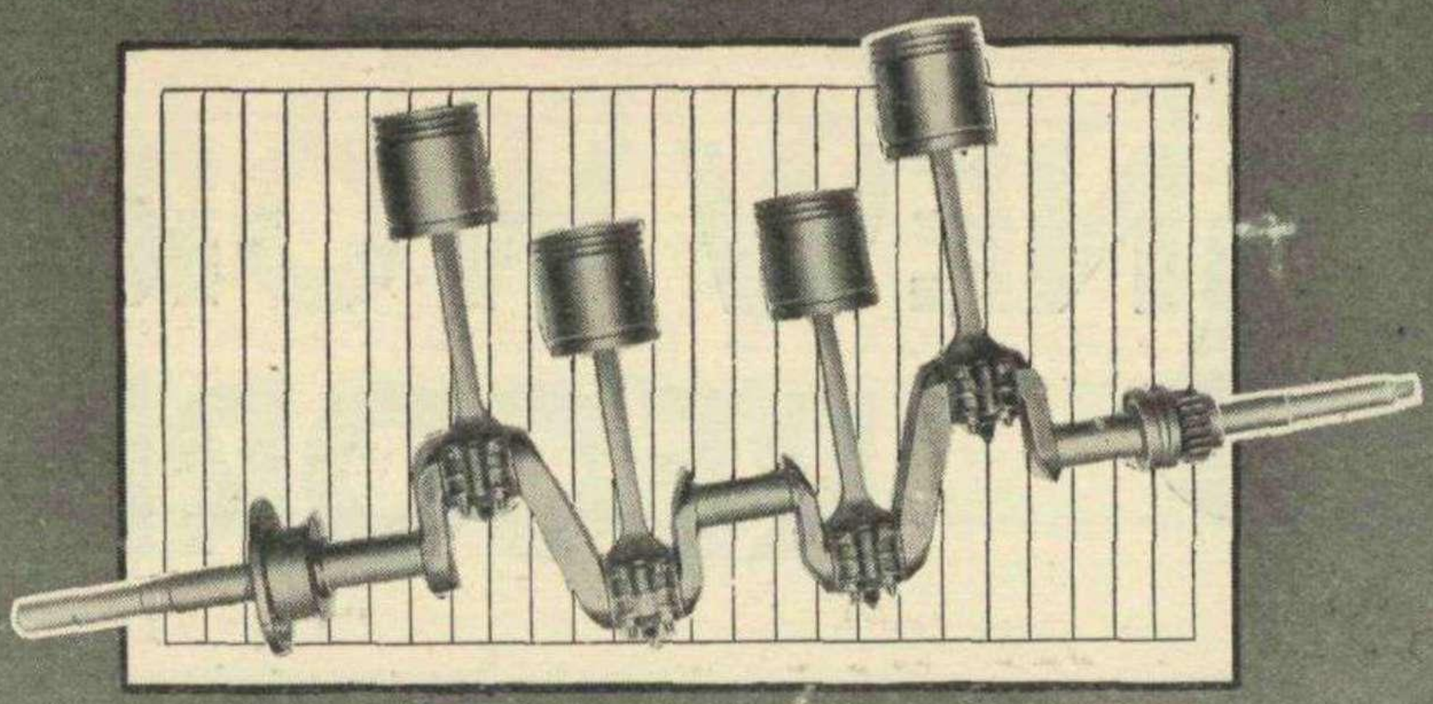


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# NEW WORLD'S RECORD
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# BENTLEY

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# MOTOR SPORT

INCORPORATING THE BROOKLANDS GAZETTE
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*Telephone:* { REGENT 1937. GERRARD 3436. *Cables:* AGREYNOL, LONDON. *Telegrams:* AGREYNOL, PICCY, LONDON.

# The Way of Things

**The Windermere Disaster.**

THE calamitous conclusion to Segrave's last effort is still fresh in the minds of all of us. And it will remain so for a long time to come. In the moment of triumph, disaster came and the luck of "H.O.D.," which had seen him through so many close calls, held no longer.

There are many who decry this "craze for speed." But none of Segrave's exploits—either on land or water—has ever been attempted to satisfy a futile whim, and though it may not be apparent to the lay mind, perhaps, they will be of lasting significance and value. Of Windermere we can but think with sadness and an acute sense of loss, but let us remember, as some consolation, that Sir Henry achieved that which he set out to do—and knew of his triumph before the end.

**The T.T.**

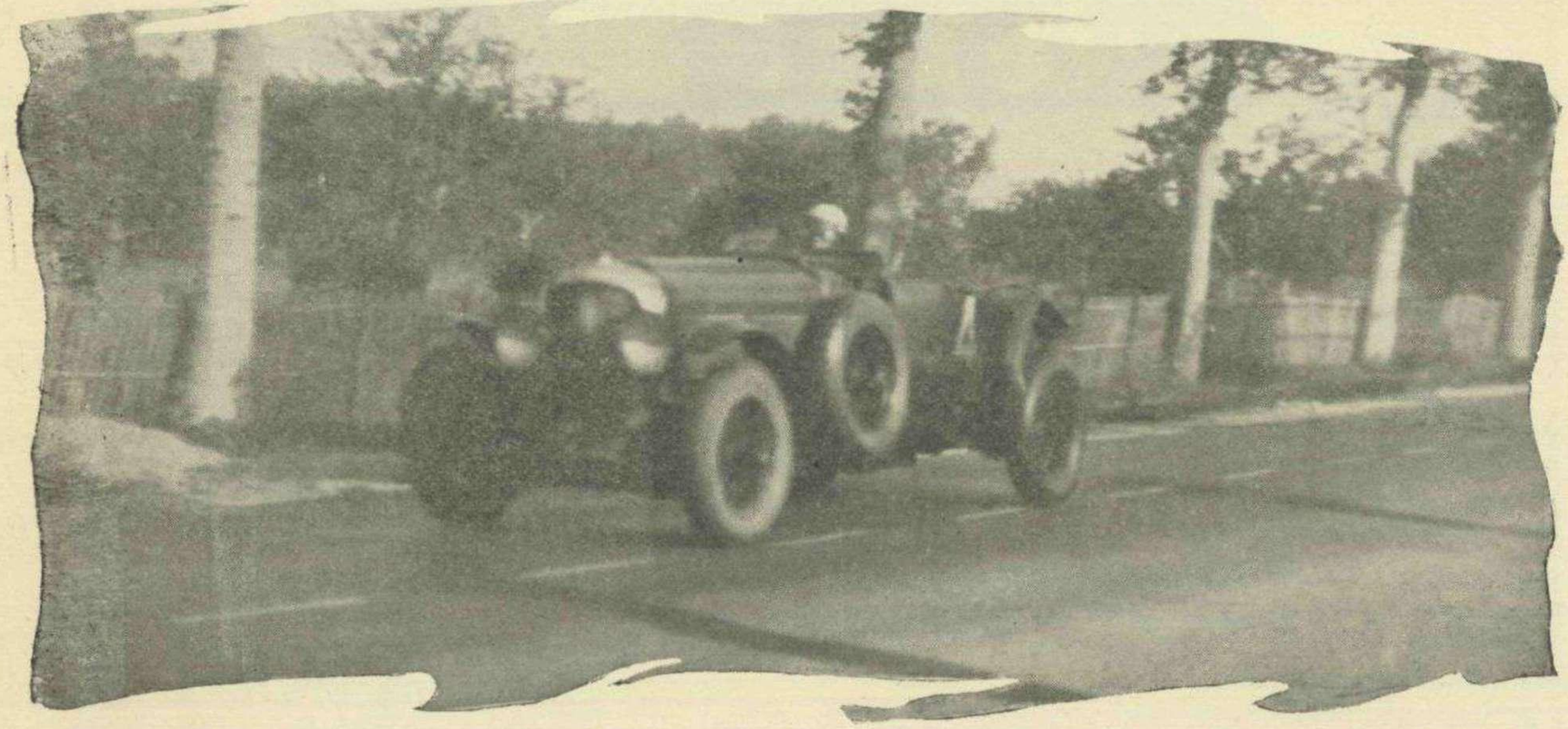
IN 1914 the Senior Tourist Trophy Race was won at a speed of 49 m.p.h. The rider was Cyril Pullin, his machine a 3½ h.p. Rudge. This year the same race was won by the same make of machine, and the speed was —72 m.p.h. Nothing could show more forcibly than these two sets of figures the extent of the progress which has been made in motor-cycle design during these past sixteen years. When Pullin piloted his belt-drive "Multi" to victory, it was unusual for a machine to stand up to those gruelling, long spells of open throttle without trouble of some sort; and riders were often so exhausted with keeping their mounts going and under control that, at the conclusion of the race, some of them had to be assisted from their machines. It was, as the famous De Rosier said, no "tea party" to ride in the T.T. on the crude models of those days. But if one has admiration for the old-time riders, for their skill and endurance, one can, in no way, have less of that sentiment for the fellows of 1930 who can put up an average well in excess of the maxima of their fore-runners, and the performances in all three races calls for the highest praise. Wonderful men and wonderful machines!

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# THE GRAND PRIX d'ENDURANCE

## OVERWHELMING BRITISH VICTORY IN THE CLASSIC 24-HOUR RACE.



*Barnato's Bentley at full speed on the long straight down to Mulsanne.*

When on the afternoon of Sunday, 22nd June, Woolf Barnato drew up after his run of 24 hours at le Mans, Bentley had scored its fourth successive win in the Grand Prix d'Endurance. During the two rounds of the clock Barnato and Kidston had covered 1,821 miles, thus averaging nearly 76 m.p.h. : it is but four short years since the world stood aghast at an average of over 60 m.p.h. for 24 hours on this course. Thus have speeds gone up, for the course is a little, but not materially, faster.

Behind the winner came another 6-cylinder Bentley driven by Clement and Watney, but of the six cars of the marque which were entered, and the five which started, these were all that got home : the others had fallen by the wayside in a duel, which will remain for ever epic, with the giant Mercédès.

Thus Bentley won again, and their performance was nothing short of magnificent ; but when one comes to think calmly of the race one cannot but be almost more impressed by that of the pair of Talbots. Two of these cars started, and two finished ; they had engines of only just over 2-litres capacity, but both of them covered in the 24 hours under 200 miles less than the winner. Their run was one of complete regularity and freedom from trouble. The new Talbots looked like being cars to reckon with when they made thir first tragic appearance in the Double-Twelve : now they have undoubtedly won their spurs.

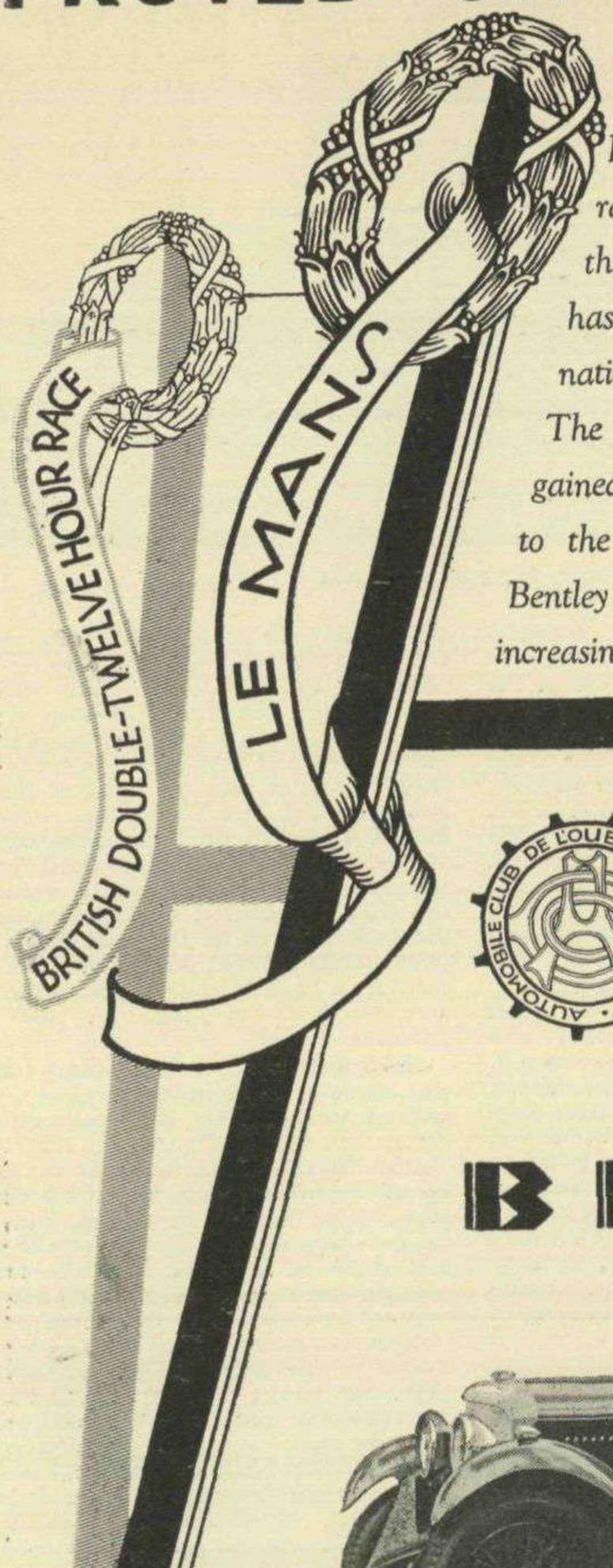
At 4 o'clock on Saturday afternoon eighteen cars stood waiting in échelon formation opposite the grandstands of the permanent road-racing circuit of the Sarthe.

The solitary Mercédès, long and low, challenged the three 6-cylinder Bentleys, formidable as battle cruisers beside the pair of squat vicious looking 4½-litres. The sixth of the Bentley team, the 4-cylinder which was to be driven by Harcourt Wood and Jack Dunfee was an absentee. These half-dozen big cars were, however, the centre of the picture, with a background of the American Stutzes, the neat Talbots and the smaller cars. The starters with their official numbers were as follows :—

1. Mercédès-Benz, 7,069 c.c. (Caracciola and Werner).
2. Bentley, 6,597 c.c. (Clement and Watney).
3. Bentley, 6,597 c.c. (Davis and C. Dunfee).
4. Bentley, 6,597 c.c. (Barnato and Kidston).
5. Stutz, 5,355 c.c. (Brisson and L. Rigal).
6. Stutz, 5,355 c.c. (Philippe and Bourlier).
8. Bentley, 4,389 c.c. (Benjafield and Ramponi).
9. Bentley, 4,389 c.c. (Birkin and Chassagne).
15. Talbot, 2,276 c.c. (Lewis and Eaton)
16. Talbot, 2,276 c.c. (Hindmarsh and Rose Richards).
20. B.N.C., 1,999 c.c. (Charrier and Jouclas).
23. Alfa-Romeo, 1,752 c.c. (Lord Howe and Callingham).
24. Lea-Francis, 1,498 c.c. (Newsome and Peacock).
25. Bugatti, 1,496 c.c. (Mines Mareuse and Siko).
26. Tracta, 988 c.c. (Bourcier and Debeugny).
27. Tracta, 986 c.c. (Grégoire and Vallon)
28. M.G., 847 c.c. (Hicks and Murton-Neal).
29 M.G., 847 c.c. (Samuelson and Kendall).

Four o'clock, M. Coquille, donor of the Rudge-Whitworth Cup, drops his flag and the drivers leap for their cars. A whirr of starters and the orderly rank breaks into life and confusion. The Mercédès, with Caracciola at the wheel, is away and the whole Bentley pack on its heels, the 4½-litres screaming, the 6-cylinders thundering, with the field strung out like the tail of a comet.

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*Behind every Bentley is a series of racing triumphs without precedent in the annals of motoring. No other car has been so thoroughly proved in international events on road and track. The extensive and valuable experience gained in these strenuous tests is utilised to the full in the production of all Bentley models, resulting in an ever-increasing degree of reliability and safety.*

THE EIGHTH GRAND PRIX D'ENDURANCE
24-HOURS INTERNATIONAL ROAD RACE

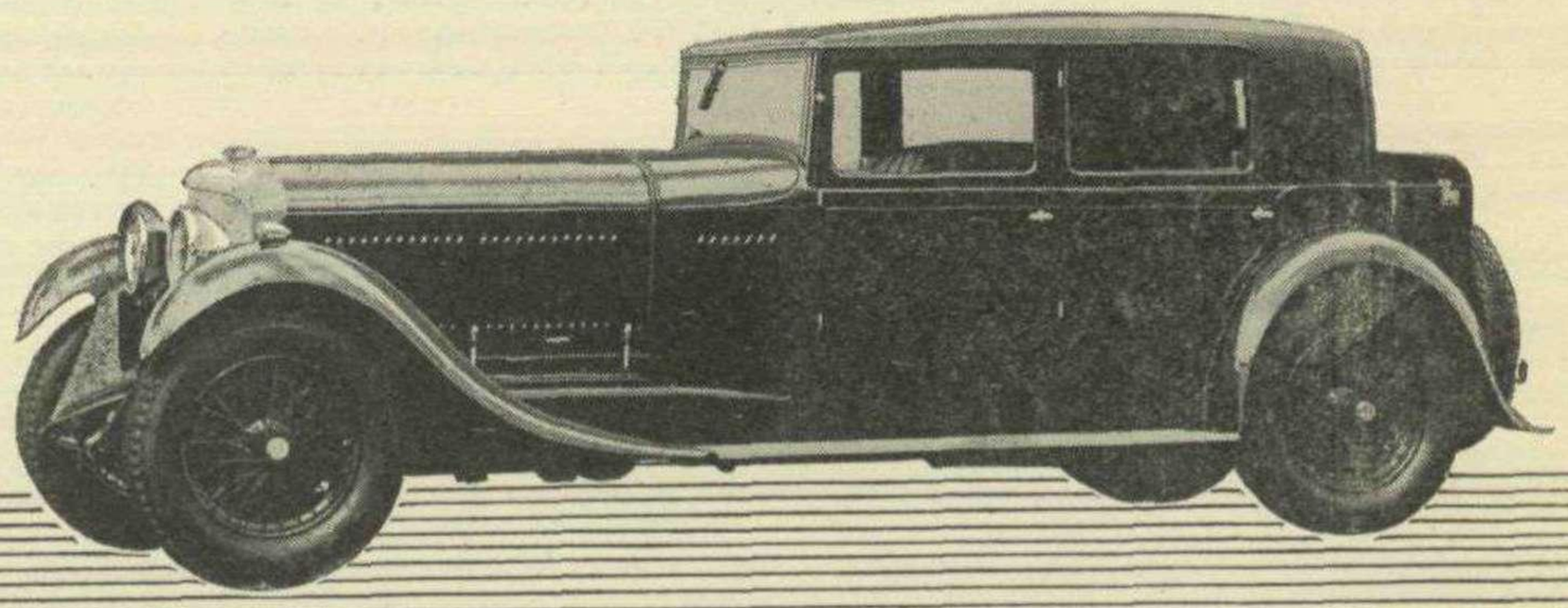
LE MANS JUNE 21st & 22nd, 1930

**1ST 6½ LITRE BENTLEY**
at 75·85 m.p.h., covering 2,930 Kilometres.
(RECORD FOR THE COURSE)

**2ND 6½ LITRE BENTLEY**
at 73·08 m.p.h., covering 2,832 Kilometres.
*Also Winners of the Rudge-Whitworth Cup.*

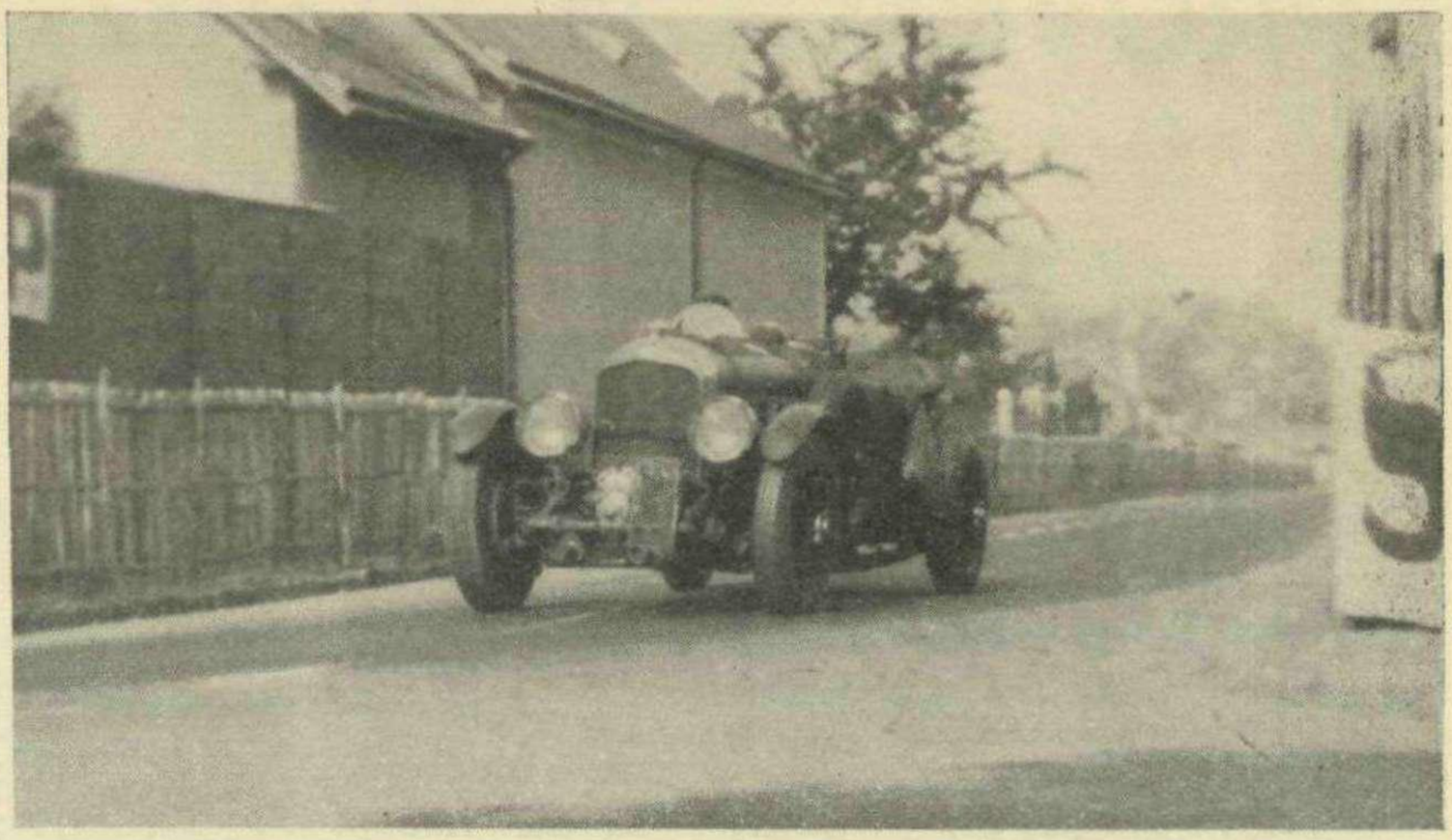
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# BENTLEY



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*GRAND PRIX d'ENDURANCE—continued.*



*Benjafield's Bentley taking the second bend at Pontlieue.*

Then silence, while we wait for the first one round. Abruptly one hears a murmur which grows and grows until it becomes a shrill roar and the Mercédès sweeps round the bend and tears past the grandstands, in the lead on the first lap. Eighteen seconds later Birkin on No. 9 supercharged 4½-litre Bentley flashed by with his team mates and the field behind him, all except the B.N.C., which fell out on the first lap. Evidently Birkin was going all out to press the Mercédès hard.

Do you remember that hot day at Lyon in July, 1914, when the Grand Prix was run there? Trouble was brewing in the Balkans, and a mentally unhinged Slav had decided to throw a bomb at an Austrian Arch-duke in the dusty little town of Saragevo. All Europe was on edge, and France and Germany eyed each other narrowly across the Rhine. It was then that they met in that famous Grand Prix, and Germany had sent five Mercédès to do battle with the three French Peugeots. Georges Boillot, the Peugeot champion, was every bit as fast as Seiler on the first of the Mercédès, and the German went down in the grim struggle; but as in a death grip he dragged Boillot down with him, and it was three of the Mercédès that came home first, second and third. One wonders if Caracciola and Werner thought of how the tables had been turned on them as their single white Mercédès fled before the pack of Bentleys.

There was something strangely reminiscent of the old days about the giant Mercédès as it fled by. Rudolf Caracciola looks always little more than a youth, but he wore his peaked cap back to front like the late Count Louis Zborowski used to do, following a fashion of an earlier age. And Wilhelm Werner seemed like a spirit of the distant past. Do you remember how Charles Jarrott describes that in the Paris-Madrid race of 1903, the last great inter-country town-to-town race ever run, and known for ever afterwards as the "Race of Death," as he swept along the long straight road? Werner, on one of the first 90 h.p. Mercédès ever built, roared past him in a cloud of dust; and a mile further on he came upon the German driver calmly lighting a cigarette beside the tangled wreckage of his car. Twenty-eight years later there was the same wiry Werner flying round this circuit in the Sarthe.

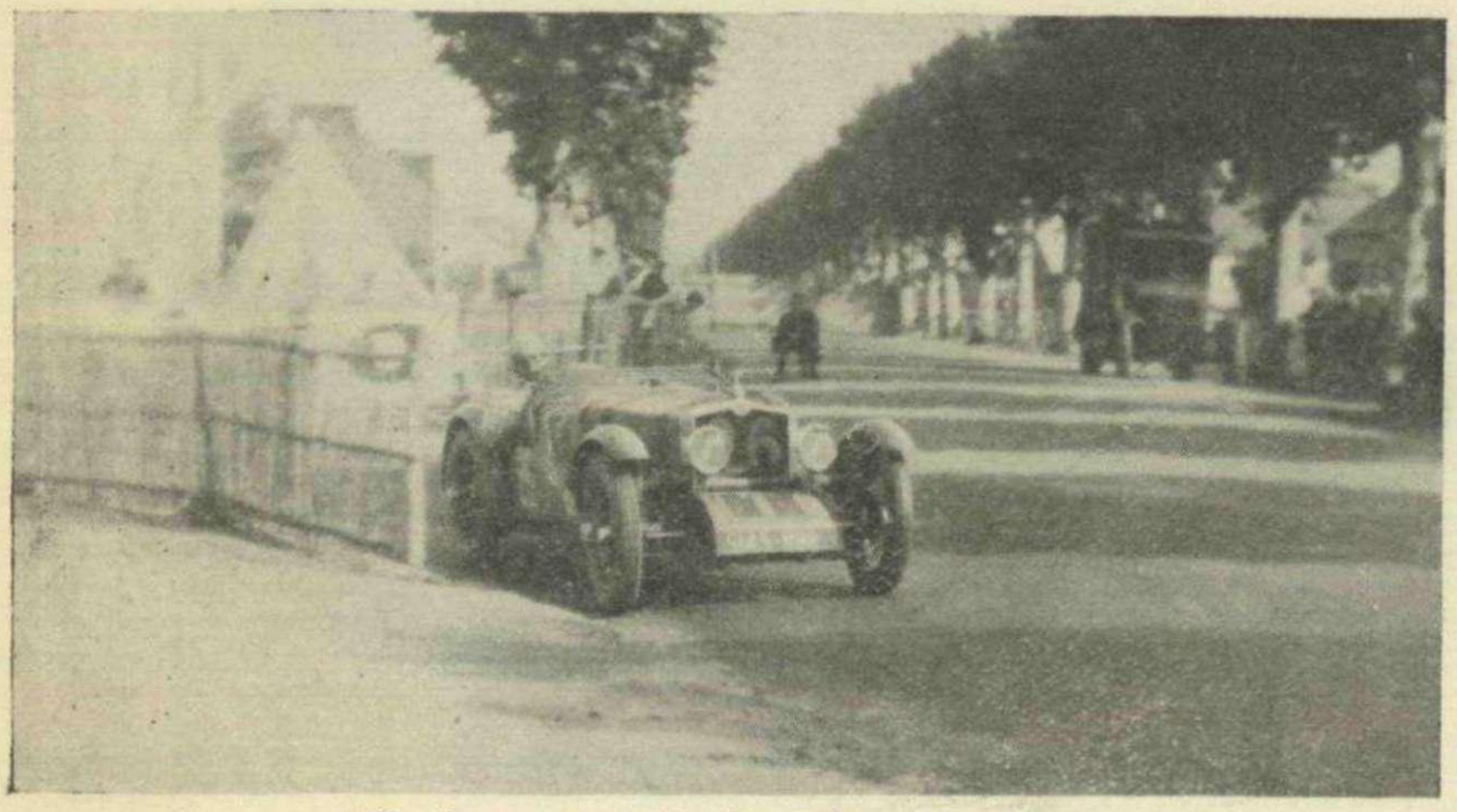
Thus for three laps the Mercédès led, but on the third, Birkin on the first of the Bentleys broke the lap record at over 92 m.p.h., and on the fourth he had passed the Mercédès and gained the lead. We watched them disappear, but the fifth time round, it was the great white car that led again, and Birkin dashed into the pits, a rear tyre flapping wildly in ribbons. Thus for the first few laps it kept on. The Mercédès, running silent at first, was now letting its supercharger scream all round the course, and Birkin's Bentley was pressing hard, howling up to 126 m.p.h. as if this was a race for 100 miles instead of 24 hours. But the two 4½-litres were obsessed with tyre troubles, and time and again No. 9 and Benjafield's No. 8 had to come into the pits to change the battered remains which clung to their back wheels. They suffered, in fact, much more severely than the larger Mercédès, which seems to suggest that the suspension and weight-distribution which were their undoing in Ulster last year are still not quite right.

No. 9 Bentley was still chasing the Mercédès, though a lap behind, when it began to feel the strain. A stop at the pits to change plugs was the forerunner of many more, and the 4½-litre began to fall back. Now it was the turn of the 6-cylinders, and first Davis, then Barnato moved up into second place behind the Mercédès. The latter was still going strong. Each lap one heard a whine in the distance, then an anxious rumble as the driver cut out for the bend before the grandstands straight, and then again the shrill note of the supercharger as the car accelerated to its maximum past the tribunes.

No. 3 Bentley, driven by Sammy Davis, was running hard in third place. We noticed no slackening of its pace till the signal was given to come in, refill and change drivers. Then the great car drew up at the pits. Davis helped his team-mate, Clive Dunfee, to fill up, and the car got away again. The driver who had just come off removed his helmet and goggles, and it was seen that his left eye was cut and bleeding. Three laps before a flying stone had smashed his goggles and driven the fragments of glass into his eye; but Davis, although he must have been in agony, just carried on at full speed until the signal was given to him to come in. "Luckily I had another eye," was all he said as the doctor at last removed the fragments; but among all the incidents of motor racing this one deserves long to be remembered.

Meanwhile Clive Dunfee had roared off on No. 3, determined to keep well up in the battle. A slight exces de zèle on a corner and the big Bentley landed with a dull thud in the sandbank. Dunfee leapt out and began to dig madly with his hands: the sand flew this way and that, and at last he staggered back into the car. But the big 6-cylinder could not pull herself out, only dug herself deeper. Dunfee got out and began to dig again; at the last, utterly exhausted, he was still just scooping with one nerveless hand.

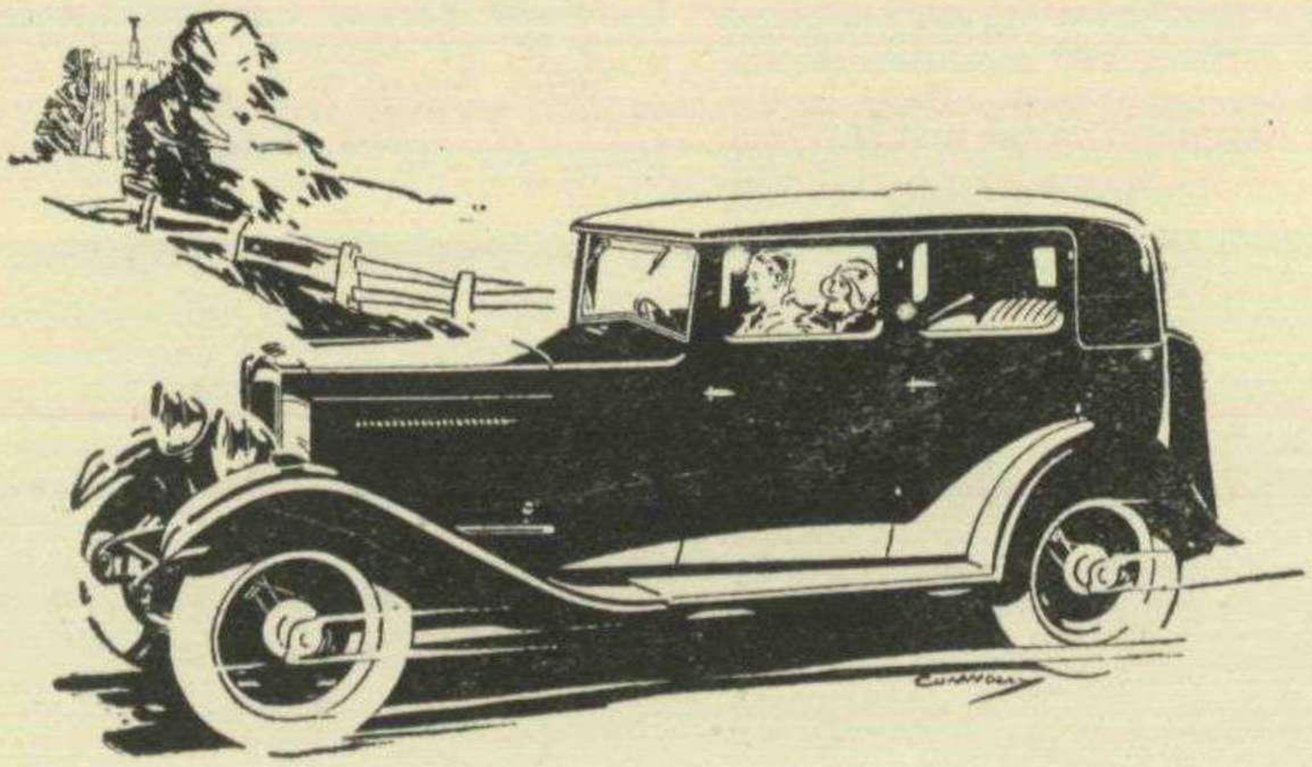
Thus No. 3 was out, the Mercédès still led, but No. 4 Bentley was hot on its



*The Tractas were by far the quickest at Pontlieue.*

# Safety Fast !

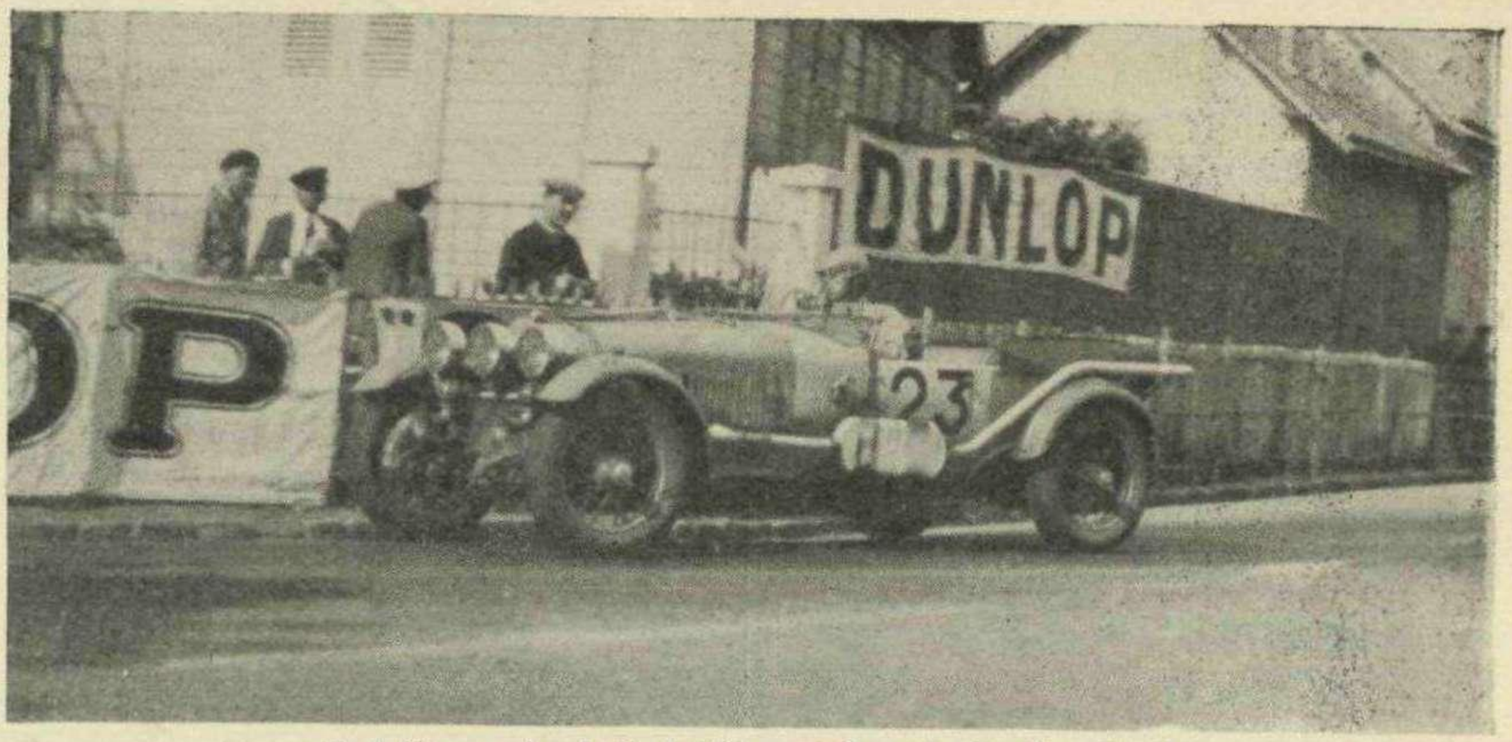
# The M.G. Slogan



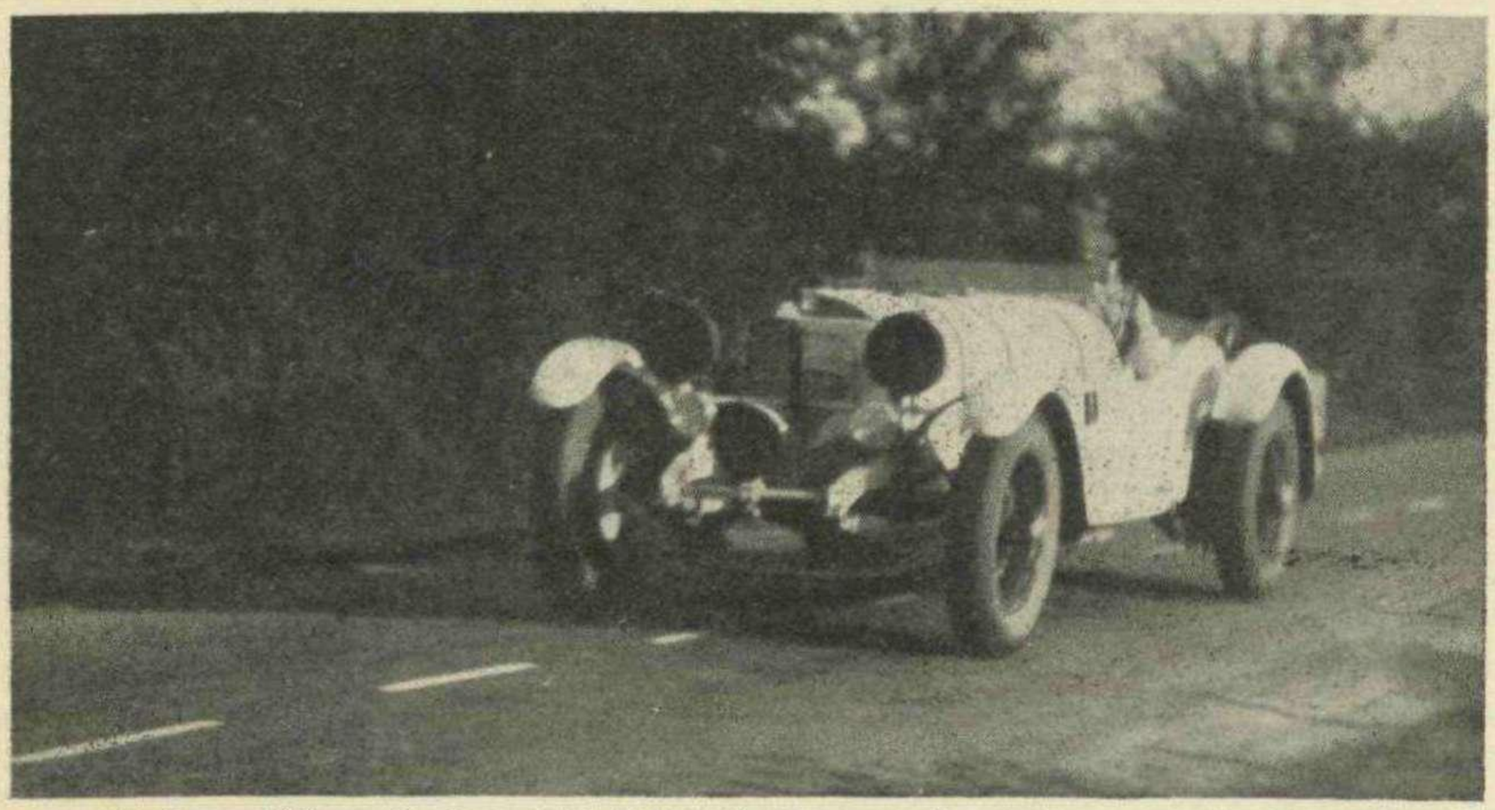
ISSUED BY THE PUBLICITY DEPT. OF THE M.G. CAR COMPANY, PAVLOVA WORKS, ABINGDON-ON-THAMES

*GRAND PRIX d'ENDURANCE—continued.*

heels. Dusk came, then darkness, and with headlamps ablaze No. 4 Bentley passed Werner on the Mercédès to gain the lead. At 10 o'clock Caracciola took over and just before midnight the Mercédès was again ahead of its pursuers. Thus the fight among the leaders continued, but behind, various lots had fallen to the field. The Stutz had never been able to threaten the Bentleys seriously. On the second lap Philippe's car No. 6 had gone off the road, and although it was not damaged, it was much delayed, and after completing some 40 laps it went out with engine trouble. Just before dark a red glow illuminated the woods on the other side of the course, for Brisson's Stutz was burning. Luckily, this driver, once a member of the invincible Lorraine-Dietrich team, was not injured, as he was last year. Round after round Lewis' Talbot and Lord Howe's Alfa-Romeo came round together engaged in a glorious dog-fight. There seemed hardly a shade of difference in the speed of the two cars, and the Talbots were marvellously impressive in their regularity. Behind, the M.G. pair were scrapping merrily with the couple of Tractas. The latter were undeniably terrifically fast on the corners, coming round each time with their tyres screaming, but they were not particularly rapid on the straights. Grégoire, however, their designer and driver of the leading car, seemed well pleased with their regularity of running.




*Earl Howe, who finished fifth, rounding the Pontlieue bend.*



*Well over 100 m.p.h. Caracciola's "Merc" all out on the run down towards the stands.*

At 1 o'clock in the morning Werner took over the Mercédès and the great fight continued. The big cars' brakes were losing their power now, and corners had to be approached slowly. Then at about 2.30 the giant Mercédès appeared round the bend with scarcely a glow showing from its headlamps. It drew in at its pit, and in accordance with the regulations, Werner stopped the engine. It was almost impossible to drive like this: the dynamo had passed out and the battery was exhausted. Still, it might be tried, but the engine, according to the rules, could only be restarted with the starter, and this was too feeble to turn the engine. Thus was the Mercédès out, though as a motor car it was still intact. It was a mournful end to a great battle.

The big Bentleys now had things all their own way: No. 4 was in the lead, with No. 2 in second place. But the day which was just dawning held much in store for some of the competitors. Early in the morning Samuelson on the first M.G. ran a big-end, and a little later the other car of the team ran off the road when running at full speed and wrecked its engine.

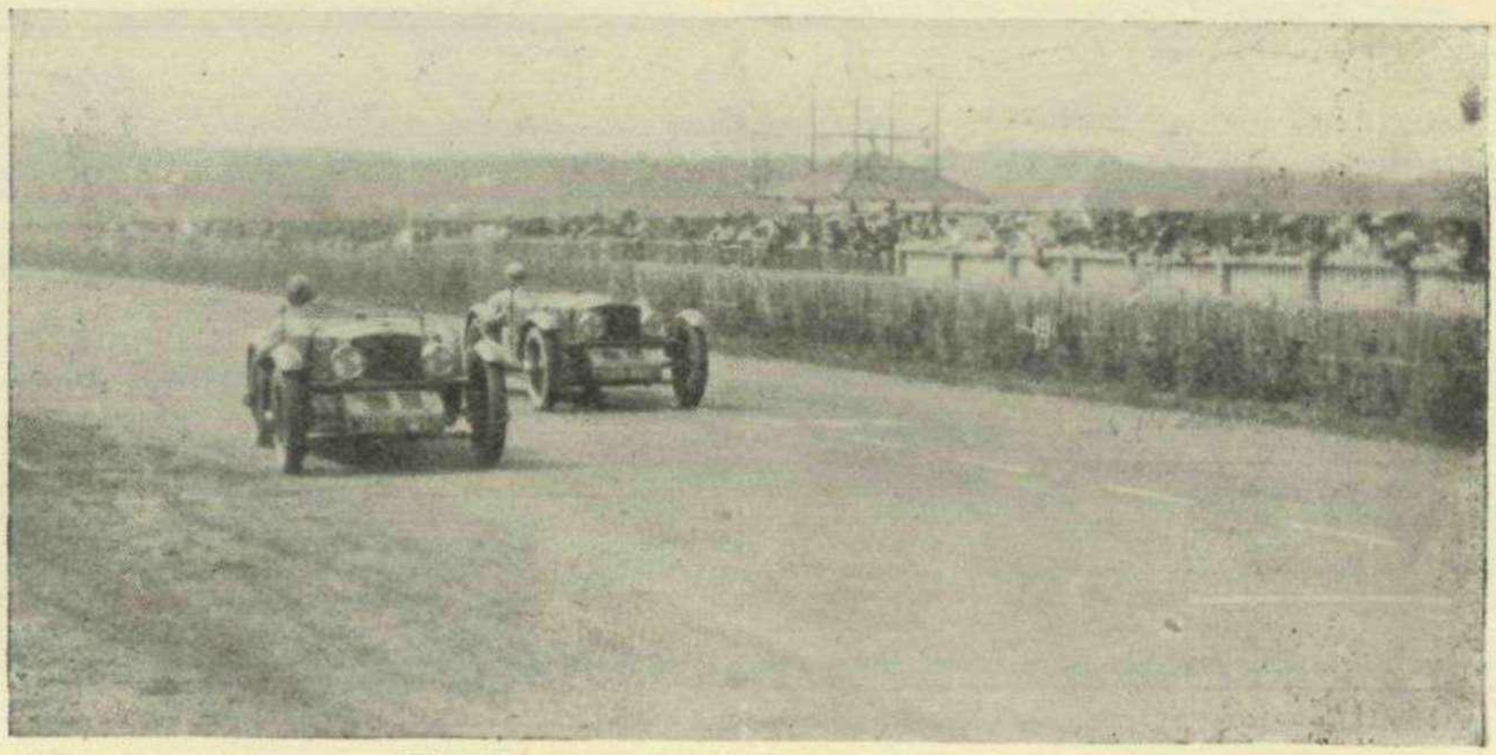
Neither of the two 4½-litre Bentleys which had been the sensation of the first part of the race was destined to finish. Benjafield's car came in popping badly, and was withdrawn with a broken piston, and three hours before the end, Birkin's No. 9 was also brought to a standstill. But there was no stopping the two remaining 6-cylinders, which continued serenely till the end and captured the first two places. Behind them came the Talbots, which had provided one of the most impressive features of the race by their speed and utter regularity, and which secured the honour of exceeding their schedule stipulated by the regulations by the greatest margin. They had both got ahead of the Alfa-Romeo, which was followed by the Lea-Francis, which, too, had made a creditably regular run.

