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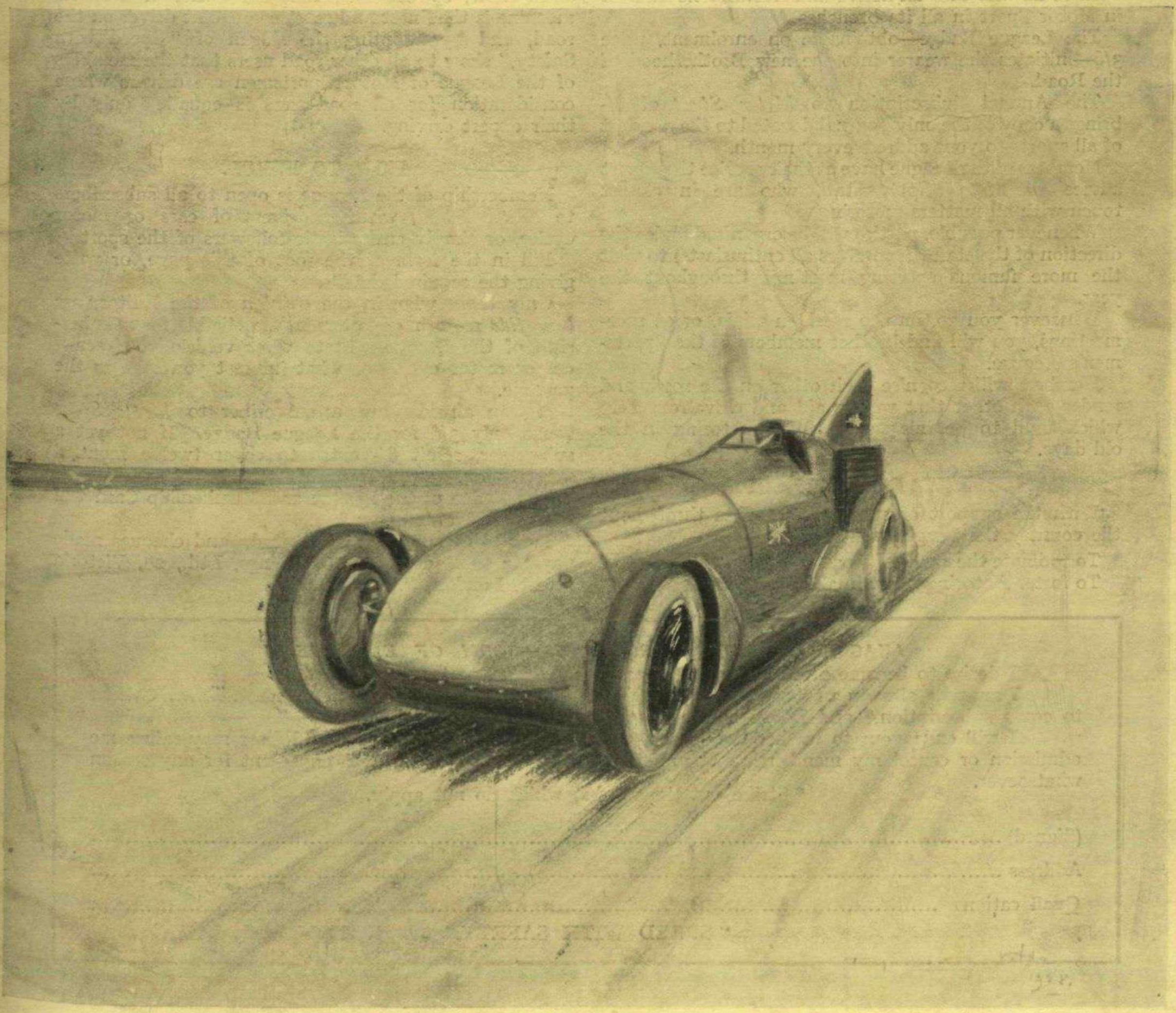
The Official Organ of the League of Motor Sportsmen.

Incorporating The Brooklands Gazette

MOTOR SPORT

Vol. 4 No. 8

March 1928



THE LEAGUE OF MOTOR SPORTSMEN

INAUGURATION OF A NEW LEAGUE OF FELLOWSHIP

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To foster Motoring Sport in all its aspects.

To combat unjust Police persecution.

To educate Public Opinion, which is so definitely anti-motorist.

To restore the Chivalry and Fellowship of the Road, which, with the increase of purely utility motoring, is fast dying out.

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PANHARD & LEVASSOR

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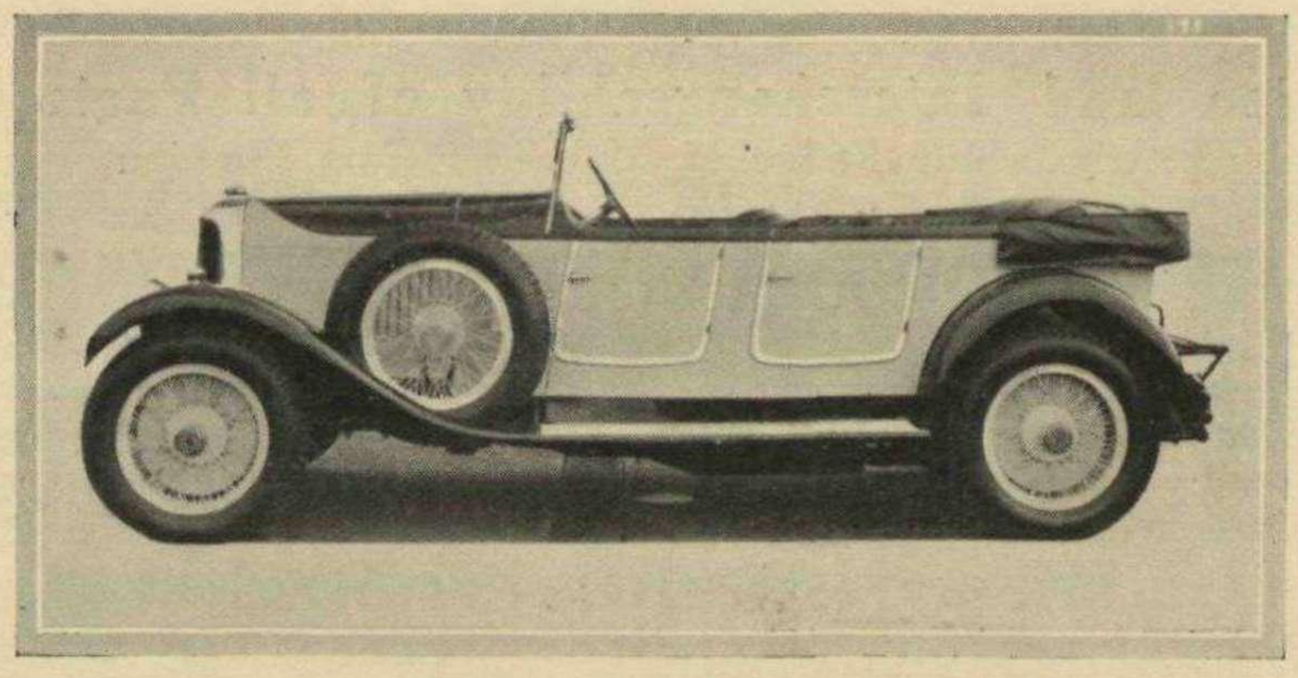
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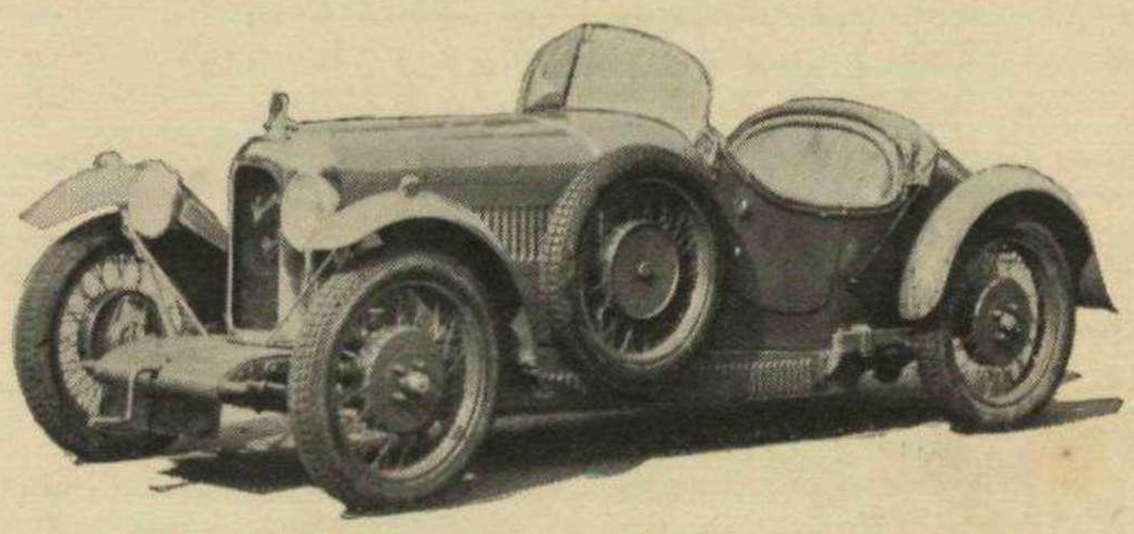
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Conducted by
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Edited by L. A. HUTCHINGS.

Assistant Editor:
RODNEY L. WALKERLEY.

MARCH, 1928.

THE LAY PRESS.

THOUGH the subject is by no means new as a topic for editorial discourses in motoring journals, we are reluctantly compelled to admit that the "donkey," in spite of frequent flogging, is still far from being dead.

We have watched and waited for month after month in the hope of seeing some improvement in the attitude of the everyday press towards motoring on the one hand, and, on the other hand, in the hope of seeing some small degree of accuracy in the reports of such sporting motor events as they condescend to include.

Pride of place for childish and ignorant motorphobia must be awarded to one of the premier humorous weeklies, which, while accepting several pages of advertisements from car manufacturers, cannot let a week pass without at least two extremely feeble jokes on the subject of the "sport of pedestrian coursing."

At first these jokes were faintly amusing, but when after six months we still find variations of the same foolish theme, we almost suspect the perpetrator of possessing insufficient wit to conceive a fresh subject. It must be obvious to anyone but a half-wit, or a blind recluse, that motorists and pedestrians can no longer be summarily divided into two distinct and hostile classes, when the proportion of motor vehicles to the whole population is as it is to-day. Furthermore, the insinuation that a man becomes necessarily a fiend or even just callous when he enters a motor car is contrary to all experience of human nature.

Whatever charges may be laid against motorists (and we gather that the term is intended chiefly to apply to private drivers), that of causing an undue number of deaths among the walking classes is the one that is least supported by statistics.

In towns a number of "joy-walkers" are killed by commercial vehicles and a few by private cars, but in the open country such fatalities as do occur are mainly caused by collisions between different vehicles, in which the "pedestrian" has no part at all.

One would think that by this time the perpetrators of these bitter "jokes" would have realised that Mr. Everyman is the motorist of to-day, and as such includes every type of human being, so that this spiteful recrimination can but appeal to a biased and rather narrow-minded minority, and, if prolonged, will cause considerable resentment in other circles.

The question of accuracy in reporting motoring events is rather different. Although motoring is rapidly becoming a national feature, both in business and pleasure, none of us enthusiasts can pretend that the "sport" of motoring is yet a force to be reckoned with. Until Brooklands draws Epsom or White City crowds, we cannot expect accurate reports of our events, but must tolerate "London-to-Exeter 'Races'" and "International Speed Races at Daytona" (whoever heard of a *race* in which speed was not the determining factor?).

But, Gentlemen Editors, surely you can afford just one motoring expert to eliminate some of the awful rubbish that frequently appears in your papers?

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GREAT RACING MARQUES.

XII.—PANHARD ET LEVASSOR.

By E. K. H. KARSLAKE.

Far back in the old heroic days, before most of the cars which are now famous had ever been heard of, the name of Panhard et Levassor enjoyed an unrivalled prestige among every devotee of motor racing. For the first few years of its development, in fact, the history of Panhard may be said to be the history of the motor car.

It was in 1889 that M. Levassor got into touch for the first time with Gottlieb Daimler, and from that moment he set about the building of a motor car. Of course, everyone knows how he invented the gearbox, remarking, "Brutal, but it works," as he did so; and, in fact, much of his original design has survived till the present day, for he placed the engine in front and drove to the back wheels.



CHARLES JARROTT WINNING THE CIRCUIT DES ARDENNES ON HIS 70 H.P. PANHARD, 31ST JULY, 1902.

By 1894 enough cars had been built to allow a race to be held from Paris to Rouen, and no less than 102 machines set out on the journey. Of these, fifteen arrived at Rouen, with a 4-seater Panhard in third place; but as the contest was really to prove that a car could actually do the seventy odd miles from Paris to Rouen, the first prize was divided between the Panhard and a Peugeot which had arrived second, as the most roadworthy vehicle.

The Marquis de Dion, who had come in first on his 4-seater steam car, had to be content with second prize, although it was admitted that "his interesting steam tractor . . . is incomparably fast, especially when going up hill," and had, in fact, averaged over 7 m.p.h. for seventy miles. The marquis, therefore, decided to organise a pure speed test for the following year, and the course was chosen as a journey to Bordeaux and back. This time no less than thirty-one firms entered cars, and among them was one specially built for the race by Panhard Levassor with 4½ h.p. engine. The start was at Versailles on 11th June, 1895, and 48 hours 48 minutes afterwards, Levassor was back in Paris, his victorious Panhard having covered the 732 miles at 14.9 m.p.h., in the first real motor race ever run.

In 1896 another great race was organised, this time from Paris to Marseilles and back. The 4 h.p. Panhard was again entered. M. Levassor, however, while travelling at high speed (about 20 m.p.h.) struck an obstacle, which had the effect of wrenching the steering

GREAT RACING MARQUES—continued.

tiller out of his hands, his car turned over, and its designer-driver was killed. The race, however, was won by Mayade, driving another 4 h.p. Panhard, who averaged 15.9 m.p.h. for the 1,077 miles.

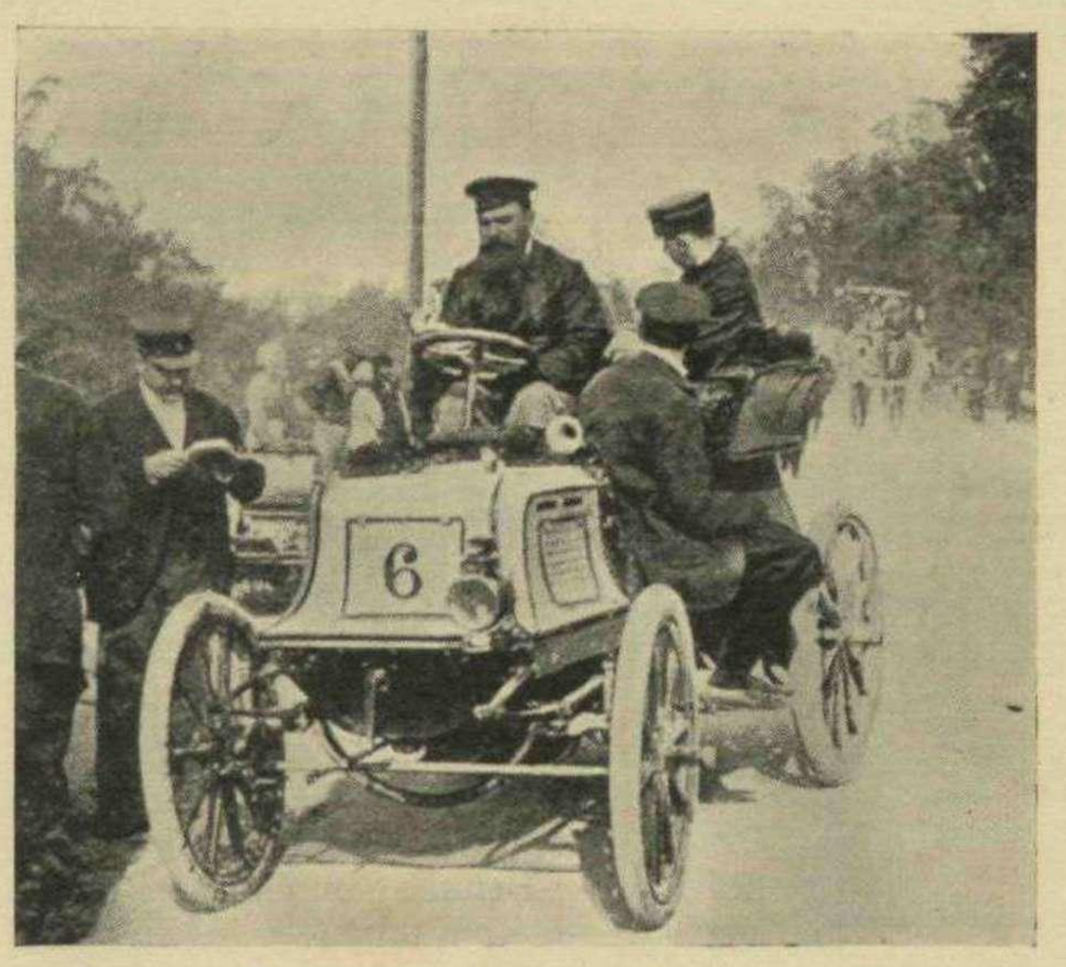
Panhard having thus won every race that had been held, it was the turn of the others, and in 1897 no important victories fell to their lot. In March of 1898, however, a race was held from Marseilles to Nice, and marked the first successful appearance of Charron and the 8 h.p. Panhard. This car had a 4-cylinder engine with a bore and stroke of 80 × 120 (2402 c.c.) and its b.h.p. of 8 forms an interesting comparison with 200 odd h.p. which would be obtained from a racing engine of equal size nowadays. Its average speed for the 148 miles of the race was 21.4 m.p.h. ; speeds were going up!

In May was run the Paris-Bordeaux race, over the road which had been the scene of the triumph of Levassor three years before. Again the winner was the 8 h.p. Panhard, but this time its driver was the Chevalier René de Knyff, who is still at the head of the great French firm, and President of the Automobile Club de France, and who then averaged 23.5 m.p.h. over the 359 miles to Bordeaux.

In July came the race from Paris to Amsterdam and back, and victory fell once more to Charron on the 8 h.p. Panhard, while the motoring world literally stood aghast at his average of 27.3 m.p.h. for 902 miles. Since the Paris-Marseilles race, M. Mayade had also been killed by the tiller of his car being wrenched from his hands, and Charron's Panhard, for the first time in racing history, was fitted with wheel steering.

The 1899 season opened with the Paris-Rouen-Paris race, an event which was won by Girardot on a 6 h.p. Panhard, whose average of 30.25 m.p.h. showed a considerable increase on the 7 m.p.h. set up by the Marquis de Dion on the same road over half the distance only five years before. Then, in May, came the great event of the year, the second Paris-Bordeaux race, and another victory fell to Charron. Engines were growing larger now, and the famous driver's Panhard developed 16 h.p., while the average for the race was increased to 30.3 m.p.h. The 16 h.p. Panhard had made a successful début, and de Knyff followed it up by winning two more races on the same type of car. The Spa-Bastogne-Spa race in Belgium he won at 24.5 m.p.h., and in the Tour de France race he averaged no less than 30.8 m.p.h. for 1,377 miles. Before the year was out, however, Girardot was to show that much could still be done with his 12 h.p. Panhard, by dead-heating with a 16 h.p. Mors in the Paris-Ostend race at 32.5 m.p.h., and winning Paris-Boulogne at 33.5 m.p.h.

In 1899 a great argument had taken place between Mr. Winton and M. Charron as to the respective merits of American and French cars, and Mr. Gordon Bennet had decided to give a cup for which cars of all nationalities could compete in a race. The course chosen was Paris-Lyons and the race was run in June, 1900. The Winton car was a single-cylinder machine with tiller steering ; while Charron, in spite of the fact that de Knyff had won the circuit du Sudouest and the Nice-Marseilles races earlier in the year on the now famous



CHEVALIER RENE DE KNYFF IN PARIS-AMSTERDAM ON HIS 8 H.P. PANHARD, 1898.

16 h.p. Panhard, used a new monster 24 h.p. machine. The result of the race was a foregone conclusion, and Charron arrived at Lyons having averaged 38.6 m.p.h. for 354 miles, although his back-axle was badly bent and his mechanic was holding the friction-driven water-pump against the flywheel.

This successful 24 h.p. model gained another victory at the beginning of 1901, when Maurice Farman won the Grand Prix de Pau by averaging 46.1 m.p.h. for 206 miles. But for the Gordon Bennet Cup, which was run in conjunction with that year's Paris-Bordeaux race, they decided to build something even bigger, and the famous 40 h.p. Panhard was produced, and again the great French firm was victorious. This year the successful driver was Girardot, who was the only competitor to finish, and who averaged 37.3 m.p.h.

The great race of the year, however, was Paris-Berlin, in which 100 cars took part, including several of the 40 h.p. Panhards. All the way between the two capitals, from Paris to Aix-la-Chapelle, from Aix to Hanover and from Hanover to Berlin, a great race had been fought out between Fournier, on a 60 h.p. Mors and Girardot, de Knyff and Maurice Farman on the Panhards. Finally, Fournier arrived first in Berlin, with Girardot a close second ; but as he moved off from the finishing line for the triumphal procession into the town, one of his driving chains broke, and of all the races which have been merely won, Paris-Berlin came the nearest to a win for Panhard. The race also marked the début of Charles Jarrott, who at his first appearance on a racing car, piloted his 40 h.p. Panhard into eighth place.

In the course of the Paris-Berlin race, several accidents had occured, and the French Government began to look on motor racing with disfavour. Finally, however, it was persuaded to organise one itself round the Nord province, on condition that the cars used alchohol prepared in France instead of petrol. For this race de Knyff had an entirely new car, with a 70 h.p. engine of

GREAT RACING MARQUES—continued.

