Vol. VIII. No. 4 February, 1932

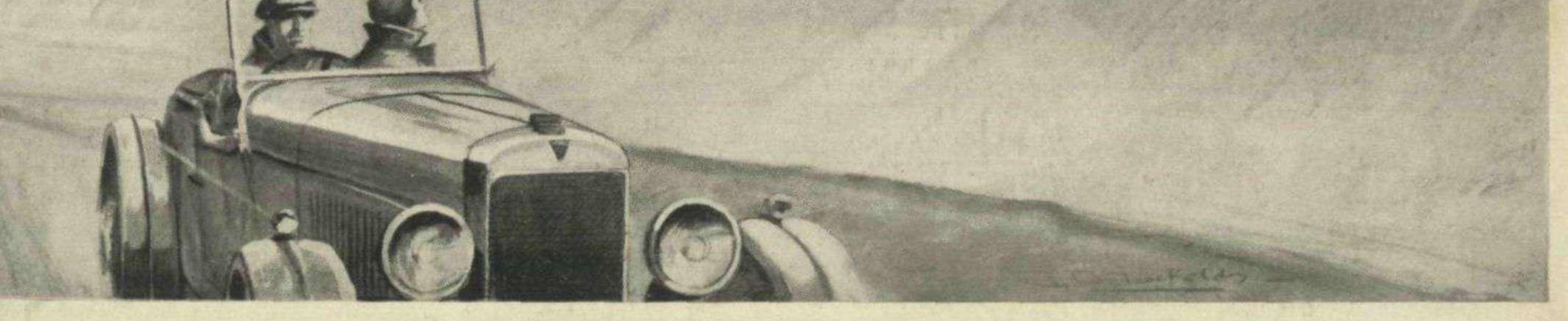
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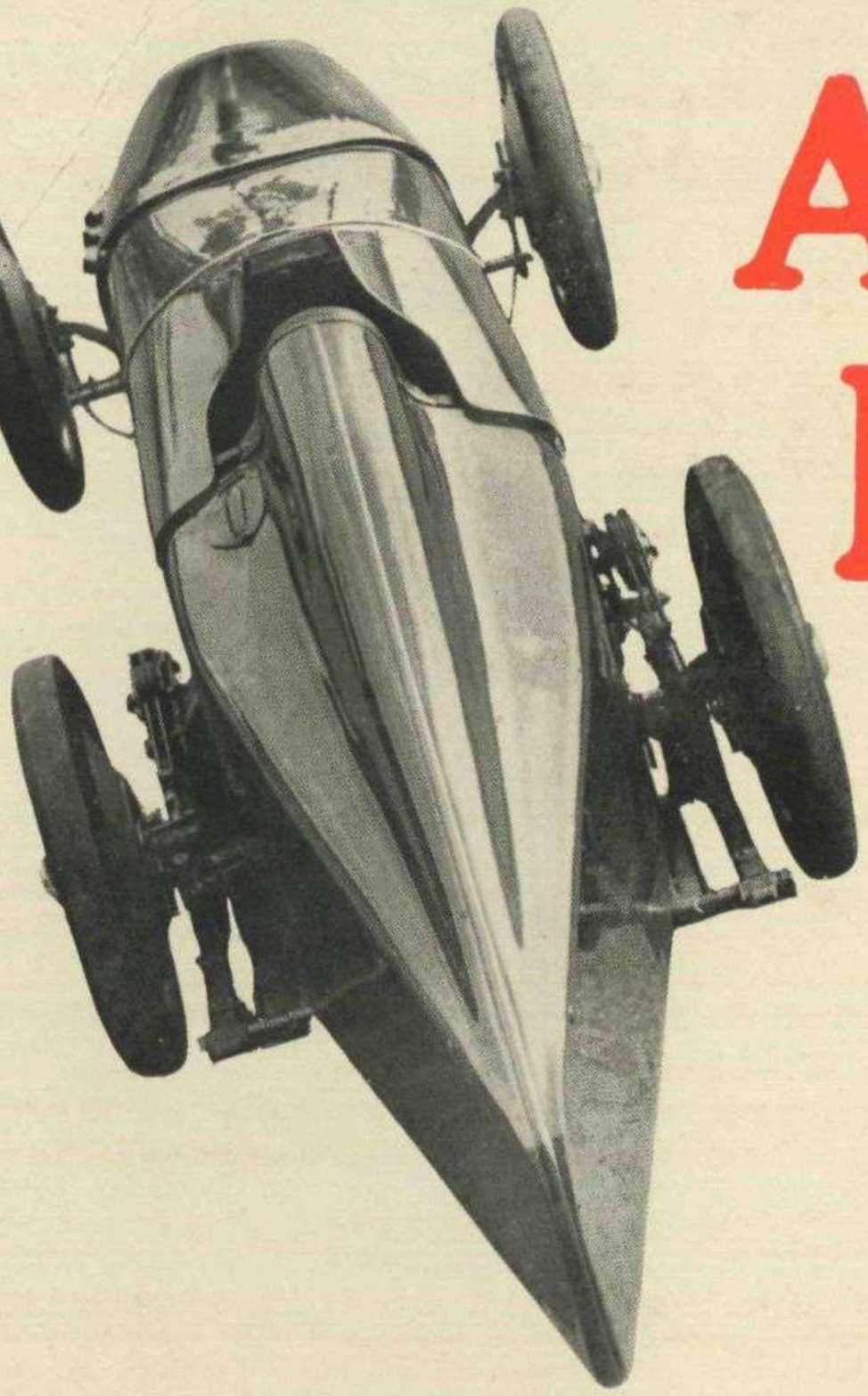
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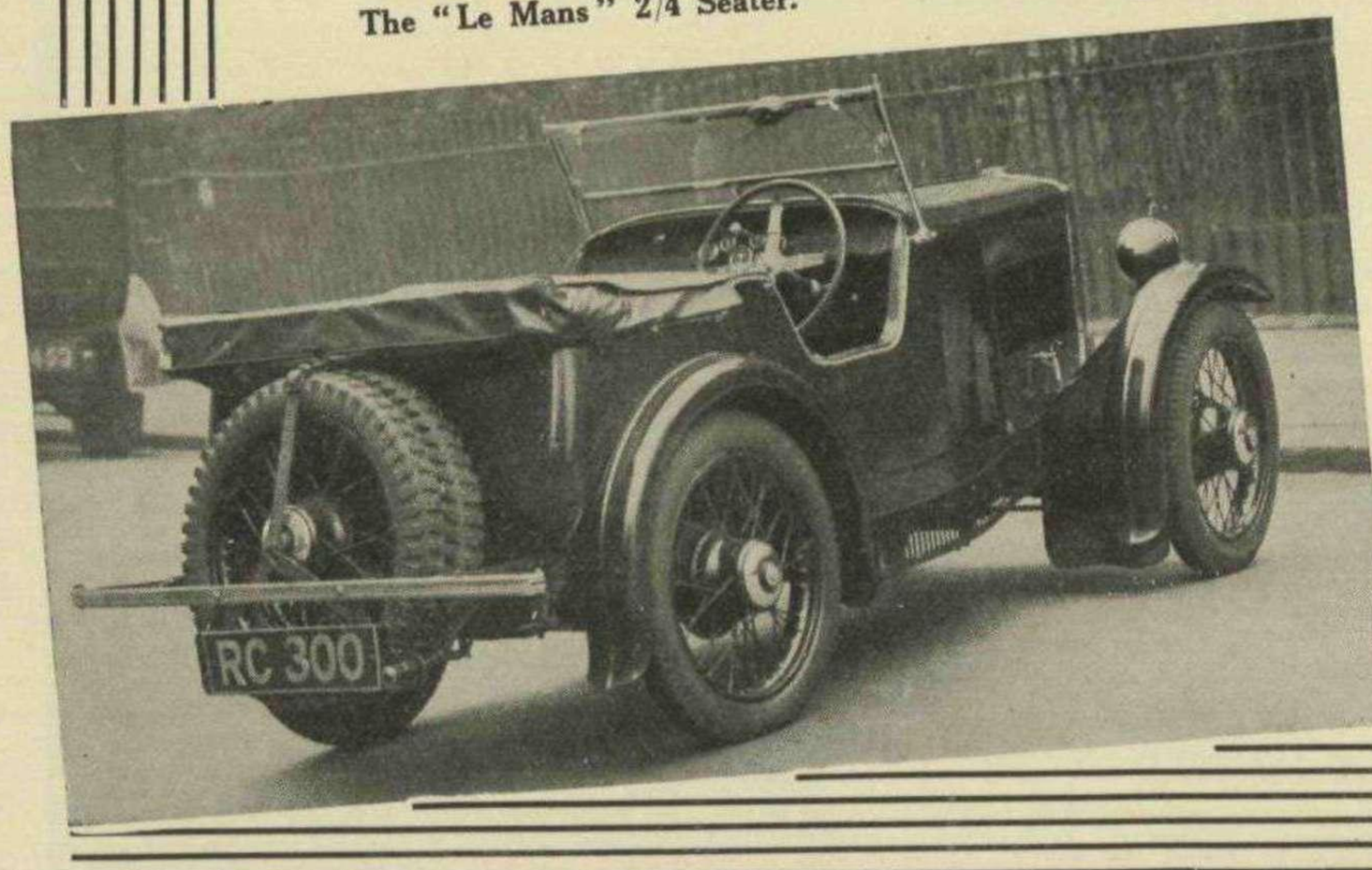
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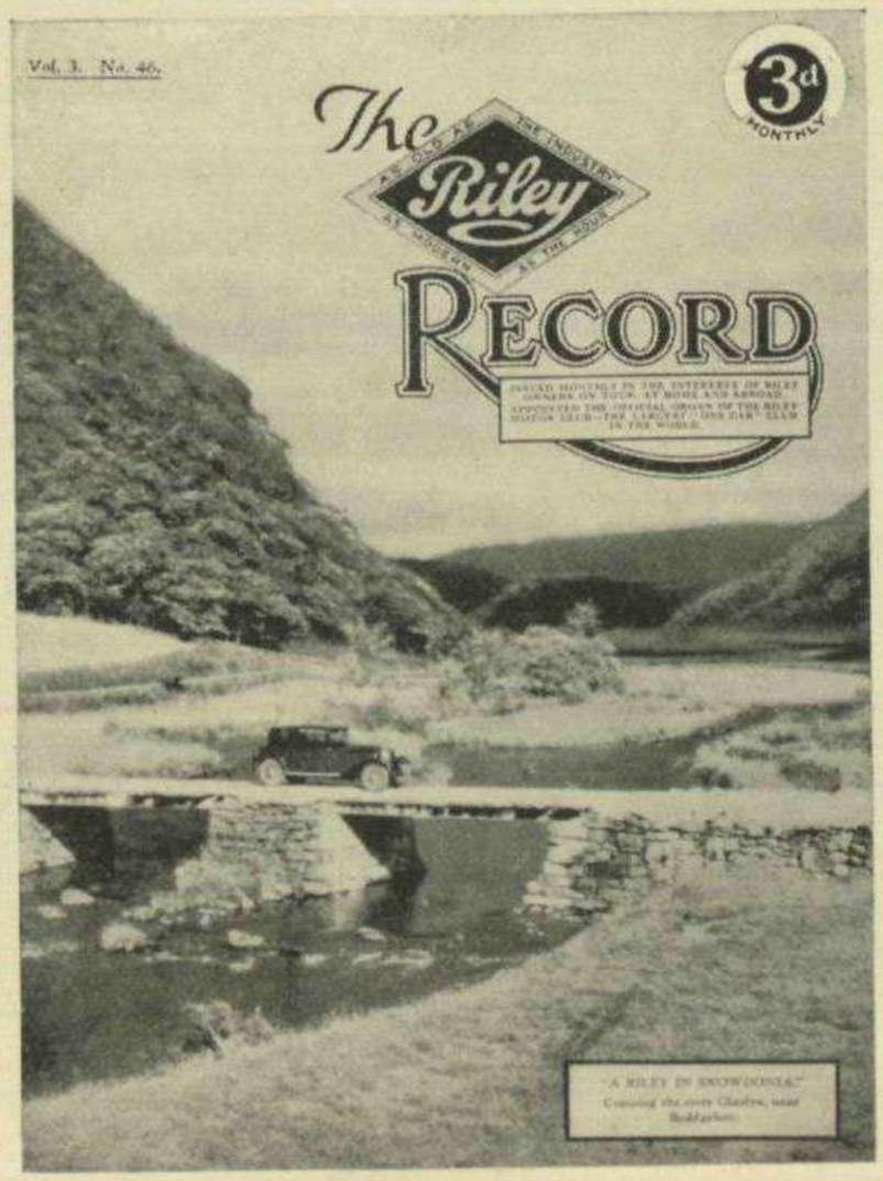
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[*Drawn by R. A. Nockolds.*

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The Way of Things

WITH the remarkable increase in the number of cars on the road, and the position of motoring as one of the essentials of existence, there have arisen various prophets who have stated that motoring as a sport will cease to be.

In actual fact the utility side of the motor industry has thrown the sporting side into greater relief than ever before, and the cult of the sports car has steadily grown until nearly every make is marketed in this form. Elsewhere in this issue of MOTOR SPORT appear announcements of two new sports models of famous makes to show that this is the line on which enterprising manufacturers must work, if the keenest and most discriminating section of motorists is to be persuaded to take notice of their wares.

Both the small and medium capacity sports car is enjoying a steadily increasing popularity, but there is one aspect of the case which should be watched.

The name "sports" must not lose its meaning, and merely become a description of a shape of body. To-day we are offered a better selection of low-priced cars of good performance than ever, and drivers should appreciate and take advantage of this fact by entering in sporting events so far as time and their pockets will permit.

Reliability trials provide inexpensive sport which greatly enhances the pleasure to be obtained from owning a good car, while a stiff sporting trial is the best possible training for the competent handling of a car under all conditions.

Recent trials results have shown that the standard of driving is by no means high, and this can only be improved by an increased entry for all such events by drivers who have taken to the game to do their best at it, and not merely as a method of passing the time.

The fine article by H. B. Browning on succeeding pages, describing his experiences in the Monte Carlo Rally, shows that motoring can still be a real adventure, and the trials we run in this country can at least provide good sport.

Therefore, to those of our readers who own sports cars, and yet have not participated in competitions, we would say—try it, you will find it worth while.

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SOUTHWARD FOR THE RALLY



Lord de Clifford's Lagonda just after crossing the Belgian frontier.

A COMPETITOR'S IMPRESSIONS

BY

H. B. BROWNING

PITY a poor scribe endeavouring to give some account of an event covering the immense distances and widely - separated starting points used in the Monte Carlo Rally, points as far apart as John o' Groats, Athens, Lisbon and Umea, which latter is far away on the shores of the Gulf of Bothnia, 500 miles north of Stockholm, and barely 100 miles from the Arctic Circle. This latter starting-point had been selected by the majority of competitors, as, although Athens was 35 kilometres further away from Monte Carlo, and therefore yielded the greater number of marks for distance covered, it was regarded as almost impossible that any entrant from there would be able to get through at an average speed of 25 m.p.h.

Real hard going.

Most of the British drivers were having their first experience of driving on ice-bound roads as they journeyed north to their selected starting-point, though the old hands who had started last year from Stavanger were able to give the novices the benefit of their experience. Certainly it seems odd to refer to such a driver as W. B. Scott as a novice, but Scott, in common with all the rest of us, found that he had to learn to drive all over again. A typical Swedish road under winter conditions may be briefly described as a steeply cambered ice-covered surface bordered on either side by innocent-looking snow banks, but we soon learnt to dread those same snow banks. Deviate one inch too far to one side, and the front wheel, touching the snow, was forced round with inconceivable rapidity and inhuman power, and in an instant the car lurched, tilted, and stopped with the near-side wheels buried in the treacherous snow-filled ditch to a depth of anything up to two feet. Also we all had to learn to drive without brakes as the slightest application of them caused an immediate and uncontrollable four-wheel skid.

Before reaching Stockholm from Gothenburg, where a British contingent consisting of Lord de Clifford (Lagonda), H. E. Symons (Sunbeam), Harrington-Harvard (Talbot), McKinnon (Talbot), Mrs. Vaughan (Triumph) and J. Hobbs (Riley) landed, McKinnon's 70 Talbot slid off the road, and remained perilously poised with one front wheel over a drop of 30 feet. The passengers were afraid to move in case the car went over the edge, and McKinnon was heard to exclaim from within, "*I'm no excited. I'm no excited.* Stay where ye are." Eventually they were rescued by a passing lorry, and arrived at Stockholm. Their driver was heard explaining to McKinnon that he was through with the run, adding "I'm no going on. I'm awa hame to Glasgie."

So we journeyed north learning to drive again, learning that to take one's eyes from the road for one fifth of a second spelt disaster, learning what to do when the ice-covered road sloped sharply downwards to a turn over a narrow bridge which had to be negotiated without braking, with rear wheels sliding, and with front wheels answering not at all to any movement of the steering wheel. It wasn't easy to learn to get round corners with no rear wheel grip, and no apparent connection between the steering wheel and the front wheels. But we learnt it by degrees, though W. B. Scott was unmercifully ragged for ditching Symons' Sunbeam three times in one day's run. It was a strange experience to sit at the steering wheel with the perspiration pouring down one's face while the temperature was at freezing point.

Eventually we arrived at Umea, a very pleasant little town, with a good hotel and good shops. Arnold, a member of Lord de Clifford's team, was in great request as an interpreter, and was promptly christened "Lorenzo the Linguist." The weather was pleasantly warm, and although the thermometer was just above freezing point overcoats were quite unnecessary. We did not then understand that the unprecedentedly warm weather was to bring us our greatest trial.

The small car class, including Leverett on a new model six-cylinder Riley of 1,496 c.c., and Mrs. Vaughan with a lady passenger on a Triumph 9, left for the South at 3 p.m. on Saturday afternoon, while 12 hours later the big car class started, headed by Louis Chiron (Bugatti), in a merry little snow-storm. De Clifford, who was undoubtedly the best British driver on ice-covered roads, got along at a very good speed, and actually covered 36 miles in the first hour as the powdering of snow afforded a good grip for the special Dunlop military type Track-Grips tyres he used, without chains on the rear wheels of his Lagonda. Fog was the next obstacle encountered, but this did not last very long, and the first control at Sundsvall was reached in good time.

No picnic!

About 170 miles south of Sundsvall our real troubles began. Picture to yourselves a road covered with ice, twelve to fourteen inches thick, gleaming white in the headlamp beams, and swimming in water from a heavy rainfall: a surface on which it was absolutely impossible to walk, and difficult even to stand! Over this we were supposed to average 24 m.p.h. Cars and lorries were ditched all along the roads, and the mental agony of meeting another car and knowing that one had to go within a few inches of the edge of disaster to get by was a terrific strain. Even our star ice-driver, de Clifford, was unable to average more than about 20 m.p.h. and we saw our hard-earned gain of time rapidly disappearing.

So we proceeded, mostly sideways, towards Stockholm, which we eventually reached at 10 p.m. on Saturday, having covered 480 miles in 18¼ hours, with which result we felt very satisfied. Symons (Sunbeam) arrived at 11 p.m. and Healey (Invicta) who had left Umea 1¾ hours after us, arrived at 1.15 a.m. on Sunday.

(*Continued on page 150*)

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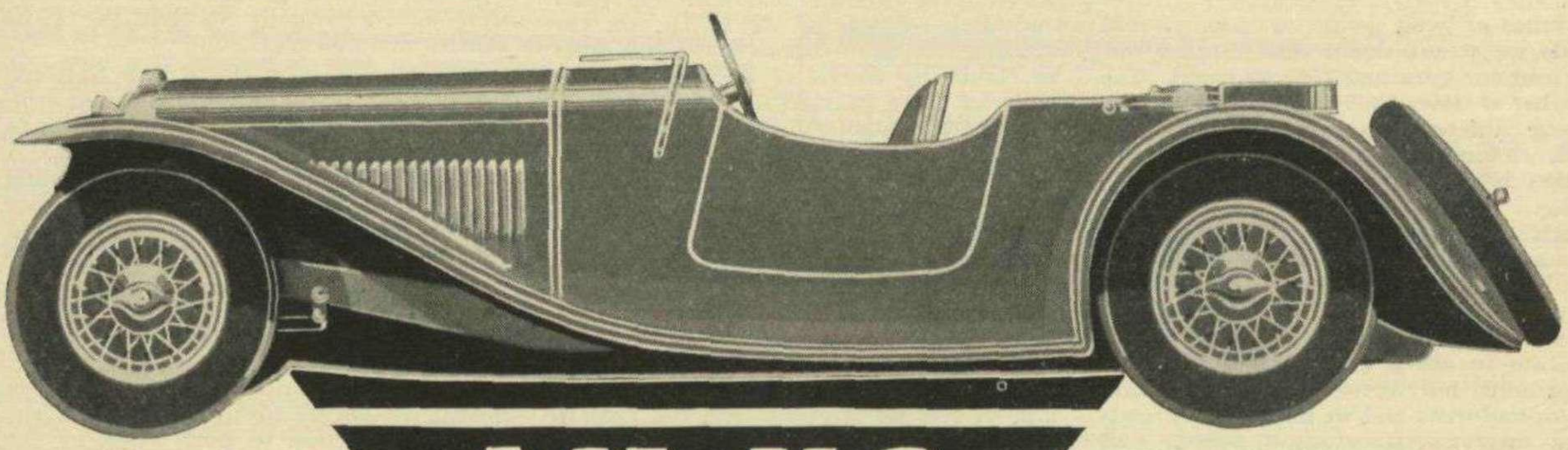
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SOUTHWARD FOR THE RALLY—continued.



Ditched! Max Klinkle's "Merc" near Umea.

Discouraging reports of the road conditions were given to us at Stockholm, and they were fully borne out. After 20 miles of good going on snow-covered roads we struck again this infernal wet ice, and our gyrations recommenced. The number of times that we changed wheels, trying different combinations of tyres with chains and tyres without chains, passes belief, but we managed to keep going. At last we reached Jonkoping, which was known to the British competitors as one of the brothers Koping, and south of this town the ice disappeared. True, the roads were snow-covered and at home in England one would probably hesitate to use a car at all under such conditions, but we were now salted sub-arctic motorists and we hailed these roads with merry acclamations. Speeds rose as spirits did likewise, and it was a joy to see one's speedometer again reading 80 and 90 and 100 kilometres an hour. On towards Helsingborg and the ferry across to Denmark, daylight again, dry roads, and life became worth living.

Twenty-five minutes in the ferry and we landed in Denmark, and headed at high speed for Copenhagen, the next control. Fighting our way into the control office through a seething mob we signed on, and left for Faaborg and the long ferry journey of 1 hour 20 minutes to Nyborg. On this ferry with us were Symons' Sunbeam, Widengren's Alvis, a Chenard Walcker, a Ford, and a Rosengart.

Arrived at Nyborg, we proceeded to another control at Odense, signed on and left in a hurry for Middlefart and the ferry to the mainland of Denmark. It was a matter of some urgency to waste no time as we knew that the ferry could carry only five cars at a time, and it would be a case of first come, first served. We stood, therefore, not upon the order of our going but roared on through the night across the flat Danish roads. We passed three competitors over this stretch and gained our place on the waiting ferry.

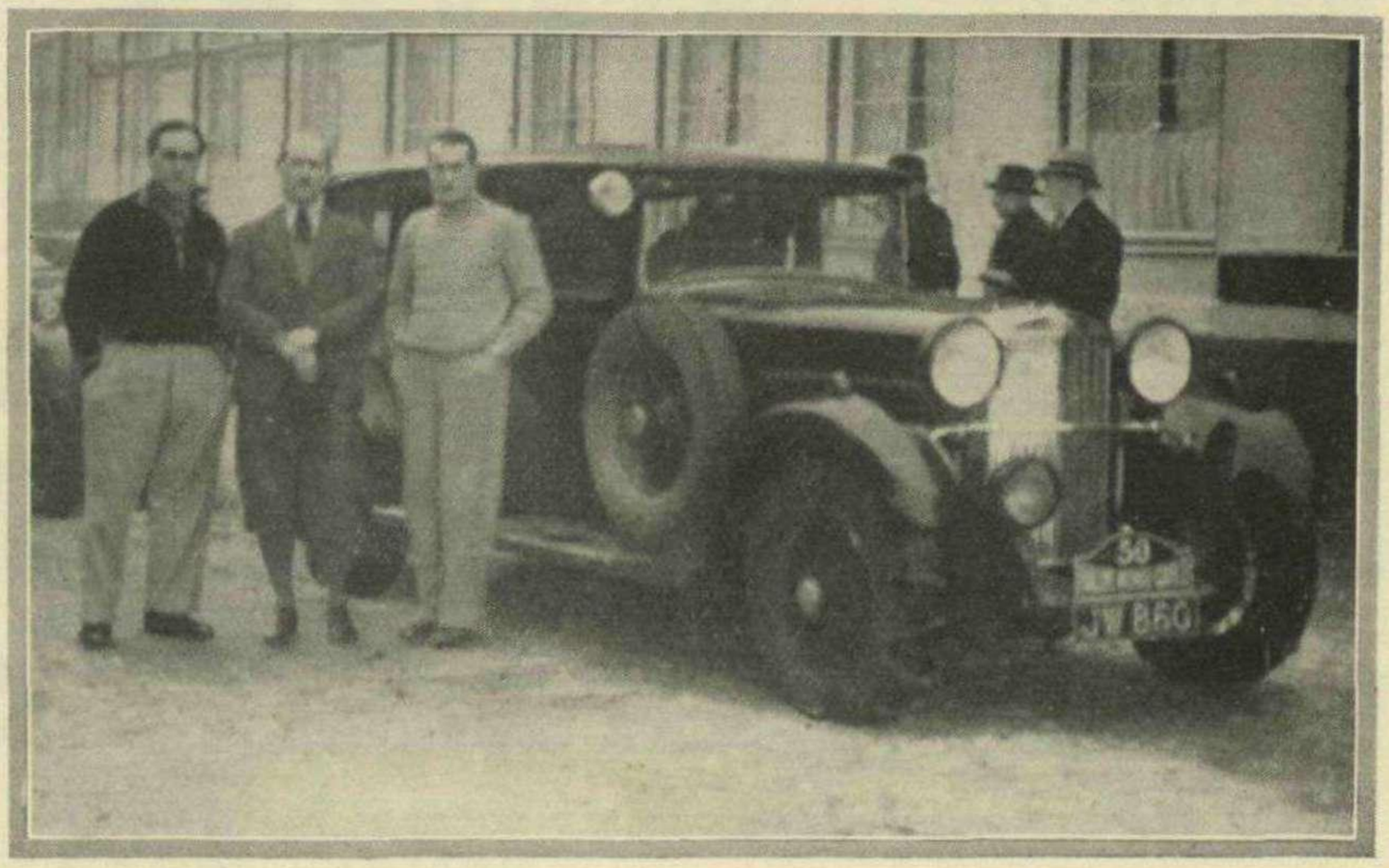
A short trip of ten minutes and we were off again towards the German frontier, where we learnt that there were only three large cars ahead of us, Chiron and Escher on Bugattis and Johansson on a Nash. Here de Clifford took over the wheel of the Lagonda and made the really consoling average of 54 m.p.h. on the straight German roads over the 100 miles to Hamburg, where we wandered frantically for three quarters of an hour searching for the control Of course, it was again the middle of night.

At one o'clock on the morning of Monday, the 18th, we left the Hamburg control for the long stretch of 375 miles to Brussels. Clear dry roads were met with, and we had a pleasant run to the Dutch frontier, stopping at Iburg for breakfast and a much needed wash and shave—not unwanted after two days of travelling. Customs formalities were quickly over and we left for Ittervort and the Belgian frontier. So rapidly did we pass from one country to another that we had some difficulty in remembering in what country we were at any particular time. On this day (Monday) between midnight and midnight we were consecutively in Denmark, Germany, Holland and Belgium. We made good time to Brussels where we actually arrived seven hours before the control opened. We were able to give some slight attention to our good steed, Lagonda, draining the crankcase and refilling with fresh oil. This done we adjourned to a hotel, had hot baths, a short sleep and a real square slap-up dinner, which was our first solid meal since leaving Umea 2½ days before. We left Brussels for Paris at 11.30 p.m. piloted out of the town by a Belgian sportsman on a Graham Paige.

We had a good run to Paris, and the joint Belgian and French customs official beat our record for frontiers, the Belgian occupying 3 minutes while the French surpassed this by passing us through in 1 minute. We arrived in Paris at five a.m. and de Clifford spent the next five hours working on the car, as the starting motor bracket had broken and it was necessary for this to be in working order on our arrival at Monte Carlo in order to avoid loss of marks. The remaining two members of the crew snatched a few hours sleep, and eventually we left the Paris control at 11.30 a.m.

Joyfully we took the Route National to the south while de Clifford coiled himself up in the back of the car in order to make up for his loss of sleep in Paris. A brilliant blue sky greeted us, and smiling French countryside unrolled itself before us at a most satisfactory speed. Lyons was reached at 7 o'clock, and here the great news met us. The Athens contingent had got through, and great was the rejoicing at the first successful conquering of the impossible.

May Heaven protect us from ever having to travel towards Lyons in the opposite direction to that taken by the competitors immediately after the opening of the Lyons control at 9.9 p.m. In the scrum to get away the leaders were Chiron and Escher (Bugattis), Ivanowsky



At Gothenburg. H. E. Symons (centre) of "The Motor" with Lord de Clifford and Harrington-Harvard standing alongside the Sunbeam.

SOUTHWARD FOR THE RALLY—continued.

(Ford Special), Blairie (Lorraine), Symons (Sunbeam) and de Clifford (Lagonda).

The Sunbeam with Norman Garrad at the wheel, and de Clifford driving the Lagonda shot side by side absolutely flat out through the streets of Lyons, until de Clifford took the lead. In spite of the rain which made the roads dangerously slippery, 56 miles were covered by the Lagonda in the first hour out of Lyons.

Hereabouts a really serious accident occurred. The exact facts are still difficult to obtain but it is believed that Dr. Sprenger Van Eijk had some trouble with his tail lamp. He stopped to attend to it, and while two of his companions were stooping over it, another competitor travelling at high speed, and with the windscreen fogged by the rain crashed into the two unfortunate men, causing injuries from which one of them died shortly afterwards, and compound fractures of both legs to the other.

Thus, one of the common dangers of the road has taken its toll, and sufficient sympathy cannot be given both to Dr. Van Eijk, who has endeared himself to British competitors by his sportsmanlike behaviour, and also to the driver of the car which struck the back of Van Eijk's car, as it is certain that under the prevailing conditions no possible blame can be attached to that driver.

At last the rain cleared off, and as the usual fog which appears to live around Briguolles was missing this year, a very pleasant final night's run was enjoyed.

The goal at last.

Monte Carlo was not at its best to greet the travel-stained cars and competitors. It was pouring with rain as the control opened at 10 a.m. on Wednesday the 20th, and the checking of seals, etc., was proceeded with. Immediately each car had been checked, it was required to undergo a special test with a view to finding the winner. This special best consisted of travelling 100 metres as slowly as possible on top gear and accelerating as fast as possible over the following 100 metres, also on top gear. Here a very serious flaw in the regulations appeared. Rumours were heard of staffs of mechanics stationed in various places near Monte Carlo ready to fit new rear axles containing extra low gear ratios, while tiny wheels to reduce the gear ratios still further certainly appeared. For example, one French car arrived at the finish fitted with wheels that would have been eminently suitable for, say, a Morris Minor, but were most decidedly not fitted to the car when it left Umea. One has no hesitation in saying that back axles should have been sealed to prevent the changing of the ratios after the journey was completed, and wheels of standard size should have been obligatory. Judging by the sound of the engine revolutions at the end of the accelerating portion of the special test at the finish, some of the small cars must have top gear ratios in the neighbourhood of 8 or 9 to 1, and it is safe to say that these cars could not have averaged the required speeds over the long-distance part of the route on these ratios. Let us hope that such a grave error will not be allowed to spoil the Monte Carlo Rally another year.

So ends the Rally 1932. The fascination of this type of event must be experienced to be believed, and one can only hope that next year British entries will be increased. Some more of our racing drivers should try these events. Scott, so well known for his exploits at the wheel of his Delage, had never taken part in such an event before, and was wildly enthusiastic throughout, though he said that from the point of view of hard work, he would rather drive in four 500 miles races than one Monte Carlo Rally. It's a great show. Come and try it next year.

The best story of this year's Rally is worth repeating. Somewhere in Sweden a man came up to a British competitor and said in broken English, "Do you come from Glasgow? I speak French."

