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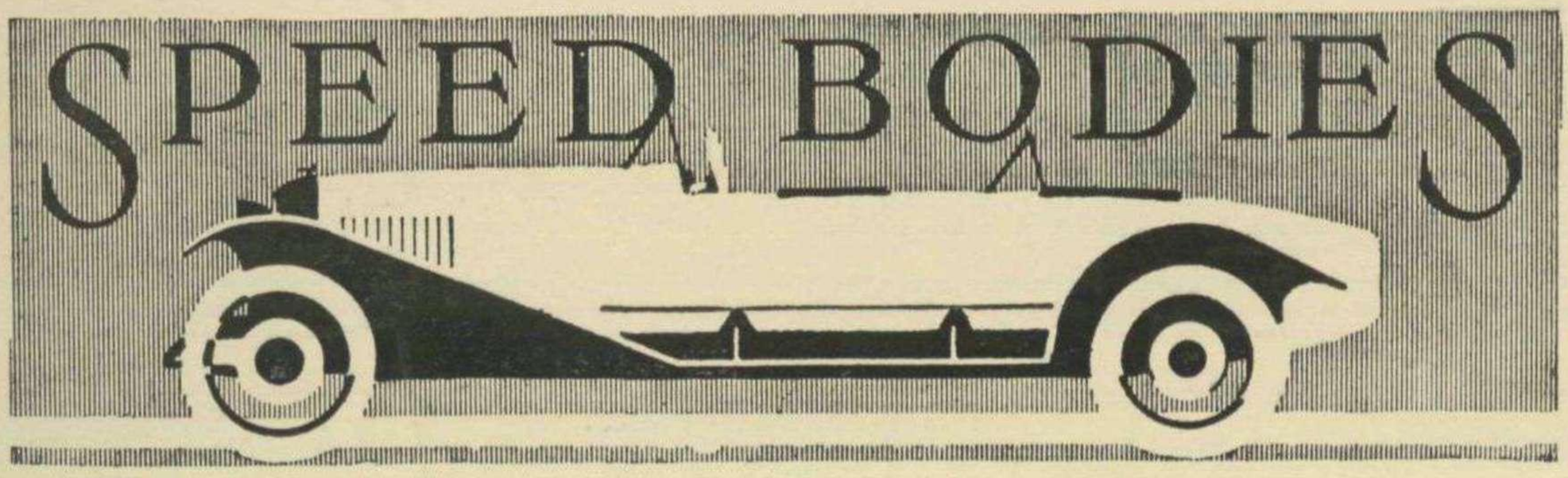
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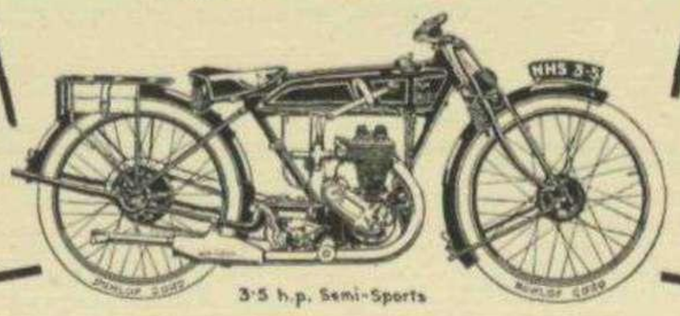
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NOVEMBER, 1925.

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CONTENTS.

	PAGE
Editorial	151
Regaining the 24 hours' World's Record. By Capt. J. F. Duff	152–154
The Gentle Art of Hill Climbing	155–158
Motoring Sportsmen: Mr. Woolf Barnato. By The Editor	159–161
Sporting Cars on Road and Track. The 20/70 h.p. Crossley	162, 163, 166
Recent Events in the Motor Racing World	164–165
The M.C.C. One-Day Sporting Trial	167–168
The B.M.C.R.C. Championship Meeting	170–171
Good Racing at the Essex M.C. Meeting	171
Sporting Machines on Test. The Henderson. By Arnold Radclyffe	172–174
Round the Clubs	177–180

EDITORIAL NOTES.

About this time last year we were often asked what would happen to our journal during the closed period at Brooklands, but it is now becoming recognised that MOTOR SPORT has a far wider appeal than that which centres around the track. Whilst the racing man retires to his workshop to build new models or reconstruct old favourites, the competition enthusiast keeps his flag flying right through the winter months.

Who can say to what extent the winter competition driver has not been responsible for the perfecting of the all-weather touring body as we know it to-day? Well, here's to winter motoring! And may we all profit from our experiences in coming contests with the elements.

* * * *

Even if it should happen that new figures are set up for the Twenty-four Hours' World's Record, we are glad to offer our readers some very interesting information from the pen of Capt. J. F. Duff concerning the splendid performance on his Bentley. Mr. Woolf Barnato, who assisted in this achievement, forms the subject of the Motoring Sportsmen interview in this issue.

* * * *

"The 100 per cent. Sporting Journal" is a slogan, descriptive of MOTOR SPORT, which has been suggested by a reader in India. At all events, it expresses the feeling, held by the majority of our readers, that our pages should be actually devoted to purely sporting matters. Look through this issue and tell us what you think!



Regaining the Twenty-four Hours World's Record for Great Britain.

By CAPTAIN JOHN F. DUFF.

LONG distance endurance trials and record breaking runs have occupied my attention since I disposed of my two racing Fiats in 1922. These cars were extremely fast, but not suitable for long distance work.

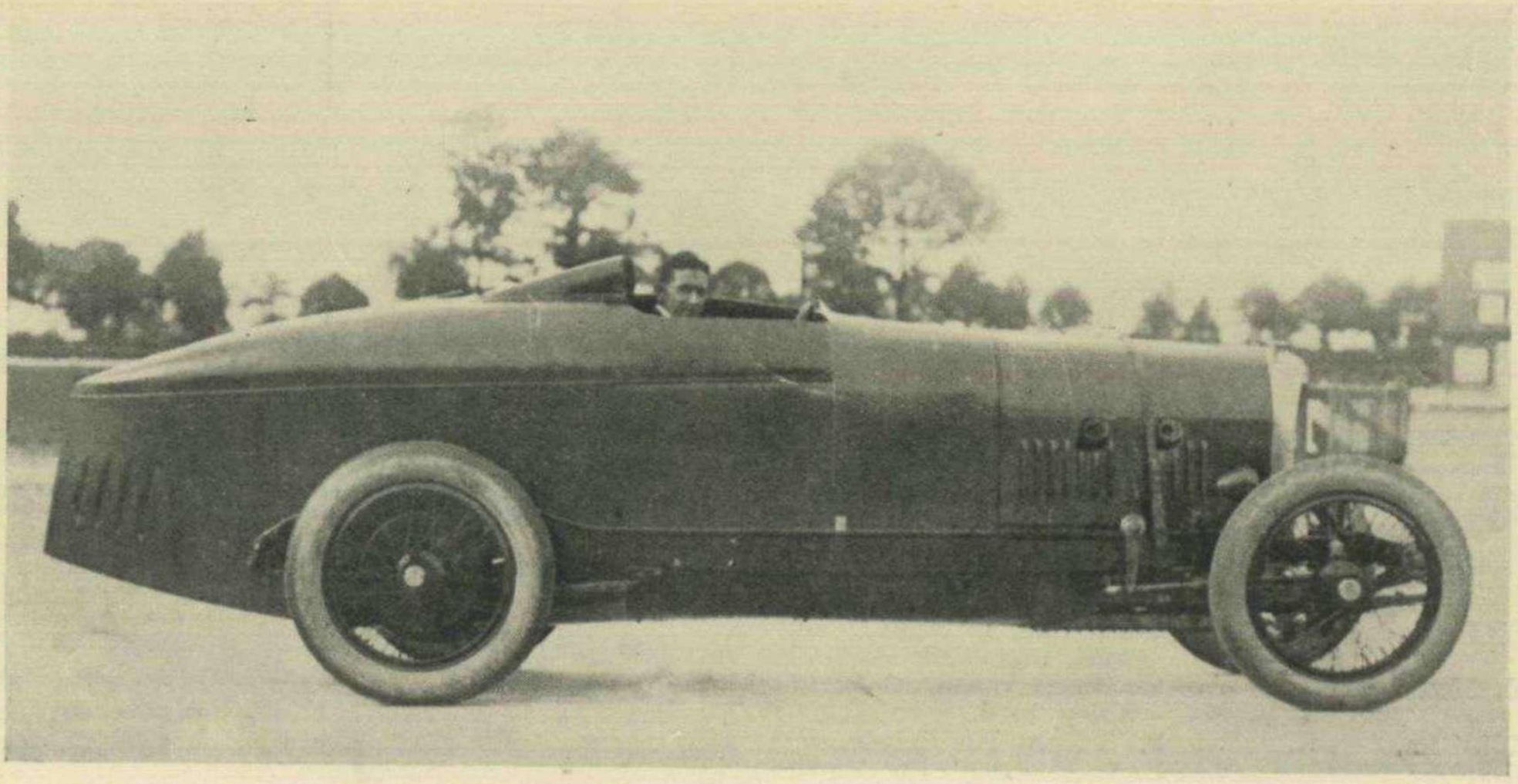
It was the result of a conversation with Mr. Hillstead, of Bentley Motors, Ltd., during the course of which he enthused about the staying powers of the Bentley car, that I conceived the idea of going for the " double-twelve " record, at that time the accepted " Supreme Test " of endurance. This first departure into a new form of Motor Racing work appealed to me, and I decided that it was more interesting, as well as more useful, to work with standard (or near standard) cars, and carry out performances which tested every part to the uttermost. I found also that one can obtain more useful and practical knowledge concerning the ordinary touring car in these events than when handling specially built racers, which bear little resemblance to the utility car. During the last couple of years I have competed in several 24 hours road races with varying success.

