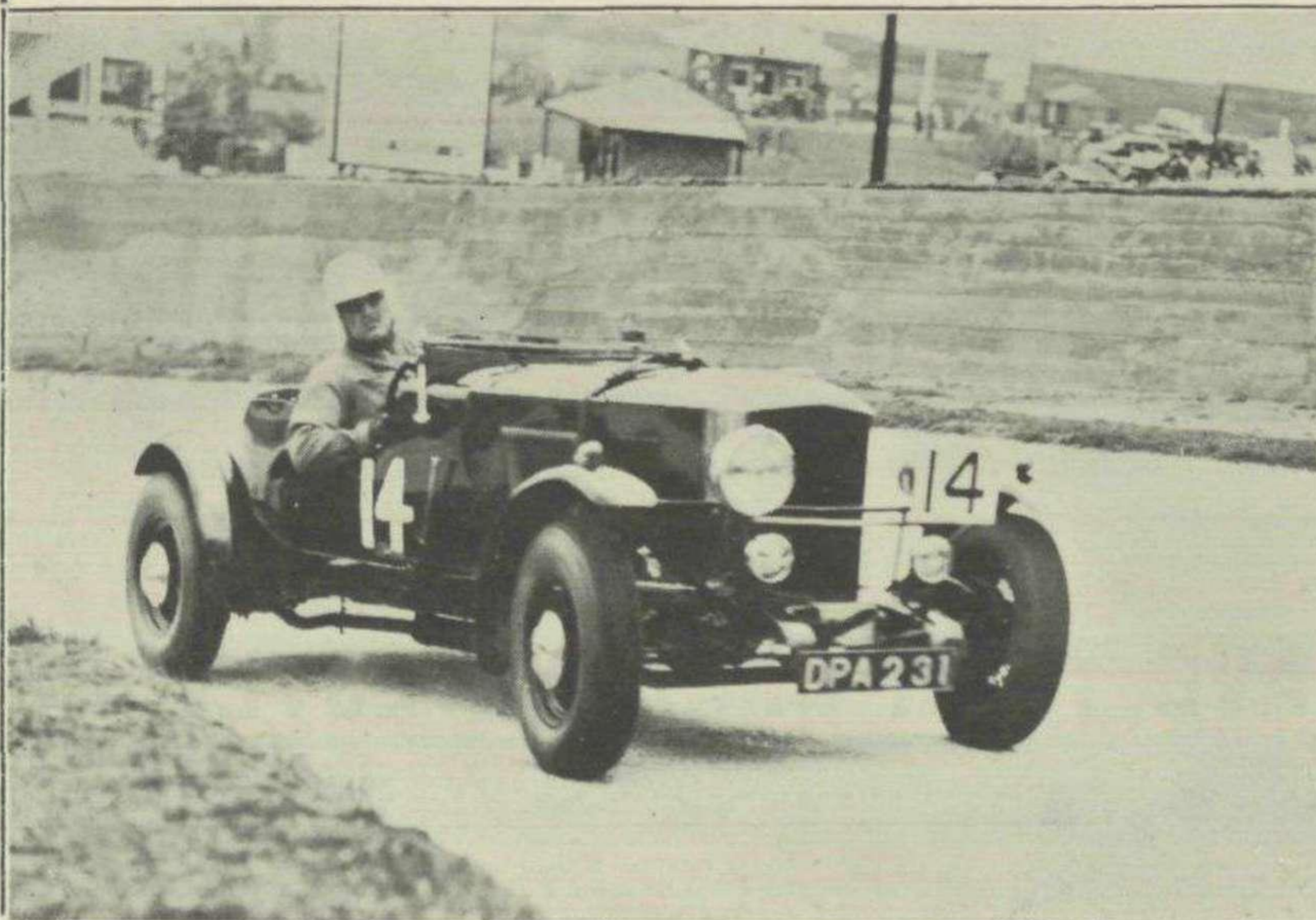
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K. D. Evans (Alfa-Romeo) on the Members' Banking after leaving the Road Course.

THE THREE-HOUR SPORTS CAR RACE, 1938



C. Follett's Light Sports Railton at the Motor Bridge.

★

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15" x 12"	- -	7/6	„

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READERS' SPARE PARTS FOR SALE AND WANTED

FOR SALE

Aluminium Ricardo cylinder head, from Austin 7...

Austin Seven, Zenith vertical carburetter, cylinder head gasket, new swivel pin bushes, 2 pair anti-roll springs.....

.. cylinder head, intake manifold, with Zenith carburetter, wheels and tyres and 1928 normal Austin 7 gearbox...

.. 4-cyl. "Scintilla" Vertex Magneto in new condition.....

.. wheels, two. Complete with 400x19 Dunlop sports tyres and inner tubes. Run 300 miles only.....

Austin Complete Chummy, two-piece windscreens, new safety glass.....

.. Chummy side curtains, set.....

Austin (Ulster) Set of four aluminium mudguards...

Alvis engine, 12/50, latest type bearings. New Aerolite pistons, twin 35 mm. S.U. down-draught carburetter, external exhaust manifold, B.T.H. magneto. Laystall crankshaft, Perfect condition.....

Axles, front and rear for Riley Nine.....

A.C. Six cylinder head (approx. 1924) camshaft and crankshaft.....

Armstrong-Siddeley self-changing gearbox, complete with controls.....

Axle, front, cycle type guards, new wheels, large aluminium brake drums, new swivel pins and races.....

Back Axle for 8.9 h.p. Amilcar G.P., complete with hubs, shafts, crown wheel and pinion, torque tube, prop. shaft, etc., dropped front axle beam.....

Bluemel telescopic steering wheel (unused). Several clockwise Bosch dynamos with distributor (4-cyl.) unused. Back axle (complete with shafts, brakes, and drums).....

Body, ex-racing two-seater, converted to road use, complete with 1931 wings and running boards, one wing dented and split, requires welding, tail of body good, but several splits in the aluminium panels, no screen or seats.....

Batteries, 3 6-volt car.....

Body, Ulster Austin aluminium.....

Bosch headlamps, one pair, 12-volt.....

Camshafts and boxes, from Brescia Bugatti.....

Carburetter, Zenith triple diffused horizontal, 36 mm. bore.....

.. Model 36 H.K. Horizontal Flange. 2 1/2" between centre of bolt holes. Right-hand float chamber.....

.. (Two) Zenith N type Horizontal 36 mm. top feed float chambers.....

.. R.A.G. suit Riley Nine.....

.. R.A.G.

.. Zenith

.. S.U. complete (three).....

.. Solex

.. (New) racing 36 mm. Amal, with large assortment of spare jets and chokes.....

.. Two Amal, off racing Austin.....

.. Two large-bore Zeniths, suit V. Twin; one Zenith for Austin 7, with intake manifold.....

Carburetters, one pair horizontal R.A.G., new.....

Chassis, Austin, complete new crown wheel and pinion, new king pins and bushes, front and rear springs flattened.....

.. new light, complete with front and rear axles, aluminium tail and tank with large quick filler cap. Rudge wheels, and 12 h.p. 6-cylinder Talbot engine. Never been used.....

Cylinder head with rocker gear for Riley Nine.....

.. "M" type M.G., with valves, valve gear and camshaft.....

.. 2 port. complete with rockers, etc., for 12 h.p. Meadows.....

.. for blown Lea-Francis, without valves and rocker gear.....

Delage engine 14 h.p. model D.I.S.S. Complete and in good condition.....

Duogauge Cartherns (oil pressure) thermometer.....

Engine : Austin 7, 1930, less carburetter & manifold. Rebored, valve seats recut, new pistons, clutch timing, main bearings, crankshaft reground, new starter ring, big-ends retailed.....

.. 16 h.p. A.C. engine, good general condition Overhauled, complete Scintilla magneto, clutch. Never run since overhaul.....

Ford wheels, two, with new tyres 18x6.00, retread,

.. 1936/37 10 h.p. 2 only, 600x16 Dunlop Comp. tyres and tubes used once only.....

.. 2 only 600x16 Firestone covers, used once only.....

.. 2 only 600x16 Silver enamelled wheels.....

.. 1 only, standard size Firestone cover and tube

.. 1 only, standard size, silver enamelled wheel

.. 1 rear seat swab, red leather, never used.....

.. Several cylinder blocks for various types of Anzani s.v. engine.....

Ford V8 two 600x16 wheels complete with 6.50x16 Dunlop sports covers and tubes and one 600x16 wheel complete with Goodyear G3 tyre and tube. With spare metal wheel cover of 1935 V8 coupe.....

Frazer-Nash Wheels. Differential, complete with pinion, steering box and wheel. Front axle and assembly (brakes, etc.). Prop. shaft. Crankshaft (reground). Clutch (complete).....

Frazer-Nash-B.M.W. standard pattern steering wheel, good condition.....

Gearbox, M.G. Midget, 3-speed, with Derrington remote control.....

G.N. twin carburetters, twin magneto, aluminium body, and all spare fittings, good tyres.....

Headlamps one pair "Auroroche" chromium-plated, Modified to take British type bulbs...

Lagonda 3-litre, all spares.....

Lamps, Zeiss, headlamps, two, excellent condition, 8"

.. pair large chromium plated headlamps, Lucas with twin electric dippers.....

.. pair Marchel 9 in., no dippers.....

Lancia Lambda 14 h.p. engine complete with dynamo and magneto (Magnetti Marrelli) and springs, including two spare sets of piston rings, spare fan, spare valve springs, spare camshaft and camshaft driven wheel, spare rocker gear and cam followers, spare exhaust manifold, spare magneto and dynamo (needs re-winding).....

4-speed gearbox with all fittings. Rear axle, one main leaf broken, shockers and axle, perfect.....

Nine wheels, 765x105, two good tyres. Bonnet, two good rear wings, spare drop arm and drag-link and steering arm, petrol tank and gauge fitted with extension for outside filler cap.....

Two cutouts (Marrelli) key and switch box (Marrelli), two 8 in. headlamps (Bosch), both mirrors silver plated giving parallel beam approx. 400 yards.....

.. Four 5 in. lamps, rear lamp, two wing lamps (Duco), two way dip switch, 3 switch arrangement for reverse light and horn.....

.. Hood and upholstery. Hood structure altered for lowseating position and lowered steering wheels—steering wheel with special bearing attachment—two steering boxes, dash board to fit altered steering and radiator distance. Hood needs recovering. Seat supports to fit Dunloppillo "Cinema" seats. Triplex glass windscreen (one panel cracked but rest O.K.) opens in halves—folds flat and adjustable to any angle. Scuttle extension for lowered steering and hood, four doors (one needs new hinges) seat squabs, spare set of brand new Ferodo M.R. brake linings.....

Lucas P100 headlamps, single reversed bulb type Chromium and reflectors in good condition...

.. 12 v. Altette horn.....

.. ST 38a chromium stop tail lamp.....

M.G. J.2 brakes and cables, the set.....

.. 1933 radiator.....

.. Marles steering gear complete, spring wheel, needs two hemispheres.....

.. Set bottom timing wheels.....

.. Set (four) front hub bearings, new.....

Morris Minor front axle.....

Morris Minor, 1933, S.V. practically all parts including 3-speed gearbox.....

M.G. Magna cylinder block and sump.....

M.G. one instruction book for J. type.....

.. engine, 1930 M type, complete (in pieces) good dynamo, pistons (Covmo). 050" O/S.....

M.G. Oil pump. Front timing casing. Distributor and starter. Bonnet. Set of con-rods. Set of pistons 20th over-size. Propellor shaft. Speedometer and rev. counter combined. Radiator complete with shell, and handbrake complete.....

M.G. Parts (Magnette). Rear wheel bearings, axle shafts, Bluemel's spring steering wheel (Marles column) set of con-rods, bearings and pistons (F. type Magna), brake drums, shoes and valve cover for F type, rear Hartford shockers, 12v. pressure pump, combined M.G. switch panel, ammeter and oil gauge, complete clutch and gearbox, with remote control for F type two fuse boxes and cut outs, Rudge hubs and hub-caps.....

M.G. P. Type 1934/5. Outside radiator honeycomb grill. Rudge 42 mm. N/S hub-cap, Ashby "Derrington" flare-screen Oil gauge, aluminium fishtail, four K.L.G.s (831 R).....

.. P Type cylinder-head (new).....

Morgan 4/4 1936/37. Two Dunlop sports competition tyres, 5.25x16, E.L.P. two-seater zip tonneau cover and fixings, green.....

New Zenith horizontal carburetter for 12 h.p.....

Norton motor-cycle, 1928 model 18, one new racing Hoffmann big end assembly complete, two used racing cams, one pair used racing roller cam—followers.....

Pressure Pump Enots hand, automatic release, for petrol feed.....

Rotex 8 in. dia. headlamp, chrome rimmed and fitted with chromium plated stone guard, fitted Solenoid dipper.....

Screens, one pair detachable "Brooklands," with adaptors to suit Morris Eight. Unused...

Seat covers and cushions.....

Six volt starter with Bendix pinion, for 1 1/2-litre engine.....

Screen, two panel, safety glass, with frame. Super-charger, Powerplus No. 7 with horizontal carburetter.....

Speedometer, Smith's A type.....

Spotlight, new Stadium with mirror.....

Springs, special flattened rear, for Austin.....

Spring Steering Wheel, Ashby, as new, from 1934 Le Mans Aston-Martin.....

.. .. Ashby, as new, from Railton 1934, Series II.....

Standard Big 9 1929 engine, clutch and gearbox absolutely complete, but sump is damaged.....

SECONDHAND SPARE PARTS—continued

Steering Gear, less wheel.....
 Starter, Austin 7, complete. 6v. heavy starter, complete.....
 Sunbeam 3-litre crankshaft, cylinder-block, pistons con-rods, camshafts, carburetter, magneto and starter.....
 Supercharger, Marshall new, complete with all fittings, suitable for Ford Eight or Ten.....
 „ Cozette No. 7 and fittings from hyper sports Lea-Francis.....
 „ Murray Jamieson, off works s.v. racing Austin, only been used for a few short races and sprints. Will blow up to 12 lb. pressure.....
 „ Marshall, complete with fittings for Ford Eight or Ten. Only run 4,000 miles.....
 „ Marshall and fittings from 1935 PA type M.G. Midget, 2,000 miles only.....
 Tyre, new, for Renault (13 x 45).....
 Tyres, competition, Invicta tread, used once on Lancia Lambda, 780 x 150.....
 „ one pair competition, 19 x 4.75.....
 Tyres and Tubes 17 x 6.00 Dunlop "90" in good condition.....
 30/98 Vauxhall, o.h.v. model, parts available.....
 Wheels, racing, one set, 42 mm.....
 „ 2 from M type M.G. 29-32.....
 „ set of five, 8.20 x 120, complete with tyres and tubes.....
 „ Disc. 710 x 90 covers suit A.C. hubs.....
 „ 2 Rudge knock-off wheels 18". Good tubes and rather worn tyres, 4.75.....
 Wheel three spoked spring steering, fit M.G. model after 1932. Needs welding.....
 „ 47 mm. with knock-on hub, suitable for Singer, Wolseley, etc.....
 Wheels, enamelled red, and free from rust. Hubs will fit any Bentley model.....
 Windscreen with triplex for M.G. Midget M. type.....
 1930 Ulster Austin Seven unblown camshaft body, sports two or four-seater, complete suitable for Wolseley Hornet.....

WANTED

Axles front and rear for Wolseley Hornet, special with big brakes and knock-off wheels.
 Body complete two-seater sports for Wolseley Hornet, swallow body preferred, condition immaterial.....
 „ two-seater T.T. Replica for Frazer-Nash.....
 Camshaft, block and pistons for 14/40 Sunbeam. Good condition.....
 Crankshaft (counter-balanced) for 1932 J.2 M.G....
 Chrysler 75 redhead cylinder block.....
 Cycle Wings, pair, suitable for N type M.G.....
 Cylinder Barrel (nearside) piston and connecting rod for a 1933 912 c.c. o.h.v. w.c. J.A.P. engine from a 1933 super sports Morgan three-wheeler.....
 Chassis, late model Frazer-Nash, complete.....
 „ light racing, complete, not over 9ft.....
 Carburetters, two semi-downdraught, standard, or 1933, J4, Midget.....
 „ Set of twin S.U. (racing), complete with manifold. Top feed 30 mm., suitable for Brooklands Riley 9 h. 1,100 c.c.
 Cylinder, back block for a G.P. 1924 Sunbeam straight 8, or complete engine.....
 Engine, Lagonda, 2-litre supercharged.....
 „ F.N. 1½-litre o.h.v. (O.h.c. or pushrod).....
 Frazer-Nash 1929, starting handle flywheel (good teeth), Ricardo head, outside exhaust system, pair front wings, reverse pinion and shaft, handbrake and ratchet, fold flat screen, rev. counter and drive, racing camshaft.....
 Gearbox, light, for special chassis.....
 Headlamp, Lucas P.100, 12 volt.
 High Axle ratio bevel and pinion (13/51 or lower to 4.4 to 1) for M type or Montlhery Midget
 Louvred Aluminium bonnet, 2' 3", rear 2' 3", front 18" wide.....
 Valve Cover for J.2 type Midget.....
 O.H.V. O.M. engine, or conversion block etc., from s.v. to o.h.v.....
 Morgan, 4-wheeler, Morgan conversion; complete car or conversion parts.....
 M.G. J.2. type car hood.....
 M.G. set of brakes.....

M.G. Midget, C type cylinder head complete with camshaft and vertical drive.....
 Fold Flat windscreen for M.G. and Frazer-Nash.....
 M.G. J.2 oil and radiator thermometer (dash-board type) and Tapley motor.....
 Seats, bucket type.....
 M.G. J.2. brake handle with ratchet complete.....
 Set M.G. mudguards, similar to J2 but for "P" type. Outside exhaust and system or manifold for "P" M.G.....
 Spring wheels.....
 Gearbox, 4-speed, for a 1930 O.H.C. Morris Minor.....
 Generator and battery charger of German make in aluminium.....
 6-volt Battery, for motor cycle (Exide).....
 „ for car (Exide).....
 Boyd-Carpenter body, any condition.....
 Brooklands Riley Engine.....
 „ Series „ with high lift cams and two carburetters.....
 Seats, two bucket, in good condition to fit M.G. type N.....
 Silencer for outside exhaust of M.G.....
 Spare Wheel for a 4.50 x 19 tyre, Frazer-Nash.....
 Supercharger, Roots type, for 1936 six-cylinder Frazer-Nash, engine capacity 1,660 c.c., blower to give 5-6 lb.....
 Instruction Book for M.G. Midget, 1930.....
 Two twin port Meadows, 12 h.p. heads.....
 Four con-rods steel, suitable for Meadows engine, Crown wheel and pinion. 10 x 47.....
 Salmson. One hub puller and one cable adapter as used on the front end of the rear brake cables to attach to the levers on the foot brake camshaft. Suitable for a 1928 9.5 h.p. Salmson.....
 Rev.-counter, for Type "C" M.G. Midget and drive „ and water thermometer (dash board type) for an M.G. Type "N" Magnette.....
 „ 3 in.
 1,100 c.c. O.h.v., W.C., J.A.P. engine, suitable for 3 speed and reverse super-sports Morgan.
 Wheels, two or four 16". To take large section tyres. 42 mm. hubs.....

PUBLISHED ON THE 12th OF THE MONTH

LATEST DATE FOR COPY THE 3rd

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TIE FOR WAKEFIELD TROPHY

FINAL TEST CALLS FOR GOOD JUDGMENT IN W.A.S.A. LONDON-EXETER TRIAL

FOR the first time in its history the contest for the Wakefield Trophy, championship of women trials drivers, has resulted in a tie. In the final event of the W.A.S.A. 1938 series, the London-Exeter Trial, Mrs. P. M. Wood, driving a Frazer-Nash-B.M.W., and Miss M. Wilby, with a Frazer-Nash, both put up exactly the same performance on formula in the special acceleration and braking test, and were thus co-winners of the Trophy.

Although the event was, according to tradition, known as the London-Exeter, actually it started and finished at Minehead! The final test was held on the sea-front at this town. Drivers had to accelerate for 100 yards, and then stop as soon as possible after crossing the final line.

Any stopping distance less than 5 yards counted as 5 yards, in order not to upset the formula, and thus although Mrs. Wood stopped in 9 ft. 11 in., her performance was counted equal to that of Miss Wilby, who judged matters so exactly that she brought her Frazer-Nash to rest in just the minimum 15 ft. On the acceleration part of the test, both drivers took 9 secs. Mrs. Wood, with one of the fast T.T. Frazer-Nash-B.M.W.s, got away in terrific style, but braked sooner than was actually necessary. If she had allowed herself the full 5 yards in which to pull up, her acceleration time would certainly have been the better of the two.

As it turned out, the complicated formula justified itself, placing the advantage on judgment, rather than on sheer speed or engine capacity, and a tie was a worthy result.

An excellent course had been chosen for the trial preceding this final test, and it was a pity that the event was marred by drizzling rain. Miss Watson, the last winner of the Trophy, unfortunately had injured her arm, and was unable to start. The first hill was Doverhay, and despite stories that this fearsome gradient was in bad condition—indeed, the surface of the S-bend was very loose and rocky—only one car failed.

After the ascent of Edbrooke, the River Barle at Tarr Steps, the famous beauty spot on Exmoor, was found to be in such spate that the water-splash was impassable, and drivers had to take another way round to reach the hill following. Here Miss Milne did very well to make a fine climb with her Singer coupé, which has

seen much service, and only two failures resulted.

A stop-and-restart test was held on Wellshead, the lower corner of which, once marked by an impressive rocky step, has now been built up. Twenty yards had to be covered in a maximum of 7 secs., and all the seven drivers who had qualified for this final trial of the championship series were well within the time. The best was Mrs. Hague, who took only 3½ secs. with her Riley Sprite, and a splendid performance was that of Miss Barbara Marshall's old Anzani-G.N., which clocked 4½ secs.

At Southern Wood a tricky section on wet grass caused some difficulty, and here Miss Milne, after a plucky effort, had to retire, and Miss Dobson's Rover and Miss Bean's Morgan both failed. Beggar's Roost, on the other hand, caused no failures, and so competitors returned to Minehead for the final test. In this Mrs. Hague, who has had much success in rallies this year, was expected to do well, and put up easily the fastest acceleration time (8 secs.), but left the braking so late that on the wet surface her car slid on for more than 38 ft.

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RESULTS

Lord Wakefield Trophy : Mrs. P. M. Wood (Frazer-Nash-B.M.W.) and Miss M. Wilby (Frazer-Nash) tie.
 Victor Riley Trophy : Mrs. K. Hague (Riley).
 Violet Watson Trophy : Miss B. Marshall (Anzani-G.N.).
 Lord Nuffield Trophy : not awarded.
 Lord Decies Trophy : Miss M. Wilby (Frazer-Nash).
 Association Trophy : Mrs. P. M. Wood (Frazer-Nash-B.M.W.).
 First-Class Awards : Mrs. P. M. Wood, Mrs. K. Hague, Miss M. Wilby, Miss B. Marshall.
 Third-Class Awards : Miss E. M. Dobson (Rover), Miss D. L. Bean (Morgan).

HIBERNATION

The two German teams have returned from England well pleased with themselves. Of the two, Auto-Unions are rather more happy at the moment, as their cars showed themselves to be definitely faster than the Mercedes in Great Britain, both on acceleration and in maximum speed. What is more, they now seem to be reliable, and even better, the great Tazio Nuvolari has finally mastered the different "feel" of a rear-engined car. He has a fine second-string in Hermann Muller, while Rudolf Hasse is steadily improving.

Mercédès-Benz, on the other hand, can point out that it might have been a different tale if Seaman hadn't lost a whole lap when he skidded on the oil, that Lang was handicapped by a broken windscreen, and that Von Brauchitsch had a badly blistered hand.

But that still doesn't get away from the fact that the Auto-Unions had quicker acceleration.

There are going to be some battle royals between these two teams next year, both of which will benefit, mechanically, from the few months of the "close" season.

GOOD NEWS

Parisian motor-racing circles are considerably relieved at the miraculous recovery of Laury Schell from his severe injuries in the smash which prevented him from seeing his Delahayes in action at Brooklands. First reports of his accident were not unduly alarming, but the next message seemed to contain a doubt whether he would survive. A complicated trepanning operation has been carried out on his head, and he is now well on the road to recovery.

Schell and his madame are tremendously popular in France, and indeed all over Europe, as they well deserve to be.

THE HISTORY OF THE RIO DE JANEIRO GRAND PRIX

AN EYE WITNESS ACCOUNT OF THE SERIES OF RACES HELD IN THE ARGENTINE OVER THE LAST FIVE YEARS

THIS great race has two other names, the Gavea Motor Race and the Trampolin Do Diabo. After the Argentines had first competed over the course, they gave it this latter name, which is really a nickname. Translated into plain English it means "The Devil's Springboard," and from a driver's point of view this is probably the most apt name one could possibly give to the exceptionally tricky course.

To the spectators, the course is full of interest. The start is in the centre of the town, at the head of a wide tram-lined street leading to the sea front, a distance of about one and a half miles. This asphalted road forms one of the fastest sections of the course. At the sea front the course turns right, and then one is well on the springboard. For now it runs along the very edge of a cliff which rises sheer from the sea to a height of a hundred feet. A narrow three-foot wall is the only safeguard offered to any car which might become involved in a crash near the edge. A mile further on comes a sweeping right-hand turn, leading back inland through a couple of left and right-hand turns. Then up, right up between two soaring mountain peaks. And here the course snakes in a nightmare fashion. Every known type of corner seems to be crammed into the shortest possible space. To watch Pintacuda slip his eight-cylinder Alfa-Romeo through those bends is a sight which arouses awe rather than excitement. The road down from the top winds just as badly, left and right-angled corners abounding. Again only a low wall indicates to drivers that a sheer drop down would inevitably result from any direct miscalculation on the corners. After this tortuous passage over the mountains comes another very fast section. The road straightens considerably and continues back to the town. Along this stretch it is said that Von Stuck with his Auto-Union attained a speed of 150 m.p.h. And so it will be seen that the "Devil's Springboard" embraces all kinds of curves, corners and straights, every one calculated to test a car and driver to the utmost.

It was in 1933 that the Brazil Automobile Club organised the first Gavea Motor Race. Even though the prize money offered was definitely very attractive the actual meeting was a relatively small affair. Several Argentines had been invited to compete, and with a few Brazilians the field was complete.

The cars were, to say the least, a mixed assortment. There was an Alfa-Romeo of 1930-32 vintage, a G.P. Bugatti which stood out from others of the same make, a "Special" called a Hopson and various popular makes among which were Fords, Hudson, Chrysler, Amilcars, Fiats and the like.

In all, seventeen cars came to the line for twenty laps of the 11 kilometre 160 metres course. Only seven finished. The G.P. Bugatti driven by an Argentine, V. Coppoti, clocked the fastest lap time

of 8 mins. 30 secs. The Alfa-Romeo driven by a Brazilian, M. Tefte, won easily in 3 hrs. 19 mins. 35 secs. from:—

P. Fiorese (Ford V8), Brazil, 3h. 31m. 43s.
N. Crespi (Bugatti), 3h. 32m. 8s.
Mac Cartly (Chrysler), France, 3h. 34m. 23s.

None of the Argentines completed the course. The race was a very exciting affair and was keenly followed by some 40,000 spectators.

1934

Owing to the success of the previous meeting, the 1934 Gavea Motor Race attracted many more competitors and spectators. The meeting was graced by the presence of His Excellency the President of the Republic, Señor Getulio Vargas, and many other state officials.

Forty-five competitors took the line to battle before a crowd of 100,000. Brazil had twenty-three representatives, Argentine had sixteen and Italy six. The race was over twenty-five laps of the 11 kilometre 160 metres course, and was packed with incident.

Whilst duelling with a Ford V8 over the mountainous section of the course, N. Crespi, at the wheel of a Bugatti, was killed when he hit a lamp-standard. Another driver managed to escape with minor injuries he received when his car left the road and came to an abrupt halt against a tree.

Out of the whole field, only eleven cars finished, the remainder retiring at different stages of the race from a variety of reasons.

First man home was a Brazilian who was driving a considerably "hotted up" Ford V8. His time was 3 hrs. 56 mins. 22 secs., a speed of 70.82 k.p.h. This time remained as a record until bettered by Pintacuda in his Alfa-Romeo in the great race of 1937.

1935

The race this year attracted much more attention, and public enthusiasm ran high. From the start, the favourite was the winner of the previous year's race, still driving his Ford V8.

There were forty-one starters this year, driving fourteen totally different makes of cars. The Ford's previous victory had encouraged ten more of this make to turn out, together with seven Bugattis, four Alfa-Romeos, and five Fiats, with a generous sprinkling of touring cars all stripped for action.

The field started away, four abreast, in fine style, but before they had covered a mile disaster over-swept the race. For Correa (winner in 1934), while jockeying for a good place in the lead, hit another car, swerved madly and went clean off the course. Fortunately there were no public enclosures in his path, but the crash was witnessed by a large number of people in an enclosure on the opposite side of the road. They saw the car uproot two trees and Correa hurled from his seat to be killed outright against the bridge of the canal running alongside the course. Even then the car was not

stopped, but continued on until it fell into the canal itself.

This tragic accident to Correa, Brazil's most popular and promising young driver, renowned as he was for his great sportsmanship, lowered the enthusiasm of the public.

Nevertheless the terrific driving of another Brazilian in a Ford slowly brought back their thoughts to the race which was being grimly fought out before them. He led the field by a fairly comfortable lead into the twenty-first lap, but while trying to overtake and pass another car he came into contact with it and skidded wildly for a few seconds, before finally coming to a halt. Though slight the damage was sufficient to cause his immediate retirement, and with only four laps to go this mishap came as a real slice of bad luck, more especially so as victory went to a foreigner. Ricardo Caru, who ran into fourth place in the race the previous year, won the event in 4 hrs. 3 mins. 20 secs. His average for the whole 279 kilometres was 68.97 k.p.h. The other places were as follows:—

2. Lerfeld (Bugatti), Portugal, 4h. 3m. 31s., 68.74 k.p.h.
3. J. de Araujo (Bugatti), Portugal, 4h. 11m. 59s., 66.4 k.p.h.
4. R. M. Santos (Ford V8), Brazil, 4h. 17m. 48s., 64.9 k.p.h.

1936

By now the fame of the "Devil's Springboard" had spread overseas, and in this year the race developed into a real international affair. Some 400,000 spectators gathered to watch this race, the race which promised to be the best ever witnessed in Brazil.

During practice for the event, a Brazilian driver was killed. An official Scuderia Ferrari team was entered with Pintacuda and Marinoni both driving independently-sprung two-seater bodied Alfa-Romeos. Mlle. Helle Nice came out from France to participate with an Alfa-Romeo, and together with the usual Argentines, Brazilians, Portuguese and some Italians, the field totalled thirty-eight.

The race proved to be chock-full of interest from start to finish.

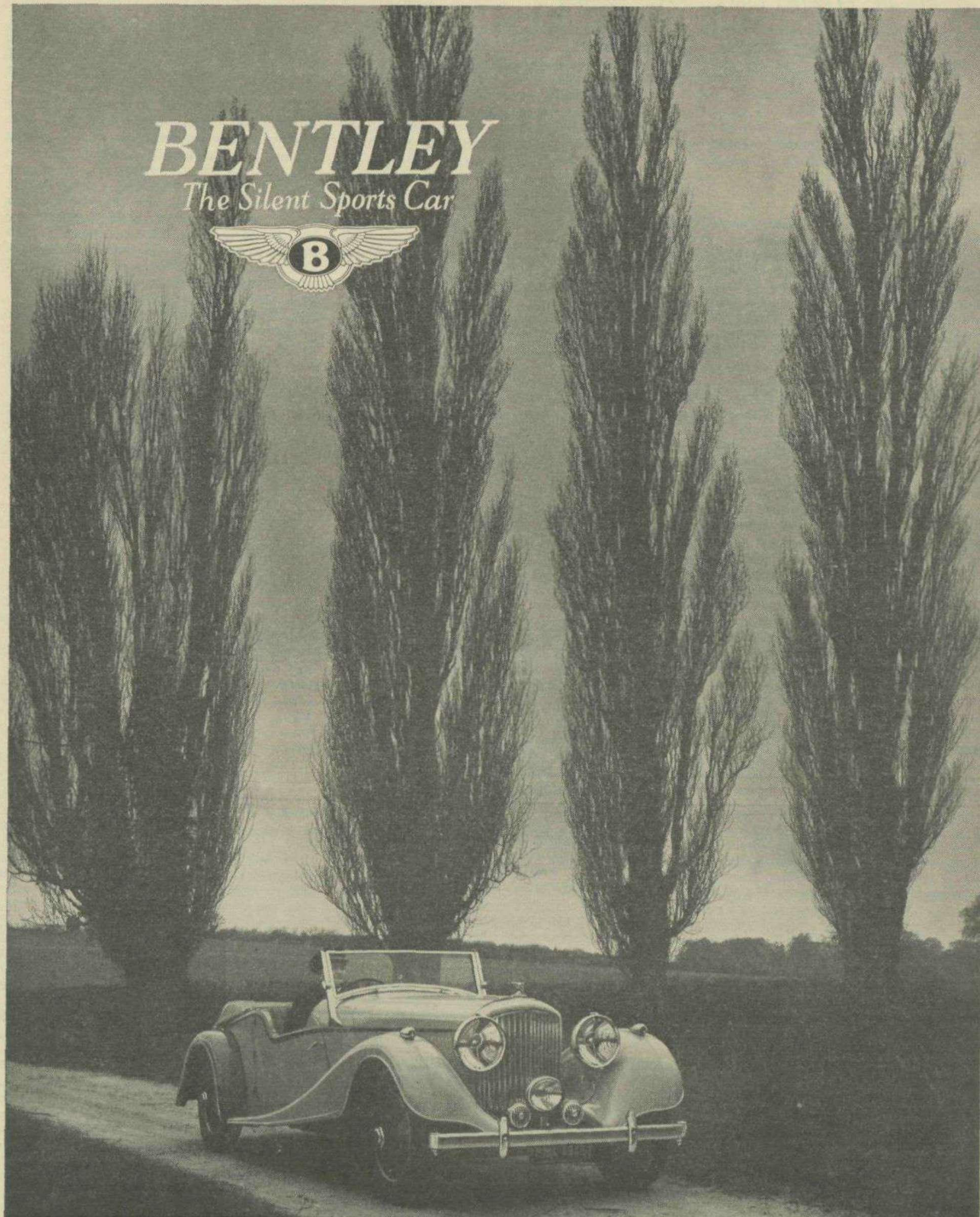
Engine trouble put Marinoni out of the race before he had completed the first lap, but Pintacuda, driving with great dash and determination, led from the start, and at half-way had established a comfortable lead. On the twenty-first lap however, differential trouble developed and he was forced to retire. It was rather a coincidence that the car looked on as a certain winner in the previous year's race was also leading at this distance and had to retire with engine trouble.