Thus ended the Eighth Grand Prix d'Endurance, and the curtain fell on another epic race.

POSITIONS OF THE FINISHERS.

1. Woolf Barnato and Glen Kidston (6,597 c.c. Bentley). Distance, 1.821 miles. Speed, 75.88 m.p.h.

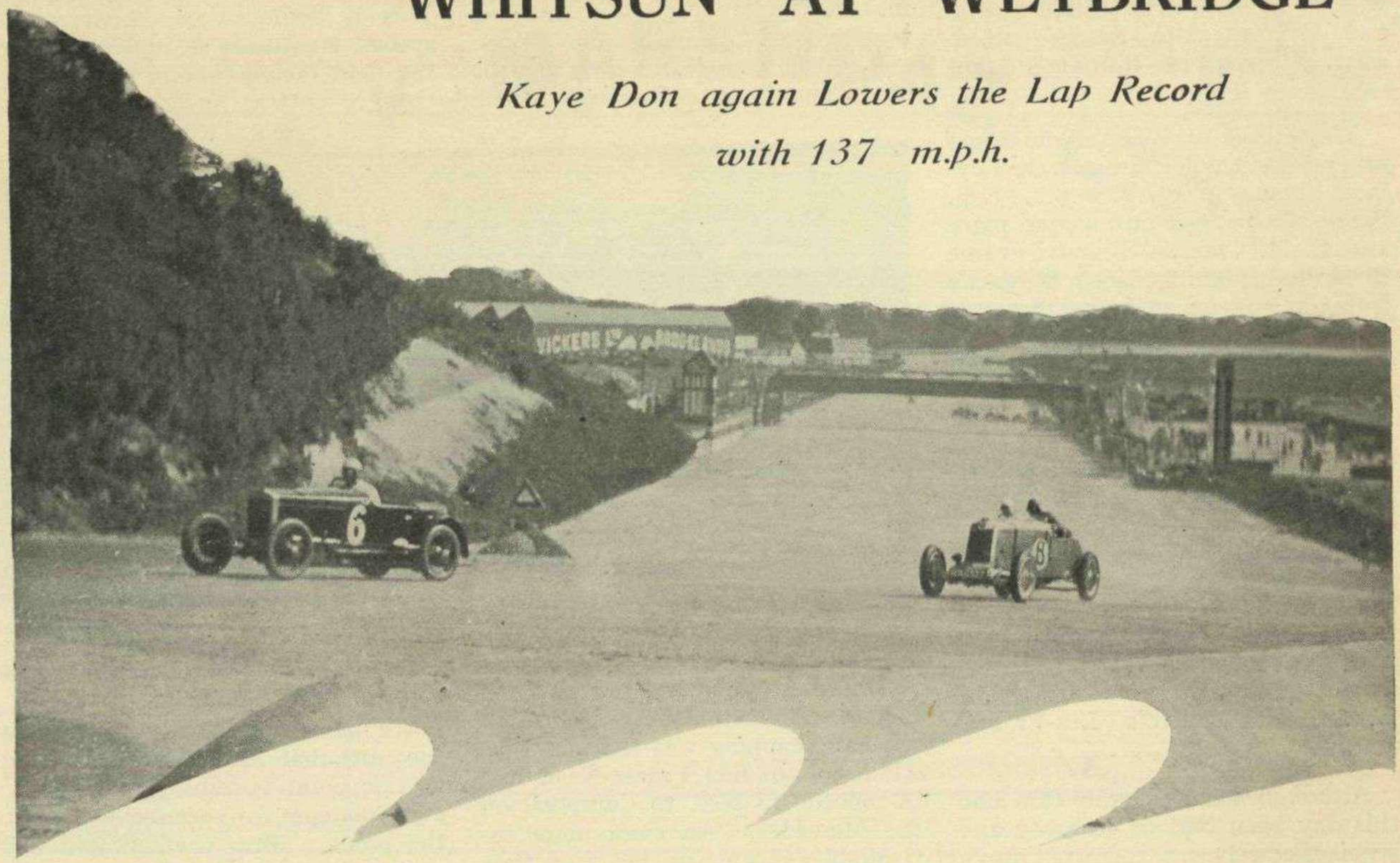
(*Continued on page 42*).



*Two Tractas in fast formation passing the pits.*

# WHITSUN AT WEYBRIDGE

*Kaye Don again Lowers the Lap Record with 137 m.p.h.*




137.58 m.p.h. for a lap! That was certainly the event of Whit-Monday at the track, when Kaye Don celebrated his first straightaway Brooklands meeting since his return from America by raising the lap speed to the above figure, thereby breaking Birkin's record by some 2 m.p.h., a feat the full meaning of which is hard to convey to anyone who has not been quickly round the track.

Recently there have been several prophets who have made so bold as to predict a lap at 140 m.p.h. by the end of the season, and it looks as if their words will prove true. Also, Tim Birkin is not the man to let his own record remain broken longer than he can help, and preparations are already under way for another attack. The Brooklands fan must now be thinking of the thrills of a race with Kaye Don and Birkin level on the scratch mark. On the whole this might be a bit too much of a good thing, but we can trust the authorities to temper their showmanship with discretion.

This element was much in evidence at this meeting, several cars being disqualified at the start on the grounds of unsafe components, both Couper's old Excelsior, and the veteran Lorraine-Dietrich, being detained on suspicion of weak steering gear. It is certainly hard luck on a keen driver, to be stopped racing, but it requires very little imagination to see the wisdom of the Stewards' decision. A defect in one car may endanger not only its driver, but many others, and a meeting missed while a fault is thoroughly remedied is surely worth the avoidance of a grave risk.

Kaye Don's effort was not the only good thing served up at this meeting however; the weather was perfect, and the remainder of the racing was of a particularly high standard, especially the "mountain races," which have now become an accepted feature of the track, and one which has been a tremendous success since its inception this season.

The first race, the Devon Junior Short Handicap, saw Horsman's little Triumph first off the mark with 1m. 42s. start, and he led for a lap till passed by Martin's Riley, which was in turn passed by Field's 1½-litre supercharged Talbot (one of *the* famous Talbots of a few years ago) which won by 120 yards at 99.6 m.p.h. "Ginger" Llewelyn brought his Lea Francis into third place the same distance behind Martin.

The next race produced rather a crop of non-starters and Kaye Don had only top gear left. In spite of this he very sportingly ran, and although, naturally, unable to make a proper getaway, showed what he could do by equalling Birkin's lap record.

The race was won by John Cobb on the big Delage, at 116.88 m.p.h. Cobb was making his first reappearance at Brooklands after a serious illness, and his win was universally popular.

The Mountain Racing Handicap produced a good scrap in spite of the small entry, and Scott's Delage and Roger's Bugatti did battle in great style for some laps. But the

*WHITSUN AT WEYBRIDGE—continued.*

Bugatti got home at 63.8 m.p.h. with S. C. H. Davis (Riley) second and Eyston (Alfa Romeo) third, after a tussle with Bartlett's Salmson.

The Prince of Wales' Gold Plate was won by Dudley Froy on the Leyland Thomas at 107.32 m.p.h. J. F. Field's Talbot ran into second place and E. M. Thomas' Bugatti, came third and just displaced Stewart's from this position at the last moment.

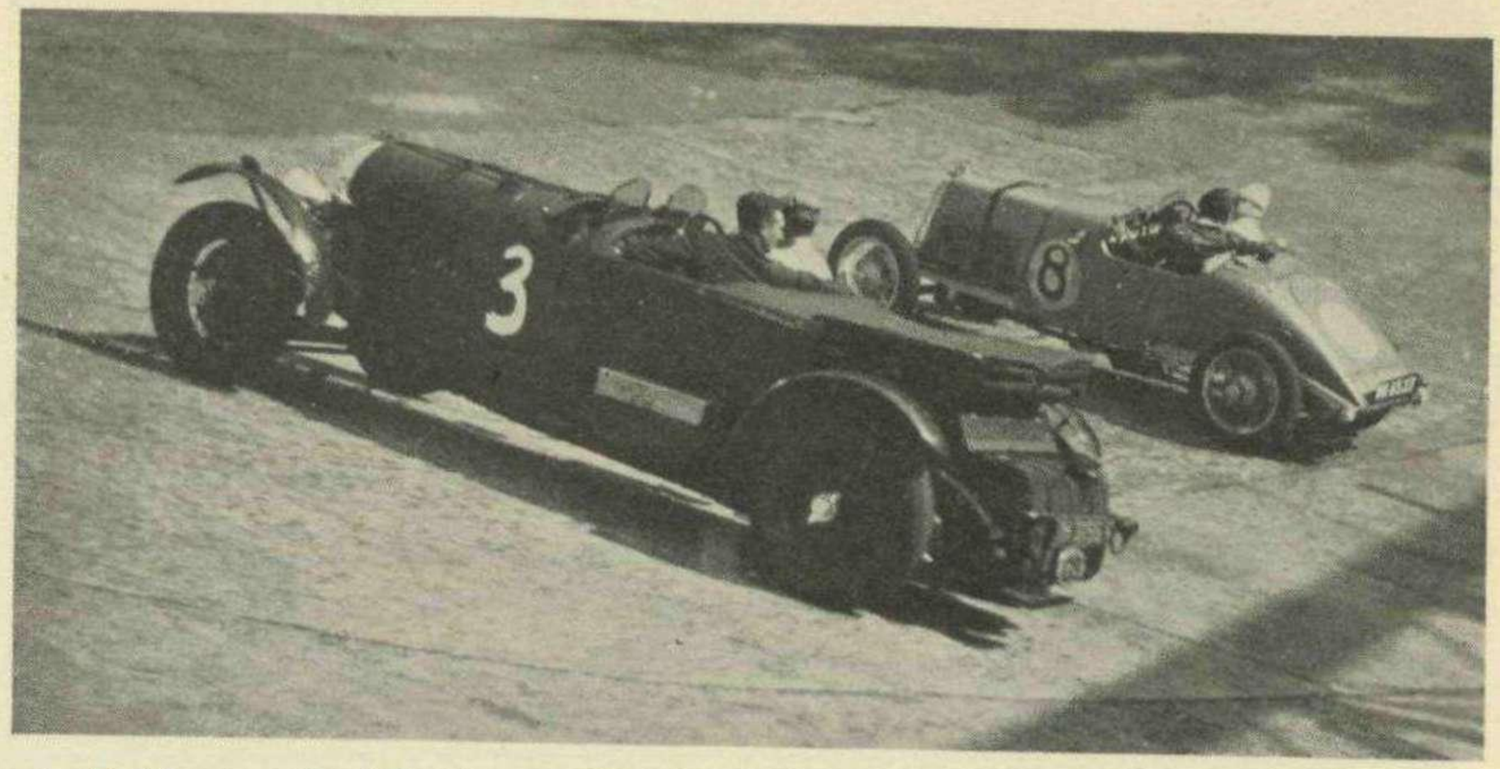
The Devon Junior Long Handicap saw considerable reshuffling of handicaps, Martin, Llewelyn, and Field all being penalised for previous wins or places. which kept them out of the running, and let A. T. Gardner's Amilcar into first place; second and third positions went to Stewart and Field respectively.

The Senior Long Handicap was won by Durand's Bentley, who led Rogers' Bugatti home at 103.61 m.p.h. with Spero's Lea-Francis third.

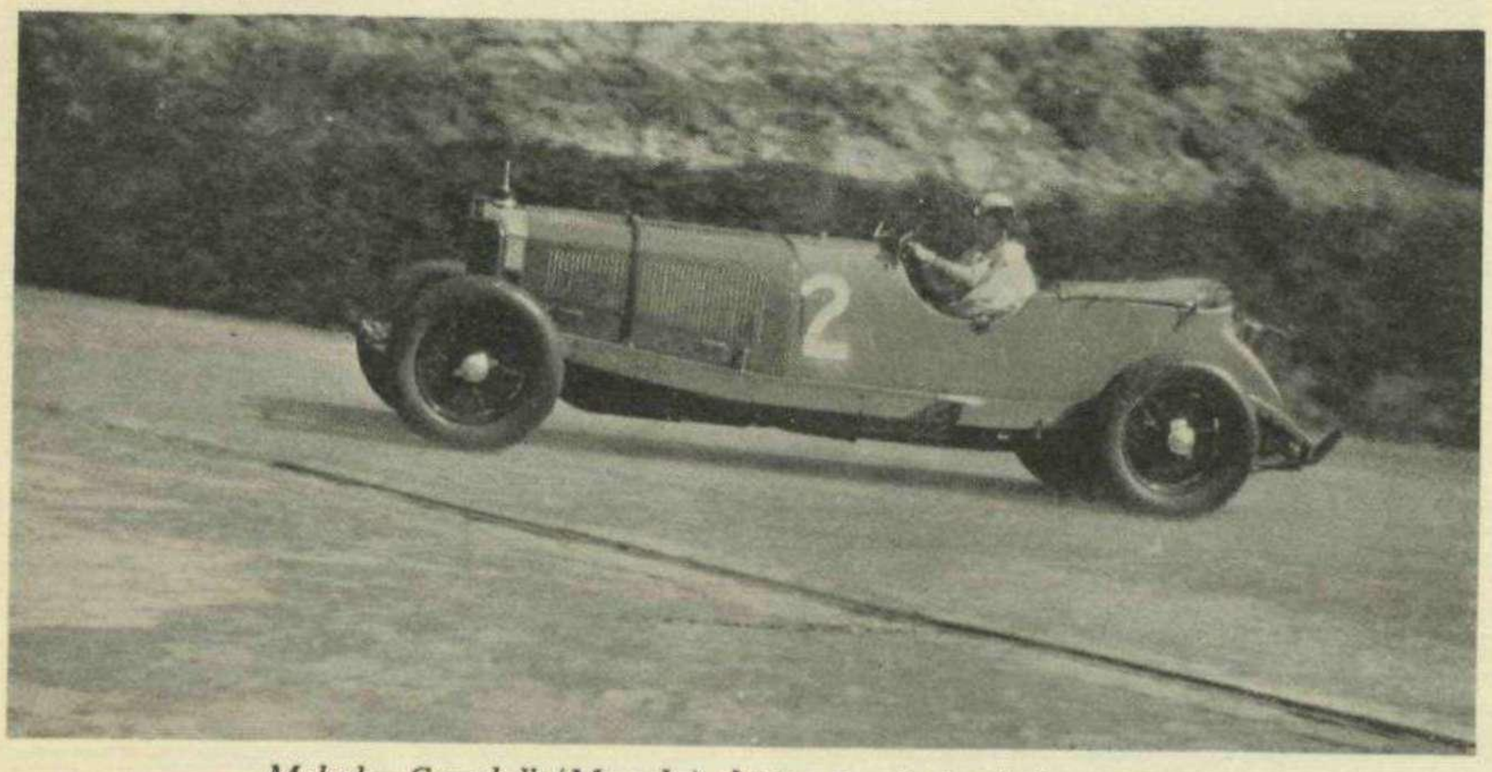
Although some veteran cars had this day been told to go away and repair themselves, this did not apply to the wonderful old chain-driven Benz, which got off the mark like a rocket.

having raised the lap speed to 137.58 m.p.h. Dudley Froy was third on the Leyland Thomas.

The last race of the day was the Mountain Speed Handicap which produced a good field and good racing. An astonishing feature of the handicapping was the fact that Aldington on his Frazer-Nash had to concede 13 secs. to Campbell on the Mercédès. An even more remarkable effort was the fact that Aldington very nearly got away with it and finished within 350 yards of the "Merc"! We were certainly treated to an exhibition of acceleration *in excelsis*.



*In the Mountain Speed Handicap. Clive Dunfee (Bentley) and S. C. H. Davis (Lea Francis).*



*Malcolm Campbell (Mercedes) driving to win in the last event.*

Nicely handled by Cyril Paul, it held off all attack and won at 106.91 m.p.h.

Kaye Don, starting from scratch, still with only top gear, soon got going at a most astonishing speed; streaking round the track and performing terrific leaps over the famous bump, he ran into second place,

The Fork hairpin is a genuine "road-racing" type of corner, and all drivers took it as such. The "Merc's" get away from it was terrific, with Aldington's Nash not much slower.

However, where the Nash made up was at the Members' Bridge bend. This is definitely a corner where special treatment is indicated, and the road racing type of cornering—that is cutting in close—was inclined to lose time.

We have mentioned in previous accounts that Aldington's cornering at this point is liable to be quick, and apologise for seeming to labour the point. But, the fact remains that it is so very definitely faster than anyone else's that it cannnot be overlooked.

Approaching wide and fast, he keeps wide and goes right up the banking, using it to slow him going into the corner, to get him round it, and to give him a good run off from it afterwards. He frequently went within a few feet of the top, but was quite steady, and the result of his driving is shown by his lap speed.

Campbell, S. C. H. Davis, and Brian Lewis on one of the new Talbots all drove with finished precision, but comparatively quietly. Earl Howe remarked as he was watching the race that the "Merc" was new and should be treated with respect at first. If this is what that means, we ought to see some fun when his team of three Mercédès get to Phoenix Park.

After three laps Victor Horsman (Triumph) was leading, with Ashby's Riley, Penn-Hughes' Frazer-Nash and the "Merc." in hot pursuit; lap number five saw the latter fourth and finally he moved up to premier place while second and third positions were held by Davis and Horsman.

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1½ litre class, 24 hours.
Class "G" 24 hours.
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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.
4,000 Miles.
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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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*WHITSUN AT WEYBRIDGE—continued.*

Captain Campbell then held his lead, with Aldington a very good second, Davis third, Brian Lewis fourth and Oats (O.M.) fifth.

As the consolation handicap had to be abandoned owing to lack of entries the Mountain Race concluded the programme, and a very bright and interesting programme at that.

### THE DEVON JUNIOR SHORT HANDICAP.

Distance : About 6½ miles.

1. J. F. Field (1,495 c.c. Talbot), 30 secs.
2. E. Martin (1,083 c.c. Riley), 1 min. 10 secs.
3. A. S. Llewellyn (1,496 c.c Lea.-Francis), 48 secs.

### THE DEVON LIGHTNING SHORT HANDICAP.

Distance : About 6½ miles.

1. J. R. Cobb (10,680 c.c. Delage), 10 secs.
2. E. L. Bouts (1,988 c.c. Sunbeam), 32 secs.
3. J. Dunfee (1,988 c.c. Sunbeam), 21 secs.

### THE MOUNTAIN RACING HANDICAP.

Distance : About 12 miles.

1. P. B. Rogers (1,496 Bugatti), 1 min. 10 secs.
2. S. C. H. Davis (1,097 c.c. Riley), 1 min.
3. G. E. T. Eyston (1,752 c.c. Alfa-Romeo), 36 secs.

### THE DEVON SENIOR SHORT HANDICAP.

Distance : 6½ miles.

1. D. Froy (8,297 c.c. Leyland Thomas), 21 secs.
2. J. F. Field (1,495 c.c. Talbot), 28 secs.
3. E. M. Thomas (1,990 c.c. Bugatti), 28 secs.

### THE DEVON JUNIOR LONG HANDICAP.

Distance : About 9 miles.

1. Major A. T. G. Gardner (1,093 c.c. Amilcar), 51 secs.
2. R. C. Stewart (1,752 c.c. Alfa-Romeo), 3 secs.
3. J. F. Field (1,495 c.c. Talbot), owes 16 secs.

### THE DEVON SENIOR LONG HANDICAP.

Distance : About 9 miles).

1. M. O. de B. Durand (4,398 c.c. Bentley), 51 secs.
2. P. B. Rogers (1,496 c.c. Bugatti), 38 secs.
3. H. C. Spero (1,496 c.c. Lea-Francis), 1 min. 6 secs.

### THE DEVON LIGHTNING LONG HANDICAP.

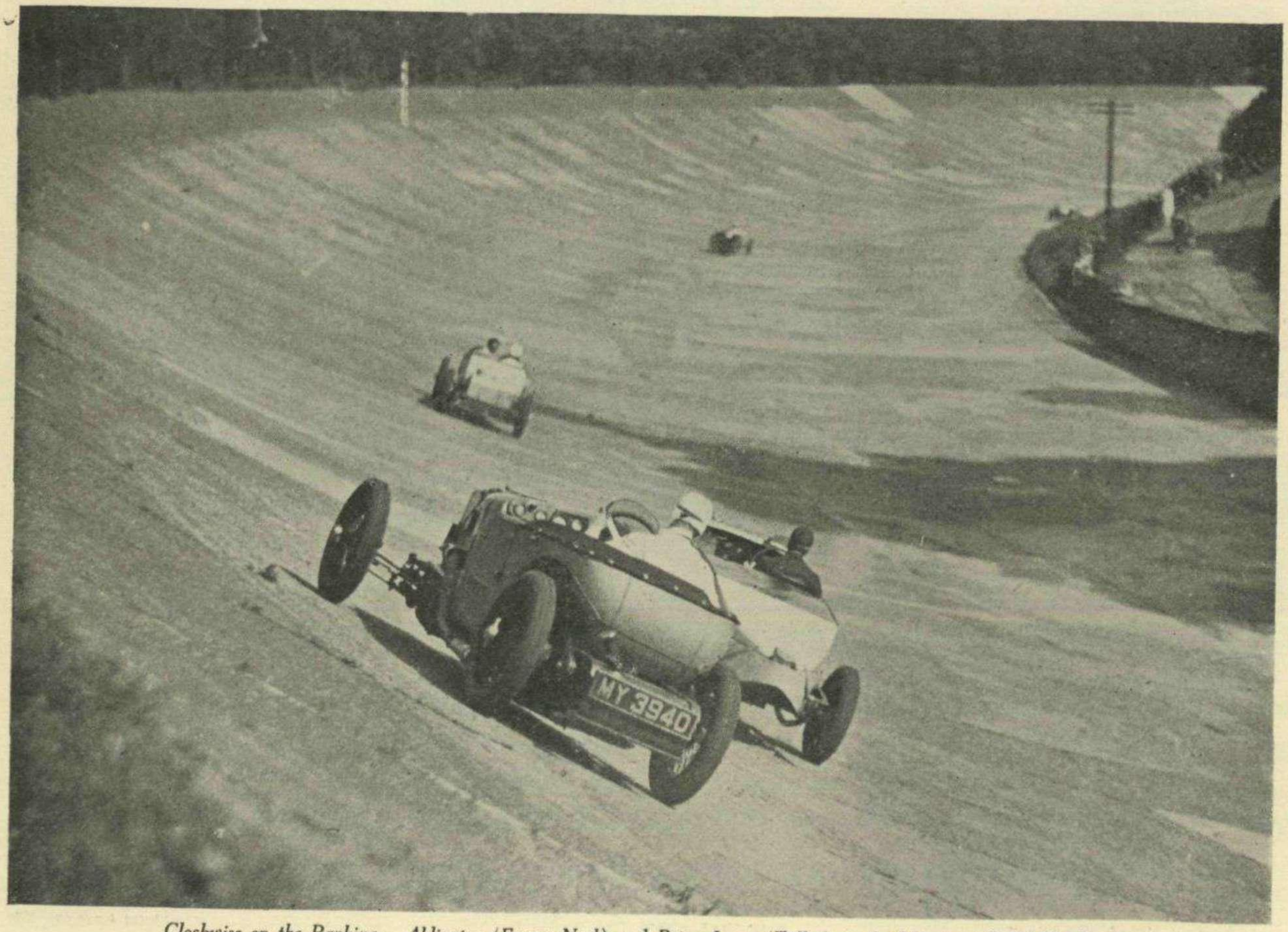
Distance : About 9 miles.

1. C. Paul (21,504 c.c. Benz), 43 secs.
2. K. Don (3,976 c.c. Sunbeam), scr.
3. D. Froy (8,297 c.c. Leyland-Thomas), 18 secs.

### THE MOUNTAIN SPEED HANDICAP.

Distance : About 12 miles.

1. Capt. M. Campbell (7,020 c.c. Mercédès), 13 secs.
2. H. J. Aldington (1,496 c.c. Frazer-Nash), scr.
3. S. C. H. Davis (1,496 c.c. Lea-Francis), 44 secs.




*Clockwise on the Banking. Aldington (Frazer-Nash) and Brian Lewis (Talbot) in the Mountain Speed Handicap.*

# "I am having one on my car"

—*MALCOLM CAMPBELL*



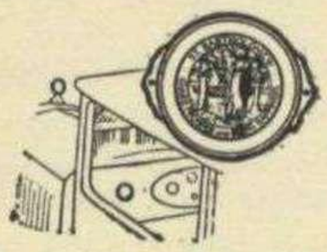
"I think the Barts Mascots are most attractive. I am having one on my car, and I hope motorists generally will follow my example, and benefit so excellent an institution as Barts Hospital."

Malcolm Campbell

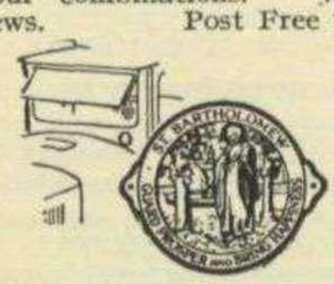
*Photo: Sport and General.*

# Barts Mascots

*Registered under the Patents and Designs Acts, 1907 & 1928.*



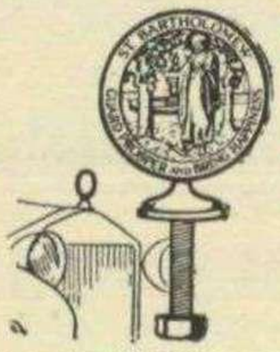
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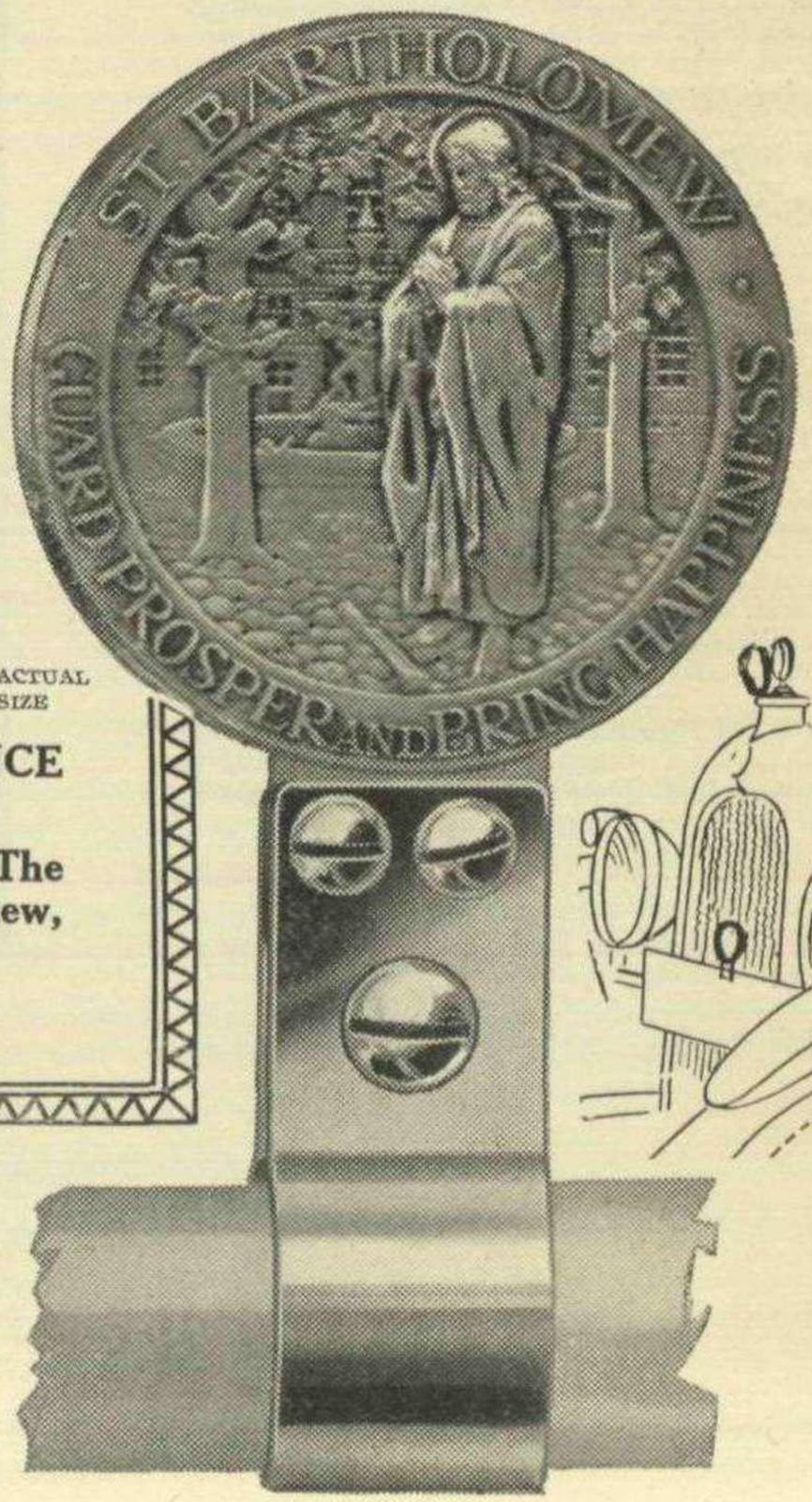
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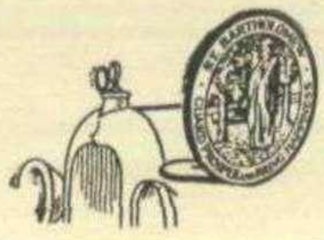
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# FIRE REGULATIONS FOR CAR OWNERS

THE PETROLEUM SPIRIT REGULATIONS—STATUTORY RULES and ORDERS No. 952

## YOUR CAR TANK IS A "STORAGE PLACE."

### HOW ORDER OPERATES.

A private garage is a " storage place " under the above Regulations. Even when the only petrol " stored " is that in the car tank or the spare can on the car, the garage is still a storage place when the car is in it.

*Fire Protection Necessary.*

Regulation 5c provides that " in the storage place or as near thereto as is reasonably practical there shall be kept fire extinguishing apparatus of a type capable of extinguishing fires occasioned by petroleum-spirit or a supply of sand or other effective means of extinguishing such fires."

*Penalty for Contravention.*

The Regulations which have now come into effect are made under Section 10 of the Petroleum (Consolidation) Act, 1928, under which it is laid down that " if any person contravenes or attempts to contravene any Regulation made under this Section he shall be liable on a summary conviction to a fine not exceeding £20 for every day on which the offence occurs or continues."

*How to Comply.*

When no petrol is stored apart from that in or on the car the Home Office requirements are met most conveniently and usefully by carrying " Pyrene " Fire Extinguisher on the car itself as at all material times the garage is thus protected. If additional cans of petrol are stored in a private garage the " Phomene " Foam Type Fire Extinguisher is recommended for the garage. Sand is unreliable, difficult to apply and damaging in its effect, particularly where the car is concerned.

*Reasons for Regulations.*

The Regulations have been laid down to meet the growing public fire danger incurred by the modern practice of building private garages, etc., near to or as a part of dwelling houses and business premises.

## How One Extinguisher covers Car and Garage




THE easiest and most serviceable means of meeting these Regulations, if you do not store petrol apart from that on your car, is to fit a " Pyrene " Fire Extinguisher to the car. You will then have the advantage of this protection for a fire emergency on the road as well as at your garage.

The alarming increase in motor car fires has already impressed thousands of motorists with the necessity or providing such protection. The " Pyrene " Fire Extinguisher is always ready for instant use. It operates at any angle and with any side up. Its continuous jet commences with the first upstroke of the double-acting pump and it does not have to depend upon any air or gas pressure. No more liquid than is necessary to put out the fire need be used and the remainder is effective for future application. The Extinguisher is easily filled up by pouring in more " Pyrene " fire extinguishing liquid.

If you keep additional cans of petrol in your garage, instal the " Phomene " Foam Type Extinguisher, as advised in the preceding column, but do not neglect to protect your car with the " Pyrene " Extinguisher.

**Get one from your Dealer to-day.**

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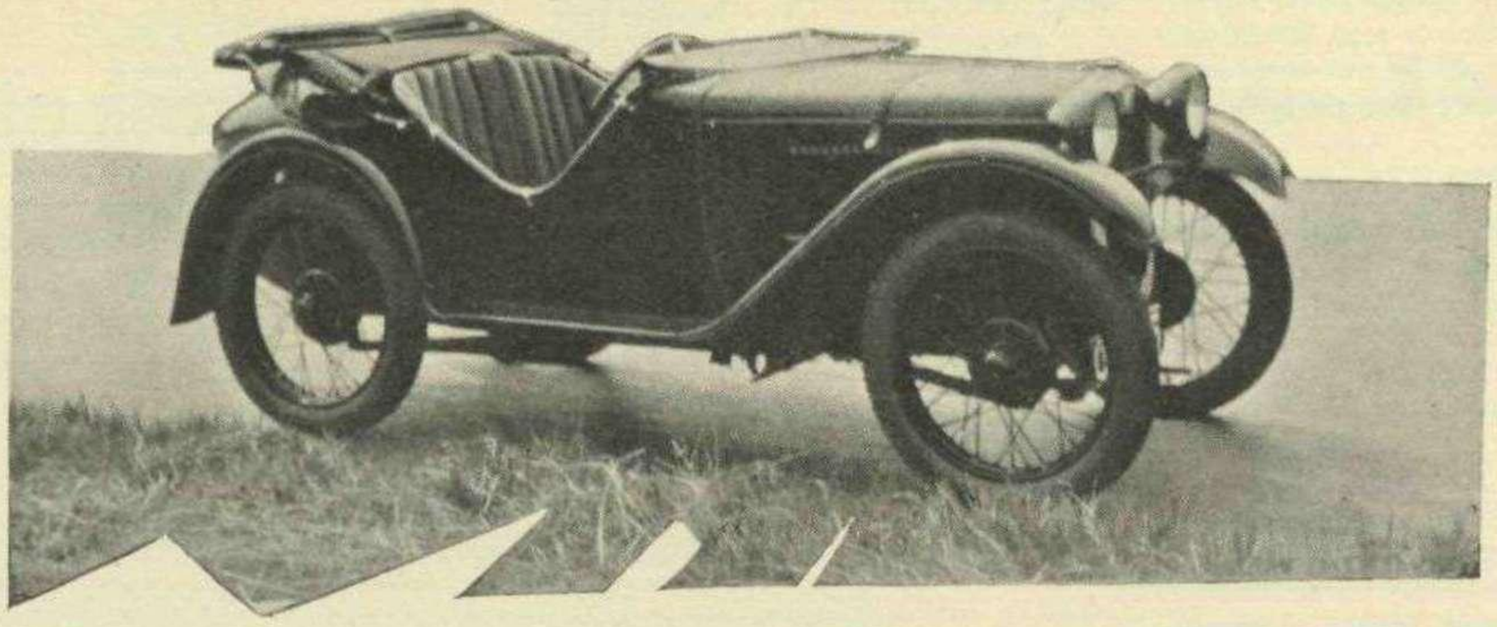
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# A NEW SPORTS SEVEN

## COMFORT AND SPEED COMBINED IN LATEST AUSTIN



LAST month some reference was made in MOTOR SPORT to a brief run in one of the latest type Austin Seven sports models, which is now in regular production, and which put up such an admirable performance in the Double Twelve race.

Since then we have had the opportunity of giving one of these cars an extended test on the road, and as a result our first favourable impressions were amplified. In the first place, a great improvement in the accommodation is noticeable, the roominess of both the passenger's and driver's seats being so ample as to be unique in a car of such small size. Another feature which the new model possesses is that " something " which conveys the impression of solidity and a high degree of control throughout its whole speed range. Its road-holding qualities, in fact, are astonishing, and even over rough surfaces at high speeds there is a complete lack of bounce and other disconcerting caprices which are too often met met with in many cars of greater size and weight than the Austin. This stability is due, no doubt, largely to the fact that the chassis frame has been lowered to a substantial extent, and the road springs are bound with cord.

As soon as we got under way with the little vehicle we felt " at home," all the controls falling to hand (and foot) easily and without groping.

The car placed at our disposal was practically brand new, but the little 747 c.c. engine sounded so full of life, that, once in the country, we gave it its head. From a standstill, 40 m.p.h. was achieved in 14 seconds, and 50 m.p.h. in second was possible without undue fuss; all-out speed on top was 60 m.p.h. In view of the good maximum in 2nd gear, these seemed to point rather to too high a top speed ratio; apparently the makers have realised this, for we understand that the back-axle ratio on later editions is to be reduced in order to put up the top-speed performance. It should be further stated that the model in question had done only about 100 miles, and was, therefore, not fully run in.

The four-wheel brakes are now all applied either by pedal or lever and a single wing-nut, conveniently placed, adjusts the whole set. In testing the braking we found that the car at 40 m.p.h. could be stopped in 130 feet; the deceleration was steady and comfortable, although the rear brakes tended to come on before the front ones. This, however, was a matter for simple adjustment. The steering was found to be light, but not sufficiently so to make high speed driving disconcerting; it was, in fact, just right.

The dimensions of the engine are the same as in former " 7s," but it is fitted with special pistons, connecting rods, and crankshaft, which imbue it with the necessary revving capabilities. The supercharger, when fitted, is driven by gears from the front of the engine, but the model we tested was not so equipped.

The gear box is of the close ratio type, giving 4.9, 7 and 12.5 to one, an alteration which is reflected in the performance. The intermediate gears are unusually silent in use, even at high r.p.m., and the gate has been altered so as to allow really snappy changes, both up and down, to be made.

As can be seen from the photograph, the body is quite graceful in contour and in good proportions, and though cut away at the sides to facilitate entry and exit, it is snug and free from draughts. With the hood up, moreover, we found there was plenty of head room—another point which is lacking in many other small sports cars.

The spare wheel is housed in a well in the tail of the machine, and is securely held without the use of any fixing: this well is covered with a panel secured by a strap, so that a rapid change of wheel should be possible.

As for the matter of consumption, we made a careful note of our mileage, and over a route which included London traffic (at its worst), main roads, by-pass " straights " and Hertfordshire lanes, we found this worked out at 37½ m.p.g.

Altogether we formed the impression that this latest edition from Longbridge was a very definite improvement on its forerunners, and a car entirely suitable for for the man who wants something snappy, smart and small.

# THE BOL d'OR

## *VARIED ENTRY IN POPULAR FRENCH EVENT.*

THE Bol d'Or race for small cars is undoubtedly one of the most popular events of the French season, and in view of its characteristics this is hardly surprising. It is run in the Forest of St. Germain only a few miles from Paris, and its date is Whit Sunday and Monday, so that all and sundry can be present, and pleasant summer weather can usually be counted on.

The circuit over which the cars race is in the centre of the forest and is only just over 2½ miles round, so that the cars are passing continuously. The cars themselves are an extraordinary collection. Glancing down the entry list one sees hardly a name one knows as far as cars which are produced on a commercial scale are concerned. But the names of the individuals who have entered them are often familiar, and these cars are in fact the products of the many enthusiastic inventors and mechanics which abound in France who have prepared them for the Bol d'Or often with more ingenuity than money in the hopes that they will gain fame and thus induce someone to put up the necessary capital to allow them to exploit their cars commercially. A 24-hour race is at any rate a very good test, and as the same driver has to stay at the wheel the whole time, it is also a good test of human endurance.

When the cars were marshalled for the start this year on Sunday, 8th June, some forty machines presented themselves. They ranged from 350 c.c. 3-wheelers to 1,100 c.c. racing cars, and were of all sorts and types. The smaller 3-wheelers (350 c.c. and 500 c.c.) were all rather spidery looking machines with motorcycle engines, but in the 750 c.c. division there was a very neat looking 4-cylinder d'Yrsan, which incidentally had the class to itself. The biggest 3-wheelers were a Sandford, which is the French Morgan and Meuet's machine of his own construction, both of which had 1,100 c.c. engines.

The smallest 4-wheelers were the 350 c.c. racing cars which consisted of a single seater Antony and a Duguesclin driven by Dugué. A Sima-Violet, which is familiar to English readers ran in the 500 c.c. division and was matched against a car entered by Berthelon. In the 750 c.c. sports class there were a couple of Rosengarts, the French edition of the Austin Seven, one of which driven by Mare Chauvierre had a saloon body and was the actual car which scored a clean sheet in the recent Tour de France.

Among the largest cars the most pleasing looking were the four Cabaus in the 1,100 c.c. racing division. These cars were entered by their manufacturer, Giraud-Cabautons, who eventually proved the victor. There was also a Donnet racer which proved exceptionally fast, one or two B.N.C.'s a Tracta, two Scaps and various other machines of different makes and types.

Towards 6.30 on the Sunday evening the thirty-nine starters were all collected and their drivers addressed by the organiser of the race, M. Mauve. Then the engines were got going and amid a tornado of sound in which the splutter of single-cylinder 2-strokes was mingled with the roar of the multi-cylinder 1,100 c.c. racers, the field got away.

As soon as the racing machines got really going it became apparent that the fastest car on the course was the Donnet racer driven by Girod. Trennet's B.N.C., which was running in the racing class and Sirejol's car of the same make in the sports class were also fast, while the Cabaus were all going well with the car driven by their manufacturer, the fastest. In the 3-wheeler division the Sandford was proving itself as fast as any of the cars. After four hours, as darkness was falling, the positions were as follows :—

350C.C. 3-WHEELERS.
1. Christe (Villard), 56 laps=174 miles.
2. Leroy (Royal Sport), 43 laps.
3. Cheret (Jack Sport), 34 laps.

500 C.C. 3-WHEELERS.
1. Annino (Annino-Jap), 60 laps=156½ miles.
2. Ornefrowski (Villard), 56 laps.
3. Gordine (Sacha-Jap).

750 C.C. 3-WHEELERS.
1. Latour (d'Yrsan), 60 laps=156½ miles.

1100 C.C. 3-WHEELERS.
1. Poulet (Sandford), 74 laps=193 miles.

350 C.C. RACING CARS.
1. Antony (Antony), 45 laps=117½ miles.
2. Dugué (Duguesclin), 39 laps.

500 C.C. RACING CARS.
1. Berthelon (Berthelon), 42 laps=110 miles.

1100 C.C. RACING CARS.
1. Girod (Donnet), 78 laps=204½ miles.
2. Trennet (B.N.C.) and Giraud-Cabantons (Cabau), 77 laps.

750 C.C. SPORTS CARS.
1. Violet (Huascar), 65 laps=170 miles.
1. Louis (Rosengart), 64 laps.
3. Chauvierre (Rosengart), 59 laps.

1100 C.C. SPORTS CARS.
1. Vallon (La Licerne), 70 laps=181½ miles.
2. Siregols (B.N.C.), 69 laps.
3. Ofa (Tracta) and Boudry (Scap), 66 laps.

The night was fine, and the position of most of the competitors remained unaltered. In the 1100 c.c. racing division however Trennet fell out with the B.N.C. and Giraud-Cabautons succeeded in passing Girod on the Donnet and taking the lead in the whole race, while the other Cabaus occupied the next three positions with Vallon on the La Licorne in the sports car class not far behind. Among the three wheelers the Sandford fell out, but the other leaders were still in their same position. In the 750 c.c. sports car division the first of the Rosengarts driven by Louis had got ahead of Violet.

Monday proved to be extremely hot which had the effect of making the tar surface of the road rather soft and a good many of the cars turned completely round at some of the corners. Girod on the Donnet had a considerable amount of trouble and gradually fell back, but most of the other cars continued serenely on their way until promptly at 6.30 in the evening they were stopped by M. Mauve.

The final results were as follows :—

GENERAL CLASSIFICATION.
1. Giraud-Cabautons (Cabau), 446 laps =1,165 miles. Average 48.4 m.p.h.
2. Manuel Siréjols (B.N.C.), 424 laps.
3. Roger Labric (Cabau), 420 laps.
4. Maurice Benoist (Cabau), 414 laps.
5. Vernet (Cabau), 413 laps.
6. Vallon (La Licorne), 411 laps.

CLASS WINNERS.

350 C.C. 3-WHEELERS.
1. R. Leroy (Royal Sport), 268 laps= 700 miles. Average 29.17 m.p.h.
2. Christe (Villard), 265 laps.

500 C.C. 3-WHEELERS.
1. Annino (Annino) 303 laps=790 miles. Average 33 m.p.h.
2. Ornefrowski (Villard), 179 laps.
3. Gordine (Sacha), 163 laps.

750 C.C. 3-WHEELERS.
1. B. de Latour (d'Yrsan), 322 laps= 841 miles. Average 35 m.p.h.

RACING CARS—350 C.C.
1. Antony (Antony), 270 laps=705 miles. Average 29.37 m.p.h.
2. Dugué (Duguesclin), 203 laps.

500 C.C.
1. Berthelon (Berthelon), 182 laps= 475 miles. Average 19.8 m.p.h.

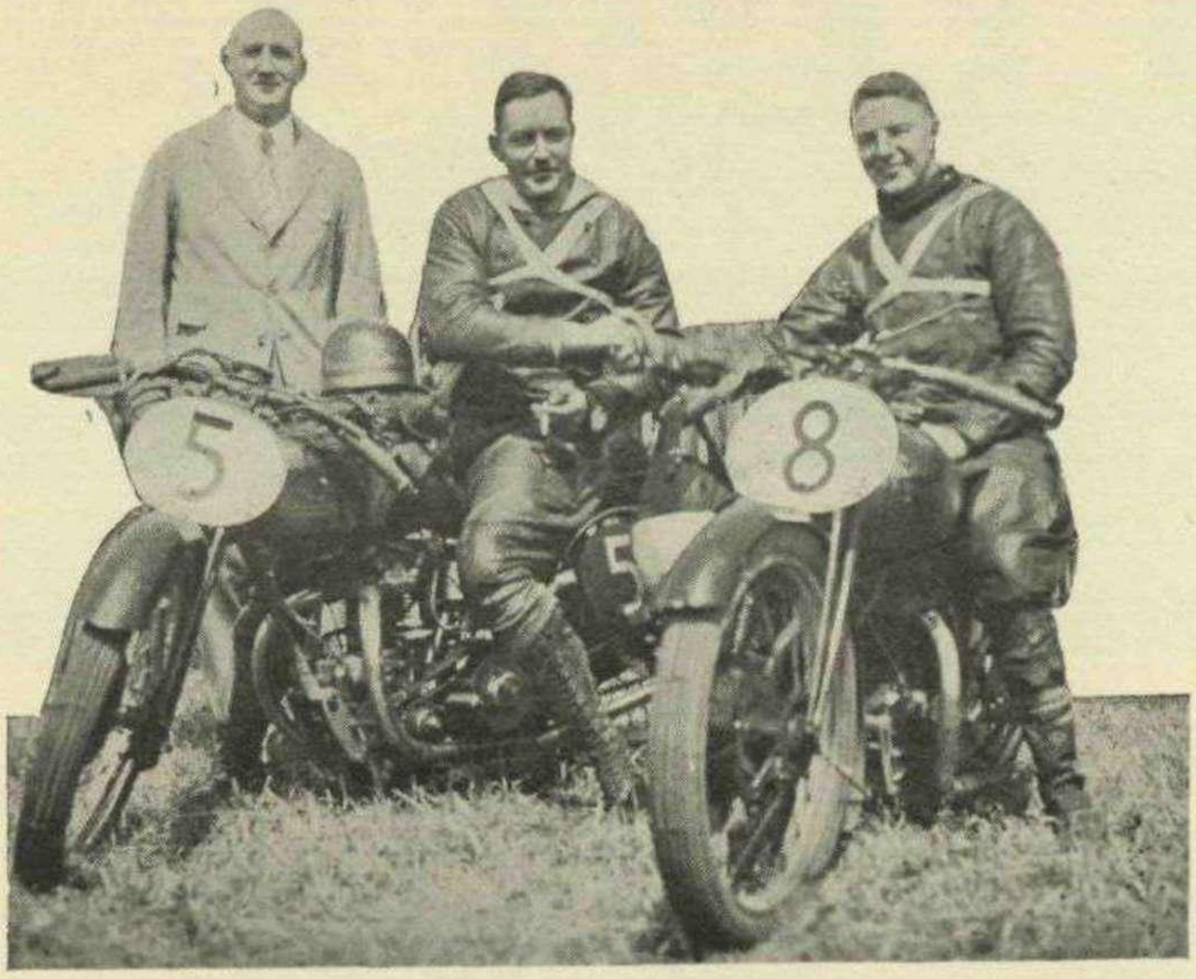
1100 C.C.
1. Giraud-Cabautons (Cabau), 446 laps.
2. Roger Labric (Cabau), 420 laps).
3. Maurice Beneist (Cabau), 414 laps.
4. Veniet (Cabau), 413 laps.
5. Madame Violette Morris (Violette Morris), 359 laps.
6. Martin (Martin), 303 laps.
7. Delorme (Delorme), 270 laps.
8. Girod (Donnet), 253 laps.
9. Brun (P.B.), 219 laps.

