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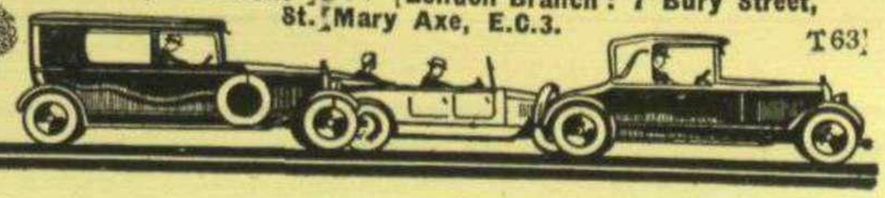
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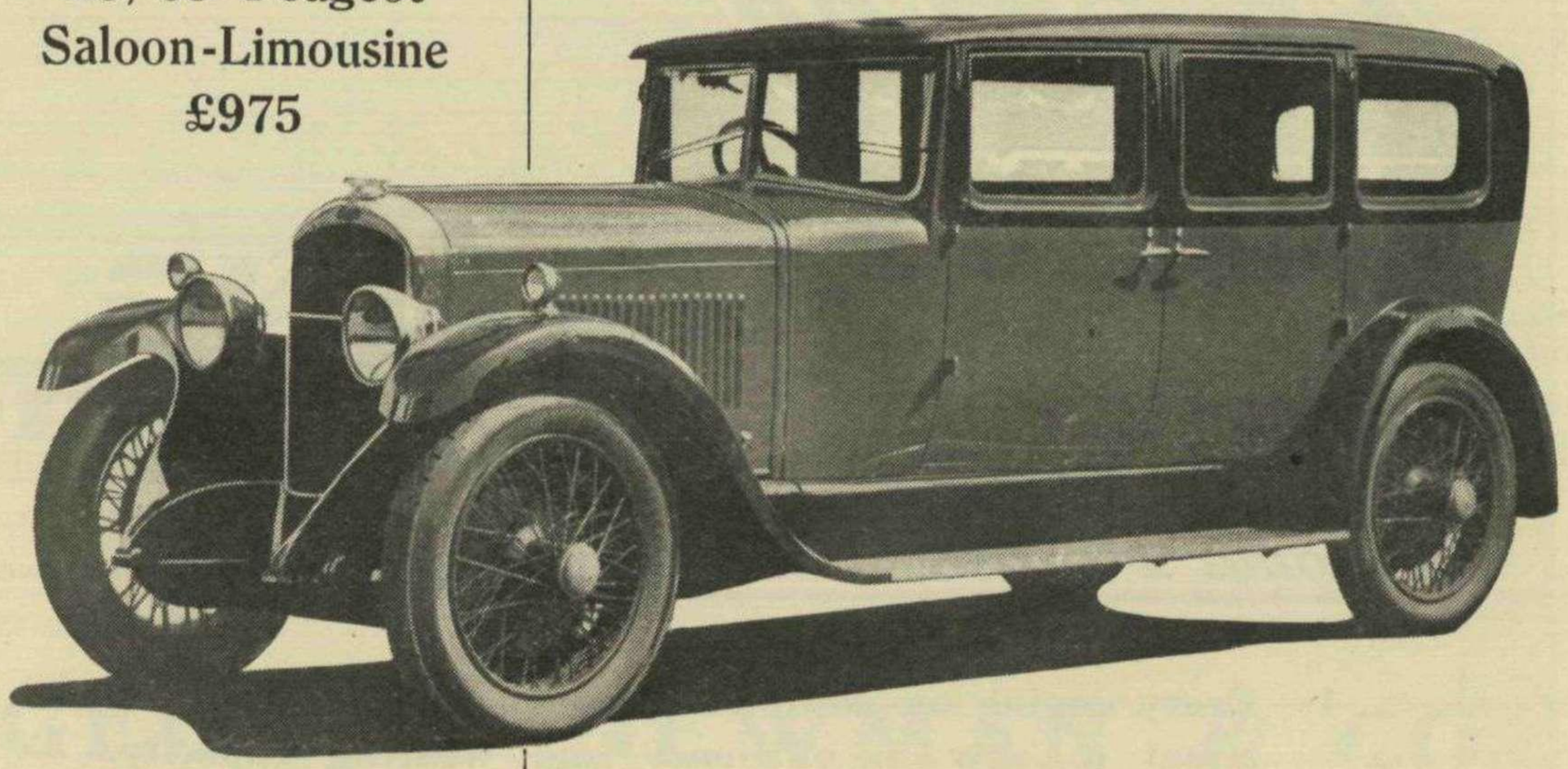
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Edited by L. A. HUTCHINGS.

SEPTEMBER, 1927.

EDITORIAL NOTES.

More Manx Mutterings.

IT is difficult to restrain oneself on the subject of the Isle of Man, or more particularly on the subject of the Tourist Trophy Course, and the races that are, or might be run thereon. We have just returned from another visit to this excellent spot, and in spite of having poured out an effusion on road racing only last month, we cannot resist the temptation to inflict yet another string of suggestions on our patient readers. In the first place we definitely verified our statement, made last month, that there are, in the Isle of Man, certain individuals who have sufficient confidence and enthusiasm to have tried for years to promote an Amateur Car Race. That their efforts have not yet born fruit is due chiefly to a regrettable attitude on the part of one of the bodies whose sanction of the event is desirable, if not actually necessary.

The objections to the running of a sporting event are presumably due either to influence of the trade or lack of confidence in the ability of the local powers to organise the race with success and safety. So far as an Amateur event is concerned the trade might be respectfully asked to mind their own business, while the 1927 Amateur Motorcycle Race, when seventy riders competed on wet roads, without a single serious accident, shows that the Manx authorities have nothing to learn in the matter of organising ability. The Motorcycle Race was run off without a single error or flaw in organisation, so that any objections to a similar car event, on this score are fully answered. As regards entries, we have already received promise of support from many readers, all of whom welcome the idea, while we have in mind many famous amateur drivers who would be certain to compete if such a race were run.

Let us hope, therefore, that the efforts of the Manx enthusiasts will meet with the reward they deserve, so that the first step, back towards the old style of road race, may be taken.

Our other plea is for the reinstatement of the Sidecar Tourist Trophy among the A.C.U. races in June, 1928. Much ink has been spilt on this question from time to time but we have it on very good authority that the prime reason for the demise of this race, was lack of support. For 1928, this reason is no more, since a definite party has been formed among the racing fraternity, of riders who will actually drive, if the event is staged. This number is already equal to, if not greater than the entries received for any previous Sidecar Race.

Our chief reason for urging the running of a sidecar race is the firm belief that, apart from steering, every feature of a motorcycle that is tried or stressed in a solo race is subjected to at least 50% greater strain in the sidecar race, so that as a means of improving the breed its value is enormous.

The supposed derogatory effect of the spectacular cornering, on the general public's opinion of sidecar safety, is not serious, but could be met by the abolition of human passengers, although personally we should prefer not to see this step taken.

We hope that the " Great Ones " will seriously consider these two pleas and give us a really comprehensive racing programme next year.

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GREAT RACING MARQUES.

VII.—PEUGEOT.

By E. K. H. KARSLAKE.

SEVERAL times during the history of motor racing, there have been periods when one make of car seemed to be absolutely supreme. Panhard et Levassor were invincible in the early days; Fiat had a great period in 1907 and another in 1922; at the moment the name of Bugatti stands at the head of the result of nearly every race; but none of these golden ages can quite compare, perhaps, with that enjoyed by Peugeot in the years just before the war.

The reputation of the great French firm, however, does not date only from its greatest period of fame. Long before the beginning of the motor era, Peugeot frères were famous as manufacturers of various mechanical devices; and in fact to this day if one inspects the bottom of a pepper-grinder the chances are that one will find the name Peugeot and the famous lion trademark engraved on it. They were amongst the first to take up the manufacture of motor cars; and when the first motor race ever held, was run from Paris to Rouen in 1894, a 4-seater Peugeot car was present at the starting line. This machine arrived second in Rouen behind the Marquis de Dion's steam car; but as the event was more of a reliability trial than a race, the Peugeot was allotted the first prize in conjunction with a Panhard which arrived third, "for the qualities of their cars, which respond well to the desiderata of the contest, without however yet completely fulfilling the dreams of the tourist!"

The next year a pure speed test was organised from Paris to Bordeaux and back, and was won in marvellous fashion by Panhard et Levassor; but the second, third and fourth places were occupied by Peugeots. After that race, Peugeot rather faded for a time from racing prominence; but in 1899 a new monster 20 h.p. racer was built. Up till then no race had been won by anything rated at more than 8 h.p., so that this Peugeot was indeed a novelty. On it Lemaitre proceeded to win two important races, the Nice-Castellan-Nice, when he averaged 26.1 m.p.h. for 75 miles, and the Pau-Bayonne-Pau at 33.2 m.p.h. for 129 miles.

It was not until 1909, however, that was started the great series of victories which made Peugeot world-famous, and which started with a victory in the Coupe des Voiturettes races. Actually the Peugeot concern had taken part in this race the year before, when three Voiturettes, driven by Giuppone, Jules Goux and Georges Boillot were entered. These 1908 racers had single-cylinder engines of 100 x 170 mms. (1335 c.c.)—a very long stroke for these days which was explained by the fact that the rules of the race limited the bore of single-cylinders to 100 mms. Transmission was by a 4-speed gear-box and side chains. In the race the Peugeots kept well up with the leaders, Goux and Boillot finally finishing third and fourth, with Giuppone fifteenth.

In 1909, Peugeot presented two distinct types of car for the race. Of these the first was a single-cylinder with a bore and stroke of 100 x 250 mms. (1964 c.c.), having the maximum bore and stroke-bore ratio allowed by the regulations. This engine had no fewer than three inlet and three exhaust valves, arranged all round the cylinder and two sparking plugs in the head. Two of the cars entered were this model, while the third was a V-twin of 80 x 192 mms. (1931 c.c.). In the race, the "singles" driven by Guippone and Goux soon showed themselves to be considerably faster than Georges Boillot's twin, and after a great fight with the Hispano-Suiza team, Giuppone and Goux finally finished first and second, with Boillot fourth. This Peugeot victory was to be the herald of many more.

The next year's race was the last run under the limited bore rules, and produced the most extreme cars. Again Peugeot presented two distinct types. The first of these was a V-twin, with a bore and stroke of 80 x 280 mms. (2816 c.c.) and a stroke-bore ratio of 3.5 : 1! There were three valves per cylinder, one inlet mounted vertically in the head and the two exhausts horizontally; all three were operated by a single overhead camshaft, while each cylinder had its own magneto and carburettor. Transmission was by a 3-speed gear-box and side-chains. The height of the engine owing to the long stroke was so enormous, that although the bottom of the crank-case was given only just enough ground-clearance, and the driver sat fairly high up, he could not hope to see over the top of it. The bonnet was therefore made very narrow, with a carburetter sticking out each side, and Jules Goux, who drove the machine, had to peer round one side of it! In order to waste no room at the top, the exhaust-pipes delivered straight through the top of the bonnet into the open.

The second type of Peugeot was a V-type 4-cylinder, with a bore and stroke of 65 x 260 mms. (3452 c.c.) and a stroke-bore ratio of 4:1!! The valve and exhaust pipe arrangement was the same as on the 2-cylinder, and the drive was also by side-chains; in this car, however, the driver was able to look over the top of the bonnet.

Two days before the race, Giuppone, the previous year's winner, turned over on one of the 4-cylinder cars, and was killed, thus leaving only Goux on the 2-cylinder and Boillot on the other 4-cylinder to start in the race. Goux's car, in spite of its unwieldy appearance, soon showed itself the fastest machine in the race, and covered a round of the Boulogne circuit at nearly 60 m.p.h. He was soon engaged in a terrific duel with Zucarelli's Hispano Suiza, but for the first half of the race he held the lead. Then, however, he suffered a number of minor troubles, and finally finished second, while Boillot on the 4-cylinder car ran into fourth place.

The somewhat eccentric appearance of the Peugeots in the 1910 race finally convinced the organisers of the Voiturette race that the bore limit had been carried far enough, and for 1911 the rules specified that only

GREAT RACING MARQUES



THE TWIN CYLINDER " LION-PEUGEOT " USED IN THE 1910 COUPE DES VOITURETTES.

4-cylinder cars were eligible to race, with a capacity limit of 3 litres and a maximum stroke-bore ratio of 2.1. The Peugeot people, however, were still keen on high piston speed, and their 4-cylinder cars, therefore, had the maximum ratio with a bore and stroke of 78 x 156 mms. (2974 c.c.). Three cars started, driven by Boillot, Goux and Zucarelli, the winner of the last year's race, and who now joined the team to replace Giuppone. From the outset, all the competition lay between Boillot, and Ballot on the Delage, and after a magnificent duel, the Delage finally finished first with Boillot little over a minute behind. In the meantime, however, Zucarelli had overturned on the first circuit, and Goux, while running well on the tenth lap, broke a valve and retired.

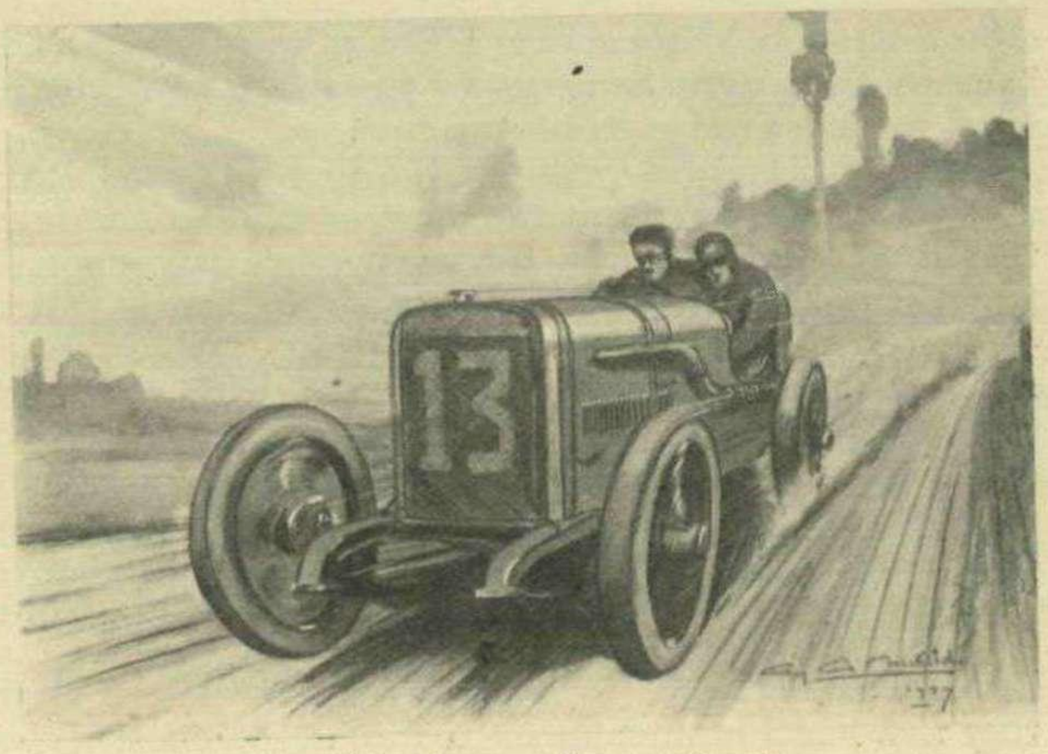
In 1912 the Automobile Club de France revived its Grand Prix which had not been held since 1908; and Peugeot decided to enter for it. There was no limit as to engine size, and the Peugeots had 4-cylinder engines of 110 x 200 mms. (7606 c.c.) with two overhead camshafts. The three cars were driven by Boillot, Goux and Zucarelli while a 3-litre Peugeot of the same type as had run in 1911 was entered for the Coupe de l'Auto Voiturette race which was run in conjunction with the Grand Prix, and had Thomas at the wheel. The story of that race has become an epic; how Boillot fought with the big 14-litre Fiats; how they led at the end of the first day: and how finally Boillot got home in first place. Georges Boillot was the only man of the Peugeot team to finish, but he had won the race, and the Peugeot was recognized as the champion car of the year.

Another race later on in the season confirmed its superiority. In 1911 had been inaugurated the Grand Prix de France race by the Automobile Club de l'Ouest. In 1912 this race was again run at le Mans, there being a class for 3-litre cars and another for those with any size of engine. Peugeot entered two of the 7-litre Grand Prix cars in the big class driven by Boillot and Goux, while Zucarelli and Thomas were entered on two of the 3-litre cars in the smaller class. At the end of the first lap, the four Peugeots were in the first four places, and continued to dominate the race throughout. On the fifth lap, however, one of the studs holding the exhaust manifold on Boillot's car broke off, penetrated the water jacket, and allowed all the water to leak away, with the result that the engine seized and Boillot was put out of the race. At the same time Thomas was forced to retire with a broken back axle. Goux and Zucarelli, however, finished first and second, and thus secured a win for Peugeot in each of the classes.

The next year, Jules Goux went to America with a 4-cylinder Peugeot of 113 x 184 mms. bore and stroke (7384 c.c.), the limit for the Indianapolis race for which it was entered being 7.4 litres (450 cub. ins.). In this event, after a magnificent race, Goux succeeded in finishing first at an average speed of 76.59 m.p.h., and thus scored the first European win in the American classic.

In 1913 the French Grand Prix was at Amiens and was run on a fuel consumption basis of 14 m.p.g. For this event Peugeot built a set of entirely new racers with four-cylinder engines of 100 x 180 mms. (5654 c.c.), but otherwise following the 1912 design with two overhead camshafts and 4 valves per cylinder, and running up to about 2,200 r.p.m. Three cars were entered for the race and were handled by Georges Boillot, Jules Goux and Delpiene, who replaced Zucarelli who had been killed in an accident. The contest soon resolved itself into a three-cornered fight between the Peugeots, Sunbeams and Delages. Delpiene's Peugeot only covered one lap, but Boillot and Goux got into first and second places on the 20th circuit and remained there until the finish, Boillot averaging 72.2 m.p.h. for the 570 miles, and winning for Peugeot the blue ribbon of motor racing two years in succession.