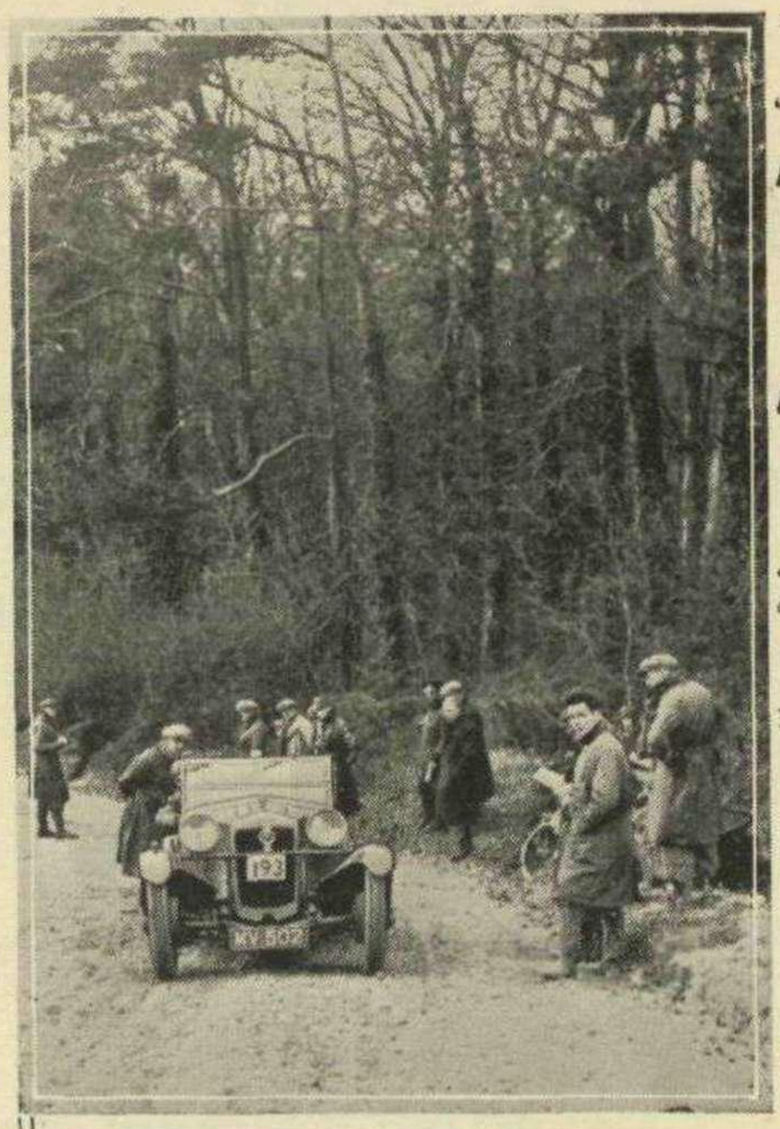
RESULTS.

LARGE CAR CLASS.

1st, M. Vassele, 2475 c.c. Hotchkiss (Umea); 2nd, D. Healey, 4429 c.c. Invicta (Umea); 3rd, Ivanowsky, 3284 c.c. Ford (Umea); 4th, P. Escher, 5300 c.c. Bugatti (Umea); 5th, L. Mathiesen, 2645 c.c. Citroen (Umea); 6th, M. Chauviere, 2470 c.c. Chenard Walcker (Umea).

SMALL CAR CLASS. (1100 c.c.).

1st, G. de Lavalette, 1085 c.c. Peugeot (Umea); 2nd, A. Boillot 1085 c.c. Peugeot (Athens); 3rd, V. E. Leverett, 1496 c.c. Riley (Umea); 4th, J. Hobbs, 1087 c.c. Riley (Stavanger); 5th. R. Riley, 1087 c.c. Riley (Athens); 6th, Mrs. Vaughan, 1,018 c.c. Triumph (Umea).



Photograph by courtesy of "The Autocar."

"Probably the most successful of all cars in trials is the Frazer Nash."

"The Light Car and Cyclecar."

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—the Frazer Nash behaved marvellously, and absolutely shot up all the hills. On Ibberton, I got into second, and climbed the last part of the hill at colossal speed" . . . extracts from a new owner's letter, who took his Frazer Nash through the Exeter.

There is undoubtedly something peculiarly satisfying to a driver (whatever carping critics may say) in handling a car with unlimited power and capable of flattening out stiff trials hills.

With its powerful brakes, efficient transmission with direct and silent drive on all gears and probably the easiest and most fascinating gear change in the world, the Frazer Nash is (as "The MOTOR" says) "'cheap at the price' and has a performance which it is almost impossible to equal except by spending very much more money. Responsive to the slightest touch, always under complete control and possessed of an acceleration which is as thrilling as it is rapid, this car is such as will satisfy the most fastidious and experienced motorist."

Of all cars tested by "The AUTOCAR" during 1931, the non-supercharged 1½-litre Frazer Nash had the finest acceleration figures, irrespective of horse-power or price, and a speed of 87.38 m.p.h. over the timed half-mile (with a standard top gear ratio of 3.8 to 1).

Built throughout to an owner's personal requirements, the new Frazer Nash is characteristically English in its individuality as compared with the average mass-production car of to-day. Depreciation is negligible, while it has the highest secondhand value of any sports car on the market—facts worthy of serious consideration, and too often neglected by the purchaser of a new car.

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SUNDERLAND,
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Yours very truly

J. W. Taylor

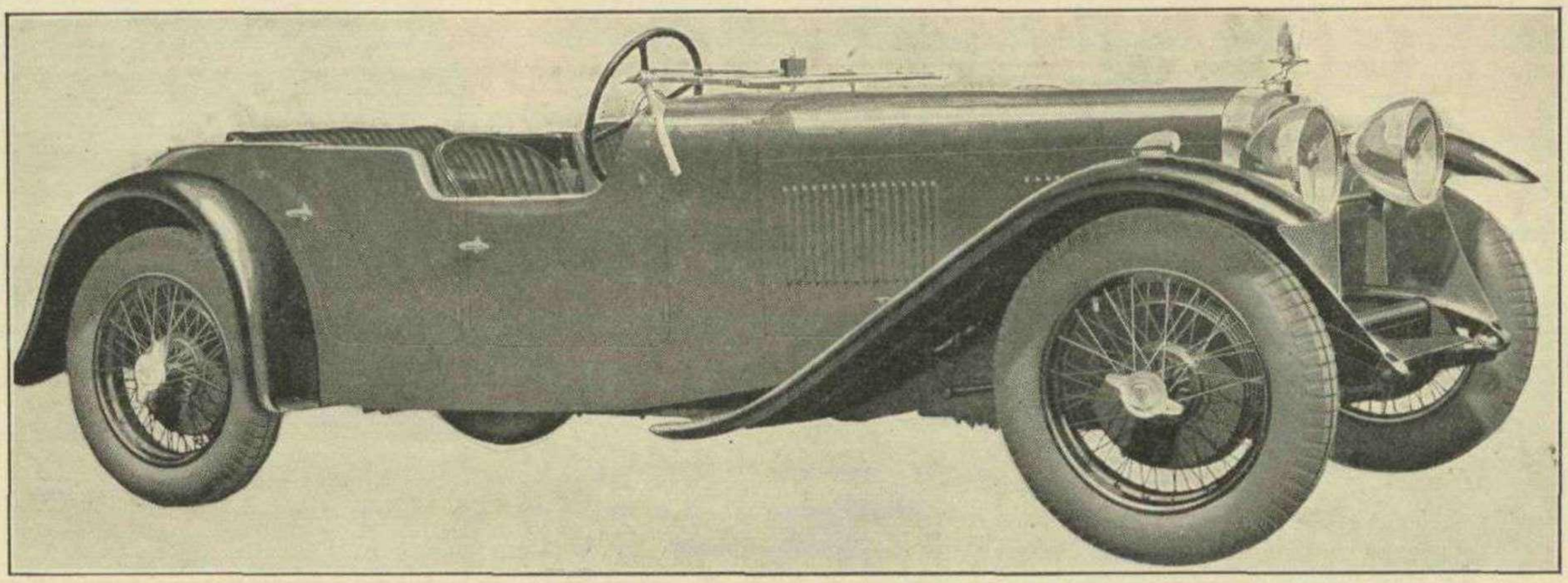
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A NEW ALVIS MODEL

PARTICULARS OF THE "SPEED TWENTY."



The very pleasing appearance of the "Speed Twenty" is brought out well in this photograph. The extremely low and well-balanced lines make it easily the most attractive sports model so far produced by the Alvis concern.

A COMBINATION of first-class performance and phenomenally long wear has always been particularly noticeable in the Alvis, and all sporting motorists will welcome the new and very impressive model which has been lately added to the range of this make.

If any criticism could have been levelled at the earlier Alvis models, it was chiefly that they did not appear to conform to the modern idea of low build. However, if this is achieved solely for appearance sake, without regard to other important factors it is useless, and the Alvis company have wisely waited until they are completely satisfied in every way with the new design before placing it on the market.

Further, the main components are developments of existing well-tried items of previous designs, and the car, while being definitely new in layout, performance, and many details, incorporates nothing which is not proved.

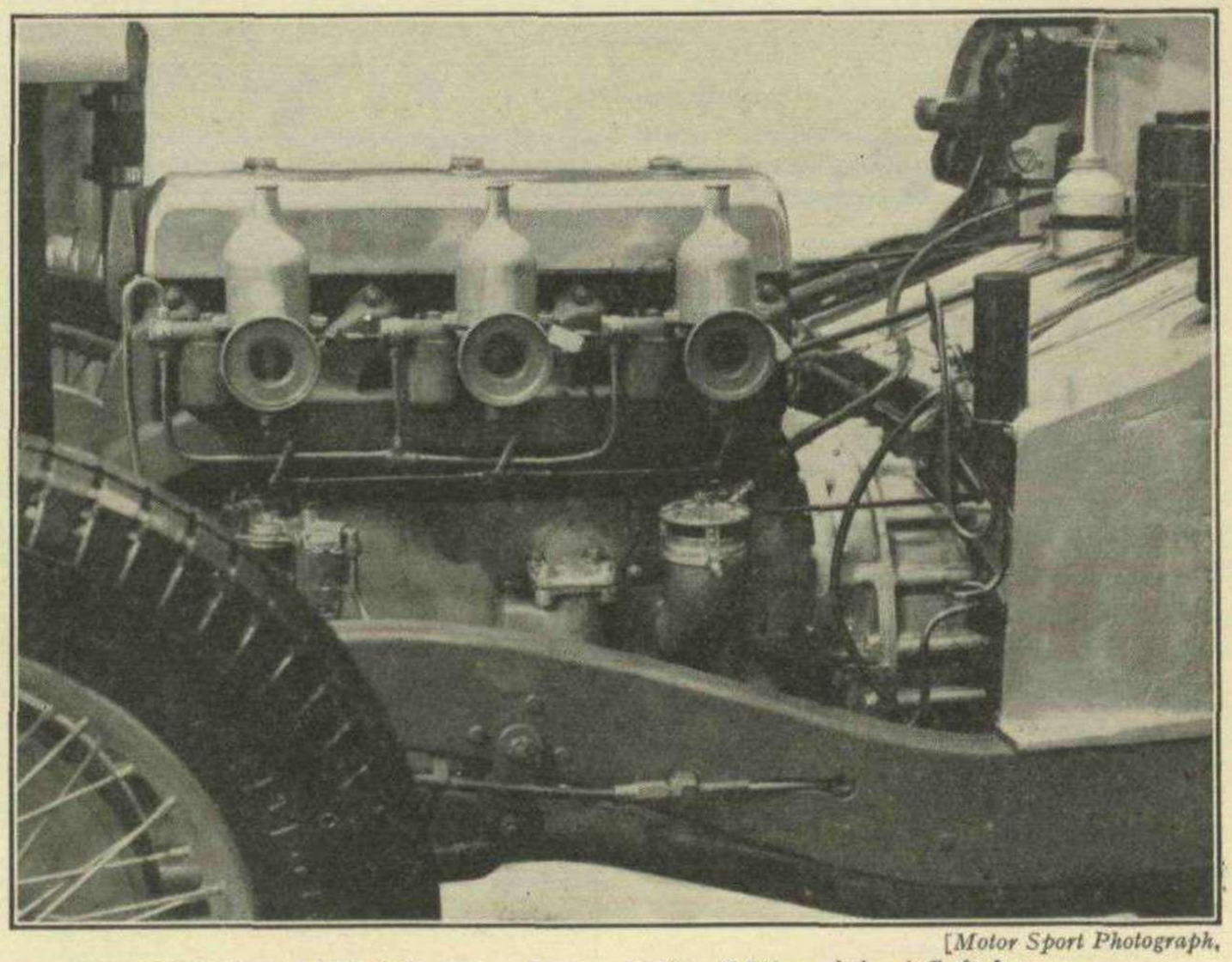
It is intended not only as a very fast car (85 to 90 m.p.h. with open touring body), but also as a quiet flexible machine which enables the performance to be used without fuss.

We were able to make a close inspection of this new chassis in the showrooms of Charles Follett Ltd., of 18, Berkeley Street, W.1. who are the sole London distributors for this make, and would advise any sports car enthusiasts to follow our example, as they will find much to interest them in this design.

This firm, in conjunction with Van den Plas, have also produced some delightful body designs for this chassis which show that really smart and original lines for coach-work are no longer confined to sports bodies built on the Continent.

The chassis is of immensely strong construction with very deep side members and is sharply dropped between the front and rear axles to provide a really low body position. A very stiff girder type cross member is provided at the rear of the dropped portion, while very stiff rear cross members are placed to front and rear of the rear petrol tank, which is thus free from any strains or distortion.

The power unit is based on the well-known "Silver Eagle" and



[*Motor Sport Photograph.*

The induction side of the engine, showing the three S.U.'s and the A.C. fuel pump.

A NEW ALVIS MODEL—continued.

closely resembles it in external appearance. It is of 2½ litres capacity, being a six-cylinder of 73 x 100 mm. bore and stroke. Innovations include a rather heavier 4-bearing crankshaft, modified and enlarged valves and ports, and a higher compression ratio.

The cylinder head is detachable and has separate water connections to avoid using the head gasket as a water joint. Cooling is assisted by a water pump neatly disposed on the offside of the engine and coupled in tandem with the dynamo and magneto. Dual ignition is provided and a switch is fitted to employ either coil or magneto as required.

Mixture is supplied by 3 synchronised S.U. carburettors, to which fuel is supplied by an A.C. pump. A double pipe line arrangement provides for a reserve supply, operated by a handle within easy reach of the passenger.

The revolution counter is positively driven from the camshaft and a thermometer recording the cylinder head water temperature is also fitted.

For the first time this firm has employed unit construction of engine and gearbox, and a special feature of this is the accessibility of the various units, by no means a common feature of unit construction. The whole is mounted at 3 points on a special conical rubber mounting with the single mounting in the centre of the front chassis cross member. Another member behind the engine ensures that the whole unit will be freed from any necessity to stiffen up the chassis, which is thus independently rigid.

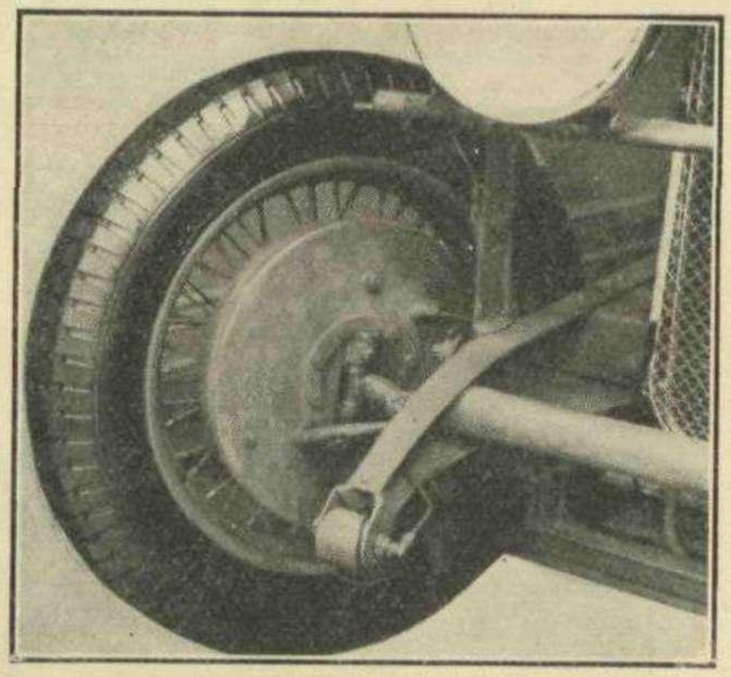
The brakes are of new design and very ample size, and hand wheel adjustment within easy reach is incorporated.

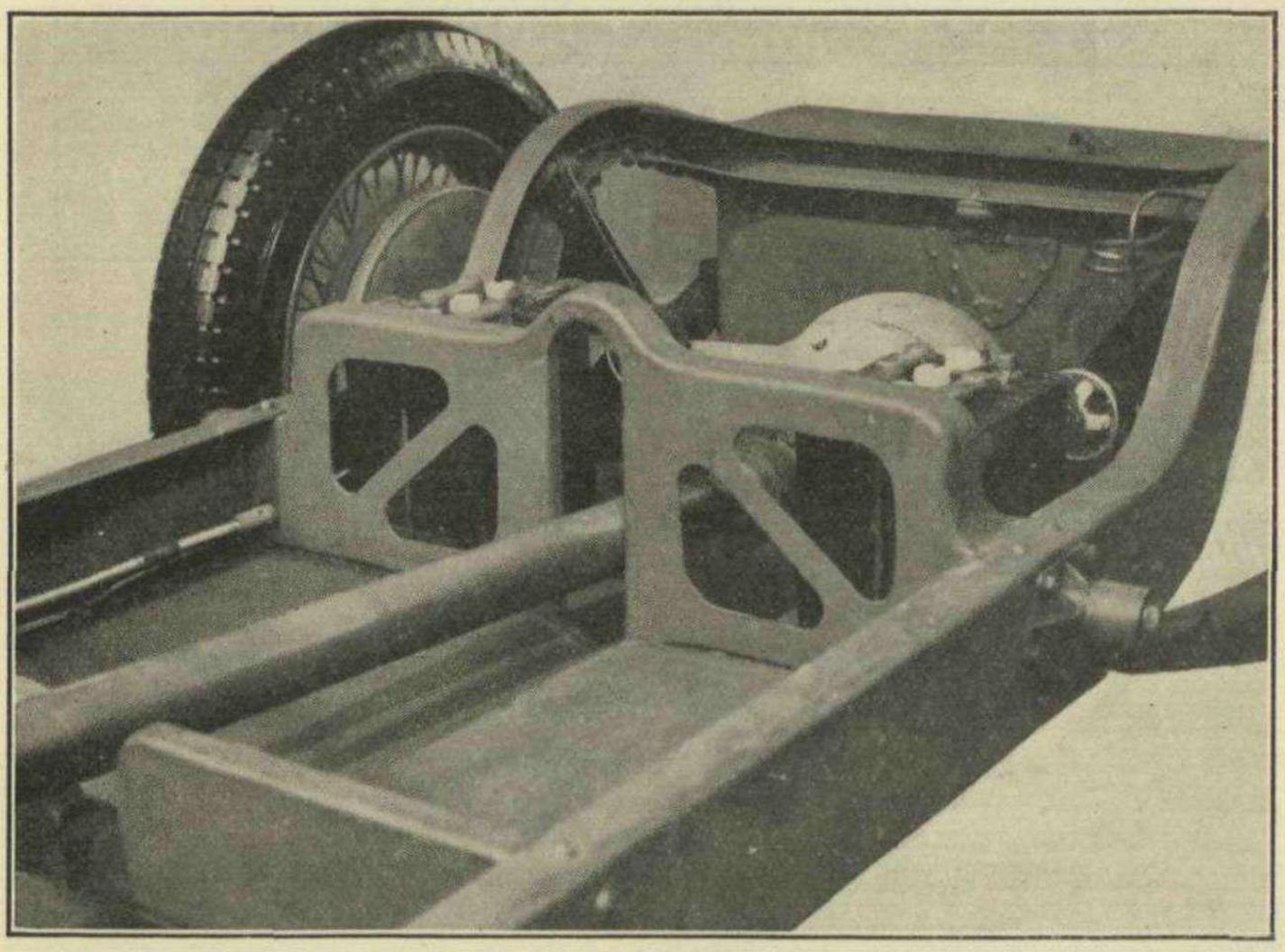
Centralised chassis lubrication to all points is provided from a tank on the dashboard, so that this very important feature cannot be neglected, occasional operation of the handle being all that is required.

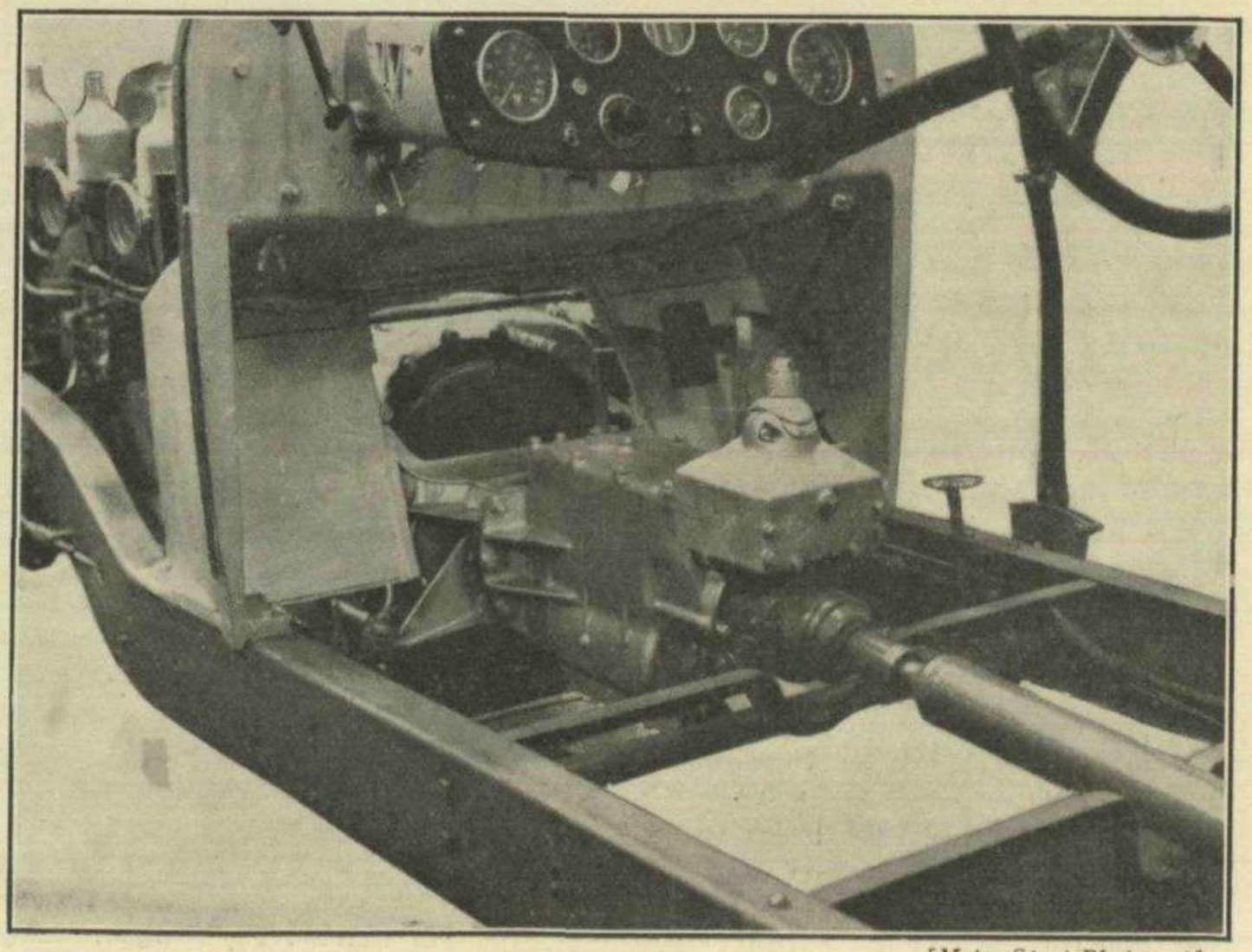
The gear box itself has a silent third gear with double helical teeth, while the lever is very short and conveniently placed.

The ratios are 15.7, 9.6, 6.25 and 4.55 to 1, while an alternative 4.7 axle ratio is also obtainable.

This latest Alvis is a most interesting newcomer to the sports car field, and at the very reasonable chassis price of £600 should immediately cause a heavy demand.







Some interesting features. Left—the massive transverse frame member; above—the big front brake drum, and below—the unit-constructed gearbox.

[*Motor Sport Photographs.*

PRESENT-DAY RACING CARS

I.—THE 3½-LITRE 12-CYLINDER ALFA-ROMEO



Principal Characteristics.

Engine : Two 6-cylinder units.
Bore and Stroke : 65 x 88 mm.
Capacity : 3,495 c.c.
Maximum Power : 300 h.p.
Maximum Speed : 4,800 r.p.m.
Compression Ratio : 5½ to 1.
Valves : 2 per cylinder, overhead at 90°.
Camshafts : Overhead, 2 per engine.
Timing : Inlet, opens : 5° lead ; closes : 35° lag.
Exhaust opens : 45° lead ; closes 13° lag.
Crankshafts : On 5 plain bearings.
Connecting Rods : H-Section.
Pistons : Aluminium, 4 rings.
Ignition : Bosch coils.
Lubrication : Forced, single pump per engine.
Carburettors : Memini.
Superchargers : Roots type.
Clutches : Dry-plate.
Gearboxes : 4-speeds.
Transmission : Two cardan shafts, enclosed in torque tubes.
Wheels : Rudge-Whitworth. Tyres : 30 x 6".
Wheelbase : 9ft. 6ins.
Track : 4ft. 9ins.

OF the various racing cars which have made their first appearance during the past season none perhaps contains a greater measure of technical interest than the 3½-litre 12-cylinder Alfa-Romeo. The first of these cars took part in public competition for the first time in the Italian Grand Prix which was run at Monza towards the end of May, and was the machine on which the late Luigi Arcangeli unfortunately met his death a few days earlier. Although the car did not succeed in completing the course, two machines of the same type again appeared at the Italian track for the Monza Grand Prix in September, and although they were both again eliminated before the end of the contest, they showed themselves to be extremely fast, and possessed of a far greater degree of stability and controllability than might be supposed from a casual glance at the specification.

It is said that the car, which owes its design to the genius of Signor Vittorio Jano, had its origin as the result of what was intended more or less as a joke. During a discussion on the subject of how a really powerful racing car could be constructed with the famous 1,750 c.c. Alfa-Romeo engine as a basis, somebody suggested that the best method would be to put two engines in one car. Signor Jano immediately interpreted this idea in his own manner, and the 12-cylinder racing car was the result.

Briefly the machine consists of two 6-cylinder engines, each with its own clutch and gear-box, placed side by side in the same chassis, and driving the back axle through two propellor shafts. The engines are of the well-known Alfa-Romeo 6-cylinder super-sports type with a bore and stroke of 65 x 88 mm., the total capacity of the two units thus being 3,495 c.c. These engines have a fairly low compression ratio of 5½ to 1, the cylinder heads being hemispherical. The valves, of which there are two per cylinder, are made of cobalt and are of the flat-headed type, being mounted in the detachable head at an angle of 90° to each other. These valves are operated by overhead camshafts, of which there are two for each engine, and which are driven by a train of helically cut pinions from the rear end of the crankshaft. Each of these camshafts is carried in five bearings, and the valves are closed by three concentric springs with a combined tension of about 28 lbs. The valve

PRESENT-DAY RACING CARS—continued.

timing is arranged to give a good degree of overlap, the inlet valves opening 5° degrees before top dead centre and closing 35° after the piston has reached the bottom of its stroke, while the exhaust valves open 45° early and close 13° late, the overlap thus amounting to 18°.

The cylinder heads and blocks are made of a special iron alloy, while the crankcases are of aluminium. The crankshafts which are machined out of the solid billet, are each carried in five plain bearings, with the camshaft drives at the rear, and the Roots type superchargers, which are of Alfa-Romeo construction, driven direct from their forward ends. The connecting rods are of H section, and the very light aluminium pistons are fitted with three rings and a scraper. Lubrication is attended to by a single gear-driven pump, the dry-sump principle not having been adopted.

The superchargers, which are effectively lubricated from the base chamber, each suck through a single horizontal-type Memini carburettor, the more complicated method by which the supercharger blows through the carburettor having been avoided, and are fitted with pressure relief valves which blow off if the pressure exceeds 8 lbs. Ignition is attended to by Bosch coils, the distributors being driven off one of the camshafts of each engine, while the revolution counters take their drive from the other. These engines run up to 4,800 revolutions per minute, at which speed the combined power output is in the neighbourhood of 300 h.p.

Each engine is built up in unit with a dry-plate clutch and a 4-speed gear-box of cast aluminium.

At the back of each gear-box is a spherical universal joint, and thence the drive is taken by a propellor shaft enclosed in a pressed-steel torque tube to two separate differential gears enclosed in aluminium casings and mounted side by side. Tests were made with the car fitted with a solid back axle, but the results were not altogether satisfactory and it was finally decided to use the two differentials.

Both engines revolve in the same direction and are positively geared together so that one cannot run faster than the other. The driver is situated in the centre of the car, between the two propellor shafts and has a gear-lever mounted directly on the top of its gearbox each side of him, the gear-levers being coupled together so that he can effect a change in both gear-boxes simultaneously with either hand. The steering wheel is, of course, in the centre of the car, and controls each front wheel independently through a worm-and-wheel gear and two separate drag links, no track rod being therefore necessary.

Each wheel is fitted with a large brake drum, some 18 inches in diameter and 2½ inches wide, made of duralumin and provided with linings of a special asbestos material. The brakes are operated by rods, the shoes being of the self-wrapping type and no servo-motor being employed.

Suspension at both front and rear is carried out by semi-elliptic springs combined with Hartford-type shock absorbers of Italian manufacture. Rudge-Whitworth wire wheels are used and are shod with 30 x 6″ wired-on tyres. The car has a short wheelbase of 9ft. 6ins. and the track of 4ft. 9ins., is not wide when it is considered that two engines have got to be accommodated side by side in the chassis, while the complete car in racing trim weighs only some 23 cwt. At Monza the cars were fitted with a back-axle ratio of 3 : 1 which gave them a maximum speed on the level of about 165 m.p.h.

The whole design is obviously one of exceptional interest and one may well conjecture that more will be heard of these cars in the not distant future.

TRIALS ENTRY FIGURES : FACTS FROM THE M.C.C. REPORT.

THE annual report of the Motor Cycling Club, Ltd., which was submitted to members at the annual general meeting on Tuesday last, 26th January, provides some interesting figures in regard to the club's numerous annual fixtures.

As the following table, which has been taken from the report, shows, while there was some falling off in entries for some of the events, the famous London-Edinburgh Run and the meetings arranged at Brooklands continued to be popular during the 1930-1931 season.

Where there have been decreases in entries, the committee state, the fall was accounted for by the motor cycling class, with the car class continuing to provide the greater portion of competitors in the majority of the events. This is a tendency which is becoming more and more pronounced as each season passes.

	1925	1926	1927	1928	1929	1930	1931
London/Land's End	407	530	527	553	437	400	384
London/Edinburgh	370	240	311	344	230	202	220
Team Trial	114	108	180	78	120	144	150
Sporting Trial	70	61	45	—	120	105	80
London/Exeter	427	375	377	352	316	299	247
Land's End/John o'Groats	72	49	47	41	45	—	40
Brooklands	127	214	240	226	197	221	242

52 M.P.G. WITH A SMALL SIX.

ONE of the good points of the small six-cylinder car—a type which is proving immensely popular today—is its economy in petrol.

On every car, of course, the amount of petrol used depends almost entirely on the throttle opening, but the modern small six, with its high power to weight ratio, scores in that it requires only a whiff of the throttle to give a good road performance.

Owners of the type are frequently heard referring to consumptions of 35 to 40 miles per gallon, or even slightly more. Petrol consumption trials are seldom held in England, but they are not uncommon in the Dominions. News has just been received from South Africa, where presumably, atmospheric conditions render it possible to improve on home performances, that in a petrol consumption test for the Natal Motorist Trophy a Wolseley Hornet averaged no less than 52.7 m.p.g. The trial, which was 111 miles long, involved a climb of 3,000 ft., whilst two passengers were carried in addition to the driver. After the trial, with carburettor seals intact, the same car put up a mean speed of over 60 m.p.h. in a speed trial, again with three up.

Rumblings



The J.C.C. 1,000 Miles.

FULL particulars and regulations of this event are now available, and it will be run on June 3rd and 4th. It has, of course, been introduced in place of the Double-Twelve, which although an excellent test for cars, was rather too tedious an affair for most people, either as competitors or spectators.

There are several interesting features about the latest effort, and some others which are a trifle disappointing. For instance, the same course is being used as in last year's Double-Twelve, and therefore it will have the disadvantages of this event in certain measure. Apart from the question of the spectators' view of the corner, which has been dealt with before in MOTOR SPORT, it is not a very good corner for a race, being an evolution more ordinarily performed in an aeroplane than in a motor car.