160 × 170 mms. bore and stroke (13,678 c.c.) which was built exceptionally low for a racing car of the time. The other drivers had the 40 h.p. model, and in the race de Knyff was put out of the running by a slipping clutch, leaving Maurice Farman, on one of the 40 h.p. cars, to finish first at an average speed of 45 m.p.h. for 541 miles, with Charles Jarrott on a similar car second.

As a fitting sequel to the Paris-Berlin race of the year before, the big race of 1902 was staged on the Paris-Vienna road. With it was combined the Gordon-Bennet Cup race, the competitors in which had to go only as far as Innsbruck. France as the holder of the cup, was challenged only by England, which was represented by S. F. Edge on a Napier and Sir Herbert Austin on a Wolseley. The French team included de Knyff on a 70 h.p. Panhard, and a number of other Panhards were entered in the race to Vienna. By the time Belfort had been reached, de Knyff and Edge were the only two of the Gordon-Bennet competitors left in, while de Knyff had a substantial lead. When only 20 kilometres from Innsbruck, however, he was put out of the running by a broken differential casing sleeve, leaving Edge to win the cup for England. Fastest time to Vienna was made by Marcel Renault on a little 16 h.p. car ; but in the big car class, Henry Farman was first on a 70 h.p. Panhard. Some details of these cars may be of interest. In order to obtain lightness, the frames were of wood, with steel strengthening plates ; there was a single transverse spring in front, and semi-elliptics at the back. The work of lightening the chassis had been so well carried out, that in spite of their 13½-litre engines, they were actually lighter than the 40 h.p. model which had preceded them.

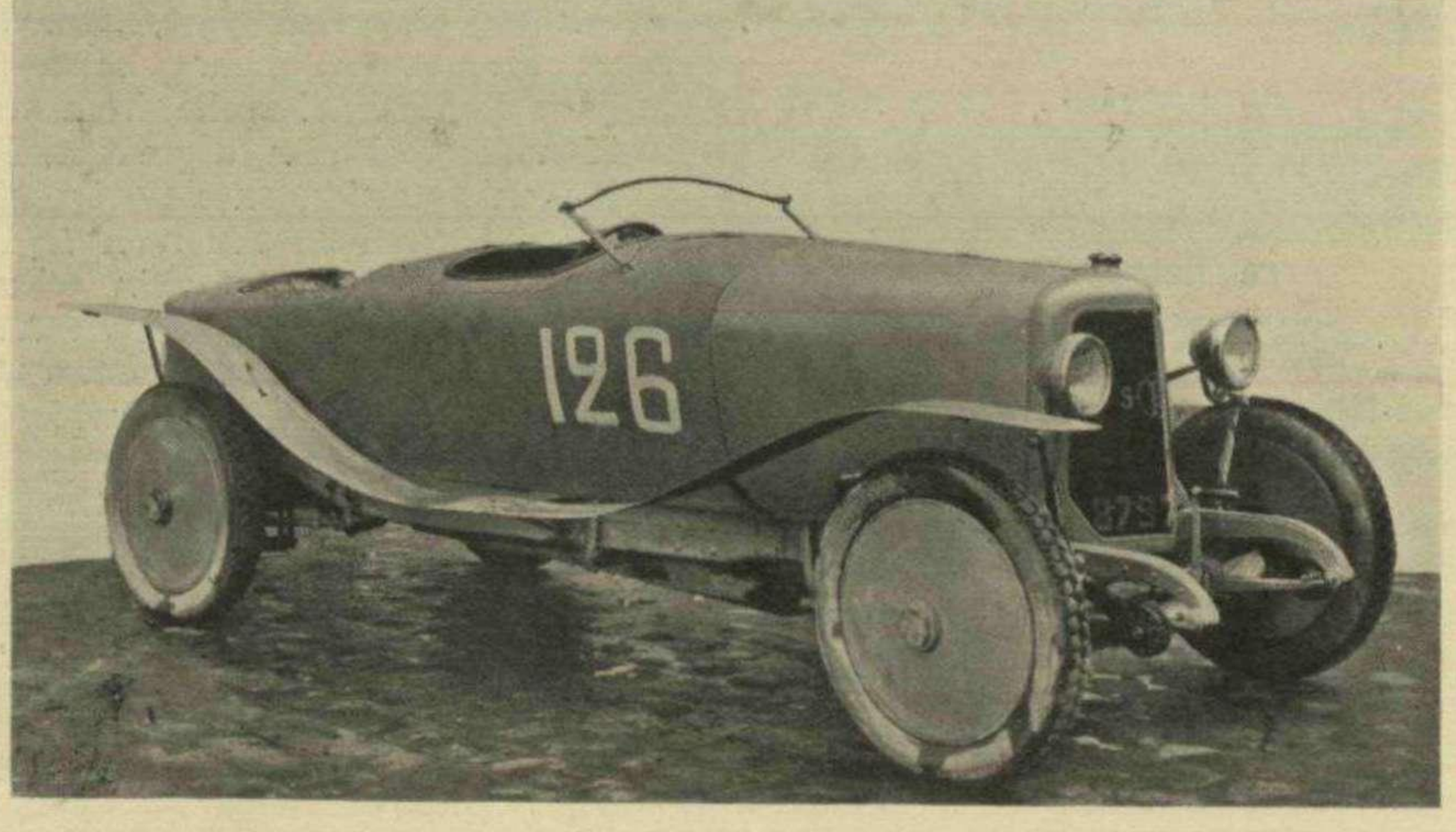
There was one more victory in store for Panhard before the year was out. In July was organised the first Circuit des Ardennes Race over a closed circuit—an innovation in racing. The firm did not enter officially for this event, but several drivers entered their own cars and among them Charles Jarrott, who after a splendid race finsihed first on the 70 h.p. car he had driven in the Paris-Vienna race, averaging 54.3 m.p.h. for 320 miles.

S. F. Edge having won the Gordon Bennet Cup in 1902, the 1903 race had to be organised by the British club, and a course was selected in Ireland. The French team for the race included de Knyff and Henry Farman on Panhards, and they had to compete against cars from England, Germany and the United States. In the course of the race, all the French drivers dropped out except de Knyff, and he was left in to fight out the finish against Jenatzy on the Mercedes, and after a magnificent race, the latter just got home first with de Knyff in second place ; and once more the cup was lost to France.

The Panhard et Levassor firm, however, had their consolation in that year's Circuit des Ardennes race, which was run over the same course in Belgium as in 1902, and which was won by the Baron Pierre de Crawhez who on a 70 h.p. Panhard averaged 54.5 m.p.h. for the 320 miles, and whose time varied from Jarrott's of the year before by less than one minute. The next year the race was run again, and this time it was George Heath who secured the third consecutive win for Panhard. For the 1904 race the distance had been increased 370 miles, but Heath on his 90 h.p. Panhard raised the average for it to 57 m.p.h.

It was the same driver and car who gained for Panhard their last great win in the classic races ; and curiously enough it was far away from France that the last triumph of the great French firm was played. In 1904 the first race for the American Vanderbilt cup was run in Florida, and Heath proved the victor, averaging 52.2 m.p.h. for 284 miles. For ten years, Panhard et Levassor had dominated the racing world ; but henceforward their winning day seemed to have passed, and it was other younger firms who snatched the honours.

In 1904 and 1905, no Panhards had been chosen to represent France in the Gordon Bennet Cup races ;



IN CONTRAST WITH THE PREVIOUS ILLUSTRATIONS. A PANHARD RACER USED AT BOULOGNE.

GREAT RACING MARQUES—continued.

but in 1906 came the first Grand Prix, and once more the name of Panhard figured on the entry list of the classic race of the year. Three 130 h.p. Panhards were entered with George Heath, Tait and Teste as their drivers. These cars had 4-cylinder engines of 185 × 170 mms. bore and stroke (18,286 c.c.) and had the highest power-weight ratio in the race. Transmission was by a 4-speed gearbox, and shaft drive instead of chains; another advanced feature was the use of a high-tension magneto. None of the Panhards, however, succeeded in figuring very prominently in the race, Heath being the only one of the team to finish.

The next year three cars of the same type were entered, with Heath, le Blen and Dutemple as drivers, in the Grand Prix which was over the Dieppe course, but none succeeded in finishing. In 1908 the bore of the competing cars was limited to 155 mms., and the Panhard engines were therefore 155 × 170 mms. (12,836 c.c.). Three cars started, with Heath, Henry Farman and Cissae as their drivers, but on the ninth lap, Cissae's car overturned and its driver was killed, while on the next lap Farman was forced to retire. Heath was the only member of the team to finish, driving his Panhard into ninth place.

The German grand slam in this race was so much felt in France that for three years no Grand Prix was held. When it was started again, many of the old-time champions simply did not come back. Panhard et Levassor have never figured again in the great long-distance races, and a year or two ago their name had almost faded from the memory of motor racing enthusiasts.

The rest of the story takes the form of a rather curious epilogue. Soon after Panhard gave up racing, Mr. Charles Y. Knight arrived in Europe with his invention of the sleeve valve. The device was taken up by Daimler in England, Minerva in Belgium and by Panhard et Levassor in France; and due to its adoption the character of Panhard cars changed rather to closed body type of chassis. After the war, however, experiments were made with light steel sleeves, and it was found that with them almost equal engine efficiency could be obtained as with poppet valves. The result of this was the marketing of the 28-80 h.p. sports Panhard, with a 4-cylinder sleeve valve engine of 105 × 140 mms. (4,849 c.c.). In 1925, M. Ortmans on a specially prepared edition of this model, proceeded to attack the hour record, and succeeded in covering over 115 miles in the time, also annexing the world's record for 50 and 100 kilometres and 50 and 100 miles. In the spring of 1926 he again appeared, this time with the standard straight-eight Panhard of 85 × 140 mms. (6,355 c.c.), and succeeded in bettering his own figures for 50 kilometres, 50 miles and 100 kilometres, and a few days later for 100 miles, while he raised the hour record to 120.24 m.p.h. and succeeded in lapping Montlhéry at 126.1 m.p.h.

The 50-mile and kilometre records, however, were recaptured by Eldridge, and in October, therefore, Breten brought out the 8-cylinder again and recaptured them at 129.6 m.p.h. and 128.6 m.p.h., respectively; at the same time he captured the 5 miles and 10 kilometre records on the 4-cylinder car. Thus it was proved that the standard cars are still efficient that are produced by the firm which in the early days could hoist the flag of victory at the conclusion of almost every race.

CAPT. CAMPBELL'S RECORD.

The topic of the moment is Captain Malcolm Campbell's successful record breaking run at Daytona Beach, whereby he beat Major Segrave's record by over 3 m.p.h.

Every credit is due to Captain Campbell and to all who had a hand in the manufacture of his special car. At 214 m.p.h.—which was the fastest "one-way" speed attained—the strain on every part was necessarily tremendous, but far greater was it when, at over 200 m.p.h., the car skidded broadside. One would expect the tyres to blow off or the wheels to buckle; yet neither happened; Campbell recovered control and continued. Incidentally, the well-known Rudge-Whitworth wire wheels were used and the manufacturers are naturally very proud of their product.

In connection with these wheels we hear that they can now be supplied for immediate fitment to any make of car. It is claimed that they are both stronger and lighter than disc or artillery wheels. Campbell has definitely proved their strength!—and that, owing to their resilience, they effect a saving of 40 per cent. on the tyre bill.



SAND RACING THRILLS. NOTE THE CONDITION OF THE COURSE.

SPORTING CARS ON TEST.

THE 1,100c.c. VERNON-DERBY.

By THE EDITOR.

FOR some years past a small but energetic French factory has been busily engaged on the manufacture of the 1100 c.c. Derby, a car which is quite well-known on the Continent, but which until recently was hardly ever seen in this country.

The popularity of this type of car abroad is undoubted, but here the demand is comparatively small; however, with a view to catering for this small but insistent demand, about a year ago Mr. Vernon Balls introduced an improved and Anglicised version of the Derby to this country.

This was known as the "Vernon-Derby" and differed from the continental version chiefly in the matter of bodywork and equipment, being more suitably turned out for the British climate and temperament than the latter.

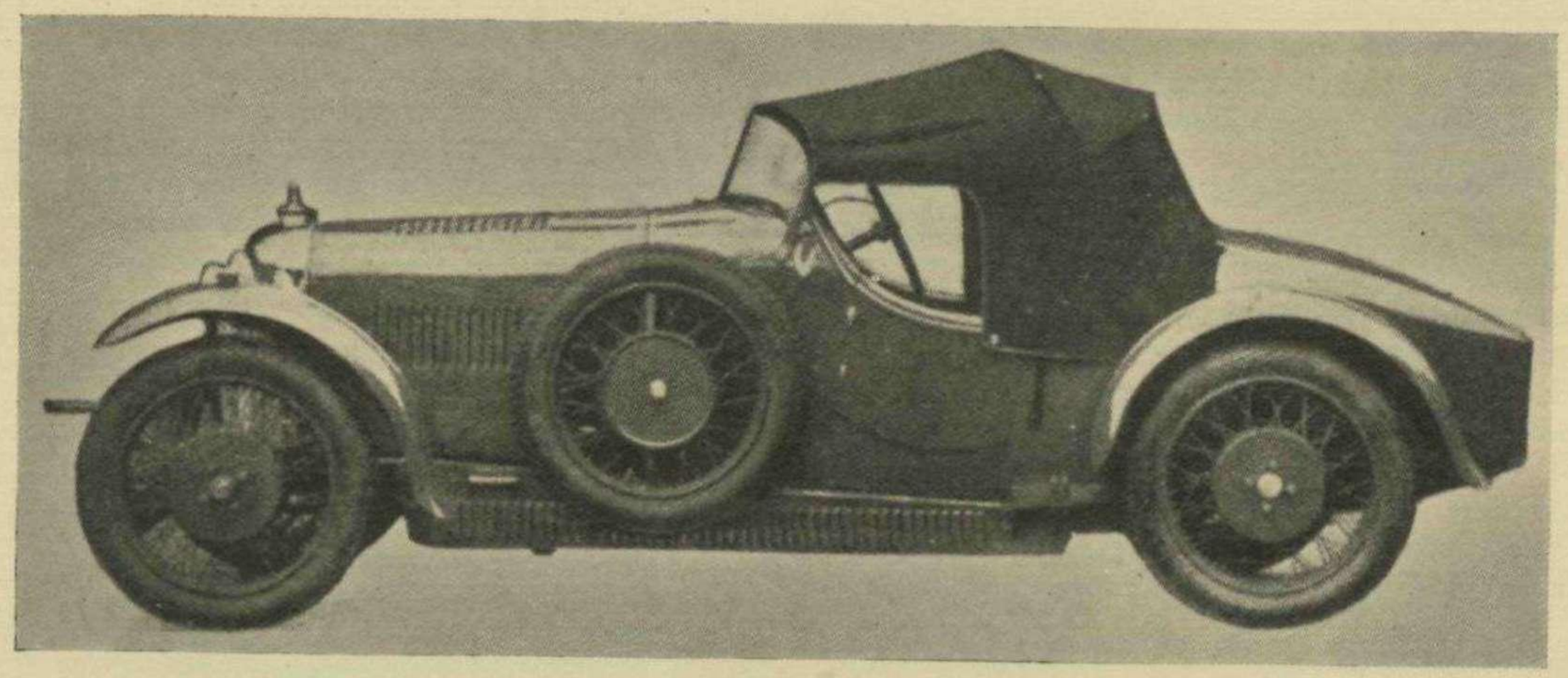
Owing to pressure of other business and his racing activities, Mr. Balls has had to relinquish his interest in the Vernon-Derby and the concessionaires are now Messrs. Morgan-Hastings, Ltd., of Berkeley Street, W.

In company with Mr. Kinneson, of Morgan-Hastings, I recently enjoyed a short day's outing in one of these cars, fitted with the well-known 4 cylinder Ruby engine. In connection with the engine it is interesting to note that three models are made, one with a Ruby, one with a Chapuis-Dornier and one with a S.C.A.P.; the latter engine can be fitted with a supercharger if desired, when an extremely high performance may be expected.

The Ruby engine is a fairly conventional unit, with a two-bearing crankshaft and vertical overhead valves operated by push-rods and rockers, all enclosed by an oiltight aluminium cover. The inlet manifold is cast in the cylinder block and fed by a Solex carburettor from the front end of the engine. A single dry plate clutch conveys the drive to a very useful 4-speed gearbox (of which more anon) and the propeller shaft is enclosed in a torque tube with an extra bearing halfway along. No differential is fitted as standard, but may be had as an extra, though hardly required on such a small car.

The absence of differential also eliminates considerable complication from the brake gear, as the foot pedal operates both sets of front shoes and the set in one of the back wheels, while the hand lever applies the shoes in the other rear wheel. The wheels are built up with integral brake drums so that when the former are removed the brake shoes can be inspected without further ado.

The body on the Vernon-Derby, while fulfilling all the ideals of the sporting enthusiast so far as appearance goes, is yet very comfortable and provides ample protection from the elements. A feature not usually associated with this type of vehicle is a door on the near side, which greatly facilitates the ingress and egress of the "not so young" and of the fair sex!



THE EXTREMELY LOW BUILD AND SPORTING LINES OF THE VERNON-DERBY.

The whole car is extraordinarily low and "racy" of line, due to careful design of the chassis and distribution of the components and *not* to cleverly devised cowling and under-shields!

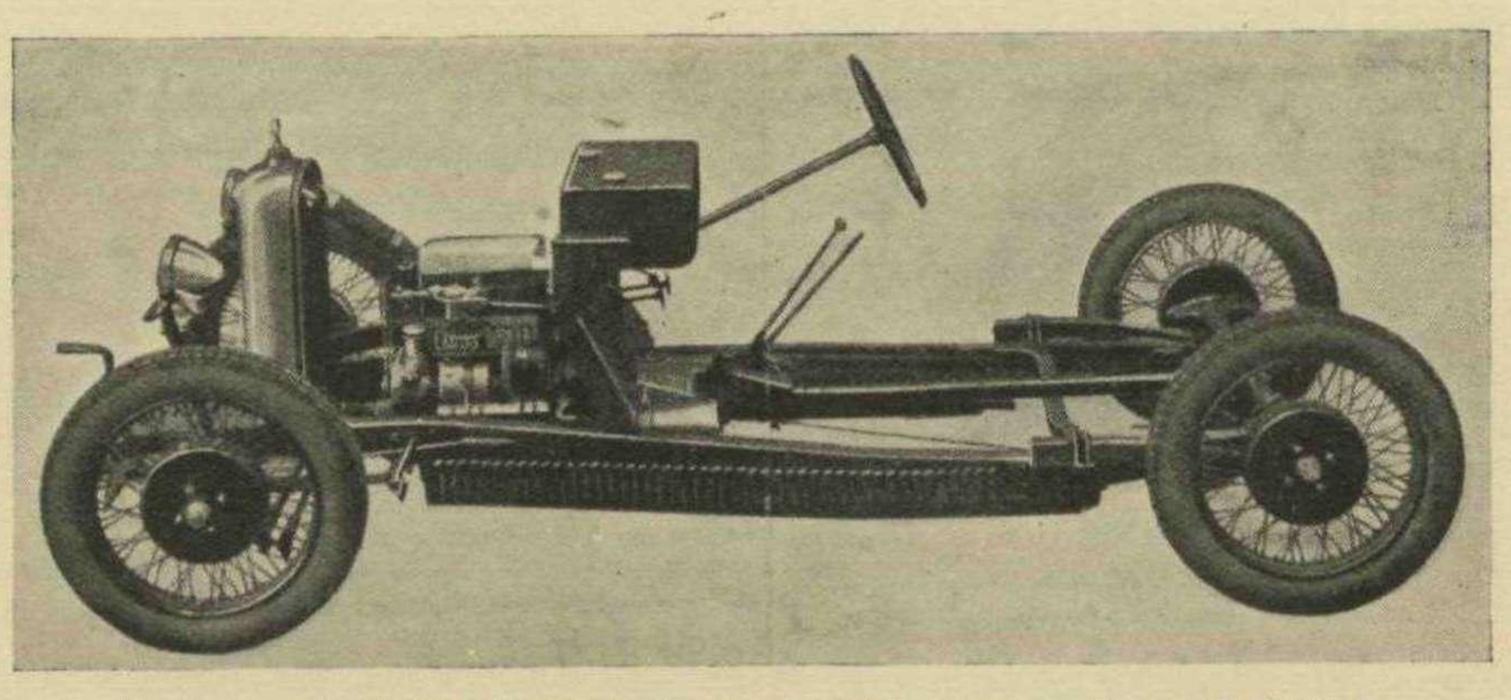
On the Road.

Before setting out for our road trial I was warned not to expect anything phenomenal in the way of maximum speed as (a) the Ruby is not the fastest engine fitted to this car and (b) the particular specimen in question was tuned for town demonstration work

SPORTING CARS ON TEST—continued.

and economy, where rapid acceleration combined with extreme docility are in far greater demand than any other quality.

I soon found that both the above qualities were present to a marked degree—the car responding to the mood of the moment with great amiability, running gently at about 8 m.p.h. on top gear, if required, and leaping forward on the lower gears in a startling manner, if a gap appeared in the traffic ahead.



THE VERNON-DERBY CHASSIS EQUIPPED WITH CHAPUIS-DORNIER ENGINE.

The brakes, too, showed up to advantage under these conditions, and were called upon to do their utmost several times, during the first ten minutes, by the antics of various " other fools," who rushed out of side roads at high velocity.

As soon as we were clear of the densest traffic, I began to indulge in a veritable orgy of gear changing, to which the gearbox not only lent itself, but which it definitely encouraged. Four extremely well-chosen ratios are provided, namely, 12.25 to 1, 8.25 to 1, 6.2 to 1 and 4.2 to 1, while reverse gear is 16.25 to 1. The result of such a box, combined with a really quick change, is to endow the car with a performance far more interesting than any similar engine in conjunction with the more stolid type of 3-speed gear. The actual operation of the gears is rather unusual, in that the upward changes, from 1st to 2nd, and from 3rd to top are carried out by a forward movement of the central lever. Once I became accustomed to this feature, I decided that it had much to recommend it, chiefly for the following reason:—The upward change is usually made under comparatively leisurely conditions, and I find that the backward movement of a lever is easier than a forward one. Hence, no disadvantage is felt when changing up in a forward direction (owing to the reason stated), while when changing down hastily for a corner, when perhaps braking is also occupying sundry limbs, the easier backward movement allows a more certain change to be made.