The 1913 Coupe de l'Auto was run at Boulogne and was once more for 3-litre cars. Peugeot entered three racers of the same bore and stroke as had been used in 1911 and 1912, and otherwise exactly similar to the larger Grand Prix cars. In the race the three Peugeots were driven by Boillot and Goux, and Victor Rigal, who had won in 1912 on a Sunbeam; and once more it was this English car which proved their most formidable foe. At the end of the first lap, however, Boillot and Goux appeared in the first two places; and there they still were at the end of the race, Boillot's average being

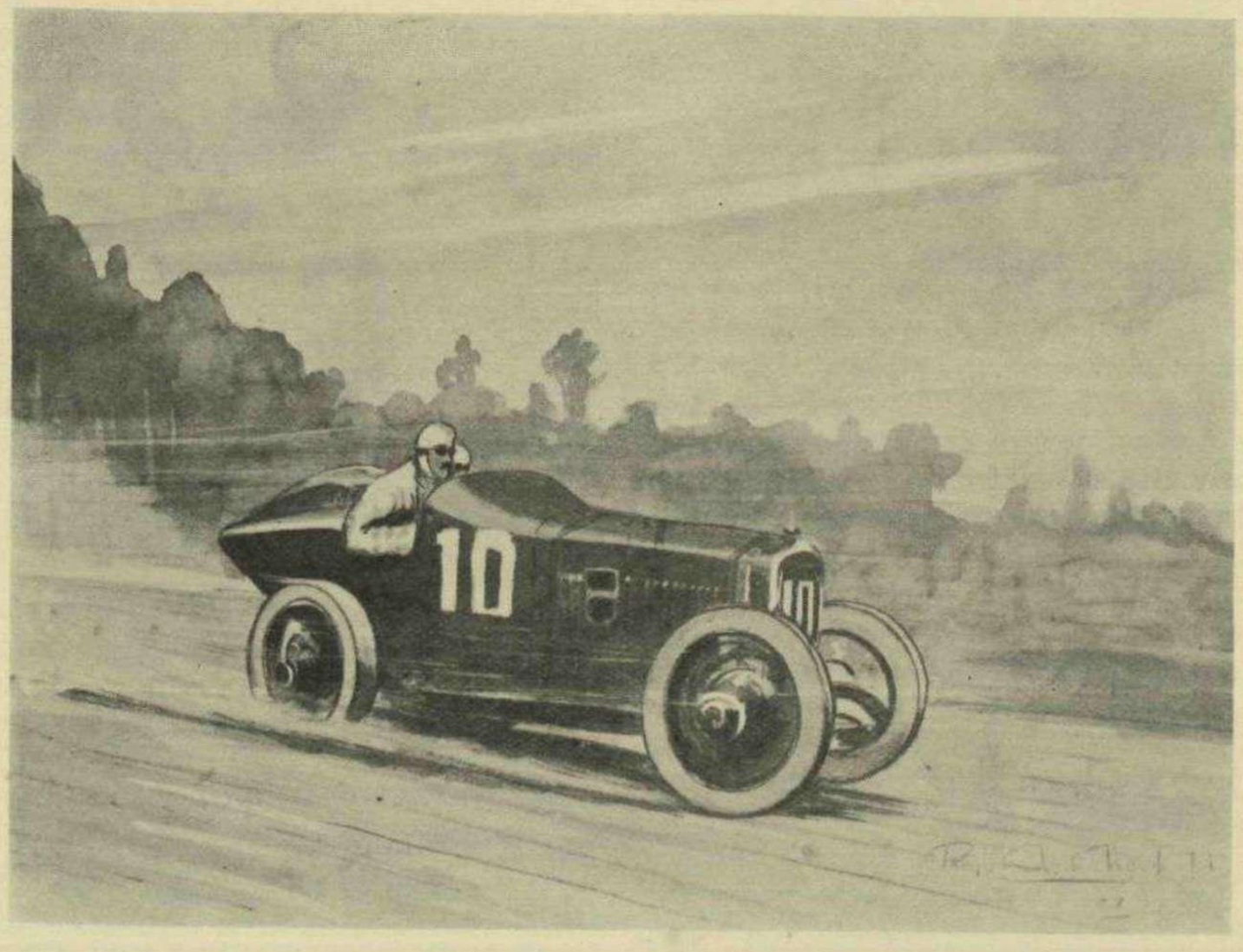


THE 1912 GRAND PRIX WINNER.

GREAT RACING MARQUES

63.15 m.p.h. for the 387 miles. Goux finished some nine minutes behind him, while Rigal, on the third Peugeot captured fifth place.

For the 1914 Indianapolis race, Peugeot entered two of the 7½-litre machines, with Boillot and Goux as their drivers; and as well as this Duray borrowed one of the 3-litre Coupe de l'Auto racers from its owner, M. Menier, and entered it also for the American classic. The Peugeots' chief rivals in the race were the Delages, and in the end one of them won; but Arthur Duray astounded everyone, himself included, by finishing second on his little 3-litre Peugeot, less than seven minutes behind the winner. The big Peugeots, however, were dogged by tyre troubles, and Boillot's car left the track after a burst and turned over; Goux, having been held back by them and the necessity to replace two broken front spring shackles, finished fourth.



THE 1914 PEUGEOT WHICH PUT UP SUCH A GREAT FIGHT IN THE FRENCH GRAND PRIX.

On July 6th, 1914, was run the French Grand Prix at Lyons, and its dramatic story as well as the fact that it was to be the last for seven years, has mafle it famous in racing history. The race was for cars of under 4½ litres capacity, and for it, therefore, Peugeot constructed an entirely new set of racers, with bore and stroke of 92 x 169 mms. (4496 c.c.). The engines were of the same design as before, but the cars now had carefully streamlined tails, and—for the first time in racing history—four-wheel brakes were used. Everything possible had been done to ensure Peugeot a third consecutive win in the Grand Prix, and the cars as before were entrusted to Boillot, Goux and Rigal. But they now had a formidable foe to face in the shape of the Mercédès, and at the end of the first circuit it was Seiler, on one of the German cars, who held the lead, with Boillot second. By the sixth lap, however, the French champion had got into first place, but Lautenschlager on another Mercédès was second. Mercédès had the cars with the highest maximum speed in the race, and they had five racers against Peugeot's three; but they had not got front-wheel brakes, and they had not got Georges Boillot. The race was for twenty laps of the Lyons course, and on the end of the seventeenth Boillot still held the lead; and then on the next lap Lautenschlager got past him, but it was still only a matter of seconds between them, and as the two rivals departed on their last lap, the Peugeot supporters still hoped that Boillot might win. But as they counted off the seconds no Boillot appeared, for in his last desperate endeavour to overtake Lautenschlager, his Peugeot had broken its propellor shaft. Thus ended Georges Boillot's attempt to win the Grand Prix for Peugeot three years in succession; and as if the French and Germans had decided to fight out the battle of the Lyons Grand Prix in sterner manner, within a few weeks there followed the war. Georges Boillot joined up with the French air force, and, in a fight with seven German aeroplanes was shot down and killed; and thus perished a gallant driver, whose memory will live long in the annals of motor racing.

In the race at Lyons, Goux had finished fourth and Rigal seventh, and although of course, the war put an end to all racing in Europe, the scene of activity was moved to America. The 1915 Indianapolis race was for cars with engines up to 4.9 litres (300 cubic inches), and three Peugeots started in it. The first which was

GREAT RACING MARQUES—continued.

driven by Dario Resta was one of the 1914 Grand Prix cars, the second, which had B. Burman at the wheel was another of the same type, but with the stroke increased to 180 mms., making the capacity 4844 c.c., while the third was one of the 3-litre racers, and was driven by Babcock. In the race, Resta's car proved to be the fastest, but after a hard struggle he had to be content with second place behind Ralph de Palma on a 1914 Grand Prix Mercédès. The little 3-litre Peugeot fell out with a cracked cylinder, but Burman on the third car finished sixth.

Thus Peugeot suffered another defeat at the hands of Mercédès, but their revenge came in the 1916 race, when Resta brought his Peugeot in first, averaging 84.48 m.p.h.

During 1917 and 1918, America also was engaged in the war, and it was not until 1919 that the next Indianapolis race was held. This time the race was again for 300 cubic inch cars, and two of the 4½-litre Peugeots were entered with Howard Willcox and Jules Goux as their drivers. The third Peugeot was a 4-cylinder car with bore and stroke of 75 x 140 mms. (2475 c.c.) 4-valves per cylinder and two overhead camshafts. This car had been built for the 1914 Coupe de l'Auto Voiturette race, which was for cars up to 2,500 c.c., and which was not run owing to the war. It was driven in the race by Georges Boillot's younger brother André, who had only been waiting in 1914 to finish his period of military service to take his place in the Peugeot team. He had had however to wait five years for his chance, and he was not able to finish the race within the time limit owing to incessant tyre trouble. In the meantime however, Howard Willcox on the big Peugeot took the lead near the beginning of the race and finally finished first, averaging 87.12 m.p.h. ; while Jules Goux on the second Peugeot finished third.

The first post-war European race was the Targa Florio which was run in Sicily in November, 1919. For this race André Boillot and his 2½-litre Peugeot was entered, and he was accompanied by M. Reville, a French amateur, who had purchased a similar car in 1914 and had had to wait until 1919 for a chance to race it. The fastest car in the race was a 5-litre Ballot driven by Réné Thomas, but Boillot soon showed that he lacked none of that wonderful skill his brother had possessed, and after driving throughout like a demon, he finally came down the straight to the finishing line on his last lap leading well on time. The road, however, was barred by spectators who had invaded the course, and Boillot applied his brakes hard, spun round three times on the road which was wet and greasy, and finished up facing the wrong way, ten yards from the finishing line. He crossed it in reverse, and immediately was met with a cry that his car would be disqualified for so doing. Boillot, who had got out was lifted back into his car, drove thirty yards down the road, turned round and finished forwards ; and then utterly exhausted, collapsed in his seat, murmuring " c'est pour la France."

Three years later he gained for Peugeot another great success on the same course. For the 1922 Coppa Florio two Peugeots were entered with sleeve valve engines of 95 x 135 mms. bore and stroke (3828 c.c.) in racing chassis, with André Boillot and Bequet as their drivers. Their chief rivals were the 5-litre Sunbeams, but Boillot soon got the lead and finally won by over an hour, averaging 37.5 m.p.h., a considerable increase on the 34.2 m.p.h., which he had attained in 1919. Bequet on the other Peugeot finished third.

During the same year, Peugeot started on their career in touring car races in which they have won some of their greatest post-war victories. The 1922 Touring Grand Prix was held at Strasbourg, and three Peugeots were entered with engines similar to those used in the Coppa Florio. They were driven by Boillot, Artault and Pean, in the race which was on a limited fuel consumption basis, and after a keen fight with the Voisins, Boillot finished fourth and Artault sixth. The petrol tank on Pean's car sprung a leak during the race, and as of course he was unable to take on any more spirit, he was unable to finish.

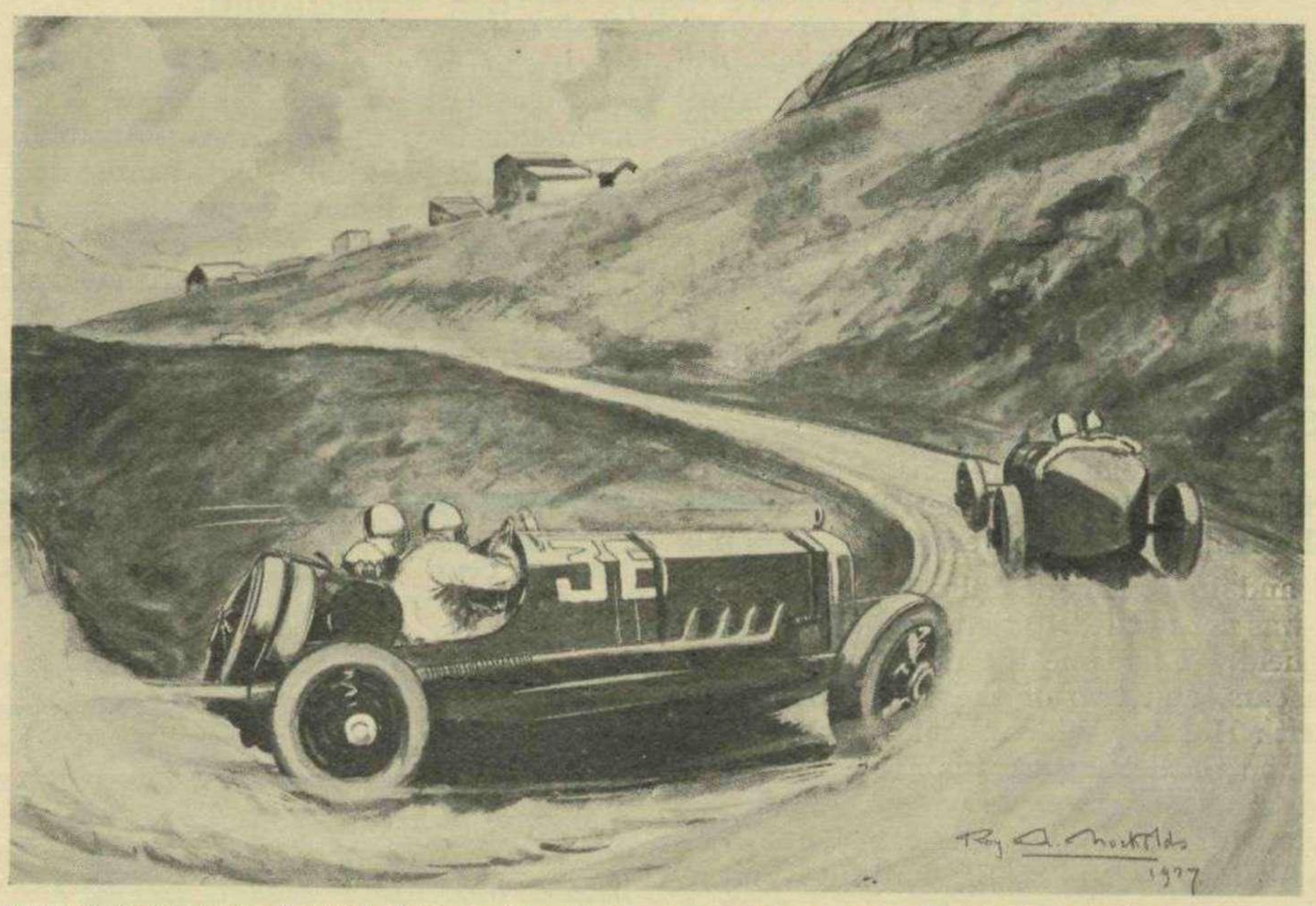
In the 1923 race at Tours however the Peugeots were more successful. The race this time was divided into three classes—for two-, four-, and five-seaters, of which the two larger classes were allowed 28.3 m.p.g. and 18.8 m.p.g. respectively. In the five-seater class Peugeot entered three cars of the same type as had run the year before, with André Boillot, and A. and E. Morillon as their drivers ; while in the 4-seater division three Peugeots started with sleeve-valve engines of 80 x 124 mms. (2483 c.c.), driven by Cabaillet, Bateau and Bourret. The race proved a triumph for Peugeot, as the cars secured a grand slam in each class, Boillot averaging 59.94 m.p.h., and Cabaillot 42.5 m.p.h.

After this success two of the 18 h.p. 4-litre cars were entered for the San Sebastian touring Grand Prix and were driven by Cabaillot and André Boillot ; but neither of them were able to finish the race. The three 18 h.p. cars also started in the Georges Boillot Cup race at Boulogne that year, but only the one driven by A. Morillon finished, in fourth place.

In 1924 was run the final for the Florio Cup, as the trophy was to go definitely to the firm who had won it the greatest number out of the seven races held since 1904. Peugeot, owing to Boillot's win in 1922 were in the running for it, and three cars of the same type as had proved victorious before, were entered, with Boillot Foresti and Dauvergne as their drivers. The race was run in conjunction with the Targa Florio, four rounds of the Madonie circuit counting for the latter, and five for the Coppa. The Peugeots were fast, but suffered from tyre troubles, and by the end of the four rounds for the Targa, their leading car driven by Boillot was sixth. He finished the final round fourth, however, with Foresti seventh and Dauvergne twelfth.

The race was won by Mercédès, and as this firm had not won before, the cup had now been won once each by seven firms. A second final had therefore to be held in 1925, and for this four Peugeots of the same type were entered, with André Boillot, Louis Wagner, Christian Dauvergne, and Louis Rigal, who is a brother of Victor Rigal who had formed one of the Peugeot team before the war, as their drivers. At the end of the first round they were first, second, third and fifth, but after this their tyre troubles began again, and in the end Wagner and Boillot finished second and third in the Targa, while the other two cars did not finish the race. Boillet,

GREAT RACING MARQUES—continued.



THE SLEEVE-VALVE 4-LITRE PEUGEOT WHICH HAS DONE SO WELL ON THE TARGA FLORIO COURSE.

however, had been leading at the end of the three rounds which counted for the Florio Cup, and so the Peugeot firm got permanent possession of the Trophy. In true sporting spirit, however, they determined to put up the cup again for competition, on condition that it was raced for alternately in France and Italy.

In the meantime Peugeot had been continuing their successes in touring car events. For the 1924 Touring Grand Prix at Lyons, three 18 h.p. Peugeots were again entered in the 5-seater class, to be driven by Boillot, Dauvergne and Cabaillot. The first part of the competition consisted of a midnight high speed trial, and during this event Dauvergne's Peugeot broke a petrol pipe and so was unable to start in the race proper. Just before the latter, however, Cabaillot was taken ill, and so Dauvergne replaced him on the second Peugeot. During the race, one of the wheels on Boillot's Peugeot collapsed, and his back axle was too badly damaged to continue. Dauvergne, however, went on and won the race at an average of 55.9 m.p.h.

In 1925 the race was held at Montlhèry and again three Peugeots started, with André Boillot, Louis Wagner and Louis Rigal as their drivers. Wagner fell out during the race, but Boillot got home first, with Louis Rigal third in the 5-litre class.

Two of the Targa Florio type cars were entered for this event again in 1926 and were driven by Boillot and Wagner. The latter, however, had to retire early in the race, leaving Wagner to finish alone in sixth place.

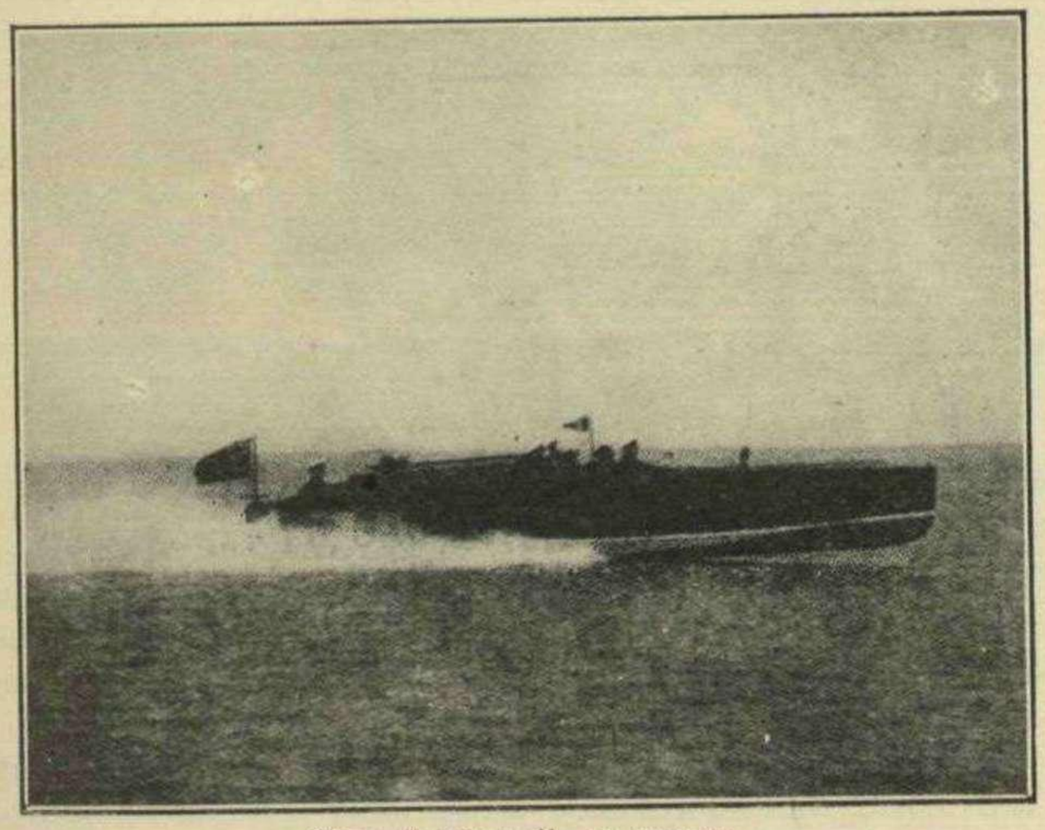
There being no Touring Grand Prix in 1926, two 18 h.p. Peugeots were entered in the Grand Prix d'Endurance at le Mans, and were driven respectively by Boillot and Rigal, and Wagner and Dauvergne. For the first part of the race one of these cars looked like supplying the ultimate winner, until the worst of bad luck overtook each of them in turn. Wagner's car after stopping at the pits was found to have a discharged battery owing to a fuse having blown, and the starter was unable to get the engine going; as no other means of doing so was allowed by the rules, the car had to be withdrawn. Then the windscreen broke on Boillot's car, and as the rules did not allow it to continue without one, it too had to be withdrawn.

They had their revenge, however, in the Belgian 24-hour race held at Spa, in which the same two cars started, and although Wagner's fell out during the night, Boillot and Rigal won the race by covering 1425.5 miles in the 24 hours, an average of 59.4 m.p.h. over the difficult Spa circuit. The two cars also started in the San Sebastian Touring Grand Prix, one being driven by Boillot, and the other by Rigal and Sene, who had driven with Wagner at Spa, and finished first and second in the 5-litre class. Their final triumph of the year came at Monza, where two cars were driven in the 24-hour Italian touring Grand Prix by Boillot and Rigal, and finished first and second, the former averaging 67.7 m.p.h., and beating the le Mans record by more than 38 miles. Sixth place in the race was gained by Camuzet driving a little Peugeot of 51 x 88 mms. bore and stroke (719 c.c.) which averaged 40.9 m.p.h. for the 24 hours. This little car has since shown more of its paces, as three of them scored a grand slam in their class in the recent Brescia 1,000 miles race.