The earlier Double-Twelve course, coming down the straight and onto the banking, seemed better and safer, as regards the actual corner itself, though last year's event showed that there need be no worry on this latter score in either direction. Another point is the fact that the track definitely seemed to have more hard bumps when running in a clockwise direction than the usual way. However, the race ought to be good as being run at a higher speed than its forerunner, and we seem to have given up all ideas of "road" corners in long distance events nowadays at Brooklands.

The argument advanced by the powers-that-be is that the ordinary public (not you and I—we don't matter!) does not appreciate the niceties of cornering, and becomes bored with a lot of cars following the same course steadily round a corner. All of which is probably correct, and after all the track has to cater for all tastes if it is to keep the funds going. Nevertheless, it is a pity that the great British Public, backbone of the public enclosure and all that, doesn't know a little more about motor racing. Not that they are likely to, while our rulers frown on road racing and continue to legislate for the motorist as if he (or she) were either an irresponsible child or a potential criminal.

However we are wandering most distressfully from the point, which is the J.C.C.'s effort for next June.

One interesting and excel ent feature is that the handicaps are arranged on a curve which allows for quite small differences in capacity; there are separate curves for blown and unblown cars, and cars may be run stripped, i.e., *sans* hood, screen, wings, or lamps, as per new T.T. regulations. Each car will have to cover 400 laps (1,046.4 miles) and the first day's racing will stop when the leader has covered half this distance.

The cars must be production types in the usual way (the scrutineers' decision is final) and the bodies must conform to the usual international regulations. Other details are:—mechanics are optional, ladies may drive, and the starter need only be used at the beginning of the race.

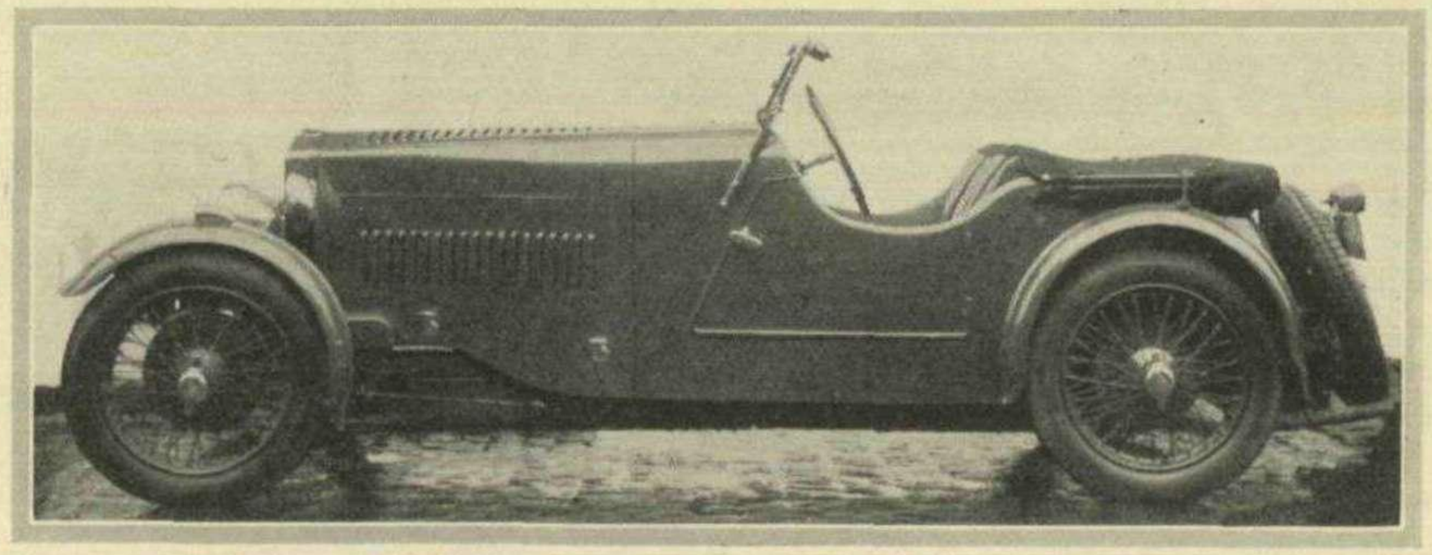
An idea of the comparative speeds required by various cars is given in the following table.

Engine capacity in c.c.	Unsupercharged cars m.p.h.	Supercharged cars m.p.h.
750	73	83
1100	80	87
1500	83	90
2000	86	92.75
2500	88	94.75
3000	90	95.75
4000	92	96.5
5000 & over	93.5	97

Entries at 15 guineas close on March 31st, at double fees on April 30th and at 40 guineas on May 9th.

Full particulars can be obtained from the Junior Car Club, Thurloe Place. S.W.7.

(Continued overleaf)



For the trials exponent. The "Exeter" model Frazer Nash which is available at £399.

RUMBLINGS—continued.

Work at the Track.

Brooklands at this time of the year presents a sorry sight to the enthusiast, with its concrete torn up in all directions, but there is no doubt that a real effort is being made to smooth things out. The task is no easy one, as concrete is not easily patched up, and complete resurfacing is, of course, out of the question. The home banking and railway straight are having a rare overhaul, but I hope they will not forget the fork end of the finishing straight, especially as the J.C.C. 1000 miles is going to be run over it. However, they can't be expected to do everything at once, and they are certainly very busy down there at the present time.

Rally Methods.

I was talking to a well known trials and rally exponent recently about the methods and snags in negotiating really frozen country, as met with in a show like the Monte Carlo Rally. Apparently on long stretches of ice-bound road where the gradients are easy, the method is to use chains only on one front wheel, and let the back take care of itself. At first the car seems to be completely out of control and the driver concentrates grimly on correcting the continual tail wag—without effect—finally giving up the attempt and holding the steering quite slackly, when the control is just as good with far less trouble.



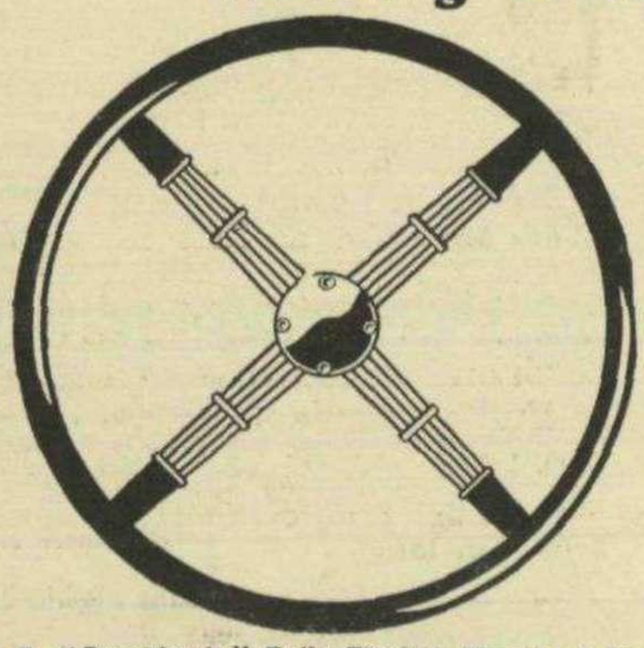
Norman (Wizard) Smith, who at the time of writing is all set for his attack on the land speed record.

Corners naturally involve some pretty lurid slithers, but even so everyone gets quite used to it. The chains used, incidentally, are very hearty affairs with crossbars made with great teeth which really get hold of the ice and show it where it gets off! It would be most unpleasant to get run over by such a device. Of course, when serious hills occur it's a case of chains all round.

Other equipment carried by these enthusiasts includes "de-ditching gear," in other words suitable blocks and tackle for attaching to the nearest tree (if any) and drawing the vehicle on to the road again.

That is the sort of main road motoring which has some kick in it, so it is small wonder that those who can manage it take this chance of forgetting for a bit that their home motoring consists so much of crowded roads and childish laws.

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Steering Wheels



M.G. Midget Foursome Magna Monthlery

A "Brooklands" Fully Flexible Steering Wheel fitted to your M.G. will make a wonderful improvement in driving comfort and safety. A sure grip under all conditions, visibility of all instruments through spokes, and complete freedom from spoke fracture and rim kinking. Exceptionally racy in appearance and finished in Dead Black Rubber and Chromium Plate. Get full particulars of this attractive Wheel for your M.G.

MARK I 16" 36/- MARK III 17" 38/- MARK II 18" 40/-

Machined ready to fit.

"Brooklands" Radiator Stoneguards are specially suitable for Midgets and the new Magna. They stand well clear of the radiator and effect a wonderful improvement in the frontal appearance. Beautifully finished.

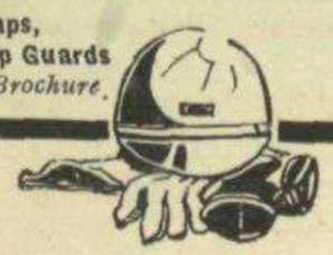
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THE COLMORE TRIAL.

THE Colmore Trial which was instituted in 1911 by the Sutton Coldfield and North Birmingham Automobile Club (Sunbac) will be run this year on the 13th of this month.

The start will be from the Unicorn Hotel, Stratford-on-Avon, and the route will be about 90 miles. The event is open to members of clubs associated with the R.A.C., and (in the case of three-wheelers and motorcycles), the A.C.U., and the closing date for entries is Wednesday next, 3rd February. Application for entry should be made to the secretary of the meeting and the clerk of the course, Mr. J. Woodhouse, of 10, Warwick Chambers, Corporation Street, Birmingham.

The prizes offered are as follows :—the Colmore Trophy (for the best performance), the Rhode Cup (for the best performance with a car of under 1,100 c.c.), the Bernard Morris Cup (for the best performance with a car of over 1,100 c.c.), the committee team prize (for the best performance by a nominated team of three drivers) and the Muratti Trophy. The latter is awarded annually for the best aggregate performance of the season.

London-Gloucester Results.

THE results of the London-Gloucester trial (held on 12th December), are as follows :—Gloucester Cup—H. C. Wardle (Wolseley Hornet) ; North-West London Cup—G. C. Harris (Morgan); South-Midland Centre Plaque—G. W. Olive (Standard Avon Sports) ; President's Cup—F. N. Foster (M.G. Magna) ; Ladies' Cup—Mrs. C. G. Scudamore (Triumph Gnat).

Gold medals—G. C. Harris (Morgan) and H. C. Wardle (Wolseley Hornet).

Silver Cups—C. W. Stagg (Baughan), R. T. Horton (Morgan), H. S. Linfield (M.G.), G. E. Taylor (M.G.), R. M. Mere (M.G.), T. A. W. Thorpe (M.G.), N. H. Cole (M.G.), H. C. Hunter (Riley), M. A. McEvoy (Wolseley Hornet), V. W. Derrington (Wolseley Hornet), J. A. M. Patrick (Wolseley Hornet), F. S. Hutchens (Wolseley Hornet), R. J. P. Morley (A.C. Acedes), C. Mann (Ford).

Silver medals—H. Laird (Morgan)l J. S. Drewett (Austin), C. W. B. Marshal, (Austin), J. A. Berry (M.G.), C. G. Hill (M.G.), J. B. Carver (M.G.), E. G Rimington (Jowett), C H. Lawford (Riley), R. A. Littlewood (Riley), H. J. Ripley (Riley), V. H. Tuson (Fiat), M. E. King (Frazer-Nash), M. W. B. May (Alvis), C. Montague Johnson (Alpine Riley), and A. L. Watson (M.G.).

Bronze medals—J. C. C. Bond (Austin), J. S. Harrison (Austin), F. M. Shepherd (Alta Austin), C. F. Widmann (Triumph), E. A. Denton (M.G.), K. C. McGuffie (Morris Minor), A. C. Fairtlough (Salmson), G. E. Vaughan (Riley), Mrs. A. S. Gripper (Riley), R. Livesey (Talbot), M. F. L. Falkner (Alvis), Sir A. W. MacRobert (Aston Martin), C. G. H. Dunham (Rover), F. M. Hill (Triumph), T. R. Vickers (Frazer Nash), L. B. Henderson (Triumph), C. S. Hollinghurst (M.G. Magna), C. B. Jones (Frazer Nash), W. J. Haward (Bayliss Thomas), H. P. A. Peaty (Frazer Nash), D. C. Sidebottom (Ford), R. C. Porter (Alvis), Miss M. Milne (Austin), E. Wiggall (Morris Major), Raymond Way (Rover), Miss B. Daniell (A.C.), and Mrs. H. Babington (Austin).

No award—Miss E. H. May (M.G.), W. G. E. Rushworth (Austin), R. J. B. Seaman (Riley), C. V. Wells (Riley), A. Sebag-Montefiore (Frazer Nash), A. Negal (Morris Major), and J. W. Whalley (Ford).

Retired—Hon. Mrs. Chetwynd (M.G.), Hon. A. D. Chetwynd (M.G.), P. A. Taneborne (Austin B.C.), K. W. Hole (M.G.), J. M. Horan (Austin), G. L. Glegg (Austin), A. Squillario (Morris Minor), J. C. Blagden (Talbot), E. Urlwin-Smith (Wolseley Hornet), K. D. Evans (Alfa Romeo), A. H. Lancaster (Bugatti), K. N. Hutchison (Frazer Nash), J. A. Robinson (Lancia), Miss M. Allan (Lagonda), G. A. Hoar (Lancia Lambda), P. J. Urlwin-Smith (Vauxhall),and John Daniell (Chrysler).

Non-starters—T. M. Mills (Austin), D. G. Wilson (Talbot), S. Doland (Wolseley Hornet), Lord de Clifford (Lagonda), and E. G. Wardrop (M.G.).

Duplicate Motoring Offences.

THE A.A. has successfully appealed to the High Court against the conviction of a motorist charged with alternative offences in one summons.

In the first instance, the motorist was actually served with two summonses containing five offences. One summons specified three offences—driving recklessly *or* at a speed *or* in a manner which was dangerous to the public, while the other summons included two offences—driving without due care and attention *or* without reasonable consideration. The first summons was dismissed, but the Godalming Bench convicted on the second, imposing a maximum fine of £20.

The Divisional Court unanimously upheld the contention of Mr. Laurence Vine (instructed by the Automobile Association) that the conviction was bad for duplicity, and awarded costs against the police.

Big " Stock " Trial.

ONE of the most exacting and strenuous " stock car " trials ever organised was recently run over the Circuit of the Nurburg Ring in Germany.

Arranged by the Automobile Club of Germany and the Allgemeine Deutche Automobile Club, it attracted many entries and lasted for thirty days. The cars entered were taken from stock, and all important parts were officially sealed, and so that they would be absolutely " brand new," they were not driven to the Ring, but transported there. The first few days of the trial were occupied in the running in of the machines, and they were driven, day and night, each car carrying an official observer.

Besides running to set average speeds, each competitor had to go through a brake test every day, and have his petrol and oil consumption checked. A daily inspection was also made of all the main points of the vehicles, while sump dilution and so forth were carefully recorded.

Every 24 hours the competitors were given one hour for maintenance work, and every six laps a ten-minutes refuelling stop was allowed.

Each entrant carried a " repairs account " which provided a complete record of the running costs throughout the 30-days' run.

British Cars for the Continent of Europe.

LARGELY due to our departure from the gold standard, there are now possibilities of selling British motorcars on the Continent of Europe.

This has already been appreciated by leaders of the motor industry, some of whom have lost no time in setting in motion the necessary sales machinery. The Singer company, for instance, has arranged a concession for the whole Continent and distributors have been appointed in Spain and Czecho-Slovakia, in addition to those already operating in Portugal and Denmark. Catalogues are now being printed in every possible European language.

The same firm is making determined headway in the overseas markets elsewhere. Factory representatives are busy in New Zealand, Australia, South Africa and other Dominions, whilst the company's export manager is at present in South America where he is furthering the business which was opened up during the Trades Exhibition last year.

A Royal Appointment.

A warrant of appointment to H.R.H. the Prince of Wales has been issued to C. C. Wakefield & Co., Ltd.

This firm has for some years past held a similar appointment to His Majesty the King.

WHICH IS THE FASTER?

A review of the 1931 International Class "H" Records

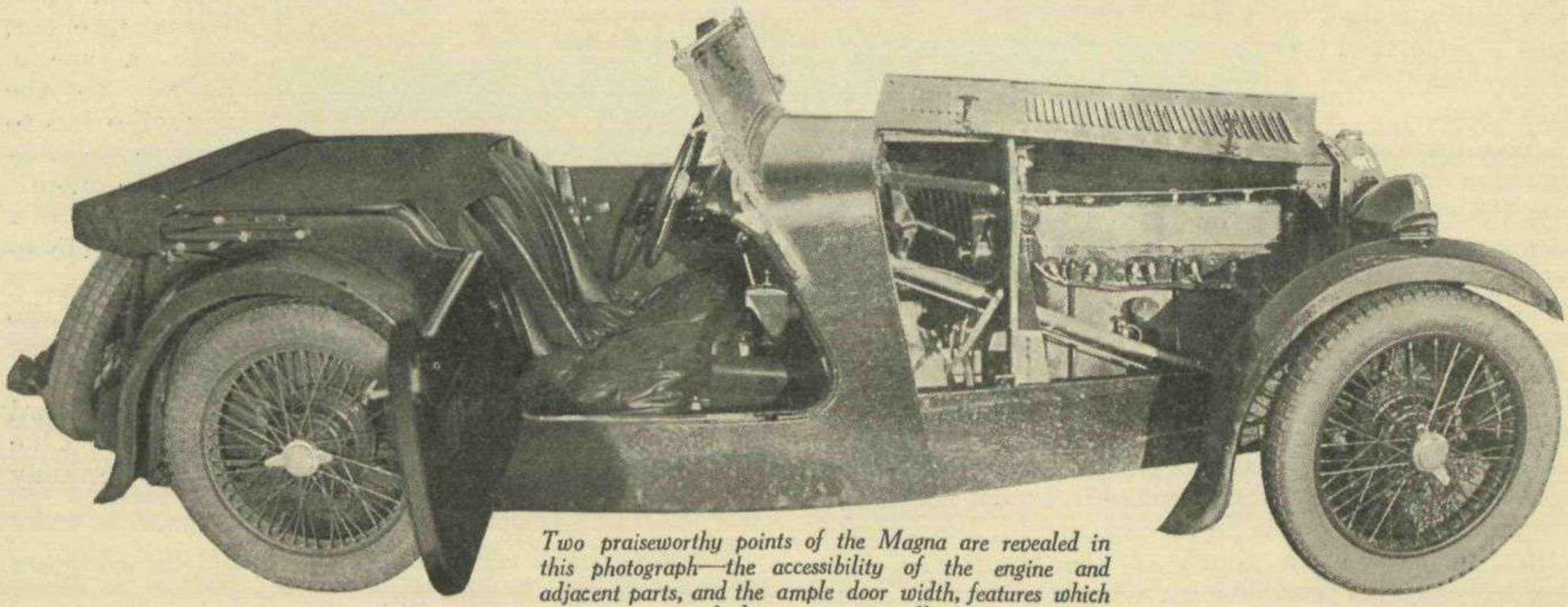
Distance	Record Speed	MG Midget Speed	
5 kilometres	114.77 m.p.h.	**114.77 m.p.h.**	*International Class "H" Records actually now held by the M.G. Midget, among which are the only ones held at over 100 m.p.h. The speed for the five kilometre record represents the highest figure ever reached by a baby car.*
5 miles	114.74 m.p.h.	**114.74 m.p.h.**	
10 kilometres	114.72 m.p.h.	**114.72 m.p.h.**	
10 miles	114.46 m.p.h.	**114.46 m.p.h.**	
50 kilometres	98.71 m.p.h.	**98.71 m.p.h.**	
50 miles	99.83 m.p.h.	**99.83 m.p.h.**	
100 kilometres	100.31 m.p.h.	**100.31 m.p.h.**	
100 miles	101.09 m.p.h.	**101.09 m.p.h.**	
One Hour	101.11 m.p.h.	**101.11 m.p.h.**	
200 kilometres	90.73 m.p.h.		*Mr. E. R. Hall in the 1931 B.R.D.C. 500 miles race, but not ranking for record.*
200 miles	90.78 m.p.h.		
Three Hours	90.38 m.p.h.		
500 kilometres	89.61 m.p.h.		
500 miles	90.11 m.p.h.	**92.17 m.p.h.**	
Six Hours	90.12 m.p.h.	—	*Not yet attacked by the M.G. Midget.*
1000 kilometres	82.81 m.p.h.	—	
Twelve Hours	81.71 m.p.h.	—	
1000 miles	64.14 m.p.h.		*The Earl of March, in the 1931 J.C.C. Double-Twelve Hour Race, with an unsupercharged M.G. Midget.*
2000 kilometres	65.21 m.p.h.		
24 Hours	65.62 m.p.h.	**65.62 m.p.h.**	

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Two praiseworthy points of the Magna are revealed in this photograph—the accessibility of the engine and adjacent parts, and the ample door width, features which are lacking in many small cars.

[*Motor Sport photograph*]

ALL of us have at one time or another conjured up visions of the sort of small car we would like to build, if we had the facilities to carry out our ideals. Time and again those ideals have been mentally revised and arranged until they have become increasingly definite.

This car must be fairly small, of course, so that it can nip about in narrow spaces. The chassis must be very low so that it will corner well and be impossible to overturn. It must be light, for this means good acceleration, a most important feature in modern traffic. It also means economy, very essential in these days for most of us, and furthermore, light weight is essential for success in trials.

A really lively engine is taken for granted, and not too small, for we do not want to be constantly tuning or replacing worn parts. Flexibility is another requirement, for at times we feel lazy and do not wish to bother with gears. On the other hand we must have a four-speed gear box with the higher ratios close together for the occasions when we suddenly wish to emulate Chiron or Campari!

The driving position must be carefully arranged, as we shall hope to travel long distances. For the same reason the body must be really comfortable for two people, with pneumatic seats and room for luggage, or occasional extra passengers when necessary. The weather in this country being what it is, we want good weather protection, and as we shall be rather proud of this car of ours it must be very well finished, and have really "snappy" lines.

A very high maximum speed is not essential, as this is usually a very expensive luxury, and about 70 m.p.h. will see the majority of cars left well behind.

All these thoughts have recurred from time to time to any keen motorist, but when we came to take over an M.G. Magna with an Abbey body for test, we realised that here was the car we had really been imagining, only fashioned with more neatness and cunning than the vehicle of our dreams.

This car, which was placed at our disposal by Messrs. Stearns, of 16, Fulham Road, who specialise in sports cars with the Abbey Company's special coachwork, certainly embodies all the points we have enumerated, in addition to many others of which we had never thought.

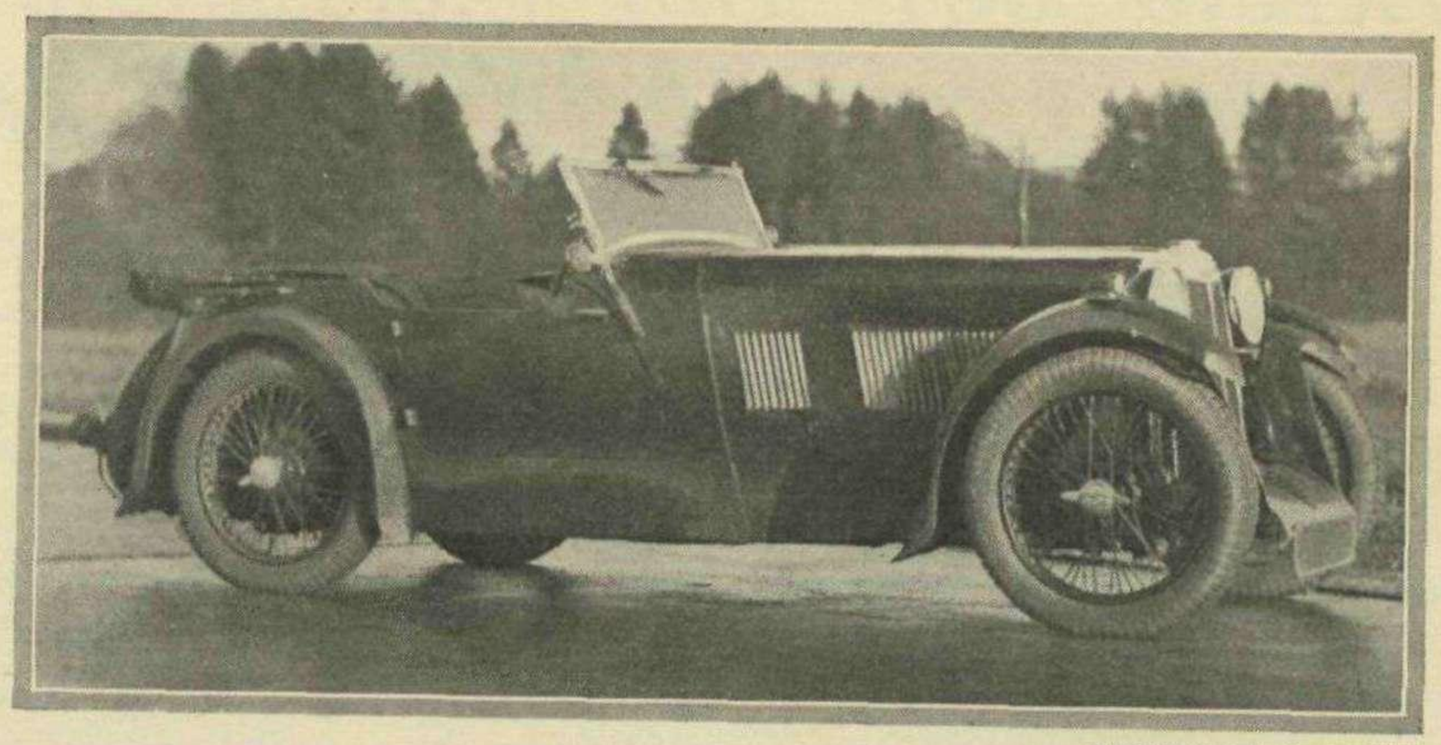
The chassis frame is upswept over the front axle, and passes under the rear axle, being at a constant level from the engine to the rear.

The six cylinder overhead camshaft engine with twin S.U. carburettors transmits its power through a four-speed box and Hardy-Spicer propeller shaft to the rear axle. There is an emergency bottom gear, very useful for trials work, and three close ratios which suffice for all normal road work including getting off the mark.

Apart from the excellent finish which is apparent to the most casual observer, there are many details of equipment on the body which make a strong appeal to the "all-weather" owner. In addition to the excellent hood arrangement, the screen is provided with twin wipers, and the former is arranged either to open at the bottom, such as for driving in fog with the hood up, or to fold flat on the scuttle like a racing screen when out for some fresh air in decent weather.

The pneumatic seats are fully adjustable, while the rear compartment is excellently arranged for a small car. An eight gallon rear tank is another departure from standard which is extremely useful, and with the good petrol consumption of this motor it would enable a day's run of 250 miles to be covered without filling up, provided that the average speed was not forced too high.

TRYING OUT THE M.G. MAGNA—continued.



[*Motor Sport photograph*]

A very modern motor car. The M.G. Magna on the road.

Ease of upkeep of the chassis has been carefully studied, and grouped lubrication points make this important duty easy to carry out.

The first impression on driving the car is of its extreme handiness and excellent acceleration, and these are undoubtedly its chief characteristics. "Pep," and perfect smoothness of engine and transmission throughout the speed range, make it a most fascinating car to drive, and owing to its capacity for leaping past other vehicles at a touch of the throttle, a high average speed is possible even when the way is by no means clear.

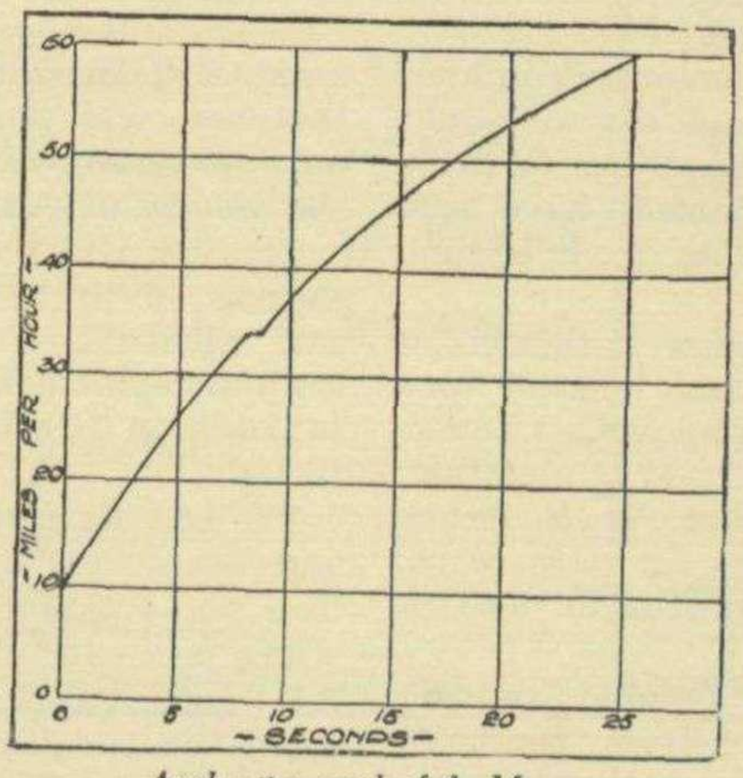
The clutch is very smooth, and the gear change positive and rapid, so that no time is lost in running up through the gears. The steering has good self-centering qualities, and once we had adjusted the Hartford shock absorbers to our liking the road holding was very good indeed.

As would be expected from the layout, the car is remarkably steady on corners. We soon came to the conclusion that the speedometer was optimistic, and a careful check of this proved our surmise to be correct. The acceleration figures given show a very high standard of performance for an engine of little over 1,200 c.c., and fully justify the makers' well-known slogan, "Faster than most." Incidentally owners who think their cars show even better figures in standard tune, should remember that ours are fully corrected, and not speedometer readings.

The comfortable maximum speeds on 2nd and 3rd were 35 m.p.h. and 50 m.p.h., while all out in top the car did 66 m.p.h. on the level.

As the car had done little over 500 miles when we tried it for maximum speed, there is no doubt that with a further run-in the speed would be appreciably improved, and the Magna would certainly be a 70 m.p.h. car when thoroughly settled down.

The brakes were a little disappointing, as they were either out of adjustment or required further bedding down, when the stopping distance of 80 ft. which we obtained from 40 m.p.h. should be considerably improved.



Acceleration graph of the Magna.

Altogether, the latest addition to the M.G. range is a very attractive high performance car, with a special appeal to the man who has to consider reliability and economy, and yet desires a car with individuality.

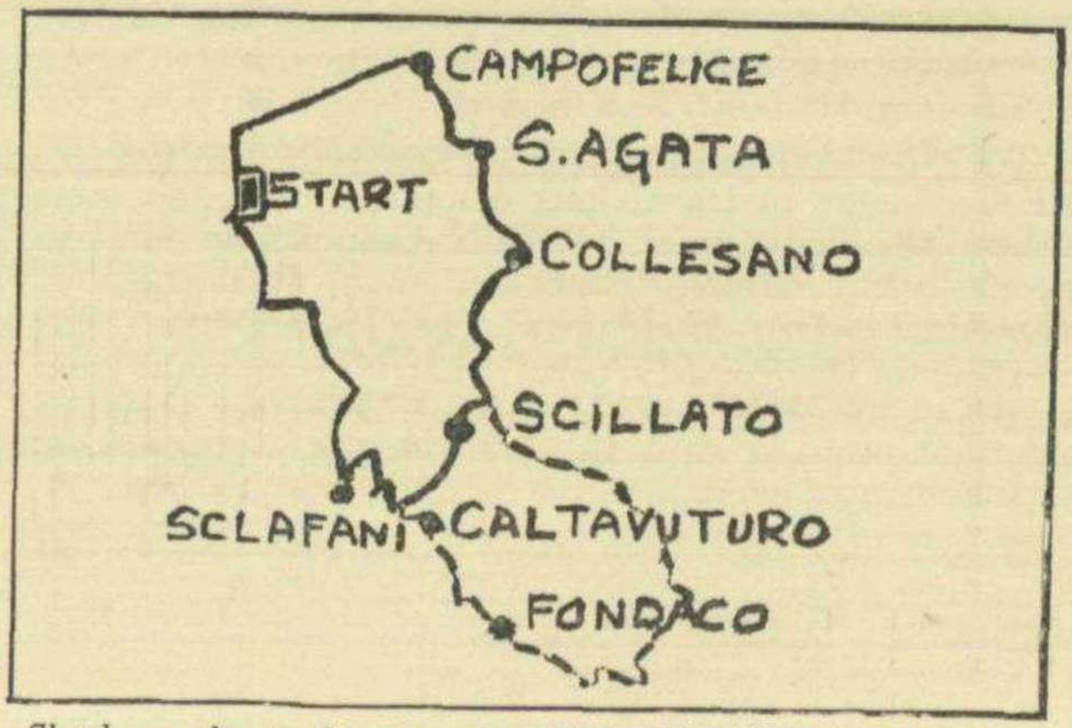
To anyone who can afford just that amount above standard which the "Abbey" model costs, the extra outlay is certainly well worth while, the price being £298.