A Brazilian was driving in second place to Pintacuda before this latter's retirement, and he now came up to take the lead. This lead he held quite easily until only four laps remained, and then, to everyone's utter mystification, he made a pit-stop for a refuel.

It was said that actually he had had sufficient petrol to last him out, but, anyway, the stop cost him two places. These were filled by two Argentines.

BENTLEY

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BUY A CAR MADE IN THE UNITED KINGDOM

THE RIO DE JANEIRO GRAND PRIX—continued

1. V. Coppoli (Bugatti), Argentine, 3h. 56m. 32s., 70.76 k.p.h.
2. R. Caru (Fiat), Argentine, 3h. 58m. 2s.
3. M. Tefte (Alfa-Romeo), Brazil, 3h. 58m. 23s.
4. C. M. Ported (Ford V8), Brazil, 3h. 59m. 15s.

A Ford also filled fifth position. Mlle. Helle Nice finished eighth. I think the heat and the bumpy surface affected her driving. The fact remains that in the Sao Paulo Race a little later on in the year she did very much better.

1937

Each successive year saw the Gavea Motor Race gain in popularity, both among drivers and among spectators. As the number of the latter steadily increased, so the quality of the drivers who competed became so good as to number among them some of the finest in the world. No longer could the enthusiastic Brazilian enter and compete with a "hotted up" Ford, all entries were supposed to be of first-class quality. In actual fact though, two of the better Fords, whose drivers had proven their worth, were allowed to compete. The race this year was a scratch event, and thus we find Von Stuck's Auto-Union matched against a very much inferior looking Bugatti or one of the Fords. The crowd at this year's race was estimated at 750,000. Whether this is an exaggerated figure or not, one cannot say. But one thing is certain, and that is that thousands travelled from Sao Paulo (a distance of 300 miles) and the surrounding districts. They filled up all the special trains and air services which ran specially for the occasion. Payments for seats were entirely voluntary, unless one required a position offering some special view. Then a sum varying from between 10/- to £1 procured a grandstand seat. All this reflects credit on the Brazilian Automobile Club, whose efforts to popularise motor racing in Brazil have been so successful. One is inclined to make some comparison between the status of motor racing in Brazil and in England.

For this year's Gavea race, the course was completely asphalted, making it very much safer and, naturally enough, much faster. The approximate state to which it was made faster may be gauged from the old lap record of 8 mins. odd, and the record of 7 mins. 10½ secs. which Pintacuda set up this year on his twenty-fourth lap.

The main interest centred on Von Stuck (Auto-Union), Pintacuda (eight-cylinder Alfa-Romeo), Brivio (twelve-cylinder Alfa-Romeo), Sameiro of Portugal, Arzani from the Argentine, Lopes, Brazil, and Nascimento also of Brazil, and all on varied types of Alfa-Romeo. One driver had Pintacuda's 1936 two-seater Alfa-Romeo, which he unfortunately crashed during the race.

The start this year was according to Continental custom, the cars lining up in order of lap times, with the first four of the above mentioned cars up in the first row.

In spite of heavy rain at the start, all the cars managed to make a good getaway. Von Stuck, with his great acceleration, quickly took the lead, the rest tailing closely behind. Brivio, Arzani, Pintacuda, Caru, Abrunhosa and Cazzabini, all on

Alfas, and all striving to gain good positions.

Over the mountain section, Pintacuda came up very fast and was soon close behind Von Stuck. Through some of the trickiest corners on the course, Pintacuda was pushing Von Stuck hard until at length he managed to slip past.

To get by the speedy German crack on this particular section of the track was no mean feat of driving and was the prelude to many similarly exciting moments. As the cars flashed by the pits for the first time, the order was: Pintacuda, Von Stuck (50 yards behind), Brivio, Arzani, and Nascimento. The standing lap was covered in 8 mins. 53 secs., the second lap in 8 mins. 37 secs., and the third in 8 mins. 30 secs. Brivio was right out of luck. He had persistent plug trouble throughout the race. Nevertheless, in spite of several pit stops, he managed to hold off his pursuers, though still being a long way behind Pintacuda and Von Stuck.

By half-distance the two leaders had lapped the remainder of the field. On the sixth lap the lap record was smashed for the first time by Pintacuda in 8 mins. 16 secs. During this while Von Stuck had slowly fallen back, until on the sixth lap he was 20 secs. behind Pintacuda. Then he commenced to gain ground. Meanwhile Brivio, through a pit stop, had fallen back to seventh place. Driving with all he knew, however, Brivio made up lost time and even gained on the leaders. From 3½ mins. behind, he reduced to 2½ mins. The pace was too great, however, and slowly he fell back. Von Stuck went round his ninth lap in 8 mins. 2 secs., still 12 secs. behind Pintacuda. The tenth lap saw 9 secs. separating the two and on the eleventh Von Stuck became the first driver to cover a lap in under 8 mins., taking the lead from Pintacuda with a lap in 7 mins. 58 secs., a speed of 84 k.p.h.

On the twelfth and thirteenth Von Stuck was still gaining, trying to force a big enough lead to enable him to make the pit stop he was forced to have. It was to cost him nearly a minute. At the end of the fourteenth lap, Von Stuck drew in to refuel. There followed the fastest pit stop ever witnessed in Brazil.

Von Stuck's pit team, drilled to a split second as they were, excelled themselves. The car was refuelled and both rear wheels changed in 57 secs., a feat which won for the mechanics the deep and genuine admiration of all Brazilian motor racing enthusiasts. But in spite of this grand stop, Von Stuck was now too greatly handicapped to have any hope of catching the speeding Pintacuda.

The rain stopped, and under the influence of the tropical sun the road dried quickly. Pintacuda made the most of it, and increased speed. Every lap saw him clip seconds off his previous time. Von Stuck, too, was driving faster. He went round the sixteenth lap in 7 mins. 57 secs., still, however, 46 secs. behind Pintacuda. The pace now became really hectic. The leaders were all forcing out that extra little reserve which most cars seem to have when handled by experts in a hurry. On the seventeenth lap, Pintacuda improved the best time of the day with 7 mins. 44 secs. During this

same lap, Brivio made his final pit stop, still, however, retaining third place. Pintacuda put in a time of 7 mins. 17 secs. for his eighteenth lap, then, easing slightly, he followed with 7 mins. 35 secs.

Von Stuck, grimly driving against his unfortunate handicap, could not get below 7 mins. 40 secs.

Then in a final brilliant effort, Pintacuda brought the tensed crowd roaring to its feet as he shot round the course on his twenty-third lap. The car seemed to slip round the corners, and then literally hurl forward. Pintacuda covered the lap in the record time of 7 mins. 10 secs. Truly a magnificent performance, and as he toured around the last lap the wildly enthusiastic crowd rallied together to give the popular winner the deafening ovation he deserved. Meanwhile, Von Stuck, driving like one possessed, was gaining hand over fist, and showing off to advantage the tremendous power of his Auto-Union. During that last lap he gained some thirty seconds on the easing Pintacuda, and finished only 8 secs. behind.

The field came in as follows:—

1. Pintacuda (Alfa-Romeo), Italy, 3h. 22m. 1s.
2. Von Stuck (Auto-Union), Germany, 3h. 22m. 9s.
3. Brivio (Alfa-Romeo), Italy, 79.9 k.p.h.
4. Sameiro (Alfa-Romeo), Portugal, 77.7 k.p.h.
5. Arzani (Alfa-Romeo), Argentine, 77.4 k.p.h.
6. B. Lopes (Alfa-Romeo), Brazil, 76.2 k.p.h.
7. Nascimento (Alfa-Romeo), Brazil, 75.2 k.p.h.
8. Abrunhosa (Alfa-Romeo), Brazil, 71.3 k.p.h.
9. N. Young (Ford V8), Brazil, 68.2 k.p.h.

These were the only cars to complete the course, the average speed of the first three being 82.67 k.p.h., 82.58 k.p.h., and 79.9 k.p.h. respectively.

Special mention must be made of the two Brazilians, Lopes and Nascimento, Jr., who, although driving old model Alfa-Romeos, kept good and regular lap speeds and never varied their positions from between fourth and seventh throughout the race.

1938

This year the race, although a good one, was not so interesting owing to the absence of any opposition for Pintacuda, although Arzani on a 3.8-litre Alfa-Romeo of last year's formula ran Pintacuda close, and even led in the opening laps, but besides that there was little of interest. The rain before and during the race did not encourage many people to attend the race and the attendance was far short of last year's. The Automobile Club of Brazil claimed to have lost about £2,000 on the race.

Pintacuda and Tadini had two of the latest 3-litre Alfa-Corse cars.

This year the race had twenty-two starters consisting of ten Alfa-Romeos, ranging from 2.3-litre to 3.8-litre models, one old Maserati of a Frenchman (the first Maserati seen in Brazil), four Bugattis, four Ford V8s, two Chryslers and a 4.5-litre Fiat.

Best time in practice was made by an Argentine, Arzani, on the 3.8-litre Alfa-Romeo, with Pintacuda, Tadini and a Portuguese, Manoel de Oliveria on a V8 Special Ford, next in order and they occupied the front row. The next row had four Alfas.

The race started in a drizzling rain which made the road dangerous at speed. The cars went off with plenty of noise and the announcer up in the mountain

THE RIO DE JANEIRO GRAND PRIX—continued

announced that the Ford of one N. Jung had caught fire, but it died out and he was able to come to the pits and retire. As the cars came round on the first lap, Arzani was in the lead, followed by Tadini, Nascimento, Jnr. (2.9-litre Alfa), F. Landi (2.3-litre Alfa), B. Lopes (Alfa 3.2-litre) and Pintacuda, with the rest bringing up the rear. The time for the first lap was 7 mins. 50 secs.

The second lap Arzani still led from Tadini, but Pintacuda who had made a bad start came up and was now in third place. Lap time 7 mins. 52 secs. Landi (2.3-litre Alfa) was fourth and Nascimento fifth.

The third lap saw Pintacuda another step up with Tadini third and the others as before. Lap time 7 mins. 51 secs. On this lap B. Lopes (3.2-litre Alfa) gave up as his car was not going well. Another driver to retire was D. Lopes (no relation to the other one) on a 2.3-litre Bugatti.

The fourth lap saw the rain coming down in buckets and it slowed the lap time considerably; Pintacuda being an experienced driver could keep going faster than Arzani and he took the lead on the fifth lap, Arzani having left the road when he skidded up in the hills, though without damaging the car, and he got under way immediately. The lap time for the fourth lap was 9 mins. 5 secs. Descaroli (Maserati) and Caraboti (Chrysler) retired, presumably because they did not like the rain.

Lap time on the fifth was 8 mins. 57 secs. The order was now Pintacuda, Arzani, Tadini, whose car had given a spot of bother, Nascimento Jnr., Landi and Braga (2.3-litre Alfa). Some of the back numbers retired. On this lap Nascimento came in to clean his window screen! Pintacuda had a lead of a quarter of a mile over Arzani.

The sixth lap saw a new driver come into the picture, M. de Oliveria, who at the end of the first lap was twelfth; he was now sixth in front of Braga's Alfa. Oliveria's Ford is a really fast one as will be seen.

Pintacuda had a lead of 44 secs. on the seventh lap. Lap time 8 mins. 57 secs. Tadini came into the pits with oiled plugs but left without losing third place. Oliveria stepped up yet another place into fifth place by passing F. Landi (2.3-litre Alfa) in seventh and eighth place, having had a scrap with Braga and Q. Landi (brother to the other driver) on a 3.5-litre Fiat.

The eighth lap saw Pintacuda 48 secs. in front of Arzani. Lap time 8 mins.

54 secs. The first two were away in front of the rest of the field. Tadini was taking it easy and nursing his engine, but still a quarter of a mile or so in front of the nearest Brazilian in fourth place.

On the ninth lap both leaders lapped in 8 mins. 49 secs. Oliveria on his ultra fast Ford was now challenging Nascimento for fourth place. The brothers Landi were keeping each other close company in sixth and seventh positions.

On the tenth lap the order was unchanged, Oliveria had closed to within 50 yards of Nascimento's Alfa. Pintacuda lapped in 8 mins. 44 secs.

On the eleventh lap Tadini came in and changed a plug; Oliveria now passed Nascimento into third place as Tadini had dropped two places and was now fifth. The order was now Pintacuda (lap time 8 mins. 44 secs.), second Arzani (lap time 8 mins. 39 secs.), third Oliveria (Ford V8), fourth Nascimento, fifth Tadini, sixth F. Landi (2.3-litre Alfa), seventh Q. Landi (3.5-litre Fiat).

The twelfth lap saw Pintacuda lap in 8 mins. 41 secs., Arzani 8 mins. 38 secs. The brothers Landi both came into their respective pits (no reason was given for this), but they carried on again.

The thirteenth lap Pintacuda lapped in 8 mins. 30 secs., and Arzani in 8 mins. 41 secs. Arzani was a minute behind still. On this lap Braga (2.3-litre Alfa) parted the brothers Landi and took seventh place.

On the fourteenth lap Pintacuda lapped in 8 mins. 31 secs. Arzani was much slower. Oliveria had increased his lead over Nascimento. Arzani came in for fuel and took a long time about it, but he did not lose second place; he was now 5 minutes behind Pintacuda.

On the fifteenth lap Pintacuda lapped in 8 mins. 27 secs. and on the sixteenth he slowed up to take a breather. Tadini came in and changed two plugs in 2 minutes. When he got going again he was just in front of Landi and Braga.

On the seventeenth lap Pintacuda put his foot down again and lapped in 8 mins. 25 secs. On this lap Braga skidded on the fast part of the circuit and charged into the spectators, mowing many down, but how many were injured or killed is hard to say, owing to this crash being censored. Something like a dozen or more were injured though.

The eighteenth lap Pintacuda lapped in 8 mins. 28 secs., Arzani in 8 mins. 31 secs. Pintacuda had nearly a lap lead; M. de Oliveria was now actually gaining on Arzani! Although he was a long way

behind, he must have been lapping at about 8 mins. 30 secs.

Nineteenth lap: Pintacuda 8 mins. 22 secs., Arzani 8 mins. 32 secs.

On the twentieth lap Tadini came in again and lost fifth place to F. Landi on the Alfa.

On the twentieth lap and the four remaining laps Arzani put his foot down and went round in 8 mins. 19 secs., 8 mins. 17 secs., 8 mins. 14 secs., 8 mins. 11 secs., and 8 mins. 10 secs. Pintacuda also opened up a spot and did 8 mins. 26 secs., 8 mins. 25 secs., 8 mins. 17 secs., 8 mins. 16 secs., and 8 mins. 18 secs.

The end came with only two changes. M. de Oliveria (Bugatti) passed Landi into fifth place; Landi had had bad luck as his tyre went off with a bang, damaging his wheel, and he had to retire with only two laps to go. The final placings were as follows:—

1. C. Pintacuda (3-litre Alfa-Corse), Italy, 3h. 33m. 37s., 78.37 k.p.h. (49 m.p.h.).
2. C. Arzani (3.8-litre Alfa-Romeo), Argentine, 3h. 40m. 0s.
3. M. de Oliveria (Ford V8 Special), Portugal.
4. Nascimento Jnr. (2.9-litre Alfa-Romeo), Brazil.
5. C. de Oliveria (2.3-litre Bugatti), Portugal.
6. M. Tadini (3-litre Alfa-Corse), Italy.
7. Q. Landi (3.5-litre Fiat), Brazil.

Those were the only cars left at the end. Only two completed the whole distance.

The prize money this year was large: £1,000 for the winner and £600 for the second. Many other prizes were going as well, such as money for the best Brazilian placed, and so forth.

I should like to see an E.R.A. out there in that race; it should be worth while travelling there for the race, and if you win you have quite a lot left over after expenses are paid.

It is interesting to notice how the prize money mounted year by year.

1933. Approximately £250 for the first man home.

1934. Approximately £325 for the first man home.

1935. First man received about £550; second £200; third £100.

1936. £1,000 (approx.) went to the first driver home; £600 to the second.

The Brazilians were always encouraged in their efforts by additional prize money which went to the first Brazilian placed.

To sum up, the Gavea Motor Race has become yearly more and more popular. The speeds and the resultant thrills grow year by year, offering to enthusiastic spectators the maximum of motor racing enjoyment.

And looking back on the five years of this event, one cannot help speculating on the great thrills which have yet to come.

THE SPORTS-CAR "HOUR"

The R.A.C. is not anxious to observe any further hour runs by sports-type cars, on the grounds that there is no official hour record for standard cars, and that it is impossible to ensure that the cars which try the run are absolutely standard. In actual fact, we believe that the Frazer-Nash-B.M.W. which first made such a run under R.A.C. observation was absolutely standard, but that it was only submitted under the ordinary conditions appertaining to R.A.C. official observation of any self-imposed feat or stunt. The car's weight and engine-size and gear-

ratios, as published in the usual way in the R.A.C. Certificate, were some proof of the car's catalogue nature.

Further, we believe that the Lagonda which subsequently did a faster run was a T.T. car with higher gear-ratios than standard, a fact which was in no way withheld and which came to light when the Certificate was issued. So it will be interesting to know what is to be the position of an owner or manufacturer who submits a sports-car for an R.A.C. observed hour run on Brooklands, without suggesting that his car is going to

exceed any particular speed and without stating whether or not it is standard. We assume that under these circumstances such a run would be observed and it would still be of value, inasmuch as most of us have a fairly shrewd idea of what are, and what are not, catalogue cars, amongst privately-owned sports-cars. A manufacturer might submit a Le Mans or T.T. or L.C.C. Sports-Car Race entered car immediately after the race, to emphasise that no drastic alterations could have been made after the scrutineers had passed that car as within the race regulation ruling.

Letters from Readers

STILL PERFORMING . . .!

Sir,

A vintage car which can "do things" always arouses a certain amount of interest.

The story about this Austin Seven is by no means without interest. The little car started life in June 1924, had two owners, and, in 1930, came into the writer's possession, the mileage then being very considerable.

It all happened like this. Having to attend a dance some thirty miles away in Wales and the writer's car being out of commission, the Austin was used for the trip. It so impressed me with its performance that I decided to give it a new lease of life.

The engine was decarbonised and generally tightened up. It was then entered in its first trial (one of the Liverpool Motor Club's Welsh Trials), the result being a first class award.

Encouraged by this success, attention was paid to shock absorbers, steering lock and other items, and it was entered in several competitions. From 1931-1933 it continued to gain awards on almost every occasion it ran, most of them being first class or premiers. During one of these trials, when crossing the Hirnant Pass at speed, one of the chassis members broke. The car finished without loss of marks and later the body was removed and two lengths of T iron were welded in the U section chassis members. This repair was most satisfactory and has not been touched since.

Certain modifications were then carried out. The old wheels (which were shod with beaded edge tyres) were replaced by 19" wheels, front and rear axles were changed for secondhand ones of a later date having larger diameter brake drums. The old sloping two piece windscreen was discarded and an ingenious Vee screen was made with plywood frames and celluloid. The body was cut away at the back, the doors tapered down, the hood was dispensed with and lower seating was arranged.

The engine was removed, rebored 20 thou. oversize and the pistons and connecting rods were carefully balanced. Terry Aero valve springs were fitted and a secondhand Alta head was obtained to replace the old one.

The little car, possessing a good deal more vim and vigour, continued to perform successfully whenever it was entered in trials. However, it was unfortunately reduced to almost a total wreck when the writer overturned it when engaging in a friendly battle with a Brooklands Riley.

For some months the remains of the car lay in the garage, just a heap. After a good deal of thought it was decided to rebuild it, but this time to make it a fit machine for faster speed than that for which it had been designed.

Major alterations took place. The front axle was widened by six inches, the springing was lowered all round, and the steering column was lowered. A second-hand 1927 body was purchased and the rear half cut off. A new rear end was built with a wooden frame and metal panelling, a fold flat screen was made from the top half of the old one and a sloping dashboard was fixed onto the vertical metal dash with wedges. The doors were cut down and completely new seating was arranged.

The alterations to the front axle made it necessary to manufacture a new spring, new radius rods, track rod, drop arm, steering arm, and drag link.

After a period of testing it was found that the car did not hold the road as was expected. The suspension was again altered, the flat springs being raised about 1½ inches. This improved the road-holding immensely.

New front mudguards were made, lamps and tie bar added and the car was sprayed white. Later simplex rings were fitted, not on account of cylinder wear, but just in an endeavour to give better compression. The car continued to win awards in trials and attracted attention everywhere it went.

This year, after a visit to Prescott, the writer thought it would be interesting to see how the car would fare at a bit of dicing. It was duly entered for the July meeting without any preparation, except for a careful decarbonise. 4.00 by 17 tyres were used on the front wheels and 4.00 by 19 were used on the rear, as this section tyre gave the best results, second gear only being used after the start. The quickest time was 66.7 secs.

Top gear could be used advantageously using 4.00 by 17 tyres on the rear wheels, but changing from second to top could not be made without a lag of sometimes more than a second before the gear could be engaged.

The car was again entered for the September meeting. This time efforts were made to produce more power and two S.U. carburetters were fitted instead of the old type Zenith. This meant procuring two short induction castings, joining them together with a ¾" balance pipe and making four extra long manifold studs for the cylinder block. This arrangement was found to work perfectly and the desired results were obtained. 4.50 section tyres were used on the rear wheels and the best run was made in 63.5 secs.

The road holding and controllability are all that can be desired and on the sharp bends on Prescott not once did the rear of the car tend to slide out, instead, all four wheels seem to "edge" to the outside of the bend.

So, fourteen years after leaving the factory, the little car has covered itself with glory and given its owner untold

pleasure. And to think it was only saved from a scrap yard death by a mere chance.

I am, Yours, etc.,
H. L. BENN.

Tyn-Y-Coed,
Nr. Mold,
North Wales.

* * *

VETERAN CARS

Sir,

Your correspondent "Countryman" might be interested in the following. I now own a 1914 Renault; chassis purchased 1914 for about £850 by local lady and fitted with "utility" body. It was then taken to Salonika, where it did service throughout the War by carrying wounded. On its return to England it was used locally and then purchased by my uncle for £550. It then covered many thousands of miles and shifted hundreds of tons of broken concrete for garden use. For the last eight years she has lain in the open and is used for carting gravel, hay, water, etc. about the estate. The radiator has been dispensed with owing to a burst in frost; cooling water being used in the block only. The car starts in any condition almost immediately after being primed through the plug holes. This applies when covered with thick frost, the 2 ft. 6 in. external induction pipe then frosting up nicely! It has a very nice four-speed right hand change gearbox; clutchless gear changes being possible. The front shackles of the rear springs are rubber bushed. Back axle and gearbox have large oil fillers which lift up against a double spring, no nuts having to be undone. The sump can be drained by turning a tap. Tyres are now getting a nuisance, and its demise will be for this reason, should it come.

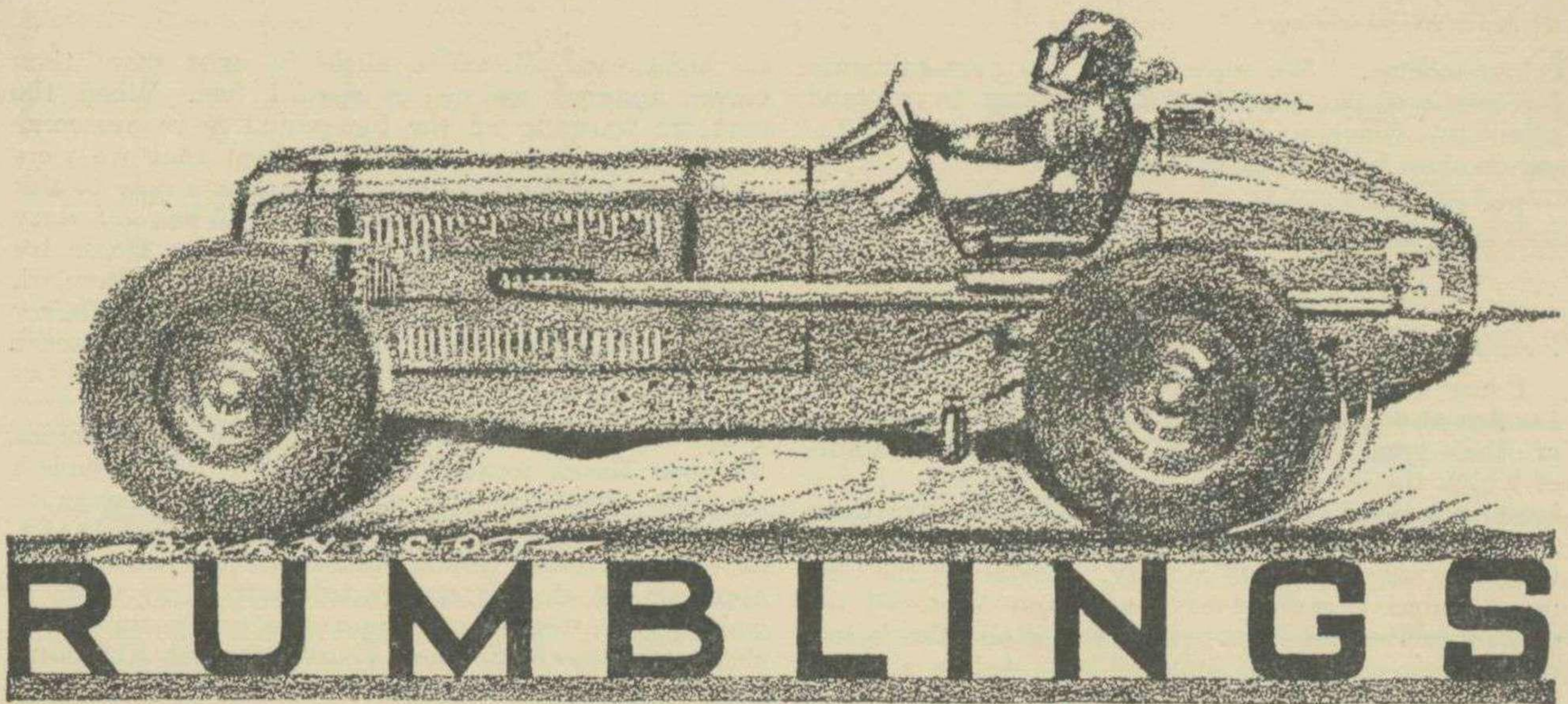
Incidentally I have just been shown a fine photograph of a 1910 45 h.p. Renault with full electrical equipment including horn.

Other old cars of which I have intimate knowledge are the 12 h.p. Rover from 1912. These had S.U. carburetters with leather bellows; these bellows having to be soaked in linseed oil frequently, otherwise they got hard. Right hand change three-speed gearboxes were fitted giving about 55 m.p.h. max. My uncle bought one of these cars at the 1912 Motor Show and owned it till the crown wheel broke about five years ago through lack of lubricant.

I drove one of the 1914 models several hundred miles with all the big ends gone, using the car daily in this condition while another was being overhauled, subsequently scrapping the Rover.

I am, Yours etc.,
W. HARBORD.

"Woodlands,"
Normandy, Surrey.



The Show . . .

YES, they are still talking of Earl's Court, and in an unbiased wander round we have gleaned some assorted impressions for you. We thought of taking a portable Lucas horn to clear the way through the crowds of tired sightseers. Not, of course, such an ingenious idea as that of a friend, who vows that accidents would decrease if all vehicles carried a large mirror front and back—so that you would see yourself sailing into the accident . . . Wearing a Mercedes-Benz coat-lapel star, given to us at Dover by one of the twenty-five Mercedes racing mechanics who landed with the team cars, and carrying a notebook, we might well have been thrown out of the Show as a spy. However, here are the impressions. The well-lit hall possessed a most pleasing appearance, and, of the stand exhibits, perhaps Frazer-Nash-B.M.W. take the honours, with all their cars the same shade of blue, likewise the lone Frazer-Nash on the stand. The Willys-Overlands were trying to look as unlike cars as possible and La Salle looked very upstage with a very narrow radiator grille indeed. The smart little Hotchkiss-Amilcar has a distinct crab-track, reverse way to normal, and the rear seat very close-set to the front seats. Citroen and Peugeot both had the new flat-spoke wide-rim Michelin wheels, and the Delage exhibits all had artillery wheels. Perhaps the most modernistic yet dignified treatment of bonnet, exhausts and side-panelling is that of the Type 540K Mercedes-Benz, in happy contrast to that of a French marque which had two external flexible exhausts of too plain appearance and set too far back. The big Delahayes are large cars with radiators set well forward, and in the Type 320 Mercedes-Benz Pullman limousine the designers have achieved a roomy body by recourse to the older style of short bonnet, very effectively. On this car the big spotlight is carried centrally on a substantial tubular member. We could not quite see the need for a wire-mesh guard on the fuel tank of the sports Delahaye, and would like the British-Salmson Sixes' permanent jacks higher up for trials work. Aston-Martin showed an unusual

sports two-seater with cowled radiator, downswept front wing valances of square aspect, V screen, and an airship shape tail with twin fuel fillers protruding therefrom.

Jensen had thoughtfully provided twin aero-screens for the rear seat passengers in the striking open touring model, and the rivets in the upper face of the front wings of the open SS 100 were an effective detail. SS used close-mesh wire stoneguards over the headlamps and the new 100 m.p.h. SS 100 coupé is a very beautiful car, most imposing, yet in no way futuristic, and with conventional treatment of wings and lamps and a very well planned blending of the tail. The Alfa-Romeo exhibits were all truly great cars, with very neat small badges, and "supercharge" plates on bonnets and back-panels. The Type 29B blown eight-cylinder had a gear-lever cranked transversely across the driving compartment.

Bentley showed a beautifully finished 4½-litre engine and gearbox unit and Lagonda a less brilliantly finished V12 engine unit bearing the simple label: "W. O. Bentley's Masterpiece." It was noticeable that the V12 saloon which has exceeded 100 miles in the hour round Brooklands is in no way specially streamlined, indeed, rather the reverse. Wing treatment plays a considerable part in the stately and refined outline of these modern Lagondas, and the long gear-levers are retained. Lancia exhibited some dignified "Asturas" as well as the popular "Aprilia" and Col. Sorel was staging just two Bugattis, both sober closed models, which were continually surrounded by enthusiasts. We got the impression that a great proportion of the visitors were rather definitely "oop for t' Show." Certainly some truly humorous remarks were heard, including the "It's a lovely little bus" in broad cockney from an overdressed female sighting the Morgan 4/4 coupé, "Look, it's still going round, it will soon be giddy," of the revolving Standard exhibit, "I don't see a lot in 'em" and "We will take two of those" of the beautifully turned out but not immediately impressive Rolls-Royce cars, and a cockney criticism by a stout woman of the sports Delahaye

RUMBLINGS—continued

colour-scheme. We were offered £10 part exchange for our own car on a new M.G. saloon by a stand attendant, which we countered by remarking that the car on show had no engine, anyway.

By far the biggest crowd surrounded Stand No. 107—that of the Metropolitan Police!