André Boillot started once more in the 1927 Targa Florio race on a sleeve-valve Peugeot, and succeeded in finishing fourth. This year, however, has marked an epoch in the history of Peugeot, for in July two Peugeots appeared for the first time since the war in a French event for racing cars, and one of them in the hands of André Boillot succeeded in carrying off the Coupe de la Commission Sportive of the A.C.F. As usual Peugeot was victorious, and we may look forward to seeing them in the most important races ofthe coming seasons.

MOTOR BOATING.

A "PUMA" SPEED BOAT ON TEST.



THE "PUMA" AT SPEED.

THE scope for the enthusiast for motor sport on dry land is at present extremely limited in this country. Practically all hill-climbs, which used to be the happy hunting ground of the amateur, have been stopped, and events of a really sporting character at Brooklands are comparatively rare. Every enthusiast will hope that the suggestion put forward by our editor in our August issue for an amateur car T.T. in the Isle of Man will meet with the success which it deserves; but in the meantime many sportsmen would do well to turn their attention to the sea, if they wish to supplement their opportunities for motor sport.

For this reason we were extremely anxious to test one of the new "Puma" racing boats, which have been adopted as a class boat for racing by the two clubs organising the sport in England—the Royal Motor Yacht Club and the British Motor Boat Club. The boats are manufactured by Messrs. Saunders of Cowes, who have already won so much fame as the builders of "Ursula." the fastest Displacement boat, as opposed to hydroplane, ever built, "Maple Leaf IV." which won the International Trophy in 1912 and 1913, "Maple Leaf V." which defended it in 1920, and "Newg" which won the Duke of York's Trophy in 1926—to mention but a few of their triumphs. Five "Puma" boats have already been built and sold to private owners, while a sixth is in course of construction; but as none of the boats have as yet been built for stock the manufacturers were unable to give us a test run. By the courtesy of Mr. H. Scott-Paine, however, the owner of Puma I., we were able to have a run on one of these boats, in order to give our impressions for the benefit of readers of *Motor Sport*.

In the first place let us give a brief description of the boat. The engine is the 240 h.p. 6-cyl. Armstrong Siddeley "Puma" aero engine, which was used by Sir Alan Cobham in many of his best known flights, and which therefore needs no detailed description. The engine is cooled by fresh water, which in its turn is cooled by water drawn from the sea. From the engine the drive is taken forward to a gear box by which the final drive back again to the propellor is geared up. Thus when the engine is running at 1,400 r.p.m.—its highest useful crank-shaft speed—the propeller is doing 2,200 r.p.m. By this method considerable tortional stresses are saved on the propeller.

The hull takes the form of a multi-step hydroplane, its characteristic being that it is first built as a plain hull with transomes running from bow to stern, and the four steps are then added. This makes for much greater strength than if the hull is built in steps, and at the same time gives the advantage of a double bottom, so that if one has the misfortune to strike any solid flotsam, it is improbable that at most more than one step will be damaged, and there will be no danger of the boat sinking.

Accommodation is provided for seven or eight persons forward of the engine, while the mechanic's cockpit is situated in the stern.

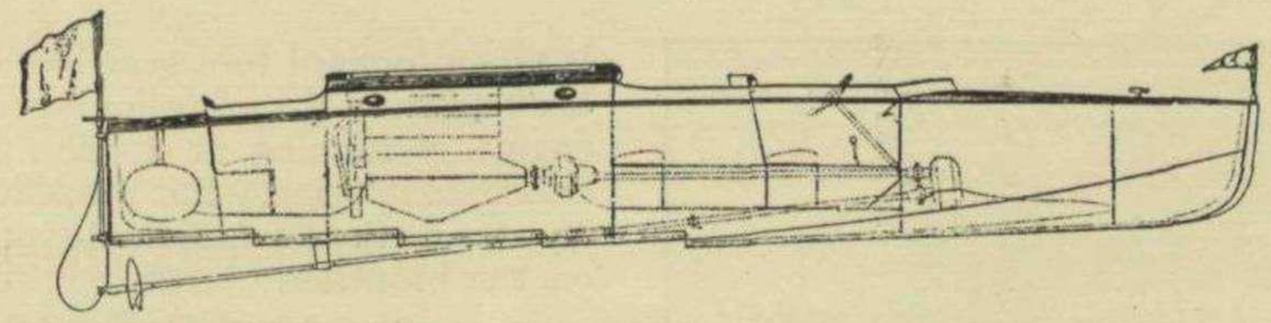
Having got on board the "Puma" and settled ourselves on the front seat, our mechanic started up the engine, and we toured gently down the Itchen into Southampton Water, while the water and oil were allowed to warm up. Once this process had been completed however, we really began to move! The acceleration of the boat was really astonishing, the bows lifting steadily out of the water till finally we were hydroplaning beautifully. We watched the rev. counter rising steadily till it finally crept up to just over 1,400 r.p.m., at which engine speed we were informed by Mr. Scott-Paine that the boat was doing some 39 knots or about 45 m.p.h.

Land motorists may regard this speed as somewhat tame, but in actual fact anyone who has experienced it on the water will agree that it is quite as thrilling as twice the speed on land, in exactly the same way that 90 m.p.h., which is exciting enough as a rule on the road, is exceptionally boring in an aeroplane. In the "Puma" boat the rush of water past the sides gave one the impression of travelling like a projectile. Two white mountains of spray rose on either side of the front seat to disappear in our foaming white wake, but scarcely a drop came into the cockpit, in any circumstances. The boat was fitted with a small inclined windscreen which very effectively shot all the air over the passengers' heads, but if one stood up one obtained the full impression of speed.

There was a fair breeze blowing on the day of our test and the sea was faintly choppy even in Southampton Water. In these conditions the actions of the boat gave an impression very similar to that of a car with shock-absorbers screwed up tight travelling over a pot-holey road; and when we got into the wash of a steamer after passing close under her stern the action was perhaps more like that of an aeroplane striking a succession of air pockets.

Outside in Southampton Water we came upon the "Aquitania" going out with the aid of a tug. We proceeded to run rings round her much to the joy and

MOTOR BOATING—continued.



SHOWING THE GENERAL ARRANGEMENT OF THE " PUMA."

excitement of her passengers who waved enthusiastically; and in fact the performance of the " Puma " made one feel madly inclined to cheer.

The comfortable cruising speed of the boat is about 39 m.p.h., which corresponds to an engine speed of 1,200 r.p.m. At this speed she was rock steady, and Mr. Scott Paine showed us that one could leave go of the steering wheel completely and the boat would continue dead on her course. He put the helm hard over, and the boat came round banked at a very steep angle so that it felt like a car on the banking of a track; and then suddenly relaesed it, and the boat came back with a flick into an even keel and shot off at a tangent to the circle she had been describing. He then gave us a demonstration of a racing turn round a buoy. On approaching our mark, he decelerated, so that the bows dropped gently down on to the water, put the helm over and accelerated progressively round the buoy in rather the same manner in which one might take a hair-pin turn on land. The deceleration of the boat when the throttle was shut was of course very striking and reminiscent of a good set of four-wheel brakes.

In all circumstances one received the impression that the boat was eminently sea-worthy and Mr. Scott-Paine informed us that he had taken her over to Cowes when the ordinary passenger paddle-steamers had been stopped by the weather. In all we formed the impression that the " Puma " boat was a thing to be coveted by every enthusiast for motoring sport; and we can give no better advice to anyone who can spend £1,350, than to order one of these boats, and to look forward to a season of real sport in 1928.

THE DUKE OF YORK'S TROPHY MOTOR-BOAT RACES.

	RESULT.
1. " Little Spitfire " (America)	12 points
2. " Newg " (Great Britain).....	6 points
3. " Miss Betty " (Great Britain)	3 points

For the first time since its inception in 1924 the Duke of York's trophy has this year gone abroad. The single American boat showed a marked superiority from the outset, and finally succeeded in carrying off the prize to the U.S.A.

The race lacked much of its usual interest this year as America was the only country to challenge Great Britain as holders of the trophy. Three French and two German boats were entered but did not materialise, and the only foreigner therefore was Mrs. J. H. Rand's " Little Spitfire," which was fitted with a straight-eight Miller engine. The boat is very small and is undecked, the engine being only protected by a mackintosh cover.

The British team included two previous winners, the only one missing being " Ardenrun Junior," which won in 1925, in the form of Count Johnston-Noad's " Miss Betty " which is now fitted with a 4-cylinder Sunbeam engine, and Miss Carstair's " Newg " with an engine of the same type. The new boat was Mr. F. G. Bersey's " Bela," with a Laystall engine, and owing to the fewness of the starters Miss Carstair's other boat " Leumas " also took part.

The race, which was for boats with engines not exceedng 1500 c.c. was run in three stages, 30 sea miles being covered on Saturday, August 6th, Monday, August 8th and Tuesday, August 9th. The course was in Southampton Water, the start and finish being off the Royal Pier, Southampton.

We were anxious to see how this course compared with the Thames from the spectators' point of view, and on the Saturday we went in a motor cruiser from the Hamble River, and anchored off the pier. The view from the anchorage however did not prove very comprehensive, and we soon transferred to a dredger which was moored in a convenient position, and from the top stage of which a slendid view could be obtained all up the course.

The American boat " Little Spitfire " which had Mr. R. Snoddy at the wheel, and which carried no mechanic, was last over the line after the starting gun, but soon made good this defect and gained the lead. It was quickly apparent that she had considerably more speed than her English rivals, and once having established her lead, she was never headed. She was followed by

MOTOR BOATING—continued.



THE AMERICAN BOAT WINNING THE DUKE OF YORK'S TROPHY.

Newg, Miss Betty and Bela, and this order was maintained up till the end. Bela produced a great deal of noise but not very much speed, and finally gave up after completing eight of the ten laps. Speeds during the first day's racing were as follows :—

1. " Little Spitfire " ..... 30.6 knots
2. " Newg " ..... 29.1 ,,
3. " Miss Betty " ..... 28.0 ,,

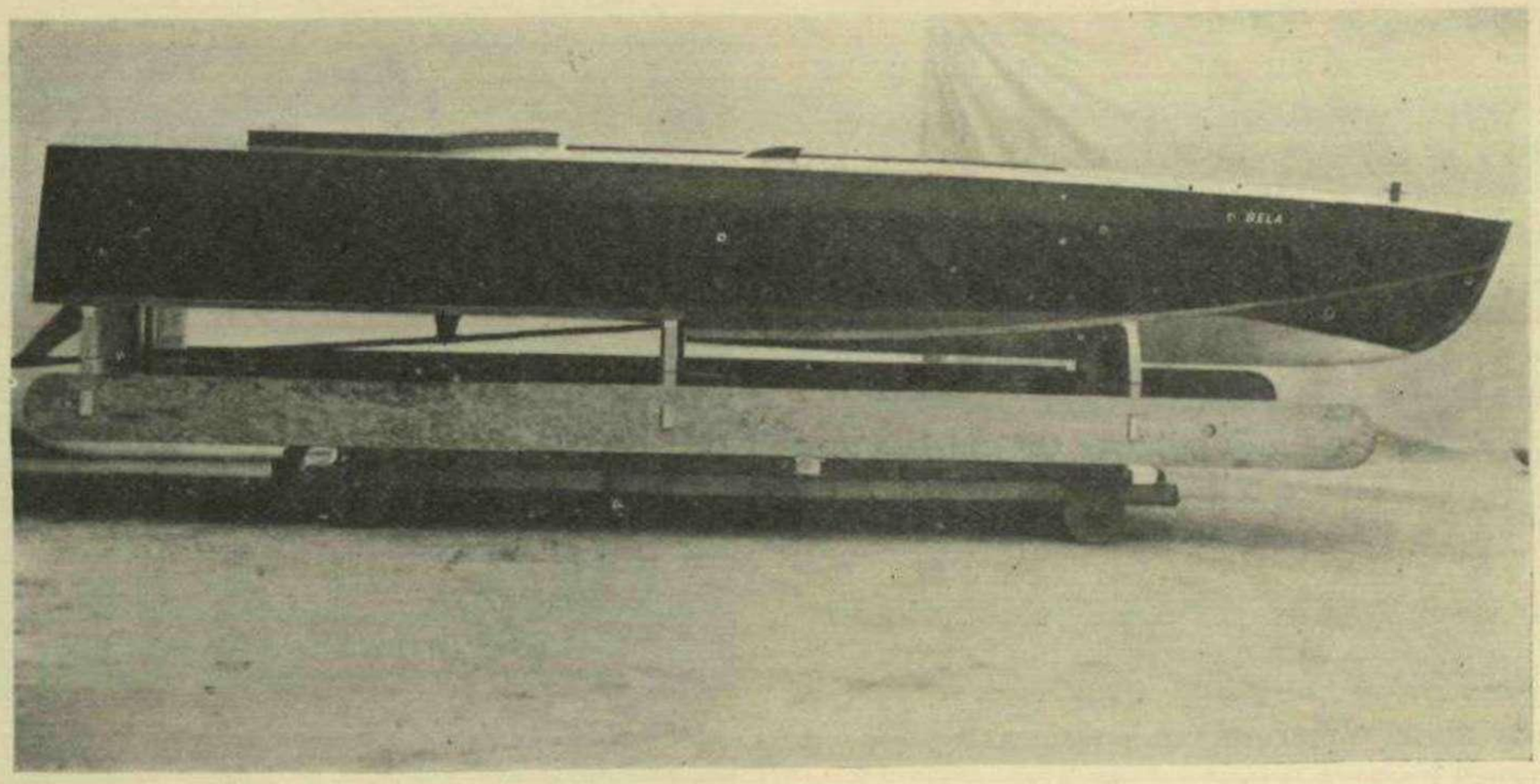
On the Monday and Tuesday the journey was made to Southampton by road, and the races were watched from the pier. It must be admitted that the view was not so good as from our unofficial dredger grandstand, but the opportunity was provided of a more intimate inspection of the boats after the races. The water on Monday was much calMer than on Saturday, but it made little difference to the relative performances of the boats. " Little Spitfire " soon established her lead again, followed by the English boats in the same order as on the Saturday. After about half distance (15 sea miles) Bela slowed considerably and finally finished with her engine missing badly. On Tuesday she was a non-starter, and only three boats therefore took part in the third race. The water was rather rough again, but " Newg " seemed to have found more speed, and her lap times were very little slower than those of the American boat, four of them, in fact, being actually faster. In the end " Little Spitfire " won by only 38 seconds, the speeds being :—

1. " Little Spitfire " ..... 28.6 knots
2. " Newg " ..... 28.4 ,,
3. " Miss Betty " ..... 23.4 ,,

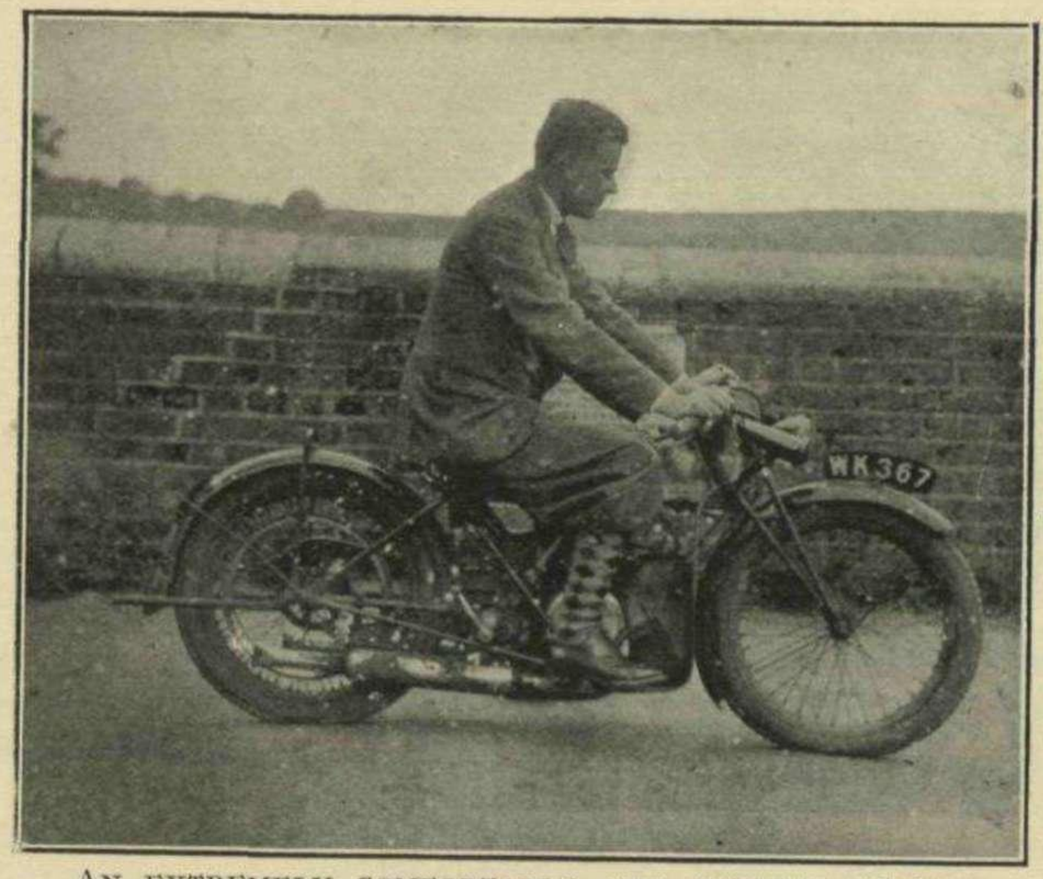
As four points were scored for a win, two for a second, and 1 for a third, the final scoring was as follows :—

America (" Little Spitfire ") 4 + 4 + 4 = 12 points.
England " Newg ") 2 + 2 + 2 = 6 = 9
(" Miss Betty ") 1 + 1 + 1 = 3 pts.

The Trophy therefore was won by America, which must be accounted a very fine performance as she had only one boat against three English ones. Next year, therefore, when the race is competed for the last time under the 1500 c.c. rule, we shall have to make a big effort to regain the trophy.



MR. BERSEY'S BELA, WHICH REPRESENTED GREAT BRITAIN IN THE DUKE OF YORK'S TROPHY RACES.



AN EXTREMELY COMFORTABLE AND NATURAL RIDING POSITION IS A FEATURE OF THE F-B.

SPORTING MACHINES ON TEST:

The 172 c.c. Francis-Barnett.

By L.A.H.

WE have always looked with admiration on the performance of the Super Sports Francis-Barnett in trials and races, although we were inclined to be sceptical towards the claims put up by private owners of these machines.

It was with a lively interest therefore, that we removed the wrappings from the Model 9 which we found awaiting us at Euston. In spite of a (theoretically) drained petrol tank, the little engine responded to the very first depression of the kick starter and purred evenly and quietly at a quite sedate number of r.p.m. The handlebar levers required setting in their correct positions, after being swivelled round out of the way, for the train journey, so that we had an early opportunity for investigating the tool kit. This is housed in a metal box tucked away under the tank and always appeared adequate, though simple. One infinitesimal criticism is that the lid of this box should open on the opposite side, as at present the petrol pipe is inclined to hinder the withdrawal of the tool-roll on that side.

We left Euston in search of a garage and although we were wearing a pair of clean flannel trousers, one glance at the excellent legshields, fitted as an extra to these machines, at once dispelled any anxiety as to the necessity of an early visit to the local valet service!

