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The Way of Things

A Splendid Season.

WITH the passing of the next few weeks the season's racing will have come to an end, and adherents of the sport will disconsolately scan the calendar's sparse fixture list. But, viewing the months that have gone in retrospect, few will say that the fare provided has been other than good and sufficient.

It was said some years ago, when mass-production was spreading throughout the motor industry, that the cheap family utility vehicle would seal the doom of sporting motoring, that the automobile would soon be looked upon solely as a means of transport. Never was an assumption or prophesy wider of the mark. In all the numerous events which have taken place during the season, public interest has been of the keenest. People endured hectic hours on boat and train to see the Le Mans race. Some went by air. The course of Italy's famous Circuit races, the Targa Florio and Monza are flanked with cheery crowds, as ever. In England, the attendance figures at Brooklands, on a "big" day, rival those of any other entertainment, and the revival of Shelsley Walsh, a few weeks back, provided sufficient evidence to prove the popularity of the hill climb. Phoenix Park, though not yet a classic, is on an assured footing; as for the Ulster T.T., it need only be said that the crowds there were estimated at half a million.

The Future of Gliding.

JUDGED by the number of clubs which have sprung up in England during the past six months, gliding is quite definitely a popular pastime.

Whether it will continue to be depends on what is achieved in the near future. For many it is still a novelty, and up to now, it has attracted not only people who have had no aviation experience, but many pilots and ex-pilots of powered aircraft. For the former, learning to fly on these engineless craft entails a lot of hard work and perseverance. The inevitable crashes, though not serious to himself, may dishearten the beginner. Only the apt and genuinely enthusiastic *ab initio* will reach the stage when he can safely pilot a sailplane. As for the "old hand," it is to be feared that the ordinary training glider will not amuse him for very long, and unless the club to which he belongs can provide him with a soaring machine, his interest too will flag. It therefore, behoves the committees of the thirty odd clubs now in existence, to look well ahead. In no other sport is team work, the team spirit and organisation of more importance than gliding.

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THE R.A.C. TOURIST TROPHY RACE



The winner, T. Nuvolari (Alfa-Romeo), crossing the finishing line.

THE ninth Tourist Trophy of the R.A.C. was run this year for the third time over the Ards circuit in Ulster, and resulted in a remarkable victory for the Italian Alfa-Romeo team, The winner, T. Nuvolari, has already achieved fame by his victory in the gruelling 1,000 miles of this year, though this was his first race on British soil. G. Campari, the second man home, was second in this event last year. He was also second in the Irish Grand Prix and the Italian 1,000 miles of this year. The third to finish, Achille Varzi, has achieved success in the I.O.M. Tourist Trophy for motorcycles, and this year crowned his many car-racing successes by winning the famous Targa-Florio over the mountainous Sicilian course. Verily a team of giants, whose victory was well deserved.

British prestige was upheld chiefly by by the latest front wheel drive Alvis, which put up a wonderful show, chasing the Italian cars home, and finishing 4th, 6th and 7th. The Talbot team, Horton's Riley, and Poppes' game little Austin, were others who showed that British cars, even if occasionally beaten, are always well to the fore.

A feature of the race which caused considerable disappointment to the vast crowd was the last minute disqualification of Rudolph Caracciola, whose Mercédès was fitted with a non-standard supercharger, larger than that on Campbell's and Howes' Mercédès. The officials, while strictly enforcing the regulations, gave every facility, in the way of time extension, to enable a standard instrument to be fitted, and so bring the car within the rules. However, although there was just time for this to be done, such last-minute alterations are rarely desirable, and eventually Caracciola arrived at the start, but only as a spectator.

The pits at the start presented a gay scene, and also gave an interesting illustration of the varied temperaments and methods of the different teams. The Bentley team were quietly busy working on their cars, and making sure that everything was in order, and Birkin was standing by, evidently wishing that the time would pass quicker, that he might get down to business. Among the din of engines being warmed up, by the Alfa's and O.M.s in particular, the Talbot team gave a contrasting atmosphere of peace, as the drivers strolled round or sat in their cars, absolutely ready, and confident that everything that could be done had been attended to.

Capt. Frazer-Nash, cheerful as ever, strolled about chatting, with an occasional glance at the sky. Not that Archie Nash minds wet roads, as he proved last year, but they make things very unpleasant all the same.

However, last minute work eventually quietened down, and by the time Minoia's O.M. had received a few taps on the hub caps to make sure, "Ebby," armed with his chronometer, and an enormous yellow flag, had taken his position.

Eleven o'clock, and the Bentley's, Alfa-Romeos, and Fronteras in Oats' 2-litre O.M., the first classes away, shot off towards Mill Corner on the first lap of their long drive.

Then the three Talbots, all engines starting to the second, moved off in their now familiar procession.

Next came the two remaining O.M.'s, but Ramponi had an anxious moment when his engine refused to start, but a few seconds' work on it and he too shot off with a cheer from the vast crowds.

The Austins and Triumphs got away just as Birkin's Bentley had passed Comber. A few seconds after the howling pack of Alvis, Lea-Francis, and, finally, the Mercs. had gone, Birkin appeared and roared past the stands with a good lead on his team mates. The Alfas were evidently very fast, as they came through almost level with the rest of the Bentley team, and ahead of E. R. Hall. Birkin's first lap took 11m. 2s., a speed of 74.28 m.p.h. The cars were now coming through in groups, and there were some good dog fights in progress. Sammy Davis (Lea-Francis) was running level with Cushman (Alvis) for the whole way from Dundonald, but, leaving his braking just a little later than his rival, managed to get ahead before Mill Corner.

The Mercs., left without Caracciola, were running in close formation, with Campbell slightly in front.

Confirmation of the Alfa-Romeo's great speed was received, when it was learned that Campari and Nuvolari had broken the lap record for their class in 11m. 7s. (73.23 m.p.h.), no less than 40 secs. inside the previous record.

At 11.35 Sutton's Lea-Francis slid into his pit with locked wheels for work on the engine, but was soon away again.

Callingham (Alfa-Romeo) was held up at Bally Stockart, but the other Alfas were going faster than ever, and the record for the 2-litre class fell again at 11m. 3s. (74.17 m.p.h.), while Kaye Don lowered the 1,500 c.c. lap record to 11m. 24s. (71.89 m.p.h.). Callingham's trouble

R.A.C. TOURIST TROPHY—continued.

proved to be a broken connecting rod, putting him out of the race.

At 11.30, after half an hour's running, the leaders on handicap were :—

1st, Campari (Alfa-Romeo).
2nd, Nuvolari (Alfa-Romeo).
3rd, Varzi (Alfa-Romeo).
4th, Birkin (Bentley).

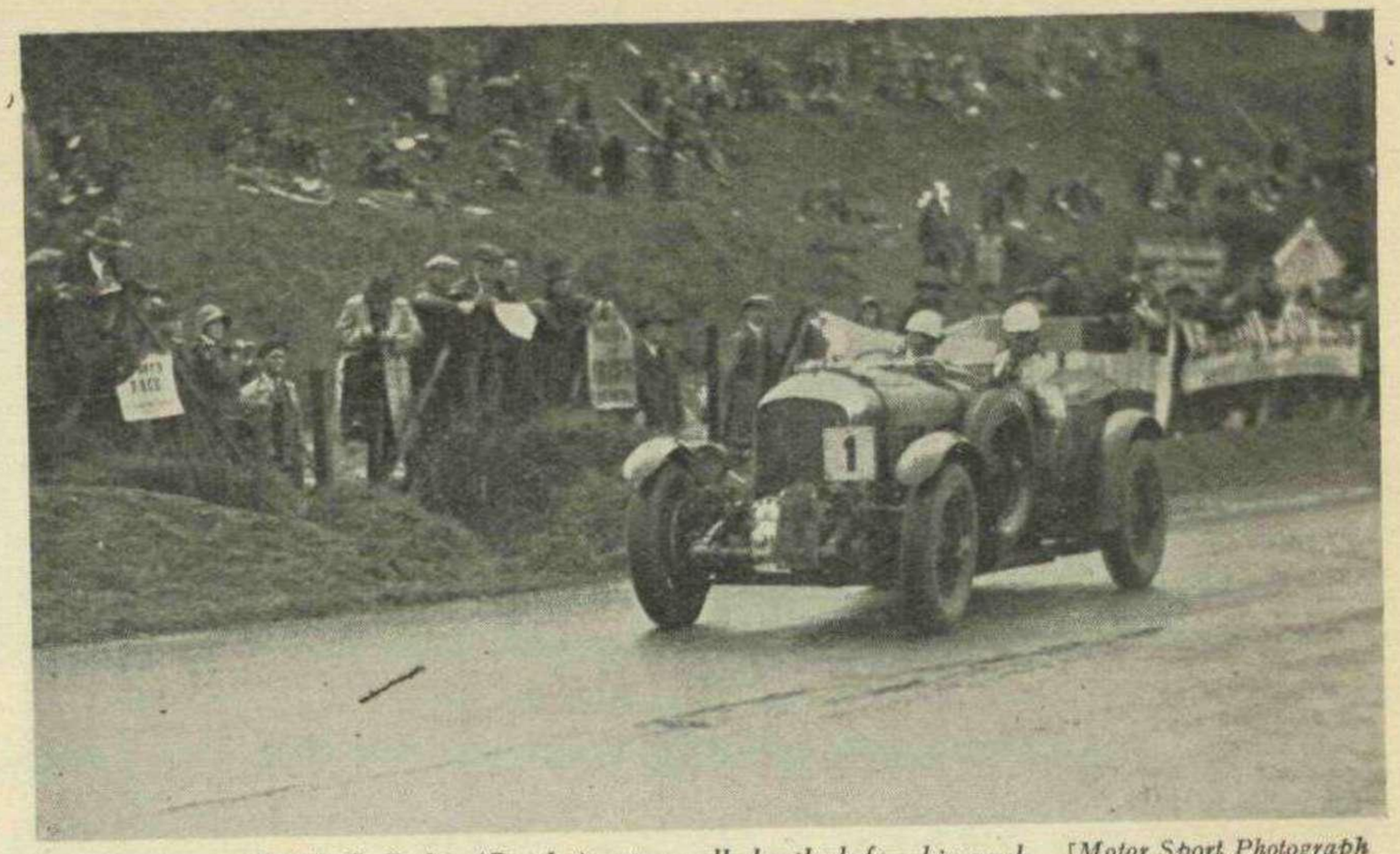
The Bentley was running well and lapped in 10m. 53s., but it was obvious that the Alfas were going to be very hard to catch, as Campari and Nuvolari, who were still running within a few yards of each other, replied with a lap each in exactly the same time !

Conditions round the course were excellent for high speed, although rain was threatening, and drivers were making the most of their opportunities, in case of rain later. Cyril Paul, however, nearly overdid things at Newtownards, and took the corner almost broadside. Sutton came into the pits again at 12 o'clock and proceeded to change his magneto, which he did in about 10 minutes.

Frazer-Nash then came in, remarked "Mag. points," in a matter of fact tone, and proceeded to fill the radiator from a beautiful, new and shining watering can. This process was not assisted by his mechanic, who was rocking the car to and fro in gear to examine the suspected instrument, and in consequence received most of the water ! However, they soon filled up and were away.

Further diversion was caused by Campari, who was flagged in to be warned as to his driving, which was getting rather hectic, and the consequent strain of instructions, recriminations and what-not in Italian, which seems a highly expressive language, caused great delight at the pits and in the stand. He was still holding his lead, however, the order after 1 hour being :—

1st, Campari (Alfa-Romeo).
2nd, Nuvolari (Alfa-Romeo).
3rd, Varzi (Alfa-Romeo).
4th, Birkin (Bentley).



R. H. S. B.rkin (Bentley) going well shortly before his crash. [*Motor Sport Photograph*

A. R. C. Waite crashed in his Austin at Ballystockart Bridge and sustained concussion. His mechanic was thrown clear and escaped injury. The Austins were having a run of bad luck, as Frazer-Nash retired soon after this with engine trouble, to be followed by Crabtree for the same reason.

Sutton, who had got away after some snappy pit work, was in again with further trouble less than half an hour later, and then G. Poppe's Austin, boiling hard, came in for replenishment.

Nuvolari was driving really hard now, although somewhat violently, as was seen at Comber, where he had a very bad skid, but his efforts had just gained him the the lead from Campari by the narrow margin of 3 secs.

The order at 12.30 p.m. was :—

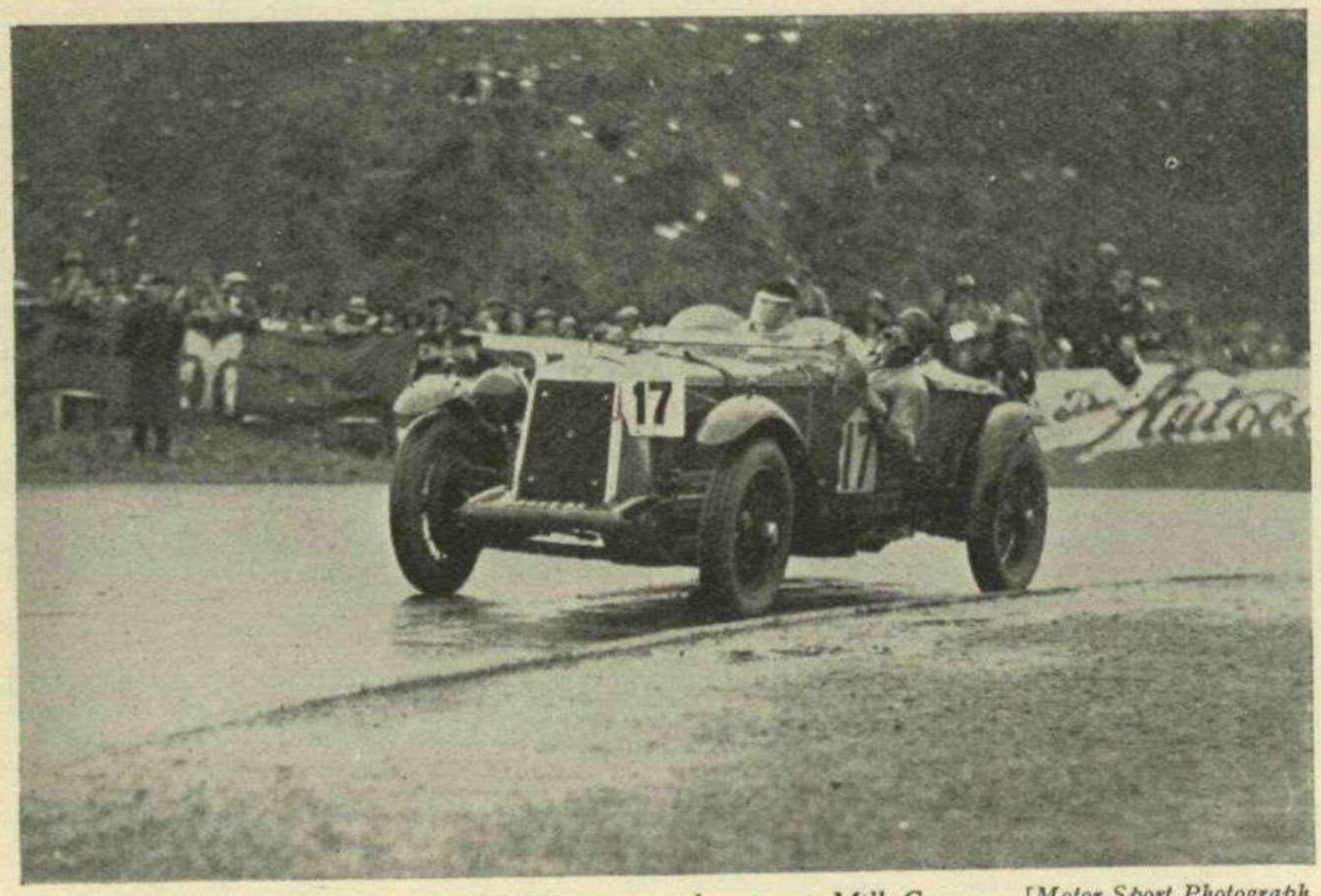
1st, Nuvolari (Alfa-Romeo).
2nd, Campari (Alfa Romeo).
3rd, Varzi (Alfa-Romeo).
4th, Birkin (Bentley).

Kaye Don was putting up some excellent laps on his 1,500 c.c. Alfa, and was now in 5th place, with Kensington-Moir's Bentley 6th. Benjafield's Bentley called at the pits at 12.34 p.m., refuelled, and was taken over by Jean Chassagne, who was the Bentley reserve driver. Earl Howe was now leading Campbell, but it was becoming increasingly evident that they were not going to be able to overcome their increased handicap over last year. Both cars were running with absolute regularity.

Sutton was now having trouble with broken valve springs, but was quite undaunted, and proceeded to replace them and get away, having previously replaced a magneto. He was getting one of those runs of bad luck which every driver experiences from time to time, and the cheerful and efficient manner in which he was tackling his thankless job aroused general sympathy.

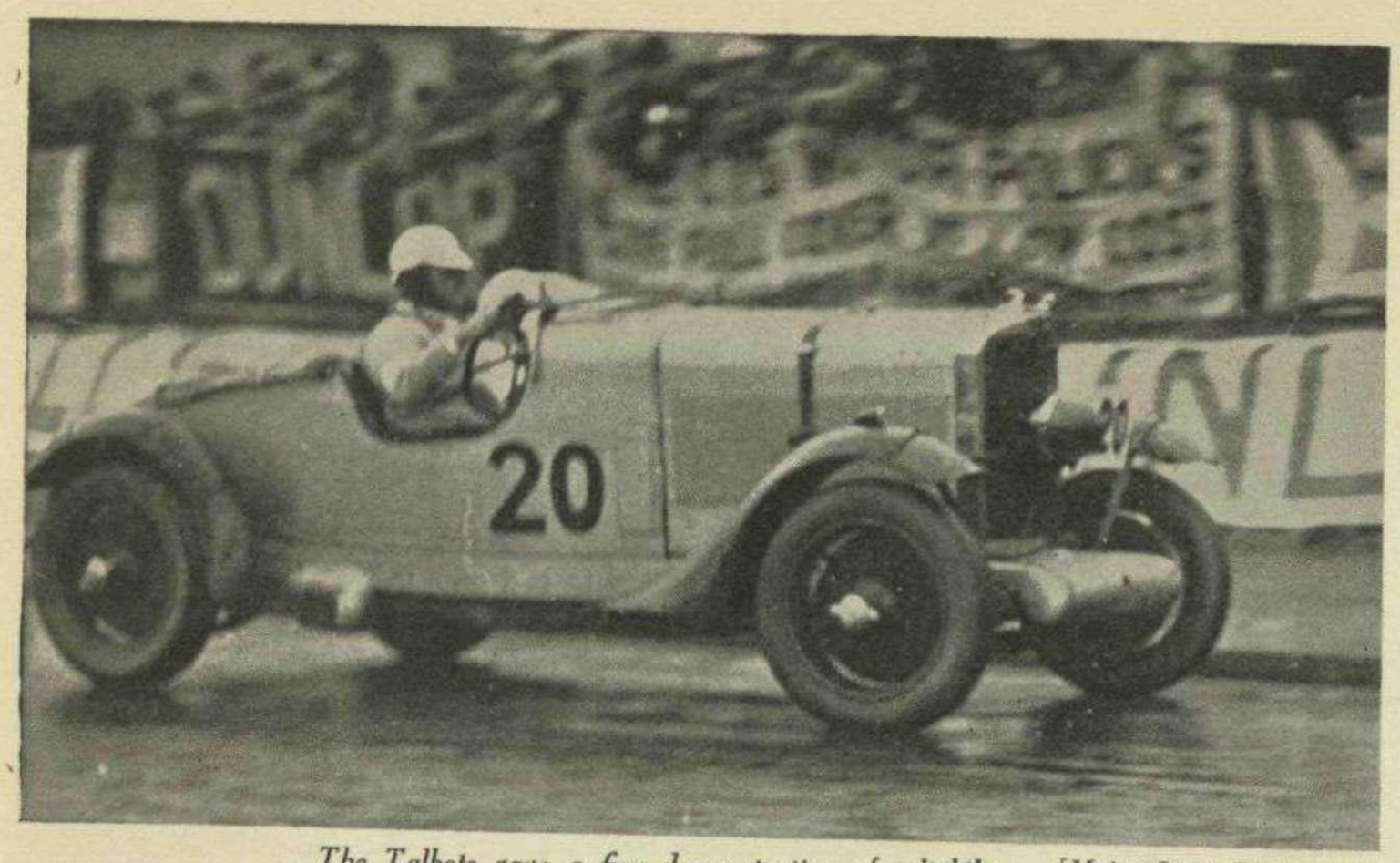
The Rileys were running well and R. T. Horton twice lapped in 12m. 9s. (67.46 m.p.h.), a record for Class G (1,100 c.c.). Other records were going, and Birkin brought the fastest time in Class C (5,000 c.c.) down to 10m. 48s. (75.89 m.p.h.), and was getting closer to Caracciola's record lap of last year. Kaye Don again broke the 1½-litre record, this time in 11m. 15s.—a speed of nearly 73 m.p.h., but in doing so had rather a hectic time in Newtownards, where he nearly hit Fronteras (O.M.).

As if to put an end to his fever for creating records, at 1 o'clock the long threatened rain started to fall, and drivers had to cut down their cornering speeds, and start braking considerably earlier, while one or two who failed to apply a little extra caution had some hectic moments. Dan Higgin overshot the Town Hall corner at Newtownards, but got back on to the course and proceeded. The two little Triumphs were running very regularly, and F. S. Barnes came in, refuelled, and handed over to J. P. Barnes, all within a minute.



Ramponi (O.M.) cutting close in at Mill Corner. [*Motor Sport Photograph*

R.A.C. TOURIST TROPHY—continued.



The Talbots gave a fine demonstration of reliability. This photo shows Hindmarsh at MillCorner. [*Motor Sport Photograph.*

The rain was getting heavier, but Malcolm Campbell did not seem to be discouraged by this, and, if anything, increased his speed. He caught up and passed Earl Howe, and we noticed at Mill Corner he left his braking just as latc as when the roads were dry.

Campari and Nuvolari were still running together, though the former had regained his lead, and was now 1 second ahead. The order at 1 o'clock was :—

1st, Campari.
2nd, Nuvolari.
3rd, Varzi.
4th, Birkin.

Half an hour later this order was unchanged, but a new feature of the race was the fact that two of the Alvis cars, driven by Paul and Harvey, had crept up and were occupying fifth and sixth positions.

At 1.40 p.m. the leader, Campari, came in to the pits accompanied by Achille Varzi, who was lying third, and an animated scene was witnessed as drivers and mechanics rushed about, spilt fuel over the road, and received instructions. The job was very quickly done, however, and they roared off again to the cheers of the crowd.

Nuvolari was in on the next lap, and was away in 48 seconds in pursuit of his team-mates.

The high speeds and wet conditions were causing a certain amount of trouble, both mechanical and otherwise. Harvey (Alvis) hit the bank at Bradshaws Brae, but was able to continue. Kaye Don came to grief when his car skidded at Henryville Corner, hit the bank and overturned, pinning him and his mechanic underneath. The car burst into flames, but the mechanic, G. B. Long, crawled out, and with assistance lifted the car and got Don clear. The car was completely burnt out, while Don had a broken rib.

At 2 o'clock the scrap between the two leading Alfas had resulted in Nuvolari taking the lead with a fairly established margin, while Birkin had pulled up to 3rd.

The order at this point was :—
1st, Nuvolari (Alfa-Romeo).
2nd, Campari (Alfa-Romeo).
3rd, Birkin (Bentley).
4th, Paul (Alvis).

The standard of pit work was high, and little time was wasted in filling up. The best effort of the race was that of Cushman (Alvis), who refuelled in 45 secs. Some of the cars were beginning to feel the effects of the race in minor troubles and unaccountable falling off of power. Earl Howe was suffering from a slight misfire, and called at the pit to see what could be done about it. However, as everything seemed perfectly O.K., he went on again Harvey stopped at Dundonald to try and secure a front wing which had suffered somewhat in his little collision with the bank.

At 2.30 Achille Varzi had again got his Alfa-Romeo into 3rd place, and the first four cars then were :—

1st, Nuvolari (Alfa-Romeo).
2nd, Campari (Alfa-Romeo).
3rd, Varzi (Alfa-Romeo)..
4th, Poppe (Austin).

Birkin had now dropped to sixth place behind Paul's Alvis. The race had now settled down with Italy in a very strong position indeed, and in spite of the efforts of Birkin, Paul and Poppe, it seemed that nothing short of a miracle could keep the Italians from a well deserved victory, and at 3.0 p.m. the position of the first four was unchanged.

Kensington-Moir was celebrating his return to the more active side of motor racing with a very nice display of driving, and was noticeably fast and steady on the corners. However, the Alfas were well ahead of him, and their chief danger was from the little Austin, backed by Paul and Harvey on Alvis cars.

Nuvolari's pits were getting wind of the challenge, and the next time round he found the signal to put on speed, consisting of a red arrow pointing upwards, and the word "Austin" chalked on another board to show him who to look out for! At 3.30 the order was :—

1st, Nuvolari (Alfa-Romeo).
2nd, Campari (Alfa-Romeo).
3rd, Varzi (Alfa-Romeo).
4th, Poppe (Austin).

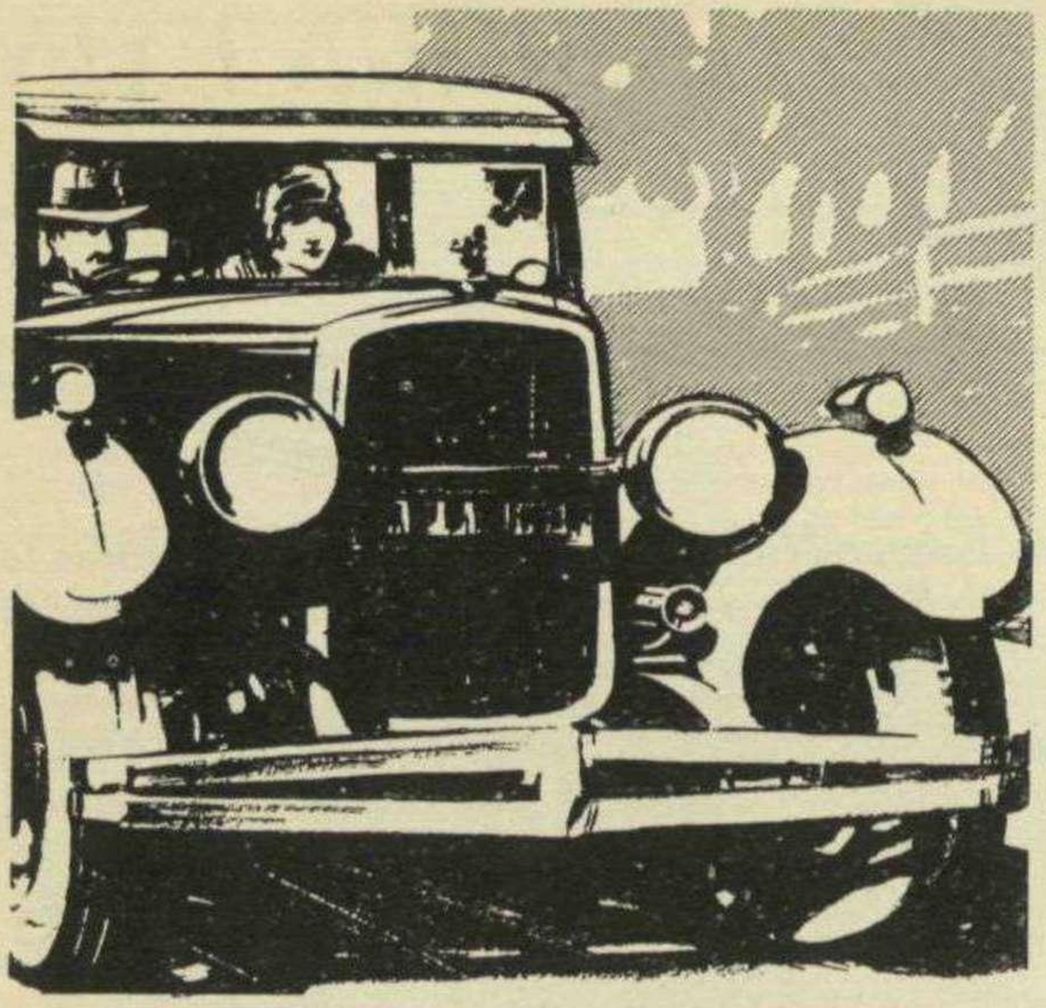
Just at this time disaster overtook Birkin's Bentley at Ballystockart. The near-side front tyre came off and the car skidding helplessly, spun round, crashed into the stone wall. Fortunately, neither driver nor mechanic were injured, and both appeared later, on foot at the pits. Hard luck! At 3.30 p,m. the order was unchanged, and shortly before 4 o'clock Nuvalari had actually passed the Austin on the road, while at the end of their 27th lap Campari was only a few yards behind Poppe, and Varzi little over a quarter of a mile after his team-mate.



A dog-fight at Comber : Fronteras, driving Oat's O.M. leading Campbell's Mercedes and Whiter's Lea Francis on the corner.

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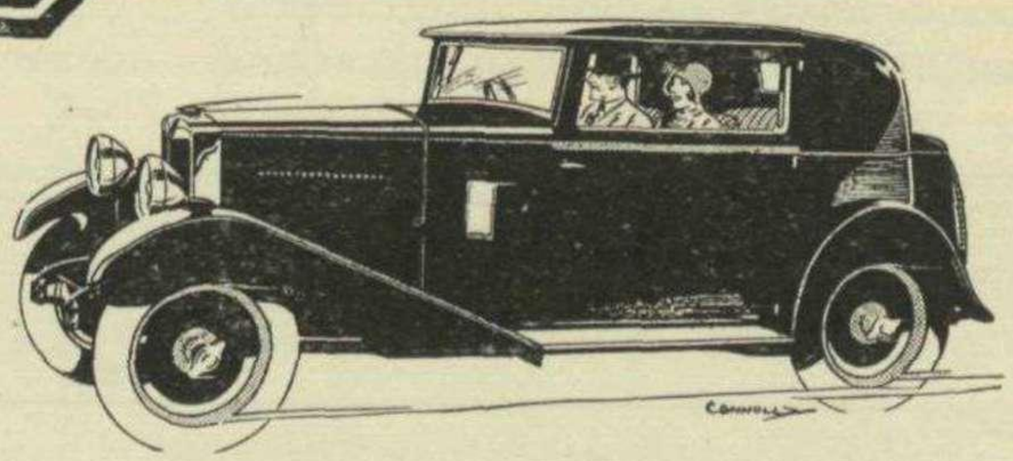
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R.A.C. TOURIST TROPHY—continued.

Then at the end of his 28th lap Nuvolari received the signal from the pits that he was actually in the lead, and Campari followed just far enough behind to give his pit management time to rub out the "1" and substitute a "2" on their blackboard. Paul had now pulled up again, and on handicap was leading the Austin.

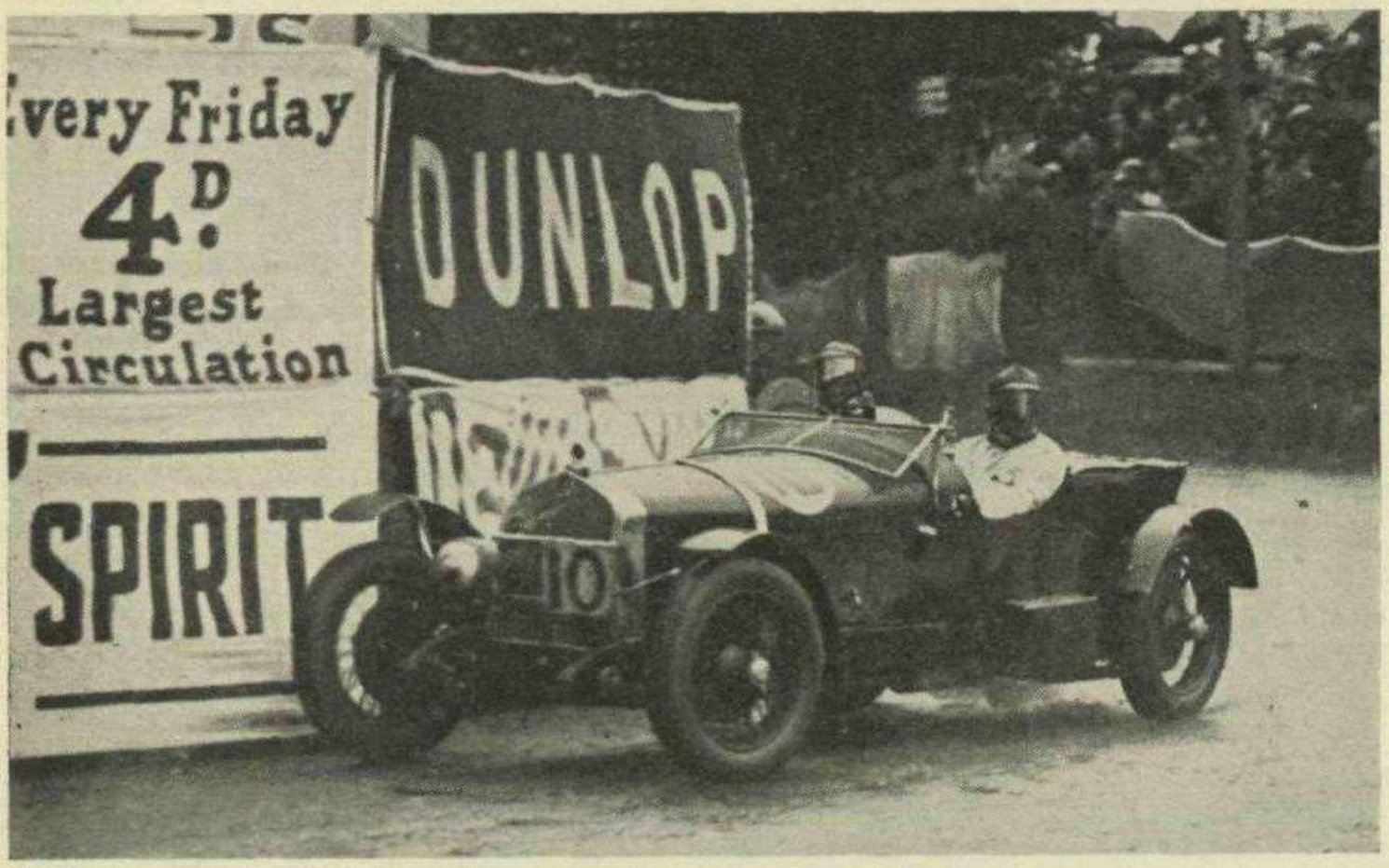
The order at 4.0 p.m. was :—
1st, Nuvolari (Alfa-Romeo).
2nd, Campari (Alfa Romeo).
3rd, Varzi (Alfa-Romeo).
4tu, Paul (Alvis).

Barring accidents, a sweeping victory for the Alfa-Romeo team seemed certain, and interest turned to the actual leaders in the respective classes. These proved to be Campbell (Mercédès) in class B, Kensington-Moir in class C on his Bentley, Brian-Lewis (Talbot) in class D, Nuvolari in class E,—and of course in the whole race—while Paul (Alvis), Horton (Riley) came Achille Varzi to complete the Alfa's victory.

The first British car was Paul's Alvis, which had run very well throughout, and was very close on Varzi's heels at the finish. Poppe's Austin was fifth, and as it crossed the line after its long struggle, received a terrific ovation. Then followed the extra touring lap for those who had finished and a great scene of jubilation at the Alfa pits. Smiles, handshakes, everyone talking at once and no one listening, but all thoroughly pleased with themselves,—and well they might be!