The high average speed established by the Renault at Montlhery, for 24 hours, drew my attention to this track as a likely place to improve on the figures I had established in the " double-twelve " world's record in 1922. Remembering at the same time, Le Mans, where I had made a very poor show, owing to a most trivial error of calculation, and feeling that I would not like the 1925 season to close without having one more try at accomplishing something worth while, I decided to go for the World's 24 hours record on the Montlhery track.

A Question of Mathematics.

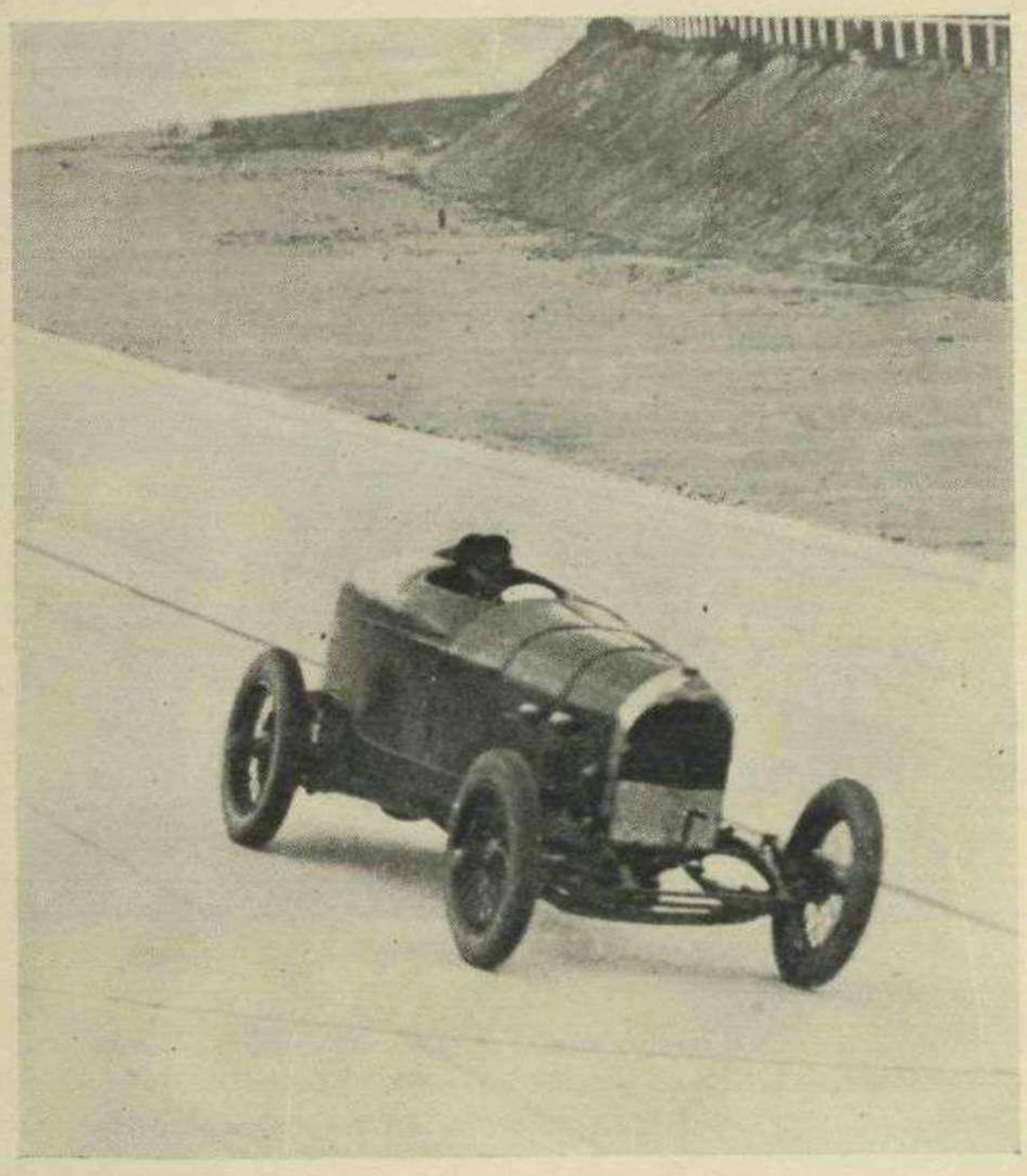
Assuming a degree of reliability permitting a car to be run at its maximum speed for twenty-four hours on end, record breaking becomes a matter of mathematical calculation, in which engine revs., gear ratios, lap measurements, wind resistance and numerous other factors play an important part. One result of my calculations was to convince me that a 3 to 1 rear axle ratio would be needed in place of the ordinary 3.7 to 1 fitted as standard.

As a matter of fact, I had calculated that with my 1926 Speed Model Bentley it would be possible to improve the Renault figures and my intention of doing the twenty-four hours run at an average speed of 95 m.p.h. was announced before the start. The actual speed worked out at 95.02, which proves that the calculations were not far out.



CAPT. DUFF'S BENTLEY WHICH WON THE 24-HOURS RECORD.

REGAINING THE TWENTY-FOUR HOURS RECORD—*continued.*



ON THE BANKING AT MONTLHÉRY.

Details of the Car.

Of the actual performances on the track there is little to excite the interest of my readers, but I will endeavour to recount such as occur to me in looking back over the event. The car used was my own Bentley, the only alterations being the fitting of two Solex carburettors and Splitdorf magnetos. Weymanns, in Paris, built me a rather special fabric covered body, the whole job, including the preparation of the working drawings, being completed in fourteen days. That is rather a remarkable achievement in body building. In addition to being very light, the body answered just as well as any in which the best metal work construction is used and, I think, explodes any idea that graceful curves are impossible with Weymann construction.

Pit Organisation and Drill.

If calculations play an important part in record breaking attempts so does organisation, for unless these details are studied closely the best car in the world would not be likely to succeed in gaining any long distance laurels on the track. Therefore, I took the trouble to prepare special gear for the petrol and oil filling, supervising every detail of its erection. The pits were also arranged to cope with any unforeseen adjustment that might be needed during the run; but the trip of September 21st was absolutely uneventful, perhaps disappointingly so from the description point of view, but happily so as far as its objective was concerned.