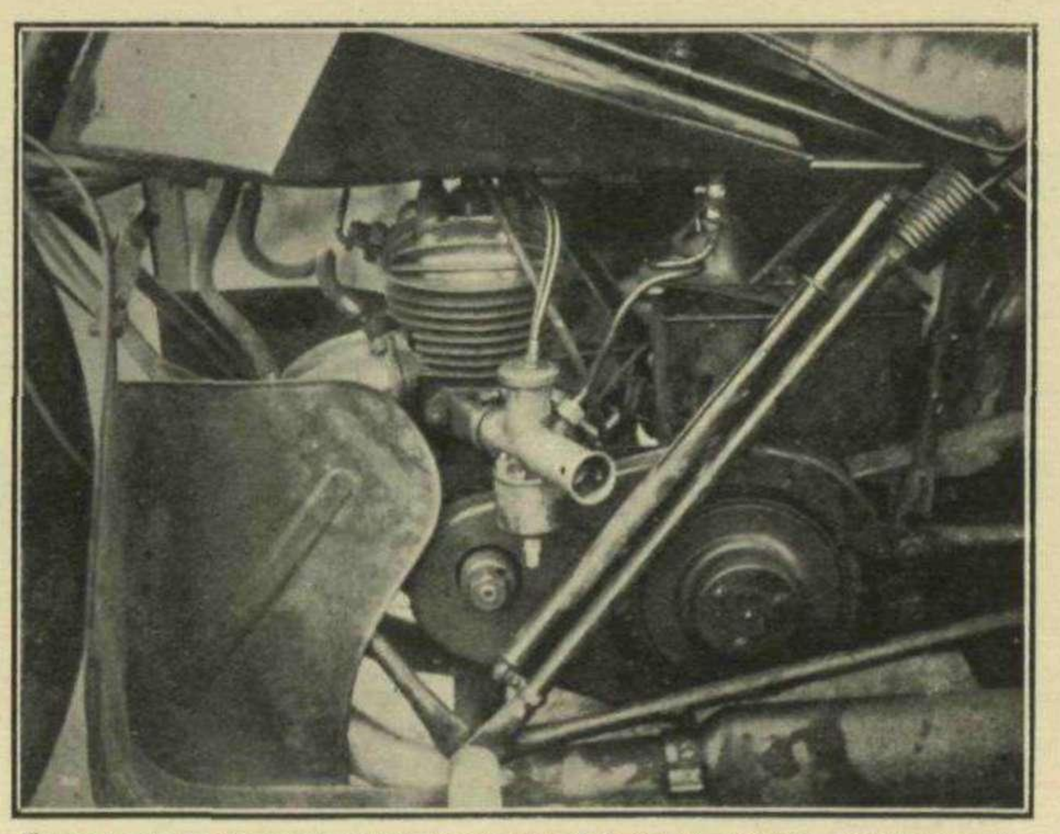
We are disposed to enlarge upon these legshields, for they have many virtues; not only do they provide ample protection from mud and water thrown up from the road, but their inner sides effectually prevent any stray oil which might exude from the engine (but which doesn't) from reaching the aforementioned trousers.

On wet days we derived great satisfaction from watching a healthy spout of water flying off the tip of the front mudguard and flinging itself impotently against the legshields, while our feet and legs remained warm and dry in their lee. Still further in praise of the legshields is the ease with which they may be removed—three minutes work with an adjustable spanner and the machine is ready for motor-cycle football, a sporting trial or racing and in an equally short space of time we have "closed car comfort" again!

To return to more serious and important matters, we must confess that our inexperience of small size two-stroke engines, together with the amazing feeling of power in the engine led us to seize the piston twice during the early days of our test. Curiously enough, although the seizures were purely momentary and the engine immediately became perfectly free yet it proved quite impossible to restart. On dismantling the engine it was found (on both occasions) that the piston had fused over the rings on the induction side, and presumably the lack of gas-tightness was the sole cause of non-starting. New rings were fitted, the whole operation of dismantling, fitting and re-assembling taking a mere half hour, and having learnt our lesson we drove more carefully, used "Mixtrol" in the fuel to supplement the ordinary lubricant and so avoided further repetitions of this trouble. After a reasonable mileage had been accomplished it was found that no further seizures were to be feared and long spells of full throttle work could be indulged in with impunity.

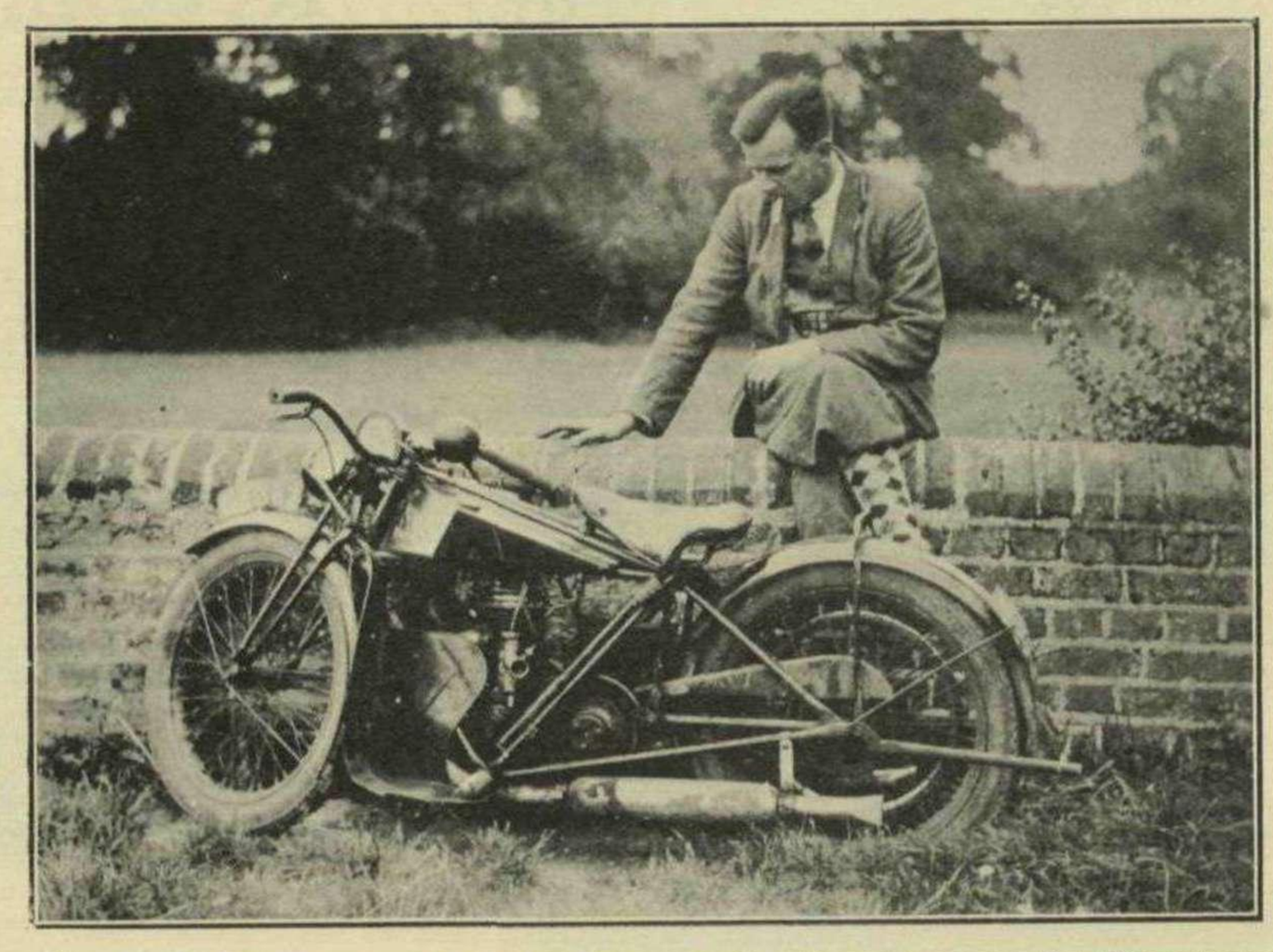
As proof of the machine's stamina when fully run in, we put in several laps of Brooklands all out, complete with legshields, lamps and eleven stone rider, on a windy day, and actually lapped at over 50 m.p.h.—giving a maximum speed quite in keeping with the makers' claim of 55 m.p.h., and this with an engine that had undoubtedly been badly treated in its youth.

Furthermore, at one of the now popular grass track meetings the little Francis-Barnett covered in all twenty-two miles, all out in 2nd and bottom gears, incidentally winning the 250 c.c. class and finishing 4th out of fourteen starters in a "Grand Prix" Event of nine miles, competing against 500 c.c. o.h.v. machines.



CLEARLY SHOWING THE EFFICIENT LEG SHIELDS, ALUMINIUM CYLINDER HEAD AND REAR CHAIN JOCKEY SPROCKET.

SPORTING MACHINES ON TEST—continued.



THE FRANCIS BARNETT IS SUITABLE ALIKE FOR QUIET POTTERING OR FOR "GETTING THERE."

On slippery grass corners the machine was very easily controlled, naturally it slid about somewhat, but there was never any tendency for a skid to assume dangerous proportions and cornering in the best dirt or sand racing style was quite the order of the day.

Although the gear ratios are close enough to be distinctly useful for improving one's average speed in fast road work, the ability of the engine to pull hard at slow speeds banishes any doubts as to the hill climbing capabilities of the model; second gear suffices for any main or secondary road hill and it is not until one leaves the beaten track and takes to "trials" country that bottom gear is called for. The gear lever is easily reached by hand and at the same time, owing to the smallness of the machine, changes between top and second are easily performed by foot. Both brakes operate on a dummy belt rim on the rear wheel, a possible disadvantage under certain conditions, but which is largely discounted by the excellent adhesion obtained by correct weight distribution and large balloon tyres. Both brakes are incidentally extremely powerful and smooth and we have never found them wanting in any emergency. The hand brake, operated by Bowden wire is easily adjusted in the usual manner, but the foot brake pedal is provided with three holes, in any of which the rod may be fixed, unfortunately the flywheel magneto and the frame make it an extremely difficult matter to change the position of the rod.

Our only other criticism of the machine also concerns accessibility, more particularly the task of removing the sparking plug; when the engine is hot this is a most blasphemous business, as the plug is neatly housed between four cylinder head bolts and the underneath of the tank. However the operation can be performed, and luckily is not often necessary, so no more need be said on the subject.

Having disposed of the machine's few faults we will return to its virtues, other than those already described, virtues which, roughly fall under the headings of comfort, steering and strength. Terry saddle, balloon tyres and well damped front forks naturally eliminate most road shocks, while the riding position, together with the extremely light and easy handling of the machine and all its controls minimise fatigue on a long run.

The carburettor levers deserve particular praise as the best examples we have ever tried; smoothly and easily operated, at the same time they were just stiff enough to stay exactly where put, for an indefinite period. We congratulate Messrs. Villiers on these levers and on their variable jet carburettor which suits the engine admirably. Steering, with or without the very neat damper is quite above reproach, and is never given a moment's thought on the roughest surface.

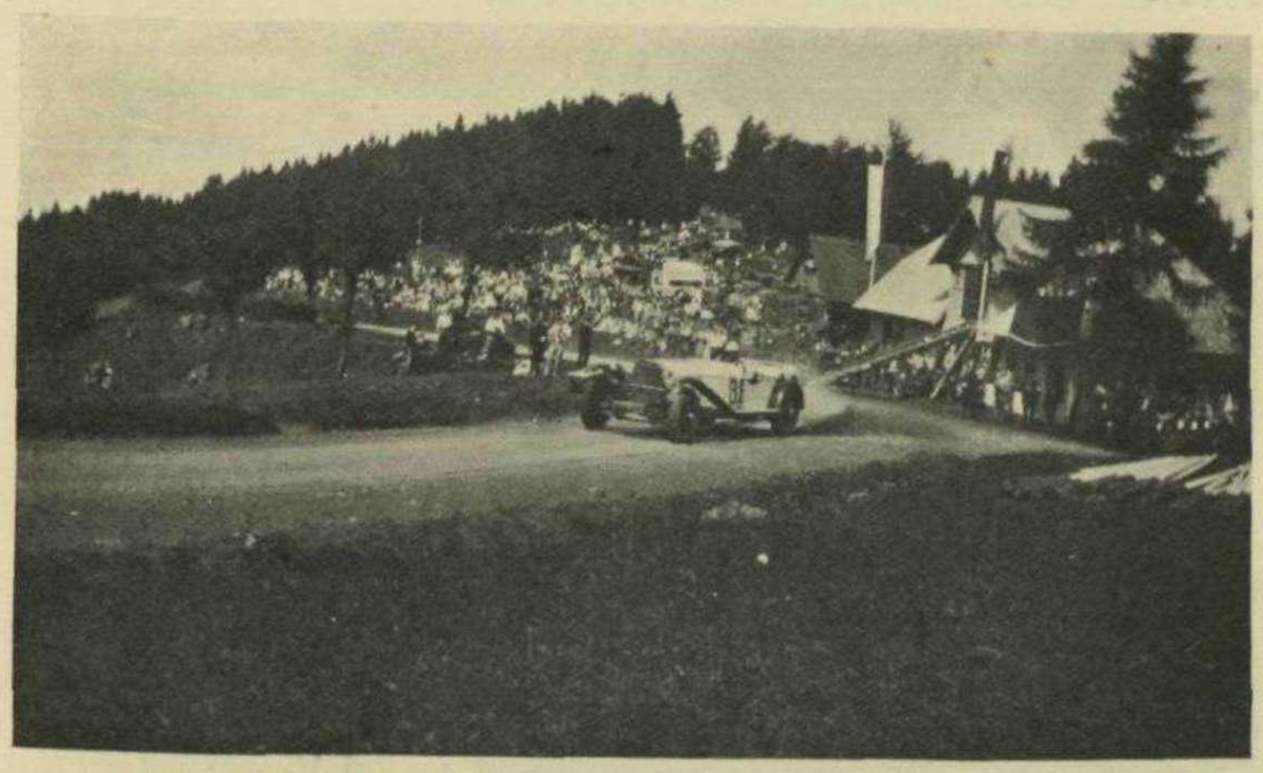
With regard to strength, the machine has performed "long jumps," has been run into from behind by a car, and in a grass track race was crashed quite heavily owing to a footrest catching the ground. The only damage caused by these episodes were bent bars and battered rear mudguard, although on the latter occasion the fall was sufficiently violent to break the rider's collarbone.

Petrol consumption of the small Villiers engines has been demonstrated time and again, and our own experience bore out the excellent claims made by the makers; the patent lubrication system operated by crankcase pressure worked admirably and gave no cause for alarm.

At £38 10s., the Sports Francis-Barnett is at the top of its class for price, but in view of the fact that its performance is comparable with many machines costing £50, the value is remarkable.

Altogether a very delightful little machine with an appeal all its own.

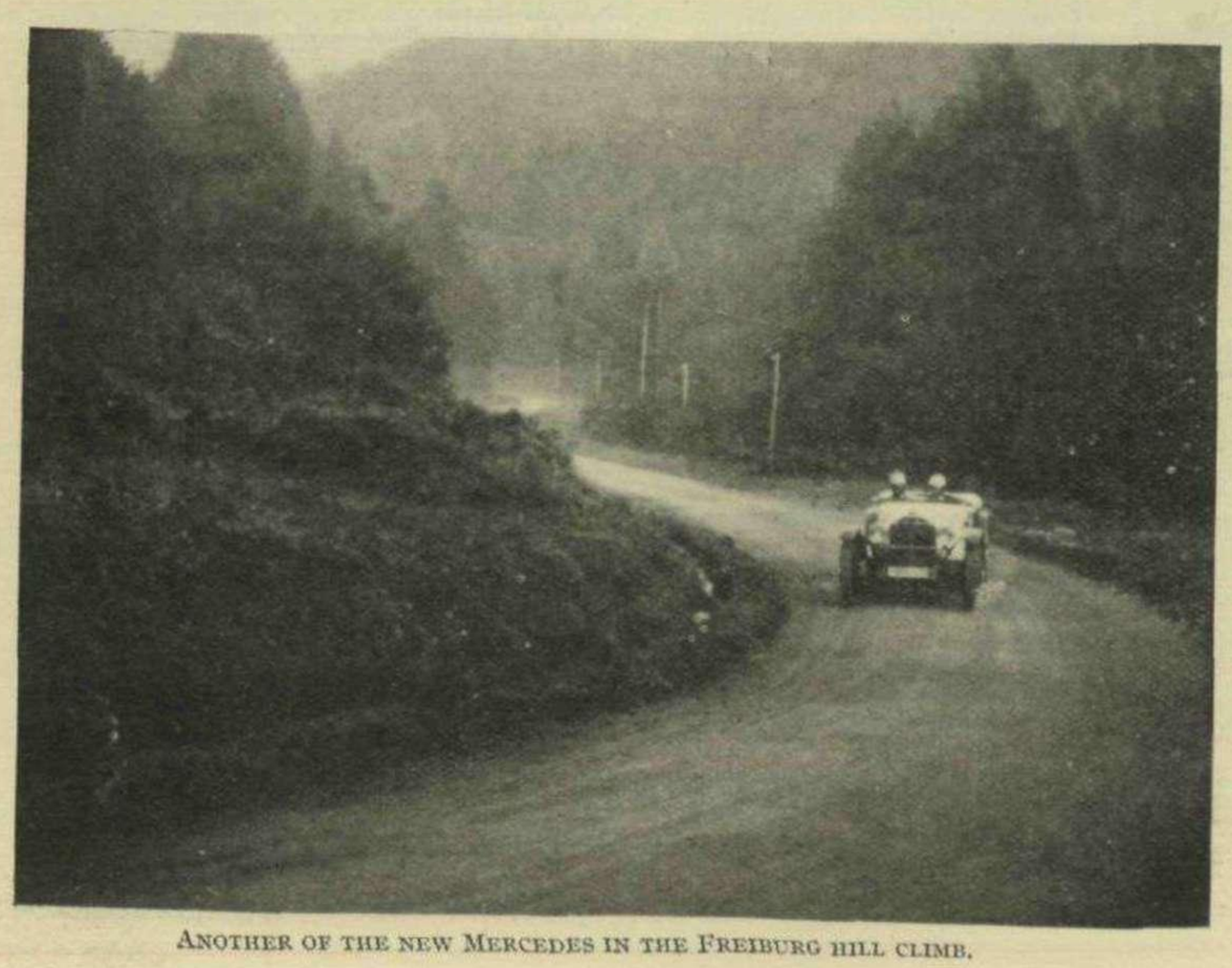
Recent Sporting



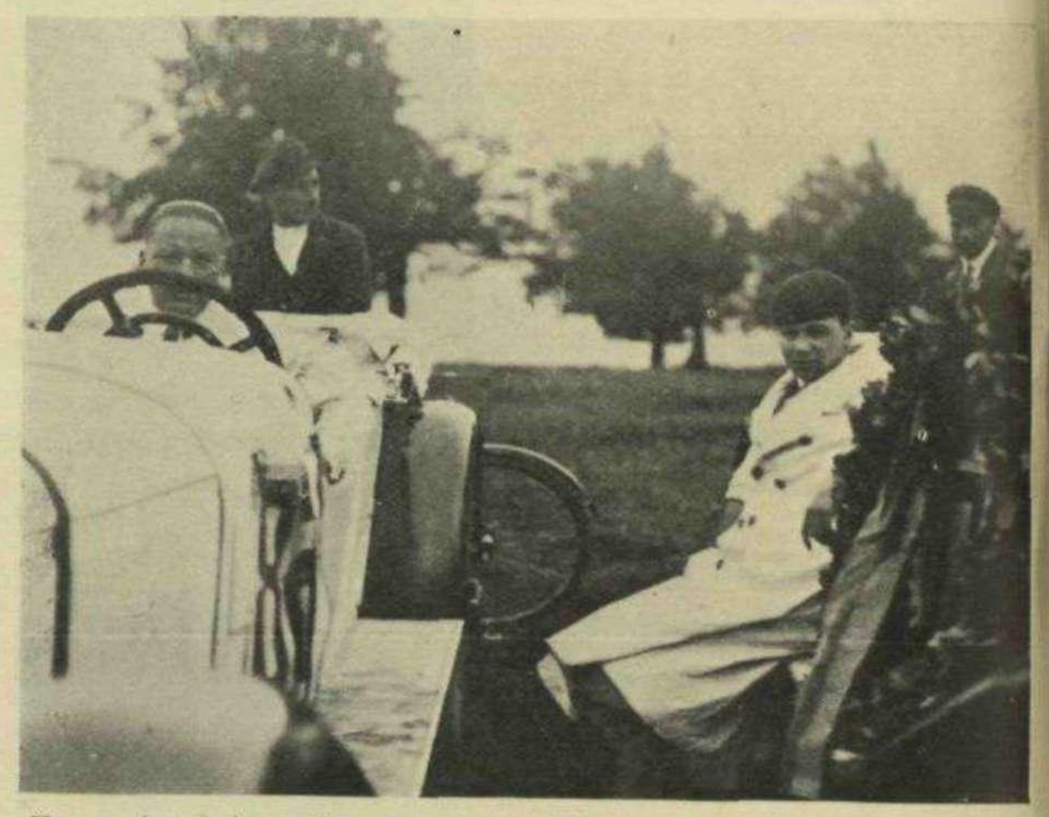
ONE OF THE VICTORIOUS MERCEDES CORNERING IN THE FREIBURG HILL CLIMB.