Last year they won the team prize and Campari was second, the same position as he gained this year.

The Talbots again finished close together, with Brian Lewis the first of their team. Not only did they finish without trouble, but they never even called once at the pits, surely something of a record for a race of this length. They finished



Nuvolari taking his winning Alfa round Dundonald hairpin.

and Poppe (Austin) were leading classes F, G and H respectively.

The whole of the Alfa team were now on their last lap, and just after 4.35 p.m. Nuvolari crossed the finishing line, to win the 1930 R.A.C. Tourist Trophy for Italy after a very fine race. Campari was only a few hundred yards behind, and then 1, 2, 3 in their class, and still had an ample supply of fuel! Perhaps if they develop just a little more speed we shall have something with which to gain our revenge on our friendly rivals from the Continent.

Thus ended a well fought race, wonderfully organised, and won by great driving and fine cars. The huge crowds round the course testify to its growing interest, and we can only exhort those who did not get over to Ulster for this event to make every effort not to miss the next R.A.C. Tourist Trophy.

Results :—

1.—T. Nuvolari, Alfa-Romeo. 5 hrs. 35 mins. 20 secs. 70.88 m.p.h.
2.—G. Campari, Alfa-Romeo. 5 hrs. 35 mins. 36 secs. 70.82 m.p.h.
3.—A Varzi, Alfa-Romeo. 5 hrs. 38 mins., 3 secs. 70.31 m.p.h.
4.—Cyril Paul, Alvis. 5 hrs. 39 mins. 39 secs. 69.61 m.p.h.
5.—G. Poppe, Austin. 5 hrs. 33 mins. 22s. 61.46 m.p.h.
6.—H. W. Purdy, Alvis. 5 hrs. 40 mins. 39 secs. 67.37 m.p.h.
7.—L. Cushman, Alvis. 5 hrs. 42 mins. 30 secs. 67.10 m.p.h.
8.—R. T. Horton, Riley. 5 hrs. 41 mins. 58 secs. 64.71 m.p.h.
9.—B. E. Lewis, Talbot. 5 hrs. 47 mins. 48 secs.
10.—Malcolm Campbell, Mercédès. 5 hrs. 47 mins. 48 secs.
11.—J. S. Hindmarsh, Talbot. 5 hrs. 54 mins. 43 secs.
12.—H. S. Eaton, Talbot. 5 hrs. 54 mins. 44 secs.
13.—D. Higgin, Lea-Francis. 5 hrs. 57 mins. 5 secs.
14.—H. Kensington-Moir, Bentley. 5 hrs. 57 mins. 28 secs.
15.—G. Ramponi, O.M. 5 hrs. 58 mins. 28 secs.
16.—E. L. Hall, Bentley. 5 hrs. 59 mins. 42 secs.
17.—Cav. N. Minoia, O.M. 6 hrs. 4 mins. 9 secs.
18.—Earl Howe, Mercédès. 6 hrs. 6 mins. 47 secs.

CLASS WINNERS.

Class B. (8,000 c.c.).—Malcolm Campbell, Mercédès.
Class C. (5,000 c.c.).—H. Kensington-Moir, Bentley.
Class D. (3,000 c.c.).—B. E. Lewis, Talbot.
Class E. (2,000 c.c.).—T. Nuvolari, Alfa Romeo.
Class F. (1,500 c.c.).—C. Paul, Alvis.
Class G. (1,100 c.c.).—R. T. Horton, Riley.
Class H. (750 c.c.).—G. Poppe, Austin.

NUVOLARI, the winner, used B.P. petrol, Castrol oil, and Ferodo brake linings on his Alfa-Romeo. The two latter items were also used by drivers who took second, third and fourth places.

KLAUSEN HILL CLIMB—continued from page 10.

volari (Alfa-Romeo), 17m. 39 3/5s. ; 2, Kauer (Bugatti), 18m. 6s. ; 3, Krisler (Alfa-Romeo), 18m. 11s. Up to 3-litres : 1, Burggaler (Bugatti), 19m. 53 4/5s. ; 2, Suchs (Bugatti), 18m. 43 2/5s. ; 3, Escher (Bugatti), 18m. 44 4/5s. Up to 5-litres : 1, Fredler (Steyr), 19m. 29 1/5s. ; 2, Zuriel (Chrysler), 20m. 38s. Up to 8-litres : 1, Caracciola (Mercédès), 17m. 4 3/5s. ; 2, Spandel (Mercédès), 18m. 34 1/5s. RACING CARS. 500 c.c. : 1, Offeinder (D.K.W.), 23m. 43 3/5s. 750 c.c. : 1, Markiewich (Rosengart), 25m. 31s. 1500 c.c. : 1, Lehmann (N.S.U.), 20m. 22s. ; 2, Witwer (Bugatti), 21m. 14 3/5 s. ; 3, Hohlhuimer (N.S.U.), 27m. 42 3/5s. 2-litres : 1, Stuber (Bugatti), 16m. 43s. 3-litres : 1, Bouriat (Bugatti), 17m. 16 2/5s. ; 2, Von Morgen (Bugatti), 17m. 25 2/5s. ; 3, Hartmann (Bugatti), 17m. 42 2/5s. 5-litres : 1, Chiron (Bugatti), 16m. 24 2/5s. ; 2, Von Stuck (Austro-Daimler), 16m. 28s. 8-litres : 1, Rodenstein (Mercédès), 18m. 14 4/5s.

CONTINENTAL NEWS

The Grand Prix du Comminges

Only 9 Finish out of 26 Starters

THE Grand Prix du Comminges, which was run on 17th August, proved to be one of the greatest tests to destruction which this season's motor racing has provided. The event was run over the St. Gaudens circuit, situated some 50 miles South of Toulouse at the foot of the Pyrenees, and its one very fast leg and the opposite section of sinuous mountain road provided a course which eliminated nearly two thirds of the starters.

The latter comprised in the first place nearly all the famous " Bugattisti." In the 2-litre class were Lehoux, Etancelin, Dreyfus, Lonet, Lormant, Miquel, Durand, de Maleplane, Arthez, Navarre and Bouriano ; while in the 1500 c.c. class the cars from Molsheim were driven by Michel Doré, Czaikowski, Billoin, Faure and de Meslon, having against them a solitary Salmson with David at the wheel. Another Salmson, driven by de Caroli ran in the 1100 c.c. division against two Amilcars piloted by Scaron and Dorel, Madame Itier, Schlumberger and Delorme's Rallys, Rongieras (B.N.C.), Caubet (Licorne), and Desbois (Rosengart).

The start was given en masse with the big cars in front, and the whole pack got away in a thundering confused mass, Bouriano displaying more enthusiasm than judgment by gaining a few yards, fouling the bank at the first turn and covering his pursuers with dust. The first man round, however, was Dreyfus, who covered the first lap at 86.5 m.p.h., but had only managed to gain 100 yards on his great adversary Lehoux, while Etancelin was but a short distance behind.

For three laps the order was maintained, and then Lehoux stopped to change his goggles. This gave Dreyfus a substantial lead, until on the fifth lap he drew up at his pit with such serious trouble that he had to withdraw. This let Lehoux up into first place, while Czaikowski and Michel Doré on their 1500 c.c. cars were having a tremendous scrap not very far behind. In the 1100 c.c. division Scaron and Dourel's Amilcars were proving themselves the fastest machines, though hotly pursued by de Caroli on his Salmson.

Lehoux, although lapping at 85 m.p.h. was not destined to retain the lead for long, for on the 7th lap he too was forced to retire. Etancelin in the meantime had lost all except his top speed and had been passed by Arthez, Czaikowski at the same time struck the sandbanks at Moutréjean and was delayed, but Michel Doré was going really well close up to the bigger cars.

Etancelin in spite of his handicap was creeping up on Arthez until he burst a tyre, and having stopped to change the wheel found he could not get away again on top. Thus ended a very courageous attempt, and the driver received much sympathy. The casualty list by this time included de Maleplane, Bouriano and Navarre, and Arthez who was only running against Miquel and Lormand in the biggest class, both of whom were well behind, seemed a certain winner. On the penultimate lap, however, he broke down, and the race went to Michel Doré who was close behind him at the head of the 1500 c.c. class. The two Amilcars which were first and second in the 1100 c.c. division were the identical machines which gained the first two places last year, when Dourel's car was driven by Darroman and just managed to beat Scaron, who this year proved the victor.

The final result was as follows :—

1. Michel Doré (Bugatti). Average 79.03 m.p.h. ; 2. Miquel (Bugatti). (Winner 2-litre class). Average 76.2 m.p.h. ; 3. Scaron (Amilcar) (Winner 1100 c.c. class). Average 71.75 m.p.h. ; 4. Count Czaikowski (Bugatti) ; 5. Lenormand (Bugatti) ; 6. Dourel (Amilcar) ; 7. Hector David (Salmson) ; 8. de Caroli (Salmson) ; 9. Caubet (la Licorne).

THE KLAUSEN HILL CLIMB

THE Klausen hill climb, which was the fourth of the series of events counting for the International mountain championship, provided a striking victory for Louis Chiron, who on the new 16-cylinder 4-litre Bugatti broke the record for the hill which he set up last year. The Klausen pass is 13½ miles long and rises over 3,800 feet to a height of more than 5,800 feet above sea level with an average gradient of 6.2°, stiffening in places to 8.5°. The road has innumerable corners, but Chiron succeeded in covering the course in 16 minutes 24 2/5 seconds, at an average speed, from a standing start of 49.13 m.p.h.

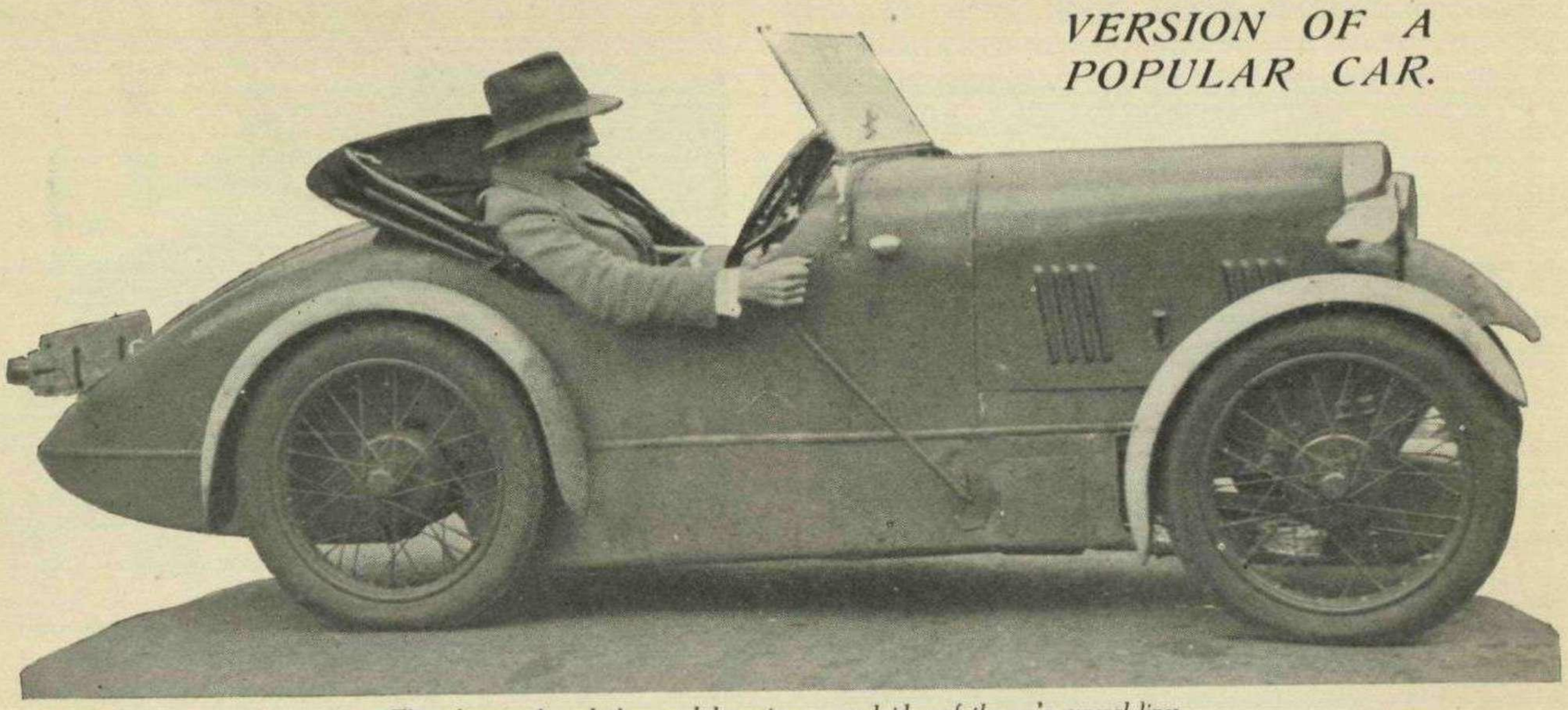
Hans von Stuck, the Austrian crack who has put up the best performance in two of the other championship events, and who recently broke the record for the Shelsley Walsh climb, was only 3 3/5 seconds slower than his French rival, and made second fastest time of the day. Tazio Nuvolari, who won the remaining championship event which has been run, was only driving a 1750 c.c. Alfa-Romeo in the sports car class at the Klausen, and was second in this class. Fastest time of the sports car was made, as usual, by Rudolph Caracciola on his giant Mercédès, and this combination would now appear to be a certain winner of the sports car division of the championship. The final result were as follows :—

SPORTS CARS. Up to 750 c.c.—1, Simons (D.K.W.), 22m. 24 3/5s. ; 2, Schmidt (B.M.W.), 24m. 12 4/5s. ; Up to 1100 c.c. : 1, Maret (Salmson), 19m. 31 4/5 s. ; 2, Lepicard (Donnet), 20m. 9 1/5s. ; 3, Schneider (Derby), 20m. 55 1/5s. Up to 1500 c.c. : 1, Krisler (Alfa-Romeo), 20m. 47 4/5s. Up to 2-litres : 1, Nu-

(*Continued on preceding page*)

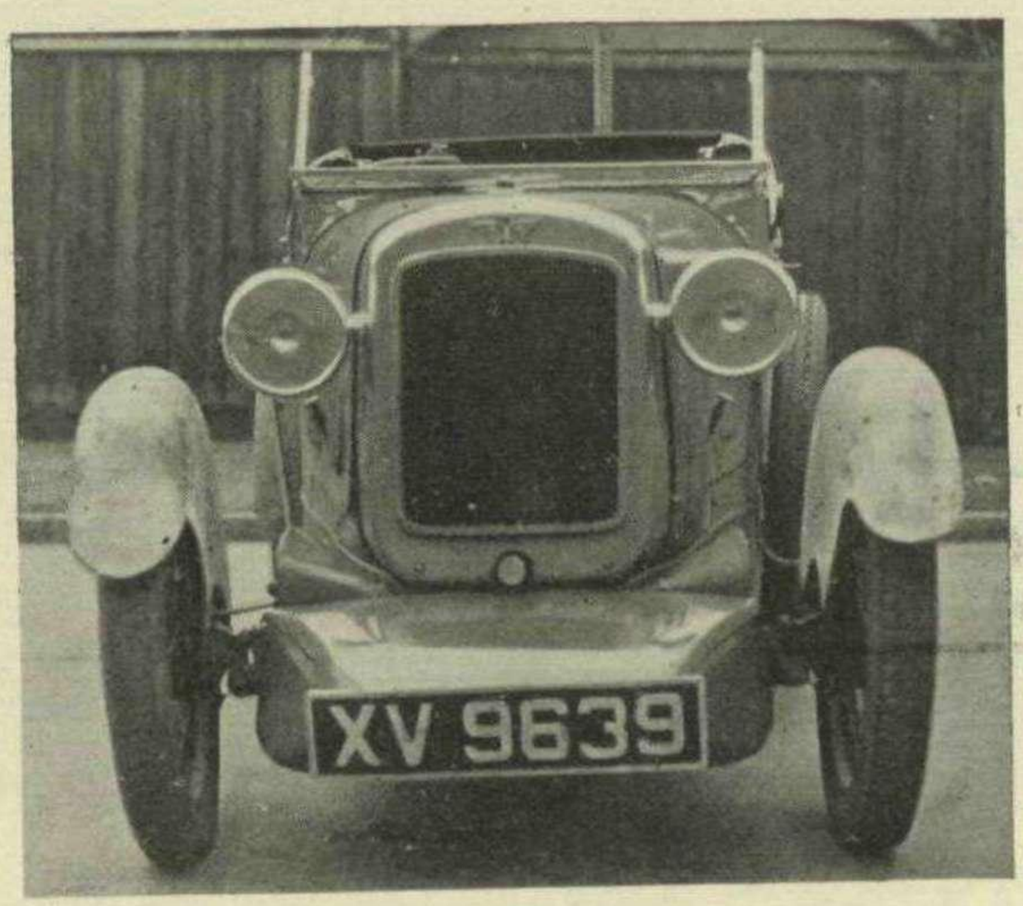
THE "B.C." AUSTIN SEVEN

ATTRACTIVE VERSION OF A POPULAR CAR.



This photograph and the one below gives a good idea of the car's general lines.

THERE surely can be few cars more versatile than the Austin Seven, and it is this very quality which has encouraged so many people to market this car in various forms for different purposes, nearly always, however, as a sports model of some kind. These modified productions may be divided into two classes. First, the special body on a standard chassis, the only modification being in appearance; and, secondly, the genuinely special job, which not only has special coachwork, but which has been gone over and specially treated, in every detail of the engine and chassis, to give a really non-standard performance. It is to this latter class that the series of B.C. Austins belong. Secure in the knowledge that they have got a thoroughly sound basis on which to work, they have got down to the problem of turning out for the keen sports car owner, a car which has those extra qualities of acceleration and road holding, which as a rule can only be achieved by a great deal of very costly work after the car has been acquired.



The first and most obvious departure from standard is the body. This is a 2-seater of very attractive appearance, stiff construction, and, what is unusual on a very small sports car, really adequate luggage capacity. It is a truism that the people who travel in small cars are just as large, and require just as much luggage as those who traverse the country in larger vehicles. Yet in spite of this it is regrettably rare to find a small car with reasonable equipment in this respect. In the B.C. Austin, however, there is ample room in the well planned tail for all that any two normal beings are likely to require, in the way of suitcases, golf clubs, fishing rods, and what-not.

The spare wheel is carried on the side of the body, and while enhancing the appearance, is also prevented from getting mixed up with articles which will suffer thereby. Spare wheels may be beautifully clean and smart when they leave the works, but the one which has just been removed from its workaday position owing to its inability to hold air, is usually far from it, and the side of the car seems to be the obvious place for it.

As far as mechanical details are concerned it at once becomes evident that the firm have applied their very considerable racing experience with great effect, and it is hard to find any particular where further tuning could be carried out.

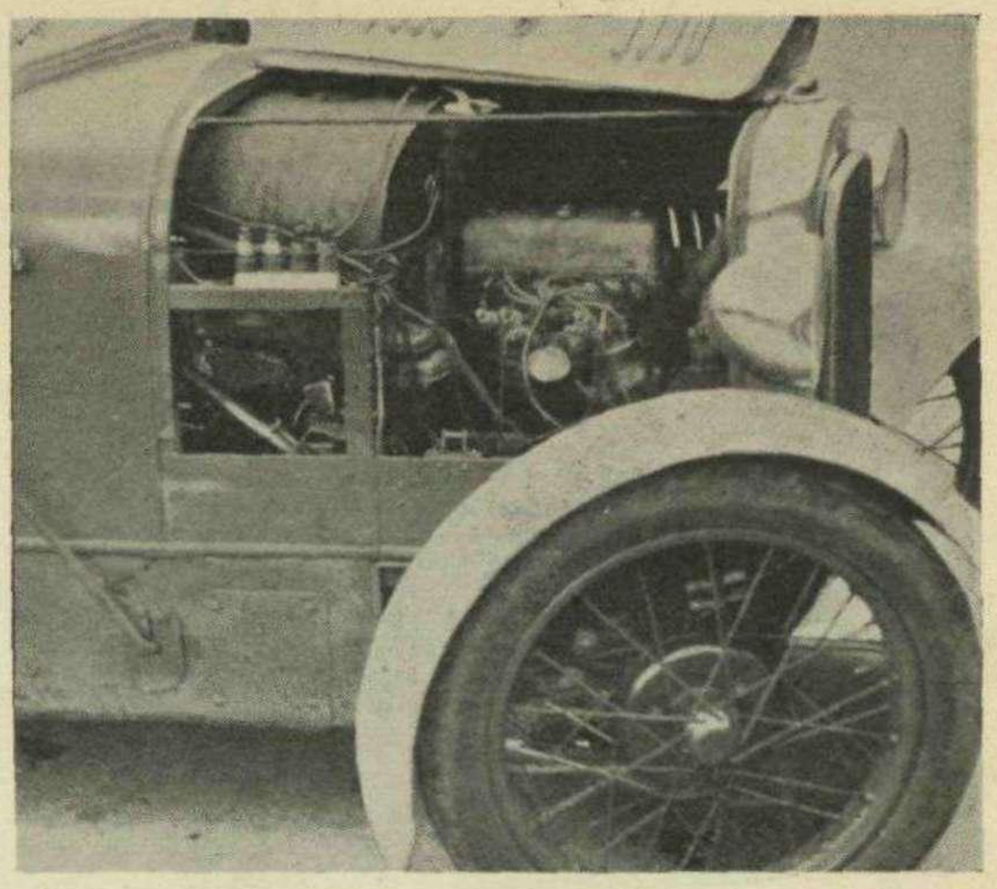
The car tested by MOTOR SPORT was one of their O.H.V. conversions, but as far as other points on the chassis go, the same remarks apply to all models. The head in question has been specially designed to fit on the standard engine with as little structural alteration as possible, and can be fitted to any standard Austin Seven in a matter of two days, or changed back to the normal

THE "B.C." AUSTIN SEVEN—continued.

side-valve job in one. The valves are operated by push rods, which run in the old valve guides, and the head is so arranged as to blank off the old ports, while an extension fitted to the old manifold enables this to be used in the conversion. The resulting engine looks perfectly normal and bears no stamp of having being converted, such as is the case with some other O.H.V. " fitments," which we have seen in the past.

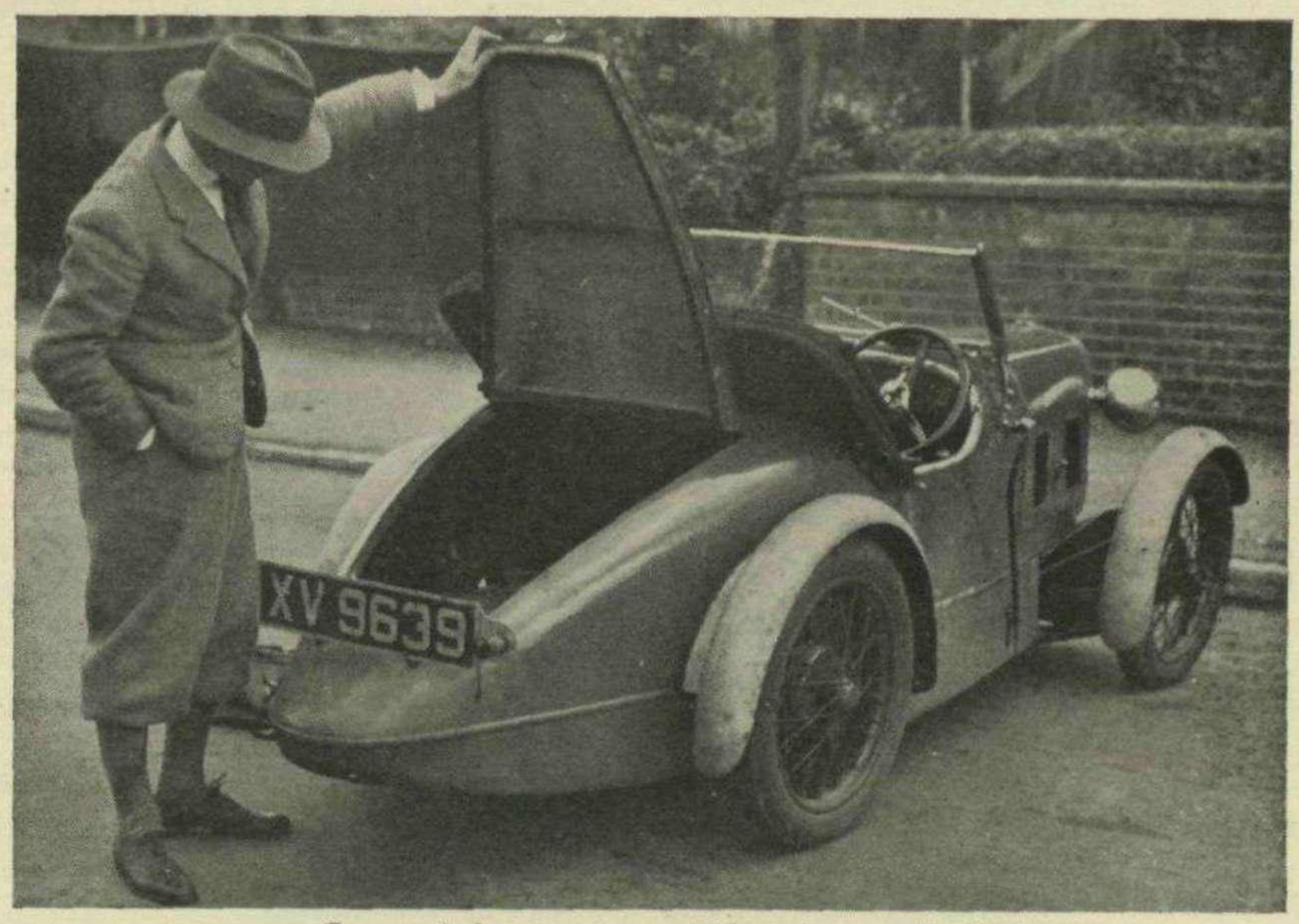
Other details include the fitting of a special Claudel Hobson carburettor, opening and polishing the ports (probably one of the most tedious jobs an amateur can undertake) lowering the springs and consequently the chassis, and fitting extra leaves, lowering and extending the steering to give a proper " scrapping " position, and altering the gear change. This is effected by mounting the gear lever well aft of the box on an additional cross member, and coupling it to the gear box by a horizontal rod with yoke ends, which thus transmits both fore-and-aft and lateral motion to the standard gearshift arrangement. The additional convenience when driving has to be experienced to be believed, as one's left hand drops directly onto the lever, and changes can be effected in the middle of the most complicated evolutions, which is a great help when cornering. Cornering is very steady, due to the lowered centre of gravity, and the steering is positive and accurate, though we should have personally preferred it to be slightly more self-centering.

The car which we tried had seen some fairly violent service in competitions over a considerable period, and had many successes to its credit. Owing to the fact that its life as competition car, combined with demonstrations, had made it impossible to give it the attention which a privately owned vehicle would have received, there were one or two small points which could not be fairly criticised. The brakes were really in need of relining, so that the stopping distance of 84ft. from 40 m.p.h. does not really represent what can be done with this model. A good feature of the braking system is the large outside lever, which in the latest models operates all four sets of shoes, and is placed in just the right position. In fact, during the time we had this car for test we found it most convenient to drive almost exclusively on the hand brake. This car has actually covered the flying kilometre at 78 m.p.h. but the maximum speed reached while in our hands was 71 m.p.h., due chiefly to the fact that the engine had had no attention for some thousands of miles, and although it did not show any signs of getting tired on long runs, it is well known that such a small engine requires reasonably frequent decarbonisation if it is to maintain its maximum performance.



The big bonnet makes the "B.C." Austin's engine very accessible.

Second gear provided very snappy acceleration and was of great assistance in putting up high average speeds over a twisty cross country route. Between 50 and 55 m.p.h. was possible in this gear, while the engine balance at high speeds was perfect. At low speeds there was a slight tendency to roughness if made to pull hard, but this is only what one would expect, and in any case such a vehicle is not meant to be driven at a crawl on top gear. Provided, however, that the revs are kept up, the top gear performance is remarkably good, and hills which would call for a change of gear on a standard Seven could be taken in it stride at a rousing speed ; while if an obstruction occurred, second gear was more than adequate to regain the lost speed, and pass any normal car.



Generous locker space is provided in the streamlined tail.

It is this property of combining a high performance, with such small dimensions and ease of handling, that

[Continued on page 17.]

5 PREMIER AWARDS

in 1930

ON

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&

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Photo by permission of "Motor Cycling"

G. B. GOODMAN

THE

BEMROSE CUP
COLMORE CUP
SOUTHERN TRIAL

"Motor Cycle Trophy"

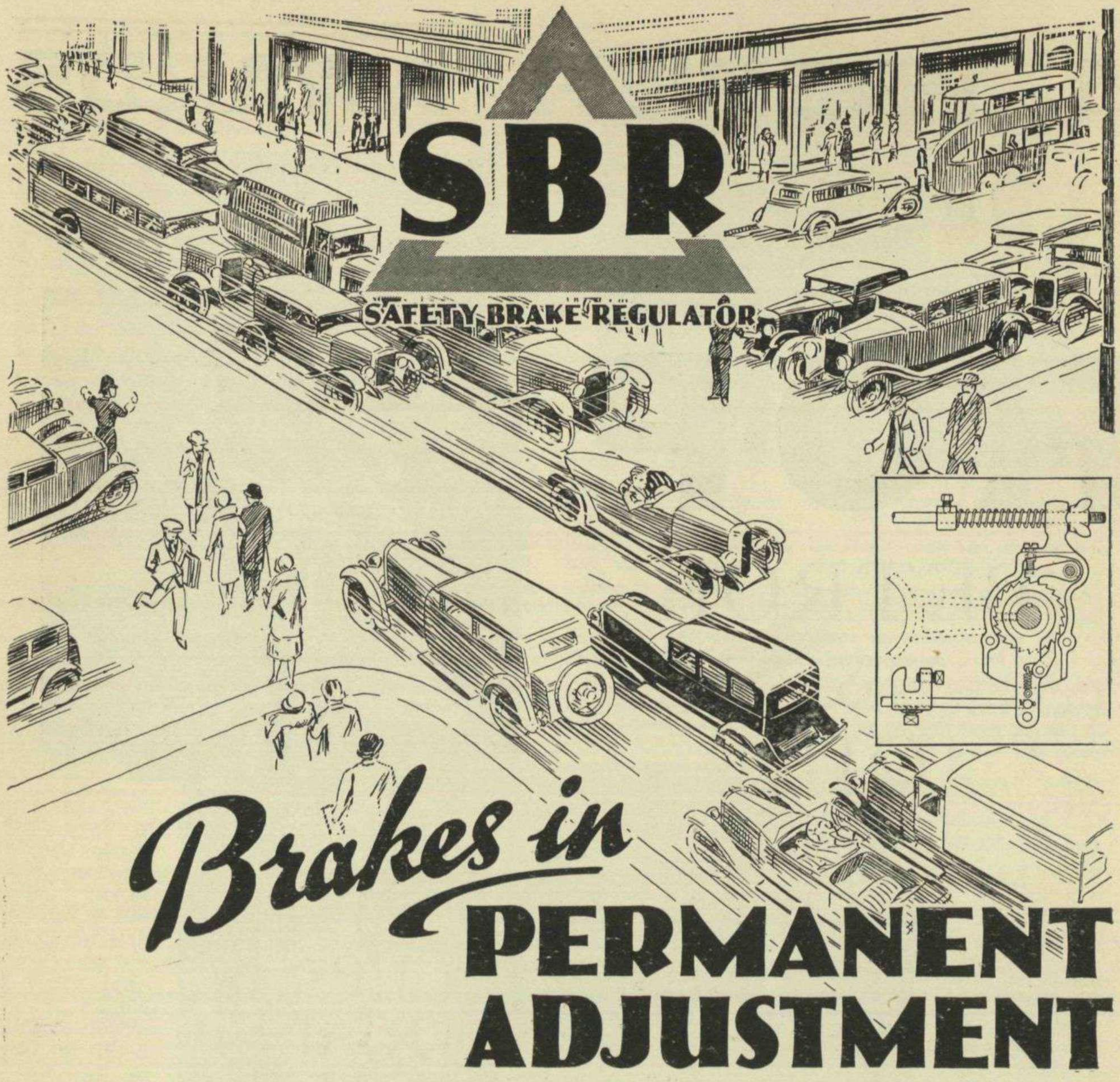
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M.C. & A.C. TROPHY

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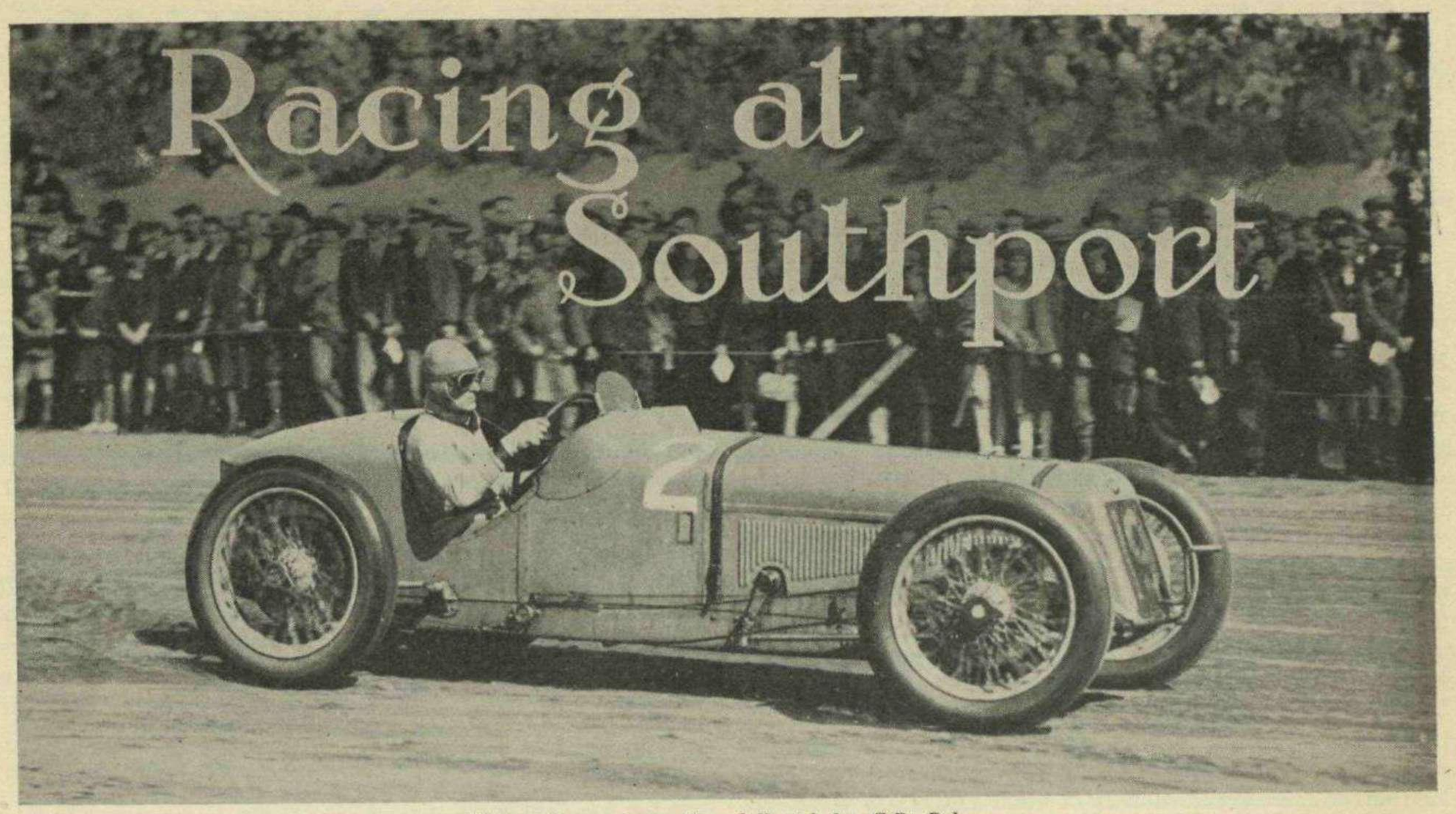
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Racing at Southport



The chief attraction. Campbell with his G.P. Delage.