. . . And Donington

I am writing this in the Opel in which we left London at 6 a.m. to attend "the training" for another of the great Grand Prix Races at Donington, of which the late Crisis so nearly robbed us. It has been rumoured that, throughout the Crisis, three Auto-Unions remained in their railway vans at Harwich and never left this country. Certainly, the German Embassy made every endeavour to recall the cars on September 30th. Very definitely, this is real racing, inspiring to an undescrivable degree and immensely good for the soul. Though the Auto-Unions no longer flex and dither as they did last year, and though the German cars no longer leap from the rise after Melbourne Corner, where the bump has been eased off, nevertheless, in speed, sound and acceleration the 3-litre Formula cars make other racing look just stupid. As I write, some of the drivers play impromptu football, others clock-golf, on the sun-lit lawn outside Donington Hall, where, as last year, they have all lunched together—all, that is, save Seaman. Seaman appeared to arrive late and to exchange a few words with Neubauer. Early this Thursday morning Uhlenhaut took out the Mercédès training car, labelled with a big "P," and committed much lappery. This car had an extra air-temperature thermometer clamped to the scuttie side. Uhlenhaut wears full kit and will apparently be the team's spare driver. Soon the other drivers get down to it, including Nuvolari, who sets up the fastest lap. After lunch there is less activity, Seaman doing very little and Nuvolari nothing at all. But Lang does one immense lap. Hasse, in black overalls, is very cheery, but Kautz suffers from a cold. To walk all round the circuit is a truly wonderful experience. Through the wood beyond Red Gate the cars sound terrific, and their speed down to the hairpin is prodigious, but perhaps the most spectacular point is from Maclean's Corner, along the straight bit to Coppice Corner. Here one is able to appreciate very thoroughly the work done by the drivers, all of whom perspire freely after only a short spell in the "seat of government." Hasse keeps his hands comparatively steady on the wheel on the straights and Seaman slides beautifully into Red Gate. Frequently the cars visit the grass verge at Melbourne and they come out of the woods like bombs, sliding sideways through the gate.

At the pits we see again the amazingly thorough organisation; every lap timed, copious notes made of every piece of work undertaken, and cars continually given flag signals by their respective chiefs. At the depots one's breath is again taken away by the astoundingly complete equipment. The tyre-store, in charge of Continentals' imposing representative, is a wonder-

ful sight, and Mercédès alone brought more than eleven hundred gallons of special fuel. When the cars are warming up the fumes and noise overcome one surprisingly quickly, so much so that we were unable to stay long enough to complete a note to this effect in the Editorial notebook. When off duty Seaman and Brauchitsch wore overcoats, Hasse his black overalls, Kautz a teddy-bear coat, and Nuvolari, who sat alone much of the time in a Studebaker saloon, a long overcoat and a big cap with an immense badge therein. Quite an excellent crowd of spectators assembled to see the practice. The Mercs. were towed by Mercédès-Benz saloons, the Auto-Unions by open Horch tourers. Once again the keenness of every mechanic was evident, also the splendid relationship between engineers and mechanics, as when an Auto-Union man made the mistake of applying his electric starter to Kautz's car while it was in gear—temporary annoyance was natural, but clearly the mechanic bore Feureissen and Eberhorst no grudge and they were conversing with him a moment later. Towards the end of the afternoon Kautz brought in the Auto-Union training car, labelled with a big "T," and Sebastian drove it off to the depot minus its lower gears, much laughter greeting him when he stalled the engine trying to start in top.

The Auto-Unions were cleaner than the Mercs., but the finish of both cars is highly commendable. Both use 7.00"×19" Continental rear covers and Continental Balloons on the front, size mostly unmarked, but 5.50"×19" on the Auto-Union training car. Mercs. were rumoured to be boosted very high but Auto-Unions to have had better performance since the Italian G.P. Brauchitsch's car showed flame from the exhausts on the overrun. Oil dropped from the Merc. rear axles onto the asbestos lagged under-body exhausts, so that the cars smoked in consequence when they came in. Lang's Mercédès had a longer tail than the other cars and there appeared to be detail differences in the exhaust systems, small springs supporting the pipe at one point. The cowling of Brauchitsch's car was red, Seaman's green, Lang's blue and Baumer's white. The facias contained a central rev. counter reading to "90" (9,000 r.p.m.), with water thermometer to the left and oil thermometer to the right, both these small dials reading 40°-120°. There are no blower pressure or oil gauges. An easily accessible transverse magneto switch is placed to the left of the facia, in varying positions to suit individual driver's requirements. The gear-lever works in a gate on the right and there is a tiny handbrake on the left. As on the Auto-Unions the engines are normally electrically started and the steering wheels detach. Auto-Union had some bother in engaging their starters. Mercédès-Benz warm up at a steady 2,200 r.p.m., blipping up to 4,000 r.p.m. A pair of long grips is used to remove inaccessible plug terminals, which are of pull-off pattern. At the end of the day Lang's engine was considerably dismantled, and the camshaft driving gears were exposed. The intake manifold is all metal, with neat clips and no hose connections. The Auto-Unions have longer gear and brake levers, both on the off side, and the facia has a large white-dialled rev. counter to the left, reading to

RUMBLINGS—continued

8,000 r.p.m. (the full figure is used, which is unusual), and five small dials to the right. When an engine was started on the handle it was noticeable how soft is the rear suspension. The body sides curve inwards behind the nose cowling and are far more rigid than last year.

During the afternoon a deer again strayed onto the course, but this one escaped alive and Brauchitsch merely waved to it. The monoposto Delahaye had Dunlop tyres, front shock absorbers set high up inside the nose cowling and coupled to the axle by links, and a reverse catch for the gearbox set by the rear axle, outside the car.

As last year, few enthusiasts troubled to meet the drivers, most of whom arrived by air at Croydon, or to visit the imposing arrival of Mercedes-Benz lorries and cars at Dover, where the five-and-twenty mechanics dined and slept at the Lord Warden Hotel before continuing to Donington. Both the Auto-Union and Merc. lorries are magnificently appointed, have wonderful exhaust notes and are truly quick. The inscriptions on the sides thereof, duly translated, mean "Auto-Union Racing Service" and "Mercedes-Benz Racing Troopers." This time official welcome was better handled. There was the luncheon at the R.A.C. in honour of Seaman's win in the German G.P., held before the race was postponed, at which Seaman made a very diplomatic speech and was awarded a Gold Star, and the B.R.D.C. threw a cocktail party for the drivers at the Rembrandt Hotel on the Monday following the race. Capt. Bemrose, President of the Derby & D. M.C., had the drivers to tea on the Thursday, after training finished. Donington is a truly great spot at which to stage a great motor race. Wandering over the wide expanse of grass-grown paddock, studded with gnarled trees, the Hall forming an imposing background, it was difficult to believe that we had just seen Nuvolari screaming towards us at 160 m.p.h., tail sliding out so that the Auto-Union's nose pointed directly at us, front wheels flapping wildly to retain control. . . . Donington's officials, too, are less officious than those of other, more bustling venues. If you missed the G.P. this time, on no account must you do so if we are so fortunate as to have another such race in 1939. No, sir!

Odd Spots

Mr. M. S. Soames, the trials and racing driver, has now joined Messrs. Adlards Motors Limited, at their newly opened works and showrooms at 51-57 Upper Richmond Road, East Putney, S.W.15, where he will assist with the sales and developments of the Allard Special.

* * *

The Duke of Kent and his party were driven to Donington in two V12 Lagonda saloons.

* * *

As last year, Mercedes-Benz gave away beautifully prepared Press folders before the race. All their Grosvenor Road engineering staff had the morning off and came to Donington by coach.

* * *

Rolls-Royce Ltd. made up parts for Auto-Union on the eve of the race. Much of the Multi-Union's chassis was made by Rolls-Royce.

* * *

Amongst the arrivals by air for the race was a 504K Avro, complete with landing-carriage ski.

* * *

The H.R.G. will, in future, have the three-bearing 1½-litre Singer engine in place of the former push-rod Meadows unit.

* * *

Rolls-Royce Ltd. have handed their section of Cricklewood over to Handley-Page Ltd., at Government request. Temporary premises at Hendon are now in operation, pending new repair works.

* * *

Brooklands closed for repairs on October 31st. Sections of the Track will, as usual, remain open throughout the winter.

* * *

Von Brauchitsch visited the showrooms of Messrs. Adlards Motors Ltd. during the Motor Show week, and had a run on the Allard Special. He was delighted with its performance during the short run around the district.

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equipment*

plus

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"BIRA" TWICE BEATEN

SENSATIONAL RACING AT THE CLOSING CRYSTAL PALACE MEETING FURTHER ENHANCES ALTA PRESTIGE

IN spite of torrential rain, the last Crystal Palace Meeting was immensely enjoyable. It is now a confirmed fact that one does not notice the slowness of the Palace circuit and that Harry Edwards's short races go down very well. The meeting was very fully televised and Dick Seaman started the Match Race and presented prizes.

The Match Race was in our opinion a foregone conclusion before it was contested. Although Arthur Dobson's white E.R.A. is a 1936 B-type car and "Bira's" "Romulus" was built in 1935, both having the Murray-Jamieson Roots blowers, Dobson's car has been none too fit lately, while "Bira" has the distinct advantage of de Ram dampers, which were fitted last year. So we were not surprised that "Bira" led away and was fairly comfortably ahead after two laps. Then the near-side rear tyre deflated and Dobson ran on to complete the distance alone, averaging 55.51 m.p.h. The lap record was not challenged (it is held jointly by "Bira" and Dobson) and some indication of how outclassed is Arthur's car nowadays is evident from his winning average in his heat of 53.85 m.p.h. against "Bira's" heat average of 57.01 m.p.h., and his defeat in the final by Abecassis, "Bira," Minetti, Rolt, Beadle and Wakefield. We sincerely hope Dobson justifies his ability next year by handling a better car. It is of interest that "Bira" finds his Roots-blown "Romulus" more suited to the Crystal Palace circuit than his Zoller-blown C-type "Hanuman." This is rather a case of practice disproving at any rate broad theory, for we are told that Roots blowers work more effectively in the higher r.p.m. range whereas a vane-type compressor delivers more punch at low speeds. And the Palace circuit is essentially one of slow corners and continual acceleration out of them.

In the first 20-mile heat "Bira" won comfortably, lapping within less than a second of his lap record time. He was

followed home by Abecassis on the 1½-litre Alta, with John Wakefield's E.R.A. third. N. G. Wilson drove his E.R.A. with more abandon than usual, Berg's Maserati, which had been tended by Robin Jackson, retired with no feed pressure, Gerard's T.T. Delage retired with transmission trouble, and the Talbot-Plate was misfiring. Wilson's and Connell's E.R.A.s were prone to axle judder.

Dobson's E.R.A. won the next heat, but not so fast as "Bira" had won his. Cuddon-Fletcher's M.G. was second, and Rolt's E.R.A. third, Rolt sliding in beautiful fashion into Stadium Curve on a sodden track. Ashby's Alfa-Romeo lost a wheel without serious damage, Hadley's Austin retired and Aitken drove his E.R.A. splendidly, but turned round and lost his lead. He did not run in the uncomfortably wet final. Hanson's Maserati stopped and Maclure's Riley broke a half-shaft. The E.R.A. trio made a fierce sight in the wet.

The final, over 32 miles, provided a surprise, for George Abecassis won for Alta, averaging 52.08 m.p.h. in teeming rain, and beating "Bira's" E.R.A. by 25.5 secs. "Bira's" supporters point to the Alta's twin rear tyres, but it must be emphasised that the car was sliding wide out of Stadium Curve (very exciting, viewed from the Stand) where "Bira" was close in, and that on one lap the Alta misfired. It seems that the 1½-litre Alta is now superior to the E.R.A.s, and if it can show the same superiority next year over six times the distance, then the E.R.A. Club will have to consider handing some "boni" out to Geoffrey Taylor as well as to the gentlemen of Bourne. Eugenio Minetti's six-cylinder 1½-litre Maserati was a beautifully steady third. It has new rear suspension with normally disposed quarter-elliptic springs and deep torque members parallel to the springs. Rolt's E.R.A. was fourth and Beadle, much improved, was fifth with the 2-litre Alta. Wakefield was sixth and Dobson seventh.

We also had a sports-car race with a Le Mans start, the excellent entry for which argues well for such racing in 1939. Fane's Type 328 Frazer-Nash-B.M.W. won easily, with Abecassis on an Alta second and Couper-Harewood's PB M.G. third. Fane averaged 46.78 m.p.h. The rain came down in earnest before this race and Miss Joan Richmond and Miss Dorothy Stanley-Turner called for umbrellas, as did a few mere men. Miss Richmond went very well on an old Frazer-Nash, until she rammed a tree on the last lap.

RESULTS

Final

One lap equals 2 miles. Distance of Final: 16 laps (32 miles).
 1. G. E. Abecassis (1,500 c.c. Alta), 38m. 27.8s., 52.08 m.p.h.
 2. "B. Bira" (1,500 c.c. E.R.A.), 38m. 53.3s., 51.49 m.p.h.
 3. Eugenio Minetti (1,500 c.c. Maserati), 39m. 17.1s., 50.95 m.p.h.
 4. A. P. R. Rolt (1,500 c.c. E.R.A.), 39m. 19.5s., 50.89 m.p.h.
 5. A. H. Beadle (2,000 c.c. Alta), 39m. 31.3s., 50.63 m.p.h.

Handicapping (by Groups)

Heats: 1,100 c.c. receive 70s. start, up to 2½-litres receive 10s., over 2½-litres: scratch.
 Final: 1,100 c.c. receive 1m. 52s., up to 2½-litres 16s., over 2½-litres: scratch.
 Sports-Car Race: 1,100 c.c. U/s: 35s. start. 1,500 c.c. U/s and 1,100 c.c. S: 15s. 1,500 c.c. S and 2-litres U/s: 10s. 2-litres S and 3-litres U/s: 5s. Others scratch.

Heat 1

Distance: 10 laps (20 miles).
 1. "B. Bira" (E.R.A.), 22m. 2.9s., 57.01 m.p.h.
 2. G. E. Abecassis (Alta), 22m. 9.7s., 56.74 m.p.h.
 3. J. P. Wakefield (E.R.A.), 22m. 23.4s., 56.11 m.p.h.
 4. I. F. Connell (E.R.A.), 22m. 38.7s., 55.43 m.p.h.
 5. H. L. Brooke (Riley-Brooke), 22m. 49.3s.

Heat 2 (same distance)

1. A. C. Dobson (E.R.A.), 23m. 17.2s., 53.85 m.p.h.
 2. A. Cuddon-Fletcher (M.G.), 23m. 20.8s., 51.39 m.p.h.
 3. A. P. R. Rolt (E.R.A.), 23m. 21.1s., 53.69 m.p.h.
 4. E. Minetti (Maserati), 24m. 1.3s., 52.14 m.p.h.
 5. A. H. Beadle (Alta), 24m. 7.1s., 51.91 m.p.h.

UNITED HOSPITALS AT DONINGTON

BUGATTIS took all three places in the first handicap for racing-cars at the United Hospitals Club's fifth Donington Meeting held last month. A dark horse in the form of C. A. Foyster's unblown 2-litre Bugatti surprised the handicappers by running away from the limit mark to win at 70.15 m.p.h., the fastest winning speed of the day. Half a mile behind D. A. Hampshire (1,955 c.c. Bugatti s/c) just succeeded in winning second place from R. C. Neville (1,492 c.c. Bugatti), who came third. Incidentally Foyster told us that he only entered to try out his brakes, so we may anticipate seeing more of this car next season.

The sun, which had smiled so on the opening races, forsook competitors in the 10-lap Handicap for racing-cars and soon after the start rain set in for the day. Consequently some hectic work was seen at both ends of the course—R. C. Neville turned round and stalled his engine at Melbourne, and, getting going, proceeded

to run out of road at Coppice, without however inconveniencing anybody but himself. On the other hand the two 1½-litre Rileys driven by Dr. A. Daunt Bateman and F. R. Gerard were notably steady on the wet corners, the latter coming second to G. Swain (1,496 c.c. Alvis), who won the event.

Progressive improvement in the handicapping culminated in an exciting finish to the last race of the day, a 5-lap event for sports-cars, in which the first eight cars finished within 15 secs. of each other to conclude what was, despite the weather, a most successful meeting.

It is probable that the Club will hold another meeting in the spring of next year. Information may be obtained from the Hon. Competition Secretary, K. V. Blake, 95, Hillway, N.6.

RESULTS

EVENT 1

3-Lap Scratch Race for Sports-Cars under 1,500 c.c.
 1. P. C. T. Clark (1,497 c.c. H.R.G.), 64.63 m.p.h.

EVENT 2

3-Lap Scratch Race for Sports-Cars over 1,500 c.c.
 1. N. I. Bond-Williams (1,950 c.c. Aston-Martin) 65.10 m.p.h.

EVENT 4

4-Lap Handicap for Racing-Cars
 1. C. A. Foyster (1,990 c.c. Bugatti), 70.18 m.p.h.
 2. D. A. Hampshire (1,955 c.c. Bugatti, S.), 57.18 m.p.h.
 3. R. C. Neville (1,492 c.c. Bugatti), 60.70 m.p.h.

EVENT 5

3-Lap Handicap for Vintage Sports-Cars (Built Prior to December 1930)
 1. R. Hughes (4,366 c.c. Vauxhall), 66.06 m.p.h.
 2. A. S. Heal (4,398 c.c. Vauxhall), 64.01 m.p.h.
 3. J. B. Carr (4,495 c.c. Bentley), 62.54 m.p.h.

EVENT 6

4-Lap Handicap for Sports-Cars
 1. G. Tyrer (847 c.c. M.G., S.), 63.27 m.p.h.
 2. A. Goldman (2,662 c.c. S.S.), 65.33 m.p.h.
 3. J. F. Parker (2,569 c.c. Lancia), 62.82 m.p.h.

EVENT 8

10-Lap Handicap for Racing-Cars
 1. G. Swain (1,496 c.c. Alvis), 56.90 m.p.h.
 2. F. R. Gerard (1,496 c.c. Riley), 56.53 m.p.h.
 3. A. Goldman (2,662 c.c. S.S.), 59.89 m.p.h.

EVENT 9

5-Lap Handicap for Sports-Cars
 1. P. R. Arthur (1,287 c.c. M.G.), 53.47 m.p.h.
 2. G. Tyrer (847 c.c. M.G., S.), 60.70 m.p.h.
 3. F. R. Gerard (1,496 c.c. Riley), 66.55 m.p.h.

V.S.C.C. Trophy for Fastest Lap by a Vintage Car:
 A. S. Heal.
 President's Trophy for Fastest Lap by a U.H.U.L.M.C. Member: F. R. Gerard.

THE CASE FOR GRAND PRIX RACING

HOW BRITISH MANUFACTURERS COULD COMPETE WITH STATE-SUBSIDISED FOREIGN TEAMS

GRAND Prix racing always has been and always will be a subject of controversy. But it is as well to bear in mind at the outset that the Formula under which the races are run is devised and approved by the national motor clubs, including the British Royal Automobile Club, which together make up the Association Internationale des Automobiles Club Reconnues. In fact, the Grand Prix is what we care to make it. Recent discussion, however, has not centred on the Formula so much as whether Grand Prix racing is really worth while at all.

To deny that it is of any value, and that the knowledge gained by it is of service in the manufacture of production cars, is to ignore aspects of automobile design which owe their development entirely to the lessons of Grand Prix racing. Probably the most convincing example is that of four-wheel brakes, which were a normal feature of every Grand Prix racing car before they were universally adopted on production cars.

In the matter of suspension, Grand Prix racing must inevitably have the effect of increasing the safety factor of passenger car travel. The data obtained in ensuring adequate road adhesion for a racing-car travelling at 180 m.p.h.—not only in regard to suspension, but also to weight distribution—is bound to result in a greater margin of security in a production car travelling at 80 m.p.h. The same thing applies to braking, about which valuable experience in obtaining the greatest power and endurance has been discovered in Grand Prix racing at speeds which are far higher than any that can be attained on production cars. In none of these features, be it noted, does the price factor prevent the full value of the knowledge gained being made use of by the manufacturers of production cars.

It is an unfortunate truth that the present-day conditions of the motor industry do not encourage individual firms to expend the considerable amount of money necessary to design, build and run a team of racing-cars. And as long as Grand Prix racing continues there is

By GRAND PRIX

nothing to prevent other firms from reaping the benefits of the discoveries it undoubtedly brings about. As for the firms spending the money on private research work instead of racing, this is an attractive possibility only utilised in actual practice to any great extent by Rolls-Royce and one or two others.

There is left, then, the alleged method of firms receiving state assistance in order to take part in Grand Prix racing, and this immediately introduces the question of motive on the part of the state or states which agree to this course. It has been suggested that the German racing teams, for example, are being run principally to raise the prestige, and to demonstrate the power, efficiency and strength of Germany all over the world. But surely there is a lot more in it than that. I suggest that the reason prompting the German Government to finance their racing teams—if they do—is a commercial one: to demonstrate the merits of *German cars* all over the world. Their aim is to expand the export trade and therefore the productive capacity of the German motor industry. That the prestige of Germany as a nation is enhanced is merely an agreeable incidental result.

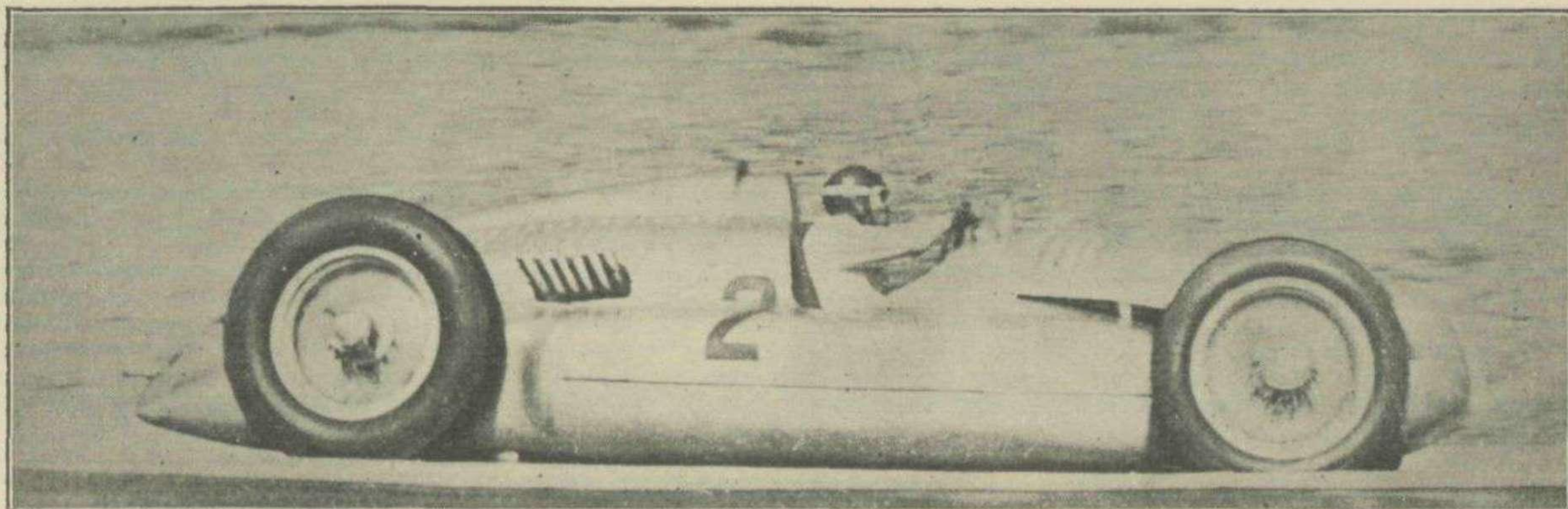
It is usually admitted that the German scheme has succeeded from the national prestige point of view, although the qualification is sometimes added that it is only due to their having the field virtually to themselves. In parenthesis, it may be remarked that to complain that the German Grand Prix cars are vaunted beyond their merits is to try to subdue a natural instinct of any intelligent man, which is to praise the best thing of its kind the world has ever seen, irrespective of its country of origin. Such a criticism, I think, has a dog-in-the-manger air about it. What would we have thought of a German who, because his country had not a representative entry in the race, said that our Schneider Trophy seaplanes were vaunted beyond their merits, and that they succeeded principally because there

was no competition? Let us give credit where credit is due.

The critic of German racing methods likes to claim that the British motor industry is in a much better state than that of Germany, even though our manufacturers do not take part in Grand Prix racing. His argument is not in accordance with the facts. Since the year 1929 the British and German motor industries have both increased at the same rate, 100 per cent. But numbers are not everything. One would have to be a dyed-in-the-wool patriot to assert that the British motor industry is superior to the German in the design of its products. Both have their merits.

The point arises: should these state-subsidised foreign teams be assisted to compete in this country by having entry fees waived and their travelling expenses paid? There is indeed a case that they should not be assisted any more than home drivers are, but to deny that aid because the foreign cars are being used for propaganda purposes is to introduce a dangerous element of discrimination. By all means make it plain that the German cars have the advantage of ours by being state-assisted, but at all costs refrain from allowing the propaganda aspect, whether it is on behalf of the nation or its cars, to influence our treatment of the subsidised teams in relation to others. To do so is to make motor-racing a political issue.

But after all is said and done, whether or not the entry fees are waived, and whether or not hotel expenses are provided, are surely matters which only concern the organisers of British motor-races. If, as the Donington Grand Prix has proved incontestably, a bigger crowd can be attracted to a race when the world's best racing-cars are taking part, it is understandable that (a) the owners of those cars should ask for some alleviation of their expenses, and that (b) the organisers should think that this demand is a perfectly reasonable one. In regarding Grand Prix racing from the circus angle, one could of course suggest to race organisers that it would be easier for



The German motor industry has benefited, and particularly in its export trade, by the magnificent performances of the Mercedes-Benz and Auto-Union racing-cars. Here is a photograph of T. Nuvolari with his Auto-Union.

THE CASE FOR GRAND PRIX RACING—continued

them to make money by providing a simpler form of entertainment. But it would be so easy for them to reply "That's our affair."

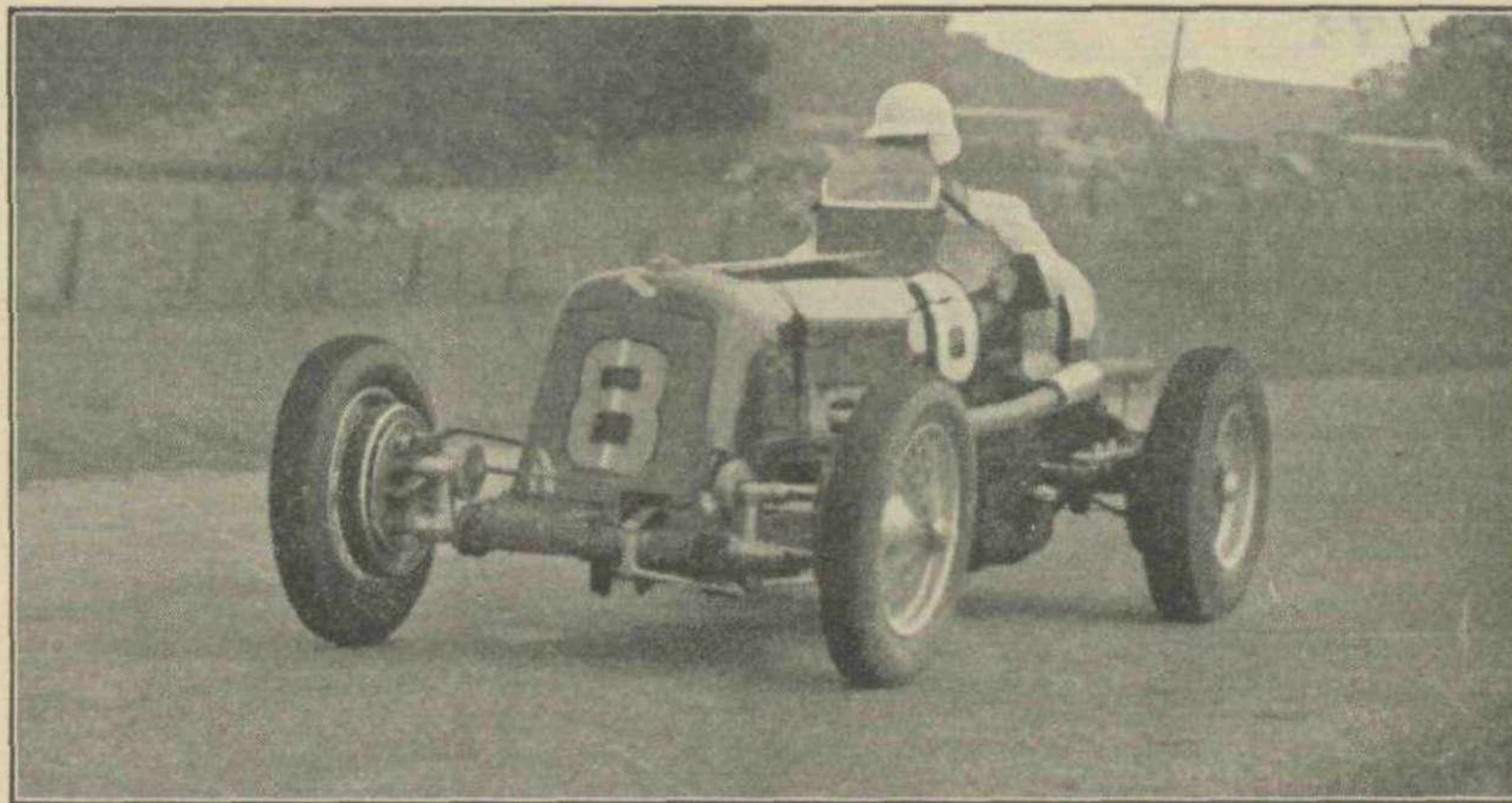
Critics of Grand Prix racing complain that we give a great deal of publicity to foreign teams when they visit this country. Again this is only natural, because the cars are the best of their type in the world, and automatically merit praise. It is not true to say that British successes are treated in a lukewarm manner abroad. The E.R.A. victory at Peronne this year was described in French newspapers by headlines reading: "Clear Superiority of the English 1,500 c.c. Racing-cars." And France, too, is one of those countries which give state assistance to their racing manufacturers.

So much for the criticisms of modern Grand Prix racing. Now let us see whether there is a solution possible by which Great Britain could compete on level terms with the state-subsidised German and other teams.

The suggestion has been put forward that a cost limitation should be introduced into the Formula, but a moment's reflection is enough to convince anyone of the impracticability of this idea. Design, research and experimental work are extremely difficult to assess in terms of money, and it would be impossible for organisers to make an accurate check of the work involved in producing a new racing-car. But production of the cars is only half the battle; there still remains the expense of running them in races all over Europe. For this reason alone no manufacturer is likely to enter racing, even if a cost limitation could be evolved, which is extremely doubtful.

We are faced with the undisputed fact that participation in Grand Prix racing does benefit the prestige of a country's motor industry, particularly in the export trade, and the equally undisputed fact that the British Government will never be

cars. In order to avoid the objection of one make having to be selected to represent the country, as used to happen with the Gordon Bennett races, let them make use of the existing organisation which is at present not a competitor



The writer suggests that the E.R.A. team should be subsidised by the British Motor Industry in order that Britain can compete in Grand Prix Racing.

induced to part with public funds for the necessary subsidisation of racing teams.

The answer lies with the manufacturers themselves, who would be the people to benefit from British successes in Grand Prix racing. At present they are making an expensive co-operative effort, solely by means of Press advertising and propaganda, to preserve the home market for British cars. This money would go far towards financing the construction and maintenance of a team of British racing-

cars in the production car field, namely English Racing Automobiles. A more appropriate title it would be difficult to find.

Given financial backing beyond the heroic individual capability of Humphrey Cook, E.R.A.s could bring world-wide repute to British motor-cars, and thus stimulate our export trade. In this way the British motor industry would benefit by an increased output, with a consequent lowering of costs and the chance to expand its business still further. G.P.

FOUR AIR COOLED 375 c.c. ENGINES IN A CAR FRAME

IT has long been known by racing-car engineers that the air-cooled single cylinder motor-cycle engine has unquestionable advantages from the viewpoint of sheer power/capacity ratio. Partly this is due to the very efficient head formation possible with this type of engine, and other factors are the pumping efficiency of a single cylinder engine, even cooling, low mechanical losses and, especially, the rigidity of the crankshaft. 500 c.c. singles that produce 40 h.p. in unblown form are not unknown, and thus there is the attractive proposition of a 1½-litre combination developing 120 b.h.p. without recourse to supercharging, and with a saving in weight of cooling jackets, cooling water, complicated castings and manifolds, etc. So far no one has experimented very extensively in this direction, although Waddy's Fuzzi 9 has two separate 500 c.c. engines, actually installed to assist with the four-wheel-drive employed, and Richard Bolster is using four Rudge single-cylinder engines in a G.N. frame. John Bolster's work also comes to mind, though in this case V-twin motors are employed. Some years ago A. F. Ashby introduced his carburettor-per-port four-cylinder Riley engine, but it is doubtful if this engine,

with its two-bearing crankshaft, approached single-cylinder rigidity.

