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MOTOR FOR RELAXATION

THE person who reads MOTOR SPORT wants no prompting when it comes to going on with this motoring. If he is without a car at present, it is very probable that it is only because he is taking advantage of this busy and restricted age to carry out a careful overhaul and modification prior to some further spells behind the wheel.

Now that nearly every active person is fully occupied either serving with H.M. Forces, in A.R.P. or other Home Defence services, or on war work of national importance of some kind or another, the time for relaxation is curtailed, but the need of it is more accentuated than ever before. Motoring is regarded as an ideal means of relaxation by ordinary car-owners, and, to the enthusiast, to be deprived of his motoring would act as a counter to any other relaxation he might enjoy.

Fortunately, a year of full-scale war has not stopped private motoring. Nor is there any need to feel ashamed of using a car on the basic ration of fuel. Those " men of wrath," as " J. D. A." calls them, who seek to have private motoring banned in time of war, have their answer in a number of undisputable facts :—

(1) The present tax on horse-power and fuel is such that the ownership of a car becomes a more patriotic gesture than converting the equivalent expenditure into Savings Bonds.

(2) The permissible basic fuel ration represents only a very minute proportion of the oil which it is essential to bring across the seas to maintain our war effort, so it is ridiculous to suggest that private motoring is needlessly endangering our seamen's lives.

(3) Pool spirit is largely composed of a by-product of distillation in obtaining the high-octane fuel burnt in our fighting aircraft, and so is not direct robbery of valuable military stock.

(4) By continuing to use your car you are reducing unemployment figures, which would be greatly increased by the total collapse of the garage and second-hand car trades.

So you may continue to use your car with a clear conscience while basic fuel rations are issued. We hope that enthusiasts will show their superior keenness and driving efficiency by taxing their cars throughout the coming winter, remembering that with the masked headlamp night driving in the black-out has lost much of its unpleasantness. Even impecunious enthusiasts need not despair, for under the less hurried motoring conditions now prevailing, with more time for work in the garage, and annual mileage restricted to a half or a quarter that once put in, the really cheap, vintage small car should give satisfactory " fun-motoring " in skilled hands. This is a matter which we have had no compunction in referring to elsewhere in this issue, although we shall always decry the use of very old cars by ordinary drivers in the crowded conditions of peace.

ENTHUSIASTS IN THE SERVICES

As we close for press comes news of a few more enthusiasts willing to entertain fellow enthusiasts in the Services. Their letters will be published next month, but in the meantime lonely Service personnel might like to get in touch with them :—

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1½-LITRE RACING FROM 1935

THE SECOND PART OF AN ARTICLE WHICH COMMENCED IN THE AUGUST ISSUE, WHEREIN IS REVIEWED INTERNATIONAL 1½-LITRE RACING FROM 1937-1940

THE first 1½-litre International fixture of the 1937 season was the Circuit de Turin. "Bira," Tongue and Bjornstadt handled E.R.A.s against thirteen Maseratis. "Bira" was badly baulked, first by Dreyfus and then by Bianco, but he got the lead on lap 15 and was soon 17 secs. ahead, when his gearbox gave trouble and he had to retire. Bjornstadt then showed magnificent form and passed both Maseratis, Dreyfus being able to do just nothing at all about it, though he passed Bianco. The E.R.A. won at 55.78 m.p.h. In the Coupe Princesse de Piemont race over a 2½-mile figure-of-eight circuit, Cortese (Maserati) led away, with Trossi, "Bira" and Bianco on his tail. "Bira" got his E.R.A. ahead and Cortese came in for plugs. Trossi then came sensationally into the picture and built up a big lead from "Bira," winning for Maserati by 59.2 secs. at 51.4 m.p.h. "Bira" was second, Bjornstadt (E.R.A.) third, with three Maseratis behind.

Came Tripoli, on that so fast circuit, the 1½-litre race being over 278 miles. It was a definite Italian victory, Dreyfus winning in 2 hrs. 33 mins. 55.7 secs. at 107.9 m.p.h., from Cortese and Severi—Maser. 1, 2 and 3. The Targa Florio had by now become a 1½-litre race, and Severi (Maserati) covered the 196 miles in 2 hrs. 55 mins. 49 secs., at 66.9 m.p.h., winning from Lurani's Maserati and Bianco's Maserati.

So to the Nurburg Ring for the Avusrennen. Charles Martin had bent a valve in practice with his E.R.A., but nevertheless had lapped at 123.1 m.p.h., and he was in the front row at the start. Martin led lap one easily from Cortese (Maserati). On lap two Bjornstadt (E.R.A.) was second, but when he burst a tyre Cortese again took this position. Charles drove an exceedingly clever race, saving his tyres in the intense heat until Cortese was a mere second behind, then drawing away. Cortese retired, and, lapping in record time at 122.7 m.p.h., Martin won by 3 mins. 52 secs. from Castlebarco's Maserati, at 119.6 m.p.h.—a most convincing British victory. Plate, now with a Maserati, was third.

The I.O.M. was the next 1½-litre stage. Practice was marred by a fatal accident to Jucker, who crashed his Alta at Port Jack corner, but was rendered interesting because "Bira" lapped at 75.1 m.p.h. in the ex-Seaman Delage, before deciding to run his E.R.A., with which he tied with Mays for fastest lap at 78.45 m.p.h. "Bira" led at the start from Mays and Fairfield. By lap four, Fairfield was second and Tongue third. In spite of heavy rain the leaders were averaging over 70 m.p.h., and as the E.R.A.s began to experience brake weakness that had troubled them from the beginning of the season, Villoresi (Maserati) came up to second place, 40 secs. behind "Bira." Then the E.R.A. of Fairfield got past and three laps later the Maserati retired with a choked fuel line. Mays, running forth, did a record lap at 73.15 m.p.h. Fairfield and Mays both passed "Bira" when he refuelled, but they were quickly caught, Fairfield now almost without brakes. "Bira" won at 70.69 m.p.h., 42 secs. ahead of Mays, with Fairfield third, Tongue fourth, and Walker and Whitehead fifth—E.R.A. in the first five places. Fairfield got his E.R.A. through without refuelling, and Arthur Dobson and Robin Hanson drove Maseratis of the six-cylinder type.

The next International 1½-litre contest was also a British event—the Nuffield Trophy at Donington. As usual, the 1½-litre cars were handicapped. This race clashed with the Florence fixture, but six E.R.A.s met the Maseratis which Villoresi, de Graffenried, and du Poy had handled in the I.O.M., and the Austins were running. Martin led the 1½-litre cars until Fairfield, on the black works E.R.A., went ahead. The Maseratis were quite outclassed, and Goodacre's Austin led the field. About half-distance Mrs. Petre and Hadley retired their Austins and Goodacre, trying to make up a serious time-loss due to his car failing to restart after the pit-stop, crashed at Coppice Corner. Maclure's Riley then led for a while, but Fairfield took the lead at 40 laps. He won at 65.89 m.p.h., from Arthur Dobson and Mays, with Maclure fourth, and de Graffenried fifth. Martin was delayed by fuel feed trouble and Scribbans's E.R.A. broke a piston.

Meanwhile, Florence was the scene of squabbles, Dreyfus and Prince Chula both protesting that the timing of the practice laps was inadequate. There were sixteen Maseratis against the E.R.A.s, including Trossi with Furmanik's four-cylinder record-holder, Dreyfus with the six with which Trossi won at Naples and Johnnie Wakefield's new six. Embiricos crashed his E.R.A. in practice and did not run. "Bira's" E.R.A. led for four laps, and then Trossi led, while Bianco and Dreyfus passed "Bira" as the E.R.A. brakes weakened. Trossi now caused a sensation by coming over faint in the intense heat, handing over to Rovere. Dreyfus led until the finish, winning in 2 hrs. 3 mins. at 70.55 m.p.h., but Trossi, recovered, did an immense dice, coming

SUCCESSES OF THE BRITISH E.R.A. IN INTERNATIONAL 1½-LITRE CONTESTS

1934	
Nuffield Trophy	Raymond Mays
1935	
I.O.M. Mannin Beg	Pat Fairfield
Eifelrennen	Raymond Mays
Nuffield Trophy	Pat Fairfield
Dieppe	Pat Fairfield
Coppa Acerbo	Richard Seaman
G.P. de Berne	Richard Seaman
Masaryk G.P.	Richard Seaman
1936	
Prince Rainier Cup	"B. Bira"
Picardie G.P.	"B. Bira"
Nuffield Trophy	Charles Martin
G.P. de Albi	"B. Bira"
1937	
Circuit de Turin	Bjornstadt
Avusrennen	Charles Martin
R.A.C. I.O.M. Light Car Race	"B. Bira"
Nuffield Trophy	Pat Fairfield
Picardie G.P.	Raymond Mays
G.P. de Albi	Raymond Mays and Humphrey Cook
Prix de Berne	Arthur Dobson
Phœnix Park	Raymond Mays
1938	
Cork	"B. Bira"
Picardie G.P.	Raymond Mays
Nuffield Trophy	"B. Bira"
1939	
Nuffield Trophy	"B. Bira"

Outright victories achieved by cars made by E.R.A. Ltd., of Bourne, Lincolnshire, a small private company, against the pick of the world's 1½-litre cars in International contests.

1½-LITRE RACING FROM 1935—*continued*

up from the rear to second place. Bianco was third, Cortese fourth, Tongue's E.R.A. fifth. "Bira" ran out of road twice and retired.

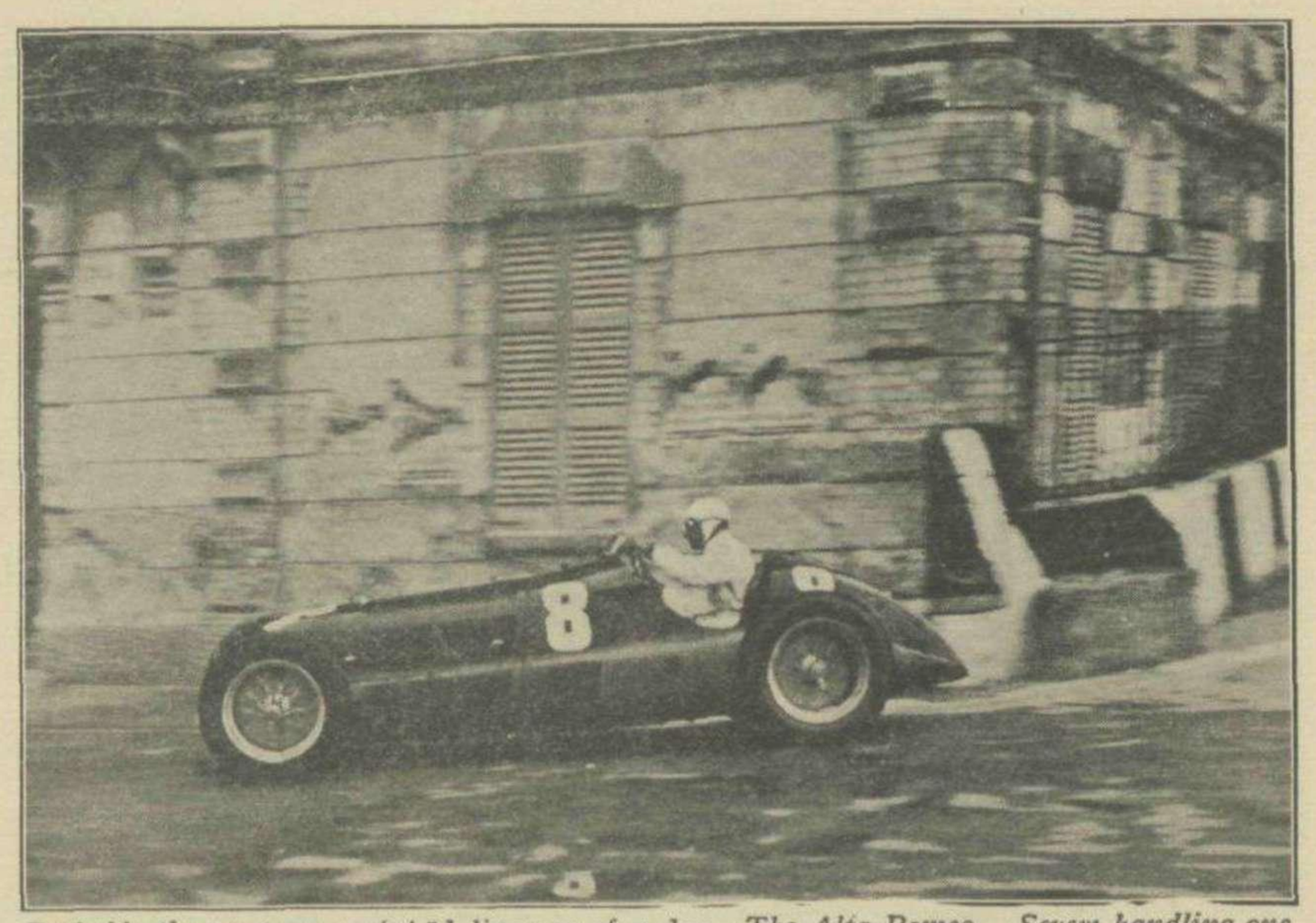
The 1½-litre Milan Race was another Maserati walk-over, the works E.R.A.s being absent. Twenty started and Severi, Rovere, Siena, E. Villoresi and L. Villoresi led lap one. On lap six, Severi retired, but "Bira's" engine also packed up. Siena, driving sanely, passed Rovere, who later retired, allowing Marazza to become second with an old two-seater hill-climb Maserati. Cortese was third, Tongue's E.R.A. fourth, and Whitehead's E.R.A. was eighth. E.R.A. recovered the laurels at Peronne. The first heat of the Picardie G.P. was won by Dreyfus (Maserati) in 41 mins. 34.2 secs. at 87.58 m.p.h., from Robin Hanson's Maserati and du Poy's Maserati. "Bira's" ex-Seaman Delage led from lap two, until it called at the pits and finally retired with engine and clutch trouble. The second heat was an easy victory for Mays, who beat de Graffenried's Maserati by 3 mins. 41.8 secs., averaging 87.72 m.p.h. Martin and Whitehead (E.R.A.s) retired. Mays won the final fairly easily, finishing 1 min. 43 secs. before Dreyfus, at 91.33 m.p.h. Wakefield's Maserati was third.

At Albi, Mays broke an axle shaft while leading the first heat, Villoresi (Maserati) winning in consequence from the E.R.A.s of Tongue and Cook. Mays took over Cook's car for the second heat, and won by 2 mins. 5 secs. from Charles Martin's E.R.A. at 92.48 m.p.h., with Righetti's Maserati third, and Tongue fourth. The combined times gave the final placings as: Mays and Cook, tie at 90.51 m.p.h., Martin, Tongue. In the 30 Mile San Remo race, Maserati finished 1, 2, 3, Varzi winning at 60 m.p.h. from Dusio and Rocco.

Maserati were again 1, 2, 3 at the finish of the Coppa Acerbo, Rocco winning by 6 secs. from Bianco, at 77.77 m.p.h., with Cortese third.

Next came the Prix de Berne, in which Mays and Dobson handled the new, independently sprung works E.R.A.s. There were thirty-four entries in all. In practice "Bira's" E.R.A. broke a piston, and Villoresi set a new 1½-litre lap record with his Maserati. Most of the E.R.A.s had trouble. The race was contested over two heats of 14 laps each, with the Final over 21 laps (160 miles) of the Bremgarten circuit. Emilio Villoresi led the first heat easily, though Mays closed at the end and was second, 2 secs. to the bad, with Martin third. Dobson won the second heat, 17 secs. ahead of Cortese (Maserati) with "Bira," going carefully with patched-up engine, third. Rain had wetted the road for the Final, and this hardly suited the official E.R.A.s. Cortese and Villoresi led lap one from "Bira," Mays, and Dobson. Then, as the rain became really torrential, "Bira" took the lead and got 7 secs. ahead of Villoresi. The rain eventually eased off, but not before Villoresi had eliminated his Maserati in a very bad skid. As the road dried, Dobson passed "Bira" and Mays was going well in third place, with Martin fourth. A curious incident now occurred. Berg's Maserati crashed and lit up, and officials flagged the cars to slow down. Dobson mistook the signal and stopped altogether, and "Bira" passed as he restarted. Dobson now truly opened up, and both he and Mays, with the works cars, overtook "Bira's" older E.R.A. Mays next passed Dobson to lead, but, easing up just before the line, he let Dobson pip him by about half-a-car's length. "Bira" was third, Cortese fourth, Martin fifth. Dobson's time was 1 hr. 9 mins. 5.6 secs.; his average 87.5 m.p.h.

The growing appeal of the 1½-litre scratch race had become evident to the Irish Motor Race Club, and at the Phœnix Park meeting they held such a contest, of 100 miles duration. Eleven cars entered, comprising Mays's works E.R.A., Tongue, Whitehead, and Cotton (E.R.A.s), Wakefield, Aitken, Hanson and Austin Dobson with six-cylinder Maseratis, O'Boyle's "Wilky"-tuned Alta, "Bira's" ex-Seaman, re-bodied Delage, and the second works E.R.A., which Arthur Dobson should have handled, but which was scratched as it carried Mays's 2-litre engine for the handicap race. In practice Mays set a new lap record of 2 mins. 29 secs., or 103 m.p.h., and Wakefield did second best time with his newly-acquired Maserati, in 2 mins. 31 secs., or 101.6 m.p.h. The Delage lapped in 2 mins. 32 secs., or 100.9 m.p.h. In the race, Whitehead's E.R.A. retired at once, and the first lap saw Mays easily ahead, with "Bira's" Delage second, and Cotton's E.R.A. third. Wakefield's Maserati got into third place on lap two, and closed with the Delage thereafter, until by lap eight "Bira" was barely a length ahead. After 10 laps "Bira," who had been passed by Wakefield, was again second. A great duel had developed between the old Delage and the new, but likewise imported, Maserati. On lap 12 Wakefield passed "Bira," but four laps later the Delage was a bare second behind. Mays, meanwhile, kept a healthy lead. On lap 19 the Delage ended its great run with a broken near side rear spring, and Cotton came into third place. Mays won a very easy race at 102.9 m.p.h., and his Zoller-E.R.A. had set the lap record at 2 mins. 27 secs., equal to 104.36 m.p.h. Wakefield was second, Cotton third, Hanson fourth, and no one else finished. In the 73 mile Lucca Race, Maserati were 1, 2, 3 in the order, Trossi, L. Villoresi, Rocco, the race being won at 58.31 m.p.h.



Probably the most successful 1½-litre car of o-day—The Alfa-Romeo. Severi handling one of these cars at Livorno, where they first appeared

The 1937 1½-litre season closed with the G.P. de Brno, at Masaryk. Eighteen cars entered, including eight Czech entries of Amilcar, Bugatti and M.G.s. Villoresi, Hartmann, du Poy and Graffenried handled Maseratis, and "Bira" and Martin E.R.A.s. In practice Martin did the most rapid lap, and "Bira's" E.R.A. again broke a piston. The race was over five laps, a total distance of 95 miles. Twelve cars started. "Bira" made a great effort to catch Martin when the flag fell, but misjudged a corner and had to use the escape road. Nevertheless, after the first lap, Martin led by only 2 secs. from "Bira" with Villoresi third, and Hartmann fourth. Martin, driving grandly, pulled away from "Bira," but on lap four "Bira" momentarily passed Martin. The effort proved too much for "Romulus" and a piston again collapsed. "Bira" just managed to limp home in fourth place, ahead of Sajka's Bugatti. Martin, too, was right out of luck, for at the very end one cylinder went out, and Villoresi won at 77.6 m.p.h. Hartmann was third.

1½-LITRE RACING FROM 1935—*continued*

The 1937 score was remarkably well divided, E.R.A. getting eight firsts, six seconds, and six thirds, and Maserati eight firsts, ten seconds and ten thirds. The favour was thus rather with the Italian marque, and it had beaten the older E.R.A.s every time on the Continent, after the Avusrennen, the E.R.A. victories at Picardie, Albi and Berne being with the latest works cars. Incidentally, there was a 1½-litre race at the October Brooklands meeting, for the Siam Challenge Trophy, 750 c.c. and 1,100 c.c., however, getting a handicap start. Raymond Mays won with the works E.R.A. at 80.08 m.p.h., doing one lap of the Mountain circuit at 82.27 m.p.h.