Apart from all this, the gear change is just about the easiest I have experienced, seeming to require no very accurate judgment of engine or road speeds in order to engage the ratios silently, while only an infinitesimal pause is necessary when changing " up." Each gear is as nearly silent as can be expected, that is to say, they are practically inaudible although only separated from the cockpit by the usual thin metal sheeting.

Speeds.

On the open road I found that 50 m.p.h. was attainable in a very few seconds by use of the gears, which allowed speeds of 25 m.p.h., 38 m.p.h. and 50 m.p.h., respectively in 1st, 2nd and 3rd. At these speeds a certain amount of vibration was experienced, but nothing to justify the use of the term " signs of distress," so often applied to an over-revving engine.

High winds and generally unfavourable conditions prevented me from exceeding a maximum speed of 62 m.p.h. on top gear and after a short burst at this rate, the " town " plugs evinced a marked disinclination to do any more work! On investigating the type, they were found to be quite unsuitable for high speed and had become extremely heated.

The carburettor setting, too, could have been improved for all out speeds, so that there seems to be no reason for doubting the maker's claim of approximately 70 m.p.h. for this model, given favourable conditions.

Steering is sufficiently good at all speeds to remain unnoticed, as it should be in any car calling itself a sports model, and is certainly equal to that of any similar car, having the characteristic lightness usually associated with " voitures de course."

The springing was presumably set for town work (like the carburettor) and did not seem stiff enough on bad roads at over 50 m.p.h. No discomfort, unsteadiness or rolling was experienced on corners but a certain amount of fore and aft pitching occured on bumps when travelling fast.

Part of our trial was run over some winding country lanes when the liveliness of the car counted for more than its maximum speed on the arterial roads. I thoroughly enjoyed an extensive blind under these conditions, which, while being exhilarating, would have been dangerous but for the excellence of the brakes.

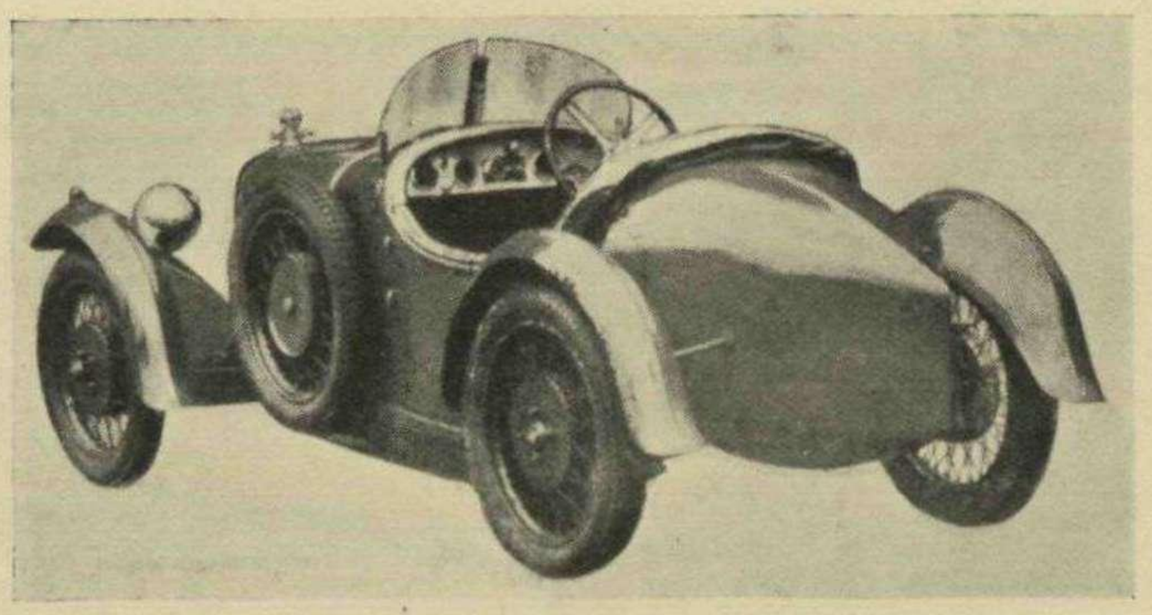
SPORTING CARS ON TEST—concluded.

Towards the end of the run an insistent clatter developed beneath the bonnet and demanded a stop for investigation. In less than three minutes the trouble was diagnosed as a loose push rod and rocker adjustment, and remedied—thus showing the accessibility of these parts.

A final demonstration of the " pep "possessed by the car occured at Hyde Park Corner when it became necessary to perform an extremely rapid negotiation of one of the hairpins on the " roundabout," in order to slip through a traffic stream. The road was bone dry, but a jab at the accelerator on bottom gear was sufficient to slide the tail of the car through 90° of a circle, thus pointing the nose in the right direction.

Altogether quite an interesting little car at £275 and we hope to have an opportunity of reporting on the supercharged S.C.A.P. model in the near future.

All particulars may be obtained from Morgan-Hastings, Ltd., 17, Berkeley Street, W.1.



WHY NOT WOODEN MUDGUARDS ?

By IMPECUNIUS.

There may easily come a time in the life of any motorist when he is confronted with the problem of no mudguards. There is the type of man who purchases the bygone product of some well-known factory with the idea of making it " go." Not until he has achieved success in this matter, does he realise that mudguards and other accessories, which had a tendency to be loose, go with it. Then there is also that genius, the home constructor, who, when his work is nearly completed, will suddenly exclaim, " Oh! now what on earth am I going to do about mudguards."

If the reader be opulent, he can answer this question by merely going around to the manufacturers and ordering a new set at, maybe, " a tenner " the lot. If not, he starts to think of many things. First, perhaps, of splayed wings. Experience may tell him that these are rarely efficient. Next he may turn his mind to pram type " close-ups." In nine cases out of ten, in amateur workmanship, this type of guard is a failure in so far that it never " stays put," that is to say, if they are unsprung and move with the wheels. These mudguards may only be really satisfactory when the brake drums are large enough in diameter to permit short stumpy stays. Even then the stays must be of heavy channel section. A decent heavy " close-up " will never remain, if its supports are draped around a stub axle.

A solution that does not occur to everyone, is that of wooden mudguards. These wooden mudguards are, in effect, merely bent plank. They are surprisingly efficient if properly designed, they never rattle like cheap tin guards, they are very light and they really can be made to look nice. Last, but not least, they are cheap. As an example of this, a set of wings 9 ins. in width, very similar in shape to those fitted to a Le Mans Bentley, cost a paltry 25s.

These guards have only one feature which might prove offensive to the critical eye, that being that their cross section must be rectangular, irrespective of bevelling the edges. It is impossible to get a double curvature on wood of reasonable thickness. In the case of the long sports type of wing, this resulting " flatness " is rather effective, but has a tendency to look rather like a lorry guard if made up on touring lines.

The actual set under test was made by Messrs. Hopton and Sons, George Street, N.W.1. This firm are responsible for the mudguards supplied to the L.G.O.C.

A very useful side valence for these mudguards can be made of American cloth. This can be rendered quickly detachable by fitting press buttons to the guards and the bottom of the body.

Suggestions on this subject will be both willingly given and gratefully received.

THE NAPIER-CAMPBELL TRANSMISSION SYSTEM.

CONSTRUCTION OF THE EPICYCLIC GEAR-BOX DESIGNED BY MR MAINA.

NOT long ago the world was thrilled with accounts of Captain Malcolm Campbell's defence at Daytona, Florida, U.S.A., of Britain's title to the holding of the world's speed record for the flying mile, which was established by Major Segrave last year at 203 miles per hour, and beaten by him at 206·06 miles per hour. Knowing that these trials would interest our readers, and that particulars of the gear-box and transmission would be appreciated, we endeavoured to obtain particulars of design, manufacture and assembly.

With this object in view we visited the workshops of Messrs. Beard and Fitch, Ltd., 34, Aylesbury Street, Clerkenwell, E.C.1, amd were there favoured with the opportunity of witnessing the various operations in progress, similar in all ways to those performed upon the " Bluebird " transmission gearing, though, of course, not upon the actual parts, as these were installed in Captain Malcolm Campbell's " Bluebird " car now at Daytona.

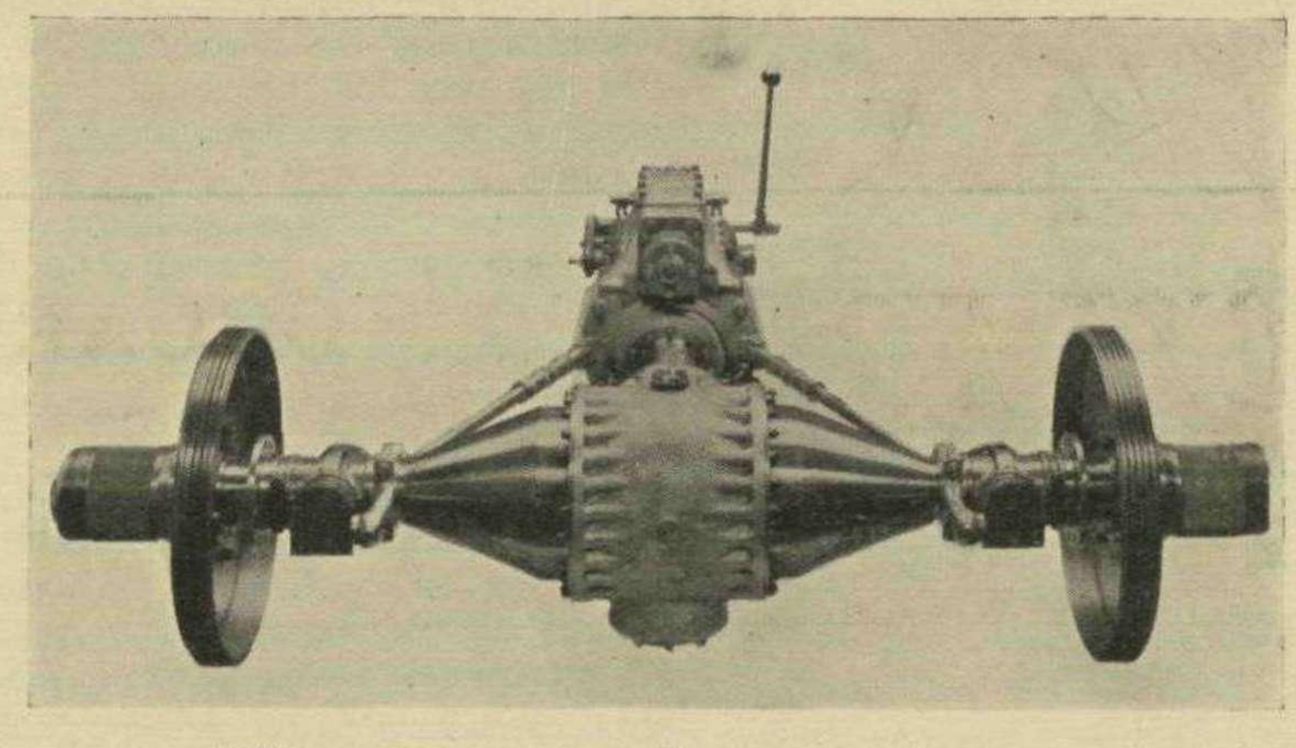
We were greatly impressed with the extensive range of gear-cutting which was passing through their shops, and particularly by the fact that all types of gearing including worms and racks were actually generated.

We were shown forms of fine toothed spur and helical gearing of 132 diametral pitch, such as is used in precision instruments ; then, again, heavier forms in alloy steels for use in automobiles ; and yet heavier forms of two diametral pitch for use in mill gearing. All sizes of teeth are actually generated with accurately-ground tools as distinct from the more usual method of cutting gears with formed-cutters. It was interesting to watch the gradual development of a worm as the blank was fed slowly past the ground cutter, and equally so to watch the generation of a rack upon another type of machine. We believe these to be quite new commercial applications of the method of generation as applied to worms and racks.

Straight and spiralloid bevel-gearing is generated upon modern shaping machines, and here, again, gears were being produced for delicate distance-finding instruments, now in use by the Admiralty and War Office, in contrast to those for heavy commercial vehicles capable of hauling as much as 15 tons.

Helical or spur-gears are made in all kinds of material ; pinions are made in special compressed fabric, which is self-lubricating to ensure silence and long life.

Beard and Fitch, obviously, have the equipment and ability to execute any type of scientific or commercial engineering proposition from telescope and model making to heavy lorry parts, and that no time, trouble, or expense in machinery is spared to produce the best possible results in gearing of all types.



A General View of the Transmission Assembly.

Having inspected the methods of manufacture, we turned our attention to the epicyclic gearing of the " Bluebird."

The whole of the transmission abaft the engine was manufactured in these shops and turned from special alloy-steel forgings provided by Messrs. Vickers to the instructions of Mr. Joseph Maina, of the F.B.M. Gear Syndicate of 15, Victoria Street, S.W.1.

The plate clutch is of massive design and is coupled to the gear-box by means of a large bell-joint. From the gear-box to the back axle the power is transmitted through a shaft enclosed in a massive torque tube machined from a solid forging. The final drive, through spiralloid bevel gearing, is of interest because of the original design by which the actual housing serves only as a cover, the gearing it encloses being so arranged and mounted as to obtain maximum strength with a minimum of weight and to be practically self-supporting. The

THE NAPIER-CAMPBELL TRANSMISSION SYSTEM—continued.

static axles, live axles and brake drums are all machined from solid alloy-steel forgings of very high tensile strength, so that again maximum strengths are obtained with the least possible weight.

The gear-box itself, being described as epicyclic gearing, probably conveys the impression that it is of an extremely intricate nature, but there are many advantages attached to it, and it can be simplified and made less costly to produce, and cheaper for the user.

The accompanying illustration is of the gear-box in its most elaborate and expensive form, as fitted to the Napier-Campbell car, which is now in America.

The system upon which the box functions is really simple and an explanation of its operations will be given, commencing with the Reverse.

Fig. 1.—The driving shaft has on it a gear A and drum C, the driven shaft carries a drum B cut with internal teeth. The brake drum C carries a pinion D meshing with A and B. When C is held stationary, gear A turns in the one direction and the driven shaft B in the reverse direction, the motion being transmitted

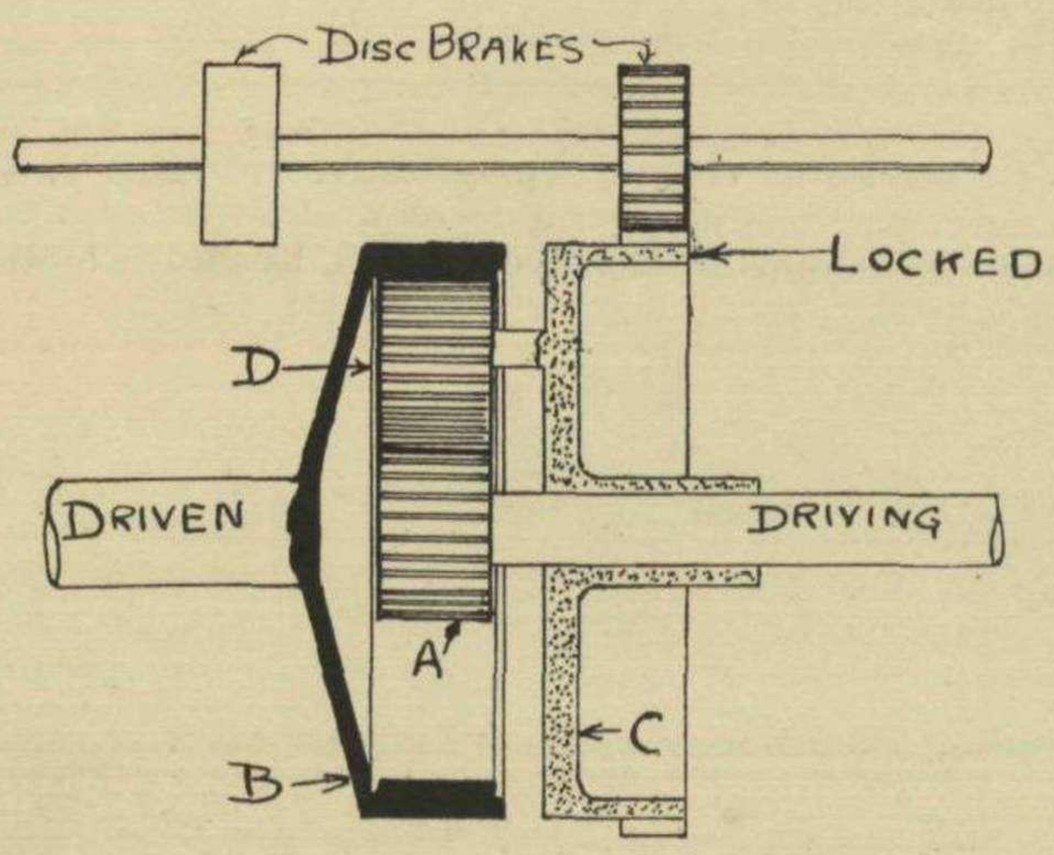


Fig. 1 Reverse Gear.

through gears D and B. If C is free, it would revolve in the same direction as the driving shaft, and cause the driven shaft B to rotate at a less speed in the same direction, thereby obtaining the forward gears.

For the 1st speed forward, Fig. 2 shows gear E (on driving shaft) which engages into F and G carried by drum H. Drum H is held stationary so that E drives F and G and so drives drum C by means of pinion J, and C, as explained above, turns the driven shaft through pinions D and H.

Other similar gearing is introduced and brought into

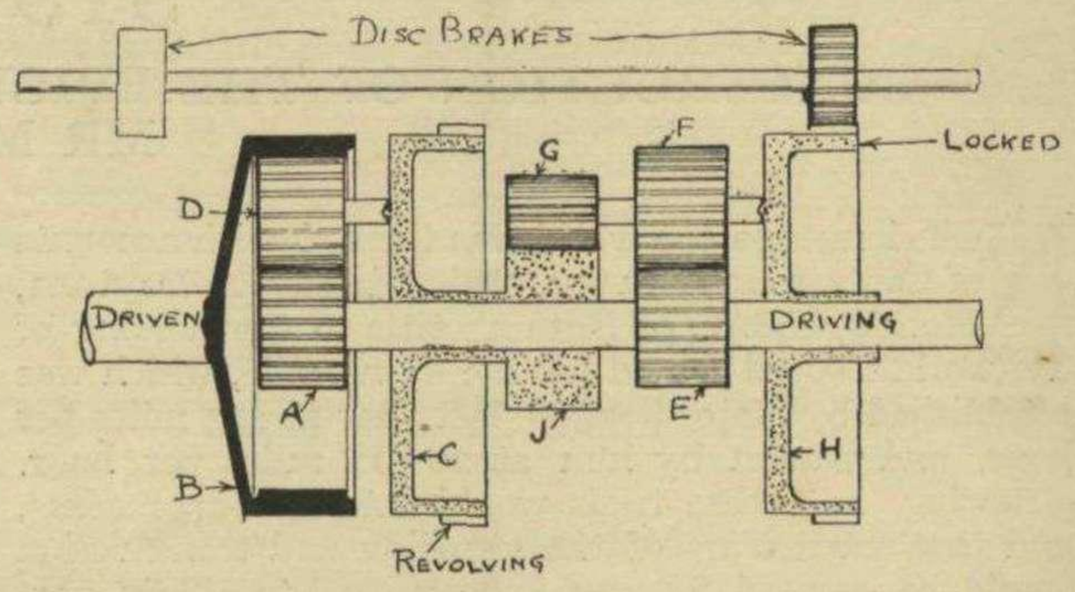


Fig. 2 First Speed

action, increasing the speed of C, and thereby reducing the ratio between engine and rear axle speeds.

The controls are operated, as in the "Bluebird," by means of gears and clutches, or in commercial type by means of hydraulic controls.

The whole transmission system is an example of brilliant design, which, combined with the known efficiency of the Napier engine, proved so successful in the race for the world's speed record.

In conclusion, we might say that, in our opinion, one would have to travel a long way to find a workshop so completely equipped with modern tools applicable to the gear-cutting industry, and the directors are technical and practical men, working in co-operation with a well-trained staff of mechanics.

NEW MODEL RUDGE-WHITWORTH.

A new type of Rudge-Whitworth motor-cycle has just been placed upon the market. This is the Roadster, which costs £49 10s. and is capable of 70 m.p.h. Until its introduction there were only three models, the Standard, the Silent Special and the Sports. The new machine comes mid-way between the Standard and the Special.

Whilst the Roadster is in many respects similar to the Standard, it is 10 m.p.h. faster and has the saddle position and silencing arrangements of the Special. The engine is, as usual, a 499 c.c. "single" with four over-head valves, and the well-known Rudge-Whitworth system of proportional coupled brakes is used. It is probable that the new machine is the cheapest 70 m.p.h. motor-cycle made.

It is interesting to note that the prices of the other Rudges have not been increased in common with those of the majority of British motor-cycles. This is due to the fact that the manufacturers, with the courage of their convictions, raised the prices of their new models before the Olympia Show. Incidentally, Rudges have had a remarkable number of competition successes recently, the latest being in the open Cotswold Cup Trial, wherein J. H. Amott won the premier award together with the Western Centre Trophy and the Clift Cup, and the Rudge team won the team prize.



Motoring Sportsmen :

Mr. H. Kensington Moir.

By the Editor.

HERBERT KENSINGTON MOIR, like so many of our motoring personalities, was at first extremely reluctant to disclose the secrets of his horrid past, but with his back to the wall, and faced with the threat of a fictitious life story (composed with the aid of a faulty memory and a vivid imagination) he decided that perhaps the truth was preferable, and warmed to his "confession."