Now C. E. C. Martin has announced his Martin Special, on which work was commenced in November, 1936. In the old 2-litre G.P. Delage chassis four dirt-track J.A.P. air-cooled single-cylinder engines are installed, each engine lined down to 375 c.c., putting the car in the 1½-litre class. The engines are located as a square, and coupled by gear-trains, chain-drive having proved unsatisfactory. Each engine has its own B.T.H. magneto. Lubrication is by separate oil pumps from a four-gallon (approx.) scuttle tank, and is dry sump. The engines have roller bearings throughout, bronze heads, and push-rod valve gear. Thirty gallons of fuel are carried in a rear tank, feed being by a Bugatti plunger pump driven by cam from the gear train. In the case of the Martin Special forced induction is used, a Roots blower being driven by roller chain from the engine coupling shaft at just above engine speed. It draws from an S.U. carburettor and blows at about 5 lb. per square inch, the engines having a compression ratio of 7 to 1. These figures may be varied after experimentation. Cooling is a major problem. There is a large aperture in the front

cowling, and air scoops on the bonnet top direct a flow of air onto each cylinder head.

The drive is taken to an E.N.V. self-changing gearbox and thence by open shaft to a bevel rear axle. The front axle is from a monoposto Alfa-Romeo and the brakes have special 15¼" steel lined Elektron drums and Girling actuation. Hartford shock-absorbers are used all round with Telecontrol at the rear. The worm and segment steering box is part of the old Delage, but Alvis, Austin, Hillman and other components are incorporated in the construction.

The car has been out on Brooklands for testing and is rumoured to be very potent. One trouble has been excessive vibration at 4,000 r.p.m., rendering driving an uncomfortable occupation, but one hopes that this will soon be overcome.

Charlie Martin deserves full credit for his enthusiasm in committing a remarkably interesting experiment, after ownership of such well tried racing-cars as Bugatti, Alfa-Romeo and E.R.A., and for building up the special car in such a workmanlike manner. The Martin Special is intended for short races, sprint events and hill-climbs and its showing in such events will add interest to future fixtures.

Club News

LIGHT CAR CLUB

The winter trials season has commenced in earnest. The Light Car Club held its annual Buxton Trial just as the Crisis cleared, with an entry of twenty-one cars.

The Rank proved a nasty gradient, productive of many failures. In the slow-fast test best showing was made by T. Wagner's Morris Minor and in the second special test Imhof's T-M.G. clocked 23.8 secs., and W. S. Perkins beat this by .3 of a sec. in his H.R.G.

RESULTS

Best Performance : A. G. Imhof (1,780 c.c. M.G.)

Premier : A. Eadon (1,585 c.c. Rover).

Second-Class Awards : T. Wagner (908 c.c. Morris), D. G. Flather (1,498 c.c. Bugatti), D. G. Silcock (3,622 c.c. Ford), G. Tyrer (847 c.c. M.G.), K. G. Scales (939 c.c. M.G.).

Team Award : North-West London M.C. (D. G. Silcock, W. S. Perkins, K. N. Smith).

SOUTHSEA M.C.

The Petersfield area was used for the Hunt Trophy Trial, in which twenty cars started. Comp. boots were allowed, but had to be fitted at the commencement of the first section. In the restart test up Valewood, J. H. Evans (Riley) managed 18 $\frac{3}{10}$ secs. and Michael Lawson's white H.R.G. 18 $\frac{2}{3}$ secs. A brake test followed, in which Sheppard's T-M.G. clocked 9 secs. to record best performance. Glue Pot (name of a trials hill, my dear) was fairly easy, but Don Kirkman was unlucky, in that his famous cut-down 12/50 Alvis just fitted a trench across the route. Leslie Johnson hereabouts smote a tree with his Type 55 Frazer-Nash-B.M.W., spoiling its trim frontworks. Cow tracks contributed some 90 feet of potent mud, a 1 in 3 gradient and a magnificent hairpin at the top. Six cars climbed it and five beat the dreaded Aduxas. On Watertight Dewey's and Crump's special Riley ceased to move in a forward direction for a while. Streatham Hill (not S.W.2) was extremely difficult and, for the most part, tackled in the dark. Credit goes to Lawson's H.R.G. and Crump's and Evans's Rileys for ascending the new top section. J. H. Evans (Riley Nine) took the Hunt Trophy.

The annual dance and presentation of awards will be held on November 18th, and the annual general meeting at the George Hotel, Old Portsmouth, on November 24th. The Club issues excellent news bulletins and gives the Lloyd Evans Tankard to the member who enlists the greatest number of new members. The membership is now around the century mark. The annual subscription is 10/- for full members and 5/- for social members, with entry fees of 5/- and 2/6, respectively. Badges cost 7/6. Particulars from the Hon. Secretary, Southsea M.C., Elm Club, Elms Grove, Southsea.

HARROW C.C.

Twenty-one cars started in the well-organised Chiltern Trial on October 17th. The first hill was Gomms, comprising a climb up the side of a sharply inclined field on private ground. Leslie Johnson (Type 55 B.M.W.), Dave Harris (T-M.G.), and Taylor's blown T-M.G. did well here. Grassy Bank stopped eleven cars and Crowell, easier than usual, six. The only special test was a brake-test, in which R. Emmings (P-M.G.) recorded 7.6 secs., Harris and Hodge (T-M.G.s) tying for second best in 8.2 secs. This was a non-comp. trial, with a special route for saloon entries. It finished pleasantly early at Princes Risborough, where the results were soon announced, together with a cheery explanation of the day's happenings. On the hill at which we marshalled the officials had excellent help, were extremely pleasant to everyone and found proper jobs for their marshals to do—certain other clubs, please note. Harris won the Moss Cup.

RESULTS

Moss Cup : 1, D. E. Harris (M.G.); 2, C. W. Taylor (M.G., S.); 3, L. G. Johnson (Frazer-Nash-B.M.W.).
Saloon Class : 1, D. W. Price (Ford V8).
First-Class Awards : L. G. Johnson (Frazer-Nash-B.M.W.), C. W. Taylor (M.G.), R. Emmings (M.G.).
Second-Class Awards : K. V. Baillie-Hill (H.R.G.), C. J. Wordsworth (M.G.), S. T. Lush (Austin).
Team Award : D. E. Harris and C. W. Taylor (M.G.s).

VETERAN CAR CLUB

Once again on Sunday, November 20th, that in every way excellent event, the Veteran Car Run to Brighton, will start from London, organised by the R.A.C. in conjunction with the V.C.C. The old cars, all pre-1905 models, will get away to any early start. This year no complicated schedules will be used, but to obviate dangerous or unpopular speeds from things like Sixty Mercédès and the G.B. Napier, any competitor getting to a check 15 minutes early will be excluded. The schedule speeds set are: 1894-96 cars, 10 m.p.h.; 1897-1900 cars, 12 m.p.h.; 1901-2 cars, 14 m.p.h.; 1903-4 cars 18 m.p.h. A grand tour of Brighton is mentioned after the finish and tea will be taken at the Prince Regent's Dragon Room in Brighton Pavilion and lunch at Crawley. This is one of the best winter events, which everyone should attend. We hear of the possibility of a 3 h.p. belt-drive horizontal engined Darracq-Bollee being unearthed from a farm near Nottingham, and the usual big entry is assured. MOTOR SPORT hopes to cover the event, as usual, by riding on or driving a competing car. Details from the R.A.C., Pall Mall, S.W.1.

FUTURE FIXTURES

The trials season is now in full swing and here are a few vital dates:—
 Nov. 13 Brighton and Hove M.C. Half-Day Trial.

- Nov. 19 Inter-'Varsity Trial.
 Great West M.C. Thatcher Trophy Trial (Chilterns).
 „ 19-20 Bugatti O.C. Night Trial (Salisbury area).
 „ 20 Harrow C.C. Cottingham Trial.
 „ 26 Sporting O.D.C. Davis Trophy Trial.
 Kentish Border C.C. Sporting Trial (Kent).
 „ 27 Vintage S.C.C. Trial (Gloucestershire).
 Dec. 3 N.W. London M.C. London-Gloucester.
 „ 4 Maidstone and Mid-Kent Brian Lewis Cup (Kent).
 „ 11 United Hospitals' & U.L.M.C. Trial (Chilterns).
 West Hants and Dorset C.C. Simon Trophy.
 „ 26 Ford Enthusiasts' Club Boxing-Day Trial.

Turn out if you can to push, watch, photograph or compete. There is a nice busy week-end in store for enthusiasts on November 19th-20th, as follows:—
 Inter-'Varsity Saturday morning and afternoon, a rest, off to see a hill in the Bugatti O.C. Night Trial, and a dice back in time for the Veteran Car Run on the Sunday. Going?

WHAT ARE COMP. BOOTS ?

As soon as the R.A.C. ban on competition covers in trials was announced, certain folk began to demand to know what do, and what do not, constitute comp. covers. This the R.A.C. has countered very neatly by issuing a full list of covers of well known makes that will be permissible in trials after the ban comes into force after December 31st next. The list is given below, and we shall be glad to have the comments of those more experienced in these matters than our good selves, as to whether the list is a fair and comprehensive one, and on any other aspects of the Ban:

Permitted Types :

Dunlop : Standard, Fort, Freighter, Cruiser.
Avon : Duo Tread Heavy Duty, Duo Tread Standard, Supreme, Ranger, Arc.
Bergougnan : Giant Pneumatic, Gladiator, Low Pressure.
British Tyre and Rubber Co. : Golden Ply.
Goodyear : Grooved, A.W.T.
Henleys : Vanguard Green Stripe, Standard White Stripe, S.G., R.A., Key Pattern.
Michelin : High Pressure, Low Pressure.
Firestone : High Speed, Standard, Sentinel Old-field.

Prohibited Types

Dunlop : Sports, Dirt Track, Extra Heavy Beaded Edge.
Avon : Gripster.
Michelin : N-type.

Maximum Sizes Allowed

Cars with engines up to 750 c.c., 4.75 ins.; 750 to 1,100 c.c., 5.00 ins.; 1,100 to 1,500 c.c., 5.50 ins.; 1,500 to 2,000 c.c., 5.75 ins.; 2,000 to 3,000 c.c., 6.50 ins. over 3,000 c.c. 7.50 ins.

CLUB NEWS—continued

BERKHAMSTED M.C. & C.C.

The very well organised Lockhart-Rossingham Cup Trial was held in October sunshine and dry conditions on October 23rd. It was a plain tyre trial with one special test, properly timed, and seven observed sections. It drew forty-three entries and there was only one non-starter. On Little Boys Hill, a slimy and stony public footpath, we noted Lawson's H.R.G. and Johnson's B.M.W. to be extremely rapid. Biggs (B.M.W.) was fast, Beveridge's Austin Seven Special steady, Taylor's M.G. was blipped up very nicely, Muskett's M.G. slid about on a fast ascent, and Tuckwell (M.G.) preferred to pick a careful course. Eckett's old Frazer-Nash was excellent, Miss Redfern, in white helmet and blue H.R.G., was steady and certain, Wilkes's ordinary touring Austin Seven did splendidly and Holdsworth's M.G. and Roberts's Singer were outstanding. Claridge (Frazer-Nash) did not hurry but Pentony brought his M.G. up fast. Davis (M.G.) was outstanding, Miss Marshall did a steady climb with her Anzani-G.N., Landet's Wolseley was fast and Christensen's Pansy-Special fast and wild.

Price's Ford climbed steadily, Cattolico's Singer Nine likewise, revving as Singers do, and King's B.M.W. was very certain. Thwaites (Ford), Henning (Vauxhall Ten saloon) and Dyke Acland (M.G.) were all excellent, the last-named changing up at the end. Rogers brought his M.G. up rapidly in a series of swerves, and Brown's

M.G.-Montlhéry, named "Dirty Dick," was also rapid. The only failures amongst the cars were Douglas Perring's Talbot Ten Special, Pratt's vintage Grand Sports Amilcar and Miss Reeve-Flaxman's Morris Eight tourer.

FORD ENTHUSIASTS' CLUB

The Club had an enclosure at Donington for the G.P. wherein Canham's V8 two-seater Allard-Special, Soames's V12 Allard-Special and a blown Ford Ten interested the crowd.

A map-reading contest was held on November 6th.

Hon. Secretary: S. H. Allard, 15, Millbrooke Court, Putney, S.W.15.

GENERAL NOTES

Drenchings having become so prevalent in the very open two-seater, something closed was indicated and, acting impulsively, an ancient Austin Seven with a Mulliner's fabric coupé body was purchased. Endowed with the sports engine, and with room for three on its leather-upholstered front seat, it has turned out to be quite a jolly little car, albeit friends grimly aver that it will motor on its roof before Xmas. We refuse to dwell on such awful matters and instead point complacently to the fully-opening screen, the solid wood facia, the sliding top, spacious tail and roomy shelf behind the seat. Fitted hastily

with a bulb horn to comply with the Law and having very rattly windows, the nickname of the "Taxi" has, not unnaturally, stuck. Mercifully, the little tub is quite weather-proof, in spite of a missing window, and it is also virtually draught-proof, save in a N.E. wind—due to a gap above one of the doors. It was rather jolly to go on a trial in comfort, whereas a friend was steadily getting wetter and wetter, having installed his 1935 engine in our aforementioned two-seater, working until 5 a.m. on the morning of the event and opening the garage doors to discover unabating descent of torrential rain. It was jolly, too, to be able to go out to Box Hill behind the two-seater, run that fascinating little job fast up the goat-track, and then discover that once again the heavens had well and effectively opened, to this same friend's extreme wrath. Later still a beautiful electrical bonfire happened under the scuttle, and the roof light, in any case, was found to have been wired so that it lit when the car was stationary and not at all when the engine was running. But, say what you will—and you probably will—there is lots to be said for motoring with a roof over your head when there is an "R" in the month Lots of our friends agree, but to those who *don't* may I remind you that I did go down to, and through, the recent Experts' Trial in a very stark Allard-Special with neither aero-screen nor scuttle cowl as protection for the complexion. So there!

THE ALLARD SPECIAL

An outstanding feature of the Allard Special is the fact that for all the numerous trials entered not one car has even failed to finish

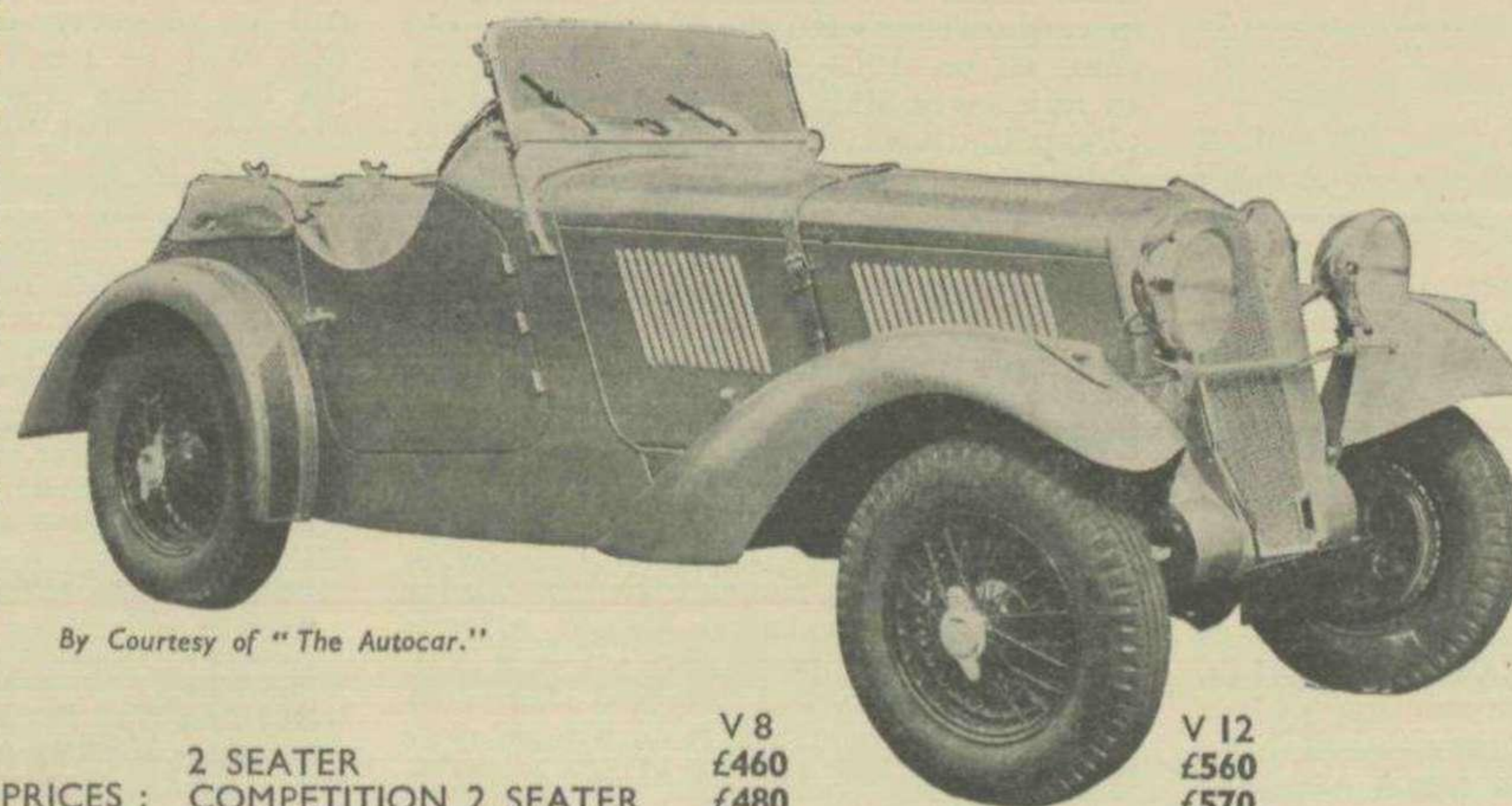
Things that impressed us in 1936. S. H. A. climbing almost any hill in almost any trial.

—"The Motor," 22/12/36
—S. H. A. driving that wonderful yellow Ford V-8 with independent front suspension. Experts' Trial
—"The Light Car," 6/11/36

At Nailsworth it is worth recording that Allard again distinguished himself by taking his Ford V-8 Special up visibly faster than anyone else. London-Gloucester.—"The Sporting Life," 7/12/36

For five years in succession small cars have won the Colmore Trophy. This time the Trophy goes to S. H. Allard, driving his Allard Special, that very sporting cream coloured open two-seater.

—"The Autocar," 5/5/37
But S. H. Allard, with his famous Allard Special, shot up spectacularly with no chance to pick a course. J.C.C. Scramble.
—"The Autocar," 26/3/37



By Courtesy of "The Autocar."

	V 8	V 12
2 SEATER	£460	£560
PRICES : COMPETITION 2 SEATER	£480	£570
4 SEATER TOURER	£495	£595

MAXIMUM SPEEDS : V-12, 100 m.p.h.; V-8, 95 m.p.h.

S. H. A. made one of the fastest climbs ever seen at Nailsworth. M.G. Trial.

—"The Motor," 12/5/36
A short run in heavy traffic showed up the extremely smooth, silent flow of power from the V8 engine, the astonishing acceleration and complete tractability, while we observed with satisfaction the rigidity of the body-work and "front works," a feature all too rare in modern lightweight high-performance cars.—"Motor Sport," June, 1938

The only competitor to finish the trial entirely without loss of marks was S. H. Allard, with his Allard Special—a very fine show indeed. The Highland 2-day Trial.
—"The Motor," 30/3/37

A new hill, even more difficult than section 4 and Red Roads—only one of the 44 starters, S. H. Allard, climbed it. The Lawrence Cup Trial.
—"The Motor," 1/6/37

ADLARDS MOTORS LTD., 3 KESWICK ROAD, PUTNEY, S.W.15

Telephone : PUTNEY 2333

A GUIDE TO 1939 HIGH PERFORMANCE CARS

(Concluded from the October issue)

THIS LIST OF SPECIFICATIONS AND DATA HAS BEEN COMPILED TO ASSIST THE PROSPECTIVE PURCHASER OF A FAST CAR IN THE DIFFICULT MATTER OF CHOOSING HIS MOUNT FOR THE COMING SEASON

MERCEDES-BENZ

German. British Mercedes-Benz Ltd., Grosvenor Road, London, S.W.1.

170V. 4 cyl., 73.5×100, 1,697 c.c., 13.4 h.p. Tax £10 10 0. 3 bearing crankshaft. 38 b.h.p. at 3,200 revs. Maximum speed 75 to 80 m.p.h. Water pump cooling. Solex carburetter. Floating power principle engine mounting. S.d.p. clutch. 4 speed gearbox. Open prop. shaft. Springs, front, two transverse. Rear, coil. Hydraulic shock absorbers. Independent steering to both front wheels. Hydraulic brakes. Turning circle 36'. 6 v. battery. 7½ gallon petrol tank. Consumption 30 to 33 m.p.g. Disc. wheels. Tyres 5.25×16. Wheelbase 9' 4". Track, front 4' 4", rear 4' 3½". Ground clearance 8". Weight of chassis 12½ cwt. Price, saloon £395.

Type 230. 6 cyl., 72.5×90, 2,229 c.c., 19.5 h.p. Tax £15. 4 bearing crankshaft. 55 b.h.p. at 3,200 revs. Maximum speed 80 to 82 m.p.h. Water pump cooling. Special carburetter. 4 point rubber suspension engine mounting. S.d.p. clutch. Gearbox, optional, either semi automatic self change or full synchromesh gears. Open prop. shaft. Springs, front, two transverse. Rear, coil type. Hydraulic shock absorbers. Mercedes own type steering. Hydraulic brakes. Turning circle, short chassis 34' 2", long chassis 38' 9". 6 v. battery. 11 gallon petrol tank. Consumption 23 to 25 m.p.g. Disc wheels. Tyres 5.50×17. Wheelbase, 8' 10", short chassis, 10' long chassis. Track, front 4' 6", rear 4' 6½". Ground clearance 8". Price, saloon £575.

Type 320. 6 cyl., 82.5×100, 3,208 c.c., 25.3 h.p. Tax £19 10 0. 7 bearing crankshaft. 78.8 b.h.p. at 3,200 revs. Maximum speed 85 to 90 m.p.h. Thermo syphon cooling. Special Solex carburetter. Rubber engine mounting. S.d.p. clutch. Full synchromesh gearbox. Open prop. shaft. Hydraulic shock absorbers. Mercedes-Benz type steering. Hydraulic brakes. Turning circle, short chassis 37' 0½", long chassis 41' 7½". 12 v. battery. 15½ gallon petrol tank. Consumption 16 to 18 m.p.g. Disc wheels. Tyres 6.50×17. Wheelbase, short chassis, 9' 5½". Long chassis 10' 10". Track, short and long chassis, 4' 9½". Rear 4' 10½". Ground clearance 8". Price: Pullman Limousine £880, 26 h.p. cabriolet £995.

Type 540K. 8 cyl., supercharged, 13.88×111, 5,601 c.c., 39 h.p. Tax £29 5 0. Pushrod o.h.v. 115 b.h.p. without supercharger, 180 b.h.p. with supercharger at 3,400 r.p.m. 8 bearing crankshaft. Pump and fan cooling. 2 Mercedes carburetters. 4 point elastic engine mounting. S.d.p. clutch. 4 speed gearbox, with over-top, silent third and second, central change. 5 gears including over-top, plus reverse. Rear axle ratios, direct top, 4.88 to 1, overtop 3.03 to 1. Swinging half axles. Differential casing direct on frame with rubber buffers. Independent coil springing front and rear. Hydraulic shock absorbers. Worm and nut steering, each wheel individually. Turning circle 44' 4". Lockheed brakes, servo assisted. Battery 12 v. 60 a.h. 26½ gallon rear tank, pump feed. Consumption 10 to 12 m.p.g. Wire wheels. Tyres 7.00×17. Wheelbase 10' 9½". Track 4' 11". Ground clearance 8". Weight of complete car 45 cwt. Price, chassis £1,395, cabriolet £1,890.

In a wide range, Mercedes-Benz, one of the world's most aristocratic marques, offer two entirely new models. One of these is the Type G5 Colonial, which is equally suited to cross-country or normal touring. The other is the Super Mercedes 7-litre Type W150—seemingly a return to the "38/250" days.

OPEL

German. General Motors Ltd., 3, St. James's Square, London, S.W.1.

Cadet. 4 cyl., 67.5×75, 1,074 c.c., 11.3 h.p. S.v. Comp. ratio 6 to 1. 3 bearing crankshaft. 27 b.h.p. at 4,000 r.p.m. Centrifugal pump cooling. 1 Opel downdraught carburetter. S.d.p. clutch. 3 speed gearbox, all gears helical cut for silent operation. Ratios: 1st 18.29, 2nd 8.89, top 5.14

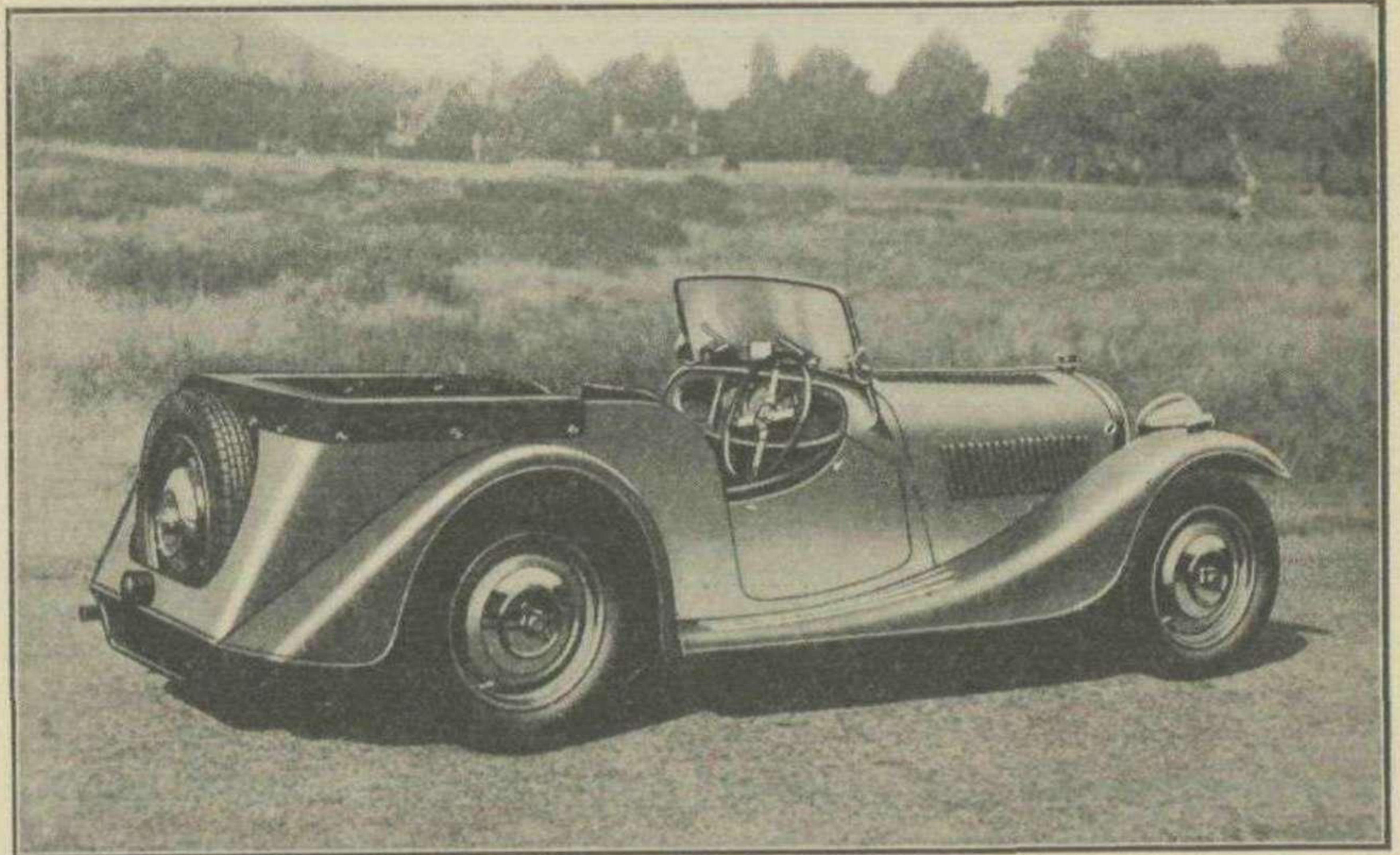
to 1. Maximum speed 65 m.p.h. Central change. Tubular propeller shaft. Spiral bevel drive. "Standard" model ½-elliptic springs, front and rear, "Master" model, ½-elliptics rear, independent front. Worm and sector steering. Turning circle 39' 9" left, 38' 4" right. 4 wheel hydraulic brakes. Battery 6 v. 72 a.h. 5½ gallon rear tank. Disc wheels. Tyres 4.75×16. Wheelbase 7' 8". Price, "Standard" saloon £135, "Master" 2-door saloon £149 10 0, "Master" 4-door saloon £159 10 0, "Master" 2-door drophead saloon £159 10 0, "Master" de luxe model £15 extra.

Olympia. 4 cyl., 80×74, 1,488 c.c., 15.9 h.p. O.h.v., pushrod. Comp. ratio 6 to 1. 4 bearing crankshaft. 43 b.h.p. at 4,000 r.p.m. Centrifugal pump cooling. 1 Opel downdraught carburetter. S.d.p. clutch. 4 speed, central change gearbox. Ratios: 1st 17.77, 2nd 11.22, 3rd 6.78, top 4.55 to 1. Maximum speed 70 m.p.h. Tubular propeller shaft transmission. Spiral bevel drive. Springs, ½-elliptics rear, independent front. Hydraulic shock absorbers. Worm and sector steering. Turning circle 37' 4" left, 37' 7" right. Battery 6 v. 85 a.h. Mechanical

gears. Rolls-Royce hydraulic shock absorbers. Semi-elliptic springs. Turning circle, right 27' 11", left 25' 3". Servo foot brake on 4 wheels, hand on rear wheels only. 12 v. battery. 28 gallon rear tank, vacuum engine-driven pump. Wire wheels. Tyres 31"×6.75". Wheelbase 12' 6". Track, front 58.75", rear 60.25". Ground clearance 8½". Chassis weight 31½ cwt. Price, long chassis £1,800, short chassis £1,750.

20/25 h.p. 6 cyl., 31"×4½", 3,669 c.c., 25.3 h.p. Tax £18 15 0. Rest of specification as 40/50 h.p., with following exceptions: Gear ratios 3.307, 1.709, 1.374, top direct. Rear axle, spiral bevel. 18 gallon rear tank. Tyres 31"×6". Wheelbase 11'. Track 56½". Chassis weight 23½ cwt.

The "Phantom III" remains the leading model of the world-renowned Rolls-Royce range—a car which is of very considerable overall dimensions, that it may carry



The Morgan 4/4 Four Seater which sells at £225.

pump fuel feed. 6 gallon rear tank. Disc wheels. Tyre size 5.25×16. Wheelbase 7' 11½". Price, 2-door saloon £180, 4-door saloon £190, 2-door drophead saloon £182 10 0, de Luxe models £15 extra.

Offering good springing (independent at the front on the Dubonnet system), considerable performance, generous accommodation and notable economy, the Opel "Cadet" has sold extremely briskly in this country, so that it can boast quite a German invasion. The larger models are notable for good coachwork, willing six-cylinder engines and independent suspension of the front wheels.

ROLLS-ROYCE

British. Rolls-Royce Ltd., 14-15, Conduit Street, London, W.1.

40/50 h.p. 6 cyl., 4½"×5½", 7,668 c.c. 43.3 h.p. Tax £33. O.h.v. Pump and fan cooling. 1 Rolls-Royce carburetter. S.d.p. clutch, 4 speed gearbox, synchromesh, right-hand change. Ratios, 3.487, 2.003, 1.335, top direct (rear axle ratio not given). Open prop. shaft. Fully floating rear axle, hypoid

commodious seven-seater bodywork and ride steadily, yet a car which nevertheless handles as easily as a good sports model. The 50 h.p. 7½-litre V12 push-rod o.h.v. engine propels the heaviest closed models at upwards of 90 m.p.h. in ghostly silence and the R-R mechanical servo brakes provide full security at the highest cruising speeds, while the independent front suspension and suspension override control renders travel at any gait entirely devoid of sense of effort or strain. The "Phantom III" is, indeed, a town carriage that will average 45 m.p.h. very easily on long distances. It was a happy thought of Rolls-Royce Ltd. to build these same high qualities into a smaller vehicle, for those who crave a stable companion to the V12, or who require a less expensive car, and the 25/30 h.p. six-cylinder model is equally popular. The respective chassis prices of these two great cars are £1,900 and £1,100.

A GUIDE TO 1939 HIGH PERFORMANCE CARS—continued

ROVER

British. The Rover Co. Ltd., Oliver Street, Coventry.