This has not been considered of sufficient importance to include in the annual score. Actually, 1½-litre cars were very prominent in other races, Fairfield's E.R.A. winning the S. African G.P., and the Rand G.P., in which Howe's E.R.A. was second, while E.R.A. won the Coronation Trophy, London G.P., and Imperial Trophy races at the Crystal Palace, and the 200 Mile Race (A. C. Dobson) at Donington, and Mays won the British Empire Trophy with the 1,100 c.c. E.R.A. There were also many "places." E.R.A. used the C-type cars, with Porsche independent torsional suspension, Lockheed-Girling brakes, and the big Zoller compressors. They were probably somewhat heavier than the earlier Murray-Jamieson blown cars, but developed something like 210 b.h.p. Lord Howe's E.R.A. was converted to C-type. Maserati used six-cylinder 1½-litres, developing about 180 b.h.p. at 6,600 r.p.m., but developed a four-cylinder, sixteen-valve job at the close of the season, which Trossi and Lurani brought to the Crystal Palace. Lurani's had quarter-elliptic rear suspension.

Ireland has long been a motor-racing-minded country, and for 1938 the Irish Motor Racing Club staged a very ambitious racing programme at Cork, which included a full Formula G.P. and a 1½-litre scratch race over 73 miles. This constituted the first important race of the 1938 1½-litre season, and attracted "Bira," Rolt, Wilson, Connell and Dobson with E.R.A.s, and L. Villoresi, Soffietti, Graffenried, Hug, Wakefield and Hanson with Maseratis. "Bira" had acquired a Zoller-blown, C-type E.R.A. ("Hanuman") and was driving this car. In practice he found that the Zoller-blown engine did not permit using bottom gear at Poulavone hairpin, and this gear was on the point of stripping anyway, but in spite of this, and the car's slow getaway from other acute corners, it was obviously the fastest on the course. After one lap, Dobson led it by 2 secs., with Hug, Villoresi, Wakefield, and Connell behind. Connell was soon out with piston trouble, but an immense duel developed between "Bira's" rather-handicapped C-type E.R.A. and Dobson's much older car. "Bira" got by on lap two, but went wide the next lap at Victoria corner, letting Dobson through, though after three laps "Bira" led again by a bare second.

Dobson next got by at Poulavone, to be repassed on the straight. "Bira" did 138 m.p.h., and finished the lap with a lead of 5 secs., setting a new lap record of 3 mins. 56 secs., 2 secs. faster than the unlimited record. Behind, another duel was being fought between the Maseratis of Wakefield and Villoresi, until Wakefield crashed on lap 11, and was taken to hospital with broken ribs. "Bira" equalled his lap record on lap seven, and for the next three laps drove with remarkable consistency, finally winning by 1 min. 40 secs., at 91.47 m.p.h. Dobson was second, and Villoresi, who had eased up, third.

The Picardie Race, over the splendid Peronne circuit, followed. Thirteen 1½-litre cars entered, comprising Mays, "Bira," Lord Howe, Wilson and Wakefield with E.R.A.s, Hanson, Hug, Bianco, Soffietti and Lanza with Maseratis, two M.G.s and a Bugatti. Mays had the latest works E.R.A. with Luvax shock-absorbers, "Bira" and Howe had C-type cars, but the other E.R.A.s were Roots-blown jobs. Hug had the "Tripoli" four-cylinder Maserati with i.f.s. and splayed quarter-elliptic rear suspension. Practice was a busy affair, for Mays's engine seized its piston rings and had to be dismantled, and "Bira" had his axle-ratio changed, and then re-changed to the original ratio. Lord Howe lapped fastest, at 94.57 m.p.h. In the first heat, Howe, representing the works, led at first from "Bira," but the latter got ahead and drew steadily away, setting a new lap record of 95.8 m.p.h. Hanson retired with supercharger trouble, and Bianco was third. "Bira" averaged 94.1 m.p.h. Mays won the second heat very convincingly, at 89.07 m.p.h., Wilson's E.R.A. was second, and Lanza's Maserati third. Wakefield retired Connell's E.R.A. with a broken piston, and Hug's brakes went back on him. The Final was pretty terrific. Mays led off, but found he had lost bottom gear when he wanted it at the end of the long straight. He ran up the bank at Brie hairpin as a result, and "Bira" passed; meanwhile, Howe was out, defeated by supercharger trouble which worried him in the first heat. Mays now had the same worry that "Bira" had had at Cork; no bottom gear and the Zoller-blown motor unwilling to get going from slow corners. "Bira" built up a minute's lead, but on lap nine a connecting rod broke and ended his drive. So Mays, in the latest thing in E.R.A.s, won by 1 min. 53.6 secs. from Bianco's Maserati, at 90.94 m.p.h. He took 1 hr. 0 min. 33 secs., and it must have been a tiring drive, for amongst his other anxieties, the throttle spring broke, and the pedal had to be lifted by toe. The E.R.A. got up to some 155 m.p.h. along the straight to Brie . . . . Soffietti was third, and Wilson's E.R.A. fourth.

The next race was our Nuffield Trophy at Donington, which was of International status, and limited to 1½-litre cars, although, as before, 750 c.c. and 1,100 c.c. cars actually received a handicap start. There were twenty-seven entries, and twenty-two starters. Dobson's old E.R.A. made a beautiful start, but was passed by "Bira's" Zoller-E.R.A. and Aitken's Maserati Six in the first lap. Howe retired the works E.R.A. in five laps, and after 10 laps "Bira" led on handicap from Hadley's Austin and Dobson's E.R.A. "Bira" never made a mistake, and won by 22 secs. at the record speed of 72.54 m.p.h. for the 200 miles. Hadley's Austin was second, Dobson's E.R.A. third, Dodson's Austin fourth, and Rolt's E.R.A. fifth.

The Albi race suffered from a lack of British entries on account of the Nuffield Trophy being run the day before. However, Mays took over the latest 1½-litre E.R.A. It set up the fastest race lap at 96.19 m.p.h., but unfortunately supercharger trouble, due, it is believed, to faulty material, put it out in the first heat. Bianco, who had put up the fastest practice lap at 93 m.p.h., had a terrible crash in the first heat, in which there were nine starters. The Maserati rolled over twice, and chopped a telegraph pole in two, Bianco going to hospital with fairly extensive injuries. The race was an easy victory for Villoresi's Maserati, from Teagno and Soffietti on cars of the same make. The second heat saw a mere six cars engaged, of which Hug's stood little chance of appearing in the final placings, as it retired in the first heat. Nevertheless, Hug drove remarkably well, winning by 1½ mins. from Villoresi, with Plate's old Talbot third. His best lap was at 92.12 m.p.h., and he averaged 89.49 m.p.h. The final placings were: Villoresi, 88.9 m.p.h., Soffietti, Plate.

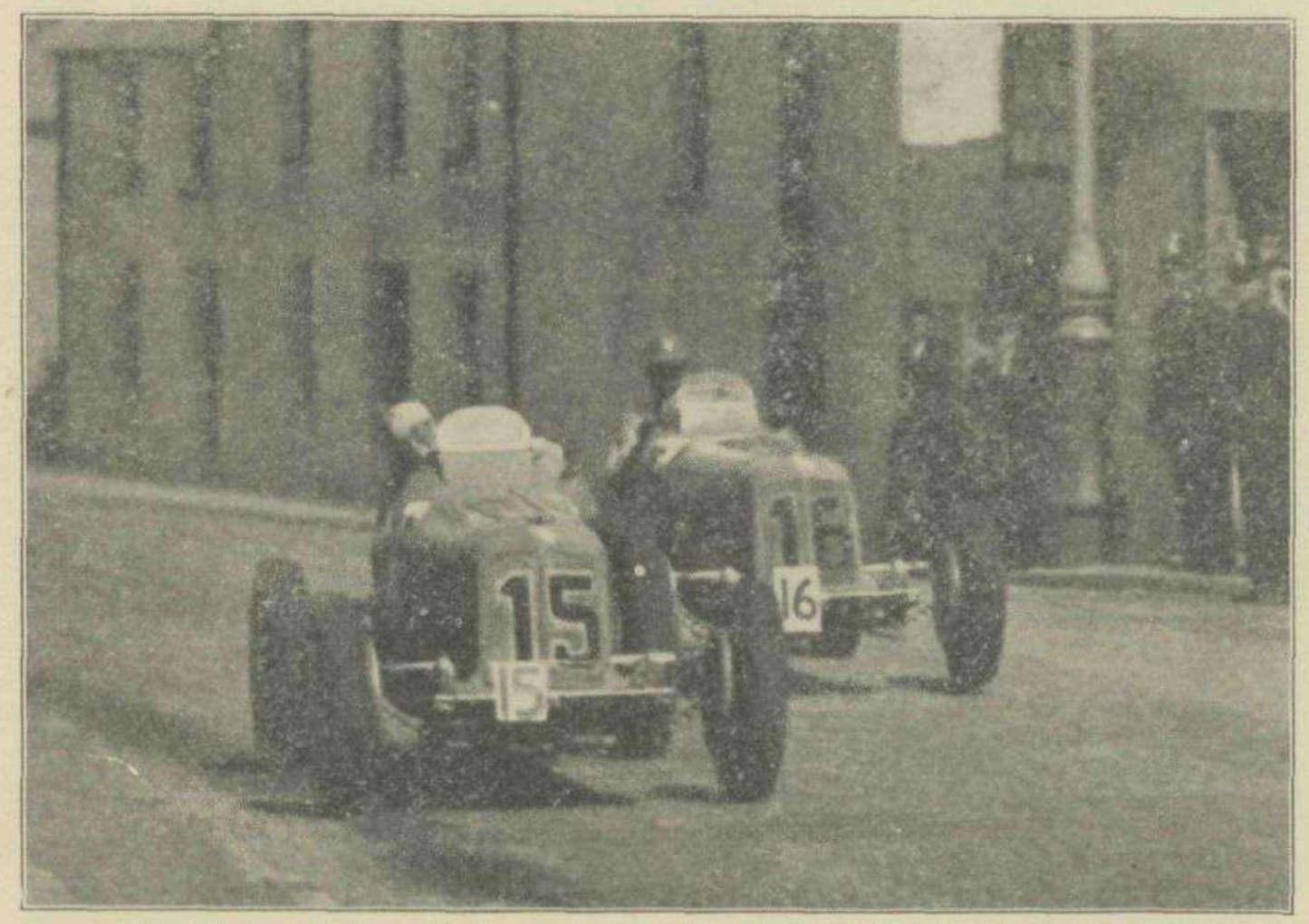
So to Livorno, for the Coppa Ciano, which preceded the race for the big stuff. This event marks a most important stage in 1½-litre history, for the long-awaited straight-eight Alfa-Romeos made their first appearance.

They had a walk-over, Emilio Villoresi winning in 1 hr. 5 mins. 21.6 secs., at 82.7 m.p.h., from Biondetti, no one else finishing. And they were very, very rapid. A return match between the new Alfa-Romeos and Maserati happened in the Coppa Acerbo, at Prescara. In practice Emilio lapped in 11 mins. 43 secs., only 17 secs. slower than Nuvolari's Auto-Union. However, in the race the contrast between the long straights and the hilly sections of the circuit seemed to upset the plugs, and both Alfas were continually at the pits. Villoresi retired, but after long delays Severi got going to the tune of 139.53 m.p.h. over the kilo, against Pietsch's 135.9 m.p.h. with the quickest Maserati. However, he could only manage fifth place, and Luigi Villoresi won for Maserati at 82.06 m.p.h., in 1 hr. 10 mins. 40 secs., 2 mins. 49 secs. ahead of Pietsch, with Barbieri's and Libeccio's Maseratis third and fourth.

After this defeat, the Alfa-Romeos, destined to add so much interest to *voiturette* contests, did not appear at Berne. In the practice period, Mays with his E.R.A. had things all his own way, until L. Villoresi beat his time with the Maserati. At the start of heat one, Villoresi, Pietsch and Berg got clean away from the E.R.A.s, and "Bira" retired with carburation trouble on the first lap. As the race developed, first Berg and then Villoresi retired, letting Wakefield and Wilson up into second and

1½-LITRE RACING FROM 1935—*continued*

third places with their E.R.A.s. However, they could not catch Pietsch on his works Maserati, which won in 48 mins. 56.6 secs. Wilson was second, Wakefield third. In the second heat, on a wet course, Mays and Howe got away from the four-cylinder Maseratis, and Rolt soon came up into third position. Mays won from Howe and Rolt in 46 mins. 30 secs. In the Final, Mays after a while took the lead from Pietsch, and when the Maserati retired, Howe was third. Then Mays's bad luck intervened, and his E.R.A. developed the old supercharger trouble and stopped. Howe's engine was misfiring, and Hug quickly grasped the lead, and Bianco and Wakefield also passed him. Rolt lost time with a stalled engine at the start, but thereafter drove his E.R.A. sensationally.



1936 : *Lehoux (E.R.A.) passes Howe (E.R.A.) at Onchan in the I.O.M. Race*

Hug took 1 hr. 10 mins. 0.5 sec., winning by 1 min. 40.3 secs. at 81.88 m.p.h. His car was tuned by Ruggeri and his mechanics shared in the modest celebration of the victory.

The amazing Alfettes, as the 1½-litre Alfa-Romeos became known, returned for the Milan G.P. In training, they proved faster than the new sixteen-cylinder G.P. Alfa-Romeo. Signor Dino, Italy's Propaganda Minister, inspected the cars before the start, getting a real Fascist salute from cheery Arthur Dobson. Dobson got off in terrific style as the flag fell, only to snap a half shaft almost immediately. Sommer shot into the lead with the Alfa-Romeo, but his car developed chronic misfiring and L. Villoresi led for four laps in his Maserati. However, engine trouble set in and brother Emilio came up, finally winning for Alfa-Romeo by 1 sec. from Severi's Alfa-Romeo. He took 1 hr. 11 mins. 4 secs. for the 175 kms., or 91.71 m.p.h. Sommer was out of the picture on account of plug trouble, but set up the best lap at 94.8 m.p.h., and in spite of a slipping clutch, Hug's Maserati was third, 3 mins. behind Severi. Sommer's car lit up just before the end, and Marazza (Maserati) misjudged the Lesino corner in the ensuing smoke-cloud and crashed badly, a tree branch piercing a lung. He died that night.

The season concluded with the circuit of Modena, over a hectic 55 laps of a 2 mile "round-the-houses" course in Alfa's home town. The complete team of straight-eight Alfa-Romeos retired, as, in fact, did fifteen out of the nineteen starters. The winner was Cortese with a works Maserati, at 63.08 m.p.h. Hug's Maserati was second, Dobson's E.R.A. third, and Plate, now with a Maserati, fourth.

So ended the last full racing season before the present war. E.R.A. was less in the picture, on account of mechanical troubles and less participation in Continental events, but interest in 1½-litre contests was greater than before, particularly on account of the Maserati-Alfa-Romeo rivalry. The 1938 score was :—Maserati : four firsts, five seconds and four thirds : E.R.A. : three firsts, one second and three thirds : Alfa-Romeo : two firsts, two thirds ; Austin : one second ; Talbot : one third. One-and-a-half-litre cars continued to perform outstandingly in other than purely 1½-litre contests. Howe's E.R.A. won the Grosvenor G.P. in Africa from two Maseratis, an Austin won the British Empire Trophy Race from two E.R.A.s, and Wakefield's E.R.A. won the 200 Mile Race, with Howe's E.R.A. third. At the Crystal Palace, "Bira's" E.R.A. won the Coronation Trophy and London G.P., and Abecassis's Alta the Palace Cup and Imperial Trophy. At Brooklands, the Siam Trophy was won by "Bira's" E.R.A. at 73.33 m.p.h. from Dobson's E.R.A., and an E.R.A. Invitation Race by Dobson, at 73.35 m.p.h., from Wakefield. The most interesting 1½-litre car of the year was unquestionably the straight-eight Alfa-Romeo. It had twin o.h. camshafts and Roots-blower, and gave 200 b.h.p. at 8,000 r.p.m., with a piston stroke of 70 mm. A frame of tubular members was used with independent front suspension by a transverse leaf spring. Maserati showed increasing interest in the four-cylinder engine, and used normally-disposed quarter-elliptic rear springs, in place of the former reversed quarter-elliptics and half-elliptics. The six-cylinder Maserati was now in common use in this country. E.R.A. retained the big Zoller compressor behind the engine, and the Porsche i.f.s. with Luvax shock-absorbers, but early in the season Howe's works E.R.A. apparently had friction shock-absorbers. E.R.A. changed to full Lockheed brake actuation with two-leading-shoe layout.

Nineteen-thirty-nine opened in a blaze of 1½-litre glory. E.R.A. announced an entirely new design, with a new engine, new chassis and new bodywork, and the appointment of a full-time racing manager, and Mercédès-Benz were rumoured to be entering the 1½-litre field. As early as January 2nd, a 1½-litre scratch race was held in Africa, and won by L. Villoresi's Maserati at 99.66 m.p.h., from Cortese, whose Maserati was 33 secs. behind. Dr. Massacuratti's Maserati was third.

Came Tripoli—one of the most sensational and significant races of recent times. It had purposely been made a 1½-litre scratch contest for 1939, following the failure of Italy's Formula cars. And then came rumours that Mercédès-Benz would still be in the field—with 1½-litre cars! True it was! Prepared and tested in great secrecy, two small Mercédès-Benz, scaled-down versions of the 3-litre Formula cars, were entered, to be driven by Caracciola and Lang. They were opposed by no fewer than six Alfettes, now better streamlined than before, and with new front suspension, in the hands of Farina, Biondetti, E. Villoresi, Severi, Pintacuda, and Aldrighetti. Maserati was represented by the works team of new cars driven by Trossi, L. Villoresi and Cortese, of which Villoresi's was fully streamlined on record-attacking lines, and by nineteen other cars. What a contest! . . . . During the training period, the fully faired Maserati did the fastest lap at 134 m.p.h., but Lang was a mere .5 sec. and Caracciola only 1.3 secs. slower.

Right from the start the two Mercédès-Benz went ahead, Lang leading Caracciola. It was intensely hot, and the less pessimistic Italians hoped that the German cars might discover teething troubles on this very fast circuit. Villoresi had not even left the line, the gearbox giving out, and Trossi and Cortese were out early with broken pistons. After 5 laps Lang led by half a minute from the fastest of the Alfettes, that of Farina, with Caracciola a close third. After 10 laps, Farina was out, and under a blazing sun the astounding Mercédès-Benz drew easily ahead. Lang set up the fastest lap, at 131.53 m.p.h., only 4.77 m.p.h. slower than his best lap in

1½-LITRE RACING FROM 1935—*continued*

the 3-litre Mercédès-Benz the year before. He won in 1 hr. 59 mins. 12.36 secs., at 122.9 m.p.h., an average only 4.55 m.p.h. below that at which he won the 1938 race. Caracciola crossed the line 3 mins. 37.28 secs. later in second place. Four minutes 10.36 seconds later E. Villoresi's Maserati took third place. The averages of the place men were 119.2 m.p.h. and 115.3 m.p.h. respectively. All the remaining seven places were taken by Maseratis.

A British driver scored a fine victory in the next important 1½-litre race, the Princess of Piedmont Cup at Naples. Johnnie Wakefield drove his new four-cylinder, sixteen-valve Maserati, and kept back for some time. For some 12 laps Rocco's works Maserati led, and then Villoresi on the second works car took the lead on lap 20. Refuelling rather muddled things, and then it was seen that Wakefield had a tiny lead and was smashing the lap record over and over again. Villoresi was trying exceedingly, but lost a gear, most of his decent carburation, and finally control at a corner. Wakefield won easily in 2 hrs. 24 mins. 50.8 secs. for the 150 miles from Taruffi's and Cortese's Maseratis. His lap record was at 65.49 m.p.h. and he averaged 63.62 m.p.h.

In that handicap, though strictly 1½-litre, event, the Nuffield Trophy, hopes ran high that the new E.R.A. would appear. However, the engine blew up in practice and was not repaired in time. Parnell's new 1½-litre Challenger was unready, the works Maseratis did not come over, and Tongue's latest-type Maserati had trouble in practice. In the end, seventeen started. At first Maclure led, his Riley now supercharged, but after five laps the gearbox packed up. At 10 laps "Bira's" E.R.A. led by 13 secs. from Mays's E.R.A., Mays now an independent. Whitehead, after stalling his E.R.A. on the line, was going great guns in third place. "Bira" got through without refuelling, to win by 1 min. 38 secs., at 75.87 m.p.h. Mays had been close behind until he had to stop for fuel, after which his engine misfired. He was second, with Whitehead third.

Picardie received poor entries, and it was wet, so one heat was cut out. In the heat, Wakefield's four-cylinder Maserati won extremely easily, at 81.2 m.p.h. from Hug's Maserati, with Tremouet's Amilcar third. In the Final, Sommer got over carburation trouble which spoilt his Maserati's chances in the heat, for three laps, when the bother returned. Hug needed plugs, and then retired with a broken piston, and Wakefield won by 12 miles at 82.03 m.p.h., Sommer two laps behind, and Horvilleur's Maserati third.