WE have always felt that the remarkable enthusiasm of the Southport competitors and spectators deserved some reward. Many will remember what very bleak weather favoured the opening meeting this season, run incidentally at a time when the more conventional clubs were still living in an atmosphere of winter trials, and had not yet started to think of searching their motors for those few elusive extra horses. Yes—they don't worry about weather in those parts, and it was, therefore, only fair that they should have some real racing weather for a change, on the 9th of last month.

The condition of the beach was also very good and with the exception of a few mildly bumpy patches, was such as to make a Brooklands habitué really envious.

The chief attraction was, of course, Malcolm Campbell's entry of his 1500 c.c. Grand Prix Delage, one of the cars which composed the famous team with which M. Louis Delage swept the board so completely in the days when races were for racing cars.

The car races opened with the straight mile events, and here it was possible to recapture some of the atmosphere of the old speed trial days, only with the added excitement of actually racing abreast in group. To the uninitiated the idea of merely covering a mile in the shortest possible time in a straight line, may seem simple and rather pointless. Many will agree, however, that such an event has a fascination all its own, and moreover tends to bring driving to a more polished art than any longer events. Into those few seconds must be concentrated all the skill and finesse that the driver's experience has taught him. The getaway, especially on sand, where anything like rough handling will produce unnecessary and time-losing wheelspin, is a matter for great practice, while every gear change must be perfect, not merely "good enough."

G. L. Jackson (Sunbeam) who has for years been a familiar figure at all Southport gatherings, was in excellent form, and accounted for the unlimited class. In the smaller classes G. Lane Jones with his Bugatti headed the 1½ and 2-litre classes, while Byrom (Austin Seven), another driver who rarely lets an event pass him by, won the 1100 c.c. class, and was placed in the 1500 c.c., a very good performance. Another car, of which we are likely to see and hear a good deal more in the near future, was David Brown's Vauxhall-Villiers. This went very well, but later, in the 50-mile race caught fire and had to retire. It was not seriously damaged.

Ten cars came to the line for the 50 mile race and David Brown was paid the somewhat trying compliment of being made to concedé two laps to Campbell, who in turn had to give Stephenson's and Harker's Austin Sevens three laps. The Delage went like smoke from the start, and giving a beautifully neat display of cornering, won comfortably. The two Austins mentioned above had a magnificent scrap for second place, Stephenson eventually getting home with a slight lead. These were followed by a howling pack of Lea-Francis, in the hands of Messrs. Higgin, Field and Esplen, which went very well indeed, but could not overcome their handicap.

RESULTS.

Straight Mile Events.—1,100 c.c. Class. (1) R. H. Byrom (Austin Seven).

1,500 c.c. Class.—(1) G. Lane Jones (Bugatti); (2) J. S. Aked (A.C.); (3) R. H. Byrom (Austin).

2,000 c.c. Class.—(1) G. Lane Jones; (2) N. W. Gardiner (Bugatti); (3) J. S. Aked.

Unlimited Class.—(1) G. L. Jackson (Sunbeam); (2) David Brown (Vauxhall-Villiers); (3) G. Lane Jones.

Fifty-Mile Race.—(1) M. Campbell (Delage); (2) P. Stephenson (Austin Seven); (3) W. E. Harker (Austin).

THE GRAND PRIX REVIVAL

Thirty-Seven Entries for the Race at Pau

THE first men who ran motor races back in the Nineteenth Century did so with only one object in view—to show the world that automobiles really could go.

France at the time was so pre-eminent in the motor world that all the races were run in France, or at any rate by Frenchmen, and it was not until 1899 when Mr. Winton, with a certain optimism characteristic of the West, told M. Charron that American cars were better than French, that nationalism entered into the question. The result of the ensuing argument, as everyone knows, was that the Gordon Bennett Cup was presented to be competed for by nations. France won, as was to be expected, in 1900 and 1901, and then, to the horror of the French, S. F. Edge won the cup for England in 1902, and Jenatzy took it from Ireland to Germany in 1903. France thereupon made a great effort, and the famous Théry not only captured the cup in Germany in 1904, but confirmed his victory by winning again in France in 1905. The French, however, were determined thereafter that the disasters of 1902 and 1903 were not to be repeated, and finally the Grand Prix was started and took the place of the Gordon Bennett race. Thus, in spite of the efforts of organisers of other events to persuade us to the contrary, we have always known that the Grand Prix was the great race of the year, and that all other events were of secondary importance.

Of late years, however, the great event has fallen into a sorry plight. Since the race at Lyon in 1924, there has been no contest worthy to rank with those that provided the occasion of the great victories of Szitz, Nazzaro, Lautenschlager, Georges Boillot, Murphy, Segrave and Campari; but this year it looks as if some of the glamour of the past is to be recaptured.

On 21st of the month the 1930 Grand Prix is to be run at Pau, over a triangular road circuit of traditional type, and when entries closed on 7th August no fewer than 37 cars were put down to run, the list being:—

1, Michel Doré (Bugatti); 2, Etancelin (Bugatti); 3, Lehoux (Bugatti); 4, Gaupillat (Bugatti); 5, De l'Espée (Bugatti); 6, Charavel (Bugatti); 7, Max Fourny (Bugatti); 8, Zanelli (Bugatti); 9, Czaikonski (Bugatti); 10, Wimille (Bugatti); 11, Arthez (Bugatti); 12, Sainto (Bugatti); 13, Pontet (Bugatti); 14, Gaston (Bugatti); 15, De Maleplane (Bugatti); 16, Bouriano (Bugatti); 17, Eddoura (Bugatti); 18, Rodansky (Bugatti); 19, Grimaldi (Bugatti); 20, Dreyfus (Bugatti); 21, Lumachi (Bugatti); 22, Lenart (Bugatti); 23, Delaroche (Bugatti); 24, "X" (Bugatti); 25, Elbert Stapp (Duesenberg); 26, Jean Poniato (Alphi); 27, Laly (Ariès); 28, Casali (la Perle); 29, Duray (——); 30, Scarron (Amilcar); 31, Henry (Peugeot); 32, (——) (Peugeot); 33, Robert Senéchal (Delage); 34, Lépicard (——); 35, H. R. S. Birkin (Bentley); 36, Montier Senior (——); 37, Montier Junior (——).

Thus, of the 37 entries no fewer than 24 are Bugattis, perhaps the most curious feature which the Grand Prix has ever experienced. The rules of the race make it a free-for-all event, although there are prizes in the various capacity classes, and the Bugattis are likely therefore to be of various types. The entrant who styles himself "X," and who is going to drive a Bugatti, is popularly believed to be Chiron, who may drive the big 16-cylinder Bugatti with which he recently lowered the record for the Klausen Hill Climb. If this proves to be the case, he will probably have a very good chance of victory; but if his car should fail, there are a host of the other famous "Bugattisti," including Dreyfus, Etancelin, Lehoux, Charavel, Zanelli, Doré and Fourny.

The sole English representative is H. R. S. Birkin, who will drive a 4½-litre supercharged Bentley. It will be particularly interesting to see the performance of one of these cars in racing trim on the road, and on the combined data of its capabilities at Brooklands and with touring equipment at le Mans and elsewhere, this car should have a very good chance if it can stand the pace without any team-mates to back it up. Another solo runner of particular interest is the American machine—Elbert Stapp's Duesenberg track-racer.

Among the French cars one cannot but be impressed by the presence of two Peugeots, entered by M. Henry, who is the technical head of the Peugeot concern, and these cars may therefore be regarded as a factory entry. In view of the many years during which this marque was the great champion of France, its participation in the race will be of real interest. The type of car which will be used is something of a mystery. In many of the post-war Florio races the firm has used 4½-litre standard type cuff-valve engines in pre-war 3-litre racing chassis, and it is possible that these machines, brought up to date, will be used in the Grand Prix. The 2½-litre machines which have been run in recent fuel-consumption events are probably not fast enough for a free-for-all race, but it is just possible that the cars are entirely new, perhaps built to the requirements of the rules for the 1931 Grand Prix.

Robert Senéchal has acquired one of the 1927 1,500 c.c. straight-eight Delages, which he may be expected to drive in the race with his usual verve, while Montier father and son will probably drive their converted Fords, which are quite remarkably speedy. Arthur Duray represents the veteran among the drivers, but he has not yet announced what car he will drive, while his usual team-mate Laly will run an Ariès, either a 3-litre car or perhaps Duray's famous little 1,100 c.c. racer of 1926 vintage. Among the smaller cars, Scarron's Amilcar and Casali's la Perle have performed with great regularity in recent events, but Jean Poniato's Alphi is something of a dark horse. The entry list is completed by Lépicard.

At any rate, the race, which is to be run over a triangular circuit, with two very fast legs and the third of sinuous character, is assured of considerable success, and we are confirmed in our belief that the days of the real racing car are by no means numbered.

THE B.C. AUSTIN SEVEN—continued.

will always ensure a growing market for this type of sports car, while on the score of running costs there can, of course, be no comparison. The petrol consumption even when driven really hard, appeared to differ but little from that of the standard model, while the cost of upkeep in other respects, such as oil, tyres, etc., helps to make it just the car for the man who wants a sports car, but who has only a limited amount of cash with which to maintain it.

The standard fully equipped B.C. Austin costs £197 10s., and the O.H.V. model £25 extra, and is turned out by Messrs. Boyd-Carpenter, Ltd., of 47, West End Lane, Kilburn, N.W.6.

W. S. B.

ULSTER HILL CLIMB.

THE Ulster Automobile Sports Club held a highly successful hill climb at Craigantlet Hill, near Belfast, on Saturday, 16th August. The programme of events was divided into two sections—a standard touring car division, and a standard sports car division—and each was separated into various classes.

The event proved to be a big attraction to the public, and interest was added to the proceedings by a number of cars, which were over for the T.T., taking part. Earl Howe was present with his blue Mercédès, and he succeeded in lowering the record for the hill ; his speed over the $1\frac{1}{8}$ mile course was 41.16 m.p.h. One of the outstanding climbs of the afternoon was that of H. Ferguson, who with his Austin " 7 " clocked 1 minute 43 2/5 secs. In the standard sports class (up to 2,000 c.c.) L. G. Callingham performed exceptionally well on his Alfa-Romeo. He also won the class 4, standard touring car event.

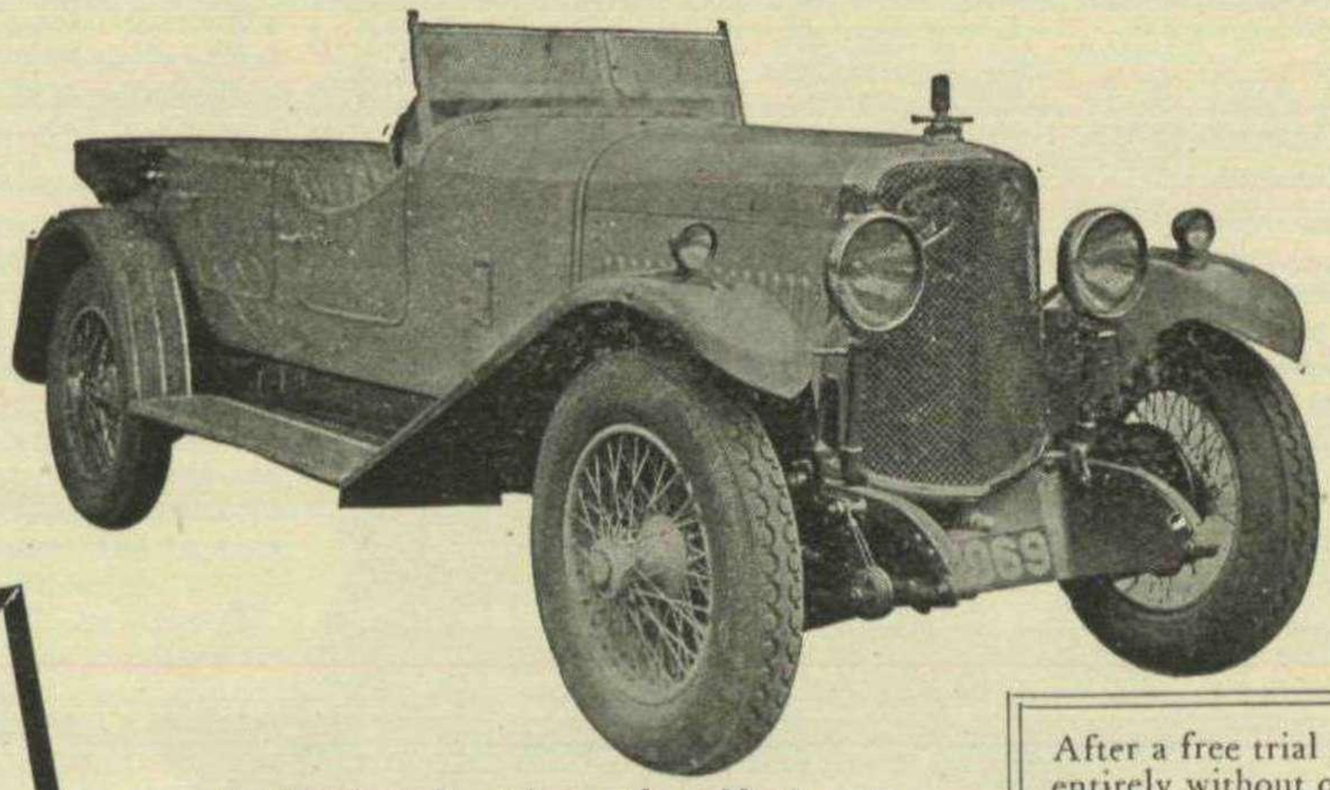
The results were as follow :—

Standard Touring Cars up to 860 c.c.—1, T. E. Watson (747 Austin), 2m. 5 2/5s. ; 2, R. Edgar (747 Austin) ; 3, W. M. Cameron (847 M.G.). Standard Touring Cars up to 1,100 c.c.—1, W. M. Cameron (847 M.G.), 2m. 30 1/5s. Standard Touring Cars up to 1,500 c.c.—1, H. C. McFerran (Lea-Francis) w.o., 2m. 4 2/5s. Standard Touring Cars up to 2,000 c.c.—1, L. G. Callingham (Alfa Romeo), 1m. 45 3/5s. ; 2, H. C. McFerran (Lea-Francis). Standard Touring Cars, Unlimited.—1, Earl Howe (Mercédès), 1m. 40 1/5s. ; 2, R. J. Heyn (4,398 Bentley) ; 3, W. P. Noble (Vauxhall). Standard Sports Cars up to 1,100 c.c.—1, H. Ferguson (747 Austin), 1m. 43 2/5s. ; 2, R. Doak (1,089 Riley) ; 3, W. M. Cameron (847 M.G.). Standard Sports Cars up to 1,500 c.c.—1, W. Gregg (1,497 Lea-Francis), 1m. 40 4/5s. ; 2, J. C. Alexander (1,089 Riley) ; 3, W. Sullivan (747 Austin). Standard Sports Cars up to 2,000 c.c.—1, L. G. Callingham (Alfa Romeo), 1m. 45 3/5s. ; 2, J. C. Alexander (Riley). Standard Sports Cars, Unlimited.—1, Earl Howe (Mercédès), 1m. 38 2/5s. ; 2, R. G. Heyn (Bentley) ; 3, Dr. Benjafield (Stutz). Private Owners' Handicap.—1, W. F. McCalla (2,996 Bentley), 23s. ; 2, Dr. J. Benjafield (Stutz), 14 1/5s. ; 3, W. P. Noble (Vauxhall), 10 1/5s.

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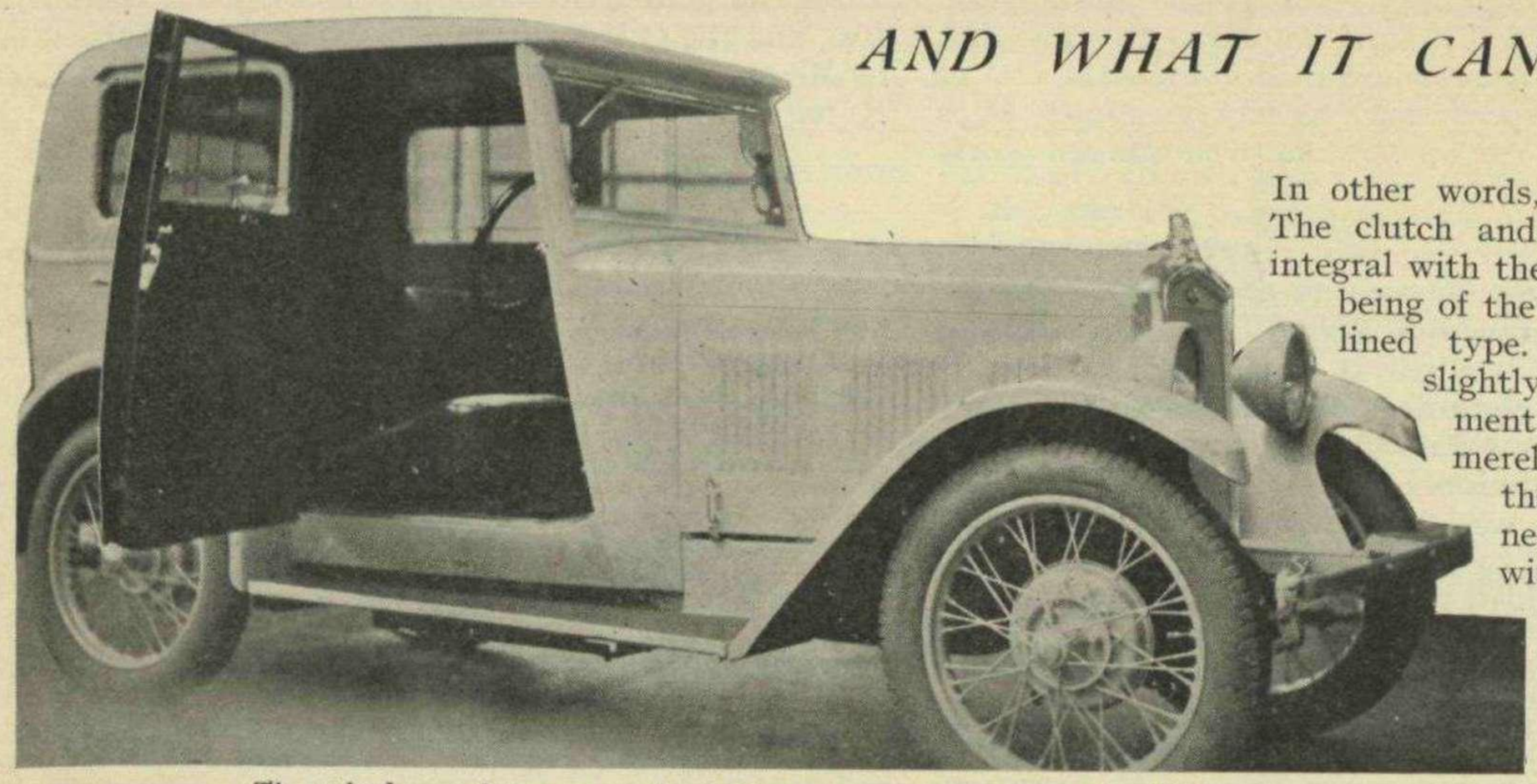
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THE WOLSELEY "HORNET"

AND WHAT IT CAN DO.



The wide door makes access to the driving seat an easy matter in the "Hornet."

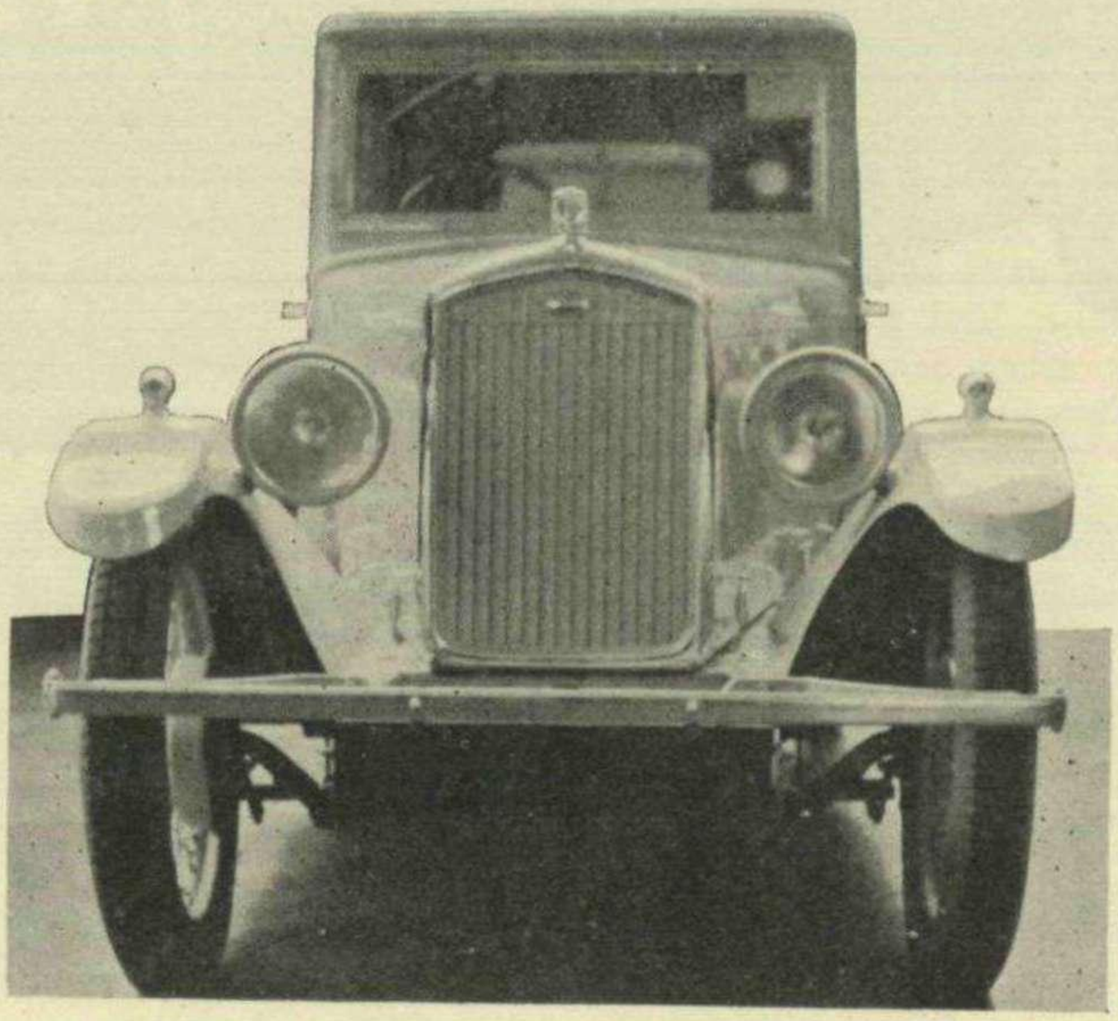
THE Wolseley "Hornet" cannot, of course, be placed in the sports car category. It was never intended to be, but although it is a de luxe touring vehicle in miniature, priced at a popular figure, nevertheless it has certain characteristics which appeal to the hundred-per-cent. sporting motorist.

Soon after it was placed on the market it became known that the "Hornet" was a little car with a performance sufficiently striking to confound those critics who, for years, have maintained that the small six-cylinder engine was not a sound proposition.

Recently we had the loan of one of these cars, and while we did not put it through our usual road test, we had plenty of opportunity, during the time it was in our hands, to try its capabilities, and weigh up its worth.

• First, let us deal with the engine. This is rated at 12.08 h.p. and has a bore and stroke of 57 m.m. × 83 m.m. The valves are operated by an overhead camshaft, the carburetter is an S.U., and the ignition system is of the coil-and-battery type.

What strikes one most about this unit is its combination of smoothness and snappiness; although, at low r.p.m. it is sweet and free from any "lumpiness," there is no wooliness about it. It is possible to rip open the throttle and get an instant response right away. Moreover, this quality is noticeable throughout its speed range, and whatever rate one may be travelling at—whether it be 30, 40, 50 or its maximum of about 65 m.p.h.—the engine's smooth power output is constant.



A front view, showing the good lines of the radiator.

In other words, there is no period. The clutch and gearbox are built integral with the engine, the former being of the single-plate fabric-lined type. This we found slightly harsh in engagement; possibly this was merely due to the fact that the car was very nearly new, and the withdrawal mechanism somewhat stiff.

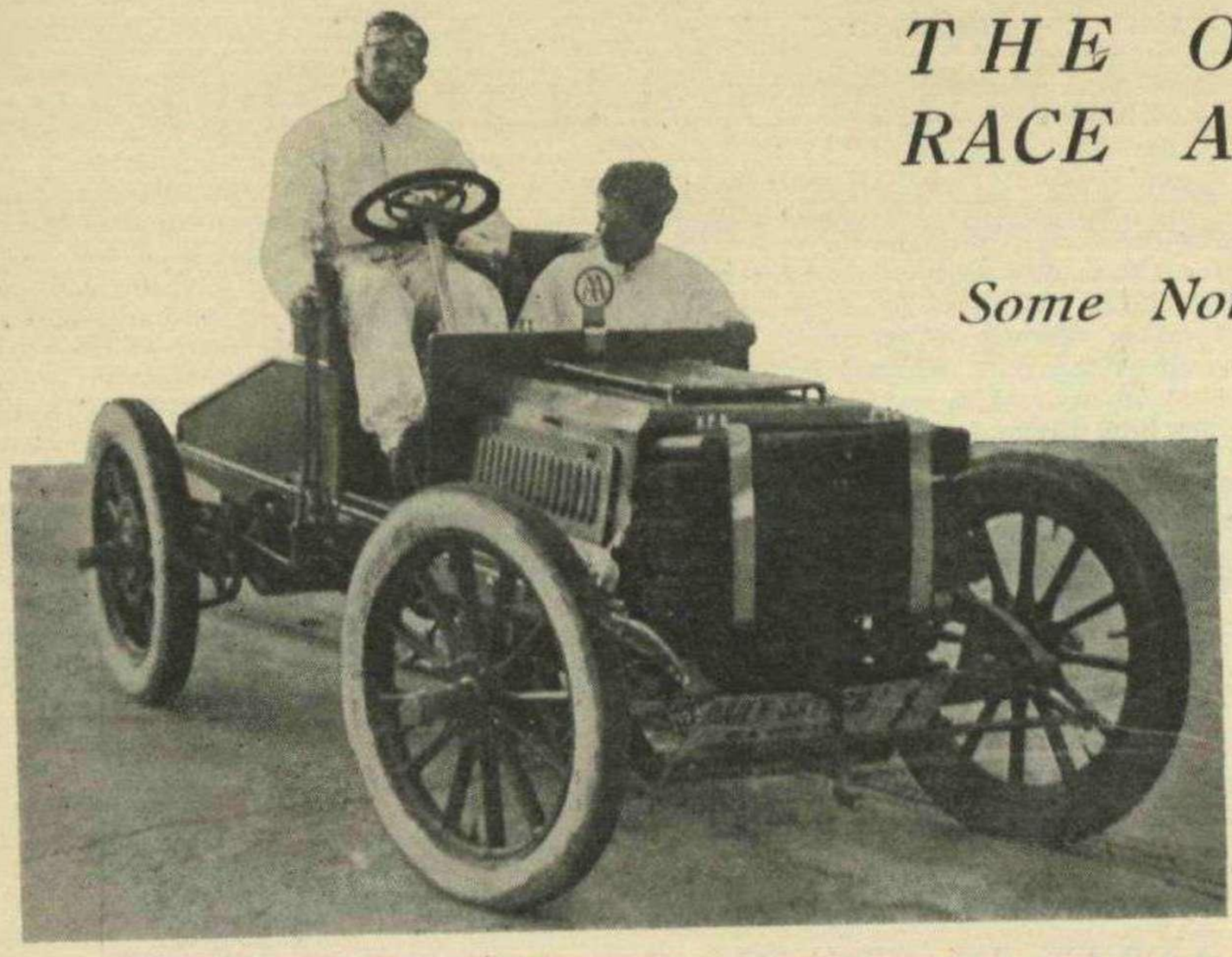
The three-speed gear-box has a central ball change, and was quite easy to operate, both up and down.

Steering is of the worm and wheel type, and possesses just the right degree of lightness to make the car pleasant to handle, and comfortable to control at all speeds.

The four-wheel brakes are on the Lockheed hydraulic principle, and we found them exceptionally powerful, yet smooth in action. As to riding ease, we were genuinely surprised that so small a vehicle could be so comfortable. Yet at high speeds, over none too good a road surface, there was no disconcerting bouncing, and wandering. The springs all round are semi-elliptic, and hydraulic shock-absorbers are fitted as standard.

The price of the "Hornet" with a fabric saloon body is £175, and with a coachbuilt saloon body £185. The equipment includes Triplex glass throughout, thermostatic radiator shutters, calorimeter on the radiator, bumpers, driving mirror, screen wiper, speedometer and chromium finish.

With this, its good performance, its comfort, and economical running, it is definitely a remarkable car.



THE OLD-TIMERS' RACE AT BROOKLANDS

Some Notes and Comments.

[An interesting article appears elsewhere in this issue, on the subject of famous racing cars now in retirement].

THE enthusiasm for real veteran cars in this country is obviously growing, and it was a singularly happy idea to organise a race for them at Brooklands during the August Bank Holiday Meeting, and the "*Daily Sketch*" and "*Sunday Graphic*" are certainly to be congratulated on bringing the idea to fruition. The 39 entries which were received were gratifying proof of the success of the affair and surprised the organisers sufficiently to make them change their original plans and run the race in two heats. What was even more pleasing was the fact that most of the entrants did not treat their machines as ridiculous jokes, but had got them as far as possible into their original condition, and were obviously as proud of them as were their original owners when they first took delivery of them from the works.

As soon as I got to Brooklands on Monday I went off to the special paddock which had been set apart for the veterans to see the machines which were going to provide what, to me, was by far the most interesting part of the day's entertainment. The first car there which arrested my attention was what appeared to be nothing else than a Panhard racing car of the Paris-Berlin or Paris-Vienna days of 1901 or 1902, but which was in fact R. O. Shuttleworth's De Dietrich, which was to start from scratch in Group I. Actually this was never a racing car, although it was of the same type as that on which Charles Jarrott finished third in the Paris-Madrid race of 1903. It was bought I believe at the show of 1903, and its present owner has fitted it with a body of exactly the type used by Réné de Knyff and the Farman brothers as they roared down the long white roads of France in the great races of the young years of the century.

If however, the De Dietrich was not really a racing car (until 1930) one of its owner's entries certainly was. This was the 1897 Panhard-et-Levassor which was chiefly noticeable for its wonderful coupé de ville body of stupendous height, in which H. M. King Edward ventured to journey to Ascot. Before the car was fitted with this body and thus acquired this distinction, it was already famous as the car which Réné de Knyff drove in the Paris-Bordeaux and Paris-Amsterdam races of 1898. This car is of the famous 8 h.p. type with 4 cylinders of 80 x 120 mm. bore and stroke, while at this time two, instead of four, cylinders of the same size were used for the firm's touring cars, an example of the type being G. W. Gibben's "Papillon bleu," which was also present.

Not content with these two exciting cars R. O. Shuttleworth had also entered a single-cylinder 1900 Peugeot, which he purchased recently I understand, for 50s. This car was of the early type with a Daimler type engine which was used before the firm had started to design their own flat twin.

Perhaps the most spick and span machine present, however, was S. C. H. Davis' 1897 Léon Bollée tricycle, which in its brilliant coat of "Bugatti blue" paint might have been the latest production of some rather cranky cyclecar designer. "Sammy" Davis having arrived in the paddock proceeded to tour round and round to warm the Bollée up, what time he carried on a conversation with a friend who stood in the centre of the circle he was describing and who seemed to monopolise his attention so that it seemed that a collision between the Bollée and the various other veterans who were "turf-turfing" about was ultimately inevitable, but was in fact skilfully avoided each time by the driver of the motor tricycle.

If the Bollée looked smart, however, Mr. I. Polledri's Mercédes of 1904 looked quite out of place to have a notice on it saying that it was competing in the "Old Crock's Race." Incidentally, I think this title for the event was rather unfortunate as many of the cars were by no means "old crocks" and I think that "old-timers" or "veterans" would have been a better description of these machines which were proving their stoutness of construction by performing after, in many cases, an existence lasting a third of a century. At any rate the Mercédes is sufficiently modern looking not to be particularly noticeable (except by the connoisseur) on the road to-day. It represented a wonderful advance on even the youngest of its rivals, and even more strikingly on the delightful old Benzes—the joint ancestors of its modern descendants—of which there were some half dozen entered. These machines are particularly interesting as representing the stage when the German engine designers had not yet collaborated with the French inventor of the gear-box, and their cars therefore, were still fitted with a wonderful system of movable belts and pulleys, strongly reminiscent of a lathe.

Naturally also there was a good sprinkling of De Dions, whose 6 h.p. engines must be I imagine, one of the most successful types of "singles" ever produced—the number still in daily use in boats and for stationary work is really surprising. There was also present one example of that other French paragon of longevity—the Renault, belonging to Mr. G. Willesby, with its curiously modern looking body.

Apart from the continental cars, the home industry was well represented. Pride of place among the English cars must go I think to Lord Ridley's Lanchester, which gives one the impression of being in as good condition as it was in the beginning of the century when it first saw the light. This car represents distinctly the English tendency of the time to strike out on lines of its own, in contrast with H. C. Butterfield's Daimler of about the same date, which is distinctly reminiscent of a contemporary Panhard. Thinking of famous English "marques" of course brings one to the Rolls-Royce entered by Mr. K. Kirton, and one is reminded that this firm once made small cars; but one's deeply ingrained notions are not shaken by the car when the little motor is started, for one notices at once its silence, at least in comparison with its contemporaries if not with its descendants.

W. H. Cocks' delightful old Sunbeam stood waiting with its hood up in case a shower might fall, and had succeeded in preserving a most impressive air of every-

THE OLD TIMERS' RACE AT BROOKLANDS—continued.

day use, while its rather continental appearance contrasted strongly with the definitely English look of the little Wolseleys and Dame Ethel Locke King's Siddeley.

The oldest English cars of all, among which were E. Davenport's Progress Voiturette, the ultimate winner, T. M. Freeman's M.M.C., F. Harvey's Vipen and the veteran Stephens were definitely of the type which were hardly to be recognized as motor cars, but which, especially the first named, showed themselves capable of going most encouragingly. But perhaps the vehicle which looked least like an automobile was the Oldsmobile, which was, I think, the marque which retained tiller steering almost later than any other, and the example at Brooklands had for all the world the air of an American buggy.

There are, I am afraid, one or two cars which I have not mentioned among the veterans which were present. This is not because they were less interesting than the rest, but simply because I missed their interesting points and have now forgotten them, due to the fact that I *did* find some of the races for mere modern cars rather distracting at times, to say nothing of the fact that my companion insisted on my risking my neck in a flying machine during part of the afternoon.