If a slow motion film had been taken of my pit attendants at work in replenishing the car during the stops when Barnato and I changed over, it would have been rather interesting. For several days prior to the attempt I rehearsed all the process of replenishing the car " by numbers," to use a military expression. Each man not only had his particular part of the process to perform, but his every movement was made according to plan. It was rather fun drilling the French mechanics in this way, but they became quite enthusiastic in their efforts to beat the stop watch, with the result that on the record run our longest stop was 1 min. 40 secs., and most of them about 1 min. 10 secs.

Baulked on the First Attempt.

The entire organisation was completed in time to start at 7 p.m. on the 9th September, when together with Dr. J. D. Benjafield, the well-known amateur Bentley driver, I started on the first attempt. Talking of three hours each, the Doctor and I took world's records for 1,000 kilos. in 6 hrs. 23 mins. 31 secs., and the 1,000 miles in 10 hrs. 15 mins. 27 secs. After running with the greatest regularity for 18 hours the engine gave a curious exhaust note for about ten minutes and finally a dismal splutter and stopped. We immediately tore off the valve gear cover, and passing on to the forward engine gears, found that a tooth had broken from the bevel drive at the lower end of the vertical shaft driving the cam shaft. Owing to the inaccessibility of the broken gear the attempt had to be abandoned. Prior to this mishap two turns of three hours each were covered at the remarkable speed of 100.01 m.p.h.

After dismantling the engine and fitting a replacement the car was ready for another try, but Dr. Benjafield was unable to get away from his professional duties, and so Capt. Woolf Barnato was asked to deputise, and gladly consented.

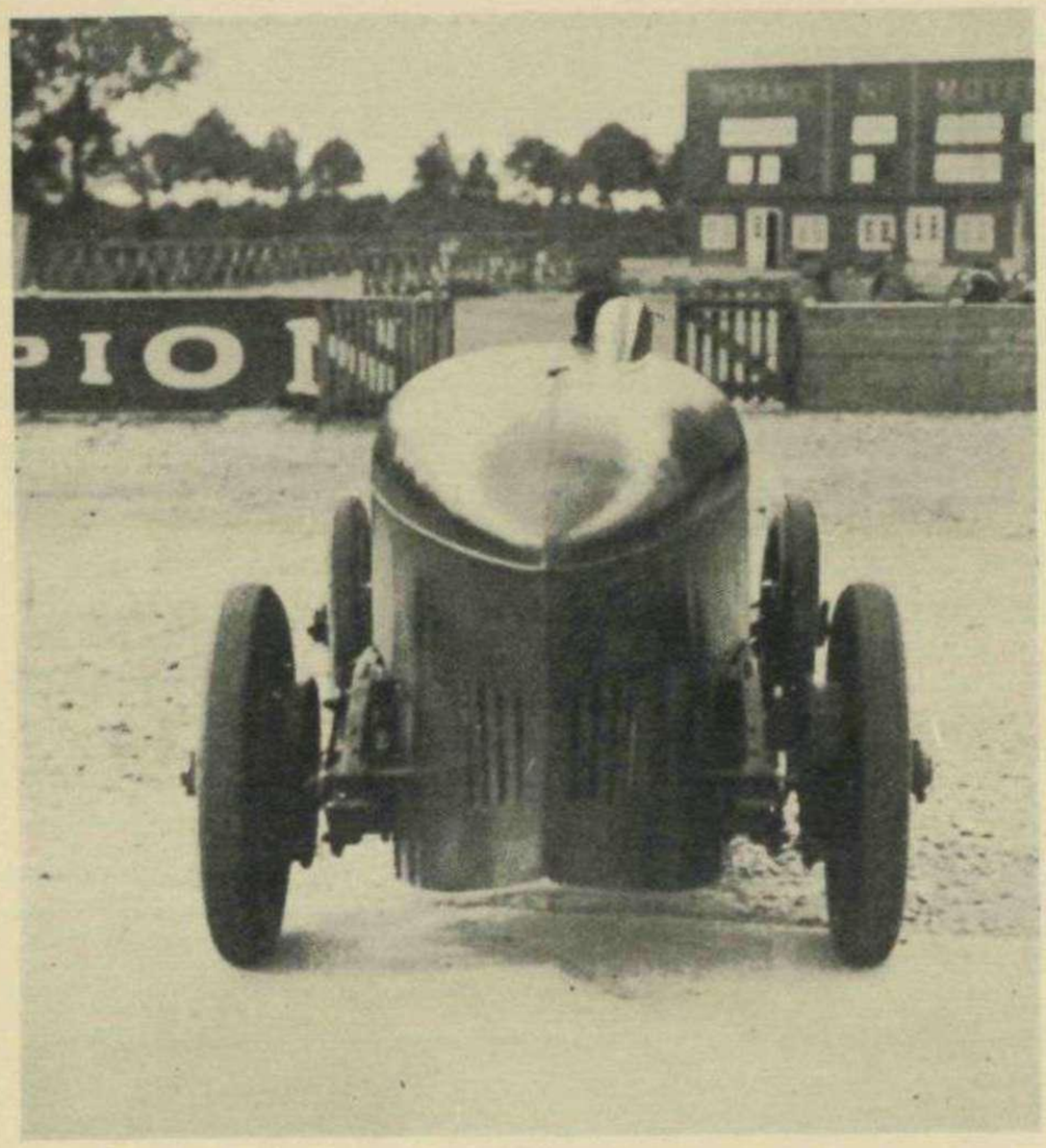
Perseverance Rewarded.

At 6.32 p.m. on the 21st September, we set off again. At the end of six hours a thick mist arose, which gradually became denser until it was impossible to see more than 200 yards ahead. Nevertheless, the average speed was not permitted to drop below that agreed upon at the commencement, although we were only dependent upon the faint lights on the edge of the track for guidance. When daylight came the track was damp and a wind blew across the track, which did not help matters.

The car continued to run smoothly and during the course of the run captured no fewer than twenty-two world's records. To maintain our average the speed sometimes reached 98 m.p.h. for long intervals. By driving within the maximum speed we had a reserve, should any stops for adjustments have become necessary, but as it happened there was no need to lift the bonnet, a certificate to this effect being given by the Automobile Club de France, whose officials did the timing throughout.

The engine never missed once and the exhaust droned without the least variation of tone until at 6.32 p.m. on Tuesday, September 22nd, when the car was stopped, having covered 2,280 miles in 24 hours at an average speed of 95.026 m.p.h. in twenty-four hours, a World's record for any size of engine.

REGAINING THE TWENTY-FOUR HOURS RECORD—continued.



A FINE EXAMPLE OF STREAMLINING ON CAPT. DUFF'S BENTLEY.

Interested Spectators.

Among the spectators who witnessed the attempt were the holders, Messrs. Garfield and Plessier, the Renault drivers, and some members of the Voisin team. The latter made an unsuccessful attempt a few days later to reduce the Bentley figures. These gentlemen followed the proceedings in a very sporting spirit and were enthusiastic in their congratulations for Capt. Barnato and myself.

Impressions of the Run.

The outstanding feature of the trip was the extreme monotony of driving and the entire absence of incident. The track is much faster and easier than the Brooklands course, higher speeds being possible owing to the absence of gradient such as that from Vickers' sheds up to the Members' bridge. No trouble whatever was experienced with the Dunlop Tyres which ran for the whole distance with only a single change and the K.L.G. plugs certainly deserve several medals, not a single miss being noticed throughout the run.

It is safe to assume that further attempts will be made on this coveted trophy, and in my opinion this record will not be long lived till it has reached the 100 m.p.h. average.

The excellence of the track at Montlhery, and the increasing reliability of the modern car combine to make it necessary for us to reconsider our ideas of speed for long distances.

The figures established by Capt. Barnato and myself were well within our limit, a good reserve being constantly in hand. I was content to put 7 m.p.h. on the existing record to be fairly certain of having no trouble. It is my belief that had we aimed at higher speed, say 98 or even 100 m.p.h. average, the chances of the car standing up would have been quite good, though I did not consider it wise to force matters unnecessarily, one must always have a bit in hand with which to retaliate when some sporting competitor betters one's existing figures!

THE 14/45 ROVER ON BWLCH-Y-GROES.