The French G.P. was preceded by the Sporting Commission Cup for 1½-litre cars, over 38 laps of the Rheims circuit, or 185 miles. Italy having decided not to race in France for political reasons, and Mercédès-Benz keeping the 1½-litre cars for venues at which the Formula cars could not appear, entries were poor. The new, low-built Merc.-like E.R.A. came out for practice, and, handled by our No. 1 driver, Arthur Dobson, lapped at nearly 101 m.p.h., being rumoured to have descended the straight from Virage de la Garenne to Virage Thillois at nearly 150 m.p.h. Alas, overheating, due to insufficient venting, damaged the valves and pistons, and the car was posted a non-starter. "Bira" crashed his E.R.A. and Hanson took the second works E.R.A. (old type) when his own E.R.A. disintegrated a main bearing. The race developed into a duel between Wakefield and Hug with sixteen-valve Maseratis. Johnnie led until his brakes weakened, and then Hug lapped at 99.27 m.p.h. with a stiff engine, and, getting faster and faster, won at 93.55 m.p.h., Wakefield second and Dipper's Maserati third. Le Mans Simca Fiats filled the next three places, Pollock's E.R.A. retiring with gearbox trouble and Hanson from lack of fuel.

So to the Albi Race. A great surprise was the appearance of the new E.R.A. It was expected to be thoroughly tested at Montlhèry and not to be seen again for some time, but here it was on the line. It had been run for an hour at the Paris track at 100 m.p.h. merely to run in new pistons and rings, necessary after the trouble at Rheims. Dobson lapped in practice at 97.13 m.p.h. which was fastest time, but 1.73 m.p.h. slower than the lap record set by Mays in 1937. Hug's Maserati and Mays's Zoller-E.R.A. did 96.65 m.p.h. In the second day's training, Hug crashed very seriously and fractured his skull. Wakefield's Maserati lapped 1 sec. faster than the new E.R.A. The first race saw the new E.R.A. leading from Wakefield, Tongue, "Bira" and Mays. Dobson did his second lap at 96.19 m.p.h. On lap 3, Mays lost a wheel and retired. It seemed as if the new, green E.R.A. must win, when a plug seemed to cut out. The pit then made the serious error of giving Dobson a "Stop Immediately" sign, as a result of which he hit a straw bale and split the fuel tank. Wakefield won from Tongue and "Bira." In the second race, Wakefield again won, but the end was exciting, because the Maserati needed much fuel and was disinclined to re-start after the stop. However, Wakefield won from Tongue and "Bira" again, and the final placing was Wakefield, at 93.91 m.p.h., Tongue's Maserati and "Bira's" E.R.A. Abecassis had his Alta's engine seize solid and was hit by the Brooke-Special.

Alfa returned seriously for the Coppa Ciano, their straight-eights tuned and modified. Farina lapped at 90.8 m.p.h. and kept out in front, strongly challenged by the Maseratis of Cortese and Taruffi. Biondetti's Alfa gave trouble, so Pintacuda was called in and his car given over to Biondetti. Severi then took over the sick car. Farina carried on happily to win by a lap from Cortese, at 86.32 m.p.h. The other Alfa was third, Taruffi fourth.

At Prescara practice was marred by the death of Aldrighetti, who was badly burned when his Alfa caught fire at speed. The Alfas had things entirely their own way, and finished in the first four places, Biondetti winning at 83.3 m.p.h. for the 224 miles. This was almost equal to Villoresi's lap record of the year before, and this time Farina lapped at 86.5 m.p.h. Pintacuda was over 2 mins. behind, with Farina third, Severi fourth, and Pollock's E.R.A. fifth. Villoresi's Maserati did best time over the kilo. at 147.14 m.p.h., but it retired.

This year Formula cars and 1½-litre cars ran together in the Final at Berne, but the races may be regarded as entirely separate. Farina's 1½-litre Alfa-Romeo created a sensation in practice by lapping at a speed only 5.4 secs. slower than Lang's best lap. In the first heat for 1½-litre cars Farina shot off, beating Dobson's old lap record on his standing lap, and leading Rocco's Maserati, Pietsch's Maserati and Biondetti's Alfa. On lap two he clocked 98.39 m.p.h. On lap five the two Alfas were out in front and Wakefield was third, and they finished in this order. In the Final, "Doctor" Farina sent everyone to their feet when he finished the first lap only 5 secs. behind Lang's Formula Mercédès-Benz! It was not until six laps later that Caracciola was able to pass the little Alfa! It finally finished sixth, winner of the 1½-litre race by over a lap from Biondetti, Wakefield's Maserati third.

After which, the situation in Europe festered and came to a head, and it was war instead of motor-racing . . . .

The season 1939 had been one of the most absorbing from the 1½-litre viewpoint. The new E.R.A. had been most disappointing, Mays had left the stable, and a final blow fell when Humphrey Cook reluctantly had to state that he must withdraw the financial support from E.R.A. Ltd., unless a very big proportion of the costs were met by the race-minded members of the British public, which was not to be. The Continental marques, however, were keener rivals than hitherto, and the great debut of the 1½-litre Mercédès-Benz at Tripoli proved that International 1½-litre racing could be as spectacular and as exciting as any Formula contest. These cars only appeared on one other occasion, in a demonstration to the German nation at Nurburg. The 1939 score reads:—Maserati: five firsts, six seconds, six thirds: Alfa-Romeo: three firsts, two seconds, two thirds; E.R.A.: one first, one second, two thirds; and Mercédès-Benz: one first and one second. Maserati now used short-stroke, square four-cylinder, sixteen-valve engines, running at a reduced speed of 7,000 r.p.m., to give 200 b.h.p., though after Tripoli it was rumoured they were considering a new six. The frame was braced by an oil tank. Rear suspension was by underslung, normally disposed, splayed-out quarter-elliptics, and the car weighed about 11 cwt. Alfa-Romeo had the straight-eight, twin o.h.c. engine with single Roots blower, developing 195-210 b.h.p. at 7,000 r.p.m. Front suspension was altered to swinging links controlled by transverse torsion bars; rear suspension was by transverse leaf spring and torsion bar stiffener. The new E.R.A. had a six-cylinder short push-rod engine with a Zoller compressor blowing at 28 lbs. per square inch beside the block. It developed some 220-250 b.h.p. at about 8,000 r.p.m. The

1½-LITRE RACING FROM 1935—continued

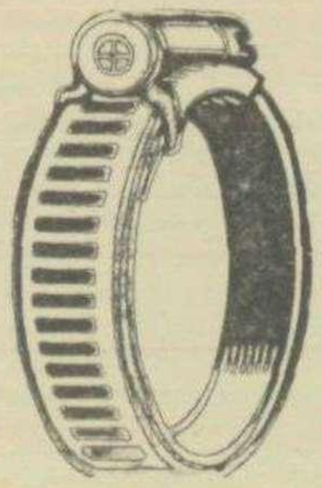
chassis was tubular, with front suspension by transverse torsion bar and trailing links, and rear suspension by parallel torsion bars within the side members damped by de Ram shock-absorbers, with a de Dion axle. It weighed about 14 cwt., and had a crash gearbox and Lockheed two-leading-shoe brakes. The Mercédès-Benz had a V8 engine with a single Roots blower sucking from twin carburetters, running up to 10,000 r.p.m. and developing at least 250 b.h.p. or some 124 b.h.p. per litre. Hydraulic brakes were used, and the engine was off-set to give a low seating position. The fuel tanks were placed centrally, and the front wheels carried 17" ×5.00" tyres, the rear 17" ×7.00" covers. Front suspension was by vertical coil springs, that at the rear by parallel torsion bars.

Although Europe is involved in war, there was one 1½-litre race contested this year, Tripoli. It was rumoured that Mercédès-Benz would go over, for Germany had won the Mille Miglia sports-car race, despite the war. However, in the end, our Navy was held in respect, and an all-Italian race resulted. Nuvolari decided his works Maserati was not fast enough, leaving Villoresi and Cortese and sixteen independent Maseratis against Farina, Trossi and Biondetti and Pintacuda with the Alfettes. Villoresi made a fine start and led lap one, but Farina then overtook him. On lap seven Villoresi again led Farina but the next lap saw the Alfa again ahead, Farina doing his ninth lap at 132.55 m.p.h. He refuelled in 24 secs., but Maserati pit-work was poor, so that after it was over Alfa-Romeo ran 1, 2, 3. Thus they finished, Farina 29.47 secs. ahead of Biondetti, at 128.14 m.p.h., with Trossi third. It is extremely significant that Farina averaged 5.24 m.p.h. more than Lang's 1½-litre Mercédès in 1939, and that his fastest lap was 1.02 m.p.h. quicker than Lang's. Of course, the Mercédès-Benz might have shown improvement had they appeared, but this performance at least shows the Alfa-Romeo to be very highly developed indeed, and perhaps the outstanding 1½-litre racing-car of to-day.

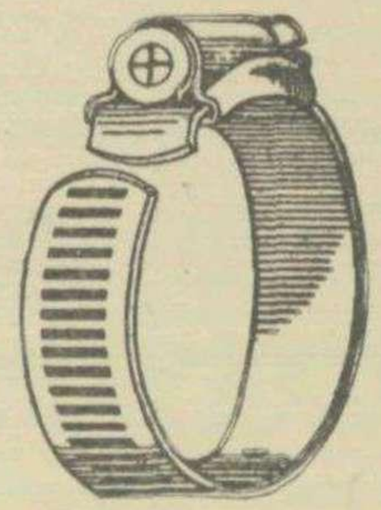
From the foregoing review, it will be seen that 1½-litre racing is by no means lacking in excitement and spectacle, while it is, if anything, more interesting than Formula racing on account of the more diverse fields that are forthcoming. If there is any International racing after this war is ended, as there should be for political reasons, we hope that the new Formula may stipulate a capacity limit of 1,500 c.c. In view of the fact that Great Britain should be in a position to dictate to vanquished nations, this seems quite likely of attainment. Such a ruling would have considerable advantages, for, so far as we are concerned, this size of racing-car is more highly developed than any other, with the 1939 E.R.A. ready and waiting development. Competition should be keen, allowing that on a pre-war status Germany had Mercédès-Benz, Italy Alfa-Romeo and Maserati in the 1½-litre field, and that France, in Bugatti and Delage, should be able to build excellent small racing-cars, given the opportunity and inclination. In point of cost, which must be translated as the amount of required State subsidy, a team of 1½-litre cars would be slightly more economic than one of existing G.P. cars. There is also the point that each country likely to compete should have drivers of its own nationality able to effectively handle the fastest 1½-litre cars, whereas present Formula cars demand a highly specialised technique, very rare even amongst first-class drivers. That this is no slight on the drivers of any one nation is evident when it is remembered that Germany had to borrow the services of the Englishman, Richard Seaman, and the Italian Nuvolari, in operating her Formula cars. In the years immediately following a great European war doubtless such interchange of personnel would be most distasteful. Finally, there is the favourable argument that more useful engineering lessons of a general nature applicable to automobile and aero-engine practice result from racing small cars. The 5½-6-litre Formula cars did a lot of their running in top gear, and so lightly stressed were the engines that they were not particularly fastidious over plugs, as first-line racing stuff formerly was. When the limit of size was reduced to 3-litres, plug troubles returned, and oil temperatures rose, and designers were again faced with useful problems to combat. The foregoing 1½-litre racing review clearly shows how such problems, leading to failure and severe mechanical breakdown, were even more accentuated when 1½-litre engines running up to, or at over 7,000 r.p.m., were involved. So there is a really good argument for International racing under a 1½-litre Formula, and we sincerely hope that it will not be long before we see races of this class again.

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"SCUDERIA IMPECUNIOSA"

[It has long been a private theory of ours that many advantages attach to clubbing together over the matter of sports-car ownership. This is admirably borne out by the excellent article by Jack Cooper which follows. Incidentally, lightly as the article is written, most of us realise what a tremendous lot of hard work and enthusiasm must have been occasioned by the conversions mentioned, while this amateur scuderia certainly exudes just the kind of keenness and outlook that made " real motoring " so dear to us in the days before this war.—Ed.]

THE Scuderia Impecuniosa first came into being seven years ago in Leicester, when three friends at the same school exercised a mutual worship of fast motor-cars by heated and inaccurate argument on the respective merits thereof. This enthusiasm culminated in the communal purchase of a 1921 Wolseley Ten chassis from a local scrap yard for 15/- . . . the Scuderia's first vehicle. Much experiment, and a lorry magneto most precariously driven by bicycle chain and sprockets, succeeded in making this device run, though, as none of us was old enough to hold a driving licence, it was never taxed.

About that time motor-racing made its abrupt entry into the Scuderia's curriculum; firstly, the Cambridge University A.C. held their Speed Trial in Gopsall Park, and secondly, Donington was opened for motor-car racing. Both these momentous events were attended by all three members of the Scuderia—on pushbikes! Not one of us has missed more than three meetings of car racing at Donington since.

Shortly afterwards, the Wolseley took its last run—at some velocity through a neighbour's hedge, after which unfortunate occurrence, it was deemed advisable to dismantle it. Then, becoming old enough to motor with the approval of officialdom, I over-persuaded my unfortunate parents into providing the Scuderia with its first practicable transport, a "flat-rad." Morris-Cowley of 1927 vintage.

The treatment accorded this patient and long-suffering vehicle beggars description, but in spite of it all, the Morris did very good service, and taught the Scuderia an immense amount. Among many tours worthy of mention undertaken by the Morris was one Sunday's excursion to Elstree for a J.R.D.C. speed trial; a big end ran somewhere round Dunstable, and the remaining 15 miles there, and the entire 95 miles back, were covered on three cylinders at 20 m.p.h., with a most distressing racket emanating from the engine-room! The subsequent inquest revealed, among other peculiar things, that only one of the four big-ends possessed the oil-scoop to which it was entitled, while not one piston boasted either a top ring or top ring band, these adjuncts to compression having long since been discarded via the exhaust system.

This motor was succeeded by the Scuderia's first Alvis, a side-valve "12/40," *circa* 1923; then followed an o.h.v. version of the same, of 1928 manufacture, with a very heavy family two-seater body. This machine was the mainstay of the stable for 2½ years, and 55,000 miles; this included, for over two years, the daily conveyance of myself to and from Coventry and the Alvis works, where I was then apprenticed.

Meanwhile, a casual visitation to the scrap yard whence had come the Wolseley led to the discovery of an aged but very exciting Sunbeam—a genuine racing-car. What matter that it was rusty, and that the fabric with which the body was covered was tattered and torn to blazes? This simply had to be acquired, and the honour of purchasing it fell to the only one of us who was not then running a conveyance and had therefore a sufficiency of shekels: this was Harold, Post Office engineer and a Scott enthusiast. Curiously enough, the Sunbeam was one of the first racing-cars that we had seen in action: that was two years previously, when the late Duke of Grafton had driven it in the C.U.A.C. Speed Trials. Afterwards he had sold it to a Dutchman who was then at Loughborough College; it was later seized for debt by a garage, and drifted into the scrap yard, whence the courageous Harold rescued it. The earlier history of this machine is shrouded in mystery, but as far as is known, it is one of several cars built for the 1919 Indianapolis "500," in which, however, they did not start. It was later run at Brooklands, conducted, among others, by E. L. Bouts and Oliver Bertram. It is of almost 5-litres capacity, and has a six-cylinder engine with four valves per pot and twin o.h.c. gear, driven at the front. Some day it is the owner's ambition to run it in speed trials, when it is restored to original condition.

Shortly after the purchase of the Sunbeam, the third member of the trinity, Pat, forsook his Douglas two-wheeled traction for something almost more dangerous—an Amilcar. This device, although the possessor of a good and sturdy engine, had rather poor land-gripping qualities, and definitely inadequate anchors. I shall long remember one run in it as passenger to Donington, via the Scuderia's special short cut; on our arrival there, miraculously unscathed, Pat decided to check the pressure in the beaded-edge tyres, these having been haphazardly inflated beforehand. The fact that they were at nearly double their normal pressure may have accounted for the hair-raising cornering en route.

On another occasion, on the same route, though in the reverse direction, the Amilcar distinguished itself by discarding, on a sharp corner, one of its rear tyres, and executed a neat right-angle full in the path of the rest of the Scuderia, who, with others, were following *very* close behind. That a major disaster was averted is held by all of those present to have been a convincing demonstration of the powers of St. Christopher.

Not very long afterwards I, smitten with the need for economy, purchased a 1931 M.G. Midget in place of the trusty, though aged, Alvis. Luckily, the latter was not easily sold, so that when, anon, the M.G.'s crankshaft broke, I had the Alvis to fall back on, while the necessary (and not so economical) dismantlement was taking place. The Midget's sole claim to fame lay in the possession of a really beautiful gearbox, a four-speed roller-bearing E.N.V., like that fitted to Montlhèry M.G. Midgets. It, however, was the cause of one humorous incident of which I have never heard the last, and never shall. Thinking, one Friday, that the clutch was in need of adjustment, I removed the minute and inadequate inspection cover over that component, and proceeded to waste some of my employers' valuable time in the performance of the acrobatic feats necessary to that operation. Unfortunately "his spanner slipped from his nerveless grasp" (*vide* detective fiction), and entered the clutch pit, from which I could, try as I might, not remove it; worse, I could neither see nor locate it. So, in desperation, I determined to motor gently home, gently to and from Donington next day, and to devote Saturday evening to the partial removal of the gearbox and the recovery of the spanner.

Two-thirds of this programme was completed without let or hindrance, but on the return run from Donington came disaster. Having become involved in a dice, all caution was forgotten, and the Midget motored right merrily until a hump-backed bridge dislodged the spanner, which then rested against the flywheel, setting up a peculiar whizzing noise. Muttering curses, I stopped and again removed the inspection cover from the clutch pit. However, the spanner was still remote, invisible and unattainable; moreover, on restarting the engine, the noise was found to have stopped, the spanner having presumably returned to its rest position. Therefore, still minus its inspection cover, the Midget continued the dice. Alas and alack, just as the rev. counter needle was nearing 5,000 in second, the motor hit another bump . . . . and the cockpit was full of flying metal. Talk of shrapnel and grape shot: pieces of clutch fingers, withdrawal levers, pivot pins and lumps of cast iron flew about; also, incidentally, one small spanner, slightly bent, but in good order! The rest of the journey back to Leicester was accomplished on the end of a string, and the Sunday afternoon spent in removing the gearbox completely, and rebuilding the clutch.

That Sunday morning, however, included a most unofficial but highly amusing speed trial, at the ungodly hour of 6.30 a.m., on a deserted stretch of road just over the Warwickshire border. The participating vehicles ranged from one of those *very* short chassis Jowett saloons to a modern Aero Morgan.

" SCUDERIA IMPECUNIOSA "—continued

Also present on that occasion was the Salmson, Pat's successor to the Amilcar. This machine, picked up derelict at a Warwickshire garage, was much more of a motor than its predecessor. Though not very much faster, it boasted four speeds against the Amilcar's three, and really miraculous road-clinging capabilities. Of course, like all interesting barrows, it had its vicissitudes, one being the sudden and spontaneous ignition of its petrol-soaked floorboards beneath a leaking petrol tank. Again, one day it decided that a battery was unnecessary, and forthwith discarded that expensive article, to its great detriment, upon the King's Highway.

Meanwhile, one or two more penniless enthusiasts were swelling the ranks of the Scuderia : Pete, member of (of all things) a Leicester banking establishment, who has motored in " Brooklands " Riley, P-type M.G. Midget, and " 12/60 " Alvis, in that order, and Bill, also of the Alvis staff, who had been unfortunate enough shortly before to lose his right arm in a crash, but who had made a miraculous recovery to drive a suitably modified Riley " Imp."

Deciding that the M.G. was not proving as economical as I had hoped (a broken crank and a stripped crown wheel make the saving of money a difficult matter), I looked round for a fresh motor at a negligible price ; this, as usual, escaped me for some time, and in the interim, what was perhaps the Midget's most epic run took place. Having made up our minds to attend the " 500," the usual question arose, that of transport. Eventually it was decided that I, in the M.G., should go to Rushden in Northamptonshire to pick up Pat, who was working there, while Harold should follow later on his conveyance of that time, a 500 c.c. Rudge solo. We all arrived at Brooklands more or less safe and sound, but on the return journey the fun began.

Darkness fell early, and it started to rain heavily. The Rudge's only illumination consisted of a push-bike lamp, and not many miles from Brooklands we lost Harold ; on retracing our wheelmarks, we discovered him searching the road, practically on hands and knees, for the aforementioned glim, which had detached itself from its bracket. Continuing by a weird cross-country route, as we wished to return to Leicester via Rushden to collect the Salmson en route, we became lost in a maze of narrow roads somewhere in the vicinity of Tring ; a collection of unexpected S-bends on one of them nearly ruined the Midget, and how the practically lightless Rudge negotiated them in my wake is a matter of speculation to this day.