The veteran's race itself was of course rather more amusing than exciting. The older cars obviously found the hill at the end of the finishing straight a pretty tough proposition, although the Progress Voiturette although of Nineteenth Century vintage went up most impressively. The star turn of course from the spectacular point of view was R. O. Shuttleworth's De Dietrich which thundered by in true town-to-town race style, though this owner's Panhard and Peugeot were turned back at the start for being without silencers and had to run in the second group after these accessories had been hastily fitted. Of course the handicapping was all over the place and the faster cars had no chance against the five minute start of the real old-timers, especially as the Progress Voiturette proceeded to average over 25 m.p.h. At any rate it was an event equally enjoyable for all the other competitors as well as for the winners, who were as follows :—

1. E. Davenport (Progress Voiturette 1899), 25.48 m.p.h.
2. F. Harvey (Vipen 1899).
3. S. C. H.Davis (Léon Bollée 1897E).

K.

A PORTABLE PLATING PLANT.

WITH the adoption of cellulose finish, modern washing methods and so forth, the retention of a smart appearance of a car is not a difficult matter these days, even when a vehicle has been in service for several years. In time, however, those fittings which are of plated finish become shabby, with



the result that the looks of a car are spoilt, and only by replating can they be restored.

Recently, a plant has been placed on the market with which this work can be carried out on the spot, and certainly by reason of its convenience alone, it should find a ready appeal amongst the car-proud. In the ordinary way, of course, replating entails dismantling and in the case of a radiator, for example, the car must be out of use while the work is being done.

With the device in question, which is known as The Portable Electroplater, the whole job, whether it be on the windscreen frame, radiator, lamps or brake lever, can be done *in situ*. There is nothing " secret " in the process of the device (readers of MOTOR SPORT will remember the numerous so-called re-plating devices, which have appeared on the market in the past) its working principle being similar to that of the orthodox electro-chemical bath. It comprises a cabinet in which is housed a battery and two jars, one containing the necessary copper solution and the other, the nickel solution. Connected to the battery, through the medium of a plug-in fitting and a switch is a flexible lead, to the end of which is fixed a spray pad.

The operation of the plant is quite simple and calls for no particular skill. In the first place, the operator must thoroughly clean the metal which is to be treated, and a special polish is supplied for the purpose. The spray pad is then immersed in the solution, and the bulb, which is attached to the pad, is filled. Next, the lead which is also connected to the pad is clipped to the part under treatment, and while the current is switched on the pad is passed slowly to and fro over the surface, the solution being ejected from the pad by gentle pressure of the bulb. The result, as we found after a special demonstration, is a first-class finish, which should be as durable under normal conditions as that obtained by the immersion method.

The makers of the device are :—Portable Electroplater Ltd., 169, Hampstead Road, London, N.W.1.

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and Cars tuned by us have secured the following successes:

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1,000 Miles.
12 hours.
500 Kilos.
3 Hours.
Class "B" 200 Kilos.
200 Miles.
Class "B" 200 Kilos.
200 Miles.
2,000 Kilos.
3,000 Kilos.
2,000 Kilos.
2,000 Miles.
24 Hours.
Class "C" 4,000 Kilos.
3,000 Miles.
5,000 Kilos.
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3rd ,, 36th ,, ,,
3rd ,, 38th ,, ,,
2nd ,, 42nd ,, ,,
2nd ,, President's Gold Plate.
2nd ,, 34th 90 m.p.h. Handicap.
3rd ,, 35th ,, ,, ,,
3rd ,, 36th ,, ,, ,,
3rd ,, 49th 75 ,, ,,
2nd ,, 37th 90 ,, ,,
1st ,, 49th 75 ,, ,,
2nd ,, 38th 90 ,, ,,

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Yours faithfully,

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A TECHNICAL TALK—

ON THE SUBJECT OF SUPERCHARGERS.

Their Development, Principles and Design.

WHEN one considers what a very short time it is since critics were asserting that supercharging could never be made of any use to the ordinary motorist, and would remain a freak device for getting very high speeds for racing purposes only, it is interesting to trace its development, and note the somewhat unexpected results that have been achieved.

In common with practically every feature of the modern car, it owes its success entirely to racing. In the perpetual search for greater power from a given weight and size of mechanism, it has played a bigger part than any other single innovation in the history of the internal-combustion engine. Also, as we shall see, it has enabled many characteristics, more usually regarded as touring features, to be developed beyond their original limit.

In the days when the greater part of the sporting motorist's season was occupied with hillclimbs and speed trials, the art of "super-tuning" was practised to a greater extent than is now the case. By this, one does not mean that engines were better or more highly developed than they are today. Such a contention would be obviously absurd. However, for very short events of this sort the question of long distance reliability was a very minor consideration. There was none of the feeling of "Well, my motor is not as fast as his but then he'll probably blow up." Instead of this, it was essential that if one intended to win, the motor must be faster than any other in the event.

This state of affairs encouraged people to try out experiments in the way of tuning that would make a Double-Twelve exponent shriek with horror. Compression ratios were raised to figures previously considered only applicable to Deisel engines. Revs went up to such an extent that only modern lubrication systems could cope with them for any distance. Camshafts took on contours that stretched even Terrys' ability to provide valve springs that would make tappets follow the hectic path which had been allotted to them. Fuels gave off weird odours and approximated more than ever in their combustible properties to nitro-glycerine. All these things gave speed and power to an amazing degree, but they also gave roughness and lack of flexibility, such as the modern sports car owner could scarcely imagine possible.

Who will ever forget the peculiar sobbing howl of Raymond Mays' famous Bugatti, modified and tuned by Amherst Villiers? Many a record and "fastest time of the day" fell to that car. Well over 6,000 r.p.m. was its normal rate on such work, and in those days that was something to talk about. Another illustration of the attitude towards speed and distance which then prevailed was given to one during a discussion with that great exponent of the art of sprint motoring, Capt. A. Frazer-Nash. The writer was running, at that time, one of the overhead camshaft G.N.s, and when it went it really travelled. However, the discussion was anent the occasions on which it did not go, with special reference to the behaviour of the roller big-end. As this was doing things which were not allowed for in the instruction book, it was suggested that a plain bearing be used, and Nash asked for what distances it was required to run. It was explained that it was necessary for the car to be driven to the venues of events, no means of towing being available, and that one wished it to be safe for events up to a mile. He considered this and said, "It should be all right for about half-mile events, but you know a mile is a long way!"

That was a fair summing up of the tuning of that time. A mile was a long way in the days when drivers used to drain their crankcases before a run to reduce oil drag, and try to get a few more revs thereby, and it seemed as if the limit of this style of tuning was being reached. Then came the supercharger in a form suitable for car engines, and drivers immediately started to try out its possibilities for getting even more speed from their sprint motors.

Once again Amherst Villiers was to the fore in the development of this, and began on the famous Vauxhall Special (again driven by Raymond Mays) the experiments which have led up to the supercharger now made by him, and fitted to the 4½-litre Bentley.

The results in the earlier stages tended to revolutionise the general ideas which had held with regard to the effects of forced induction on performance. Everyone hoped for more speed, and they got it. In fact, in many cases they got a good deal more than the engines would stand, and much more thought had to be given to structural strength, and also to the bearings and lubrication. Everyone also expected that their engines would be even rougher to drive than they had ever been before, and this is where the first great surprise came in the development of the supercharger. Instead of being rougher, they were found to be much more flexible in spite of the increased top speed performance.

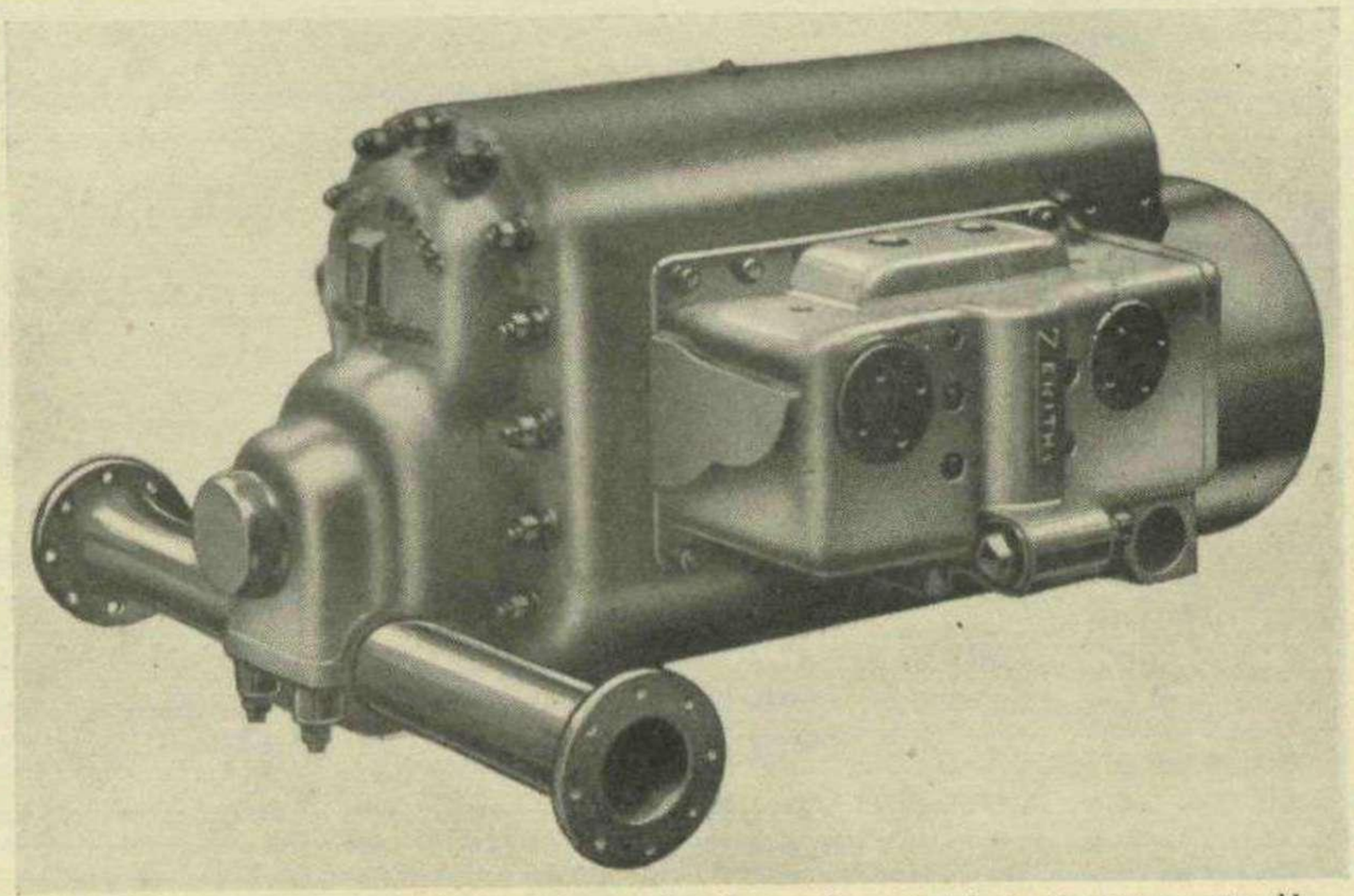
It is this property of not only increasing the speed, but, what is far more important for general use, increasing the speed *range*, which has made so desirable the use of superchargers on the standard sports cars of today, and which will undoubtedly lead to their increasing adoption on the touring cars in the future.

The type of blower referred to is generally known as the Roots blower, the general arrangement of which will be already familiar to most readers of MOTOR SPORT. It consists of two blades or teeth, each roughly in the form of a figure of eight, which are geared together and act as a gear pump to force the mixture into the cylinders. It is fitted between the carburetter and the engine. There are other ways of fitting blowers, such as before the carburetter, but this requires that the float chamber and petrol supply shall be pressure balanced,

A TECHNICAL TALK—continued.

and the first method is that almost universally employed on car engines. In this case the blower deals with mixture and not with air ; this is one of the reasons for the smoothness at low engine speeds. The mixture is so violently churned up by passing through the blades of the rotor, that really complete vaporisation of the fuel is made possible, in place of the usual condition of suspension which prevails when atmospheric induction is employed.

A further reason for the marked increase in speed range which is gained by supercharging, is the fact that it solves, to a great extent, the problem of distribution. This problem is one that has always caused a great deal of trouble in design, and with the tendency to increase the number of cylinders, the difficulties of distributing the mixture correctly become even more marked. Dozens of methods have been employed, many strange induction pipes have been made, and various numbers of carburetters have been fitted. When a supercharger is used the problem virtually disappears. An ordinary induction pipe design is permissible, and as it is kept filled with a very nearly perfect mixture at whatever pressure has been decided on when designed, every cylinder is bound to receive its correct quantity. The number and size of carburetters is merely decided by the quantity of mixture which is required to be passed through them, and the gas velocity.



The Villiers supercharger in its latest form. Its clean and compact design is at once noticeable.

It may be inferred by some perhaps, that finality has now been reached, and that all that is necessary for the production of the perfect engine is that it should have a supercharger. But there are many contingencies to be taken into account with a boosted engine. The fitting of a blower increases the stresses owing to the increase in power and there are many points where an engine which has not been designed for it will fail. The two chief sources of trouble in any increased power are temperature and mechanical weakness. Owing to the fact that any heat engine gives off a comparatively small amount of power in relation to a large amount of heat from any given quantity of fuel, it follows that any increase of power means a further increase in the heat produced. A certain amount of this extra heat can be dealt with by modifications to the cooling system, but this will not, as a rule, be sufficient. There will usually be local heating of the piston and valves, of such intensity, that unless these parts have been specially designed, the heat flow from them to the cylinder head and walls will not be enough to avoid excessive rise of temperature and consequent failure. The requirements of mechanical strength will be found to be concerned mainly with the crankshaft, connecting rods, and the main and big end bearings. In most engines today the need for great rigidity and ample bearing sizes, together with forced lubrication to all bearings, is becoming so generally recognised that there is not likely to be much trouble arising from this cause.

As more engines are now being designed with a view to having superchargers fitted it is not necessary to consider these points further, and the other difficulties connected with supercharging are matters of mechanical detail in the design and construction of the instrument itself, and have mostly been overcome by the manufacturers concerned. The earlier blowers made themselves somewhat unpleasantly prominent by the considerable noise emitted by the drive, but now that the requirements of this drive are fully understood, this has been overcome and the modern supercharger of the permanently connected variety is practically silent.

No remarks on supercharging could be complete without some reference to the method employed on the Mercédès. On this car the blower is normally disconnected, and the engine employs atmospheric induction up to full throttle. Then further depression of the accelerator pedal engages the clutch which drives the blower, and at the same time by an ingenious arrangement of valves changes the whole system over from atmospheric to forced induction. This has the advantage of avoiding any wear on the blower and its drive except when the extra power is actually required. The system is, however, an exclusive patent of this progressive firm.

The number of cars now marketed as standard with superchargers is very encouraging to the man who wishes to obtain a car of this type either for competitions or normal road work. Besides Bentleys, whom we have already mentioned, Lea-Francis have had a supercharged model on the market for a considerable time, while other sports cars manufacturers, such as Frazer-Nash and various foreign firms supply supercharged cars either as standard or to special order.

The day has yet to come when the general run of engines will have blowers but the tendency is certainly in that direction, and as far as sports cars are concerned supercharging has definitely come to stay.

W. S. B.

Club News

S.B. AUTO CLUB.

The Sutton Coldfield and North Birmingham Auto Club will hold their September Trial on Saturday, the 6th. On Sunday, the 7th, a run will be held through the Cotswolds. Other events will be the Old Crocks run on Saturday, the 20th. The Autumn Trial on October the 4th and the October Run on Sunday, October 5th. Further information regarding these events may be obtained from J. D. Woodhouse, Secretary, 10, Warwick Chambers, Corporation Street, Birmingham.

J.C.C.

There were no events organized from the London headquarters of the Junior Car Club during August. On September 6th there will be a night trial starting from Virginia Water, near Egham, Surrey, at midnight and finishing at Southsea about 7.30 on the following morning. The entry fee for this event will be one guinea, inclusive of breakfast.

On September 20th the South-Western centre of the club will hold a trial from Salisbury to Lynton, of which the course promises to be most interesting. A dinner and dance will be held at the conclusion.

A third September event will be a gymkhana held at Welwyn, Herts, on Saturday, September 27th, followed by a dinner and dance. Fuller details of these fixtures may be obtained from the J.C.C., Empire House, Thurloe Place, S.W.7.

BERKHAMSTED & D.M.C.

A Speed Hill Climb will be held on Sunday, 21st September, starting at 1.30 p.m., at Dancers Hill near Tring. The route will be marked from the "Britannia," Tring, Herts. Each competitor will have two runs, and the meeting will be open to cars, sidecars, and solos.

This is in aid of charity, and a heavy entry is expected. The hill is situated on private property, and the whole style of the meeting will be on the lines of the old Kop Hill events.

Full details from the Hon. Organiser, Mr. W. E. J. Kentish, of "Broxbourne," Essex Road, Watford, Herts.

MIDLAND AUTOMOBILE CLUB.

Arrangements for the Amateur Shelsley Hill Climb this month have now been completed, and it is hoped that a very successful meeting with a large entry will be the outcome. The events will be as follows :—

Team Event for three unlimited Sports Cars representing Clubs affiliated to the R.A.C.

Event 2. For the fastest time in 7 Classes sub-divided into Racing and Sports Cars, and the following special cups.

A Special M.A.C. Cup will be given if the present record for the Hill made by Von Stuck is broken.

A Special M.A.C. Cup for a Lady making the fastest time on a Sports or Racing Car.

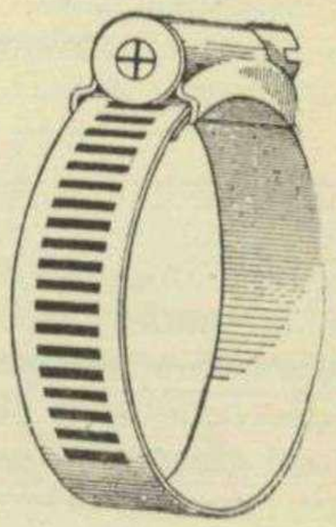
A Special M.A.C. Cup for the fastest time made by an Amateur who drove or will be driving his car in the Double Twelve, Le Mans, 24 Hours Race, Irish Grand Prix, or Ulster T.T.

It would be appreciated if more ladies like Mrs. Scott and others enter for the Ladies' Cup.

It is understood from Mays that he is definitely appearing with his new car, and is hoping for great things, also Davenport hopes to obtain another rev. or two.

Intending competitors should write without delay to Leslie Wilson, Sec. M.A.C. 415, Stratford Road, Birmingham, who will supply them with regulations and entry forms, and any other necessary information.

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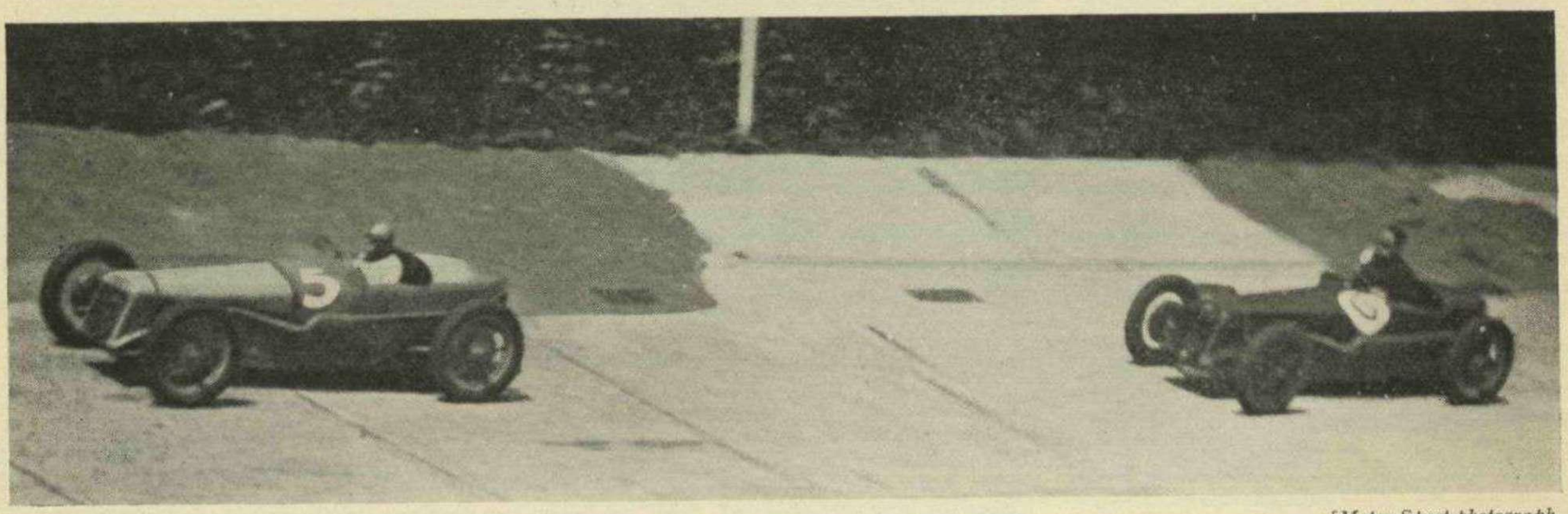
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THE BROOKLANDS BANK HOLIDAY MEETING



[*Motor Sport photograph*

W. B. Scott about to pass Malcolm Campbell in the Gold Star Race. He finished first but was disqualified.

THE fact that Brooklands has always been too expensive as an entertainment was well proved by the success of the first half-crown day. In spite of the very nasty looking weather of the morning the attendance was very near a record, and the programme was full of interest. The proceedings were marred by a nasty accident to Victor Gillow, the Irish Grand Prix winner in the light car class. Just after coming off the banking into the railway straight, his off side front wheel and tyre collapsed and the car turned completely over and landed right way up again, the driver who remained in the car the whole time, sustaining head injuries.

However, matters might have been much worse, and we are glad to say that the irrepressible Gillow is making satisfactory progress.

Another matter provoking much argument, and not a little recrimination, was the disqualification of Birkin and Scott for failing to keep within the safety lines at the Fork. Birkin was driving Craig's very fast Bugatti in the Cornwall Lightning Short Handicap, in place of his supercharged Bentley which he scratched.

Whatever opinion one gives on a matter of this sort, it must be realised that if a rule is made, anyone can demand that it should be firmly enforced. On this occasion the only protest was from the stewards themselves, and therefore it would seem open to them to exercise their discretion. The rule that cars, other than the scratch car, should keep inside the safety line at the Fork is very wisely made to prevent slow cars from cutting the bend by the aeroplane sheds and obstructing the fast men coming through the field. There are occasions, however, when a car, although not actually on the scratch mark, is travelling at such a speed that to swing wide at all at this point would be definitely unsafe, and when to keep close in would obstruct nobody.

With Birkin and Scott this seemed to be the case. Birkin's average speed for the race in which he was disqualified was 112.97 m.p.h. while Scott's was 117.87 m.p.h. It must also be remembered that the wind was against the cars on the railway straight, and following them over the Fork, which means that at this point they were doing fully 125 m.p.h. which is quite enough to think about without any further complications, and there can be small wonder that the drivers were a little sore over the matter. One is inclined to feel that a caution about the transgression, which was scarcely avoidable, would have been more satisfactory for all concerned.

Against this of course, is the fact that it is very much easier to criticise other people's decisions than to make good ones, and the powers-that-be at the track have the interest of the sport so genuinely at heart, that no one wishes to make their task any harder than it is. Further, this season at the track has been such an improvement on anything we have known in the past, for interest and variety, that even while occasionally disagreeing with small details, we must congratulate all concerned on the way they have made Brooklands more worth visiting than ever.

To return to the actual racing. The first event saw 13 cars on the line with Birkin in his Bentley at scratch. He drove a fine race, coming through the field well, to take third place, but was unable to overtake Daybell's veteran 30-98 Vauxhall, which won easily, with another old stager, Noel's 17-litre Mercédès, second.

The next event saw Birkin at the wheel of Craig's 2.3 litre "Bug" which came home a comfortable distance in front of Cobb on the Delage, but was later disqualified as has already been related. Cobb's speed of 121.08 m.p.h. was a very fine performance in view of the wind, which made high speeds difficult. Malcolm Campbell (Grand Prix Delage), J. F. Field (200-Mile-Race Talbot) and Harold Purdy (Sunbeam) were the next to finish in that order.

This meeting was certainly proving a good day for the veterans, for the next event was won without difficulty by one of the old Wolseley Moths in the hands of A. G. Miller, who took full advantage of his 1m. 39s. start and led from start to finish. Victor Horsman hung into second place in his Triumph until the last lap, when S. C. H. Davis, who had been streaking through the field in fine style, just caught him, thus bringing his Riley into second place.

It was in this race that Gillow came to grief within sight of the finish, and some very snappy driving was witnessed in avoiding the crash.

The chief feature of the next race, the Mountain Racing Handicap, was the remarkable speed of Waites' little orange Austin. We have always known that this car was fast, but its performance in this event was an eye-opener to everyone. He was given 5 seconds start from Vernon Balls' Amilcar which is itself no sluggard, but as it turned out, the positions could have easily been reversed without worrying Waite in the least, as he was leaving Balls on sheer speed in the straights, and all with so little fuss or noise as to make it seem positively uncanny. The scratch men never really had a look in, with the exception of G. E. T. Eyston who brought his Alfa into third place, behind the Amilcar, after a good race. The only variety from normal progression in this event was when Purdy took the Fork hairpin a bit too fast and turned round, without however doing any harm.

The Gold Star Handicap was over a distance of 25 miles, which added interest to the proceedings, and the extra distance also seemed to cause an unexpected number of retirements. Spero (Austin),

Purdy (2-litre Sunbeam), Birkin (Bentley) and Thomas (Bugatti) all retired early. The Delages were out for blood, and Campbell made a marvellous getaway, but slowed slightly with an intermittent misfire, and was soon passed by W. B. Scott in another G.P. Delage, these two being followed home by Dudley Froy on the big Delage.

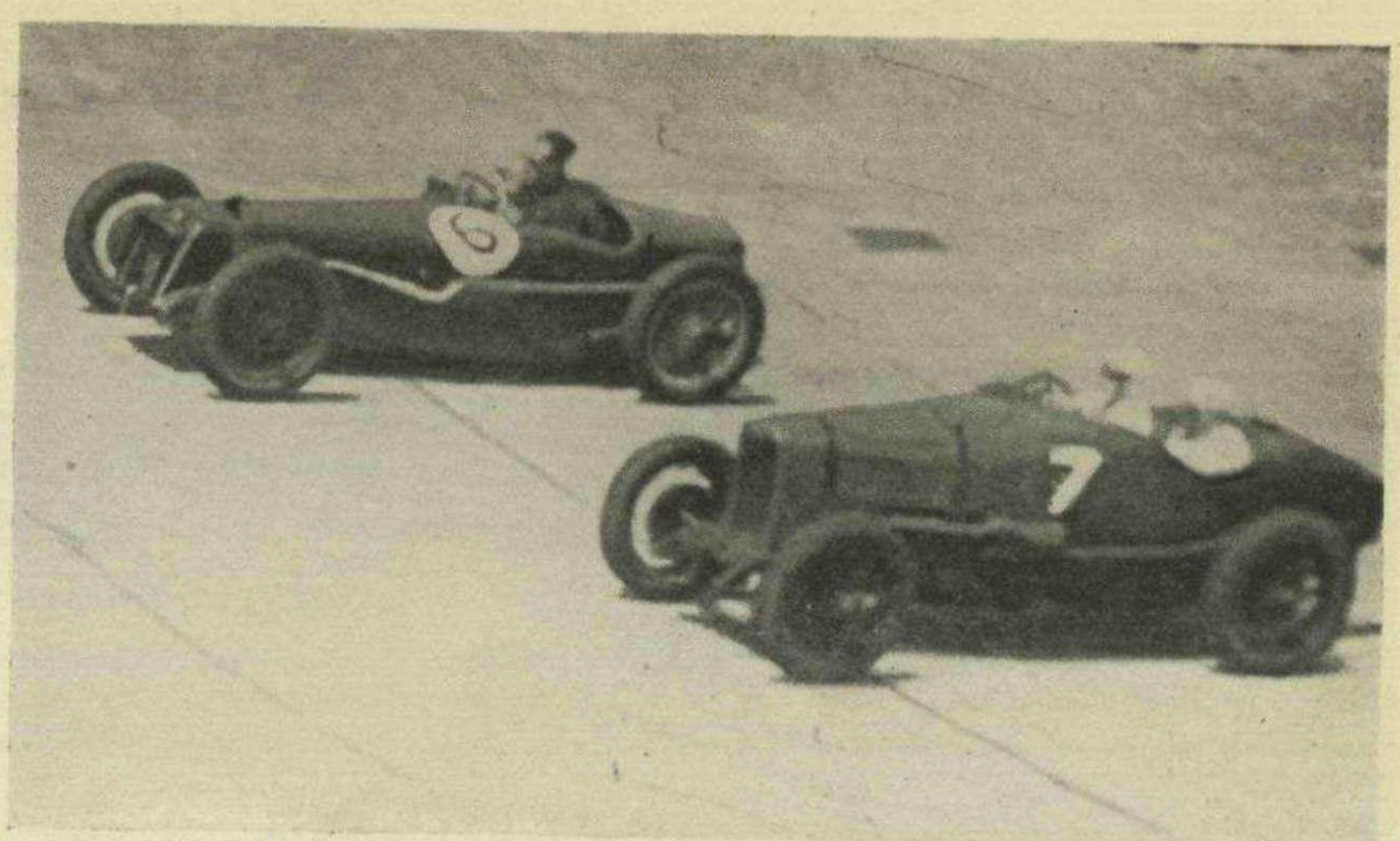
The first and third men home, however, were disqualified; the former for transgressing the rule about the lines at the fork, and Froy for a push start. This, of course, let Campbell into first place, with Stewart's Alfa second and Cobb third.

The next race fell to the scratch man, C. S. Staniland, on an 1100 c.c. Bugatti, which although much smaller engined than is the habit of this make, did not seem to be any slower thereby, and came through the field for a comfortable win at 102.98 m.p.h.

A. G. Miller's ancient 21-litre Benz, apparently inspired by the presence at the track of the battalion of old crocks, produced a little extra speed in the hands of Cyril Paul, and thundered round in grand style, to win at 107.25 m.p.h. from Jack Dunfee's Talbot, in the Cornwall Senior Long Handicap.

The Lightning Long Handicap was won by Cobb (Delage) at the very creditable speed of 121.19 m.p.h. with a lead of a quarter of a mile from E. M. Thomas (Bugatti), with Eyston's Alfa-Romeo a close third.

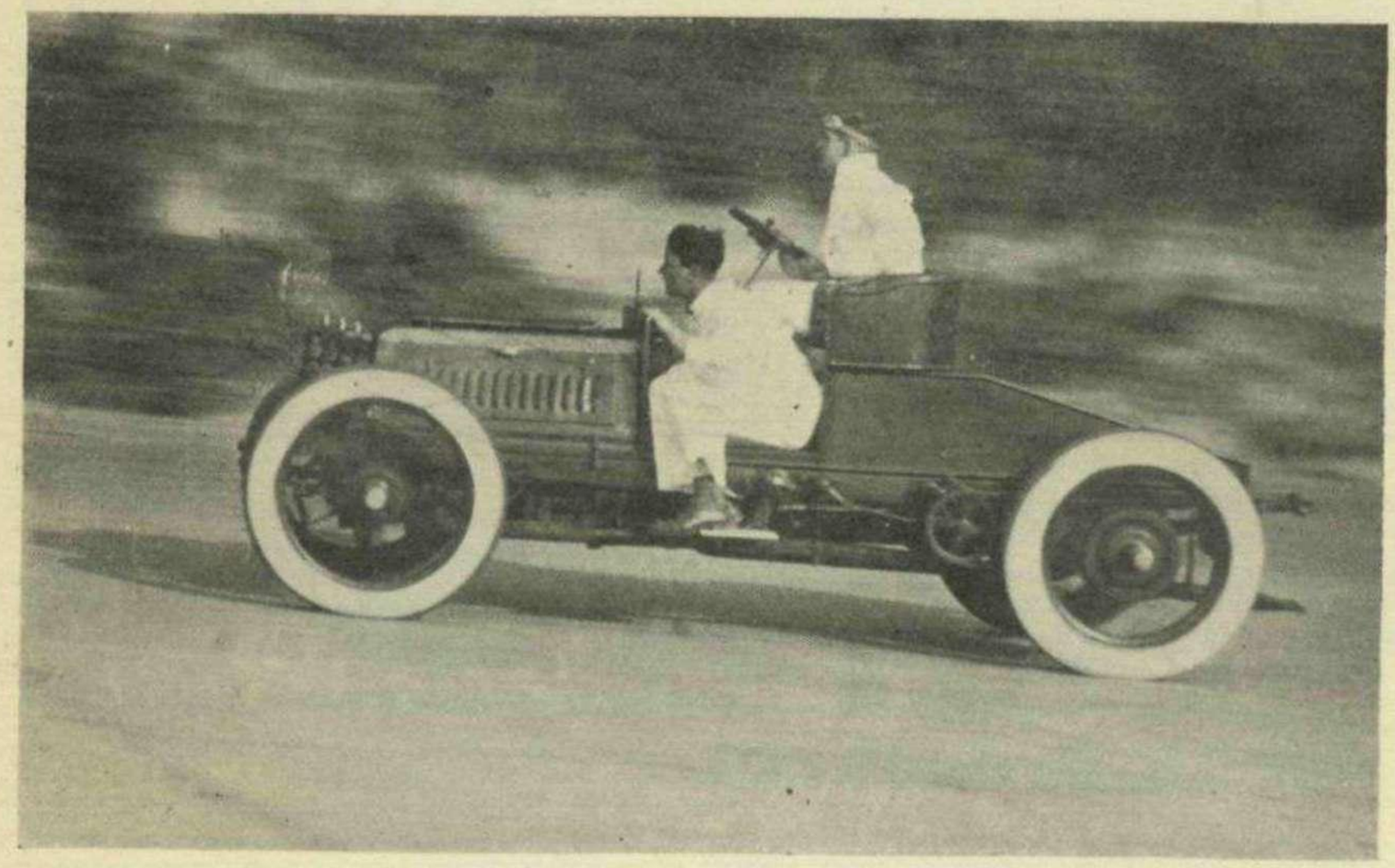
The Mountain Speed Handicap produced the best neck-and-neck scrap seen at the track for many a day. Brian Lewis on one of the "90" Talbots which have been doing so well this season, had a wonderful race with "Sammy" Davis on a supercharged Lea-Francis, for third place. The two cars were perfectly matched for speed, and lap after lap they came round within a few feet of each other, doing all they knew to gain a fraction on the corners. With cars sliding and tyres screaming, but always under perfect control, they were going higher and higher onto the



Scott's Delage passing J. Dunfee's Sunbeam in the 25-mile Gold Star Handicap.

banking under the Members' bridge, in their efforts to gain the lead; their driving at the Fork hairpin was a treat to watch. Although taking this as fast as was humanly possible, every gear change was perfect, and both drivers were evidently enjoying it immensely; Sammy Davis in particular grinning broadly as he wrenched his car round. He led Lewis for the first part, then the Talbot just scraped ahead and stayed there till near the end, when Sammy, with a magnificent effort just got by to take third place. So engrossed was the crowd over this dog-fight that they scarcely noticed how fast Campbell was getting his "Bug" through the field, and how he was closing up on Gordon Hendy, who was handling his Lea-Francis with nice judgment. Campbell was going great guns, but at the Fork bend on the very last lap he was still behind Hendy. Then, as the two cars ran through their gears away from the corner, the Bugatti closed up on its rival, and with only 400 yards to go, caught and passed Hendy to win a magnificent race. Altogether a most refreshing exhibition.