SPORTS CARS—750 C.C.
1. Violet (Huascar), 377 laps=986 miles. Average 41 m.p.h.
2. Chauvierre (Rosengart), 349 laps.
3. Gaston Louis (Rosengart), 322 laps.

1100 C.C.
1. Sirégols (B.N.C.), 424 laps=1,107 miles. Average 46.1 m.p.h.
2. Vallon (La Licorne), 411 laps.
3. Alin (Adrien), 388 laps.
4. R. Clément (Clément-Rochelle), 370 laps.
5. Ufa (Tracta), 345 laps.
6. Baudry (Scap), 258 laps.
7. Huberdean (d'Yrsan), 241 laps.

# THE JUNIOR T.T.

## RUDGE'S CLEAN SWEEP IN FIRST OF ISLAND RACES



*Smiles and Handshakes after Victory. Graham Walker and Tyrell-Smith congratulate each other, while Mr. J. Pugh looks on.*

MANY wonderful races have taken place over the famous island course, but few, if any, will live longer in the memory of those who witnessed it, than the 1930 Junior T.T. Although on rare occasions in the past the first three places have been annexed by one make, there has never been a victory so complete as the Rudge Whitworth performance of this year. This was no case of getting home at a moderate pace when the opposition had broken up. Tyrell-Smith, who last year finished third in the Senior after a heavy crash, and who has since shown himelf in the very first flight, came home a winner of the 1930 Junior in 3 hours 43 minutes at an average speed of 71.08 m.p.h. He was second to Dodson on a Sunbeam on the first lap, tied with him on the second, and, following Dodson's retirement with engine trouble, led to the finish. His team mates, G. E. Nott and Graham Walker finished in that order within a minute of the winner.

The second make to finish was Velocette, which firm has been well nigh invincible in recent Junior Races, This year there was only one official entry, H. J. Willis, on an experimental engine of great promise. After a good beginning he had to retire, however, and it was left to that very modest and retiring South African, Lon Hall, to bring his Velocette into fourth place at over 70 m.p.h.—and this on only his second visit to the island, a very remarkable effort.

As the riders wheeled their machines out to the start, and one saw the many famous names in the list, it became more than ever certain that the winner would have to ride a record race. With such an entry there would be no chance of anyone being able to tour home in comfort with practically no competition, a thing which is alas, far too common in car racing in this country of late.

As Hunt pushed his Norton off the starting square, and disappeared over the brow of Bray Hill, conditions were as near perfect as could be, though the riders would perhaps have preferred it to be slightly cooler. Hot roads mean wet tar before the end of the race. A notable absentee was W. L. Handley whose F.N. had not turned up in time, and who had just been unable to put in the necessary qualifying laps on Emery's Cotton, which he was to have ridden instead.

As the late numbers started it was seen that considerable reshuffling of positions was going on round the course, and soon Tim Hunt was signalled at Governors, and the Norton screamed by the stands, having lapped in 32m. 21s. Graham Walker and Tyrell-Smith were close on his heels, however, and Tyrell's time was 31m. 54s. And yet even this was beaten by Dodson, by the narrow margin of 3 secs. Hicks (A.J.S.) and Willis (Velocette) had also lapped at over 70 m.p.h., while 50 secs. only covered the first 12 riders. This was a race indeed!

FIRST LAP LEADERS.

| | | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. | C. J. P. Dodson (Sunbeam) | 31 | 51 | 71.09 |
| 2. | H. G. Tyrell-Smith (Rudge) | 31 | 54 | 70.99 |
| 3. | F. G. Hicks (A.J.S.) ... ... | 32 | 4 | 70.61 |
| 4. | H. J. Willis (Velocette) ... | 32 | 12 | 70.32 |
| 5. | P. Hunt (Norton) ... ... | 32 | 21 | 69.99 |
| 6. | A. J. Guthrie (A.J.S.) ... | 32 | 23 | 69.93 |

Some of the overseas riders were striking a patch of bad luck as Williams, Coleman and Naure, from Australia, New Zealand and Spain respectively were already out of it. There was little time, however, to consider their misfortunes for the leaders were roaring through on another lap, and as their times went up, so records went down. First Tyrell-Smith had broken the lap record in 31m. 38s. but almost immediately it was lowered by 1 sec. by Guthrie (A.J.S.), giving a speed of 71.61 m.p.h.

Reminders of the cracking pace came as another clock stopped moving on the score board, and later the official announcement would arrive of the rider's retirement. Next, Barrow packed up at Hillberry with engine trouble. Then the times for the second lap went up and Dodson and Tyrell were dead level, an event unique in I.O.M. racing.

The speeds were getting higher, and at the end of the second lap the first ten riders had all averaged over 70 m.p.h.

SECOND LAP LEADERS.

| | | h. | m. | s. | m.p.h. |
|---|---|---|---|---|---|
| 1. | H. G. Tyrell-Smith (349 Rudge) ... ... / C. J. P. Dodson (346 Sunbeam) ... ... | 1 | 3 | 32 | 71.28 |
| 3. | F. G. Hicks (346 A.J.S.) ... | 1 | 3 | 55 | 70.85 |
| 4. | H. J. Willis (348 Velocette) ... | 1 | 3 | 56 | 70.84 |
| 5. | A. J. Guthrie (346 A.J.S.) ... | 1 | 4 | 0 | 70.76 |
| 6. | G. E. Nott (349 Rudge) ... | 1 | 4 | 13 | 70.52 |

The third lap saw Guthrie's short lived record fall again to Tyrell Smith in 31m. 35s. (71.69 m.p.h.) only to be broken again by Guthrie, this time by a 7 sec. margin at 71.96 m.p.h.

Then Dodson broke a valve at Kirkmichael and retired and the first of the giants was out of it. The famous Jimmie Simpson followed suit, and Lind (A.J.S.) had a broken magneto control and was slowed by being unable to advance the ignition. A.J.S. hopes, however, were centred on Guthrie whose record laps had pulled him up to second place, only 21 secs. behind the leading Rudge.

Somerville Sikes (Velocette) who had been riding very well hitherto, came off at Quarter Bridge, and had to lose some time straightening out his model before continuing. The tar here was becoming sticky and several riders had anxious moments. Hicks and Willis, last year

*JUNIOR T.T.—continued.*

riding as team mates, but this year as friendly rivals, kept A.J.S. and Velocette well to the fore, but the other two Rudges in charge of Nott and Graham Walker were forcing their way up among the leaders, having evidently been signalled to open the taps, in case of trouble overtaking Tyrell.

THIRD LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. H. G. Tyrell-Smith (349 Rudge) ... ... ... | 1 | 35 | 7 | 71.42 |
| 2. A. J. Guthrie (346 A.J.S.) ... | 1 | 35 | 28 | 71.15 |
| 3. H. J. Willis (348 Velocette) ... | 1 | 35 | 39 | 71.02 |
| 4. F. G. Hicks (346 A.J.S.) ... | 1 | 35 | 50 | 70.88 |
| 5. D. Hall (348 Velocette) ... | 1 | 36 | 0 | 70.76 |
| 6. G. E. Nott (349 Rudge) ... | 1 | 36 | 4 | 70.71 |

Graham Walker's way of signifying that he had not being going quite all out was to break the lap record, held at that particular moment by Guthrie. His speed was 71.99 m.p.h. The Rudges, however, were getting no rest from the A.J.S. camp, or from Willis' Velocette, but they were closing up and Nott and Walker were lying 5th and 6th.

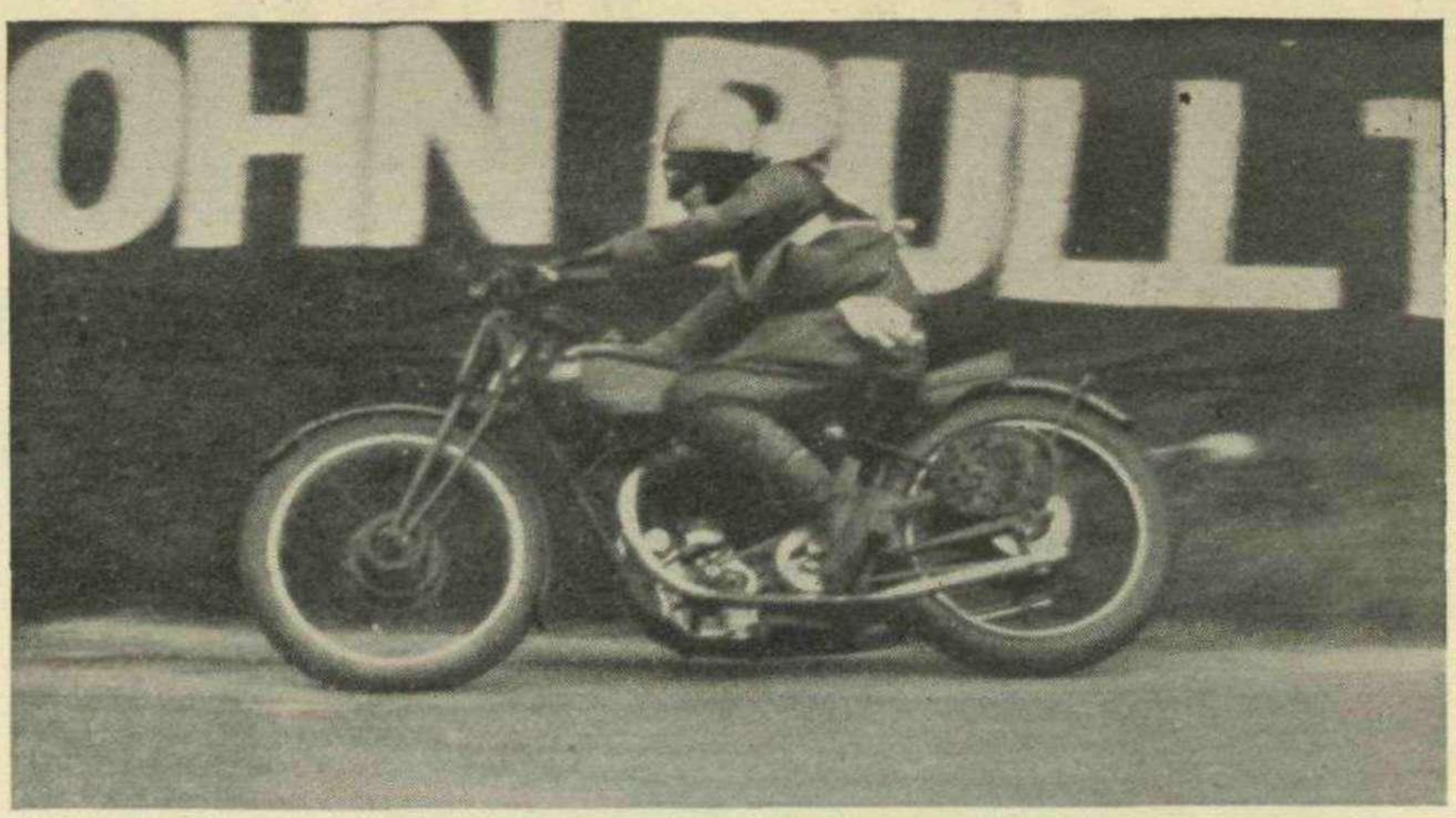
FOURTH LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. H. G. Tyrell-Smith (349 Rudge) ... ... ... | 2 | 7 | 24 | 71.09 |
| 2. A. J. Guthrie (346 A.J.S.) ... | 2 | 7 | 52 | 70.84 |
| 3. H. J. Willis (348 Velocette) | 2 | 8 | 9 | 70.68 |
| 4. F. G. Hicks (346 A.J.S.) ... | 2 | 8 | 19 | 70.58 |
| 5. G. E. Nott (349 Rudge) ... | 2 | 8 | 29 | 70.49 |
| 6. G. W. Walker (349 Rudge) ... | 2 | 8 | 32 | 70.46 |

The fifth lap began to see Fate getting to work among the leaders, and Hicks was caught by the tar at Quarter Bridge, and crashed, damaging his machine, and, as it later transpired, his wrist, which put him out of action for the Lightweight and Senior. Hard luck indeed! However it takes more than a damaged wrist to keep Hicks away from a machine when actually in a race, and he very pluckily got to work on it and was away again in a couple of minutes only to retire with engine trouble.

Then Willis went out with engine trouble, and the Rudges were going faster than ever. Graham Walker on this lap again broke the record and beat 72 m.p.h. for the first time on a 350 c.c. machine, but then Nott broke this record in 31m. 21s. at 72.22 m.p.h. This remained unbroken at the finish and is therefore the present Junior lap record.

The Rudges were closing in on the valiant Guthrie, now left to fight a lone battle for A.J.S. and Hunt had to change a plug in his Norton and dropped to tenth place after creeping up to sixth.



*Tyrell-Smith at Craig-ny-baa.*

FIFTH LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. H. G. Tyrell-Smith (349 Rudge) ... ... | 2 | 38 | 47 | 71.30 |
| 2. A. J. Guthrie (346 A.J.S.) ... | 2 | 39 | 28 | 71.01 |
| 3. G. E. Nott (349 Rudge) ... | 2 | 39 | 50 | 70.84 |
| 4. G. W. Walker (349 Rudge) ... | 2 | 39 | 54 | 70.80 |
| 5. D. Hall (348 Velocette) ... | 2 | 40 | 31 | 70.53 |
| 6. P. Hunt (348 Norton) ... | 2 | 42 | 0 | 69.89 |

Next lap brought disaster to A.J.S. when Guthrie's magnificent ride was brought to an end by engine failure at Crosby, and their last chance of victory was gone. A.J.S. did not draw a blank however, for G. Himing finished 8th, L. H. Davenport 10th and J. G. Lind 11th, all gaining replicas.

The Rudge position was now firmly consolidated, they had had absolutely no trouble, and the engines were as fast as ever. Tyrell-Smith came in to fill up and receive instructions and warnings and went off for his last lap, with 56 secs. in hand over Nott, and nearly two minutes over Graham Walker.

SIXTH LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. H. G. Tyrell-Smith (349 Rudge) | 3 | 10 | 30 | 71.31 |
| 2. G. E. Nott (349 Rudge) ... | 3 | 11 | 24 | 70.99 |
| 3. G. W. Walker (349 Rudge) ... | 3 | 12 | 19 | 70.64 |
| 4. D. Hall (348 Velocette) ... | 3 | 13 | 5 | 70.35 |
| 5. C. J. Williams (348 Raleigh) | 3 | 14 | 47 | 69.74 |
| 6. S. Woods (348 Norton) ... | 3 | 15 | 18 | 69.57 |

The Rudge victory was now as certain as anything in motor racing can ever be, and Tyrell was making sure by very steady and careful riding on the last lap of his record breaking ride. Nott and Walker were keeping flat out and actually closed up on Tyrell, and 58 secs. covered the first three at the finish.

The Rudge achievement was all the more remarkable as the engines used, with their very clever arrangements of four radially disposed valves in a hemispherical head, was undergoing its first real test on the road, and G. L. Hack to whose designing capabilities the success was so largely due, is to be heartily congratulated. Don Hall continued his remarkable and consistent riding to the end and averaged the excellent speed of 70.36 m.p.h., while C. J. Williams brought a Raleigh into fifth place after a fine ride. Stanley Woods who finished sixth on a Norton rode with his usual skill and dash but his engine lacked the necessary speed to get any nearer to the flying Rudges.

RESULTS.

TROPHY AND REPLICA WINNERS.

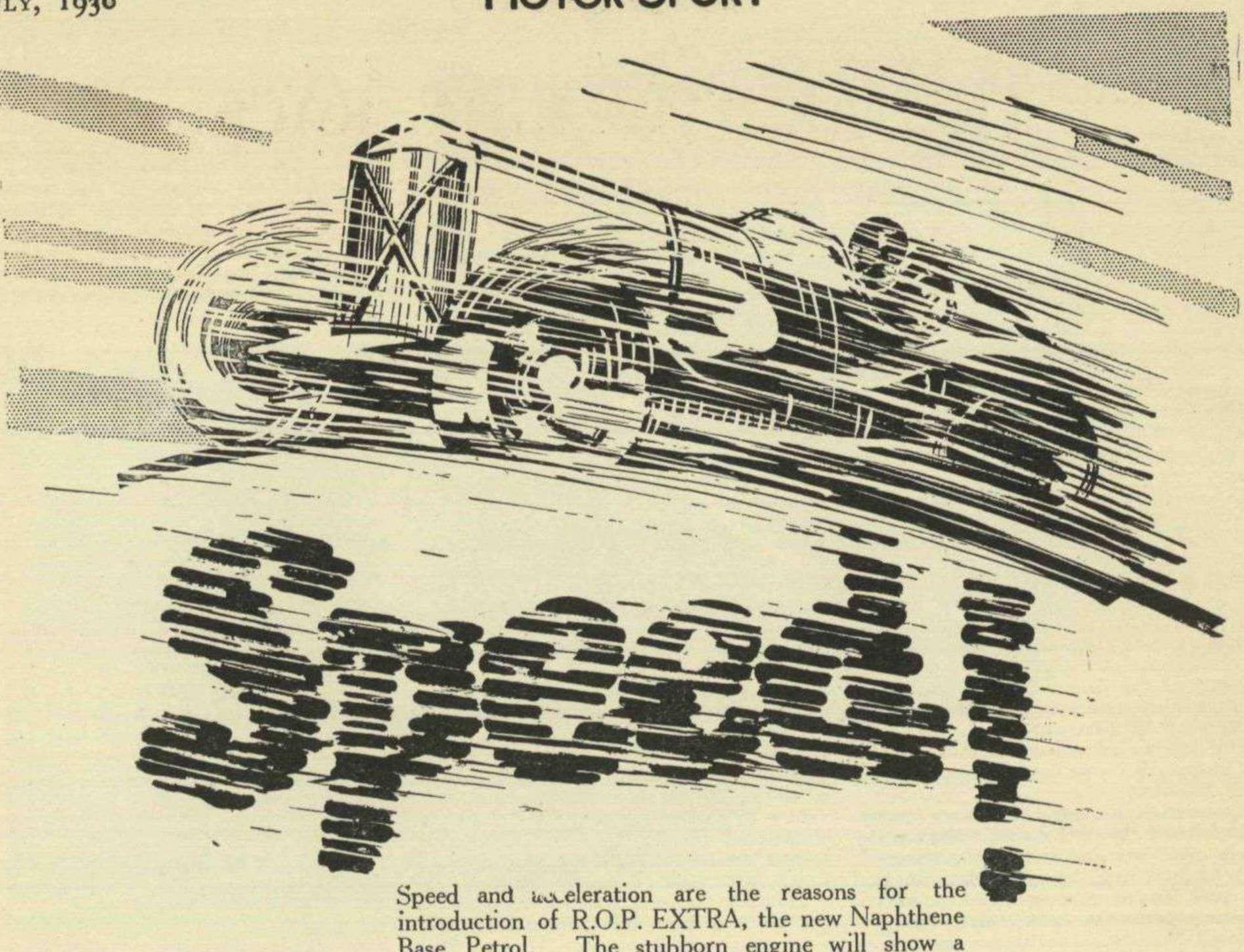
| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| **1. H. G. Tyrell-Smith (349 Rudge) ... ... ...** | **3** | **43** | **0** | **71.03** |
| **2. G. E. Nott (349 Rudge) ...** | **3** | **43** | **35** | **70.89** |
| **3. G. W. Walker (349 Rudge) ...** | **3** | **43** | **58** | **70.77** |
| 4. D. Hall (348 Velocette) ... | 3 | 45 | 0 | 70.44 |
| 5. C. J. Williams (348 Raleigh) ... | 3 | 47 | 1 | 69.82 |
| 6. S. Woods (348 Norton) ... | 3 | 47 | 26 | 69.60 |
| 7. A. G. Mitchell (348 Velocette) | 3 | 53 | 25 | 67.90 |
| 8. G. Himing (346 A.J.S.) ... | 3 | 54 | 1 | 67.73 |
| 9. P. Hunt (348 Norton) ... | 3 | 55 | 43 | 67.24 |
| 10. L. H. Davenport (346 A.J.S.) | 3 | 56 | 32 | 67.01 |
| 11. J. G. Lind (346 A.J.S.) ... | 3 | 58 | 56 | 66.34 |
| 12. Achille Varzi (346 Sunbeam) | 3 | 59 | 33 | 66.16 |
| 13. T. Oscarsson (348 Velocette) | 3 | 59 | 44 | 66.12 |
| 14. E. A. Mellors (346 New Imperial) ... ... ... | 3 | 59 | 54 | 66.07 |
| 15. K. Tada (348 Velocette) ... | 4 | 4 | 15 | 64.89 |

OTHER FINISHERS.

| | | | | |
|---|---|---|---|---|
| 16. S. A. Crabtree (346 Excelsior-J.A.P.)... ... ... ... | 4 | 7 | 13 | 64.11 |
| 17. C. W. Johnston (346 Cotton-J.A.P.)... ... ... ... | 4 | 11 | 39 | 52.98 |
| 18. O. Sebessy (348 Velocette) ... | 4 | 11 | 49 | 62.94 |
| 19. K. Twenlow (348 Cotton-J.A.P.)... ... ... ... | 4 | 14 | 7 | 62.37 |
| 30. J. Fondu (346 Mondiale-J.A.P.)... ... ... ... | 4 | 17 | 8 | 61.64 |
| 21. H. E. Edwards (346 Royal Enfield) ... ... ... | 4 | 29 | 1 | 58.92 |
| 22. Somerville Sikes (348 Velocette) ... ... ... ... | 4 | 36 | 44 | 57.27 |

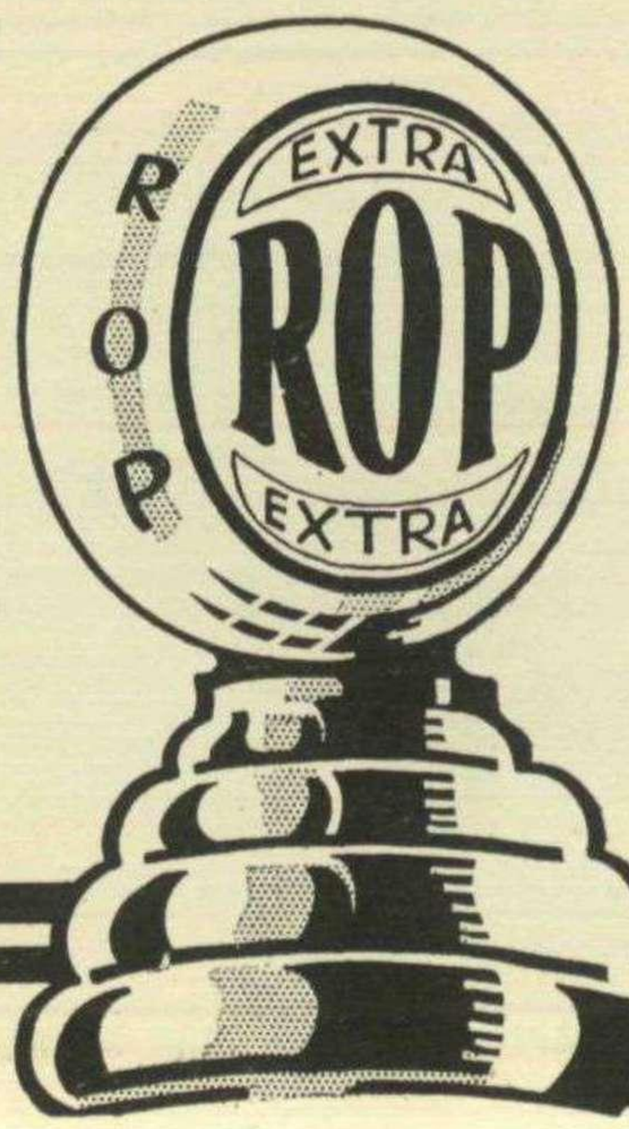



*Don Hall (Velocette) on the last bend of Governors Bridge.*



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THE T.T.

# THE LIGHTWEIGHT RACE

## *Guthrie on A.J.S. Wins at 64.71 m.p.h.*

COMING, as it does, between the two great struggles of the Junior and Senior races, the Wednesday event of T.T. week is always liable to appear a quiet affair in comparison. This does not mean that the Lightweight does not produce some good racing on occasion,—who will ever forget the Paddy Johnston-Ghersi duel of 1926?—but the smaller entry, and the predominance of "assembled" machines, takes some of the "snap" out of this event.

Although the entry this year was above normal, this was counteracted by the remarkable number of retirements. The 250 c.c. engine is, as a rule, very reliable under racing conditions, but this year proved an exception, and only 13 finished out of the 30 starters.

Unfortunately the chief International interest of the race was eliminated by the absence of the Guzzi entries, which last year gave our men very seriously to think when Ghersi led for most of the race and broke the lap record, which remained to be broken this year by the irrepressible Wal Handley.

There were also various changes among the balance of the entry. Somerville Sikes took over Runtsch's O.K. Supreme, but had the bad luck to retire on the seventh lap at Ramsey with a siezed engine, which had been giving signs of trouble all the race and eventually packed up altogether. P. A. E. Vare and J. G. Lind took over Ventura's Rex-Acme and F. G. Hicks' A.J.S. entries respectively, however, the actual machine which Hicks was to have ridden was the one which A. J. Guthrie rode to victory.

This year seemed a fortunate one for first attempts, for in addition to it being the first time Rudges have entered in the Junior, it was also the first time that a 250 c.c. A.J.S. has been seen on the island course, and its victory at record speed for the race is therefore all the more creditable.

C. S. Barrow (O.K. Supreme) occupied the starting square as No. 1 and at the sound of the maroon led off, followed without a single reluctant starter by the remainder of the entry.

The first lap, however, gave signs of the troubles that were in store, for L. H. Davenport (A.J.S.) got no further than Quarter Bridge, while Tattersall (S.G.S.) and S. A. Crabtree (Excelsior) last year's winner, both failed to reach Ballacraine.

The crop of retirements was probably augmented by the perfect conditions which prevailed for the whole race. Dry roads, and good visibility, certainly make for safety for the riders, but they also make for record speeds and overdriven engines, and in this case the early leaders all suffered from engine failure by about half distance.

Jock Porter, another ex-Lightweight winner, but of late dogged by ill-luck, was setting a fast pace to Ramsey but did not contrive to keep it up and eventually retired with a fractured petrol pipe. Great things had been rumoured of the o.h.c. engine of the O.K. Supremes ridden by Sarkis and Don Hall, and their undoubted speed was shown by Sarkis taking the lead on the first lap at 66.76 m.p.h. with Hall's machine fourth.

Handley for once was not in the lead but he remedied this omission by the fine performance of setting up a new Lightweight lap record on his second circuit in 33 minutes 52 seconds at a speed of 66.86 m.p.h.

FIRST LAP LEADERS.

| | m. | s. | m.p.h. |
|---|---|---|---|
| 1. J. Sarkis (O.K. Supreme) ... | 33 | 55 | 66.76 |
| 2. W. L. Handley (Rex-Acme) ... | 34 | 31 | 65.60 |
| 3. F. Franconi (Universal J.A.P.) | 34 | 40 | 65.32 |
| 4. D. Hall (O.K. Supreme) ... | 34 | 43 | 65.22 |
| 5. L. C. Crabtree (Excelsior) ... | 34 | 47 | 65.10 |
| 6. A. J. Guthrie (A.J.S.) ... ... | 45 | 1 | 64.66 |

Only just over a minute covered the first six, and trouble soon began to thin them out, L.C. Crabtree retiring with (it was stated) carburettor trouble, early on the second lap, followed shortly afterwards by Don Hall at Ballaugh. Jim Whalley was in trouble with a broken oil pipe and was attempting repairs at the pits, while P. Vane was working on his machine at Craig-ny-baa.

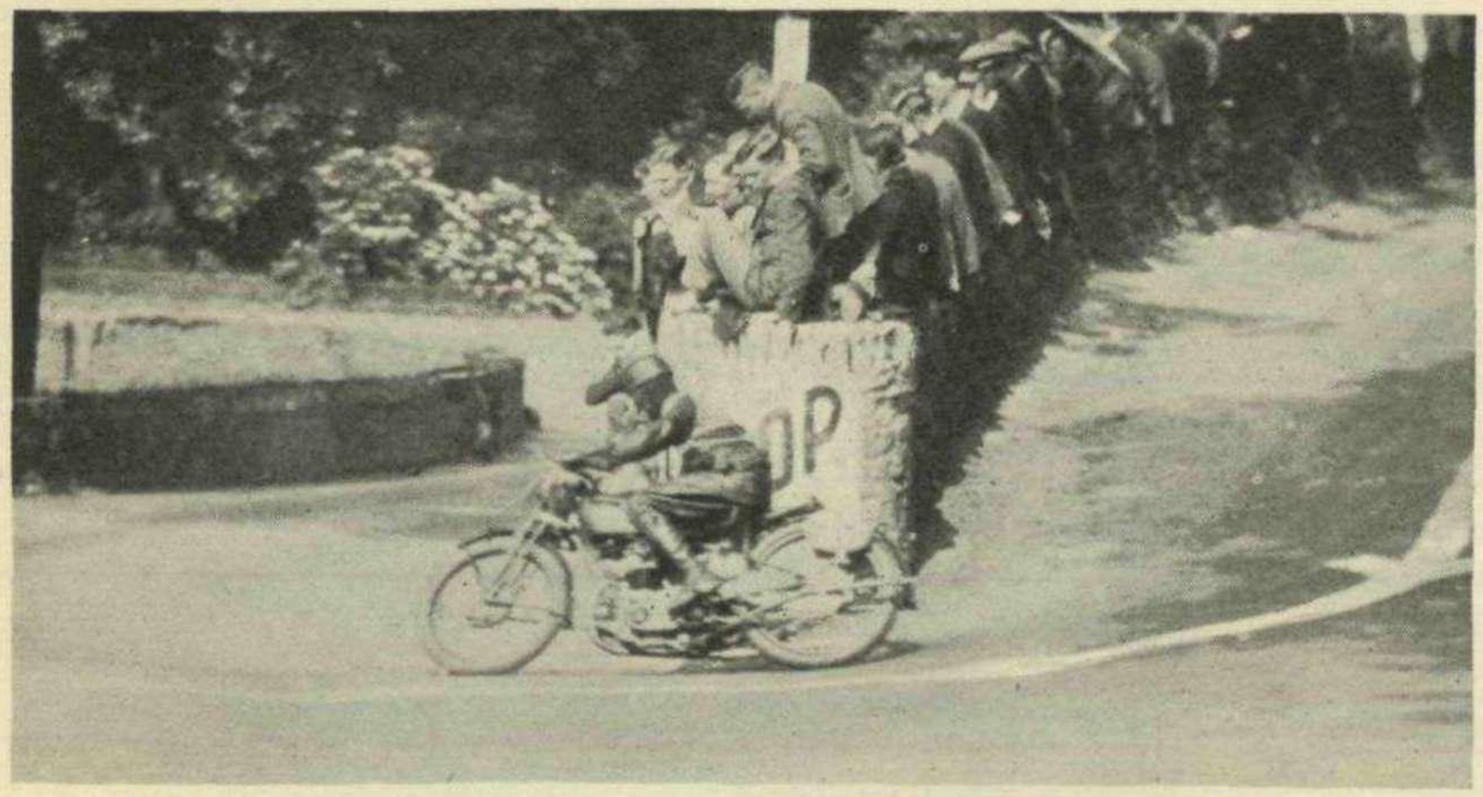
SECOND LAP LEADERS.

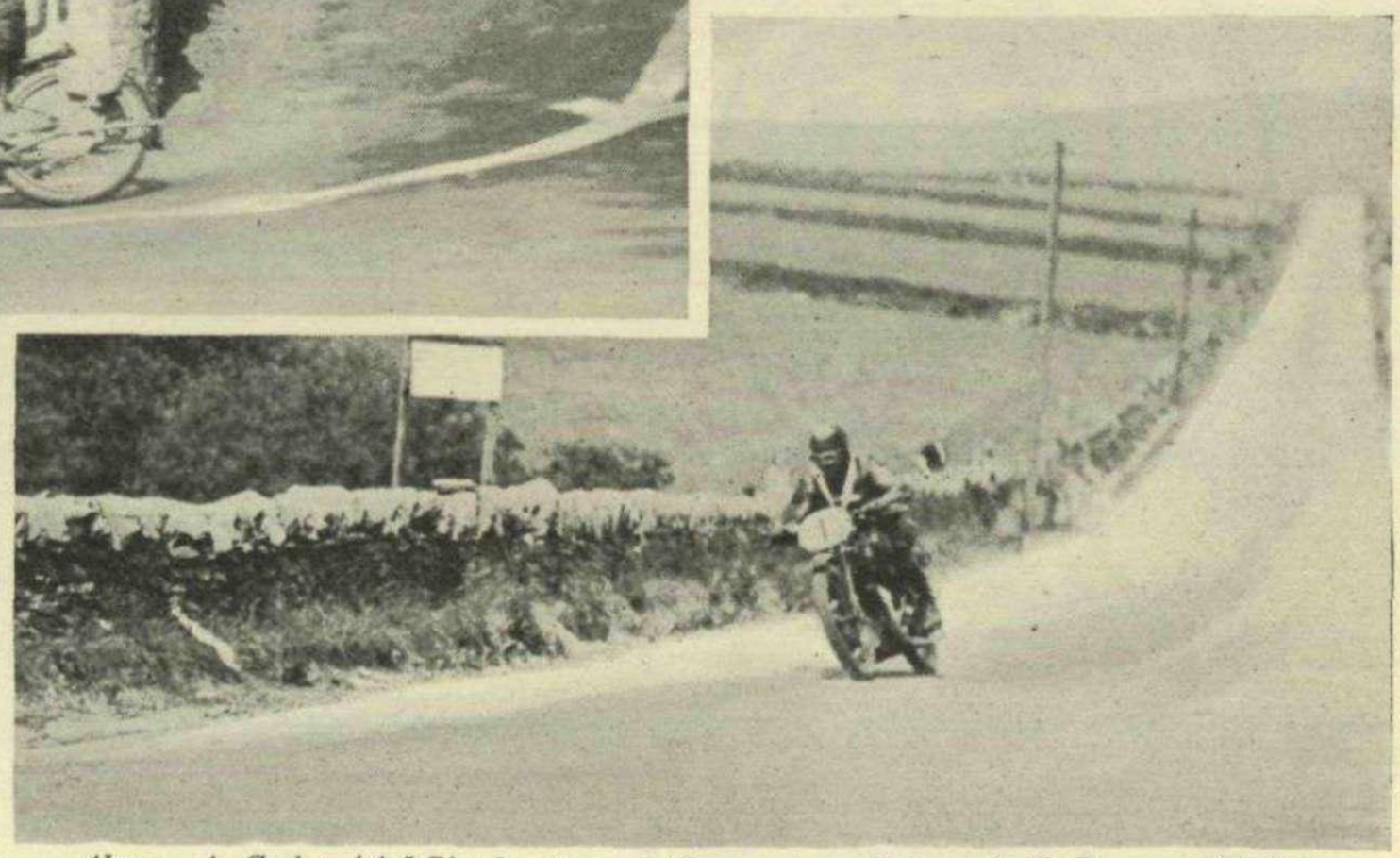
| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. J. Sarkis (O.K. Supreme) ... | 1 | 8 | 17 | 66.32 |
| 2. W. L. Handley (Rex-Acme) ... | 1 | 8 | 23 | 66.22 |
| 3. F. Franconi (Universal) ... | 1 | 8 | 59 | 65.64 |
| 4. A. J. Guthrie (A.J.S.) ... ... | 1 | 9 | 10 | 65.47 |
| 5. A. W. Johnston (O.K. Supreme) | 1 | 10 | 13 | 64.49 |
| 6. C. S. Barrow (O.K. Supreme)... | 1 | 10 | 38 | 64.12 |

It looked now as if Handley was going to take the lead after catching up to within 6 seconds of Sarkis, but his luck was out, and he had to retire at Braddan with a broken oil pipe. The remaining overhead camshaft O.K. was now apparently feeling the pace, as was Franconi's machine, and Guthrie, who had been lying only a few seconds behind, took the lead.

THIRD LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. A. J. Guthrie (A.J.S.) ... ... | 1 | 43 | 23 | 65.71 |
| 2. J. Sarkis (O.K. Supreme) ... | 1 | 43 | 44 | 65.48 |
| 3. C. W. Johnston (O.K. Supreme) | 1 | 44 | 39 | 64.91 |
| 4. C. S. Barrow (O.K. Supreme)... | 1 | 45 | 56 | 64.13 |
| 5. G. L. Emery (Cotton) ... ... | 1 | 47 | 14 | 63.35 |
| 6. E. A. Mellors (New Imperial) | 1 | 47 | 26 | 63.23 |

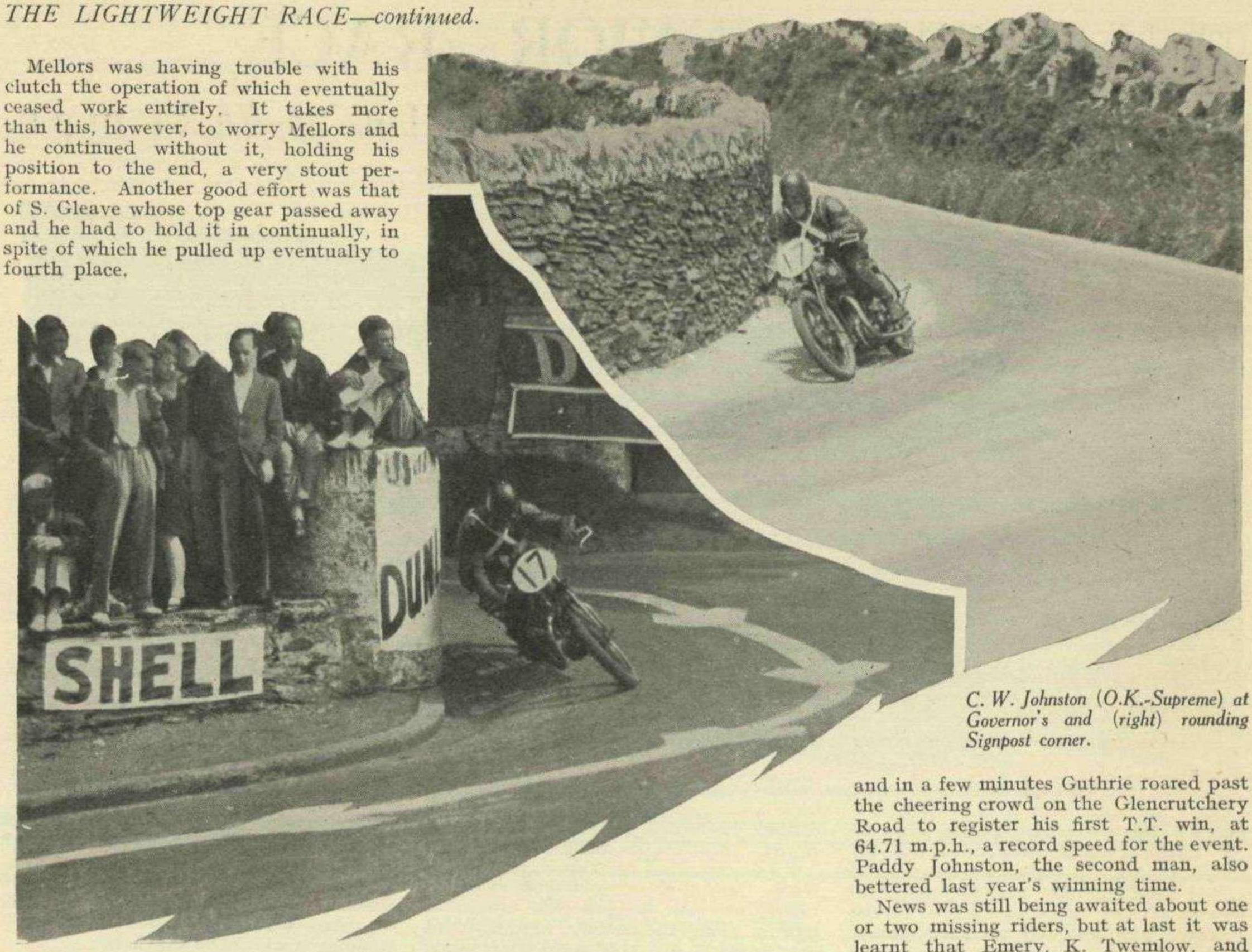




*Above—A. Guthrie (A.J.S.), the winner at Governor's. Below—C. S. Barrow at Hillberry.*

*THE LIGHTWEIGHT RACE—continued.*

Mellors was having trouble with his clutch the operation of which eventually ceased work entirely. It takes more than this, however, to worry Mellors and he continued without it, holding his position to the end, a very stout performance. Another good effort was that of S. Gleave whose top gear passed away and he had to hold it in continually, in spite of which he pulled up eventually to fourth place.




*C. W. Johnston (O.K.-Supreme) at Governor's and (right) rounding Signpost corner.*

Barrow was still maintaining his position as leader on the road, in spite of a mild fall at Governor's Bridge, but trouble was rife among the other riders. Vare had gearbox trouble, Stuart Williams retired with engine trouble at Union Mills, while Joe Sarkis did likewise at the Bungalow and eventually returned to the pits with Jack Adams (also retired) on a spectator's machine! Ennever (Excelsior) came off at Governor's Bridge and had to retire.

FOURTH LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. A. J. Guthrie (A.J.S.) ... ... | 2 | 18 | 27 | 65.42 |
| 2. A. S. Barrow (O.K. Supreme) | 2 | 21 | 53 | 63.83 |
| 3. F. Franconi (Universal) ... | 2 | 21 | 59 | 63.79 |
| 4. C. W. Johnston (O.K. Supreme) | 2 | 22 | 28 | 63.58 |
| 5. J. G. Lind (A.J.S.) ... ... | 2 | 23 | 43 | 63.01 |
| 6. E. A. Mellors (New Imperial) | 2 | 33 | 45 | 63.00 |

The retirements had so thinned out the field that long intervals elapsed between each rider's passing, and yet further trouble was awaiting some of the machines. On the fifth lap Paddy Johnston gained appreciably and pulled up to second place, still however over 4 minutes behind the very consistent Guthrie, who, however, to judge by a certain amount of grass on his A.J.S., was finding the course none too wide in places!

FIFTH LAP LEADERS.

| | h. | m. | s. | m.ph. |
|---|---|---|---|---|
| 1. A. J. Guthrie (A.J.S.) ... ... | 2 | 52 | 54 | 65.47 |
| 2. C. W. Johnston (O.K. Supreme) | 2 | 57 | 5 | 63.93 |
| 3. C. S. Barrow (O.K. Supreme)... | 2 | 57 | 15 | 63.88 |
| 4. J. C. Lind (A.J.S.) ... ... | 2 | 59 | 6 | 63.21 |
| 5. S. Gleave (S.G.S.) ... ... | 2 | 59 | 37 | 63.03 |
| 6. A. E. Mellors (New Imperial) | 2 | 59 | 49 | 62.96 |

The only change in the next lap was that S. Gleave passed J. G. Lind thus getting up to fourth place, and the intervals were sufficient to make any great changes in the order unlikely.

SIXTH LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1. A. J. Guthrie (A.J.S.) ... ... | 3 | 29 | 15 | 64.92 |
| 2. C. W. Johnston (O.K. Supreme) | 3 | 31 | 58 | 64.09 |
| 3. C. S. Barrow (O.K. Supreme)... | 3 | 33 | 45 | 63.56 |
| 4. S. Gleave (S.G.S.) ... ... | 3 | 35 | 8 | 63.15 |
| 5. J. G. Lind (A.J.S.) ... ... | 3 | 35 | 17 | 63.10 |
| 6. E. A. Mellors (New Imperial) | 3 | 35 | 30 | 63.04 |

The last lap was without incident and C. S. Barrow was the first to cross the line at the end of his 267 mile ride, having kept his lead on the road throughout, and in a few minutes Guthrie roared past the cheering crowd on the Glencrutchery Road to register his first T.T. win, at 64.71 m.p.h., a record speed for the event. Paddy Johnston, the second man, also bettered last year's winning time.

News was still being awaited about one or two missing riders, but at last it was learnt that Emery, K. Twemlow, and finally Sikes, had all retired with engine trouble, and the crowds melted away.

Another T.T. race was over.

FINAL RESULTS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| **1. A. J. Guthrie (A.J.S.) ... ...** | **4** | **4** | **56** | **64.71** |
| **2. C. W. Johnston (O.K. Supreme)** | **4** | **7** | **22** | **64.07** |
| **3. C. S. Barrow (O.K. Supreme)** | **4** | **9** | **27** | **63.54** |
| 4. S. Gleave (S.G.S.) ... ... | 1 | 10 | 2 | 63.39 |
| 5. J. G. Lind (A.J.S.) ... ... | 4 | 10 | 46 | 63.21 |
| 6. E. A. Mellors (New Imperial) | 4 | 11 | 49 | 62.90 |
| E. Twemlow (Cotton) ... ... | 4 | 14 | 35 | |
| C. Tattersall (S.G.S.) ... ... | 4 | 19 | 6 | |
| C. E. Needham (Rex-Acme) ... | 4 | 20 | 14 | |
| V. Anstice (Excelsior) ... ... | 4 | 21 | 56 | |
| The above gain Replicas of the Trophy. | | | | |
| G. Himing (Rudge) ... ... | 4 | 34 | 1 | |
| J. H. Blackburn (Excelsior) ... | 4 | 39 | 48 | |
| P. A. E. Vare (Rex-Acme) ... | 4 | 53 | 26 | |

Record Lap.—W. L. Handley (Rex-Acme, Blackburne), 66.86 m.p.h.