Ten. 4 cyl., 66.5×100, 1,389 c.c., 10.8 h.p. O.h.v., operated by push-rod. Comp. ratio 6.25 to 1. 3 bearing crankshaft. Pump, fan and thermostat cooling. 1 S.U. carburetter. Flexible engine mounting. S.d.p. clutch. 4 speed, central change gearbox, synchromesh 3rd and 4th. Ratios: 1st 17.11, 2nd 11, 3rd 7.33, top 4.88 to 1. Road speed at 1,000 r.p.m.: 1st 4.5, 2nd 7.12, 3rd 10.6, top 16.05 m.p.h. Maximum speeds 65 to 68 m.p.h. Spiral bevel transmission. Semi floating rear axle. Semi-elliptic springs. Hydraulic shock absorbers. Burman-Douglas steering. Turning circle 37'. Girling brakes. 12 v. battery, 51 a.h. 10½ gallon rear tank. Wire wheels. Tyres 17×4.75. Wheelbase 8' 9½". Track 4' 3½". Ground clearance 6¼". Price, saloon £275, coupe £285.

Twelve. 4 cyl., 69×100, 1,496 c.c., 11.9 h.p. Comp. ratio 6.25 to 1. Engine specification as the

features of appeal to the fast driver while possessing all the convenience of the family coach, and the useful range of models is most moderately priced.

S.S.

British. S.S. Cars Ltd., Coventry.

1½-litre. 4 cyl., 73×186, 1,776 c.c. 13.23 h.p. Tax £10 10 0. 3 bearing crankshaft. 65 b.h.p. at 4,600 r.p.m. O.h.v. Downdraught S.U. carburetter. Pump and fan cooling. 4 point rubber engine mounting. 9" s.d.p. clutch. Comp. ratio 7 to 1. 4 speed synchromesh gearbox. Ratios: 1st 19.18, 2nd 11.8, 3rd 7.06, top 4.86 to 1. Road speeds at 1,000 r.p.m.: 1st 5, 2nd 8, 3rd 15, top 20 m.p.h. Maximum speeds: 1st 20, 2nd 33, 3rd 55, top 75 m.p.h. Hardy-Spicer open propeller shaft. Spiral bevel drive. ¼-elliptic springs. Luvax hydraulic shock absorbers. Worm and nut steering. Girling brakes. Turning circle 38'. 12 v. battery. 14 gallon petrol tank. Consumption 28 m.p.h. Wire wheels. Tyre sizes

The 3½-litre S.S. "100" open two-seater offers truly praiseworthy value as a car capable of exceeding 100 m.p.h., possessing extreme acceleration, and having a sound specification and very sporting appearance. Its price is less than £450. The 3½-litre "Jaquar" saloon is one of the fastest, best-looking and most comfortable closed cars on the market, and is available at £445.

The 1½-litre models of the British S.S. range also offer remarkable value to those who crave good looks and every modern convenience.

SALMSON

French. British Salmson Aero Engines Ltd., Raynes Park, London, S.W.20.

S.4.61 Saloon. 4 cyl., 75×98, 1,730 c.c., 14 h.p. Tax £9 15 0. 51 b.h.p. at 4,300 r.p.m. 3 bearing crankshaft. 2 overhead camshafts. Comp. ratio, 6.1 to 1. Thermo-syphon cooling. One Memini carburetter. 3 bearers, rubber engine mounting. Single plate clutch. Mechanical or Cotal electric gearbox. Ratios, 4.73, 7.16, 10.75, 18.2 to 1. Reverse 18.2. Road speeds at 1,000 r.p.m., 1st 5.2, 2nd 8.2, 3rd 11.5, top 16.5. Maximum speed 75 m.p.h. Propeller shaft, enclosed in torque tube. Semi-floating rear axle. Springs, front independent transverse, cantilever friction rear. Shock absorbers, Houdaille front, built-in rear. Rack and pinion steering. Bendix brakes. Turning circle 29'. Battery 12 v. 75 a.h. 10 gallon petrol tank. Consumption 25 m.p.g. Pressed steel wheels. Tyres 150×40. Wheelbase 9' 4¼". Track 4' 3¼" in front, 4' 4¼" at rear. Ground clearance 8". Weight 21½ cwt. Price £395, saloon.

S.4E Saloon. 4 cyl., 84×105, 2,300 c.c., 17.9 h.p. 2 overhead camshafts. Comp. ratio 6 to 1. 3 bearing crankshaft. 70 b.h.p. at 4,400 r.p.m. Thermo syphon and fan cooling. One Memini carburetter. 3 point rubber engine mounting. S.d.p. clutch. Mechanical or Cotal electric gearbox. Ratios: mechanical 14.35, 10.1, 6.74, 4.45 to 1. Cotal electric: 13.35, 10.1, 6.1, 4.45 to 1. Maximum speed 85 m.p.h. Torque tube transmission. Semi-floating rear axle. Springs, front, independent torsion bar, rear, cantilever. Houdaille shock absorbers. Rack and pinion steering. Turning circle 35'. Lockheed hydraulic brakes. Battery, 12 v. 75 a.h. Consumption 20 m.p.g. Rear 12 gallon tank. Pressed steel wheels. Tyre size 6.00×16. Wheelbase 9' 10". Track 4' 7". Ground clearance 8". Weight of complete car 23½ cwt. Price £495.

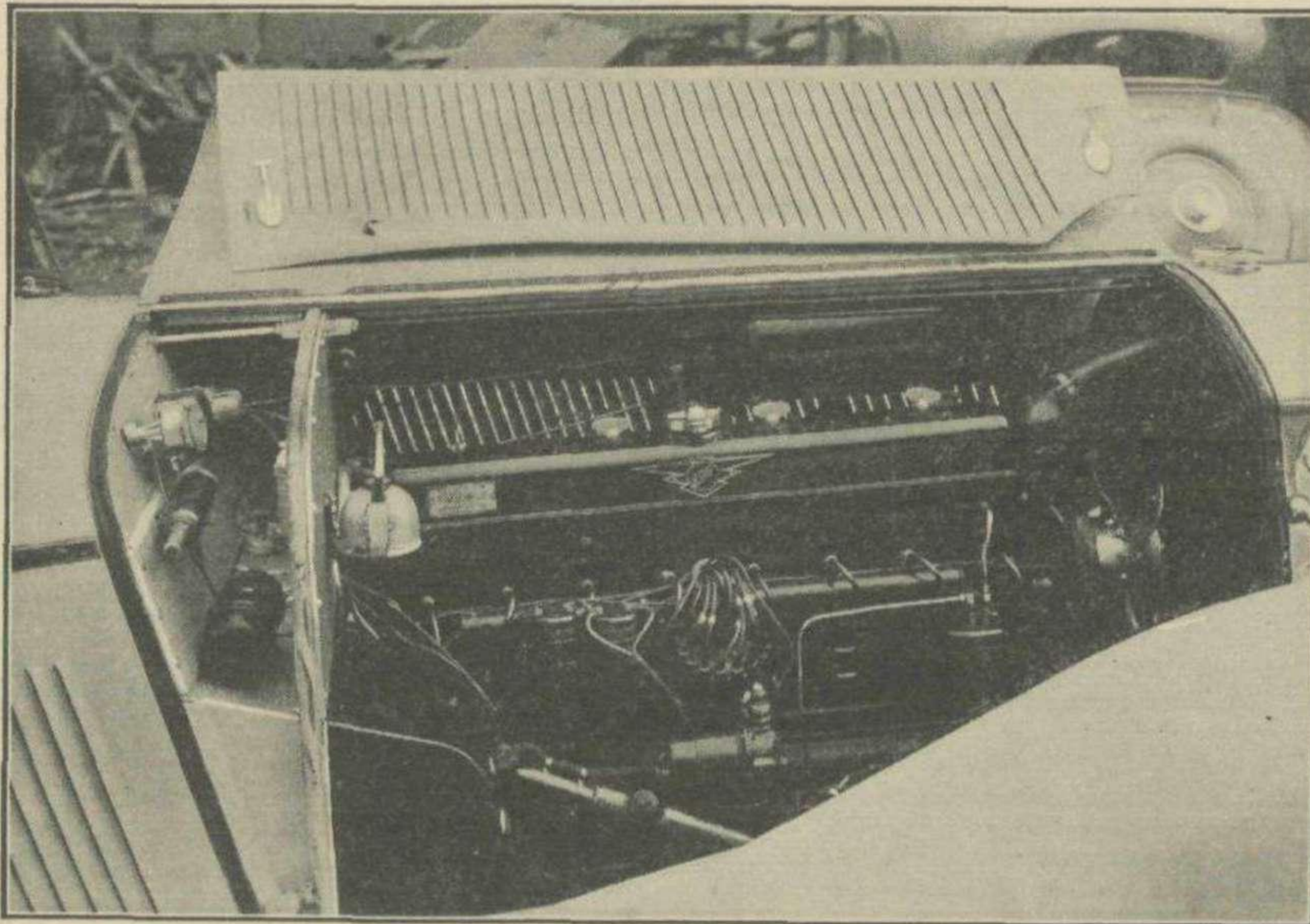
In future the well established 14 h.p. and 18 h.p. models will be imported from France. They are representative of individual good quality high performance cars with 4-cylinder o.h.v. engines, and independent front wheel suspension, by transverse spring on the "Fourteen" and torsion bars on the "Eighteen," at the rear ¼-elliptics are used. For the "Eighteen" 85 m.p.h. is claimed.

SUNBEAM-TALBOT

British. Sunbeam-Talbot Ltd., Barlby Road, Ladbroke Grove, W.10.

Sunbeam-Talbot Ten. 4 cyl., 63×95, 1,185 c.c., 9.8 h.p. Tax £7 10 0. 3 bearing steel backed shell crankshaft. Comp. ratio 6.8 to 1. 40 b.h.p. at 4,500 revs. Thermo-syphon and fan cooling. Zenith downdraught carburetter. 3 point rubber engine mounting. S.d.p. clutch. 4 speed synchromesh gearbox. Ratios: 1st 19.60, 2nd 13.77, 3rd 8.16, top 5.44 to 1. Open propeller shaft. Spiral bevel drive. Springs, ¼-elliptic rear, independent front. Double action hydraulic shock absorbers. Worm and nut steering. Bendix duo servo brakes. Turning circle 35'. Battery 12 v. 8½ gallon rear petrol tank. Consumption 30 to 32 m.p.g. Steel special disc wheels, 16"×3". Tyre sizes 16×5.25. Wheelbase 7' 9". Track 4'. Ground clearance 5½". Weight saloon 19 cwt. Tourer 17 cwt., drophead coupe 19½ cwt. Prices: four-door saloon £265, sports tourer £250, drophead foursome coupe £285.

Sunbeam-Talbot 3-litre. 6 cyl., 75×120, 3,180.9 c.c., 20.9 h.p. Tax £15 15 0. 4 bearing crankshaft. Comp. ratio 6.5 to 1. 80 b.h.p. at 3,800 revs. Pump and fan cooling. Stromberg downdraught carburetter 3 point rubber engine mounting. S.d.p. clutch. 4 speed gearbox, synchromesh 3rd and top. Ratios: 15.90, 10.62, 6.30 and 4.30 to 1. Open needle propeller shaft. Spiral bevel drive. Springs, ¼-elliptic



The Power Unit of the Jensen 4½-litre Straight-eight Saloon.

"Ten" with following exceptions. Road speed at 1,000 r.p.m.: 1st 4.6, 2nd 7.3, 3rd 10.9, top 16.4 m.p.h. Turning circle 39'. Tyre size 17×5.25. Wheelbase 9' 4". Ground clearance 6¼". Price, saloon £300, sports saloon £310.

Fourteen. 6 cyl., 63.5×100, 1,901 c.c., 14.9 h.p. Overhead pushrods. Comp. ratio 6.25 to 1. 4 bearing crankshaft. Pump and fan cooling. S.U. downdraught carburetter. S.d.p. clutch. 4 speed, remote control. Gearbox ratios: 1st 17.11, 2nd 11, 3rd 7.33, top 4.88 to 1. Road speed at 1,000 r.p.m.: 1st 4.8, 2nd 7.46, 3rd 11.2, top 16.8 m.p.h. Open propeller shaft. Semi-floating rear axle. Hydraulic shock absorbers. Burman-Douglas steering. Turning circle 40'. Girling brakes. 12 v. battery. 11½ gallon rear tank. Wire wheels. Tyres 17×5.50. ¼-elliptic springs. Wheelbase 9' 7". Track 4' 3½". Ground clearance 6¼". Price saloon £330, sports saloon £340. Drophead coupe £398.

Sixteen. Specification as for the "Fourteen" with the following exceptions. 67×100, 2,147 c.c., 16.9 h.p. Comp. ratio 6 to 1. Gear ratios: 1st 16.45, 2nd 10.58, 3rd 7.05, top 4.7 to 1. Road speed at 1,000 r.p.m.: 1st 4.9, 2nd 7.7, 3rd 11.6, top 17.5 m.p.h. Track 4' 4". Price, saloon £360, sports saloon £370, drophead coupe £428.

Twenty. Specification as "Fourteen" with following exceptions. 73×100, 2,512 c.c., 19.82 h.p. Comp. ratio 6 to 1. Gear ratios: 1st 15.4, 2nd 9.3, 3rd 6.8, top 4.5 to 1. Road speeds at 1,000 r.p.m.: 1st 5.28, 2nd 8.85, 3rd 12.03, top 18.2 m.p.h. Prices, sports saloon £425, drophead coupe £478.

The Rover is a particularly good example of the conventional high-performance British car of sound construction and high quality. It has many

5.25×18. Wheelbase 9' 4½". Track, front, 4' 4", rear 4' 7". Ground clearance 7". Weight 25 cwt. Price £298.

2½-litre. 6 cyl., o.h.v. engine, 2,663.7 c.c., 20 h.p. (19.84). Tax £15. 7 bearing crankshaft. Comp. ratio 7 to 1. 102 b.h.p. at 4,500 r.p.m. Pump and fan cooling. 2 S.U. carburetters. 4 point rubber engine mounting. 9" S.d.p. clutch. 4 speed synchromesh gearbox. Ratios: 1st 16.20, 2nd 9.5, 3rd 6.16, top 4.50. Road speed at 1,000 r.p.m.: 1st 5, 2nd 10, 3rd 15, top 20 m.p.h. Maximum speeds: 1st 25, 2nd 40, 3rd 70, top 90 m.p.h. Hardy-Spicer open propeller shaft. Spiral bevel drive. ¼-elliptic springs. Luvax hydraulic shock absorbers. Burman Douglas steering. Girling brakes. Turning circle 38'. 14 gallon petrol tank. Consumption 20 m.p.g. Splined hub wire wheels. Tyres 5.50×18. Wheelbase 10'. Track 4' 6" front, 4' 8" rear. Ground clearance 7". Weight 31½ cwt. Price £395. Short chassis model with Le Mans type body, £395.

3½-litre. 6 cyl., o.h.v. engine, 82×110, 3,485.5 c.c., 25.01 h.p. Tax £18 15 0. 7 bearing crankshaft. Comp. ratio 7 to 1. 125 b.h.p. at maximum revs. Pump and fan cooling. 2 S.U. carburetters. 4 point rubber engine mounting. 10" s.d.p. clutch. 4 speed synchromesh gearbox. Ratios: 1st 13.45, 2nd 7.9, 3rd 5.12, top 4.25. Road speeds at 1,000 r.p.m.: 1st 7, 2nd 15, 3rd 21, top 25 m.p.h. Maximum speeds: 1st 30, 2nd 50, 3rd 75, top 95 m.p.h. Hardy-Spicer open propeller shaft. Spiral bevel drive. ¼-elliptic springs. Luvax hydraulic shock absorbers. Worm and nut steering. Girling brakes. Turning circle 38'. 12 v. battery. Consumption 18 m.p.g. Splined hubs. Wire wheels. Tyres 5.50×18. Wheelbase 10'. Track 4' 6" front, 4' 8" rear. Ground clearance 7". Weight 31½ cwt. Price £445. Short chassis model, with Le Mans type body, £445.

A GUIDE TO 1939 HIGH PERFORMANCE CARS—continued

rear, independent front. Worm and nut steering. Lockheed hydraulic brakes. Double action hydraulic shock absorbers. Turning circle 41'. Battery 12 v. 13 gallon petrol tank. Consumption 20 m.p.g. Steel wheels with special discs. Tyres 6.25x16". Wheelbase 9' 10". Track, front 4' 7½", rear 4' 8". Ground clearance 8". Weight saloon 31½ cwt., sports saloon 32½ cwt., coupe 30½ cwt., tourer 27½ cwt. Prices: saloon £415, sports saloon £485, drop-head coupe £525, sports tourer £445.

The Sunbeam-Talbot range includes a further improved version of the famous Talbot Ten, which is notable for its well-balanced lines and the employment of wide-gap ignition to achieve a remarkable fuel economy. The saloon costs £265. The big car of the range is the six-cylinder side-valve 3-litre job, based on that magnificent British all-purpose car, the Humber "Snipe," and developing 82 b.h.p. at 3,800 r.p.m. Independent front suspension, Lockheed braking, entirely automatic ignition and carburation controls, lead bronze main bearings and a new X-braced frame figure in the specification. Here is truly excellent value at £445, the price of the sports tourer.

TRIUMPH

British. Triumph Motor Co. Ltd., Coventry.

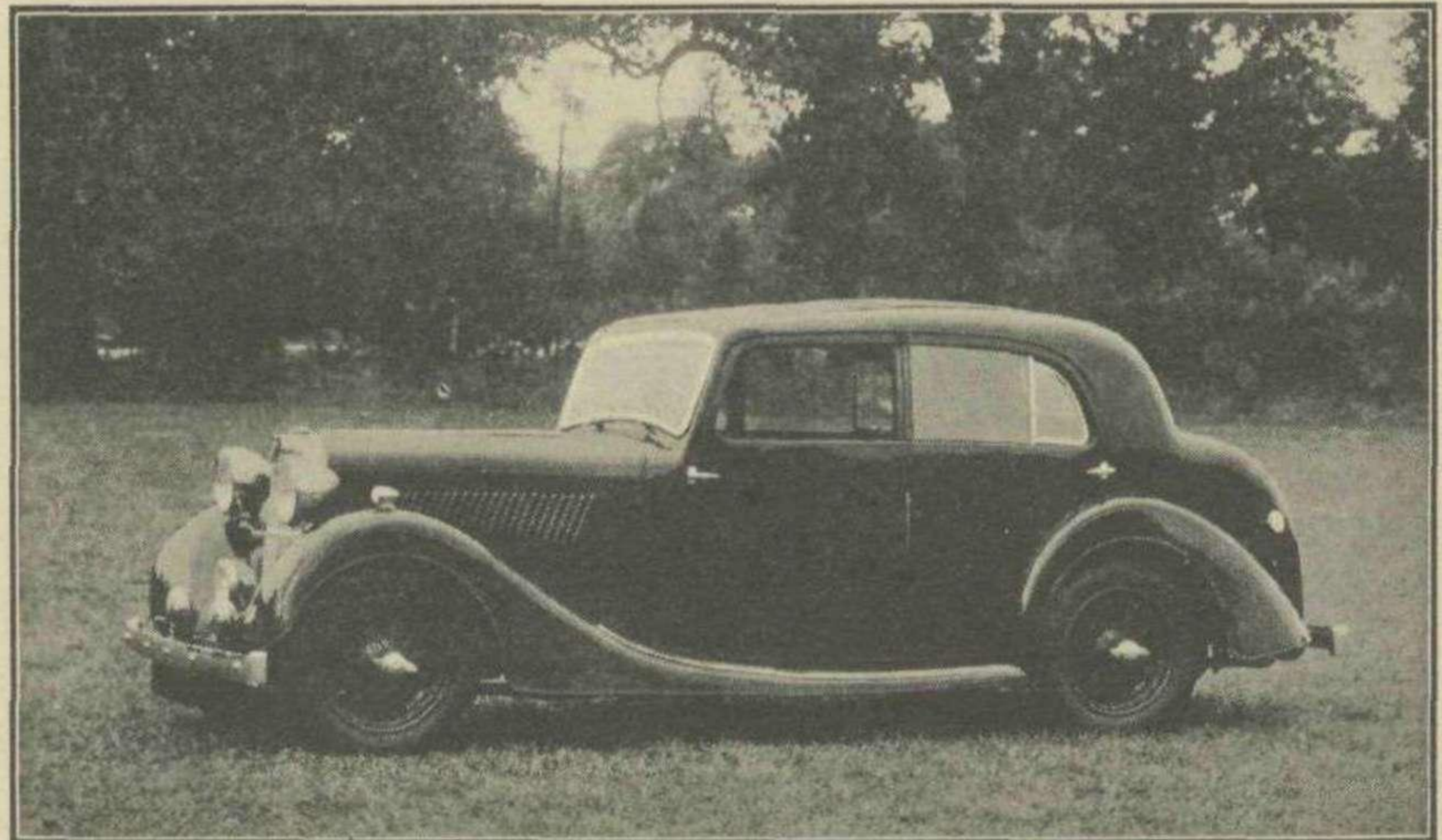
Dolomite 1½-litre. 4 cyl., 75x100, 1,767 c.c., 13.95 h.p. Pushrod operated o.h.v. Comp. ratio 6.6 to 1. 3 bearing crankshaft. 60 b.h.p. at 4,500 r.p.m. Fan and pump cooling. 2 S.U. carburetters. 4 point rubber engine mounting. S.d.p. clutch. 4 speed, central remote control synchromesh gearbox. Ratios: 1st 15.77, 2nd 10.27, 3rd 6.54, top 4.75 to 1. Maximum speeds: 1st 23, 2nd 36, 3rd 58, top 75 m.p.h. Open propeller shaft. Spiral bevel drive. ½-elliptic springs. Luvax hydraulic shock absorbers. Worm and nut steering. Hydraulic brakes. Battery 12 v. 53 a.h. 12 gallon rear tank. Knock-on wheels. Tyres 5.0x17. Wheelbase 9'. Track, 4' 2½" front, 4' 4½" rear. Ground clearance 6½". Weight 24½ cwt. Price 298 gns.

Dolomite 14/60. Engine and chassis specification as Dolomite 1½-litre. Maximum speeds on each gear: 1st 26, 2nd 40, 3rd 60, top 80 m.p.h. Consumption 25 m.p.g. Tyres 5.5x17. Wheelbase 9' 2". Ground

clearance 6½". Weight 26 cwt. Prices, standard saloon £348, Royal saloon £375.

"Dolomite" 2-litre. 6 cyl., 65x100, 1,991 c.c., 15.72 h.p. Pushrod operated overhead valves. Comp. ratio 6.9 to 1. 4 bearing crankshaft. 70 b.h.p. at 4,500 r.p.m. Pump and fan cooling. 4 point engine mounting. S.d.p. clutch. Twin carburetters. 4 speed synchromesh gearbox. Ratios: 15.77, 2nd 10.27, 3rd 6.54, top 4.75 to 1. Maximum speed

high performance car, such as remote gear control, accurate steering, twin carburettor engines, and stability, with comfortable coachwork of extremely pleasing appearance. The 1½-litre "Dolomite" is a very excellent value-for-money vehicle, and the bigger



The 14 h.p. Lea-Francis Four Light Saloon.

on each gear: 1st 26, 2nd 40, 3rd 62, top 83 m.p.h. Open propeller shaft. Spiral bevel drive. Worm and nut steering. Turning circle 40'. Lockheed brakes. 12 gallon rear tank, electric pump. Battery 12 v. 53 a.h. Knock-on wheels. Tyres 5.50x17. Wheelbase 9' 8". Track 4' 4½". Ground clearance 6½". Price £425.

The Triumph models combine very happily the good features of the modern

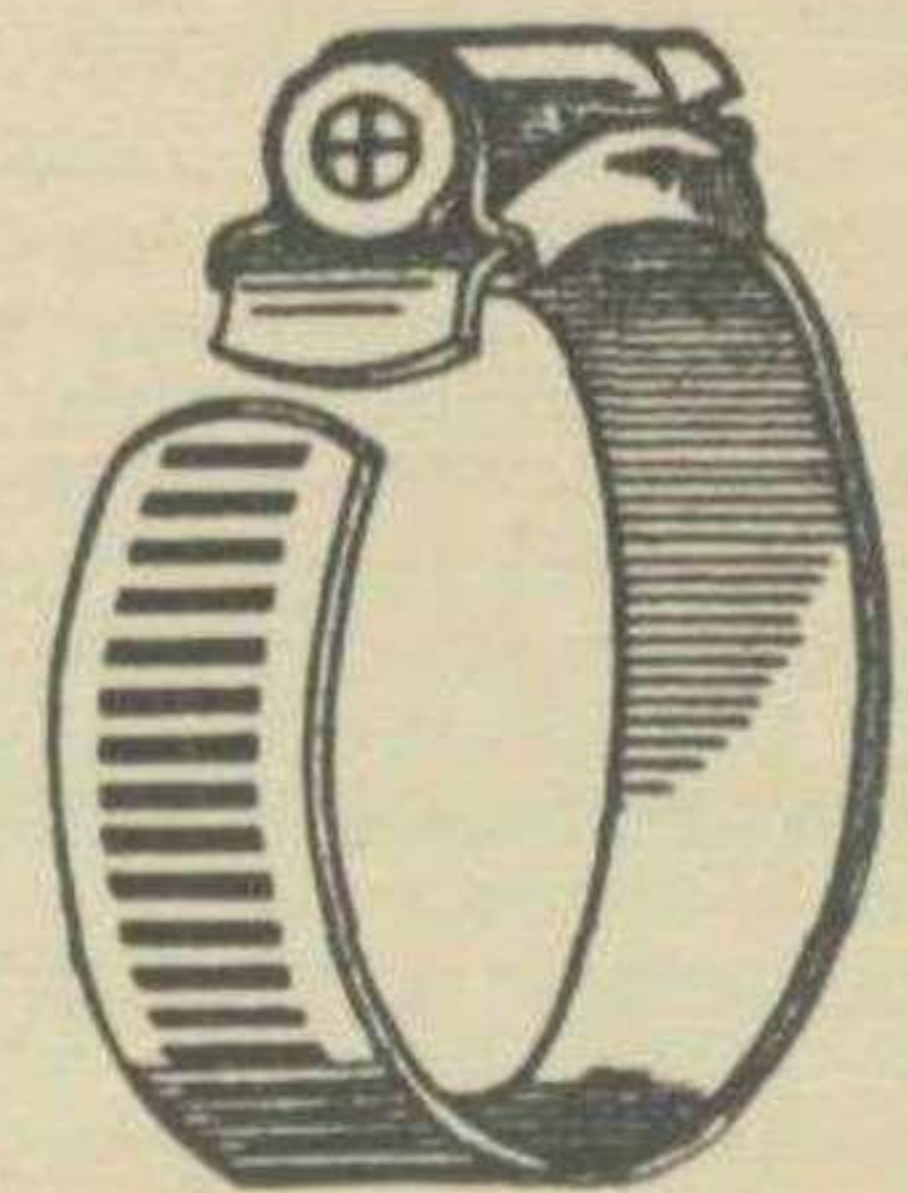
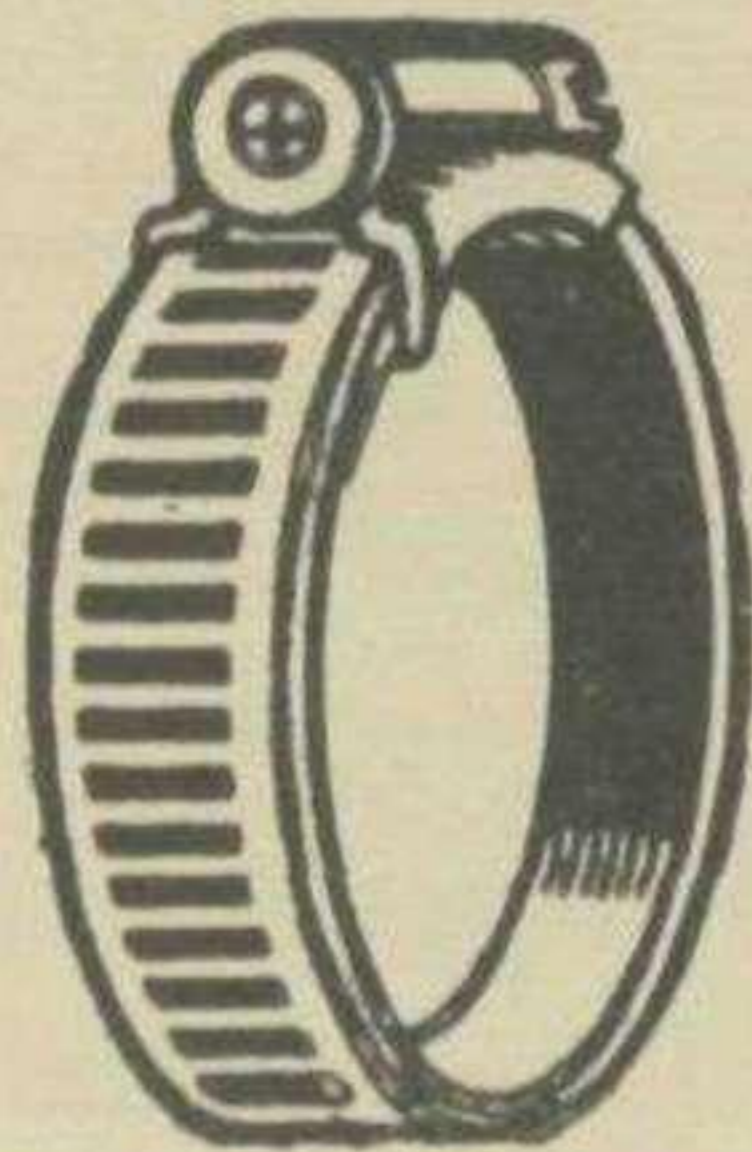
"Dolomite" is representative of the big four-cylinder trend, and is no mean performer.

The flowing lines of the Triumph radiator shell must be much envied by many rival designers, and the Roadster body on the 2-litre chassis already has a wide following.

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MAKE SURE YOU HAVE THEM FITTED ON YOUR RADIATOR JOINTS, LEATHER COVERS, ON UNIVERSAL JOINTS, AIR, OIL & WATER HOSE JOINTS.



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A KEEN MOTORIST WRITES: "I cannot understand anyone using any other pattern, as yours are the last word in satisfaction and efficiency."

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THE B.A.R.C. AUTUMN MEETING

MAYS AND "BIRA" (E.R.A.s) WIN THE BIG RACES. MANY A.R.P. SMOKE SCREENS
FAST WORK BY CHRIS STANILAND

GLORIOUS weather greeted the Show Time Brooklands Meeting. Everyone was talking of the Mountain Championship and of whether Alta would again vanquish E.R.A. Mr. Bradley deserves credit for the rapid changes made from circuit to circuit. The gates into the finishing straight, which we criticised previously, now open outwards—when the safety fence is completed it will again be possible to cross by the Paddock Bridge.

The first long outer-circuit handicap saw Michael May lead for two laps with Tuson's Fiat Balilla, when Barker's 3-litre Sunbeam came out in front, ahead of Whiddington's Jensen, May and Russell-Roberts's M.G. Couper's Talbot went well up the banking, so Baker-Carr passed below it in the big Bentley-Jackson, and Dunham's Alvis pulled down inside the sports B.M.W., and the Brooke-Special, which latter had trouble. In an exciting last lap Bertram pulled the 140 m.p.h. Barnato-Hassan off the Home Banking beneath the Bentley-Jackson, and Elgood's 4½-litre Bentley snaked from the bump. Dunham's Alvis won at 104.98 m.p.h. from the B.M.W. and the old sports Sunbeam, in something of a procession.

Another long handicap round the outside saw Whiddington's Jensen lead for a lap and a bit from Follett's Alvis and Fane's sports B.M.W. The Alvis then went out ahead, followed by the Jensen, and in the run in, amid great bunching, Staniland, going great guns in the 3-litre Multi-Union, got through very fast indeed, winning at 133.26 m.p.h. from the B.M.W. and Courtney's old Amilcar-Six, which were strung out behind. Going into the Railway Straight for the final lap Duller pulled his Duesenberg onto the inside of Couper's Talbot and at the same time Bertram, from scratch, hauled the Barnato-Hassan inside the Duesenberg—great driving, Oliver! Staniland did one lap at 141.49 m.p.h.