[*Further details regarding the M.G. Magna are given elsewhere in this issue*]—*Ed.*

NEW TARGA FLORIO COURSE.

OWING to the terrific landslides of the last year, a modified circuit for the 1932 event has been arranged. Once more Vincenzo Florio has given evidence of his amazing energy and devotion to the sport.

Henceforth the course will consist of eight laps, much of it over new roads only just constructed, and the total distance of this classic race will be 600 kilometres. Last year the event had to be run over the old Madonie circuit which runs 146 kilometres to the lap, and the latest course will be of greater interest to spectators, besides still providing the finest test of a racing car it is possible to conceive.



Sketch map showing the new course, with the old marked with dotted line.

POINTS OF VIEW—

G. E. T. EYSTON ON THE MIDGET AT MONTLHÉRY.



"..... *Results are encouraging.*"

NOW that a 750 c.c. engine has achieved a speed officially timed of nearly 115 m.p.h. it is interesting to look back on the development work which has been carried out during the year 1931.

On December 21st, 1930, the unsupercharged Midget did approximately 87 m.p.h. in records which were taken at Montlhéry up to 100 kilometres. In doing this it broke the existing figures set up by a supercharged model of another make, and therefore this was a good beginning on which to base the effort to attain a much sought after project—namely to be the first to attain over 100 m.p.h. when covering an 'official' distance.

A "Powerplus" supercharger was added and was chosen because of the low horsepower required to drive it, as with a considerable boost this is of extreme importance. It was necessary to insure an engine performance which would give adequate power to pull a higher gear ratio, the maximum revolutions of the engine remaining the same as with atmospheric aspiration.

For particular reasons it was imperative to continue record breaking under wintry conditions, and owing to the intense cold which prevailed, development work was extremely difficult. With the supercharger, however, record speeds were pushed up to 97 m.p.h. for 10 miles at the first attempt.

Certain modifications were then carried out to cope with the low temperature at the carburetter intake and these proved very efficacious.

On February 16th, 1931, the 5 kilometre record was broken at 103 m.p.h. and others at 102 m.p.h., thus the car was the first to achieve the 100 m.p.h. mark and this constituted a milestone in the history of motoring.

The supercharger arrangement in particular has proved its worth in many important competitions during 1931.

1st, 3rd, 7th and 10th in the R.A.C. Tourist Trophy Race, Belfast, being an example, as well as an average of over 92 m.p.h. for 500 miles in the famous B.R.D.C. Race, and the Team prize as well.

Before the racing was over for the season, however, attention was again directed to record breaking, the ambitious plan being to cover over 100 miles in the hour. This may not sound easy on a 750 c.c. engined car, and not so long ago one would have been thought mad to attempt it. It means that the whole car must be 100%. It goes without saying that the engine must run at full bore without losing its tune, and there must be a reserve of power when doing over 100 m.p.h. But it is no good having a motor without conveying the power to propel the vehicle, and the difficulties of obtaining effective adhesion between car and track on such a tiny outfit are in themselves an extensive problem.

The layout of the suspension system has to be first rate and, as will be the case on all cars of the future, adjustable shock absorbers from the dash become indispensable. The emptying of the petrol tank during the run on such an occasion constitutes a little worry in itself, and this has to be taken care of in the adjustable strength of the suspension.

The class of lubricant used in the engine must be of the highest quality, and additional provision for cooling the oil a *sine qua non*.

It so happened that a model after the style of the Tourist Trophy winner was used for the attempt with the standard sized blower as employed on the road racers. Therefore, the car was in no way a freak. In this way success represented a sheer speed and endurance test for what was virtually a standard production model, and thus its value was increased twofold.

On the 25th of September, 1931, the attack was made.

A gentle start, until things got warmed up to it, meant that after quarter of the distance had been covered the car had to lap Montlhéry track at about 104 m.p.h. continuously.

Actually over 101 miles were covered in the hour and although the driver had an anxious time watching all the instruments and manipulating the controls, the run was accomplished with the greatest regularity.

This only went to prove that development of the 750 c.c. car had reached an advanced stage, sufficient in fact for all practical purposes.

What the ultimate speed of a 750 c.c. engine would be in 1931 was somewhat intriguing, and in order to get some idea of this an M.G. engine was placed in a single seater chassis.

So well had the layout of this been planned that little trouble was experienced in the tuning up, so that it became possible to do over 110 m.p.h. at the first attempt.

Just before Christmas, iu spite of a further cold spell, further records were tackled up to 10 miles, with the result that close on 115 m.p.h. was attained, and this with consistency over 5 kilometres, 5 miles, 10 kilometres and 10 miles.

Whether or no these speeds can be improved remains to be seen.

Anyhow the results so far are extremely encouraging.

MOTOR SPORT ILLUSTRATIONS.

WE have many requests for copies of our drawings by R. A. Nockolds, and in view of this, we can supply copies (artists' proofs) of the reproduction of the illustration which appears on the frontispiece of this month's issue, at 2s. 6d. (signed, 5s.) Application should be made to *The Art Editor*, MOTOR SPORT.

POINTS OF VIEW.—

THE EARL OF MARCH ON RACING TEAMS



". . . . a great game, getting drivers."

IT were better to have raced in any guise than not at all, but he who has never performed as part of a team will have missed a whole chapter of the sport.

A most entertaining chapter is this one! And brim full of impressions that last an age, alarums, excursions, and laughter by the yard.

Albeit I know distinguished drivers who have seldom been seen in teams, their reasons for the most part being sufficient and good; but there are drivers who boast of a dislike of the team idea. They fail to conceal a decided preference for the wheel of a single entry wherein they are their own masters and servants—to win or (more often) to " blow up " just as they please. There are quite a few like this who openly object to the authority of a team manager, dispute his orders and put their goggles to the blind eye should they perchance be slowed down in a race—all according to plan, but so allowing another of their team to increase his lead.

Yet in daily life these people pretend to be good enough, and it seems that motor racing, only, brings out this bad strain. I have never actually seen such folk at a game of bridge, tennis or on the football field —but can it be they curse their partners, play both up to the net and back poaching every shot, or would they *never* pass the ball across? I wonder!

We will attach not one word of truth to their long winded criticisms of the principle of teams—knowing all the time they never had their streamline properly kicked at school nor learnt that " selfish " is not a thing you pick up on the beach.

An Old Idea.

Team racing is nothing new, but dates back as far as motor racing itself.

Oh! for a race of that sort just once again!—A Grand Prix in England with factory-entered three-car teams of, say, Alvis, Austin, Bentley, right through the alphabet to Rolls Royce, Sunbeam and Wolseley, foreigners included of course.

But times have changed and with a few commendable exceptions we seldom see an official " works " team now. Funds prevent no doubt, but it seems that many manufacturers look for advertisement in the back pages of spurious feminine periodicals rather than giving consideration to this better source—racing—which simultaneously improves their cars. During this time, and while offices full of fat-headed directors have been kidding themselves that racing serves no useful purpose (than which no air was ever hotter) a few have indeed stuck to guns. Austin, Riley, Aston Martin, to name but three, have come out with three car teams of official style; while a few independents such as friends Fox & Nicholl of Talbot fame and (blushingly) even the little équippe with which the writer's name has sometimes been coupled, have essayed to reproduce the same effect.

Then there has been another species of team more accurately described as a syndicate in which three entrants of the same make have combined saying, " Let's have a team, chaps, odd man out to be entrant."

These too, have succeeded in at least one case, but regulations should insist that all cars of such a team should be the same colour. Otherwise it is scarcely a team in the eyes of the spectators, who are, after all, very important.

A Wonderful Dream.

The official works team is the most attractive—bar none—but scarcely exists as more than a story with the port. We will do without them, and dream as to what greater moment could happen than that of awaking, in all sobriety, a Crœsus to the command, " here is the where-with-all my son, take unto yourself three cars and a spare, mechanics to suit, even the factory itself if necessary, drivers, and anything else you like. Enter for every classic you can fit into the season and if you can't win—take care to put up a show! "

With those words the ghost pulled down his visor and disappeared to an eerie whining noise like that of a blower—blowing him away.

It would be advisable to wipe the eyes and think, before the inevitable scream, because it won't be all beer and skittles by any means.

What cars to choose? That's fairly easy, so we must go to the works, and explain our mission to the boss. According to the weather he will either say they cannot help, and express no enthusiasm whatever, or there is a faint chance of securing his blessing straight away. At all events, sheer wealth and beer work wonders, and we are soon daring to touch upon a detail or two. Countless things must be done to these cars, large tanks, special bodies, duplicated pipe lines and other departures from " standard " which will cause a small war when the scrutineer sees them.

Here again the boss, fearing much disorganisation of the production routine, is probably slow to respond—but you point out how easy it all is. Alternatively he jumps to it, " That's easy, we'll do all that," in which case you reply that it's not half so easy as he seems to think.

The first race is on May 1st. He promises the cars six weeks before, and we are certain to get them in time for the " 500 " in October. Things are going entirely to schedule.

POINTS OF VIEW—continued.

And now to drivers. Who shall we get, who can we get? Thousands! Only whisper the news that you want drivers and wait for the result! You will become the most popular man alive, receiving convincing proof that the ranks of the unemployed consist mainly of racing drivers. There will be letters, telephone calls, and lavish hospitality from those you believed mean.

Young Flash Alec, the steward's nightmare, Bertie Bangfoot of big end fame, and poor old Crasham, whose gearbox has never yet survived two hours; they will all be pleased to meet you.

But there's more in it than sheer driving ability if you want any peace. These chaps have got to train together, feed, and often stay together, and you must select them with considerable care. One is a nice fellow but too large for the car, this one is grand but drinks too much beer, that one doesn't drink enough, and so on. It's a great game getting drivers.

Now the team is fixed, the works are busy on the cars which are going to be late, the drivers are complaining that they "haven't seen one yet," the mechanics are doing all they know but are held up for the tanks—practise starts soon—two drivers won't remember to get competition licences, another accidentally sat on a stove and isn't sure he can turn up to drive, distraction nearly gets the upper hand, but in due course the problems are dispersed, and practise begins. Three spotless cars all seemingly perfect, all the same. Three drivers (or six) argue whether goggles are better than visors—the man arrives about the tyres, he wants you to run on a newer type—the plug man wants to know how many plugs you will want—reply, "Thousands." Two of the cars have a 3.9 axle, the third a 4.1—you want to compare. The course is open and serious business starts.

It is after this preliminary canter that the drivers try to take charge. Each declares his car to be slower than another. They argue about those ratios, the fuel, and ask for the shock absorbers to be tightened. For all the world we have Clapham, Dwyer, and Potter.

Meantime, the mechanics have formed their opinion and start pulling everything to bits.

Tomorrow is the race and you may be sure something desperate will happen when the cars are tried out tonight. If so, it's all night for some poor mechanic, and you try to get the feverish driver to go to bed.

But we win through, and the great day arrives. No one feels like joking in the pits until someone says it's going to rain, when there's an ugly rush for glycerine, mackintoshes, and spare goggles, which some fool left behind.

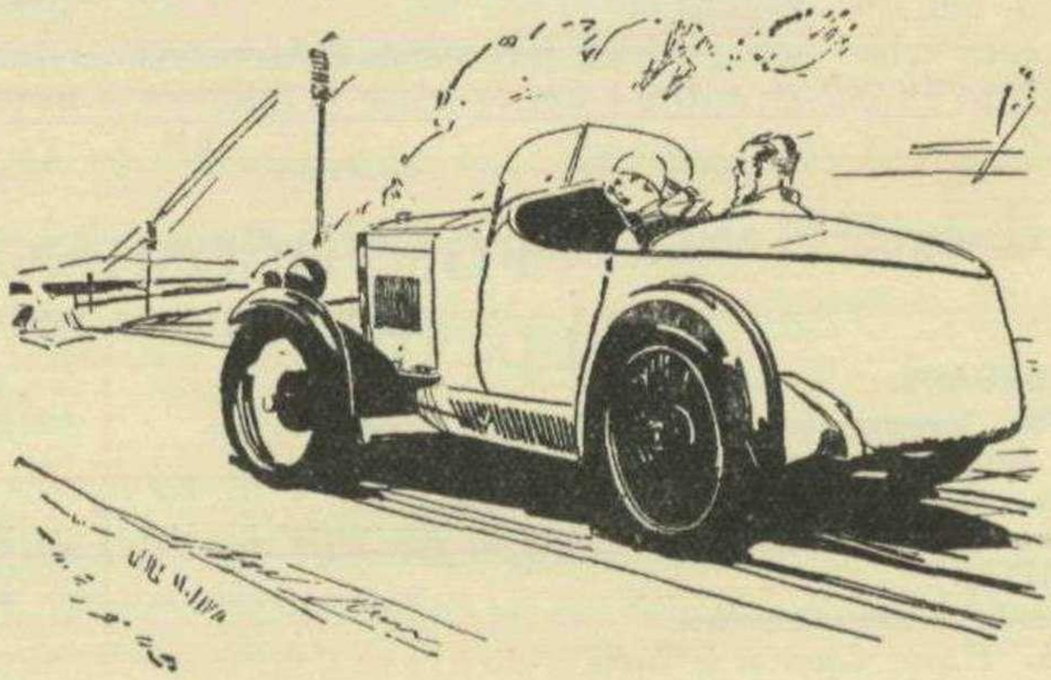
They're off! And now to see the results. The pit manager is in charge of all. The timekeeper clicks his watch, the petrol chap starts filling churns. No one dare speak till—now—they've all come round once anyway.

In character this team business is the nearest approach to a boat race crew that I have ever found. Each individual can either win or lose the game, and make or mar the fun of it for the others. A well formed and jovial team is like a crew which will retain its rhythm under the most exasperating conditions, and barring mechanical trouble or wicked luck it can be looked to, to put up a stout performance.

How the "Safety Fast" crowd do it!

THE speed and safety for which M.G. Sports Cars are justly famous depend principally on two factors. *Speed*, on engine design and construction; *Safety*, on chassis design and the brakes.

Good Brakes deserve good Brake Linings. That is why M.G. Sports Cars are fitted with—



HALO & MINTEX
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POINTS OF VIEW—

NORMAN BLACK ON TEAM DISCIPLINE



". . . . The team manager knows best."

I AM often asked by serious minded persons, who evidently expect some clever answer, the reason I go in for racing, and how I would advise anyone to train for it.

I am afraid I cannot reveal any intriguing secrets ; I race because I like it, and always have liked it, and as far as the " way to win " is concerned, this depends chiefly on two things—having the right car and having the right team management.

Except by the most amazing fluke, the first is of little use without the second, as luck plays too big a part in a single entry. Chance, of course, always has been and always will be a big and untangible factor in any form of contest, and I am fortunate to be able to say that since I took to racing on four wheels I have had my full share of good luck.

I often think that the racing driver's job is much easier now than it was in the old days ; the main requirement in his plan of campaign is that he shall drive as he is told and not as he would like. To the man of limited experience and abundant enthusiasm the temptation to show another driver what he can do, on being passed, is very great, and in yielding to it, discretion is too often thrown to the winds, and disaster comes in the shape of a wrecked engine or worse. So I would hand on a maxim which I have always regarded as sound—" The team manager knows best."

I do not expect that everyone will agree with me entirely on this point, but I can only say that, as far as my experience goes, I have never had any cause to alter this idea. I have been merely very pleased to have been picked out sometimes by fate as the man to get home first.

At speeds which are possible nowadays it is rather too much to expect an entire team to finish in addition to providing the winning car. And it is equally too much of a tall order to imagine that one individual driver is going to be lucky over and over again ; so I am quite ready to take a back seat in the coming season !

Such training as I have had for road racing was acquired initially on motor cycles, principally on the Isle of Man circuit. I did, in fact ride in nine different T.T.'s on that wonderful course, and to my mind there could be no finer way than this for anyone who is going to race a car in an event of any sort or kind.

The T.T. course is undoubtedly far more difficult and tricky than the Ards circuit or Phoenix Park, and my apprenticeship in the Island has been, I think, the greatest help to me in my more recent efforts.

This is obvious when I point out that the 1931 season saw my first serious attempt at the sport on four wheels !

I hear that Mr. Cecil Kimber has been suggesting that the I.O.M. motor cycle course should be used for a race for small cars, and I can only say that if this excellent idea materialises I shall be there. If the Manx course is to be utilised at all it would be a great pity, I think, if advantage were not taken of the climb over Snaefell, for if there is anything lacking in the courses at present used it is that they are too flat.

I have noticed that MOTOR SPORT has consistently advocated the return of car races in the Isle of Man, and no one will be more delighted than I shall be to return to that bright little spot—with four wheels instead of two.

FORTHCOMING EVENTS

INTERNATIONAL FIXTURES—1932

FEBRUARY.

6-7th. *Germany—Internationale Winterfahrt Garmisch-Partenkirchen* 1932.
28th. *Sweden—Grand Prix d'Hiver de Suede.*

MARCH.

18-24th. *France—Paris-Nice.*
24th. *France—Course de la Turbie.*
27th. *Italy—Circuit d'Alessandria.*
27th-2nd April. *Germany—Sechstagefahrt fur Kraftwagen auf dem Nurburg-Ring.*
28th. *Great Britain—B.A.R.C. Meeting (Brooklands).*

APRIL.

3rd. *France—Grand Prix de Tunisie.*
9-10th. *Italy—Coupe des Mille Milles.*

APRIL.

16th or 23rd. *Great Britain—British Racing Drivers' Club Race Meeting (Brooklands).*
17th. *Monaco—Grand Prix de Monaco.*
23rd-24th. *France—Grand Prix de l'Oranie.*
24th. *Italy—Prix Royal de Rome.*
30th-5th May. *Germany—Internationales Wiesbadener Automobilturnier.*

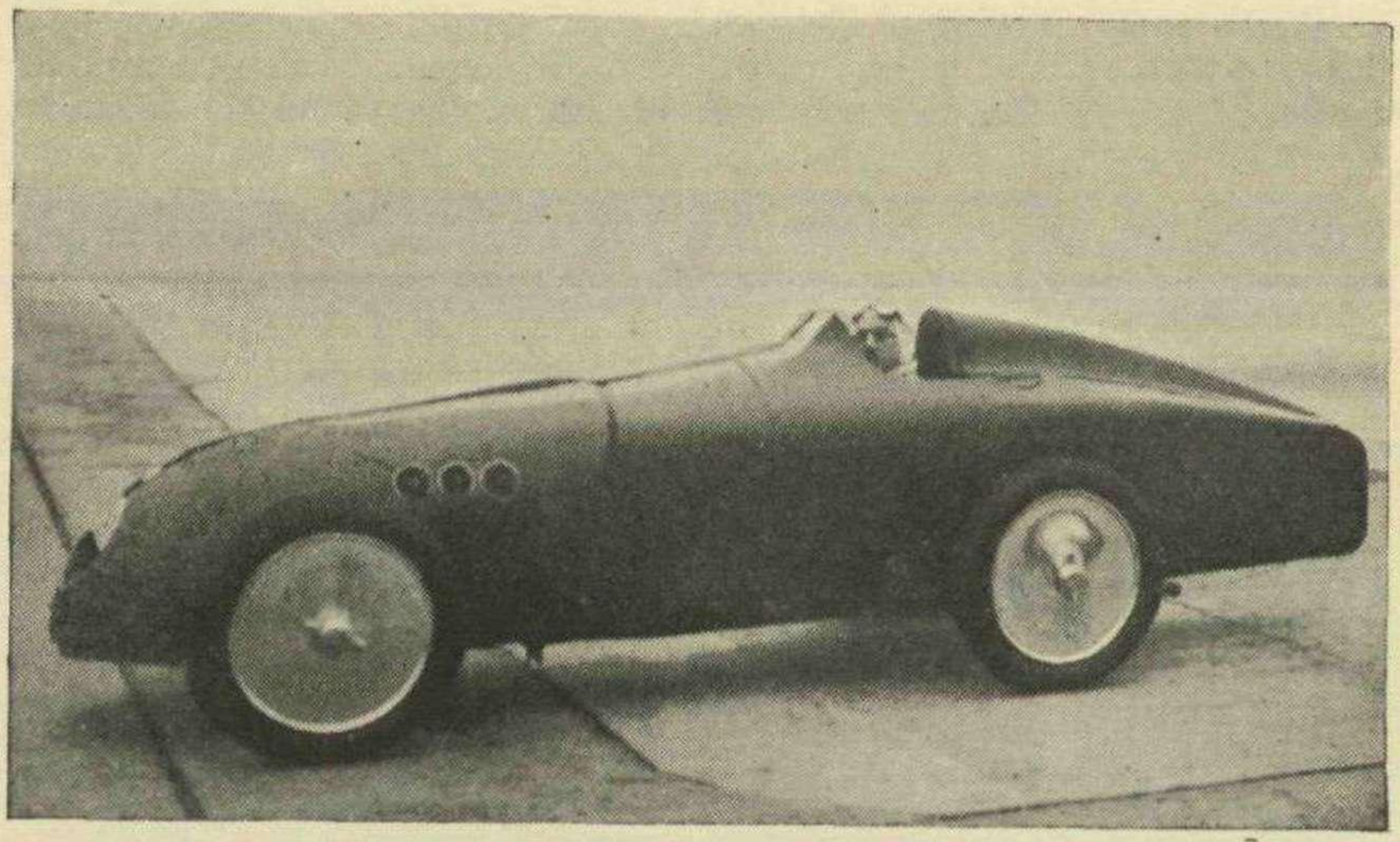
MAY.

1st. *Hungary—Grand Prix de Hongrie.*
1st-3rd. *Czecho-Slovakia—Carlsbad Rally.*
8th. *Hungary—Record Meeting.*
8th. *Italy—Targa Florio.*
15th. *Italy—Coupe Messina.*
15th. *Spain—Course de cote de la Rabassada.*
16th. *Great Britain—B.A.R.C. Race Meeting (Brooklands).*
22nd. *France—Grand Prix Automobile de Casablanca.*

BY APPOINTMENT TO
HIS MAJESTY THE KING

4 MORE RECORDS FALL TO THE WORLD'S FASTEST BABY CAR

114 M.P.H. *by* M.G. MIDGET *using* CASTROL



Driving an M.G. Midget at Montlhéry on December 22nd, Mr. G. E. T. Eyston broke the following International Class H Records:—

5 Kilometres	at	114.77 m.p.h.
5 Miles	at	114.74 m.p.h.
10 Kilometres	at	114.72 m.p.h.
10 Miles	at	114.46 m.p.h.

(Subject to Official Confirmation)

using WAKEFIELD

CASTROL

the World's Fastest Oil on Land & Water

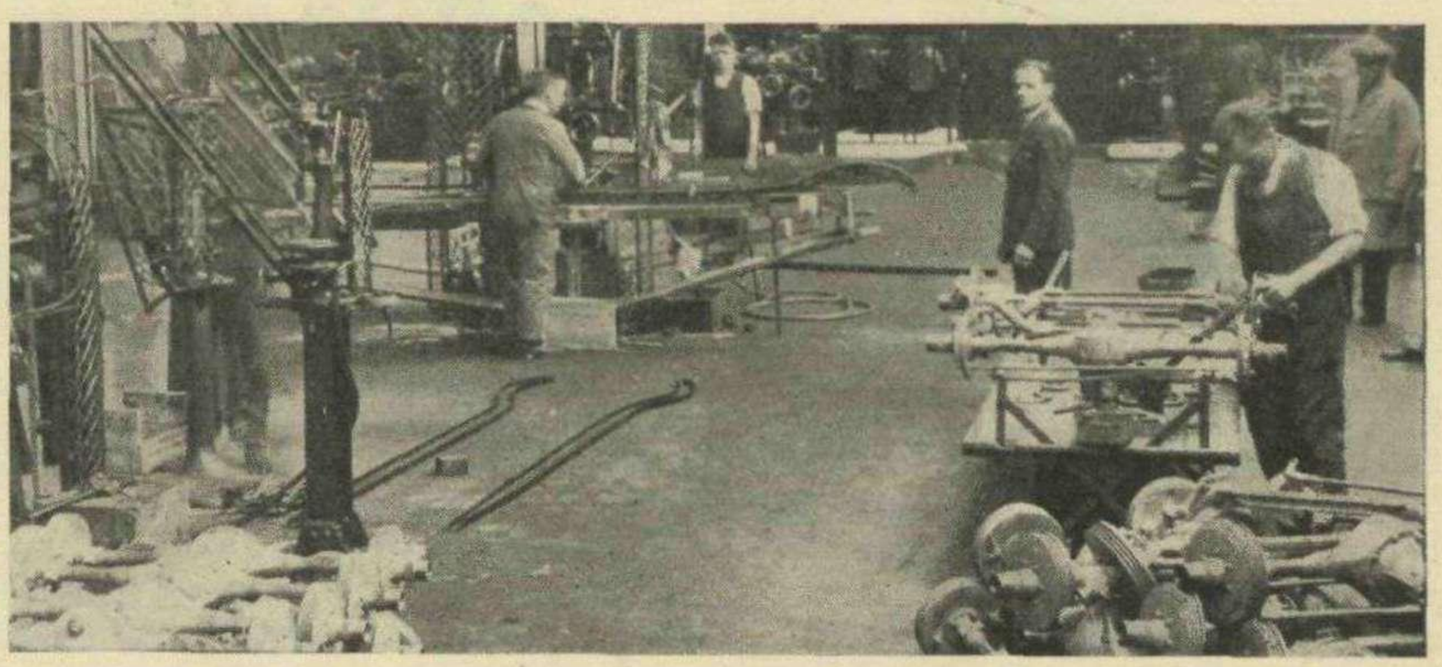
M.G.'s IN THE MAKING

THE WORK AND HISTORY OF THE ABINGDON FIRM.

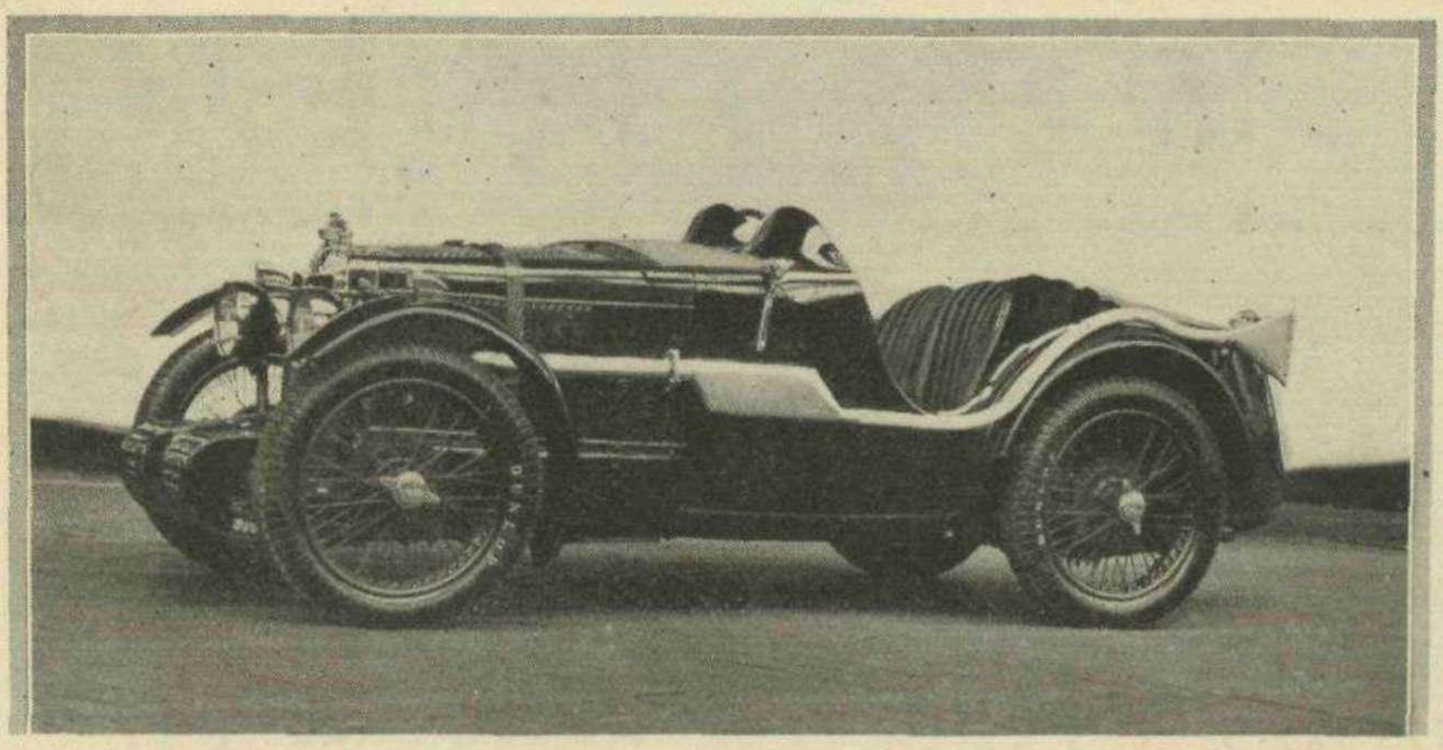
THE M.G. factory at Abingdon is chiefly notable as a proof of the fact that for real enthusiasm in motoring a sports car is essential. It is furthermore a proof of the fact that the demand for "sports cars only" is enough to cause ever-increasing space to be required for their construction.

From the day when Mr. Cecil Kimber first appeared with a hotted-up and very much modified Morris-Cowley, and competed so successfully in trials with this car, the marque has never looked back.

A few years ago the first type of 14-40 h.p. M.G., based on the famous Morris chassis, combined the well-known reliability of this type with a real sports car performance.



A corner of the works at Abingdon.



The outcome of a progressive racing policy—the Montlhery model M.G.

In this model, now no longer made but still giving fine service in many climes, a new era was opened in the sports car market.

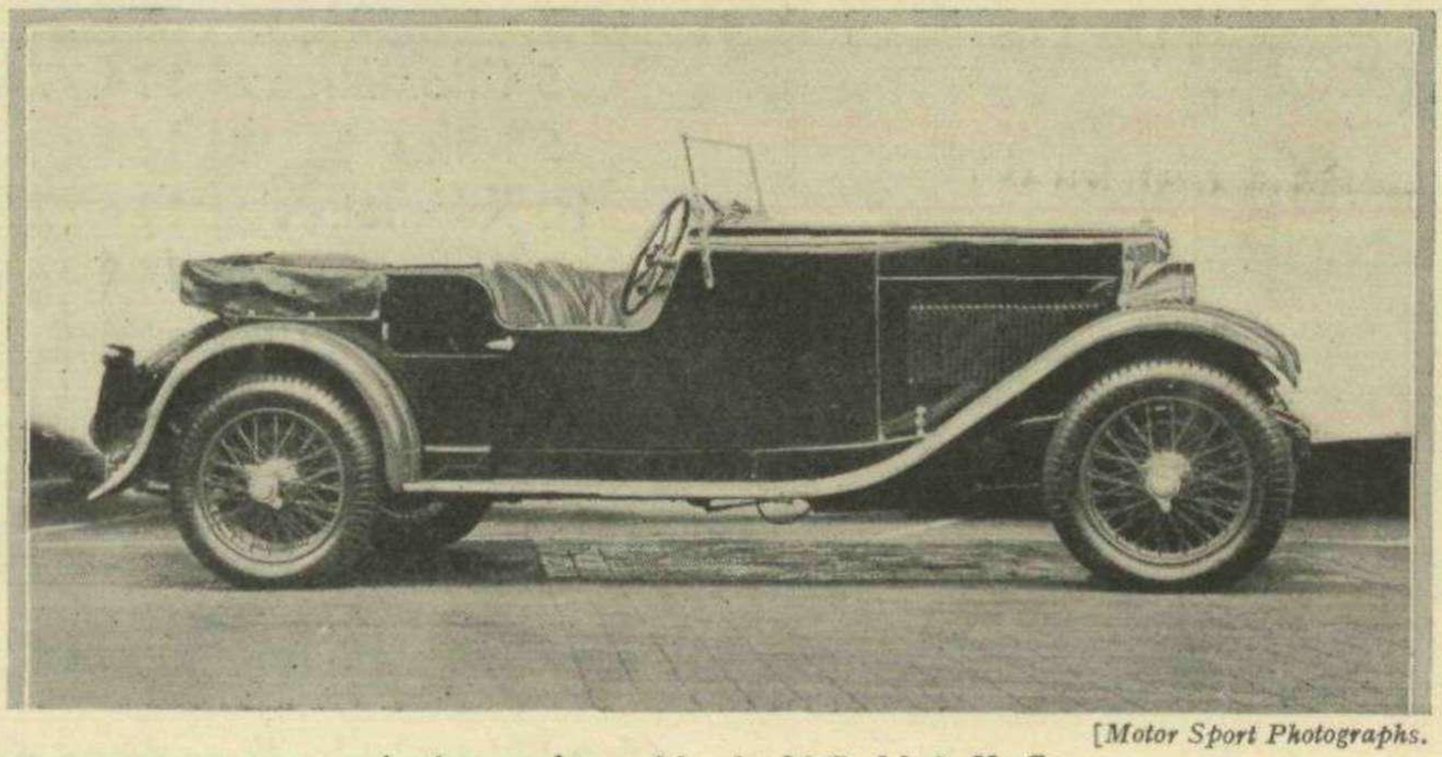
The old idea that a sports car was an unreliable, temperamental, though exciting piece of mechanism with no particular attempt at comfort, was finally done away with, and the way was being paved for the smooth running, fast and lively car which has become so popular to-day.