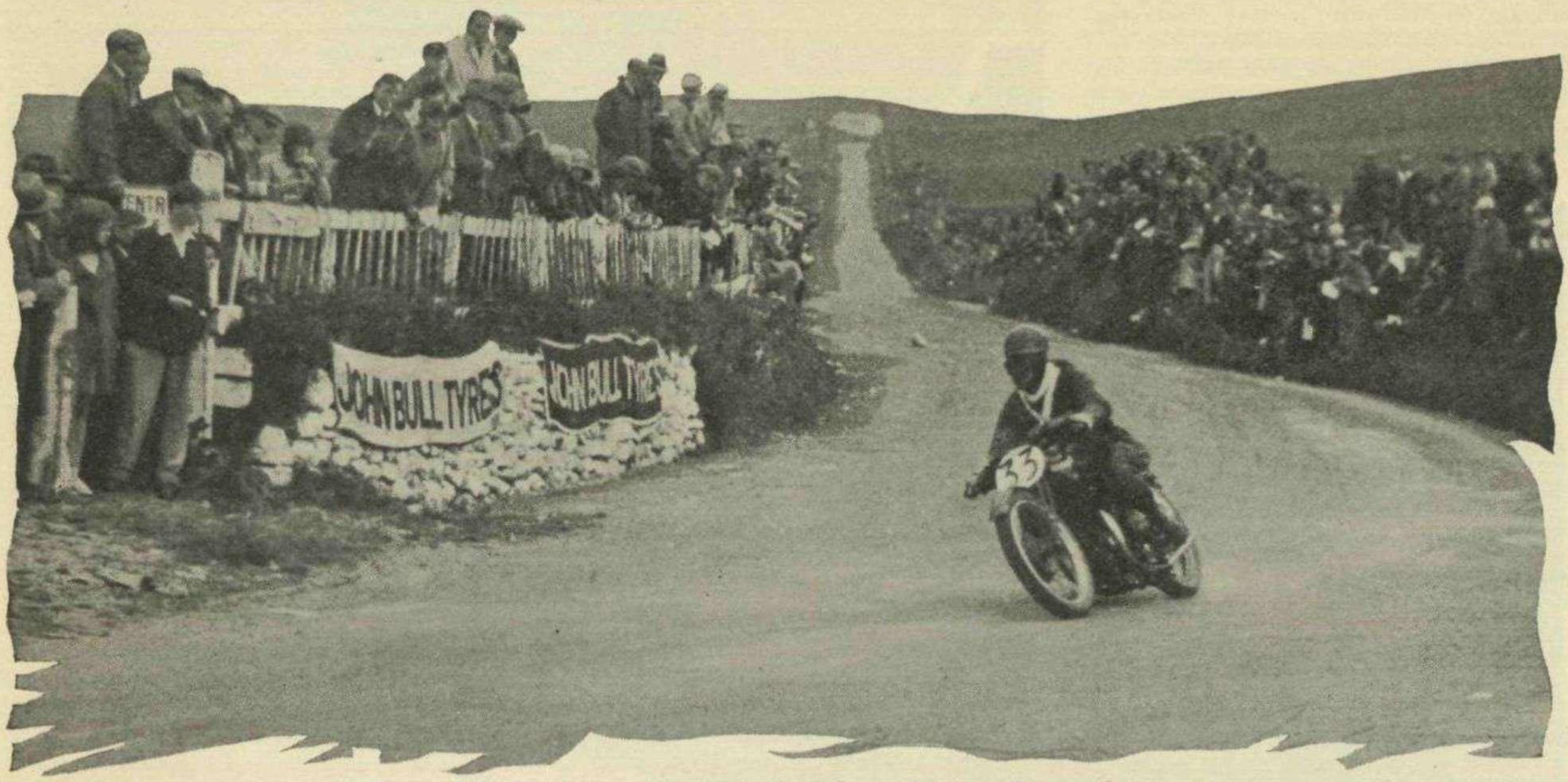


*Somerville Sikes (O.K.-Supreme) who rode in place of Runtsch.*

THE T.T.

# THE SENIOR RACE

## HANDLEY'S RECORD-BREAKING RIDE at 74.24 m.p.h.




*Graham Walker (Rudge) who finished second, taking Craig-ny-baa.*

THE Senior Tourist Trophy of 1930 will be remembered for all time for W. L. Handley's magnificent record-breaking ride, and for the completion of the sweeping success of the Rudges, who followed up their Junior victory by again occupying three of the first six places,—first, second, and sixth.

It was an achievement unprecedented in the history of the T.T., and one which is likely to stand unsurpassed for many years.

So often has it happened that much of the interest of a fast Senior has been lost through the early leaders failing to keep going, and many have expressed the hope that one day one of the stars will have a machine which will keep going at lap record speed for the whole distance. This year their prayers were answered when Handley, who has so often had to retire with engine failure when in the lead, drove his Rudge hard from the start, and covering lap after lap at speeds which set up new records all the time, not only led for the whole race, but never for a moment looked like being caught. His orders were to drive as hard as he liked till he burst something, when another Rudge would be waiting, but if he kept going,—well, he did, and the result is now history ; 7 laps at 74.24 m.p.h. and 6 laps within the 3 hours ! Nearly the whole distance of the race at an average which only the most sanguine had believed possible for one lap.

The day of the race dawned dull and with signs of rain to come. The previous night had seen heavy rain, which did the course good, and by the start had dried off, and the roads were in excellent condition. There was, however, that ominous report, " mist on the mountain."

No one who has not experienced it can realise the full meaning of those words to riders, or can imagine the ordeal of roaring along the narrow winding road over Snaefell, only able to see a few yards in any direction, depending solely on knowledge of the course, not just a knowledge of the roads and corners, but a knowledge of every bush and rock and blade of grass, every change of camber and surface, to tell when the next corner will loom out of the fog, too late to get round unless its position is exactly known before it appears. And yet there must be little or no slowing through the mist for those who have hopes of the Trophy.

In the opening stages of the race the conditions on the mountain were much better than has often been the case, and it was not till the final two laps that heavy rain became general and a dark pall descended over the island. Even under these conditions, and knowing that he had a comfortable lead, Handley lapped in little over 33 minutes !

From the start it was evident that the pace was going to be hotter than ever before. When the times were taken, as the score-board clocks moved to Ballacraine, then Kirkmichael, then the mountain, it was evident that records were being broken. As the riders were gathered on the starting " grid," a Klemm monoplane flown over from Germany by Herr Hirth for the race circled the grandstand before landing. Jimmy Simpson, starting No. 4, was already catching up his rivals, and as the later numbers' clock hands were moving steadily, the red light appeared over Simpson's number and the Norton roared through the stands, having lapped in 30m. 55s. Then machines came through in rapid succession, and a great cheer went up when Handley flashed by, many places ahead of his starting position, and soon his time went up—29m. 47s. from a standing start. 76.03 m.p.h. !

Dodson, last year's winner, in spite of a lap in under 31 minutes, was not in the first six.

FIRST LAP LEADERS.

| No. | m. s | m.p.h. |
|---|---|---|
| 1.—W. L. Handley (Rudge) | 29 47 | 76.03 |
| 2.—H. Tyrell Smith (Rudge) | 30 21 | 74.60 |
| 3.—A. Simcock (Sunbeam) | 30 35 | 74.04 |
| 4.—C. J Williams (Raleigh) | 30 39 | 73.88 |
| 5.—P. Hunt (Norton) | 30 54 | 73.28 |
| 6.—J. H. Simpson (Norton) | 30 55 | 73.24 |

Evidence of the cracking pace is given by the early retirements, L. H. Davenport (A.J.S.) being stuck at Ramsey with gear box trouble, and E. Twemlow with clutch trouble on his Cotton. Reports showed that the mist was getting worse on the mountain near Craig-ny-baa, but clearer at the summit. Simpson filled up at the end of his second lap, but in spite of this his second lap time was 30m. 16s., a new record, but it did not stand for long. First lap speeds do not count for record, as the starting square is 75 yards beyond the official finishing line, but Handley did not need to worry about this, for his second lap time was 29m. 45s., or 76.11 m.p.h.

*THE SENIOR RACE—continued.*

SECOND LAP LEADERS.

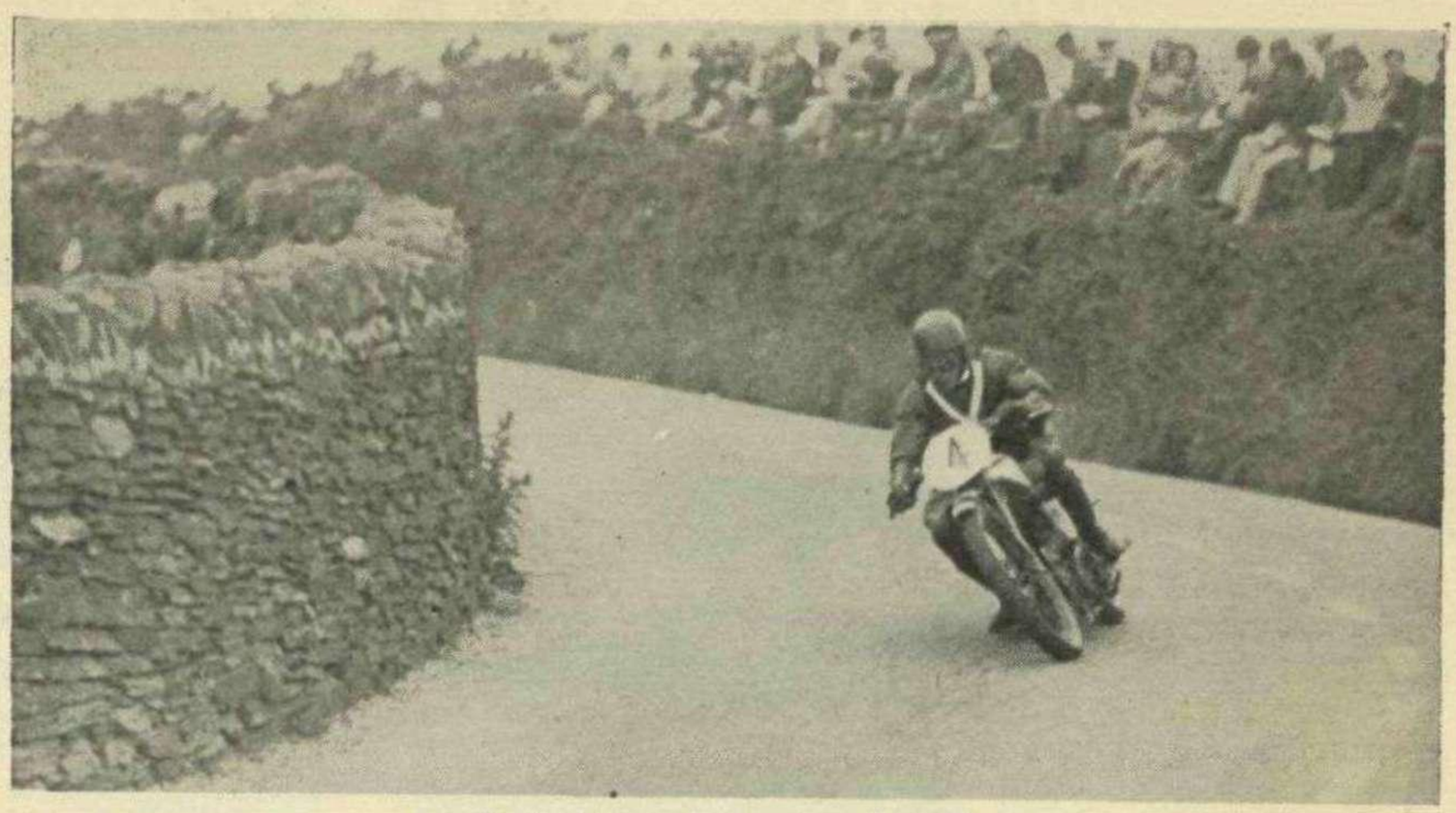
| No. | h. m. s. | m.p.h. |
|---|---|---|
| 1.—W. L. Handley (Rudge) | 59 32 | 76.06 |
| 2.—H. G. Tyrell Smith (Rudge) | 1 0 29 | 74.88 |
| 3.—C. J. Williams (Raleigh) | 1 0 44 | 74.56 |
| 4.—A. Simcock (Sunbeam) | 1 0 54 | 74.36 |
| 5.—P. Hunt (Norton) | 1 1 24 | 73.76 |
| 6.—J. H. Simpson (Norton) | 1 1 26 | 73.72 |

Obviously O'Donovan has not been idle since he joined the Raleigh Company, for they proved themselves among the fastest machines in the island, and C. J. Williams was following up his fine ride in the Junior by an even better effort. It was extremely hard luck that he crashed on the mountain at half distance and sustained a broken leg. May he have a speedy recovery and a clear run next time. Guthrie (A.J.S.) was not repeating his Wednesday's no-trouble run, and his engine packed up on the descent of the mountain and he had to retire. At this point all the six leaders had averaged a higher speed than last year's record lap, and it seemed as if the pace could not last. However, G. L. Hack, of Rudges, was again showing that he did not need to be told much about building fast motors, and they were now in the first three places.

THIRD LAP LEADERS.

| No. | h. m. s. | m.p.h. |
|---|---|---|
| 1.—W. L. Handley (Rudge) | 1 29 13 | 76.13 |
| 2.—H. G. Tyrell Smith (Rudge) | 1 30 34 | 75.00 |
| 3.—G. W. Walker (Rudge) | 1 31 37 | 74.15 |
| 4.—J. H. Simpson (Norton) | 1 32 27 | 73.47 |
| 5.—J. Duncan (Raleigh) | 1 32 40 | 73.30 |
| 6.—P. Hunt (Norton) | 1 32 45 | 73.24 |

Simpson, having got one replenishment over, was pulling up, and Duncan on another Raleigh was among the leaders to take Williams' place. He had a close call, however, hitting the post office wall at Union's Mills, scraping along it and damaging the machine. In spite of this he got going again in five minutes, after sundry repairs.



*J. H. Simpson (Norton) at Sign Post.*

FOURTH LAP LEADERS.

| No. | h. m. s. | m.p.h. |
|---|---|---|
| 1.—W. L. Handley (Rudge) | 1 59 51 | 75.57 |
| 2.—H. G. Tyrell Smith (Rudge) | 2 1 34 | 74.50 |
| 3.—G. W. Walker (Rudge) | 2 2 49 | 73.75 |
| 4.—J. H. Simpson (Norton) | 2 3 2 | 73.62 |
| 5.—P. Hunt (Norton) | 2 3 35 | 73.29 |
| 6.—C. J. P. Dodson (Sunbeam) | 2 4 25 | 72.80 |

Dodson, in spite of having averaged considerably more than the speed which gained him the Trophy last year, only appeared among the leaders for the first time on this lap, a good indication of the pace the Rudges were setting. Weather conditions were getting worse and rain was beginning to fall. The slippery roads were causing trouble, and several riders were put out of the race by crashes. Dick Birch fell at Braddan, and nearly obliterated the flag man in the process. He had the misfortune to break his collar bone and retired. Ruston (Sunbeam) crashed on a bank and retired, but was not hurt. Stuart Williams (A.J.S.), an overseas rider, who was putting up a good show, had to retire with clutch trouble, and another visitor, J. G. Lind, on a similar machine, was also delayed, but got going again. Isaacs, the Jamaican rider, in attempting to pass outside another rider at Craig-ny-baa, failed to stop for the corner, and crashed into the telephone box, injuring the operators and wrecking his machine.

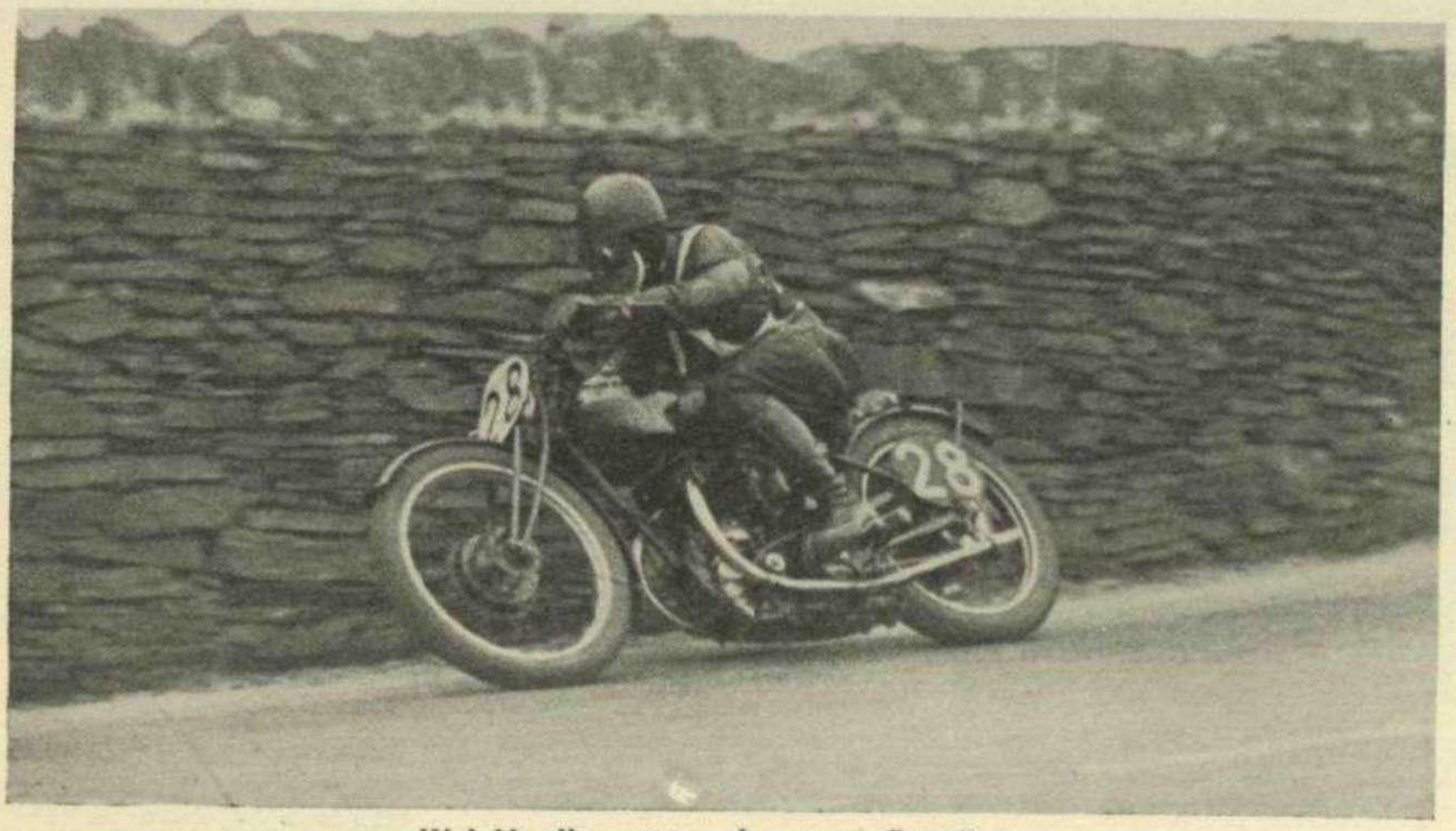
FIFTH LAP LEADERS.

| | h. m. s. | m.p.h. |
|---|---|---|
| 1.—W. L. Handley (Rudge) | 2 29 35 | 75.68 |
| 2.—G. W. Walker (Rudge) | 2 33 24 | 73.80 |
| 3.—J. H. Simpson (Norton) | 2 33 29 | 73.76 |
| 4.—H. G. Tyrell Smith (Rudge) | 2 34 8 | 73.44 |
| 5.—C. J. P. Dodson (Sunbeam) | 2 35 11 | 72.96 |
| 6.—G. E. Nott (Rudge) | 2 35 31 | 72.80 |

Some changes were now going on among the leaders. Tyrell-Smith was evidently suffering from some minor trouble, as he dropped a place. This was made up for by another Rudge in the hands of G. E. Nott, the third man of the official Rudge team, moving up into the first six. There were four of these machines in the first six, and victory was virtually certain.

Handley was riding a marvellous race. His cornering was still perfectly accurate. and his engine was still as healthy as ever, He pulled in to fill up and take some fresh goggles and was away in 24 seconds. Mainwaring (Scott) crashed at Ballacraine, wrecking his machine,and retired. Stanley Woods shed a chain at the start and was considerably delayed refitting it. G. E. Meade, riding a perfectly standard B.S.A.,

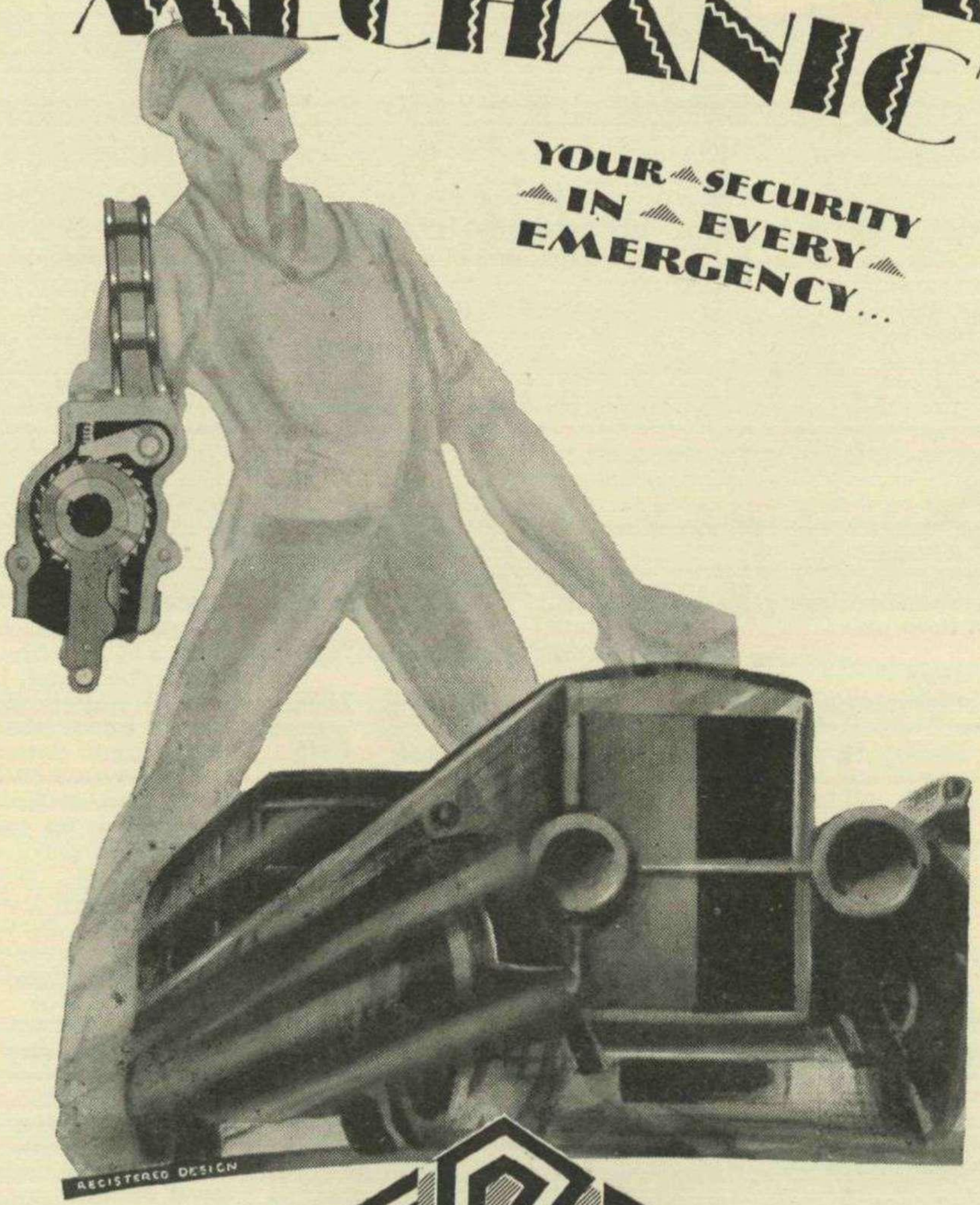
(*Continued on page 47*).



*Wal Handley cutting close in at Sign Post.*

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M.B.

# A DAY WITH TWO RILEYS— ON THE ROAD AND TRACK

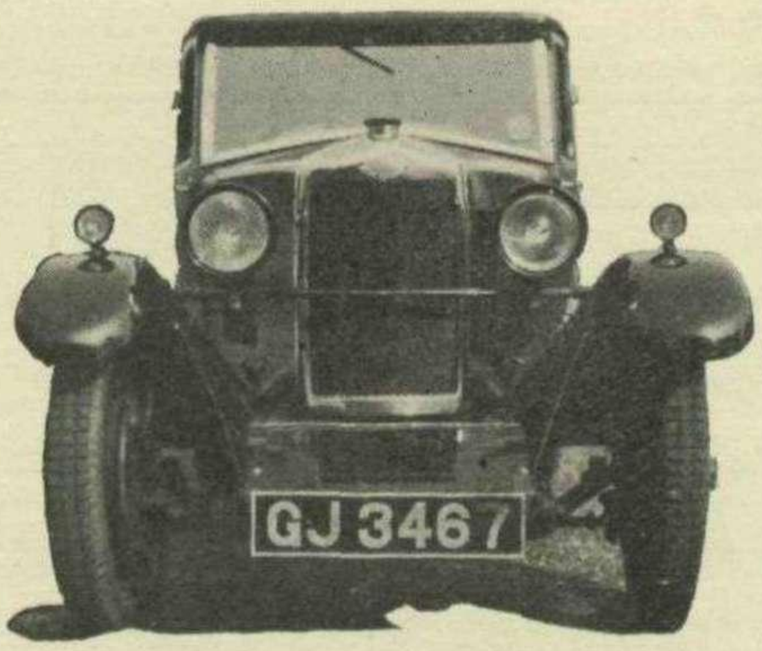



WHEN a firm takes the trouble to provide special cars for special purposes, it is misleading to take one model only, and then, rather than test its suitability for its own particular work, to search out its adaptability to other uses.

For this reason, in carrying out a test of the Riley Nine, I was glad to have the opportunity of trying the two types of greatest interest to the sporting motorist, comparing them, and finding the chief uses of each. The two cars were the Brooklands model, represented by the actual car owned and raced so successfully by Mr. A. F. Ashby, and the Monaco Special.

This is a hotted-up edition of the standard Monaco saloon, and consists of the latter car with just those modifications which an enthusiastic owner would most desire, and which gives it just that extra performance which makes driving a real pleasure. Fitted with two carburettors and slightly higher-compression pistons than the ordinary Monaco, it achieves snappiness without roughness, and speed without loss of flexibility.

One sees so many Rileys on the road performing with distinct *verve* that one is liable to take that performance for granted, and forget the exact size of the engine which is responsible for it. After the first few miles on the Monaco Special, I was frequently forgetting this fact myself, and it was certainly hard to realise that a comfortable saloon with such a performance could be propelled by an engine which is within the 1,100 c.c. limit. Naturally, to get the best out of a small engine, fairly liberal use must be made of the gear-box. On the Riley, however, even this fails to remind one of the small engine capacity, as the change is so handy and pleasant that it becomes practically automatic, while a third speed that is *really* silent makes the use of this gear a sheer joy on twisty roads or hills.




The car I tried had lines marked on the speedometer at 22 m.p.h. in second, 40 m.p.h. in third, and 65 m.p.h. in top gear, presumably to show the maxima in these gears. However, such a glutton for revs., was the engine that the needle kept stealing past the lines without any fuss being apparent. Maximum speed in top on the level, without any assistance from the winds or the laws of Isaac Walton, is just over 65 m.p.h. On several occasions, however, aided by these, 70 m.p.h. was reached, and held, and the road holding remained very definitely good. To build a saloon body which combines comfort with good looks, and ample passenger and luggage capacity with good performance, is no easy task, and the makers are to be congratulated on the success they have achieved in this.

The car was steadier on corners than a great many open models, and high average speeds, the real test of any car's performance, could be maintained with safety and comfort.

Another time when the engine size was brought into pleasant prominence was when filling up with fuel. Thirty miles and over can be covered on one gallon, driven hard, and to the man who has to cover considerable distances in a hurry, this is an important point.

The brakes are light to operate and free from chatter, and brought the car to rest from 40 m.p.h. in 75 feet. They showed a slight tendency to come on harder on the back wheels than should be the case in relation to the front. This, however, being a mere matter of adjustment to individual tastes, is hardly worth comment, except to suggest that the braking figures would be even better if an alteration were made. The car is fast, economical, and above all, pleasant to drive. It is not a racer, and is not intended to be, but its capabilities place it high in the ranks of sports cars.

The racer is another story, and one for which thanks are due to Mr. Ashby, who at the time I was temporarily in charge of the Monaco was getting his own Riley ready for the Whitsun meeting of the B.A.R.C. Later he kindly gave me the chance of trying this model, and thus I was able to discover a Brooklands Riley as it should be.

Readers may protest that this is not a standard car and therefore no criterion, but it should be realised that for a car to be eligible for the International standard car races, as this one is, no radical alterations are permissible. And when it is further mentioned that the car was running on ordinary benzol mixture, it will be understood that no freak timing setting had been employed. As to the handling of the car, no more need be stated than the fact that it was that of a thoroughbred in perfect fettle. The controls and feel of the car inspire immediate confidence. The steering was light and accurate, so light, in fact, that I would have preferred it to be slightly higher geared on a " scrapping " vehicle. This is, of course, so much a matter of argument and personal taste, that to criticise it is to tread on dangerous ground. The fact remains, however, that when only a small move-

*A DAY WITH TWO RILEYS—continued.*



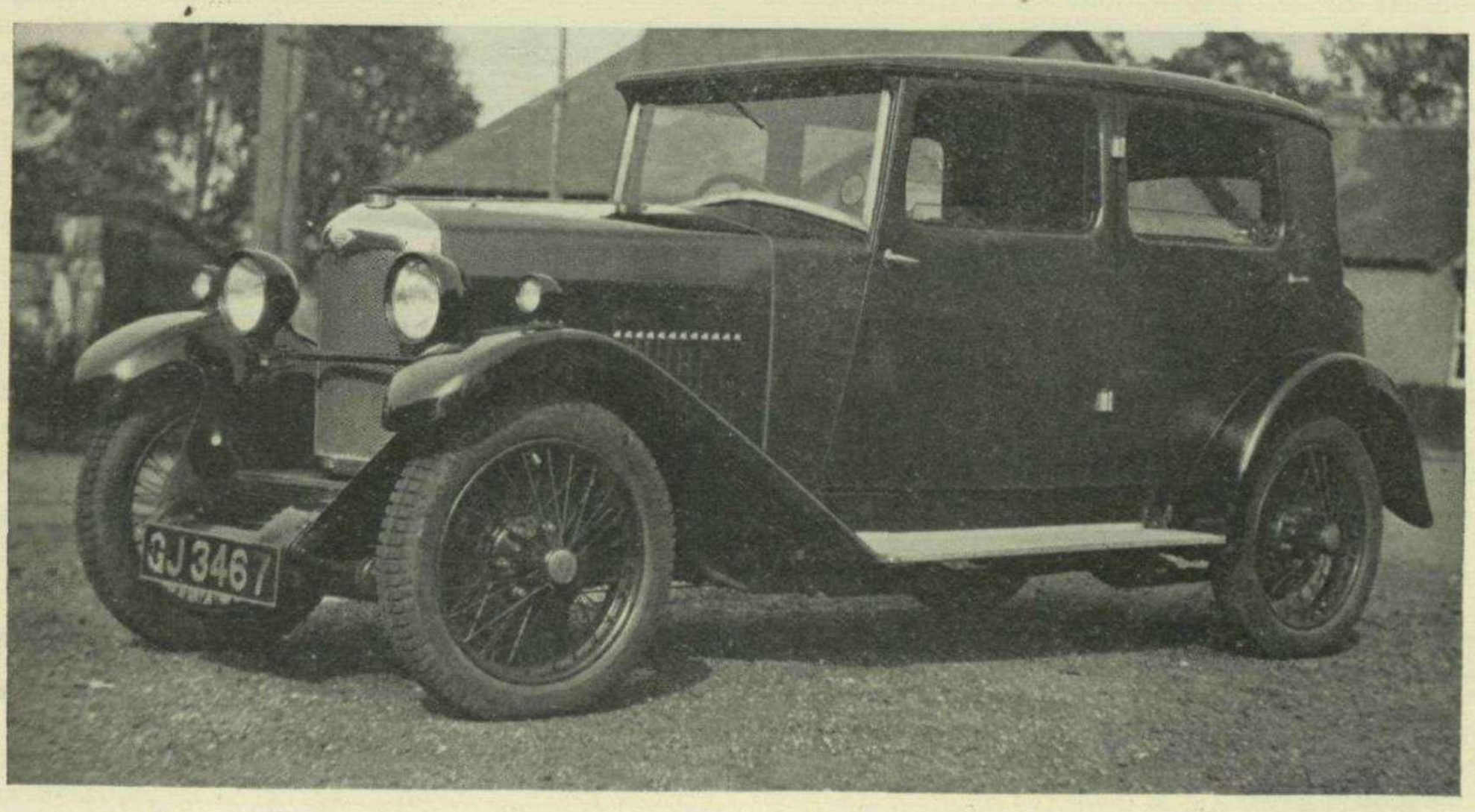

*Snappy, both in looks and performance. Mr. Ashby's Brooklands Riley.*

ment is required, a skid may be caught and held quicker than when the necessary movement of the front wheels needs a larger movement of the steering wheel.

At the track practising was in progress for the " round the mountain " races, so I had a few laps of this as Mr. Ashby's mechanic. Having satisfied himself that the model was in order, and having cheerfully pushed the rev. counter needle round to the 6000 r.p.m. mark in second, he turned the car over to me to try round the course for myself.

Not wishing to spoil someone else's motor car, I kept the revs fairly well down in the " fives," and found useful change-up speeds to be just over 50 m.p.h. in second and 75 m.p.h. in third. Owing to the specially lowered chassis, and the low seating position, the gear change is brought back well aft of the box, and is in a very handy position. Needless to say, the brakes were in perfect adjustment, and very powerful. Coming down to the fork from behind the hill, just over 80 m.p.h. was held to the end of the Vickers sheds, which gave me comfortable distance to brake, change down to second, and swing round the fork hairpin comfortably at 25-30 m.p.h. This says a lot for the braking and steadiness of the car on a rough surface, as it must be remembered that, being strange to the car, I was not chancing any fancy tricks, and was not " racing."

Following an interval for refuelling (ourselves, not the Riley), it was put through its paces round the track itself, and proceeded to show that 100 m.p.h. was not beyond its capabilities. The steadiness and lack of fuss was amazing, and there was nothing but the roar of the wind, and those silent needles on the instrument board to show that an 1100 c.c., 4-cylinder, supercharged engine was propelling the car at a three figure speed.




*The Riley saloon enjoys a well-deserved popularity.*

*A DAY WITH TWO RILEYS—continued.*

Mr. Ashby, as we know, can build a little more speed into an engine than most people, but for a motor of this size to be capable of such pace and vim, the design and construction must be absolutely first class. As for the question of reliability, the recent records set up by a Riley saloon at Monthlèry, and the third place by Whitcroft's Riley in the Double Twelve, make further comment on this point superfluous.

W. S. BRAIDWOOD.

# THE BUGATTI GRAND PRIX.

## Second Consecutive Win for Zanelli.

ONE has got so used lately to seeing the entry lists of all the big races filled almost entirely by Bugattis, that one is no longer surprised to think that it is possible to run an important race confined entirely to the cars from Molsheim. Rather one was somewhat disappointed at le Mans on 1st June to find that in spite of quite a good entry list, only eight cars actually appeared on the starting line. Probably however the complete exclusion of the professional element left only a few amateurs who could afford to run their cars in the race, in spite of the attractive car and chassis presented as prizes by Ettore Bugatti himself.

The start of the race on the permanent Sarthe road-racing circuit, which is the course used for the Grand Prix d'Endurance was at 11.15 on the Sunday morning. Seven of the competitors went off together, these being first André Dubonnet, the winner of the first Bugatti Grand Prix of 1928, who drove a 1500 c.c. unsupercharged car, and had to cover 28 rounds of the circuit, a total distance of just over 286 miles; while the other six consisted of Tédaldi and Max Fourny on 1500 c.c. supercharged machines, "Sabipa," Mademoiselle Hellé Nice, Count d'Arnoux and Zanelli, last year's winner on 2-litre unsupercharged cars, all of whom had to cover 30 laps, a total of 319 miles. Four minutes later Bouriano, the scratch man, whose 2,300 c.c. Bugatti carried the yellow Belgian colours, was sent off to cover 32 laps or 352 miles.

The noise of his engine had hardly died away when the sound of the first car round was heard in the distance and Max Fourny shot past, having completed his first lap in 8 minutes. He was hotly pursued by Tédaldi, d'Arnoux, Zanelli, Mlle. Hellé Nice and André Dubonnet, but Sabipa came in slowly and stopped at his pit. His car was apparently suffering from some major trouble with the petrol feed, for after some investigation he decided to retire. Meanwhile Bouriano shot past going in great style, having completed his first lap in 7m. 34s., an average of over 81 m.p.h.

On the second lap Tédaldi succeeded in passing Max Fourny, but at the end of the fourth circuit André Dubonnet did not appear and it was learned that he had broken down on the Tours road, though he eventually got going again.

Bouriano was going very fast and rapidly cutting down his handicap. After ten laps the positions were as follows :—

Tédaldi (1,500 c.c. S.).
Zanelli (2,000 c.c.).
Fourny (1,500 c.c. S.).
Bouriano (2,300 c.c. S.).
Mlle. Hellé Nice (2,000 c.c.).
Dubonnet (1,500 c.c.).

Count d'Arnoux had stopped about half a mile from the tribunes, and the withdrawal of his Bugatti was finally announced. André Dubonnet again had to stop, this time at his pit, and take his carburettor down. The trouble was apparently with a sticking needle valve, and although he pluckily got going again when about seven laps behind the leaders, he was finally forced to retire.

On the twelfth lap Zanelli passed Tédaldi and took the lead, but on the next he was repassed by Tédaldi and also by Max Fourny. Bouriano was running fourth and gradually gaining on the leaders, when, after he had covered a lap at 90 m.p.h., the loud-speaker announced that he had broken down at Mulsanne, a stone having pierced his radiator. Thus the fastest car was out of the race. After 15 laps the order was :—

1. Tédaldi.
2. Fourny.
3. Zanelli.
4. Mlle. Hellé Nice.
5. Dubonnet (having covered 8 laps).

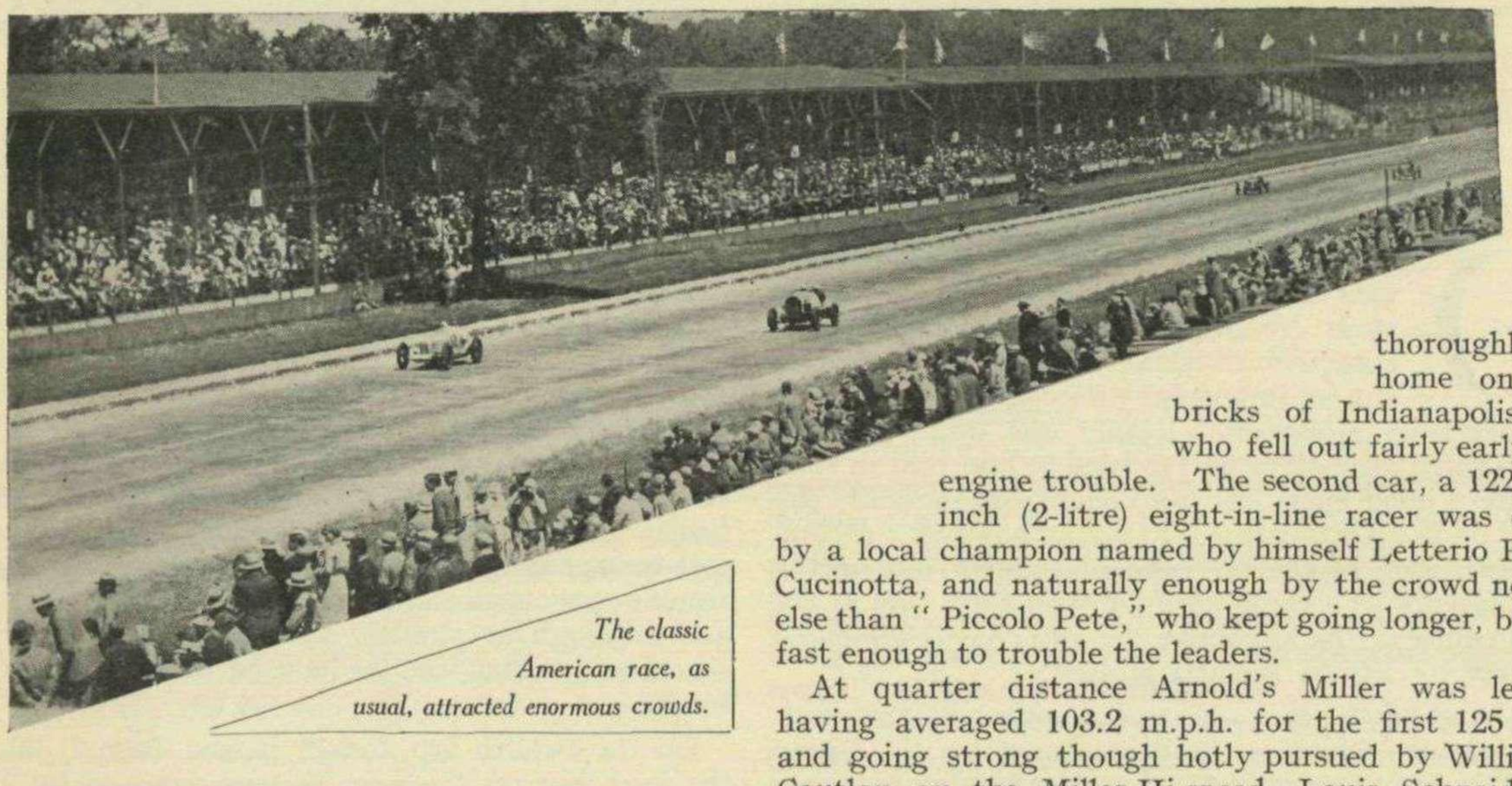
The competition between the three leading cars was now very keen. On the sixteenth lap Fourny passed Tédaldi and gained the lead, which he held till the twenty-first, when he lost it to Zanelli, who had also passed Tédaldi. Then on the twenty-eighth lap, when he had only two more to do, Tédaldi appeared on foot at the grandstands, the hot pace having caused his Bugatti to run a big end. This was indeed an unlucky end to a fine race. Zanelli was not to be caught again, and he finally finished his thirtieth lap, winner of the third Bugatti Grand Prix. Max Fourny was second, some three minutes behind the leader. Mademoiselle Hellé Nice at this time had completed 28 laps, but on seeing the winners being congratulated in the Tribunes, she decided that she too might as well stop, and was placed third.

The final result was as follows :—

1. Zanelli (2,000 c.c. unsupercharged), 3h. 47m. 31 4-5s. Average 80.89 m.p.h.
2. Max Fourny (1,500 c.c. supercharged), 3h. 50m. 56 3-5s. Average 79.7 m.p.h.
3. Mademoiselle Hellé Nice (2,000 c.c. unsupercharged).

# THE INDIANAPOLIS "500"

*Arnold on a 100 cubic inch Miller, Winner of American Classic at 100.44 m.p.h.*



*The classic American race, as usual, attracted enormous crowds.*

A RECORD crowd pressed its way through the gates of the Indianapolis brick track on the 30th May to witness the eighteenth of the series of the famous 500 mile races, the greatest event of the American automobile racing season. All night the town had been packed with spectators, many of whom had driven long distances from far-off states to witness the classic event which this year was to be run under entirely new rules.

After four years of races under the international 1500 c.c. formula, the event this year was for 6-litre cars, with a weight limit varying with the capacity of the motor, having not more than two valves per cylinder or two carburettors, and no boosters (or superchargers) except in the case of 2-stroke, Diesel or semi-Diesel motors, while the cars had to carry two persons each. Under these rules there appeared quite a number of automobiles merely developed from ordinary production models, and various Miller and such like race cars stripped of their boosters.

As the official car led off the bunch of 37 starters who had qualified in the eliminatory tests, Arnold, driving Harry Hartz's 100 cubic inch Miller racer was given the place of honour, having clocked fastest time in the preliminaries.

Punctually at 10 o'clock the cars were let go, and immediately it was apparent that the specialised Miller and other race cars were quite remarkably speedier than the developed production types. There were two European cars in the race, both Italian Maseratis, but neither was able to keep up with the leaders. The first was a 16-cylinder 250 cubic inch (4-litre) machine handled by the Italian ace Borzacchini, who however never seemed thoroughly at home on the bricks of Indianapolis and who fell out fairly early with engine trouble. The second car, a 122 cubic inch (2-litre) eight-in-line racer was driven by a local champion named by himself Letterio Piccolo Cucinotta, and naturally enough by the crowd nothing else than "Piccolo Pete," who kept going longer, but not fast enough to trouble the leaders.

At quarter distance Arnold's Miller was leading, having averaged 103.2 m.p.h. for the first 125 miles, and going strong though hotly pursued by William S. Cautlon on the Miller-Hi-speed, Louis Schneider on another special racer of his own construction, Wilbur Shaw on the Empire State racer and Allen Guiberson on his own machine.

So hot was the pace that there were already 14 casualties marked on the big board, although only one quarter of the race had been run. Shortly afterwards, Roberts driving Peter de Paolo's Duesenberg crashed and involved five other cars in the smash. Fortunately none was hurt, but the cars concerned were not able to continue.

At half distance the order of the leaders was unchanged and Arnold's average was now 102.05 m.p.h. Shortly afterwards he came in, refilled with gasoline, oil and water and changed all four tyres. This process was quite remarkably quickly carried out, and he got away again without losing his position. At about this point Cyrus Marshall, driving the racer entered by George A. Henry got into difficulties at one of the curves and crashed into the retaining wall. The driver himself was badly injured, and his brother, who was acting as mechanic, died shortly afterwards.

"Shorty" Cautlon was quite unable to catch Arnold who was never headed, and finally received the chequered flag as winner of the 18th Indianapolis "500." The only European car to finish was Cucinotta's Maserati, which was twelfth among the fourteen of the thirty-seven starters who got home. The winners, the first four of which were Miller-type racers were as follows :—

1. Arnold (Miller), 100.44 m.p.h.
2. W. S. Cautlon (Miller Hi-speed), 98.05 m.p.h.
3. L. F. Schneider (Miller-Schneider), 97.24 mp.h.
4. L. Meyer (Sampson), 95.25 m.p.h.
5. Cummings (Duesenberg), 93.58 m.p.h.