The Siam Challenge Trophy Race came next; a scratch event for blown 1½-litre and unblown 2-litre cars, over ten laps of the Campbell circuit. The field started before the Paddock grandstand and hairpinned into the road course—in spite of the accident at the Jubilee Meeting. On initial acceleration Minetti's Squadra Ambrosiana Maserati Six beat Connell's E.R.A. and Hadley's baby Austin. After a lap Dobson's white E.R.A. led from the Maserati, with Connell third and "Bira's" Zoller-blown E.R.A. fourth, followed by Wakefield's E.R.A., Hadley's Austin and Abecassis's Alta, etc. Next round, "Bira" was second, doing all he could to catch Arthur Dobson and straining every muscle to hold his lead. Lap 3 saw Wakefield fourth and Rolt's E.R.A. fifth. On lap 4 Wakefield passed Connell. On lap 5 "Bira" closed with Dobson, who received a signal from the pits. Lap 6 saw intense excitement as Dobson regained the lead on going into the Members' Hill bend. We wondered if he would pull down lower round the banking than "Bira" and gain on distance, but

"Bira" repassed before the Railway Straight. On lap 7 Dobson again came up level at the same spot and pulled early down the banking, but he could not repass. Minetti now unfortunately retired. On the last lap but one Dobson swung very wide into the finishing straight, but he could do nothing to "Bira." "Bira's" more modern E.R.A. finished a mere second ahead of Dobson's hard-used B-type E.R.A., at 73.33 m.p.h. Dobson had shown the better form. Abecassis went out in a real A.R.P. smoke screen, when the Alta broke a stud in the valve gear, letting oil play over the exhaust, and Rolt's E.R.A. also set up one of these smoke screens, instituted by Ballamy at the Jubilee meeting. Wakefield was third. Hadley's Austin packed up and Cuddon-Fletcher had the off front wheel part company from his M.G. Maclure got home, so gained the points he needed to rest from Fletcher the Bonus Award of the B.R.D.C.

The Mountain Championship followed—only mountain-circuit race of 1938—but, frankly, we felt the course rather brief after the Campbell circuit races and believe we prefer the latter class of race.

Raymond Mays led off in the scratch start, his 2-litre E.R.A. beating Beadle's 2-litre Alta on initial acceleration. Mays then drove beautifully for ten laps, was never challenged, and won by 12 secs. at 80.39 m.p.h. Staniland did all he could with the Multi-Union, but could only beat the rest, of whom Dobson's E.R.A. was third.

Rolt's E.R.A. again went in for A.R.P. exercises, likewise Connell's E.R.A.—but both drivers continued, for blow-ups can be of less moment in the autumn! Ashby's Alfa-Romeo fell out at once with chronic clutch slip. The Multi-Union was impressive as it accelerated snakily but Mays had a big advantage. Minetti was about beating Dobson on acceleration. The B.H.W., which has the old "4.9" Bugatti motor in a short chassis of Hassan's design with special and beautifully made quarter-elliptic rear springing (springs set normally), was slow and sounded over-rich.



G. Abecassis was second in the Second October Handicap.

A five-lap Campbell circuit handicap followed, in which Metcalfe's old-type Balilla Fiat led for 3 laps, whereupon Soames got ahead with Harmer's 1½-litre G.P. Bugatti and won at 63.26 m.p.h. from E. W. H. Dobson's Riley and Hamilton, on Tuson's Fiat.

In the next five-lap road handicap Aldington's sports B.M.W. looked like winning, but at the close Rolt got home 1 sec. ahead of the Abecassis-Alta. These cars started level and it is an indication of Alta potency that Abecassis had only a patched-up engine and had to run on soft plugs to obviate oiling, as lubricant was getting badly into the machinery from the blow-up in the Mountain Championship. However, Rolt was not without his worries, for his E.R.A. broke a silencer bolt and attempted to set his legs on fire. This Rolt met by gradually stuffing a glove into the aperture and by getting out of his car just as soon as he could after getting the chequered flag. He averaged 69.75 m.p.h. The B.M.W. was third.

In the last 5-lap road handicap Ansell just beat Maclure's 1,748 c.c. Riley, the E.R.A. snatching victory by ¼ of a sec., at 69.16 m.p.h. The Brooke-Special and Fay Taylour's 2.3-litre Bugatti retired and Fletcher's M.G., running again on four wheels, did likewise, thus presenting the £250 Bonus Prize to popular Percy Maclure. The B.H.W. still sounded ragged, but Maclure had driven a great race, leaving his braking noticeably late. Charlie Dodson's 3½-litre Delahaye was third.

RESULTS

First October Long Handicap, Outer Circuit (9 miles)

	H'cap.	m. s.
1. C. G. H. Dunham (2,511 c.c. Alvis).....	1	8
2. H. J. Aldington (1,971 c.c. Frazer-Nash-B.M.W.)	1	8
3. C. L. W. Barker (2,916 c.c. Sunbeam, S.)... ..	1	44

Won at 104.98 m.p.h. by ¼s.; ½s. between first and third.

Second October Long Handicap, Outer Circuit (9 miles)

1. C. S. Staniland (2,946 c.c. Multi-Union, S.)	0	6
2. A. F. P. Fane (1,971 c.c. Frazer-Nash-B.M.W.)	1	25
3. P. Courtney (1,093 c.c. Amilcar, S.).....	1	9

Won at 133.26 m.p.h. by 3¼s.; 4½s. between first and third.

Siam Challenge Trophy, Road Circuit (23 miles)

1. "B. Bira" (1,488 c.c. E.R.A., S.).....	scr.
2. A. C. Dobson (1,488 c.c. E.R.A., S.).....	scr.
3. J. P. Wakefield (1,488 c.c. E.R.A., S.) ...	scr.

Won at 73.33 m.p.h. by 1s.; 29½s. between first and third.

Mountain Championship (12 miles)

1. R. Mays (1,980 c.c. E.R.A., S.).....	scr.
2. C. S. Staniland (2,946 c.c. Multi-Union, S.)	scr.
3. A. C. Dobson (1,488 c.c. E.R.A., S.).....	scr.

Won at 80.39 m.p.h. by 12s.; 14½s. between first and third.

First October Road Handicap (11 miles)

1. M. S. Soames (1,496 c.c. Bugatti).....	0	30
2. E. W. H. Dobson (1,496 c.c. Riley).....	0	30
3. A. P. Hamilton (1,090 c.c. Fiat).....	0	50

Won at 63.26 m.p.h. by 6¼s.; 7½s. between first and third.

Second October Road Handicap (11 miles)

1. A. P. R. Rolt (1,488 c.c. E.R.A., S.).....	0	13
2. G. E. Abecassis (1,490 c.c. Alta, S.).....	0	13
3. H. J. Aldington (1,971 c.c. Frazer-Nash-B.M.W.)	1	0

Won at 69.75 m.p.h. by 1s.; 4½s. between first and third.

Third October Road Handicap (11 miles)

1. R. E. Ansell (1,488 c.c. E.R.A., S.).....	0	26
2. P. W. Maclure (1,748 c.c. Riley).....	0	26
3. C. J. P. Dodson (3,557 c.c. Delahaye).....	0	40

Won at 69.16 m.p.h. by ¼s.; 2s. between first and third.

SPORTS-CARS IN PARIS

AN INTERESTING SHOW FOR ENTHUSIASTS AT THE SALON DE L'AUTOMOBILE
FINE COACHWORK

SPORTS-CAR racing has been overshadowed this year by the Grand Prix events, but in such races as there have been, notably at Le Mans and in the Tourist Trophy, the French have done well. One hesitates to draw attention to such a fact, but it seems reasonable to infer that the French have been striving for the position once held by British manufacturers as masters in the sports-car world.

Certainly at the Paris Salon there were many examples of sporting machines, of a type represented at Earl's Court, among British cars, only by the lone Frazer-Nash, and by the Aston-Martin. It is a considerable advantage to exhibitors at the Salon that actual racing-cars can be placed on the stands, without necessarily being offered for sale. Thus Mercedes were able to exhibit one of the actual Grand Prix cars, even as last year Delahaye displayed their new twelve-cylinder Grand Prix model.

This year there was again an outstanding exhibit on the Delahaye stand, for one of the twelve-cylinder models was shown in touring form, with a magnificent drophead roadster body, beautifully streamlined in an unobtrusive way, and with the headlamps sunk into the fairings of the front wings.

This car, which for sheer elegance of line would have compared favourably with anything seen either in the Salon itself or at Earl's Court, is known as the Type 165. It has a V12 4½-litre engine, similar to that of the Grand Prix models, with suitable modifications, thus bearing out the policy of the Delahaye firm, which is to race with cars of a type which can be used for actual production.

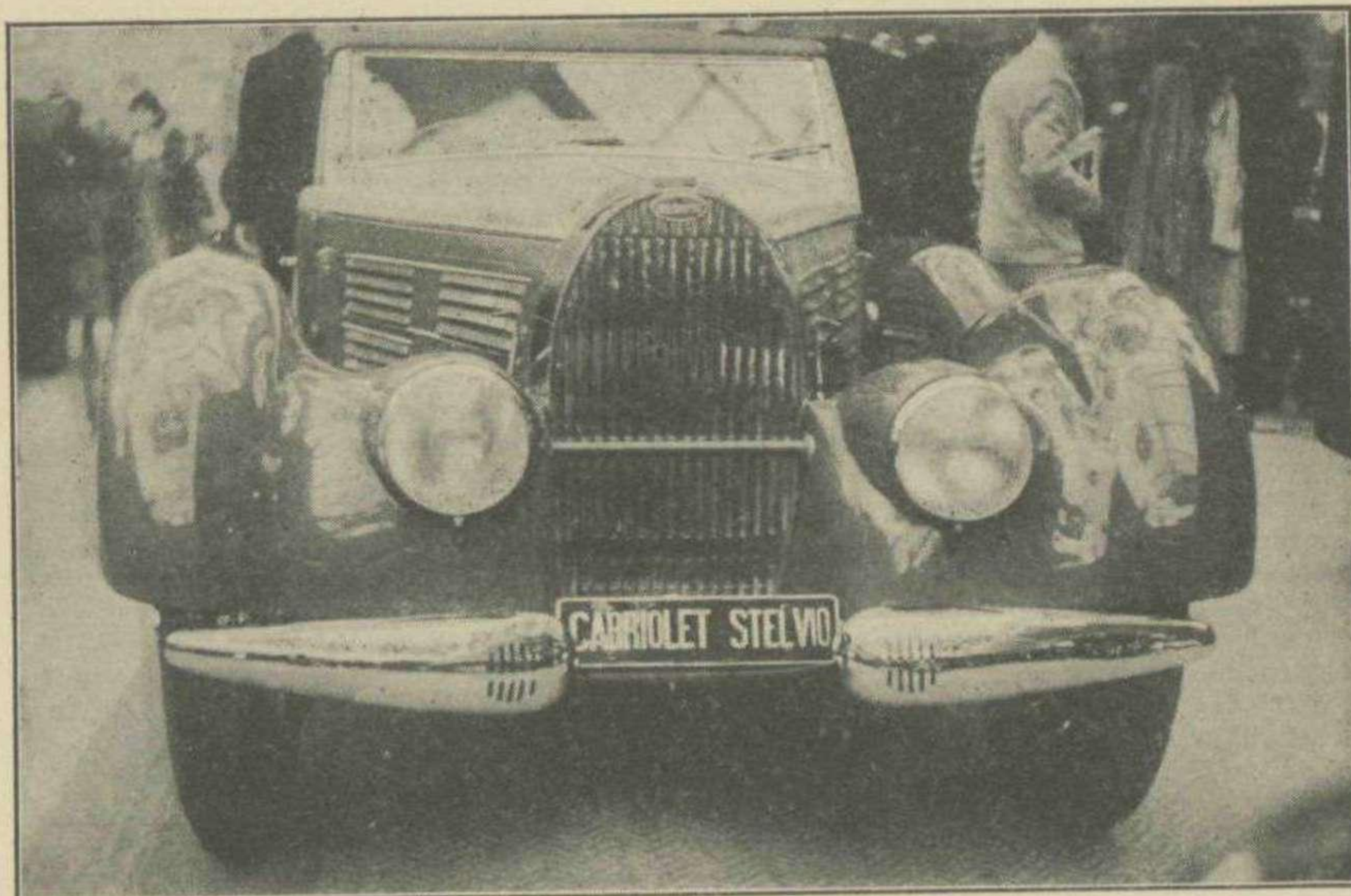
Instead of the three carburettors on the racing model, the car shown had one large, double-bodied downdraught Solex carburetter. The engine has seven main bearings, and develops 160 h.p. by the French rating, which is different from the English. A Cotal magnetic gearbox is fitted, and the axle ratio is 3.375 to 1. The chassis weight is just under a ton, and the chassis price is 138,000 frs., or less than £800 by the present rate of exchange. This is the price in France, not allowing for duty on a car imported into England.

Delahaye also have an improved version of the 3½-litre six-cylinder car, which has done well in many sports-car races, and can now be obtained with special cylinder-head after the lines of that employed for the Grand Prix models. Independent front and normal rear suspension is fitted in all cases.

Bugattis are so well established a marque in the minds of sporting enthusiasts, and have such highly developed steering and springing, as the result of participation in races, that *Le Patron* has not yet considered it necessary to adopt independent front suspension. The traditional shape of the radiator, in a world where radiator shapes alter every year, or even disappear altogether, as on the latest American models, remains still unchanged. The Bugattis at the

Salon had smart, modern coachwork, however, of the most pleasing lines, if more luxurious than that of the Grand Prix *modifié* type. The Stelvio cabriolet on the Bugatti attracted particular admiration.

The 4½-litre Talbot, or Talbot-Darracq, as it is better to call the French firm, has not yet been put into production, but the six-cylinder 4-litre engine, which develops 140 h.p. in Lago Special form, is now fitted in a number of touring chassis, as well as in the competition two-seater, seen this year at Earl's Court. With a closed body, in comfortable saloon form, the Lago Special Talbot-Darracq is said to be capable of about 105 m.p.h., while the competition model reaches 115 m.p.h.,



A fine Bugatti, keeping its traditional lines with modern coachwork.

and is thus one of the fastest unblown cars on the market. Talbot-Darracq also have a new 2.3-litre 13 h.p. four-cylinder model, exhibited for the first time at the Salon. All these cars, like nearly all the Continental makes, have independent front suspension.

An interesting small French sports-car with independent suspension not only of the front wheels but of the rear wheels as well is the Georges Irat. These cars have front wheel drive, and this year have a new chassis shaped like a U, with the open end, where the engine is mounted, facing forward. The suspension is by an ingenious system of rubber rings, one in tension and the other in compression, thus providing an automatic shock-absorber. The smaller model has a 1,100 c.c. Ruby engine, while the other car has the 2-litre Citroën unit. In both cases the gear-levers are mounted in a very convenient position on the dashboard. A neat two-seater drop-head body, of sporting type, is fitted.

The new small "202" Peugeot, known as "La Voiture Economique," scarcely comes into the sporting category, though it has many interesting features, such as torsion-bar independent front suspension, and the steering box mounted in front of the axle. For sportsmen the principal interest in the Peugeot range is the "402 léger," which has an engine of just over 2-litres capacity, in a 9 ft. 5 in. chassis. This car has done very well at Le Mans in the last two years, and at the Salon an ultra-sporting two-seater was exhibited, with streamlined rear wings, and the headlamps in separate fairings, not enclosed within the radiator grille, as on the other Peugeot models.

This is indeed a real sports-car, not of the somewhat exaggerated streamlined pattern which has characterised machines of semi-racing type on the Continent in recent years. Besides the sports two-seater, very practical drop-head bodies were seen on the Peugeot models, with the hoods folding neatly away, and practically disappearing.

Bodies of this type, luxuriously fitted out, were a feature of the Delages, on which chassis there were many examples of fine coachwork, both on the maker's stand and in the special coachbuilders' section.

The La Licorne is seldom seen in England, though the name is well enough known, for in France they have established a reputation as specialists in light cars. The La Licorne is a car for the motorist of discernment, embodying features of great technical interest. The frame is in the form of an X, with the engine carried in the front fork, and the rear axle by the rear fork, while between the two there is a short central "backbone."

SPORTS-CARS IN PARIS—continued

Two models are available in the same chassis, one with 1,125 c.c. engine, and the other of 1,628 c.c. The smaller model has four speeds, and the larger three speeds, while the price is the same.

The engine is mounted as far forward as possible in the chassis, so far forward, in fact, that it would be in the way of a normal system of transverse independent front suspension. Instead, a novel arrangement is fitted, with double semi-cantilever springs mounted obliquely at an angle to the frame, with their mountings at the extreme front corners of the X, and the springs thus pointing backwards.

This new frame and suspension is said to give remarkable roadholding, while there is exceptional body room in a short chassis.

Another car of great technical interest is the Panhard-Levassor, one of the oldest names in the history of motoring, but with a specification of the most modern kind. In this case there is no frame at

all except a stout tubular backbone. The independent front suspension is actually mounted on the engine crankcase, which is massively built, and the steering, with double drop-arms, one on each side, is also mounted on the engine.

This machine, as well as the small Hotchkiss-Amilcar, was introduced at the Salon last year. The latter car was seen for the first time at Earl's Court, and thus need not be described here in detail. It was exhibited in Paris under the Amilcar name, and the independent front suspension (used in conjunction with front wheel drive) has been modified, with a strengthened master-leaf on the transverse springs. The rear wheels are also independently sprung.

Yet another small French car with independent suspension of all four wheels is the 1,100 c.c. Danvignes, which has not yet been seen in England. It was shown with a pleasing sports two-seater body.

The Skoda, a Czechoslovakian make, was exhibited in the face of great difficulties, and, indeed, in view of international affairs, it had not been found possible to prepare the latest models for the Salon. These, however, retaining all-independent suspension, have a bigger engine of 1,100 c.c., instead of 1-litre, and a wider track, to give increased body space. The engine has three main bearings, instead of two, and Lockheed hydraulic brakes are now fitted.

This year there were not many British cars at the Salon, for only Rolls-Royce, Bentley, Humber, and Hillman had stands. However, on the former two makes some of the finest coachwork in the whole exhibition was seen, in particular a Franay coupé-de-ville on a Rolls-Royce, while on the Bentley, there was a fine brougham by de Villars, with the sharp-cut, clean lines associated with French bodies.

THE MODERN CAR AND THE OWNER-DRIVER

IN the October journal of the Institution of Automobile Engineers appears G. Geoffrey Smith's paper on "The Modern Car—A General Survey from the Viewpoint of the Owner-Driver." Below we survey very briefly this interesting, but, like many recent I.A.E. papers, only semi-technical review. Editorial comments appear within brackets.

The author states that he attempts to give the user's viewpoint rather than a detailed technical analysis from an engineering angle. The paper constitutes ideas and impressions based upon ownership of some thirty cars covering a period of many years [of late years the author has owned 3½ and 4½-litre Bentleys] and experience of many other cars of several different nationalities. Engines should be silent, smooth, powerful, reliable and require a minimum of attention. They should be compact, to improve driver-visibility and ease of garaging and handling. Four-cylinder engines are returning. From 74 per cent. of the types on the British Market in 1924 the four-cylinder fell to 21.3 per cent. in 1932, but now represents 32.5 per cent. of the whole. Larger cylinders seem to provide longer working life. Rear engines may come into vogue. Riley, G.W.K. and De Dion produced small cars of this type many years ago, and in 1922 Lord Austin patented a rear-engined front-drive car. Successful American and German rear-engined cars are in use and many such buses run regularly in New York. The spare wheel and luggage may offer a buffer more efficacious and much softer than an engine in the event of a crash [surely a high-speed crash in which we have to consider the relative efficacy of the engine or auntie's hat-box as a safety buffer will, in any case, find us thrown into the screen and/or punctured by the steering-column?]. Tail swing can occur with rear-engine mounting, but fog and ordinary driving is simplified [the latter advantage depends on the size of the nose-piece to hold luggage and act as a buffer, if only a psychological one. And do we not get sick and giddy if we sit right over the road?]. The author feels confident

that air-conditioning as a standard feature is a development of the future. [Here, here! Otherwise half the weight of saloon top and windows, etc., is wasted weight.] A lightweight "V," horizontally opposed, or radial engine is indicated for a rear-engined car [the North-Lucas of 1922 had a five-cylinder radial at the rear; Mr. North is an enthusiastic I.A.E. speaker to this day]. Cooling and controls present problems.

Returning to the present, the author wants automatic carburation control, more rapid warming up from cold, self-adjusting tappets [one difficulty with which is that they can be too self-adjusting and unable to cope with machining inaccuracies in the base-circles of production-car camshafts], the development of sleeve-valves, and universal use of oil-filters. On the subject of excessive fuel consumption the author says acceleration costs petrol. [That is true, but does not excuse the wide variation in m.p.g. between similar types—H.R.G. and Lancia both amused us, yet both did approximately 30 to 31 m.p.g., whereas a 1,100 c.c. car of lesser performance did 21 to 22 m.p.g.]

The author refers to the past ideal of the torque converter [the Constantinesco car was actually shown at Olympia; a 5 h.p. water-cooled two-cylinder vertical two-stroke with the converter-unit between the cylinders], believing such mechanism to rob the driver of his feeling of mastery of a powerful mechanism. Synchromesh gearboxes are almost ideal, ousting even pre-selector boxes. Clutch judder is not unknown and is bound up with a number of design factors throughout the vehicle. Clutches have come in for more criticism since soft-engine mountings became the rule. [A feeling of floppiness in the pedal connections is highly unpleasant, and we have known of cases where connections actually came adrift in new cars.] The ordinary driver would welcome synchromesh cones for bottom gear, to simplify the most difficult change of all, namely on a steep hill. [Is the "ordinary driver" really so ham-handed and web-footed? If so, will he be able

to put on his brakes or steer backwards into the bank, when he has missed a change? If not, he should avoid 1 in 4 hills, or buy a Talbot or an Alvis.] Pedals should all be on the same level and equally spaced [in MOTOR SPORT road-tests we devote much space to such details, dull as these may seem to non-prospective purchasers of the tested car. To an owner they are of vast importance]. The author goes on to demand powerful braking right down to zero m.p.h., easier brake adjustment, stable rather than soft suspension, shock absorbers not sensitive to temperature changes, lightweight construction, more body space, elimination of foot-wells, development of convertible bodies, separate dashboard instruments, adjustable seats and steering wheels [we still recall an adjustable steering column which unlocked itself on a fast corner on the way to Donington], better saloon-car ventilation, rational streamlining, better visibility, and many detail improvements. [He has of recent times met his needs with special-bodied 4½-litre Bentleys.] Front brakes, large section tyres, and projecting bumpers, widened turning circles, yet in the Alps a maximum turning circle of 44 ft., including overhanging bumpers and wings, is all-important. The author remarks that driver-controlled shock-absorbers and automatic chassis-lubrication both cost money. [Buyers of extras, and designers alike, must consequently use a little common sense. For instance, driver-controlled shock-absorbers will be used every few miles, the chassis lubricator once in 100 or 150 miles. A battery-master switch will be used once a day, a radiator thermometer glanced at several times a day. Bumpers prevent some damage in a smash that may never come, whereas easy brake adjustment will assist in avoiding accident on more than isolated occasions. Four wheel jacks may be needed twice a year or so, whereas a sunshine roof will be opened several times a week—and so on. Add to this receipt the comparative cost of luxury items and you will find out which are essential and which only desirable.]

Continental Notes and News

Formula

There has been a great deal of nodding of heads and whispering in ears lately about the Grand Prix formula, which nevertheless remains much as it was before. Rumours apart, the only tangible thing that has happened was a meeting of the A.I.A.C.R. in Paris, at which the German representatives (who have rather the whip hand in being the providers of at least 75 per cent. of the field in most races) firmly vetoed the suggestion of Laury Schell, speaking for France, that more or less pump fuel should be used in future. This would, of course, slow the German cars considerably, but not, in my opinion, sufficiently to give the Delahayes a real chance against them. Anyway, the idea is out.

On the other hand, the Germans were amenable to slight alterations being made to the formula in regard to 1,500 c.c. supercharged and 2,200 c.c. unsupercharged machines, in which, of course, they were quite safe.

The rumours (or should I say The Rumour?) was to the effect that the formula would be scrapped next year in favour of a 1,500 c.c. engine limitation. It is perfectly true that the Germans have been very disappointed at the scarcity of competition in the formula field, arguing that a hollow victory is valueless, but now that the rivalry between the two teams has developed to an interesting stage, the Maserati is shaping well, and the sixteen-cylinder Alfa is likely to be a strong contestant next season, I should hardly think the Germans would want to scrap their new cars.

Point has been given to the rumour by the Second Rumour that Mercedes-Benz have a team of 1,500 c.c. cars on the stocks. Direct inquiries among the Mercedes personnel produce nothing more than "That's the first we've heard about it," which is only natural—whether the cars are actually planned or not. The thought certainly opens up the most attractive prospects of Junior Grand Prix races in which E.R.A.s would be pitted against Maseratis, Alfa-Romeos, and Mercedes-Benz, but it is too early to form a definite opinion yet.

Alfettes

And that brings us to the tales of Alfa Corse selling all four of the 1,500 c.c. Alfas and building entirely new ones for next season. That one, I think, ought to be clearly labelled "To the Marines." There is certainly no justification for it in the performance of the cars in the few races in which they have taken part. True, they have experienced a lot of plug trouble, but it is bound to take a little time to get the engines just right. For the rest they seem to sit down on the road beautifully, and their drivers do not appear to be working excessively on the swerves. That the Italians would scrap such promising little machines entirely is most unlikely, to say the least.

The story probably has its origin in one or other of the several inquiries by British buyers received at Modena. Although my lips are as obdurately sealed

By
AUSLANDER

as those of any figure in a Low cartoon, I am able to say that I know of two well known English drivers, both of whom have raced on the Continent, who are toying with the idea of acquiring an Alfa for next year, and there are others whose toyings are not quite so serious. Perhaps some of them are thinking of running a *scuderia*, an *ecurie* or what have you?

Nurburg

While on the subject of rumours, another one that crops up periodically is that Nurburg Ring is to be turned into a vast military camp.

There are two possible things that might account for this. The first is that one can sometimes see, on non-race days, fleets of armoured cars being tested there, and lined up in the car parks, and the second is that the Ring most probably would be turned into such a camp on the outbreak of war—just as the Brooklands Track in England was in 1914.

In Italy

The Italians have apparently decided that, in spite of the inviolability of the Berlin-Rome axis (only they happen to call it the Rome-Berlin axis), the spectacle of Italian racing-cars being beaten up by the Germans on Italian circuits—especially when you have to pay them to do it—is not an edifying one for their eyes. And so next year will probably see every Italian race confined to cars of 1,500 c.c. capacity, and that may go for such affairs as Tripoli, Pescara and Livorno, too. It only needs the new E.R.A. to come out strong to make them really happy. Speculation is rife in Italy as to what will happen when the full teams of Alfa-Romeo, Maserati and E.R.A. meet for the first time. I can only tell you that they are quite confident of the result.

Record Roads

By the time these notes appear in print—and provided they escape the pitfalls of the Editor's Pencil and the exigencies of space—the British motorist Major "Goldie" Gardner will have made his attempt on 1,100 c.c. records on the new Leipzig-Dessau *Reichsautobahn*, thus being the first man to make use of a stretch of road which will be in the news for many years to come, if I read the situation aright.

This really is an astounding road. It was actually ready some weeks ago, but the Crisis delayed the announcement of its completion. Probably the most extraordinary feature of it is that practically the whole of the straight stretch of fifteen miles runs through a cutting, which protects the cars from the devastating influences of side-winds. From the surface point of view, German motor roads are infinitely superior to those in

most other countries, and the Leipzig-Dessau *Autobahn* should provide an ideal location for attempts on the World's Land Speed Record. Its width is 85 feet.

But Germany is not the only country conscious of the possibility of new motor roads for record runs. In Hungary they are building a new road between the towns of Dunafoldvar and Kecskemet which sounds very favourable, although I haven't had a chance to see it yet. I am told that when completed—which will be some time in 1939—it will have a length of 23 kilometres, which is not far short of the German road. But I don't know its width.

Maserati

The possibility of motor-races in Italy being confined to 1,500 c.c. cars has caused a little uncertainty as to Maserati plans. Even though the 3-litre job has shown plenty of promise this season, and would undoubtedly extend the Germans if it were persevered with, I have an idea that the Bolognese firm will concentrate mostly on 1,500 c.c. races in 1939. They have certainly got together a formidable team for these cars, consisting of Luigi Villorosi, Franco Cortese and Armand Hug. The latter is a newcomer to the team after a very successful season as an independent driver of a Maserati four-cylinder model. He comes from Switzerland, and has class written all over him, by which I don't mean that he is tattooed.

Paris Notes

All sorts of things have been happening in Paris, which is not unusual, of course. First of all, everyone has been very anxious about poor Laury Schell, and later about his wife, Madame Lucy. Laury Schell, I am glad to say, has made a miraculous recovery from a condition which many feared would be fatal, and among other things he has survived a double trepanning operation. In view of this, it is only to be expected that he is still suffering from a temporary paralysis of one side, but this is gradually leaving him. The accident happened when his car collided with another which came out of a side-turning, and although Laury managed to complete the journey to Paris in a hired car, he collapsed on reaching his home. His illness has upset Madame Lucy to such an extent, and quite understandably, that she has had a minor nervous breakdown which we all hope will soon be cured.

Louis Chiron is very much in the news. Following the example of Raymond Sommer, who used to be quite an adept at this sort of thing, he and Raph went in for a bicycle race at Montlhéry recently, having fun if not success. Then Louis is down to drive the new Darracq formula motor-car which is reckoned to be ready for its first tests some time in December. Mystery shrouds this car, which is variously described as a 3-litre supercharged *bolide* (which would be exciting) and a 4½-litre unsupercharged machine (which would not really menace the Germans).



TUNING THE AUSTIN SEVEN

SOME NOTES GLEANED DURING AN INTERVIEW WITH Mr. WILLIAMS
OF MESSRS. AUTO-CONVERSIONS

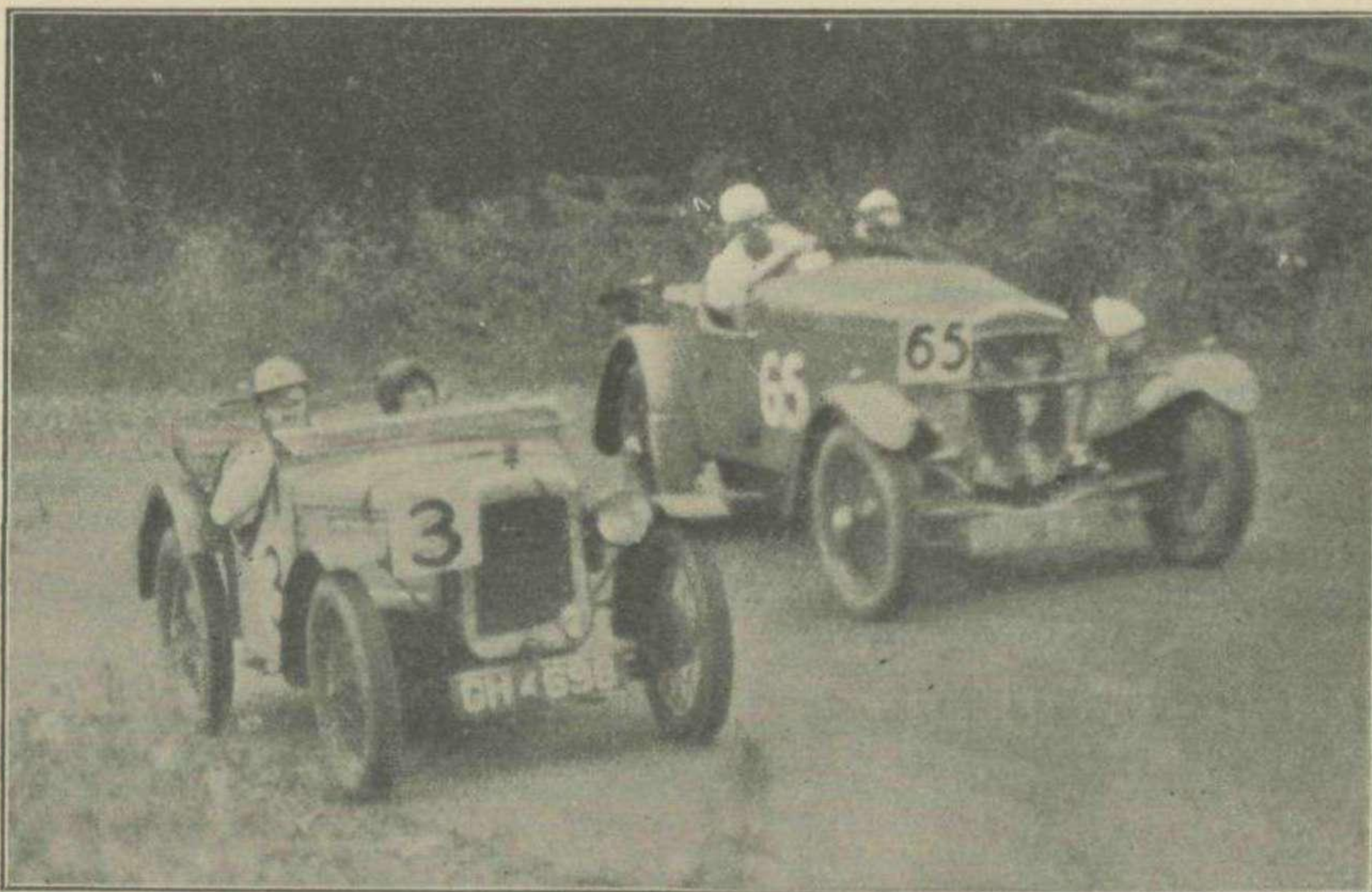
PERHAPS the Austin Seven has been the subject of more special conversions by enthusiastic home-builders than any other make. The reasons are not far to seek. The Austin Seven has been on the market for fifteen years, so examples are available secondhand from the proverbial "fiver" upwards. Then, in all these fifteen years the fundamental design has remained largely unchanged, so that various combinations of engine and chassis are possible. A friend of ours has a 1935 engine and 4-speed gearbox in a 1926 chassis, which merely entailed shortening the propeller shaft. This universal inter-changeability makes the spares problem a very simple one, especially as new spares are available in every large town, "replacement" spares are offered by several big dealers, and almost every breaker can find Austin bits.