It must have been a most amusing experience for Davis to step straight out of the Lea-Francis into (or rather onto) the Leon-Bollée 3-wheeler, which he was driving in the final event of the meeting, the Old Crocks Race. This was one of the best pieces of entertainment ever staged at the track, as these ghosts of the past, and very healthy ghosts some of them, resurrected from all over the country, collected to do battle. Most of the cars were boiling furiously by the second lap of the race, which consisted of two laps of the mountain course, and many had to receive assistance from their crew to get up the "hill" at the end of the finishing straight. One or two, however, were really swift, notably R. O. Shuttleworth's 1903 De Dietrich, which had a real "Paris-Madrid" look about it, and had lapped the track in practice at 58 m.p.h. The winner was E. Davenport, who usually races on two wheels at Southport and elsewhere; he averaged 25.48 m.p.h. on his 1899 Progress Voiturette, thus exceeding his handicap by the greatest margin. This brought an entertaining meeting to a close, and it is to be hoped that the success of their "half-dollar day" will encourage the authorities to make this reduction permanent.



[*Motor Sport photographs*]

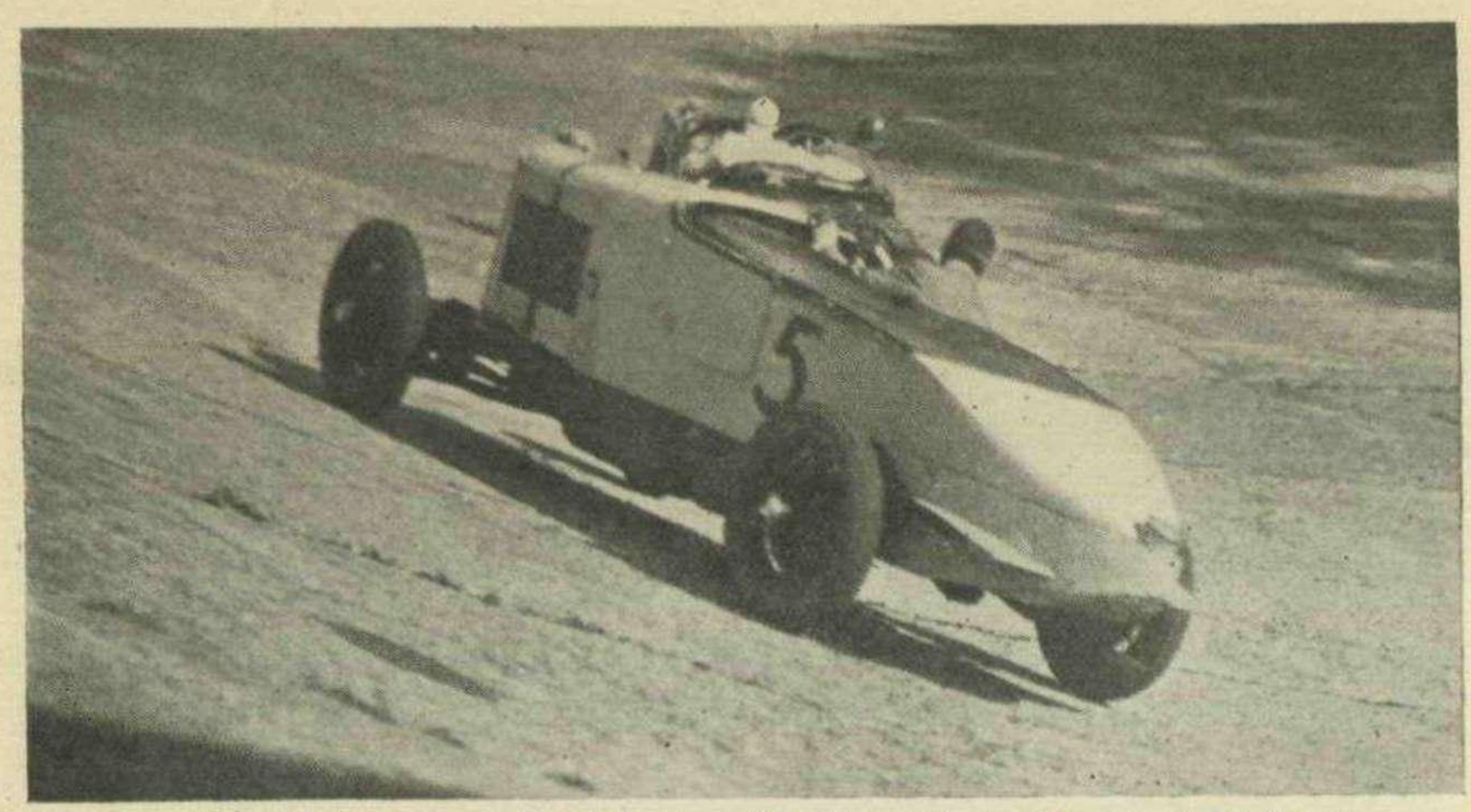
R. O. Shuttleworth at speed on his very fast 1903 De Dietrich, which was the fastest car in the Old Crocks event.

RESULTS.

CORNWALL SENIOR SHORT HANDICAP. (About 6½ miles).—1, G. Daybell (Vauxhall, 4,234 c.c.), 1m. 3s.; 2, J. Noel (Mercédès, 17,852 c.c.), 48s.; 3, H. R. S. Birkin (Bentley (S), 4,398 c.c.), scratch. Won by 5 sec. at 92.59 m.p.h. Three seconds between second and third.

CORNWALL LIGHTNING SHORT HANDICAP (About 6½ miles).—1, J. R. Cobb (Delage, 10,680 c.c.), scratch; 2, Malcolm Campbell (Delage (S.), 1,486 c.c.), 21s.; 3, J. F. Field (Talbot (S.), 1,486 c.c.), 27s. Won by 6 sec. at 121.08 m.p.h. Three seconds between second and third.

CORNWALL JUNIOR SHORT HANDICAP. (About 6½ miles).—1, A. G. Miller (Wolseley Moth II, 1,261 c.c.), 1m. 39s.; 2, S. C. H. Davis (Riley (S.), 1,083 c.c.), 12s.; 3, V. E. Horsman (Triumph, 832



Brian Lewis (Talbot) chasing S. C. H. Davis (Lea Francis) in the Mountain Speed Handicap

c.c.), 1m. 43s. Won by 14 sec. at 71.08 m.p.h. One second between second and third.

August Mountain Racing Handicap.—1, A. C. R. Waite (Austin (S.), 749 c.c.), 1m. 55s.; 2, Vernon Balls (Amilcar (S.), 1,093 c.c.), 1m. 50s.; 3, G. E. T. Eyston (Alfa-Romeo (S.), 1,752 c.c.), 25s. Won by 28 sec. at 60.98 m.p.h. Ten seconds between second and third.

Gold Star Handicap. (About 25 Miles).—1, Malcolm Campbell (Delage (S.) 1,486 c.c.), 1m. 26s.; 2, R. C. Stewart (Alfa-Romeo (S.), 1,752 c.c.), 2m. 45s.; 3, J. R. Cobb (Talbot, 2,276 c.c.), 2m. 55s. Won by 1¼ miles at 116.4 m.p.h.

Cornwall Junior Long Handicap. (About 9 Miles).—1, C. S. Staniland (Bugatti (S.), 1,092 c.c.), scratch; 2, A. C. R. Waite (Austin (S.), 749 c.c.), 2m. 4s.; 3, A. T. G. Gardner (Amilcar (S.), 1,093 c.c.), 30s. Won by 8 sec. at 102.98 m.p.h. Two seconds between second and third.

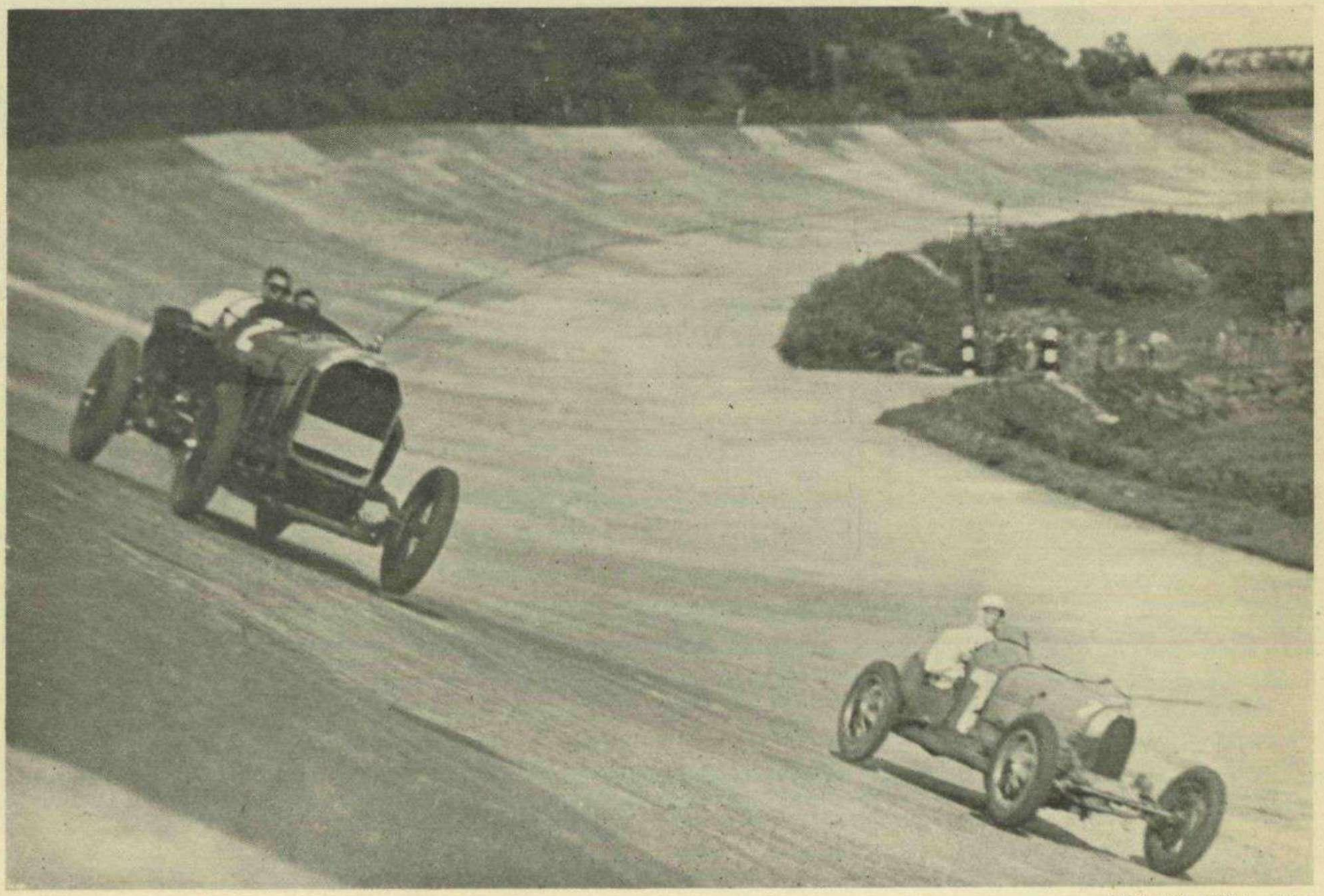
Cornwall Senior Long Handicap.—1, Cyril Paul (Benz, 21,504 c.c.), 33s.; 2, Jack Lunfee (Ballot, 2,976 c.c.), 54s.; 3, J. F. Field (Talbot (S.), 1,436 c.c.), 41s. Won by 5 sec. at 107. 25 m.p.h. Half a length between second and third

Cornwall Lightning Long Handicap.—1, J. R. Cobb (Delage, 10,680 c.c.), scratch; 2, E. M. Thomas (Bugatti, 1,990 c.c.), 47s.; 3, G. E. T. Eyston (Alfa-Romeo (S.), 1,752 c.c.), 56s. Won by 9 sec. at 121.19 m.p.h. Two seconds between second and third.

August Mountain Speed Handicap.—1, Malcolm Campbell (Bugatti (S.), 2,263 c.c.), scratch; 2, Gordon Hendy (Lea-Francis (S.), 1,496 c.c.), 1m. 20s.; 3, S. C. H. Davis (Lea-Francis (S.), 1,496 c.c.), 22s. Won by 1⅘ sec. at 66.85 m.p.h.

The "Daily Sketch" Old Crocks' Race.—1, Progress Voiturette, 1899 (E. Davenport), 4m. 58s.; 2, Vipen, 1899 (F. Harvey), 5m. 18s.; 3, Leon Bollée, 1897 (S. C. H. Davis), 3m. 54s. Won at 25.48 m.p.h.

S.—Supercharged.



[*Motor Sport photographs*]

Cyril Paul's Benz "taking off" on the bump at the end of the home banking when passing Staniland's Bugatti, to win the Cornwall Senior Long Handicap at 107.25 m.p.h.

RUMBLINGS

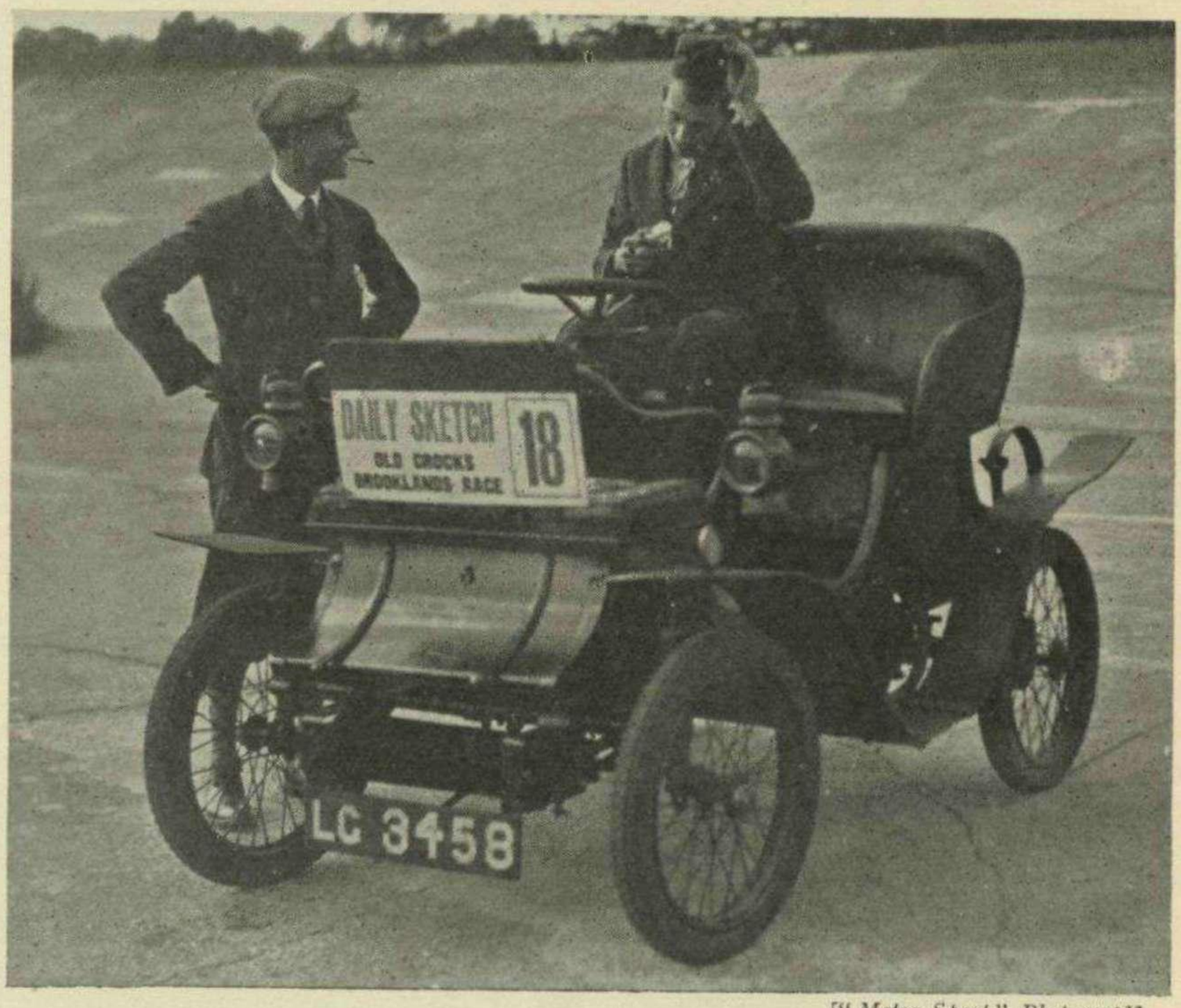
By "BOANERGES."

On Turning Over.

A SHORT while back, members of MOTOR SPORT staff might have been observed, engaged in the seemingly childish occupation of playing with a toy motor car on the office floor, the property (the car, not the floor) of our artist.

The business started with a discussion, prompted by poor Gillow's recent pile up, as to how anyone could turn upside down in a motor car, remain in it, and get away with it, all at nearly 100 m.p.h. It has been done quite often, hence the fact that several people, all with different theories to expound, came to be rolling a perfectly harmless model Alfa-Romeo, round the room, complete with a model figure at the wheel. The general conclusion arrived at was that the driver must be thrown sideways, and so come below the level of the top of the car (or above when the whole show is inverted). After all it wouldn't do to remain normally seated, as to have a car skating along at some 90 m.p.h. upside down, balanced on the driver's crash hat, would be most embarrassing for the gentleman concerned! It must therefore be the rotation of the car continually leaving the driver behind, as it were, that makes it possible for the car to perform this unconventional manoeuvre, and yet leave the driver to drive again.

All this talk of turning over reminds me of a rather amusing incident which occurred some years ago to a member of our staff. This was in the days when the optimist, in-question was engaged in the attemped manufacture of a now defunct cyclecar. He used, in the days before he discovered that it was much easier to tell stories about motor cars than to make them, to travel to the scene of his labours each day in an ancient 3-wheeler, of immense altitude and negligible stability. Being late (as usual) he attempted to negotiate a S-bend on wet tramlines, at a speed some knots above the safety limit for the chariot in question, and performed a pretty broadside, into which he steered as



[*"Motor Sport" Photograph*]

Thirty-one years old, and there's life in her yet. *The Progress cyclecar referred to on this page.*

per instruction book. This, however, was prior to the days of lowered chassis and such luxuries, so the device, instead of sliding prettily, turned straight upside down, flung the driver out, fortunately on his head, and followed him down the road at speed on the remains of the windscreen and one wing, the whole troupe finishing up at the feet of a gang of workmen mending the road. When the latter had overcome their mirth sufficiently to assist, the vehicle was reinstated on its wheels, refilled with the assorted junk which it had disgorged on to the roadway, and being more or less undamaged (what is a wing or so after all?) was started up. The point which had escaped his notice, however, was that in turning over it had also turned round, and he proceeded some miles in the wrong direction before waking up sufficiently to realise the fact!

The derisive cheers which greeted the battered remnant at the works that day, failed to quench his appetite for old motor cars, and there is no doubt that, given the right temperament, and sufficient sense of humour, old crocks are good fun.

The Old Brigade.

The recent event at Brooklands for vehicles of 1904 or earlier vintage provided plenty to interest any students of design.

Davenport's winning 1899 Progress cyclecar had some remarkable features, the springing being a bit peculiar, judged by modern standards. The designer, apparently appalled by the complications involved by having the engine in the front, and driving a back axle which moved relative to the engine, got over the difficulty by lumping engine and all at the back and not having the rear of the chassis sprung at all. The front, not presenting such difficulties, was sprung on the axle, and the front of the body was attached to the chassis. As the rear of the chassis was unsprung the back of the body was

RUMBLINGS—continued.

sprung on the chassis.

Another point was that the radiator was filled by removing a floor board, thus exposing the water tank. The front seat was arranged to rotate on a vertical axis, so that if the driver got tired of the passengers' faces, he could give the seat a shove, and the said passengers would be seated with their feet dangling in front of the radiator. The starting handle fitted in the side, gramophone-wise, while nearly all the controls were by levers of various dimensions on the steering column. Driving was certainly a full time job in those days!

Nevertheless this particular vehicle averaged 25½ m.p.h. for 2 laps of the mountain course, which means that it must be capable of a good 35 m.p.h. on the road.

Season's End.

There is certainly no falling off in the number and quality of racing events towards the end of the season, and this month will provide plenty of interest. Not many of us will be able to get over to Monza it is true, and the scrap between the Maseratis and sundry other "attis" will be worth watching. However, no tears need be shed for we have the Amateur event at Shelsley Walsh on the 13th, and there is no doubt about the interest of that. There are all too few real amateur events for cars these days, that is events that ordinary mortals with ordinary incomes can afford to go in for, and a show like Shelsley is just the right idea.

Another good event is of course the Manx Grand Prix, which is the Amateur T.T. under a new guise and with suitably adjusted regulations. These make it possible for the poor fellow who has collected a few boni, in the endeavour to reduce the expense of his hobby, to enter and ride without getting hauled over the coals. Also they keep out the lads who have ridden in the actual T.T. and other International races, and who might be inclined to spoil the fun by being a bit too warm for the rest.

Not that the rest don't put up some mighty fine shows; after all, many of the star T.T. riders of today, such as Charlie Dodson, had their first shot at the I.O.M. course in the old "Amateur." The Junior Race is on the 9th and the Senior on the 11th so there will just be time for those fortunates on holiday at that time to get back from the I.O.M. in time for Shelsley.

The following Saturday is fixed for another B.A.R.C. meeting, and in these days they are something not to be missed.

I gather that more than the usual number of records will be getting a sharp jolt this month, as several machines are being got into trim for that purpose. I was in Boyd-Carpenter's place in Kilburn the other day, and found that they were finding time in between building "B.C. Specials," to get a motor ready for some 750 c.c. record attempts. This was actually the chassis which Spero has been running lately at the track with a body that looked like a tank. This chassis used to belong to Boyd-Carpenter and has now returned there, and is being completely rebuilt. It is also being fitted with a very neat body which looks just like a cigar and is the narrowest thing ever. The seats are as narrow as they can be made, but even so they are considerably wider than the rest of the body, and the body is faired where it joins them to keep the streamling in order. Also it is barely as high as the wheels, and certainly ought to present less surface to the wind than any Austin, past or present. Getting in and out is rather a work of art, but that can't be helped on this sort of job. Spero's tank-like contraption was all very well, but I could never bring myself to take it seriously, and always thought someone must have designed it with their tongue in their cheek. I mean, why double the frontal area of a racing body if you don't have to?

A Fable.

During a meeting at the Track there occurred a mild accident, and a certain ordinary fellow having given what assistance he could, and wishing to return whence he came without undue exertion, saw a Person in a Motor Car, about to go in that direction, and said, "Can you give me a lift?" To which the Person replied, "I cannot, I am a Marshal you see!" That's logic, as Tweedledum (or was it Tweedledee) would have said.

"ROUND THE UNION OF SOUTH AFRICA."

An interesting booklet with the above title has just been published by Singer & Co., Ltd., of Coventry, and may be obtained by MOTOR SPORT readers post free on application to the company.

It tells of a test of a Singer "Junior" which was of so strenuous a nature that, as the foreword points out, the reader might be inclined to doubt the veracity of the facts. To dispel these doubts, however, an official observer of the Automobile Association of South Africa was carried throughout the trip, and in addition the civic seal and Mayoral autograph were obtained in each important town *en route*.

The objects of the test, as explained in the foreword, were twofold: (1) To prove that the British small car is capable of speedy and satisfactory performance on some of the worst roads in the world; and (2) To raise money for the Natal Radium Fund.

The car's success in both purposes is fully described in the booklet, which is tastefully produced, and forms a worthy asset to the motorist's library.

WHERE ARE THE VETERANS ?

By E. K. H. KARSLAKE.

I SUPPOSE that there are some people who think themselves motor sporting enthusiasts, and whose ideal car is something with a close coupled 4-seater coupé body, a high advertised speed and batteries of electric windscreen wipers. But on the other hand there are some of us to whom all this just represents a ghastly caricature of a car. We wonder sometimes if the days are gone when there were real automobiles, and only comfort ourselves with the thought of the 38/250 ! Even this monster of to-day has not got chain drive, and we think wistfully sometimes of the real giants of yore, those great veterans of a sterner age, with enormous bonnets concealing four massive cylinders, a huge outside exhaust pipe, and behind, an exiguous body with a begoggled and fur-coated " chauffeur " clutching the wheel, listening to the beat of the motor and the howl of the chains.

Where are these veterans now ? Where in the first place are the racing cars which, excluded by the inexorable march of progress (sic) from the scenes of their former great battles, should now be rejoicing the heart of some enthusiast. Of course many of them have had long and glorious careers at Brooklands, but now I see that some vandal is declaring that pre-war cars should all be banned from racing there in future. However, there are not many left.

I wonder if there is a single Gordon Bennett racer still on the road to-day. I wonder what has become of the 60 h.p. Mercédès which the great Camille Jenatzy of undying memory drove that day in Ireland when he fought his long battle with René de Knyff. How many even of the early Grand Prix racers are still going ? There was of course the venerable Lorraine-de Dietrich " Vieux Charles III." at Brooklands, but he too seems to have disappeared of late. Of the more recent cars there are several which are still going or have been until quite a short time ago. There was one of the Peugeots which fought that epic battle with the Fiats at Dieppe in the 1912 Grand Prix, which was brought to Brooklands by Jules Goux before the war, and which was still running there, if I remember rightly, until a few years ago. There are several Sunbeams, too, and I think that one of those which ran in the 1913 race at Amiens is still going ; while, passing on to later days, I seem to think that until half a dozen years ago Malcolm Campbell was running one of the 3-litre straight-eights built for the 1921 race at Le Mans. I am told incidentally that one of the 3-litre straight-eight Fiats which was built for the same race and which did not start, but won the Italian Grand Prix that year, is about somewhere near London, while someone says that one of the 2-litre 4-cylinder Sunbeams which were built for the 1922 race is going well in Scotland.

One of the 1913 Grand Prix Excelsiors is still going over here and caused a mild sensation just the other day by not being allowed to run at the track. This is the one which was driven at Amiens by Hornsted ; the other one which was driven in the Grand Prix by Christiaens and afterwards went to Indianapolis, was for sale a short time ago in Brussels—I tried to buy it as a matter of fact but did not succeed, so I hope I was not overbid by a car-breaker.

Of the team of Mercédès which scored that overwhelming win in the Grand Prix at Lyon on the very eve of the war, there are or were two in this country. One of them which was driven in the race by Lautenschlager, and which won, was afterwards the property of the late Count Zborowski, and when I last saw it was running as a touring car with a 4-seater body. I saw the other, which I believe was the spare car, at Lyon a few months ago and I believe it is still running finely with a 2-seater body equipped for touring use.

There are probably a number of other really famous veteran racing cars which are still running, but which I do not call to mind at the moment. But what of the old sports cars ? Someone has informed me that he took the trouble recently to count the number of 90 h.p. Mercédès which are still registered and that it amounted to more than ten, but less than twenty. I do not know quite how he managed to make this calculation, but the answer is depressingly small. I can quite believe it however, for how seldom one sees a 90 Merc. nowadays. I wonder, though, whether there are really quite a number of these and similar cars of the grand old days skulking ignored and neglected in the cobweb-bedecked back portions of country garages.

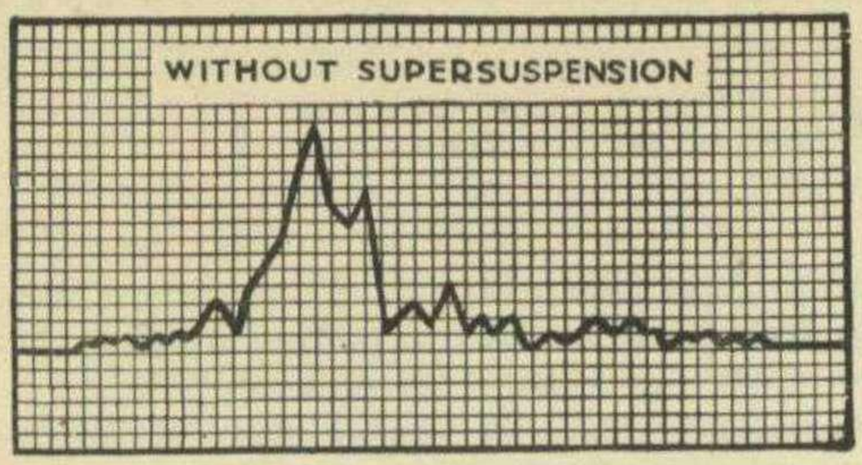
That happy institution, the London-Brighton veterans' run has proved that there are quite a good number of really old cars still going. But I am fairly sure that there are many more hidden away in obscure parts of the country, some of them no doubt still capable of motion though used at present as hen-houses.

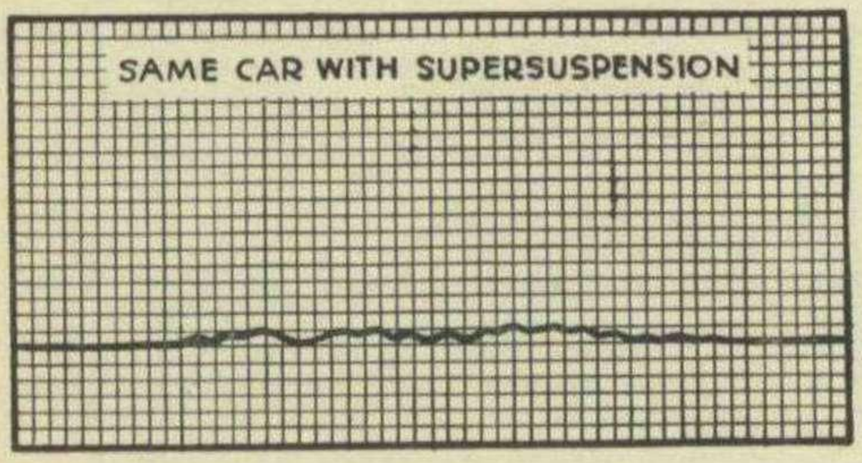
At any rate this question of veteran cars is one which is likely to be of considerable interest to many readers of MOTOR SPORT. By veterans I mean cars which can fairly be placed in any of the three following categories :—

1. Racing cars more than, say, five years old.
2. Sports cars more than fifteen years old—i.e., pre-war.
3. Other cars more than twenty-five years old.

I know of several cars which fall into one or other of these categories, and which are still going, and these cars I propose to describe for the benefit of those readers of MOTOR SPORT who share my taste for the old and the mighty. But I should be very grateful if readers who own cars of any one of the three classes mentioned would like to let me see them and have a run on them, so that I could describe my experiences afterwards ; soon I hope we will get to know the whereabouts of all the really good veterans, and perhaps even be able to save them from an ignominious end.

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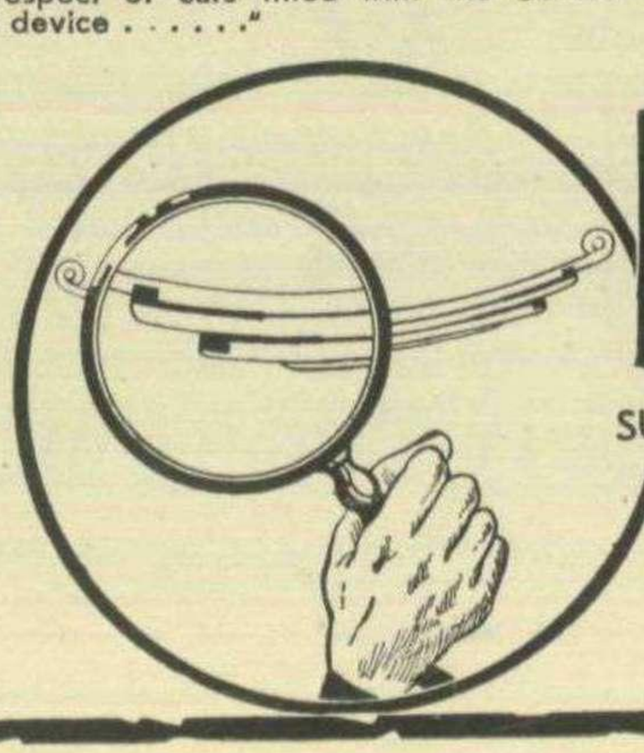
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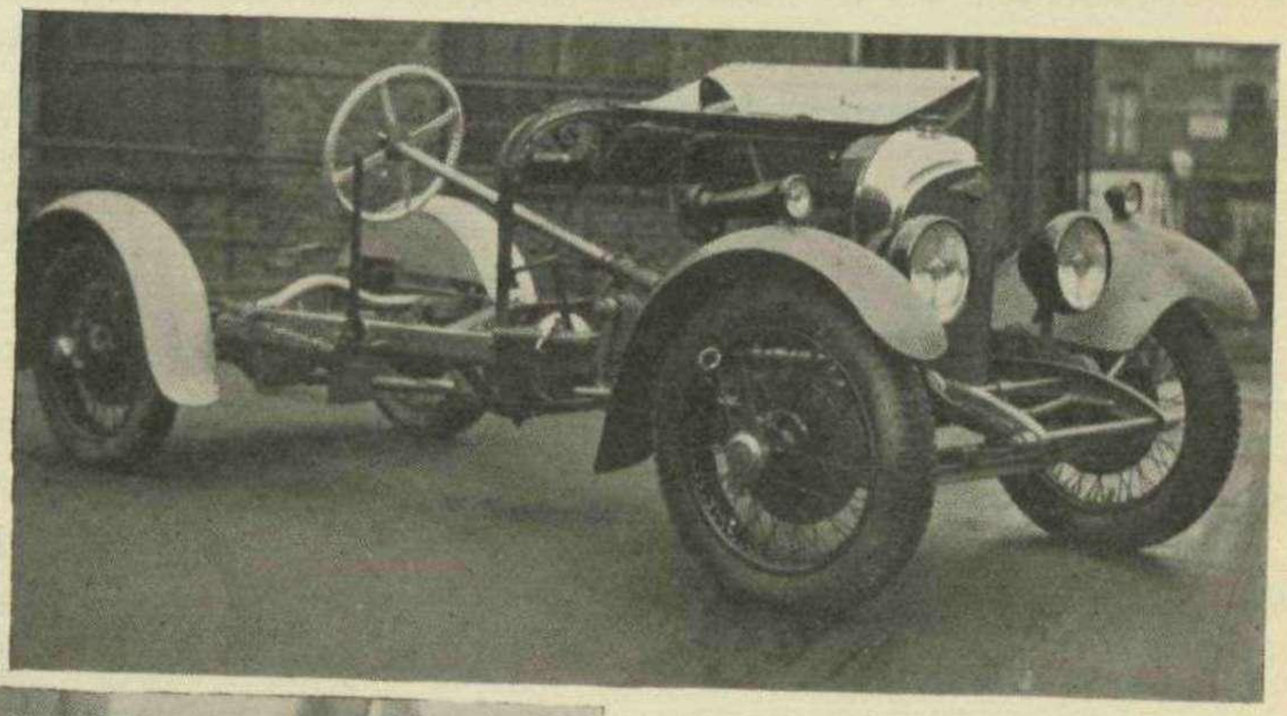
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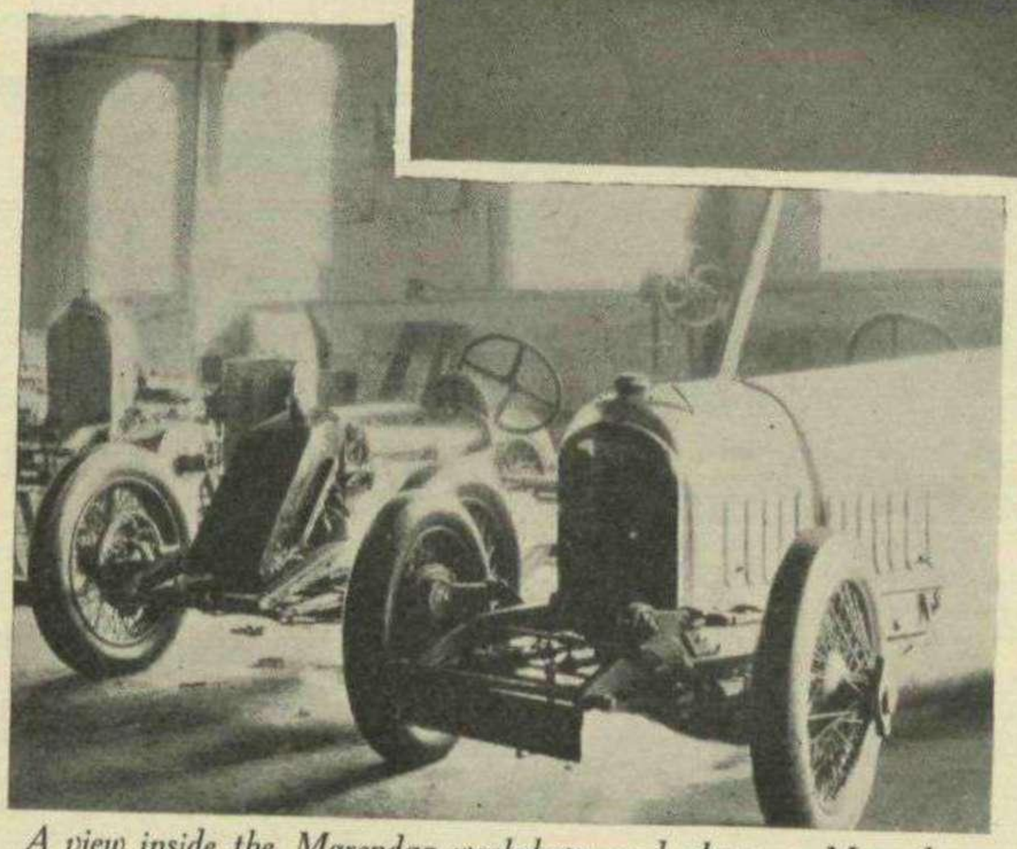
The Works of D. M. K. Marendaz, Ltd.