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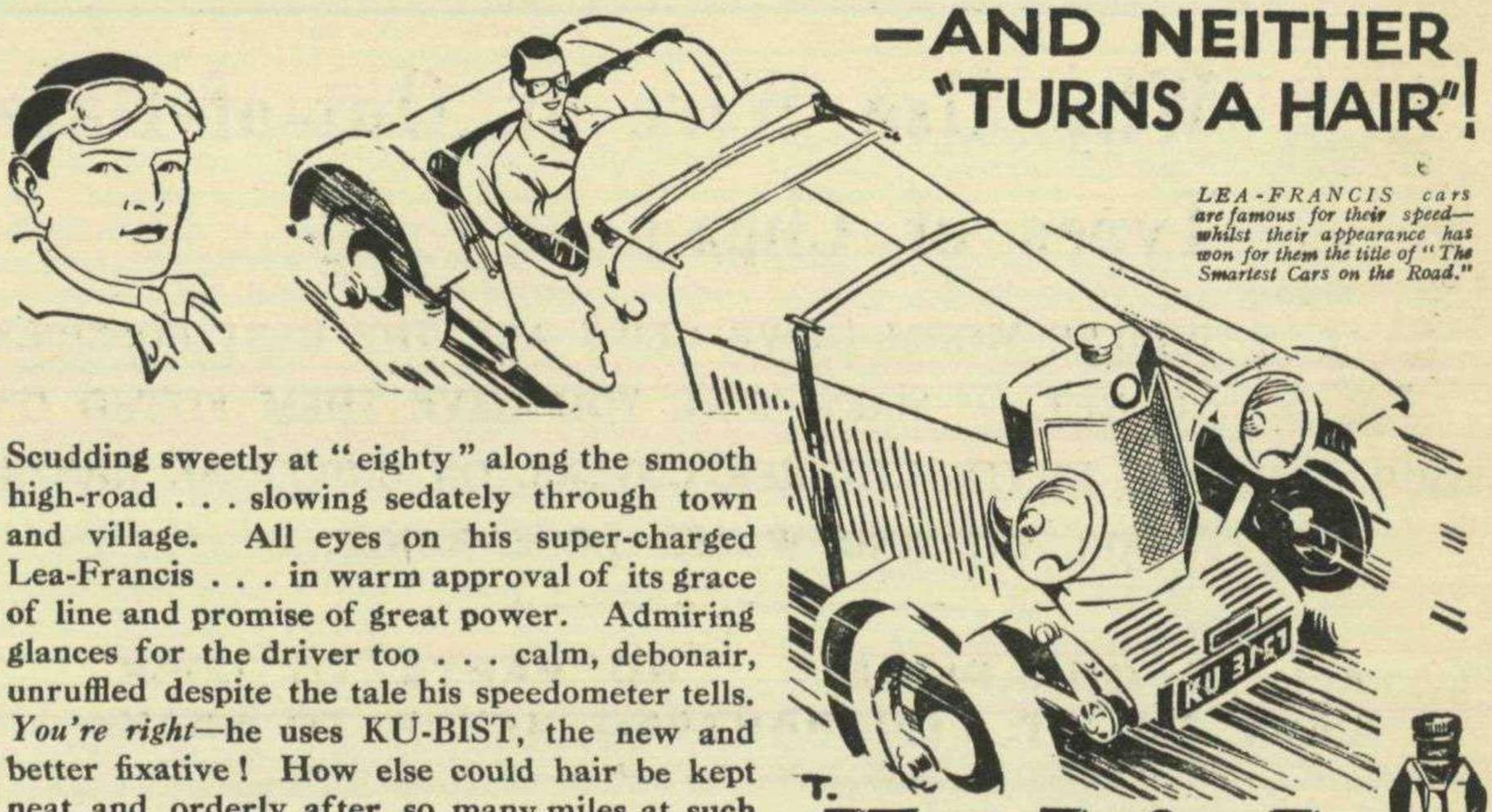
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# Club News

### NORTH-EASTERN CENTRE TRIAL.

The Junior Trophy Trial, organised by the N.E. Centre, was held last month, and attracted an entry of 96 members of 11 of the clubs affiliated to the Centre.

The trial was over a route specially selected to give those who had not yet won a premier award in any reliability trial or a gold medal in an open trial a chance to compete together for the Junior Trophy, whilst those newcomers to the sport who had not won any award were eligible for a special award for the best performance put up by one of this class.

The first man started at 9.30 a.m., the remainder following at one-minute intervals; there were therefore over 30 miles of competitors, the first man having arrived at Stanhope before the last one left Chester-le-Street. The route, of fair severity, was by way of secondary roads via Lanchester, Wolsingham, Frosterley, Stanhope, Westgate, Daddery Shield, Newbiggin, Langdon Bec, Ireshopeburn, Garrigal Moor, Nenthead, Kilhope, Cowshill, Newhouse Bank, Rookhope, Bay Bridge, Pennypie, Blanchland, Slaley, Carterway Heads, Castleside, Lanchester, Craghead, Chester-le-Street—117 miles.

### ECCLES AND D. M.C.

A feature is being made of fortnightly social runs, and the fixtures for July are: 6th, Shrewsbury (start 9.30 a.m.); 20th, Bolton Abbey (9 a.m.); and 27th, Matlock (9.30 a.m.).

### BEXLEY HEATH AND D. M.C.

A large number of people witnessed the knock-out hill-climb held early last month. Rain overnight left the hill in sticky condition and unfavourable for this type of event. Russell Williams returned the fastest time of the day, taking 19 4-5 secs. to climb the hill. Among other riders to perform with distinction were S. G. Barned, W. J. Hewstone, H. W. Osborne, H. F. A. Lees, W. Bruce, P. A. Kench and W. Steel.

Full results are as follow:—

Event 1: 1, S. G. Barned; 2, E. Ager. Event 2: 1, S. G. Barned; 2, E. Ager. Event 3: 1, R. Williams; 2, H. F. A. Lees. Event 4: 1, R. Williams; 2, W. Steel. Event 5: 1, W. J. Hewstone; 2, H. W. Osborne. Event 6: 1, R. Williams; 2, W. J. Hewstone. Event 7: 1, H. W. Osborne; 2, W. J. Hewstone. Event 8: 1, W. J. Hewstone; 2, H. W. Osborne. Event 9: 1, P. A. Kench; 2, H. F. A. Lees; 3, W. Bruce.

### ULSTER A.S.C.

July 14th and 15th have been fixed as the dates for the Irish End-to-End Trial. Competitors will start from Bantry, leaving at 5 a.m., and the finish will be at Belfast.

### BERKHAMSTEAD AND D. M.C.C.

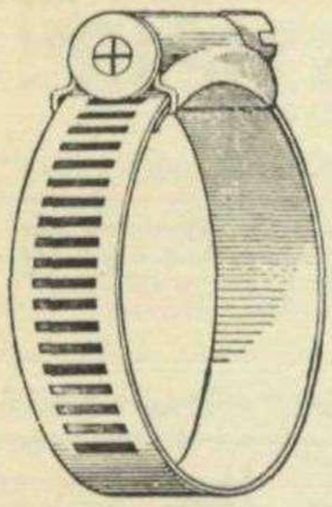
Provisional results of the Stennings Cup Trial are:—

Stennings Solo Cup and Ash Tray: W. A. T. Cox (348 Velocette). Silver Medal: C. W. Johnson (348 Velocette). Bronze Medal: W. Redding (497 Ariel). Stennings Passenger Cup and Ash Tray: L. Presland (499 Rudge s.c.).

### STREATHAM AND D. M.C.C.

Provisional results of the Mateer Memorial Cup Trial, held on June 1st, are:

Mateer Cup: B. L. Matterson. Visitors' Cup: A. J. G. Belsey (Sunbeam Club). Silver Medals: J. C. Wyatt, C. J. Bond, C. V. M. Booth and E. H. Simmons. Bronze Medals: W. G. Davison, G. H. Cluse, G. Money, N. Ansell, G. T. J. Fox, F. G. Miles and W. Greenhead.

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# THE "LONDON-EDINBURGH."

FOR twenty-three years the M.C.C. have held their "London-Edinburgh", and although in the old days of single-gears, hub-gears and belt-drives the long through-the-night run held a hundred times more real adventure than nowadays, the classic event still draws a big entry.

This year saw fewer entrants than usual, certainly; nevertheless, there were 123 drivers of cars, 11 three-wheelers, 40 soloists and 18 sidecar exponents. These formed an interesting array at the start, in the private grounds at Wrotham Park, Barnet.

Both in the car and motorcycle classes, veterans rubbed shoulders with ultra-modern models, and there was a wide contrast in h.p. Probably the most impressive car was S. H. Harris's 36-220 h.p. super charged Mercédés, while amongst the two-wheelers the prize for size and engine power must certainly go to Harold Karslake's Karbro-Special; Karslake (who, incidentally, must be the most consistent of all L.-E. competitors) has a J.A.P. of no less than 1,500 c.c. installed in his B-S frame. The onlookers' interest, however, was not wholly taken up with the modern machines, for the crowd stood respectfully round such ancients as a 1914 James and a 1916 Indian which had been entered.

Under weather conditions which were ideal the 192 competitors left Barnet at ½ minute intervals, obviously quite happy and confident about those things which the long hours ahead held in store for them. It is true that the inclusion in the route of Park Rash, the Yorkshire terror, caused some misgivings amongst the "pip-squeak" brigade, but in the car class, at any rate, this tit-bit turned out to be far less formidable than was anticipated. From the start to Stamford, Lincolnshire, the run was quite uneventful, and by the time that Grantham was reached for the supper stop both motors and men were in fine fettle.

After this brief halt the column moved northwards, and, driving through the dawn, reached Ilkley, where they breakfasted at the Middleton Hotel. The dreaded Park Rash now lay close at hand, and the principal topic over the first meal of the day centred round this hill.

Local interest was here intense, thousands of people lining the sides of the "bank." Many of them were apparently waiting to see spectacular things; but on the whole they must have been disappointed, for there were not many failures, and very few hair-raising climbs, most drivers attacking the gradient with caution rather than dash. The surface though dry, was very rough and caused a lot of wheel-spin amongst the cars, and also proved the undoing of many solo motorcycles. In the car class the small vehicles put up very creditable shows. One should mention L.A. Welch (M.G. Midget), and other notable climbs were made by G. O. T. Gamble (Lea Francis), V. L. Brooks (Austin) and G. Strong (Standard 9); amongst the bigger fry, Harris' Merc' naturally attracted the greater attention, and, as was to be expected, with 220 h.p. at his disposal the driver made short work of this portion of the run.

The motorcycles, as has already been mentioned, found the 1 in 4½ gradient, plus the atrocious surface, a bit of a teaser, and even the veteran Karslake was defeated on the hair-pin. Another rider who failed was A. Edward (490 Norton), who parted company with his machine. Other failures were:—L. C. Christensen (172 Francis-Barnett), R. H. Mantle (347 Sunbeam), C. F. Armstrong (Matchless), and A. Fox (492 Sunbeam) (who came unstuck on the hair-pin) and A. W. Littleton (348 Rex-Acme). On the other hand, good climbs were made by C. M. Needham (998 Brough), E. N. Adlington (on a sister machine), F. C. Disher (493 B.S.A.). J. J. Boyd Harvey (Matchless "Silver Arrow"), K. Debenham (Rudge), and L. W. Turner (340 c.c. Rudge). Other riders who made no mistakes were:—J. A. Leyland on an old P. & M., and R. B. Clark (Gillet). The "chair" contingent one noticed, for the most part treated Park Rash with scorn; amongst the notables were J. F. Kelleher (Matchless) and A. Skillicorn (976 Enfield). The front wheel-drive B.S.A. 3-wheeler is still a novelty, and its appearance on the hill caused a lot of interest; in the hands of W. Julian it went up well, albeit with a certain amount of wheel-spin. The Morgans, which have been bred on the stuff the Park Rash is made of, performed as usual.

The summit of the big climb reached, with or without outside assistance, the competitors continued through West Witton to Askrigg, which was easy after Park Rash. From Askrigg the route then lay across the moors to West Stonesdale. On Tan Hill the restarting test was carried through. There was nothing very terrible about this hill, and the test did not present any serious difficulty; indeed, so consistently good were the performances of competitors in this part of the run that watching the proceedings became a little tedious. Brough was the next objective, and thereafter the long trail of competitors had only to contend with the main road as far as Carlisle, where the lunch stop was arranged. From Carlisle they proceeded to Moffat (the tea stop), and the final stage was then made through the picturesque lowland scenery to the Scottish capital.

The following failed to finish:—

**Cars:** W. E. Bliss, 1,460 c.c. Fiat; E. J. Erith, 847 c.c. M.G. Midget; H. J. O. Ripley, 1,087 c.c. Riley; W. S. Perkins, 990 c.c. Fiat; S. F. Seyfried, 1,486 c.c. Aston-Martin; H. Davis, 747 c.c. Austin; C. J. Johansson, 1,087 c.c. Riley; H. L. Norman, 1,087 c.c. Riley; J. S. Martin, 1,498 c.c. Riley. **Motorcycles:** Non-starters: H. S. Baddeley (750 Brough-Superior), M. Minter (346 James), H. P. Casey (349 Dunelt), H. B. Chantrey (998 Brough-Superior), B. Shillington (490 Norton), T. G. Meeten (498 Newmount), R. J. B. Bell (498 Triumph), E. R. Hood (998 Brough-Superior s.c.), S. Hall (1,096 Morgan). Non-finishers: A. V. Lowe (596 James), W. Allan (980 Brough-Superior s.c.), S. H. Goddard (174 A.K.D. s.c.), W. G. Challis (988 Hackney s.c.).



*MIDNIGHT AT LE*
*hours of darkness the st*



*ANS. Through the long*
*ggle for supremacy goes on.*

# THE ROYAL GRAND PRIX OF ROME.

## ARCANGELI WINNER ON MASERATI.

OF all the races which are run nowadays the Royal Grand Prix of Rome approximates perhaps most nearly to the French Grand Prix races in their most flourishing days. It is an event for racing cars pure and simple, it is over a road circuit, which however, permits of higher speeds than are possible on the Sicilian circuit used for the Targa Florio, and somehow it manages to attract a good entry list.

This year it was obvious from the entry list that the race would represent a repetition of the battle of the Targa Florio, and it was interesting to see whether the result would be the same. Alfa-Romeo, the winner of the Targa, was again at the starting line, this time with what seemed a stronger team than ever. Achille Varzi, the winner in Sicily, again handled his 2-litre Grand Prix racer, and the other one of these cars which was intended for Campari in the Targa was now entrusted to Nuvolari. Campari himself, mindful of how uncomfortable the " P.2." as this type of Alfa is called, had proved during practice in Sicily and that his heart is now more in opera than in motor cars, preferred to start on his usual 1750 c.c. 6-cylinder machine. Another Alfa of the same type was driven by Tadini and there were also one or two amateur entrants on 1750 c.c. and 1500 .c. models.

Against the Alfa-Romeos there were firstly the Bugattis. Louis Chiron himself having been beaten by Varzi in the Targa by such a small margin was determined to have his revenge. He himself appeared at the starting line on the 2,300 c.c. supercharged car which was driven in Sicily by Williams, and he was backed up by Bouriat and the German amateur von Morgen on similar cars, while Renzi drove a 2-litre car of the same make.

The next most dangerous team appeared to be the Maseratis. The fastest car was that handled by Arcangeli, which was not, as has been usually stated in the English technical press, a 1,500 c.c. machine, but had the usual straight-eight supercharged Maserati engine but with a capacity of nearly 2½ litres. As a matter of fact the different Maserati racers are very hard to distinguish as their outward appearance is very similar and each one being an entirely special job built in this racing car factory at Bologna, the engine sizes are varied in accordance with the race for which the car is to be entered. Actually Arcangeli's car had been specially built for this race and was designed to beat the Alfa-Romeo " P.2." machines. Besides this car, there were two of the older machines with engines of just over 2 litres capacity driven by Pastore and Fagioli, while the two Neuzioni brothers had 1,500 c.c. racers.

Running in the 1,100 c.c. class was yet another Maserati driven by Alfieri Maserati himself. This car has a straight eight engine of exactly the same design as the larger models, and proved itself extremely fast. Another car which looked likely to be well up in the battle was the 1,500 c.c. 8-cylinder Grand Prix French Talbot, which has been practically rebuilt in the Materassi stable and is now fitted with a single-seater body. This car was driven by Biondetti, while Caflisch handled the big 7-litre Mercédès with which he won the recent Circuit of Caserta race, and which is undoubtedly fast.

The race was run on 25th May, the course being the Tre Fontane circuit near Rome. This circuit measures rather more than 8 miles to the lap, and the bigger cars had to cover it 20 times, making a total distance for the race of just over 163 miles. The 1,100 c.c. class, in which the Maserati was matched against a number of Salmsons and Amilcars, had to cover only 8 laps, making a total of 65 miles.

As soon as the signal to start was given it became obvious that the real competition was going to lie between Arcangeli on the big Maserati, the two P.2. Alfas and Chiron's Bugatti. Arcangeli set off at great speed and took the lead from the outset, closely followed by Chiron, with Varzi on the Alfa a short distance behind. The latter however, gradually lost ground to the leaders, and after the first few laps retired with clutch trouble. His place, however was quickly taken by Nuvolari, who passed Chiron on the sixth lap and began to press Arcangeli hard. Behind the monégasque champion came Fagioli, who proved himself very fast on the 2,100 c.c. Maserati and who led von Morgen on the second Bugatti, Biondetti on the Talbot and Campari on the 1,750 c.c. Alfa-Romeo. On the seventh lap Nuvolari succeeded in passing Arcangeli and gaining the lead, but the competition between the two men was intense, and Arcangeli, who is a native of Rome and determined to win on his home circuit clung to the leader like a leech, and on the eleventh lap succeeded in repassing Nuvolari and regaining the lead. Two laps later Nuvolari was again in front, and the excitement of the crowd was intense as the two cars went round with hardly a length between them.

Then on the fifteenth lap Nuvolari seemed to slow somewhat and Arcangeli shot past him again. Chiron was not far behind and he too passed the Alfa, while Fagioli on the second Maserati clung close to his heels. Chiron was now going great guns, and on the eighteenth lap, two from the finish, he proceeded to set up a lap record at 87.23 m.p.h. and passed Arcangeli. The excitement was now intense; was Chiron going to have his revenge for his narrow defeat in the Targa Florio? Was the French Bugatti to beat the first of the Italian champions?

Try as he might however, Chiron could not shake off Arcangeli, and Fagioli was in third place on the smaller Maserati. Nuvolari had now dropped back to fourth place, and on the nineteenth or penultimate lap he went out of the race with engine trouble, to be followed quickly by Fagioli with a seized bearing in his back axle. This let the second Bugatti driven by von Morgen up into third place.

As Chiron led into the last lap scarcely a length separated him from Arcangeli on the red Maserati. Round went the two cars as if locked together, and then on the long straight up to the finishing line Arcangeli began to creep up. Now the cars were level, now Arcangeli was ahead, and as they flashed over the line Chiron had lost the race by two-fifths of a second. It was probably the closest finish which has ever been seen in a long-distance road-race, and the tribunes were mad with excitement. Literally on the post, Italy had won! Poor Chiron is earning the title of the eternal second in Italy, and both his defeats can be ascribed to nothing else than the overwhelming Italian determination for victory. Von Morgen on the second Bugatti was third, eight minutes behind the leaders, and he was followed by Biondetti and Campari, with Caflisch on the giant Mercédès sixth.

In the 1,100 c.c. class Alfieri Maserati had things all his own way on the car of his own construction and won easily from the two fastest Salmsons. His little car was extremely fast and covered one lap at 69.3 m.p.h. The event thus proved a double victory for Maserati and the reputation of the young Bologna firm is now made for all time.

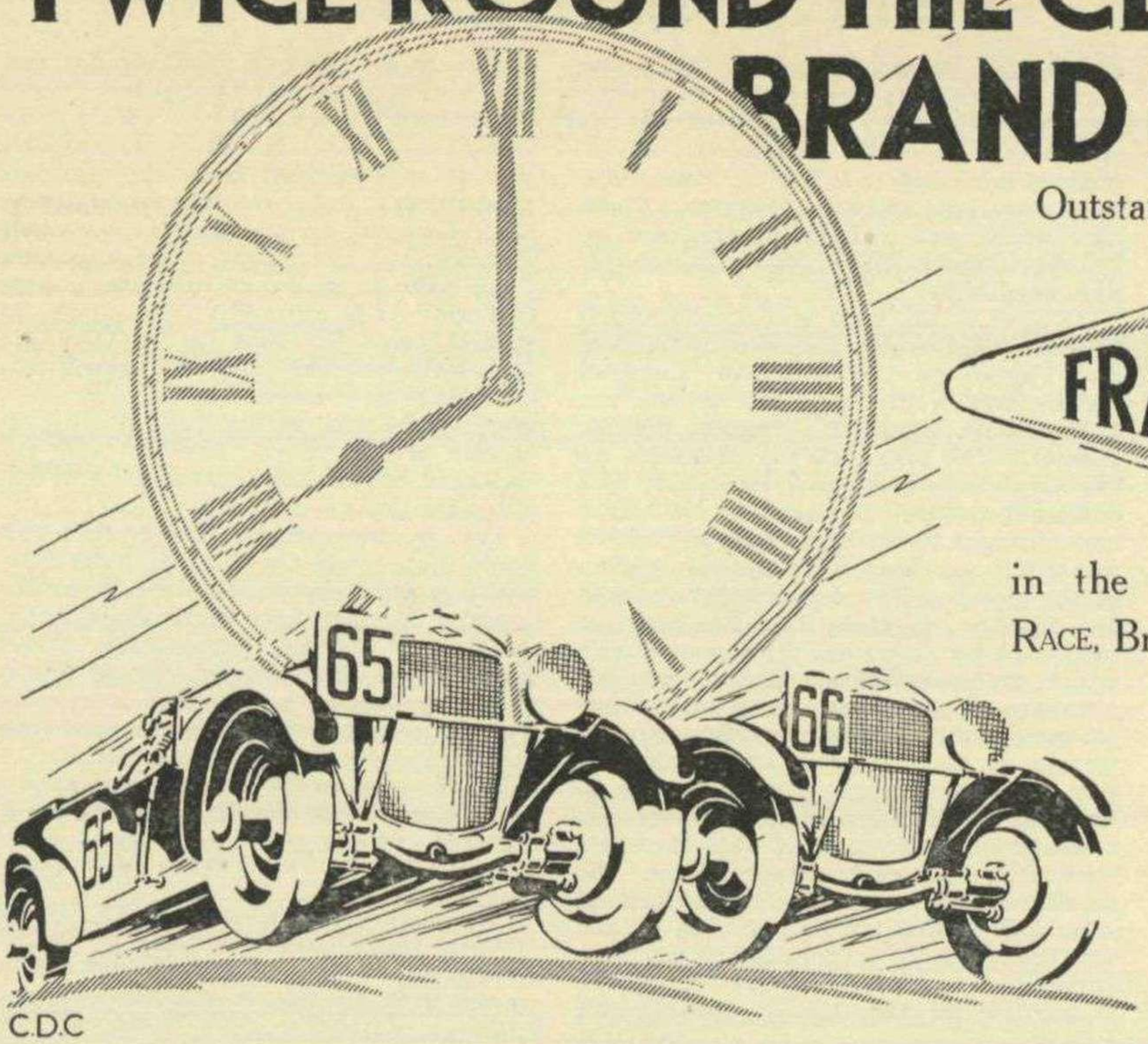
The final results were as follows:—

1. Luigi Arcangeli (2,500 c.c. Maserati), 1h. 56m. 37 4-5s. Average 83.6 m.p.h.
2. Louis Chiron (2,300 c.c. Bugatti), 1h. 56m. 38 1-5s.
3. G. von Morgen (2,300 c.c. Bugatti), 2h. 4m. 24 4-5s.
4. Biondetti (1,500 c.c. Talbot), 2h. 7m. 4 1-5s.
5. Guiseppe Campari (1,750 c.c. Alfa-Romeo), 2h. 7m. 19 2-5s.
6. Federico Caflisch (7,000 c.c. Mercédès), 2h. 11m. 12 1-5s.
7. Tadini (1,750 c.c. Alfa-Romeo), 2h. 19m. 9s.
8. Renzi (2,000 c.c. Bugatti), 2h. 21m. 16 2-5s.
9. Nicoletti (1,500 c.c. Alfa-Romeo), 2h. 29m. 43 3-5s.

1,100 C.C. CLASS.

1. Alfieri Maserati (Maserati), 0h. 56m. 52 3-5s. Average 68.8 m.p.h.
2. H. Isaia (Salmson), 0h. 59m. 16 1-5s.
3. Matrullo (Salmson), 1h. 0m. 33 2-5s.
4. F. Sartorio (Amilcar), 1h. 2m. 38s.
5. Pecorazo (Salmson), 1h. 3m. 41 1-5s.
6. A. Attili (Amilcar), 1h. 5m. 8s.
7. Pratesi (Salmson), 1h. 5m. 21 4-5s.

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# The Circuit of Caserta.

IT is hardly surprising in view of the fact that the Italian motor industry is situated almost entirely in the North of the Peninsula, that, with the exception of the Targa Florio which is run in Sicily of which Vincenzo Florio, its enthusiastic founder, is a native, the Southern part of Italy, formerly comprising the Kingdom of the Two Sicilies, has not in the past played a larger part in the motoring sport of the country. Enthusiasm for the sport of "automobilismo" however seems now to have spread to Naples, and the automobile club of that town decided that on the 18th May this year it would organize a big road race. A circuit was chosen near Caserta, measuring about 18 miles in circumference, two sides of which consisted of fast, straight roads while the third was of mountainous character and brought into play to the full ability in cornering brakes and acceleration. This circuit had to be covered 10 times, making a total of 180 miles.

A good entry list was secured for the event and more than 30 cars presented themselves at the starting line. The fastest machine in the race was the gigantic 7-litre supercharged racing Mercédès driven by Caflisch, which was quite 10 m.p.h. faster on the straights than any of its competitors. Among these the fastest were the team of 2,300 c.c. Targa Florio O.M.'s driven by Morandi, Rosa and Gazzabini; the 2-litre Maserati handled by Fagioli and the 2½-litre car of the same make driven by Pastore; the Alfa-Romeo team of 1750 c.c. and 1500 c.c. racers captained by Campari; and the 2-litre Bugatti from the Materassi stable which was driven by Biondetti. An interesting entry was two Italas of the sports type 65, with the capacity of the engines increased to 2,300 c.c., two overhead camshafts and superchargers. These cars which were driven in the race by Facchetti and Bellingeri ran with remarkable regularity.

As soon as the start was given Caflisch took the lead closely followed by Pastore and Fagioli on the Maseratis, Campari on the first of the Alfa-Romeos and the O.M.'s, with Biondetti's Bugatti not far behind. The speed of the Mercédès on the straightaways was terrific and was sufficient to keep it ahead of the other cars although its size handicapped Caflisch somewhat on the mountainous section of the circuit. The next fastest car was the 2½-litre Maserati, but Pastore was held back by a number of minor troubles which gradually caused him to lose his place among the leaders. This new Maserati made an excellent impression and its victory at Rome a week later confirmed this first impression. Fagioli on the 2-litre car of the same make was also extremely fast and hunted the Mercédès hard after Pastore had fallen back. He would almost certainly have finished second if he had not had to stop on the last lap owing to a stoppage in his car's petrol pipe, and he actually set up the fastest lap of the day on his seventh circuit.

The O.M. team lost their great protagonist Morandi in the early stages as he ran off the road on his first lap and had to retire. Rosa, however, took up the running and kept hard on the heels of Fagioli throughout. The 2,300 c.c. O.M. is really remarkably fast when it is remembered that it is developed from the standard production. Rosa was throughout faster than Campari on the first of the Alfa-Romeos, the latter driver not appearing to be quite at the top of his form. In the end however he finished third and won the special prize for cars up to 2000 c.c. Biondetti on the Bugatti would undoubtedly have finished in better position had he not run off the road during the course of the race. His car was not damaged but the incident caused him considerable delay.

Try as they might the Italian cars could not catch the gigantic Mercédès, which passed every time in a most impressive manner, beautifully handled by its driver, Caflisch, who finally roared home the winner, beating Rosa on the O.M. by rather more than a minute. Campari was third, being separated from the O.M. by seconds only, while Fagioli after his stop on the last lap could only finish fourth. Of the 31 starters, only 15 finished, which gives some idea of the severity of the race. The final results were as follows:—

1. Federico Caflisch (7000 c.c. Mercédès), 2h. 55m. 19 1-5s. Average 65.12 m.p.h.
2. Archimede Rosa (2,300 c.c. O.M.), 2h. 56m. 48 3-5s.
3. Guiseppe Campari (1,750 c.c. Alfa-Romeo), 2h. 56m. 55 3-5s.
4. Luigi Fagioli (2,000 c.c. Maserati).

## THE ZBRASLAV-JILOVISTE HILL-CLIMB.

IN connection with the fact that the forthcoming Shelsley Walsh Hill-Climb is one of the competitions which count for the International Hill-Climbing Championship of 1930, it is interesting to note the results of the Zbraslav-Jiloviste Hill-Climb in Czecho-Slovakia, which took place in May and was the first of the series of events counting for the Championship.

Fastest time of the day was made by the Austrian ace, H. von Stuck, on a 5-litre racing Austro-Daimler, who beat his own record set up last year by clocking 2 minutes 45⅘ seconds, an average speed of over 76 m.p.h. A new record in the 3-litre racing class was also set up by Hartmann on a 2,300 c.c. Bugatti, whose time was 2 minutes 55½ seconds. The length of the course is about 3½ miles, and the full results were as follows:—

SPORTS CAR CLASSES.

Under 500 c.c. 1. Oestricher (D.K.W.), 4m. 32 3-10s.
„ 1100 c.c. 1. Simons (D.K.W.), 4m. 6 3-10s.
2. Novak (Amilcar), 4m. 17⅘s.
„ 1500 c.c. 1. Lervy (Bugatti), 3m. 33⅖s.
2. Urban Emmerich (Talbot), 4m. 6 9-10s.
„ 3000 c.c. 1. Burggaller (Bugatti), 3m. 6½s.
2. Fuchs (Bugatti), 3m. 28s.
3. Bernstein (Bugatti), 3m. 3 49-10s.
„ 5000 c.c. 1. Pedrazzini (Ford), 4m. 6 7-10s.
2. Raulino (Austro-Daimler), 4m. 11⅗s.
„ 8000 c.c. 1. Caracciola (Mercédès), 2m. 52 7-10s.

RACING CAR CLASSES.

Under 1100 c.c. 1. Schmidt (Amilcar), 3m. 23s.
„ 1500 c.c. 1. Prince Leiningen (Bugatti), 3m. 16½ s.
„ 2000 c.c. 1. Hyta (Bugatti), 3m. 4 3-10s.
„ 3000 c.c. 1. Hartman (Bugatti), 2m. 55 3-10s.
2. Von Morgen (Bugatti), 2m. 56 5-10s.
„ 5000 c.c. 1. H. von Stuck (Austro-Daimler), 2m. 45 7-10s.
(Record for the course.)
2. Liefeldt (Austro-Daimler), 2m. 49⅘s.
3. Knapp (Walter), 3m. 5⅗s.
„ 8000 c.c. 1. Count Arco-Zinneberg (Mercédès), 2m. 55⅗s.

# Skegness Sand Racing

## *Successful Event at Lincolnshire Resort*

ENTHUSIASTS journeyed from many parts to see the annual sand races at Skegness which were held on the 13th and 14th of last month, and some first class sport was seen.

The first day's events were all scratch races, and the second day was devoted to handicap races, together with the finals of the Novice's and the 5-lap Scratch Races.

The meeting was held on Skegness Foreshore, on a part of the beach covered at high tide, so that the layout of the course had to be made in the brief period between the retreat of the tide and the commencement of racing. In spite of this, the actual speedway was clearly marked, a competitor's paddock staked out, and a fence erected to keep spectators off the course, a state of affairs which characterised the thoroughness of the Motoı Racing Committee's organisation

The exact length of the course was not given, but the 5-lap race was approximately six miles long. The track ran up and down a line of stakes parallel with the shore, so that the start was on the outside of the course, and the public were able to line the shore side, where the greatest speeds were attained. The course on Friday was in good trim except for a lane of water at the north end, but at the other end where cars had to pull up after speeding down the inside straight, the surface became a little loose. On the second day the organisers were helped by an unusually big tide, and the firm sand thus left, allowed the attainment of high speeds.

The first day's programme included some curious and famous cars, several of them being variations of the G.N. The "Beljap Special," propelled by a single cylinder J.A.P. engine, did not appear, but the H.F.B., with a 980 c.c. engine of the same make, held its own, especially on corners with more orthodox vehicles, and came in first in the 1100 c.c. one-lap race. In the next race, Davenport on the "Spider" won his heat very comfortably, but retired with engine trouble in the final. The Aldington brothers too had come north, but H.J. was put out of the running by a fractured induction pipe joint.

Thistlethwayte's grey Mercédès and Rogers' Bugatti were well matched in classes 6 and 8, but in spite of magnificent driving, the Merc's speed on the straight could not compensate for the small car's nippiness on the corners.

On Saturday, as has been said, the course was in perfect condition, and Rogers must have been travelling at nearly 110 m.p.h. down the straights. The handicapping in the other races was very close, and in several races cars arrived at the corners four or five abreast. Munday on the Vauxhall was able to account for two of the cups, while honours in the other events were well divided.

CLASS 1.—Sports Cars of Any Capacity (One Lap).—1, G. Daybell (Vauxhall), 1 min. 32 secs.; 2, E. F. Farley (Alvis), 1 min. 36 secs.; 3, W. L. Thompson (Triumph), 1 min. 38 2-5 secs.

CLASS II.—1,100 c.c. Racing or Sports Cars (One Lap).—1, H. F. Brayshaw (H.F.B. Special), 1 min. 30 4-5 secs.; 2, W. E. Harker (Austin), 1 min. 31 2-5 secs.; 3, E. A. Millington (Amilcar), 1 min. 42 4-5 secs.

CLASS III.—Sports Cars up to 2,500 c.c. (One Lap).—1, H. F. Brayshaw (Alvis), 1 min. 35 secs.; 2, I. S. Pollock (Lea-Francis),1 min. 38 1-5 secs.; 3, E. F. Farley (Alvis), 1 min. 38 2-5 secs.

CLASS IV.—Racing or Sports up to 2,500 c.c. (One Lap).—1, J. Field (Talbot Special), 1 min. 20 secs.; 2, P. B. Rogers (Bugatti), 1 min. 20 4-5 secs.; 3, B. H. Davenport (Spider), 1 min. 27 4-5 secs.

CLASS V.—Unlimited Sports Cars (One Lap).—1, G. Daybell (Vauxhall), 1 min. 30 4-5 secs.; 2, E. F. Farley (Alvis), 1 min. 37 2-5 secs.; 3, H. F. Brayshaw (Alvis), 1 min. 46 2-5 secs.

CLASS VI.—Racing or Sports Unlimited (One Lap).—1, P. B. Rogers (Bugatti), 1 min. 22 1-5 secs.; 2, T. Thistlethwayte (Mercédès-Benz), 1 min. 23 secs.; 3, A. N. Spottiswoode (Bugatti), 1 min. 24 secs.

CLASS VII.—Unlimited Sports Cars (Four Laps).—1, I. S. Pollock (Lea-Francis), 5 mins. 47 2-5 secs.; 2, E. F. Farley (Alvis), 6 mins. 1 sec.; 3, H. F. Brayshaw (Alvis), 6 mins. 29 2-5 secs.

CLASS VIII.—Unlimited, Racing Cars Only (Five Laps).—1, P. B. Rogers (Bugatti), 6 mins. 12 secs.; 2, T. Thistlethwayte (Mercédès-Benz), 6 mins. 16 3-5 secs.; 3, T. V. G. Selby (Bugatti), 6 mins. 39 2-5 secs.

CLASS IX.—Sports Cars up to 1,100 c.c. (One Lap).—1, S. A. Burnham (Salmson), 1 min. 32 3-5 secs.; 2, E .Lester (M.G. Midget), 1 min. 34 1-5 secs.

CLASS X.—Handicap for Sports Cars, (One Lap), —1, E. F. Farley (Alvis) handicap 7 secs., won by 50 yards; 2, G. Daybell (Vauxhall), scr.; 3, H. F. Brayshaw (Alvis), 3 secs.

CLASS XI.—Handicap for Racing and Sports Cars (One Lap).—1, P. B. Rogers (Bugatti), handicap 2 secs., won by 15 yds.; 2, H. F. Brayshaw (H.F.B. special), 4 secs.; 3, T. V. G. Selby (Bugatti), 6 secs.

CLASS XII.—Open Handicap (One Lap).—1, R. J. Munday (Vauxhall), handicap 15 secs., won by 50 yds.; 2, T. V. G. Selby (Bugatti), 6 secs.; 3, I. S. Pollock (Lea-Francis), 15 secs.

CLASS XIV.—Handicap for Sports Cars (Four Laps).—1, R. J. Munday (Vauxhall), hadicap 7 secs., won by 1; yds.; 2, S. A. Burnham (Salmson), 35 secs; 3, W. H. Burton (Alvis), 27 secs.

CLASS XV.—Handicap for Racing Cars Only (Five Laps).—1, C. Brackenbury (Bugatti), handicap 46 secs., won by 40 yds.; 2, P. B. Rogers (Bugatti), owed 10 secs.; 3, T. V. G. Selby (Bugatti), 22 secs.

# IRISH INTERNATIONAL GRAND PRIX

THE entries for the Phœnix Park races this year show a representative selection of the world's sporting cars, and some excellent sport may be anticipated. The first day's race, for which there are 25 entries, is for cars under 1500 c.c. The smallest class is composed of Austins, one unsupercharged; Rileys and Amilcars make up the under 1100 c.c., while Aston Martin, Alfa Romeo and Lea Francis teams are running in Class F. With them is a f.w.d. Alvis, which may well show up to advantage on the Dublin course.

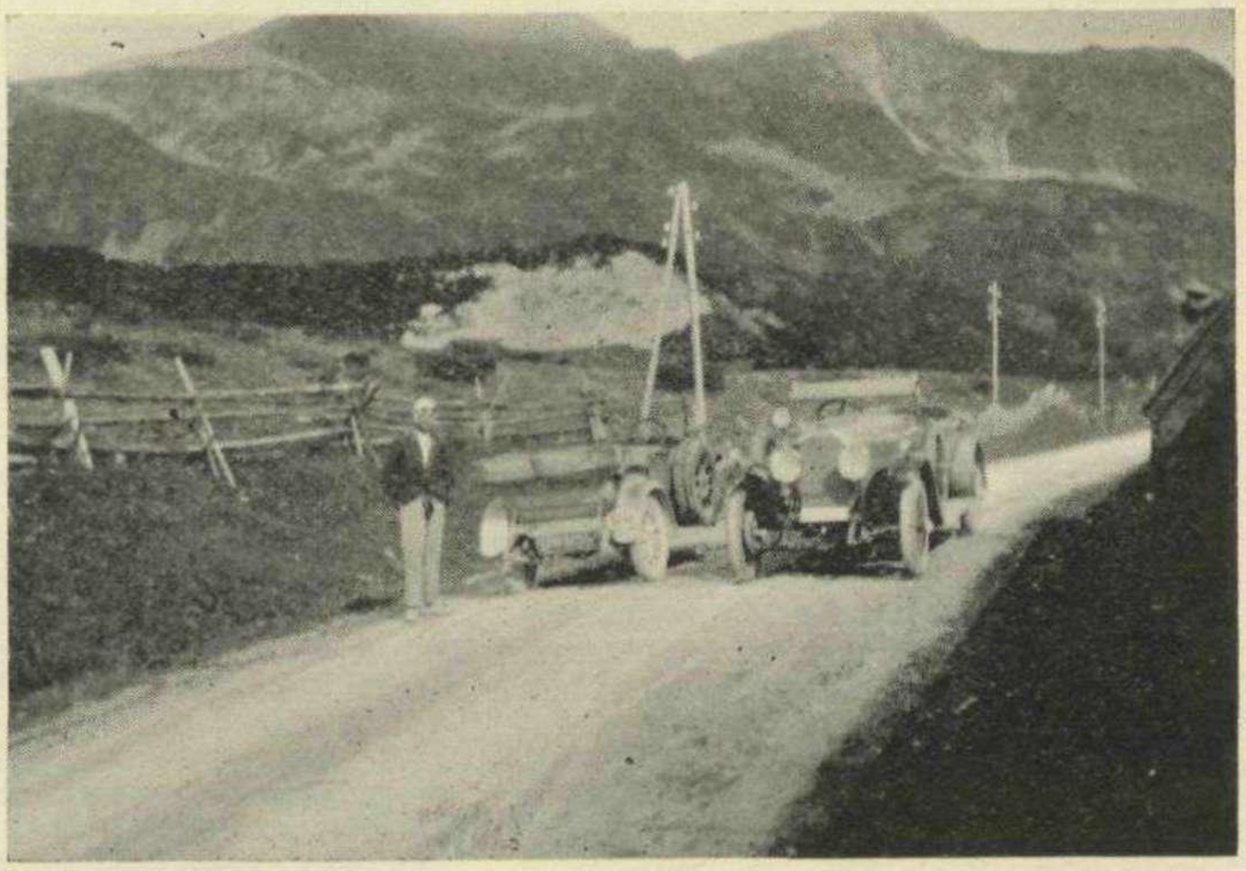
On the second day the Hon. Dorothy Paget's team of supercharged 4½ Bentleys are alone in Class C, while in the unlimited category the Big Sixes are once more matched with the supercharged Mercs. A team of 1750 c.c. Alfa Romeos is running this year, and the make has more than once proved its mettle against the bigger cars. In the same class is an air-cooled S.A.R.A., which is now being manufactured in Great Britain. The remaining entries comprise an official team of O.M.'s, one of them driven by the redoubtable Ramponi, three Talbots, two Sunbeams and a Lagonda. Three entrants have not yet specified what cars they intend to drive, but the names already received are sufficient to ensure good racing on each day.

# THE ROOF

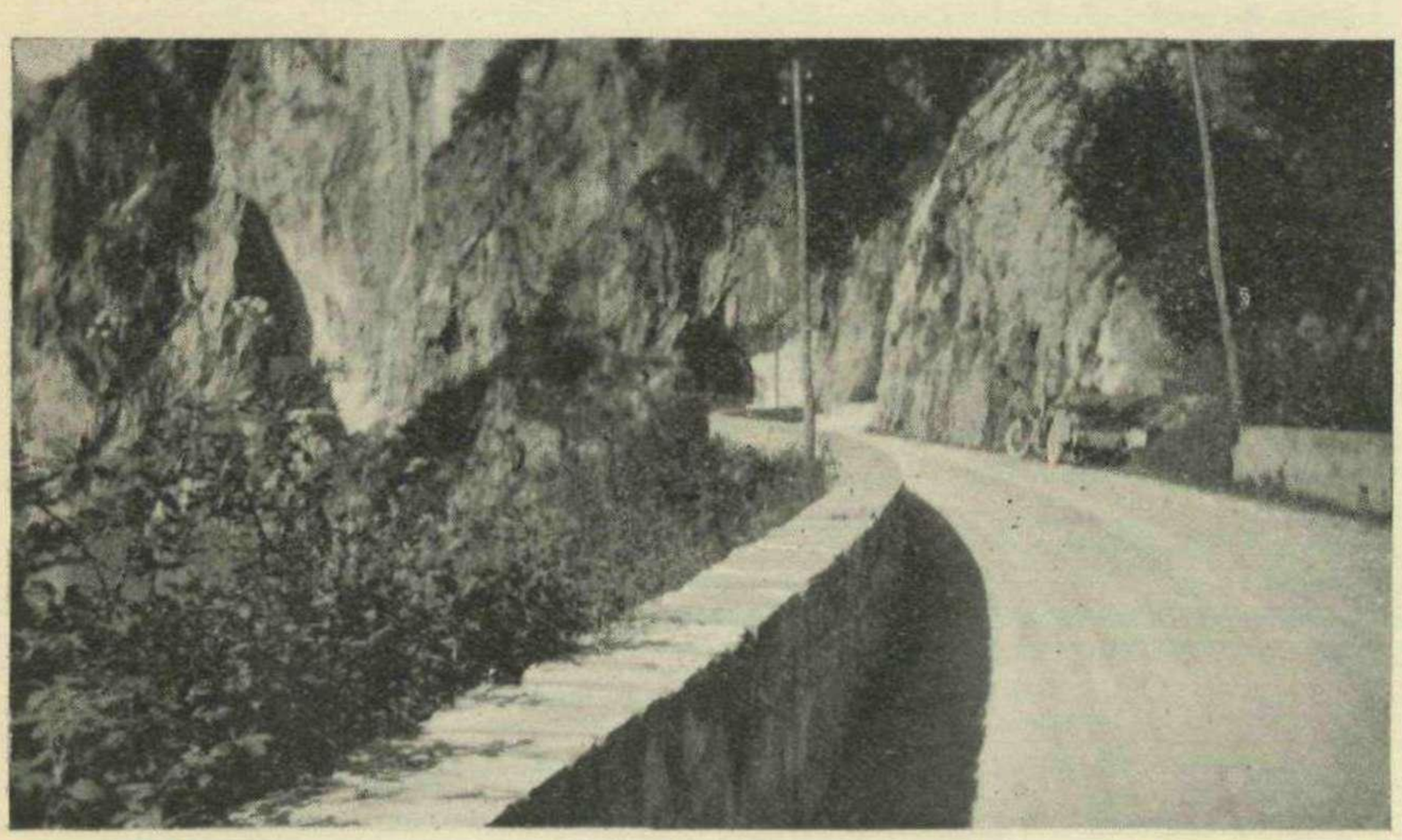
## *Some Experiences of the*

I REMEMBER in an elementary text-book of mechanics an illustration of a lovely horse hauling up a weight by means of a rope and pulley, which of course illustrated pictorially the meaning of one horse power; and I have always thought that it must be this direct connection between lift and power that makes hill-climbing in a car so enormously attractive.

A machine climbing hard on just the right gear, with plenty of power in hand, is so much more pleasant than when all-out on the flat, going fast but not accelerating. Everyone, too, can remember the initial thrill, when in the early stages of of learning to drive, one took the car to the local pitch of steep hill, duly instructed previously in the art of changing down, and assayed the gradient with one's heart in one's mouth lest one should "let the engine out." ("Stalling" and all that sort of flying parlance had not reached us yet.)



*The summit of the Taule Pass and, below, a section of the petit St. Bernard.*



But although I am attacking the subject of hill climbing from the point of view of motor sport, I am not really intending to write about these little snatches of road racing which we used to seize in England, when the local constabulary used to turn out to assist in the organisation of sprint races up some out-of-the-way hill.

My subject concerns the attacking of the long mountain ascents of the great highways of Europe, where they fling themselves over the mass of the Alps, the Pyrrennees or some lesser range. For here I can claim some more extensive experience. I have climbed *en auto* in the Alps of France, Italy and Austria, scoured the Pyrenees from Bayonne to Perpignan, and sampled the mountain roads of the Vosges, the Jura, the Apennines and the Auvergne. I have also taken a car over the Carpathians, but on that occasion I was driving a big six-cylinder, whose chauffeur sat beside me and groaned every time I used an indirect gear, explaining in a multitude of languages that thus did cars burst: so the journey was rather tiresome.