It was shown at last that the sports car (as opposed to a racing car) could be used for every day business as well as for fast touring and competition work, and the production of the first M.G. steadily outgrew the bounds of its small works at Oxford, and larger space had to be found. The demand increased and another move was made, this time to Cowley, where the introduction of the Midget and the M.G. Six once more overtaxed the powers of the works.

Finally, a move was made to Abingdon, where the very much greater space has so far been able to cope with the demand.

Never has a new type of sports car had such an unchecked success as this make, and the firm has always possessed an uncanny knack of knowing exactly what the sports car public wants before they know themselves.

The Six has always been popular with those who wanted a fast smooth car with ample accommodation, but there is no doubt that the now ubiquitous Midget has been the most popular of all, owing to its low price and economy, combined with real performance.



[*Motor Sport Photographs.*

Another popular model—the M.G. Mark II. Six.

LUCAS
C·A·V - ROTAX

WORLD-WIDE
SERVICE
is at your disposal if you have an
M.G. CAR

❖ ❖ ❖

Behind LUCAS, C.A.V. and ROTAX Products there is a large and ever-growing world-wide Service Organization which gives specialized service on every unit of the equipment.

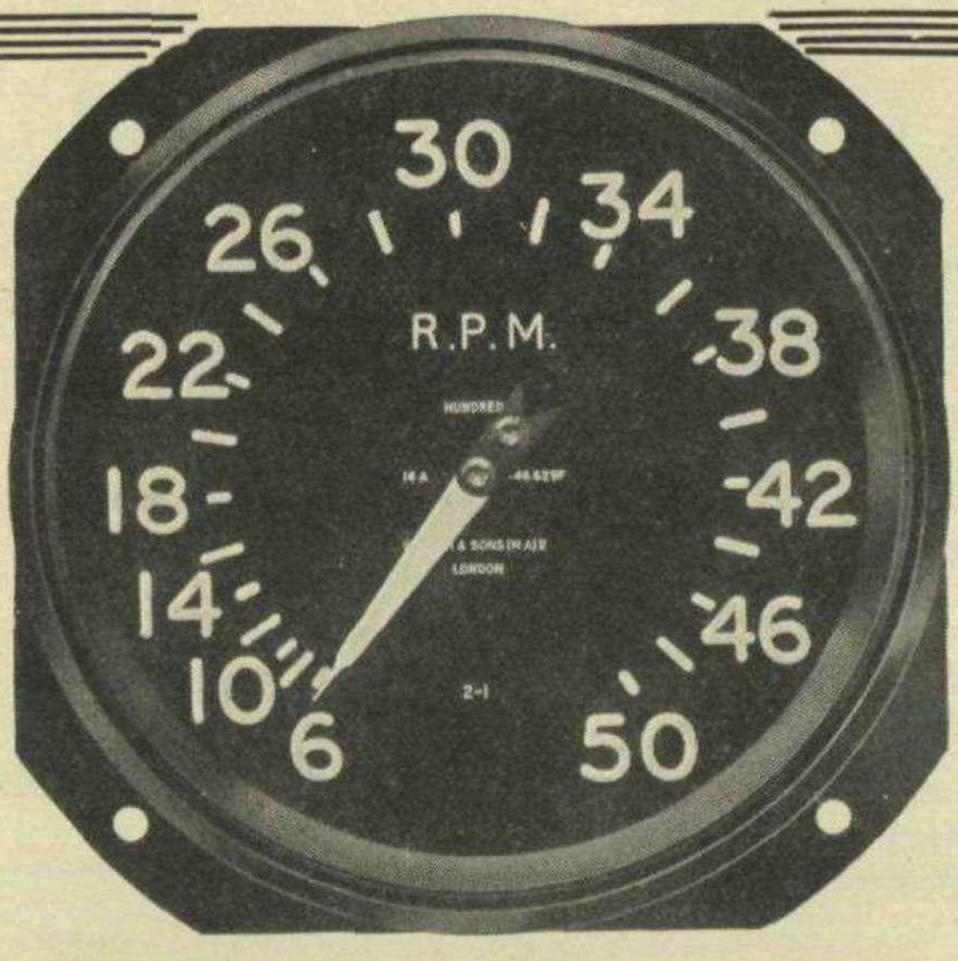
LIGHTING · STARTING · IGNITION · BATTERIES · ACCESSORIES

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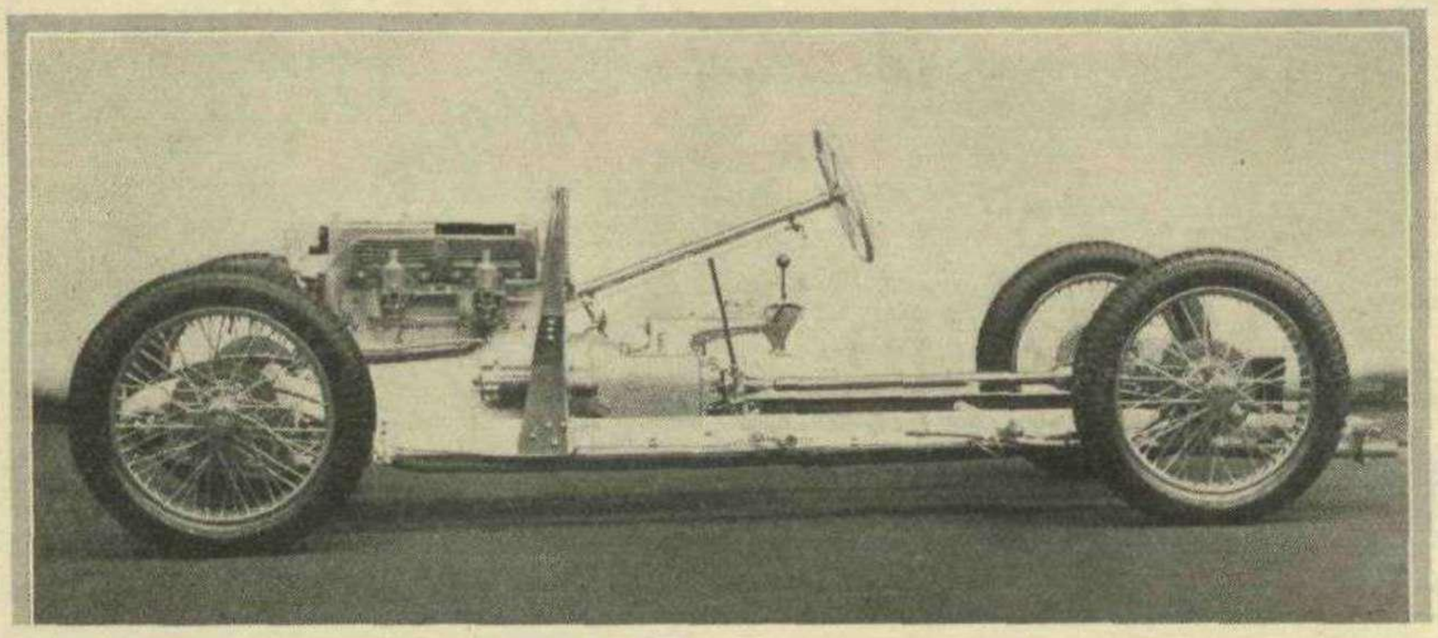
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M.G.'s IN THE MAKING—continued.



The new Magna model in chassis form.

It brought a genuine sports car for the first time within the reach of those to whom it had hitherto been no more than a dream, and the Midget sold in its hundreds.

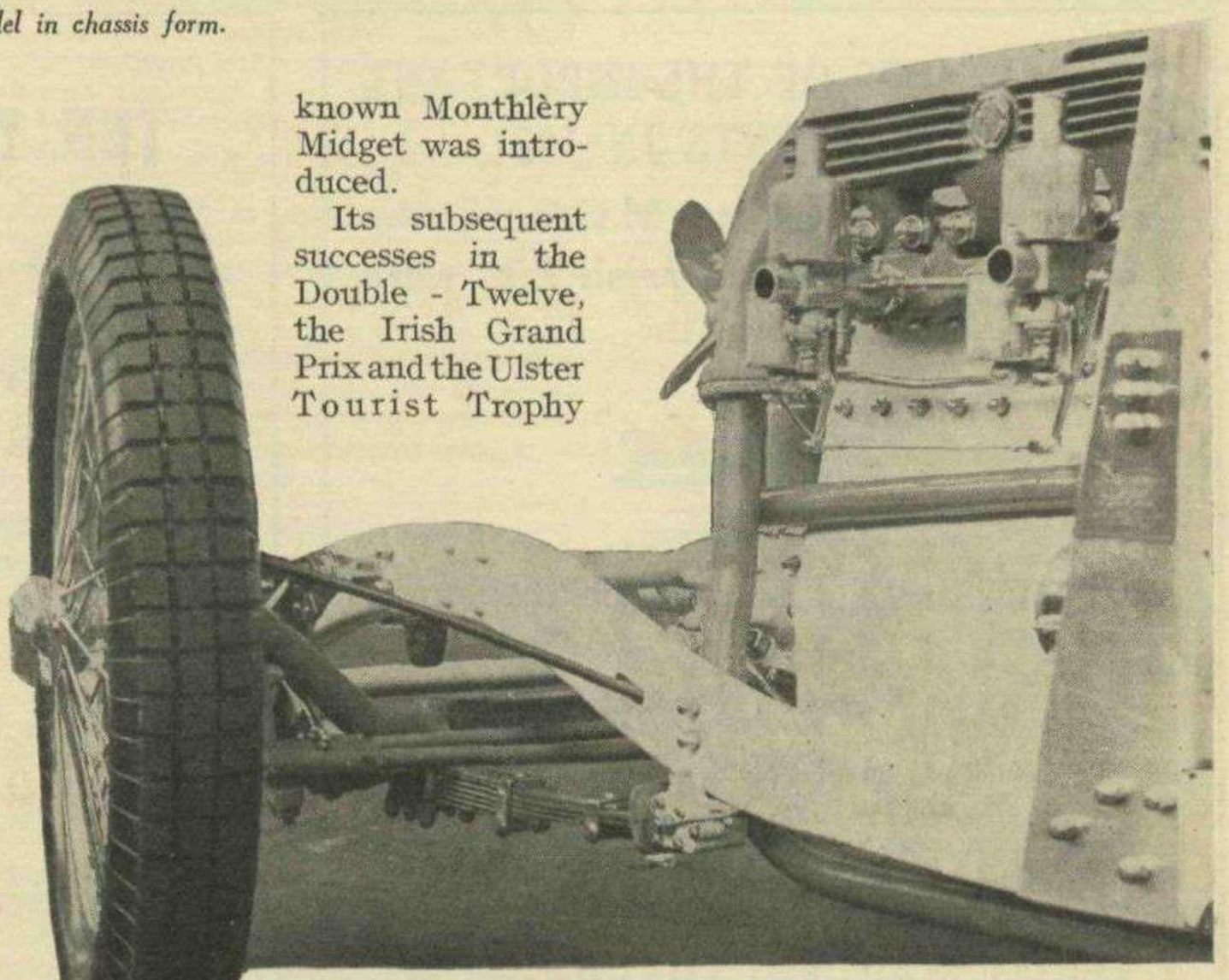
As was only natural with such a car, enthusiastic owners started racing it, and its success in the 1930 Double-Twelve led to the introduction of a special competition model.

Increasing demand for a car within this class led to further experiment, and in conjunction with Mr. G. E. T. Eyston the first record breaking M.G. Midget was successfully run at Monthlèry.

M.G.'s have never believed in letting the grass grow under their feet, and people had hardly got used to the idea of an 85 m.p.h. Midget before a supercharged edition had made history by passing the 100 m.p.h. mark, and the now well-known Monthlèry Midget was introduced.

Its subsequent successes in the Double - Twelve, the Irish Grand Prix and the Ulster Tourist Trophy are still fresh in everyone's memory, and already the firm are going full steam ahead on the production of their latest model, the M.G. Magna.

This attractive small six was one of the outstanding models at this year's show, and a very large weekly production is already going through the works to cope with the demand. A further new model is the long chassis Midget, introduced to answer the demand for a 4-seater body on this chassis. The Monthlèry Midget and the 18-80 six cylinder speed-model complete the range of this unique sports car.



[*Motor Sport Photographs.*

Two close-ups of the Magna chassis—above, the upswept frame which allows of a remarkably low build, and below, the rear axle layout and suspension. Note the gear lever.

Brief Specification.

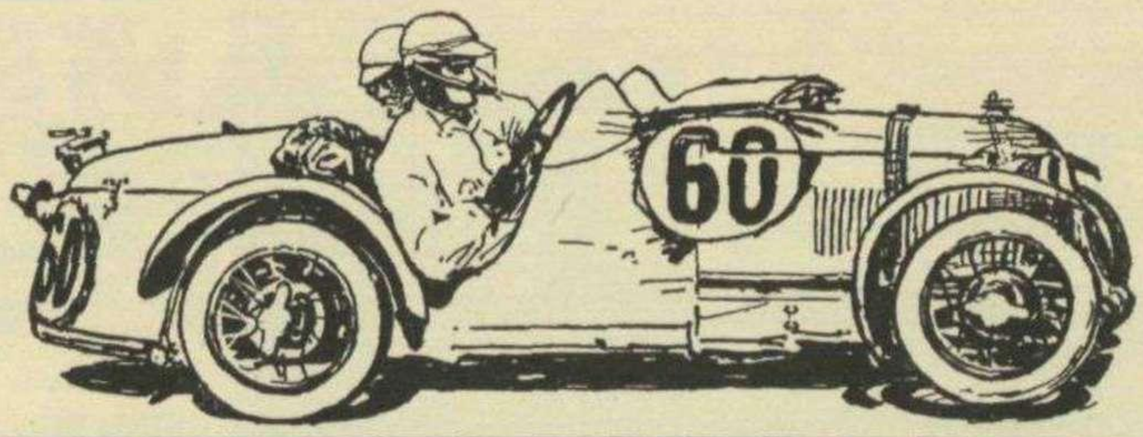
M.G. Magna.

Number of cylinders: 6.
Cubic capacity: 1,250 *c.c.*
Treasury rating, 12.08 (tax £12).
Size of tyres: 27*in.* *by* 4*in.*
Track: 3*ft.* 6*in.*
Wheelbase: 7*ft.* 10*in.*
Overall width: 4ft. 2*in.*
Overall length: 10*ft.* 6¼*in.*
Capacity of petrol tank: 6 *gals.*
Ground clearance under rear axle: 8½*in.*
Weight of Chassis: 9½ *cwt.*
Gear ratios: 19.2, 9.56, 6.3 *and* 4.78 *to* 1. *Reverse:* 19.2 *to* 1.
Price: *Sports 4-seater* £250.

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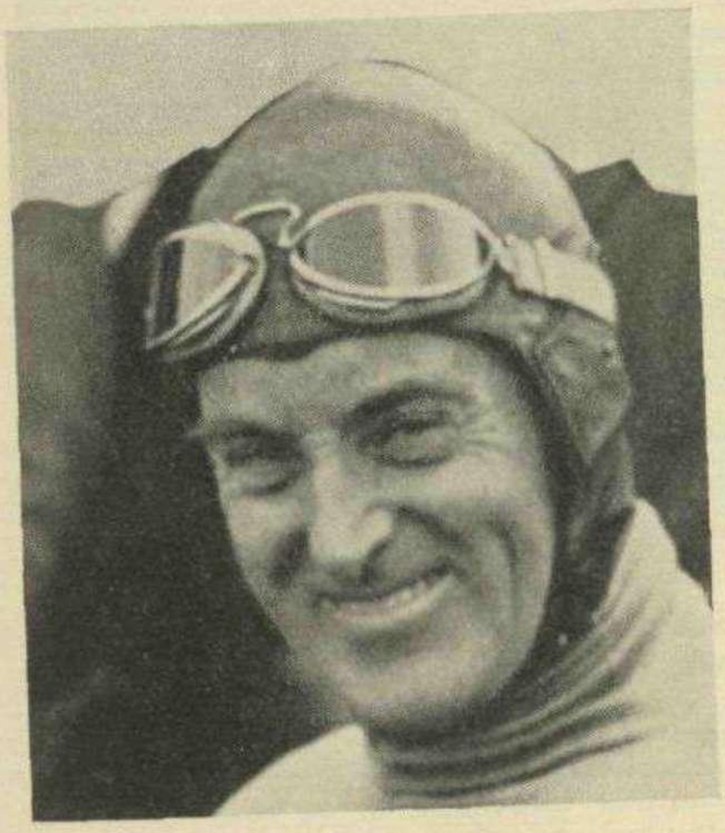
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MOTORING SPORTSMEN

(NEW SERIES).

II.—SIR MALCOLM CAMPBELL.



IN one season of motor racing a man can experience a great deal. He can be the recipient of all sorts of strange deals from Fortune, enough indeed to provide him with food for thought, and matter for recollection and reminiscence to last for a long time to come.

What, then, of Sir Malcolm Campbell, who, save for the four-years interlude of the War, has strenuously engaged himself in pursuit of the sport since 1910 ? Surely no man alive can equal such a remarkable record ; surely few who might have done as much would be still hard at the game after more than twenty years.

When we called at Sir Malcolm's London office we found no jaded veteran contentedly reclining on a whole heap of well-earned laurels, but a man keen and alert and anxious to gain still further triumphs. In looks and manner Sir Malcolm is essentially a man of action, conveying the impression at once that when he sets out to do a thing he will not be easily deflected from his purpose.

Insatiable.

In our interview, he was not so much inclined to be reminiscent as to discuss his plans for the immediate future, and the possibility of Norman Smith bettering his own achievement at Daytona with the " Blue Bird " in 1931. " Smith has got a magnificent car," he said, " and it is five years younger than mine. He ought to do something really good."

" If someone would put up the necessary money I'd like to build a new one to challenge it, but for the present I have got the ' Blue Bird ' prepared. I wish he'd hurry and get things over, because the sand at Daytona is unsafe after the end of March, as the heat softens it."

He mentioned a figure which had been attained in trials substantially above his official speed, so that with the further alterations which have been carried out, the eight-year old car should still put up a good fight. Miller, he told us, is reported to be building a challenger in America, so there may be another triangular scrap this year.

The attention which has been focussed on Campbell's attacks on the World's land-speed records has rather diverted appreciation of his equally successful career on road and track. In the first 200 Mile Race at Brooklands in 1921 he was in the Talbot Darracq team which took the first three places, Segrave being first and Lee Guiness second. In 1927 he won it in a Bugatti after a great duel with Vernon Balls, and repeated his success the next year on the famous Delage on which Benoist won the British Grand Prix, this time at a speed of 78.3 m.p.h. At Boulogne in 1926 he put up a lap of 70 m.p.h. in practice, but later his engine blew up. Next year, again in a Bugatti, he won at a speed of 67 m.p.h. in pouring rain, his hands being badly cut by the rubbing of the steering wheel. In 1928, in the Boillot Cup, his brakes failed and the car crashed, but the next day, on the Delage, after a terrific duel with Ganthier on a Bugatti, won at a speed of 72 m.p.h.

With " Bug " and Delage.

The same year he drove his Bugatti in the R.A.C. T.T. and was much fancied, but he and Lord Howe were troubled with leaky petrol tanks. In Campbell's case the spirit poured out on to the red-hot exhaust pipe at the first stop, and the car was burnt to a cinder. Next year he put up the record lap at Phoenix Park, and was in the winning team with Caracciola and Lord Howe. He also won the Gold Star race on the Delage, which was later sold to Lord Howe. The latter repeated the performance in 1931.

We ventured a question or two about his early days at racing, a subject which is always intriguing, especially to those whose introduction to the sport is comparatively recent. " My first real racing car," Campbell said, " was a 60 h.p. Darracq. I bought and ran this in 1910, and in the previous year it had won the Vanderbilt Cup in America." The Darracq was the very first of the " Blue Birds." It was in 1912 that Campbell had one of his numerous close calls ; he was driving the Darracq at Brooklands, and when coming down the finishing straight the offside front tyre burst. A moment later the wheel came off, and the rear offside one did likewise ! The racer of 1910 with its great ground clearance was a very different proposition from the low built vehicle of to-day, but the driver somehow managed to straighten up and skate along the edge of the track. After crossing the finishing line the car spun round and slid sideways, but was somehow brought to rest without overturning.

In those days car racing was not the only pastime which attracted Sir Malcolm, and as might be expected from a man of his temperament and calibre, the infant science of aviation gained him as an enthusiastic adherent. Campbell, in fact, can claim to be a real pioneer of flying, for in 1909 he designed and built a monoplane. A 16 h.p. V-twin engine was this craft's power unit, and the whole job of building it occupied six months. Alas for the hopes of its constructor, the aeroplane was not an unqualified success, and save for sundry hops she never really took the air.

The War and the R.F.C.

But later Campbell's aviation aspirations were to be given full scope. Following the outbreak of the War, when he at once joined up and served in France as a motor-cycle D.R., Sir Malcolm subsequently transferred to the Royal Flying Corps, and served from 1915 to 1919 as a pilot. Much of his war-flying was done as a ferry-pilot—a job full of variety, since one might be called upon to fly a Sopwith " Pup " to France on one day and return with a war-worn F.E. on the next trip home.

" What first turned your attention to breaking World's records ? " we asked Sir Malcolm. He confessed he could not remember ; anyhow, the idea suddenly came to him. The acquisition of the 100 h.p. Grand Prix Peugeot gave him the chance, and at Brooklands he set up records for the kilometre, mile, and five miles. As he was finishing the lap which would have completed the ten mile distance a front tyre burst, and the car took charge. Campbell just managed to keep the car under control after nearly leaving the track, and found that the other tyres were also on the verge of collapse.

About this time the Sunbeam Company had constructed the famous 350 h.p. racer. The engine, it appears, was built by the Sunbeam Company for the R.N.A.S. just before the end of the War, but was never used. Mr. Coatalen saw it lying about, and forthwith proceeded to build it into a racing chassis. Lee Guinness put up some records with it at Brooklands, and then Captain Campbell bought it and took it to Saltburn. He had a good run and carried off the record with a speed of 135 m.p.h. The run was not without incident, for a dog crossed the track on his second trip, but happily it got out of the way. This performance had a most disappointing sequel, for the record was only timed by hand, and was disallowed by the Central Board.

The next year Captain Campbell decided to take the Sunbeam to the International Speed Trials at Fanöe (pronounced Fanoo), an island off the west coast of Denmark. When he reached Fanöe he found drivers from all the Continental nations there. Refitting the gearbox, which had not been completed before he left England, took some

MOTORING SPORTSMEN—continued.

time, and then on his first run he had trouble with his shock absorbers. However, by working day and night, everything was fixed in time for the races. The Sunbeam put up an average speed of 138 m.p.h., and in the race next day defeated the foreign drivers by a very large margin. Campbell and his crew were naturally delighted at this result, but were once more defeated by the timing apparatus. A proper electric outfit was used on this occasion, and was as accurate as could be made, but it was not approved by the International Body and the record was declared void.

Most people would have been too disgusted to continue, but Campbell is a man who refuses to admit defeat. Next year he took no chances, but brought along with him the R.A.C. timing apparatus, officials and all. The car was properly prepared this time and his hopes were high. Unfortunately, the weather had been very stormy and the beach was littered with debris of all kinds. He appealed to the authorities to have this cleared away, and also pointed out the danger of letting the crowd of spectators so close to the course. The rubbish was cleared from the sands, but they were still very uneven. Nothing more could be done, so Campbell set off for the start.

The car was in excellent form, and was roaring down towards the measured mile, when suddenly as it was about to cross the finishing strip, the two back tyres came off together, and after a sickening wrench got clear of the wheels, and careered down the course in front of the car. Mercifully, they kept clear of car and the crowd alike, and Campbell, by most amazing skill, managed to keep the car from slewing round and turning over. The cause of the accident was at once apparent. The car was fitted with beaded-edge tyres, which, of course, are only held on by air pressure forcing the beads into the rim. These were changed to wired-edge, and Campbell had another shot. Once again the same thing happened, only this time it was a front tyre. This came off halfway down the measured mile, made straight for the crowd, killed a boy and demolished the timing hut. Meanwhile Campbell was fighting for his own life and that of hundreds of others, for if the car had got out of control it would have gone into the spectators with appalling results. Once again he averted disaster by a narrow margin.

"The authorities were completely to blame for the whole thing," said Sir Malcolm; "it wasn't for want of my telling them."

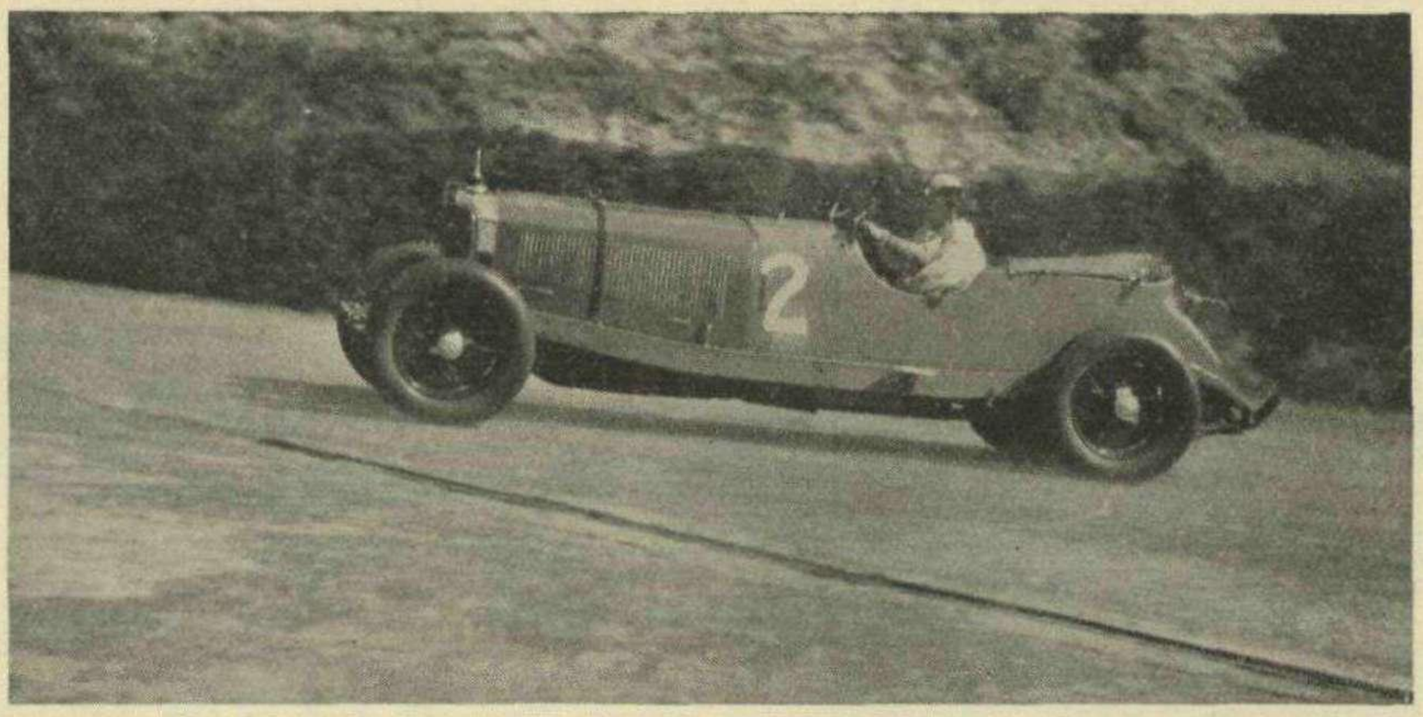
After these two failures he was more than ever determined to set up the record, and as soon as possible went down to Pendine. Here under the most adverse weather conditions he was successful, and covered the mile at an average speed of 146 m.p.h.

The exploits of the Sunbeam had drawn attention to the kudos attached to the World Speed Record. Sir Malcolm felt that he had reached the highest speed of which the car was capable, and set about designing another which would do 180 m.p.h., which he calculated would be sufficient for some years to come. This car was the now-famous Blue Bird, and the fact that she attained in 1931 a speed 60 m.p.h. in excess of this shows how well she was designed in the first place.

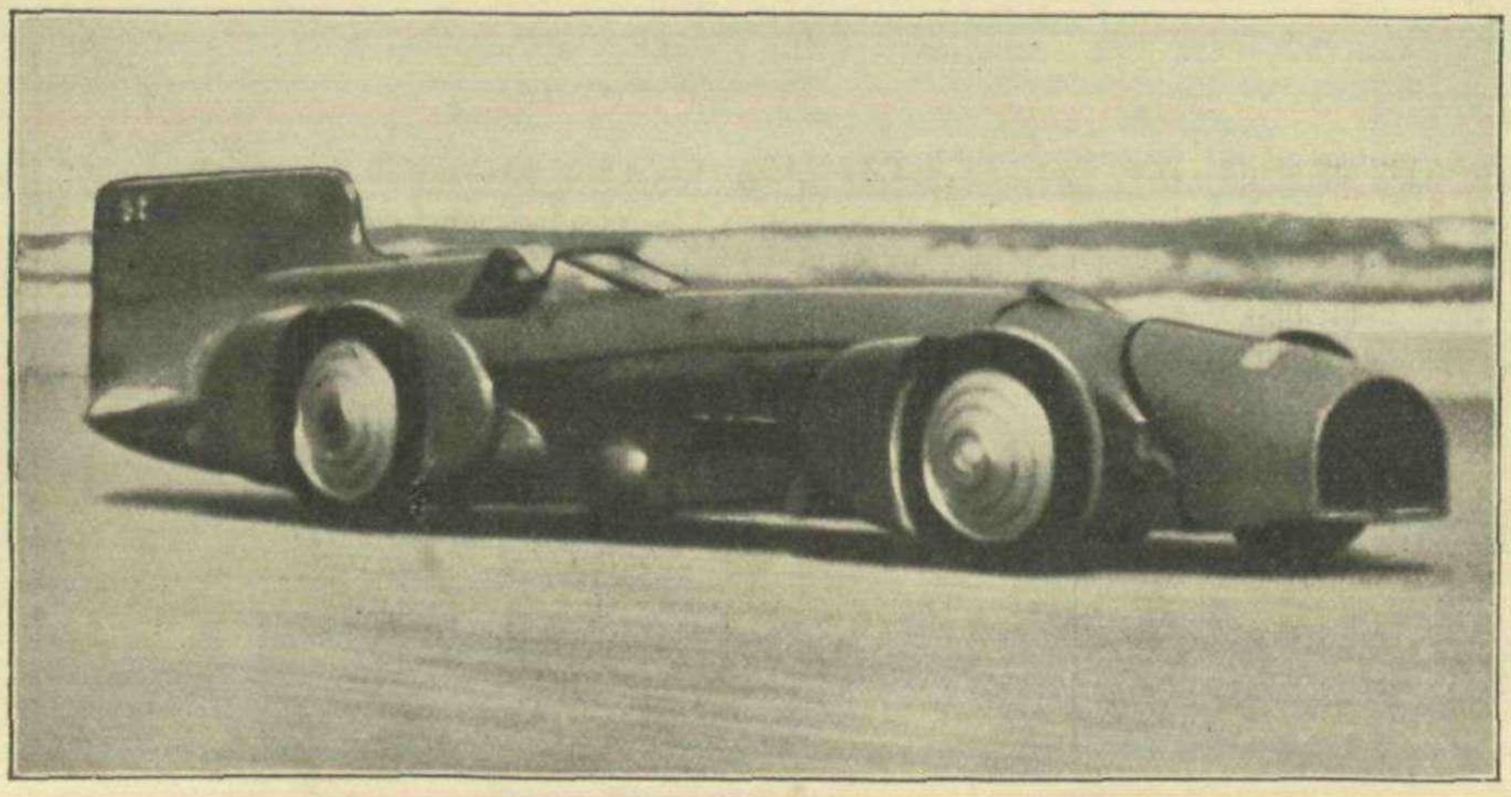
Of the more recent history which the "Blue Bird" and its great driver have built up there is no need to recount, since it is still fresh in everyone's memory. And now that the car has undergone yet another rejuvenation, we may expect a further chapter to be added in the near future.

Sir Malcolm's knowledge of high-speed beach racing is unequalled, and we took the opportunity of getting some information about Daytona and the other tracks on which he has driven.