His first connection with motoring was established at the early age of fourteen, when he was apprenticed to A.B.C. Motors at their Walton-on-Thames factory. This was in 1915, when, of course, the activities of the firm were fully engaged on the manufacture of the successful A.B.C. aero-engines for war service. Two names at once suggest themselves to the mind in this connection, to wit, Granville Bradshaw and Jack Emerson, both of whom were engaged on the experimental side of the business. Jack Emerson it was who first sowed the racing germ in Kensington Moir's mind and doubtless imparted much knowledge which was to prove useful to the latter in after years.

At the end of two years, Moir told some dreadful lies about his age, managed to get into the Royal Naval Air Service, and added a little flying experience to his growing store of knowledge.

A year later he transferred to Commander Locker-Lampson's fleet of armoured cars—an interesting unit whose whole history, though little known, would prove a thrilling epic.

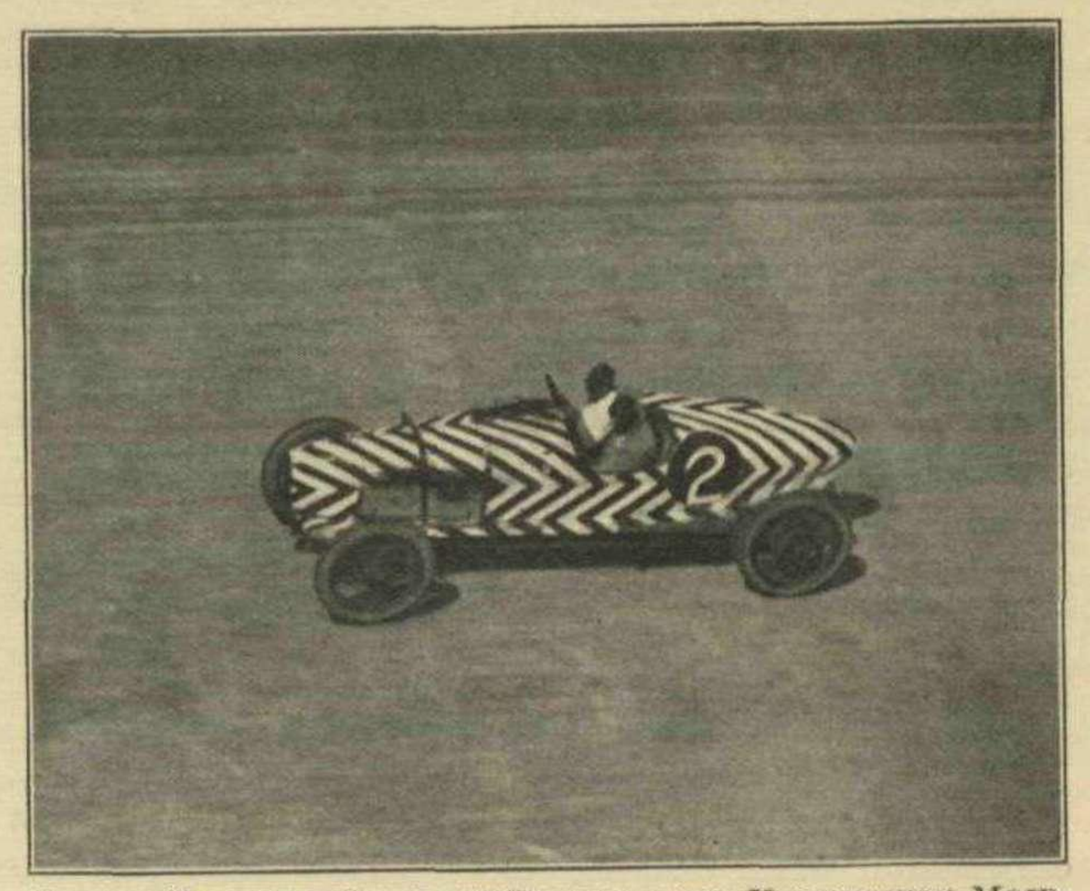
The fleet consisted of forty Austins fitted with twin gun turrets and the whole party was dispatched to Mesopotamia, landed at the head of the Persian Gulf, and proceeded by "road" to Bagdad.

The nature of the "roads" in the one time Garden of Eden is best left to the imagination, a faculty which will not fail those who have ever read about Persian travels and campaigns. From Bagdad the convoy continued to motor in a north-easterly direction until on the shores of the Caspian Sea, near Baku, and 1,300 miles from their railhead, they encountered Johnny Turk, who had reprehensible designs on India. The 40 cars and 700 British troops were enjoying the doubtful support of 4,000 Armenians, so that their task could not have been all milk and honey. However, as everyone knows, the Turk was stopped, which was all that mattered at the time.

While in this salubrious spot, Moir made the acquaintance of P. G. Kennedy, who was a well-known motor-cycle speedman in the early years after the war, and a successful Oxford representative in Inter-'Varsity events. It is interesting to note, also, that at a later date Kensington Moir became P. G. Kennedy's brother-in-law!

A few months after the Armistice, Moir had the misfortune to be invalided out of the service and returned to England.

On recovering his normal health, Moir joined the experimental department of Straker-Squires at their North London works, which were at this time engaged on the well-known 6-cylinder model.



ONCE A FAMILIAR SIGHT AT BROOKLANDS, KENSINGTON MOIR ON THE STRAKER-SQUIRE.

MOTORING SPORTSMEN—continued.



H. KENSINGTON MOIR ROUNDING RAMSEY HAIRPIN ON ASTON-MARTIN IN THE 1922 T.T.

Hitherto, our subject had never had any connection with racing, but shortly after joining Straker's he was given the opportunity of handling a car in competition with a rival. This match was the outcome of a private wager between Mr. Squire (who is "K.M.'s" uncle) and the owner of a hotstuff 30 h.p. French car, and actually took place on a quiet stretch of public road.

The Straker-Squire, driven by Moir, defeated its opponent, whereupon Mr. Squire decided that the car should perform at Brooklands in the hands of its successful driver.

Kensington Moir was therefore given a job after his own heart and, by patient experiment and hard work, developed the Straker-Squire engine until it was a well-known performer at Brooklands. Frequenters of the track will remember the black and white striped car which featured prominently in races during 1920, 1921 and 1922.

The engine had a capacity of 3900 c.c. and eventually lapped the track at 104.9 m.p.h.

In 1921, however, Moir joined the Zenith Carburettor company and, while continuing to race the Straker-Squire, his chief occupation was the tuning of carburettors for the various manufacturers who fitted this instrument.

During 1922, besides both the above activities, Moir featured on the first Aston-Martin racing cars and managed to annexe numerous "firsts" in races and hill climbs throughout the country.

He drove the famous "Bunny" A.-M. in the I.O.M. Tourist Trophy that year, but unfortunately retired after covering only 13 miles—owing to its short wheel base the car was inclined to be a handful at speed on bumpy roads.

In the 200 Miles Race of that year, again on an Aston-Martin, he put up the most praiseworthy opposition to the all-conquering Darracq team, but again suffered elimination when running fourth to the latter, at the hands of a petrol tank which came adrift.

Another outstanding achievement during this busy year was the establishment of the first world's records (as opposed to class records) by a light car. In conjunction with Clive Gallop and S. C. H. Davis, Kensington Moir drove an Aston-Martin for 16 hours at approximately 75 m.p.h. This drive was so uncomfortable that all three drivers earnestly prayed for the motor to "burst," from half-time onwards, but fortunately for its reputation, and unfortunately for them, it would not! Incidentally, two of these records are still standing, which makes the performance all the more remarkable.

In the 200 Miles Race of 1923, "K.M." on an "A.M.," setting off at a most exhilarating and tactless speed, led the field for exactly seven laps when, as was to be expected, the engine "passed out" so that Moir once more became a spectator.

It was during this year that Moir began the series of successes which earned for him a great reputation as a hill-climb expert. Driving the Straker-Squire, he made the fastest time of the day at the famous Caerphilly Hill (where Raymond Mays shed a wheel) and also the fastest light car time on the Aston Martin.

Other 1923 achievements included driving and finishing at Boulogne and the bursting of two back tyres at Aston Clinton, causing a considerable deviation from the road!

Shortly after this occurrence, Kensington Moir joined the staff of Bentley Motors, Ltd., in the capacity of service manager, but his activities also included a certain amount of experimental work and racing.

In 1924 he broke the record for Caerphilly on a Bentley, making the fastest time of the day. This success (to anticipate) he repeated in 1925 with the same make of car.

In 1925, Moir was a member of the Bentley team in the Grand Prix d'Endurance at Le Mans and had a thrilling duel with the early 3-litre Sunbeam driven by Segrave. For the second and third hours our Bentley driver held the lead, but a miscalculation of petrol consumption caused his retirement soon after,

MOTORING SPORTSMEN—concluded.

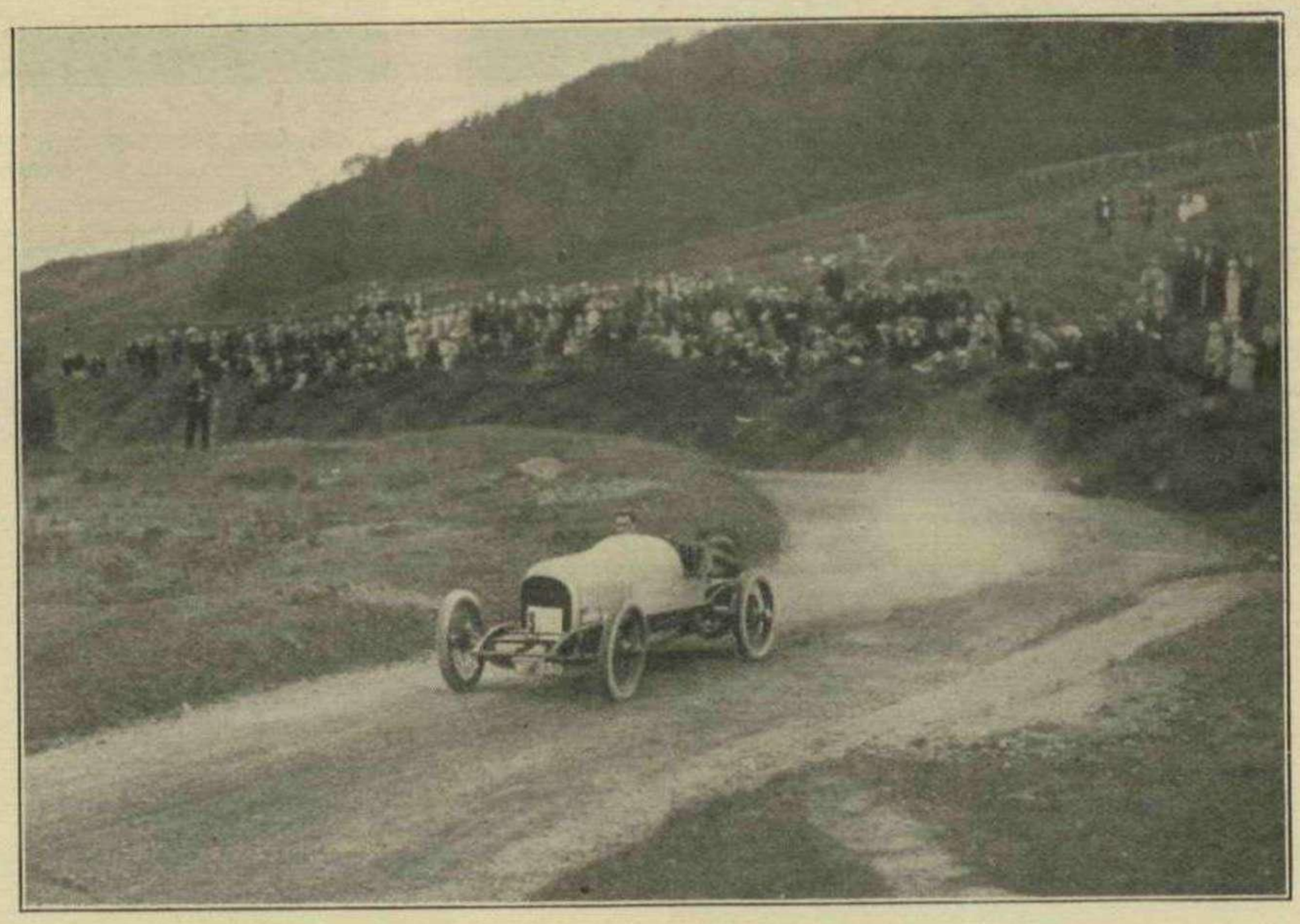
since replenishments were not allowed till a certain time had expired.

During this and the following year, Kensington Moir, besides driving Bentley cars, was mainly responsible for the firm's racing programme and tactics, while he also organised successful attacks on world's records which were made during the period.

In his capacity of team manager for Bentley's, Kensington Moir has become quite a well-known figure at all the more important long distance racing events, where his cool but authoritative instructions have undoubtedly saved many valuable seconds of replenishment delays. Bentley depot organisation in a race, in fact, is well worth studying and copying by rival concerns, and much of its efficiency is directly due to "K.M." himself.

Latterly, Moir returned to his post of service manager at Bentley's, though not neglecting the racing side of the business in any way, and in this position he remained until the end of 1927.

He is now sales manager to Messrs. Gaffikin Wilkinson and Co., Ltd., who deal mainly with Bentley and Lagonda speed models, and we have no doubt that his genial and breezy personality will ensure as great success in the selling business as his skill and nerve have secured him at the racing game.



BREAKING THE RECORD FOR THE HILL AT CAERPHILLY IN 1924.
"K. M." ON A BENTLEY.

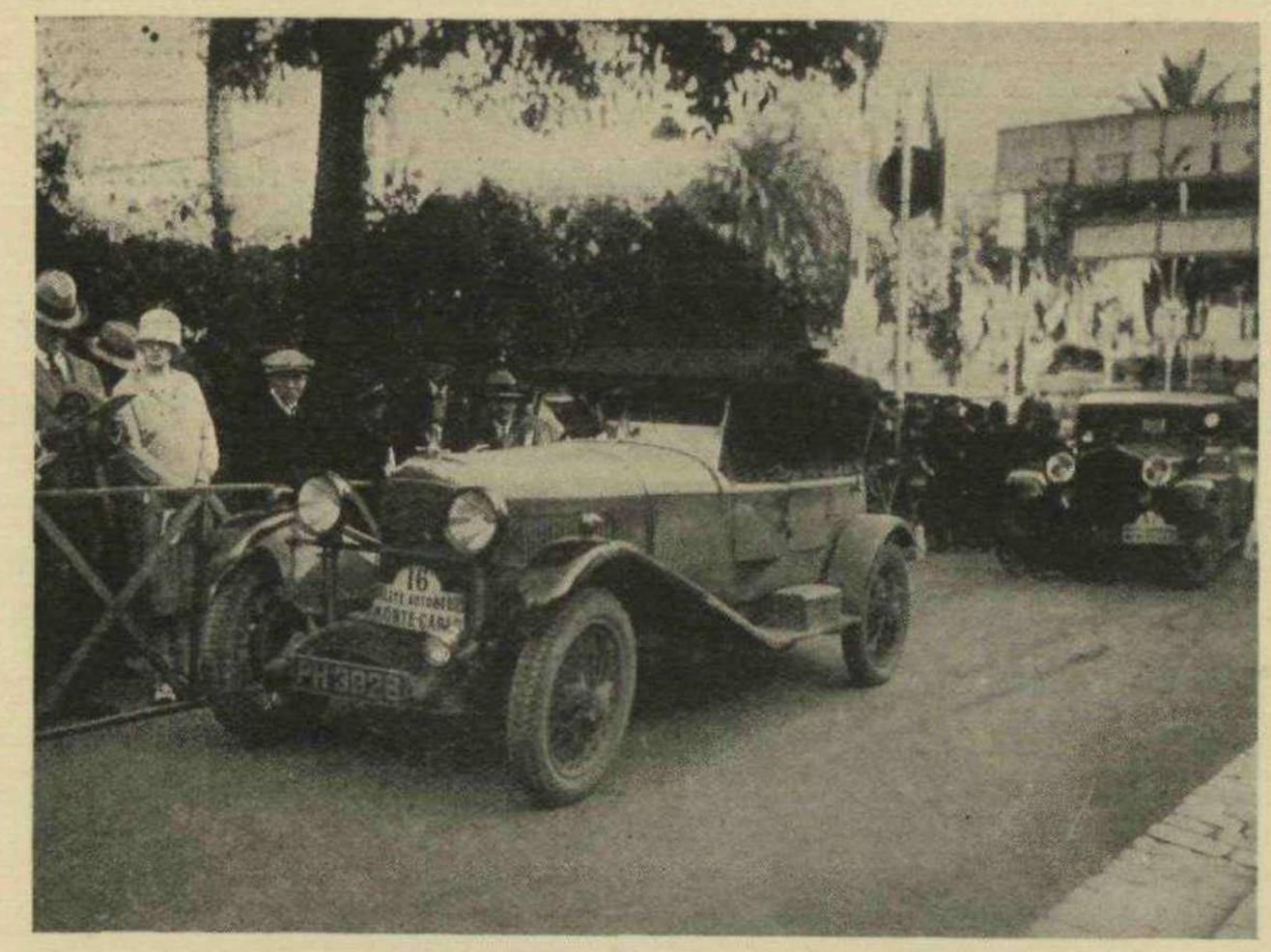
"CLUPET" PISTON RINGS.

As is well-known, a great deal of the efficiency of an engine depends on first-class piston rings, and the "Clupet" double-coil, no-gap ring will indicate to keen motorists the care which is nowadays expended on this small but important accessory.

Made in one piece from centrifugal castings of the best quality cast-iron, the "Clupet" piston-ring is claimed to be perfectly gas and oil-tight, owing to its unique construction. A bridge eliminates the gap of the single-coil type, thereby preventing any loss of power at this point, and the double coil automatically adjusts itself to any variation from truth in the cylinder walls, thus retaining the compression and resulting in greater economy in oil and petrol consumption. In the final operation of grinding the rings on the periphery they are closed right up on a spindle, just as if they were fitted in a cylinder, and ground perfectly round in that position to a limit of .0004 ins. (plus or minus), and also on the sides and between the coils. Even with rings which have been fitted in old engines, after considerable wear has taken place on the cylinder walls, it has been found that they accommodate themselves to the worn condition of the cylinder, giving in some cases an increase in the horse-power of 30 per cent.

The sole manufacturers, Messrs. Clews, Petersen, Piston Ring and Engineering Company, Ltd., of Mill Lane, West Hampstead, N.W.6, owing to the great demand for narrow piston-rings, are now making the "Clupet" piston-rings from $2\frac{1}{2}$ mm. or $^{3}/_{32}$ in. wide, and all widths above these sizes.

Some Sporting E



THE MONTE CARLO RALLY. MR. SAMUELSON ARRIVING IN HIS LAGONDA.



HUGH GIBSON (LEFT) AT THE START OF THE RALEIGH 2,000 MILES ETHYL TEST.



DORIS WEBSTER (172 C.C. JAMES) ON GAMBLES LANE IN THE COLMORE CUP TRIAL.

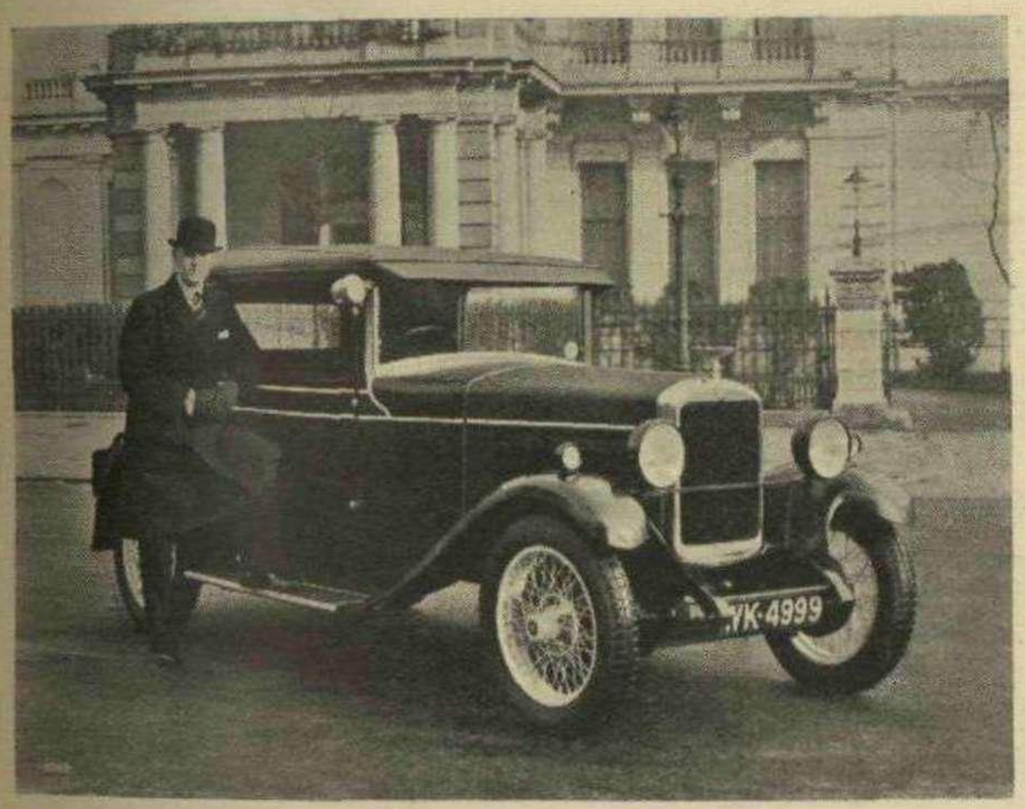


THE COLMORE CUP TRIAL: N. ANDERSON, WINNER OF THE CALTHORPE TROPHY.