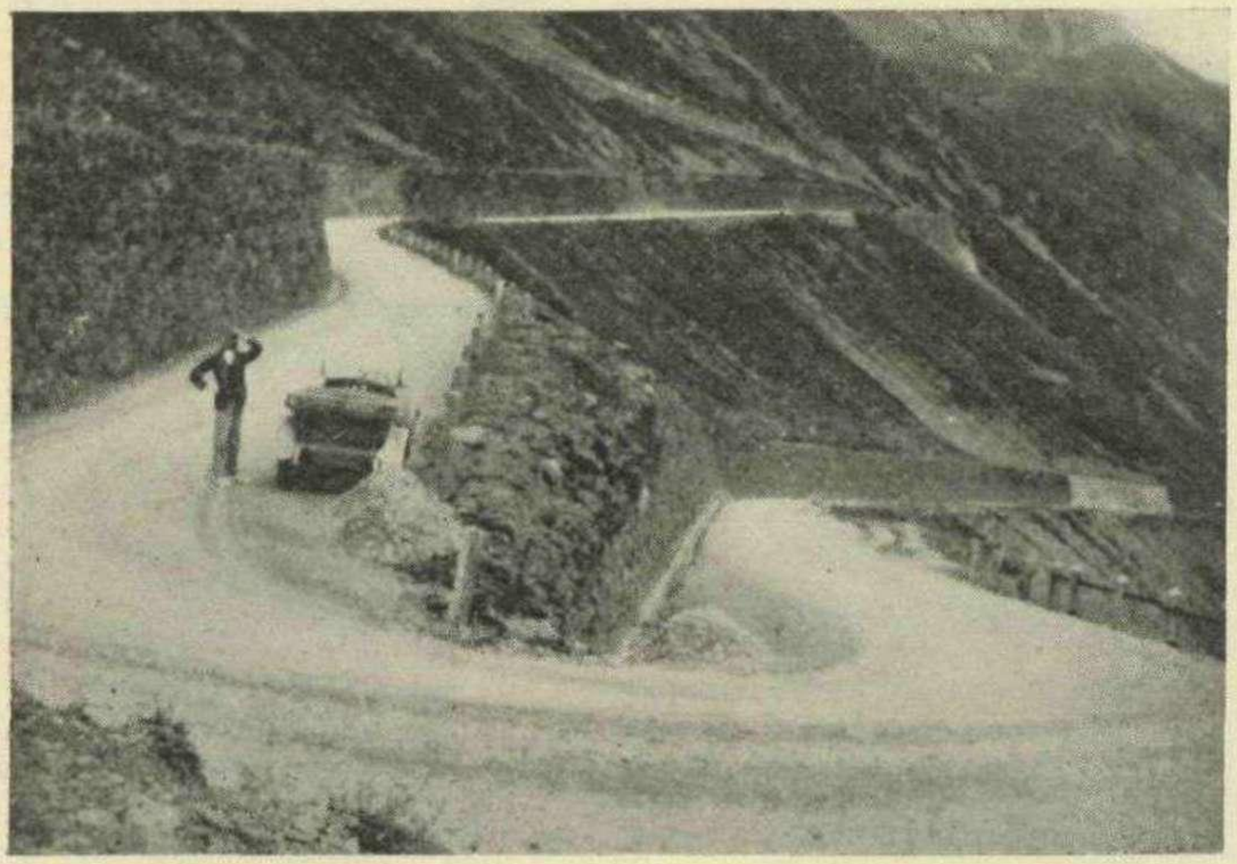
Of course, of all the mountains of Europe the Alps remain supreme. And here I must at once admit that although I have covered a good many miles of road in the Alps, I have never driven a car in Switzerland. To me, half the pleasure of motoring on the Continent is that one gets away from the attitude all too prevalent in England that to drive a car fast is evidence of a tendency towards homocidal mania, and must be discouraged accordingly. But if the Continent as a whole can boast superiority in this respect, it must be admitted that Swirzerland is several times worse than our own country; and personally I should advise every motorist who is of the type that reads MOTOR SPORT and who wants to enjoy himself in the Alps to give Switzerland a miss.

Incidentally, also, all the best features of the Alps from the motorist's point of view are outside Switzerland. First of all of course comes the famous Stelvio. Rising to a height of over 9,000 feet, this pass in the Italian Alps is the highest road in Europe, and crossing it is one of the best motoring experiences I know. Mile after mile one climbs towards the summit, swinging the car round hairpin after hairpin. The gradient is not stiff—averaging about 1 in 10, and one just hums up on third, dropping down to second to get just that extra grip on the bends. But the corners are innumerable, and if one decides to cross in a large car with a bad lock, one gets pretty sick of the Stelvio by the time one has reversed at hairpins whose number is legion. However, when at last the summit is reached, one looks with a new pride at one's car, which has dragged itself to the roof of Europe.

Nearly as high as the Stelvio, and much more difficult from the point of view of gradient, is the Galibier in France. The South side is really steep, though it is not very long, as the road begins nearly at the summit of the Lautaret pass; but the corners are sharp and the gradient quite unrelenting. The ascent is one for first gear with the throttle fairly wide open, and many a car has failed on this pass. The North approach, on the other hand, is nearly as steep in places and is much longer, but the gradient frequently eases off, the road even falling now and then, and the engine gets a chance to cool off. I have crossed the Galibier from both

# OF EUROPE

## *Chief Alpine Passes*

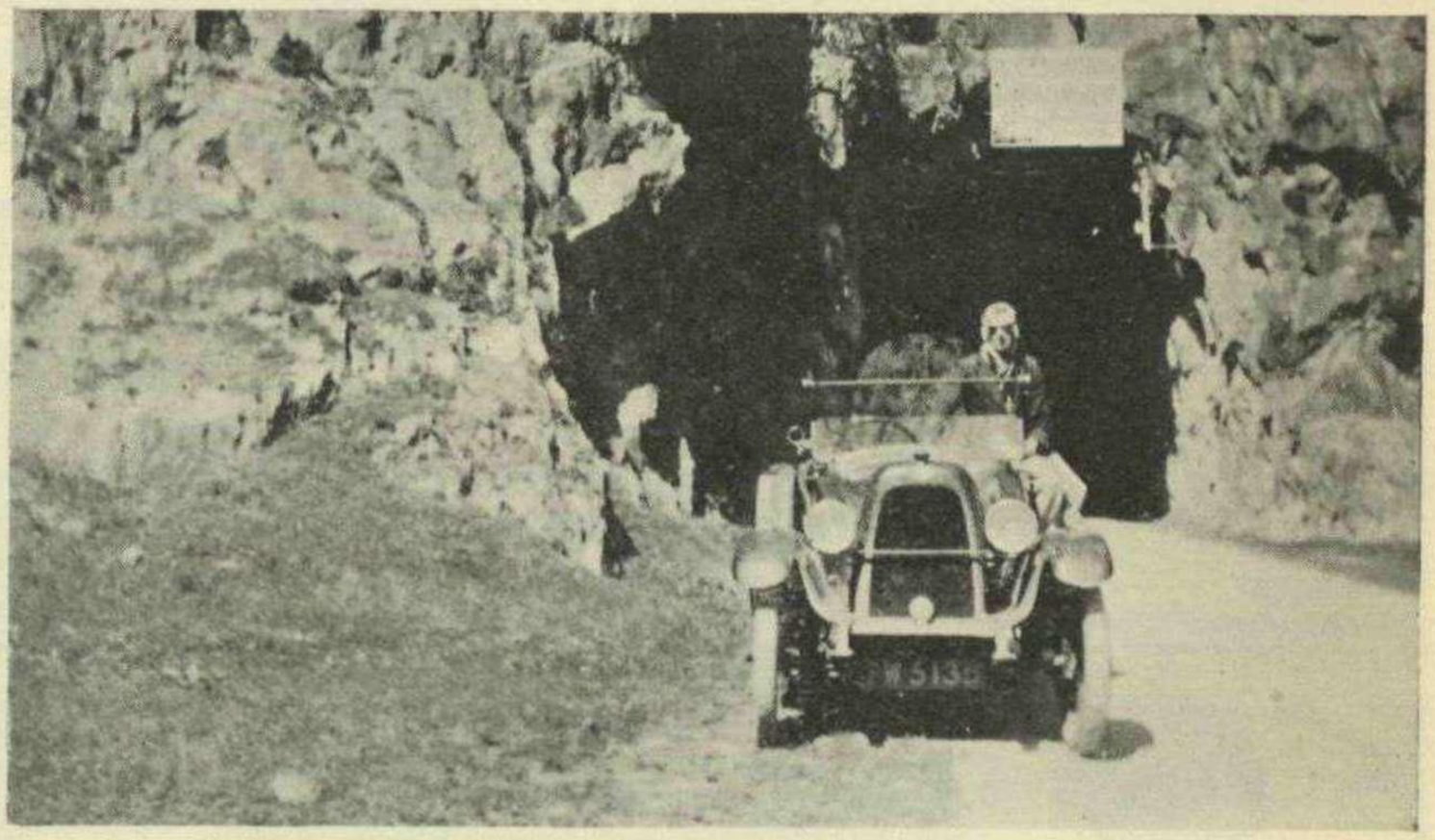


*Part of the climb up the Stelvio and, below, a tunnel on the Galibier Pass.*

sides, and I am not quite sure which is the most difficult, but I think that from the sporting point of view it is best to climb from the South side, and take the North as a long descent.

More difficult in gradient than the Galibier is the Katschberg Pass in Austria. The difficult side of this pass is not long, being only just over three miles, but the average gradient is in the nature of 1 in 4. The surface is also bad, and, having done both, I think coming down is more exciting than going up. At all events, every motorist with a sporting turn of mind should try and tackle this pass, as it is really good. I remember that it so excited my companion when I was there that he bought a loaf of black bread off a peasant, but when we tried to eat it we found it was as hard as wood and tasted of a mixture of treacle and nicotine.

I always wish that I had taken a car over another Austrian pass—the Türracherhöhe, which I have heard is more difficult than even the Katschberg. But it is somewhat off the road from anywhere to anywhere, and is the sort of place that one can only make a special journey to if one has unlimited time, which unfortunately has never been my lot while motoring in the Alps. In fact the average motorist is much more likely to cross the Alps while on a journey from place to place, than to find himself free to scour them at will. The most usual thing is that he is crossing from France into Italy, and on this journey I should advise anyone who is anxious to get a little amusement out of crossing the mountains to climb to the top of the Lautaret pass, and thence cross the Galibier to St. Jean de Maurienne, finally getting into Italy by the Mont Cenis. This is quite the most amusing way I know, but if a more direct way is a necessity, I think the Petit St. Bernard is the best single pass connecting thetwocountries.



Once in Italy, there are many passes which simply must be crossed, apart, of course, from the Steliro. There is the chain of the Mendel, the Aprica and the Tonale, connecting up with the Dolomite passes, the Karer, the Pordoi and the Falzarego, which are among the best things in the Alps. This, perhaps, is the best route to take into Austria.

The Pyrenees is really much like the Alps, only on rather a smaller scale. However, when I was there we made the thing more exciting by looking out for notices which occurred fairly often and which said, "Route impraticable pour autos." On seeing one of these we promptly turned aside and went up the said "route," which usually proved to be a grass or rock track which led over a lesser pass with a gradient of 1 in 3. On one of these occasions the car, which was a 1,500 c.c. machine carrying four passengers and their luggage, gave up half way up, and while I was engaged in alternately pushing behind and chocking the back wheels, my pocket-book fell out of my pocket. This unfortunately contained one half of my letter of credit, and when I discovered its loss that night at Cahors we found ourselves very nearly penniless. I wired my bank to telegraph us some more money, and while we waited at Cahors I have seldom felt so guilty, as I knew that we were quite incapable of paying the hotel bill which we were running up. In fact, this realisation so greatly affected one of the party that he went home by train, taking with him our last three pounds in cash. However, finally some money arrived, we paid off the hotel, and drove straight from Cahors to le Havre. All night a man sat beside the driver with a map, and, the headlight not being very good, kept remarking, "You can put your foot down, the road runs straight for the next 10 kilometres."

I remember another all night run in France which followed an amazing series of motoring troubles in the mountains. On that occasion we were travelling in the Auvergne mountains, when we had a burst tyre—the first after covering some thousands of miles on the Continent on that expedition. We fitted the spare wheel, and stopped at the next village to get a new tube; there, however, they had none of the right size, and we decided to push on to Clermont Ferrand, certain that in the home of Michelin we could get any tyres we wanted. Of course, however, as always happens, half way there we had another puncture, just as darkness was falling. My companion got a lift into the next village and returned with a new tube, but by the time we had fitted it and reached Clermont it was nearly midnight.

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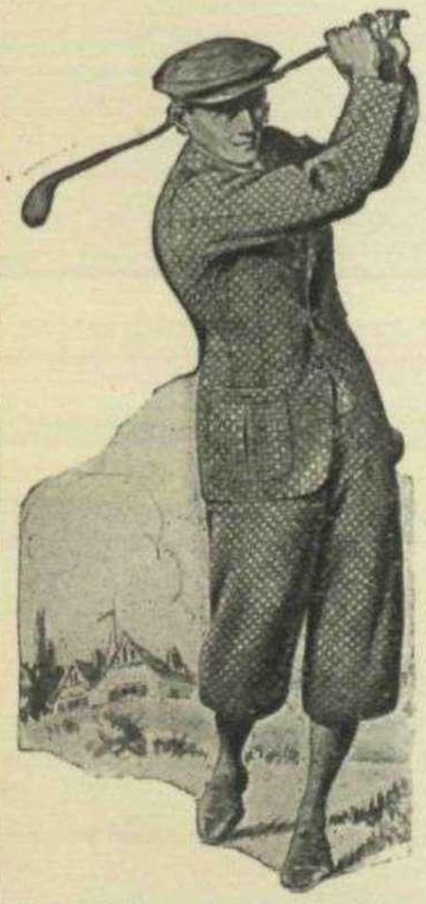
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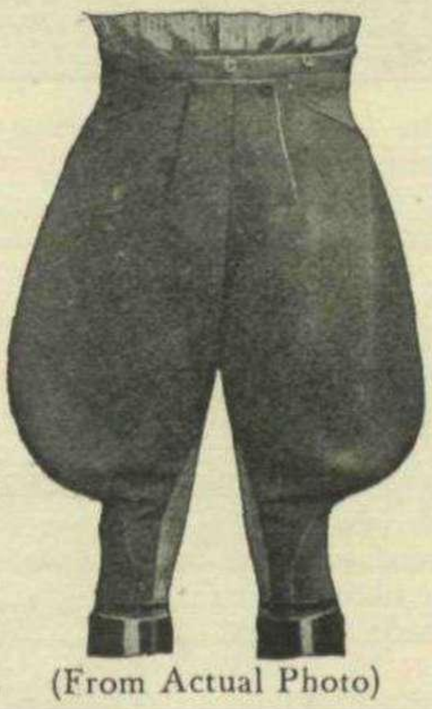
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*THE ROOF OF EUROPE—continued.*

On arriving in the town we were informed that there was a fair on, and that not only was every hotel full, but there was nowhere where we could sleep in the town. "Go on to Chatel Guyon," said the friendly proprietor of a café where we drank brandy, "there you will find rooms." Wearily we climbed into the car and set off, and made Chatel Guyon, a little town straggling up a long hill. At the first two hotels we found we could get no answer to our ringing; at the second we were so annoyed that we fixed the electric bell push in and left it ringing madly, unanswered inside.

Towards the top of the hill we found a hotel, where the night porter opened the door. "Yes, he had rooms, and the garage was 100 metres up the street." We heaved a weary sigh of relief—and at that moment ran out of petrol! The hill was so steep that the garage might have been 100 miles up the street for all the chance there was of getting the car there. However, on our way up I had noticed a public garage which was still open, and we decided to run backwards there in the car. On reaching it, however, we found it had just shut, and the proprietor had gone away. We deserted the car under some trees at the bottom of the hill, and crept wearily to bed. As we walked up the hill we received a measure of cheer: the bell in that hotel was still ringing!

The next morning was a Saturday, and we decided that we must get into Clermont Ferrand before the banks closed in order to get some money. We purchased some petrol and filled the car's tank, but nothing would make it start. All the morning we tried, until at last we discovered that the magneto was burnt out, although it had functioned quite normally until we ran out of petrol the night before! By this time the banks had shut, and we had got to be in London on the Tuesday morning. The garage man, however, came to our rescue, and for re-winding the magneto, filling us up with petrol and giving us two spare "bidons" of oil, he took a cheque, though his father told him that it was most inadvisable. We dined in Chatel Guyon and then left for the North. After a few miles the dynamo passed out, and an hour or two later the lights followed suit; but there was a full moon and the road was white chalk, and all night we ran flat out without lights. We had a champagne luncheon on Sunday at Reims, and that night we were at Arras.

That was a terribly long digression, and I have now no space to speak of the Ardennes, the Vosges, the Jura and the rest. I will conclude with saying that it is always great fun in the mountains; they have an attraction for the sporting motorist that makes anyone who has ever got to know them want to return again and again.

E. K.

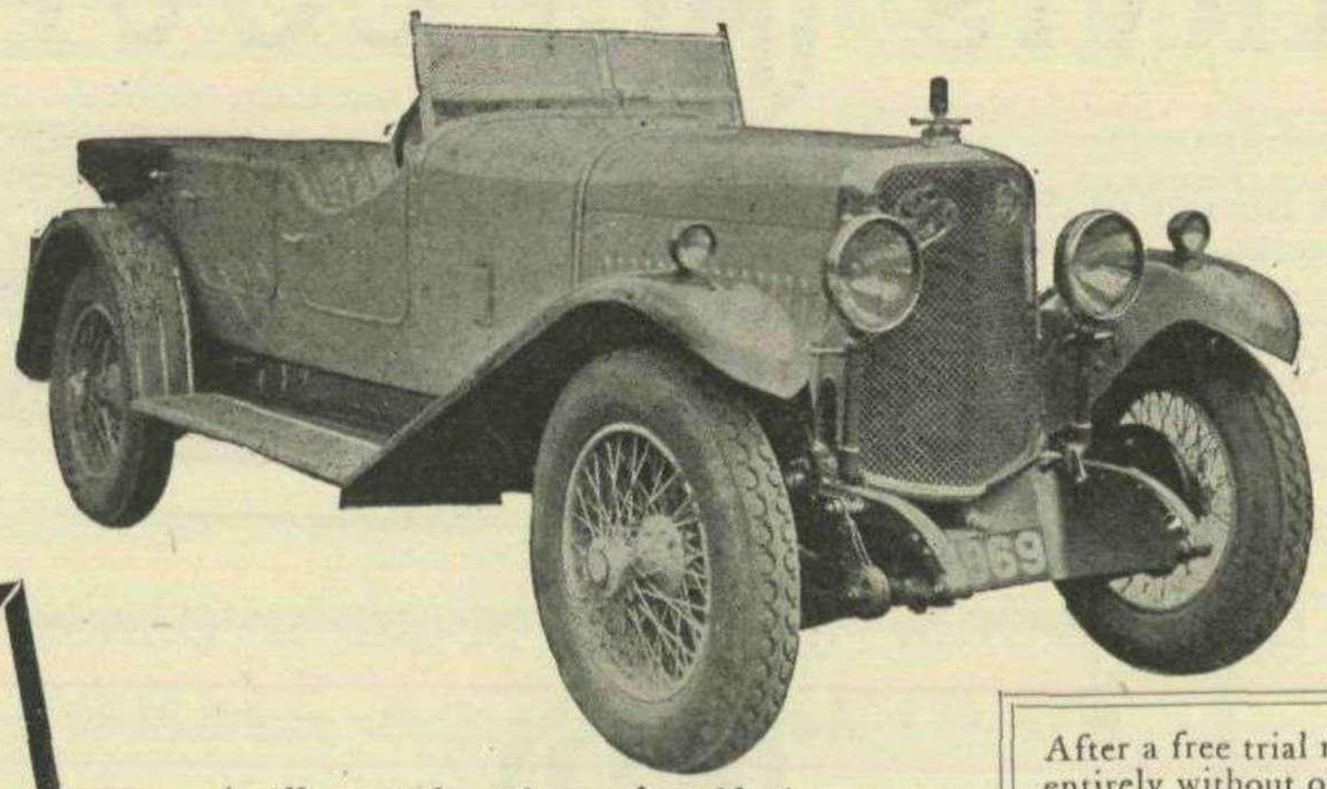


*Where discreet cornering is indicated—another view of the Petit St. Bernard.*


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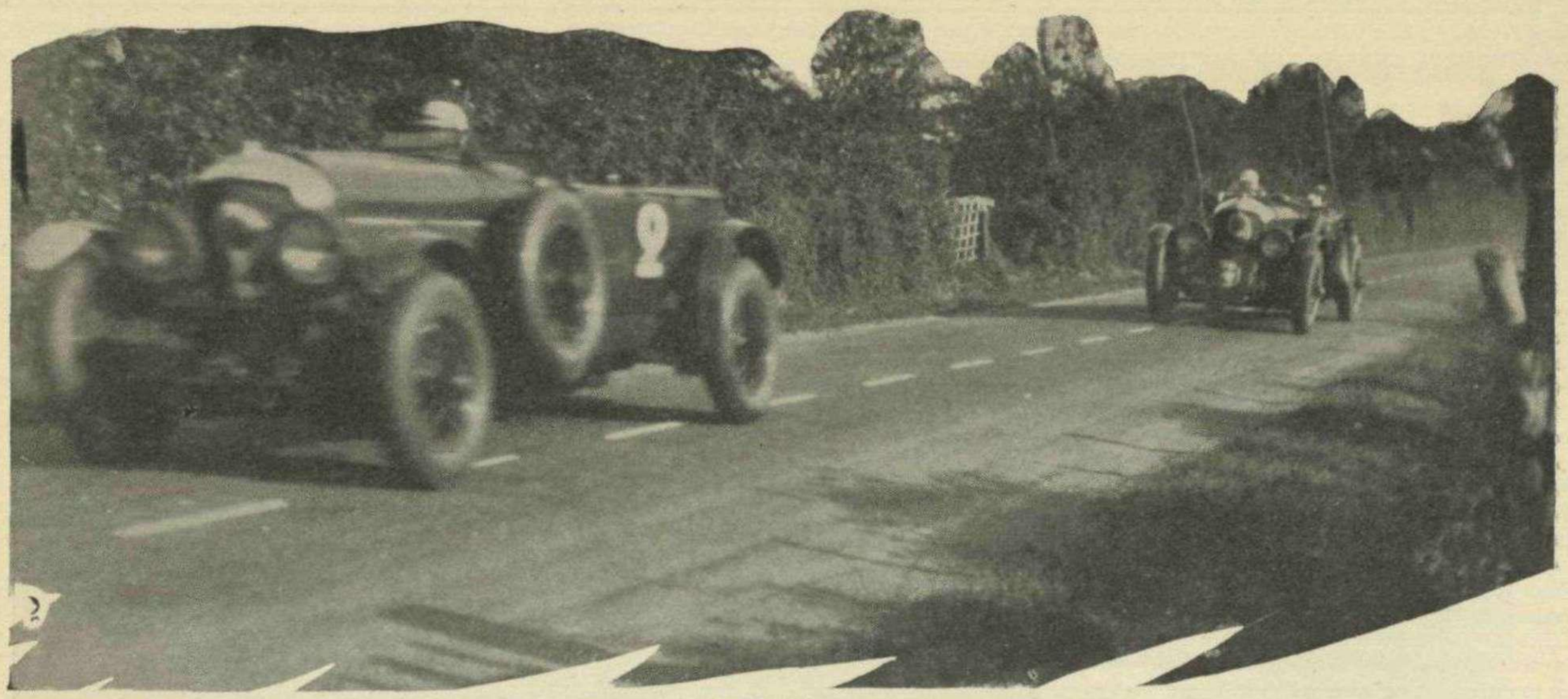
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*GRAND PRIX d'ENDURANCE—continued.*



*Birkin hot on the heels of one of his team mates, Clement.*

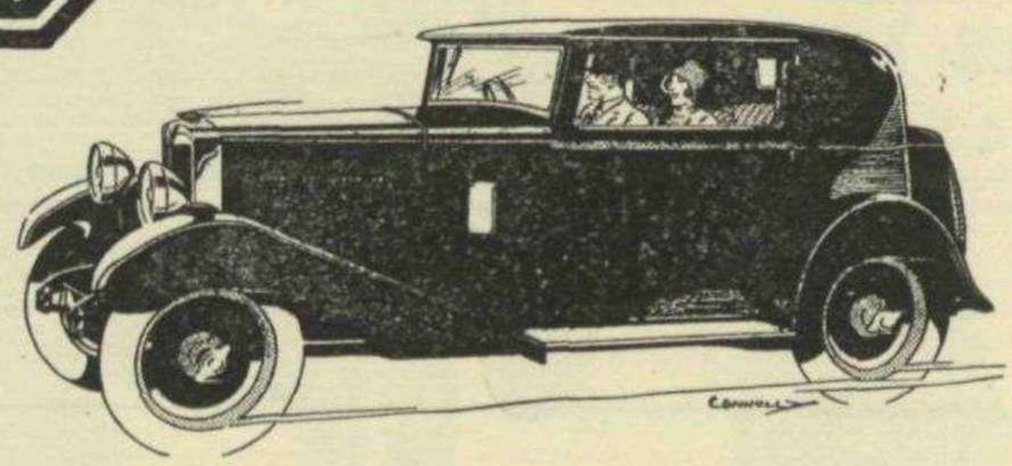
2. F. C. Clement and R. Watney (6,597 c.c. Bentley). Distance, 1,760 miles. Speed, 73.33 m.p.h.
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6. S. H. Newsome and K. S. Peacock (1,498 c.c. Lea-Francis). Distance, 1,424 miles. Speed, 59.33 m.p.h.
7. Mesdames Mareuse and Siko (1,496 c.c. Bugatti). Distance, 1,345 miles. Speed, 56.04 m.p.h.
8. Grégoire and Vallon (986 c.c. Tracta). Distance, 1,306 miles. Speed, 54.42 m.p.h.
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## PROGRAMME

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| EVENT No. 2. 12 p.m. | | TWO-LAP " ROUND THE MOUNTAIN " HANDICAP FOR TRADE AND LAGONDA SALES STAFF DRIVERS. |
| 12.30 p.m. to 1 p.m. | | DEMONSTRATIONS. |
| EVENT No. 3. 1.15 p.m. | | APPEARANCE CONTEST (7 classes). |
| EVENT No. 4. 2.15 p.m. | | THE " MANCHESTER " ONE LAP HANDICAP FOR OWNERS OF ANY MODEL LAGONDA CAR IN TOURING TRIM. |
| EVENT No. 5. 2.45 p.m. | | THE " LONDON " " ROUND THE MOUNTAIN " TWO LAP HANDICAP FOR OWNERS OF ALL MODELS OF LAGONDA CARS IN TOURING TRIM. |
| EVENT No. 6. 3.15 p.m. | | THE " HANOVER SQUARE " ONE-LAP HANDICAP FOR LADY DRIVERS ONLY ON ANY MODEL LAGONDA CAR IN TOURING TRIM. |
| EVENT No. 7. 3.45 p.m. | | THE " BRADFORD " ONE-LAP HANDICAP FOR OWNERS OF LAGONDA CARS OF ANY TYPE. |
| EVENT No. 8. 4.15 p.m. | | THE " HAMMERSMITH " TWO-LAP " ROUND THE MOUNTAIN " HANDICAP. |
| 4.45 p.m. to 5.15 p.m. | | DEMONSTRATIONS. |
| EVENT No. 9. 5.15 p.m. | | THE " GARAGING " SCRATCH RACE. |
| EVENT No. 10. 5.45 p.m. | | OBSTACLE RACE FOR OWNERS OF ANY TYPE OF LAGONDA CAR. |
| 6 p.m. | | PRESENTATION OF PRIZES (INCLUDING GRAND AGGREGATE CHALLENGE CUP VALUE £25) by LADY HOLBERTON. |

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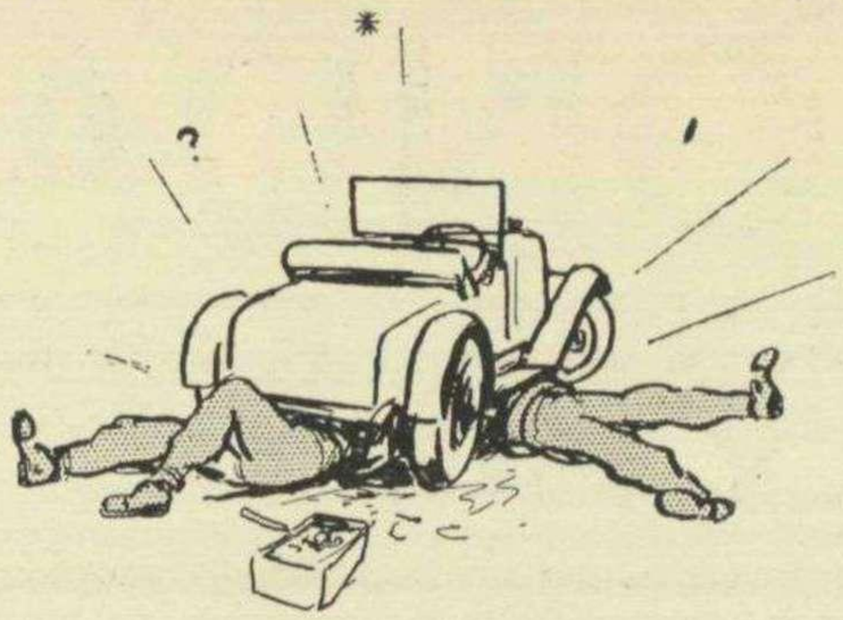
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# DEVILISH DESIGNS

## Some Cyclecar Reminiscences

by "Icarus"



A FEW years ago, when there was an idea of putting a motor car on the market at the magic figure of £100, there was a marked revival of friction drive.

For the moment its various iniquities were forgotten and designers were greatly attracted by the advantages which it could be stated to possess. The fact that none of these delightful qualities survived in practice, or were ever likely to, did not deter the sponsors of the "new" type. Moreover it added to the fun, for the complete conviction of various people that this drive was to revolutionise the cheap car of the future, gave scope for endless ingenuity on the part of those who had to transform, into mechanical reality, the distorted ideas of crank designers.

The writer was for some time attached to one of these optimistic firms in the capacity of assistant designer cum tester cum anything else that might be required. The modern style of manufacture, with its highly organised works staff and a steadily moving p oduction line, undoubtedly produces the goods, but it lacks the cheerful variety of the old style. In those days motorcars were produced one by one and nearly everyone in the works had a hand in every part of them. Again a car once built was not finished with—far from it! The trouble was only just started.

If anyone was optimistic or foolish enough to buy it; and it is amazing what enthusiasts there then were, this increased the resources of the firm, and encouraged the commencement of a few more vehicles. Production of these however, while not smooth at the best of times, was further interfered with by the task of keeping in some sort of order the machines previously supplied to the unfortunate public. Not many of these it is true, but we got to know every nut and bolt of each one before ong.

I started by talking about friction drive, and it is certainly in this department that things happened most frequently. One firm in the old days made a partial success of friction drive on a low powered car, and some of their products with gentle treatment continued to function long after their allotted span; this was unfortunate, as it led others to believe in this form of infinitely variable gear.

Apart from the fact that the public would never buy a car with this drive whether it worked or not, it is well nigh impossible to make it work. The idea is beautifully simple, and the first drive on the pa.ticular make I was mixed up with was delightfully simple and cheap—but not for long.

This mechanical monstrosity was propelled, when the drive drove, by an undersized air-cooled two-stroke, the whole mass of machinery being housed in the rear of the car, and the engine cooled by a tiny fan which served to agitate the sultry atmosphere in this compartment. The design was so arranged that fresh air was not encouraged to enter, and the fact that the engine ever managed to propel the car as far as it did is a fine tribute to the firm who supplied it, and whose name is now famous in the motorcycle world. The fan was mounted directly above the big flywheel which was also the driving wheel of the friction drive. Its bracket consisted of a rod through the fan, bent down and passing through a piece of strip with a nut either side. Needless to say the nuts came loose and the fan turned round and wiped its blades off on the flywheel to the accompaniment of much chatter. This used to happen frequently in traffic and caused much embarrassing attention, only relieved when the fan belt broke and comparative peace reigned again. From these remarks, some readers may suggest that more often than not the engine ran without a fan. It did.

### An automatic gear change.

One of the first essentials of a friction drive unit is that the driven disc should be square with the driver. The uninitiated might imagine that this state of affairs was easily secured by fixing the sha.t correctly in the first place and leaving it. This sort of thing unfortunately does not happen, as in the course of running nearly everything in the drive expands, contracts or alters in some way so that the adjustment is affected. This means that every unit must be adjustable in several directions and adjustments of this sort do not tend to make the job any cheaper to produce. Another trouble is that owing to the change of temperature the size of the friction disc alters again, upsetting the adjustment and also causing the discs to run across each other unasked, so changing gear whether the driver intended to or not. It was quite common to take a car out in such a condition that at the beginning of the test the gear lever always forced itself back to the lowest position; but after a few miles, when everything was so hot that

*DEVILISH DESIGNS—continued.*

the engine would hardly pull the car in bottom gear, it was impossible to stop it getting into top every few seconds. This led to further complications and it was decided that some firm locking device for the sliding wheel apart from the gear lever, either automatic or otherwise, was necessary. Everyone in the works had a go at designing their ideas for this fitting and many and weird were the gadgets produced. Most of them worked to some extent but none had any real advantage. However it made for variety, as no two cars were ever built with a similar fitting. The fact that it was hardly the perfect car for the owner driver is shown by the fact that before even the mildest excursion it was advisable for an expert to spend at least half an hour underneath playing with the works, to ensure that at least some power would be transmitted to the back wheels.

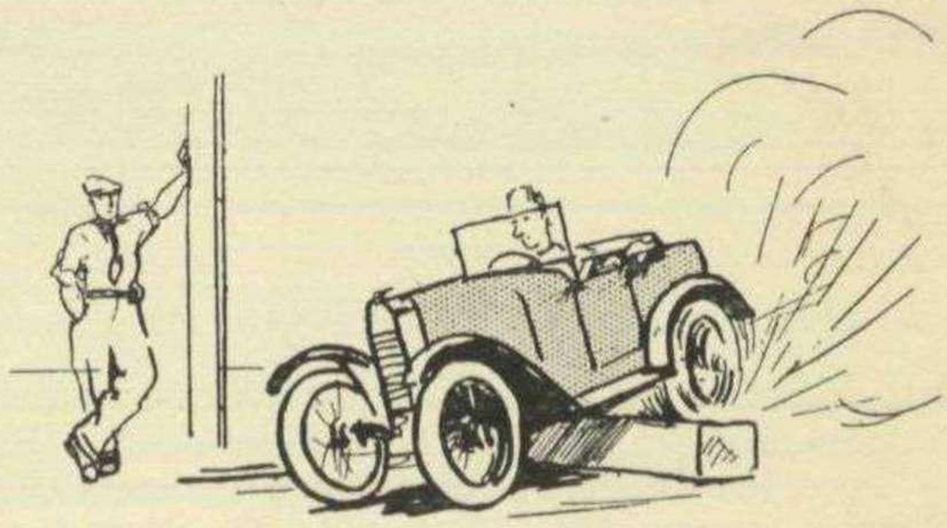
**Salesmanship !**

Giving demonstration runs was an anxious business in those days as even the simplest manoeuvre was liable to upset some adjustment, and the demonstrator would have to think of some plausible explanation as to why the car would not reverse or why a perfectly simple main road hill caused it to come to a rest with a distressing anvil chorus accompaniment from the power unit.

At a period where we had had so much trouble that there was at last some hope of being allowed to design something a little more conventional and reliable, some brave fellow in the works decided to undertake a journey to Devonshire for a holiday, hoping to combine business with pleasure ; though it is only a special type of optimist who could find sustained pleasure in continual adjustment of a refractory motorcar. By some miracle our hero not only reached Devonshire but actually returned therefrom, in the process performing the hitherto unprecedented feat of collecting another of our models, which had died quietly some 50 miles from London a few days previously, and towing it home, with his wife in the towed car. True, he had to stop owing to a seizure and fit a piston en route, but this was considered a minor adjustment compared with the usual behaviour ! When he arrived back at the works at the end of his adventure, the Powers that be (or rather that were) were so enthusiastic about the alleged success of the infernal machine, that we were condemned to a further period of trying to get them fit for the public.

A great point of this particular model was the fact that by the removing of the dummy radiator, considerable luggage space was obtainable in the front of the car, provided the driver was prepared to cope with an occasional suit-case drifting between his feet and the pedals ! During the great journey mentioned above, when going over a bump the radiator of the front car fell off, whereupon both cars ran over it, not improving its shape thereby. It was, however, kicked sufficiently straight to be re-fitted by the expedient of packing newspaper underneath it all round the bonnet. Unfortunately no one remembered to re-fix it properly, which caused an awkward moment a day or so later. Our managing director, a charming man incidentally, but with no knowledge whatever of motorcars, was showing a prospective customer round the works, which were of course, combined showrooms and everything else. While enlarging on the conveniences of this appalling contrivance, he mentioned the luggage capacity and with a sweep of his arm ordered the radiator to be removed to demonstrate this. After a struggle this was done to reveal a large quantity of rolled up and torn newspaper draped all over the inside. It was one of those moments !

Following the view that there is nothing like trying a new model in open competition, we used to enter for trials and on various occasions even got as far as the start ; though I can remember no occasion on which one finished within the time limit set by the organisers. While it was sometimes possible to get the friction drive to grip sufficiently for normal running, a steep hill nearly always caused it to slip, causing flats on the friction wheel. Trials secretaries had a nasty habit of including restart tests on bad hills and this caused us much thought and worry. Wonderful contrivances were fitted to our competition vehicles to enable extra spring pressure to be applied between the discs in emergencies, so that at least one get-away on the hill could be made without completely wrecking the drive. The extra spring pressure put so much load on the crankshaft that what little power the engine had was completely absorbed in rotating this distorted member. To enable the spring



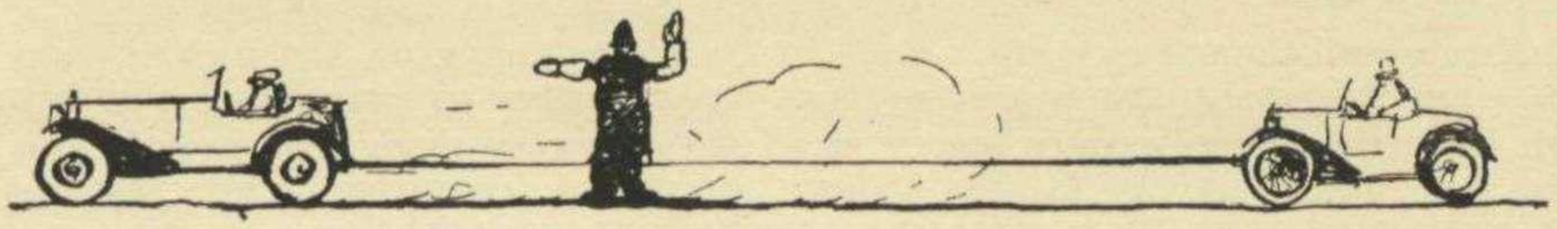
*Stop and restart tests !*

pressure to be reduced the bright idea was conceived of countersinking small holes all round the centre of the driving wheel where of course the drive comes in low gear. This part of our specials was more reminiscent of a nutmeg grater than anything else, but by its aid it was possible, sometimes, to get away on a hill after stopping. The method of testing this was to put the car with the back wheels against a good sized baulk of timber in the works and then try to climb the car over it from a standing start, to the accompaniment of the roaring of the engine, clouds of blue smoke from the exhaust, and a frightful smell of burnt cork, or whatever friction material was in use on the car in question. Friction material as used for brake linings had insufficient grip without excessive pressure and a more popular material was cork, either as a complete ring, or compounded with layers of other material to take some of the wear.

It must not be imagined that troubles with the engine and the friction drive were the only things which went wrong ; these were just the main things. Everything else that could go wrong on a car did.

Some machines had coil ignition with the distributor

*DEVILISH DESIGNS—continued.*



on the end of the dynamo and driven through a fibre pinion for the sake of quietness; though it is fairly certain that any little extra noise due to a metal pinion would have been quite inaudible above the general turmoil. Owing to the fact that the dynamo was supported on a flimsy sheet metal bracket, the wheels did not keep in mesh for any great length of time and the teeth rode over each other and demolished the fibre pinion with a sharp shriek, leaving the car quite useless.

Apart from the fact that the engine was hopelessly overloaded, further overloading was caused by the enormous quantity of spares which it was necessary to take to have any hope to getting to one's destination. A spare friction wheel, a few dynamo drive pinions, a piston or two and a good collection of nuts, bolts, rods, iron, string, and of course enough tools to dismantle any part of the car, were the chief requirements. I used to live about 15 miles from the works, doing the journey each day in a cycle car of another and considerably more reliable make. When feeling more than usually foolish it was my practice to attempt to take home one of the firm's cars for the week-end.

The fastest and most reliable journeys the cars ever made were when being towed back to the works by the other cycle car referred to above. For towing purposes we had acquired a considerable stock of aeroplane shock absorber elastic and this made towing, usually rather a dull business, quite an exciting proposition. In a traffic block, when the policeman's hand descended, the tower would often leap forward until he found his car brought up by some invisible power about 20 yards further on, owing to the towee being asleep or admiring the landscape and forgetting to release the brake. He would wake up suddenly and release it, to be whisked forward by the elastic with a resounding crash into the back of the towing car. This sort of thing brightened up towing considerably.

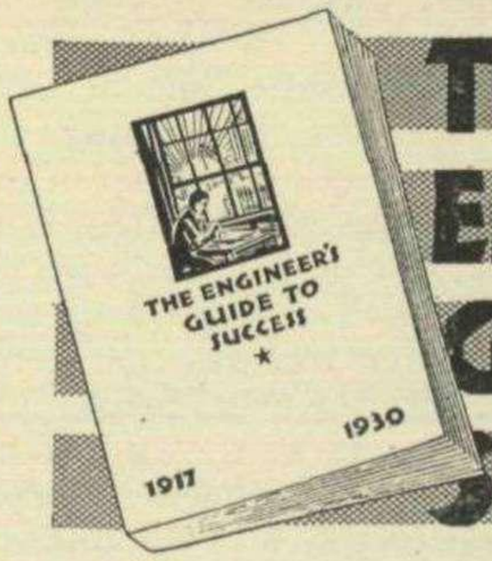
Manufacturing cars on these lines is hardly a commercial proposition, this being shown by the fact that none of the firms who did it are now in existence. However, given the peculiar sense of humour necessary to carry on this sort of work without committing suicide, much entertainment might be obtained from the mechanical horrors of those days; though we are now in an era where motoring is a serious and reliable business, those who remember the productions of the crude old days will, I am sure, join in wishing that their relics may rest peacefully in their graves.

## THE MANX GRAND PRIX.

THE Manx M.C.C. have this year decided to discontinue the running of the Amateur Road Race, since the difficulties of defining Amateur status had become insuperable. In its place the Club decided to promote a type of event which should provide equal if not greater interest.

The new events are open equally to trade and amateur entrants, but riders who have taken part in any of the international road races, as for instance the T.T. races or the Grand Prix of France or Belgium, or who have held any motorcycling World's Records may not compete. In addition, the regulations require that a competitor shall have been resident in the British Isles for the last 5 years. This last regulation seems difficult to justify, since part of the interest in an event of this character lies in the comparison between our own and foreign riders.

The machine must be the property of the driver and a standard model quoted in the maker's catalogue, and must not have been used in the 1930 T.T. races. Manufacturers can therefore give full support to any rider who is likely to do well, and it may be anticipated that those firms who have not felt inclined to go to the expence of entering the T.T. races will take this opportunity of showing the good qualities of their machines to the Public.


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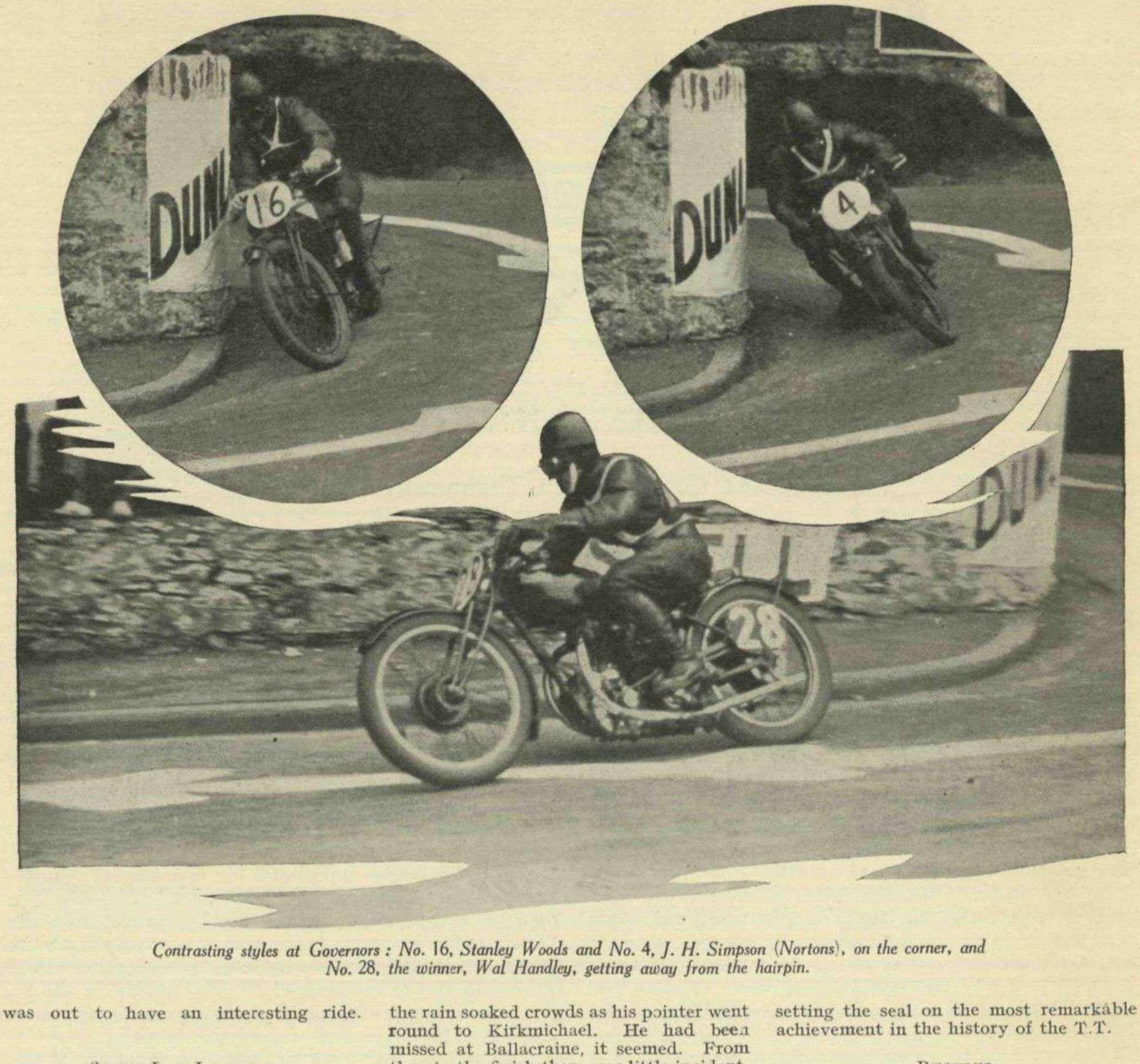
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*THE SENIOR RACE—continued.*



*Contrasting styles at Governors : No. 16, Stanley Woods and No. 4, J. H. Simpson (Nortons), on the corner, and No. 28, the winner, Wal Handley, getting away from the hairpin.*

was out to have an interesting ride.