COMPETITORS DESCENDING A DIFFICULT HILL IN THE "INTERNATIONAL."



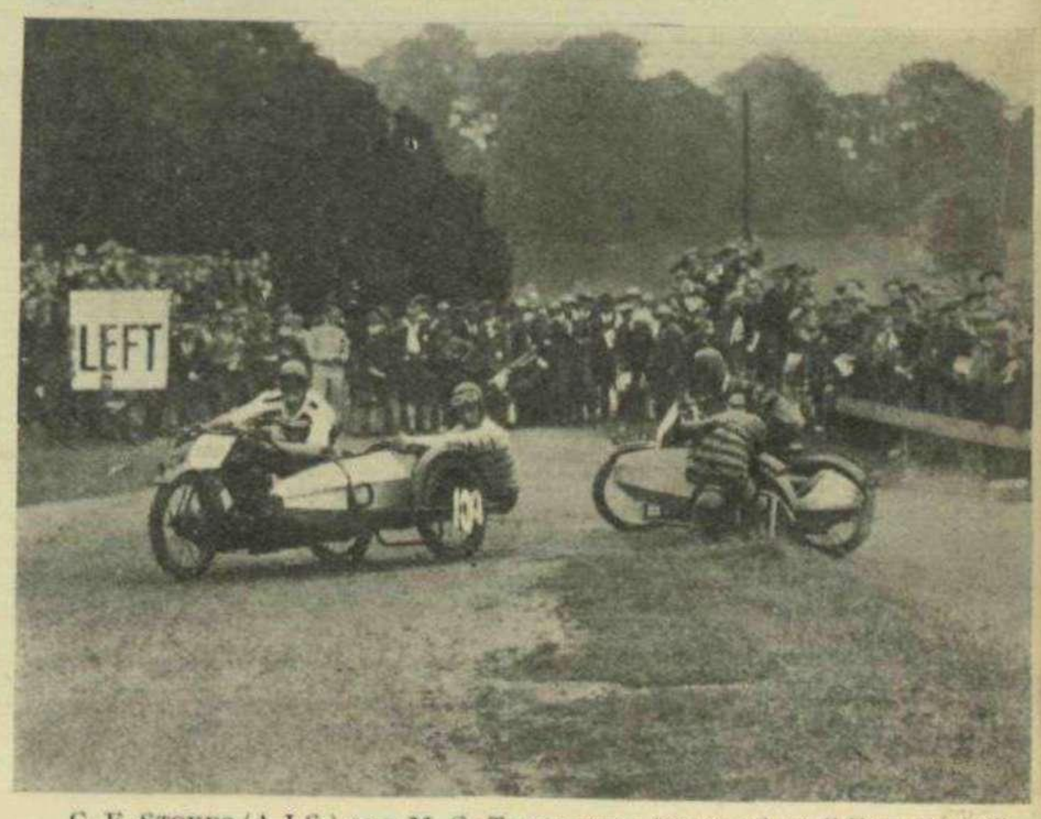
ANOTHER OF THE NEW MERCEDES IN THE FREIBURG HILL CLIMB.



KIMPEL (IN CAR) AND CARACCIOLA, THE MERCEDES DRIVERS WHO PERFORMED SO WELL AT FREIBURG.

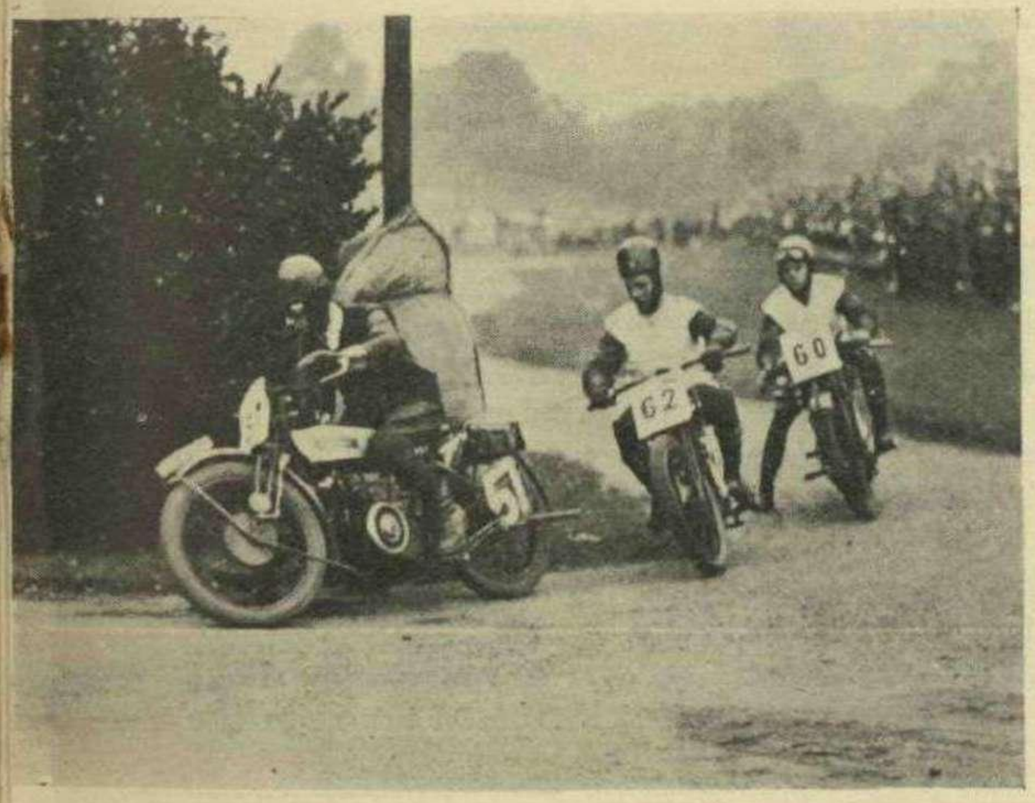


HAROLD WILLIS CHAIRED BY VELOCETTE ENTHUSIASTS AFTER WINNING THE "HUTCHINSON 100."



C. F. STOKES (A.J.S.) AND M. G. TEMPLEMAN (NORTON) AT "THE MAZE," CRYSTAL PALACE.

Events in Pictures



A TRIO OF SOLO RIDERS CORNERING AT A RECENT CRYSTAL PALACE MEETING.



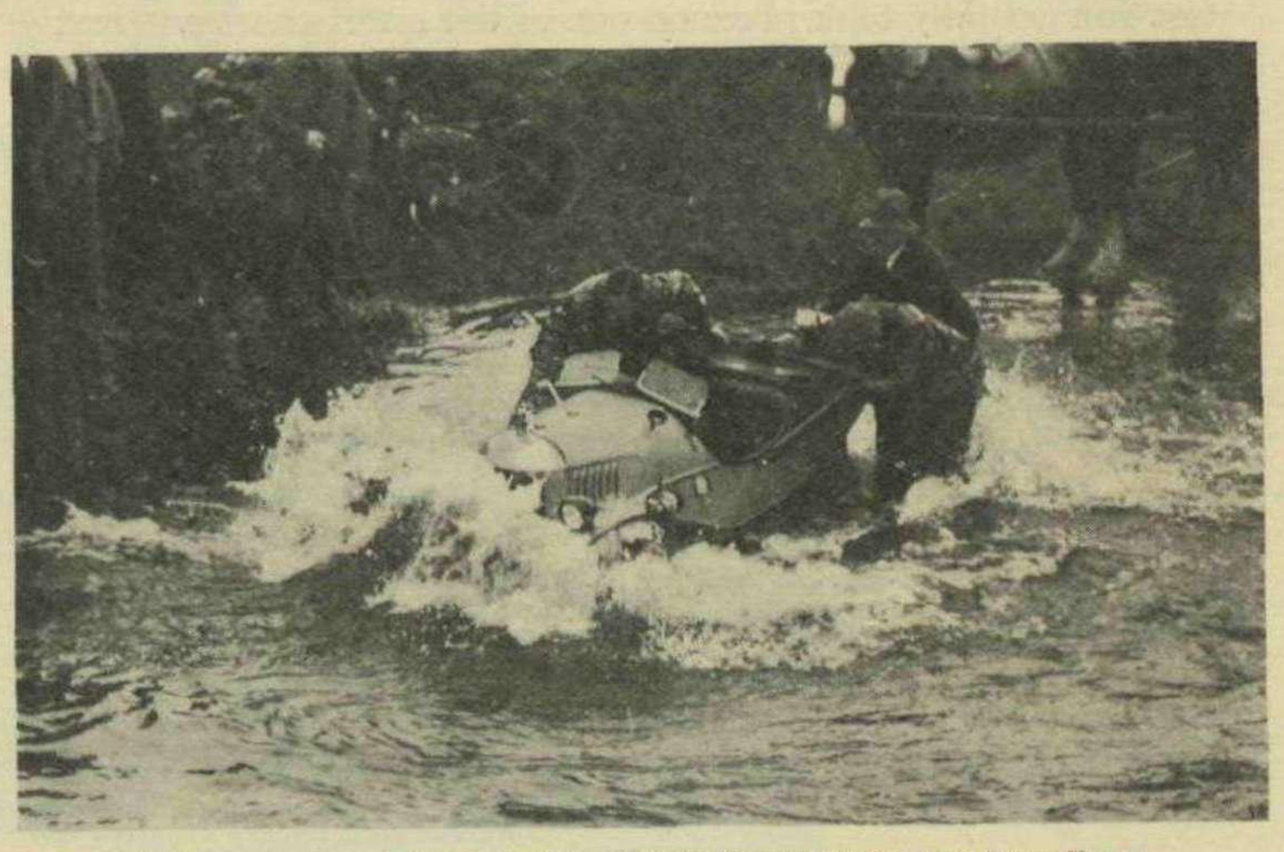
ROSENBERGER (1914 MERCEDES), WHO WON THE FREIBURG HILL CLIMB.



THE LADIES' TEAM WHO WON THE INTERNATIONAL VASE IN THE "6 DAYS" WITH PA APPLEBEE.



MOUBERGOR (BUGATTI) IN THE FREIBURG HILL CLIMB.



A MORGAN BECOMES WATERLOGGED IN THE INTERNATIONAL SIX DAYS TRIAL.



A FLEXIBLE SIDECAR OUTFIT CORNERING IN THE FREIBURG HILL CLIMB.

SPORTING CARS ON TEST.

THE SUPER SPORTS EXCELSIOR.

By THE EDITOR.

A MILD furore of interest was recently aroused in the motoring press by the appearance of a very fast "yellow and black coupé" on Southport Sands, several persons having seen this mystery vehicle travelling at a high speed, without being able to identify its *marque*.

Eventually it transpired that the car was the Excelsior illustrated herewith—actually a demonstration model belonging to Messrs. Hayward Automobiles, Ltd., who handle this well known Belgian car in Great Britain.

The car illustrated, and the car seen at Southport is actually a standard chassis, which differs from the supersports model in various engine details, such as the number and distribution of carburettors etc., and our test run actually took place on one of the latter chassis, devoid of any bodywork whatsoever, if we except the bonnet, canvas wings, and the bucket seats.

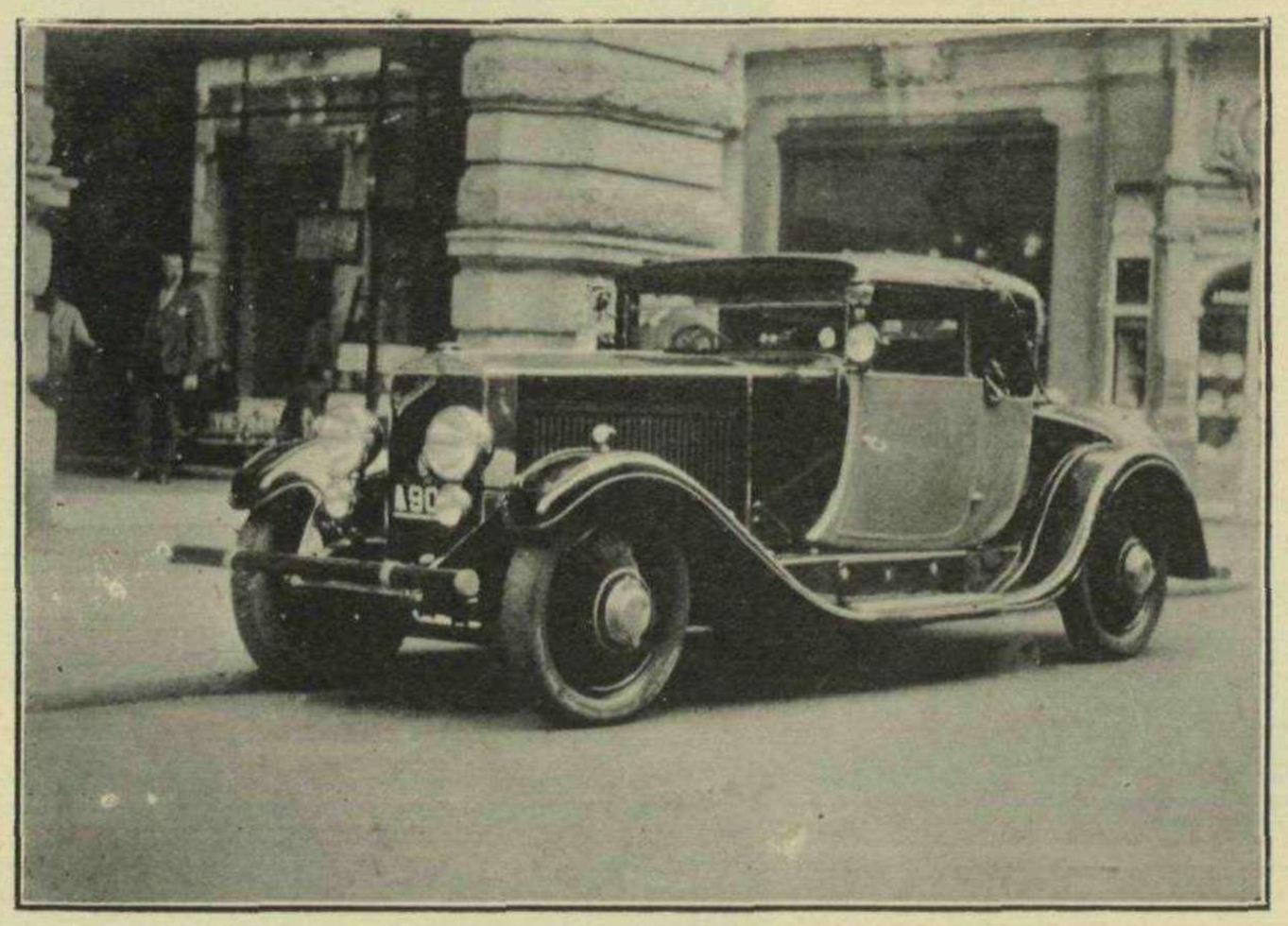
Readers will remember that a super sports Excelsior, driven by Caerels and Sénéchal won the recent 24-hour Belgian Grand Prix, incidently running throughout the race without having its bonnet opened, while the identical car appeared in the Essex Club 6-hour race but was eliminated by mechanical trouble due to a choked oil pipe.

By reason of its Belgian performance, the Excelsior is evidently a sports car of the first water, and a description of its capabilities cannot fail to interest our readers, while an idea of the imposing lines of the car may be gleaned from the illustrations.

Referring to the view of the engine it will be seen that this is a 5346 c.c. 6-cylinder unit of up-to-date and conventional design, having inclined overhead valves operated by a shaft and bevel driven overhead camshaft. The mixture is supplied by three Zenith carburettors, and in spite of the rather large amount of "machinery" to be accommodated, the layout beneath the bonnet is extremely neat and accessibility is in no way impaired. Four speeds forward and reverse gears are operated by a centrally disposed lever, moving in a gate and not on a ball joint as is more usual with continental cars. Both hand (central) and foot brake controls operate on the same set of shoes on all four wheels, an arrangement which is satisfactory, but which we were driven to comment upon in an earlier issue.

Having thus acquainted ourselves with the salient features of the big Excelsior we clambered up on to the box (to use a coaching expression) and set out from St. James Street. Owing to the large size of the motor and the absence of body the coaching analogy is not altogether inappropriate, but there the similarity ends, for no horse hauled vehicle ever slid through the London traffic in such effortless silence, nor leapt through the gaps with such eager acceleration as our Excelsior.

The big car is inclined to breed the "gear lazy" driver, but unluckily the writer seldom has more than twelve nominal horse power under his toe so that he habitually uses the gears for traffic, hill and corner work whatever vehicle he may be driving. The Excelsior, having a large and efficient engine did not call for much gear changing in traffic, as flexibility, slow running, and acceleration were all excellent on top gear, but such changes as we made showed that the operation could be performed



THE "YELLOW AND BLACK COUPE" OUTSIDE MESSRS. HAYWARD'S PREMISES.

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in Motoring, Motor Cycling and Cycling races and trials provides abundant proof of Dunlop superiority and endurance The splendid successes shown here provide *knowledge* of tyre behaviour—knowledge of the tyre needs for all classes of events and usage. So—Dunlop quality and design are *based on experience*, and the valuable lessons gained in racing events and trials are embodied in the Dunlop Tyres *you* buy.

EUROPEAN GRAND PRIX

September 4th, 1927.

The winner, Benoist (Delage) used Dunlop Tyres. The course measures 312½ miles, and the winner's average speed was approximately 90 m.p.h.
(subject to official confirmation)

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GRAND PRIX d'OVERTURE Montlhery 1st & 3rd

PENDINE Malcolm Campbell (Feb. 4th)
FLYING KILO Mean Speed 174·883 m.p.h.
FLYING MILE Mean Speed 174·224 m.p.h.

DAYTONA BEACH Major Segrave (March 29th) World's Records
KILO 202·98 m.p.h.
MILE 203·79 m.p.h.
5 KILO 202·67 m.p.h.