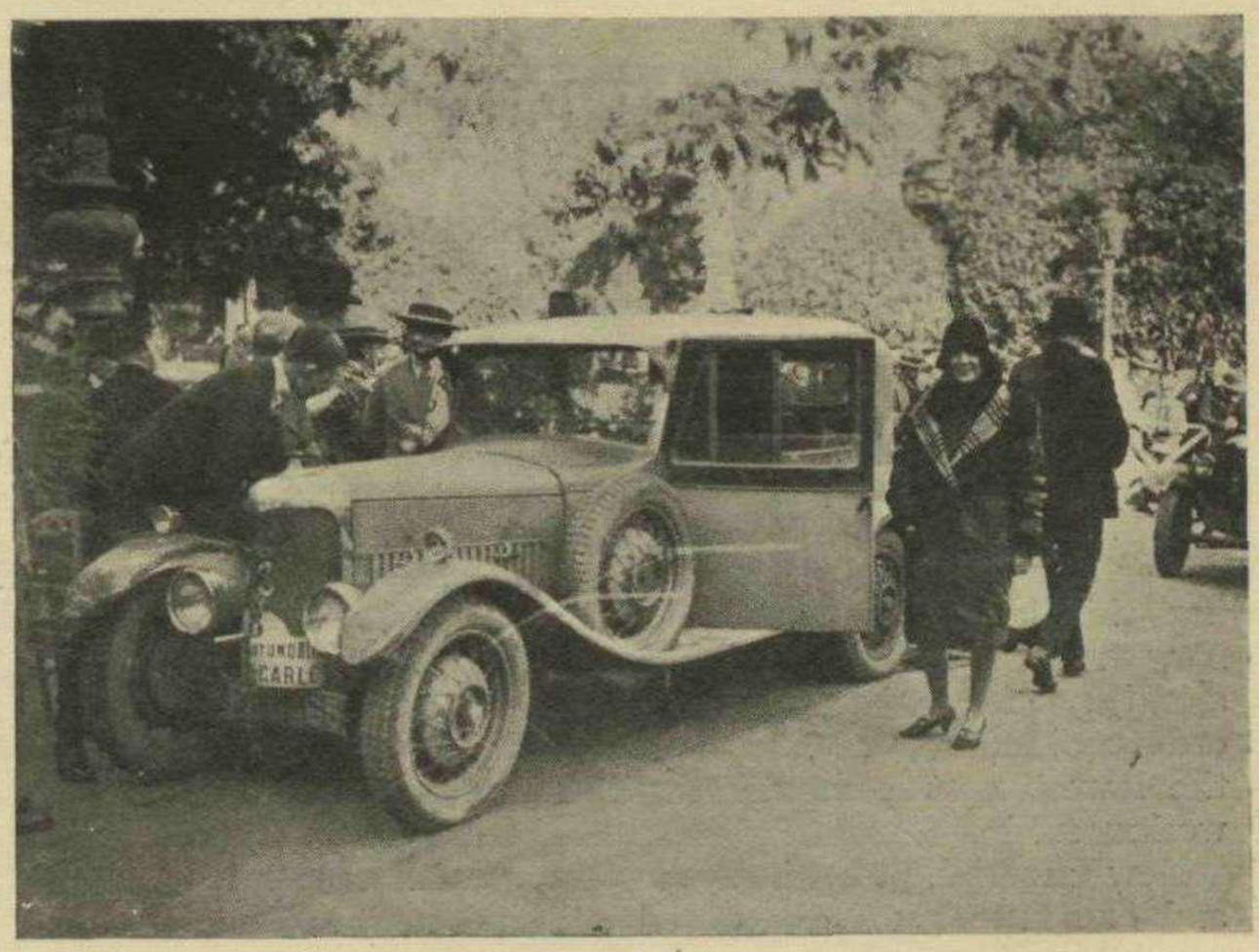


SOUTHPORT'S AQUATIC MOTOR RACES.
H. A. HARBEN (NORTON SIDECAR) WELL AHEAD IN A THREE-WHEELER EVENT.

ents in Pictures.



Major H. O. D. Segrave with His New Hillman.



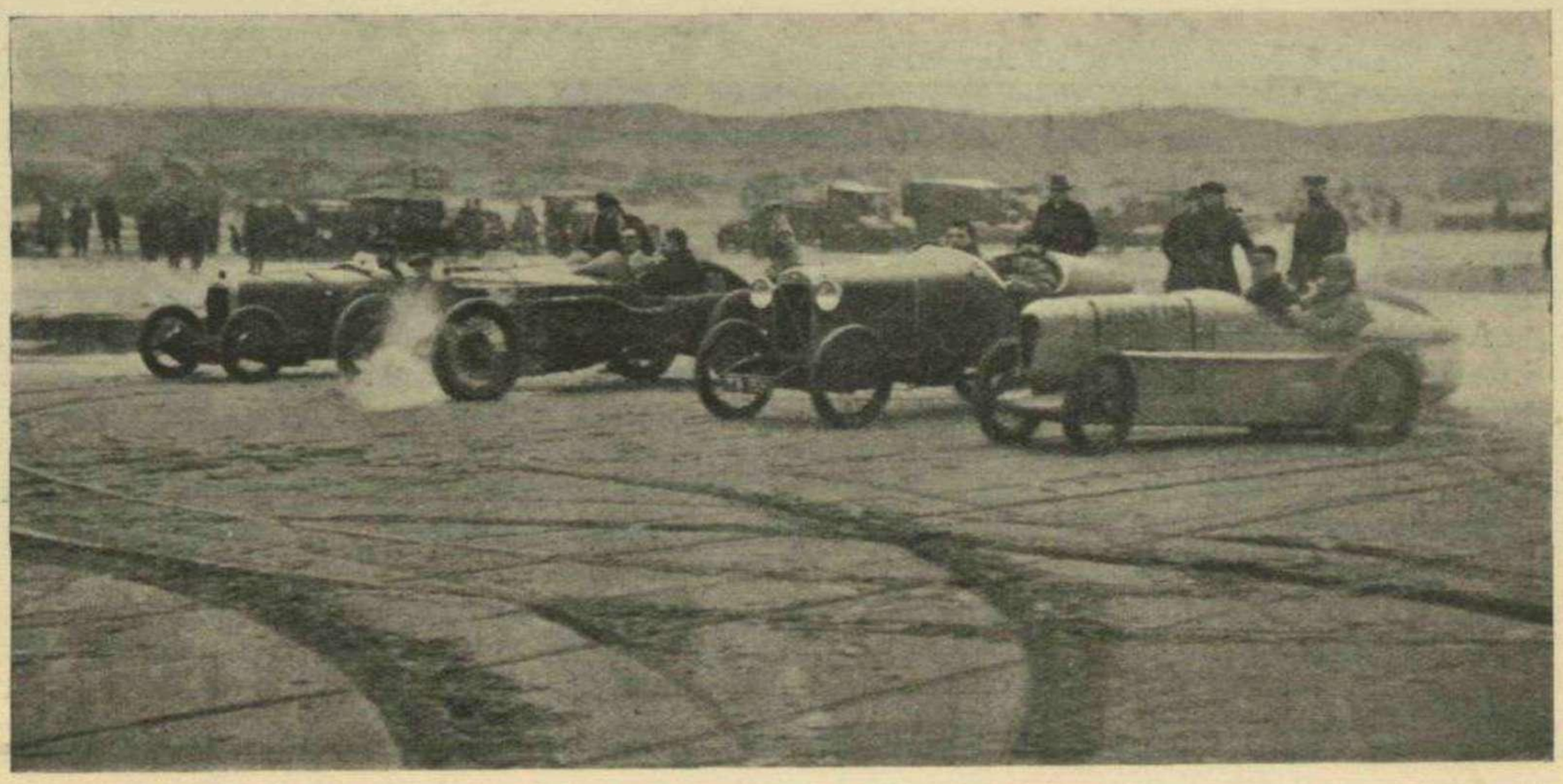
At Monte Carlo. The Hon. Victor and Mrs. Bruce with Their A.C.



A Watery Passage in the Colmore.



B. Kershaw (172 c.c. James) on a Sticky Patch in the Colmore.



The Start of a Car Scratch Race at Southport, which was Won by the Austin seen on the Right.

SPORTING MACHINES ON TEST.

THE 346c.c. MODEL 6 NEW IMPERIAL.

By RODNEY L. WALKERLEY.

SUCH a quantity of ink has flowed and such a volume of hot-air been expended on the merits of the loop-frame, and as to its steering qualities, that *Motor Sport* decided to road-test a machine embodying this layout. With this object in view, we asked New Imperial Motors, Ltd., to lend us a machine and asked, not for a two-port racing machine, but for their ordinary Model 6, which is a sports machine produced at the lowest cost compatible with the best standards of workmanship.

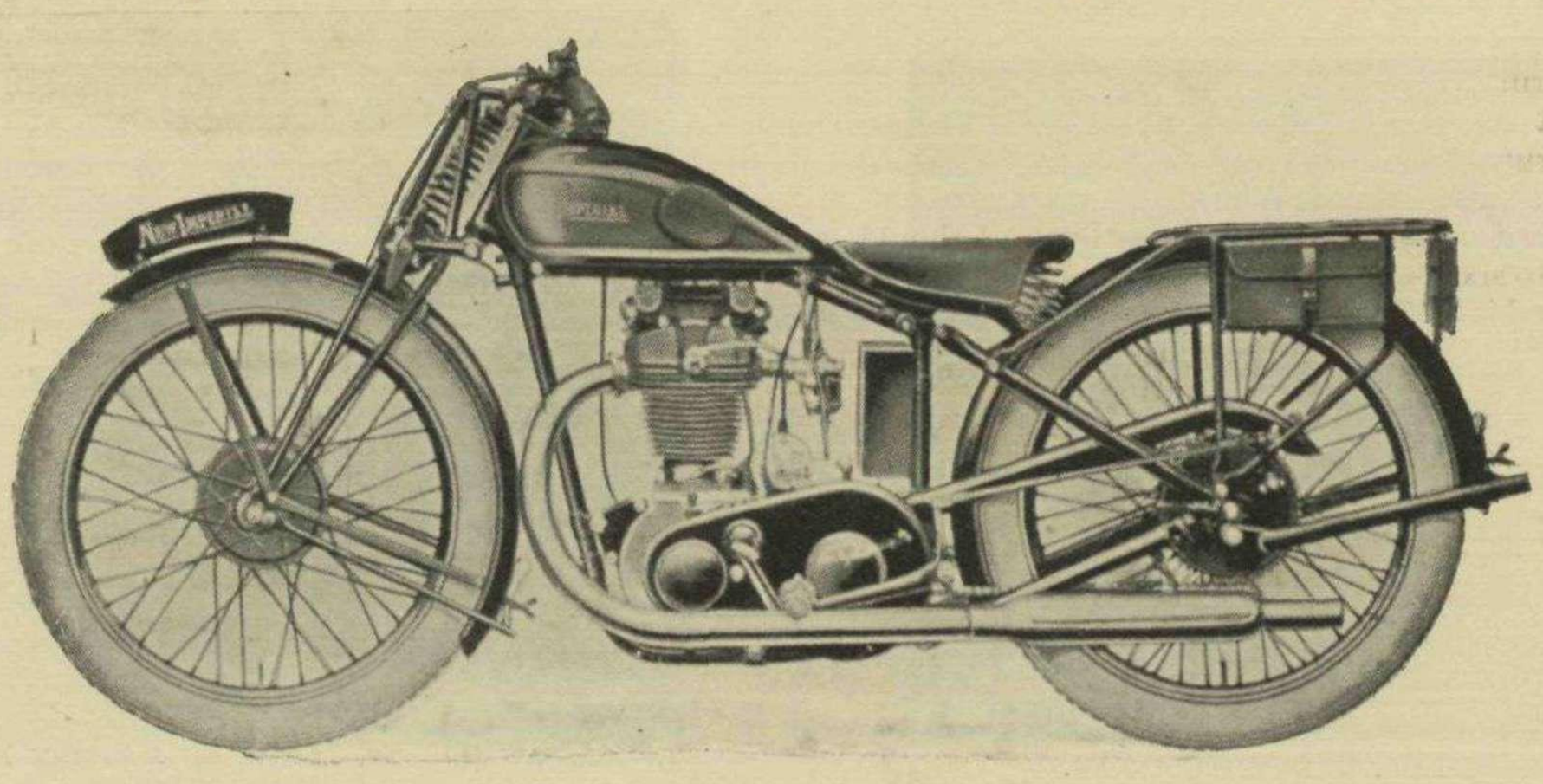
New Imperial, Ltd., kindly supplied us with a machine, and one fine day I discovered a brand new Model 6 awaiting my gentle treatment.

The 346 c.c. Model 6 New Imperial costs £48 10s., which is not a great deal of money, and this price brings the machine within that category at which wiseacres level the finger of scorn. They proclaim that machines of this price with the claims made for them cannot possibly be good at the price. Poor material, scamped work and bad finish, they declare, are alone responsible for the low cost.

A first inspection of the Model 6 revealed points of interest. The loop frame of the New Imperial is well known, but the 3-point suspension of the power unit is not so obvious. Its method is made clear by the accompanying diagram.

The generous depth of finning, the large exhaust port and pipe, the enclosed rocker boxes and large valve springs—two per valve—excited approving comment. That the price is the lowest possible is noticeable in one or two points, but, on the other hand, many items which could obviously have been "cut" have been supplied as standard. Two large tool bags are fitted, and the complement of tools would do credit to a much more expensive machine. The brakes are large, and the rear one fitted with finger adjustment. A stand is supplied to the front wheel, and the standard saddle is of the "Aero" spring variety. Shock-absorbers and steering damper are included in the specification, while the finish of the whole machine, generous width of mudguards and the very handsome saddle tank, go to show that expense has not been spared in the production of this machine.

The new 1928 type silencer is an improvement, handsome in appearance and efficient in operation,



THE HANDSOME AND STURDY APPEARANCE OF THE MODEL 6 NEW IMPERIAL.

while the fitting of 27 × 2.75 Dunlops is another step ahead of 1927.

Astride the machine, I was most favourably impressed by the excellence of the riding position, a matter which is of some moment to one six feet three inches high. The saddle is very low, and the arms fall naturally to the bars, without undue stooping or strain, the bars themselves being adjustable—and in conjunction with the adjustable foot-rests—render the creating of the correct position for any rider, a matter of minutes.

On the road one found the foot-rests to be set rather higher than is usual, giving one the impression of a road-racing machine, which, personally, is my ideal. Sitting astride the "New Imp." I felt that one-ness of machine and rider which inspires confidence and renders one at home on a machine immediately.

During my run out of Town, the threading of my way

SPORTING MACHINES ON TEST—continued.

in traffic proved the ease of the gear change and the silence of the box. It was possible to change from neutral into bottom, with the engine running, without the slightest sound or suspicion of that horrid crunch inseparable from many gear-boxes. The gear lever, mounted in a gate on the tank, fell naturally to hand and was light and certain in operation. The clutch is not the lightest I have used, but requires no great strength of fingers.

On the open road there was noticeable a certain amount of valve clatter, and the adjustment of inlet tappet clearances wrought a change. The machine was brand new, and this adjustment was called for three times in some two hundred miles; the last time, however, seemed to be final.

A loose contact-breaker next claimed my attention, the machine producing a state of chronic misfiring combined with astonishing explosions in the silencer, whence shot enormous flames with horrifying persistence. The trouble being traced to the contact-breaker loose on its pivot, I proceeded on my way without further incident.

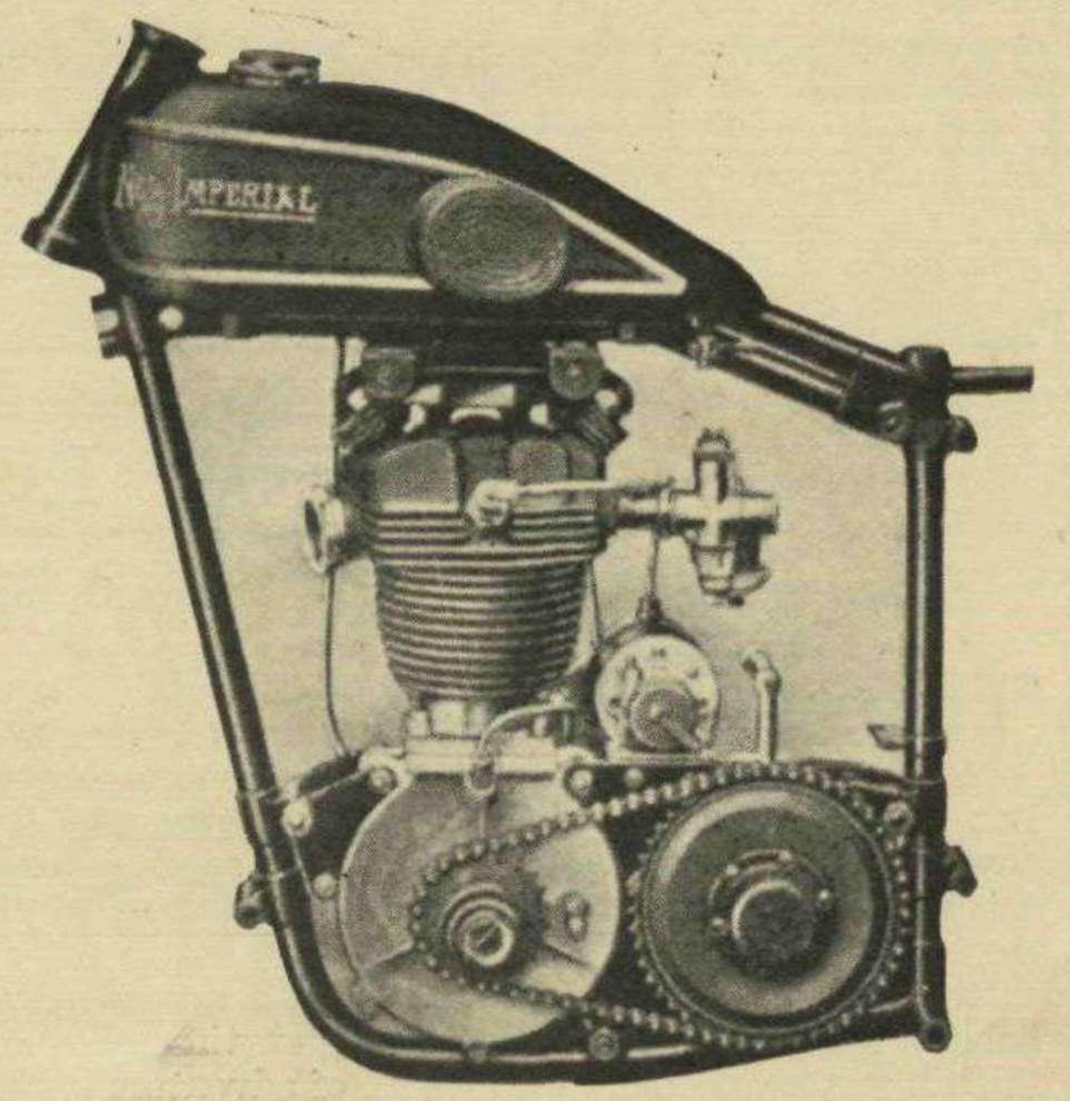
Considering the new state of the engine, I did not consider it fair to attempt any timed runs, but, with a certain brutality, I flattened the throttle right out before the first hundred miles were anything like accomplished, and, from my own estimate, I should say sixty-five to sixty-eight miles per hour was the maximum as the machine stood. Seventy should, of course, be possible when the engine becomes more run in. The gear-box employs rather wide ratios, but the speeds on gears must be about twenty and forty respectively.

The route of the test run lay over every sort of road, main, secondary, tertiary and cart track, with stretches of colonial quality interspersed. Throughout the test the rock-steadiness of the steering was apparent, whether over main roads at high speeds, or colonial sections at a more decorous gait.

Over mud and grass the New Imp. was perfectly controllable and slid far less than any machine I have ever taken over the same sections; while at speed on the open road, the striking of quite appreciable bumps and pot-holes did not affect the steering in the least, even neglecting the steering damper.

A little private menacing was indulged in through sandy-surfaced lanes, and the cornering of the Model 6 was beyond reproach. The ordinary tortuous country lane was taken at a quite high speed, the machine heeling over on the corners without the least sign of sliding in the sand and mud of the road. The rather high position of the foot-rests was found to inspire great confidence in fast cornering, there being ample ground clearance and no danger of touching on even the most acute bends.

The Model 6 weighs in the region of 240 pounds, and I thought this to be rather on the light side for so powerful an engine. I found that when travelling really fast over bumpy and loose surfaced lanes on one or two occasions when conditions permitted the fifty mile-an-hour mark to be exceeded, the machine needed



THE NEW IMPERIAL LOOP FRAME AND ENGINE SUSPENSION.

quite a considerable width of road, the back wheel evincing a slight tendency to wander. This was, of course, due to the wheel striking the loose ground again after bumps, and possibly a heavier rider would not have noticed this at all.

During the whole test-run the mechanical pump functioned to perfection, and was plainly visible in action from the saddle. The pump is situated on the timing case, but does not appear to be so obviously vulnerable as is typical of some modern pumps. Owing to the newness of the engine, Castrol R was used in bulk, so no figures could be suggested for oil consumption. Fuel was consumed at the rate of one gallon per ninety miles, which is excellent in view of the sports Amac fitted, and the large doses of middle and low gear work.

In conclusion I have one point of criticism to offer, and that is with regard to the brakes. These are of large diameter both on front and rear wheels, of the usual internal expanding type. That on the front, operated from the right handlebar was excellent when it bedded down a little, but the rear brake was very fierce, it skidding the machine on quite dry, hard surfaces unless extreme caution was used, and as in emergencies one is apt to stand on things heavily, the results might conceivably become feverish. This disconcerting behaviour is probably due to the design of the brake pedal, which is placed on the left of the machine, between the foot-rest and the chain case, on a separate mounting. The result is that one has to remove one's foot from the rest and place it on the brake directly, as it is impossible to reach it with either the heel or toe. This renders it difficult to regulate the pressure

SPORTING MACHINES ON TEST—concluded.

on the pedal, and consequently the brake is slammed on viciously. A re-designed pedal would undoubtedly be a tremendous improvement.