SIXTH LAP LEADERS.

| | h. | m. | s. | m.p.h. |
|---|---|---|---|---|
| 1.—W. L. Handley (Rudge) | 2 | 59 | 45 | 75.58 |
| 2.—G. W. Walker (Rudge) | 3 | 4 | 51 | 73.49 |
| 3.—J. H. Simpson (Norton) | 3 | 5 | 3 | 73.41 |
| 4.—H. G. Tyrell Smith (Rudge) | 3 | 6 | 13 | 72.96 |
| 5.—C. J. P. Dodson (Sunbeam) | 3 | 6 | 54 | 72.69 |
| 6.—G. E. Nott (Rudge) | 3 | 7 | 11 | 72.58 |

With the leaders all on their final circuit, everyone was hoping that no stroke of fate was going to rob Handley of his well-deserved victory. The rain was getting heavier and heavier, and the least mistake on those glistening roads would have spelt disaster. Then Handley's clock remained at the start far too long. He should have reached Ballacraine minutes ago. Then a cheer went up from the rain soaked crowds as his pointer went round to Kirkmichael. He had been missed at Ballacraine, it seemed. From then to the finish there was little incident. The Craig-ny-baa telephone, temporarily disabled by the accident, was working again, and his pointer moved round. Then the red light, and the distant note of an engine, and a few seconds later the Rudge screamed over the line as Handley concluded his record-breaking ride in 3 hours, 33 minutes, 30 seconds.

The second man home was that wonderfully consistent veteran, Graham Walker, who has been more than once in sight of a T.T. victory, but whom fate has always disappointed at the last minute.

J. H. Simpson, hero of many record laps, in past years, was third, while last year's winner, Charlie Dodson, gained fourth place at 71.99 m.p.h. T. F. Bullus, at last mounted on a machine which would carry him through, brought his Sunbeam into fifth place.

The Rudge-Whitworth team, consisting of Graham Walker, Tyrell and Nott, won the manufacturers' team prize, thus setting the seal on the most remarkable achievement in the history of the T.T.

RESULTS.

| | | h. | m. | s. | m.p.h. |
|---|---|---|---|---|---|
| **1.** | **W. L. Handley (Rudge)** ... | **3** | **33** | **30** | **74.24** |
| **2** | **G. W. Walker (Rudge)** ... | **3** | **36** | **49** | **74.10** |
| **3.** | **J. H. Simpson (Norton)** ... | **3** | **38** | **1** | **72.70** |
| 4. | C. J. P. Dodson (Sunbeam) | 3 | 40 | 11 | 71.99 |
| 5. | T. F. Bullus (Sunbeam) ... | 3 | 41 | 53 | 71.43 |
| 6. | H. G. Tyrell Smith (Rudge) | 3 | 42 | 54 | 71.11 |
| 7. | G. E. Nott (Rudge) ... | 3 | 43 | 42 | 70.85 |
| 8. | V. N. Brittain (Sunbeam)... | 3 | 50 | 43 | 68.70 |
| 9. | J. G. Lind (A.J.S.) ... | 3 | 54 | 26 | 67.56 |

**All the above win replicas.**

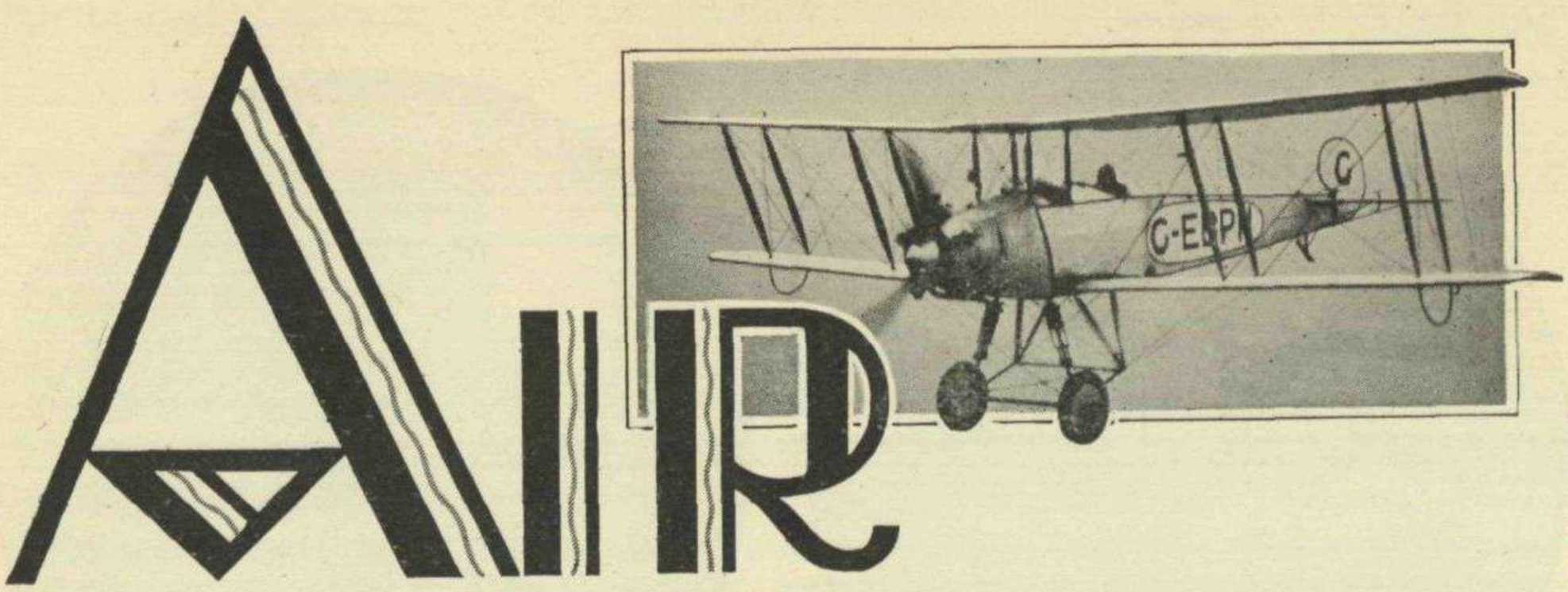
| | | | | | |
|---|---|---|---|---|---|
| 10. | J. Duncan (Raleigh) ... | 3 | 59 | 23 | 66.2[1] |
| 11. | H. J. Bacon (Sunbeam) ... | 3 | 59 | 29 | 66.18 |
| 12. | G. Himing (A.J.S.) ... | 4 | 4 | 15 | 64.89 |
| 13. | C. W. H. Merrill (Sunbeam) | 4 | 4 | 17 | 64.88 |

**FASTEST LAP.—W. L. Handley, 29 mins. 41 secs. =76.28 m.p.h.**

THINGS THAT COUNTED.

Handley used the following in his victorious ride: Shell petrol, Castrol oil, Dunlop Tyres, and saddle, Coventry chains, Tecalemit lubricating equipment, Don clutch linings, Fibrax brake linings, a d Amal carburetter.

The Lightweight winner used: Pratts petrol, Castrol oil, M-L magneto, K.L.G. plugs, Lycett saddle, Duran brake linings, Amal carburetter, and Renold chains.




# MONOPLANE OR BIPLANE?

## The Pros and Cons of Each Technically Reviewed.

*By Clifford W. Tinson, F.R.Ae.S.*

THE question of monoplane or biplane has always been one of interest, and one upon which a general agreement has never been reached. Contending parties rarely see from the same angle in making comparisons, and the difficulty is to assess fairly the value of a variety of features in discussing the merits of the two types, the trouble being that it is not always possible to visualise a common datum to which to refer the values of features so widely differing in character as are the purely technical or aerodynamic ones and those of a practical or commercial nature.

In some respects, the difficulties referred to are comparable with those one meets in discussing the value of an automobile to an individual. In this case, we have a common ground in that all are agreed that the value is proportional to the performance, cost, comfort and depreciation, but in comparing the cost of running two different cars there is the difficulty that one cannot reduce everything to a common point of reference. Depreciation, for instance, is intimately connected with the time factor, whereas fuel and oil costs depend on distance, whilst tyres and repainting are governed to a great extent by both time and distance.

In much the same way, arguments for and against the monoplane or the biplane cannot be settled definitely to everyone's satisfaction, for in place of the time and distance factors there are, as principal headings, the technical and commercial—or perhaps it is better to say the aerodynamic and practical sides to the question.

Divested of all technicalities, there does not *appear* to be any marked superiority in the observed performance of either type, other than that one imagines some aircraft are travelling faster because of their small dimensions, or because they present a cleaner outline. That the cleaner appearance of a monoplane should be followed by a definite gain in performance is reasonable, yet it must be admitted that machines having the same horse-power and designed for similar duties, whether they be monoplanes or biplanes, have approximately the same speed and rate of climb. Any superiority of one type must then be connected with carrying capacity or duration of flight without re-fuelling. If this advantage is claimed for the monoplane, it is definitely superior from the aerodynamic point of view, and should give the best values in ton-miles-per-gallon, but can such a claim be established?

It is much easier to concentrate the argument round the comparative qualities from the point of view of general utility and suitability for operational requirements. The query has often been raised as to why it is that so many long distance flights, particularly the Transatlantic attempts, were made on monoplanes, the inference being that there must have been some subtle quality in the monoplane which was lacking in the biplane to influence those who were responsible for these projects in their selection of a suitable machine.

Perhaps, the reply is that, speaking generally, it was undoubtedly necessary to select a machine actually in existence and one which could be purchased at a reasonable price, since the design and construction of a special machine is a costly matter. Moreover, a special machine is not necessarily more reliable than one of a type which has been in production for some time; usually the reverse is the case.

Apart from the advisability of selecting a machine of known merits and reasonable price, there was the need for a considerable space in which to mount additional petrol tanks for the Transatlantic attempts and possibly this, as much as anything, was the factor controlling the choice of the machines used.

A high or low wing cabin monoplane is readily adapted to carry additional petrol tanks, probably more readily adapted than any other class of aircraft if one excepts flying boats—which one excepts from this discussion as being a special type of aircraft.

*MONOPLANE OR BIPLANE ?—continued.*

One can easily imagine that a fuselage suspended below a continuous wing structure, or placed on top of it, will require a minimum of internal bracing for torsional rigidity, and if this is indeed so, a considerable space in the cabin portion is available for the disposal of load, whether it be additional petrol tankage, passengers, or goods. No transverse bracing is necessary in the portion of the body which lies between the front and rear wing spars, and as the monoplane has a greater wing chord—and therefore a greater distance between the spars — than a biplane of similar wing area, there is at once a good reason for making a machine a monoplane when the greatest extent of unobstructed space inside the cabin part of the fuselage is a desirable feature.

The high wing monoplane, moreover, is usually found to be a more convenient type when one considers the facility for entering and leaving the cabin, and has the definite advantage of allowing for the installation of fuel tanks in a high enough position to give gravity feed to the engines. This advantage it shares with the biplane of course, in or on the top wing of which can be mounted fuel tanks, in contrast to the low wing monoplane which may have equally good or better characteristics when considering cabin space and ease of entry, but must have pump feed for the fuel.

Comparing the monoplanes, one would expect the high wing machines to be at a disadvantage on a windy day whilst on the aerodrome because a cross wind would presumably create a stronger tendency to lift the windward wing and turn the machine over. This, however is not the case in practice, for the high wing design lends itself to an undercarriage of considerable track whilst a good broad track is what is required for stability in these circumstances.

Monoplanes, generally, fall into one of two distinct categories ; either they are what is called " full cantilever " or " semi-cantilever." Typical examples of the former type are the Fokker and Junkers machines, whilst nearly all the American cabin monoplanes fall in the semi-cantelever class.

With regard to the semi-cantilever class, it is clear that some saving in weight can be effected by running struts out to a point approximately half way between the fuselage and the wing tips at the expense of the resistance of the struts and the interference effect at their joints with fuselage and wing, and bracing in this way has a considerable advantage in making the wing structure more rigid, that is to say the bracing reduces the torsional flexibility of the wing.

For the benefit of those unfamiliar with aeronautical work it may be as well to explain here that the air pressure distribution on a wing in flight is more concentrated, or rather of greater intensity, toward the leading edge when the wing

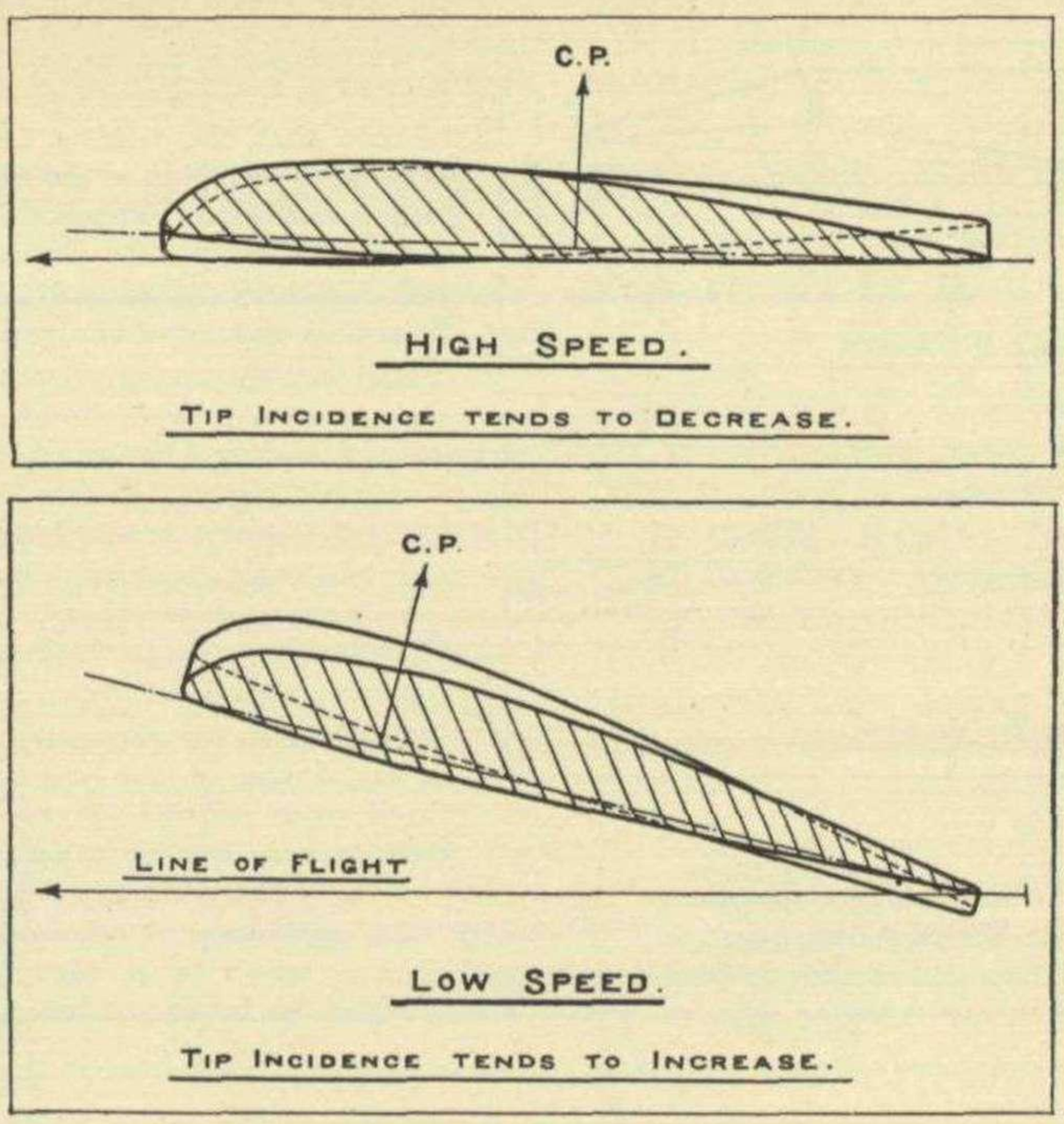



*Fig* 1.

is at a large angle of incidence (corresponding to low flight speed), and this concentration is referred to a point called the " centre of pressure " at which a single force which would produce similar results is supposed to act. At small angles of incidence (corresponding to high flight speed), the centre of pressure moves back along the chord.

A wing is a comparatively flexible structure ; it is susceptible to a certain amount of deformation in flight according to the position of the centre of pressure, and if the unbraced portion of the wing is of considerable length as in full cantilever type, the torsional deformation in certain conditions of flight would prove serious if steps were not taken to guard against it. Fig. 1 illustrates diagrammtically the deformation of the wing tip of a cantilever wing with respect to the root.

In order to prevent excessive deformation, it is usually necessary to cover cantilever wings with plywood or aluminium sheeting instead of fabric, thus ensuring that the amount of aileron control under all conditions is sufficient and not affected to an appreciable extent by the wing twisting.

At this point, it may be necessary to explain the relation between twisting of the wings and the efficiency of the aileron control.

The movement of the aileron does two things ; it alters the camber of the wing and it alters the angle of incidence of the wing tip relative to the root. To obtain the desired rolling moment it is necessary for the downward moving aileron to produce an increase both in camber and angle of incidence, and the reverse applies, of course, to the upward moving aileron. If the movement of the aileron is accompanied by a twist of the wing tip away from the desired change of incidence, then the effect of the aileron is seriously reduced and, in extreme cases may even be reversed. Fig. 2 illustrates the change of camber and incidence by downward aileron movement when there is no relative twist between the wing tip and wing root, and the state of affairs which would result from a very flexible rear spar combined with a fairly rigid front spar. In the latter case, it will be seen that the change of incidence is in the opposite direction to that required.

As the speed of the machine is increased by throttle opening or by diving, the centre of pressure retreats, and if the wing is flexible the power of the aileron is decreased. What is still more serious, there is the possibility of wing flutter setting in as well as loss of aileron power.

A curious effect of flexibility is the reversal of the aileron control beyond a certain speed, without wing flutter occurring at the critical speed of the change over. In this case, the aileron power was normal at slow speeds and gave the usual response, but on increasing the speed the aileron power gradually failed until, beyond a fairly definite speed, the effect of the aileron was reversed, and this condition may be likened to riding a bicycle with the hands crossed over to the opposite handle bars. Needless to say, this peculiarity was discovered during the experimental stage and was rectified.

Such a state of affairs as this must not be allowed to take place at any speed, and consequently the majority of cantilever wings are covered with stiff material such as ply-wood to prevent twist in flight.

This requirement results in the wing of a full cantilever machine being rather heavier than might appear to be necessary on casual consideration, and the semi-cantilever machine is thus at an advantage from the point of view of wing weight even when the weight of bracing struts are taken into account and allowing for the power absorbed by and the resistance due to them.

To eliminate the disadvantage of the flexibility of the cantilever wing, a system of internal bracing has been tried recently, for which the inventors claim exceptional rigidity for light weight and no increase of air resistance. This is illustrated in Fig. 3 and the explanation of the theory

*MONOPLANE OR BIPLANE ?—continued.*

of it would take more space than is available here, but the rigidity is obtained by a special system of internal struts and ties, shown in heavy lines in the diagram, which prevent the single spar from twisting, without assistance from the wing covering.

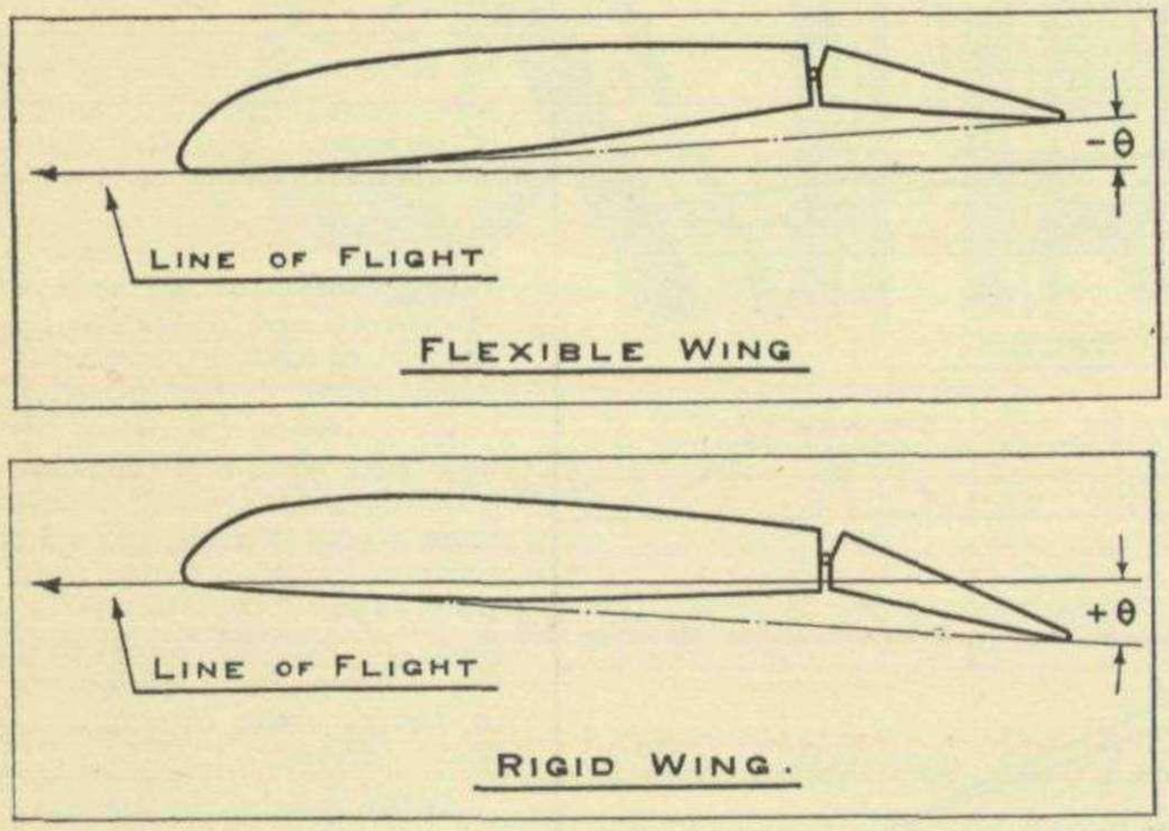



*Fig. 2.*

Should this system come into vogue, the objection to the wing weight of a cantilever machine may disappear.

From the point of view of lightness and rigidity of wing structure there is no type as yet which can compete with the normally braced biplane, whilst the facility of arranging for folding wings in contrast to a monoplane may be a strong point in its favour in cases where housing accommodation is restricted.

The fact that the biplane is lighter is an excellent reason for constructing civil aircraft in this form, for they will naturally carry more paying load for a given power and, in the larger sizes such as the twenty-seaters, where the convenience of entering and leaving the cabin is equal to a monoplane, the biplane would be the better type.

In the smaller sizes, however, such as four seaters, it is questionable whether the slightly greater structure weight of the monoplane is not compensated for by the advantages gained in other, and purely practical directions.

While it is true that all machines used in the last Schneider Trophy race were monoplanes, it is not without interest to note that the Gloster Co., deserted the biplane type with some reluctance and purely by reason of the exceptional conditions imposed by the requirements. Their experience, backed by extensive wind-tunnel investigation and research, convinces them that, for pure speed, the biplane is the equal of the monoplane.

For weight carrying with a maximum cruising speed the biplane would again appear as good or better than the monoplane. At a recent meeting of the Royal Aeronautical Society, Mr. C. R. Fairey (in speaking of the Fairey long distance machine on which Squadron-Leader Jones-Williams and Flight-Lt. Jenkins unfortunately lost their lives in the Cape Flight), stated that he could have produced a biplane for a structure weight of 20% whereas his monoplane had a structure weight of 26%.

The reason for sacrificing this economy was the purely practical one of the ability to utilise the wings as petrol tanks, thus permitting the fuselage to be made of small cross section and low resistance, and as it was necessary to carry some 1,200 gallons of fuel and feed it to the engine with the maximum of reliability, the accommodation of this fuel in the wings of a high wing monoplane was a very strong point in favour of selecting this type.

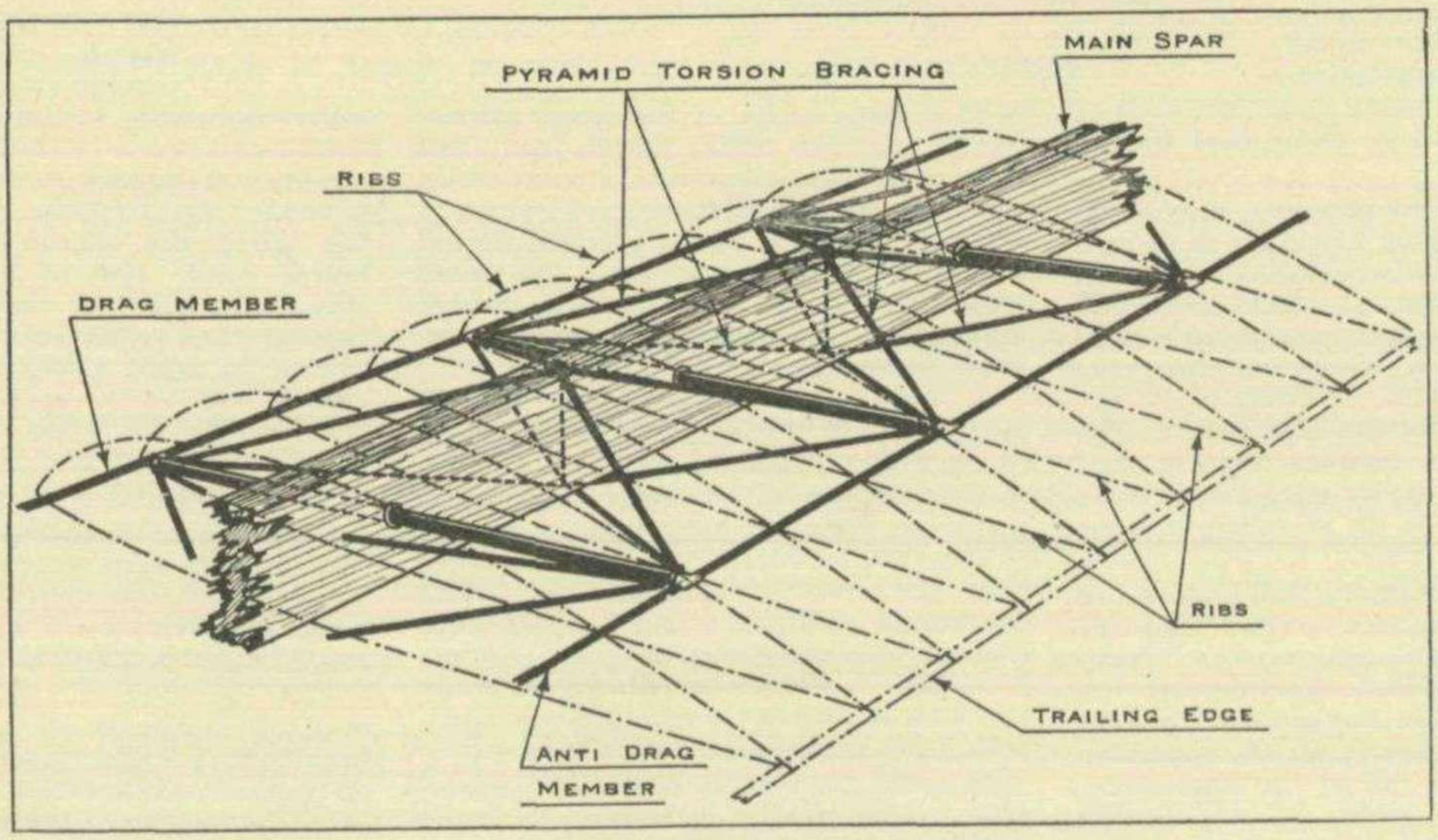



*Fig. 3.*

In conclusion, one may say fairly that practical considerations are ultimately the governing factor. Aerodynamic superiority would seem to be slightly favourable to the monoplane, structure weight rather strongly favourable to the biplane, the combination of the two giving the biplane a small advantage, but so small as frequently to be masked by operational requirements.

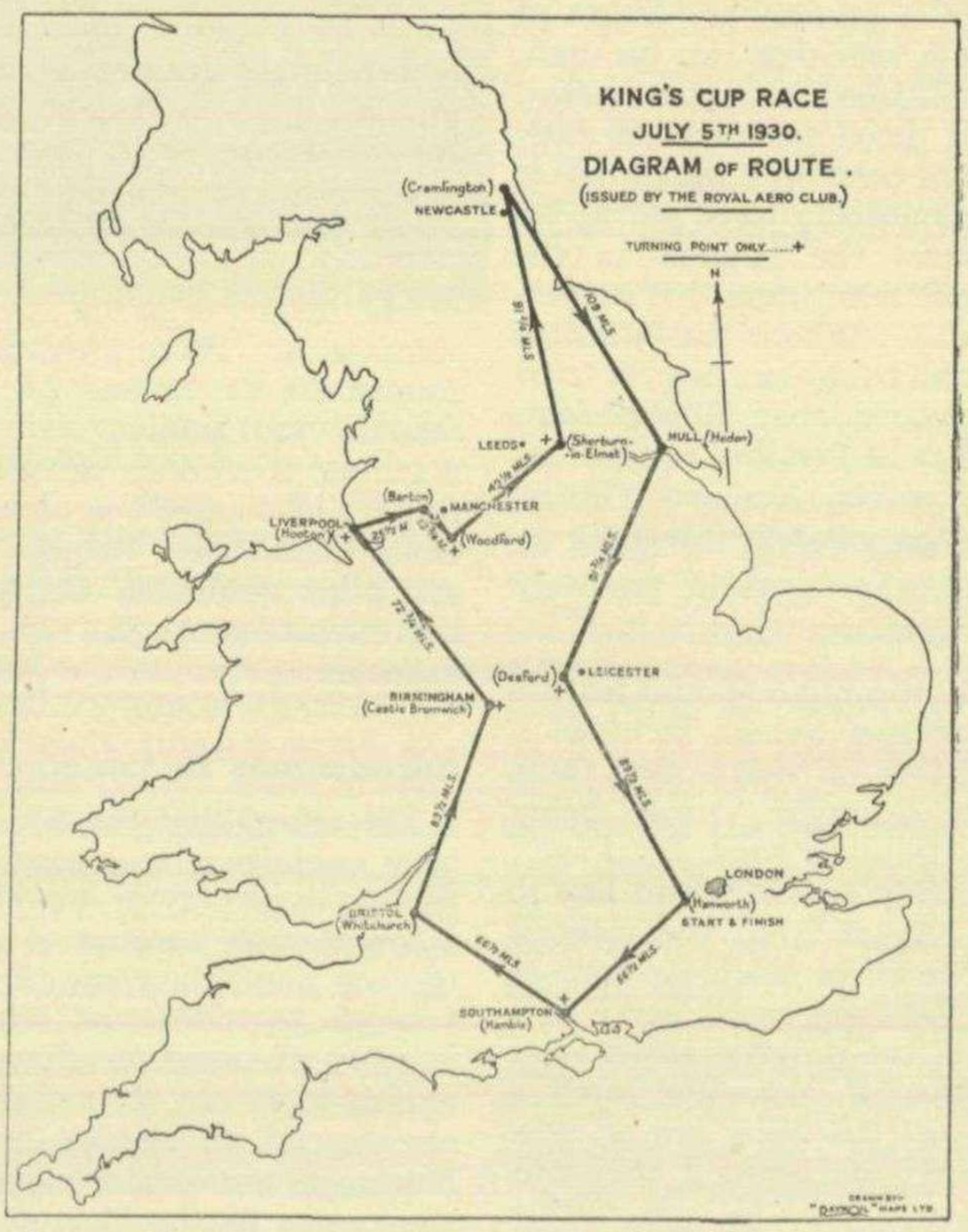
# THE KING'S CUP RACE

## *A BIG ENTRY.*

OVER ninety competitors figure in the entry list of the King's Cup Race, which takes place on Saturday next, July 5. Standard light 'planes predominate, but quite a number of new types will be seen competing for the first time, and this will add greatly to the interest of the contest.

Amongst these are two Hawker "Tomtits," one entered by H.R.H. The Prince of Wales and piloted by Squadron-Leader Don, the other entered by Capt. the Hon. F. E. Guest. Other new comers include the Arrow "Active" (Cirrus-Hermes), the Hendy 302 (Cirrus-Hermes), the Avro Avian monoplane and the Robinson "Redwing" (A.B.C. Hornet).

The course will be :—London (Hanworth), Hamble, Bristol, Castle Bromwich, Hooton Park, Manchester, Woodford, Sherburn, Newcastle, Hull, Leicester and Hanworth. The distance is approximately 750 miles and the circuit must be completed by 10 p.m. on the day of the race. The following is the complete list of competing machines with their pilots :—




D.H. Moth (F. S. Symondson), D.H. Moth (I. R. Parker), D.H. Moth (A. G. G. Marshall), Comper Swift, (Gerard Fane), Avro Avian (Lt. Caspar John, R.N.), D.H. Moth (Arthur Stanley Preist), D.H. Moth (Derek Schreiber), D.H. Moth (James Brian Buckley), Puss Moth (Capt. C. D. Barnard).

D.H. Puss Moth (W. L. Hope), D.H. Moth (Lt.-Col. A. Hamilton Gault), D.H. Moth (T. H. Naylor), "Spartan Arrow" (W. A. Andrews), D.H. Moth (George Vlasto), D.H. Moth (S. W. Giddy), Spartan (Lt.-Col. L. A. Strange), Westland Widgeon (C. S. Napier), "Spartan Arrow" (Capt. H. H. Balfour), D. H. Puss Moth (M. H. Findlay).

Blackburn Bluebird Mark IV. (Tom Rose), Blackburn Buebird Mark IV. (Captain Norman Blackburn), D.H. Moth (Hon. Lady M. Bailey), Spartan (H. T. Andrews), Spartan 3-seater (F.O. H. R. L. Hood), Puss Moth (Captain H. S. Broad), Blackburn Bluebird Mark IV. (Fl.-Lt. G. G. H. Du Boulay), Blackburn Bluebird Mark IV. (Sq.-Ldr. L. H. Slatter), Blackburn Bluebird Mark IV. (Col. The Master of Sempill), Blackburn Bluebird Mark IV. (John W. Gillan), Blackburn Bluebird Mark IV. (Loel Guinness), Blackburn Bluebird Mark IV. (Fl.-Lt. H. R. F. Waghorn), Hawker Tomtit (Sq.-Ldr. D. S. Don), D. H. Moth (Richard R. W. R. Trafford), D.H. Moth (W. L. Runciman), Comper Swift (L. S. Snaith), Westland Widgeon III. (J. Wellworth).

D.H. Moth (————), D.H. Moth (A. B. Ferguson), Spartan (Fl.-Lt. F. G. Gibbons), Avro Avian Mark IV. (S. A. Thorn), Desoutter I. (A. B. H. Youell), Vickers Vellore (F/O. J. Summers), D.H. Moth (R. O. I. Muntz), Puss Moth (E. G. Hordern), D. H. Puss (J. W. P. Chalmers), Blackburn Bluebird Mark IV. (Fl.-Lt. H. V. Rowley), Spartan "Arrow" (Ft.-Lt. J. R. Addams), D.H. Moth (Mrs. C. M. Young), Robinson "Redwing" (————), D.H. Moth (C. M. Pickthorn), D.H. Moth (Richard Ince), D.H. Moth (Fl.-Lt. S. B. Allen), D.H. Moth (P. A. Wills), Avro Avian (Miss Winifred S. Brown), D.H. Moth (Capt. The Hon. F. E. Guest), Hawker Tomtit (————), D.H. Moth (John D. Irving), Avro Avian (Fl.-Lt. T. B. Bruce).

D.H. Moth (Fl.-Lt. D. V. Carnegie), Desoutter I. (P. E. S. Sayer), Arrow "Active" (Fl.-Lt. J. S. Chick), Hendy 302 (Capt. Edgar W. Percival), Blackburn Bluebird Mark IV. (Harold John Andrews), Martlet (Miss Winifred Spooner), D.H. Moth (Lieut. L. G. Richardson, R.N.), Westland Widgeon III. (R. G. Cazalet), Desoutter II. (C. B. Wilson), Avro Avian monoplane (T. N. Stack), Avro Trainer (J. L. N. Bennett Baggs), Avro V. (Fl.-Lt. S. L. G. Pope), D.H. Moth (Captain R. S. Rattray), D.H. Moth (Sq.-Ldr. H. A. Whistler), D.H. Hawk Moth (Fl.-Lt.E. H. Fielden), D.H. Moth (G. de Havilland, Jnr.), D.H. Moth (Mrs. A. S. Butler), D.H. Puss Moth (A. S. Butler).

D. H. Moth (Capt. R. Douglas), D.H. Puss Moth (Capt. G. de Havilland), D.H. Puss Moth (Lt.-Comm. Glen Kidston, R.N.), D.H. Moth (Albert A. Nathan), Avro Avian (Geoffrey Goodwin), Avro Avian (D. S. Green), Avro Avian monoplane (F. Tompkins), Avro Avian (J. C. Cantrill), D.H. Puss Moth (Miss D. C. Guest), D.H. Moth (Capt. I. C. Maxwell), D.H. Moth (G. P. Fairbairn), Blackburn Bluebird Mark IV. (Sq.-Ldr. A. H. Orlebar), Blackburn Bluebird Mark IV. (Fl.-Lt. F. J. Fogarty), Avro Avian (Fl-Lt. John Oliver), D.H. Moth (A. C. M. Jackaman), Blackburn Bluebird Mark IV. (Sq.-Ldr. J. W. Woodhouse), D.H. Moth (H. N. S. Norman), "Robin" (A. G. Mortimer), Blackburn Bluebird Mark IV. (Lord M. A. Douglas Hamilton).



# SLIPSTREAMS

### Gloster IV. Again.

IT is interesting news that the manufacturers of the Gloster IVa have recently disposed of their machine to a private owner. The purchaser is Mr. Amherst Villiers, who is well known, of course, in connection with supercharger and racing car design. It is his intention to carry out certain modifications to the Gloster IVa (which is now at Croydon), in collaboration with Mr. Folland, Chief Designer of the Gloster Co., and to substitute a wheeled undercarriage for the floats. Afterwards the machine will be used in attacking the world's aeroplane speed record which has been held by France for the past six years; this record stands at the present time at 278½ m.p.h., and it is anticipated that the Gloster will have no difficulty in raising this figure by a substantial amount. The main problem in making an attempt of this sort is naturally that of safety in landing, and the first essential is the finding of a ground or 'drome of sufficient area where so fierce a machine can be used. It may be truly said that the Gloster Company reached the peak of high speed biplane development when they produced the IVa, and had it not been for a minor defect in the power unit it would undoubtedly have put up an astoundingly good show against the Italians in the Schneider Contest in 1927, if one may judge by its performance in the initial try-out. Where the machine will be flown in its new guise, and by whom, has yet to be decided upon, but it is rumoured that Flight-Lieut. Atcherley may appear with her at Pendine Sands. At all events any developments of Mr. Amherst Villiers' project will be watched with the greatest interest.

### Old Timers.

At a recent air meeting at Vincennes a special feature was a fly-past of veteran machines, which included a 1909 Bleriot monoplane. The idea of resurrecting these ancients is not altogether new, a similar "turn" being included in a flying display in Germany some years ago; nevertheless, it is one which many people would like to see copied in this country. Apart from the interest provided, the appearance in the air of machines such as the old Farman or the early Caudron would serve as a most striking demonstration of the progress made since pre-war days. The difficulties of arranging such a display lies, of course, in the fact that very few of these old timers are still in existence, and even if they are, they would undoubtedly have to be practically re-built before they would be safe to take in the air.

### A Growing Menace.

In my travels in the Southern counties and in the environs of outer London, during the past few weeks I have been surprised to discover the extent to which overhead power cables are being erected. These constitute a real menace to airmen, particularly as they are laid across open stretches of country where a pilot would naturally assume a good landing ground could be found in the event of a forced descent. Telegraph wires have caused a lot of nasty crashes in the past but, the fact that these power cables are of the high-tension variety makes them hundred times more dangerous. That this is no idle assumption is shown by the experience of an acquaintance who, losing his bearings temporarily through low-flying clouds, came down low in order to pick up his course and was suddenly confronted with a span of these deadly cables. He cleared them by inches only. Surely something should be done, and done quickly, to stop this wholesale placing of H.T. wires across the countryside.

### Italian Light 'Plane Contest.

A light 'plane competition, organised by the Royal Aero Club of Italy, and of international character, is to take place in August. Known as the "Circuit of Italy" it will be run in four stages—Rome—Rimini (690 miles), Rimini—Venice (542 miles), Venice—Turin (386 miles), and Turin—Rome (497 miles). The contest will open with a series of eliminating-tests which will be the means of fixing the starting handicaps for each competitor. These preliminary trials will take place on August 20, 21, 22 and 23, and will consist of climbing, take-off and landing tests; the judges will also allot machines to various categories after examining them in respect of comfort, equipment, safety, visibility, parachute installation, luggage accommodation, appearance and other qualities. Competitors will then start off on the circuit on August 25. A big and varied entry is expected.

### Aerodromes in London.

The report that the Air Ministry and the L.C.C. have been conferring in regard to the possibilities of establishing an airport in one of London's parks has aroused a considerable amount of interest and controversy. On the one hand there are those who are extremely hostile towards the idea and who declare that such a step, entailing the erection of huge hangars, etc., would amount almost to an act of vandalism. Others declare that our commercial air service has suffered too long through having its terminus situated at too great a distance from the centre of the Metropolis and it is suggested that, far from spoiling the amenities of a public park, the creation of an airport would add to the life and attractiveness of the Londoner's playground. Certainly, if a central-London 'drome were planned on the same lines as the Tempelhof in Berlin, only the most fastidious would be likely to find any cause for complaint.

"RUDDERBAR."

# Gliding Gossip and News




*Robert Kronfeld and his "Wien."*

KRONFELD AT ITFORD—

FIRST INTER-CLUB CONTEST—

CROSS-CHANNEL COMPETITION.

DURING the Whitsun holidays and recent week-ends, great public interest has been taken in the demonstrations of soaring and gliding which have been carried out at Firle Beacon, Itford, Sussex, by Herr Kronfeld, under the auspices of the British Gliding Association. For the first time people in this country were able to get a genuine idea of what "sailplaning" really means and the graceful evolutions of the Austrian expert's "Wien" aroused great admiration and enthusiasm. Fortunately, weather conditions have been very good for soaring during the major part of Kronfeld's stay in England, and he has been able to put up some fine shows. On Sunday, June 15, for instance, he took his machine from West Firle Beacon to Bedhampton Hill, near Portsmouth. This is by far the longest engineless flight ever made in England, the air-line distance being very nearly 60 miles—a magnificent performance. The journey occupied four hours.

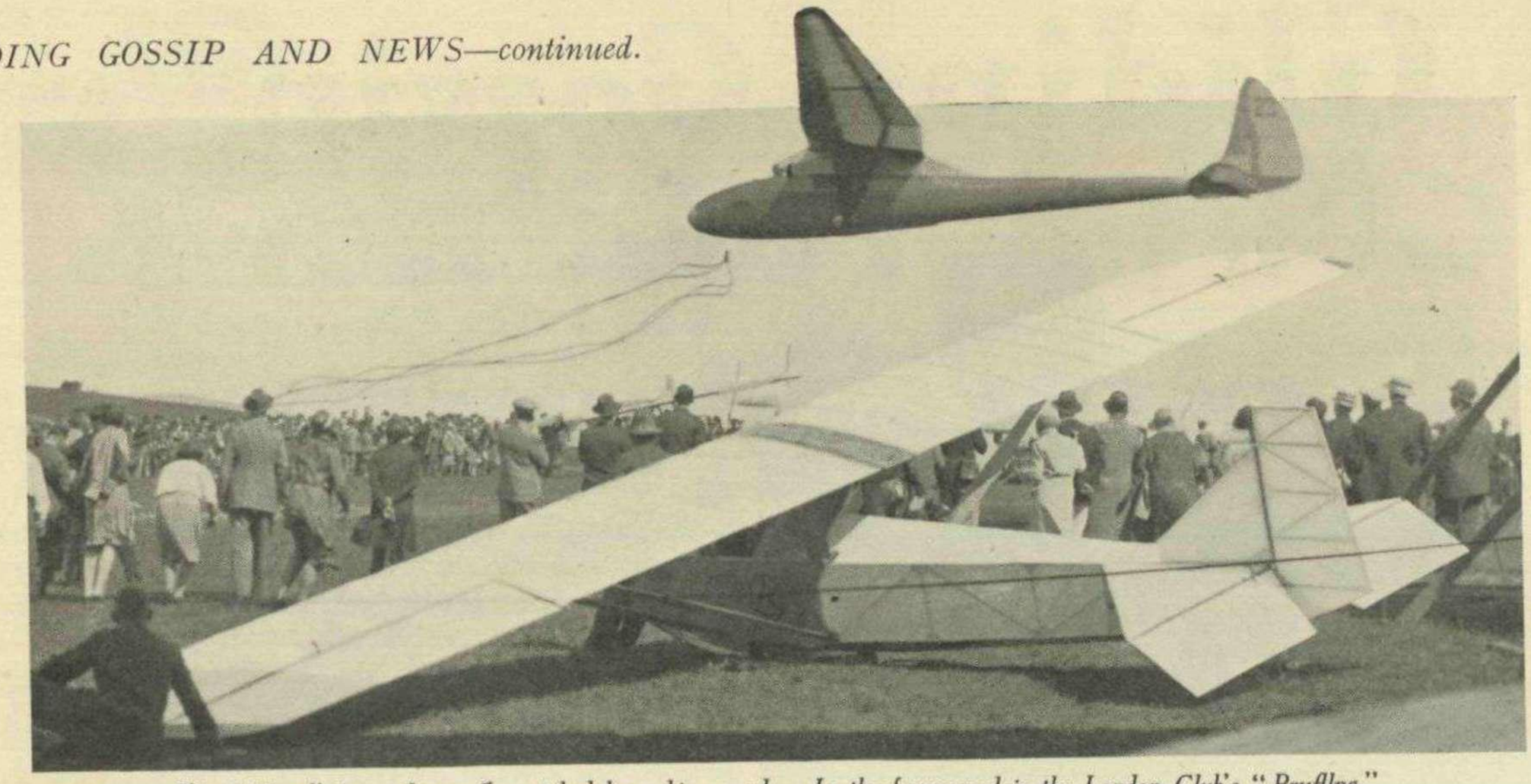
OTHER excellent demonstrations have been made by Herr Magersuppe, also at Itford, on a Kegel "Professor" belonging to the *Daily Express*. Some of his turns and "dives" on this big-span machine were very spectacular. Previous to his visit to Itford, Magersuppe had his 'plane at Ivinghoe for a brief period, but owing to there being very little wind he was only able to keep in the air for periods of about ten minutes.

SUPPORT was given to the Kronfeld-Magersuppe display by both the London Gliding Club and the Kent Gliding Club at Whitsuntide. The former was there in force, something like 70 members being present. The club's "Prufling" was brought down from Ivinghoe where she had previously undergone her initial tests in the hands of Captain Latimer Needham; on this machine Needham made a splendid flight of 1 hour 5 mins., and incidentally qualified for his "C" licence. Two other members of the L.G.C. also took their "C" tickets, these being Mr. Marcus D. Manton with a flight of 18 minutes, and Mr. Buxton, of the R.A.F. with 16 minutes. In addition to his "Prufling" flight, Captain Needham confounded the critics and amazed the crowd by definitely soaring on a "Zogling" and remained "upstairs" for 25 minutes. Mr. Lowe-Wylde, who is the moving spirit of the Kent Club, performed on his "Zogling" with his usual verve and intrigued the crowd with the most staggering zoom take-offs. Unfortunately he got into difficulties during one flight, apparently through getting out of wind and the "Zogling" suffered a fair amount of damage. Luckily Lowe-Wylde was unscathed.

THE Lancashire Aero Club, the gliding section of which rivals the London Club in achievement and progress, is to meet the latter in a gliding contest. Each club will provide a team of eight pilots and there will be two matches—one at the L.G.C. site and the other in the Cheshire Hills.