TARGO FLORIO Unlimited Class—1st 1500cc. Class—1st

RUDGE WHITWORTH CUP LE MANS 1st, 2nd & 3rd

BOLOGNA GRAND PRIX ITALY 1st 1100cc. Class 1st 1500cc. Class 1st 2000cc. Class

FRENCH GRAND PRIX (A.C.F.) Montlhery 1st, 2nd & 3rd

OPEN FORMULA RACE Montlhery 1st, 2nd & 3rd

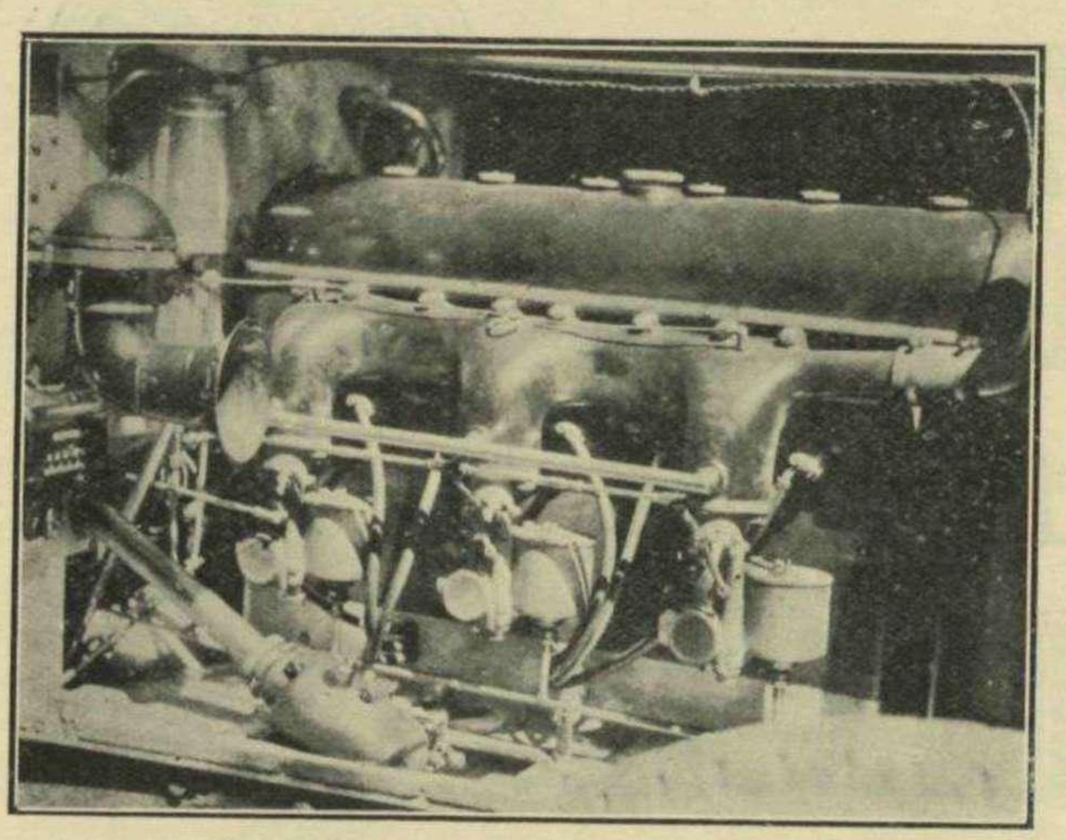
COUPE de la COMMISSION SPORTIVE 1st, 2nd & 3rd

SAN SEBASTIAN GRAND PRIX 1st, 2nd & 3rd

SPANISH GRAND PRIX 1st, 2nd & 3rd

C.F.H. 743

SPORTING CARS ON TEST—continued.



AN ENGINE VIEW SHOWING THE THREE CARBURETTORS AND CAMSHAFT COVER.

quite snappily almost at the first attempt, though if by chance a gear *was* missed it seemed impossible to re-arrange *any* ratio without bringing the car to rest.

With a car of the speed and size of the Excelsior there are few regions in the neighbourhood of London where one may safely try out its capabilities without endangering life and driving license; accordingly our test route was once more to Brooklands, via Kingston and Esher. Once past Esher we had a little amusement round the twists of the Hersham road, when the car handled in a manner altogether out of keeping with its proportions. Provided one could get over the impression of "loftiness" due to the height of the seats one had the impression of being at the wheel of a nippy "voiturette." The steering was extremely light, while the chassis evinced no desire to roll, even when wrenched round sharp corners in a thoroughly brutal manner; after a few minutes of this treatment a glance at our passenger showed us that the problem of "seat maintenance" was troubling him severely, and indeed it was only the presence of the steering wheel that prevented the driver from parting company with the chassis!

Brakes and acceleration (or their lack) are always demonstrated when a frolic of this kind is indulged in, and the Excelsior seemed to possess both to a marked degree. The brakes were extremely powerful and smooth though faulty adjustment caused a sharp swerve to the right if they were applied with violence; this swerve was easily guarded against, once we discovered it, but it might have been troublesome had the roads been wet.

The gear ratios were well chosen and together with an easy gear change enabled rapid acceleration—a feature which was aimed at by Messrs. Haywards when tuning this particular demonstration car. For the same reason the top gear ratio was somewhat lower than that required for racing purposes, either on road or track so that we did not expect anything phenomenal in the way of all out speed.

Before going to the track we made a short detour over the Seven Hills—towards Cobham, a piece of road reminiscent of some continental Grand Prix Course—dead straight, bumpy and with violent undulations. This stretch is always exciting on a car, and we never feel particularly safe when traversing it at speed—however the Excelsior was more controllable over the switchback than any other car which we have driven here, in spite of not having the steadying influence of a body.

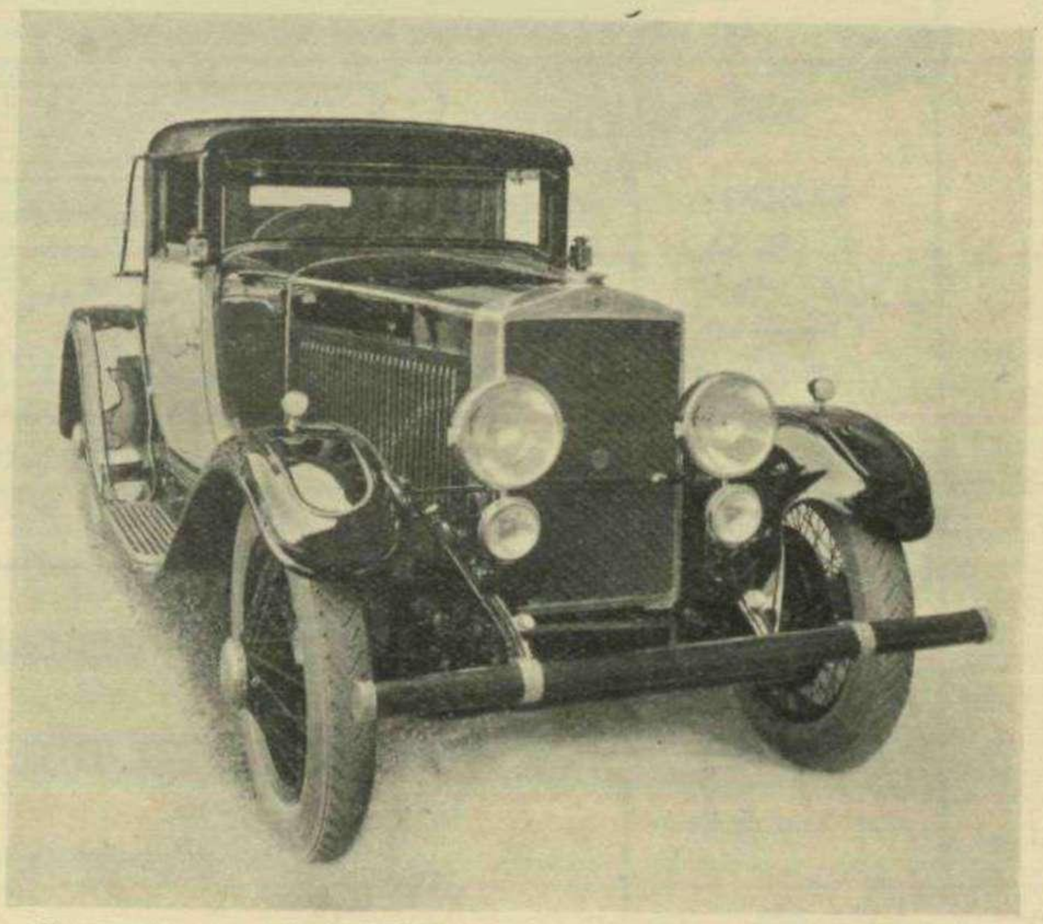
On arrival at the track we found a blustering gale in progress, which for once converted the Railway Straight into the slowest portion of the circuit and allowed far higher speeds to be attained up the slope on to the Members' Banking—usually the slowest part of the track.

In discussing maximum speed it must be remembered that besides being geared rather low (about 4 to 1), the engine was comparatively new and stiff as it had only done a very few hundred miles in its life.

Under the circumstances the speed of 87 m.p.h. which was held all round the track, except on the straight, was extremely creditable, and was a very fair indication that the makers are not exaggerating when they claim a speed of 100 m.p.h. under the right conditions. At the maximum speed the lowness of the gear ratio made itself felt by a slight vibration, which however was not detectable when the speed dropped to about 82 m.p.h. on the Railway Straight, nor at any other point in the range. At these speeds the car sat the track extremely well and in spite of the writer's inexperience required little effort to hold to its correct course on the banking, and there was little or no tendency for driver and passenger to leave their seats, even at the most notorious bumps.

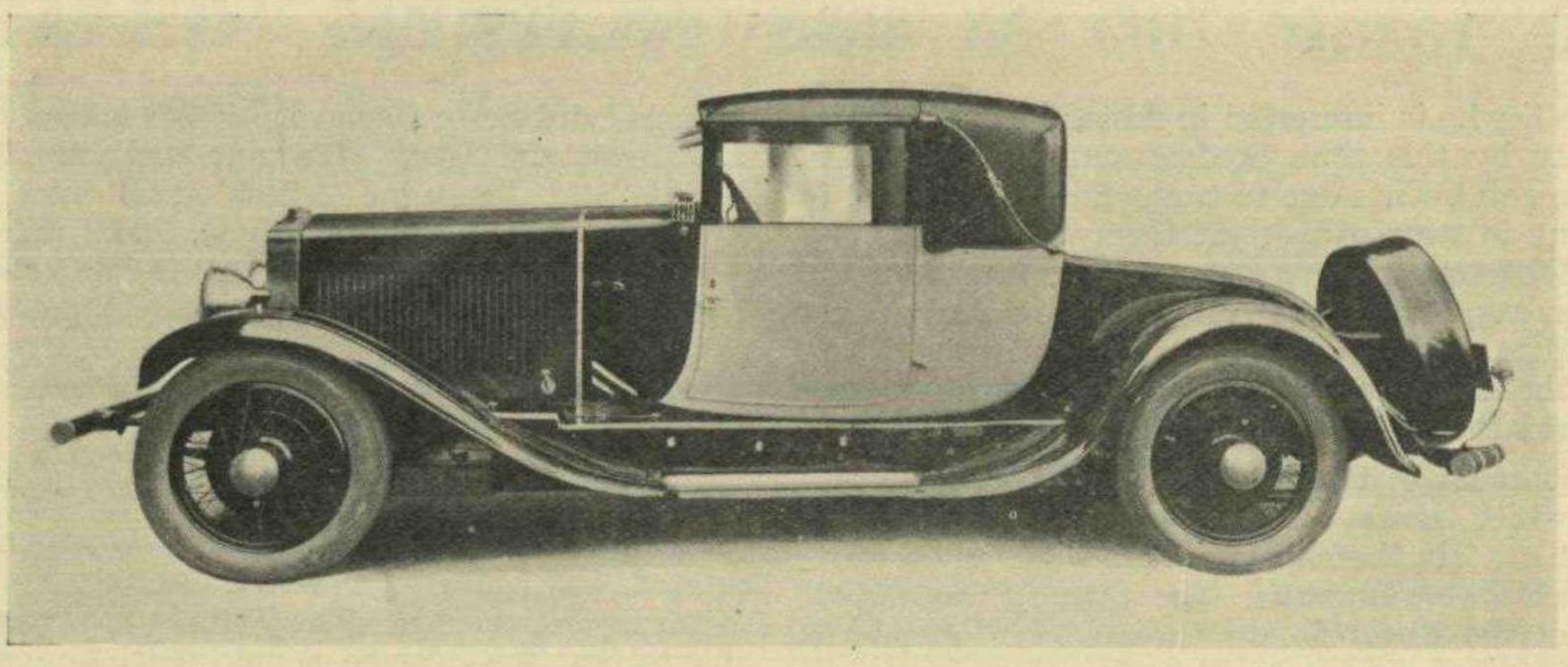
Tests were then carried out to find the speeds obtainable on the various indirect gears; in each case we proceeded until engine vibration set in before noting the speed, with the following results, 1st gear 28 m.p.h., 2nd gear 44 m.p.h. and 3rd gear 65 m.p.h.—the performance on the two lower ratios being particularly creditable.

Climbs of the test hill on various gears showed that the 1 in 4 gradient possessed no terrors for the engine,



DIGNITY OF LINE IS COMBINED WITH A SUGGESTION OF SPEED IN THE EXCELSIOR.

SPORTING CARS ON TEST—continued.



ALTHOUGH FITTED WITH A COACHBUILT COUPE BODY, THE EXCELSIOR HAS A SPORTING PERFORMANCE.

while the speed of the climb depended entirely on the amount of run taken and the gear used. In each case an extremely creditable climb was accomplished. Needless to say the brakes would stop and hold the car on any part of the hill without undue effort. After its running on the track the engine seemed livelier than ever, no doubt it was rapidly getting "less new" and on our return journey, made without incident of note, its behaviour was even more pleasant than before. We understand from Messrs. Hayward's that in view of the low gearing the speed obtained was very good and incidently represents the maximum speed which has been obtained on the 'yellow and black coupé," with only one carburettor.

Such are our impressions of what is undoubtedly a high class car, unostentatious, yet capable of a performance equal to anything except a racing car, and selling in chassis form at £1,250, or £1,150 for the standard model.

The sole concessionaires are Hayward Automobile, Ltd., King Street, St. James, S.W.1.

THE SCHNEIDER CUP SEA-PLANES.

WE recently had the pleasure of inspecting two of the machines which are among those from which the British team will be selected for the Schneider cup race at Venice on 25th September. They are the Supermarine S.5, and the Gloucester Bammel, which have recently been undergoing their tests at Calshot, Hampshire.

The Supermarine S.5, is a direct development from the S.4, model which was used last year, and is a monoplane with a Napier "Lion" engine. The machine gives one an amazing impression of compactness, and is one of the finest examples of steamlining we have ever seen. The three blocks of the broad-arrow 12-cylinder Napier are beautifully steamlined into the fuselage, the faring from the central block terminating in the inverted V-shaped windscreen in front of the pilot's head. The petrol tank is in one of the floats, its weight being balanced by the torque of the propellor. The cooling water is carried in the planes, surface radiation being employed, and the oil tank is in the fuselage, the sides of which are ribbed for cooling. The machine is beautifully finished in blue and silver, and makes a very favourable impression.

In contradistinction to the Supermarine, the Gloucester is a biplane, and also employs a Napier "Lion" engine. The machine, if not quite so attractive as the "S.5" nevertheless gives an impression of great speed. The lower of the planes, which are considerably staggered, is used for radiation for the cooling water, and, unlike the Supermarine, is ribbed. It is finished in silver and burnished copper. Two machines of this type, together with four supermarines will be sent to Venice, and the seventh English plane to go will be a "Crusader" fitted with a 9-cylinder Bristol "Mercury" radial engine. This machine is a monoplane, but the radial engine presents serious difficulties in streamlining. Its diameter, however, is considerably less than that of the "Jupiter" from which it has been developed, and being air-cooled, gains considerably on the score of lightness. The machine which has been built by Short Brothers, has been undergoing its tests at Felixstowe, but it is not thought that it will prove as fast as the Gloucester or the Supermarine. Comparative tests after the machines arrive at Venice will decide which three will form the British team.

News for Raleigh Riders.

Riders of the well-known 498 c.c. Raleigh whose machines are fitted with the latest type of fork employing the single compression spring, will be interested to know that the type sent out as standard is supplied for either solo or sidecar purposes. Where a machine is used for solo work only, a lighter spring may be substituted with advantage. This spring can be supplied under reference number MS. 175c.

RACING NEWS.

THE SAN SEBASTIAN MEETING.

ANYONE who is interested in motor racing has probably by this time become sufficiently used to disappointments due to cars which are entered in races failing to start as to treat them with philosophy. The San Sebastian meeting proved no exception to the rule in this respect, and in spite of an excellent entry list, the starters in the races were not numerous. There was nevertheless, some very good racing, and the meeting may be said to have been distinctly successful.

The first event of the programme was a free-for-all event, in which, however, there was a class for cars of under 1100 c.c. In the big class there were only 6 starters, of which 5 were Bugattis. The sixth car was a Hudson, and of the Bugattis, the three which formed the official team were driven by Materassi, Dubonnet and Conelli, and were of the 2,300 c.c. type. The other two cars which were amateur entries were 2-litre machines.

The Hudson soon proved itself too slow to be regarded as a serious competitor, and was withdrawn at about half distance. The race therefore became a Bugatti procession, and was finally won by Materassi, who averaged 78 m.p.h. Second place was captured by Dubonnet, Conelli was third, and the other two Bugattis were fourth and fifth. In the 1100 c.c. class, Martin on a 6-cylinder Amilcar was first, followed by a Salmson and another Amilcar.

The next event was run on 28th July and was a 12-hour touring car race. In the absence of the 4½-litre Bentley which was entered but which failed to start, the fastest cars were the two 4-litre Peugeots driven by Boillot and Wagner, and Rigal and Serre, one of the le Mans Lorraine-Dietrichs, with Brisson and Bloch as its drivers, a 2-litre Georges Irat driven by Rost and Lehoux and Laly and Chassagne's 3-litre Ariès.

André Boillot on the big Peugeot took the lead at the outset and proceeded to spend his time setting up lap records and breaking them. He was however closely followed by Rost on the Georges Irat and Rigal on the second Peugeot. The supercharger on Sabipa's Bugatti soon proved itself considerably too active, for after the car had made several stops at the pits, it succeeded in sucking the jet out of the carburettor and killing itself of indigestion.

At the end of 3 hours Boillot turned the Peugeot which still held the lead, over to Louis Wagner, who set off at high speed. Before he had covered three miles, however, he skidded on a corner and crashed into a tree. The driver was practically unhurt, but the car was wrecked, and the lead passed to the Georges Irat, which was now in the hands of Lehoux.

The race had started at 11 o'clock in the morning, so that the last part of it was run in darkness. This allowed Rigal and Serre on the second Peugeot, which had a very good lighting set, to catch up considerably on the Georges Irat, but the latter was not to be caught and the final order was as follows :—

1. Rost and Lehoux (Georges Irat), 748.1 miles, average 62.34 m.p.h.
2. Rigal and Serre (Peugeot), 738.6 miles.
3. Brisson and Bloch (Lorraine-Dietrich), 728.5 miles.
4. Laly and Chassagne (Ariès), 712.3 miles.
5. Duray and Chassagne (Airès), 706.2 miles.
6. Bussienne and Buriat (E.H.P.), 693 miles.
7. Clause and Gros (Bignan), 686.8 miles.

The first three cars thus all averaged over 60 m.p.h. for 12 hours, which is a very fine performance on the San Sebastian circuit.

The Grand Finale of the meeting was the Spanish Grand Prix on Sunday, 31st July, for 1500 c.c. cars. Once more Delage, Bugatti and Talbot teams were all entered, but again their actual meeting was postponed to the Greek calends. The Talbots having proved unable to beat the Delages in the French Grand Prix were withdrawn, and the race as last year, became a Delage-Bugatti duel. The Halford was also a non-starter, and the only outsider was therefore a straight-8 Maserati driven by Palaccio, who it will be remembered drove a Bugatti in the Targa Florio. The Delages were handled as before by Benoist, Bourlier and Morel, and the Bugattis had the same drivers as in the San Sebastian Grand Prix.

In spite of the small number of competitors, it was soon apparent that it was going to be a thrilling race. Benoist took the lead at the outset, followed by Bourlier, but the Bugattis soon proved that on a road circuit they were well able to hold their own. On the third lap, Benoist set up a lap record at 84.1 m.p.h., and after it the order was as follows :—

1. Benoist (Delage).
2. Materassi (Bugatti).
3. Connelli (Bugatti).
4. Dubonnet (Bugatti).
5. Bourlier (Delage).
6. Morel (Delage).
7. Palaccio (Maserati).

At the end of the seventh lap Materassi was 31 seconds behind Benoist, but on the eighth lap he skidded into a wall and lost 1 min. 18 secs. Just before half distance, Morel withdrew his Delage, and three laps later Benoist stopped to change plugs. While thus occupied Materassi dashed past, so that at this point the order was as follows, the leader having an advantage of 3 minutes 3 seconds :—

1. Materassi (Bugatti).
2. Benoist (Delage).
3. Connelli (Bugatti).

Things looked bright for Bugatti, but on the 26th lap Materassi stopped to change a wheel and fill up with petrol and water, and when he got away again had a lead of but 27 seconds on the Delage. Excitement was now at fever heat, and on the 27th round Benoist proceeded to break his own lap record at 84 m.p.h., and on the next he passed Materassi and came past the tribunes with a lead of 2 seconds. On the 29th lap Materassi regained the lead, and two laps later had a lead of 2 seconds on his rival ; and then on taking the bend where Wagner

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RACING NEWS—continued.

had crashed on the Thursday, he too skidded and wrecked his car against a brick wall. Benoist, who was only a few yards behind saw nothing but a cloud of dust, braked violently and skidded completely round, but fortunately did not damage his car.