An interesting trial of the 14-45 h.p. Rover Saloon has been made under the observation of the Royal Automobile Club and consisted of 50 consecutive ascents of Bwlch-y-Groes. The test occupied 12 hours of practically continuous running, and during that time a total distance in excess of 150 miles was covered. Needless to say, top gear was hardly ever used, third, second and bottom being in action almost exclusively. It is interesting to note that at the conclusion of the trial less than half a pint of water was needed to restore the contents of the radiator to their original level. The car carried a driver and an R.A.C. observer throughout and the total weight exceeded 31 cwt. Bwlch-y-Groes is the amous test hill on the road between Dinas Mawddwy and Bala, North Wales, and the length of the hill is roughly 1.6 miles.

ORGANISED CAR PARKS.

During the past season the demand for the services of R.A.C. Guides to organize car parks at race meetings, agricultural shows, etc., was so great that a "Flying Squad" was formed specially to meet it. All these men were selected for their experience in this work and the "Squad" has proved of inestimable value to motorists attending such events.

WINTER DRIVING.

The number of drivers who use their cars and motor-cycles during the winter is growing greater every year. The R.A.C. is meeting this by maintaining a bigger winter service of Guides on the road than ever before.

HOTELS FOR MOTOR CYCLISTS.

Many motor-cyclists are unable to afford the somewhat expensive tariff charged by the larger hotels, and in order to meet this difficulty the R.A.C. is considering the possibility of arranging for the appointment of hotels willing to cater specially for motor-cyclists.

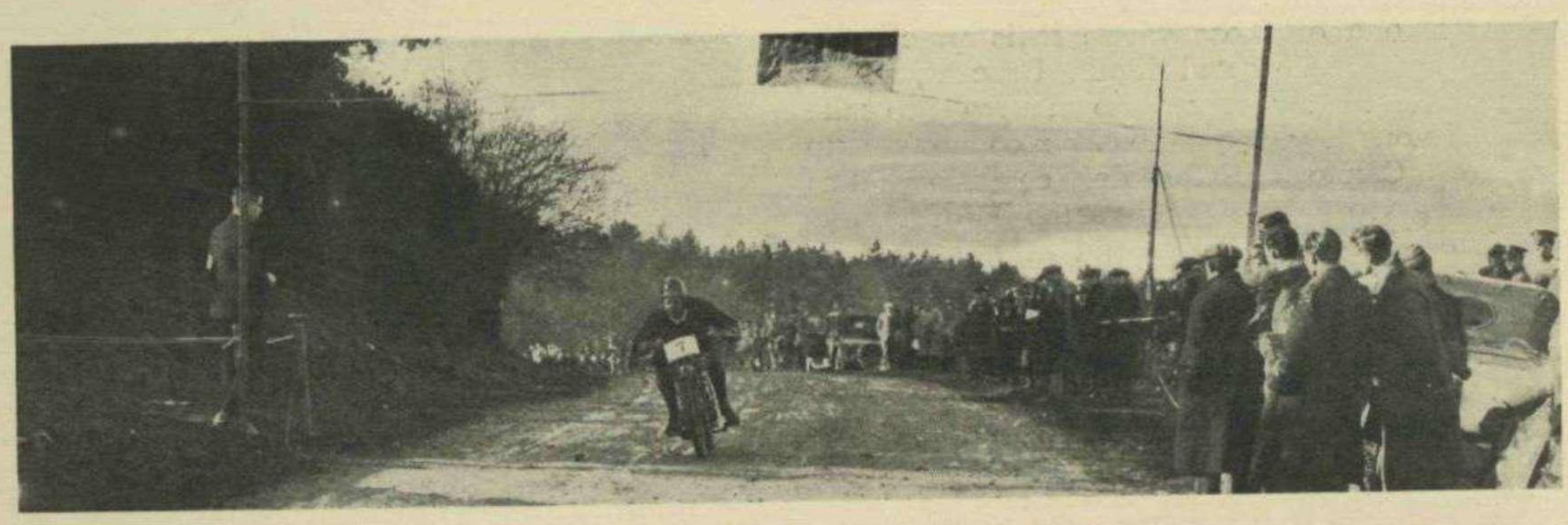
NEW RECORDS BY MR. BARCLAY.

Driving a 2,996 c.c. Vauxhall Car at Brooklands, Mr. J. B. Barclay lowered World's records in international Class D for the following distances:—Kilometre (standing start), 69.75 m.p.h.; 1 mile (standing), 78.69 m.p.h.; kilometre (flying), 111.85 m.p.h.; 1 mile (flying), 110.77 m.p.h.; 5 kilometres (flying), 110.62 m.p.h.; 5 miles (flying), 110.58 m.p.h.; 10 kilometres (standing), 110.56 m.p.h.; 10 miles (standing), 110.50 m.p.h.

THE GENTLE ART OF HILL CLIMBING.

Useful Hints for Amateur Competition Riders.

By A. A. R.



Splitting Seconds on a Fast Hill Climb.

NO sooner does the average motor-cyclist become possessed of a mount with a fairly good performance, than his attention turns in the direction of mastering some hill of a more or less unclimbable nature, and as feats of this character have had some influence on the design and construction of modern motor-cycles, it may be interesting to look into the subject from the viewpoint of the amateur rider, who specialises in this particular phase of the sport.

The three outstanding methods of testing motor-cycles are :—1. Speed Events ; 2. Reliability Trials ; and 3. Hill Climbs, which are usually included in reliability trials as the crucial tests. To a very large extent, speed trials depend more upon the machine than they do on the rider, for whilst smart gear changing, a knowledge of one's machine and of the track surface are very important in splitting seconds over the flying mile, the success of any attack on Father Time rests almost entirely with the tuner. Hill climbs, on the other hand, have quite a different aspect, for the human element comes far more prominently into play, which to my way of thinking adds a special charm to the conquest of hills. In the following remarks, I propose to deal with what may be termed " Slow Hill Climbs," that is to say, slow in comparison with the speed of the events we used to enjoy at Kop and other places, before the R.A.C. ban put an end to these brilliant spectacles.

Sprint Climbs.

Whilst such climbs as Kop were in vogue, speedmen recognised the enormous amount of trouble that had to be taken to ensure anything noteworthy in the way of performance. For instance, the engine of a competing machine had to be super-tuned, steering dampers and clutches needed the attention of an artist if the best results were to be got from the machine during the thirty or forty seconds duration of the test.

The possibility of wheel wobble at speed and the negotiation of known bumps on the surface led to a close study of tyre pressures and modified riding position; and, on the part of the rider, supreme judgement had to be combined with great skill and faultless gear changing.

In attempting to set up records on such a hill, the thirtieth of a second may mean failure, therefore everything is sacrificed to the moment. Reliability, wear and tear, the chances of subsequent damage are points which do not interest the competitor to any great extent, and it is significant that the engines for such tests are only allowed a smell of oil, in fact, only just enough to last for the few seconds in which the actual climb is made.

This, then, is one phase of hill climbing, but is less interesting than that which comes more within the sphere of the average rider ; who, whilst casting affectionate eyes on such inclines as Alms, realises that his chances of winning a Gold in Reliability Trials would be very remote, if he concentrated his attention entirely upon splitting seconds up such hills without paying due tribute to ordinary riding conditions.

Suiting the Method to the Hill.

One of the most fascinating things about hill climbing by motor-cycle is that nearly every well-known gradient has its own characteristics, so that the successful rider is forced to modify his plan of action for almost every ascent. Some hills we know can be surmounted with a rush, where velocity alone is relied upon ; in other cases it is essential for the rider to pick his way amid obstructions with the greatest caution ; and so on, one might give many different examples of how well-known hills should be tackled.

In spite of modern machinery, failures are still to be found in massed attempts to climb any hill with a reputation. But, let me say, it is not always the machine that fails, for mesmerised by the rumours he may have heard, bewildered by the spectators who have assembled to see spills, rather than climbs, the beginner is often beaten before the first few yards are covered.