I completed the test with a feeling of great pleasure and satisfaction ; the New Imperial handles in a delightfully easy manner, and after a few hours riding I felt completely at home on a machine I had never seen before. Altogether the Model 6 presents exceptional value for the sportsman, the machine being ideal alike for trials work and competitions, and for fast averages over main roads. At £48 10s. the Model 6 is a remarkably attractive machine.

The makers are New Imperial Motors, Ltd., Birmingham, from whom all particulars are obtainable.

MOTOR LORRY SPORT.

By H. G. G. HERKLOTS.

THEY are dirty, they are noisy, they smell vilely, they are no respecters of persons ; all this, and more, I will cheerfully admit against motor lorries. But I am a bicyclist, who spends some at least of his days pedalling about the country, and I speak as one, it is as a bicyclist, that I have cause to be thankful for the lorries upon the road.

It was very early in my youth that I acquired the habit of hanging onto lorries when I grew tired or when the hill was long. There was a spice of adventure in the thing, for in those days it was a forbidden pastime. To-day I do not find it an adventure to hang onto the back of a lorry ; I merely find it useful. If you are out to see the country, beware of lorries ; you had far better travel by train. All the subtleties of nature are lost upon you. You only hear the rattle and the clatter and the bang as you hang on, determined to get home in time for tea, after all. It is no use trying to drink in the scent of a field of beans as you pass ; you will only smell petrol and the fumes of the engine. A lark may sing for all that it is worth above you, but you will not hear it. You may even try to sing yourself, but you will not sing for long. Your hands will soon be far too dirty.

Of course, some lorries are dirtier than others ; some even are tarry. But beggars cannot be choosers, and if you really want to get back in time for tea, you must cling hold of the first lumbering vehicle that comes your way. Beware, however, of steam lorries. I say this for the sake of your eyes. For you cannot, unless indeed you are an expert, remove a smut from your eye at the same time as you are cycling behind a lorry. (Your bodkin is probably in your waistcoat pocket, and you cannot get at it.) It is hard even to pull your hat on straight, and it is impossible to be civil to a lady.

The inhabitants of Moscow, so I learnt at school, must be prepared for great extremes of heat and cold. It was so, at any rate, before the Revolution, and it is probably so to-day, for not even a Kommissar can gain an adequate control over the weather. The lorry-hanger, too, must be so prepared. On the level the breeze blows coldly and you wonder that you did not put a sweater on that morning. But going uphill the engine splutters and spurts ; its vapours and hot unpleasantnesses are wafted towards you. Behind a lorry, also, it is well-nigh impossible to eat. Sometimes this becomes a real problem. You are hungry and you come dashing into the town or village where you had intended to have tea. Visions of hot buttered-toast and the most delectable of cakes rise before your eyes. Yet you have thirty miles still to go, and time presses. You stick to the lorry and go hungry, or else have tea, and drag wearily home.

Although I have often hung onto the backs of lorries, I had never ridden in one until one day last summer. It was evening, and I had already travelled eighty miles. Sixty more lay ahead, and I was determined not to spend a night in an inn. I knew that I would not be home until the small hours. Indeed, I had telegraphed, instructing that the front-door key should be left hidden in a place that I knew, against my arrival. But a motor lorry hove in sight, and I clung tenaciously for a few miles. Then the lorry went slowly for a moment, and the driver called out to ask how far I was going. I told him.

"Not to-night, are you?"

I nodded and I pointed to my lamp.

"Well, you'd better put your bicycle on behind. We're going there, too."

The lorry was brought to a standstill, whilst the driver and his mate helped me to lift my laden velociped onto the back, where it rested comfortably amongst seven tons of asbestos sheeting. Then they made room for me in the box. It was very hot. I was at once reminded of the most terrible journey I have ever made, seven miles in a Ford in France. On that occasion I looked down and saw that the footboard was nearly burned through. I watched it for a little while, and then pointed it out to the driver. "Throw it out", he said, or French to that effect. I threw it out ; and I noticed, beneath my feet, a red-hot pipe, a pleasant foot warmer. If I caught fire, perhaps I should be thrown out, too.

It was, I say, very hot in the lorry, very hot and very cold at the same time. My body was roasted, but an icy breeze caught me full in the face. The driver's mate had with him, I noticed, an accordion. "We're our own concert party," he had said, as I stepped into the car, and I feared the worst. Later, he practised it. It was an excellent place, so it turned out, for practice ; so great was the noise of the engine and of the wheels on

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MOTOR LORRY SPORT—concluded.

the road, that only by watching his hands had I any knowledge that he was playing. A man might practise a double bass in a motor lorry and incommode nobody.

The driver himself was an amiable, friendly fellow. He seemed to meet a friend in every village that we passed, and he waved his hand to half the girls upon the road. I hope that he is not a married man ; if so, his infidelities were appalling. But I felt very lucky to fall in with so friendly a fellow. Then, suddenly, he produced a pistol. He took a cartridge from his pocket—small, indeed, but deadly looking—and he loaded it. I feared that I had fallen in with a couple of highwaymen. Every indication seemed to point in that direction ; the ready welcome ; the statement that they were going in the same direction as myself ; the accordion ; and now this pistol. I saw it all as a ghastly and terrible trap. I imagined headlines in the paper, and a tearful identification of my body by my sorrowing parents. I imagined a funeral. With fear and trembling I remembered that I had a pound note in my left pocket and four stale buns in my right ; those buns were all that I had to eat, and I was determined to defend them. "Now we're going to have some sport," shouted the driver, and above the noise of the engine I dimly heard.

It was good sport, too. Whenever we passed a motor or a bicycle, off went the pistol, and for a brief moment the driver or bicyclist imagined that one of his tyres had burst. One man loaded the pistol and the other fired. No one seemed to take any notice of the lorry which went its own sweet way down the road. But whilst the cartridges lasted, the sport was good. (One was most regrettably wasted on a rabbit, which took no notice whatever.)

METALLIZED BODY WORK. INVENTION OF A NEW PROCESS OF ELECTRO-CHEMICAL METALLIZATION.

At an exhibition held in the Hotel Victoria, W.C.2, in January, there was introduced to the technical press of the country a striking new process of metallization, in which a very wide range of materials are treated in a metal bath.

The process is one of an electro-chemical nature not unlike electro-plating, the essential difference being that the applied metal is not a plating in the ordinary sense of the word, but a fusion of the particles composing the two materials.

The thickness of the impenetration of the metal may be regulated at will, and the resultant metallized material combines the qualities both of the applied metal and the material treated.

The application of the process which conjures visions of metal-sheathed buildings, furniture, china and, in fact, anything imaginable, is obviously unlimited, and the process is certain to create a tremendous stir in scientific as well as commercial circles.

The chief interest the process holds for motorists is its application to motor-body building. An exceptionally light wooden body, when metallized, will be rendered of exceptional strength, and by the requisite process in the metallization may be made rust-proof and in various colour schemes. For lightness and strength, such as is needed in sports and racing bodies, the process would appear of extreme value. In addition, it is stated, the process is cheaper than electro-plating, and is therefore of commercial interest.

The inventors of the process are a Pole working in collaboration with W. I. Einstein—a relative of the Einstein of Relativity fame—and the invention is being sponsored by British Airships, Ltd., who wish to utilise it for envelope fabrics on their semi-rigid dirigibles.

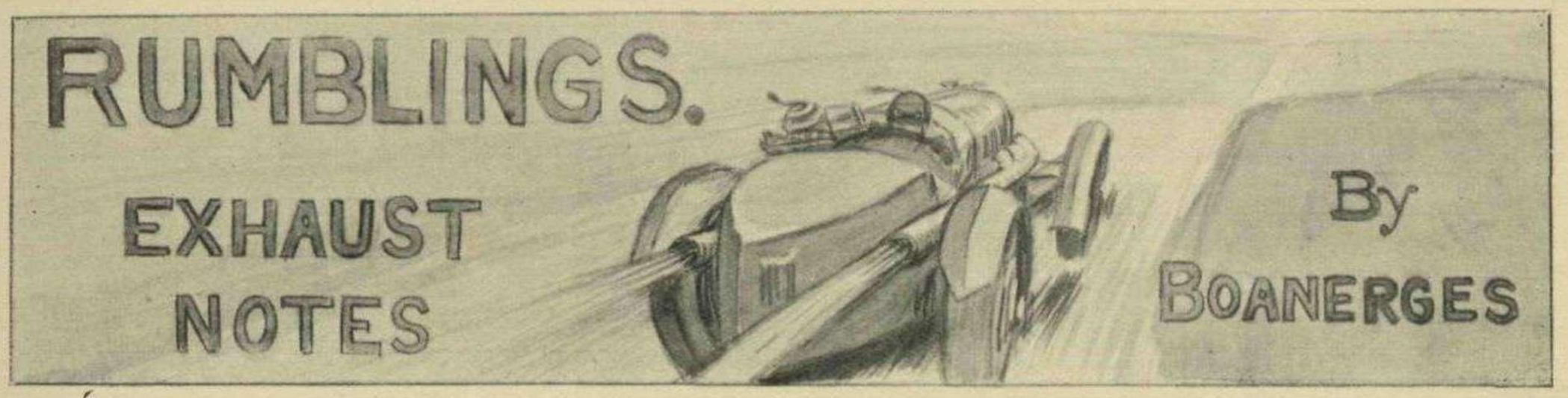
DIRT TRACK RACING.

There is a tendency at the present time for syndicates to be formed for the object of the promotion of motor cycle racing on cinder and grass tracks. Attention is called to the fact that the governing body of motor-cycling sport in Great Britain—the Auto-Cycle Union—does not allow any competition to be held on any track which has not received its approval and official licence.

A.C.U. STOCK MACHINE TRIAL.

The A.C.U. Stock Motor Cycle Trial will take place from 19th to 24th March inclusive. The Trial is confined exclusively to standard motor cycles, and the A.C.U. Engineer is at present engaged in visiting manufacturers and agents in various parts of the country to select the machines. No preliminary tuning or preparation is permitted, and the Trial is absolutely unique in that it provides a severe and searching test of motor cycles as they are supplied to the riding public. An entry of 59 has been received, representing nineteen different makes. There are 52 solo machines, five side-car combinations, and two three-wheelers. The fashionable 500 c.c. class has the strongest entry with 23. The following is the list of makes entered :—A.J.S., Ariel, B.S.A., Calthorpe, Cotton, Douglas, Dunelt, Francis-Barnett, Humber, James, Levis, Matchless, Morgan, New Imperial, Norton Radco, Rudge-Whitworth, Sunbeam and Triumph.

The Trial will start from Birmingham on Monday, 19th March, the weighing in taking place on the previous day. The first day's route will be principally over main roads to Cheltenham in order to run the engines in. The next three days will be over severe trails country in the Cotswolds ; well-known hills such as Gamble's Lane, Bushcombe, Stancombe and Knapp will be climbed, in addition to a number of hitherto unknown hills. On Friday the competitors will travel to Brooklands, taking in Alms Hill en route. In all some fifty hills with a gradient of 1 in 7 or worse will be encountered during the Trial.



AT this time the eyes of all motorists are turned to Daytona Beach, Florida, where tremendous things have been happening. At the time of writing, Captain Campbell, the "Britisher Speed Wizard"—as the U. S. Press calls him—has established another World's Record at rather more than 206 m.p.h. During this run the "Bluebird" is described as having skidded broadside on at a speed varying from 180 to 210 m.p.h., and have leapt for a distance of something between 30 and 100 feet, according to different eye-witnesses. It would be interesting to know precisely what passed through Campbell's mind when that skid commenced. I suppose, really, one would have no time to be frightened.

Now news arrives of Mr. Frank Lockhart's attempt on his Stutz coming to an abrupt termination in the Atlantic at an estimated speed of 225 m.p.h. The splash must have been considerable.

Mr. White's monstrous nightmare of a machine, whose 1500 h.p. is without any transmission to speak of, has not yet attempted anything, owing to his disqualification. Had he essayed the run, his car would probably have executed a skid twice round at 250 m.p.h., and have hurtled into the sea about five miles away—that is, if the thrills progress as they have done at each attempt so far.

It is possible, as we go to press, that Campbell may attempt to improve his figures. If so, good luck to him, and may he be able to keep ahead of all Americans, and show that whatever else we fail to do, we can still pay War Debts and drive motor-cars.

* * *

Interest has been aroused by the news that Malcolm Campbell will drive a Bentley at Le Mans in June. This is the first time Captain Campbell has appeared in a race on this *marque*, and his performance in this type of event will be viewed with interest.

Among his team mates will be Captain H. R. S. Birkin, who is a well-known Bentley driver, and M. Jean Chassagne, the veteran driver who electrified the event last year on Aries.

This year Sammy Davis will appear on one of the new front wheel drive Alvis cars, with W. U. Dykes as a confrere. This team will, without doubt, put up an excellent performance. Davis, of course, won the event last year in company with Dr. Benjafield on a Bentley, and can be counted on to put up a good performance on the Alvis.

Mr. Urquhart Dykes is a well-known amateur driver of Alvis cars. It will be remembered he finished third in the 1500 c.c. class of last year's 200 Miles Race on a quite standard Alvis motor. Perhaps it is less well-known that Mr. Dykes takes a secret delight in competing in the Southern Scott Scramble on a motor-cycle, without, however, the distinction which has accrued to him in four-wheeled spheres.

* * *

We have all heard of the engagement between Mr. C. F. Temple and Miss Rene Cook. Miss Cook, of course, is the well-known B.B.C. pianist, and of concert hall fame, while C. F. Temple is a name too well-known to need introduction.

Among his more brilliant achievements, Temple completed 100 miles in the hour on a motor-cycle, being the first rider to do so, and made a motor-cycle World's Record by travelling at 121.4 m.p.h.

The staggering nature of this speed on two wheels may not dawn on the car driver at once, but to the motor-cyclist to whom eighty and ninety miles an hour seem very fast, the performance verges on the incredible.

I am sure we all unite in wishing Mr. Temple and his fiancée the best of luck and happiness.

* * *

An opportunity arises for some sporting gentleman to acquire the famous Fernihough-Morgan. This 600 c.c. record-breaking three-wheeler, which is the most amazingly reliable racing motor I ever heard of, is for disposal, and enquirers should address themselves to me at these offices, when I can put them in touch with the correct quarters.

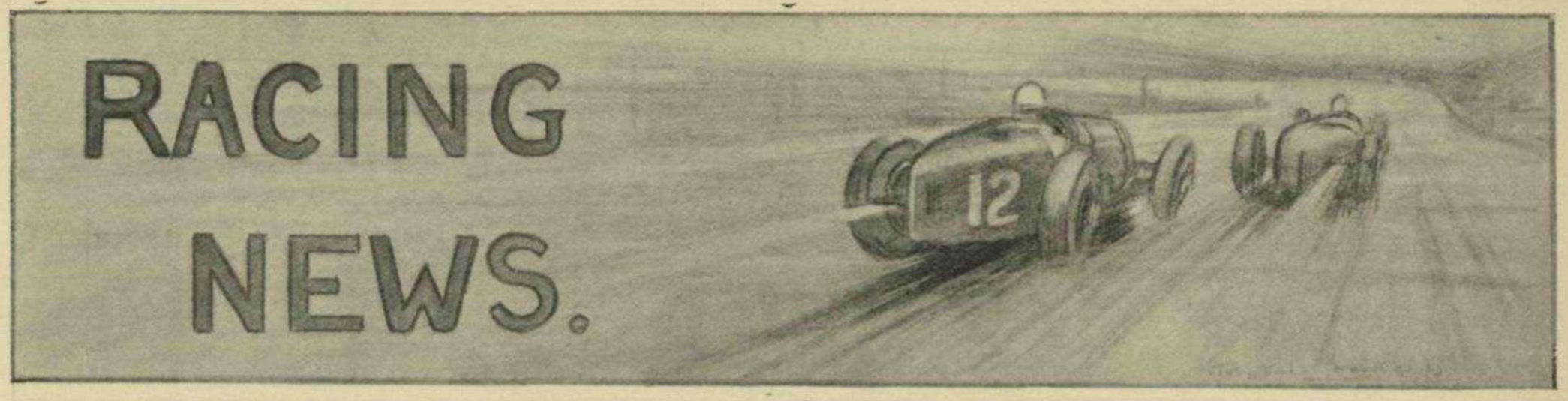
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The Editor tells me that, his post bag as evidence, the new League of Motor Sportsmen is going to be a big thing. All sorts of well-known drivers and riders are joining, and the ordinary sporting owner is rolling up in his legions.

If we can only band ourselves together, we shall become a power in the land, and be able to sway the destinies of the greatest of all sports, by a united spirit of fellowship and *noblesse oblige*.

* * *

In recognition of the part which she played in the recent Singer test at Montlhéry track, the Singer Company has just presented Mrs. E. W. Deeley with a Singer Junior Saloon in a particularly dainty colour scheme. It will be remembered that Mr. and Mrs. Deeley and party drove a Singer Junior, observed by the French Touring Club, round Montlhery track for six days and nights and covered, despite very adverse weather conditions, a distance of 5,671 miles. Mr. Deeley won his wager; Mrs. Deeley has now "won" a Singer Saloon!



ANOTHER GRAND PRIX ABANDONED.

Last month we were comforting ourselves for the loss of the French Grand Prix with the thought of a racing car event on the Nürburg Ring. Now, however, we are faced with the news that this race will also be abandoned, owing to inadequate support. This in Germany is tantamount to saying that the organisers realized that the firm of Mercedes-Benz would not send any cars to the starting line. Doctor Porsche, in fact, who used to be with Austro-Daimler, and who is now devoting his engineering genius to Mercedes, has expressed himself dissatisfied with the present racing rules, on the ground that even with a weight limit, engines of unlimited capacity can be made to develop so much power that the cars would be too fast to be held on the road. Under these circumstances the engines would never be stressed to their limit, and consequently no lessons would be learnt by manufacturers. This opinion is at any rate comforting to the less eminent engineers among us who have come to the same conclusion. Doctor Porsche also has practically decided that no Mercedes racers can be ready for the Targa Florio this year, and the hoped for Mercedes-Bugatti duel in that race must therefore be postponed. The German firm had also hoped to enter for the Grand Prix d'Endurance at le Mans, but again unpreparedness will probably necessitate their abstention ; on the other hand the German Automobile Club announces that it is finding good support for its Touring Grand Prix, which will be run on the Nürburg Ring on 15th July, and we can therefore hope to see the 36-220 h.p. Mercedes appear once more in this event which it won in so striking a fashion last year.

The Revival of Grand Prix Racing.

In England there seems to be a strong tendency to regard the eclipse of Grand Prix racing to say the least of it, with equanimity, and this is the case even among those who one may be pardoned for saying ought to know better. The reason for this seems to be the extremely insular one, that while this country has been reaping the honours in touring car races, we have not been making a very creditable showing in the Grand Prix races. On a somewhat " sour grapes " principle, therefore, one hears a great deal nowadays about " freak " Grand Prix racing cars. Presumably this appellation means that these cars would not be suitable for the average unintelligent " all-on-top " driver ; but when one considers that Bugatti's " freak " 2.3-litre supercharged car will move off on the starter with top gear engaged, and the clutch in, even this argument seems to fall rather flat. Be that as it may, however, there is a distinct feeling in France that. Grand Prix racing must be revived, and our energetic contemporary, *l'Auto* suggests that its salvation lies in the totalisator. In this connection it has sounded the chief French manufacturers on the subject with varying degrees of support. M. Louis Delage is quite definitely opposed to the idea as he considers betting immoral, while M. Paul Panhard agrees that it would almost certainly lead to " irregularities " among drivers, and spoil the sport. M .Koechlin, of the Peugeot Company is of the opinion that races would become contests not between cars, but between drivers, and that their benefit to the industry would thus be lost ; while M. Bugatti opines that owing to the small number of first-class drivers, people would soon know the winner in advance and therefore the system would not work. M. Weder of the Talbot company is of the opinion that it is not the expense so much as the disorganisation of the rest of the factory which is the chief objection to racing and that in this direction the " tote " could be of no assistance but the directors of the Chenard et Walcker, Lorraine-Dietrich, Ariès, Georges Irat and B.N.C. firms give more or less qualified encouragement. Personally, we think that M. Panhard has struck the most important note in the discussion, having in view the state of motor sport in America as disclosed by a correspondent some time ago in *Motor Sport*.

A piece of Good News.