Before considering the question of increasing performance it must be emphasised that there are limits to what may be done with a 747 c.c. two-bearing side-valve engine, without courting serious unreliability. If sheer speed is required, it will be as well to experiment with a different engine from that used in the road-car, a procedure which the inter-changeability factor and low price of secondhand engines makes practicable. Even then, do not be too optimistic as to results. All the ultra-fast Austin Sevens of recent years have been supercharged. It is true that in the 1923 200-Mile Race E. C. Gordon England finished second in the 1,100 c.c. class, two up in his Austin Seven, at an average of 76.84 m.p.h., and that in 1924 Capt. Waite took the flying start kilometre record at Brooklands at nearly 86 m.p.h. However, while we believe that England used a standard crankshaft and con-rods, we also believe that a very high compression-ratio was employed in conjunction with a Ricardo head and that a special camshaft was used. Twin carburetters were certainly used. Also, it should be remembered that England had a brand-new engine very carefully assembled, which is rather different from using a somewhat worn unit. Certainly England put the "Brooklands" model into production in 1924 and guaranteed 75 m.p.h. But this was without hood, screen, and wings, the fitting of which brought the speed down to 65 to 70 m.p.h. Moreover, the specification included a 30 mm. Solex carburetter (or twin 30 H.K. Zeniths on

pre-1926 models), K.E. valves, special tappets, double valve springs, high compression head, light pistons, modified timing gears, drilled crankshaft and forced-feed lubrication, three-branch external exhaust manifold, special crown wheel giving ratios of 4.4, 8.17 and 14.5 to 1 (30, 55 and 75 m.p.h. on gears at 5,000 r.p.m.) and fully-faired bodywork. The price was £265 without equipment. Thus, while these early performances show what a 750 c.c. engine can do, and speak very well indeed for the reliability of standard Austin components, in this article we shall be more concerned with raising the 45 to 55 m.p.h. maximum to 55 to 65 m.p.h., and improving the acceleration, while retaining reliability and economy, rather than with the attainment of ultra-high speeds.

In the notes which follow the differences between the various years from the tuning viewpoint become evident. But we can now briefly emphasise the main distinctions to assist those buying secondhand cars for purposes of modification. The Austin Seven was born in 1922 and the first production model had a bore and stroke of 54×76 mm. (697 c.c.), and, we believe, coil ignition. It was thus of

7 h.p. R.A.C. rating. For 1923 it was increased in size to 56×76 mm. (747.5 c.c.), and remains so to this day, supplemented by the rather different "Big Seven" of 56.77×88.9 mm. (900 c.c.), with which we are not now concerned. Its outstanding design features were the triangular frame, transverse front spring, quarter-elliptic rear springs, four-cylinder side-valve engine with magneto ignition and separate block, roller-bearing crankshaft and jet lubrication, single-plate clutch, three speed and reverse gearbox and two-piece semi-enclosed propeller-shaft. The "Chummy" tourer cost £225 in 1922 and £149 in 1926. In 1927 solid hubs replaced the original hollow hubs—an easy identification point. In 1928 came coil ignition. In 1929 the open-gate gear-change gave way to a ball-gate and longer lever. Detail changes made about 1929-31 included longer steering column with flat wheel, grub-screws locking brake drums to hub, higher nickel radiator, shelves in instrument board, heavier gauge wheel spokes, Triplex glass and chromium plating. The engine now gave 10.5 b.h.p. at 2,400 r.p.m. (and 12 b.p.h. at 2,600 r.p.m. about 1932), the ratios were 4.9, 9.0 and 16.0 to 1,



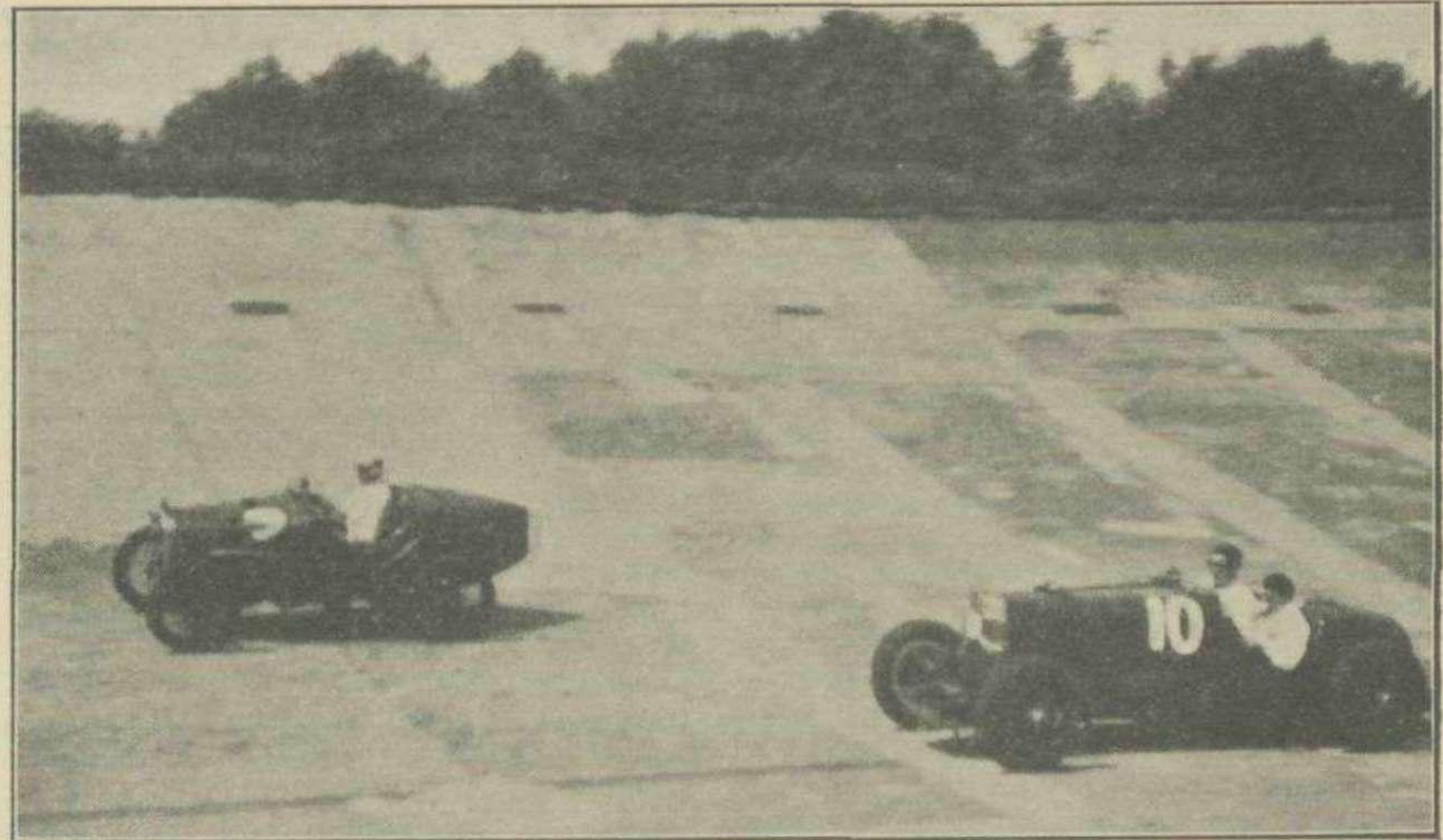
Austin and Frazer-Nash in a J.C.C. High Speed Trial of 1931.

TUNING THE AUSTIN SEVEN—continued

and the tyre size 26" x 3". 1929 models had larger, better brakes. In 1930 the foot-brake operated on all wheels, whereas previously it had operated the rear brakes, with the hand lever working the front brakes. In 1932, a four-speed twin-top gearbox and better fascia were incorporated. In 1933 came synchromesh on third and top, and dipping lamps and rear fuel tank, and in 1934 automatic ignition control, and synchromesh on second, third and top. Later models had improved engine with combined manifolding and a horizontal Zenith carburettor, and existing models have Girling brakes and three-bearing crankshaft.

By 1937 the standard engine gave 17 b.h.p. at 3,800 r.p.m. The later models pulled an axle-ratio of 5.6 to 1, in place of the former 4.9 to 1 axle, so there is a choice for experimenters. The later rear tank cars have a wheelbase of 6' 9", 6" larger than pre-1932 models, and a track 3" wider at the back than at the front. The weight has naturally increased from the original figure of approx. 7 cwt.

Turning to the production sports models, the first, apart from the Gordon England 75 m.p.h. "Brooklands" model already mentioned and officially backed by the Austin firm, was Austin's own pointed-



An Echo of the Past. An Ulster Austin on the outer circuit at Brooklands in 1932.

tail two-seater of 1925-6. Reminiscent of the tourer with a tiny pointed tail stuck on behind the two seats, it was, we believe, untuned, did about 50 m.p.h.

and cost £10 more than the tourer in 1926. We saw one in use quite recently.

The remainder of this article will be concluded in our December issue.

INTERNATIONAL MOTORING FIXTURES, 1939

The list of fixtures comprising the International Calendar for 1939 has been issued by the Royal Automobile Club. For next year, Great Britain has twenty-one international dates, one less than this year.

Jan. 2	South Africa	South African Grand Prix.
" 14	South Africa	Grosvenor Grand Prix.
" 17-25	Monaco	Rallye de Monte-Carlo.
" 27-29	France	Rallye d'hiver de Lyon.
Mar. 7-12	France	Concours feminin de Tourisme Paris-St. Raphael.
" 26	Italy	Course du Littoral.
April 1	Great Britain	British Empire Trophy Race.
" 2	France	Grand Prix de Pau.
" 8-14	France	Criterium International Paris-Nice-Challenge des Nations.
" 10	Great Britain	Easter Monday Meeting.
" 13	France	Course Internationale de cote de la Turbie.
" 15	Great Britain	Coronation Trophy Race.
" 15-16	Monaco	Coupe Prince Rainier de Monaco and Grand Prix de Monaco.
" 15-16	Egypt	Rallye International du Caire.
" 16	Italy	Circuit de Campione d'Italie.
" 21-22	Eire	Cork International Grand Prix.
" 30-6 May	Italy	Rallye International du Nord Afrique.
May 5-7	France	Journee automobile des Independants Coupe de Paris.
" 6	Great Britain	International Trophy Race or 200 Miles Race.
" 7	Germany	Courses du Hamburger Stadpark.
" 7	Finland	Elaintarhanajo-Djurdgardsloppet.
" 7	Italy	Grand Prix de Tripoli.
" 14	Italy	Targa Florio.
" 20	Great Britain	Sydenham Trophy Race.

May 21	Belgium	Grand Prix d'Anvers.
" 21	Italy	Parma-Poggio di Berceto.
" 21	Germany	Course Internationale de l'Eifel.
" 21	France	Rallye International de l'A.C. Ardennais
" 24-28	Italy	Rallye International des Capitales europeennes a Milan.
" 27	Great Britain	Shelsley Walsh Hill Climb.
" 28	Belgium	Grand Prix des Frontieres.
" 28	Italy	Coupe Princesse de Piemont-Circuit de Naples.
" 29	Great Britain	Whit-Monday Meeting.
" 30	America	Indianapolis.
June 3-4	France	Bol d'Or automobile.
" 4	Luxembourg	Les Prix du Luxembourg.
" 4	Portugal	Circuit de Estoril.
" 10	Great Britain	Nuffield Trophy Race.
" 10-18	Poland	G.P. de Pologne, Concours International d'Endurance de l'A.C. Polski.
" 11	France	G.P. de Picardie, circuit de Peronne.
" 17	Great Britain	International Ulster Trophy Car Race.
" 17-18	France	24 Heures du Mans.
" 18	Portugal	Circuit de Vila Real.
" 25	Belgium	Grand Prix de Belgique.
" 30-2 July	Belgium	Liege-Chamonix-Liege.
July 1	Great Britain	Crystal Palace Cup Race.
" 2	Italy	Course Susa-Moncenisio.
" 8	Eire	Leinster Trophy International Race.
" 9	France	Grand Prix de l'A.C.F. et Coupe de la Commission Sportive.
" 13-16	France	Rallye International des Alpes Francaises.
" 15	Great Britain	12 Hours Sports-Car Race.
" 15	Switzerland	Rallye International de Montreux.
" 16	Italy	Course du Stelvio—Coupe A. Mercanti.
" 16	France	Circuit de vitesse de l'Albigeois.

July 23	Germany	Grand Prix D'Allemagne.
" 30	Great Britain	Hill Climb-Prescott.
" 30	Italy	Coupe Ciano.
" 31-2 Aug.	Germany	Coupe Internationale des Alpes Allemandes.
Aug. 6	Germany	Grosser Bergpreis v. Deutschland.
" 6	France	Grand Prix Automobile du Comminges.
" 7	Great Britain	August Monday Meeting.
" 7	Eire	Limerick International Grand Prix.
" 12	Great Britain	Imperial Trophy Race.
" 13	Italy	Coupe Acerbo.
" 15	Italy	Targa Abruzzo—Coupe F.A.S.I.
" 16-20	Belgium	Championnat d'endurance Liege-Rome-Liege.
" 20	Switzerland	Grand Prix de Suisse, et Prix de Berne.
" 26	Great Britain	200 Miles Race or International Trophy Race.
" 27	Belgium	G.P. de l'Exposition Internationale de l'Eau a Liege.
" 27-3 Sept.	France	Rallye International sur la Baule.
Sept. 2	Great Britain	Tourist Trophy Race.
" 3	France	Grand Prix de la Baule.
" 4	Italy	Pontedecimo Giovi.
" 9	Eire	Phoenix Park Grand Prix.
" 9	Great Britain	Shelsley Walsh Hill Climb.
" 10	Italy	Grand Prix d'Italie.
" 14-15	Germany-Italy	Rallye Berlin-Rome.
" 10	France	Les 12 Heures de Paris.
" 16	Great Britain	Brooklands Meeting.
" 17	Germany	Circuit a Vienne.
" 24	Czechoslovakia	Grand Prix Masaryk
" 30	Great Britain	Donington Grand Prix.
Oct. 1	Roumania	Course de cote de Feleac.
" 7	Great Britain	London Grand Prix.
" 8	Switzerland	Grand Prix de l'Exposition nationale Zurich 1939 et Prix de Zurich.
" 8	Brazil	Grand Prix de Rio.
" 14	Great Britain	Autumn Meeting.

THROUGH THE EXPERTS' TRIAL IN K. N. HUTCHISON'S NEW V8 ALLARD SPECIAL

WHEN K. N. Hutchison, well known trials driver in the now famous Allard-Special "Tailwaggers" team, rang up and asked me to ride with him through the Experts' Trial I accepted readily, for two very sound reasons. In the first place it is extremely instructive to ride through a classic trial beside someone who has an unrivalled reputation as a skilful slime stormer. Secondly, I was anxious to gain experience of the latest Allard-Special, a car which is the Allard answer to next season's plain-tyre enforcement, and as yet in decidedly experimental trim, having left the coachbuilders only a few days before the event. It is true that "Hutch." explained, rather hurriedly, I thought, as if trying to seem more than usually matter of fact, that this new car had no screen before the passenger, not even a scuttle cowl, nor had it a hood, while if I required a change of clothes I must needs pack a very small parcel, luggage accommodation being at a distinct premium.

Mrs. Hutchison, who regularly rides on her husband's left, had, it was only too evident, given the new "Tailwagger" one rapid, thorough glance and firmly announced that she would go to the trial but not on it—in the security of the Railton saloon. I like to pose as an enthusiast, so, bar praying for fine days when I thought of it, I made no bones about this lack of protection—borrowing a decent flying hat and a pair of waterproof goggles was far more to the point.

The new car, it should be explained, is based on Sydney Allard's highly successful, not to say potent, original V8 Allard-Special, now meritoriously motored in competition by Guy Warburton. In dimensions and specification it is the catalogue £450 Allard. Actually, the engine, at present a V8, is set further back than ever before, while weight has been saved wherever possible by judicious simplification, so that it is a mere 17½ cwt., or some 3 cwt. lighter than Warburton's car. The engine has Vertex magneto ignition, raised compression ratio, and special water off-takes and exhaust system. This tail is a replica of that used for the G.P. "2.3" Bugatti bodies and accommodates a big fuel tank well clear of the axle. Not only does it contribute towards one of the best-balanced starkest-looking cars ever constructed, but it must be of considerable help at high knots—and "Hutch." intends to do much sprint work in 1939, probably with a V12 Lincoln engine slipped in. In addition, the pointed tail makes it possible for the passenger to drape the right arm behind the driver—essential on a trials hill in the narrow cockpit—without experiencing cramped muscles. The body-builders, Messrs. Whittingham and Mitchell, really do deserve great credit for turning out an intensely attractive body in the space of a fortnight. The construction is of very light gauge aluminium, and in spite of the great length of bonnet and its dispensation of heavy cross-stays there is not a trace of flexion or ripple over the

roughest surfaces—and you certainly encounter rough stuff in Exmoor. The spare wheel-mounting problem is nicely met by a very rigid bracket on the near side and the use of fixed bonnet-sides, the engine being perfectly accessible through the medium of the opening top bonnet-panels, mounted with hinge off-set.

These Allards are certainly the outstanding version of the modern style of truly potent sports-car. And few old-school motors look as stark, as does the latest of the breed. After lunch with "Hutch." and his Siamese cats at his London flat I was taken swiftly and easily West. The Allard demands no special plugs and masses of "in-case" extras. It is flexible down to a crawl in top, yet accelerates like a racing-car. It is very stable and rides solidly, yet without much pitching and tossing at touring gaits. As to speed, "Hutch." wasn't hurrying, but seventy was comfortable cruising. Incidentally, the normal Ford combined dial, incorporating oil-gauge, water thermometer, oil thermometer and ammeter, is the only dial on the dash and, as "Hutch." drily observed, you do not need a bevy of confusing needles when Dagenham can dish all the necessary readings up in one.

The flip down was exhilarating, but uneventful, save for the breakage of the near side main wing stay—did I say the car is experimental, as yet?—and consequent fusing of all lights, a matter efficiently coped with from the emergency aspect by Hutchison and from the repair aspect of a Langport garage proprietor who used to ride Cotton and Sunbeam motor-cycles and Aston-Martin and other cars in trials some years ago. The ragged October sunset over the Plain, fiery sunrays reflected in our long bonnet, was an incident not readily to be forgotten.

At the Beach Hotel at Minehead we found Guy Warburton, cheery as ever, with Mrs. Warburton simply exuding enthusiasm, awaiting us, anxious to compare this latest Allard with the original car which it resembles. Late that night Michael Soames came in on the V12 Allard-Special which Sydney Allard was to handle, and the Allard team for the morrow was complete. Until then, sherry, table-tennis and more sherry and a spot more table-tennis

Our luck, mine especially, was "in," for the day dawned dry. Dunster was full of good trials motors and their literally expert pilots, with a D.K.W. as official car. Of the trial I could write reams but, the Experts, being held at the close of the month, this is in the nature of a stop-press report, so the limitations of space must curb my enthusiasm. Well-blistered hands, from clinging grimly to hand-grip and tank-filler on all observed and many unobserved sections, will in any case make it a relief to lay aside the pen. Truly, there were times when one came very near to parting company with the car and it was difficult enough to retain the flimsy route-card, Hutchison's goggle-case and our bottle (containing water, not beer, though a legend was soon about that we ran on spirit other than petrol!

The Allard boiled a deal, possibly because twin headlamps sit coyly inside the radiator cowl and wind does queer things over big surfaces). About the route . . . Care at the first brake test gave a time of 6½ secs., confirmed by Lionel Martin from his bush. In the next timed test Allard-urge came into play very nicely, but our wheels (standard Ford discs, comp. shod all round, as for the run down), spun dangerously up Kersham. Ditch Lane, where Allard inverted last year, is ghastly, but "Hutch." picked a praiseworthy way and we got up bruised but not battered. Here Warburton did yeoman work with some steering wheel spokes loose in his hand. Congratulations to Mrs. Allard, too, for her contempt of Colley—which is the hill's better known name. Incidentally, you really can get purchase on the metal floorboards of "Hutch's" motor, which in other cars so often you wish to do, but cannot. "Hutch." was measured for his seating position. Our wing stay hereafter demanded frequent attention and string proved stouter than steel. Widlake was in curious condition and our Waterloo, for we ceased momentarily, all the more disappointing as the Allard at once built away well. Clousham was very rough going but did not worry the V8 or rear axle departments. The Pennycombe triangle test demonstrated real Allard acceleration after initial spin from the final hazard was stifled, Cowcastle was muddy and Picked Stones, where Fotheringham Parker's Ford coupé was nicely stuck, was extremely rock-strewn and had a nasty drop at one section. Moreover, it was approached by an unbelievably deep splash in the observed section. All of which the Allard regarded as its natural habitat. Stokemill, unused before, very long, with deep mould trapped between high banks, proved the finest hill of all, and up we got triumphantly only by dint of thirty willing horses (plus those the R.A.C. doesn't count), immense and exhausting bouncing, and Hutchison's right-footwork. It was truly magnificent going. All praise to Mid-Surrey! Yeovale One gave no bother and Yeovale Two was child's play save for the disrespect for one's personal beauty of the bushes and young trees bordering the track. We now had only to finish, which No. 27 did well ahead of most of the others. The sections between hills were horrid in the extreme, but, back on sane going, the Allard showed again its other aspect, that of a thoroughly fierce, beautifully controllable road-motor, possessed of splendid top-gear pulling powers and devouring hills with an enthralling patter of comps. and hiss of air through the intake. The Experts is a first-class trial and will be extremely interesting under next year's ruling. To ride through it beside Hutchison is a valuable experience. And, in spite of bruises and blisters, I would do it again if the opportunity arose, for here is a driver who drives with his head, although his hands do a mighty lot of the work. I am happy to conclude that the Allard-Special team netted the Team Prize.

THE J.C.C. FILM SHOW

The J.C.C. gave easily the best motor-racing film show ever, at Wardour Street, on November 2nd. All the best racing films were shown, with two of the best Micky Mouse cartoons and other pictures as a pleasant variation. The film showing the construction of the racing Austin Seven was well received and one wonders whether there is any significance about the taking of this film and Sir Herbert Austin's interest in the Donington G.P. Certainly racing does enhance Austin prestige. The high spot of the evening was George Monkhouse and his latest colour films. If Nuvolari is the greatest driver, Monkhouse is assuredly our greatest motor-

racing commentator. He does not mind admitting his errors, explaining, for example, that he dropped his camera before the G.P. and in consequence spoilt the focus—it was still wonderfully good photography. He included a piece of a member's film showing how Seaman, Hasse and another driver responded to the oil patch—may we have this in slow-motion, please? Some fresh points came to light in the course of a caustic commentary. Mercs. turn their engines for 4 secs. on the starters before switching on, to clear excess fuel. Auto-Unions, this season, repeatedly oiled No. 3 plug on the near

side and this curious trouble nearly got Nuvers. at Donington. Before the Swiss G. P. Mercs. found their gear-ratios unsuitable and altered *all four* cars overnight. Lang slowed towards the end at Donington, partly because his screen broke and a 150 m.p.h. breeze is suffocating. Monkhouse appeared to think Nuvolari would have won, even if Seaman had not left the road. He caused much laughter by remarking that the Germans do not drive about on their hard plugs after fitting them, and, in consequence, when they do start they go off firing on all "bottles" and not on a few cylinders, like the British cars.

LAGONDAS ON BROOKLANDS

BROOKLANDS is still respected by manufacturers both as a testing and as a publicity venue. This year Lagonda has made very considerable use of the Track. This work culminated in two highly praiseworthy runs, which took place on October 10th and have added much to Lagonda prestige.

Lord Howe drove a V12 saloon short-chassis Lagonda for one hour at an average speed of 101.5 m.p.h. For twenty-one laps he averaged 105.52 m.p.h. Then a tyre gave out and the spare was put on with the aid of the standard jacking system. Lord Howe continued, did a last lap at 108.27 m.p.h., and returned the 101½ m.p.h. average for the hour's run. At the same time, S. Invermee, Lagonda's experimental chief, drove a short-chassis

4½-litre Lagonda saloon and averaged 95.87 m.p.h. for the hour's run, doing his final lap at 98.43 m.p.h. Both cars were standard demonstrators which had seen about 40,000 miles' hard service before the runs, and both ran on pump fuel and standard-brand oil.

The runs were timed by the B.A.R.C. because the R.A.C. has recently expressed a desire to disassociate itself with the "Sports-Car Hour," on the grounds that it is impossible to ensure that cars submitted really are in catalogue trim—although we were under the impression that the R.A.C. Certificates merely told of what had taken place during an officially observed run and did not profess to say in what category the stunt or "record" fell, whether applying to

duration tests of accessories, top-gear stunts or rapid lappery round Brooklands. Previous sports-car-hour runs have been the Frazer-Nash-B.M.W.'s original famous 101 m.p.h. by S. C. H. Davis, Alan Hess's run with passenger at 104.4 m.p.h. with the 4½-litre T.T. Lagonda (recently advertised for sale as specially prepared by the factory for racing), and Elgood's 110.3 m.p.h. and Sir Lionel Phillips's 106.7 m.p.h. at the last M.C.C. Brooklands Meeting, with vintage 4½-litre Bentley and vintage Leyland-Thomas, respectively. But Lagonda's is the first hour run at over 100 m.p.h. by a sports-class closed car and it does prove very nicely how reliably rapid these modern six and twelve-cylinder Lagondas really are.

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TAZIO NUVOLARI WINS DONINGTON'S GREAT RACE FOR AUTO-UNION

IMMENSE CROWDS SPECTATE AT A THRILLING RACE. LANG (MERCEDES-BENZ) AND SEAMAN (MERCEDES-BENZ) SECOND AND THIRD.

WELL, the Crisis blew nicely away and the German teams returned to Donington for the postponed Formula Grand Prix, run on October 22nd instead of on October 1st. It was easily the greatest British race ever held. It was started by H.R.H. the Duke of Kent, and attended by Reichsleiter Adolf Huhnlein, leader of motor sport in Germany, Bayer-Ehrenberg, the President of the German O.N.S. (equivalent to our R.A.C.) and a crowd of enthusiastic spectators estimated at 60,000—last year's estimate of attendance varied between 38,000 to 50,000. The thanks of every enthusiast in the land are due to the Derby and District M.C., for staging such a race. It was, of course, a scratch contest, under the International Formula, over 80 laps or 250 miles of the Donington course. There was a first prize of £250, £50 for the leader at half-distance, and £100 for the fastest race lap. And the Continental entries received starting money. To encourage entrants of British non-Formula cars, the first British car to finish won £100—and they were not so far behind the Germans. If the estimate of 60,000 spectators is correct, the "gate" amounted to £15,000 without considering car-park takings and additional special tickets.

Auto-Union arrived early for the training period. Nuvolari established fastest time at first and had a narrow escape when his Auto-Union hit a stag on the Monday. His time was 2 min. 11.2 secs., faster than the lap record of 1937. On the Tuesday, Lang (Mercedes-Benz) did the fastest lap of all in practice, in 2 mins. 11 secs. This represents a new Donington absolute lap record, beating by .4 of sec. the record established jointly before last year's race by Brauchitsch and Rosemeyer with the bigger cars. Brauchitsch did 2 mins. 11.4 secs., equalling his old record, and Seaman 2 mins. 12.2 secs. Other practice laps were: Muller 2 mins. 12.6 secs., Baumer 2 mins. 13.8 secs., Hasse 2 mins. 15.4 secs., Kautz 2 mins. 18.6 secs., Villoresi 2 mins. 21 secs., Dobson 2 mins. 24.6 secs., Dreyfus 2 mins. 25.4 secs., and Raph, slowest of all, in 2 mins. 36.4 secs. Kautz suffered a cold and Brauchitsch a damaged hand. On the Thursday afternoon Auto-Union appeared to make a big effort to pull down times all round. By then the Maserati had not arrived and it only practised on the Friday, coming from Bologna in a most imposing Fiat van with very effective radiator cowling. Mercedes-Benz, of course, used their imposing Mercedes-Benz diesel lorries and both open and closed cars, Auto-Union their Horch lorries and open tourers, and the Ecurie Bleue the two-storey Delahaye van. Further notes on the practice period will be found in "Rumblings." And the detailed notes on the thorough methods of preparation of the German teams, which MOTOR SPORT published last year, apply again to this year's race.

October 22nd dawned misty and remained warm and gloriously sunny. H.R.H. the Duke of Kent flew up from London and was driven to the course in a V12 Lagonda saloon, in which Richard Seaman, mackintosh over his overalls, drove him for two laps of the course. The Duke, himself a fast driver of his 4½-litre Bentley, started the race and walked to Coppice to watch the cornering before leaving the course, conducted round by Dr. Benjafield. The Duke attended the race in his capacity of President in Chief of the B.R.D.C. Reichsleiter Huhnlein was taken round the circuit by Lionel Martin in a Bentley and afterwards watched the race from the blue-and-gold decked Grandstand. After the finish Frau Huhnlein and the Reichsleiter presented the prizes. Capt. and Mrs. Bemrose and Mr. Shields were also present.

Members of the German Embassy drove up from London in open Mercedes-Benz and B.M.W. cars. Mercedes-Benz sent their Grosvenor Road engineering staff up by special coach, and a coachload of the R.A.F. also attended. Lots of aircraft brought visitors, including a war-time 504K Avro. And Donington had room for all of us, and all our cars, in comfort.

The field for this great race comprised: Tazio Nuvolari, Hermann Muller, Rudolf Hasse, and Christian Kautz with Formula Auto-Unions; Hermann Lang, Manfred von Brauchitsch, Richard Beattie Seaman and Walter Baumer with Formula Mercedes-Benz, Villoresi with a Formula Maserati, René Dreyfus and Bodoignet Raph with Ecurie Bleue Delahayes, Arthur Dobson's E.R.A., Ian Connell's E.R.A., Billy Cotton's E.R.A., Cuddon-Fletcher's M.G., Percy Maclure's Riley and Robin Hanson's Alta.

Mercedes-Benz had put in Baumer because Rudolf Caracciola had a damaged foot and had not come over. Auto-Union had Luich Bigalke as reserve driver.

The Mercedes-Benz cars have 60° V12 engines of 2,962 c.c., with four valves per cylinder operated by four o.h. camshafts. Twin Roots blowers suck from Mercedes carburetters and the solid crankshaft runs in split roller-bearings. The cylinder blocks are of alloy, with steel liners and the crankcase is also of light alloy. The camshafts are driven from the rear end. At the rear end also are twin Bosch magnetos. The engines peak at around 7,500 r.p.m., and give off 400 to 450 b.h.p. There is an oil-tank in the crankcase and the fuel storage comprises two separate tanks coupled by large-bore pipes, one in the tail and one as a saddle round the scuttle. The front tank fills first and the combined capacity is approximately 70 gallons. The latest tankage ensures that weight distribution remains correct at all levels. The chassis has alloy oval side members braced by four tubular cross-members. Transmission is via a single dry-plate clutch and off-set propeller shaft to a five speed and reverse gearbox mounted on the frame and controlled by right-

hand lever. Suspension at the rear is by torsion bars parallel with the side-members, controlled by hydraulic shock-absorbers adjustable from the cockpit. The jointed driving shafts are tied by a De Dion type tubular axle. Front suspension is independent, by pressed steel wishbones and coil springs with four coils, controlled by hydraulic shock-absorbers. Separate steering drag-links are used. Lockheed hydraulic braking is used. The exhaust-pipes have been brought outside the body for recent races and some cars now have stubby tails. The average weight is approximately 978 kilos., but it is said that the cars are now lighter. They consume fuel at under 2 m.p.g. For Donington 7.00" x 19" rear covers were used. The Mercedes-Benz team is under the control of Herr Alfred Neubauer and their head engineer is Herr Uhlenhaut, who committed lots of practice lappery at Donington. The head mechanics are Zimmer and Lindenmaier. Geier is a timekeeper. Dr. Glesser is medical adviser to both teams.