In the face of exaggerated reports, riders will sometimes drop into an unnecessarily low gear, and thereupon set up wheel-spin, which defeats more riders than anything else. Time after time, we have seen climbs spoilt when the rider has had every chance of success, simply because he has persisted in trying to make a fast

THE GENTLE ART OF HILL CLIMBING—continued.

climb on first gear, when he could have done so much better with less throttle, or even by going up on second.

How to Climb Alms Hill.

Alms Hill is one of those where it is practically impossible to make a slow and dignified ascent, and is an incline up which I have never known anyone to take a machine, without having previously reconnoitred up to the famous Cannons. In a dry condition Alms presents nothing more than a very steep gradient, but as readers know it is seldom dry and that the surface suffers proportionately with the degree of wetness. Some hills may be said to improve as the result of rain, others seem to be unaffected by a downpour, but in the case of Alms, a shower is sufficient to add to the perplexities of its assailants, who struggle with the slimy chalk, which seems to churn up terribly as the result of a downpour.

Most of the successful ascents of Alms have been made by riders who have made a point of keeping their eyes fixed well ahead of their machines and maintained a resolutely straight course. On a normal machine, the second gear should be used and the engine opened out full right from the very start. Any attempt to pick a course, especially near the top, invariably results in a quick dive for the bank, if not a complete somersault.

On a dry day, the ascent of Alms is nothing to write home about, for with a good engine, the climb should be made easily on second gear and possibly on third, if one takes the precaution of keeping on the right hand side, where it is dry and smooth, the only ruts on the way up being those at the Cannons, which are easy to avoid.

Facts About Fingle.

Fingle Bridge was a new discovery made in selecting the course for the recent A.C.U. Six Days' Trial and for the riders a hitherto unknown climb, concerning which Dame Rumour had been very busy. Whilst in the district recently I was discussing the hill with a local motor-cyclist, who informed me that it was not the habit of riders to attempt the climb. In fact, he did not know anyone who had done so for a long time. Opinions about this particlar climb were collected from the various competitors in the Six Days' Trial, some of the old hands pronouncing it as quite easy, others said it was a good hill, whilst a large number admitted it took all their time to get to the top at all. It is certainly a low gear climb, and without doubt puts the Porlock, Lynton and Beggars Roost bunch quite in the background. All the latter are quite easy in dry weather, as it is possible to ride a small power machine up any of these ascents with something in hand, even over the roughest portions. Fingle, however, has a surface bestrewn with Devon rocks and has a constant succession of bends. The ascent calls for very good steering as one's front wheel is being continually wrenched from side to side by the boulders. During the recent trials, Fingle Bridge found out weak steering on two or three well-known makes of machine which would not corner well on rough ground, and had so pronounced a tendency to lie down against the bank, that the most skilled riders had difficulty in getting up the hill.



THE FEW SECONDS IN WHICH THE CLIMB IS MADE.

For and Against "Footing."

A fair amount of controversy rages round the question as to whether "footing" on rough surfaces is beneficial or otherwise; but most riders of experience are agreed as to the tendency towards wheel-spin when the machine is being helped with the feet. When one has to be assisted up a hill by "helpers" it is certain that both feet should remain on the footrests, as in this case, the weight is needed on the saddle to keep the rear wheel in contact with the ground.

In general, the best riders will go through a stiff trial without taking their feet from the rests; but I am inclined to think that it is occasionally advantageous to lift one or both feet in certain circumstances.

I recollect climbing a long hill in the Isle of Man this year, the surface being marred by one rut about 6 in. wide and 6 in. deep. During the ascent I was obliged to keep my feet off for the simple reason that the footboards (of the folding type) were being continually bent up against the crankcase. On an English machine with low footrests it would have been impossible to have climbed this particular hill at all, but though my feet were off, I never felt that the stability of the machine suffered in any way. I am inclined to think that the ideal form of footrest would be in the form of a stirrup, so that the weight could be transferred from side to side, according to the nature of the ground and the angle of the corner, but this would depend a good deal upon the design of the machine. For example, when riding the long-barred American machine, one pulls on the bars for ordinary work, but to maintain a satisfactory

THE GENTLE ART OF HILL CLIMBING—continued.

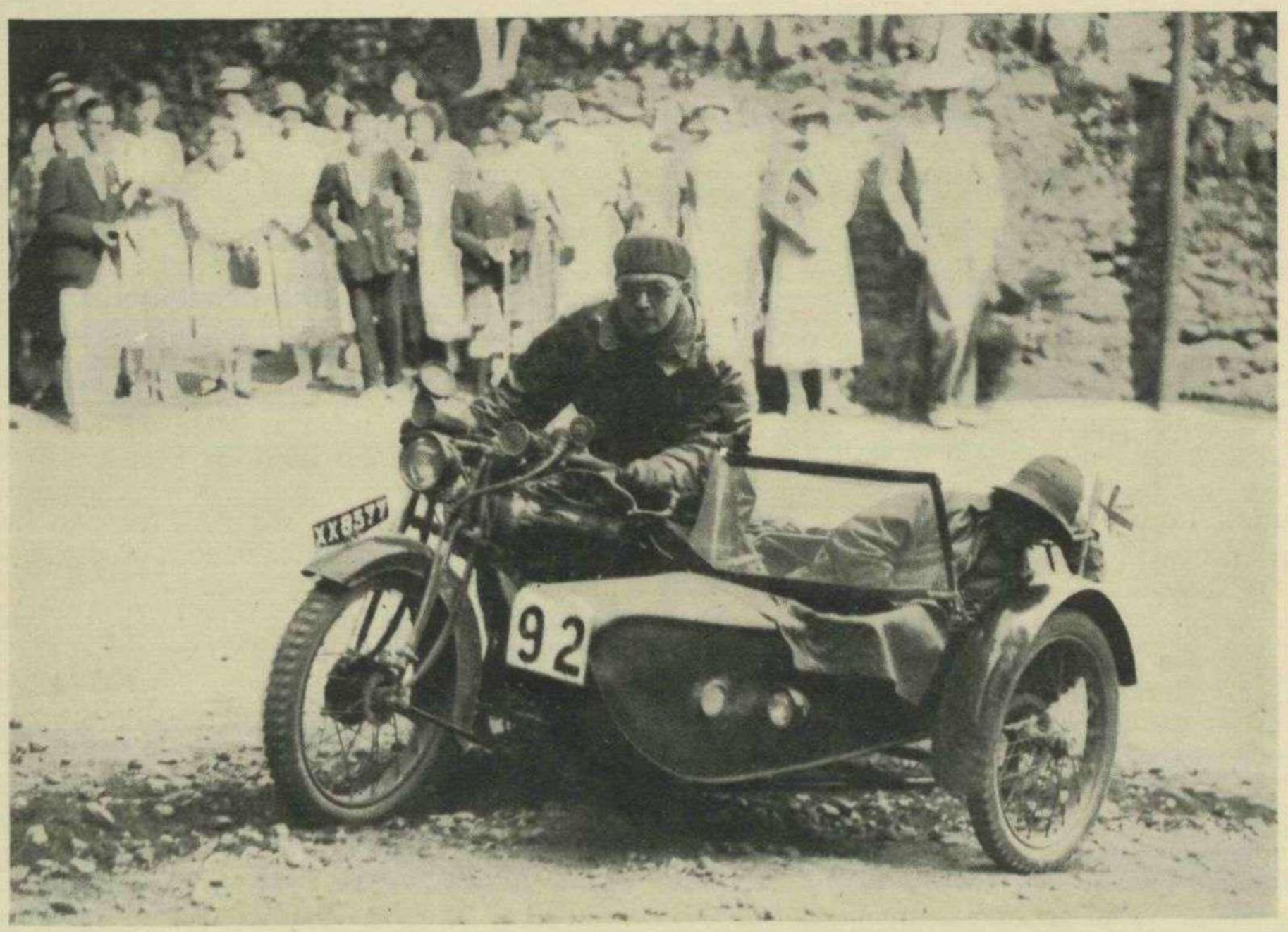
control, both feet must be kept on the rests, and the removal of one foot usually upsets one's calculations altogether.