However, we reached Rushden with no mishap further than the loss of the push-bike lamp for the second time, and, it having by then stopped raining, our spirits improved materially. Pat dug out the Salmson, I stowed the Midget's hoodage, and we set out for Leicester. Pat led, as he knew the road blindfold, and I have never had a more nerve-racking half-hour in my life. How Harold and the ill-used Rudge kept company with us I still have no idea ; to start with, the roads were still completely rain-soaked, and the Salmson had four good tyres, while those on the M.G. were, without exception, as bald as a billiard ball. As if this were not enough, we ran into fog, and while Pat knew the way backwards, we did *not*. Two moments in those thirty-seven miles I shall certainly not forget ; the first when, as I strained my eyes to catch the Salmson's rear light (I knew we were approaching a corner), Pat decided to dispense with the assistance of his headlamp ; unfortunately, he inadvertently switched off all his lamps. As, horrified, I reached for what anchors I possessed, there was a sudden blare of noise, and the Rudge, in almost total darkness, shot past me at well over 50 and disappeared in the murk ; Harold, having dropped behind, was making up time ! By some miracle, none of us hit anything ; Pat remedied his lack of radiance and we proceeded. The second fragrant minute was that of entering Market Harborough ; to do this, on the road from Kettering, one descends a very long hill, at the bottom of which there is a slight but nasty bend beneath a railway bridge. The road surface is glassy when dry, which it was not. Being extremely high-geared, the Salmson ran away from me down the hill, so I arrived at the bridge in hot pursuit with everything wide open ; my next piece of motoring was in anything but a straight line ! I only just succeeded in straightening out my affairs in time to negotiate the next, and sharper, swerve, some 300 yards farther on. The remaining miles of the journey were familiar to me and less eventful, the sole remaining incident occurring when the Rudge once more shed its lighting system ; this time finally, as the bracket had broken. This little difficulty was surmounted by suspending the lamp from the rider's neck by a piece of string, in which position it pointed anywhere but forwards. Still, we eventually arrived in Leicester, sure proof that the devil looks after his own.

In the following spring, I took the opportunity of exchanging the M.G. for a " big-port " 12/50 Alvis two-seater, then owned by another member of the Alvis staff ; this motor I still have, 2½ years later. During the intervening period, various changes have occurred within it ; for instance, a set of close-ratio gears and several engine modifications, including a special camshaft utilising a modern cam form, raising the compression, and, at different times, three induction systems—downdraught S.U., single horizontal S.U., and now twin horizontal S.U.s, which function very nicely, thank you. This barrow also took me daily to and from Coventry until the outbreak of war, and since then has ferried me back and forth across Leicester four times daily ; I should like to know its total mileage, for I have covered upwards of 60,000 miles in it, while it was ten years old when I bought it.

However, to return to the saga ; shortly after my acquisition of the above Alvis, Pat decided to modify the Salmson's outward shape. At least, the Salmson did the deciding, for her immensely long overhanging tail commenced to drop off. In about two days, the radiator was moved back and dropped, likewise the scuttle, and the tail removed ; later, considerably shortened, to be replaced. The petrol tank was moved to the rear, and an Autovac introduced to supply the single horizontal carburetter, which was changed at about the same time from Solex to S.U.

Meanwhile, of course, every conceivable race meeting and speed trial was attended, from Poole in the south to Wetherby in the north. During the close season, 1938-9, the Scuderia discussed at great length, and finally carried out, the removal of its workshop to what had been the blacksmith's shop in the village of Queniborough, outside Leicester. Just previous to this momentous event Harold, suspending activity on the Sunbeam, announced that he must have a real motor, and elected to construct one by inserting two Scott motor-cycle engines in an early M.G. Midget chassis. Such difficulties were encountered, however, that this form of power unit was eventually discarded in favour of that from a Riley Nine ; incidentally, this machine is still in process of construction, though progress is at present rather spasmodic. - [Latest news is that car has had a trial run.—Ed.]

In the spring of 1939 a further recruit was added to our ranks, making a total of six. The latest addition, Guy, also with Alvis Ltd., and the son of the house of Archie E. Moss, Ltd. of Loughborough (which garage will be well known to many Donington devotees), was a Bentley enthusiast, and ran a " Red Label " 3-litre. We then discovered, in another scrap yard, a 6½-litre Bentley saloon, alleged to be a Speed Six. Guy proposed to purchase this, strip it, and run it in speed trials and the like. The idea being instantly acclaimed, almost the entire Scuderia accompanied him to the yard to view the wreckage in question. There were, of course, difficulties. To begin with, the minions attached to the scrap yard, hearing Loughborough mentioned, leapt to the conclusion that we emanated from that town's College of Engineering, with the inmates of which they had apparently previously been at variance ; they were, therefore, extremely reluctant to have anything to do with us. Having reassured them on that score, we found the Bentley remarkably difficult of access, as it had been there some months, and was almost buried beneath subsequent additions to their stock. Finally, the goal attained, the body was found to contain various feathered beings which we unfortunately identified as doves ; this greatly annoyed their owner, who took great pains, with the exercise of no little eloquence, to make us realise the extent of our ignorance in so designating his racing pigeons ! We explained that the windows were dirty . . . .

After all this, investigation proved the Speed Six hypothesis mythical ; however, Guy bought the barrow, and took the opportunity very shortly afterwards of exchanging it for a genuine Speed Six saloon, which he acquired in partnership with another Loughborough Bentley enthusiast. Most of the body was speedily removed, and the motor made two appearances in minor meetings at Donington

Continued at foot of next page

Letters from Readers

Sir,

Firstly I would like to congratulate you upon keeping your excellent paper going during these difficult times, having been a regular reader since 1924.

Perhaps the thing I have appreciated most is the fact that it has always had a view-point, and, not having been merely content to report, it has always commented fearlessly. Though I have sometimes disagreed with the opinions, it has always been refreshing to read the outspoken views which your paper has expressed.

I particularly liked the article entitled "Sound and Speed in Motor Racing," and also the one entitled "On Some Unwritten Laws of the Game" which appeared in July. With reference to this article, however, on one or two points I rather disagree with you. *Re* helmets—you say "but in our world, helmets are best avoided altogether. If you must, stick to an old leather flying hat, and insist that the lady on your left wears something in dark Grenfell cloth." Now, why avoid helmets altogether? Personally, I consider that if you drive an open car in the winter, a helmet is the only suitable article of headgear. There is nothing "sissy" about it, it is just the "common sense hat." For obvious reasons you are quite right about avoiding white or any bright colours, but why must it be "old" as you suggest? Why not a new black one, or if you prefer it, a brown one?

I deplore those people who haven't got the guts to do or wear something which is obviously sensible and justifiable, just because they are afraid some small-minded nitwit of an enthusiast may suspect him of trying to look like a racing driver. As to the "Fairy" on my left, why must her helmet be dark? No, sir! it can be as bright as she likes, even white if she wants it. I know you don't like the white variety, even on girls, neither do I personally, but I really don't think it offends the unwritten code of our world.

As to comic notices on trials cars, competition numbers and pet names, I am with you all the way; but, sir, you say that racing drivers don't jab the accelerator (I presume you mean throttle!) up and down when warming up; maybe not for actual warming up, but it is certainly done on many engines to keep the plugs dry, and one can sometimes misjudge the unfortunate enthusiast, as with at least one thoroughbred, but old, motor I have possessed this treatment was sometimes the only way of keeping plugs dry in traffic.

Finally, isn't it odd how so many of the things you mention in your article are all right on some cars, but just terrible on others? Great big fishtails which really do nothing, and even bonnet straps, which cannot be necessary, do look absolutely all right on certain cars, though just as certainly they spoil others, not that the purely ornamental is ever really justified though.

Wishing your journal the success it deserves.

I am, Yours etc.,
"SCAVENGE PUMP."

London, N.20.

[Perhaps in a screenless cockpit a helmet is the only sensible wear. We probably suggested an "old" helmet because we invariably borrow this item of equipment and this habit is by now so obvious that our friends never leave new hats about . . . . Seriously, if a helmet is worn frequently and serviceably, not for effect, it will look worn, and if it is continually being renewed this suggests undue vanity anyway. The reason we dictated what the lady-passenger should wear is because the driver has a right so to do. A swimming enthusiast would surely see that the girl friend wore a regulation swim suit at a meeting at which such wear was considered desirable, no matter how sweet she might look in those beach creations which we used to go down to the sea to see. So why shouldn't the sports-car enthusiast be equally concerned? We attempted to distinguish between opening up to high r.p.m. and letting the speed gently fall, as the racing driver does to avoid high stresses, and idly jabbing the throttle foot up and down, which we deplore.—Ed.]

* * *

Sir,

I note with great interest in your current issue that there is a f.w.d. Alvis chassis in a breaker's yard near Oxford. I should be more than grateful if you could give me concise information as to the name and whereabouts of this breaker, or of whoever reported its presence.

If this information is available, I will institute a pilgrimage to the spot in search of spares for my own f.w.d. Alvis.

Now it is in dock again and has just been reduced in wheelbase by 18 inches. This, by the way, was a very easy operation, as there is no prop-shaft or other impediment to hinder.

I note also the letter from your correspondent, Mr. Titley, of Coventry. Although not a Service man, I shall be glad to meet him or any other reader in the "Grapes" in Coventry, or any ale house between Coventry and Leamington.

I wish to thank you for continuing to publish MOTOR SPORT.

I am, Yours etc.,
D. M. R. ADAMS.

11, Euston Place,
Leamington Spa.

[Will Service personnel interested please write direct?—Ed.]

"SCUDERIA IMPECUNIOSA"—continued from previous page

that summer; both, unfortunately, brief and inglorious, for on the first occasion a big-end ran, while on the second the oil pressure dropped to such an extent that a hasty halt was called ere the same calamity occurred again. The war, alas, has put a stop to work on that motor, as on many another.

The seventh, and last, member of the Scuderia was only enrolled a month or so before war was declared; Harry, one-time member of the Alvis drawing office, later of that of E.R.A. Ltd., and later still of Morris Engines, Coventry. His wayward fancy has led him from Morgan to blown "Ulster" Austin, and thence to "12/50" and, still more recently to "12/60" Alvis, now sorrowfully packed away for the duration.

When war came, car design hung fire somewhat; I therefore transferred my energies to the manufacture of armaments, in Leicester since I could no longer get sufficient petrol for my daily Coventry-and-back dice. The Scuderia then became rather split up; since that time, of course, *a fortiori*, "by so much the more."

Still, the spirit is not yet dead; Pat, only two short months ago, purchased a real big-crank "Brooklands" Riley, and runs it now. I, therefore, annexed the Salmson, and am stripping and rebuilding it with a view to inserting a "12/50" Alvis engine and gearbox, though the job is, perforce, a matter of very occasional attention.

So there the Scuderia stands; it is now fairly widely represented in the Services, since Pat is Lieut., Ordnance Corps; Guy, Temporary Sub-Lieut., R.N.V.R.; Harry, Pilot-Officer, R.A.F.; Pete, Leading Fireman, A.F.S.; in fact, we only lack representation in the A.R.P. department! Nevertheless, I am prepared to stake much gold that there is not one of us who is not praying fervently for the cessation of hostilities and the resumption of the thousand and one enthusiasms and aspects of "real" motoring. Think of it, petrol without coupons, lamps unmasked . . . .

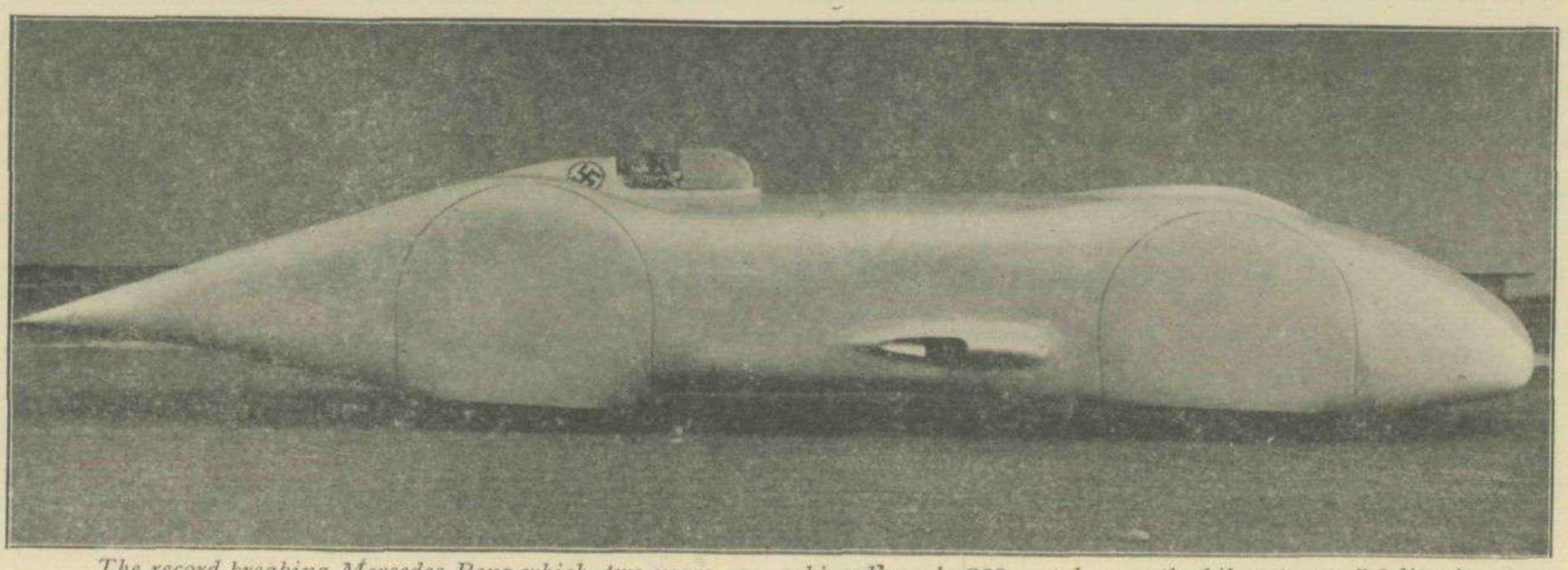
On re-reading this effusion, I am chiefly conscious of the things I have not mentioned, such as the famous circuit of secondary roads just outside Leicester, always referred to as "the T.T. course," and the unofficial attempts on its lap record; still, what of it? Sufficient unto the day! And if any reader finds himself in Leicester and at a loose end at any time, I shall be overjoyed to meet him and discuss matters motoring; so make a note of it. The name is John Cooper, and the 'phone number Leicester 7156.

ON GERMANY'S RISE TO SUPREMACY IN MOTOR RACING

THERE can be no doubt whatsoever, now that war has come, that Germany participated in International motor racing during the years 1934-1939 as a means of putting over very valuable world propaganda in respect of her engineering supremacy, and of reminding her own countrymen of her prowess in this field in a very convincing manner. Shortly after Herr Hitler's rise to power, we find Mercédès-Benz and Auto-Union State-aided, and ordered to compete in all the classic Grands Prix run under the International rules of the A.I.A.C.R., and to build cars capable of sweeping all before them in such races. The result has been some of the greatest motor racing that has ever happened—Mercédès-Benz versus Auto-Union! What a great period of racing history and what astonishing racing-car progress that portrays! I do not suggest that her motor-racing victories are going to help Germany materially from an engineering standpoint in the present war. An article in the January issue of MOTOR SPORT outlined the essential differences existing between the racing-car engines and the engines used in Germany's military aircraft. But there is no doubt but that motor racing, on the scale on which Germany played it for six seasons before the war, was used as world propaganda by a war-seeking nation, and we might have heeded this warning had we harked back to 1914, when German Mercédès-Benz cars finished in the first three places in the French Grand Prix, following very careful preparation and very confident boasting of victory on the part of Germany before that race. In the future, politicians must realise that widespread backing of teams of G.P. racing-cars by a nation indicates that the nation concerned is anxious to flaunt its engineering abilities before the world at large. In striving to keep the peace after the next armistice, Great Britain would do well to encourage International motor racing, and to build a team of cars able to beat the rest of the world, apart from maintaining a strong navy, a mighty air force and a vast mechanised army—and she should take careful note of who is her runner-up in this motor racing. Even though the development of world-beating racing-cars does not imply equal supremacy in aero-engine design and construction, in detail it must greatly enhance the efficiency of the mechanised military power of a nation, while it represents a very powerful weapon of propaganda throughout the world, and, ere war breaks, is a means of capturing valuable world trade that helps to swell the national war-coffers. So it behoves powerful nations to encourage motor racing in times of peace, gaining the advantages that accrue from International supremacy and regarding any serious challenge to such supremacy as a measure, a subtle indication, an undercurrent as it were, of the way the political situation is developing. Many years ago, in this paper, Major Oliver Stewart suggested that in years to come the destiny of nations might be decided, not by wholesale warfare, but by the outcome of a single, properly-staged inter-State air race. That thought was an optimistic one, but the idea of using the racing-car as an envoy of national strength in keeping world peace after the war is not anything like so fantastic, for victory in classic Grand Prix contests would be as carefully observed, learned, and inwardly digested by vanquished dictators as less desirable methods such as mass flights of fighting aircraft over their cities or the frequent appearance of warships off their coasts. It should also be a deal cheaper.

Many of us deeply regret the change that has come over full-scale motor racing, so that from being a friendly contest between the automobile-producing nations in Gordon Bennett times, to a struggle for supremacy between individual manufacturers of good cars in the days of the French Grand Prix, it has become a means of passively proclaiming the technical efficiency of the Dictator States, a staged demonstration over which no expense is spared, endeavouring to impress upon the civilised peoples of the world that the participants possess the greatest designs, engineers, technicians and organisers in the world. A portent, in fact, that war is on the way . . . .

Unpalatable as this fact is to the ordinary, peace-loving motoring enthusiast, it is one which we should have done well to have faced, remembering how history repeats itself, and taking our minds back to Lyons in 1914, when Lautenschlager, Salzer and Wagner dominated the finish of the greatest motor-race in Europe. It was not only Germany's sudden, growing list of successes we should have heeded. It was the immense effort she was putting out to dominate International racing, the tremendous sums of money spent in preparing the cars and transporting the teams to every country where Grand Prix races were held, her intense care and skill in their operation, and the ambitious design of her cars, which enabled them not only to beat their opponents but to out-perform them so thoroughly that literally a new era of motor-racing commenced. Nineteen-thirty-four–thirty-nine—Mercédès-Benz versus Auto-Union. Quite why the German Reich put two unquestionably rival teams into the field is debatable. Possibly they were so greedy for assured success that they were afraid to place all their eggs in one basket. Perhaps they hoped, and indeed it seems that, if so, they largely succeeded, to disguise their use of motor racing as a means of powerful propaganda by letting two well-known concerns, manufacturing production cars, appear as rivals desirous only of upholding the reputation of their commercial products. At all events, both Mercédès-Benz and Auto-Union were State-aided to carry Germany's colours. Why did not Great Britain and France strive to meet this challenge when it arose? Say, if you will, that it was not until 1937, when the German teams raced before tens of thousands of British spectators in Donington Park,



The record-breaking Mercedes-Benz which, two years ago, achieved nearly 269 m.p.h. over the kilometre on 5.6-litre in Caracciola's hands

ON GERMANY'S RISE TO SUPREMACY IN MOTOR RACING—continued

that any appreciable number of Britishers realised what a great undertaking the German racing organisation was—realised, from the astonishing convoy of cars and lorries, the minute attention to detail in practice, and the shattering performance of the cars on the course, the immense store that Nazi Germany set on success in motor racing. The answer to that is that it is the job of a Government, not of racing enthusiasts, to heed these things, to catch at these not so unobvious straws-in-the-wind. The British Government once subsidised our aircraft industry to compete in the Schneider Trophy seaplane race, without, I assume, receiving a request to do so from the folk who used to watch a King's Cup Race—they withdrew the subsidy just when outright victory was in sight, and the late Lady Houston had to come gallantly to the aid of British prestige . . . After that, we began the reduce-armaments game, and the Government never noticed what was happening in the great motor races of four or five years ago. It is not at all ridiculous or far-fetched to believe that, had Great Britain hastened to prepare a team of world-beating G.P. cars and with them met and beaten the German cars, Herr Hitler might have had more respect for Neville Chamberlain when he flew to Munich in September 1938. Equally, it is not at all ridiculous or far-fetched to imagine that, had the Government decided that it would rather buy twenty-five bombers or the equivalent, it might still have had the satisfaction of starting the armaments speed-up much earlier had it taken note of the warning offered by International motor racing. It had only to listen to those sporting Englishmen who used to attend Continental races at their own expense, and who came home with tales of Germany's intense efforts to ensure victory, of the publicity afforded to the drivers, of the Storm Troopers sent to guard the roads, of the exhibitions of the racing-cars in public streets and before influential audiences, and of the general mingling of military with sporting aspects in German racing; not forgetting those telegrams bidding them "Win for Italy," which Benito Mussolini used to send to the drivers of his State-aided Alfa-Romeos in even earlier times—and not because he was a rabid racing enthusiast . . . But these comments went unheeded, like those of other enthusiasts, who spoke uneasily of the careful study which Mercédès-Benz had made of the Lyons circuit and of their detailed attention to pit work and similar things, after returning from the 1914 Grand Prix, a few weeks before that other European war. Here I may digress to observe that at that time it seems that propaganda went hand in hand with research, for the engines of the victorious cars had much in common with the six-cylinder aero motors subsequently used in German fighting aircraft. It is rumoured that Rolls-Royce, in typically British fashion, paid royalties to Mercédès after the war for every "Hawk" aero-motor they made, this being based on the 1914 G.P. Mercédès engine, one of which was stripped at Derby after war broke out; Bentley and Straker-Squire, too, owed something to it when they came to manufacture fast cars. Clearly, in 1914, it was the German Government which had prompted this return to racing of a concern which had not achieved a big success for some six years. Those who witnessed a repetition of such things of recent years could have pretty well told our Government of the inference to be drawn, as early as the middle of 1934, and as we were quite unprepared for war at the time of the Munich Conference, and are only now catching up on Germany's rate of aircraft production, I cannot but feel that such warning would have been most valuable—even if it could not have resulted in Mr. Chamberlain going, not to Munich with his umbrella, but to Nurburg with a crash-helmet, to warn Herr Hitler that we meant business by soundly beating the Mercédès-Benz with a British-Government-subsidised Grand Prix car. On that note I will leave you to the review which follows, which was written not out of any desire to boost German successes, but because the period of racing history covered is intensely interesting, and because it may serve as an eye-opener for some politician able to think along modern lines, suggesting to him the desirability of serious British participation in racing when the war is won. This period of racing history is tremendously interesting, not to say enthralling, but there is nothing particularly fantastic about it. The German cars show a tremendous advance on previous technique only because they were built regardless of expense and under a new thoroughness of preparation to a Formula which accentuated immense performance. Had these cars not been State financed, would they have been equally fast, but so unreliable as to be a complete failure, or would they have been of much more conservative performance? Would they have been built at all? As it was, they were of advanced, but not freakish design. Moreover, Neubauer, Uhlenhaut, von Eberhorst and Feureisen were quite human souls, and the drivers were well known and associated with other great marques, while Mercédès-Benz and Auto-Union engaged in perfectly genuine rivalry. So the years 1934-9 saw racing which fits quite normally into the complete picture of racing viewed down the years, yet which, thanks to its political significance, was something quite remarkable, the like of which we shall probably never see again.