The Auto-Unions have rear-placed V12 engines of 2,986 c.c., with overhead valves actuated by three o.h. camshafts and a single Roots blower driven from the rear of the engine and sucking from twin carburetters. Light alloy construction is used throughout. Tubular openwork frame side members are used, and through them the cooling water circulates from engine to radiator. The transmission incorporates a five speed gearbox mounted on the rear axle. Front suspension is independent, by torsion bar, and at the rear a De Dion axle is sprung by torsion bar, hydraulically damped. Lockheed hydraulic brakes are used and the driver sits ahead of the engine. The Auto-Union equipe is governed by Dr. Feureissen. The head technician is Robert Eberon von Eberhorst, who speaks English, and his chief assistant is Sebastian. Nuvolari brought his personal mechanic "Nini." The latest Auto-Unions have sharper noses than the older cars. It is believed that different shock-absorbers have been used since Rheims. On the eve of the Donington race Rolls-Royce Ltd. of Derby undertook some special work for Auto-Union with which the equipe was highly delighted—we believed it concerned drilling out the carburettor jets. It led, of course, to the usual stupid daily paper stories that "British firm ensures German success," etc.

Billy Cotton, Connell and Cuddon-Fletcher were out on the Thursday, but Arthur Dobson and Villoresi had then not appeared.

* * *

The morning of October 22nd dawned misty but fine and Epsom Downs crowds drove into Donington's beautiful park. "God Save the King" over the broadcasting apparatus told of the arrival of H.R.H. the Duke of Kent, who afterwards was driven two laps in a V12 Lagonda by Seaman, whom King Farlow described as the greatest British driver

THE DONINGTON GRAND PRIX—continued

who has ever lived. They say the second lap was quite rapid.

The cars were now lined up on the starting grid. In the front row, reading from the Grandstand side, were Lang (Mercedès-Benz), Nuvolari (Auto-Union), Brauchitsch (Mercedès-Benz) and Seaman (Mercedès-Benz). In the second row: Muller (Auto-Union), Baumer (Mercedès-Benz), and Hasse (Auto-Union). In the third row: Kautz (Auto-Union), Villoresi (Maserati), Dobson (E.R.A.), and Dreyfus (Delahaye). In the fourth row: Connell (E.R.A.), Cotton (E.R.A.), Fletcher (M.G.). Behind: Maclure (Riley), Hanson (Alta) and Raph (Delahaye). The Maserati was a Formula 3-litre straight-eight with twin-camshaft twin-blower engine, which had given the German cars its dust briefly at Pescara. It has torsional independent front suspension and reversed quarter-elliptics at the back. Raph's Delahaye we had seen at Brooklands, but Dreyfus had the single-seater with independent front springing. Both had V12 4½-litre unblown motors with single o.h. camshafts per block, three carburettors, twenty-four plugs and seven-bearing roller-bearing crankshaft. They were of especial interest because a production version, the Type 165, will shortly be available in this country.

The drivers got into their cars, awaiting the electric starters, and Nuvolari, in blue overall trousers, short-sleeve yellow jumper and red helmet, was last to climb in. Seaman wore white overalls and a green helmet, Brauchitsch a red helmet, Lang white and Baumer blue.

The little Union Jack fell and in a crash of sound they were off round Red Gate. Already Nuvolari had a nice lead from Brauchitsch, Seaman and Lang. Maclure was last away, but the Maserati made a bad start. All eyes on the straight and the order was seen to be: Nuvolari, Muller, Brauchitsch, Seaman, Lang, Baumer, Hasse, Kautz, Dreyfus, Dobson, Villoresi, Connell, Fletcher, Raph, Cotton, Hanson and Maclure. Another lap, and the Germans were up to 170 or so along the straight, the whole circuit sang to the sound and the almondy boot-polish fuel fumes became quite pungent. Villoresi had passed Dreyfus and Dobson and Cotton had come up two places, while Raph had passed Fletcher. After only two laps Kautz found his Auto-Union throttle staying wide open into Melbourne when it should have shut and he rammed the bank, bent the car badly and retired. He had left the road at Coppice just beforehand. On lap 3 Raph visited his pit and the bonnet was removed. He was in again on lap 8 and out of the race with no oil pressure by ten laps.

At ten laps Nuvolari, arms working like pistons, led from Muller by 14.6 secs. at 81.57 m.p.h., with Seaman third. Lang was wilder than Seaman, likewise Brauchitsch, whose gear-changing was sometimes rough. Villoresi now went out, as the Maser. had smashed a piston and Maclure's Riley stayed on the grass after Melbourne with a broken rear-axle. Dreyfus also retired the single-place Delahaye with a broken oil-line, so

France and Italy had finished. Fletcher left the road in the M.G. and decided to spectate—already the field was thinning. Came intense excitement, for, after leading Muller by 21.8 secs., at 20 laps (82.07 m.p.h.) Nuvolari came to his pit six laps later. The Maestro stood up in the cockpit while a single plug was changed, a mechanic holding the bonnet expectantly above the engine. The car was stationary for 53 secs. and Nuvolari fell to fourth place, Muller now leading from Seaman and Lang. The German cars were passing the E.R.A.s in all sorts of impossible places and sending the on-lookers into fits by their immense cornering and terrific rush downhill to the Hairpin. The flag marshalling was well conducted. Came drama! Hanson's Alta broke up its engine and dropped much oil by the approach to the Hairpin. Every German car left the road as a result! Nuvolari slid off to the right hand grass verge, recovered, and got away round the hairpin. Then Brauchitsch slid, turned round twice and took the hairpin in a broadside. Hasse now skidded to the right, shot across the road, hit some fencing on the outside of the course, which uprooted as if struck by a bomb, missed a hut in which sat Mrs. Craner, and smote the safety bank. Hasse was unhurt, and, they say, at once leapt the fencing and shook off the ambulance men. But his car was badly damaged and another Auto-Union was out. Alas, Seaman left the course on the inside, came back across the road, and ended up beyond the wrecked Auto-Union. Officials pushed him off, but much time was lost. Lang and Muller also slid. As a result Muller now led by 5 secs. from Lang, with Nuvolari third and Brauchitsch, Baumer, Seaman and Dobson behind. Actually, on the bad lap Muller had led Seaman by only 2.8 secs., with Lang a close third, but now Dick was a lap in arrears. On the previous lap Dobson refuelled his E.R.A. in 68 secs. Hanson had refuelled before his blow-up. The pit-stops now came on. Lang stopped first and, amid a mass of mechanics and dense fumes, refuelled in 33 secs. The splash-cover was forgotten in the excitement and Lang flung it clear as he accelerated away, still in second place. Brauchitsch was next, stopping at Neubauer's black and red flag and cleaning his screen as fuel went in in 30 secs. The Mercs. refuel at the rate of about 5 gallons per second. Connell now replenished and gave Monkhouse the wheel, a cushion being needed in the cockpit.

After 40 laps, Muller (Auto-Union) led Lang (Mercedès-Benz) by 48.4 secs. and Nuvolari by 58 secs. He now refuelled and had the rear wheels changed in 40 secs. Lang consequently went ahead, having made his stop. Baumer came in on lap 41 for fuel and plugs, leaving in 79 secs. Seaman now lost 44 secs. in refuelling. Lang had stopped on lap 38, but Nuvolari waited until lap 42. The stop was immensely exciting, and all four wheels were changed and fuel put in in a mere 35 secs. As before Tazio accelerated out of the pit area in a great cloud of dust, but Muller remained ahead. A lap later Baumer's Mercedès-

Benz came round misfiring, and barely took the rise beyond Melbourne. As it breasted the rise a dull glow broke out round the engine and the car was on fire properly as it got to the pits. Baumer leapt lightly out before it stopped and the flames were soon out, whereupon the car was retired. At 50 laps, with 30 laps to run, Lang led from Muller by 21 secs. and Nuvolari was 58 secs. behind Lang. Wilkinson, who had been driving Cotton's E.R.A. very well indeed, now returned the wheel to Billy as the car was refuelled. Ten laps later Nuvolari had passed Muller and was 21 secs. behind Lang, having made up 37 secs. The little Italian was astounding. He went out of the wood and down to the hairpin in his inimitable style, arms bowed out and flashing like pistons to head-level, the car in full control, yet never straight for a moment. Strong men sang his praises. Indeed, one well known motor scribe was so moved as to write: "He came through the bends with his elbows flashing up and down . . . steering wheel jerking quickly from side to side . . . yet all the time the car ran as if on rails, front wheels always pointing dead on the line of travel"—actually, the Auto-Union's steering was quite in order!

On his 56th lap Tazio did 82.96 m.p.h. and on his 63rd lap 83.71 m.p.h.—best lap of the race, winning the Craner Trophy and £100. Lang's Mercedès seemed to be slowing, and, 21 secs. away at 60 laps, Nuvolari closed to 12 secs. at 63 laps, 10 secs. at 64, 6 secs. at 65, 3 secs. at 66 and on lap 67 the Auto-Union got past Lang on Starkey straight. At 70 laps, Nuvolari led Lang by 17.4 secs. at 80.29 m.p.h., Seaman was third, very dirty but driving as well as anyone, and Muller was fourth, with Brauchitsch, also oil-begrimed, fifth.

The race was now never in doubt. Arthur Dobson, surprisingly close to the Germans, led the British contingent, refilling again on his 57th lap in 61 secs. Muller had another stop to fix his bonnet, losing 38 secs. So the race ran on, greatest race we have ever had. Nuvolari crossed the line, winner for Auto-Union at 80.49 m.p.h., by 1 min. 38 secs., after 3 hours 6 mins. 22 secs. hard work. He stopped, received a wreath of honour, and drove another lap. Lang finished second in the Mercedès-Benz, and Muller stopped rather confusedly at the end of the pits, flagged off in fourth place with a lap to go. Seaman, who held Nuvolari on the closing laps, came in third, also a lap behind, and hairpinned round to run up to his pit before cutting his engine. As he did so, the "Deutschland Uber Alles" rang out and our biggest motor-racing crowd, now rapidly invading the course, stood most impressively to attention. The "Giovinezza" followed, in honour of the greatest driver of all time—Tazio Nuvolari. Nuvolari was deeply touched by his welcome, but at rather a loss, as he speaks neither English nor German. He was presented to Herr and Frau Huhnlein, as was our own Arthur Dobson. Dobson finished sixth, only six laps behind Nuvolari. Nuvolari grabbed a bottle of champagne as he was carried shoulder high from the Grandstand. He went over to Auto-Union's big garage

THE DONINGTON GRAND PRIX—
continued

on the Melbourne side of Coppice Farm and was later driven, in coat and cap once more, to Derby in a closed Horch by Dr. Feureissen, looking a sad, nervous and very subdued little man. Other placings were: Brauchitsch fifth, Dobson sixth, Cotton-Wilkinson seventh, Connell-Monkhouse eighth. £50 for leader at half-distance: Muller. Team Prize: E.R.A. team. The Mercs. seemed to give their drivers a dirty ride and oil from the engines on the exterior of the cars is still evident and the Auto-Unions had quite dirty tails.

Thus ended the best motor-race Britain has ever had. We look hopefully forward to as great a race again next year.

The race had a happy sequel on the Monday evening, when the B.R.D.C. gave a cocktail party at the "Rembrandt," which was attended by Seaman, wearing his Gold Star, Brauchitsch, Lang, Muller, Dobson, Maclure, Eberhorst, Neubauer, Dr. Feureissen, Lord Howe, Dr. Glessner, Geier, Ebbelwhite, Fane, Aldington, John Cobb, Eason-Gibson, and Secretary Scannell. Cobb had earnest conversation with Feureissen and Eberhorst and apparently expects soon to see them in Germany, and Muller was giving away Auto-Union pin-badges, notably to the lovelier of the ladies who were present.

Of course, all sorts of "ifs" arise in analysing the results. Last year it was Brauchitsch's tyre; this time the oil patch. Some say Seaman would have won had he not left the road and stalled—certainly he drove magnificently, holding Nuvolari at the end. Between fifty and sixty laps Seaman, however, lost 15.2 secs. on Nuvolari and between sixty and seventy laps he lost another 15.8 secs., and was 2 mins. 21.4 secs. behind. When fuller figures are available slide-rule wallahs can grapple with the whole problematical story.

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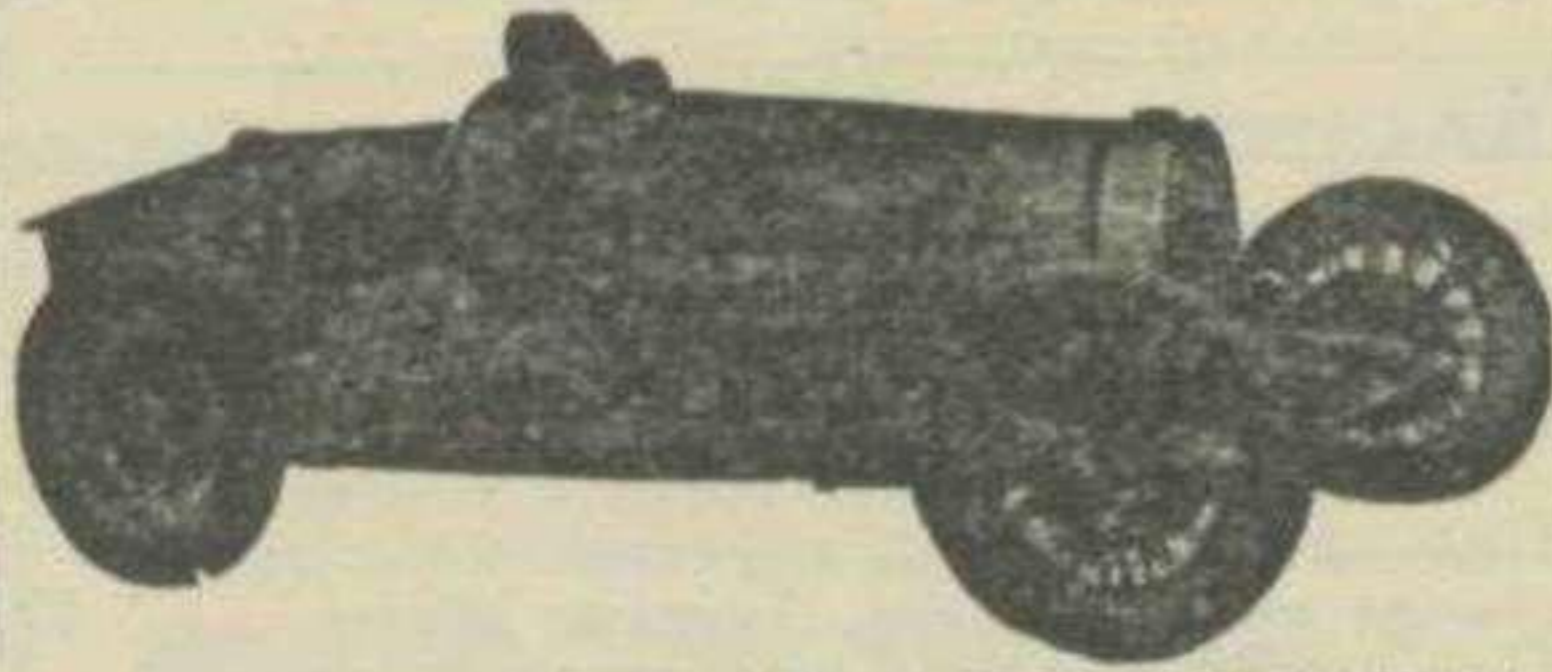
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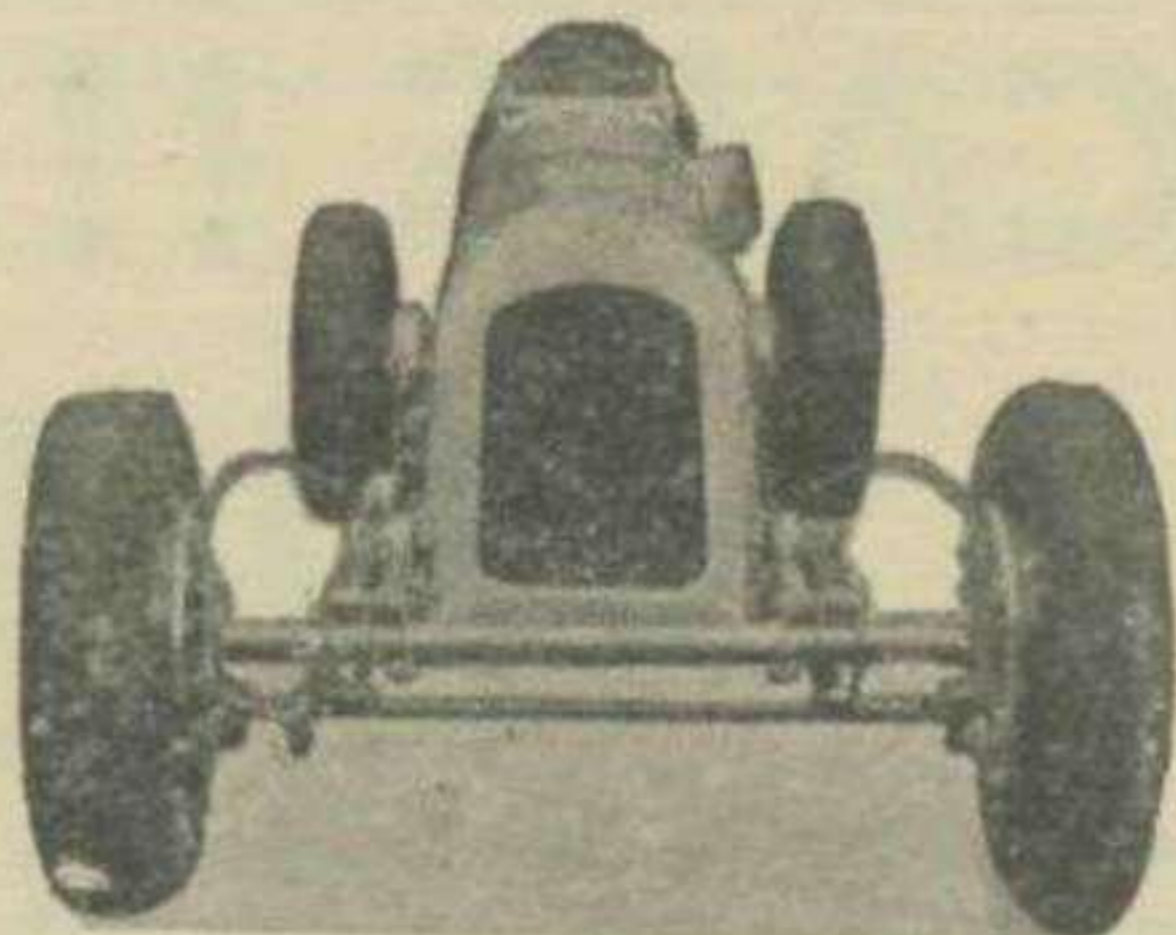
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Make of Car	Issue	Make of Car	Issue	Make of Car	Issue
A.B.C. 11 h.p. 2-cyl., 2-seater.....	Feb. 1926	LARRACQ 12.32 h.p., Weymann saloon.....	Sept. 1924	M.G. Magnette "N" 4-seater.....	Feb. 1935
A.C. 2-litre, short-chassis, 15.7 h.p. 2-seater	July 1936	Delage 14 h.p., 2-litre, 2-3-seater...	June 1927	M.G. Midget "PB" 2-seater.....	April 1936
A.C. 2-litre, 16.40 h.p., 3-seater.....	Oct. 1927	Delage 8-cyl., sports saloon.....	April 1930	M.G. 14/40 4-cyl., 3-speed, 4-seater	Oct. 1925
A.C. 2-litre, 16.66 h.p., 2-seater.....	March 1926	Delahaye 3.5-litre "Coupe des Alps" drop-head coupe.....	Aug. 1936	M.G. Midget "T" 2-seater.....	Jan. 1937
A.C. 2-litre, 16.66 h.p., 4-seater.....	June 1934	Derby 16 h.p., 6-cyl., 2-str. (1930)	Oct. 1932	M.G. 14/40 h.p., 4-cyl., super-sports, 2-seater	May 1927
Alfa-Romeo 1½-litre supercharged 6-cyl. Charles 2-seater (1929).....	March 1934	FRAZER - NASH - B.M.W., 2-litre, Type 45, saloon.....	Feb. 1937	RAILTON Terraplane 4-seater.....	Oct. 1934
Alfa-Romeo 1½-litre supercharged 8-cyl. "Zagato" 2-seater (1932)	July 1934	Frazer-Nash-B.M.W., 2-litre, Type 55, 2-seater	Nov. 1935	Railton Light Sports tourer.....	Dec. 1935
Alfa-Romeo 2.3-litre supercharged 8-cyl. "Zagato" 2-seater (1933)	Aug. 1936	Frazer-Nash 6-cyl., 1½-litre (Blackburn) 2-seater	July 1933	Riley Nine "Gamecock" 2-seater	March 1932
Alfa-Romeo 2.3-litre supercharged 8-cyl. 4-seater (1931).....	Aug. 1932	Frazer-Nash 4-cyl., 1½-litre T.T. Replica push-rod o.h.v. 2-3-str....	Nov. 1931	Riley Nine "Monaco-Special," two-car ^{ty} , saloon	March 1931
Alvis 11.9 h.p., 4-cyl., "Firefly" saloon	Feb. 1933	H.E. 16.60 h.p., 6-cyl., 4-seater.....	Feb. 1930	Riley Nine, 4-seater.....	June 1931
Alvis 4-cyl., 12.60 h.p., 2-seater.....	July 1931	LAGONDA 2-litre 4-cyl., twin o.h.c. 4-seater	Jan.-Feb. 1928	SINGER 1½-litre, 6-cyl., Le Mans 2-seater	March 1935
Alvis 6-cyl., "Silver Eagle" 4-seater coupe (1929).....	Aug. 1931	Lagonda 2-litre, 4-cyl., twin o.h.c. supercharged 4-seater	Oct. 1930	Singer Nine, 4-seater	March 1933
Alvis 6-cyl., "Silver Eagle" 4-seater	June 1930	Lagonda 4½-litre, 4-seater.....	May 1936	Squire 1½-litre, 4-cyl., 2-seater.....	Aug. 1935
Alvis 3½-litre saloon.....	Feb. 1936	Lagonda 4½-litre Rapide 4-seater...	May 1935	S.S. I special-bodied 2-seater (1933)	Feb. 1934
Alvis Speed Twenty Vanden Plas saloon	Feb. 1935	Lagonda 4½-litre, 4-seater.....	Jan. 1934	S.S. I coupe.....	June 1933
Alvis Speed Twenty Charlesworth saloon	Feb. 1934	Lagonda Rapier 10 h.p., 4-seater...	Sept. 1934	S.S. II coupe.....	May 1932
Alvis Speed Twenty 4-seater.....	June 1932	Lagonda 16.80 h.p., 6-cyl., 4-seater	Jan. 1933	Steyr Type XII, 14.35 h.p., Weymann saloon.....	Aug.-Sept. 1928
Ansaldo 2-litre, 4-cyl., o.h.c., 4-str....	Sept. 1924	Lagonda 3-litre, 6-cyl., 4-seater.....	March 1932	Stutz "Black Hawk" supercharged 4-seater	Jan. 1930
Armstrong-Siddeley 20 h.p., 6-cyl., 4-seater	July 1933	Lagonda 2-litre, 4-cyl., twin o.h.c., 4-seater (1928)	March 1931	Stutz 5-litre, 8-cyl., 4-seater.....	Dec. 1927
Aston-Martin Mark II, 11.9 h.p., 2-4-seater	Jan. 1935	Lancia Augusta 11.9 h.p., saloon...	Sept. 1934	Sunbeam 3-litre, 6-cyl. (twin o.h.c.) fabric saloon.....	Nov. 1927
Aston-Martin Ulster 11.9 h.p., T.T. 2-seater	Oct. 1935	Lancia Astura, 25 h.p., 8-cyl., James Young saloon.....	Nov. 1932	Sunbeam 6-cyl., 21 h.p. (push-rod) Speed Six saloon.....	Dec. 1933
Aston-Martin Le Mans 11.9 h.p., 2-4-seater	June 1933	Lancia Dilambda 31 h.p., 8-cyl., saloon	Dec. 1930	TALBOT "90" Brooklands-bodied 2-4-seater	April 1931
Aston-Martin International 11.9 h.p., 4-seater	Aug. 1932	Lea-Francis 1½-litre supercharged T.T. 2-seater (1929).....	June 1934	Talbot "105" sports saloon.....	April 1934
Aston-Martin T.T., 11.9 h.p., racing 2-seater	Dec. 1931	Lea-Francis 1½-litre supercharged special T.T. 2-seater	Sept. 1933	Talbot 3½-litre saloon	March 1936
Aston-Martin 11.9 h.p., 2-seater.....	Jan. 1930	Lea-Francis 1½-litre supercharged "Hyper" 4-seater	Aug. 1930	Talbot Ten "Rally" 4-str.	Oct.-Nov. 1936
Auburn 30 h.p., 8-cyl. supercharged 2-seater	June 1935	MERCEDES-BENZ Type 540K, 5.4-litre, 8-cyl., supercharged, 2-str....	April 1937	Talbot "105" Vanden Plas 4-str....	Nov. 1932
Austin Seven Boyd Carpenter 2-str.	Sept. 1930	Mercedes-Benz Type 500, 5-litre, 8-cyl., supercharged, 2-seater.....	Nov. 1934	Talbot "90" 4-seater.....	Nov. 1930
Austin Seven "65" 2-seater.....	Jan. 1934	Mercedes-Benz 12.40 h.p., supercharged 2-seater.....	June 1925	Tatra 4-cyl., 1,154 c.c., coupe.....	Dec. 1932
BENTLEY 3½-litre, 6-cyl., Vanden Plas, 4-seater.....	Nov. 1933	Mercedes-Benz 36.220 h.p. supercharged, 2-4-seater	April 1928	Terraplane, 8-cyl., 29 h.p., 4-str....	July 1935
Bentley 4½-litre, 6-cyl., Park Ward saloon	June 1936	Mercedes-Benz 33.180 h.p., supercharged, 4-seater.....	Aug. 1927	Triumph 2-litre "Vitesse Six" saloon	April 1935
Bentley 6½-litre, 6-cyl., long-chassis saloon (1928).....	Dec. 1936	M.G., 6-cyl., Mark I, 4-seater.....	May 1931	Triumph 10 h.p. "Gloria Southern Cross" 2-seater.....	June 1935
Bugatti 3.3-litre 8-cyl., Type 57 saloon	May 1934	M.G. Midget Jarvis 3-4-seater.....	Jan. 1931	Triumph 10 h.p. "Gloria saloon	Jan. 1934
Bugatti 2.3-litre 8-cyl., Type 55, supercharged, 2-seater.....	July 1932	M.G. Magna, 12 h.p., Abbey 4-seater	Feb. 1932	Triumph Nine "Southern Cross" 4-seater	June 1932
Bugatti 2.3-litre, 8-cyl., Type 43, supercharged 4-seater (1930).....	Dec. 1932	M.G. Magna, "L" 2-seater.....	Nov. 1933	Triumph Eight "Gnat" 2-seater...	Aug. 1931
Bugatti 2.3-litre 8-cyl., Type 43, supercharged 4-seater.....	May 1930	M.G. Midget "P" 2-seater.....	Aug. 1934	Triumph Eight, supercharged 2-str.	Dec. 1929
Bugatti 3-litre, 8-cyl., Type 44, saloon	July 1928	M.G. Midget "J3" supercharged, 2-seater	May 1933	VALE-SPECIAL 832 c.c. 2-seater...	Aug. 1933
		M.G. Midget 750 c.c. Montlhery supercharged 2-seater (1931).....	May 1932	Vauxhall 30/98 O.E. 4-seater (1925)	Jan. 1936
		M.G. Six Mark I, saloon.....	Aug. 1930	Vauxhall 30/98 O.E. 4-seater (1924)	Dec. 1930
		M.G. Midget Double-Twelve racing 2-seater.....	June 1930 & Aug. 1930	Vauxhall 20/60 .p. Velox "saloon	May 1929
		M.G. Midget "J1" 850 c.c. 2-str....	Sept. 1932	Vauxhall 20/60 h.p. "Hurlingham" 2-seater	Feb. 1930
				Vauxhall 17 h.p., 6-cyl., "Cadet" saloon.....	Sept. 1931
				Vauxhall 14 h.p. "Stratford" 4-str.	Sept. 1933
				WINDSOR 4-cyl., 11 h.p. "Special" 2-3-seater	Nov. 1926
				Wolseley Hornet Swallow 2-seater (1933)	April 1934
				Wolseley Hornet E.W. "Daytona-Special" 4-seater.....	May 1932
				Wolseley Hornet (12.08 h.p.) saloon	Sept. 1930

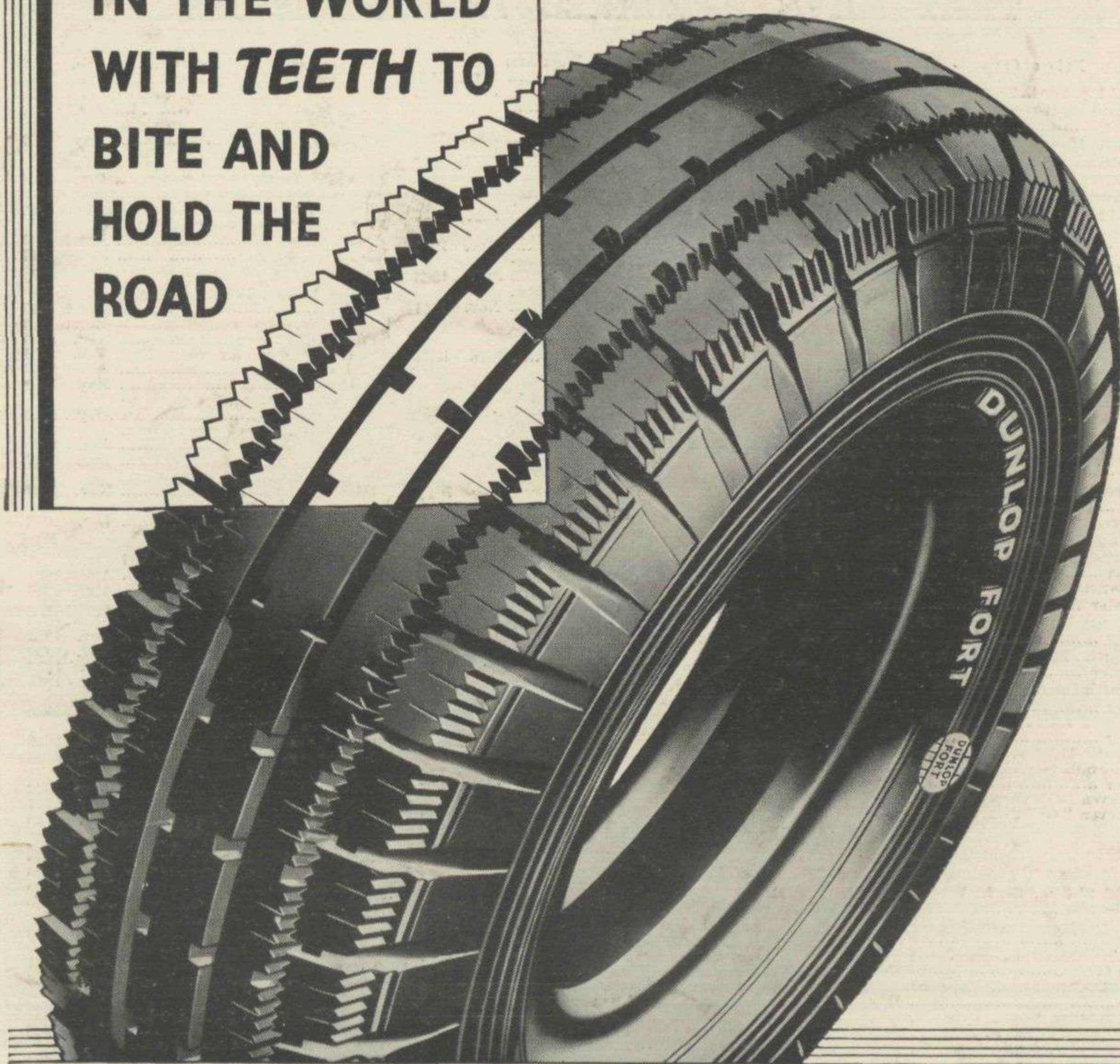
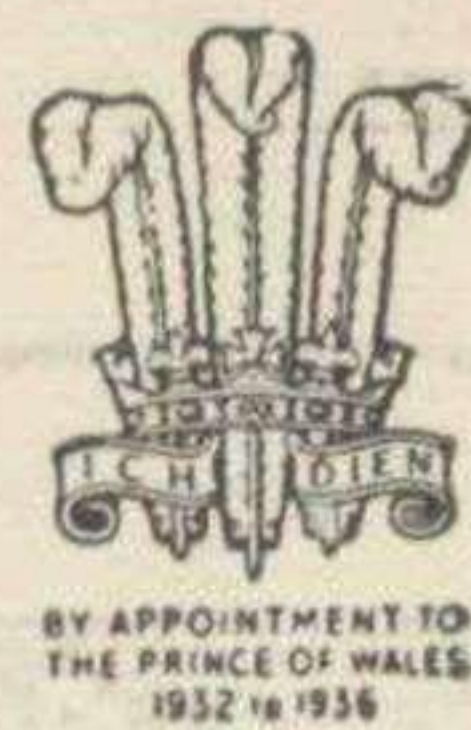
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