On English machines with sports bars, the action is quite different, for the removal of the feet from the rests throws the weight of the head and shoulders on to the bars, thus relieving the weight from the back wheel, and the practice is only to be commended on occasions when the front wheel appears to want holding down. Some riders are gifted with a natural sense of balance, especially those who have ridden horses from infancy, and to such the lifting of the feet is immaterial, as they know by a sort of instinct when the feet should be lifted and the effect it has upon the control of the machine even though they may be at a loss to explain the " Why and Wherefore " of the matter.

I think the average Englishman, however, is a great stickler for style whether he be mounted on horseback or on a motor-cycle, and the quiet unobtrusive rider of a silent machine is most impressive at a hill climb and demonstrates a style which ought to be cultivated as it tends to show the public what easily controlled machines motor-cycles really are.

Tyres and Chains for Hill Climbs.

The design of the tyre tread certainly has a tremendous influence upon success in a hill climb, and whilst most treads with good wide spacings are effective for this work, preference should be given to square treads of the three stud type or to the bar design. For combination work, the sidecar wheel should be provided with a chain, or if expense is to be considered, rope may be used with



A Competitor in the A.C.U. Six Days, on the Last Bend of Porlock Hill.

Lessons from Horsemanship.

The impression that a rider who swings his legs about when climbing is unstable, is in the main correct; but some riders manage to ride " feet off " without affecting their performance and without appearing too untidy. This is a thing that one also notices in connection with horse riding, for whilst the majority of good horsemen will sit tight, without varying the angle of their legs, except when jumping; others ride very loosely. I have distinct recollections of riders of the latter class, who were very good across country, and never came off. Of course, the Colonial rider never grips his animal, but the use of " bucket seats " accounts for a great deal in his case.

equal effect. As a matter of interest, I once had the opportunity of testing the durability of a rope as an alternative to chain. On a One Ton Ford, with solid rear tyres, a length of one inch diameter No. 3 Manilla rope would last from three to five miles over soft clay and was actually more effective than a small diameter chain. In the case of a rider entering one trial per year the rope has great advantages, as chains generally hang about one's shed or garage and fail to put in an appearance when they are wanted for the next trial.

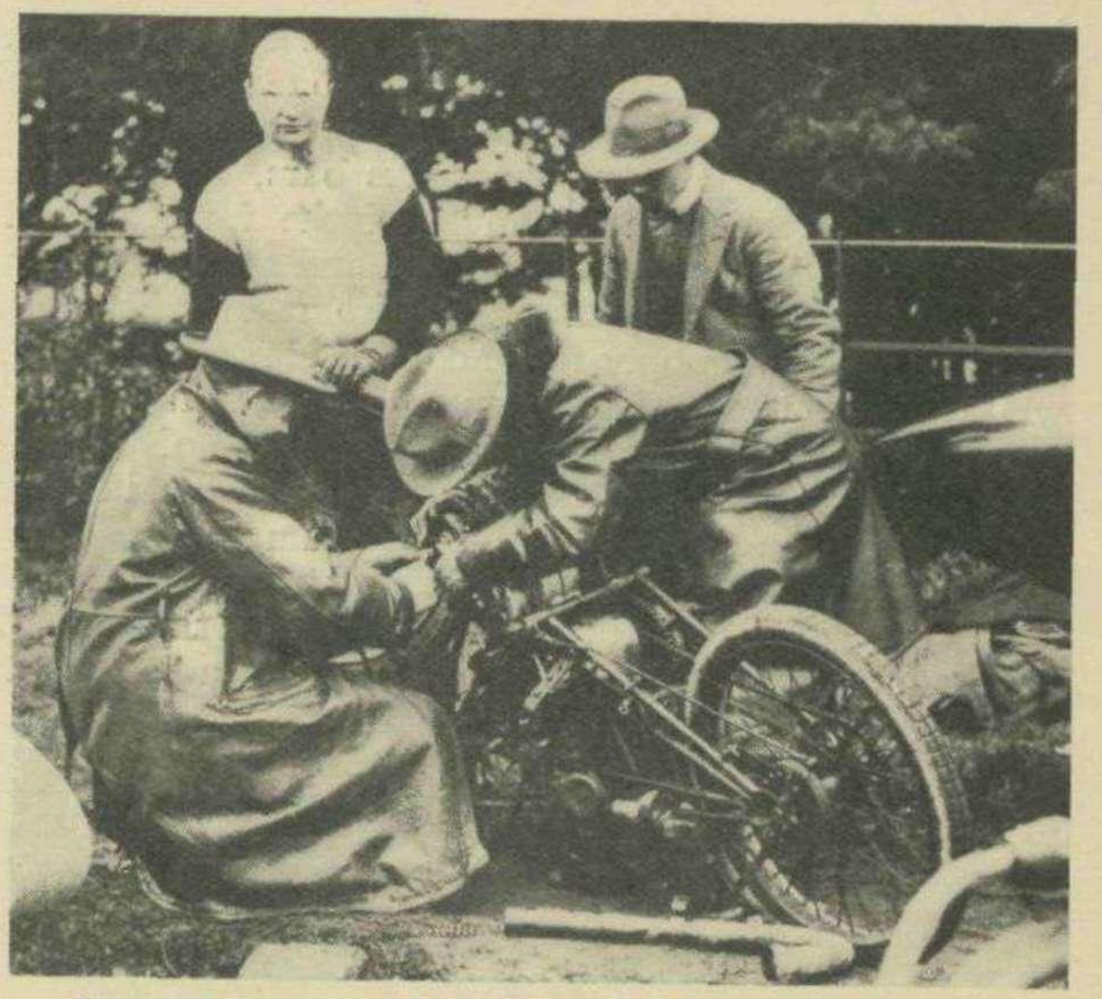
Proficiency in Bumping.

From the exploits of some of the riders in the last Six Days' Trial, it would appear that they had spent a considerable amount of time in practising " bumping."

THE GENTLE ART OF HILL CLIMBING—continued.



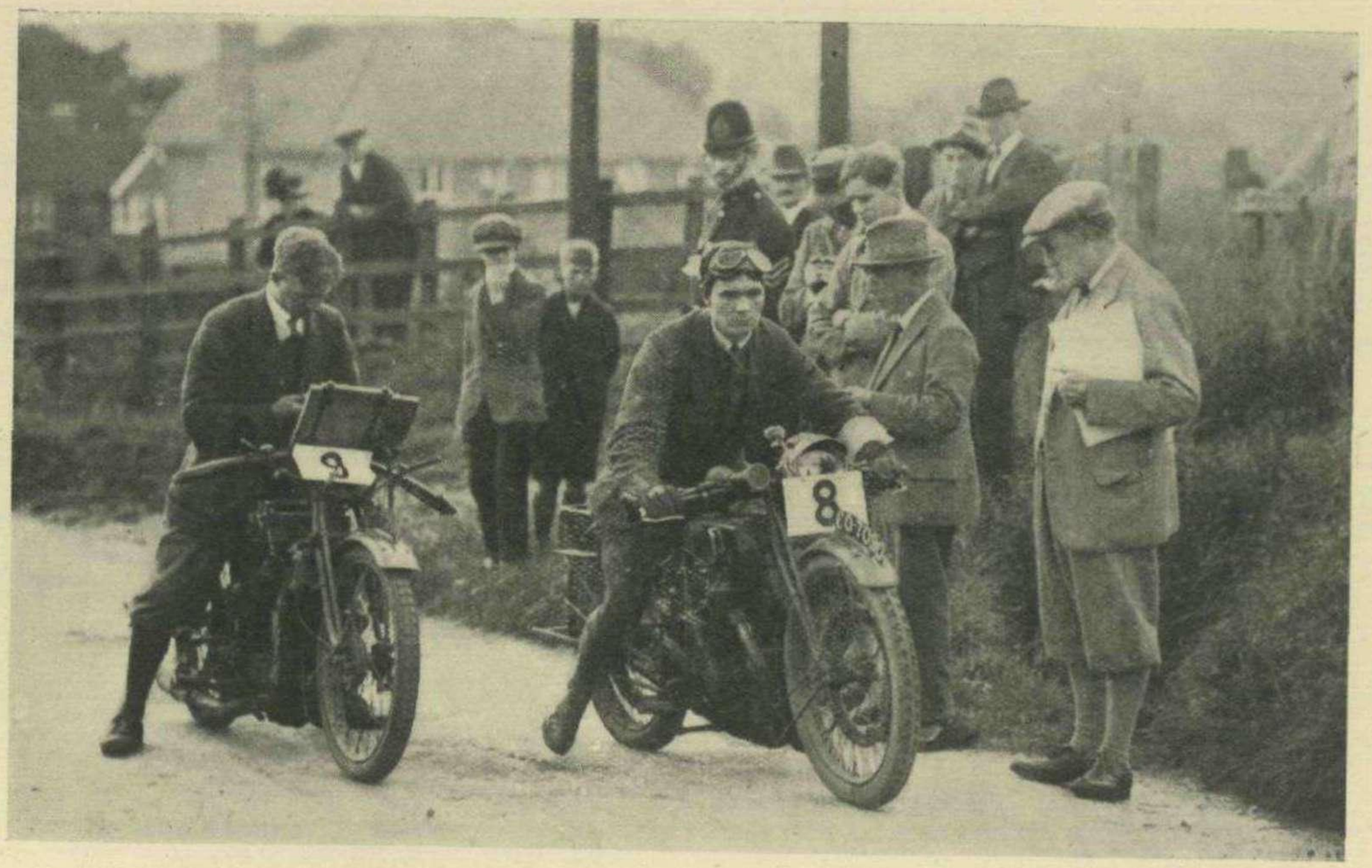
"FOOTING" IS SOMETIMES ADVANTAGEOUS.