The American beach, he told us, is only 60 yards wide, and can only be driven on where the tide has flowed, so that at neap tides (and the same applies at Pendine) a strip inshore is unfit for use. The weather is also an important factor. In fine and clear weather the beach is covered with ripple marks, and the only time it is really level is after a heavy off-shore wind. Unfortunately, such winds do not die down quickly on the unsheltered coast, so that the would-be record-breaker has to contend with a force which tends to drive him off his 60 yards of beach into the sea. A wind up or down the beach may be effective in flattening the sand, but more speed is lost in running against it than is gained when running before it. Apart from natural hazards, at Daytona one also has to contend with the local clam diggers, who make holes in the beach



Sir Malcolm on familiar ground—a photograph taken at Brooklands during one of the Mountain races.



A Daytona memory. The "Blue Bird" in its 1931 guise which astounded the world by reaching the phenomenal speed of 246 m.p.h. Sir Malcolm Campbell is convinced that a few years will see this record raised by a substantial figure. Besides an attack on his own 1931 record, he has planned a very full programme for the coming season in which he will adhere to a policy of "driving British." For this purpose he has acquired the famous Sunbeam "Tiger." The car is now being re-built.

LOOK FOR THE YELLOW SIGN

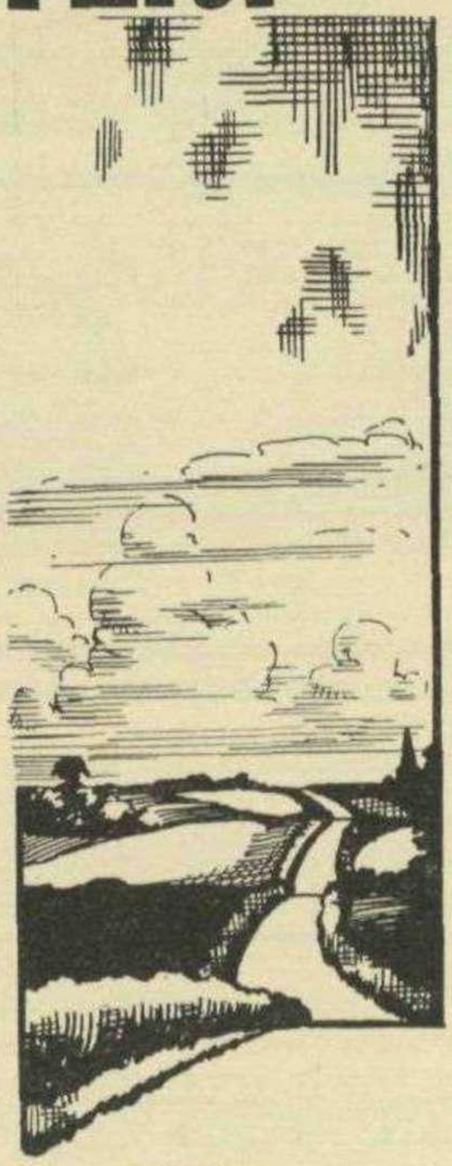
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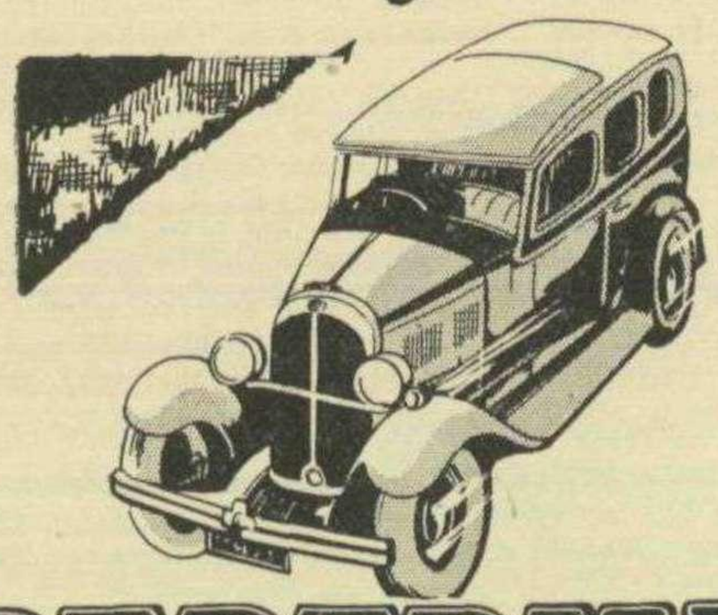
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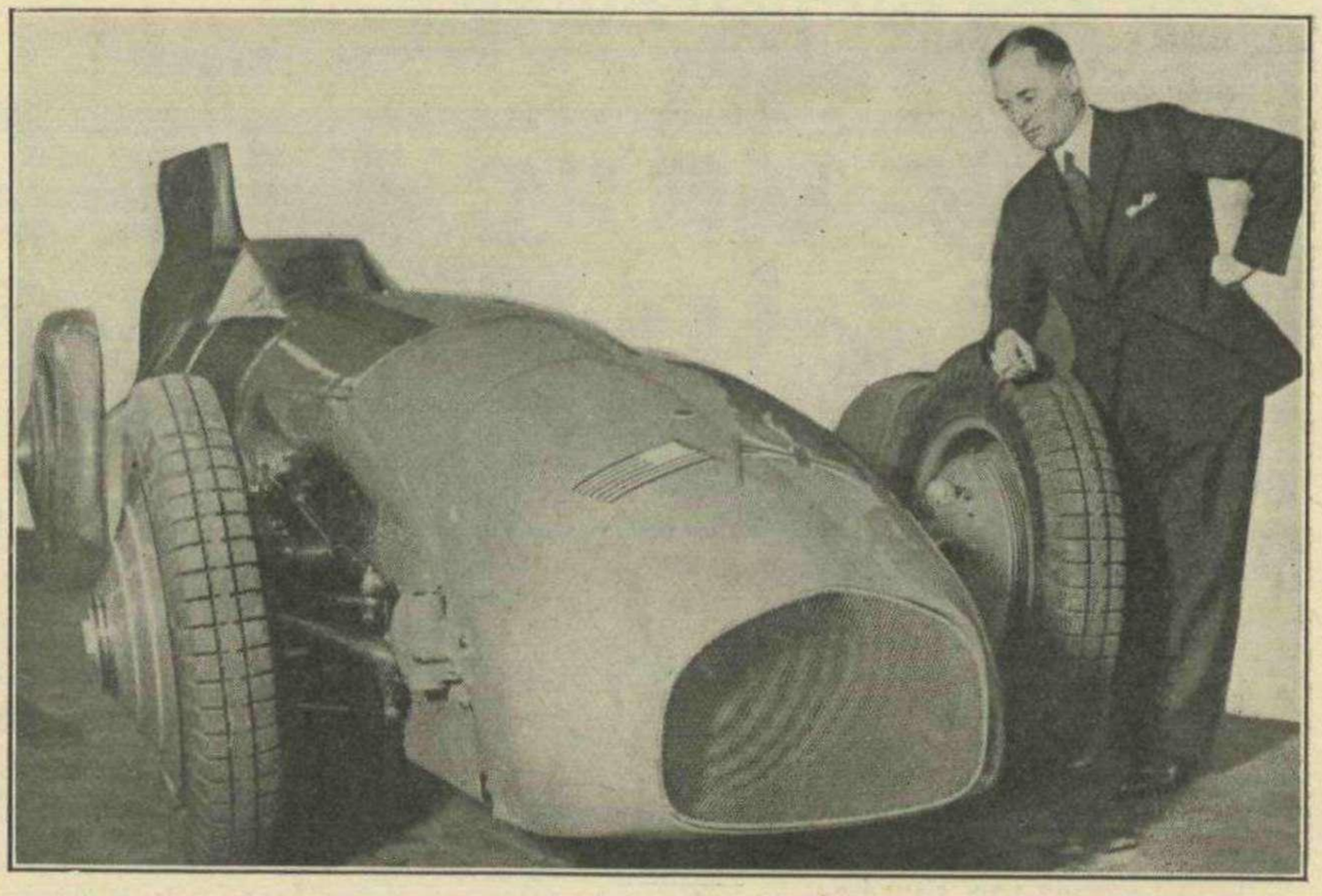
MOTORING SPORTSMEN—continued.

which following tides do not always fill up.

The start and finish are marked by banners, but as the whole course is eight miles in length, its edge is bordered by flags. During his last attempt in 1931 Sir Malcolm could only see 200 yards ahead owing to the mist, and was forced to rely entirely on the flags "240 m.p.h. is 350 ft. per sec.," said Sir Malcolm; "if you hit a bump half a second later you're in the sea, and it's not like Brooklands, where you know the bad spots by heart. But I'm a fatalist—if it's going to happen you can't help it."

Sir Malcolm does not think there are any limitations of speed. "When I started for records on the Sunbeam," he said, "tyres were the limiting factor. Now through the researches of the clever people at Fort Dunlop we have tyres which will stand 300 m.p.h., and I have no doubt that if somebody builds a car capable of 320, the tyre manufacturers will follow suit. The Blue Bird was much more controllable at 240 last year than at 214 two years before. Given a suitable car, man will always be able to control it."

Campbell's plans for 1932 will come as a surprise to most people. "I have been standing out for 'Buy British,' and I cannot reconcile this with driving foreign cars," he told us. He is therefore selling his former racing cars and has bought the two four-litre Sunbeams raced by Kaye Don at Brooklands. Curious how cars change hands! The Tiger is the car with which Segrave did 153 at Southport, beating Campbell's own record of 150 on the 350 h.p. Sunbeam at Pendine. The sister car was made for the first 500 mile race. They are being fitted with strengthened frames, new axles and brakes, and ought to be ready for the British Empire Trophy in April, and will also run in Grand Prix races on the Continent.



A recent photograph of Sir Malcolm Campbell and the "Blue Bird," after its latest modification and overhaul. Both car and driver will leave in a day or so for Daytona for a further bid for the land speed record.

He has no plans for taking part in sports car races. "I never did care for races in which your windscreen has to be this size and your seat cushion that, none of which measurements ever suit you." Like Lord Howe and most other drivers with whom we have discussed the matter, he is tremendously keen on a race in Richmond Park. An enormous body of potential spectators are close at hand, and if a company offered to make up the roads in return for being allowed to run the race, the authorities might well grant permission. Some day someone will do something about it.

Sir Malcolm is interested in nearly all forms of sport besides motor racing, especially motor boat cruising and boxing, but his achievements in the world of speed are so outstanding that we have only space to sum up on that one subject. No other man has held so many world's records, no other man has had such set-backs, and come through with success.

NORMAN SMITH'S HOPES.

THE DRIVER'S OWN VIEWS.

OUR representative in New Zealand was able to have a few words with "Wizard" Smith on his arrival in New Zealand with his car, the "Fred H. Stewart Enterprise," which is the most recently-built of any of the aspirants for the land speed record.

Mr. Smith expressed the greatest confidence in his success.

"My car has 34 per cent. less frontal resistance than Sir Malcolm Campbell's "Bluebird," and this, together with the terrific power of the racing Napier aero engine should ensure the requisite speed. I hope to attack first the 10-mile and 10-kilometres record, then the 5-mile and 5-kilometres and finally the mile and kilometre."

Mr. Smith was accompanied by the designer, Mr. Harkness, Mr. C. L. Westcott representing Lord Wakefield, and Mr. Nelson Alcock, one of the chemists of C. C. Wakefield and Co., Ltd.

A CROSSLEY SURPRISE.

READERS will be interested to learn that Mr. Vernon Balls has acquired a team of 1100 c.c. Crossley 10 h.p. cars for the 1932 Season.

It is a matter of great satisfaction that the old and well-known British firm of Crossley Motors are re-entering the motor racing field, and under the experienced leadership of Mr. Balls these cars should render a good account of themselves.

In a later issue we shall be publishing full details of the new chassis, which we understand will be known as the Vernon model.

This new chassis embodies several novel and interesting ideas which have been evolved and tried out by Mr. Balls himself in the course of his lengthy racing career, and Mr. Weslake, of the Engine Research Co., Ltd., is to be responsible for many modifications to the engine.

Crossley Motors Ltd., are one of the oldest firms in the industry, and in the past Crossleys were very successful indeed in the racing work, and obtained a large number of prizes for hill climbs etc.; their re-entry will, therefore, be watched with unusual interest.

A 2½-LITRE BENTLEY

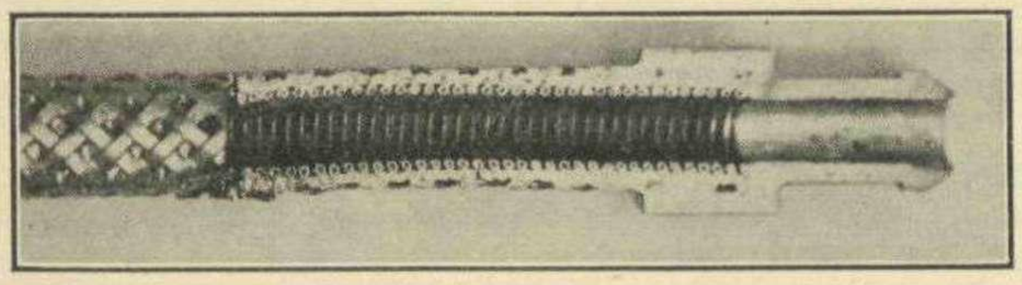
FOLLOWING on the various rumours and discussions resulting from the acquisition of the Bentley concern by Rolls-Royce, Ltd., and the formation of the new Bentley Motors Ltd., we are glad to be able to state that a new sports model Bentley of 2½ litres capacity is to be introduced.

Mr. Sidgreaves, Managing Director of Rolls-Royce Ltd., and also of the new Bentley company, informs us that the 8-litre and 4-litre models are being discontinued, as it was at the time of the introduction of these models that the old firm got into financial difficulties.

The new model will be marketed both in supercharged and unsupercharged form. The date of production of the first model is not yet announced, but we can rest assured that it will be a remarkable car.

AN ALL-METAL FLEXIBLE TUBING.

THE matter of fuel and oil piping is always of interest to sports car owners, as the hammering of a fast car over indifferent surfaces is liable to have a detrimental effect on ordinary copper pipe.



A new example of flexible tubing is the Tite-flex, which is the only flexible line of all-metal construction. The construction is shown in the accompanying photograph of a sectioned piece. The absence of any gut, rubber, or fabric, makes it reliable and extremely durable for use with any fuel, however powerful or unusual in composition.

Tite-flex is manufactured by the Gabriel Manufacturing Co., Ltd., of Columbia Avenue, Burnt Oak, Edgware, Middlesex.

STONEGUARDS.

IN our January issue we published a photograph of a radiator stoneguard marketed by Motor Car Components Co., of 43, Lonsdale Road, Kilburn, London, N.W.6. The prices of the models now available are as follows :—M.G. Midget 27/6, or with lugs for fitting to cross bar 35/-, Austin 7 and Morris Minor 30/-, Mark I and II M.G. 38/-, 1½-litre Bugatti 35/-, 2,300 c.c. Bugatti 50/-.

These stoneguards are chromium plated and are supplied complete with all fittings.

LETTERS FROM READERS

British and Foreign Cars.

YOUR contributor " H.F.L.N. " in his article " The Vicious Circle " implies that an ordinary sports car, as sold to the general public, stands no chance against such cars as the Alfa-Romeo, Maserati, etc. In contradiction of this, may I point out the magnificent successes of the M.G. Midget last year. This wonderful " baby " beat all-comers in the Double-Twelve, the Irish Grand Prix and the T.T., and definitely proved that British cars can hold their own against the foreigners.

There is nothing wrong with our racing regulations. Just because 1931 has been a wonderful year for Britain in motor-racing, there is no need to take pity on our Continental rivals and try to alter the rules in order to give them more chance of winning. Let them build a better car to beat the Midget !

" FAIR PLAY."

Carshalton.

[The races mentioned by " Fair Play " are, of course, handicap events.—ED.]

A Sporting Offer.

WE have been approached by several enthusiastic outboard owners as to the possibility of holding some impromptu races. We feel that this is a very good suggestion and we would be pleased to lend our lake and car park free of charge for such an event during the winter months.

Mr. F. R. Thornton, of 618, London Road, Isleworth, has kindly agreed to undertake preliminary arrangements, and any outboard owners interested should communicate with him. The only stipulation we should make is that the engines should conform to the standard racing silencer rules.

The committee of the Colnbrook Water Sports Club have kindly offered temporary honorary membership to the drivers and friends taking part, provided their names and addresses are submitted at least three days before the event.

The above suggestion is merely made from the sporting point of view to enliven the winter months, as neither Colnbrook Water Sports Club or ourselves are in any way interested in outboard racing, and the above is merely an offer of the loan of the lake.

p.p. Colnbrook Water Sports,
I. R. MAYBURY.

Colnbrook, Bucks.

Letters on any subject of interest to readers of " Motor Sport " are always welcome, but correspondents are asked to be as brief as possible. Personalities and recapitulation must be avoided, and it must be understood that the Editor is not responsible for the views expressed.

Acceleration Comparisons.

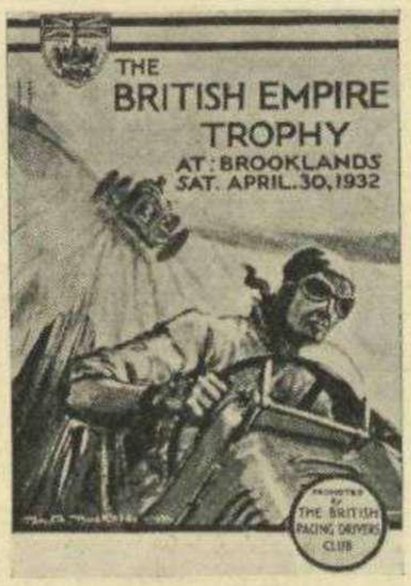
I AM pleased to see that you included acceleration graphs in your tests of the Bentley and Hotchkiss in your January issue. In my opinion the inclusion of such a graph for each car tested is the only satisfactory way of comparing the performance of various cars.

I also agree with your policy of starting the graph at 10 m.p.h. ; the time taken between rest and 10 m.p.h. mostly depends on the violence with which the clutch is engaged !

I should like to wish you a most prosperous 1932, for I do feel that MOTOR SPORT is the only motoring paper that appeals to people interested mainly in racing and trials, etc, rather than in the performance of the latest 8 h.p. family four !

D. C. MOORE-BRABAZON.
Trinity College, Cambridge.

THE BRITISH EMPIRE TROPHY



The attractive cover design of the British Empire Trophy programme drawn by R. Nockolds.

SUPPLEMENTARY regulations are now out for the British Empire Trophy Race. This should be a great success in being an entirely new type of event for this country, of which the main details have already been given in MOTOR SPORT.

The chief points are that it will consist of a series of scratch races, followed by a final which will also be from scratch.

The heats, of which there are four, will be respectively for cars o˙ under 750 c.c. under 1100 c.c., under 2000 c.c. and unlimited, and the final will be for the first four cars in each heat.

The normal outside circuit of the Brooklands track will be used, and the heats will be run over a distance of 50 miles (18 laps) and the final over 100 miles (36 laps).

Motors may be run in any trim with any kind of open body, provided that they conform to the usual brake and silencer regulations, and also that they are capable of *over* 100 *m.p.h.*

This is the sort of regulation which one really likes to see in a track race, as although road work can provide excellent sport on comparatively slow cars, track racing depends for its success on speed and speed alone.

Awards to the extent of £100 for the winner of the final, with £50 and £25 for second and third, and awards in heats of £40, £20 and £10, are given in addition to the British Empire Trophy itself.

Entry fees, which include third-party insurance, are at the following rates :—Till March 24th £11, April 7th £16 and April 14th £21, when entries finally close.

All particulars of the event and copies of the regulations can be obtained from H. N. Edwards, The British Racing Drivers' Club, Bangalore House, Newton Street, Kingsway, W.C.2.

ITEMS OF INTEREST

FROM VARIOUS SOURCES

Riley Club's Trial.

RILEY car owners, particularly those who intend taking part in the Royal Automobile Club's forthcoming Rally, will welcome the Riley Motor Club's latest sporting venture, the Torquay Trial, an event which is for Riley owners only.

It is not so strenuous that it requires especial skill, and it should prove ideal for those who have not previously competed in a reliability trial, whilst at the same time it should be good practice for the more seasoned hands who are competing in the big R.A.C. rally in March. The date of the Riley affair has been fixed for the 20th of this month. It starts at 9 a.m. from Salisbury, and finishes at the Palace Hotel, Torquay, where a dinner and dance will be held in the evening. Full particulars may be obtained from Mr. S. E. Ellis, of Boon and Porter Ltd., 159-163, Castelnau, London, S.W.13.

Novel Test of Body Strength.

HOW an elephant was used to test the strength of a motorcar body is told by The Pressed Steel Company of Oxford.

Most motorists are unaware that the elephant, with all his vast bulk and weight, is a most discerning animal. Only young elephants are caught in traps ; the adult model knows he is heavy and knows instinctively what will bear his weight ; so much so, in fact, that in the countries where elephants are used as a means of transport, the natives on completing a bridge will try to persuade one on to it. If he refuses, the bridge is strengthened until he finally consents to cross it !

In order to demonstrate the strength of all-steel bodywork a platform was fixed on top of a car fitted with a body of one-piece construction, and a five ton elephant was invited to step on it from a warehouse floor of similar height. The huge beast never hesitated ; he was conscious that the bodywork would hold him and he stepped on to it with confidence. The body stood the test with ease.

Maudes Trophy Award.

FOR 1931, the Maudes Trophy has been awarded to Ariel Works Ltd., in connection with a series of severe tests which were carried out last autumn. The Maudes is one of the most important trophies of the motorcycling year, and is offered annually for the most meritorious test conducted under A.C.U. observation.

The performance for which it is awarded to Ariels consisted of a number of different tests of the leading 1932 models, known as the "Seven Sevens" trial, since the figure "7" appeared in each. Thus one machine ran for seven hours at Brooklands, another covered 70 miles in an hour, a third ran for 70 minutes in each of its four gears, a fourth climbed seven famous test hills seven times, and so on.

At the conclusion of the trial a "square-four" model, of which all the engine components had been selected at random by A.C.U. officials, set out to cover 700 miles in 700 minutes at Brooklands. This it did comfortably at an average speed of 15 m.p.h. faster than that of the flying Scotsman on its trip of little over half the distance. Without alteration the same machine was then officially timed over a lap at the track, which it covered at a speed of 87.1 m.p.h.

A Speed Limit Reminder.

READERS are reminded that a reduced speed limit is in force in Queen's Avenue, Aldershot, which thoroughfare, although open to the public, is War Department land.

There are barracks on either side of this road, and numerous intersections at which accidents have recently occurred.

The limit of 20 m.p.h. imposed by a bye-law under the Military Lands Act, is now being strictly enforced.

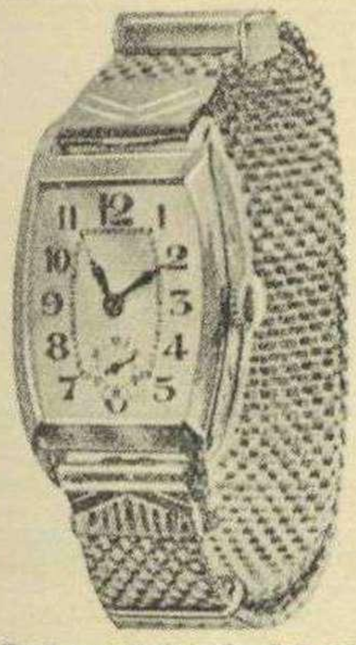
Motor Trade in Australia.

THAT the schemes for economic reconstruction in Australia are bearing fruit is evidenced by the more optimistic attitude of automobile distributors in that country.

Garratts Ltd., Sydney, the newly appointed distributors for Singer & Co. of Coventry, have recently placed by cable appreciable orders for Singer chassis. Some of these chassis are already on the water, and once again a progressive selling campaign will be initiated throughout New South Wales and Queensland.

Garratts Ltd., who are one of the leading organisations in the motor industry in Australia, have extensive country connections throughout the territory.

There are indications that the new Government in Australia will go further to assist importers of manufactured goods from Great Britain, and there is a definite trend towards the exclusion of American cars, owing, in a large degree, to the present adverse rate of exchange as regards the U.S.A.



De Luxe Model No. S.P. 55. Cash price **55/-** C.O.D. or 5/- with order. Leather straps fitted if preferred.
Rolled Gold (10 years case guaranteed) Super Schneider, Rectangular shape with leather straps. Cash **85/6** C.O.D. or 10/- with order and 7/- per month. All models 5/- extra Radium Dials.

THE SCHNEIDER WATCH

BUILT WITH THE ACCURACY OF AIRCRAFT INSTRUMENTS YOURS FOR 5/- WITH ORDER

Built with the accuracy of flying instruments on which the Pilot's life often depends—instruments that are Government tested.

This craftsmanship in every Schneider Watch makes them ideal for Motorists and Sports wear—they are shock and vibration proof and impervious to weather.

Super Grade 15 (Ruby) Jewelled lever movement incorporating a shock absorber in heavy Chromium hinged case. Patented colourless unbreakable glass. 24 hours dials.

SPECIAL FEATURE. Armoured Chromium broad wrist-band with universal adjustment. Indestructible. Smart appearance.

GUARANTEED for 2 YEARS.

COUPON
POST THIS TO-DAY

Please forward to me Gent's Wrist Watch De Luxe Model No. S.P.55 at **55/-** or Rolled Gold Super Schneider **85/6.** Radium Dial **5/-** extra all models.
Strike out all not required when ordering.
For which I enclose P.O. for 5/- and the balance I agree to pay 5/- per month or 10/- and 7/6 monthly if Rolled Gold model chosen.

Name .....
Address .....
.....

PLEASE WRITE IN BLOCK LETTERS.

ROBERTS & Co., Albion House, 59/61, New Oxford Street, London, W.C.1
Dept. M.S.3. *Obtainable from All Good Garages.*



READ WHAT
FLT.-LIEUT. SCHOFIELD
THE FAMOUS SCHNEIDER PILOT SAYS OF THE SCHNEIDER WATCH!

Messrs. Roberts and Co. *Croydon Aerodrome,*
59-61, New Oxford Street, London, W.C.1. *20.11.1931.*

Gentlemen,—I have much pleasure in informing you that I am very satisfied with the performance and reliability of the Schneider Watch.

In flying many types, including the Schneider Racing Aircraft, Service types and Commercial Craft, I have found that your watch functions accurately under most arduous flying conditions.

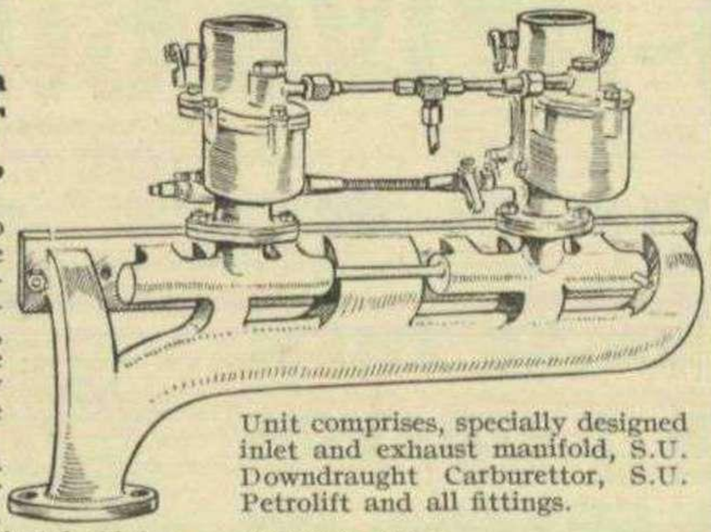
In test flying, when performance figures have to be carefully recorded, I have found that its unfailing reliability is of the greatest assistance in securing accurate data.

I heartily congratulate you on the production of this excellent watch.

Yours truly, H. M. Schofield.

Downdraught Carburetter Units *for* POWER

M.G.
Midget & Magna
HORNET
ROVER "6"



These units develop considerably more power than the corresponding horizontal carburettor units, owing to the mixture being assisted by gravity into the cylinders.
Brake tests on a Hornet engine show that at 3,500 r.p.m. 2 b.h.p. more is developed, 4 b.h.p. more at 4,000 r.p.m., 5 b.h.p. more at 4,500 r.p.m., 10 b.h.p. more 5,000 r.p.m.
This results in a remarkable increase in acceleration, hill climbing and speed.

Unit comprises, specially designed inlet and exhaust manifold, S.U. Downdraught Carburettor, S.U. Petrolift and all fittings.

Midget & Minor (single carb.)	**£10 10 0**
Magna & Hornet (single carb.)	**£13 10 0**
Ditto (twin carb.).....	**£15 10 0**
Rover "6" (twin carb.)	**£19 10 0**



DEEP NOTE EXHAUST SYSTEM.

Increases power and acceleration and renders the interior of the car cooler, imparting a most pleasing deep exhaust note. Special steel silencer with extractor baffle. 2in. tail pipe cast aluminium Brooklands Fishtail clips and rear stay, ready for fitting. **Midget & Minor, 36/-.** **Hornet & Magna, 39/-.** All makes available. Carriage 1/6.

"Aero" Double Valve Springs definitely prevent valve bounce and are a cure for breaking springs. Midget and Minor **9/6.** Hornet and Magna **12/6.** Mark IV **10/6.**

Specialists in tuning M.G.'s, Hornets, Minors, Austin 7's.
Send for Tuning and Fittings List.

V. W DERRINGTON, 159 London Rd., Kingston-on-Thames

The Club that leads.

The J.C.C. held the First General Efficiency Trial in 1913 and pioneered long distance racing in England with the first 200 miles race in 1921. "Road racing" on Brooklands was a J.C.C. innovation in 1926, and the Club ran the first "Mountain" race for cars in 1927. In 1928 Britain's first dirt track meeting for cars was run by the J.C.C. at Greenford. The J.C.C. brought England her first Endurance contest in 1929, and in 1932 will lead once again with the First British 1,000 Miles Race.

To-day the J.C.C. is England's largest Associated Club.

Annual Subscription 35/-(including full Associate Membership of the R.A.C.)

It is worth joining the J.C.C.

(JUNIOR CAR CLUB)

Empire House, Brompton Road,
LONDON, S.W.7.

Telephones : Kensington 1294 & 2756.

LIVERPOOL. — LEEDS. — SOUTHAMPTON

Club News

M.C.C.

THE honorary Secretary of the Motor Cycling Club, Mr. J. A. Masters, writes that there appears to be a general desire amongst members that the club should continue to exhibit the film of club events from time to time as occasion arises, and that this means that the work of taking new films must be maintained in order to keep things up-to-date. He is, therefore, anxious to get further co-operation from members who are interested in the work, and the Committee particularly desire to hear from members who, having suitable apparatus, would be willing to assist by taking films of the various forthcoming events.

It is, of course, understood that members would not be involved in any expense, but no scheme can be formulated until it is known what measure of support will be forthcoming.

The club film is made on the 16 m.m. sub-standard film and either negative-positive or reversal stock would be suitable.

Amateur cameramen are requested to get in touch with the secretary as early as possible.

SUNBAC.

As announced elsewhere in this issue, the Sutton Coldfield and North Birmingham Club will hold their popular annual event, the Colmore Trial on Saturday, the 13th of this month.

The club's programme for 1932 includes the following:—May—The "Vesey" Cup trial; July—Yorkshire week-end trial; September—Evening trial; November—"Shell" Cup trial.

The 1897 Commemoration Run for veteran vehicles is provisionally arranged for September.

Application for membership to Sunbac should be addressed to the Secretary, 10, Warwick Chambers, Corporation Street, Birmingham.

LEINSTER M.C. & L.C.C.

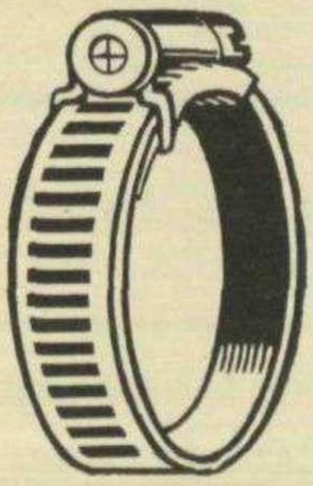
The annual general meeting was held in the Dolphin Hotel, Dublin, a short time ago. There was a large attendance, and the president, Mr. J. J. Shiel, occupied the chair. The hon. secretary, Mr. J. Hopkins, in his report, detailed the progress of the club during the year. He observed that it was again the largest club in the Centre. It was, he said, the only club in the Free State to conduct a monthly magazine, promote an International road race, and send teams to the 1931 Tourist Trophy and Ulster Grand Prix races.

The hon. treasurer, Mr. A. Robinson, submitted his report, in which he gave details of the club's finances. He said the turnover for the year was £5,000, and although the balance sheet showed a slight loss for the year there was no cause for alarm, as the club had spent considerable sums on prizes and fixtures and fittings. The depreciation on club property was higher than in previous years. His report was unanimously adopted.

The president thanked the committee for their splendid work during the season.