With his chief rival out of it and nine more laps to go Benoist had the race well in hand. In the meantime, however, Palaccio had retired and Dubonnet had handed his Bugatti over to Chiron, who went in chase of Connelli, but broke down before he could catch him. The final order was therefore as follows :—

1. Benoist (Delage), 5h. 20m. 45s., 80.5 m.p.h.
2. Connelli (Bugatti), 5h. 23m. 2s.
3. Bourlier (Delage), 5h. 28m. 12s.

The order therefore was exactly reversed as compared to last year's race when the result was Bugatti—Delage—Bugatti. Delage has now beaten both Talbot and Bugatti, and may consider itself the champion car of the year, while Benoist has won the first two important Grands Prix of the season.



THE 1927 J.C.C. SPORTING CAR RACE WAS A TRIUMPH FOR ALVIS CARS, FIRST AND SECOND PLACES GOING TO HARVEY (No. 5) AND W. H. GREEN, SEEN ABOVE.

THE EUROPEAN GRAND PRIX.

WHEN Benoist brought his Delage home a winner in the European Grand Prix at Monza on September 4th, he achieved the unique success of winning three successive races counting for the championship of the world. By these three victories the Delage has proved itself the racing car of the year, and now has the added glory of beating a team of racers from the other side of the Atlantic. The performance of the American cars at Monza was in fact not brilliant, for their leading car was also beaten by one of the new O.M. racers, for which we have been waiting since the 1926 European Grand Prix at San Sebastian and which have only just made their first appearance. The new Fiats, which have been expected even longer, also appeared on September 4th, though not in the European Grand Prix.

The meeting opened with a hors d'œuvre in the form of a 50 kilometre race for 1,100 c.c. cars which attracted only five starters, consisting of three Salmsons, a B.N.C. and a 6-cyl. Amilcar. The issue also was not long in doubt for the Amilcar soon outdistanced its rivals, and won easily at an average speed of 76.36 m.p.h. On the third lap, d'Harrincourt, one of the Salmson drivers, overturned, fortunately without damaging himself, while the B.N.C. retired with engine trouble. The other two Salmsons finished, Clerici being second and Lipman third.

The second race was for cars up to 2 litres and marked the appearance of the new 1,500 c.c. Fiat. The new racer from the famous Turin factory is probably the lowest car which has yet appeared. It has a 12-cyl. engine, with the cylinders arranged in two vertical blocks of six, each crank-shaft having a pinion on its after end which engages with a pinion on the clutch shaft. Three overhead camsharts operate the valves, the central one actuating the inlet valves on both blocks. Otherwise the chassis follows usual Fiat practice, with a multi-plate clutch and 4-speed gear-box in unit with the engine and a propeller shaft enclosed in a torque tube.

The Fiat, which was driven by Bordino, had against it a supercharged 1,500 c.c. Bugatti driven by Cirio, and a 1,500 c.c. Chiribiri with Serboli at the wheel, while

RACING NEWS—continued.

the 2-litre cars consisted of a 1925 Grand Prix Alfa-Romeo driven by Campari, and seven Bugattis. Rain was falling during the race, but the Fiat soon showed itself to be immensely fast, beating all the 2-litre cars, and clocking 94.96 m.p.h. for a lap, finally winning at 92.88 m.p h. for the 50 kilometres. The full result was as follows :—

1. Bordino (1500 c.c. Fiat), 20 m. 4s.
2. Maggi (2000 c.c. Bugatti), 20m. 35s.
3. Campari (2000 c.c. Alfa-Romeo), 20 m. 37s.
4. Materassi (2000 c.c. Bugatti), 20m. 37$\frac{2}{5}$s.
5. Bona (2000 c.c. Bugatti).
6. Cirio (1500 c.c. Bugatti).
7. Serboli (1500c.c. Chiribiri).
8. Rossi (2000 c.c. Bugatti).
9. Probot (2000 c.c. Bugatti).

After these preliminaries, the European Grand Prix, the pièce de résistance of the meeting took place. Six cars lined up for the start, as follows :—Benoist on the Delage, Minoia and Morandi on the new straight-eight O.M.'s, Souders, the winner of this year's Indianapolis Race on a Duesenberg, and Cooper and Kreis on the two front wheel drive Coopers, which are now known as Marmon Specials, and which have Miller engines. The Fiats were absentees as they were finished too late to run in a long-distance race.

Much had been expected of the duel between the old world and the new, but actually the American cars were very disappointing. In 1923, 1925 and 1927 America has sent cars to Monza which have been much faster on paper than any contemporary European cars, and which have yet been beaten, so unsuitable even for Monza, are cars built for pure track work.

At the fall of the flag Benoist shot to the front, with the pack at his heels, with the exception of Morandi, who stalled his O.M.'S engine and was left on the starting line. On the first lap, Kreis' Marmon came to a standstill, an old wound in the form of a broken crank-case received while practising, having reopened. Benoist was first after one lap, with Souders second and Minoia third. The order was maintained for several laps, and at the end of ten the times were as follows :—

1. Benoist (Delage), 40m. 41$\frac{3}{5}$s.
2. Souders (Duesenberg), 43m. 47$\frac{3}{5}$s.
3. Minoia (O.M.), 45m. 55$\frac{1}{5}$s.
4. Morandi (O.M.), 47m. 41$\frac{1}{5}$s.
5. Cooper (Marmon), 47m. 56s.

On the twelfth circuit Souders was lapped by Benoist, and three laps later Cooper turned his car over to Kreis. The latter, however, failed to make much of a show, while Souders retired with a faulty ignition system. Towards the end of the race, Minoia had to make several pit stops, with the result that he was passed by both Morandi and Kreis. The final result was as follows :—

1. Benoist (Delage), 3h. 26m. 59$\frac{4}{5}$s. (at 90.04 m.p.h.).
2. Morandi (O.M.), 3h. 49m. 32$\frac{5}{5}$s.
3. Kreis (Marmon), 4h. 2m. 5$\frac{4}{5}$s.
4. Minoia (O.M.), 4h. 2m. 28$\frac{2}{5}$s.

The final event of the day was the Grand Prix of Milan for which all the cars which had run in the previous races were eligible. Count Maggi was first off the line with his 2-litre Bugatti, with Campari (Alfa-Romeo) and Materassi (Bugatti) close behind. By the end of the first lap however Bordino had got the lead with the 1500 c.c. Fiat, while Kreis had retired with engine trouble. Behind Bordino closely packed came Campari, Materassi and Maggi, and their close fought duel was continued for three laps, when Materassi retired, saying that Campari was baulking him. The final result therefore was as follows :—

1. Bordino (Fiat), 19m. 42$\frac{3}{5}$s. (at 94.57).
2. Campari (Alfa-Romeo), 20m. 24s.
3. Maggi (Bugatti), 21m. 22$\frac{2}{5}$s.
4. Zampieri (Amilcar), 24m. 4s.

The new Fiat is evidently a very fast car, and its performance in future races will be watched with considerable interest.

THE GRAND PRIX DE PARIS.

Bentley wins the second French 24-hour Race.

AFTER their victory in the Grand Prix d'Endurance at le Mans, Bentley succeeded in repeating the performance in the 24-hour race which was run at le Mans on 15th and 16th August. The victorious car, which was driven by F. Clement and George Duller, was the 4½ litre car which ran at le Mans. It took the lead at the outset, and held it unchallenged till the end, finally winning by over 80 miles.

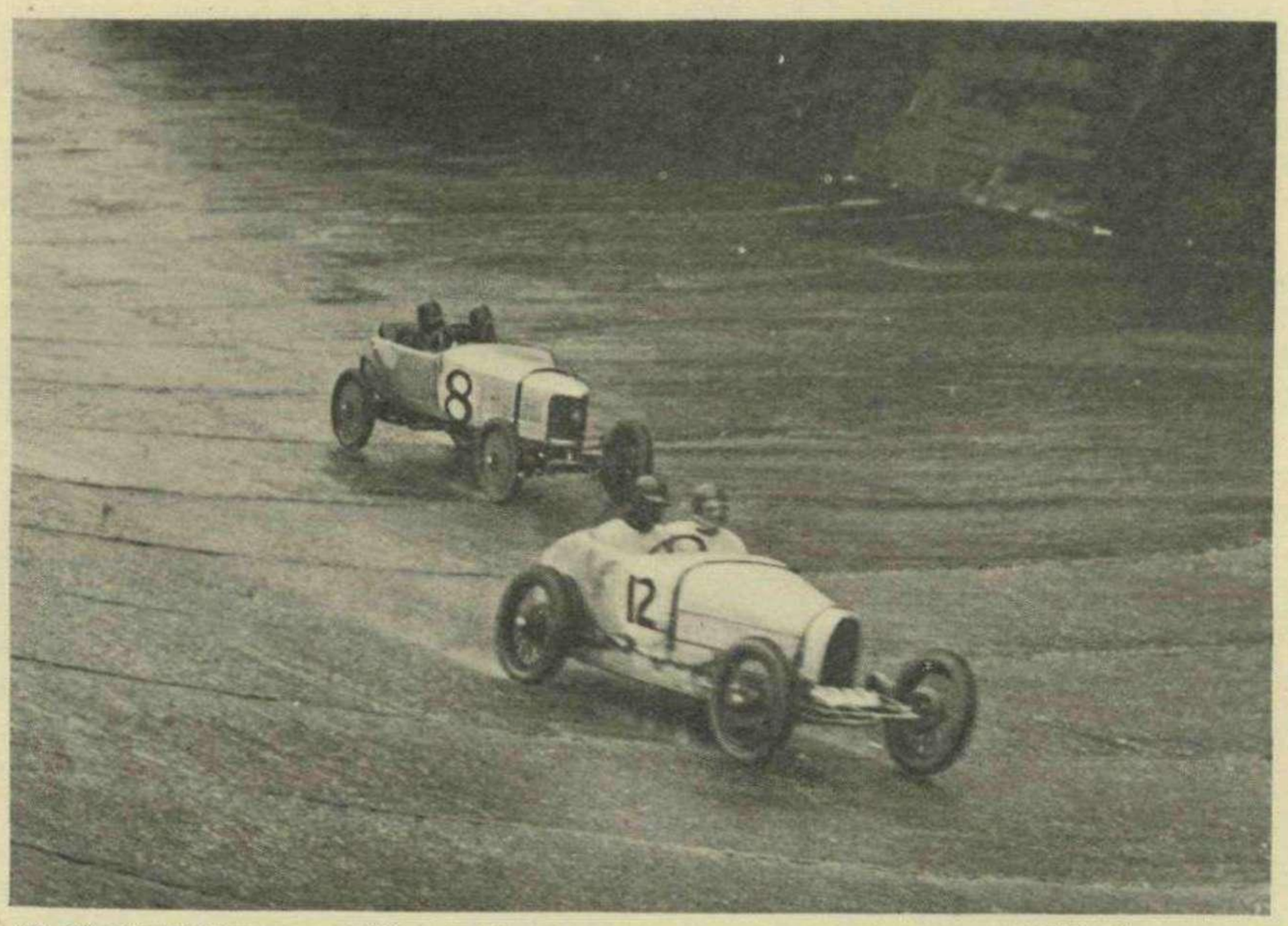
Actually the competition was not very keen, as none of the other cars were in the over 2-litre class. The largest machines were two 2-litre Th. Schneiders, two Fastos and a Georges Irat. There were two 1500 c.c. S.C.A.P.'s, one Jean Graf, and the rest of the competitors were in the 1100 c.c. class and consisted of two Lombards, an Amilcar, a S.A.R.A., a B.N.C., an R.H. and a d'Yrsan.

At the end of the first lap the Bentley had a lead of half a mile from Rost on the Georges Irat, which was followed by Gres on a Fasto. After this the winner was never in doubt. On the second round a Lombard and the Jean Graf fell out, and just before midnight on the Monday a fire put the Georges Irat out of the race. The B.N.C. now gained second place, which it held till the end. After 18 hours the Bentley caught fire, which delayed it considerably, and prevented it from covering a greater distance. The final result was as follows :—

1. Clement and Duller (Bentley)	1247.7	miles
2. Doré and Pousse (B.N.C.)	1162	,,
3. Christian and Royer (Lombard)	1116	,,
4. Gros and Barthélemy (Fasto)	1085	,,
5. Mesnil and Dhome (Fasto) .... Maraudet and Duval (S.A.R.A.)	1069.5	,,
6. Guibert and Clement (S.C.A.P.)	976.5	,,
7. Devaud and Pelissier (Amilcar)	930	,,
8. Madame Morris (d'Yrsan)	905.4	,,

The performance of the 1100 c.c. B.N.C. and Lombard in beating all the larger machines except the Bentley is truly creditable.

RACING NEWS—continued.



T. E. Rose Richards (Bugatti), who drove very well in the J.C.C. Sporting Car Race, leading the A.C., which put up a very consistent performance.

THE R.A.C. GRAND PRIX.

Entries for the Grand Prix of the R.A.C. have now closed at single fees and the following is the complete list of cars and entrants. The race will take place at Brooklands on Saturday, 1st October next, starting at noon.

Delage	Automobiles Delage
Delage	do.
Delage	do.
Bugatti	G. E. Eyston
Bugatti	Capt. A. Malcolm Campbell
Bugatti	Prince Ghica
Bugatti	Bugatti Frères
Bugatti	do.
Bugatti	do.
Thomas Special	W. B. Scott
Thomas Special	H. W. Purdy
Duesenberg	George Souders
Alvis	T. G. John
Fiat	Fiat, Italy
Fiat	do.
Fiat	do.

This is the most representative entry that has been received for any International Race during recent years, the total of sixteen cars covering four different countries and six different makes. France has the strongest entry with nine cars, although at least two will be drived by Englishmen : Italy has three cars, Gt. Britain three, and America one.

The Grand Prix of the R.A.C. is the last of the series of five races constituting the Championship of the World. The first, the Indianapolis " 500 " was won by the Duesenberg which is entered for the British race, whilst the remaining three—the French Grand Prix, the Spanish Grand Prix, and the Grand Prix d'Europe, held at Monza, Italy, on Sunday last, were all won by Delage. The winners of all previous Championship races will therefore be seen at Brooklands on 1st October, but the challenge to Delage—which has so far swept everything before it in the Continental events,—will be the strongest this firm has yet encountered, and a terrific struggle should result.

The drivers of the various cars have not yet all been nominated, but a full list of these, together with other details concerning the race, will be announced later by the R.A.C.

Round the World Rider delayed.

D. R. Hill, who has been attempting to get round the world on an H.R.D. combination in under six months to win a substantial wager, has met with a misfortune. He was going well until a couple of months ago and had reached California. There, however, he was unlucky enough to contract pneumonia, which was so serious that he was delayed in bed at Long Beach for seven weeks. This of course, will make it impossible for him to win his money but if he gets round at all he can well feel satisfied, for although several men have already ridden round the world on motorcycles, Hill is the first man to attempt it alone and unaided.

RACING NEWS.

THE HUTCHINSON HUNDRED AND OTHER STORIES!

ALTHOUGH the chief item on the programme, August 27th, was the 100 mile race, several interesting curtain raisers were staged in the form of 3 and 5 lap handicap events.

The first race for 350 c.c. machines was won by a dark horse in the form of a Velocette, entered by R. Jones, but ridden by one of F. G. Hicks' henchmen, with Phillips (Cotton J.A.P.) second and Frank Longman (A.J.S.) third. The winner's speed was 85.87 m.p.h.

Rex Judd brought his Douglas home first in the 3-lap handicap for machines up to 1,000 c.c., followed by H. Trevor-Battye (Douglas) and J. S. Wright (Brough Superior). As a result of his speed of 98.62 m.p.h. Judd was re-handicapped for the 5-lap race, but had evidently kept something up his sleeve, for lapping at 103 m.p.h. he scored a run-away win at 99.61 m.p.h., being pursued home by J. S. Wright and F. G. Hicks (Velocette).

The sidecar race was won by the limit man, Greenfield, on a 250 c.c. McEvoy-Blackburne at 61.56 mp.h., his nearest rivals being J. S. Worters (Excelsior) and McArthur (Zenith.

As a result of his previous wins Judd was again re-handicapped for the Hutchinson 100 and although apparently using a different machine, his protests were ignored. Accordingly the Douglas entry was scratched.

Among other interesting entries were the limit man, Anderson on a 250 c.c. Dunelt, Willis of Junior T.T. fame on a Velocette, Hobbs, camshaft A.J.S., and Freddie Dixon on the latest thing in Brough Superiors.

Anderson started off with his long handicap and surprised everyone by lapping steadily at 68 m.p.h. By the time the whole entry had been dispatched it was seen that apart from Anderson who held his lead for many laps, E. Ventura (250 c.c. Cotton), Hobbs (350 c.c. A.J.S.) and Hicks and Willis (Velocettes), were all going well and looked like possible winners. As usual the old Harley in the hands of F. A. Longman, was lapping quietly at over 90 m.p.h., but Dixon burst his back tyre on the second lap and fell off.

Last time Freddie rode at Brooklands his forks broke at 100 m.p.h., so these little incidents are quite an every-day occurrence to him and he was unhurt.

Several other riders fell off, including Slade-Jones (Alldays-Bradshaw), who became involved with another rider.

Hobbs was now looking a very likely winner but suffered some delay on one of his laps, thus strengthening the Velocette position.

Hicks was leading Willis, although starting behind him, until on the 32nd lap the former broke a valve spring and retired. Ventura (Cotton) was the first to pass Anderson and shortly afterwards Willis passed both of them to win at 86.39 m.p.h. On his last lap Anderson was also passed by the Harley but had the satisfaction of averaging 66 m.p.h. for the whole distance and of finishing 4th.

Result :—

1. H. J. Willis (350 c.c. Velocette), 86.39 m.p.h.
2. E. Ventura (250 c.c. Cotton).
3. F. A. Longman (989 c.c. Harley-Davidson).
4. N. Anderson (250 c.c. Dunelt).
5. H. Hobbs (350 c.c. A.J.S.).
6. T. Wainwright (350 c.c. Cotton).

THE FRENCH GRAND PRIX.

THE French Grand Prix which was run off recently at the base of the Pyrenees mountains resulted once more in conclusive British victories. The three large classes were won by British riders on British machines, whilst in the " Baby " class a Frenchman using a British Villiers engine scored a runaway victory.

Rowley (A.J.S.), made a record lap of over 70 miles per hour, but he retired early and Craig (Norton) won the 500 c.c. class by nearly five minutes from Walker (Sunbeam).

The outstanding performance of the day was that of the overhead camshaft Velocette driven by Frank Longman. Simpson (A.J.S.) led the 350 class for one lap, with Longman close behind, and then retired. Apparently, however, Longman had ample speed in hand for he later beat Simpson's first lap time, thereby making the 350 record lap. He won the race easily by over 20 minutes, but what is more surprising is that almost all the way through he was running second in the 500 c.c. class! There could be no more striking proof of the efficiency of the Velocette than this performance.

In the Lightweight event Crabtree and Coulon the French rider of the Terrot had a great battle for first place, Crabtree eventually winning by thirteen seconds whilst Davison (Levis) finished third. In the 175 c.c. class the little Villiers engined Monet-Goyon left the rest of the field standing and scored a runaway win at nearly 52 miles per hour, thus adding yet another success to the many which have been won by this remarkable little engine.

An Honour for a Little 'Un.

The powers that be in the motorcycle sporting world are generally rather sceptical about the ultra-lightweight machine and in selecting teams for international competitions are inclined to favour heavier models. J. W. Moxon, therefore, the well-known rider of Francis-Barnett machines, may well feel proud at having been selected as a member of the British " B " team in the recent International Six Days' Trial.

RACING NEWS—continued.

RACING IN GERMANY.