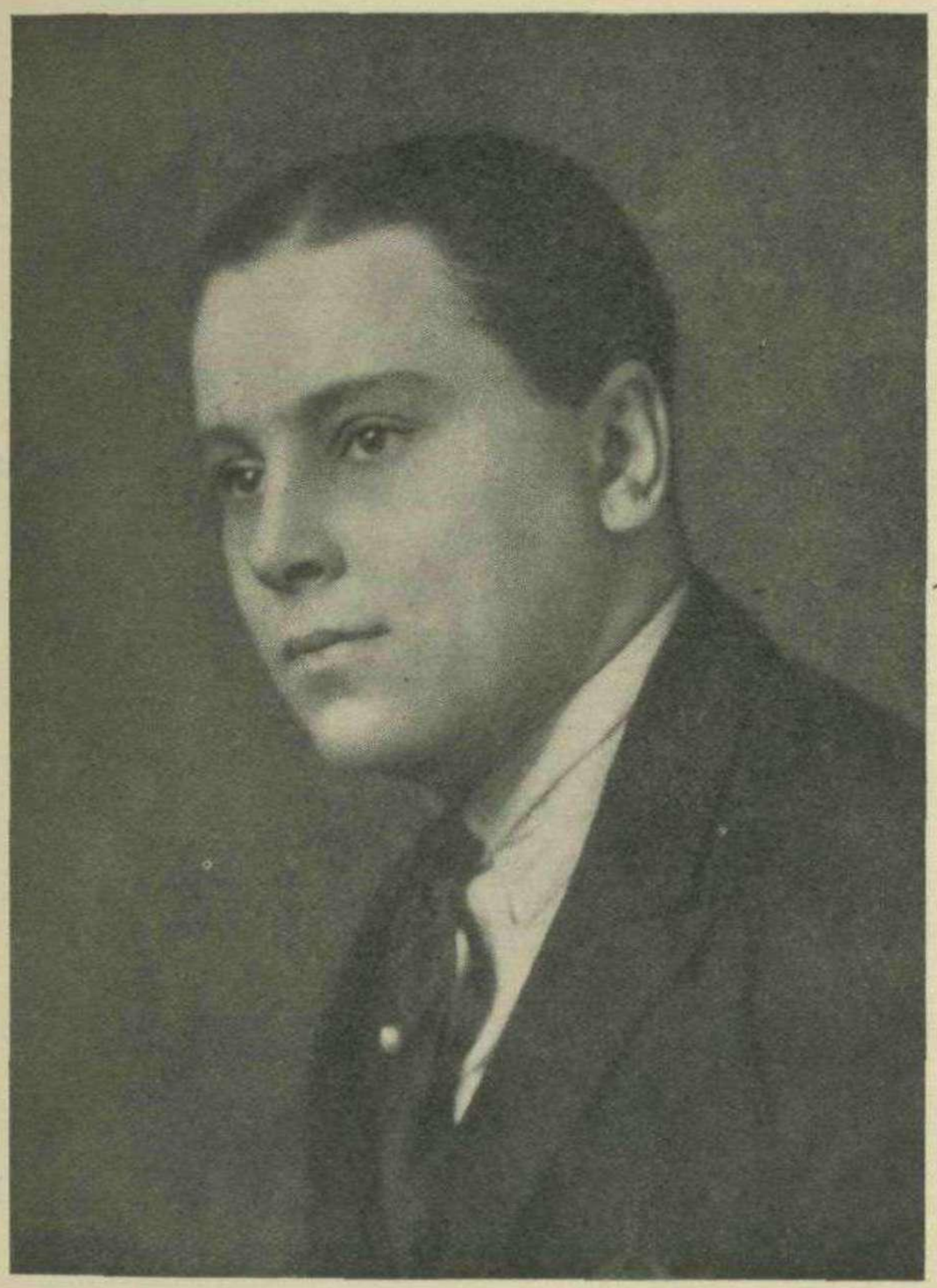
SUCCESS DEPENDS LARGELY UPON THE TUNER.

The rider and his passenger who are able to bump together at the exact psychological moment can very often bring a bad wheel-spin to a sudden stop and the practice is much resorted to in trials where sidecar passengers are not allowed to sit on the carriers of the motor-cycle. It is obvious that a hard saddle is most effective to transmit the action of the bump to the rear wheel, but few riders would care to put the chances of a few effective bumps against the comfort of a long reliability trial.

Finally, in connection with hill climbing, the need for a four-speed gear-box is indicated with the greatest emphasis and manufacturers are gradually realising the fact. The fourth gear permits of a reverse bottom gear for freak hill work without sacrificing the top gear ratios, which is a very important point where the sports rider is concerned. In a few years' time we shall see all except very high-powered machines, and some of the cheaper productions, fitted with four-speed gear-boxes; unless in the meantime some cheap and efficient form of torque converter has been applied to motor-cycles, in which case, we shall have to hold our hill climbs in the Alps to make sure of getting adequately steep gradients.



COL. LINDSAY LLOYD AND MR. A. GEO. REYNOLDS OFFICIATING AT A HILL CLIMBING EVENT.



MOTORING SPORTSMEN.

Mr. Woolf Barnato.

By THE EDITOR.

PROBABLY few men in the world have such opportunities of judging the merits of the world's best cars as Mr. Woolf Barnato, who has recounted some of his views and experiences for inclusion in our popular series of "Motoring Sportsmen," his name being particularly prominent in the motor world at the present time as having shared with Capt. John Duff the honour of capturing the 24 Hours' Record for Great Britain, as recorded by Capt. Duff himself in another part of this issue.

Like so many other prominent motorists, Woolf Barnato started his motoring career with a motor-cycle, but made his acquaintance with four wheelers at the early age of 15 years, when he volunteered to try his 'prentice hand on a two-cylinder Renault car belonging to his brother. Without any tuition, he took the wheel and drove the car through the crowded streets of Cambridge. The first attempt finished with the car facing backwards in a shop window, and young Barnato had to exercise his persuasive powers in extricating himself from the consequences of driving without a car license, being too young to possess one at the time.

On leaving Charterhouse, Woolf Barnato went to Trinity Hall, Cambridge, where he studied for the Bar and was well on with his course when War was declared.

Mr. Woolf Barnato joined up with the Royal Field Artillery as a first lieutenant and spent some time in the Ypres Salient (1915), afterwards serving in Palestine on various parts of that front from Gaza to the Jordan Valley.

Though he had motored for many years, Woolf Barnato did not fully appreciate the fascination of real speed until he chanced to notice a sporty-looking Calthorpe when walking down Euston Road one day. The particular car had been built specially for hill-climbing events before the War, but had not actually been used, so it was purchased with the idea of using it as a quick runabout. In 1919 the Calthorpe was entered in the speed trials at Southend, thus Mr. Barnato made his first appearance as a racing motorist.