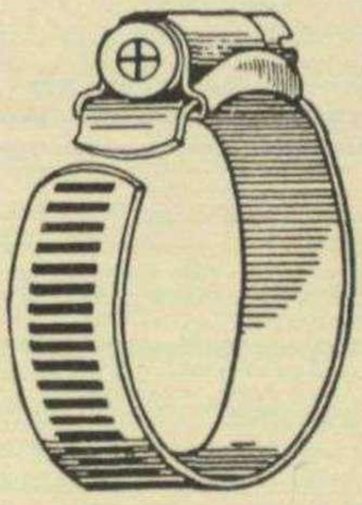
The Editor invites Club Secretaries to send details of their fixtures, sporting and social, for publication in these columns. These items should be sent to reach this office not later than the 16th of the month.

Jubilee Worm-Drive Clips



THE BEST POSSIBLE TO GET.

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



ALL IN ONE PIECE. NO PARTS TO LOSE.
EASY TO FIT. GUARANTEED NEVER TO LEAK.

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

STOCKED BY ALL GARAGES & ACCESSORY DEALERS.

MANUFACTURERS:
L. ROBINSON & Co.,
2, London Chambers, GILLINGHAM, KENT.

"EXETER" AFTERTHOUGHTS.

PAUCITY OF GOOD DRIVING.

THE performances of the cars in the 1931 Exeter event bear out the impressions created by the London-Gloucester in December last. That is to say, that drivers do not appear to take trials work seriously enough to consider it worth while taking the trouble to learn the job. Too serious an outlook is a bad thing in any sport, but a definite keenness to perform as well as possible is essential if the game is to be worth playing.

A glance at the results of recent events of this sort will show that the first-class awards have been won chiefly by drivers more or less connected with the trade, and that they go to all sorts of cars which in less competent amateur hands fail to get home.

The Exeter itself was an easy trial this year, and, run in excellent weather, it should have provided a higher percentage of premier awards. But many were lost through carelessness in handling. Higher Hill, which was fairly easily dealt with by the majority, caught out several drivers who were rather too violent in taking the corner, while there were surprising mechanical troubles of a serious nature more usually associated with racing,such as broken pistons, run big-ends, and even a broken back axle.

In trials, however, as opposed to races for which the cars are specially prepared, such breakages cannot be taken very seriously, as it is impossible to know what wear, rough treatment or even minor crashes the car may have sustained in its past life, and which start some trouble which waits for the occasion of some slight extra strain to give way.

Meerhay was the worst hill from the point of view of failures, owing to the very rough surface, but here again it was usually a definite error in driving or mechanical trouble which caused them.

Two makes which showed up well on hills were Wolseley Hornets and Frazer-Nashes, while the performance of Hollinghurst's M.G. Magna augurs well for these cars when more are on the road.

RESULTS:

CLASS IV (a)—(Cars up to 850 c.c.) (39.)

McGowran, A. P., 747 c.c. Austin; P.A.
Shewell-Cooper, J., 847 c.c. M.G. Midget; S; 4.
Thomas, G. A., 746 c.c. Mark II; P.A.
Tunstall, G., 847 c.c. M.G. Midget; P.A.
Shelbourne, C. A., 847 c.c. M.G. Midget; P.A.
Taneborne, P. A., 747 c.c. Austin B.C.; N.A.; 2, 3, 4, 6, 11, 14.
Taylor, G. E., 847 c.c. M.G. Midget; P.A.
Finch, J. R. G., 847 c.c. M.G. Midget; S; 4.
Wallis, J., 832 c.c. Triumph; P.A.
Patton, A. R., 832 c.c. Triumph Super Seven; S; 4.
Littlewood-Clarke, R., 847 c.c. M.G. Midget; P.A.
Madsen, L. C., 847 c.c. Morris Minor; P.A.
Symonds, G. H., 847 c.c., Morris Minor; S; 4.
Squillario, A. C., 847 c.c. McEvoy Special Morris Minor; P.A.
Allott, F., 747 c.c. Austin; S; 4.
Sharp, N. C., 847 c.c. M.G. Midget; P.A.
Berry, J. A., 847 c.c. M.G. Midget; P.A.
Bolton, F. W. J., 847 c.c. Morris Minor Page; P.A.
Thatcher, F. A., 832 c.c. Triumph; B; 1, 4, 14.
Medrington, M. N., 847 c.c. M.G. Midget; P.A.
Sforza, F., 850 c.c. M.G. Midget; P.A.
Dentor, E. A., 847 c.c. M.G. Midget; P.A.
Twitchett, K. A., 747 c.c. Austin; S; 4.
Matison, F. J., 847 c.c. M.G. Midget; S; 4.
Bracey, N. E., 747 c.c. Austin; B; 4, 5, 6.
Tanner, P. B., 847 c.c. M.G. Midget; P.A.
McGuffie, K. C., 847 c.c. Morris Minor Arrow; P.A.
Richardson, J., 747 c.c. Austin Sports; N.A.; 2, 8.
Hannam, R. A., 747 c.c. Austin; S; 1, 10.
Atkinson, H. S., 847 c.c. M.G. Midget; S; 6.
Brown, R. A., 747 c.c. Austin; P.A.
Richardson, D. H. G., 847 c.c. Singer Junior; S; 14.
Locke, C. F., 847 c.c. M.G. Midget; P.A.
Mason, A. L., 847 c.c. M.G. Midget; S; 4, 6.
Shepherd, A. G., 847 c.c. Singer Junior; S; 1, 4.

CLASS IV (b). (Cars up to 1,500 c.c.) (86.)

Broomfield, F., 1,089 c.c. Riley; S; 4.
Collier, S. H., 1,089 c.c. Riley; P.A.
Scroggs, A. F., 1,488 c.c. Trojan; P.A.
Haward, W. J., 1,490 c.c. Bayliss-Thomas; S; 4.
Walker, K. F. A., 1,089 c.c. Riley; P.A.
Lambert, C. P., 1,496 c.c. Austin; S; 4.
Lees, P., 1,496 c.c. Frazer-Nash; P.A.
Roberts, K. M., 1,496 c.c. Frazer-Nash; P.A.
Wright, R. E., 1,496 c.c. Frazer-Nash; P.A.
Hunter, H. C., 1,089 c.c. Riley; P.A.
Harris, C. F., 1,271 c.c. Wolseley-Hornet; S; 4.
Strong, G. H., 1,005 c.c. Standard Little Nine; P.A.
Olive, G. W., 1,005 c.c. Standard Little Nine Avon Sports; S; 2.
Erith, E. J., 1,271 c.c. Wolseley-Hornet; P.A.
Roundhill, N., 1,089 c.c. Riley; S; 4, 14.
Cowcill, L. A., 1,496 c.c. Frazer-Nash; S; 14.
Urlwin-Smith, E., 1,496 c.c. Aston-Martin; P.A.
Woolley, C. J., 1,083 c.c. Lombard; P.A.
Richardson, W. J. B., 972 c.c. Singer Special; P.A.
Murphy, H. N., 972 c.c. Singer Special; S; 2.
Jordan, J. R., 907 c.c. Jowett; P.A.
Tucker, E. H. P., 1,496 c.c. Frazer-Nash; S; 6.
Watkinson, W. E. C., 1,271 c.c. M.G. Magna; P.A.
MacRobert, Sir A. W., 1,496 c.c. Aston-Martin; S; 4.
Daintree-Johnson, H., 1,089 c.c. Amilcar; P.A.
Jeffress, J. R., 1,487 c.c. Alfa-Romeo; P.A.
Cundey, S. H. H., 1,496 c.c. Frazer-Nash; P.A.
Gripper, A. G., 1,089 c.c. Riley; P.A.
Wills, P. L. B., 1,496 c.c. Lea-Francis; S; 14.
Holland, W. E., 1,496 c.c. Lea-Francis; P.A.
Patrick, F. F., 1,271 c.c. Wolseley Hornet; P.A.
Mullins, E. S., 1,089 c.c. Riley; P.A.
McEvoy, M. A., 1,271 c.c. McEvoy Special Wolseley Hornet; S; 14.
Payne, D. B., 1,271 c.c. Wolseley Hornet; P.A.
Hillary, E., 1,089 c.c. Riley; P.A.
Waples, L. A., 1,089 c.c. Riley; P.A.
Fillmore, L. E., 1,089 c.c. Riley; S; 14.
King, P. B. C., 1,496 c.c. Frazer-Nash; S; 14.
Bellamy, R. L., 1,496 c.c. Frazer-Nash; P.A.
Gamble, A. T., 1,089 c.c. Riley; B; 12.
Gamble, D. J., 1,271 c.c. Wolseley Hornet; S; 4.
Greenleaf, W. E. C., 1,089 c.c. Riley; P.A.
Weddle, N. H., 1,087 c.c. Salmson; S; 4, 5.
Dicks, E. A., 1,089 c.c. Riley; P.A.
Seaman, R. J. B., 1,089 c.c. Riley; P.A.
Lovatt, H. J., 907 c.c. Jowett; P.A.
Garland, A. H., 907 c.c. Jowett; S; 4.
King, M. E., 1,496 c.c. Frazer-Nash; P.A.
West, D., 1,496 c.c. Frazer-Nash; P.A.
Hollinghurst, C. S., 1,250 c.c. M.G. Magna; P.A.
Ponting, W. A., 1,496 c.c. Frazer-Nash; B; 2, 4, 13.
Blaw, H. W., 1,496 c.c. Frazer-Nash; P.A.
Hopkins, D. G., 1,496 c.c. Frazer-Nash; P.A.
Lawford, C. H., 1,089 c.c. Riley; P.A.
Taylor, G., 1,074 c.c. Alta; P.A.
Jones, D. C., 1,496 c.c. Frazer-Nash; B; 10.
Hands, A., 1,271 c.c. Wolseley Hornet; S; 1.
Butler-Henderson, L., 1,203 c.c. Triumph Scorpion; P.A.
Morris-Goodhall, M. H., 1,496 c.c. Aston-Martin; S; 14.
Brymer, F. J., 1,089 c.c. Riley; S; 4.
Gaspar, R. A., 1,496 c.c. Frazer-Nash; P.A.
Baring, A. A., 1,496 c.c. Frazer-Nash; P.A.
Macaskie, D. S. C., 1,498 c.c. Riley; S; 4.
Miller, D. R., 1,496 c.c. Frazer-Nash; P.A.
Roy, B. A., 1,018 c.c. Triumph Super Nine; P.A.
Burney, C. S., 1,089 c.c. Riley; S; 14.
Clark, A. T., 1,498 c.c. A.T.C. Special; P.A.

CLASS IV (c). (Cars over 1,500 c.c.) (47.)

Stroud, H. J., 1,645 c.c. Alvis; P.A.
Roth, E. J. H., 2,276 c.c. Talbot "90"; S; 2.
Attwood, A. A., 1,948 c.c. A.A. Special; P.A.
Denton, G. M., 3,283 c.c. Ford; P.A.
Varley, R., 2,632 c.c. Essex; P.A.
Morley, R. J. P., 1,991 c.c. A.C. (Acedes); P.A.
Burman, H. W., 1,596 c.c. Lea-Francis; P.A.
Giles, G. M., 2,262 c.c. Bugatti; P.A.
Bear, K. W., 2,262 c.c. Bugatti; P.A.
Galbraith, R. F., 1,861 c.c. Austin; P.A.
Clarke, J. P. T., 3,500 c.c. Studebaker; P.A.
Roe, S. H., 1,645 c.c. Riley; P.A.
Hay, J. V., 1,550 c.c. Morris-Cowley; P.A.
Bass, J. S., 1,645 c.c. Alvis; P.A.
Powys-Lybbe, A., 1,645 c.c. Alvis; P.A.
Barker, F. P., 1,802 c.c. Morris-Oxford; P.A.
Barker, R. J., 1,550 c.c. Morris-Cowley; P.A.
Montague-Johnstone, C. J. S., 1,633 c.c. Alpine Riley; P.A.
Grain, F. H., 3,285 c.c. Ford; P.A.
Thompson, J. B., 3,285 c.c. Ford; P.A.
Harrison, J., 3,285 c.c. Ford; P.A.
Urlwin-Smith, P. J., 4,225 c.c. Vauxhall; P.A.
Bocock, J. H., 1,825 c.c. Morris-Oxford; S; 4.
Pigé-Leschallas, J. G., 1,991 c.c. A.C.; P.A.
Collier, G. K., 1,550 c.c. Morris-Cowley; S; 4.
Fitt, C. G., 1,993 c.c. Morris Major; P.A.
Fox, J. W., 1,964 c.c. Husky Hillman; B; 3, 4, 6.
Fillmore, L. W., 2,064 c.c. Standard; S; 3.
Wisdom, T. H., 3,285 c.c. Ford; P.A.
Steele, J. S., 4,429 c.c. Delage; P.A.
Wells, J. A., 1,666 c.c. Talbot; S; 2.
May, A., 4,250 c.c. Vauxhall; P.A.
Messenger, J. A. G., 3,180 c.c. Chevrolet; S; 2.
Linfield, H. S., 2,511 c.c. Alvis; P.A.
Andrews, G. C., 4,562 c.c. Vauxhall; P.A.
Mitchell, S. R., 4,520 c.c. Vauxhall; P.A.
Sexton, E. H. L., 2,285 c.c. Ford; P.A.
Bertram, O. H. J., 4,234 c.c. Vauxhall; P.A.
Armitage, L. R., 2,916 c.c. Vauxhall; S; 6.
Smith, A. W., 3,498 c.c. Humber Snipe; P.A.
Falconer, J. F., 1,954 c.c. Lagonda; B; 2, 4, 5.
Hay, A. W., 2,570 c.c. Lancia-Lambia; P.A.
May, M. W. B., 1,991 c.c. B.P.; P.A.

ABBREVIATIONS.

P.A.—Premier award. S.—Silver medal.
B.—Bronze medal. N.A.—No award.

KEY TO FAILURES.

1. Failed Devenish Pit.
2. Failed Higher Hill.
3. Failed Harcombe.
4. Failed Meerhay.
5. Failed Black Hill Test (non-stop section).
6. Failed Ibberton.
7. Outside time limit Popham Lane.
8. Outside time limit St. Thomas' Bridge.
9. Outside time limit Shaftesbury
10. Outside time limit Money Acre Corner.
11. Outside time limit Exeter.
12. Outside time limit Birdsmoor Gate.
13. Outside time limit Cerne Abbas.
14. Outside time limit Black Hill 15 yards section).
15. Outside time limit Shaftesbury (finish).



WE MAY HOPE FOR—

A BRIGHTER FLYING SEASON THIS YEAR

PYLON RACING TO BE REVIVED AND PLANS FOR AN "INTERNATIONAL AVIATION WEEK" FORMULATED.

FOR several years now it has been a matter for regret that the organisation of air races and flying competitions has been greatly neglected in this country, and with the end of the Schneider Trophy Contest in September of last year the paucity of really sporting aviation events became strikingly apparent.

This lamentable state of affairs is brought into increased relief when one realises how great has been the progress made in aeroplane races in other countries, particularly America, and further when one recalls that the sport reached a high degree of popularity in England in the years immediately preceding the War.

Since the early post-War years the running of races and the holding of meetings and competitions has been carried on in a woefully fitful manner, and it cannot be denied that the few annual events as we have had, have deteriorated in interest and organisation with each succeeding year, reaching a climax in 1931 when the King's Cup Race regulations were so framed as to debar "the trade" from entering machines and prevented the professional civil pilot from participating.

The criticism which resulted from this action of the organisers, the Royal Aero Club, and the closing of the last chapter in the Schneider Trophy directed attention to the whole question of British flying events, and, fortunately, this has had the effect of arousing renewed interest amongst responsible bodies and individuals associated with aviation.

How to improve matters, and how to present sporting aviation fixtures so as to make a wider appeal to the public were questions which, during the past few months, have received a great deal of attention, and it is pleasing to find that in two separate quarters plans have been laid to introduce a series of events which, if they materialise, should "fill the bill" during the coming season.

In the first instance, plans have been drawn up for an "International Aviation Week" by the Air League, and one gathers that this would be staged on somewhat similar lines to the National Air Races in the U.S.A. which occupy ten clear days at Cleveland aerodrome, Ohio. The whole programme is a stupendous affair with races and competitions for all types of aircraft, from the motor-cycle-engined single seaters to boosted out-and-out racers.

In addition to machines and pilots competing from all parts of America, representatives attend from foreign lands, and the vast crowds who flock to Cleveland Field are accommodated in huge grand stands and enclosures. Every conceivable feature connected with aviation finds a place in the programme, from the flying of ancient veteran craft, to displays of delayed and massed chute drops, and, one is told, there is not a dull moment throughout the whole ten days.

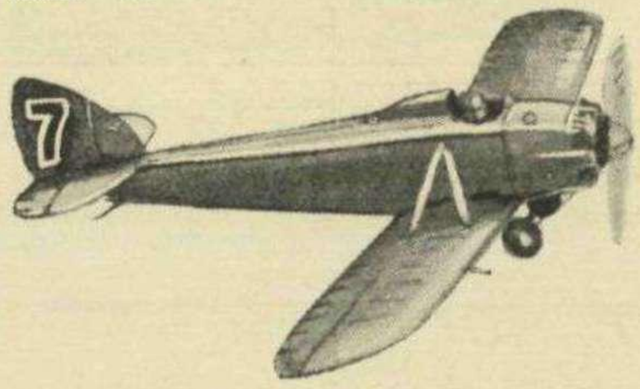
Of course, it is not expected that the Air League's scheme would incorporate a programme framed on so large a scale, nor is it necessary since the spectacular items are provided in the Royal Air Force Display. But races and competitions of an international character in which it would be possible to see French, German, Dutch, Italian and American and other foreign machines matched against British pilots and 'planes would be a most welcome innovation, and one which would undoubtedly prove a big

A BRIGHTER FLYING SEASON THIS YEAR—continued.

attraction. A cosmopolitan entry always creates an added interest in any contest, and the appearance of unfamiliar foreign machines in this country during the holding of the German "Runflug" last year made one wishful at the time that an English counterpart figured in our calendar of aviation fixtures. Well, if the plans of the Air League bear fruit, that wish may be fulfilled.

Naturally, any scheme of such dimensions as this "International Aviation Week" will require a good deal of careful preparation—especially if it is to be a success and not, as some of our events have been, a mis-managed fiasco—and so far only the barest preliminaries have been worked upon, but how ever long we may have to wait for its completion and final presentation, one may feel some satisfaction that it is a move most definitely in the right direction.

In considering the possibilities of the revival of aeroplane racing, one's memory instinctively goes back to the years 1912, 1913, and 1914, when the sporting side of flying was in its heyday. To modern eyes the craft of those days would appear crude and ridiculously slow, but the keenness and sound stage-management which was to be found behind the scenes made those far-off pre-War meetings at Hendon outstandingly successful. And it will be generally conceded by those who can remember them, that the pylon races, which were a feature of those week-end meetings, provided the 20,000 spectators with something well worth watching. There were handicap races in which some half-dozen machines took part, and to see these roaring round the pylons within the aerodrome, sometimes at 100 feet, sometimes just skimming the ground, was to experience a thrill which eighteen years has not erased. Hence, the quite-natural query—Why was pylon racing dropped? It is admittedly difficult to run a long race which embraces a course of hundreds of miles, so that the attention, interest and excitement of the spectator is constantly sustained; there is a tendency to long periods of inactivity while the competitors are traversing the route at far-distant points, and the arrival and departure at controls and turning points often carry no atmosphere of close contest, no "neck-and-neck" business as it were. But in pylon racing each event is crowded with incident from the time the machines leave the starting line in sweeping climbing turns till they flash by in a crowded split-seconds finish.





Anyhow, whatever the reasons may have been for its non-revival in post-war years, it is good news for those who have been advocating its return that 1932 will see the pylon event incorporated in future aviation meetings. For this forms part of a scheme which Messrs. Nigel Norman and Alan Muntz of Heston Airport, have been working on for some time. Mr. Norman paid a visit to the States last year, and one would hazard a guess that his decision to organise pylon racing (which incidentally originated in Britain) has been largely influenced by what he saw and what he heard of it in America during his stay there.

With his partner Mr. Norman intends to arrange races at Brooklands over a ten mile circuit marked by pylons, with turning points within the aerodrome and at places just outside, and the competing machines will be in full view over most of the course. When the scheme, which is at present in the embryo state, materialises (probably in September) Track habitués will find a further attraction at Weybridge.

Certainly with these new projects, and a better King's Cup Race (which will be flown in two sections and will occupy two days early in July), the position, so far as sporting flying fixtures are concerned, is a great deal brighter than it has been for a good many years, and one hopes that 1932 will signalise a new and brighter phase in the hitherto neglected pastime of aviation racing in this country.

THE GROUND-TO-AIR LINK.

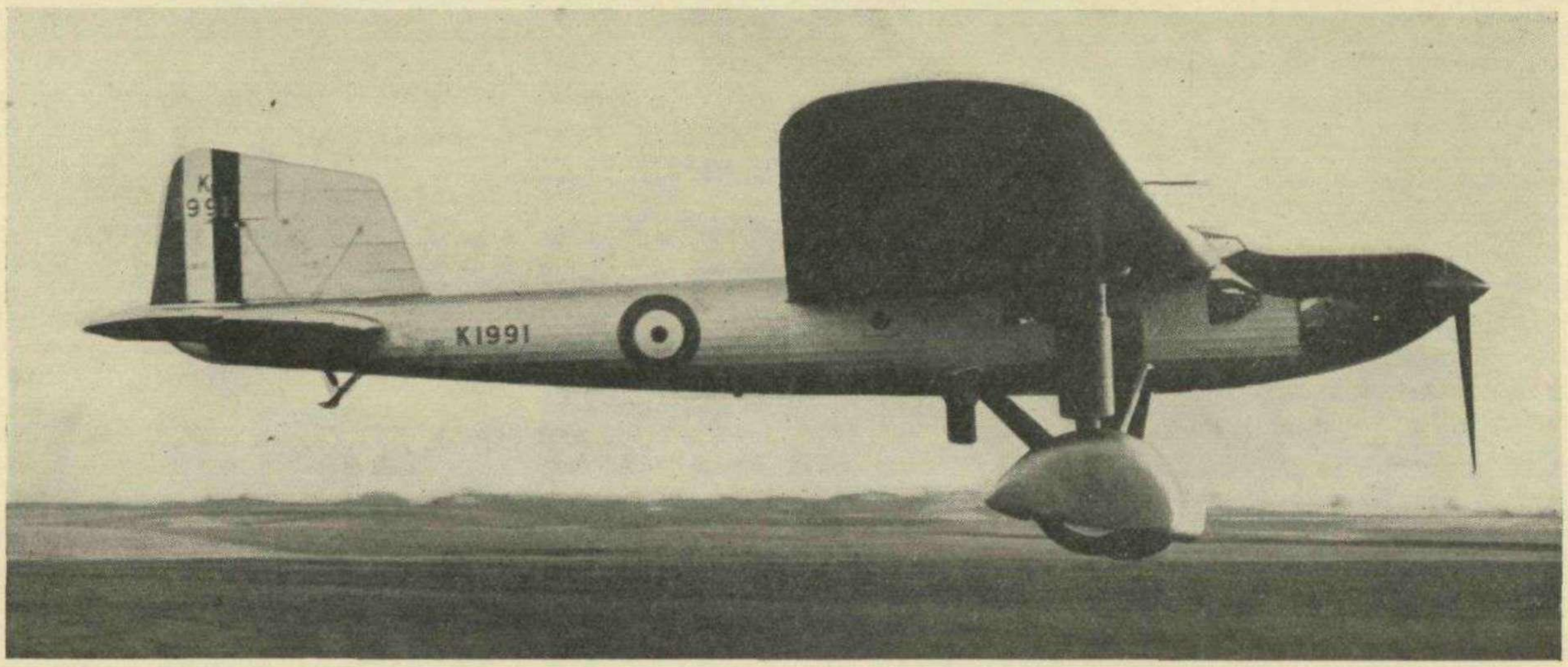
THE Automobile Association announces that the Air Ministry has approved the A.A. telephone box at Lockwell Hill, 6 miles South of Ollerton on the Nottingham Road, as a point at which members may drop messages from aircraft for transmission by the A.A. Air Message Service.

Pilots are warned that messages should no longer be dropped at the A.A. telephone box at Ollerton cross-roads on the main road from Newark to Worksop as the heavy increase in traffic has rendered it unsafe to do so. In consequence therefore, this box has been withdrawn from the Air Message Service organisation.

An alteration to Sheet 5 of the A.A. General Flying Map of England is necessitated by the change, and members who possess this sheet may have it amended, without charge, by forwarding it to the Aviation Department, The Automobile Association, Fanum House, New Coventry Street, London, W.1.

Cranwell-Cape Non-stop Attempt

THE LONG-RANGE FAIREY OFF THIS MONTH



Just off. The Fairey long-range monoplane leaving Cranwell aerodrome for a test flight. It is powered by a Napier "Lion" engine of 570 h.p.

FOLLOWING successful test flights and the completion of meticulous preparation, the Fairey long-range monoplane will set out this month (on or about the 22nd) in an attempt on the World's long distance record.

The present holders of the record are Messrs. Boardman and Polano, who completed a wonderful non-stop trip of 4,999 miles from New York to Constantinople in an American Bellanca monoplane (Wright Whirlwind engine).

The new attempt will be from Cranwell to Cape Town, a distance of about 6,000 miles, and if successful, the journey will occupy three days and three nights.

The Fairey machine is a full-cantilever monoplane with a span of 82 feet, a length of 48 feet 6 inches and height 12 feet. The engine is a Napier "Lion," specially tuned for low petrol consumption, and with a compression-ratio slightly higher than standard. The whole machine is a remarkable example of careful streamlining, with drag-producing excrescences reduced to an absolute minimum. Like the main plane, the tail plane is full-cantilever, the only exterior bracing wires being those which are fitted between the rear plane and the vertical fin. The petrol tanks are housed in the wings, and the full amount carried totals 1,100 gallons. The fuel is fed to the carburettors via a "collector" reservoir, which is kept supplied by gravity, and the delivery in the last step is by a pump driven off the engine; an emergency hand-pump is also provided.

One contingency which must be provided for is a forced landing when the aircraft is still heavily laden with fuel, and for this purpose two of the tanks are fitted with dump valves which allow the unshipping of their contents in a matter of seconds.

The cockpit of the Fairey is totally enclosed, and every item which would add to the comfort of the pilot and alleviate the strain of being at the controls for so long a time has been incorporated in the equipment. The foot-rests of the rudderbar, for instance, are covered with Sorbo rubber, and are made so as to support the entire sole of the foot. The seat is also adjustable so that the angle of the back rest may be altered to give a change in position when desired. The navigator's seat is similar to the lounge-chair type found in air liners; a window is provided in the roof, through which bearings and sextant-readings will be made. The front windows of the cockpit are provided with wipers which can be operated mechanically or worked by hand.

Besides the usual instruments, the equipment includes, an automatic gyroscopic control which incorporates a highly-sensitive pneumatic mechanism. This can be set to actuate the rudder and elevator and so relieve the pilot in keeping the machine on its course. The apparatus is not new, of course, having been experimented with and developed over a period of several years, but when the Fairey sets out for Africa it will be the first time that the device has been used in a record-long-distance attempt.

A short-wave transmitting wireless set is also installed in the big monoplane, and with this the crew will send out reports of their progress and their position every two hours.

The pilots of the machine are Squadron-Leader O. R. Gayford, D.F.C., and Flight-Lieutenant D. L. G. Bett. The former joined the R.N.V.R. in 1914, and later transferred to the Royal Naval Air Service; subsequently he served with No. 221 squadron R.A.F., and he continued with the service after the Armistice. Flight-Lieutenant Bett entered the R.A.F. in 1920.



Flying Club Finance

ALTHOUGH one would like to say that things are otherwise, from all I hear, the present condition of the country is having a retarding action on the doings of the flying clubs, and secretaries and members of committees are wearing worried looks because of the growing financial difficulties which are already upon them or which loom up ominously in the not-very-distant future.

When the subsidised club movement was first inaugurated about seven years ago, the outlook was quite promising ; the Government concession of two complete machines, plus an annual sum of £1,000, seemed a good basis upon which to work, and everyone was optimistic. But a year's operation revealed the fact that with the original rate of charges for instructional and solo flying the majority of clubs were not paying their way. The Government was then approached in order that the subsidy agreement might be revised, and a fresh grant was made in the form of £50 for each new "A" licence secured, £10 for each renewed licence and £1 10s. per flying hour, up to a maximum of £2,000 per annum. Under these arrangements the clubs found themselves in a happier position, but a further revision was made later which only allowed a grant of £10 per licence or renewed licence. When this scheme was instituted it was obvious to all whose experience of club operation dated from 1925 that to carry on profitably would be impossible. And their prophesies have been fulfilled.

Many clubs have made strenuous efforts to bolster up their income by introducing side-lines such as pageants, club dances and so forth, but they have been of small avail in the face of the several set backs which have accumulated. One factor which was not at first apparent is that the great increase in the size of the power unit of the so-called light aeroplane (from 27-60 h.p. in 1926 to the present-day 100 h.p.) together with the rise in the cost of fuel, has added in no small measure to the running expenses and upkeep of club-owned machines.

The situation is serious, especially as the present subsidy agreement does not terminate until July. In the meantime the people concerned are talking of pressing for fresh terms embodying a grant of £25 per new licence and 15s. to £1 per flying hour for club craft.

Back to Lower Power.

The whole position of our clubs brings into prominence once again the fact that flying is an expensive pastime, and as things are, it seems impossible for it to be otherwise. The cost of an aeroplane suitable for instructional and general use is in the first place a big factor, running expenses are heavy, and the complicated regulations set down in the Air Navigation Act make maintenance work a further formidable item of expenditure.

I have heard it said that the low-powered machine is no use, that to revive the 35-50 h.p. type would be retrograde step. But I am left unimpressed. After all, there are machines in America in the two-seater dual-controlled class with simple 3-cylinder "Y" engines of about 35 h.p. which function perfectly satisfactorily, and the Klemm with but 40 h.p. and even 20 h.p. has a world-wide reputation for efficiency, economy and safety.

It seems to me that manufacturers will sooner or later have to turn their attention once again to machines of lower power and less elaborate design (which would mean lower first cost, and lower running and maintenance charges) if private flying and club flying is ever to be brought to a state of real popularity. A person of average ability can, of course, secure an "A" licence for an outlay of about £25, but unless he manages to get in a goodly number of hours fairly continuously, he will have to have a further period of dual (which is expensive) before he can be safely entrusted to go solo again after a period of no-flying of, say, only a month. Piloting is one of those things which one simply must keep at if one is to become proficient and remain so ; give it up for only a short time, and you have to start learning all over again. This is a fact not realised by a lot of tyros who imagine that with the acquisition of their certificate they are forever free from the costly business of instruction.

Gliding as a Solution.

Discussing this subject of cheaper aviation with a man who, in the course of a lengthy career as a professional aviator, has both lost and made money (a little) at the game, I was interested to find that he agrees with me that a better way might be found through the gliding clubs towards training for powered flying at a minimum of expense. He would like to see a club formed which would specialise in auto-towing. "All this business with primary gliders of the Zogling type is a waste of time and energy," he said.

What is required is an efficient two-seater auto-tow sailplane, fitted with dual control, which would enable a pupil to be taken up, and from the beginning have the benefit of an instructor with him in the air. Tuition would be given in exactly the same way as when a

SLIPSTREAMS—continued.

powered aircraft is being used. And the pupil would learn more in half-a-dozen flights in the auto-tow sailplane than he would in weeks of floundering around with aerial toboganning on the Zogling. Having passed his tests on the engineless machines, he would then pass on to instruction on the club's low-powered two-seater 'plane, and an hour should suffice to bring him to the solo stage, and ultimately to his becoming a certified aviator.

Elaborating the scheme, a motorised-glider of 10 h.p. would form part of the equipment of the club, and this would be available for qualified soloists with which to build up flying hours.

As matters stand, it is too much to hope that the motor-assisted glider will be revived ; as soon as a power unit is added to a machine it becomes an aëroplane, and as such its design, construction, operation and maintenance becomes hedged about by laws and regulations.

But if the Air Ministry could be prevailed upon to draw up less-restrictive and simpler rules applicable to this class of craft alone, it is probable that its development would quickly follow.

Alternatively, the necessary supervision and approval could be left in the hands of the British Gliding Association, who already do such work in connection with gliders and soarers. Whether such a move is under consideration I do not know, but it is interesting to learn that one or two motor-cycle and engine manufacturers are now experimenting with small engines for use in aircraft which rather encourages the conjecture that things are happening behind the scenes. Well, we can only wait and see.

"RUDDERBAR."

THIS YEAR'S KING'S CUP

NEW RULES — 1,250 MILES COURSE — TO BE FLOWN IN JULY

THE preliminary announcement, which has been made recently by the Royal Aero Club, in regard to the King's Cup Race reveals the fact that the regulations, which were put into force last year have been abandoned, and new rules have been drawn up.

It will be recalled that those for the 1931 event were so framed as to bar the trade from entry, while another rule banned the professional pilot, though ambiguously, R.A.F. pilots were allowed to compete.

Quite naturally, a great deal of dissatisfaction was expressed over these regulations.

In this year's race, however, any pilot will be allowed to compete, the only conditions being that he (or she) must have flown solo for at least 100 hours, and that he (or she) must be a British subject.