THE term "super-tuning" is one which is frequently mis-applied. The everyday garage man will use it in connection with a perfectly normal engine overhaul, while the amateur mechanic will often describe as such, a quite simple adjustment.

For these people in particular, a visit to the premises of D. M. K. Marendaz, Ltd., would be definitely enlightening, for here one finds workshops not only equipped for carrying out "hotting up" by the most modern methods, but where accumulated scientific knowledge is utilised as well, to carry out that class of work for which Mr. Marendaz has long been well-known.

Mr. Marendaz has specialised in high-efficiency tuning a good deal longer than most people, and he combines a very extensive scientific technical knowledge with practical race driving in all his undertakings. Before the War, he concentrated his efforts almost entirely on the problem of increased power of output of internal combustion engines, while during 1914-1918 his services were utilised in the R.F.C. and R.A.F., both as a technical expert and test pilot.





A view inside the Marendaz workshops, and above, a Marendaz "Special" in chassis form.

His more recent accomplishments can be found in the list of records at Brooklands and elsewhere on cars of various makes, and more particularly on the "Marendaz Special." Amongst his many successes are the following :—

World's International Class records : 1½ litre Class, 24 hours ; Class "G", 24 hours, 1,000 miles, 12 hours and 3 hours ; Class "B" 200 miles ; Class "C" 5,000 miles. He also has the distinction of having lapped Brooklands at 90 m.p.h. in a saloon car, the highest speed ever attained there with a closed vehicle.

In the production of such a car as the new straight-eight 1½-litre "Marendaz-Special," which will be completed in some two months time, nothing is left to chance or guesswork. Practically all the parts of the engine are made throughout in the works at Brixton, and as an indication of the way in which Mr. Marendaz goes about the job in hand, it may be mentioned that he makes a rule of carrying out laboratory tests on metals selected for highly-stressed parts.

His shop is unusually complete in regard to testing plant. An apparatus which has proved of great value in the production of engines of phenomenally high r.p.m. is an Avery connecting rod specific-gravity balancer. This machine not only ensures that connecting rods on an engine are of the same weight, but also that the corresponding halves (the big ends and small ends) of the rods are also equal. In this way a "couple" is obviated. As with the con. rods so is balance of vital importance in regard to the crankshaft, and a crankshaft dynamic balancer is employed ; static balancing (on knife edges) is also resorted to, but naturally when a mere fraction of an ounce in weight variation may produce a formidable unbalanced force, the former device is a necessity. Incidentally the balancer used is somewhat exceptional in being capable of running at a rather higher speed than usual (1,800 r.p.m.), by the incorporation of a friction-driven gearbox.

The plant also includes a Heenan and Froude dynamometer, and an Avery tensile testing machine. Looking round the workshops one finds further equipment and machine tools of such variety that it becomes easy to realise that the making of camshafts, gear cutting and other intricate production jobs are all well within the scope of Marendaz, Ltd. Moreover, Mr. Marendaz is a man who is intensely keen on the class of work in which he specialises, and every job is done under his personal supervision.

At the time of our visit we saw a number of very interesting cars in various degrees of completion, rejuvenation and modification. They were just a few which have passed through his hands during the season's

racing. One or two were definitely of the " hush-hush " variety, and it is probable that we shall hear more of these before very long.

It is interesting to find, also, that Mr. Marendaz, like a number of other ex-pilots, is now renewing his interest in aircraft (it may be remembered that he entered a D.H. " Moth " in the King's Cup Race), and without revealing any secrets, his name may be expected to figure in flying in the near future.

W. T.

B.R.D.C.'S DINNER.

THE British Racing Drivers' Club held their annual dinner in London on the 11th of last month, when the principal feature of the evening was an interesting talk, illustrated by a film on the Ninety Mile Beach, the famous natural motor speedway of New Zealand.

It was on this beach, it will be remembered, that " Wizard " Smith covered 10 miles at an average speed of 148 m.p.h. in a hybrid car of his own construction. The engine was a Rolls-Royce aero unit of 375 h.p. and the chassis, a Cadillac. The New Zealand visitor who gave the address, stated that the beach is practically ideal for the purpose of record attempts. Moreover, it is by no means inaccessible, and improvements are to be introduced in the way of transport facilities and so forth with a view to increasing its popularity.

The lecturer stated also, that the Auckland Automobile Association are prepared to help aspirants to World's records in every way, and in particular, by the provision of the most up-to-date electrical timing apparatus.

MORE SIGHTLY FACTORIES.

AT the present time efforts are being made to prevent our countryside being spoilt by the erection of unsightly advertising devices, but few people appear to have turned their attention to the improvement of our *towns*.

There is no denying that many factories are most hideously ugly and that the repellent nature of their appearance must necessarily have its effect upon the unfortunates who live in the vicinity. Sometimes this is inevitable ; sometimes it can be averted.

A case in point may be found in the vast Birmingham works of Singer & Co., Ltd. The buildings themselves are by no means unpleasant to the eye, for they are of modern construction and stand well back from the road. But the manufacturers have not left the matter at that, for they have laid out the front with delightfully fresh looking lawns and ornamental trees, up to the point where it meets the pavement. The result is that the factory itself is dominated by a park-like frontage, providing a pleasant relief from the drab appearance usually found in town areas.

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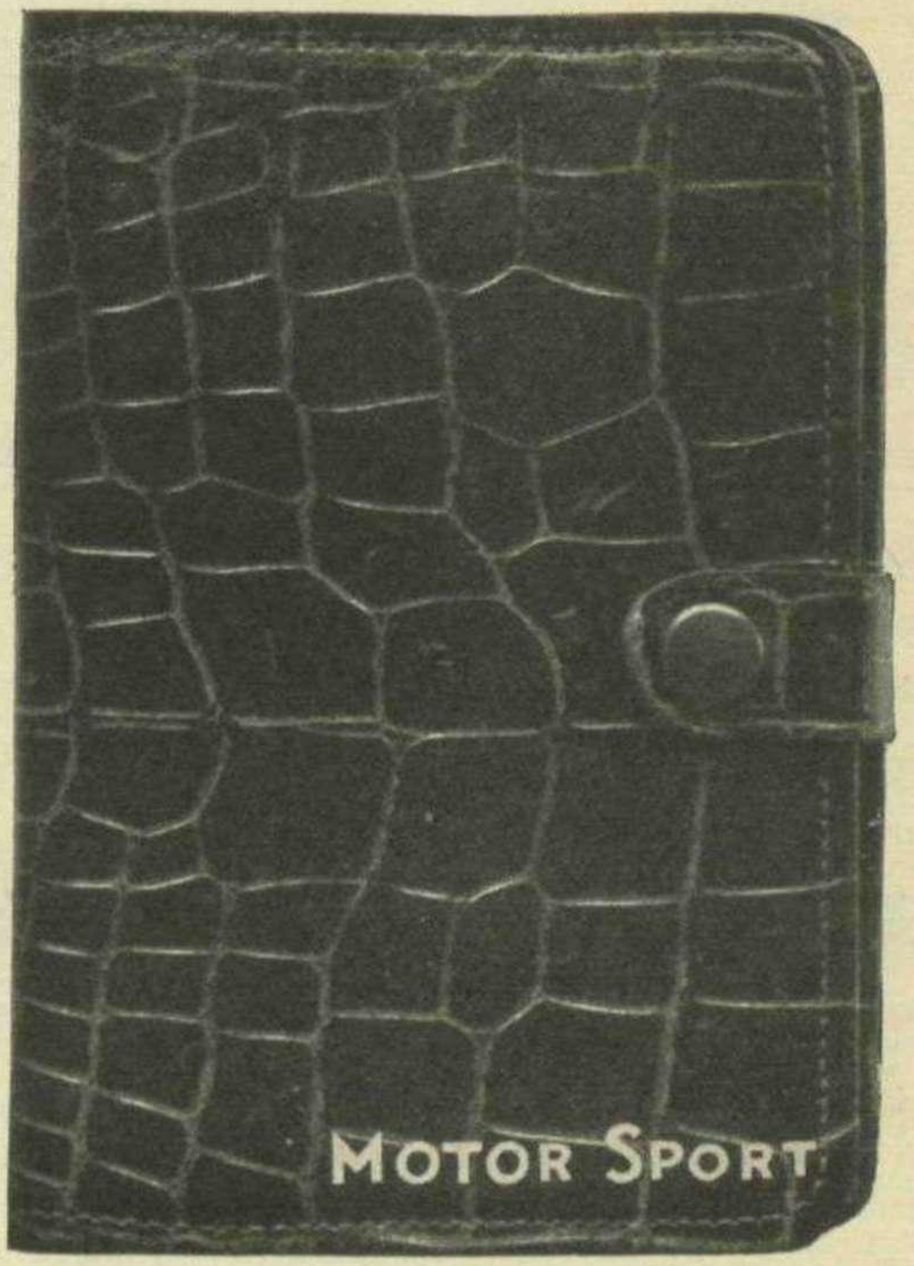
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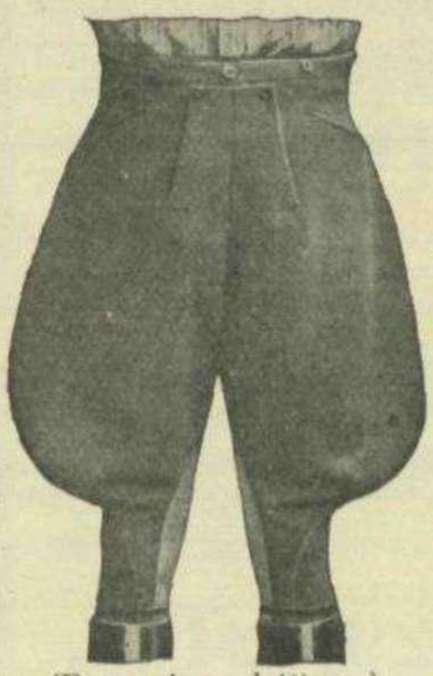


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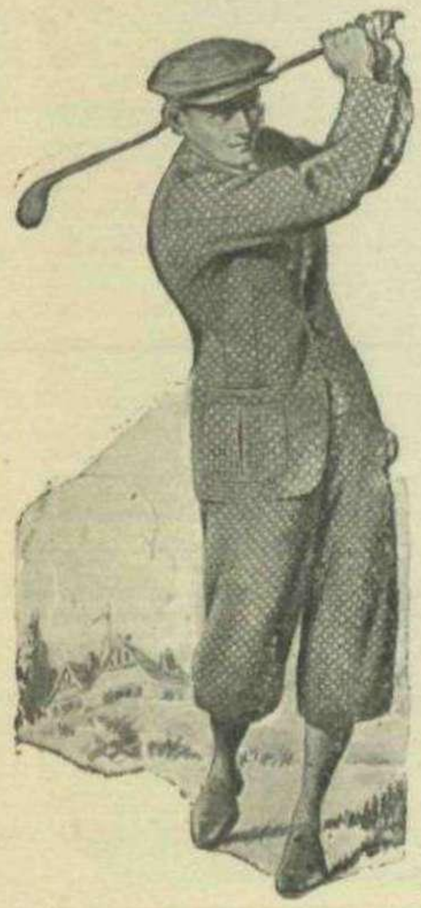
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FOR WORLD'S RECORDS

DETAILS OF THE A.J.S. SPECIAL

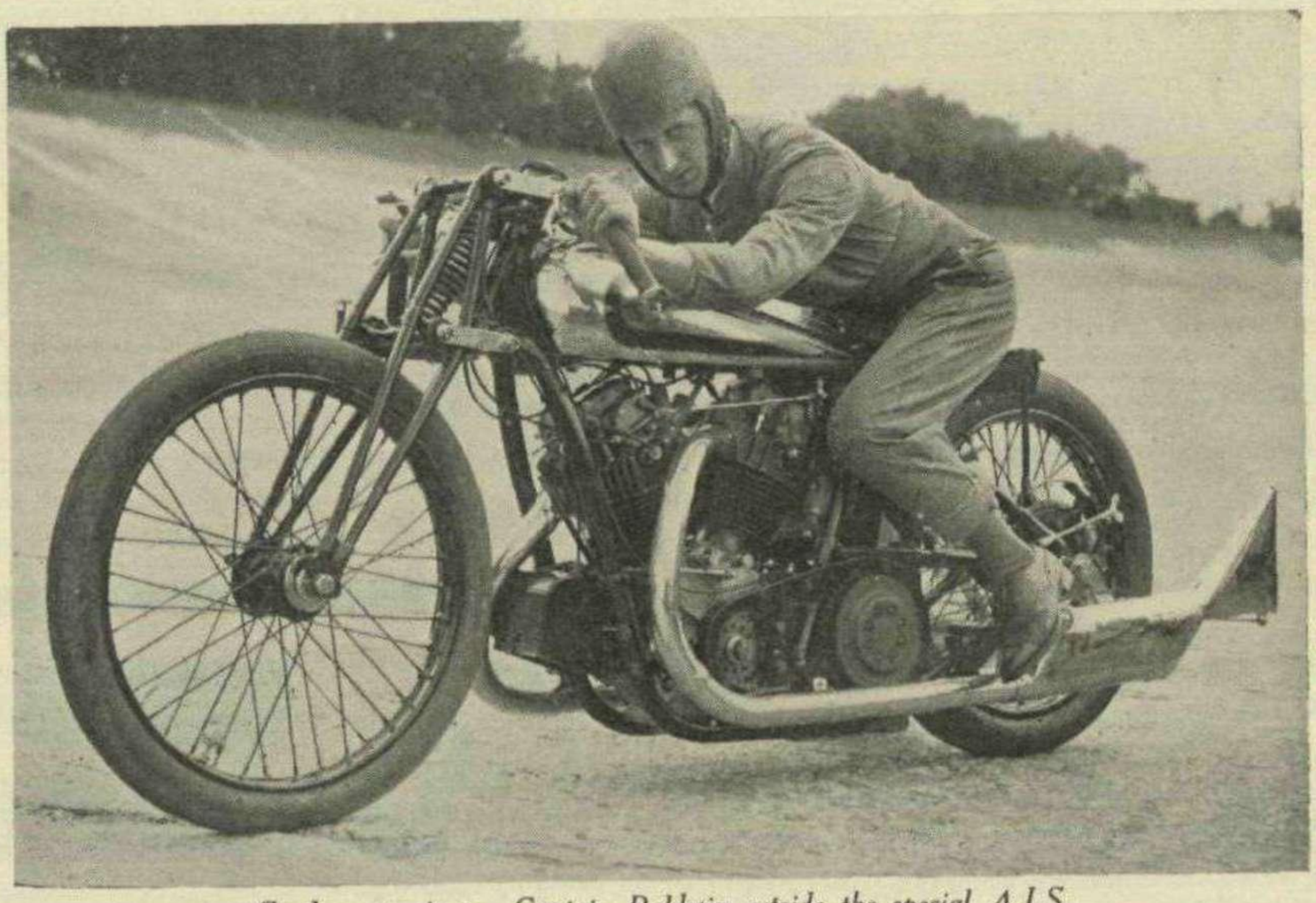
ALTHOUGH for some time it has been common practice in the car world to build special machines for attacks on the land speed record, in the case of motorcycles practically standard machines have been used as a basis for the attempt. Such machines are exemplified by the Brough-Superior used by Herbert Le Vack, and the Zenith used by Capt. O. M. Baldwin. In each of these cases the engine has been a standard big-twin racing J.A.P. suitably tuned-up for the sprint.

The recent annexing of this record for sheer speed by the German B.M.W. has now stimulated the motorcycle industry of this country to consider making a serious attack on this record, instead of leaving it, as in the past, to private enterprise.

A machine which has been prepared for this event, and which has many features of interest, is the big A.J.S. which will be ridden by Capt. Baldwin, who has held the record before and has every intention of regaining it.

Seldom has a specially-designed racing machine had a more auspicious entry into the world. Although it is in every way specially designed for the particular task, and is quite unique among two-wheeled racers, there is absolutely nothing freakish in its construction. This, of course, is due to the remarkably extensive racing experience of the enterprising firm of A. J. Stevens, whose products have for more than a decade been in the very forefront of racing machines, and whose experience of motorcycle construction goes back to the dark days of mechanical propulsion.

Mr. Jack Stevens, who is mainly responsible for the record machine, in discussing various unorthodox features which were being adopted on some makes some time ago (and which have since passed into oblivion), said, "We prefer to work on lines which we know are sound," and it is this policy of experiment with experience, and moderation in the adoption of new features, which has been the policy responsible for Capt. O. M. Baldwin's racer.



Good companions. Captain Baldwin astride the special A.J.S.

The majority of the components, although forming a unique whole, have all been thoroughly tested in the hard school of racing on road and track, and the machine is a perfectly normal and remarkably good looking motorcycle.

The frame is a very massive loop job, with a single top tube, and neatly housed in this is the 1,000 c.c. engine. This is a 50° twin with a bore and stroke of 79 mm. and 101 mm. respectively, and although quite different from any previous product of this factory it consists in its essentials of parts which have already broken many records.

The cylinders are almost exactly similar to those used on the 500 c.c. racer, and have their inlet ports at the rear in each case. The barrels are turned from the solid steel billet and the bores are hardened. The heads are aluminium with bronze valve seats and guides, this being a revival of the methods used by this firm in the T.T. some years ago, and therefore by no means untried. The valve gear is identical with the chain driven overhead camshaft type used on their present machines, and the two camshafts are driven by separate chains. Two separate Amal carburettors are used.

The crankcase is very heavily ribbed externally, especially on the sprocket side. On the timing side an oil pump is situated. The lubricant is forced first to the front camshaft bearings, and a second pump inside the timing case delivers it to the rear cases. The oil is returned to the reservoir from just above the lowest level of the fly-wheels, with the idea of reducing oil drag to a minimum.

The gearbox is a 3-speed Sturmey-Archer, with ratios of 3.2 to 1, 4.3 to 1, and 7.8 to 1. The gear change is by foot, and it is interesting to note that an Aren's Controls, similar to that now used on aircraft replaces the usual rod system. The plate clutch is very massive as are the chains.

The wheels are specially built, the big hubs being machined from solid steel bar. The bearings are of the non-adjustable ball type.

At the time of writing, it is understood that Captain Baldwin is about to go to Arpajon, near Paris to make an attack on the record, in company with J. S. Wright and Eddie Meyer, who will also make attempts, the former on his O.E.C., and the latter on a Brough-Superior.

THE MANX GRAND PRIX

NEXT WEEK'S RACES

THE organisers of the Manx Grand Prix are hopeful that the two races are going to be a big success.

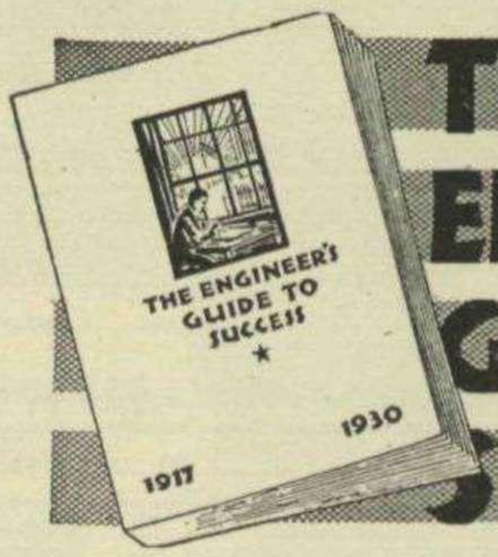
As will be seen from the following lists, both the Junior and Senior events are well supported, the number of entrants being forty-eight and fifty-two respectively.

The races will, as in the case of the Amateur T.T., be over the Manx T.T. course, the Junior Race being held on Tuesday, September 9th, and the Senior on Thursday, September 11th. Six laps of the course will constitute a race, instead of seven, as in the International T.T. races. Practising commences to-day and will take place between the hours of 5.30 and 7 each morning, during which period the roads making the course will be closed to any other traffic. To qualify, at least five laps have to be covered, and in the case of competitors in the Senior race, for 500 c.c. engines, one of these must have been completed within 50 minutes. Competitors for the Junior Race, for 350 c.c. engines, must cover a lap within 53 minutes. Riders who have ridden in Amateur T.T. Races, however, can qualify by completing three laps, one of which must, of course, be covered within the specified time.

ENTRANTS AND MACHINES.

JUNIOR RACE: E. Forman (348 Velocette), Tunbridge Wells (A Mackintosh) (348 Velocette), W. J. Hewstone (348 Velocette), J. Levings (348 Velocette), F. L.Frith (348 Velocette), C. G. Wheatley (———), G. A. Kilburn (348 Rex Acme), W. Whitehead (347 Sunbeam), J. H. Carr (348 Norton), J. A. Mc. Leslie (346 Levis), M. E Crosland (348 Velocette), Geo. Corney (348 Raleigh), A. L. Hodgson (346 A.J.S.), R. S. Moorhouse (348 Norton), T. L. Bookless (348 Velocette), W. Hill (346 Levis), D. J. Pirie (348 Velocette), H. H. Lennie (348 Velocette), F. Nichols (346 A.J.S.), R. Parker (348 Velocette), F. Johnson (350 Montgomery), B. Parrish (348 Velocette) H. Harris (346 A.J.S.), J. R. Lowe (348 Cotton Blackburne), N. Croft (348 Norton), C. B. Bickell (348 Chater Lea), W. B. Jury (L. R. Reynolds), (346 O.K. Sup. Jap), Craner's Garages Ltd. (J. Clay) (348 Velocette), Craner's Garages (R. D. Armytage) (———), R. Stobart (348 Velocette), J. Muir (348 Cotton Blackburne), F. Burgess (348 Velocette), J. W. Forbes (350 S.G.S.), E. L. Roberts (348 Velocette), J. W. Potts (350 Grindlay P.), N. R. Lee (346 A.J.S.), N. Robson (349 B.S.A.), J. A. Fleet (346 New Hudson), W. Cornes (346 A.J.S.), W. E. Jones (348 R. Acme Blackburne), R. A. MacDermid (346 New Imperial), D. R. Poyser (348 Cotton Blackburne), E. W. Monk (348 Sunbeam), A. S. Hogg (346 New Hudson), W. N. Jordan (348 O.K. Sup. Jap), W. Riley (346 A.J.S.), P. Dawson (348 Sunbeam), D. Stone (———).

SENIOR RACE: J. H. Carr (490 Norton), E. Forman (348 Velocette), H. E. Newman (493 Sunbeam), E. R. Merrill (499 Rudge), S. Lees (493 Sunbeam), H. Levings (493 Sunbeam), F. L. Frith (348 Velocette), J. Fletcher (493 Sunbeam), W. C. Cooper (498 Triumph), K. H. Williman (490 Norton), J. Williams (499 Rudge), S. C. Vince (490 Norton), Grimsby & Cleethorpes (R. Allen) (493 Sunbeam), V. Jackson (496 Cotton), R. S. Moorhouse (348 Norton), T. L. Bookless (348 Velocette), D. J. Pirie (348 Velocette), C. P. Tutt (499 Rudge), "A. Macintosh" (499 Rudge), H. L. Daniell (490 Norton), C. D. Reich (493 Sunbeam), G. W. Wood (499 Rudge), R. Harris (490 Norton), N. Croft (490 Norton), H. E. Nicholson (499 Rudge), D. Kenyon (493 Sunbeam) R. Stobart (498 Scott), R. Rogerson (499 Rudge), J. M. Muir (348 Velocette), F. Burgess (350 S.G.S.), N. Gledgill (490 Norton), J. W Forbes (348 Velocette), J. Swan (490 Norton), A. Ashey (499 Rudge), W. E. Jones (499 Rudge), R. A. Macdermid (Cotton Blackburne), L. A. Hutchings (499 Rudge), B. W. Sawbey (499 Rudge), W. Rigg (499 Rudge), J. D. Wetherill (493 Sunbeam), A. Brewin (499 Rudge), E. A. Hilbert (490 Norton), M. H. Mavrogordato (498 Scott), H. E. Weeks (493 Sunbeam), Central Garage Ltd. (H. Hartley) (499 Rudge), Central Garage Ltd. (Herb. Hartley) (499 Rudge), J. Kenyon (493 Sunbeam), M. J. Dawson (———), W. N. Jordan (496 New Hudson), H. R. Kemble (499 Rudge), F. Varey (490 Norton), S. Woods (499 Rudge).



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ITEMS OF INTEREST

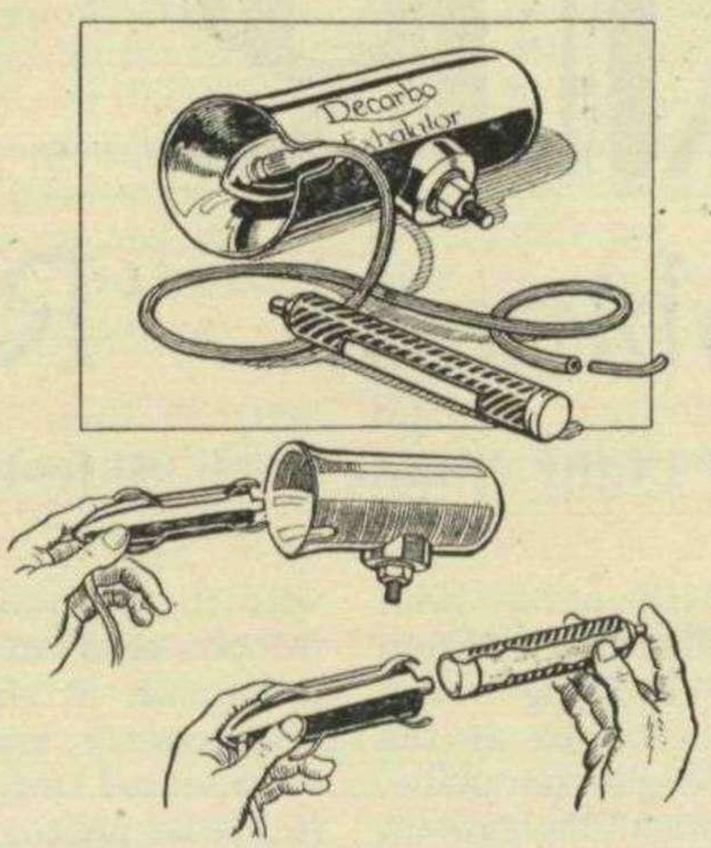
FROM VARIOUS SOURCES

"Motor Sport's" Technical Investigator writes :—

I HAVE just completed an extended trial of the Decarbo Exhalator, a device which, as was described in last month's MOTOR SPORT, is intended to eliminate the formation of carbon deposit in an engine, while in daily use. The Exhalator comprises a bell-mouthed cylinder, into which is fitted a cartridge containing a chemical compound.

The car on which the device was tried out had already seen four years strenuous service, and had not been decarbonised for 9,000 miles. Before starting the test (which approximated 2,500 miles) the head was removed to ascertain the amount of deposit on the pistons, valves, etc. This was heavy and very hard, and the car was sluggish, lacked power and "pinked" readily.

My findings were as follows :—No improvement was noticed until about 200 miles had been accomplished, thereafter the engine ran with less roughness, and knocking was less pronounced. With further use, the running improved still more. After 600 miles, the engine was examined and there was a noticeable decrease in the carbon, while that which remained was soft and easily removed with a scraper. The pistons were then cleaned, the head replaced and the test continued. With the completion of the prescribed 2,500 miles I again examined the cylinder head, valves and pistons, and found a marked absence of carbon throughout. A check was to have been made of the petrol consumption, but unfortunately, owing to carburettor trouble, which entailed the installation of a new instrument midway through the trial, this was not possible. The cartridges last several hundred miles, and in my test seven were used.



The Decarbo device, showing cartridge and container.

On the same car I have also had fitted a set of Super Suspension spring attachments, which consist of a number of steel plates housing steel balls. These are inserted between the spring leaves, so that their action increases the freedom of movement between the individual leaves, and so increases their periodicity. Under test I found the car when equipped with this device decidedly more comfortable, and after making the necessary adjustment to the shock absorbers there was a definite improvement in control at high speed and the road holding qualities. The steering, according to another member of the MOTOR SPORT staff, was also lighter than before, and, contrary to our expectations, over really rough surfaces there was no tendency towards excessive wheel bounce or undue swaying in fast corner work.

Pertrix Batteries.

We have received a new catalogue from Britannia Batteries Ltd., in which particulars are given of the full range of their well known batteries. Excellently compiled, the booklet gives prices, dimensions and details of all their standard sizes and also contains a list of spares.

The Britannia Co.'s works at Redditch, near Birmingham, have lately been completely re-equipped, so that their output has been greatly increased, while further facilities are offered to Pertrix users in the matter of prompt service and repairs. The London address of Britannia Batteries is Britannia House, 233, Shaftesbury Avenue, W.C.2.

The M.G. Car Co.'s Change.

Owing to the great increase in the volume of business carried on by the M.G. Car Company, a separate limited company has been formed, with Sir William R. Morris, Bart., as Chairman. Sir William has appointed as Managing Director Mr. Cecil Kimber, who relinquishes his position as General Manager to the Morris Garages Ltd., this position being filled by Mr. E. J. Tobin, who has been acting as Assistant General Manager for some time past after an association of over twenty years with the Company.

"Correct Lubrication."

The Vacuum Oil Co. Ltd., of Caxton House, Westminster, S.W.1, are now issuing a booklet for the benefit of Austin and Morris owners. This little publication contains a very useful chassis lubrication chart, together with perspective illustrations in which are indicated those features which need periodical attention. Copies of this booklet can be obtained free on application.

Change of Address.

Mr. Sidney W. Lewis, the licensee for Ricardo patent turbulence cylinder heads, informs us that he has now changed his address to 196, Great Portland Street, London, W.1.

A New Air Cleaner.

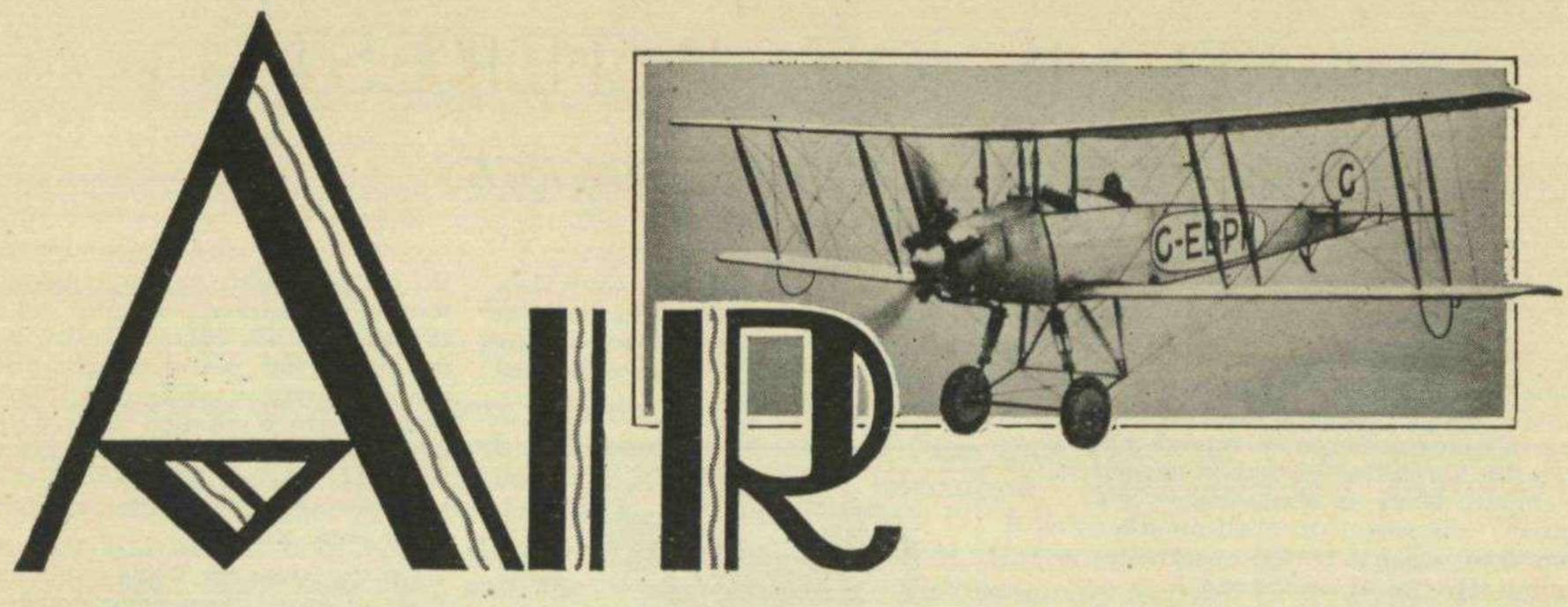
Frank Smith & Co. (Elland), Ltd., of Elland, Yorkshire, have recently introduced a new air cleaner for attachment to the carburetter. This device has a specially oil-treated wire pad, and a feature is that its employment renders the induction silent, by preventing the air entering the carburetter with a hissing noise. Another ingenious point of the device is the attachment of a whistle, which comes into operation when the filtering medium is clogged, and thus gives warning of the need for cleaning. The Smith cleaner sells for 15s.

Amal Petrol Pump.