MERCEDES-BENZ versus AUTO-UNION. SOME OF THE GREATEST RACING EVER, AS A PRELUDE TO WAR

The year 1934 saw the introduction of the new International Formula, which stipulated a maximum weight limit of 750 kg. for G.P. cars, with their wheels in place, but without tyres, fuel, oil or water, and also imposed minimum body dimensions of 850 × 250 mm. at the seat. The A.I.A.C.R. thus hoped that engine size would be restricted to something around 2½-litres, and dangerous maxima of 150 m.p.h., then being reached by leading G.P. cars, materially reduced. It is now history that the science of metallurgy and the entry into racing of German as well as Italian State-aided teams had just the reverse effect to that intended, but the formula nevertheless remained in force until 1937. When it became known that Germany would have cars in the field, rumour ran riot. Herr Hitler was said to have decreed that only German drivers could handle the new cars, but others reported Nuvolari to have visited Stuttgart. Auto-Union were rumoured to have built 3.2-litre rear-engined cars designed by Dr. Porsche, referred to either as Porsch-wagen or P-wagens, and, they said, Stuck, Læiningen, Momberger and Sebastian had been urgently called to Nurburg for tests without even being aware that the cars existed. By January it was known that Mercédès-Benz would race straight-eight 2.9-litre cars, and had picked Fagioli, von Brauchitsch, Henne and Bernet as drivers, and that the Auto-Union team would be Stuck, Sebastian, and Prince Læiningen. There was much comment on Luigi Fagioli's inclusion in the Mercédès team, in view of the intense wave of nationalism that was sweeping Germany. We did not then realise what a specialised job driving these cars was. The Auto-Unions were tested over the Milan-Varese autostrada, being reported to reach at least 155 m.p.h., at Avus and at Monza. On March 6th, much sensation was stirred up when the first car constructed was taken back to Avus, and, driven by Stuck, set up a new World's Hour Record, watched by ex-Crown Prince Willie. The car had to be heavily braked to negotiate the turns at the end of the straights, but reaching about 165 m.p.h. on these straights, the Auto-Union averaged 134.608 m.p.h. This beat Eyston's record set up at Montlhèry with the Panhard by .99 m.p.h. and the World's 100 miles and 200 kilos records, also held by Eyston, were broken, the former at 134.46 m.p.h. In the April issue, MOTOR SPORT was able to give a description of the Mercédès-Benz cars, and announce the drivers as Fagioli, Caracciola, Brauchitsch, Henne, Broschek and Bernet. Fagioli was only expected to deputise for "Caratsch" until he was fully recovered from a recent accident. Henne held the World's Motor-cycle Speed Record for B.M.W., Broschek won a class race in 1928 with a Horch at Nurburg, and Bernet had long-distance trials successes with a Wanderer. Mercédès had carried out tests on the Milan-Varese road as Avus was ice-bound, and Alfred Neubauer was said to be quite satisfied. At the Berlin Motor Show, at the celebration of the Gottlieb Daimler

ON GERMANY'S RISE TO SUPREMACY IN MOTOR RACING—continued

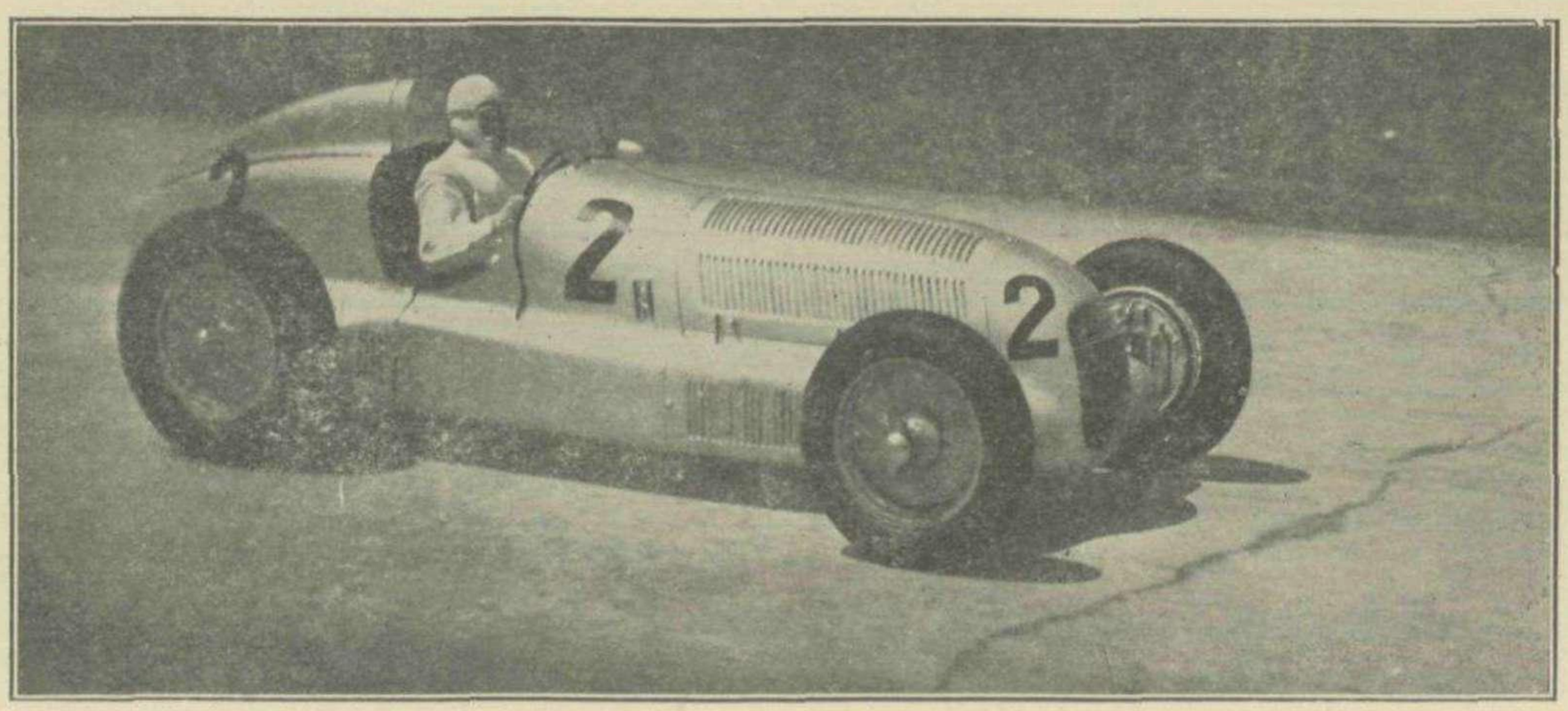
centenary, Herr Bradenburg for the Ministry of Communications and Herr Huhnlein of the Automobile Corps attended, and that evening Lautenschlager, Salzer and Sailer were amongst those who broadcast from Stuttgart. In the May issue of MOTOR SPORT the Auto-Union was described and illustrated, the engine being given as a 45° V16 of 3,080 c.c. The drivers were now quoted as Stuck, Leiningen, Sebastian or Burggaler, and possibly Momberger. Willi Walb was given as team manager.

The first appearance of these sensational new cars was scheduled for the Monaco Grand Prix, but a very great disappointment was in store for the spectators, for Mercédès-Benz were not ready, and the Auto-Unions were considered too long for the "round-the-houses" course. However, Caracciola, still limping, was present, and opened the course with one of the Mercs. and Dr. Porsche watched the race, which Guy Moll's Alfa-Romeo won, at 55.86 m.p.h.

The German cars made their debut at the Avus G.P., and Berlin almost regarded the event as fit subject for a national celebration, while some 200,000 people thronged to the course. In training, Caracciola, driving for the first time since his accident, had lapped at the phenomenal speed of 143 m.p.h. Alas, the race started without the Mercédès-Benz cars, which all suffered petrol pump trouble. To meet the German opposition Ferrari had specially faired one of its Type B Alfa-Romeos and bored the engine out to 3.2-litres. Varzi was offered this car, but declined to drive it, so Moll took it instead. After a delay to let the road dry, the flag fell, and Stuck's Auto-Union set up a nice lead. After a lap, he was one minute ahead of Chiron's Alfa-Romeo. Leiningen retired his Auto-Union early with mechanical trouble, but Stuck held his big lead until, on lap 10, he came in for fuel and tyres, allowing Moll to pass. The Auto-Union then developed clutch-slip, and after a few more stops, retired. Moll went on to win at 127.56 m.p.h., Varzi was second at 125.43 m.p.h., and Momberger brought the only remaining Auto-Union in third at 125.0 m.p.h., ahead of Howe's Maserati.

Germany had failed in her first race, but the next week-end both marques came out for the Eifel race at Nurburg. A vast crowd spectated. As the flag fell, Brauchitsch got his Mercédès-Benz clean away from the field, but Fagioli caught him before the end of the first loop, and after a lap Fagioli led from Brauchitsch with Stuck's Auto-Union third. The scream of the Mercs. sang round the ring, and the new racing era can be said to have commenced. Fagioli was early signalled to ease up and let his German team-mate lead, but he only did so reluctantly. At the refuelling stop, Fagioli vented his displeasure at being held back, and later stopped deliberately to renew the discussion. A lap later he parked his car by the roadside and walked away—an unhappy accentuation of the Rome-Berlin axis! This let Stuck into second place, and he ultimately finished 1 min. 20 secs. behind Brauchitsch, who took 2 hrs. 47 mins. 36 secs., an average of 76.12 m.p.h. This was faster by 13 mins. 23 secs. than Nuvolari's Alfa-Romeo victory in 1933, over what I believe was a somewhat shorter course!

Auto-Union gained some compensation for this defeat by breaking the course record at the Kessleburg Hill-Climb, when Stuck clocked 3 mins. 44 secs., beating Brauchitsch and the Mercédès-Benz by 5 secs. The German cars came out again for the French Grand Prix at Montlhèry. At the weigh in, the Mercédès registered 739.5, 739, and 737 kg. respectively, and the Auto-Unions 740.5 and 738.5 kg. Mercédès went to the course a fortnight before the race, but Auto-Union arrived on the first official practice day. On his very first lap Stuck equalled Nuvolari's lap record, and, taking over Momberger's car, he improved this to 5 mins. 7 secs. Next day, Chiron managed 5 mins. 6.2 secs. with a Ferrari Alfa, but Brauchitsch responded for Mercédès with 5 mins. 5.6 secs., equal to 92 m.p.h. Auto-Unions had to get fuel pump maladies corrected and Mercédès used appalling quantities of tyres and suffered steering trouble on the straights. On the Sunday, an immense French crowd filed by every available means to the course, so a German victory was most desirable! Leiningen's Auto-Union was a non-starter, but Stuck was beside Varzi in the front row. As the tricolour fell, Caracciola and Varzi led a pack from which Chiron had stolen a march by creeping up ere the flag fell—typically Continental! He led lap one and two, but Stuck lapped at 89.74 m.p.h. and held third place behind Caracciola. On his third lap, accomplished in 5 mins. 9.4 secs., Stuck passed Chiron near the Biscornes, to lead. Incidentally, it was rumoured that whichever team won was to receive State support from the Reich—which suggests that European race-goers were at least waking up. After eight laps, Fagioli, in third place, was speeded up, and set a race lap record at 91 m.p.h. Brauchitsch stopped for inspection of his supercharger, but on lap 10 Fagioli again broke the lap record, at 91.8 m.p.h., and passed Chiron's Alfa to take second place. The Auto-Union came to its pit and Mercédès-Benz was left unchallenged. After 12 laps rear tyres were changed, and fuel put in in 2½ mins., letting Chiron lead. Momberger's Auto-Union was out with steering trouble. Then intense excitement, for Chiron came past alone, and it was some time before news came through that Fagioli had left the road and damaged his brakes, retiring with a broken pipe line. Caracciola stopped to refuel, and then retired at the far end of the course and the German *debacle* was completed when Brauchitsch retired with a return of his supercharger trouble. The German commentator, relaying his comments from the Water Tower for broadcast throughout the Fatherland, promptly dried up! Stuck was still in third place, but after refuelling on lap 21 the engine proved obstinate to restart. He stopped again for fuel on lap 31, after which three mechanics working on the handle only just started the engine, and a lap later the sole remaining German car



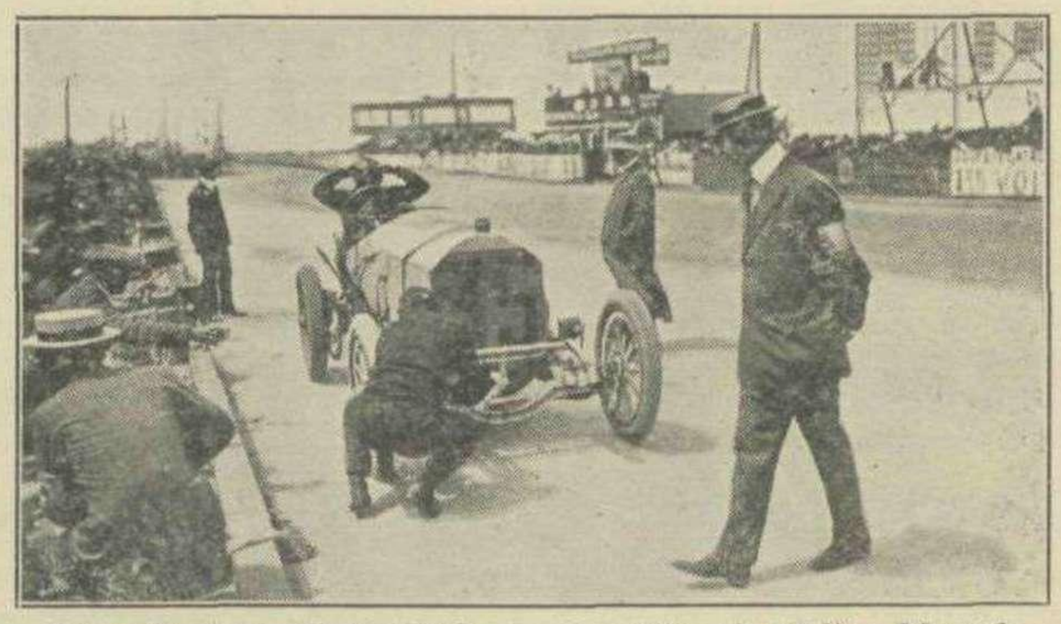
As they were in the beginning. The G.P. Mercedes-Benz in 3.9-litre form

ON GERMANY'S RISE TO SUPREMACY IN MOTOR RACING—continued

retired with a defective water pump. Chiron finally won for Ferrari at 85.55 m.p.h., 3 mins. 17 secs. ahead of Varzi's Alfa-Romeo, with Trossi and Moll (Alfa-Romeo) third. Mercédès-Benz now suffered another blow, when Brauchitsch overturned his car coming out of a corner in practice at Nurburg and was taken to hospital with a broken arm and five broken ribs—foretaste of the potency of these modern G.P. cars.

The Germans certainly had their revenge on Ferrari on their home ground. Before the German G.P. Geier and Gaertner of the Mercédès factory were tried out to replace Brauchitsch and Henne who was ill, and Geier was given a wheel for the race. In the Auto-Union team, Burggaller replaced Leiningen, who was still ill in Paris. Chiron, Varzi and Moll represented Ferrari and there were nine entries of Alfa, Maserati and Bugatti drivers. Chiron actually tried a Mercédès during practice and had a narrow escape when a cowling became detached, locking a brake. A crowd of some 150,000 came to Nurburg for the race. Chiron shot into the lead at the start, but after a lap the order was Stuck, Caracciola, Varzi, Chiron. By five laps, Varzi was out with gearbox trouble, Chiron had lost third gear, and Fagioli was up in third place. Moll lost his box of gears on lap 12, and Momberger's Auto-Union had caught Nuvolari's Maserati. Caracciola changed tyres without losing second place, but this gave Stuck a 2 mins. lead. He refuelled in 1 min. 30 secs. and found Caracciola only 8 secs. behind. "Caratsch" now pulled out all he had, set a lap record of 10 mins. 44 secs., beating Brauchitsch's old figure by 10 secs., and passed Stuck at Le Canourel. However, this effort sent the Merc. sick, and he had to retire. Burggaller made the grave error of using all the gears except bottom, whereas Stuck only used fourth and top (five speeds), and when his box of ratios protested, he withdrew. Stuck now held an immense lead and set the lap record to 10 mins. 43 secs. He won in 4 hrs. 38 mins. 19 secs., at 75.14 m.p.h., 2 mins. 7 secs. ahead of Fagioli's Mercédès, with Chiron third, Nuvolari fourth, and Geier sixth, Momberger having retired. The prizes were presented in an atmosphere of national self-esteem, but the German sports chief paid tribute to Chiron's performance. It seems that organisation was not yet working to full capacity in the Mercédès or Auto-Union factories, for Auto-Union were not ready in time for the G.P. de la Marne, and Mercédès wired to say they were unready and Auto-Union that their drivers wanted a rest, after 180,000 francs duty was demanded on 3,000 litres of special German fuel before the Belgian G.P.

In the Klausen Hill-Climb Caracciola went up first, in 15 mins. 22.2 secs. to win the day for Mercédès, for Stuck slid broadside on one corner and his Auto-Union was 3.2 secs. slower. This was a new record for the hill. Things got going again for the Coppa Acerbo at Pescara. Caracciola got clear as Minister Scarara dropped the flag, and after an immense first lap, Stuck was second and Varzi third. Caracciola did this initial lap in 12 mins. 18 secs. and led for seven laps, when he crashed very seriously, but without injury. Stuck had retired on lap six, and Fagioli stopped for tyres while in the lead after the other Merc.'s crash. Now Moll led, with Henne's Mercédès second. Chiron's Alfa lit up and burnt itself out at its pits, and ere half distance there had been nine retirements. Varzi led when Moll refuelled, and as he stopped for a rapid wheel-change, Fagioli went ahead. Poor Moll now set off to catch Fagioli, who was about a minute ahead, but when overhauling two other cars he skidded on a patch of road made slippery by a local shower, and his Alfa-Romeo hit a house, Moll dying soon after removal from the wreckage. Fagioli went on to win in 3 hrs. 58 mins. 56 secs., at 80.26 m.p.h. with Nuvolari's Maserati second and Brivio's Bugatti third. Sebastian's Auto-Union was fifth. The Swiss G.P. followed, and Berne went entirely motor-conscious, even to sugar cakes of racing-cars in the windows of the *patissiers-confiseurs*, and 50,000 attended. Stuck's Auto-Union led from start to finish, winning in 3 hrs. 37 mins. 51.6 secs., at 87.21 m.p.h. Leiningen's Auto-Union retired with ignition trouble after 20 laps, and Momberger would have lost second place to Dreyfus's Bugatti had the French car not had to stop for water right at the end. Mercédès had a bad day, Caracciola suffering fuel pump trouble and handing over to Geier, who brought the car in last. Fagioli and Brauchitsch both experienced weak brakes, the former finishing sixth behind two Alfas. The Auto-Unions had mirrors so set that their drivers could see the condition of the rear tyres.