The race is open to any type of *bona fide* civil aircraft, but the entire machine and engine must be constructed in the British Empire. For the purposes of the race, a *bona fide* civil aircraft is one which was originally designed and constructed for use in civil aviation activities.

One good point is that any dual control must be disconnected during the race, if a passenger is being carried ; presumably, this is to prevent the ludicrous situation which has arisen on previous occasions, of inexperienced and incompetent owner-pilots taking the credit for flying in the race when in point of fact, the "passenger" has controlled and navigated the craft—the "passenger" being, obviously, a paid professional.

The course, it is announced will be approximately 1,250 miles, divided into two sections. The first section will be about 750 miles and will start and finish at a London aerodrome ; the second section will be 500 miles, and the event will occupy two consecutive days.

The competing machines will be handicapped for the whole 1,250 miles of the course, according to estimated performances, and a proportion of the total handicap will be allotted to each section. The minimum speed at which the aircraft will be handicapped will be 110 m.p.h.

The fifty competitors making the best handicap performance in the first section will be allowed to continue in the race, and the remainder will be eliminated.

This is another good feature of the 1932 rules, since it will do away with the crowding of machines at controls near the end of the race, which has made matters extremely difficult for timekeepers and other officials when the entry has been very large in previous King's Cup races.

So far, the Royal Aero Club have not decided upon the exact date for the race, but it will be early in July.

The entry fee is £10 and this must be paid to the club by intending competitors not later than 1st April, 1932.

A PARACHUTE SCHOOL.

A PARACHUTE school has been opened at Reading Aerodrome, and a number of pupils from the Phillips & Powis School of Flying, as well as members of the club, have joined, and are undergoing instruction. The equipment used is the Russell "Lobe" 'chute and so far five pupils have made practice jumps.

Recently a 15-year-old girl made a successful drop with a static line from a Klemm. As she jumped a cinematograph cameraman descended with a 'chute from a Spartan and endeavoured to make a film of the incident. The two carried on a conversation as they floated down.

It is interesting to note that more new members of the Caterpillar Club from the R.A.F. were registered in 1931 than in any previous year—the total being 26.

The new members are as follow :—Sgt. Pilot H. V. Hudson, L.AC. H. C. Molyneaux, Sgt. Pilot H. E. Rous, L.AC. A. Cameron, E. E. Smith (A.A.F.), F/O C. M. Chambers, Sgt. Pilot P. C. Ginn, Flt. Lt. E. S. Borthwick-Clarke, P/O W. H. Kyle, F/O K. L. M. Davy, Sgt. Pilot A. S. Blake, F/O R. G. Weighill, P/O E. D. Green, AC. I. D. O'Brien, Sgt. Pilot D. J. Pitcher, L.AC. W. R. Fraser, Flt. Lt. A. G. Pickering, Sgt. Pilot C. G. R, Lewis, L.AC. E. Groombridge, Flt. Cadet J. Bradley, F/O G. O. St. J. Morris, P/O C. L. Tapley, Flt. Lt. H. Seton-Broughall, Lt. P. L. Jamison, R.N., L.AC. R. W. Older and F/O L. R. Mouatt. Two officials of the R.A.E. also qualified—Mr. E. R. Alexander at South Farnborough and Mr. A. Woodward Nutt, at Felixstowe.

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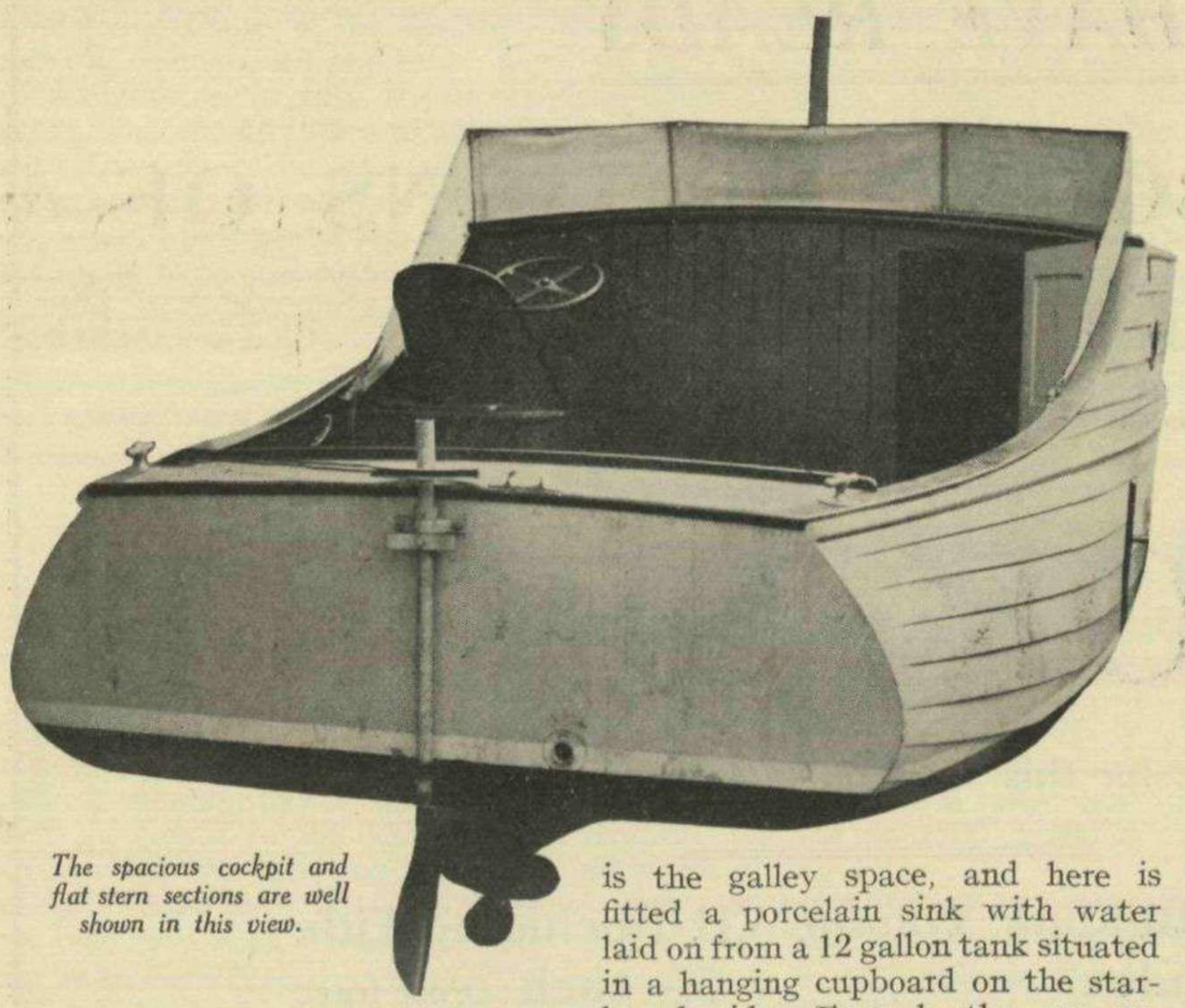
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THE SPORT AFLOAT.

AN ECONOMY CRUISER

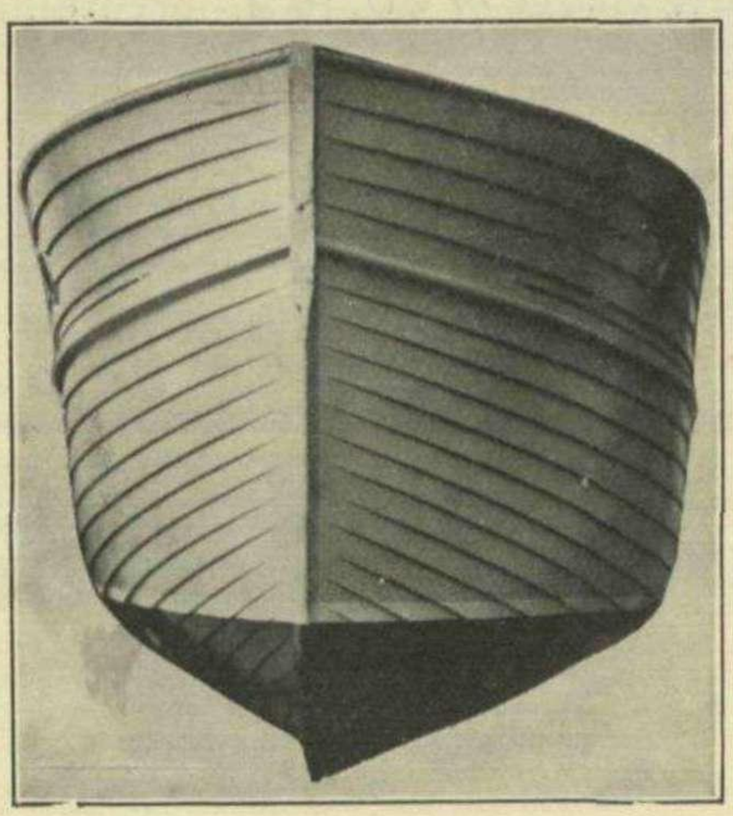
THE HAMILTON 25-FOOTER: A FOUR-BERTH CRAFT SPACIOUSLY EQUIPPED AND SELLING AT £325



The spacious cockpit and flat stern sections are well shown in this view.

IN a previous issue I advocated that motor boat designers should keep their eye on members of the motoring public as prospective purchasers. In line with this idea comes the news that Hamilton Motors, 466-490 Edgware Road, W.2. are to enter the motor boating market with a 25ft. cruiser. Messrs. W. D. L. Theed and W. G. Cass in conjunction with E. L. Comfort, Esq., have during the past season put a 25ft. cruiser, built to their own design, through the most searching tests. The result is that they are now placing before the public a slightly modified edition of the craft they used last year. The new craft is a 25 footer with 8ft. beam and 2ft. draft and is to sell in complete sea-going order for the very low figure of £325.

The boat is divided into only three compartments, but each of these compartments is of unusually large capacity. Aft is a spacious cockpit, amidships a saloon capable of seating eight persons in comfort, and sleeping four on separate berths, while the peak contains an " Elsan " patent chemical lavatory. At the aft end of the saloon on the port side is the galley space, and here is fitted a porcelain sink with water laid on from a 12 gallon tank situated in a hanging cupboard on the starboard side. Four berths are arranged by hinging the backs of the settees so that they may be hung by chains in the horizontal position. A distinct advantage that I noticed with this method of bunking, was that although of full width for night use, thes eats were not too deep for comfortable seating, when in day use.



[*Motor Sport photographs*

The clinker-build makes for strength and low cost.

To the conventional motor boat owner the controls appear a trifle unusual, but are none the less practical, and should especially attract the man used to controlling a car. On the port side is an aeroplane type aluminium bucket seat for the helmsman while steering is by an ordinary spring-spoke car steering wheel.

There is to be a choice of two engines, but the one fitted at present is a Ford conversion by Joseph Stabbs, Ltd., and known as the J.S.L. The alternative is to be a six cylinder of 45 h.p. specially manufactured for Hamilton Motors. With the former engine 12½ knots is the maximum speed, but with the new motor about 14 knots is expected.

The lines of the boat are very good, these giving a good flare to the bows, while the stern is reminiscent of many speed dinghies. The construction is on very sound lines, being clinker build of pitch pine planking on oak frames. Further, there is plenty of deadwood protecting the propeller from damage. The boat is copper fastened throughout, and although perhaps not all spit and polish on the exterior, shows in its sturdy construction the unmistakeable stamp of a good boat-yard.

The deck-beams are particularly numerous and substantial, and in spite of there being no coach roof to weaken the structure at this point, there is full 5ft. headroom in the saloon. Thus, except for ultra large

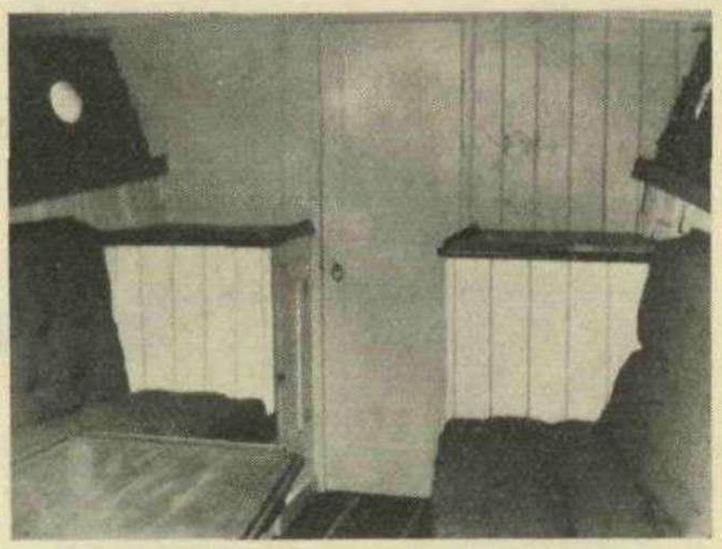
AN ECONOMY CRUISER—continued.

persons there is ample room, and the lines have not been spoilt by attempting full headroom.

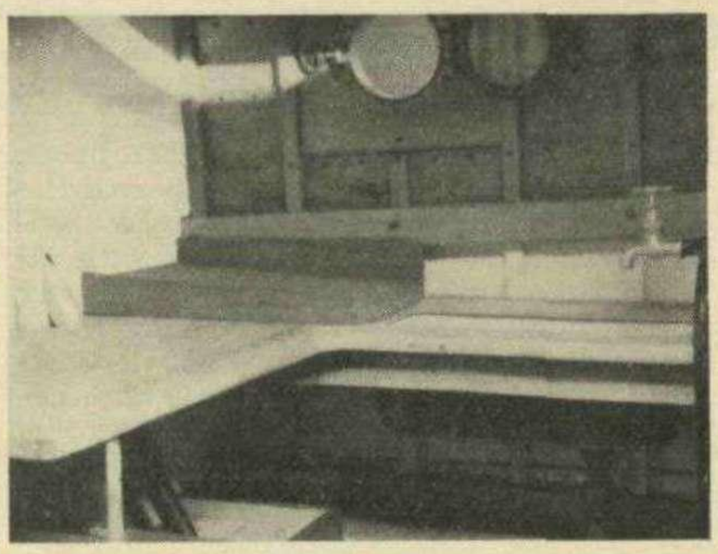
This little ship possesses also the last refinement of a modern cruiser, and that is electric light.

A special system on car service lines is to be inaugurated when production of these cruisers really gets going so that owners will have their boats kept in good order.

Summing up, the Hamilton 25 footer is a craft in which sturdiness of construction and essential comforts have been well thought out, but in order to keep to the extremely low price of £325, the frills and fancies have been left to the owner to complete, if he should be so particular, but it is perfectly complete without any need for extras.



View in cabin looking forward.



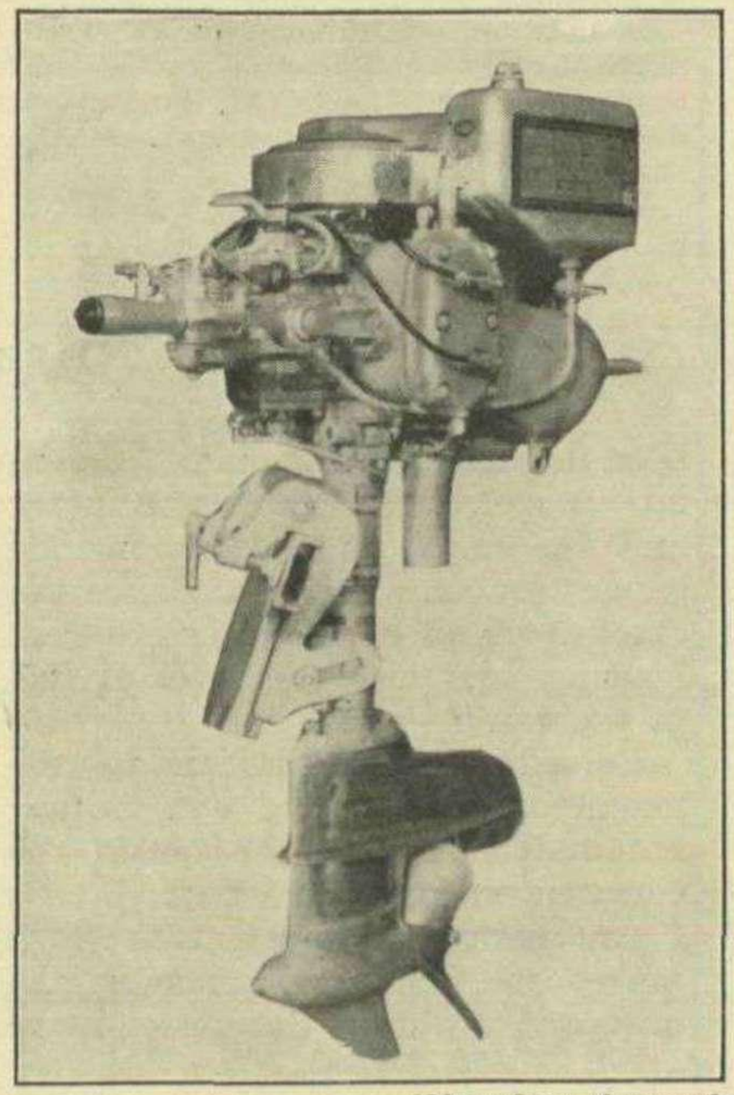
The galley space is unusually generous.

THE JOHNSON OUTBOARD RANGE

ALTHOUGH in these troublous times I ought first, no doubt, to deal with the hard work side of the Johnson motor range, I cannot resist the temptation of giving pride of place to the Sea-Horse 50 on sale for the first time in this country. These motors will be soon known to the habitues of outboard meetings, however, for Messrs. Vanadium Ltd., of 64, Victoria Street, London, S.W.1., the sole concessionnaires for Johnson motors in Europe, have already sold five of the first batch of half-a-dozen. As it is practically certain that three members of the East Kent crowd will soon be proud owners, this club should in the near future be setting new standards of speed boat racing.

The reputation of the Sea-Horse 50 has preceded the motor's arrival, and it is such common knowledge that it is unnecessary to repeat it, that this job, doing its stuff on the back end of a Century Cyclone piloted by T. Estlich put a severe twist in the world's record with 56.71 m.p.h.

With reference to this motor, the catalogue quotes as below, and can thus give but a small idea of the gleaming piece of concentrated machinery that means so many miles-an-hour. Still, for the mechanical-minded here are the main details. The power head in outward appearance could easily be mistaken for the " 32," for this new motor is a four-cylinder horizontally opposed two-stroke, increased charging to the crankcase being obtained by use of a gear driven rotary valve. The bore is 2.656 ins. and the stroke 2.25 ins. giving a total swept volume of 49.8 cu. ins. or in our notation 817.2 c.c. Thus although nearly 200 c.c. below the capacity of its Italian rival the Laros, the Sea-Horse was considerably quicker over the measured mile. As perhaps that statement is not perfectly fair to Aldo Dacco, who has been out of the game for some time owing to his accident from which he has now fortunately recovered, we shall have to wait to see the fight continued in the new year. Further, as several of the new Johnsons have already been provisionally entered in the Poole 100, and it is expected that the Italians will defend the challenge, we shall this spring see the Johnson ' 50 ' up against some worthy metal. The



[*Motor Sport photographs*

The latest Sea-horse " 50."

50 ' has only been tried on a dinghy so far in this country, and Mr. Notley assures me that the motor had no difficulty in romping up to peak at 5,500 r.p.m. with 12in. diameter, 14in. pitch three-bladed prop. As the gear reduction is 21 : 12 the speed of the dinghy must have been in the neighbourhood of 43 m.p.h. which is extremely good, considering that no props have as yet been specially made for the new motors. If we have about six boats doing about 45 m.p.h. at Poole, it should be worth watching. (Incidentally—happy thought—wouldn't it be fun to have an aquadrome inside the concrete at Brooklands ? The necessary fluid could be supplied by the River Wey, Directflow, Hydraulic, and Water Power Co. Unlimited.) The actual dinghy that did the rushing about is the first of the Vanadium M.M.A. class dinghies which are now on the market for the coming season. These boats are available in two sizes, namely a 12ft. 6in. at £24, and a 14ft. at £28.

With regard to the X.R.55, as the Sea-Horse 50 is officially known, the only other items which should be mentioned are the weight and the price, two figures numerically very close, the first being 144lbs. and the latter £145. Mr. Notley is having a hydroplane built in order that he may have a go at the record some time this spring, and as the boat weight restriction is not in force in this country he will stand a good chance of pegging the figure a little closer to the coveted mile-a-minute mark.

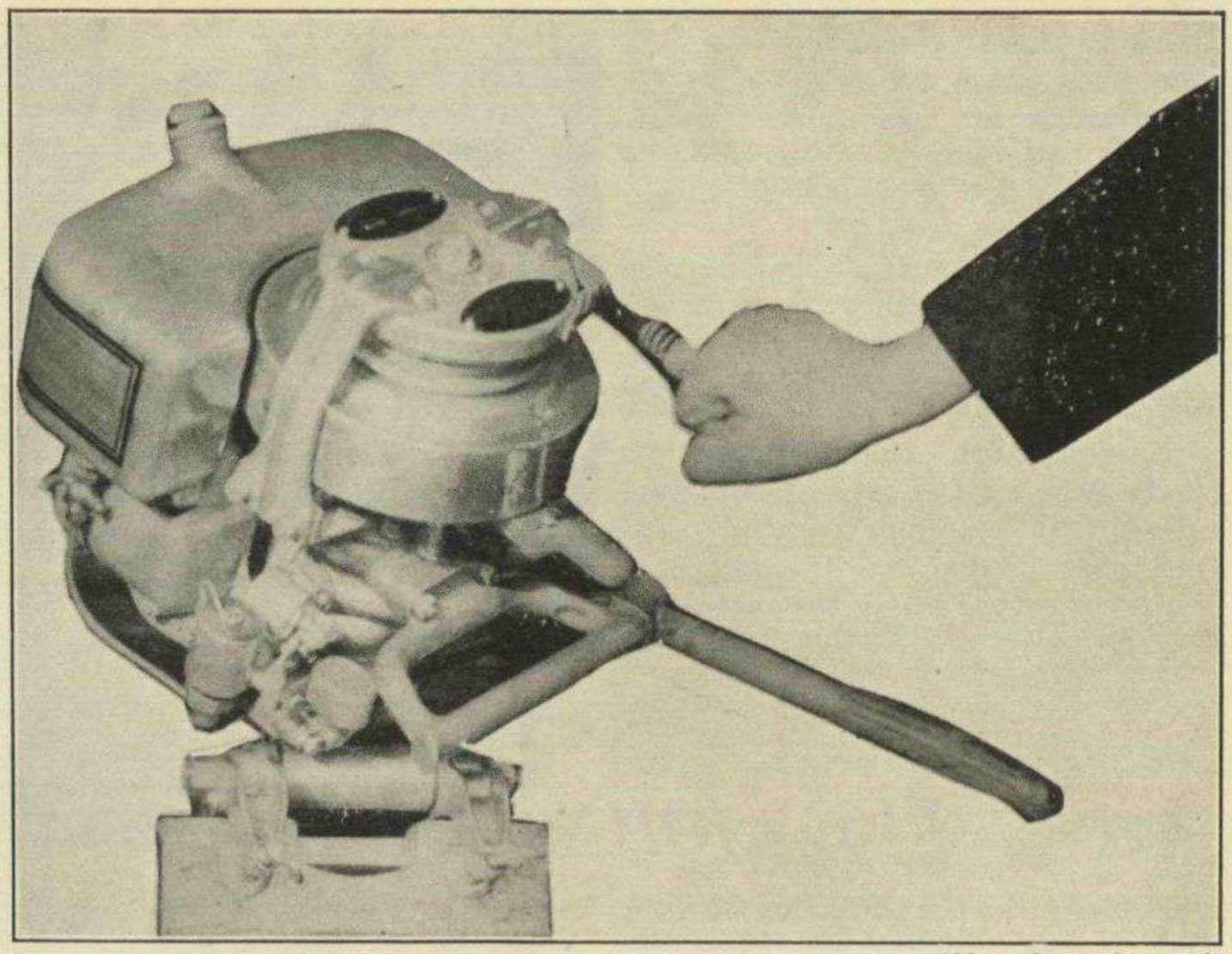
As far as information goes at present the Johnson range will remain as for 1931 during the coming season, except for one or two changes which are likely to occur in the bearing and crankshaft sizes, and also to the form of the under water parts. Johnsons now have a racing motor in each class except the F., and it is of interest to notice that each of the five racing motors peak at 5,500 r.p.m. Although the racing Johnsons come out of factories where mass production methods are in force, those motors sold as racing models have all been hand assembled and finished by skilled workmen, in which process infinite pains are taken to balance the reciprocating parts.

[*Continued overleaf*

THE JOHNSON OUTBOARD RANGE—continued.

The smallest utility Johnson is a little 1½ h.p. job weighing but 27 lbs., and ideally suited for duck punts and small dinghies. Although the dimensions of this motor are so liliputian the vital parts, such as magneto, fixing clamp and the underwater parts, are of man-size proportions. This is also the case with all the utility motors, and the reason why these motors will stand so much hard usage is found in the stiffness of the castings. Sea-Horses "4" and "12" are the next on the list, and while being twins differ from the other Johnson models in having superimposed alternate-firing twin cylinder motors. The price of both of these motors is in the neighbourhood of £45, though since the devaluation of the £1 sterling a definite price can only be quoted on application to the agents, Vanadium Ltd. It was a Sea-Horse "4" that transported Messrs. Lemon, Watkins and Courtauld, members of the British Arctic Air Route Expedition, the 60 miles from Angmagssalik (pronounced as written) to Julianchaab, the whole journey being through ice flow. Several of the "4"s and "12"s are also stated to be giving hard daily service for John Mowlem and Co. Ltd. who are the contractors for the new Ford works at Dagenham. It is examples such as this that will put the outboard on a firm basis in this country.

An additional refinement to be had on these utility jobs is a gadget known as the Re-Koil starter, an arrangement fitted to the starting rim on the flywheel and anchored to the crankcase bolts by a bracket on each side. The device itself is very reminiscent of the important part of a clockwork motor, for it consists of a length of spring steel with a handle fixed to one end. The action of pulling the handle turns the motor over, but upon the handle being released the spring in the steel band returns the handle to the original position.



[*Motor Sport photograph*

A photograph showing the method of operating the new starter device.

In addition to the above comprehensive range there are the electric starting editions of the "16" and "32," and also a flat twin utility model known as the Sea-Horse "10."

A selling point in favour of the Johnson outboard in this country is the fact that the supplies in future will in the main come here from the Canadian factory at Peterborough, Ontario, so that we may now regard the Johnson as an Empire product. Messrs. Vanadium will, however, as before, continue to be the sole agents for Europe.—F.M.

THE "COLONIAL" MODEL WATERMOTA

FOLLOWING on valuable experience obtained on the various long-distance trips undertaken by R. C. Cole on an outboard dinghy using a Watermota, a new and essentially practical model for this class of work has been developed by Walter D. Fair & Co. of Kingston.

Realising the demand for an engine which can be run continuously for long periods, and combine economy with reasonable speed, many interesting modifications have been introduced on the new "Colonial" model. This is a class B motor and the chief innovations include gauges for showing at a glance the amount of oil in the magneto gear housing, and also the level of fuel in the tank.

Forced feed lubrication to the magneto gears, piston, etc., is now automatic, and can be set at the commencement of the trip.

Another remarkable feature which makes its first appearance in the outboard world on this model is the fitting of an impulse starter magneto. Such a device is, of course, not uncommon in other branches of internal combustion work, but its application to outboards is new. The designing of a fool-proof and waterproof system for outboard use is not simple, but this device works excellently, and promises to revolutionise the magneto-fired outboard.

During a test of this engine so fitted we found starting to be quite infallible, however slowly the engine was rotated.

AS stated last month, Mr. R. C. Cole intends to visit as many European capitals as can reasonably be reached by water, and already notices have appeared in the daily press concerning a new adventure—this time to Paris. For this journey it is likely that Mr. Cole will travel solo, to enable him to make the run in the shortest possible time.

Mr. Cole proposes to return to his old love, the Watermota, and if this be so he will undoubtably use one of the new Colonial models fitted with an impulse starter.

It is hoped that a start may be made early this month.

Motor Sport Classified Advertisement Section

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1929 M.G. 14/40 2-seater. Red and aluminium, very clean, small mileage. 70 m.p.h. £105. C. H. Wells, Mount Arlington, Shortlands, Kent. Ravensbourne 1295.

£50 !! M.G. 14-40 Super-sports 4-seater, specially finished in cream and red, wire wheels, servo f.w.b., new set side curtains and hood, leather upholstery, bucket seats, good tyres, really smart and fast car. Below.

£45 !! M.G. 14-40 Super-sports 2-seater, blue and aluminium, f.w.b., 6 new tyres, good hood, etc., new battery, 70 m.p.h., very attractive car ; both the above cars carry our written guarantee ; exchanges, deferred. Greenwood Motors, 302, Highgate Rd., N.W.5. Gulliver 4223.

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THE "LONDON-GLOUCESTER"



A general view of the restart on Bushcombe; the driver is C. F. Widmann (Triumph).

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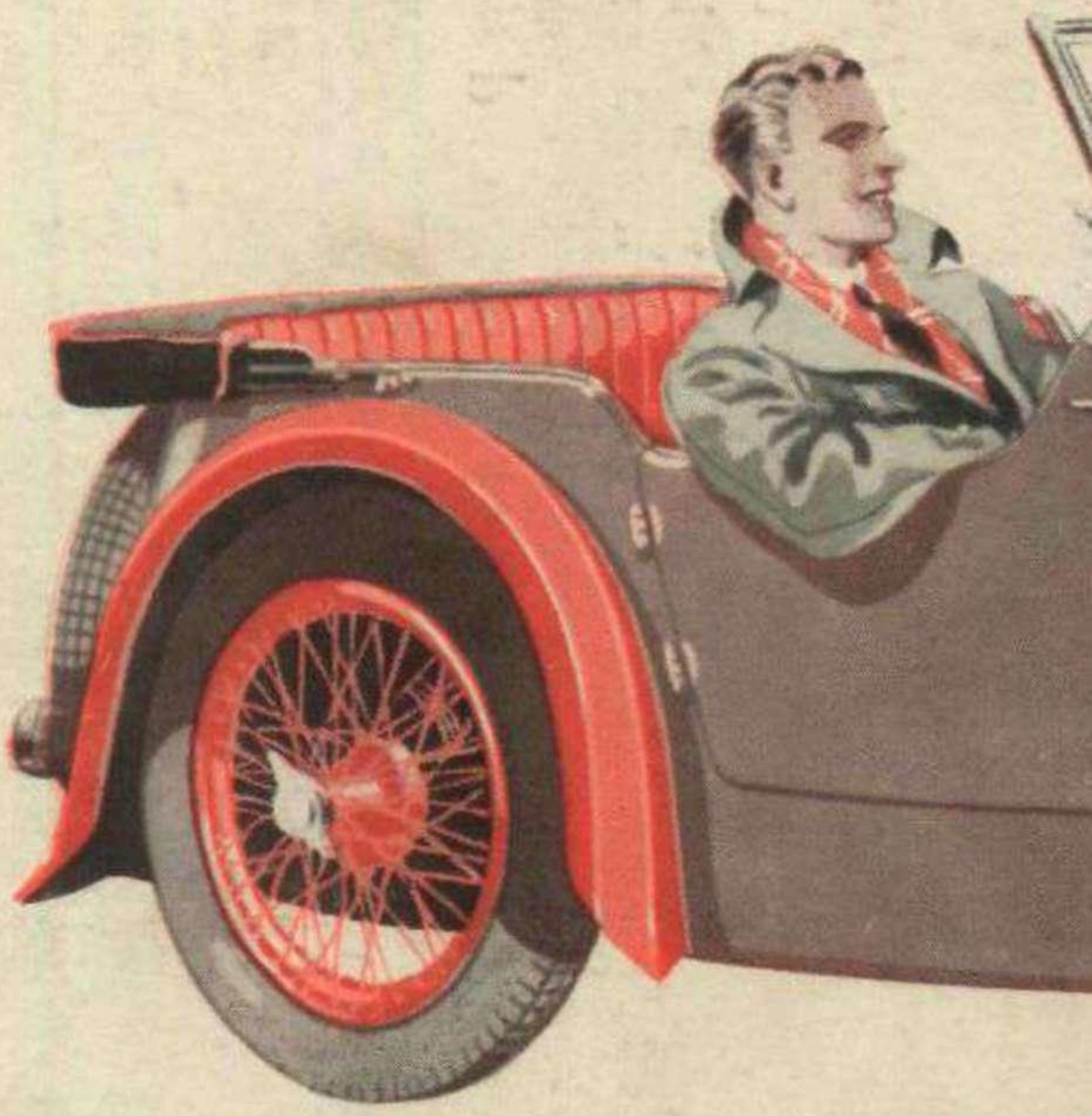
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