TWO interesting events recently took place at Freiburg, in Germany, when the A.D.A.C. organised its annual kilometre record attempts and hill climb. Classes for motor cycles, sidecars, sports cars and racing cars were contested and large entries were received for both events. In the kilometre speed trials some excellent speeds were attained, particularly by Swiss riders; Franconi on a "Standard-M.A.G." of 350 c.c. attained 92.5 m.p.h., thus putting up a higher speed than any rider of 500 c.c. or 750 c.c. machines. Alfter, another Swiss on a Zenith J.A.P. accomplished 117 m.p.h. in the 1,000 c.c. solo class and 100 m.p.h. with the sidecar. A 175 c.c. D.K.W. also attained the excellent speed of 67.5 m.p.h.

Turning to the sporting car classes, fastest time was made by Kimpel on one of the new Mercédès-Benz cars (illustrated elsewhere in this issue). Kimpel's speed was 111 m.p.h., other Mercédès annexing the remaining places in the 8,000 c.c. class.

In the 5,000 c.c. class Delmar on a Steyr attained 109 m.p.h., while in the 3,000 c.c. a 2,300 c.c. Bugatti won at 100 m.p.h.

With the exception of Momberger's supercharged Bugatti, the racing cars were somewhat disappointing. Momberger attained 121 m.p.h., thus making fastest time of the day and winning the 3-litre class. In the 2-litre class, however, one of the old racing Mercédès defeated two Bugattis and won its race.

From the spectators' point of view, the hill climb was perhaps a more interesting event. The course was roughly 12 kilometres in length, and as the photographs show, included numerous corners and bends and traversed some exceedingly beautiful country.

Fastest motorcycle time was made by Bussinger on a 500 c.c. A.J.S., who just beat the time of Franconi on the 350 c.c. M.A.G. Both rode extremely well, won their respective classes and averaged about 41 m.p.h.

A.J.S. machines were second and third in the 350 c.c. class but all other places in the 175 c.c. 250 c.c. and 500 c.c. classes went to foreign machines—D.K.W.'s, U.T.'s and Standards being well to the fore.

The Zenith rider Alfter won the 750 c.c. class in very good time on what appeared to be a touring Scott, beating a Tornax and an American Super X.

Speeds in the 1,000 c.c. class were poor, first place going to Giggenbach on his Bayerland-J.A.P.

The sidecar classes called for considerable activity on the part of the passengers and British machines swept the board.

Bornstein on a Norton won the 600 c.c. class, while first and second places in the 1,000 c.c. class went to Dobler (New Imperial) and Dchinden (Brough-Superior) respctively.

Once again in the sporting car class fastest times of the day were made by the supercharged Mercédès, young Caracciola being first at 43 m.p.h., with Kimpel only a fraction of a second slower. Walb on another Mercédès was third.

By reason of his very fine driving Caracciola thoroughly deserved his win.

The next smaller class was again won by Delmar on the 4½ litre Steyr in spectacular style, while Bugattis won 3,000 c.c. and 1,500 c.c. classes; the 2,000 c.c. class was won by a local built Simson-Supra in good time.

The chief thrill of the day, however, was provided by the racing car classes in which Rosenberger and Merz, the Mercédès and Bugatti stars were matched against Momberger on his 120 m.p.h. car of the latter make.

Rosenberger drove the amazing 1914 Grand Prix winner and made fastest time of the day, beating Merz by 7 secs. at 44 m.p.h. A wonderful tribute to Mercédès design. Momberger was not at home on the corners and was beaten by the above pair and Hensser on a Steyr. The 2-litre class was also won by a Mercédès of more recent vintage, driven by Werner, while a Scap won the 1,500 c.c. class. Rosenberger's driving was magnificent and indeed the performance of the Mercédès and Bugatti cars and drivers throughout the meeting was extremely praiseworthy.

A NEW MODEL ROVER.

Undoubtedly one of the sensations of the Motor Show will be the new six-cylinder Rover car. Rumours that a Rover "six" was to be introduced have been heard for some months, which is not surprising since the new model Rover has been undergoing tests for over a year. Recently one of the "sixes" has been through a most searching trial in the English Lake District and has proved that it is in every way satisfactory.

The new car is to be known as the "Two litre six cylinder" Rover, its engine capacity being a little over 2000 c.c. There is nothing freakish nor, indeed unorthodox about it, straight forward practice being embodied throughout. The engine has, of course, overhead valves, and everything in the chassis is of remarkably neat and clean design. I understand that the price is to be very moderate and since the car will be in every way up to Rover's high-class standard of workmanship and finish it should be a most attractive proposition.

The 10/25 h.p. car, formerly known as the "Nippy Nine" will for 1928 be retained in the models in which it is at present made, as will the famous "Silken Sixteen," the prices in each case being unaltered.

WELDING.

Renewals in the shape of cylinders are fairly expensive matters, particularly when the car concerned is somewhat aged, but owners of cars may take heart of grace from the numerous and difficult repairs effected by Messrs. Barimar Ltd., 14-18, Lamb's Conduit Street, London, W.C.1. In the case of a four-cylinder engine which recently came under our notice, one valve setting was badly cracked and one very badly worn. The owner considered that an entirely new cylinder block was his only hope. That, of course, would have mulcted him in a fairly considerable sum, but Barimar Ltd., were able to restore it to him, guaranteed, as good as ever, at a cost of two or three pounds.

HERE AND THERE.

MOTORCYCLING NOTES.

THE INTERNATIONAL SIX DAYS.

The results of the International Six Days Trial which are now announced in full show overwhelming successes for British machines. It was, perhaps, only reasonable to expect that our own riders should do well, since they were playing on the " home ground " ; it is gratifying to note, however, that those foreigners who made the best performances were mounted on British machines. About twenty foreigners competed and I think I am right in saying that not one foreign machine came through without loss of marks, although two foreign riders of British machines did so. There could scarcely be a more conclusive proof of the superiority of British machines.

Britain won the International Trophy with Sweden as the runner-up, whilst the British Ladies' Team beat Denmark for the International Vase by two marks. This latter was indeed a remarkable performance and should do much to popularize motorcycling amongst women. Only one of the three ladies lost marks, this being Miss Cottle (Raleigh) who failed on the indescribable surface of Blea Tarn on the last day. Miss Cottle's riding ability is, however, of such a quality that it is safe to assume that her failure was due to bad luck and bad luck alone.

It was not a trial for two-strokes, which, having lower carburetters than four-strokes, were severely handicapped by the absurd water-splashes which had to be negotiated. The organisers naturally did not anticipate the depth to which these would have swollen but nevertheless one cannot help feeling that they were to blame for the large amount of trouble with water-logged engines which was experienced. Francis-Barnetts, Dunelts, Scotts and other two-strokes have shown that they can hold their own with any four-strokes in reliability trials and that they should be penalised in so important an event as the International, but the conditions of a " Super Sporting trial," is distinctly unfair. The Excelsiors, with their Villiers engines were, indeed, about the only two strokes which did not suffer badly in this respect, all three which started winning gold medals.

As regards individual performances, an outstanding one was that of the new four-stroke Levis, which made its debut in Six Days' Trials in the hands of A. R. Edwards, obtaining a Gold Medal without the loss of a single mark. Poor old " Pa " Applebee, however, on a two-stroke Levis, found the last day too much for him. However, to finish at all in two Six Days' Trials in one year—the Scottish and the International—is no mean performance for a man of 65.

The makes which got all their starters home with Gold Medals were Ariel, Douglas, Excelsior-Villers, Harley-Davidson, H.R.D., Humber, Raleigh and Triumph. Of these H.R.D. had one entry, Harley-Davidson two and the others three or more. Exceptionally fine performances were also made by the New Imperial, Enfield and Rudge teams. The weather conditions throughout were vile, rain falling practically all the time.

ECONOMICAL TOURING.

Some time ago Mrs. Grenfell, the well-known lady competition rider, rode a little Francis-Barnett motorcycle from London to Edinburgh, under A.C.U. observation, at a total running cost of just over 3s. only. This was undoubtedly a remarkable performance but some sceptical persons considered that it was largely due to expert driving and a specially prepared machine.

The touring costs of other riders of similar machines are therefore interesting and I can quote details of some which have recently been received by the Francis-Barnett people. One rider of a 172 c.c. model—a larger machine than that employed by Mrs. Grenfell—rode from Lancashire to South Devon and back, 277 miles each way, doing the return journey in one day, at nearly full throttle, and yet averaging 138 miles per gallon ! Another has completed a 1,300 mile tour in the mountains of Scotland at a total running cost of 19s. 4d. ; and finally two girls, each on a Francis-Barnett, have enjoyed a full week's tour in the South of England which, including hotel and meals, a long sea-trip and all garage and running expenses, cost them only £5 a-piece. These performances show, once again, that for an economical holiday there is nothing to beat a tour on a lightweight motorcycle.

O'DONOVAN GETTING BUSY.

Many motorcyclists were interested to hear that O'Donovan, the famous " speed-wizard " had joined the Raleigh Company and expected him immediately to start breaking records. Speed tuning takes time, however, and O'Donovan is not one to rush at things like a bull at a gate. But he has by no means been idle and when I called recently to see him in the Raleigh experimental department, I found him quite satisfied with the way things were going.

" Don " has not yet produced any startling designs—I do not even know if he intends to—but he has been engaged in hotting-up the standard O.H.V. Raleigh. This is really far more satisfactory than the production of a freak racing machine, for the benefit of his work is felt by the public, and the O.H.V. Raleigh has now proved felt by the public, and the O.H.V. Raleigh has now proved that it can do a solid 80 m.p.h. on a petrol-benzole mixture. It has been winning many hill-climbs recently and perhaps, next year, we shall see it in the bigger events. " Don " tells me, incidentally, that he has achieved 90 m.p.h. at Brooklands with a high-compression engine of the standard type—no mean speed for a 350 c.c. machine !

AN " ALL-WEATHER " LEVIS.

A new note in motorcycle design has been struck by Butterfields Ltd., who are now placing on the market an " All-Weather " Levis. The new machine is known as the " All-Weather " Model M de Luxe and whilst it retains all the good features of the well-known Model M., it is equipped so that a cap, coat and gloves are all that the rider requires in any weather.

HERE AND THERE—continued.

ECHOES OF THE SHELL TRIALS.

The official Certificate of Performance of the recent Shell Trial has now been issued by the Auto Cycle Union. It will be remembered that this was an endurance test of 12 standard motorcycles, over 2,000 miles on road and track being covered with Shell petrol and oil being used. The machines chosen were two A.J.S.'s, B.S.A.'s, Nortons and Royal Enfields and one Coventry Eagle, O.E.C., Raleigh and Zenith.

The certificate now published confirms that, despite the arduous nature of the trip and the high speeds which were attained, the machines all finished in excellent condition. The report states :—

"The only fuel and engine lubricating oil supplied for the twelve motorcycles under test was "Shell" petrol and "Shell" motor cycle oil respectively, purchased by A.C.U. officials from retailers to the public.

There were no failures to ascend any of the test hills without stopping with the exception of the Wrekin on which two drivers stopped owing to wheel spin, and Box Hill on which one driver stopped to ask the way.

Various adjustments to and replacements of parts of the machines were made during the test and officially noted, but in no case did the necessity for any of these appear to have been due to the quality of either the fuel or the lubricating oil.

When not being driven the motorcycles were in the custody of THE UNION and, at the conclusion of the Test, engine cylinders were removed under observation and an examination made of the deposit found on the cylinder heads and piston tops. In every case the deposit was not so much as to require removal for efficient running, was black in colour, oily and of such a consistency that it could be removed without difficulty with a scraper of hard wood."

In an appendix the thicknesses of the carbon deposit found on the cylinder heads and piston tops at the conclusion of the trial are given. In no case did the thickness exceed 5/100 in., the average being 2/100 to 3/100 only.

This report is exceedingly satisfactory and it is one of which the Shell Mex company may well be proud, in that it proves beyond dispute that Shell oil and petrol give extremely satisfactory results with any class of motorcycle engine. Incidentally the Raleigh machine which was used later successfully completed 250 ascents of the Brooklands test hill without stopping its engine. One of the A.J.S.'s, also, still using Shell oil and spirit was taken out on the track where it was officially timed to do 500 miles at an average of 54.07 m.p.h. At the end of this run it did four laps "all-out," the speed being 68.69 m.p.h.

BRITISH MACHINES FOR "SPEED COPS."

We have all seen pictures of motor-cycling "Speed Cops" in America and elsewhere tearing after some unfortunate fugitive. In almost every case these "Cops" have been mounted on American machines and it is therefore refreshing to learn that Great Britain is entering this class of market, for the Police Authorities at Wellington, New Zealand have placed an order for an S.S. 100 Brough-Superior and sports side-car. This is undoubtedly the hottest thing on wheels, so New Zealand criminals will in the future be brought most speedily to justice!

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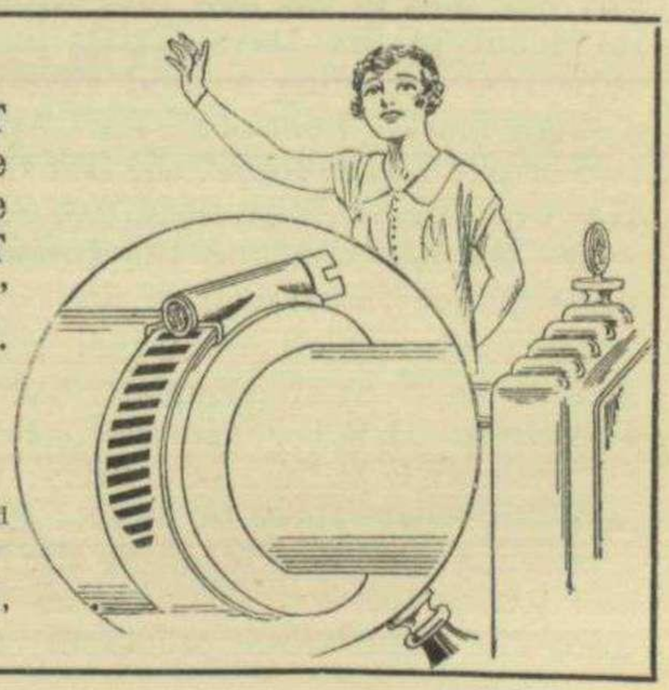
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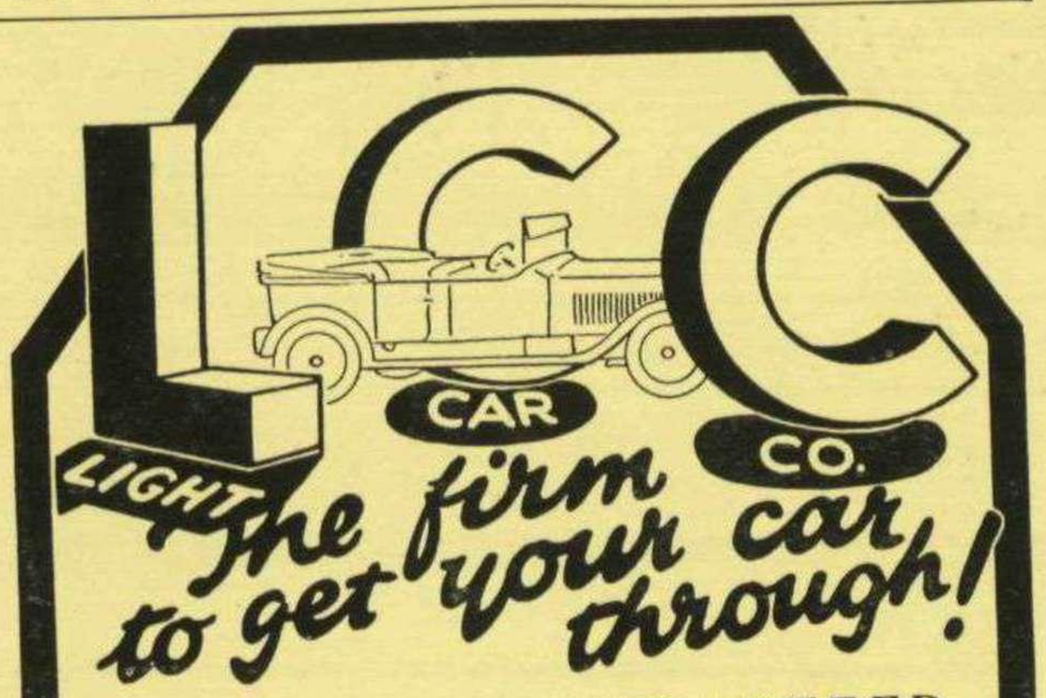
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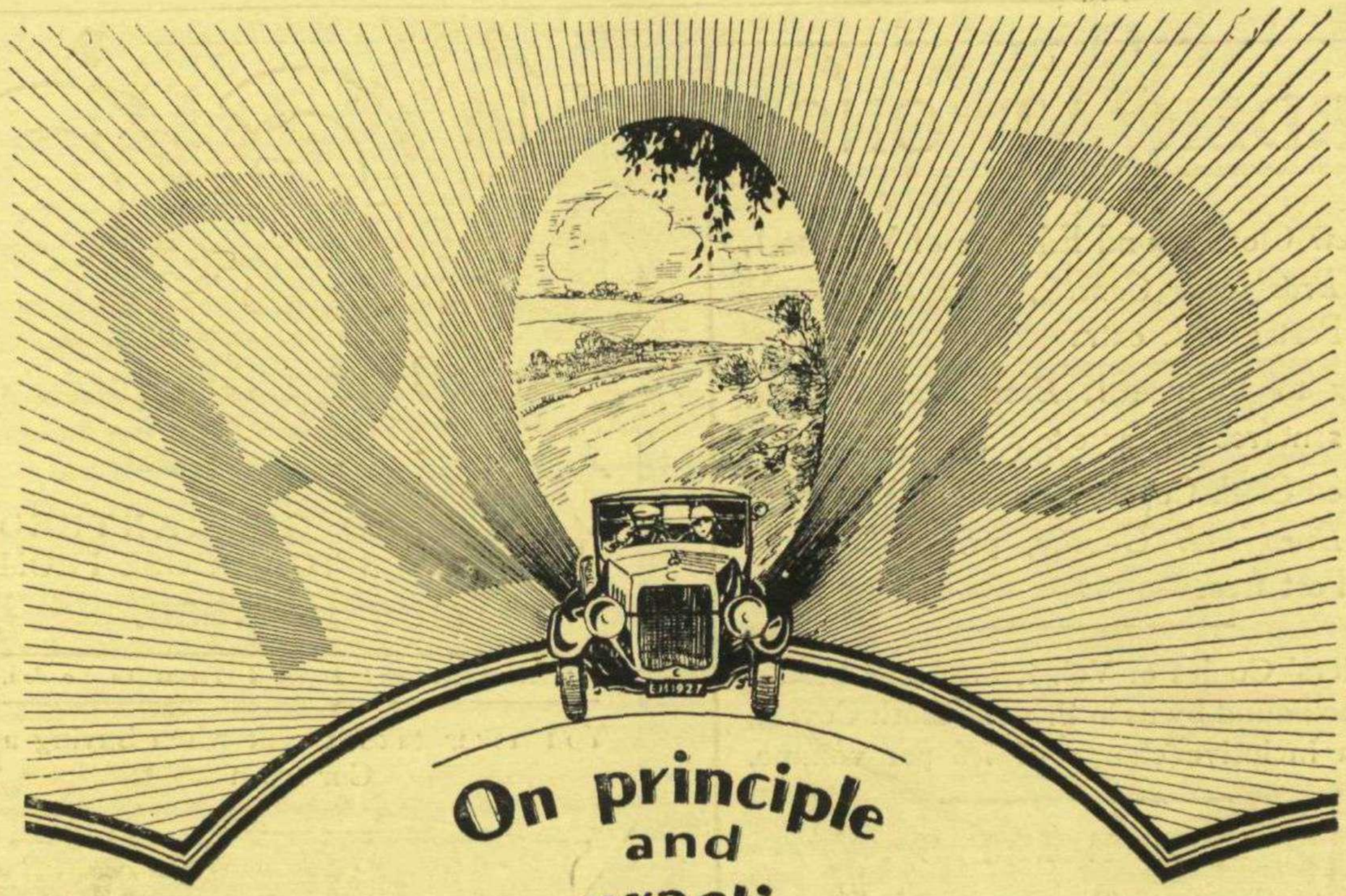
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