Before the days of subsidy? Lautenschlager's 12-litre Mercedes in the 1908 G.P.

So to Monza for the Italian G.P. In practice, Stuck set a lap record of 71.22 m.p.h. As the cars came to the line drivers gave the Fascist salute to the official stand, and the band played the national anthem appropriate to each group—French, German or Italian. Henne crashed his Mercédès at the first hairpin, hitting the tail of Trossi's Alfa, and he soon retired. Stuck early got ahead of Caracciola, and did one lap at 72.59 m.p.h. After 11 laps, Fagioli was out with engine trouble, and Leiningen was third and Momberger fourth by 19 laps. Momberger dropped back when he came in for brake adjustment and to hand over to Sebastian, and Stuck, leading comfortably, was nevertheless slowed by weakening brakes. Stuck's refuelling stop cost him 2 mins. 43 secs., but Fagioli, now in Caracciola's Mercédès, took only 2 mins. 12 secs. Leiningen ran out of fuel and retired, and Stuck handed over to him, when over 2 mins. were lost restarting the engine. It was a race of brakes, and Caracciola's right leg was almost useless at the end! Stuck was nastily scorched by oil sprayed over his leg. In the end, the Caracciola-Fagioli Mercédès-Benz won in 4 hrs. 45 mins. 47 secs., at 65.37 m.p.h., 1 min. 38.2 secs. ahead of the Stuck-Leiningen Auto-Union. Trossi and Comotti were third with an Alfa-Romeo. The Momberger-Sebastian Auto-Union was seventh. At the Mont Ventoux hill-climb Stuck set a new record for Auto-Union in 13 mins. 38.6 secs., and at Fribourg he clocked 8 mins. 6 secs., against Caracciola's 8 mins. 32 secs.

As the political situation cleared in Spain, the A.C. de Guipuzcon decided to hold the cancelled G.P. of Spain, over the Lasarte circuit. Practice was enlivened by Stuck's lap record of 6 mins. 36 secs., beating the old record of 97.2 m.p.h. held by Nuvolari, and Tazio's appearance at the wheel of an Auto-Union. Then Dreyfus lapped in 6 mins. 27 secs. with his "3.3" Bugatti, and Nuvolari later equalled his speed, also with a Bugatti. A stream of cars converged on San Sebastian all night in readiness for the race. Stuck started before the flag had properly fallen, and averaged 152 k.p.h. for the standing lap. Caracciola was second, and Wimille's Bugatti third, and the Bugattis at last seemed on form, as fast as the German cars and faster than the Ferrari Alfas. On lap four, Stuck stopped with a broken oil pipe, and Mercédès led. When Leiningen brought his Auto-Union in in a state of collapse, Stuck took over this car. Momentarily Nuvolari passed Fagioli, only to be as quickly repassed. Caracciola set the lap record to 6 mins. 24 secs., (101 m.p.h.), and led Wimille by a mile, when Fagioli speeded up. He passed Wimille, lapped in 6 mins. 23 secs., and came within a few yards of Caracciola. At the pit stop the latter took 1 min.

ON GERMANY'S RISE TO SUPREMACY IN MOTOR RACING—continued

2 secs., Fagioli only 58 secs. On lap 18, Fagioli took first place. Fagioli won in 3 hrs. 19 mins. 40 secs., at 97.13 m.p.h., 43 secs. ahead of Caracciola, with Nuvolari third. Wimille lost time over his refuel, and then over a broken carburetter union. Stuck drove very fast at the end, setting a final lap record at 6 mins. 20 secs., to finish fourth. Over a timed kilometre, when the cars were still accelerating, Fagioli was clocked to do 137 m.p.h.

The final round was fought at Masaryk. The German teams arrived first, and practice saw some unusual happenings. Thus Nuvolari lapped at 14 mins. 15 secs. with an Auto-Union, and Stuck handled a Mercédès-Benz to clock 14 mins. 5 secs. Stuck set a lap record of 13 mins. 45 secs. with an Auto-Union. The Czechs made a national fete of the race-day, and 100,000 persons were officially estimated to have attended. Stuck led for a while, then Fagioli went ahead. Quite early Caracciola broke a wheel on the poor road surface at Ostrovacice and retired. The German cars were finding independent springing a great advantage and two Alfas retired with broken petrol and oil pipes. Fagioli dropped back when he stopped to refuel, but caught Stuck on lap 11. He passed right in front of the excited spectators in the stands. Three laps later, the white Mercédès-Benz had another short pit-stop and the silver Auto-Union went by. Fagioli lapped in the record time of 13 mins. 16.2 secs. (over 83 m.p.h.) but he could not catch Stuck, who won by 2 mins. 56.1 secs. at 79.11 m.p.h. in 3 hrs. 53 mins. 27.9 secs. Nuvolari's Maserati was third. Leiningen was fourth, Henne sixth.

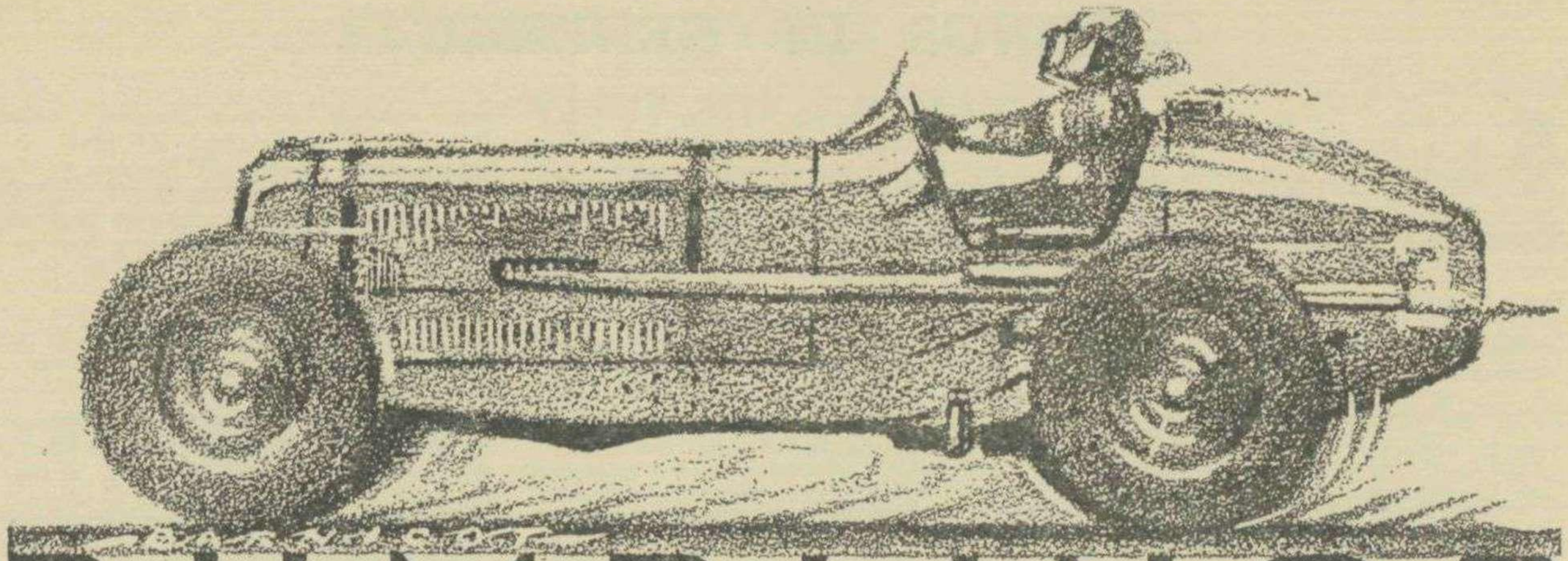
The German marque rounded off the season with some astonishing record breaking. Auto-Union sent out Stuck with an Auto-Union at Avus, where he took the 50 Kilo, 50 Mile and 100 Kilo records at 150.21, 151.54 and 152.18 m.p.h. respectively, beating the old figures by over 11 m.p.h., and this on a course which Varzi's 4.9 Bugatti could only lap at 135 m.p.h. because of the unbanked corners. Stuck then did an absolutely shattering standing kilometre at 101.37 m.p.h., smashing our E.R.A. figure by 11.64 m.p.h. Caracciola then took a special Mercédès-Benz to Gyon. It was a G.P. car with the front brakes removed, a new front cowling fitted, and a coupé top added to the cockpit. The engine size was 3,992 c.c. and a slight supercharge effect was obtained by running at a venue which is actually below sea-level. The World's Standing Start Mile Record was broken at 117.23 m.p.h. and the International Class C Flying Kilo and Mile records at 197.35 and 196.78 m.p.h. respectively. One way a speed of almost 200 m.p.h. was reached.

So ended the first season of the German cars' appearance in Grand Prix racing. The "score" was: Mercédès-Benz four wins and three second places; Auto-Union, three wins, three second places and a third. Fagioli won three times, once partnering Caracciola, and Stuck three times, while Brauchitsch gained one win, Stuck two seconds (one in partnership with Leiningen), Fagioli two seconds, Momberger a second, Caracciola a second, and Momberger a third place. Thus the first season had not been entirely successful, but it had established a new standard of performance in Grand Prix racing, as can be judged by some speeds logged over a flying kilometre in the Coppa Acerbo, when Caracciola's Mercédès-Benz did 179.6 m.p.h. and Sebastian's Auto-Union 171.1 m.p.h. German domination of International racing had begun . . . .

[The second part of this article will appear in the October issue.]

THE LATE RICHARD ORMONDE SHUTTLEWORTH

IT is with deep regret that we have to record that R. O. Shuttleworth became a victim of war last month. He was serving as a Pilot Officer in the R.A.F., and was killed in a flying accident, at the age of thirty-one. Shuttleworth was a very great motoring enthusiast. He achieved considerable racing successes with his 2-litre and 2.3-litre Bugattis and a 3-litre *monoposto* Alfa-Romeo. In his earlier days he got rather a reputation for wild driving, and there was the incident when his Bugatti rammed the pits in the Mannin Moor of 1933. However, Shuttleworth won the 1935 Donington G.P. with his Alfa-Romeo at 63.97 m.p.h. and the Brooklands Mountain Championship at 78.2 m.p.h. There is no doubt but that Shuttleworth was extremely highly strung. The writer has one vivid recollection of him at about this time, rushing excitedly about the shed he used to keep at Brooklands on last-minute jobs, talking at high tempo the whole time, and heaving round with him an immense suitcase, ere he departed in his beautifully kept "30/98" Vauxhall. But once in a car he concentrated on the job in hand, and was a very fine and tenacious driver. At the end of the 1935 season he took the Mountain Lap Record with the Alfa-Romeo, at 82.06 m.p.h., which still stands as a class record, and he lapped the outer circuit at over 120 m.p.h. with a Bugatti. In 1936, he had a bad crash with the Alfa-Romeo in the S. African G.P., in which he started on scratch with Wimille's Bugatti. He suffered concussion and severe injuries, and announced his retirement from racing. He then concentrated on veteran cars and flying, and flew in several King's Cup races. It was again typical of the man that when he visited Brooklands, he used to land his little Comper Swift monoplane in the road right before his shed, and that on one occasion, when he developed influenza while staying at the Aero Club, he defied the doctor, rose from his bedroom in Butt's Lodge, got out his Comper, and flew to his home at Biggleswade. It was one of his Desoutters which Capt. Holmes got interned for a time in France, when he landed by mistake at a French military aerodrome on the way back from the French G.P. At his home at Old Warden Park, Shuttleworth established a private aerodrome from which full scale charter work was run. In the veteran car field he was a great enthusiast. Commencing in the first run of all in 1929 with an early Panhard, he built up a remarkable collection. He once found on arrival at Brooklands prior to a Veteran Run that the required compression taps for his 1903 de Dietrich were missing. Although he flew his Desoutter home to retrieve them and back again to Brooklands, he still arrived at the starting point on time. This car could do about 60-70 m.p.h. and was sometimes criticised because it had modern high-compression pistons, and a body which was only a replica of those of the Paris-Madrid period, which did not altogether please the purists. However, Shuttleworth later got together a really splendid collection of veterans in the best Veteran C.C. tradition, and was never averse to driving the slowest of them in the Club's competitions. When MOTOR SPORT visited his collection in October, 1934, it comprised an 1898 Benz, 1901 Wolseley, 1898 Mors, a Peugeot of uncertain age, a 1903 Richard-Brasier, a 1901 12 h.p. Panhard, an Arrol-Johnson dog-cart which Shuttleworth drove home from Dumfries, an 1894 Peugeot, an 1896 two-cylinder Daimler, the de Dietrich, which had lapped Brooklands at 58 m.p.h., and a 1911 Morris light car. Since then, he has competed with a Locomobile steam car, and very recently acquired a Singer tricycle. His modern cars included a "30/98" Vauxhall, a 3-litre Bentley, a 6½-litre Bentley, a Railton, two old Rolls-Royces, two Arrol-Asters, some old Morrises, some vans and three Jowetts. Shuttleworth was very fond of the last-named, and would often be seen chugging about Brooklands in an old two-seater Jowett when tired of fast stuff. His racing stable included 2-litre and 2.3-litre Bugattis, and later the Alfa-Romeo. His aeroplanes have included two Desoutters on taxi service, a D.H. "Moth," A.B.C.-engined A.N.E.C., and the Comper Swift. Shuttleworth also restored about a dozen pre-1914 aircraft, exhibiting and even flying some at pageants and aircraft gatherings, as R. G. J. Nash did. Shuttleworth was a very wealthy young man indeed, but it is to his credit that he vented his enthusiasm for all aspects of motoring so thoroughly that his life was far fuller than those of many persons who have a living to earn. Actually, he had several business interests, and was Chairman of Railton Cars. In spite of his position, he is said to have led a quite simple life, often eating a humble supper in the kitchen before retiring to bed, after a long and tiring day amongst his beloved cars and aeroplanes. Moreover, he never lost his excitable, boyish enthusiasm, and from many aspects he was the motoring enthusiast *par excellence*. It was only natural he should join the R.A.F. That he met with a fatal accident is a tragedy, for we can ill afford to lose young men of Shuttleworth's stamp.



RUMBLINGS

Patience

I DEEPLY sympathise with those youthful enthusiasts who were on the threshold of their motoring career when war broke out a year ago, and are now waiting to resume, with but few personal reminiscences to lighten the period of waiting. Our correspondence columns used to bear witness to the fun obtained by impecunious enthusiasts who ran very cheap cars to Donington, Shelsley-Walsh, Prescott and the other sporting venues, somewhat envious of the real fast stuff, but getting heaps of enjoyment from their own means of transport. Some of those really cheap cars seem to have given great service, and I have just read a letter from someone whose 1928 Riley Nine tourer cost him £8 in August, 1938, and which gave no terrible trouble in 6,000 miles, although driven flat out on the cheapest petrol and on sump drainings contributed from friend's cars. Fifty to fifty-five m.p.h. was realised with a fuel consumption of 28 m.p.g. I wonder where this enthusiast is now! The preparation on the evening prior to leaving for a sporting venue far distant, the early start with a cheery crew of sport-loving fellows and girls, and the successful conclusion late at night of a long day's motoring and spectating was all very real fun, which thousands of us are longing to return to. Memories of such times, if they slightly depress, certainly make us resolve to "Keep At It" so that peace will return all the sooner, and make us read with great enjoyment of the successes of our R.A.F., which will do so much to hasten the end of hostilities. In the meantime, we must count ourselves very fortunate to be able to get in some ordinary motoring still. The limit of rather less than 200 miles a month isn't really so bad now that spare-time for most of us is seriously curtailed on account of duty in the Services, or time devoted to work of national importance or defence. Even given a free day a week, there is a chance of two evening's pottering, a day's good motoring of 50 miles or so out and home, and a day devoted to working on the car, to pass the month away. With an annual mileage definitely restricted to 2,400, really cheap cars, carefully picked, are much less likely to give trouble or to demand new tyres than in peace-time, for they will be driven in much more leisurely fashion for only half and possibly a quarter of the mileage which the more optimistic enthusiasts used to demand of them in happier days. So I have no compunction about suggesting that there is nothing against the acquisition of cheap small cars as a means of relaxation, providing they are in reasonably road-worthy condition. Although secondhand prices are rising, in the case of really cheap cars they are getting lower, and one sees road-worthy Morris Minors and Austin Sevens for £10 that formerly cost over £20. There are, I know, some enthusiasts in the Services keen enough to forgo other pleasures if they can only go on motoring. Which is why we still give details from time to time of such cars in usable order that are going at breaker's price . . . . The easier conditions of war-time motoring should suit the better-preserved of these cars very well, and, taking the proverbial fiver as a fair price, given luck, I am satisfied that motoring on basic rations might be had for as little as 15/- a week.

New World's Records

The World's 24 Hour Record has been broken by the American Ab. Jenkins, driving his Mormon-Meteor at Utah. The new figure is 161.18 m.p.h., an improvement of 3.91 m.p.h. over the former figure, also established by Jenkins. In the course of his run, Jenkins altogether set up twenty new world's figures, subject to confirmation, including the Hour, at 182.513 m.p.h., and the Twelve Hours at 170.21 m.p.h. After six hours, the salt-surface softened in the intense heat, and the course was changed from the 12½-mile oval to the 11-mile circle, a change allowed under present rules. The latter circuit was lapped at 189 m.p.h., a local record. In all, the 750 h.p. Mormon ran 3,868.32 miles at timed speed. Jenkins's co-driver was Cliff Bergere.

THINGS IN GENERAL

AT strangely regular intervals there is an outburst of professed indignation in Parliament against people accused of using their cars for pleasure purposes. Anyone who was once in the habit of "using" a car would laugh mirthlessly at the notion that much "pleasure" could be got out of a petrol ration which, at the best, is hardly enough to get an engine up to its optimum temperature, but as the Highest Cock-alorums as regularly snub the men of wrath by telling them that there is nothing unpatriotic in using the ration in any way you like, argument is pointless, even though the hidden hand behind the men of wrath might be interesting if unveiled. But as I wander around, compulsorily, on my own feet, the thought will intrude that far too many owners play into the enemy's hands by plastering their windscreens with excuses for using their cars. In hieroglyphic initials they tell what they suppose to be a critical world that they are really amateur firemen, or parashots, or air wardens or what not, and if they can't claim to be serving their country in that way, they plead that they give lifts to soldiers, quite an unnecessary statement considering that everybody who could find the room for a military gentleman plus his generous equipment would think it a privilege to help him on his way. In the early days of the war, when the epidemic first broke out, I had thoughts of sticking up a big "T," for I was and am under the impression that the Taxpayer is doing his full duty in the present dispute with Mr. Hitler, but I refrained because on second thoughts it seemed to me that anyone but Rip Van Winkle knew quite well that a car on the road was providing quite a lot of the sinews of war. Let us clear our minds of cant, as Dr. Johnson once remarked; and we might also clear our windscreens of rubbish, for these tacit excuses only play into the hands of those elusive people, the anti-motorists.

I understand that the Army has discovered Prescott, and that the famous hill is in its hands at the present time. It would be interesting to know whether tanks and what not are doing timed runs up the course, and if so, how many have come unstuck on some of those deceptive bends which have been the downfall of so many good men and true.

As far as I can learn, there is no definite news of Ettore Bugatti, affectionately known to so many of us as *Le Patron*. I believe that, of late, he made Paris his headquarters for business reasons, but whether he escaped from the advancing tide of Huns or whether he is undergoing the horrors of life in occupied territory is not known. Fate has dealt hardly with *Le Patron* of late, for only a week or two before the war his only son was killed on the road, in Alsace, while testing a new Bugatti. Jean Bugatti was in England attending the International Meeting at Prescott at the end of July, 1939. Another delightful man I met at the same time was M. Paul, the director of the Molsheim factory, and about whom also I have no news.