In the meantime, however, the intelligence that Fiat are discontinuing work on their new 12-cylinder racing cars is compensated for by the definite announcement recently made by M. Louis Delage, that he has no intention permanently to abandon motor racing. Signor Ambrosine, the Delage agent at Turin, has acquired all the 1925 2-litre 12-cylinder racers as well as one of the 1500 c.c. cars ; while the other 1927 racers will probably be sold to America and run in the forthcoming Indianapolis race. In spite of this, however, Delage is scandalised at the idea that has gained currency that he will not race again ; this year indeed, he intends to abstain from races, but his racing department has not been broken up and he announces his intention of returning to the charge in 1929 on the sole condition that he is

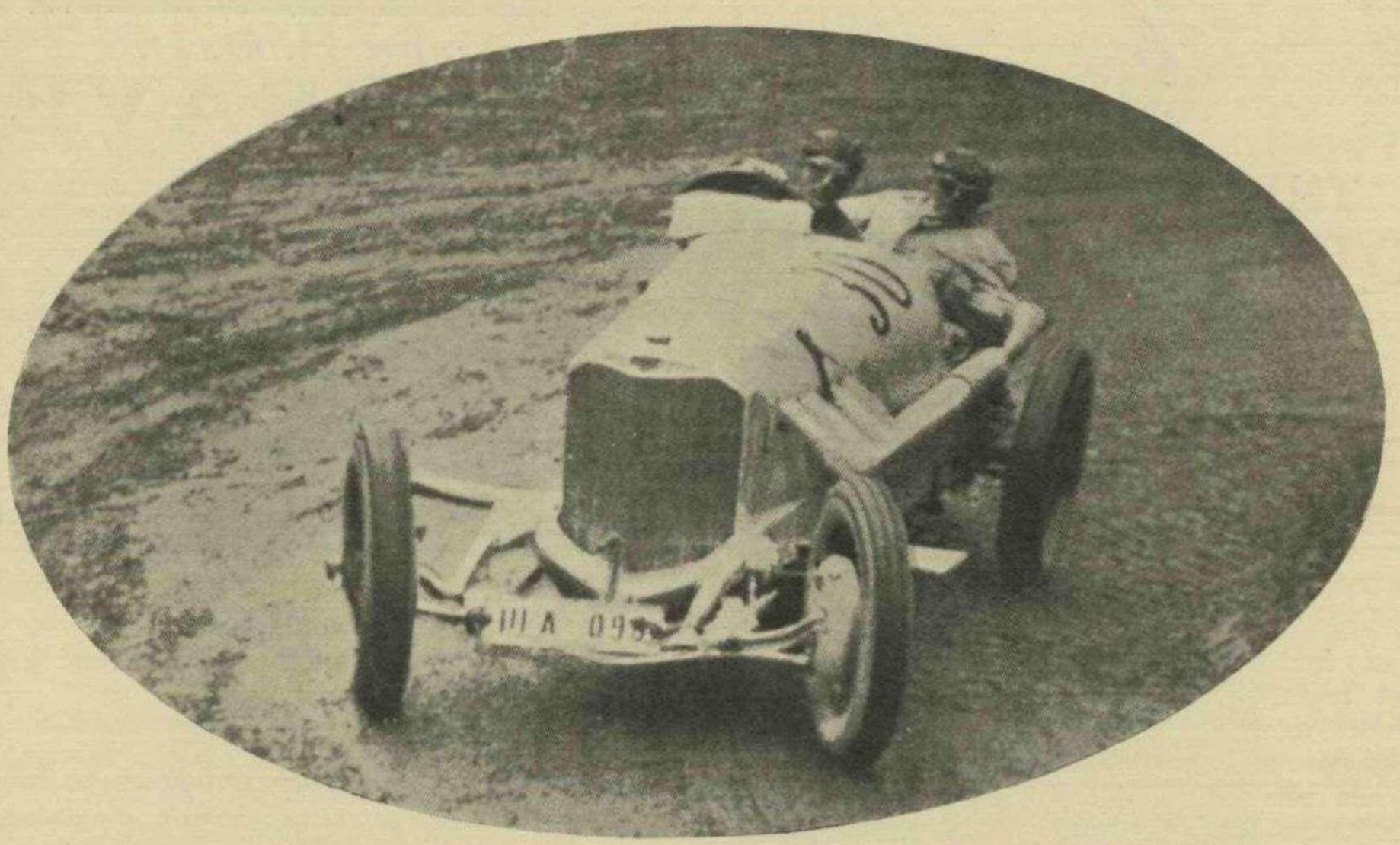
RACING NEWS—continued.

assured of adequate competition, a condition which a can be called nothing if not sporting.

Ettore Bugatti's Activities.

In the meantime, the other leading figure in the French racing world, M. Bugatti, is characteristically active in keeping motor racing going according to his own ideas. The cancellation of the French Grand Prix has led him to abandon work on the cars with two straight-eight engines with their crankshafts geared together which he was building for it; but not content with the Bugatti Grand Prix at le Mans, which we described in our last issue, and which has already received an entry from J. C. d'Ahetze, the French amateur, he is engaged in organising another new race. This will be called the "Grand Prix of the Aces" and the idea is to mount the world's best drivers on identical cars and see who wins. Ettore Bugatti will select the best drivers from each country and provide an equal number of 2-litre supercharged racers. The drivers will then obtain their cars by lot, so that the result of the race will depend as far as possible purely on the driving skill of the competitors. The first race will take place at Montlhery, but if the idea catches on, Bugatti hopes to organise return matches at Brooklands, Monza and San Sebastian; it is to be hoped that our own track at any rate will welcome the idea. Robert Benoist, Albert Divo and Andre Boillot, are already spoken of as representing France, with Pietro Bordino, Guisseppe Campari and Emilio Materassi for Italy, Lautenschlager, Willy Werner and Ludolf Carraciola, who by the way is a certain starter in the Bugatti Grand Prix, for Germany, and Frank Lockhart and Peter de Paolo for America. M. Bugatti's idea seems to be that just because there is going to be no French Grand Prix this year, that is no reason why the world's best drivers should be left inactive. We hope to return to this subject when the details are more definitely settled.

While all this is still somewhat in the air, however, M. Bugatti is seriously preparing for the Targa Florio. This year he has decided to enter an official team of six cars, and has already selected five of his drivers, who will be Louis Chiron, who so narrowly missed victory in the Free-for-all Grand Prix at Montlhery last year, Count Conelli, who ran second in last year's Targa, and Spanish Grand Prix, Count Brilli-Peri, who won the European Grand Prix on an Alfa-Romeo in 1925, Nuvolari, who won the Grand Prix de Rome last year, and the Englishman, W. G. Williams, who last year was a member of the Talbot team.



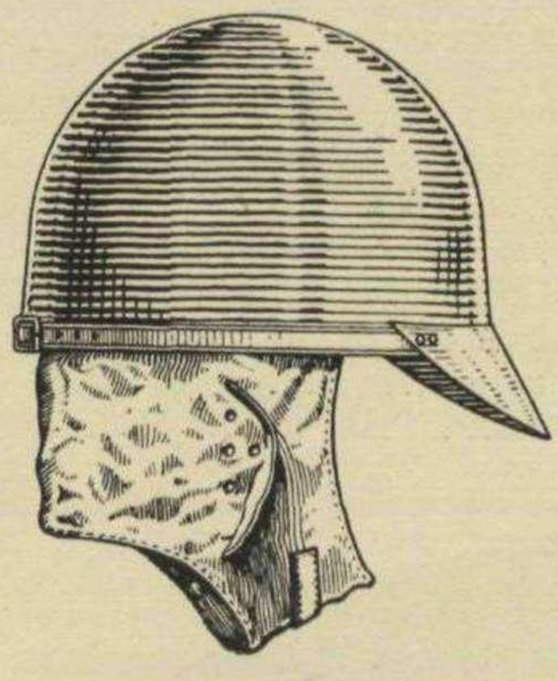
An Impression of Rosenberger, the Mercedes Crack, Cornering at Speed.

The Talbot Racers and Materassi.

Speaking of Talbots, incidentally, many people have doubtless been wondering what would become of these most attractive straight-eight racers. The whole team has, in fact, been sold to Materassi, while another Italian sportsman, Tosti, has acquired the spare car. Both Materassi and Tosti intend to drive these cars in the Indianapolis race, while the former may entrust one of his other Talbots to Brilli-Peri. If some Delages are also entered, therefore, the European contingent in the American classic will be stronger than for several years past. Materassi, in fact, has drawn up a tremendous programme for himself for the coming year. Not content with having raced his Grand Prix Bugatti round a road circuit against an aeroplane, which flew

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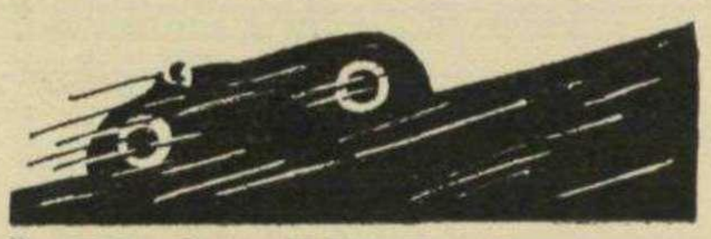
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With a Preface by the
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RACING NEWS—concluded.

overhead and had to follow the windings of the course, he has got together an impressive racing "stable" which includes, as well as the Talbots, two 2-litre supercharged Bugattis and two Italas. With these cars he intends to compete in the Grand Prix de Tripoli, the Brescia 1,000 Miles Race, the Targa Florio, Indianapolis, the Grand Prix de Rome, and the Italian Grand Prix, to mention only the most important.

The Coupe de la Commission Sportive.

Owing to the cancellation of the French Grand Prix, the race for the Coupe de la Commission Sportive now has the honour of being the only race organised by the A.C.F. in 1928. The rules as last year place no restrictions on engine size or bodies, but fuel and oil will be limited. While last year the event took place on the Montlhery track, this year it will be run on the road. The circuit chosen is that of Comminges, on which the motor cycle Grand Prix has been run for the last two years. This circuit lies in the Garonne valley, quite near the Pyrenees and about 40 miles west of Toulouse.

Those interested can find a map of the course on Section 86 of the Michelin map of France (scale 2 cm. : 1 kilometre). From St. Gaudens, the course follows Route Departmentale 9, which is rather narrow, by Valentine and Martres to its junction with Route Nationale 125, which leads into Montrejeau, whence Route Nationale 117, a fast road, leads back to St. Gaudens. The whole circuit is about 16 miles round. Last year this race provided some very interesting contrasts in the entries.

The Grand Prix d'Endurance.

The Grand Prix d'Endurance seems to be assured this year of its customary measure of success. Since our account in our last issue, a second Salmson has been entered for the 4th Biennial Cup, thus bringing the total entries in this division up to five.

Three Aston-Martins and two Alvises already entered, the British contingent will be increased by three $4\frac{1}{2}$-litre Bentleys, three Lagondas and a 1500 c.c. Marendaz Special. Austro-Daimler also intends to enter a team of 3-litre cars, while Stutz can be counted on to start with two, and another American firm will enter a team in all probability. The probable starters in the 5th Biennial cup therefore seem to be at present :—Six Lombards, four Ariès, three Tractas, two B.N.Cs'., two Salmsons, two d'Yrsans, a S.A.R.A., an E.H.P. and an Alpha-Six for France, two Stutz for America, the Austro-Daimlers for Austria and the twelve cars already mentioned for England. As far as the Grand Prix d'Endurance is concerned, therefore, the competition will probably lie between the Bentleys, Stutz, Austro-Daimlers, Lagondas and Ariès, but it should not be forgetton that the Salmsons last year showed that smaller cars could be very fast, and the English 1500 c.c. division, especially, are likely to be well in the picture.

THE COLMORE CUP TRIAL.

GALE DRIES THE COURSE.

THE results of the Colmore Cup Trial show that two-stroke motor-cycles have once again made outstanding performances. The Colmore Cup itself was won by J. Parker, on a four-stroke B.S.A. combination, but two of the premier solo prizes—the Walker Cup and the Calthorpe Trophy—were won by two-strokes.

The Walker Cup, for machines up to 175 c.c., went to that well-known competition rider, Bert Kershaw, who was mounted for the first time on a Villiers-engined two-stroke James, whilst the Calthorpe Trophy, which is by far the most valuable of all the awards, was won for the second time in succession by a Dunelt two-stroke, ridden by N. Anderson.

Acceleration Test.

The first impediment was the Acceleration Test held on Aston Hill, which was conducted in a highly scientific manner, utilizing an electric buzzer between the starter and Mr. Ebblewhite. Contrary to precedent, this process functioned without fault during the whole of its use.

Outstanding performances were, among others, rendered by G. P. Baxter (499 c.c. Rudge), J. H. Amott (Rudge), Dance (Sunbeam), N. Anderson (Dunelt) and Kershaw (172 c.c. James). Among the nineteen cars, the best times were put up by H. F. S. Morgan and G. C. Harris on Morgans, P. C. Ralli (Alvis), and J. P. Attenborough (Salmson).



C. Fisher (497 c.c. Ariel Sidecar) Rounding the Hairpin on Kineton Hill.

The eve of the trial was sufficiently forbidding in the inclemency of the elements for even the most rabid Sunbac official. Pouring rain with hurricane gusts of wind combined with sleet and snow to daunt the most hardy, and a few claps of thunder were thrown in to heighten the general gloom.

Saturday, February 11th, dawned with the gale still at its height, and *Motor Sport* representatives had much ado to keep their car on the road during their dash from Town to the course in the small hours. However, it is an ill-wind, etc., and the very gale which interfered with riding and engine cooling also rapidly dried the worst mud on the hills, and the course was in no very difficult condition by the time the last man left the start at Stratford-on-Avon.

The fastest time of the day was made by Dance in 7.4 seconds, while the fastest car was Ralli's Alvis with $12^{1}/_{5}$ seconds.

The next item was the Stop and Re-start at Blockley, which, thanks to the wind, presented no undue difficulty.

Kineton Hill next loomed up, where perhaps the fastest climb of the day was made by C. Harman on a 246 c.c. O.K. Dance gave his usual display of excellent riding and L. E. Chirney also on a Sunbeam, spoilt a good climb by footing. K. J. Whistance (New Imperial) was hectic, J. V. Rogers (172 c.c. McEvoy) simply failed, and H. Gittins (B.S.A.) left the straight and narrow way until stopped by a railing.

Among the sidecars the outstanding event was by J. W. Walton, whose 499 c.c. Rudge and sidecar upset

COLMORE CUP TRIAL—continued.

before entering the observation area. E. L. Forge (Morgan) climbed well; Ruby Slade (Norton sidecar) displayed ability, and Hicks (Douglas sidecar) and Watson (Sunbeam sidecar) showed how it should be done.

Post Office Hill was the first observed climb, and presented no difficulty after the negotiation of the left-hand bend.

Brake Test.

Gambles Lane was the scene of the brake test, and was found to be dry and firm-surfaced. The Rudges were noticeably excellent in the efficiency of their interconnected braking system. No difficulties were encountered by the cars.

New Colmore.

New Colmore Hill proved interesting, but was not as difficult as had been expected. The drying wind had robbed the hill of its greatest terrors, and even the leaves covering the last stretch were dry and comparatively easily negotiated.

The lower slopes were soon cut up and remained wet all day, but apart from a certain sliding, the gradient offered no menace to one's awards. Higher up, past the gate, the tale was different, and in the narrow part between the banks, the spectacle of cavotting machines frisking from side to side or monotonously hitting alternate banks was quite a common sight. The gale blowing up the hill was useless as a cooling medium, and engine failure was therefore common. Riders appeared in sight heralded by clouds of blue smoke, and the reek of Ethyl blown in gusts up the hill. Doris Webster's 172 c.c. James died on the lower slopes, but reappeared two hours later at the summit—which shows what determination will do. Steady climbs were the order of the day, and although the steadiest climbs consisted, for the most part, in a series of wild skids and leaps, the Douglases must be mentioned for the maintenance of a perfectly straight course and appreciable speed.

G. F. Povey went up fast on a Velocette two-stroke, and amid a screen of smoke the dim figures of Gus Kuhn and A. W. Thrush on Calthorpes were seen to be ascending steadily. Marjorie Cottle was up to form, and Boyd-Harvey's Matchless deserved something better than "sit-up-and-beg" handle-bars.

There were one or two mixes owing to late soloists failing in the path of the sidecars, notably when P. B. Cranmore's B.S.A. outfit bumped Lovegrove's Radco.

Margaret Newton shot up the bank on her Douglas, baulked Uzzell (986 c.c. B.S.A. sidecar) and got going again with a semi-operative clutch. Next she was hit by Walker (499 c.c. Rudge sidecar) and was next seen completing the climb on foot, the Douglas being manhandled by willing spectators.

Mansell's Norton outfit was ferocious, but H. L. Gibb's Enfield passed gently away. *He* was last seen pushing slowly towards the horizon. Margaret Sorby (770 c.c. B.S.A. sidecar) was fair, and Giles unsuccessfully attempted the hill on a flat tyre.

Ruby Slade made a slow climb behind a lame duck, and shot off along the colonial section at the summit with great *éclat*.

Clifton's four-seater Alvis made a splendid climb and was followed by an Austin Seven without chains.

On the whole the cars made uniformly good climbs, the surface presenting adequate grip. Mollart's A.C. *just* got up, and Miss Milne's Austin ceased twice. The resplendent A.C. of Miss Roper was geared too high and failed.

After New Colmore the route marking degenerated, and several competitors strayed.

Downhill on Piccadilly was awkward for the solos, and next Gypsy Lane was encountered. This was probably the *piéce de resistance* of the trial and it was the ruts that did it. Footing was general, crashes usual, and unsteadiness more or less universal.

Knowles on a 346 c.c. Sharratt registered the first failure, followed by Marshall, Wyncoll and Bedford. T. Ince's Sunbeam made shocking noises and stuck in a rut. Ramstedt (Cotton) and Wishtance (New Imperial) occupied the whole available road, and baulked F. N. Wood (James).

Sidecar wheels were rested in thin air, and F. Hayes (New Hudson sidecar) charged Margaret Newton, who must have been getting used to that sort of thing by now. Two Morgans had trouble—one chains, the other countershaft.

Austin Sevens were very good, Lovatt's Sports Jowett slow but sure, but Eadington's smart little Fiat failed and caused failure in others. Mollatt (A.C.) stopped, and Clifton's Alvis came to rest momentarily owing to fuel stoppage or a choked jet.

Lunch was held at Winchcombe and occupied but half-an-hour, after which Old Stanway was climbed by everyone with ease, though the cars suffered wheel slip in the Colonial section later on.

Laverton Hill was the next item of interest, with a slimy lower reach and bumpy at the top. Although the gale was again from behind, engines did not seem to object, and the procession was unimpeded by failures. Little Brockhampton was taken as it came, and the route lead on by Snow Hill, Aston and Mickleton to the finish at Stratford.

Three cars arrived at the finish having missed part of the course, and did not, therefore, check in.

As a whole, this year's Colmore was probably the easiest since the war, not on account of the route, but by reason of its dry condition due to the terrific gale. The organisation was excellent throughout and, with one exception, the route marking was adequate. The thanks of all are due to the Sutton Coldfield and North Birmingham Club for an enjoyable day's sport.

THE NORTH LONDON MOTOR CLUB.

Motorists will be interested to learn that Mr. C. J. D. Pink has accepted the post of Trials Organiser for this Club, and a very strong Sub-Committee has been formed to support him in his task. A really good time, therefore, may be expected for the sporting driver in the forthcoming trials.

RACING EQUIPMENT FOR 1928.

With the advent of Spring, and the approach of a new season, the sportsman's fancy lightly turns to thoughts of racing, and second only in importance to the equipment of the new machine is the equipment of the driver for the matter in hand.

Every sport requires the use of a particular kit, and *the* Sport requires a kit not only to facilitate its following but also to reduce its danger to a minimum.

The choice of racing gear is one of no little importance, as the life of a competitor has often depended upon his racing leathers or his helmet.

Of paramount importance to the racing driver is the crash helmet, essential to motor-cycle racing, and gaining steadily in favour in the eyes of car drivers.

For motor-cycle racing there is quite a wide range of helmets to select from, a matter which needs more attention than it usually gets. A well-made and well-fitting helmet can be as comfortable as the average helmet is a torment.

The Grose Crash Helmet.

One of the most comfortable helmets obtainable, and perhaps the most widely-known, is that manufactured by James Grose, Limited, of 379-381, Euston Road, N.W.1. These helmets are made both for motor-cycle use and for car drivers. The motor-cycle racing helmet is known as the "Savus" helmet, and is officially tested and stamped by the A.C.U. The construction of the "Savus" may be seen at a glance in the accompanying diagram.

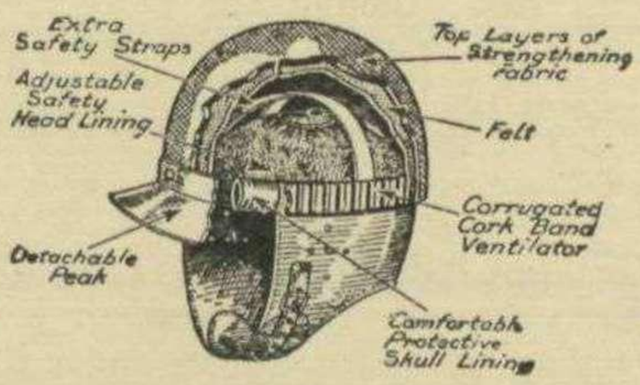


DIAGRAM SHOWING THE CONSTRUCTION OF THE GROSE SAVUS CRASH HELMET.

The efficiency of this helmet has been demonstrated on many occasions, but none more dramatic than that of the 200 Miles Race in 1924, when Mr. Allchin crashed heavily at some 95 miles per hour. That he was not killed is undoubtedly due to the "Savus" helmet he was wearing at the time.

Almost every well-known racing motor-cyclist, at Brooklands, the T.T., or in club speed events, is a wearer of this excellent crash helmet, which is priced at £2 2s.

If desired, the helmet may be obtained with ear-rolls.

Helmet for Car Racing.

The Grose crash helmet for car racing is practically



THE GROSE CAR RACING HELMET.

identical with that for motor-cycle racing, except that the dome is lower to avoid wind resistance and is brought low down in a peak at the back. This helmet has been adopted by the Junior Car Club, and is rapidly gaining popularity, the vogue emanating from Major Segrave and Mr. George Duller, who early took to wearing this protective device. The cost of this helmet is 45s.

It should be remembered that this helmet cannot be used for motor-cycle racing, owing to A.C.U. regulations.

Support Belt for Track Work.

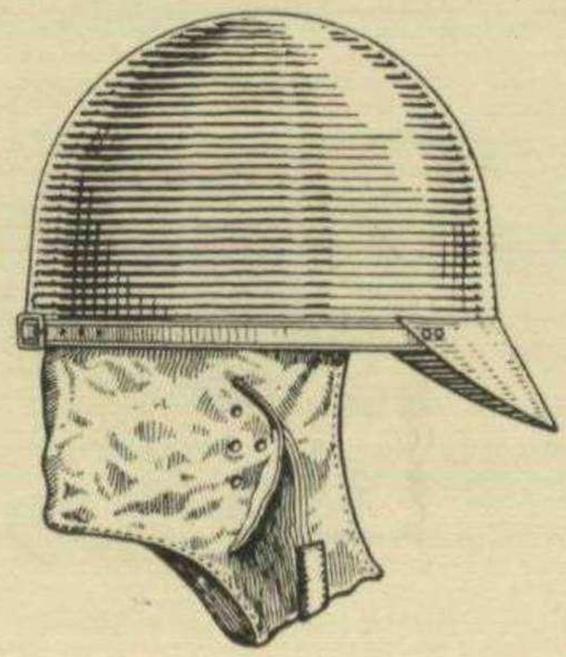
An additional necessity for the track rider is the Support Belt, an excellent example of which is produced by Messrs. Grose. This belt is 8 ins. wide and shaped to fit over the hips. The strong wool, natural webbing fabric does not stretch, and is fastened by leather straps and buckles. The price of this belt is 10s. 6d.