THE inaugural meeting of the newly-formed Winchester Gliding Club was held recently, when a number of distinguished visitors were present. Amongst these was Sir Sefton Brancker, Director of Civil Aviation and

*GLIDING GOSSIP AND NEWS—continued.*



*The "Wien" just taking off, watched by a big crowd. In the foreground is the London Club's "Prufling."*

President of the B.G.A. He spoke with enthusiasm on the growth of the new sport and promised the new club every possible assistance from the Association.

DERBY and District Aero Club have recently taken delivery of their first glider. Designed by Mr. E. J. Clark, it has been constructed by Sanderson & Holmes, Ltd., of Derby, who are building a second machine of the same type. On test the glider behaved very well and those members who flew it expressed their satisfaction with the way it handled. Those who tried the machine were :—Messrs. Clark, Crompton, Toft, Smith and Wynn.

THE "Albatross" sailplane, which has been designed by Captain Needham is now completed. Built by the R.F.D. Co., of Guildford, Surrey, it has shown, during its initial test flights, every promise of a very fine performance, its gliding angle and control being astonishingly good. As is to be expected with an entirely new type, it has been found necessary to make certain small modifications, however, and as soon as these have been carried out Captain Needham will put his machine through extended trials.

FULL details have now been issued regarding the £1,000 Cross-Channel Competition organised by Cellon, Ltd. The regulations are as follow :—

DATE.—The competition will be open for a period of two years from June 1, 1930, to May 31, 1932, inclusive, unless previously won.

ORGANISATION.—The competition will be conducted by The British Gliding Association.

COMPETITORS.—The pilot of the glider must be a British subject, and hold a current "C" Glider Pilot's licence issued by The Royal Aero Club.

GLIDERS.—The competition is open to any heavier-than-air machine, entirely constructed in the British Isles, not provided with any motive power, and which is not supported either wholly or in part by any gas which is lighter than air, and which has a current Certificate of Airworthiness issued by the Gliding Association in accordance with its regulations at the time of the attempt.

OFFICIAL OBSERVERS.—The British Gliding Association will appoint Official Observers to control all starts.

ENTRIES.—The entry fee is £5. This fee, together with entry form, must be received by the British Gliding Association, 44a, Dover Street, W.1., at least 14 clear days before any attempt is made.

STARTING PLACE.—The competitor may select his own starting place subject to the right of veto by the British Gliding Association if such point is considered dangerous or otherwise unsuitable. The competitor must obtain any necessary permission from the owner of the land as a starting place. All starts must be made during the hours of daylight. The competitor is responsible for the observer being notified beforehand of any attempts, and for his being present at the start.

LAUNCHING.—The launching shall be a normal hand launching by the usual methods, only hand traction being used, and not more than twelve persons pulling upon the tow rope or elastic.

TOWED GLIDING.—The glider shall not be towed in the attempt to cross the Channel. Any competitor who is towed otherwise than when launching, in the manner laid down in the above regulation, is automatically disqualified.

THE FLIGHT.—The British Gliding Association will issue log sheets, which must be carried by the pilot in all flights in the competition. The observer will fill up the Starting Certificate on the log sheet and hand the same to the pilot prior to the start of any flight in the competition. The pilot, on landing, must fill up the Landing Certificates on the log sheet. This certificate must contain such particulars as will enable the Association to locate the place of landing. The Landing Certificate must be signed as correct by the pilot and two responsible persons present at the time of landing, or, if none present, resident in the district where the landing was made. The landing must be made clear of the water.

SAFETY.—No attempt shall be commenced until The British Gliding Association shall have been satisfied that the pilot has taken all reasonable steps to ensure the safety of himself in the event of a descent on to the water during crossing.

The arrangements in connection with any attempt shall be made to the satisfaction of The British Gliding Association.

# THE SPORT AFLOAT



AS we go to press the three-days International meeting is being run off at the Welsh Harp, where entrants are competing for the Duke of York's Trophy and for other big prizes. The decision to use Hendon as a venue of the meeting instead of the Thames was arrived at after careful consideration on the part of the organisers, who have been able to arrange a programme which is the most representative held in this country. At one time, through the endeavours of Mr. Arthur Bray, of the International Racing Committee, and his associates, it was hoped that the Port of London Authority would waive their rule which bars outboard racing on the Thames, but the latter have remained adamant after a lengthy conference between the two parties. It is mainly due to this that the organisers decided to go to the Welsh Harp.

**A New Two-Stroke.**

The Villiers Engineering Company, like one or two other manufacturers of two-stroke motor-cycle engines, have now entered the marine field with an interesting little single cylinder unit of 247 c.c. This unit is practically identical with the Villiers motor-cycle engine (except that it is water cooled), and has the usual fly-wheel magneto and the firm's own carburettor. The water pump is secured on a neat mounting and is driven by chain from the crankshaft. Although the engine has bore and stroke of only 66 m.m. by 70 m.m., it develops about 1½ h.p. at 1,000 r.p.m., and when running at about 3,000 the output is nearly four times this amount.

The Villiers Co. have probably had more experience in building diminutive two-stroke engines than any other firm, and this new type will doubtless have all the qualities of reliability, stamina and economy which its prototypes possess. The manufacturers have not yet decided on the price, but it is believed that the new engine will be marketed at about £18.

**"R.R. 50."**

The Rolls-Royce engines in Sir Henry Segrave's ill-fated "Miss England II." were, it is stated, largely constructed of the recently-discovered aluminium alloy known as Hiduminium R.R. 50.

Evolved in the Rolls-Royce laboratories, R.R. 50 was one of the secrets of the engines which won the Schneider Trophy for this country last September. Though originally designed to give 875 h.p., each unit was lightened and modified until it delivered nearly 2,000 b.h.p. with a power-weight ratio of 12 oz. b.h.p.—an amazing figure for a water-cooled engine.

The reason is that R.R. 50 is not only lighter and tougher than former aluminum alloys; it has many times their resistance to fatigue under the stress of heat and prolonged vibration.

An important commercial feature of R.R. 50 is that it is actually cheaper to produce than former alloys—and already, it is stated officially, enquiries from Continental countries have been so numerous and valuable that the licensees (High Duty Alloys, Ltd.) have found it necessary to open an office in Paris to deal with the growing foreign business in the new metal.

**A Gosport Development.**

Fairlee Motors, who recently started business as boat builders at Forton Launch Works, Gosport, Hants, are now engaged in the production of two types of small craft, both powered with inboard engines.

The first is known as the Fairlee "Midget," and the power unit installed is the new Turner-Bray engine; the concern will market this model at an attractive figure. The other boat is a runabout of 18-ft., and is fitted with a Coventry-Victor flat-twin motor. As soon as the first of the type has gone through her tests, Fairlee Motors propose to put her into standardised production.

**Another Lone Cruise.**

Another lone traveller will start off soon on a world cruise if all his plans turn out satisfactorily. The adventurer this time is Mr. C. L. Murray, and his craft is an ex-P. & O. lifeboat with a Ford engine. Mr. Murray plans to traverse Europe by means of the waterways, and after reaching the Black Sea he will, by divers routes, reach the Pacific. Mr. Murray is used to solitary travel, and it may be remembered that his most recent exploit was to carry out a 10,000 mile tour all over the Continent on foot and by bicycle.

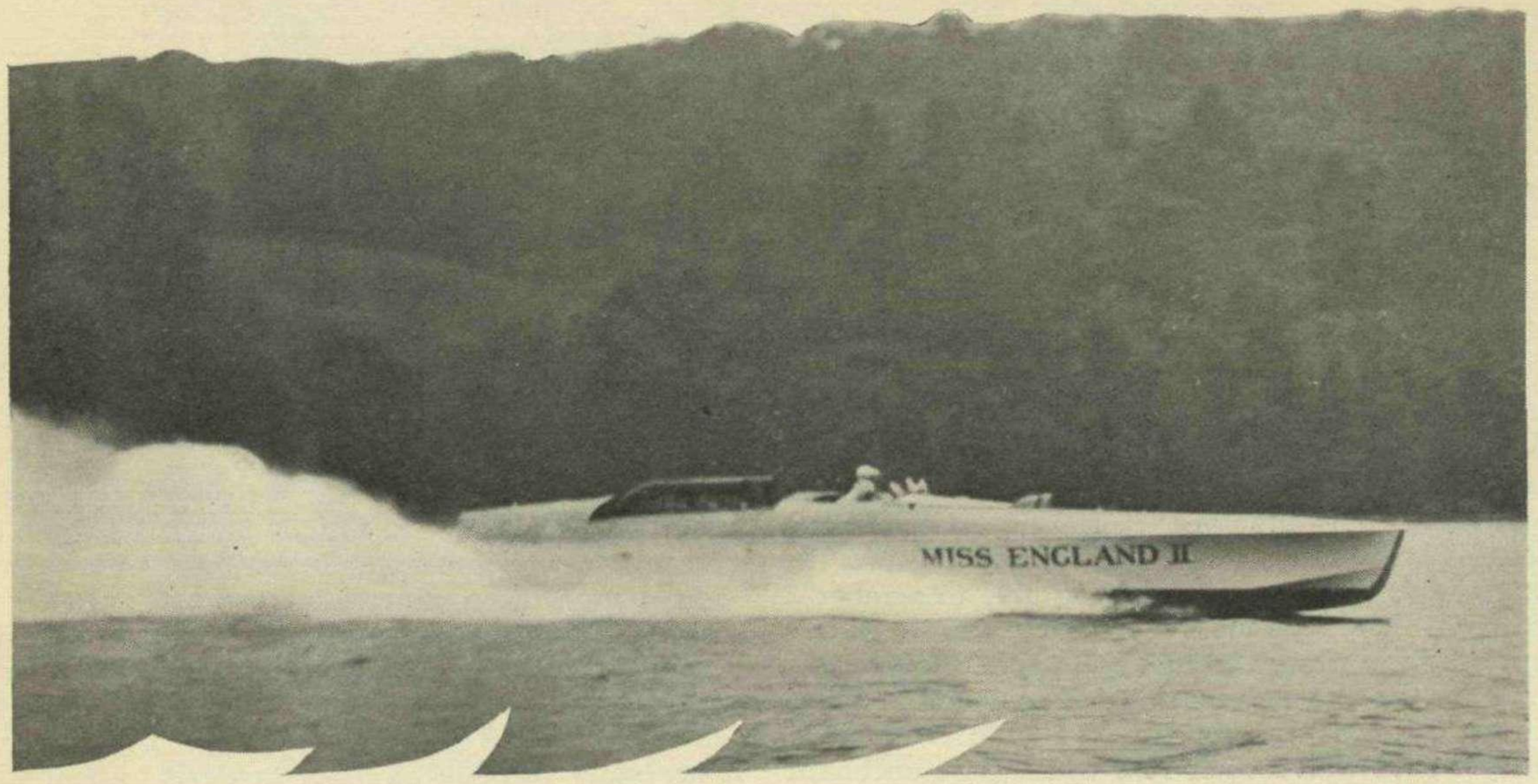
**U.S. Boat Trade.**

Some indication of the extraordinary growth of the outboard movement is provided by official figures recently compiled and issued in regard to exports of motor boats, and engines from the U.S.A.

During last March, for example, no less than 1,405 engines (1,129 of which were outboards) were shipped from America, as against only 777 for the corresponding period in 1929.

# "MISS ENGLAND II."

## World's Record Established Before Disaster.




SOME time after the tragic end of Sir Henry Segrave's attempt on the speed record for motor boats, the Marine Motoring Association has issued the following report upon the performance of "Miss England II.":—"The late Major Sir Henry Segrave, driving 'Miss England II.' the property of Lord Wakefield of Hythe, on Friday, June 13, established a world's unlimited speed record for motor boats, subject to confirmation by the International Motor Yachting Union, with a speed of 85.7 nautical miles per hour, or 98.76 miles per hour.

"The first lap was 43 seconds, south to north, or 83.72 miles per hour. The second lap was 41 seconds, north to south, or 87.80 nautical m.p.h."

"Miss England II." was taken to Lake Windermere at the beginning of last month, and after preparations had been completed, Segrave took her out on her first trials on the evening of Wednesday, June 11th.

She was not then behaving to Sir Henry's satisfaction, and it appears that he experienced some trouble with the propeller (which was in the nature of an experiment) and with the engine controls.

On the following day, the boat was given a further test, this time with a new steel propeller in place of the phosphor-bronze one originally fitted. But trouble was again met with, and "Miss England II." had to be taken in tow. After being hauled ashore it was seen at once that the new propeller had been unable to stand up to the high speed (probably in the neighbourhood of 11,000 r.p.m.) and had shed a blade.

The fault was rectified, however, and on Friday, 13th, all was made ready for an officially-observed attack on the record. A representative of MOTOR SPORT who was watching the attempt reports that it was arranged that Segrave should do two runs only and then bring his craft in for an examination, and, if necessary, another propeller was to have been fitted as a precautionary measure. On the first run she appeared to be going perfectly, and on the second lap her speed was tremendous. It is assumed that Sir Henry was so well satisfied that everything was O.K. after this, that he altered his mind, and, instead of returning to the shed, set out on a further lap. It was then that the disaster occurred; midway along the mile course the boat seemed to swing slightly, then reared up and fell upside down. When the great cloud of spray dispersed, only two of the three occupants could be seen—one being Sir Henry and the other Mr. Wilcox, his mechanic. The third man, Mr. Victor Halliwell, chief experimental aero engine tester of Rolls-Royce, Ltd., was nowhere to be found.

At the time of writing, the cause of the accident has not been definitely established, but it has been suggested that it may have been due to a small floating obstacle, such as a tree branch, and the damage to the boat's step rather points to this.

A joint statement issued by those who were connected with the construction of 'Miss England II.'—Messrs. F. Cooper, the designer, A. R. Rowledge, A. Wormald, E. W. Hives and J. E. Ellor—supports this theory, and states that the power units, tailshaft, propeller and rudders appeared to be intact upon examination. "There is no evidence," the statement concludes, "pointing to any failure of the hull or the machinery."

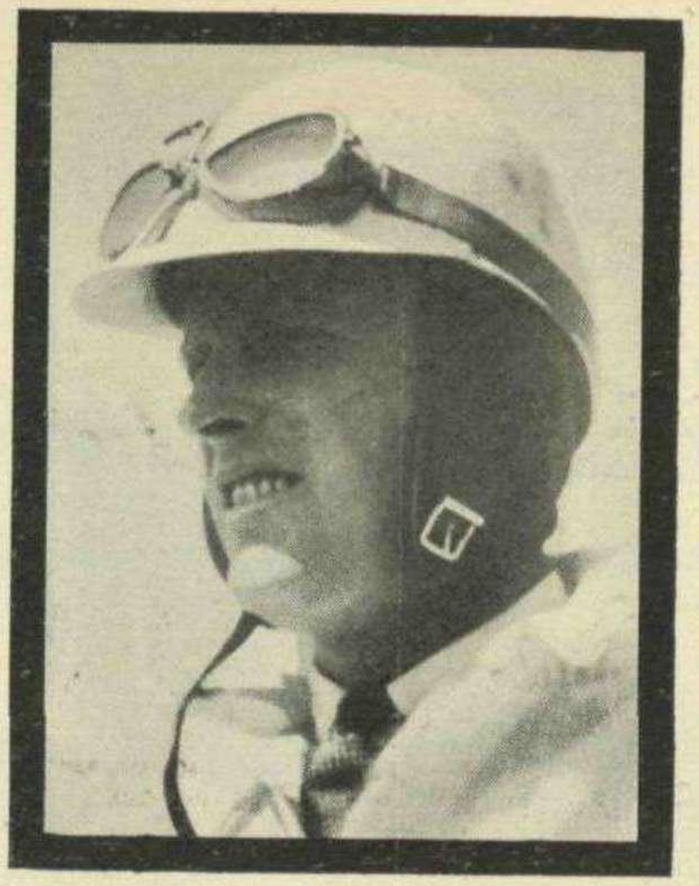
It is noteworthy in regard to 'Miss England II.'s' record, that this has been recognised only as a result of a recent alteration in the rules of the I.M.Y.U., in connection with such attempts. The alteration in question stipulates that two runs of a mile course must be made, whereas beforehand it was laid down that a miniumm of six runs was required.

# SIR HENRY SEGRAVE

MAJOR SIR HENRY O'NEAL DE HANE SEGRAVE was born in Baltimore, U.S.A., thirty-four years ago.

He started his career of adventure and achievement early, for at the age of 18 years he was serving in France in the infantry, in the first year of the War. In 1915 he transferred to the Royal Flying Corps and learned to fly at C.F.S., Upavon, afterwards again being posted to France. There he soon showed himself to be a very fine scout pilot and it was not long before he became a Flight-Commander in No. 29 Squadron. He did not come through the War unscathed, however, and on three occasions he was wounded and shot down. On the last occasion he crashed and was so severely injured in the foot that he was unfit for further active service. He was, therefore, attached to the staff at the Air Ministry and ultimately went to America with the British Aviation Mission. After the Armistice he left the Service—with the rank of Major at the age of 22.

With the return of Peace, Segrave did not seek out a sedentary occupation as one might expect of a man who had passed through the hard school of War, but turned to motor racing. His first appearance at Brooklands was made, it is believed, with an Opel, and later on, through his determination and persuasive powers, he got Mr. Coatalen to agree to his driving officially for the Sunbeam Co. His career from this stage, is known of course, to every reader of MOTOR SPORT, and really needs no recapitulation. All will remember his win in the first J.C.C. 200-Miles Race with the Talbot-Darracq; his victory in the French Grand Prix in 1923 (the first time an Englishman had won it), and his achievements on the Continent in other big events during 1924, 1925 and 1926. And then came his record of 203.9 m.p.h. at Daytona on the giant red Sunbeam, and his final triumph last year of 231.362 m.p.h. on the "Golden Arrow." For these feats he was rewarded with a knighthood. More recently Segrave concentrated his energies on high speeds on the water, and at the time of his death, he was also "coming back" to flying.



[Sir Henry had entered a machine, the Segrave "Meteor" in the forthcoming King's Cup Air Race; this has now been withdrawn.—ED.] Amongst his personal friends it was well known that he had been working on big plans in regard to both these spheres for a considerable time, and had he lived he would undoubtedly have added still more triumphs to a splendid career.

As a racing driver he stood second to none, not only in this country but throughout the world. But besides this, besides being a courageous sportsman and a good friend, Sir Henry was a man of foresight and ideas and in him England has lost a very great man indeed.

M.

## *MR. VICTOR HALLIWELL.*

MR. VICTOR HALLIWELL, who lost his life with Sir Henry Segrave in the accident which befell 'Miss England II.", was chief experimental tester in the aero engine department of Rolls-Royce, Ltd.

A graduate of Bristol University, he had served with the Rolls concern for a considerable time, and was sent by the Company to Windermere in order to test the engines of 'Miss England II.' and to advise Sir Henry regarding them.

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## ANOTHER RECORD ATTEMPT.

### Count Johnson-Noad's Plans.

ARRANGEMENTS are now being made, it is understood, for a further attack on the world's water speed record, this time by Count Johnson-Noad.

Details at this juncture are, naturally, not yet completed, but it is stated that the new challenger will have many of the features of "Miss England II." embodied in its design, and that it will be multi-engined.

Messrs. Saunders-Roe, Ltd., the well-known aircraft and boat constructors of Cowes will be given the task of building the new craft—the cost of which, it is estimated, will be in the neighbourhood of £25,000.

It is also stated that the attempt will be made in Scotland—probably on Gairloch, and that efforts will be made so that everything will be ready for the attack in about 11 months' time.

Count Johnson-Noad it will be remembered, was the winner of the Duke of York's Trophy in both the 1924 and 1928 contests and he also founded the B.O.R.C. His challenger will be named "Miss Empire III."

## BARRY ANNUAL REGATTA.

THE Barry Yacht and Motor Boat Club held its annual regatta last month at Friar's Point, Barry Island.

The event was well organised and well supported, and large crowds attended the two-days' fixtures, the interest of which was added to by the broadcasting of a commentary on the different races as they were in progress. At the conclusion, the prizes were presented by Lady Cope, wife of Major Sir William Cope, who is President of the Club.

The results of the motor craft events were as follow :—

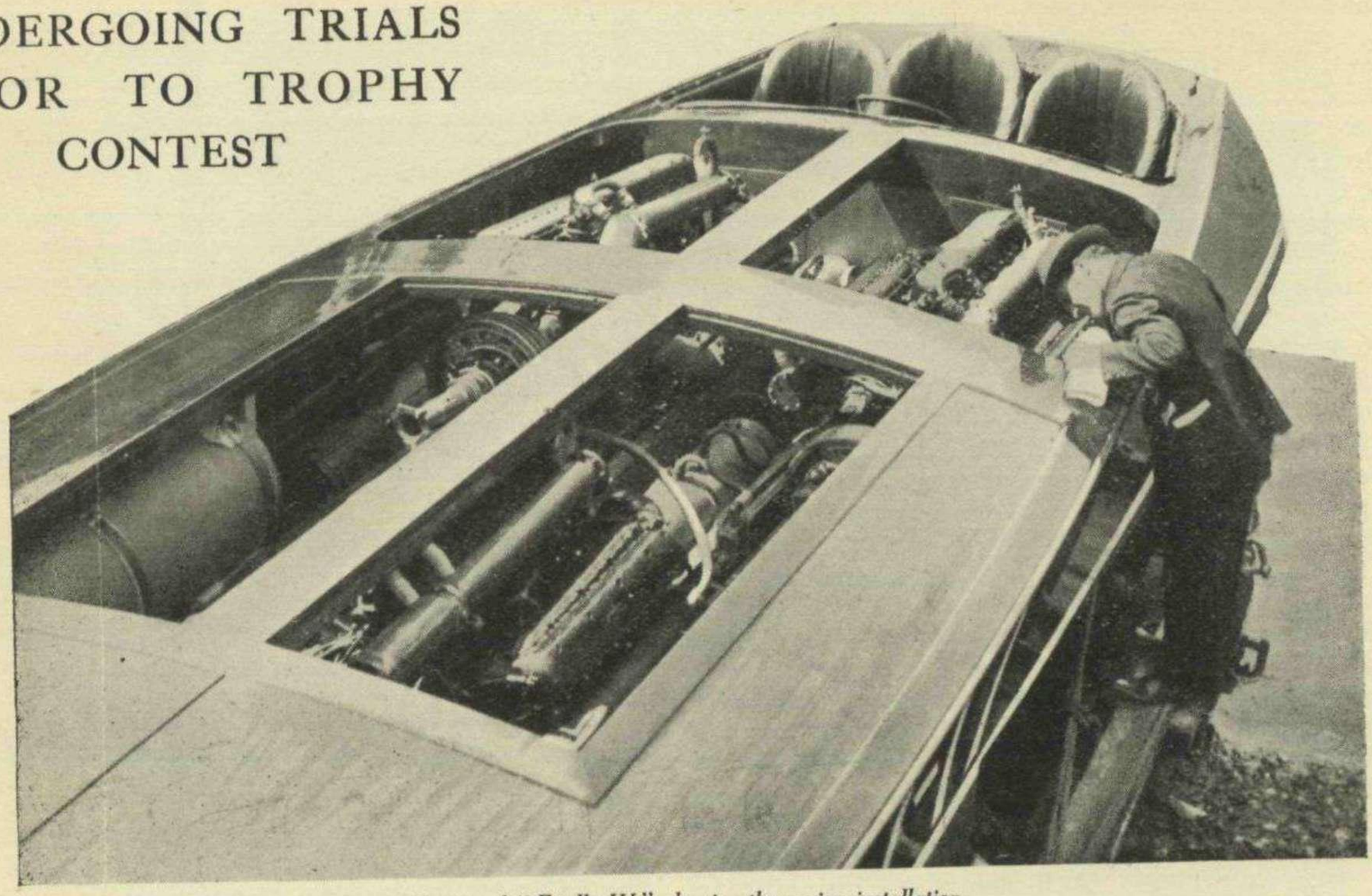
Handicap (motor launches under 30ft.), for T. White Challenge Cup.—1, "Rhyban-Glas" (D. L. Jones); 2, "Stranger" (T. Lewis); 3, "Cymro" (F. Winter).

Handicap (local passenger launches over 30 ft.) for Sir W. Cope Cup.—1, "Olive Spray"; 2, "Lily Spray" (both owned by the Passenger Launch Co.).

Handicap (motor cabin cruisers) for White Bros.' Challenge Cup.—1, "Iris Maude" (N. Bate); 2, "Cariad" (Barry Pilots); 3, "Apollo" (V. B. Pearce).

# MISS CARSTAIRS' CHALLENGERS

## PARTICULARS OF "ESTELLE IV" AND "ESTELLE V" NOW UNDERGOING TRIALS PRIOR TO TROPHY CONTEST



*A view of "Estelle IV," showing the engine installation.*

LAST month, Miss Carstairs sailed for America, taking with her, her new challenger "Estelle V." with which she will race for the British International Trophy at Detroit next month.

"Estelle IV." which has also gone to the U.S.A. is, of course, the same boat which Miss Carstairs used last year.

In regard to the latest boat, "Estelle V.", of which great things are expected, this is 28ft. in length and is 8ft. 8ins. across the beam. Honduras cedar has been used for the planking, and the whole hull is very light, though extremely strong. As in its predecessor, the new boat is powered with Napier aero engines, but superchargers are fitted; at maximum revs. about 1320 b.h.p. is given off. The drive from the power units is interesting, there being no clutches in the transmission. The drive from each engine is carried from both units through tubular shafts to a gear box. One box houses two pinions and the other three; this is to provide for the rotation of the two propellers in opposite directions. They are cooled by a special system of circulation of oil, and like the engines have been made by the Napier concern. The normal running speed of the propellers is 5,400 r.p.m., and before the contest different types will be thoroughly tried out.

"Estelle V." carries 160 gallons of petrol. Water is fed to the cooling system of the engines by means of scoops, and a gas starter, similar to those used in large-engined aircraft is installed behind the seats in the cockpit. The steering is effected by means of a single forged steel rudder, which, of course, is operated by a wheel. The boat is now undergoing tests on Lake Muskoka, Ontario, Canada.

"Estelle IV." remains substantially the same as she was last year but several modifications have been carried out to the craft, principally with the idea of reducing the weight. In her new guise she weighs approximately 4 tons. She has an overall length of 35ft. and measures 9ft. 6ins. across the beam. A different system of engine controls has been fitted. The "Lion" engines are the same as on the new boat, but they are not supercharged. The transmission system is arranged in a similar way to that on "Estelle V.", the drive being direct without clutches of any sort This has been done, because previous experience showed that the engines had some tendency to oil-up somewhat when idling over, and because the clutches proved to be a source of trouble on various occasions.

It is understood that "Estelle V." will be piloted by Mr. A. W. Hawker, who is her designer, while Miss Carstairs will handle the other challenger.

# I.O.M. OUTBOARD MEETING

## *FIRST CONTEST FOR "MOTOR SPORT" TROPHY.*

THURSDAY of T.T. week always finds the majority of the Island's temporary population at a loose end, and in search of diversion to pass the time till the day of the Senior Race. It was, therefore an excellently chosen time for the Outboard motor boat meeting which the June Effort Committee, in conjunction with the Mersey District Speedboat Club, and the Lytham St. Annes Motor Boat Club, arranged under permit from the M.M.A.

The course was laid out in Douglas Bay and starting close in shore about a quarter of mile from the pier, came to a mark boat off the shore end of the pier, and from there to another mark off the famous "Castle of Refuge" in the middle of the Bay, whence it turned again inshore and to the start.

The distance of the lap was one mile, and the conditions were excellent throughout the meeting. Proceedings opened, after a certain amount of delay, with the 350 c.c. solo class, which was won easily by Mr. H. A. Edwards, of the British Outboard Racing Club, piloting "'Erb," a 347 c.c. Watermota engined craft. He also made the fastest lap of the meeting at a speed of 28.57 m.p.h. The 500 c.c. solo class was won by "Flying Cloud," driven by Mr. J. Tinsley (Mersey District S.C.) and fitted with a 498 c.c. Dunelt engine. He also secured the cup presented by Mr. Foden for the fastest time in a British engined boat. His speed over the five miles was 25 m.p.h. Second place fell to Mr. F. G. Dinsdale with the Johnson-engined "Miss Teespeed V.," and third place went to the well known T.T. rider, Mr. K. Twemlow, using a Dunelt engine on "Lemit." The chief event of the day, the 6-mile unlimited solo race for the MOTOR SPORT Challenge Cup resolved itself into a duel between the Johnson engined "Miss Teespeed V" and the Dunelt engined "Lemit" of Kenneth Twemlow, and was eventually won by the former, driven again by Mr. F. G. Dinsdale.

It is interesting to note that the Johnson engine which won this trophy was of only 347 c.c. and showed a remarkable performance for its size.

Mr. K. Twemlow won the unlimited passenger class with "Lemit" and so secured a first, a second, and a third at the meeting.

In spite of some delays, which will doubtless be avoided on another occasion, the meeting was of great interest, and we hope to see a repetition of the event in future seasons.

Mr. Kaye Don, whose racing career started on motorcycles, and who must therefore have many reasons for interest in the Isle of Man, acted as Judge at this meeting, and later distributed the prizes.

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## THE "MOTOR SPORT" TROPHY.

OUTBOARD racing is a relatively new sport in this country, but as each season goes by the numbers of its followers steadily increase.

New clubs are coming into being in all parts of the British Isles, and the 1930 calendar contains a fixture list which, when compared with those of previous years, serves as a striking indication of the growth of marine motoring.



With the object of encouraging and furthering the interest of the sport still more, the proprietors of this journal therefore offered the "Motor Sport" Trophy which was competed for, for the first time last month on occasion of the Isle of Man Boat Meeting. Executed by Messrs. Elkington, the Trophy comprises a handsome silver cup with a decorative design embodying a frieze taken from the celebrated Grecian Elgin marble.

The present holder is Mr. F. G. Dinsdale.

## A 260-MILE RACE.

BETWEEN thirty and forty craft of different types took part in a 260-mile motor boat race which was held in Italy early last month. The starting point was at Pavia, and the course lay between there and Venice.

On the whole, the outboards did very well, and in Class B a Johnson-powered boat was the winner at an average of 33.8 k.p.h. Class C was won by a Laros (Italian) engined boat, and an Elto was the victor in Class D.

There was also a class for hydrogliders, but there were only two entrants. The winner was Count Mazzotti, of racing car fame. His craft was of very striking design and was powered with a 300 h.p. 6-cylinder Isotta-Fraschini aero engine which drove a "pusher" air-screw.

Great public interest was taken in the race, and at the numerous stopping places along the course, where competitors re-fuelled, huge crowds congregated.

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### THE ALVIS RALLY.

The Alvis Rally which has by now become a regular Brooklands fixture, proved to be more attractive and elaborate than ever when participants and visitors visited the track on Saturday last at the invitation of the organisers, Henlys, Ltd. Besides the usual races, and so forth, aeroplane flights were arranged and the enjoyment of the proceeding was added to by music played by the band of the Coldstream Guards, which had been engaged specially for the day.

# B.O.R.C. AT HENDON AGAIN

THE meeting of the British Outboard Racing Club at the Welsh Harp, Hendon, on Saturday the 14th June, opened amid brilliant sunshine, but a very meagre attendance of spectators.

The performances put up were by no means as good as those of the previous meeting, as not only were the engines difficult to start but in many cases, once they had started, they petered out within a very short time.

The first event—" C " Class Open Race—passed off quite happily and was won by C. T. Lewis's " J " with which he was later to win three other races. There were a number of retirements in the second race. Peter Godfrey's " Blue Peter," IV. and R. D. Weatherell's " Itsit XII." failed during the trials previous to the race. " Erb I." threw its pilot—H. A. Edwards—out and then performed a series of evolutions on its own account whilst its owner was battling with the waters of the Welsh Harp. This race was another win for Lewis's " J " this time by 2½ laps.

In event 4 Unlimited Class Open Race, 5 nautical miles, all the boats, with the exception of W. G. Boyer's " Jill II.," gave up the ghost in the trials and thus this boat was the only one left to compete. Whilst " Jill " was making the course alone, Weatherell's " Itsit IX." picked up and did some very fast racing on the straight. After the tea interval which then followed, " Trump ," driven by Harold Allchin, was going exceedingly well but had atrocious bad luck in the last lap. The last two races provided some more good sport and continuous interest to the end of the afternoon's proceedings.

M. E. S.

RESULTS.

CLASS C, OPEN.—C. T. Lewis's " J " (Lewis-Johnson 326 c.c.), 30.5 knots; A. Lanfranchi's " Babouche " (Crandal-Johnson 499 c.c.); H. A. Edwards's " Erb I " (Parker-Watermota).

CLASS B, OPEN.—C. T. Lewis's " J " 29.19 knots; no second or third prize.

AMATEUR'S HANDICAP RACE.—A. Lanfranchi's " Babouche," net time 6 mins. 4 secs.; H. Allchin's" Trump " (Lewis-Johnson 326 c.c.), net time 6 mins. 6 secs.; W. G. Boyers's " Jill II " (Wright-Evinrude), net time 6 mins. 10 secs.

UNLIMITED CLASS, OPEN.—W. G. Boyers's " Jill II," 27.9 knots.

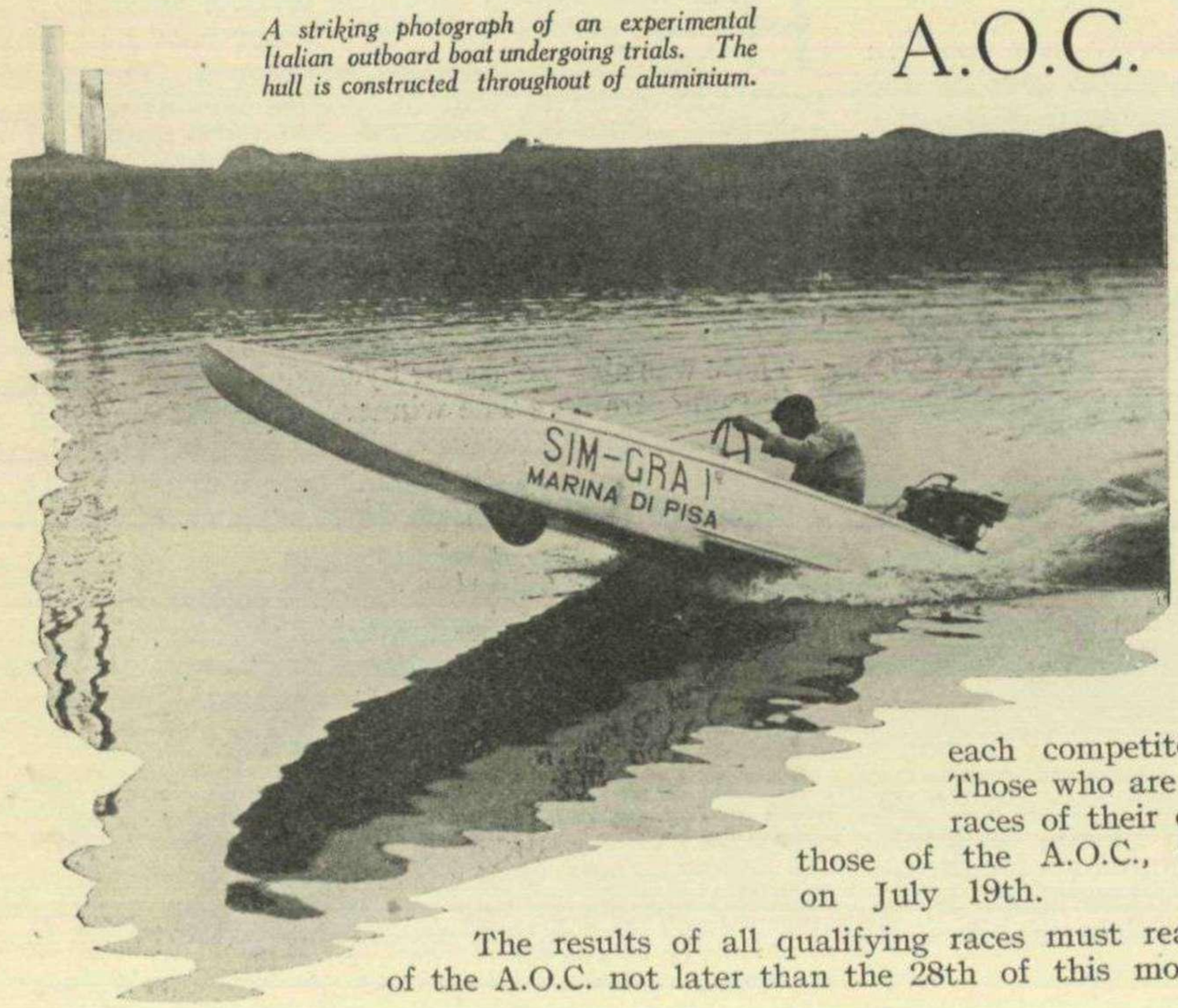
CLASS C, OPEN.—C. T. Lewis's " J," 29.59 knots; R. D. Weatherell's " Itsit XI " (Salter-Johnson 499 c.c.); G. E. Marr's " Tegenacco " (Wright-Dunelt).

CLASS B, OPEN.—C. T. Lewis's " J ", 29.19 knots; B. G. Parker's " Too Too " (Fair-Watermota), 28.05 knots; Peter Godfrey's " Blue Peter IV " (Salter-Watermota).

UNLIMITED CLASS, OPEN.—G. V. Bridgewater's " Astevensa " (Ludington-Johnson 655 c.c.), 30.25 knots; A. Lanfranchi's " Babouche "; W. G. Boyers's " Jill II."

ALL-COMERS' HANDICAP.—A. Lanfranchi's " Babouche," net time 5 mins. 49 secs.; B. G. Parker's " Too Too "; H. A. Edward's " Erb I."

*A striking photograph of an experimental Italian outboard boat undergoing trials. The hull is constructed throughout of aluminium.*




# A.O.C. Championships

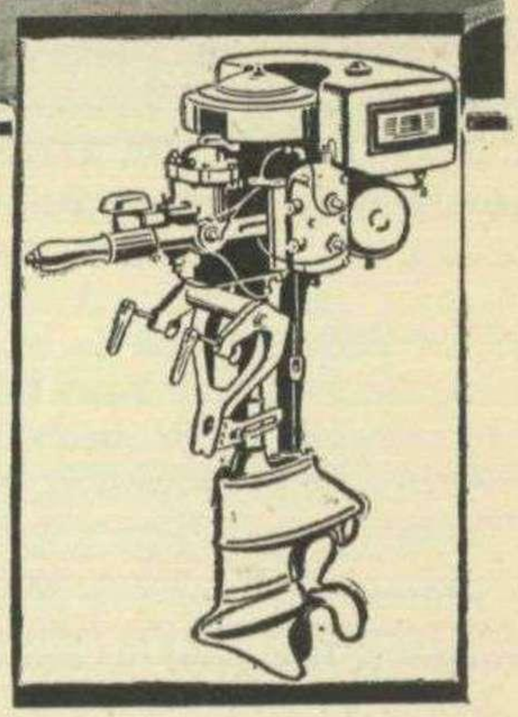
Amateur outboard championship races for B, C and unlimited class engines will be held at Rickmansworth on August 4th. Entry fees will be £1 up to July 7th, entries will be accepted after that date at £1 5s. up to July 18th. Valuable prizes will be offered, amongst them being one by the Marquis of Ivanrey, the value of which is £150.

It is hoped that clubs which are affiliated to the M.M.A. will hold their own qualifying races. Clubs which do this will retain 5s. of the entry fee of each competitor who qualifies at their meeting. Those who are unable to compete in the qualifying races of their own clubs will be able to do so at those of the A.O.C., which will be held at " Ricky " on July 19th.

The results of all qualifying races must reach the office of the hon. secretary of the A.O.C. not later than the 28th of this month.

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# HERE and THERE

## By "Camshaft"

**Scouring the Crankcase.**

IT is common knowledge that when a car is new the oil in the crankcase should be drained off and replenished by fresh lubricant after a few hundred miles. The reason for this, of course, is that however "clean" a new casting may be, there is necessarily an amount of grit and other impurities which mixes with the oil when the engine is first run and forms a mild grinding paste. If the oil is drained out, most of this abrasive goes with it and after further drainings and replenishments, the engine becomes clean.

The manufacturers of Rolls-Royce cars, I hear, employ a method which removes these impurities in the preliminary engine tests. When an engine is assembled, it is placed on a test bench and is run in, gently, under its own power (it is not "motored" in by external power, for this reverses the stresses). Also running of this sort is unnecessary with a Rolls, for everything is built to such limits of accuracy that the unit is perfectly free before it has fired at all. This early test is carried out for two reasons (1) to obtain a surface polish on all the working parts and (2) to scour the crankcase.

The second purpose is achieved by the simple method of lubricating the engine from the "main," rather than from its own crankcase. A supply tank containing hundreds of gallons of oil is connected to the engine pump and the lubricant then follows its usual course, finally draining out from the bottom of the crankcase. There is thus a continuous flow of fresh, cool oil.

**Riding Manners.**

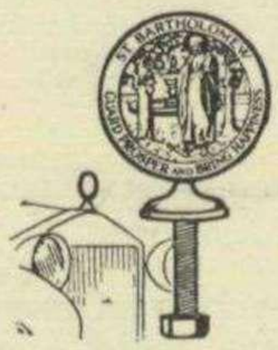
An altogether new note in club life was struck recently by Lt.-Col. C. V. Holbrook, a Director of the Triumph Co. Col. Holbrook, who, in presenting a Challenge Cup to the Rugby Motor Club, suggested that, instead of being given to the successful entrant in one of the more conventional forms of competition, it should be awarded annually to the member who used his machine throughout the year in a manner likely to cause the least annoyance to other road users, residents and pedestrians. He expressed the wish that it should be called the "Triumph Goodwill Challenge Cup."

There is no disputing the fact that the motor-cycle, efficient as is its modern silencer, can still be driven noisily if its rider wishes to do so; and unfortunately there are many small-minded men who appear to think that noise betokens speed and riding ability.

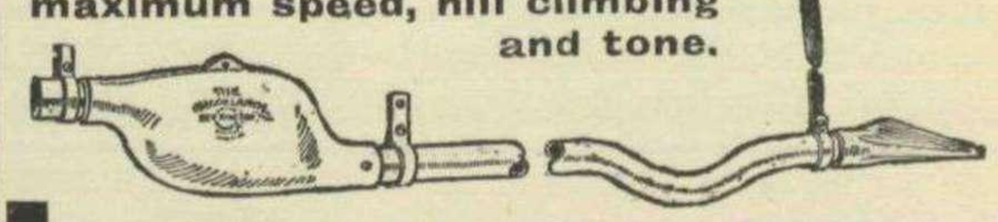
The scheme suggested by this Director of one of our most famous motor-cycle manufacturing concerns is an ambitious one and certain difficulties in its operation are apparent. These should not be insuperable, however, and if our younger motor-cyclists—who are usually the worst offenders—became imbued with the desire to drive quietly, rather than noisily, much of the public dislike towards motor-cyclists would soon disappear.

**"Bart's" Mascots.**

Judging by the number of cars one sees embellished with the new St. Bartholomew mascot, the appeal fund of the famous Smithfield hospital (in connection with which it is being sold), is being readily supported by all classes of motorists. One of the first purchasers was Captain Woolf Barnato, and each Bentley in the Le Mans race carried a medallion of the Saint; Captain Campbell also has one on his car, I notice. These mascots, an example of which is shown here, are very well finished and can be had in a variety of designs for prices ranging from 5s. to 30s. The styles include those for attachment to the dashboard, the radiator cap or the headlamp cross-stay and they are obtainable in pure silver, oxidized silver or enamel finish.



For MAXIMUM EFFICIENCY you must fit a
DEEP NOTE EXHAUST SYSTEM
IMPROVED ACCELERATION— maximum speed, hill climbing and tone.

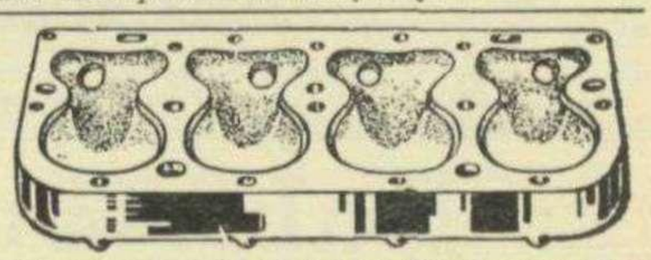


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GREATER POWER, HILL CLIMBING and ACCELERATION, with 6-CYL. SMOOTHNESS.



Allows full power to be developed, cures that unpleasant roughness so often experienced, allows sparks to be fully advanced and gives, as a result, great improvement in hill climbing, acceleration, smoothness, power, speed, and petrol consumption. Weight 4 lbs. Postage extra. Price £3 19 6

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SPECIAL Lagonda Agents for West End. Trial runs at any time. Deferred Terms and your present car taken in part exchange.—Huskinson & Fane, Ltd., 11, Curzon St., W.1.

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### ALFA ROMEO

£115. Magnificent 6-cylinder f.w.b. 22-90 h.p. ALFA ROMEO R.L. super-sports 4-seater, late 1925, in superlative condition throughout, one owner only since new and very carefully maintained, recently repainted cream body, flat green wings, vermilion white wheels, giving very attractive and striking effect, full equipment, including two Solex speed type carburetters, 80 m.p.h. speedometer, revolution counter, shock absorbers, screen wiper, electric horn, luggage grid, adjustable bucket, seats, sloping sports windscreen, etc., an extremely fast car, mechanically faultless in every respect, with a super performance and very distinctive and ultra *sporting in appearance*. Exchanges deferred. Photograph on request. C. and C., Ltd., Water Lane, Kingston, Surrey. Kingston 5393-4.

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1928 3-litre speed chassis fitted with sports 4-seater body by Vanden Plas finished in brown. Equipment included dash lamp, clock, wpeedometer, triplex glass, screen wiper, fog lamp, luggage gird, electric horn, scuttle ventilator, new hood, side curtains, and tonneau cover, appearance as new, carries marker's guarantee. Price £675. Jack Withers & Co., 44, Osnaburgh Street, N.W.1. (Opposite Great Portland Street Station). Phones, Museum 8620-1 6595 and 0500.

## SECOND-HAND SPORTS CARS

*(continued)*

### BUGATTI

1928 Supercharged 4-cylinder Grand Prix BUGATTI, recently fitted 1930 type pressure-fed crankshaft and connecting rods, new bearings throughout, and engine completely overhauled, new set gears to gearbox, and in perfect condition throughout; all prepared for racing. Papworth, 41, Filmer Road, Fulham, S.W.6. Putney, 3652.

STRAIGHT-EIGHT special 2-litre BUGATTI, capable 90 m.p.h., very attractive low 4-seater by Albany Rene Thomas wheel, f.w.b., dipping Marshal headlights, all-weather tonneau, perfectly shod, engine recently reconditioned, whole is superior condition perfectly maintained, privately owned, six months' guarantee, £145. Taylors, 278, Wheeler Street, Birmingham.

1½-LITRE T.T. 2-seater supercharged sports, late 1929, 100% condition, 295 guineas-with guarantee. Warwickshire Motors, Ltd., Lea, Francis Agents, 118-122 Gt. Portland Street, W.1. Museum 2963-4.

SPECIAL offer!!! Late 1926 straight-eight BUGATTI 4-seater, wonderful condition, new tyres, taxed, recently used as runabout by well-known racing driver, £145. Ridinghouse Motors, 116, Great Portland Street. Museum 8516.

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