The motor-cycle has been so overshadowed during the last decade by the small car which, so legend hath it, has a shoehorn in the tool-kit, that it is pleasant to hear that it is now coming into its own again. Motor-cyclists are among the best fellows on the road, always ready to bear a hand in times of trouble, even to their own inconvenience and delay, as I once found when I went off the road into a ditch on a rainy day. They are also the fastest travellers, for they can get through where the broader four-wheeler would be blocked, so their use for military purposes should be invaluable. A friend of mine who has just taken a commission was quite a hot motor-cyclist until, three or four years ago, he graduated to what some people might think a more stately equipage. He tells me that, on joining his unit, he found that the first thing he had to do was to learn to ride a motor-bike. This gave him some joy, for he has not done much motoring lately in his 25 h.p. two-seater, and he has solemnly gone through a course of instruction ending in solo practice on the road without petrol coupons.



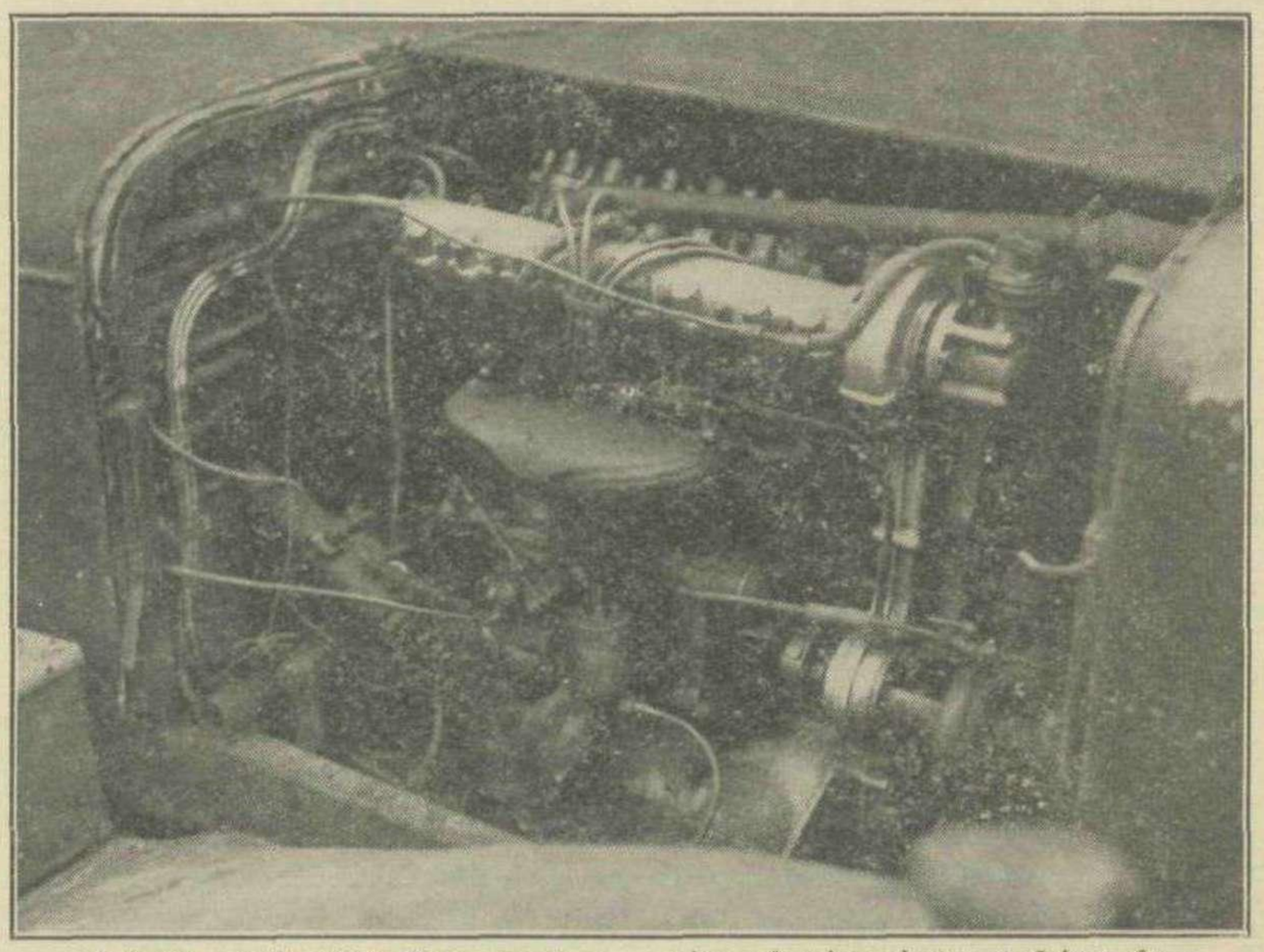
VETERAN TYPES: No. XXI

A 1914 T.T. SUNBEAM

MENTION has already been made in MOTOR SPORT of the wonderful collection of old cars at Short's garage in Chelsea, ministered to by Cecil Clutton. It has been mentioned, too, that amongst the vintage and Edwardian cars of varying ages in this collection is a Tourist Trophy Sunbeam. The car in question, having stood out in the open for many years at a garage in Maidenhead, and having been docked long ago of its original, bolster-tank racing body and external exhaust system in favour of clumsy wood-decked sports coachwork and a hastily welded-up inside exhaust manifold, one is apt to pass on to other more imposing veterans, regarding this early British racing car as of only minor interest.

A little thought will show how wrong this attitude is. In 1914 this Sunbeam was amongst the most successful racing cars of the day, at a time when engine design had received great stimulus from the trouncing which the huge Fiat and Lorraine-Dietrich cars had suffered in the 1912 French G.P. at the hands of the Peugeots designed by Ernest Henry. These Peugeots were comparatively small and light, and with motors of approximately half their rivals' capacity. They achieved victory by reason of higher engine speed and greater controllability, and they had a most noticeable influence on subsequent racing car design. Thus, for the 1914 T.T. Minerva took second and third places with Knight sleeve-valve engined cars, having extra exhaust ports uncovered by the pistons at the bottom of the stroke. Humber favoured a single o.h.c. engine which, to modern eyes, appears to have anticipated the 3-litre Bentley in many ways. Laurence Pomeroy designed a team of Vauxhalls with twin o.h.c. engines, and an original system of crankcase ventilation. All had to give best to the Sunbeams. Owing to their light weight and comparatively short wheelbase, they somewhat lacked directional stability at over 90 m.p.h., but nevertheless attained 100 m.p.h. during the race, although from contemporary accounts they would seem to have snaked a good deal at this velocity. The race was run over the sinuous I.O.M. course, where the light weight and advanced design of the Sunbeams gave very rapid acceleration that was a great advantage. K. Lee Guinness did one practice lap in 37 mins. 45 secs., an average of 60 m.p.h. The roads were rather muddy, so a small mudguard was carried over the off side front wheel to shield the drivers. On the first day, the Sunbeams started with steel-studded Dunlop tyres all round, but on the second day, the then more usual arrangement of two studded and two rubber-treaded tyres on diagonally opposite wheels was adopted. Two spares were carried behind the bolster tanks. The cars were started at minute intervals, and K. Lee Guinness and his brother Algernon immediately went into first and second places and remained there for the first day's racing of eight laps or 300 miles. Porporato's Minerva was some 12 mins. behind the second Sunbeam. During the second day, Algernon's rear universal seized at Hilbury on his 13th lap, and he had to retire, but "K.L.G." won by 20 mins., at 56.44 m.p.h. for the 600 miles, from Riecken's Minerva. Resta, on the third Sunbeam, had retired after two laps with a broken big-end bolt.

The years have rolled on, but these Sunbeams have not entirely disappeared. The winning car is in New Zealand, as was described in MOTOR SPORT in April, 1938. Another, the property of B. Dunwell and possibly the reserve car in 1914, carries a four-seater body, and formed the subject of the second article of this series (November, 1930). The car now at Chelsea has been rescued from the scrap collectors by Anthony Heal, who intends to restore it to as near original trim as possible. It is not yet in running order, but technically it is sufficiently advanced in many ways to stand comparison with modern sports-cars, and when restored it should be a truly absorbing possession. Unfortunately, there is no real clue to which car of the team it was, but Anthony inclines to the view that it is the car handled by Resta.



Off side of the 1914 *T.T. Sunbeam engine, showing air-pump driven from the camshaft, and the valve cover layout, etc.*

The four-cylinder engine of 81×160 mm. (3,298 c.c.) has two overhead camshafts, driven by a train of gears at the front of the engine, which operate four valves per cylinder. The cam cases are supported by long studs from the cylinder head; the valve springs being exposed. Light steel fingers are interposed between the cams and the tappets. A good deal of oil escaped from the cam cases down the tappet guides, so that it was found necessary to protect the plugs by means of metal guards.

The counterbalanced crankshaft is made in two parts and supported on three large diameter ball bearings. The steel pistons are drilled for lightness. A tubular member connects the centre of the piston crown to the middle of the gudgeon pin. This not only gives additional support to the piston head, but also helps to conduct away the heat.

Air pressure in the oil tank forces oil to the main bearings and camshafts through visible drip feeds in the dashboard. Lubricant, thrown out from the main bearings, is caught by channel section steel rings attached to the crank webs, whence it is fed centrifugally to the big ends through oil ways drilled in the crank pins. A scavenge pump returns the oil from the sump to the oil tank. The air pump is driven from the front of the inlet camshaft.

A Claudel racing carburetter supplies the mixture through a Y-shaped copper induction pipe. Four separate exhaust branches originally projected through the bonnet into a long, straight-through pipe. The oil, air, and petrol pipes were enclosed in rubber tubes to protect them from vibration.

A Ferodo-lined cone clutch transmits the drive through a normal four-speed gearbox and an open propeller shaft with two universal joints. The gear ratios are 11, 7.25, 4.8 and 3.4 to 1. The back

Continued on page 175

Club News

I.M.R.C.

The Leinster race will not now be run on account of the small entry received.

W. MIDDLESEX AMATEUR M.C.

Meetings are still held every Sunday morning at the "Myllet Arms," Western Avenue, Perivale, and recently a short walk was introduced by way of variety. F. W. Pinhard has been elected to the Executive Committee.

E.R.A. CLUB

A few members again got together at the St. Stephen's Tavern at 8 o'clock on the first Saturday in August. It has been suggested that a definite meeting place be arranged within the building and announced, to avoid friends missing contact. These gatherings have been announced for the first Saturday in each month at St. Stephen's Tavern, which is between the Embankment and Whitehall, facing the Houses of Parliament.

750 CLUB

The 750 Club is to be congratulated on producing an interesting "Bulletin" last month, which is to be repeated the first week in October. The contents are to include descriptions of members' cars, the first dealing with P. H. Hunter's 1934 A.E.W. Austin. The cover drawing of one of the works racing Austins looks like a naughty tracing of the cover of MOTOR SPORT for October 1937! The impromptu sprint at the picnic was a tie between Hunter's A.E.W. and Birkett's "Ulster," in 8.0 secs., the runner-up being Frost's Ulster, in 9.0 secs. On September 14th there will be a meeting at the "Sunderland," Sackville Street, at 6.30 p.m., and future fixtures are a run starting from the Osterley Hotel, Great West Road, at 3.30 p.m. on September 22nd, and an evening at the "Sunderland" on October 19th. G. C. Oxley-Sidey is now a Pilot-Officer, R.A.F.V.R., and has recently taken delivery of an Austin Seven Special from Auto-Conversions.

Hon. Secretary: P. H. Hunter, 39, Warland Road, S.E.18.

GENERAL NOTES

Interesting motoring experiences come to hand much more infrequently these days, and, in a way, are appreciated all the more for that, albeit there is a growing feeling that one must really "Go To It" and smash Hitler so that those happy days when the car was carefully prepared for really long spells on the open road may quickly return.

In the meantime there was a Sunday run to Pirbright to watch a motor-cycle scramble, when it rained torrentially until past mid-day, so that the protection of the Austin saloon was not unwelcome. There followed exhilarating experience of a Mark II Aston-Martin, as recounted in detail last month, when a little hill-storming was tried in the dark, and, next day, a delightful spot of real motoring was put in in Surrey, in alternate warm sunshine and heavy shower, culminating in a diversion to pick up a fellow enthusiast released from "work of National Importance" at 5 p.m. and rush him to town, after which we set off again almost immediately for further motoring in Surrey. That afternoon, certain lanes and by-ways were found to be closed by the military, and not infrequently did we have to restrain the urge to get past long convoys of Army vehicles, once having to pause for quite a while to let lots of immense anti-tank vehicles by on a narrow, uphill stretch—part of Britain's invitation to the Nazis. But our motoring was never really restricted, and certainly it was grand to experience again a car which looked a sports-car, handled with plenty of life and got along very rapidly. A shade over 80 m.p.h. was attained on the soaking road up to Esher from Cobham, when the going felt a bit exciting, loose shockers and smooth front covers in conjunction with stiff suspension causing a suspicion of instability. The next day we very reluctantly returned the Aston to her owners, the run at 40 m.p.h. across to the other side of the Metropolis, with fuel pump beginning to click, still well worth doing, better as such a car is out on the open road.

Then a Ford "Anglia" saloon presented itself for test, and after an evening and a day swinging very easily about built-up areas, it was taken on a typical English summer afternoon nearly to the coast, never molested once and only turned back at one by-road closed to ordinary traffic. The countryside looked very peaceful that day, and war would have seemed remote if every so often the Girlings had not had to bring the speed down for negotiation of "chicanes" and tank-trap barriers. The passenger indulged in much colour-photography once away from military objectives, and that evening the ever-willing Ford took two more persons for a brief ride to the nearby village and brought much photographic material up to London. So good is its fuel consumption that we carelessly disregarded the gauge's warning, and ran dry ere Caterham was reached, but it was possible to coast and coax the "Anglia" to the only remaining open garage at Kenley, where we ate at a café along with members of one of the Services. Then on to town—past a house the light in the upper windows of which stood out like a beacon in the black-out, what time irate police gentlemen attempted to arouse the owner, who was seemingly out, blissfully ignorant of his unwelcome illuminations—and another fairly full day's motoring was concluded quite early.

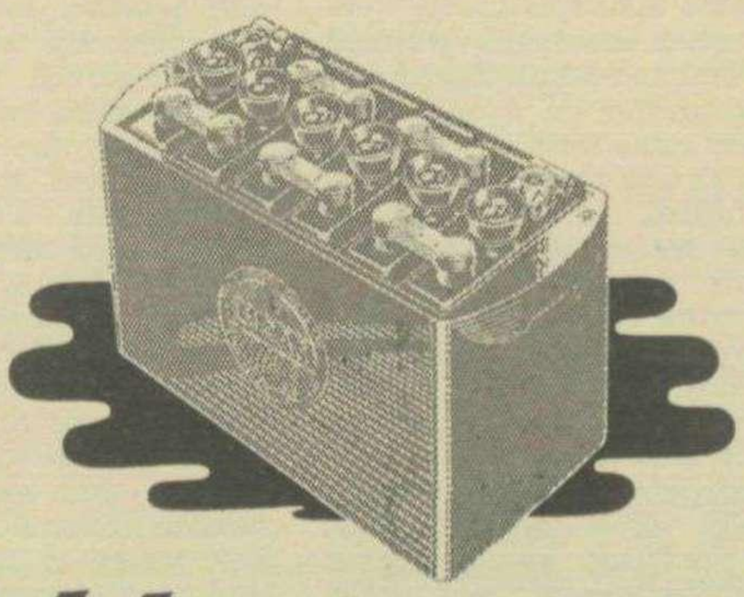
The next excitement was a run in Sam Clutton's great Daimler on the occasion of its removal to the country, this time to make more room for other veterans in the Chelsea garage, and not to protect it from air raid risks. This 1911 landaulette, with its 10 litres or so of sleeve-valve, six-cylinder engine, rated at 57 h.p., was one of twelve of the type, possessed of the biggest sleeve-valve engine ever put into a production car. She is in beautiful order, having covered a very small total mileage, and the new body fitted in 1924 makes her quite recent in appearance, the former owner's crest still visible on the rear doors. Early that Saturday morning the big car was reverently dusted and its tyres blown up a bit more, and after the blower single-seater Bentley had been manhandled into the road along with an S.S. saloon, it was rolled outside and tow-started behind a delightfully fierce, low-chassis 4½-litre Invicta four-seater, a few splutters and a steam-like noise beneath the long, far-away bonnet indicating that the Knight motor was running. Alas, when everything had been restowed back behind the yellow doors the Daimler decided not to start on the handle, nor was the starter any use. So everything was brought out again, and the Invicta, which, by the way, carried a spare coil before its radiator, did the job again. This performance had to be repeated yet a third time when we stalled at the Embankment, by a very select wedding gathering, to the discreet interest of two girls in a British Salmson saloon, and the objectionable attention of a busybody in a bowler hat. At last we really were away, the engine sounding no more than a steamer as it opened up, doing nearly everything in top gear, starting happily in middle and eased on the push-forward hand-brake as need arose, the foot-brake being hardly effective. Rounding corners called for some effort, although a modern steering wheel, small enough in all conscience, replaces what was probably an even smaller wooden wheel, but control was decidedly accurate. The right-hand gear-change, too, was quite a handful if bottom *did* happen to be necessary, the travel across the gate between bottom and second being fantastic. Occasionally fuel pressure had to be maintained on the beautiful little swivelling air pump in the centre of the front compartment, and, as we progressed, the engine condescended to run on the coil only, though the magneto was used to help the battery to charge. The facia voltmeter showed that all should soon be well in that department. The big motor sent back a lot of heat, and Clutton opened his panel of the immense

CLUB NEWS—continued

winds ween ere London's traffic was left behin t Out on the unrestricted arterial road we rolled silently and oh, so majestically along at 40 m.p.h., what time I occupied the back seat in state, reading a letter from America which exuded vintage enthusiasm and showed a 1908 G.P. Mercédès to be going nicely out there, proclaiming, as to present times, a firm desire to help us in every way possible to see the last of Hitler. After a while, an unpleasant grinding sound spoiled our luxurious manner of going, and the floor-boards were hurled out to reveal a huge spoked flywheel idling over in polite marine style, and the offending whittle belt of the dynamo drive, which was at once removed. A downhill section aided restarting, and we did not stop again until St. Albans, when Sam used his umbrella to dip the rear petrol tank, a ministration which showed the consumption to be quite up to the usual 7½ m.p.g. Here, much as I enjoyed experiencing the sort of travel only the Very Rich could command in the palmy days before the last war, I realised that if I was to keep a very different appointment in London at 3 o'clock that afternoon, I must do something about it, and a "Green Line" coach brought me back by a different route. On the way we passed another big and early Daimler, but younger by some ten summers than Sam's, yet its career already ignobly ended, for it was awaiting employment as a road barricade.

Another Sunday there was an unexpected trip in a Riley to a motor-cycle hill climb at Red Roads, organised by the Allard family *en masse*. The run down was punctuated only by a puncture, after which several hours grilling in great brown dust clouds could not altogether dispel the beauty of sunlight on the surrounding heathland, nor detract from one's respect for the modern motor-cycle, which gets up a once quite unclimbable freak hill in under 10 secs., calling for throttle-back at the summit if the rider is not to risk a nasty throw, which one Douglas rider took. Once again, surely the fact that this event, like several others this year, was held with full military permission to use private ground —indeed, a military policeman controlled the crowd—and was graced with an immense entry and an excellent car and motor-cycle attendance, augurs well for motoring sport as soon as this war is finished? After tea at a pleasant tea shop we hurried home, stopping only to remove an extra-air valve that lives between the S.U. and the manifold of the Riley—the single S.U. now used, incidentally, hangs at the rear of the manifold, which is rather unusual on a modern engine. On the Kingston by-pass an Armstrong-Siddeley did its best to obliterate us, but luckily the Riley proved very stable when taken up the central kerb unexpectedly, and skilful handling saved the situation. Home again, we pondered on how even a little motoring is most stimulating these days, though what one is missing was emphasised when a coach journey along the Great West Road seemed almost like travelling in foreign territory, whereas once we were on this road seemingly almost daily. Keep up the R.A.F. bombing raids, please . . . August Bank Holiday being Bank Holiday, we went to a fair, and, sensing as it were something of interest beneath the pulsating Tillings generating lorry, we looked more closely, and came upon none other than a front axle, tubular, with upswept ends of I-section, of very narrow track, carrying very light half-elliptic springs and fantastically small wire wheels. The hub caps revealed that it belonged to a Globe, that fascinating cycle-car which, according to a 1916 specification, had a 105×120 mm. *single-cylinder* engine of 1,039 c.c. driving by belt to a three-speed gearbox and by chain to the rear axle. We sought out the fair proprietor, in his little wooden hut, but he knew nothing of this astonishing find; but a few moments later we did encounter someone who regarded mention of this car with no astonishment, and who quoted its specification with no prompting from us . . . Alas, as we expected, the rest of the Globe had vanished.