After lengthy experiments, a new pump for the petrol feed has been put into production form by Amalgamated Carburetters, Ltd. It is claimed for it that no matter what the engine speed may be, the pump will deliver a constant head of fuel, and a feature is that it has practically no moving parts. The main body of the unit comprises a cylindrical chamber containing a fabric diaphragm. The fuel enters this diaphragm chamber after passing through a filter, and from thence it flows to a regulating chamber, where another diaphragm is fixed, held at a predetermined tension by a spring. A small plunger, attached to the centre of this diaphragm, controls the flow to the main chamber. This plunger is operated by an eccentric. The instrument is made so that, with very little modification, it can be adapted to replace other types of pumps, and it can be driven from any shaft running at camshaft speed.

Andre Bumpers.

A new catalogue has lately been received from T. B. Andre & Co., Ltd., of Ladbroke Road, W.11. This firm has now adopted Andralumin for their products; it is claimed for this alloy that it is very much lighter than steel tubing, while at the same time it is equal in strength.



The Robinson "Redwing"

Attractive New Light 'Plane with Side-by-Side Seating.

A CERTAIN amount of criticism has been levelled at aircraft manufacturers during the last year or so for carrying out a policy which has been described as the over-development of the light aeroplane. Critics have stated that by the continual increase in horse-power, and the additions in weight and elaborations, makers have placed the private-owner's machine right outside the class for which it was originally intended, and left uncatered for, a large number of potential purchasers.

This cannot be said of The Robinson Aircraft Co., for in their recently-introduced "Redwing" one finds a machine in which simplicity, medium engine-power and low running and maintenance costs are the most salient features. The "Redwing" has, in fact, been produced specifically for the man who is not so much concerned with high maximum and cruising speeds and "saloon-car comfort" as he is with cheapness in first cost, small running expenses and general handiness.

The "Redwing" has been designed by Mr. John Kenworthy, to the ideas of Mr. P. G. Robinson, who until recently was with Imperial Airways. Mr. Kenworthy, it may be recalled, was responsible for the little single-seater "Whippet" which was built as long ago as 1919 by the Austin Motor Co. Unfortunately at the time the "Whippet" was made there was little or no market for the small owner-pilot's aeroplane; otherwise with its advanced design (which included folding wings and metal construction) it would probably have proved very popular.

In general the "Redwing" follows orthodox practice, being a wooden wire-braced biplane; it is somewhat unusual in one respect however, in having side-by-side seating. This has been adopted in the belief that the demand for a better degree of sociability is one that can no longer be ignored, and anyone who has tried it will agree that it makes flying "two-up" a much more pleasant business, as conversation can be carried on without the use of speaking tubes. It also does away with the necessity of duplicated instruments. By careful planning, moreover, the disadvantages, which are sometimes attached to the side-by-side arrangement, of excessive frontal area and blind-spots have been surmounted in the Robinson machine. As may be seen from the photographs, the pilot, whether he flies from the starboard or port side, has a view ahead which is entirely unobstructed by any portion of the cowling or engine, and although the cockpit is placed beneath the centre-section the visibility above and around, compares quite favourably with that of most machines.

The fuselage is of the three-ply box girder type, with square section spruce longerons and intermediate struts and bracings of the same material. The whole is built up to form a very rigid unit in which it is impossible for twist and distortion to occur. Large doors are provided in the underside to allow for inspection and maintenance of the interior when required, which incidentally, should be very seldom. The whole is finished off with three coats of varnish and enamel, and behind the cockpit a spacious locker is provided, underneath the decking. This is fitted up with two suitcases, as part of the machine's standard equipment.

The wings are built up in the usual way, with spruce spars, compression and form ribs, and piano-wire internal bracing. The spars are of the box type, having spruce flanges and three-ply webs. Ailerons are fitted to the bottom planes only, and like the rudder and elevator are of composite build of metal and wood. The wings and controlling surfaces are fabric covered. The tail is attached to the top longerons by simple metal plates, and has a fixed angle of incidence. It is braced below by two streamlined steel tubes, and above by Rafwires to the peak of the fin. The rudder is partially balanced. The main planes are made to fold back; the lower ones are attached at their root to two dural tubes, which are fitted across the bottom longerons. They pivot on the rear spars, and the whole is a very neat, simple arrangement which allows the folding to be carried out in about a minute. Jury struts are employed when the wings are hinged back.

THE ROBINSON "REDWING."—continued.

The interplane and centre section struts are not of wood, but of high tensile steel tube, streamline in form. The wing bracing is by Rafwire throughout.

The undercarriage of the "Redwing" is of very sound construction, and incorporates the Oleo type of shock absorber, in which all valves and springs are eliminated. The main landing loads are taken partly by oil and partly by rubber buffers. The Oleo legs are double-acting so that when they are forced upwards the oil acts as a damper and prevents them from extending again too rapidly. The result is a marked absence of bounce in landing. As can be seen in the illustrations the Oleo legs are attached at their uppermost extremities to the top longerons, adjacent to the diagonal struts of the centre section. There is, of course, no axle, and this together with the wide track allows the pilot to put the 'plane down on very rough ground without any undue risk of turning over. The tail-skid is a welded-steel member and operates against an enclosed spring. It has a quickly-detachable shoe.

Like other manufacturers, the Robinson concern offer alternative power units for their machine. Their first machine has an 85 h.p. A.B.C. "Hornet" installed. This engine is a double-opposed four-cylinder, very similar in many respects to the well-known A.B.C. "Scorpion" flat-twin. By reason of its construction the "Hornet" contributes considerably to the clear front view from the cockpit, and as the cylinder-heads project through the cowling the valve gear and sparking plugs are exceedingly accessible. The motor is fitted with a special "Watford" magneto which supplies two simultaneous sparks to each cylinder, and an impulse starter and a "Ki-gass" priming device ensures quick starting. A wooden propeller is attached direct to the crankshaft.

The engine is fitted on a steel bedplate, which incorporates a rubber shock-absorbing device, in order to minimise the transmission of vibration to the fuselage and the rest of the craft. The petrol and oil tanks are placed in the fuselage, just in front of the cockpit. The feed to the engine is by gravity, and all leads are of "Superflexit" flexible tubing.

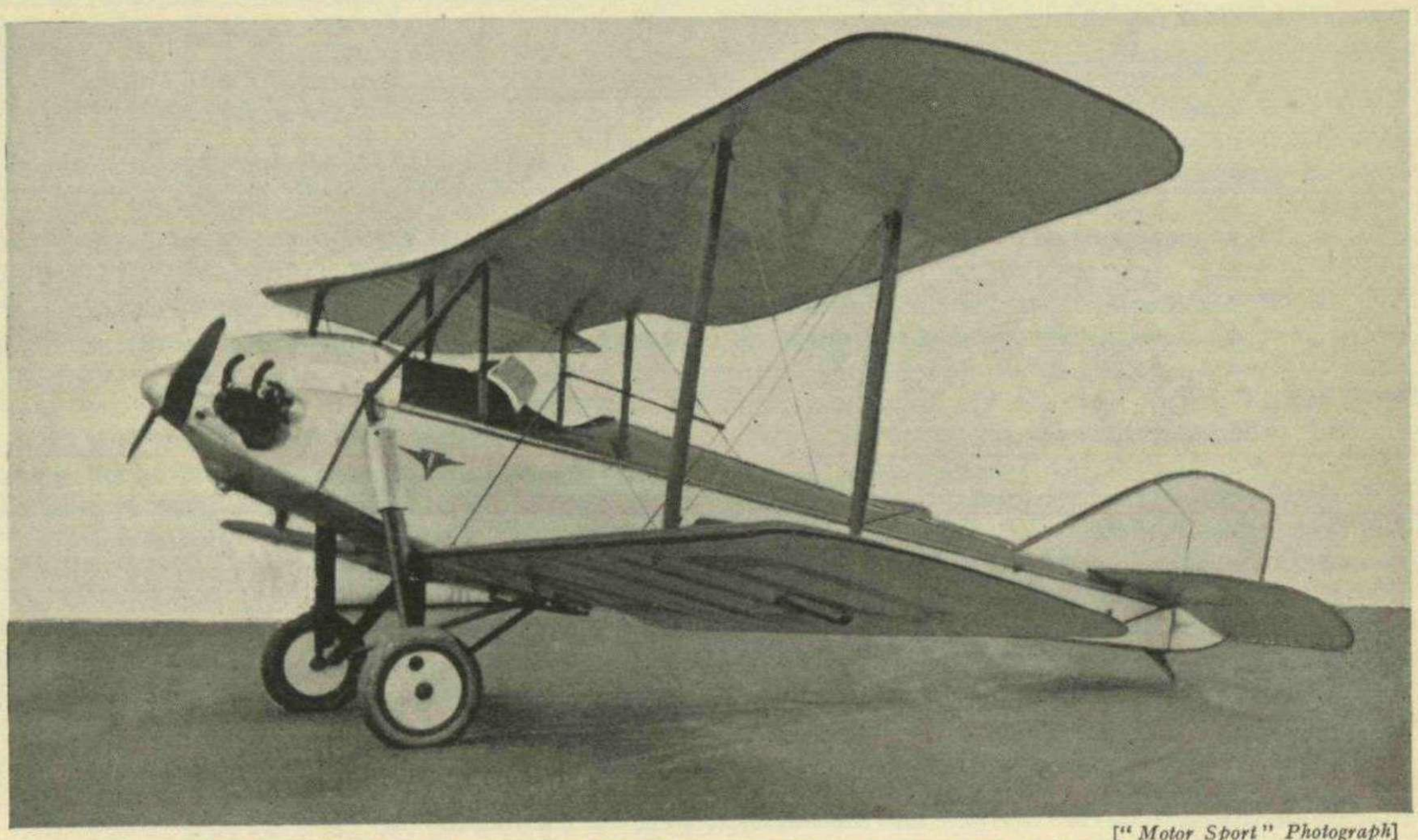
The cockpit is comfortable, deep, and free from draughts. And by slightly staggering the seats, the pilot and passenger are given plenty of elbow room. The instrument board is well laid out, so that each instrument—the rev. counter, air speed, altimeter, pressure guage, clock and cross level—are easily read from either seat. It is worth mentioning that the lead to the oil gauge, which is a frequent cause of forced landings owing to its fracturing, is encased in a stout rubber tubing to eliminate this possibility.

The control installation consists of the usual stick and rudder bar. The latter is made adjustable over a wide range to accommodate pilots of different heights. Wherever possible pull and push rods are used and cables are only used in straight lengths; there are, therefore, no pulleys or fairleads, which in time cause fraying, and as all the moving parts in the system have large bearing surfaces (which are lubricated by "Tecalemit") wear is practically eliminated. The span of the "Redwing" is 30ft. 6ins., and as the fully-loaded weight is only 1,325 lbs., her lifting surface area and light wing loading give her a very good take-off. The performance figures stated by the makers are as follows:—

Top speed, 92 m.p.h.; cruising speed, 84 m.p.h.; climb, 1,000 feet in 1½ minutes.

The landing speed is remarkably low, being 30 m.p.h., at which speed it can also be flown with the engine throttled down, under complete control. This controllability at low speeds is attributed to the wing section, which was calculated by the designer specially for the machine.

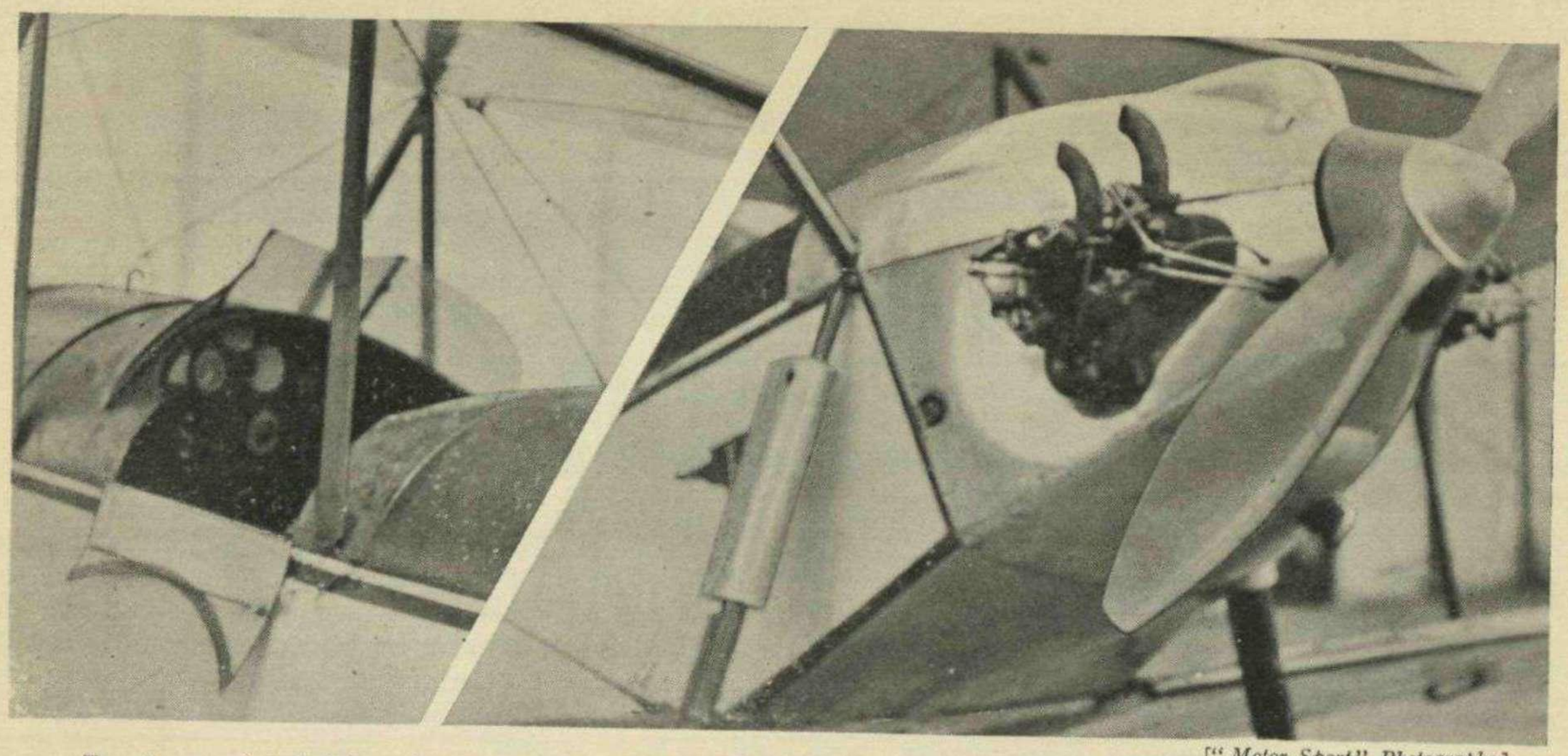
The "Redwing" carries a Certificate of Airworthi-



["Motor Sport" Photograph]

Very sturdy in build, the Robinson "Redwing" is, nevertheless, an extremely graceful-looking machine.

THE ROBINSON "REDWING."—continued.



["Motor Sport" Photographs.]

Two close-ups of the "Redwing." On the left is shown the hinged decking at the side of the "sociable" cockpit, and on the right, the neat engine cowling and streamlined fairing of the Oleo u/c leg are to be seen.

ness in the full aerobatic category, and although it is obviously not a fierce super-performance craft, it can, when required, be used for stunting. Incidentally, the "Redwing" has the distinction of being the only light 'plane to go through all the numerous tests for C. of A. in a single day, which is surely an excellent indication of its soundness of design and good qualities in general. At the present time it has only just emerged from the experimental stage, but having done so, it is now being put into regular production, and the Robinson concern are laying out their works at Waddon, Surrey, to turn out an initial quantity of three machines a week.

The following is further data of the "Redwing":—Span 30 feet 6 inches; span, with wings folded, 9 feet 8 inches; length 22 feet, 3 inches; height, 8 feet 4 inches; weight empty, 805 lbs.; weight loaded, 1,325 lbs.; tank capacity, 15 gallons. Standard equipment: two safety belts, "Float-on-Air upholstery, full engine tool kit, Tecalemit grease gun, picketing rings, "Kigass" primer, floor mat, ladies' companion, aircraft and engine log books. The price of the standard machine is £575, and if required it can also be had with such extras as Handley Pages slots, compass, dual control and waterproof covers for the engine, propeller and cockpit.

A FLYING CLUB FOR BLACKPOOL

Flying Tuition for Holiday-makers.

THE Blackpool Corporation, having provided a municipal aerodrome at Stanley Park, is now fostering a Blackpool flying club. An influential committee has been set up and the enrolment of members is making rapid progress.

Blackpool takes a long-sighted view of the future utility of its aerodrome. It visualises a time when learning to fly will be a popular holiday pastime, and it hopes to see Stanley Park established as one of the favourite resorts of aerial tourists. A clubhouse is being built at a cost of £9,000 and it will be one of the finest in the country.

The management of the aerodrome and the flying organisation of the club will be undertaken by National Flying Services, Ltd., who have been granted a seven years' lease of the aerodrome by the Corporation.

The Blackpool Flying Club will be the sixth to enter the National Flying Services group, and its members will be able to fly at the sister clubs at Hanworth (London), Leeds, Hull, Reading and Nottingham. Members of these associated clubs will likewise have flying rights at Blackpool.

A Desoutter air taxi and a "Cirrus" Moth training machine have already been stationed at the aerodrome, and Captain F. C. Crossley has been appointed chief instructor and pilot-in-charge of the aerodrome. More machines and a second instructor will be added as soon as they are required to meet the demands of members.

The Desoutter has already been booked to carry holiday-makers to and from the town and is in great demand for short passenger flights and cruises around Blackpool.

People who wish to take a course of flying while spending a holiday at Blackpool will be specially catered for. It is quite possible in fine weather for a keen, apt pupil to qualify for an "A" Licence in the spare hours of a fortnight's holiday.



SLIPSTREAMS

The London-Malta-London Flight.

ALTHOUGH it has been accorded very little notice by the lay press, and therefore the general public, it must be agreed that Captain C. D. Barnard's flight to Malta and back in a Puss-Moth at the beginning of last month was one of the finest aviation achievements of recent times. The machine was perfectly standard with the exception of an extra petrol tank and the installation of Arens controls, and Barnard did the outward journey in 13 hours. Having landed he snatched a few hours sleep, and then took off again, returning to Croydon in 14½ hours. His average speed, therefore, for the total distance of 2,800 miles was 101½ m.p.h. The economical running of the "Gipsy" engine is shown by the fact that only 140 gallons of petrol were used—which works out at 20 miles to the gallon. And the oil consumption was 2 gallons. Truly, flying is no longer an expensive form of travel.

By now, Barnard must be one of the most widely travelled of our commercial pilots, for during his post-War career he has flown to and from nearly every European country. And then, of course there are his flights in the "Spider" to India and South Africa. He learnt to fly in 1916 (I have a letter still in which he describes his first solo flight on an old Maurice Farman). Just after the War he had a very bad accident on a Sopwith "Gnu," when it caught fire in the air over Southport, and in spite of the fact that he was severely burned, Barnard rescued a passenger he had with him from the machine when he got it to the ground. After many months in hospital he was told that he would most certainly never be fit to fly again—which only goes to prove that doctors can sometimes be wrong in the prophesies and pronouncements.

Flying and Commerce.

Judging from what one hears, the aeroplane has long been recognised as an important and valuable adjunct for commercial enterprises in the U.S.A. Big cabin machines, rigged up as showrooms to display all manner a goods, travel over wide areas and now play a large part in advertising campaigns and sales "drives." It is not done on such an elaborate scale over here, but quite a number of firms now have their own aircraft for business purposes. S. Smith and Sons, the accessory manufacturers have lately set an excellent example to other British concerns by using a 'plane to secure trade abroad. They have a "Hermes Moth" equipped with a super instrument board, fitted with their many aero instruments, and with this machine Captain Neville Stack has been making a wide business tour of the Continent. He has already visited Italy, France, Germany, Poland and Denmark, and Smith's are well satisfied with the results of this trading expedition.

Another firm which uses aircraft quite considerably is the Anglo-American Oil Co. At most important aviation meetings their machine is a familiar sight, as is the Shell concern's Golden "Moth." The Anglo-American people, by the way, have just taken delivery of their third machine, the latest type "Avian Sports" with "Hermes" engine. They not only use their 'planes to enable their aviation sales representatives to travel about quickly, but also for making tests of their fuels and oils at regular intervals.

Irish Aviation.

A member of the staff of MOTOR SPORT who visited Ireland on occasion of the recent T.T. car races, tells me that he saw very little signs of aviation activity over there.

He took the trouble to make inquiries about private flying, and learned that while there are plenty of people who are interested and keen, the position as a whole is a poor one. There is, however, some possibility of a gliding club coming into being in the near future in the Dublin area and an aero club is in process of formation in Belfast. There already exists, of course, the Irish Aero Club, which operates at Baldonnel aerodrome, but it is handicapped by having only one machine—an Avro—available for its 200 odd members. It is interesting to note that the I.F.S. does not issue official pilot's licences so that people who wish to acquire them have to come to England to undergo the necessary tests before obtaining a certificate.

R.100's Engines.

Rolls Royce, Ltd., will always be associated with the crossing of the Atlantic by air because it was with two "Eagle" engines of this make that the late Sir John Alcock and Sir Arthur Whitten-Brown made the first crossing—from Newfoundland to Ireland in 1919; incidentally their time of sixteen hours still stands as a record, and is likely to stand for some time.

The Condor III B. of which five are fitted in the airship R.100, is a heavy duty engine. It is fitted as standard in several Service aircraft, notably the Hawker "Horsley" torpedo-carrying 'plane and the Blackburn "Iris" triple-engined flying boat. Several of the former (i.e., Horsleys) are in use by the Greek Air-Force.

It is a twelve-cylinder V-type water-cooled engine with a bore stroke of 5½ x 7½ ins., and a compression ratio of 6½ to 1. It develops 665 b.h.p. at its normal revs. of 1900 per minute, the propeller being geared down to rotate at 907 r.p.m.

Each cylinder head, which is spherical in shape, carries two inlet and two exhaust valves, and the operation from the overhead camshaft incorporates cylindrical tappets running in vertical guides so as to obviate imposing any lateral load on the rocker arms. A feature of the Condor IIIB. is its exceptionally low fuel consumption. Although its flight to Canada took far longer than was anticipated—owing to adverse head winds, storms, and the damaged fin, R.100 was in the air seventy nine hours in covering 3,415 miles—a large quantity of petrol was still in reserve at the finish. The actual crossing of the Atlantic took 46 hours, which is a new airship record.

"RUDDERBAR."

Gliding Gossip and News

THE LONDON GLIDING CLUB, after operating from Ivinghoe Beacon, near Tring, Herts, for several months, is now faced with the problem of seeking a fresh site. This is the outcome of their failure to come to a satisfactory agreement with the National Trust, which controls the ground. As a result of this, the Club's activities are suspended for the time being, but the Committee is making efforts to secure another site nearby.

The " Prufling " Match which was run off last month between the Lancashire Club and the L.G.C., provided a good day's sport and concluded with a win for the home team. The teams were :—London—Mr. Marcus D. Manton, Captain Latimer Needham, Flight-Lieut. Atcherley, F/O. Buxton, Colonel The Master of Sempill and Mr. M. L. McCulloch. Lancashire—Messrs. P. Michelson, F. B. Tomkins, B. A. G. Meads, A. Goodfellow and J. C. Weale. The total times achieved were : London Gliding Club.—12 mins. 52 seconds ; Lancashire Club.—8 minutes 5 2/5 seconds. The flights were not very long, owing to the lack of wind. Big crowds collected to watch the competition, and great interest was shown in the " Professor " and the two-seater Poppenhausen, which were piloted by Needham at intervals.

A return match, to be flown at the Lancashire Club's ground, has been provisionally fixed for the 20th and 21st of this month. Members who wish to accompany the team to Lancashire should write to the Club's offices at 44a, Dover Street, W.1. not later than Wednesday, 10th September.

THE SAILPLANE CLUB of the T.M.A.C., has been doing very well during the past few weeks, and at the beginning of the month a large number of members had their first experience of handling a glider at Smalldale. Mr. Compton Paterson, one of the oldest aeroplane pilots in the country, who is taking a very keen interest in the Club's activities, has prepared designs for two machines of the primary soaring type, and it is intended that these shall be built by members, as soon as workshops have been acquired.

THE KILMARNOCK GLIDING CLUB, which is one of the pioneers of gliding in Scotland, is progressing well and membership figures are steadily increasing.

IN CERTAIN QUARTERS gliding is being revived in France. In conjunction with M. Massenet, President of the C.A.U., M. Jean Herbé has recently formed a gliding group under the title of the Pierre-Fisbach. At the present time there are about thirty members and they are using a machine of the " Zogling " type. During the present month, the club will fly their machine at Vauville, which is some miles from Cherbourg. The Vauville site is ideal for gliding. It may be remembered that some years ago several gliding and light-plane meetings were held there, but of recent years it has been closed down.

IN A SPECIAL showroom display held recently by Parker's, the motor agents of Bolton, the exhibits included a " Cloudcraft " glider, which was loaned by the Bolton and District Light Aeroplane and Gliding Club. The firm also showed a number of model aeroplanes and gliding and soaring craft.

A NEW COMPANY has recently been formed under the title of The British Aircraft Co. Mr. Lowe Wilde is the technical director of the concern, and it is understood that as soon as their works at Maidstone have been installed with the necessary plant, regular production will be started of gliding and soaring machines.

The firm is already listing two types, one of the primary training type, and the other a secondary machine. The former is constructed somewhat on the lines of the " Zogling " but has the advantage of being devoid of wire bracing, and has strut-braced wings. The section of the latter is the Gottingen 532. The span is 32ft. 10ins. the weight 180 lbs., and it has a gliding angle of 1 in 11.

The other machine is of the fuselage type, with the main planes and tail unit braced with wooden struts. It has the following dimensions :—Span 34ft. 10ins., chord 5ft., wing area 170 square ft., overall length 20ft. 6 inches, height 5ft. 6inches. Special attention has been given to the matter of rapid erection of the wings and empennage, and it is claimed that this can be done in ten minutes. The price of the primary glider is £48, and the secondary training machine £61.

ONE OF THE NEWER CLUBS which has been progressing well during August is the Portsmouth and Southsea Gliding Club. The initial membership numbered over 100 and this figure is steadily growing.

The club is fortunate in having been presented with two " Zoglings," and also in having the use of the southern slopes of Portsdown Hill. An innovation, which is so far unique as regards gliding clubs, is the provision of a club house for members. Officers of the Club comprise :—Chairman : Councillor J. Webb ; Vice-chairman : G. Knight ; hon. secretary : E. Finley Day ; hon. treasurer : J. M. Whitecross ; ground captain : C. A. Price. The Club's secretary's address is :—King's Terrace, Southsea, to whom all communications in relation to the Club's activities should be sent.

AMONG CLUBS recently formed and in process of formation is one for employees of the London General Omnibus Co., the Thanet Gliding Club, and the Ilkley & District Gliding Club. Two separate groups have been formed also in the Birmingham area, while Bridlington, Brighton, Matlock and Stockport will shortly be taking to the new sport.

A SUITABLE SITE has been found by the Committee of the Herts & Essex Gliding Club, near Bishop's Stortford, Herts, and a considerable number of members have now flown the Club's machine. Particulars may be obtained from Mr. C. F. Baker, 110, Dunmow Road, Bishop's Stortford.

GLIDING GOSSIP—continued.

UNDER A NEW REGULATION, brought in recently in the U.S.A., gliders and soaring machines constructed after October 1st, 1930, will not be eligible for the necessary certificate of airworthiness, issued by the Minister of Commerce, unless they have been manufactured by approved firms, or built in accordance with specified conditions.

FROM AUSTRALIA we learn that gliding is growing rapidly in popularity, and several groups of enthusiasts have got together to form clubs, particularly in and around Brisbane. The commercial possibilities offered by the sport are not being ignored, and already one firm—Aircraft of Australia Co.—are supplying complete sets of drawings, and fittings for machines to amateur constructors.

A BRITISH-BUILT SAILPLANE was completed some weeks ago by E. D. Abbott, Ltd., the motor-body builders of Farnham. Designed by Mr. T. C. Letcher, it was intended for the Rhön Competitions, but unfortunately arrangements could not be made in time for it to be shipped to Germany. The machine has a big-span cantilever wing and a very finely-streamlined fuselage.

A MEETING was held some little time ago at Bradford, when a sailplane club was formed. The new body is to be affiliated to the B.G.A., and it is hoped that the club will have several machines before very long. The membership is divided into three sections:—Flying members: entry fee, £1 1s.; subscription, £1 1s. Non-flying members: subscription, 10s. 6d., no entry fee; and junior members, subscription 5s., no entry fee.

ACCORDING TO A REPORT, Lieut. Hemmer, the German sailplane pilot who set up a record some time ago at the Wasserkuppe by flying his machine for 9 hours 35 minutes, is coming to England during this month in order to make an attempt at a cross-Channel flight.

A GLIDING SECTION has now been formed by the South Essex Aero Club. A ground has been acquired at Havering, and as soon as a machine has been obtained they will get to work. Besides the purchase of a glider, members also intend to build a second machine during the winter months. The entrance fee and annual subscription are 10s. 6d. and £2 2s. respectively. Prospective members should write to the Secretary, Mr. Morton Hicks, at 19, The Pavement, Chadwell Heath.

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THE TOUR OF EUROPE

Germany's Win in Big International Contest

WHEN the light 'plane "Tour of Europe" Competition opened on the 20th July, there were sixty starters. At the conclusion of the contest, on the 8th August, there were thirty-five finishers. Several nations were represented among the entrants, there being English, German, French, Spanish, Polish, Belgian and Swiss pilots and machines; this made it one of the most interesting aviation events of the year. But the weather conditions added greatly to the severity of the tests imposed.

English competitors—Mr. Alan Butler ("Moth"), Mr. A. S. Thorn (Avro "Avian"), Captain H. S. Broad ("Moth"), Mr. Andrews (Spartan), Miss Winifred Spooner ("Moth"), Lady Bailey ("Moth"), and Mr. J. Carberry (Monocoupé)—all did well in the flying part of the contest, but did not gain sufficient marks in the technical tests to get into the first three places. The mileage covered totalled 4,690 miles, and there were many ticklish stretches over which the contestants had to fly. Unfortunately, two fatal accidents marred the competition. At Heston, Herr von Redern, who was passenger to Herr von Oertzen, slipped, while climbing from the cockpit of their Albatros-Argus, and fell into the revolving airscrew, and was instantly killed. At the control at Bron (Lyon), Herr Offermann, a very experienced pilot, and his passenger, were killed when coming in to land in their B.F.W.; the pilot failed to see a wireless aerial, his machine struck it, and nose dived into the ground. Others who narrowly escaped disaster were the pilot of a B.F.W. (Herr Aichele), whose propeller disintegrated in the air, Herr Steindorff who met with a similar mishap, and Herr Neininger (Darmstadt biplane), who came down in the Gulf of Lyons, and was rescued by boat. There were one or two retirements due to illness also.

The only British entrant who did not finish was Mr. Butler. He turned his "Moth" up on to its nose at one control, and unluckily smashed his propeller. This debarred him from further participation, as a replacement of the propeller would have entailed disqualification. As has been mentioned, the English competitors scored well in the flying part of the trial, but in the technical tests they were not so successful. This may be accounted for by the fact that a considerable proportion of the total number of marks were allocated for wheel-brakes, and side-by-side seating, cabin cockpits, features which were not included in all the English machines.

The winner was Herr Morsik, who flew a B.F.W. monoplane, powered with an "Argus" inverted engine. Second and third places were taken by two "Argus"—engined Klemms, piloted by Herr Poss and Herr Notz. All three machines are, of course, of German make, and the results constituted, therefore, a great victory for Germany. Nevertheless, Miss Winifred Spooner came fourth with her "Moth," and her success was very popular.

The final placings in the Competition were as follow:—(1) Morzik (B.F.W.-"Argus"), (2) Poss (Klemm-"Argus"), (3) Motz (Klemm-"Argus"), (4) Miss Spooner (Moth-"Gipsy"), (5) Polte (B.F.W.-"Siemens"), (6) Carberry (Monocoupé-"Warner"), (7) v. Massenbach (B.F.W.-"Argus"), (8) Broad (Moth-"Gipsy"), (9) Kruger (B.F.W.-"Argus"), (10) Dinort (Klemm-"Argus"), (11) Osterkamp (Klemm-"Salmson"), (12) v. Koppen (B.F.W.-"Siemens"), (13) Lusser (Klemm-"Argus"), (14) Pierroz (Breda-"Walter"), (15) Risztics (Junkers Junior-"Genet") (16) Thorn (Avro Avian-"Hermes"), (17) Finat (Caudron-"Renault"), (18) Peschke (Arado-"Argus"), (19) Plonczynski (R.W.D.-"Salmson") (20) Fr. Siebel (Klemm-"Siemens"), (21) Wieckowski (R.W.D.-"Salmson"), (22) Pasewaldt (Arado-"Argus"), (23) Kolp (Klemm-"Argus,"), (24) Arrachart (Caudron-"Renault"), (25) v. Waldan (B.F.W.-"Argus"), (26) Benz (Klemm-"Genet"), (27) Gothe (Junkers Junior-"Siemens"), (28) v. Freyberg (B.F.W.-"Argus"), (29) Roeder (Junkers Junior -"Genet"), (30) v. Habsb-Bourbon (Moth-"Gipsy"), (31) Lady Bailey (Moth-"Gipsy"), (32) Bajan (R.W.D.-"Hermes"), (33) Gedgowd (P.Z.L.-"Gipsy"), (34) Bohning (B.F.W.-"B.M.W."), (35) Andrews (Spartan-Arrow-"Gipsy.").

A NEW FLYING CLUB.

A NEW light aeroplane club has been formed at Windsor recently.

A syndicate has purchased a site for an aerodrome, where the club will operate, at Bishop's Farm, Oakley Green, and work will be put in hand shortly for the erection of hangars and a club house.

SERVICE BY AIR.

D. M. K. MARENDAZ, Ltd., who were the first motor agents in the country to supply a De Havilland "Moth" machine, are now using a D.H. "Cirrus" Moth for business purposes.

Arrangements have been made whereby a customer in any part of the country requiring to exchange his old car for a new car or new aeroplane, or desiring his car or aeroplane repaired and tuned, will be visited by aeroplane at his nearest aerodrome.

AN AIRSHIP CLUB.

IT is not generally known that there is a club in existence for people interested in lighter-than-aircraft. This is known as the Airship Club and it owns three balloons.

Under an arrangement which has been made with the Airship Development Co., members will now be able to qualify for the A.M.'s airship pilot's certificate, the training being carried out on that concern's small airship, the A.D.I.

This little craft, which appeared over London some time ago, is of the non-rigid type, and is somewhat reminiscent of the old "Blimps" used in the R.N.A.S. during the War. It has a capacity of 6,000 cubic feet, and is powered with a 85 h.p. A.B.C. "Hornet" engine.

THE SPORT AFLOAT



THE CASE FOR BIG OUTBOARDS

IN any branch of engineering which is, as it were, developing at both ends, it is hard to see which end will finally flourish. At present outboard engines are getting both larger and smaller, and considerable controversy is being aroused as to which type will have the greater success. The fairly normal flat twin two-stroke of 350-500 c.c., hailing chiefly from America, has now been with us for a long while, and if it had not been for the vastly increased interest in this type of engine, which has been occasioned by the growth of outboard racing, it is probable that we should have seen little departure from it.

However, the interest stimulated by the sport has led to rapid changes. The chief development has undoubtedly been in the direction of greater size and power, but there have also been developments in the other direction. The increased efficiency of the diminutive two-stroke in this and other spheres, has encouraged manufacturers to experiment with a real "vest-pocket" type of machine, the best known example being the Turner-Bray outfit. This tiny engine only weighs some 14 lbs. complete.