The Cromwell Crash Helmet.

Another exceedingly comfortable helmet is that manufactured by Helmets, Ltd., of St. Albans, and known as the "Cromwell." This helmet is made specially to the requirements of the A.C.U., and embodies all the latest improvements in motor-racing helmets. The shock-absorbing construction is a felt pad inside the outer skull, sponge rubber absorber, an over-crown resistance, and the laced-head leather. There is a gauze ventilation at the back which renders the helmet cool in use.

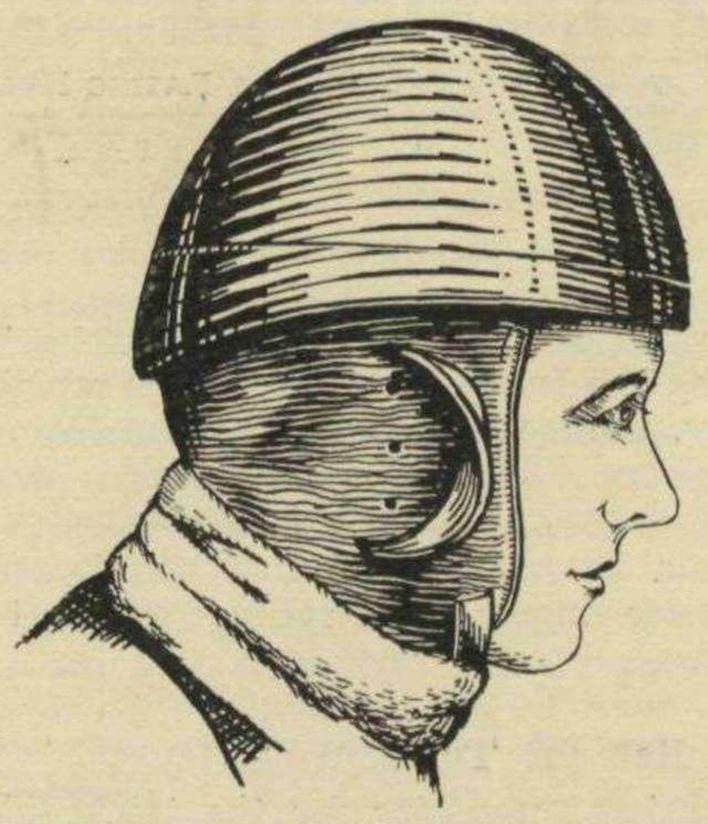
Car Helmet.

Helmets, Ltd. also market an excellent car racing helmet made on the same principles as the motor-cycle one, with the usual difference that the dome is lower on account of wind resistance.



THE CROMWELL CRASH HELMET.

RACING EQUIPMENT FOR 1928—continued.



THE CROMWELL CAR RACING HELMET.



THE CROMWELL ROADSTER.

In addition, this firm have produced a crash helmet for touring use, taking the form of a skull cap, to be worn inside the ordinary leather helmet or cloth cap. When in use this helmet is quite unnoticeable, and weighs but 8½ ounces.

The products of Helmets, Ltd. are manufactured wholesale, and are obtainable at the usual dealers.

Meyrowitz Goggles.

Of prime importance to racing men is the choice of goggles, and judging by its popularity and widespread use, the "Luxor" goggle made by Meyrowitz, of Bond Street, are the best obtainable.

These goggles are most comfortable in wear, and fit snugly to the eyes, allowing a very wide range of vision. This goggle is extremely popular in the air, which is a criterion of its excellence. Among the more famous users of the Meyrowitz "Luxor" goggle are Sir Alan Cobham, Captain Malcolm Campbell, Major Segrave, Colonel Lindburgh, and practically every airman of note.

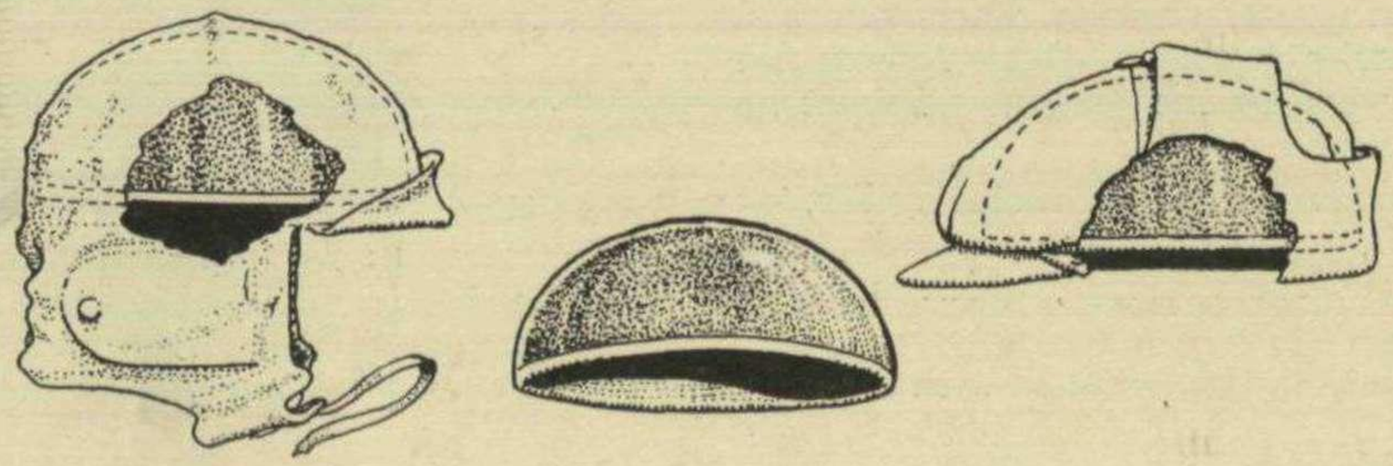
The goggles are of Triplex Glass, or may be obtained with lenses for use by wearers of spectacles.

Racing Leathers.

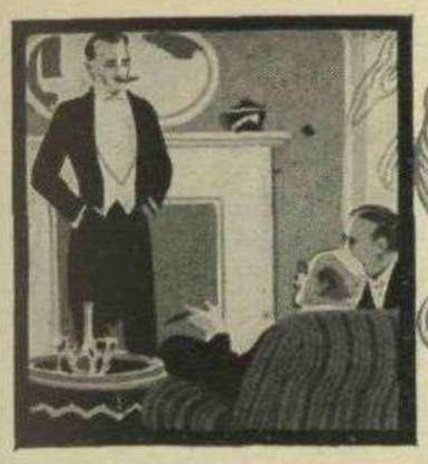
Leather clothing for racing, both on road and track, is obtainable at Messrs. Grose, Ltd., of Euston Road. This firm make tan leather breeches, high at the back in a special Racing pattern, at 63s., and a racing jacket in tan leather, with sleeves, four pockets and double breasted at 50s.

Racing boots are also made by this firm in various patterns, with the lightning fastener or the ordinary lace-up pattern.

Leather racing waistcoats are also made by Helmets, Ltd., St. Albans; and entire leather racing equipment may be had from Lewis's, Carburton Street, Great Portland Street.



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Round the Clubs



We have pleasure in announcing that the following gentlemen have consented to act as Honorary District Agents :—SOUTHAMPTON : *Mr. E. FERNIHOUGH, Kirwan Gate, Stourwood Avenue, Bournemouth.* LIVERPOOL : *Mr. A. HUNT*, 66, *Alexandra Road, Gt. Crosby.*

North London Motor Club.

At the eighth annual general meeting held at the Alexandra Palace on January 30th, it was agreed, that although 1927 had been a bad year for most motoring organisations, the club had successfully weathered a difficult period.

Following some interesting suggestions for the coming season, the following officers and committee-men were elected :—

President, Prof. A. M. Low ; Vice-Presidents, A.J. M. Ivison, Bernard Staley, W. H. Wells ; Captain, M. C. Perret ; Vice-Captain, E. G. Farrow ; Secretary, Alan W. Day ; Treasurer, C. H. Lewis ; Press Secretary, G. S. Wright ; Asst. Secretary, Miss H. C. Freeman ; Committee-Men, H. H. Harveyson, R. R. T. Borer, L. V. Freeman, J. D. Mallet, C. J. D. Pisk.

Plans for the forthcoming season are now being carefully considered, and details will appear in these columns. In the meantime, further information will be gladly given by any of the officers.

The fixture list is now being prepared and will shortly be distributed amongst members, but in the meantime March 24th should be reserved, as the date of the opening social event.

This will probably take the form of a country ramble, followed by tea and a dance. Further details will appear in these columns and any other information will be gladly given by the Hon. Secretary, Alan W. Day, " Claremont," Ballards Lane, Finchley, N.3.

Brighton and Hove Motor Club.

The following are the club officials for 1928 :—

President, Viscount Curzon (re-elected) ; Vice-President, Councillor C. Kingston (Mayor of Brighton) (re-elected) ; Captain, P. C. Tulley ; Vice-Captain, P. F. Croysdill ; Hon. Secretary, C. L. Clayton (re-elected), 10, Prince Albert Street, Brighton, Sussex ; Hon. Treasurer, K. E. Black (re-elected) ; Hon. Timekeeper, N. Johnson (re-elected) ; Hon. Solicitor, F. H. Nye (re-elected).

Oxford University Motor Club.

On Saturday, 18th February, the Club had the pleasure of a lecture by Mr. G. E. T. Eyston on " Touring Cars for Racing," which was a specially interesting subject in view of the inter-'varsity hill-climb. Mr. Eyston started with the chassis, which, he said, was especially important from the touring point of view. Most chassis were not strong enough for serious racing and needed strengthening with plates. All unnecessary resistance should be eliminated from the transmission, for which reason very light oil should be used in the gearbox and back axle. The shock-absorbers were another important point and tests should be made with them adjusted tighter and tighter until the right setting was reached. Wheels also should be balanced both statically and dynamically to prevent any tendency to wobble. Incidentally, great improvements could be made if all other rotating parts of a car could also be balanced, but this is difficult in general. The steering is another important feature, and if there is any sign of play before a race, a new gear should be fitted. As far as the engine is concerned, experiments should be made with various carburettor jets, starting with small ones and then increasing the size until the best results are obtained. Parts should be carefully polished, but care must be taken not to allow distortion owing to excessive thinness. Altogether this was a most interesting evening.

Newcastle Motor Club.

At the annual meeting of the club, the following were duly appointed as officers of the club for the ensuing year :—

President, Councillor R. J. Richardson ; Vice-Presidents, T. G. Atkinson, J. T. Morrison, Councillor W. V. Longfield (Past President), J. R. Atkinson, J. H. Banks, D. Chambers, A. Clark, W. Hollingsworth, Councillor J. Leadbitter, F. T. Maling, W. F. McCullagh, S. Smith, W. D. Stephenson ; Chairman, Allan Wright ; Hon. Secretary, Ernest Willan ; Hon. Treasurer, G. C. Urwin ; Sports Secretary, J. H. Barras ; Committee, A. T. Brunswick, R. Cook, Junr, C. Hutt, G. W. Green, W. F. McCullagh, J. K. Morrison, A. Pawson, J. N. Pendrich ; Sports Committee, G. W. Green, L. G. Marrison, J. K. Morrison, J. N. Pendrich, A. Wright ; Auditor, J. Palmer.

CORRESPONDENCE.

[Owing to pressure of space several letters have been held over.—Ed.]

Sir,—With reference to your article in *Motor Sport* "Great Racing Marques. XI—Austin," I have perused this with great interest, but was, to say the least of it, somewhat surprised that no mention was made of the 20 h.p. Austin which I regularly raced for some six years on Brooklands.

In the first place, at the Show in 1920, I ordered an Austin 20 chassis which the Austin Company guaranteed would be capable of 70 m.p.h., but they would not guarantee any more. Before this particular chassis was put into production, I requested them to build the car exactly to my own specification. This (after considerable discussion) they eventually agreed to do, but in view of my specification submitted they unconditionally withdrew any guarantee of speed, and this I quite willingly risked. To cut a long story short, instead of doing 70 m.p.h. the car attained 85 m.p.h.

The success of the specification was so obvious to the Austin Company, they immediately proceeded to produce it as a standardized sports model.

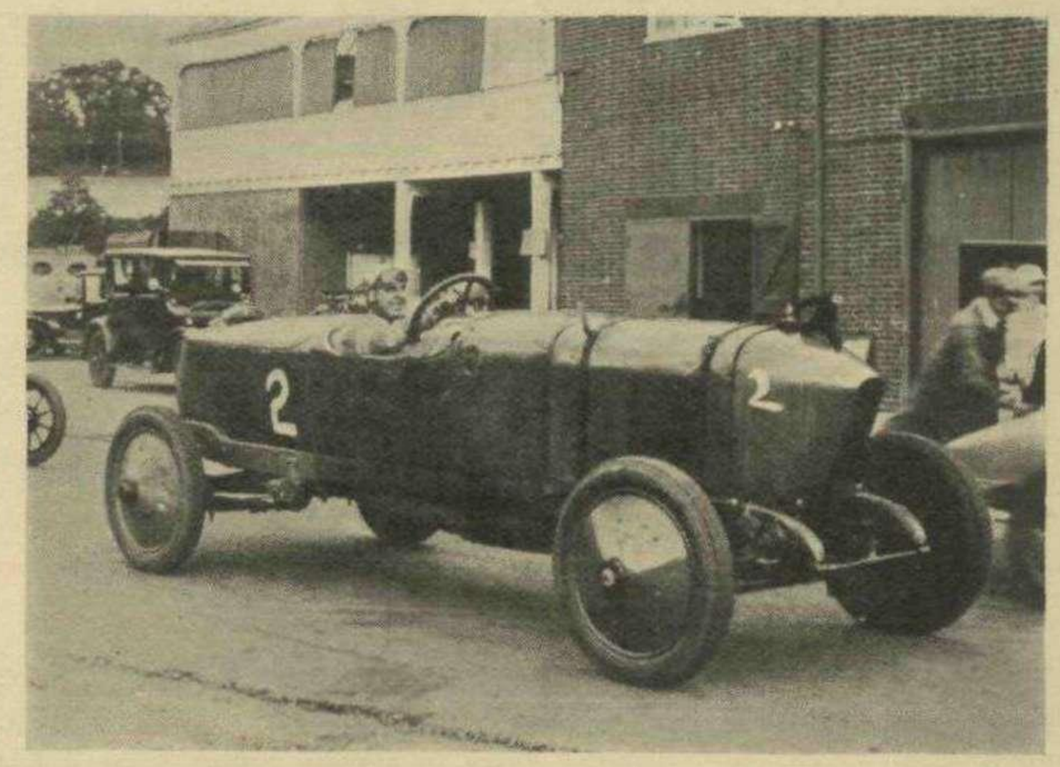
This was the first Austin to race after the war and long preceded the 750 c.c. model, which, of course, was not produced until a year or two after.

The first race for which it was entered at Brooklands was won by an unprecedented margin, at the Easter Meeting, 1921.

Eventually, I made my car into the fastest Austin that has ever been built and have lapped Brooklands (official time) at 94.99 m.p.h. and, seeing that the car emanated from standard parts, I should have thought that this was a sufficiently good performance to have merited mention in your notes.

Yours truly,
Felix Scriven.

(We thank Mr. Scriven for drawing our attention to the performance of his Austin "20" and feel sure that our readers will not have forgotten the famous "Sergeant Murphy." However, the "Great Racing Marque" series, to be really complete, would occupy several volumes. Under the circumstances, many highly creditable performances by enthusiastic private owners in short distance races, etc., have had to be omitted in favour of fuller accounts of the big international events.—*Editor.*)



The well-known Austin "Sergeant Murphy" referred to in Mr. Scriven's letter.

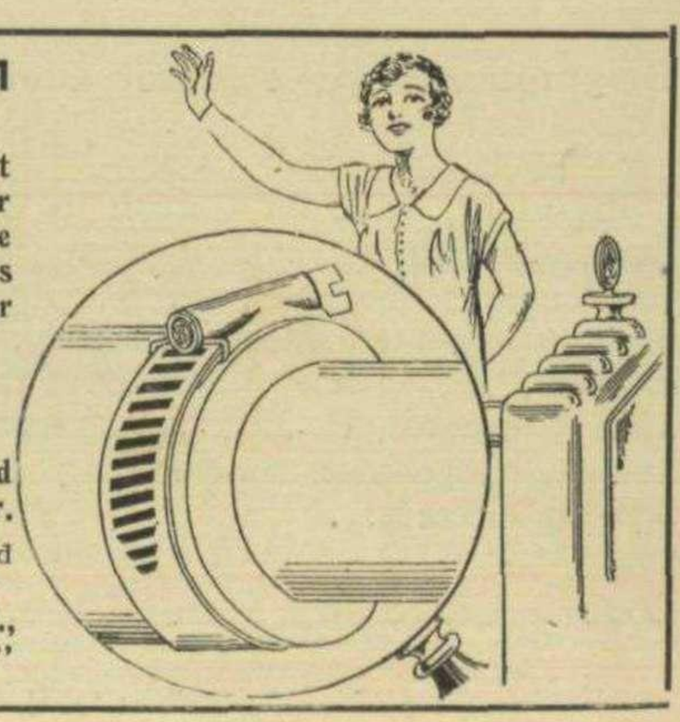
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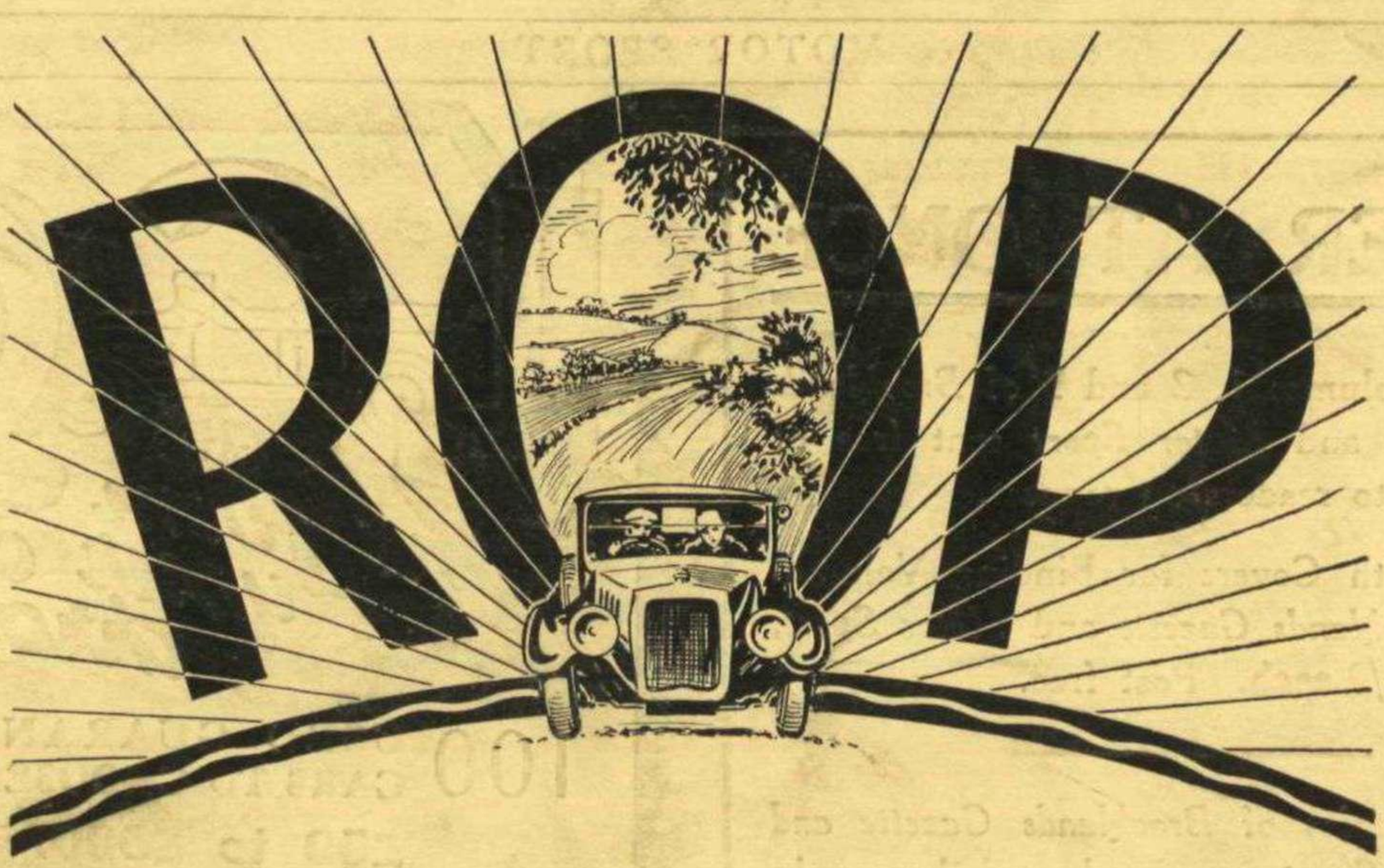
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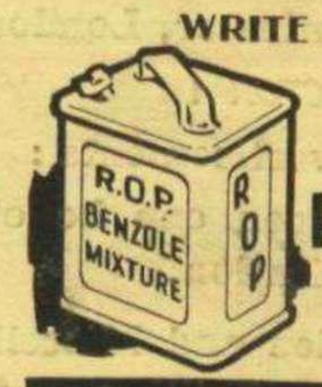
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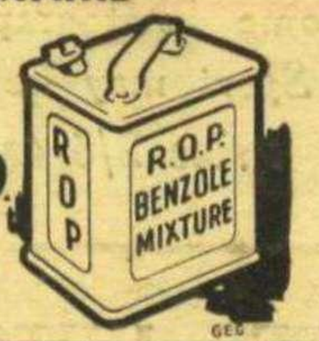
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