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VETTING AND TESTING A 1939 1½-LITRE S.S. JAGUAR DROP-HEAD COUPE

SOME NOTES AND AN UNOFFICIAL WAR-TIME ROAD TEST BY A KEEN READER

THIS is a funny sort of road test, in fact it started more like one of Ripley's "Believe It or Not" stories. The car in question belongs to a lady in the medical profession, and was lent to us for a weekend to see if we could make it go any better than at present. Apparently the car is used almost exclusively over very short distances in town, and its performance under these conditions was not considered satisfactory. The owner's local garage (who presumably did *not* have the privilege of supplying the car new) dismissed the matter by saying that it was "one o' they high-powered racers" and thus could not be expected to perform well in traffic! This did not worry us unduly, but we were also informed that the car had been back to a very famous service depot on several occasions. Nevertheless, it struck us as very improbable that an almost new specimen of a famous marque (mileage 3,600 altogether) could really be a bad thing, even on pool petrol, and we therefore jumped at the opportunity of a little amateur sleuthing.

In case the worst happened, we thought it as well to photograph the car before setting forth.

It is a most dignified and imposing affair, and a highly successful attempt has been made to create flowing lines in spite of the short wheelbase and rather abnormally short bonnet.

On starting up, it immediately became apparent that some maladjustments were at large. Even when thoroughly warmed up, the engine emitted squib-like noises through the carburetter on accelerating, and similar noises came from the exhaust on the over-run. Our first thought was of unduly retarded ignition setting, especially when we remembered that these engines are rumoured to have a tendency to carry on running after being switched off: we felt that a misguided attempt might have been made to correct this tendency by retarding the ignition. This proved to be the case, or at any rate, the hand advance-retard control was not working properly. We have no great love of these lengthy and tortuous Bowden affairs, especially when the flexible inner cable has to do its work by pushing, rather than pulling, against a spring loading. However, it is very pleasant, and unusual nowadays, to have a hand control at all.

Engine accessibility for all normal adjustments is very reasonable, but to get at the end of the ignition control, at the bottom of the rather forward-mounted steering column, we decided to jack her up. To do this we broached (for the first time in its life, we think) the beautifully plush-lined tool kit laid out in the rear locker lid. Unfortunately, not all the tools live up to their surroundings: there are some decent spanners, but some of the other items are rather of the "Woolworth" standard to which one has become resigned in the case of tool-kits supplied with almost any car. The habitual bicycle pump is there, and a tiny copper wheel clouter roughly suitable for knocking in tin-tacks. Why do the makers do these things? The other day we saw a brand-new Karrier Cob outfit, with two 8-ton payload trailers, and this had the same old bicycle pump, and also a screw-up jack which could barely have lifted any one wheel with trailer unladen.

On the S.S., the jack provided is of a more ambitious type, plugging in to a rubber-capped extension of the chassis, and then being wound down with a handle. Having wrestled somewhat to open the jack, which was stuck with new paint, we plugged it in, only to find the handle fouled one of the tin trumpets which grace the front apron. However, we got over this by not fully inserting the handle, and found the movement extremely effortless. The car wobbles about rather when in the air, taking up the "slop" in the plug-in fit, but seems pretty safe.

Having fixed the ignition control to our liking, we tried her again, and found the mixture setting absurdly weak. In our humble opinion better economy is to be obtained by tuning a car for maximum efficiency, and then driving in a restrained manner, than by so weakening the mixture and upsetting the tune that comparatively wide throttle openings have to be used to get any sort of performance at all. With a normal mixture and ignition setting, the engine would idle perfectly and seemed generally to have regained its proper performance. In this state, there was some difficulty in stopping the engine, which had to be firmly stalled in top gear. We feel that one of Mr. Cox's "Atmos" devices might help with this trouble, also a good big dose of "Redex" to clear some of the ragged carbon mountains away.

Our first real outing with the car consisted of a spell of police duty, and provided the opportunity for about 40 miles of dense traffic work. The clutch is light and sweet in action, and the remote control gear lever, positioned just where it should be, gives a quick and easy change. The driving position is pleasant, giving excellent visibility, but the steering wheel seemed too low and pressed down on the thighs. But by varying the relative positions of seat and extensible steering wheel, we entirely overcame this fault, and achieved a really perfect position. As appears to be so often the case, the owner had apparently not taken the trouble to "fiddle about" long enough, and thus had tolerated the mediocre position.

On duty, we found the steering lock excellent, and, speaking of locks, appreciated the excellent arrangement whereby the same Yale-type key serves for ignition, door and rear boot locks. The Girling brakes proved smooth and powerful, although set rather too sloppy for one's personal taste: the handbrake, in fact, would not hold the car on any appreciable gradient. This shortcoming we resolved to rectify before attempting any speed work.

Getting in and out of both front and rear seats proved tolerably easy even for six-foot policemen encumbered with nose-bags and battle-bowlers. There is not, of course, a vast amount of leg-room at the back, but there were no complaints of cramp. There is room for three passengers abreast. At one of our numerous stops, we discovered a method of stopping the engine without any "back answers": at the moment of switching off, do not rev up, but do pull the choke out. This may be stale news to seasoned S.S. owners, but if it is not, well, there is the hint. We do not think the practice could be harmful, for the carburetter is an S.U., and the choke (so-called) is therefore only an "enrichener."

Suspension passed this town-driving part of our test with flying colours, rough cobbles taken at 40 m.p.h. producing only a shuddering action. There is practically no roll on corners. The driving compartment is very well insulated from the engine, and keeps pleasantly cool. The scuttle ventilator lets in a sufficiency of air without the wind blowing up dust from the floor, as sometimes happens. The engine is not dead quiet, in fact with the windscreen open there is a gentle clatter of pushrods which reminds one momentarily of the friendly Meadows unit. Nor are the indirect gears entirely silent, emitting a pleasant hum. Personally we welcomed these "human weaknesses" in such an ultra-sleek automaton—and they are certainly not obtrusive.

Towards the end of our tour of duty, it began to rain and we appreciated the easy winding action of the windows and the independently controlled twin wipers. It also became apparent that for some reason the mixture was getting weaker and weaker, for the squibs in the air intake had returned.

Back at the garage we had a careful search for possible causes of this trouble, and eventually found that the carburetter needle was loose, and gradually dropping out of the piston, thus closing the jet orifice. After remedying this, we had a go at the brakes, and found that each one of the simple and accessible Girling adjusters required just two notches to bring the pedal movement up to scratch. The adjusters are, of course, on the individual back-plates, and their setting governs both foot and hand controls: there are no other points of adjustment.

On the following day we set out for a short open-road test, being now confident that the car's performance was fully up to standard in every way. The fact that repeated visits to the service station had not located the carburetter fault all goes to show how difficult it is just to open a bonnet, gaze at the works and make a wise diagnosis: especially if, as in this case, the engine would

VETTING AND TESTING A 1939 1½-*LITRE S.S. JAGUAR DROP-HEAD COUPE—continued*

respond well to a tune-up and then lose its tune again after an hour or two as the needle shook down a little further.

Needless to say, it rained hard for most of our test. However, we achieved just 80 m.p.h. by speedometer, which, so far as we could test, was tolerably accurate. This we considered very creditable indeed, for these drop-head bodies are far from light. Nought to 50 m.p.h. occupied 19⅘ seconds, and this could have been improved upon by more brutal methods. Cruising speed seemed to be 65-70 m.p.h., and road holding excellent. There is a certain amount of sideways dither of the steering column and dashboard, but otherwise the car is quite rigid. Some amount of flexing is apparently intended, for with any one wheel jacked up, it is not possible to open or shut the doors.

We gathered from the markings on the rev. counter that 4,500 are "normal safe maximum revs," and as 80 m.p.h. was the equivalent of 4,300 in top gear, we did not fear bursting the engine. Third is a useful ratio, giving about 55 m.p.h. at 4,500, but second is rather low, giving rather less than 35 m.p.h. However, it proved itself a splendid hill climbing ratio.

Mud-guarding seemed excellent, there being only a trace of mud curling up in the air-stream on to the rear panel. But we could not get the lid off the spare wheel compartment, as it fouled the rear bumper. Doubtless it could have been persuaded past, with the aid of a tyre lever, but we were in no mind to knock chunks of paint off someone else's car.

In all, we covered roughly 100 miles, and the petrol consumption worked out at 34 m.p.g. This, too, we thought extremely good, again remembering the weight and that part of our test consisted of dense traffic work, the rest of really hard driving.

We had been handed a car whose good looks we quickly photographed, lest they proved to be the only good point. We handed her over "running like a train," after satisfying ourselves that she was in every way a pleasing and desirable means of wartime transport. We hope we have wiped the frown off a rather disgruntled owner's brow. Incidentally, the combined effects of "Redex" and a damned good blind almost entirely cured the diesel action after switching off. It is remarkable how almost every engine is the better for a thorough towsing (which does *not* mean doing 7,500 r.p.m. in second gear!).—P. T. C.

VETERAN TYPES: No. XXI—continued from page 171

axle is fitted with a differential, and although this may seem quite normal to us nowadays, many people at that time thought that the differential had certain disadvantages. A solid axle, it was thought, gave greater steadiness at high speed, but on account of the winding nature of the Isle of Man course it was considered that the differential would render the car easier to handle in the event of tyre failure.

Large, well-ribbed brakes on the rear wheels are operated from the pedal by means of cables. The hand lever takes effect on a transmission brake behind the gearbox, the drum of which is of such size that it projected through the floorboards. The purpose of these large size brakes was to ensure that the linings would endure throughout the whole two days.

Hydraulic shock-absorbers were fitted to both front and back axles, and broad straps, attached to the chassis, passed under the rear axle casing to limit its movement.

Altogether a most interesting design, well representative of 1914 practice. We shall look forward to seeing Heal driving this Sunbeam in pre-1915 class events when war is over, as inspiringly as he has handled his much bigger, though actually less thoroughbred, Fiat in the past. If he elects to use his most recent possession on the road as well, lots of sports-car owners are due for a surprise, for 100 m.p.h. from 3-litres is a good speed, even to-day.

NO RETURNS

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A SELECTION OF MOTOR SPORT ROAD TESTS

THAT HAVE APPEARED IN PAST ISSUES

If you do not see the road test that you require write us a letter. We may have it in stock, but not published below.

Make of Car	Issue
A.B.C. 11 h.p. 2-cyl., 2-seater	Feb. 1926
A.C. 2-litre, short-chassis, 15.7 h.p. 2-seater	July 1936
A.C. 2-litre, 16.40 h.p., 3-seater	Oct. 1927
A.C. 2-litre, 16.66 h.p., 2-seater	March 1926
A.C. 2-litre, 16.66 h.p., 4-seater	June 1934
A.C. "Ace" 16/80 h.p.	July 1937
Alfa-Romeo, 1½-litre supercharged 6-cyl. Charles 2-seater (1929)	March 1934
Alfa-Romeo 1½-litre supercharged 8-cyl. "Zagato" 2-seater (1932)	July 1934
Alfa-Romeo 2.3-litre supercharged 8-cyl. "Zagato" 2-seater (1933)	Aug. 1936
Alfa-Romeo 2.3-litre supercharged 8-cyl. 4-seater (1931)	Aug. 1932
Alvis 11.9 h.p., 4-cyl., "Firefly" saloon	Feb. 1933
Alvis 4-cyl., 12.60 h.p., 2-seater	July 1931
Alvis 6-cyl., "Silver Eagle" 4-seater coupe (1929)	Aug. 1931
Alvis 6-cyl., "Silver Eagle" 4-seater	June 1930
Alvis 3½-litre saloon	Feb. 1936
Alvis Speed Twenty Vanden Plas saloon	Feb. 1935
Alvis Speed Twenty Charlesworth saloon	Feb. 1934
Alvis Speed Twenty 4-seater	June 1932
Alvis 12/70 4-door saloon	July 1938
Ansaldo 2-litre, 4-cyl., o.h.c., 4-str.	Sept. 1924
Armstrong-Siddeley 20 h.p., 6-cyl. 4-seater	July 1933
Aston-Martin Mark II, 11.9 h.p., 2-4-seater	Jan. 1935
Aston-Martin Ulster 11.9 h.p., T.T. 2-seater	Oct. 1935
Aston-Martin Le Mans 11.9 h.p., 2-4-seater	June 1933
Aston-Martin International 11.9 h.p., 4-seater	Aug. 1932
Aston-Martin T.T., 11.9 h.p., racing 2-seater	Dec. 1931
Aston-Martin 11.9 h.p., 2-seater	Jan. 1930
Aston-Martin 2-litre Speed model	May 1938
Aston-Martin 1935 Ulster	Aug. 1937
Auburn 30 h.p., 8-cyl., supercharged 2-seater	June 1935
Austin Seven Boyd Carpenter 2-str.	Sept. 1930
Austin Seven "65" 2-seater	Jan. 1934
BENTLEY 3½-litre, 6-cyl., Vanden Plas, 4-seater	Nov. 1933
Bentley 4¼-litre, 6-cyl., Park Ward saloon	June 1936
Bentley 6½-litre, 6-cyl., long-chassis saloon (1928)	Dec. 1936
Bentley 4¼-litre Vanden Plas coupe	Aug. 1938
Bentley 8-litre sports 2-seater	April 1938
Bugatti 3.3-litre 8-cyl., Type 57 saloon	May 1934
Bugatti 2.3-litre 8-cyl., Type 55, supercharged, 2-seater	July 1932
Bugatti 2.3-litre, 8-cyl., Type 43, supercharged 4-seater (1930)	Dec. 1932
Bugatti 2 3-litre 8-cyl., Type 43, supercharged 4-seater	May 1930
Bugatti 3-litre, 8-cyl., Type 44, saloon	July 1928
CITROEN, Twelve f.w.d. saloon	July 1938
Crossley 20/70 h.p., 4-cyl., s.v. 4-str.	Nov. 1925
Crossley Ten. 1½-litre "Regis" saloon	Jan. 1936
Crossley Ten, 1,122 c.c. 4-seater	April 1932
Crouch Anzani 12.30 h.p., 2-seater	Aug. 1924
DARRACQ 12.32 h.p., Weymann saloon	Sept. 1924
Delage 14 h.p., 2-litre, 2-3-seater	June 1927
Delage 8-cyl., sports saloon	April 1930
Delage D.8 120, drophead coupe	May 1938
Delahaye 3.5-litre "Coupe des Alps" drophead coupe	Aug. 1936
Delahaye 3½-litre drophead coupe	Dec. 1937
D.K.W. "Special" saloon	Feb. 1938
ESSEX Terraplane 8-cyl. 4-seater	Sept. 1935
Excelsior 5½-litre, 6-cyl., super-sports test chassis	Sept. 1927
FIAT 20.70 h.p., 6-cyl., 2-4-seater	April 1933
Fiat "Balilla" saloon	May 1934
Fiat "Ardita" 17 h.p., 4-cyl., saloon	Feb. 1934
Fiat "Balilla" 10 h.p., 2-seater	Jan. 1935
Fiat 6 h.p., Type 500, coupe	March 1937
Frazer-Nash 6-cyl., 1½-litre (Blackburn) 2-seater	July 1933
Frazer-Nash 4-cyl., 1½-litre T.T. Replica push-rod o.h.v. 2-3-str.	Nov. 1931
INVICTA 4½-litre low chassis, 4-str.	March 1931
Invicta 4½-litre Weymann saloon	June 1929
Invicta 4½-litre saloon	Dec. 1929
Isotta-Fraschini 45 h.p., 4-seater	Oct. 1926
LAGONDA 2-litre, 4-cyl., twin o.h.c. 4-seater	Jan.-Feb. 1928
Lagonda 2-litre, 4-cyl., twin o.h.c. supercharged 4-seater	Oct. 1930
Lagonda 4½-litre, 4-seater	May 1936
Lagonda 4½-litre Rapide 4-seater	May 1935
Lagonda 4½-litre, 4-seater	Jan. 1934
Lagonda Rapier 10 h.p., 4-seater	Sept. 1934
Lagonda 16.80 h.p., 6-cyl., 4-seater	Jan. 1933
Lagonda 3-litre, 6-cyl., 4-seater	March 1932
Lagonda 2-litre, 4-cyl., twin o.h.c., 4-seater (1928)	March 1931
Lancia Aprilia, Type 238, saloon	June 1938
Lea-Francis 1½-litre supercharged T.T. 2-seater (1929)	June 1934
Lea-Francis 1½-litre supercharged special T.T. 2-seater	Sept. 1933
Lea-Francis 1½-litre supercharged "Hyper" 4-seater	Aug. 1930
Lea-Francis, 14 h.p., 6-light saloon	Dec. 1938
Leyland Eight (1929), 2-seater	Feb. 1938
MERCEDES-BENZ Type 540K, 5.4-litre, 8-cyl., supercharged, 2-str.	April 1937
Mercedes-Benz Type 500, 5-litre, 8-cyl., supercharged, 2-seater	Nov. 1934
Mercedes-Benz 12.40 h.p., supercharged 2-seater	June 1925
Mercedes-Benz 36.220 h.p. supercharged, 2-4-seater	April 1928
Mercedes-Benz 33.180 h.p., supercharged, 4-seater	Aug. 1927
Mercedes-Benz 2.3-litre, saloon	April 1938
M.G., 6-cyl., Mark I, 4-seater	May 1931
M.G. Magna, "L" 2-seater	Nov. 1933
M.G. Midget "P" 2-seater	Aug. 1934
M.G. Midget "J3" supercharged, 2-seater	May 1933
M.G. Six Mark I, saloon	Aug. 1930
M.G. Midget Double-Twelve racing 2-seater	June 1930 & Aug. 1930
M.G. Midget "J1" 850 c.c. 2-str.	Sept. 1932
M.G. Magnette "N" 4-seater	Feb. 1935
M.G. Midget "PB" 2-seater	April 1936
M.G. 14/40 4-cyl., 3-speed, 4-seater	Oct. 1925
M.G. Midget "T" 2-seater	Jan. 1937
M.G. 14/40 h.p., 4-cyl., super-sports, 2-seater	May 1927
O.M. 6-cyl., 2-litre, 4-seater	Oct.-Nov. 1928
PACKARD V12-cyl. 57 h.p. coupe	Feb. 1934
Peugeot "201" 4-cyl., 1 122 c.c. saloon	Sept. 1931
RAILTON Terraplane 4-seater	Oct. 1934
Railton Light Sports tourer	Dec. 1935
Railton Cobham 28.8 h.p. saloon	Sept. 1938
Riley Nine "Monaco-Special," two-carb. saloon	March 1931
Riley Nine, 4-seater	June 1931
Riley 16 h.p., Big-four Kestrel saloon	June 1938
SINGER 1½-litre, 6-cyl., Le Mans 2-seater	March 1935
Singer Nine, 4-seater	March 1933
Squire 1½-litre, 4-cyl., 2-seater	Aug. 1935
S.S. I special-bodied 2-seater (1933)	Feb. 1934
S.S. I coupe	June 1933
Steyr Type XII, 14.35 h.p., Weymann saloon	Aug.-Sept. 1928
Stutz "Black Hawk" supercharged 4-seater	Jan. 1930
Stutz 5-litre, 8-cyl., 4-seater	Dec. 1927
Sunbeam 3-litre 6-cyl., (twin o.h.c.) fabric saloon	Nov. 1927
Sunbeam 6-cyl., 21 h.p., (push-rod) Speed Six saloon	Dec. 1933
TALBOT "90" Brooklands-bodied 2-4-seater	April 1931
Talbot "105" sports saloon	April 1934
Talbot 3½-litre saloon	March 1936
Talbot Ten "Rally" 4-str.	Oct.-Nov. 1936
Talbot "105" Vanden Plas 4-str.	Nov. 1932
Talbot "90" 4-seater	Nov. 1930
Talbot Ten sports coupe	June 1938
Tatra 4-cyl., 1,154 c.c., coupe	Dec. 1932
Terraplane, 8-cyl. 29 h.p., 4-str.	July 1935
Triumph 2-litre "Vitesse Six" saloon	April 1935
Triumph 10 h.p. "Gloria Southern Cross" 2-seater	June 1935
Triumph 10 h.p. "Gloria" saloon	Jan. 1934
Triumph Nine "Southern Cross" 4-seater	June 1932
Triumph Eight "Gnat" 2-seater	Aug. 1931
Triumph Eight, supercharged 2-str.	Dec. 1929
Triumph Dolomite 14/60 saloon	June 1937
VALE-SPECIAL 832 c.c. 2-seater	Aug. 1933
Vauxhall 30/98 O.E. 4-seater (1925)	Jan. 1936
Vauxhall 30,98 O.E. 4-seater (1924)	Dec. 1930
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 (12.08 h.p.) saloon	Sept. 1930

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