It was this quality of portability which was originally responsible for the popularity of the outboard, as it enabled any craft to be turned into a power boat at a moment's notice. At the present time the lightweight engine is the most popular, chiefly owing to its use in very large numbers on yacht tenders and similar craft. Many of this type of user view with considerable misgiving the tendency to increased size, on the grounds that this is completely defeating the very purpose for which the outboard engine was originally designed, and hold that there should be no classes in races for any engine greater than 500 c.c. capacity.

Racing is blamed for a great deal at one time and another, but it must be remembered that without it progress would be almost negligible, and it is therefore a very short-sighted policy to condemn the products developed by it as being freaks. When people talk of freaks being developed by racing they really mean that the new product is suitable for a different purpose to the one that they have been used to, which is a very different matter. This is what has happened in outboard racing, and a new field has been opened to it.

Whereas in the past the use of this type of engine has been almost entirely confined to small open craft of the runabout variety, these now only form one section of outboard users. While the power of this type was vastly increased as a result of racing experience, they were not fast enough to please the enthusiasts who were aiming at 50 m.p.h. boats. This led to the type so well represented by such engines as the Johnson 32 Seahorse, with a capacity approaching 1000 c.c. and capable of very high speeds. No one would claim that they were portable in the sense of being carried easily by hand. They are, however, easily carried on a car, and have many advantages not previously aimed at.

In racing, which in this case is one of the safest of all forms of motor sport, the faster the machine, the better the sport that can be obtained from it. Although the satisfaction of winning a smaller class with a well tuned engine is very real, the most coveted honour, as in the old speed trials on the road, is "fastest time of the day."

But this is only the start of its advantages. Whereas the lightweight engine of 350 c.c. was regarded, and is still, as a useful substitute for oars, the large outboard, in its utility form, is a serious rival to the inboard engine.

Space is probably of greater value on a boat than anywhere on earth, and the amazing compactness of a unit which is completely self contained, and free from extraneous pipes, tanks, etc., makes it a very useful proposition for the small motor cruiser, or as an auxiliary for somewhat larger sailing vessels, and it is very noticeable how many of these engines are now being used for this class of work. Here compact power is much more important than extreme lightness, and anyone who has seen a heavily-built fishing smack, with a big "Seahorse" slung over the stern, churning its way home against a strong tide, will admit the power is there.

Thus it will be seen that the people who argue against the big outboard, fail to realise the varied purposes for which it can be used. After all, motoring on the water is always a sport, whether racing or cruising, and the engine so well developed by the former, and adapted for the latter, has certainly come to stay.

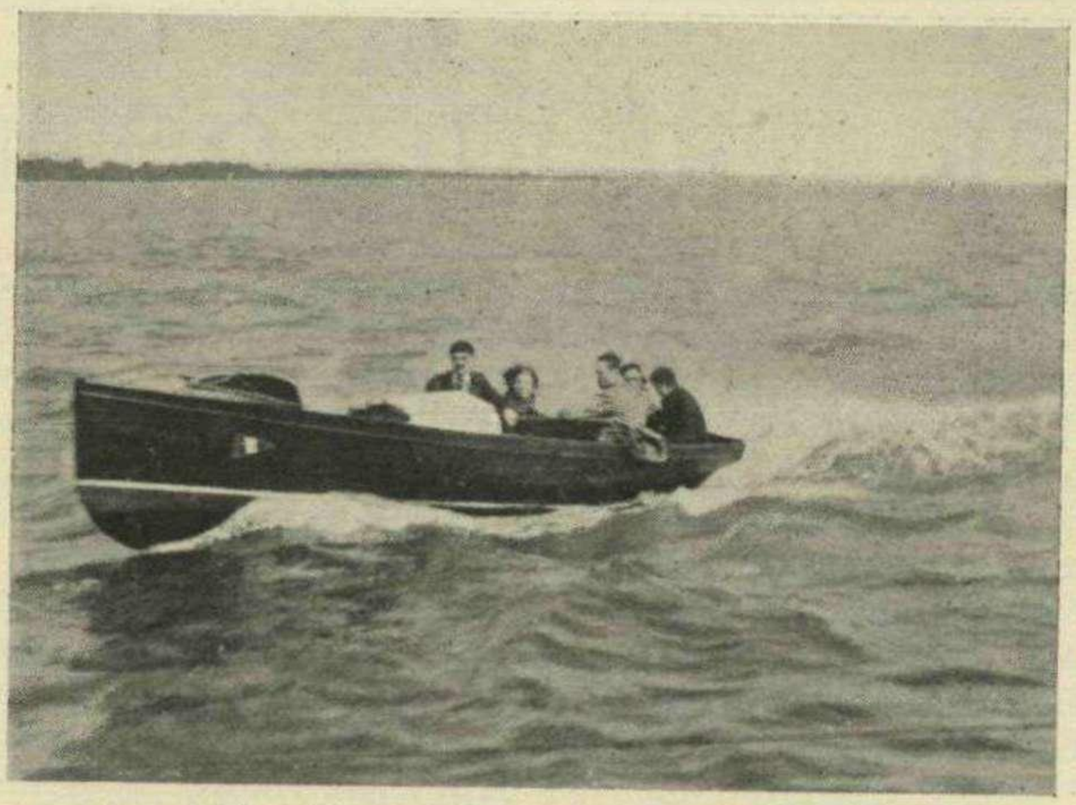
"ALPHONSE II."

SOME of the readers of MOTOR SPORT who are of fairly long standing may remember an effusion which once appeared in these pages entitled "Alphonse." For the benefit of those who do not, however, I may remark that the screed in question disclosed various curious details of the later life history of a Hispano-Suiza car which first saw the light of day in 1912, and I would add that since the appearance of the said chronicle, various people have expressed a desire to be instructed of the yet later history of the afore-mentioned Alphonse, who, reading between the lines, they suspected of approaching the end of his allotted span.

In this suspicion they were, I may as well admit at once, remarkably justified. The former chronicles of Alphonse ended in their descriptions of that noble automobile in the Spring of 1928, and during the following summer the motor began to give signs of distinct senile decay. The steering, once the joy of Zucarelli and others, tended to take on that character of approximateness typical of certain Transatlantic cars, and although I must admit that gradual acclimatisation made me fail to notice its imperfections, I found a growing reluctance on the part of my friends and acquaintances to accompany me on automobile expeditions. Then again the clutch, which knowledgible people are apt to describe as the Achilles heel of the Hispano-Suiza, began to assume a certain fierceness which made it impossible for anyone who had not given the matter some years of careful and practical study, to move the car off at all. The universal joints also had somewhat overstepped the limits of universality originally assigned to them by their designer, and gave a considerable freedom of movement in a rotary direction to the engine relative to the back-axle, which I may add could ascribe its origin more to London than to Bois-Colombes, being more Barimar than Hispano-Suiza. Lastly, Alphonse's consumption of spring leaves finally decided the village garage that its 1910 Renault laudaulet must be taken off the road in order to meet the demands on its suspension system made by its younger compatriot.

In short, while Alphonse's engine still pulsated with life and power, his chassis was dead. In these circumstances there were only two alternatives, either to transfer Alphonse's engine to another chassis, a probably costly, and almost certainly unsatisfactory proceeding, or to transfer it to some other sphere of operations—to wit a boat. At any rate I finally decided upon the latter plan, and set about putting it into operation.

With a view to constructing the most inspiring motor boat possible, I spent the greater part of the following winter looking around for a motorless hydroplane hull, but in spite of a protracted search, which led me into innumerable boat-yards on the lower Thames and Southampton Water, I signally failed to find anyone who was prepared to sell me a hull of this type for the entirely inadequate sum I was prepared to offer. In these circumstances I decided that I should have to fall back on a displacement boat, and finally in the neighbourhood of Southampton I came upon a hull, innocent of engine, but equipped with bearers, a reverse gear of imposing proportions and adequate propeller shafting. This boat had, I suspect, originally been a launch attached to some magnificent yacht, and at any rate it possessed quite pleasing lines, and was notably well built.



"Alphonse goes really well."

In the meantime Alphonse's engine had with some difficulty been removed from the chassis, largely with the help of a certain old salt, who bore a striking resemblance to the best type of pirate (not the swash-buckling captain type, but the somewhat grimy inferior), and who displayed considerable skill in wielding a particularly primitive and immoral brand of adjustable spanner. The engine was then dismantled, the excellent condition of the cylinders, pistons and bearings after sixteen years' service duly noticed, reassembled and installed in the launch. After considerable disagreement with the best marine engineering opinion, the original petrol tank with pressure feed from the engine was used, and encouraged by this same type of authority it was decided to risk salt-water cooling, and the conversion in fact took place without grave difficulty.

The Launch

The installation had taken place with the boat lying on the mud, and upon its completion, I being at the time unavoidably in London, the launch of the good ship Alphonse was decided upon. The nautical experts of the little port thereupon assembled upon the strand. I am afraid no one broke a champagne, or even a beer, bottle over him, and Alphonse was launched. Possibly, however, owing to the above-mentioned omission, but more probably owing to the fact that all the seams had

"ALPHONSE II."—continued.

opened as a result of the sun while the boat was lying on the mud, a fact which seems entirely to have escaped the attention of the said nautical experts, Alphonse, no sooner was fairly launched, than he immediately sank. Consternation among the sea-faring gentry, and even more with the owner! Alphonse, however, was raised from the bed of the ocean, luckily only about a foot deep at this point and at low tide, but of course the adventure had not done Robert Bosch much good, and there was more delay while everything was dried up again. Finally, however, the engine worked all right, the seams were adequately swelled, and Alphonse's second launch took place successfully amidst considerable popular rejoicing.

Early tests disclosed the fact that Alphonse in his new guise was capable of going encouragingly well, but there was at first some considerable trouble with the clutches of the reverse gear, which displayed a most tiresome tendency to slip if the engine was accelerated at all sharply. However various adjustments of the clutches finally succeeded in getting over this difficulty, and Alphonse became a most satisfactory motor boat.

Capabilities

The chief trouble with a displacement boat and a great deal of power, is that the bows tend to lift out of the water at speed, especially if there are a fair number of passengers, most of whom are sitting in the stern. With a hydroplane this is all to the good, as the boat goes nicely back on to its step and planes properly; but with a V-bottomed boat the result is merely to bury the stern in the water and set up vast cavitation behind it. With two passengers, one of whom is in the bows, Alphonse goes really well, and is capable of about 18 to 20 m.p.h. But as a rule an expedition in Alphonse attracts a fairly large number of passengers, as notably when we collected some people off a yacht and came home from the middle of Southampton Water with a fairly choppy sea, eleven people on board, and the stern nearly under water. Two of these people had to be landed to catch a train (unfortunate individuals), with the result that we went badly aground; as, however, we were most of us in bathing costumes, it was not much trouble to leap overboard and get Alphonse afloat again.

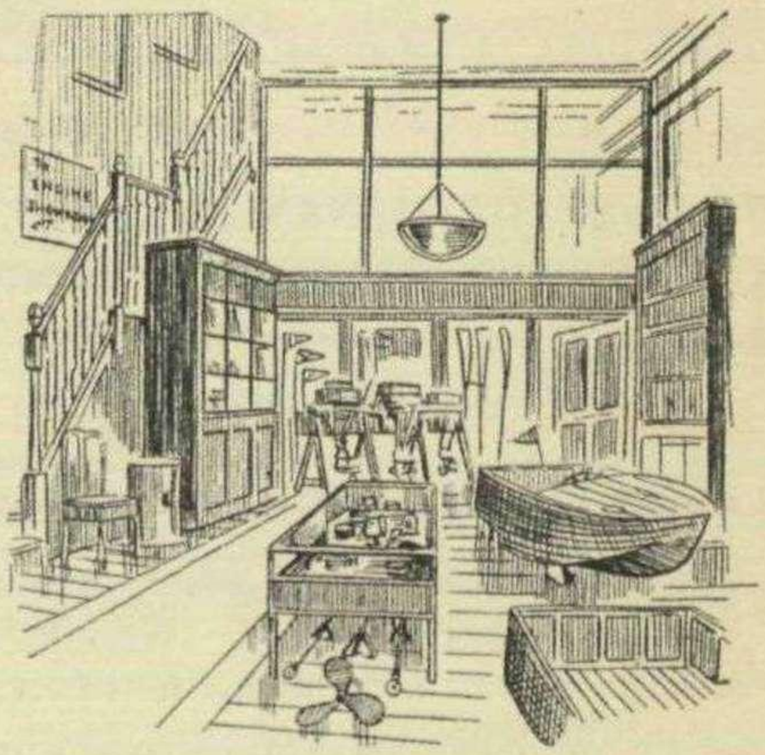
The new Alphonse in fact has become a most useful and amusing motor boat, just as the old one was a most attractive sports car. And remembering what immoral devices are most marine engines, I most definitely suggest to anyone who is deciding that the days of their old car as such are numbered, to consider the attractions of metamorphosing it into a boat. Alphonse at least still lives!—E.

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The Duchess of York's Trophy

BAD WEATHER FOR ANNUAL CONTEST

WEATHER conditions were far from favourable when the B.O.R.C. held its meeting just over a month ago to decide the winners of the Luchess of York's Trophy, the "Bomford" Trophy and the "Duckham" Challenge Cup.

The large number of entries for the Duchess of York's Trophy necessitated the holding of three heats, each comprising six laps. The first heat was won by "Jill II." with a speed of 29.43 knots, followed by "Miss Norwich," 28.54 knots, "Too-Too" 27.30 knots and "Whoopee" 25.41 knots. The first three ran a very even race, they being the first three to cross the starting line after the firing of the gun. In this heat, "She'll do it" piloted by Mr. W. G. Boyer, overturned whilst rounding the buoy, and its owner was precipated into the chilly waters of the Welsh Harp. It is doubtful whether Mr. Boyer appreciated this contact with the waters, as, owing to the biting wind and rain, he was in all probability both damp and cold enough!

In the second heat in which nine boats started "Whoopee" and "Itsit XV" were each penalised 9 seconds for being over the line three seconds too soon. The winners of this heat were "Sea hopper" 30.95 knots, "Itsit XV." 30.85 knots, "Babouche", 28.69 knots and "Comet" 28.31 knots.

Heat 4 saw the greatest number of boats together, eleven crossing the line, with only a few seconds between them, led by Mr. D. R. Tennant's "Don Q" which led the whole of the course, arriving first with a speed of 29.35 knots, followed by "Blue Bug" 29.27 knots, "Whale" 28.42 knots and "Thrill II" 28.35 knots.

Of the twelve boats taking part in the final the only non starter was Clark's "Miss Norwich." "Itsit" was going very well from the start as were her followers, "Don Q" and "Comet." Bomford's "Seahopper" spent too long running in and started 40 seconds late with a third of a lap's distance between him and the other competitors. In the second lap, Palethorpe, in his "Whale," had to retire and during the third lap Weatherall's "Itsit" overturned and was overtaken by "Don Q." By this time "Seahopper" had overtaken boats to such an extent that she was now in the fourth place. By beating "Jill II" on the corner at the end of the eighth lap, "Seahopper" found herself in the second place. The enthusiasm and excitement of the onlookers ran high and the feelings of sympathy for the late starter changed to those of hope. The boats were eagerly awaited and on the tenth lap "Seahopper" was leading by a head. The end of the twelfth lap was a fine victory for "Seahopper" who was leading by seven seconds. "Don Q" who had had such a gruelling fight was second with "Comet" third, "Babouche" fourth, "Too-Too" fifth and "Whoopee" and "Blue Bug" sixth and seventh respectively.

Thus ended a very fine race and its popularity was seen by the greetings given both on the landing stage and later during the presentation of prizes by The Marquise of Casa Maury.

The Bomford Trophy.

The "Bomford" Trophy race did not provide the same interest as the previous event. Only nine out of 21 boats started. Palethorpe's "Baby Bass," which led at the start and finish, was unfortunately disqualified as this boat was an eleventh hour substitute for his "Tarpan." The second man, Harrison, who was piloting "Non Sequitur," was thus placed first with a speed of 32.73 knots, second place being allotted to Viscount Kingsborough in his "Itisntit II" at 30.42 knots, with "Jill II" 29.54 knots and "Leda XVI" 28.80 knots in the third and fourth places.

The Duckham Challenge Cup.

The Amateur Outboard Club, the East Kent Motor Yacht Club and the British Outboard Racing Club were the only teams out of an entry of 7 to start in this event. This was owing to the fact that many of the boats entered had been in the previous races and for one reason or another they were unable to start.

The first relay was won by E. M. Stebbing in his "Blue Bug." The next man round, H. J. P. Bomford in "Seahopper" after completing, handed over his baton to F. S. Cotton, who whilst rounding the buoy after his first lap had the bad luck to find his boat careering over to the side of the lake, coming to rest in the mud just in front of the Steward's office, owing to some defect in his steering. After repairing his engine he pushed off, but the B.O.R.C.'s last man had rounded the buoy after the first lap. Try as he might Cotton was unable to get going again and the Duckham Challenge Cup went to the British Outboard Racing Club.

The representatives of the different Clubs were :—

A.O.C.—
Class B. E. M. Stebbing, "Blue Bug."
Class C. H. J. P. Bomford, "Seahopper."
Unlimited Class. F. S. Cotton, "Xqqme II."

B.O.R.C.—
Class B. F. R. Thornton, "Star 2."
Class C. B. G. Parker, "Too-Too."
Unlimited Class. C. H. Harrison, "Non Sequitur V."

E.K.M.Y.C.—
Class B. C. J. Turner, "Itisntit."
Class C. J. P. Turner "Tobasco XII."
Unlimited Class. Viscount Kingsborough, "Itisntit II."

M. E. S.

THE LATE SIR HENRY SEGRAVE'S RECORD.

THERE still appears to be some misconception as to the international status of the record of 98-7 m.p.h. by "Miss England II" on Lake Windermere, on the run which ended so tragically for Sir Henry Segrave. The matter was taken up by the International Motor Yacht Union and it is definitely confirmed that this record has been officially recognised by all countries. Until this figure is bettered, therefore, Great Britain holds the world's record on water.

The two Rolls-Royce R. type engines which were fitted, were found to be in perfect condition when taken down on return to the works at Derby, despite the crash and their long immersion.

EXPERIMENTS WITH OUTBOARD ENGINES.

JUST lately news has come to hand of a number of unusual experiments with outboard engines in America, adapted for purposes other than those for which this type of power unit was intended.

For example, a standard type outboard has already appeared in a light aeroplane, and it is reported that the machine flies successfully, though the added weight brought about by the watercooling, and the necessity of having a radiator would seem to make the installation hardly worth while.

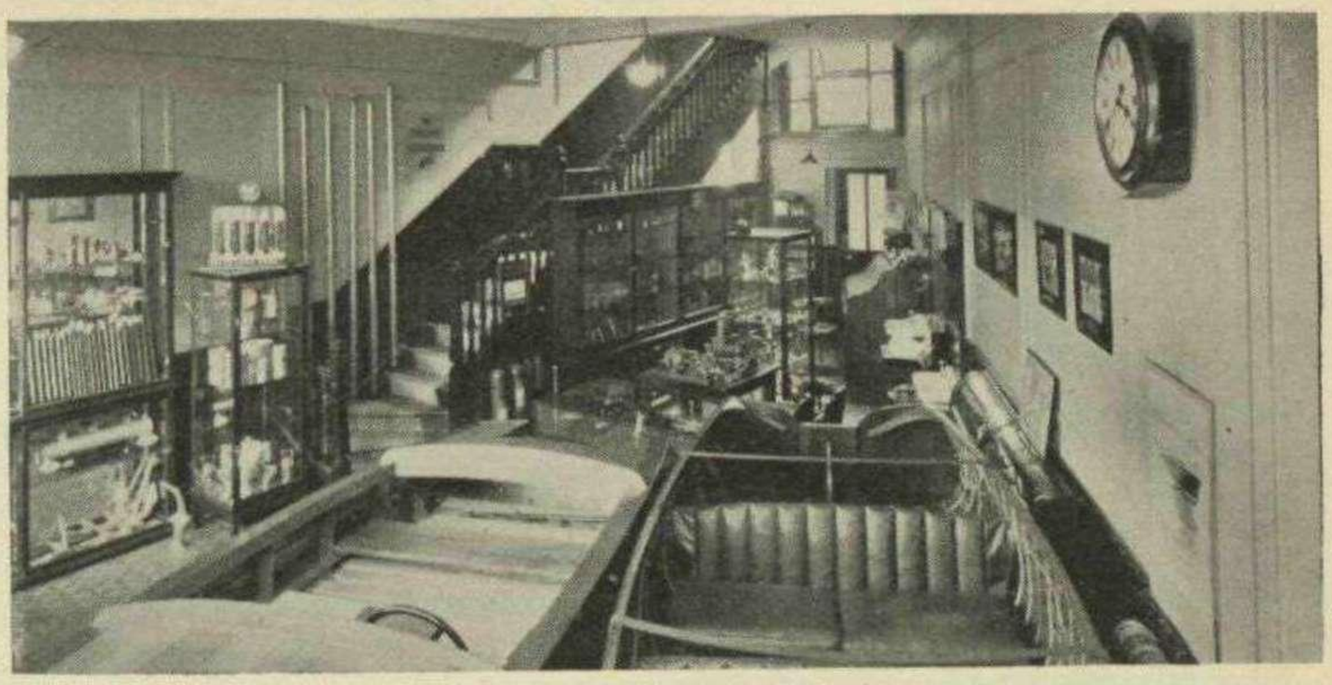
Another interesting experiment has been conducted by an American with an outboard hydroplane with the engine placed inboard, and the screw acting as a tractor. Owing to the C. of G. being close to the turning centre, by this arrangement, the centrifugal force in quick turns is said to be considerably lessened, while "pounding" is eliminated.

A 100 PER CENT. MARINE SHOWROOM

Elephant Motors' New Boat Depot

ELEPHANT Motors, Ltd., have recently opened a very fine marine equipment branch to their business premises, at Store Street, Tottenham Court Road, London, W.C.1.

In doing so, they have established something which boating enthusiasts have required for a very long time, for hitherto the man who was desirous of taking up the pastime has found the choice of craft, engine, equipment and fittings no easy matter because anything like a complete inspection of the many makes entailed extensive travelling to works and boat yards, scattered over a wide area. Such an examination and selection can now be done under one roof.



The main showroom at Elephant Motors' new depot.

Some idea of the comprehensive display and stock at this firm's premises may be derived from the fact that in the engine section alone are shown no less than 18 inboard types and 11 outboards. The former comprise :—Ailsa Craig, Atlantic, Austin, Baby King, Baudouin, Brooke, Chrysler, Dorman, Gardner, Gleniffer, McLaren-Benz, Kermath, Meadows, Parsons, Petter, Riley, Thornycroft and Watermota.

The outboard display includes :—Archimedes, Caille, Coventry-Victor, Evinrude, Elto, Indian, Johnson, Lockwood, T.S.D., Turner Bray, and Watermota. For all these engines, spare parts are carried, together with electrical fittings, pumps, propellers, stern gears, stern glands and shafting.

In the main showroom is displayed a representative number of hulls, including Elephant Motors' own "Elmar" runabout, a very sound job built of Honduras mahogany, which is metal fastened throughout and equipped with brass and gunmetal fittings. The private constructor and the boat owner who may be re-fitting is also completely catered for, and all classes of deck fittings, wire ropes, masts, spars, paints, varnishes and so forth are available from stock. The firm can also supply charts, compasses and all equipment necessary for sea-going craft.

The depot is under the management of Mr. Mackrow, who, as the designer of Mr. F. T. Bersey's "Minx," which won this year's Duke of York's Trophy, and a very large number of other successful racing craft and cruisers, is, of course, well known. Visitors to Store Street will, thus, be able to obtain his highly-valuable advice and opinion on any matter pertaining to marine motoring.

"MISS BRITAIN I."

MR. SCOTT-PAINE'S NOVEL CRAFT

AFTER successfully passing her preliminary tests, "Miss Britain I," was shipped to America on the 16th of last month, where her designer and owner, Mr. H. Scott-Paine will compete with her in the 5½-litre class of the International Contest now in progress at Detroit.

"Miss Britain I," is of very novel design, and in appearance is most unusual. While a single-step hydroplane design has been adopted it is uncommon in having a superstructure built upon it, which runs from bow to stern. This superstructure embodies two cockpits in tandem, the one ahead being for the passenger, and the pilot's is amidship. In this part of the boat, Mr. Scott-Paine has adopted, to a large extent, aeroplane practice, the assembly being made up with longerons, struts, diagonals, gussets and stringers. It is, in consequence very light yet strong.

The engine, as mentioned in last month's MOTOR SPORT is a six-cylinder Scripps, which gives off 120 h.p. at its maximum revs. of 3,100. This is installed in the stern and a short shaft takes the drive to a gearbox just aft of the pilot's cockpit, and another shaft transmits the power to the propeller. The petrol tank is fitted under decking and "Petroflex" tubing is used throughout the fuel system leads. "Autopulse" pumps are used. The control cockpit is well faired round the opening, and it is clear that the designer has carefully considered the question of air resistance.

Two rudders are used. One is situated at the stern and is off-set, while the other is placed forward. The former is operated by a wheel and cables, and the latter is moved by an aircraft type of rudder-bar—another very unusual feature.

News of this unorthodox, but cleverly designed craft's behaviour in the U.S.A. will be awaited with interest.

HERE and THERE

By "Camshaft"

Continental Touring.

THERE is a prevalent feeling amongst motorists that the average small or medium-sized British car is unsuitable for gruelling work abroad. Continental cars, especially in the sports class, it is thought, are built to withstand the appalling Continental roads, but to expect any but a large and expensive British car to give trouble-free service on them is asking too much.

The fallacy of this idea was demonstrated recently by the owner of a Rover Light-Six, who completed a 5,000 kilometres tour over some of the worst roads in France—without trouble of any description. Before starting off, he took his car to the manufacturers' service depot in London and asked them to tune it up for a gruelling run. This they did, supplying him also with a spare coil, a set of electric bulbs and other oddments, none of which was required.

" At about 5,000 feet up in the Alps " he writes, " we had a real thrill, getting caught in a cloud burst, on a partly made road of loose flints. A car in front of us got into terrible trouble, but the Rover brought us through."

This driver's testimony should do much to re-assure motorists who are nervous of undertaking a Continental tour. It should be remembered, too, that September is one of the best months for this purpose, particularly if it is desired to include the wonderful scenery of the Alps. Owing to the heavy winter snow-falls, many Alpine passes are not opened until the end of July and even then the surface is not at its best until it has recovered from the effects of the melting snow.

The difficulties associated with Continental touring are very much over-rated. All customs troubles, for instance, can be overcome by the use of papers supplied by either of the leading motoring organisations, and once abroad, the motorist will find that low living expenses more than couterbalance the cost of the Channel crossing.

With a modern car, too, it is extremely unlikely that any mechanical trouble will be experienced, but if it does occur, it will be found that almost any fault can be repaired efficiently. The French mechanic, with his " beret " and his perpetual cigarette, may appear to be an inconsequential person, but he is a first-class workman and, once he understands the trouble, will labour hours into the night to rectify it.

British Reliability.

An excellent example of the reliability of British motor cycles is furnished by recent news from Czecho-Slovakia, where a privately owned Humber machine has just been successful in the most important reliability trial held in that country. Although the machine in question had already covered some 17,000 miles, it completed the 1,000 kilometres of the trial, the mountain climb and the speed test without losing a point or requiring any repairs.

So pleased was its owner Mr. Kubik, a university student, with this very satisfactory result that he set out to ride his Humber *non-stop* from Prague through Germany to Liége in Belgium, a distance of over 600 miles. This test was successfully carried out with the assistance of the Automobile Club of Czecho-Slovakia and M. Kubik then rode to the Channel and to the Humber works at Coventry, in the company of a friend on a Belgian motorcycle. After a very interesting tour of the factory, the two travellers left for London and Paris.

The International Six Days.

Bad luck to individual members of each of the three teams which represented Great Britain in the International Six Days' Trial put us out of both the " Trophy " and the " Silver Vase " contests. The final results showed Italy as winning the Trophy and France the Silver Vase, this being the first occasion for some years that British teams have not won *both*.

To a certain extent, however, we shared in the success of the Continental teams for one of the French mounts which won the Silver Vase was equipped with a British Villiers engine. The success of this machine is all the more praiseworthy in that it was the smallest in the trial. It is also particularly gratifying to note that France, which specializes in diminutive motorcycles, should select a British-engined model to represent it in the most important trial of the year.

Cars to the Continent.

The L.N.E.R. announce that new reduced rates for the conveyance of cars between Harwich and the Continent have been introduced. Cars may be shipped to Antwerp, Zeebrugge or Flushing, the return journey being made from any of these ports within 30 days. The rates vary according to the weight of the car, but for a car weighing not more than 15 cwt. the return trip costs £4 5s. Special cheap fares are also available for motorists accompanying their cars.

Safer Saloons.

The prevalence of " blind spots " is perhaps the most serious shortcoming of the average enclosed type of sports car. It would appear, indeed, that many coachbuilders fail to appreciate the safety factor which is seriously jeopardised by having thick front pillars and thick framing round the windows.

The former, perhaps, constitute the greatest obstruction. On the latest Thrupp & Maberly bodies, however, examples of which I have just seen, they have been reduced so that they are hardly larger than the average screen pillars on a touring car. In order to give the necessary strength and safety to the body, they are made of special aluminium alloy.

The front windows are carried in specially designed thin steel channels, clumsy wood framing having been eliminated. So cleverly have the doors been designed that when the car is closed there is nothing whatever to indicate any departure from normal methods of construction.

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SECOND-HAND SPORTS CARS

ALFA ROMEO.

ARTHUR MULLINER, Ltd.

1929 Alfa Romeo 2-litle Supercharged Special Sports 4-Seater, large tank, stone guards, ready for competition work; offers.
ARTHUR MULLINER, Ltd., 54, Baker St., W.1. Welbeck 5711.

15/55 ALFA ROMEO, beautiful super sports small low 4-seater, first registered July 1927, 6 wire wheels, 7 excellent tyres, licenced, pneumatic upholstery, tonneau cover, Dewandre, F.W.B.'s, cellulosed finish, 4-doors, Vee radiator, ivory steering and dash, car thermometer, engine recently completely overhauled, new pistons, 80 m.p.h., truly magnificent condition, very smart and exclusive. £225. 6 months written guarantee. Taylors, The Sport Car Specialists, Wheeler Street, Birmingham.

BUGATTI

SPECIAL Grand Prix 2-litre Roller Bearing Bugatti plated front axle, steering and brake rods, special Perrot brakes, aluminium wheels, almost new low-pressure Michelins, Hartfords, Bosch electric equipment throughout, including starter, armchair upholstery, substantial wings, hood and screens, ample accommodation luggage; ideal for fast touring, the prettiest Grand Prix in existence; £275.—Featherstonhaugh, 5, Harrington Rd., S.W.7. Kensington 6740.

£95—First registered March, 1927, Straight Eight 3-litre Bugatti 4-seater fabric sports, F.W.B., wire wheels, real fast; worth £145.—Chick, 73a, Larkhall Rise, Clapham, S.W.4. Battersea 2401.

SECOND-HAND SPORTS CARS

(continued)

BUGATTI

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BUGATTI 1928 2-litre Grand Prix Straight Eight, full equipment; £265.

BUGATTI 2-litre Roller Bearing Full Grand Prix; £225.

BUGATTI 1926 Grand Prix, fitted electric starter, 100 m.p.h., 2-seater; £165.

BUGATTI 1928 Type 40 Sports 2-seater; £175; choice of 2.

BUGATTI 1927 Type 40 2-seater; £145.

BUGATTI 1927 Type 40 4-seater; £125.

LARGEST Stock of Sports Cars in Great Britain; exchanges deferred.—27a, Pembridge Villas Notting Hill Gate.

BUGATTI, 1929 straight-8 supercharged 4-seater 125 m.p.h., £450. Sinclair Automobiles, Ltd., 164, Fulham Palace Rd., W.6. Fulham 1916.

£57/10 BUGATTI o.h.v. Brescia low sports 2-seater, very attractive, smart body, perfect condition. Whitticks Automobiles, 64, High St., Wimbledon, S.W.19. 'Phone, Wimbledon 1537.

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(continued).

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1928 Excelsior Weyman Sports Coupé by Carlton Carriage Co.; cost nearly £3,000. Guaranteed to do over 100 m.p.h. Sister chassis to this car won Belgian Grand Prix at over 120 m.p.h. New tyres all round, just recellulosed. Black and green. Price 295 guineas.—Modern Cars Ltd., Specialists in Quick Motors.—196-198, Great Portland St., Museum 2947.

FRAZER NASH.

FRAZER NASH cars. Falcon Works, London Rd., Isleworth (Hounslow 3172) always have for disposal reconditioned and guaranteed cars, fitted with new tyres and F.W.B. prices from £125.

LAGONDA

1929 3-litre Lagonda Special Speed Tourer, black fabric, green upholstery and wheels, small mileage, as new; £545.—Rootes Ltd., Devonshire House, Piccadilly, W.1. Tel. Grosvenor 3401.

LEA-FRANCIS

LATE 1926 Lea-Francis Tourer Maroon 12 h.p. Meadow's engine in perfect condition, gives excellent performance, fast and reliable, F.W. brakes, only done 22,000 miles. Those who know a good engine are invited to apply. What offer? Apply BOX A16, MOTOR SPORT.

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£995—Mercedes 36-220 h.p. late model S type sports tourer, new condition, looked after by an expert, guaranteed speed 112 m.p.h., cost £2,400, considerable number of extras.—Thorns 19-21, Great Portland St., W.1. Langham 3966.

M.G.

F. G. SMITH (MOTORS), LTD.

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EXCEEDINGLY smart ultra-low coupé on 1930 9 h.p. chassis, finished blue and cream, all bright parts chromium plated, cycle-type wings, luggage locker, Bendix-Perrot f.w.b., numerous extras, capable of exceptionally high speed. Very economical petrol consumption; cost £350 in January. Price £220, taxed December.—Mac's Garage, Porchester Square Mews, W.2. Park 9300

Motor Sport Classified Advertisement Section—*continued.*

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(continued)

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1930 Riley Monaco Special, speed sports conversion, smartest and sportiest car on the road, over £50 worth of extras, small mileage; a bargain at £250.—Home Motor Services, Ltd., 188, Brent St., Hendon. Tel.: Hendon 8088.

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1928 Swift 10 h.p. sports 2-seater, black fabric body, wire wheels, completely equipped, small mileage, guaranteed perfect, one owner, cost £285, offered at £85.—Mac's Garage, Porchester Square Mews, W.2. Park 9300.

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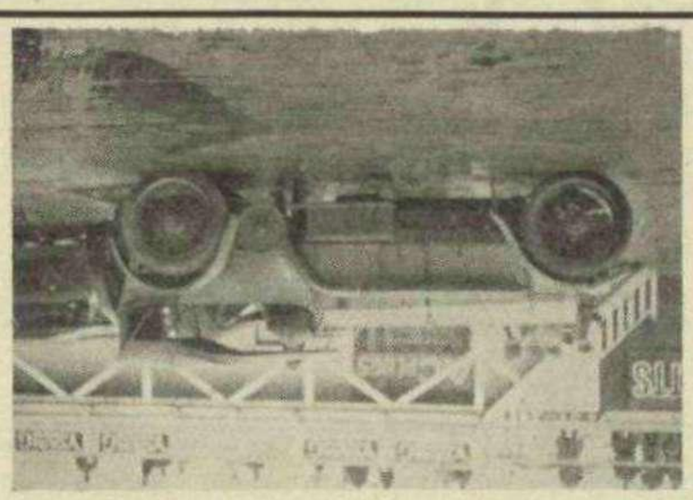
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