The next development was when staying with a keen motoring friend, it was suggested that the Calthorpe should be entered for a race at Brooklands, this being done by telegram on the spur of the moment. For a couple of days prior to the race Woolf Barnato did what tuning was possible on the machine, though he had not the remotest idea what it could do in the way of maximum speed. The event was a Private Competitors' Race and to his own and everyone else's astonishment, the Calthorpe romped home an easy winner, with the length of the Finishing Straight in hand at the average speed of 60 miles per hour.

After that the Calthorpe was sent to the works and hotted up, with the result that it put on another 9 m.p.h. and won several other races, until it eventually retired from active service with many successes to its credit.

At first Mr. Barnato took to motor racing merely as a new kind of amusement, without any serious intention of developing his natural ability in this branch of sport; but like so many others he became an enthusiast, and from that time has raced very many of his own cars, besides taking part in numerous speed events and hill climbs.

A very fine collection of cups, medals and other trophies in Mr. Barnato's possession bear witness to his prowess at the wheel, though his modesty prevented more than a passing reference to the events in which they were won.

Among other cars owned and raced by Mr. Barnato are: a Wolseley, Austro-Daimler, Locomobile, the Talbot originally owned by Percy Lambert, and another smaller Talbot which is still used as a hack. His Wolseley Ten, specially built to his order, ran with some success at Brooklands and lapped at 91.6 miles per hour, a very useful average for a car of its limited engine capacity, and was incidentally faster than any other Wolseley Ten at that time or since.

Last year, it will be remembered, Mr. Barnato attacked and broke several records in the 8 litre class, including all distances up to 500 Kilometres, the Three Hours and the 300 Miles, the speeds averaging out at 92½ miles

MOTORING SPORTSMEN—continued.

per hour, which was an excellent performance considering the car was a standard tourer with a sports body. The chassis happened to be a Hispano-Suiza and now, having retired from the track, is used for touring purposes.

Considering Mr. Barnato's skill as a fast driver and a clever exponent of track as well as road racing, it may be wondered why he has not come more prominently to the front in the ranks of racing men; but the explanation is quite simple, for this gifted amateur recognises that real success can only come as the result of consistent practice, for which he cannot spare the time. In other words, he realises that the best car which money can buy is only one factor in racing, the other being a driver who is able to spend undivided attention on the track in order to secure the best results.



MR. WOOLF BARNATO IS WELL-KNOWN FOR HIS SKILL IN MOTOR BOAT RACING.

At the same time, however, Mr. Barnato appreciates the benefit of motor racing as a recreation, finding it a healthy and invigorating pastime. Besides racing, he makes a hobby of buying sporting cars of all kinds and of studying their individual characteristics from the viewpoint of an owner-driver. As a matter of fact, there are many men in the trade who might well envy Mr. Barnato's knowledge of various makes of cars. At this point it is interesting to note that he considers the Boulogne type of Hispano-Suiza one of the finest sports cars on the road and describes the new "Big Bentley" as the finest car yet produced, a remarkable tribute from such a connoisseur, whose opinions are unfettered in any way.

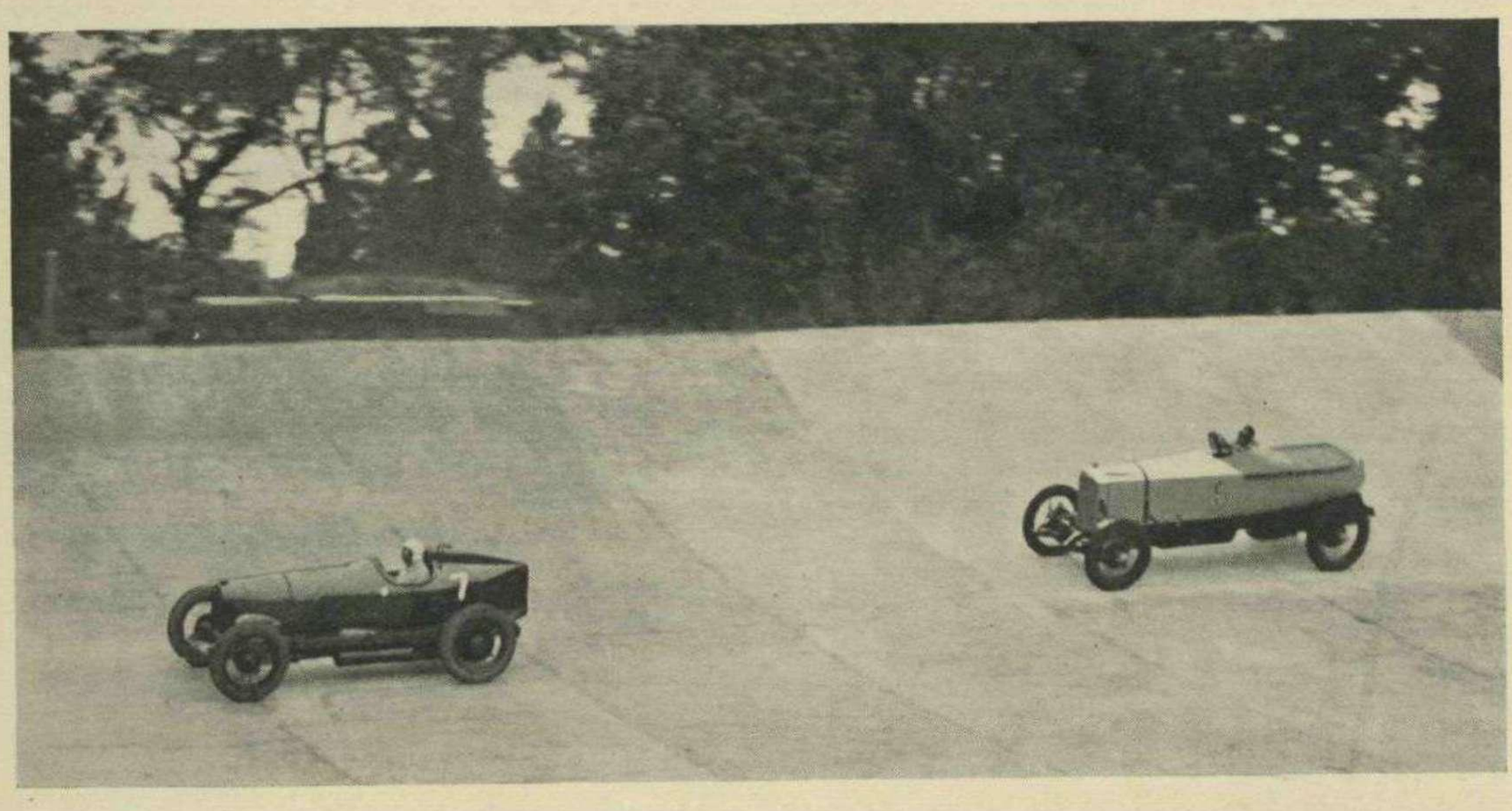
With his opportunities of sampling all the best cars in the world, it is not surprising to find that Mr. Barnato has a very considerable selection in his private garage at Lingfield, where there is accommodation for twelve cars. At the present time he owns a very fine Rolls-Royce saloon, a Hispano-Suiza sporting tourer, a 3 litre Sunbeam, a 3 litre Bentley, a 2 litre Bugatti racer and a Wolseley Ten racer, as well as various other hack cars, including the ubiquitous Ford.

Mr. Barnato's sporting character is exemplified by the readiness with which he lent his assistance to Capt. Duff in the recent Twenty-four Hours record in answer to a telephone request, and though able to enjoy the good things of this life he keeps himself hard enough to endure a physical test which would try many athletes and took his turns at the wheel of the speedy Bentley without a moment's anxiety.

This, perhaps, is a matter for no great astonishment in view of the fact that Mr. Barnato is a rather useful heavyweight boxer, plays cricket with the lads of his village, hunts with the Old Surrey and Burstow, besides being a keen golfer and tennis player.

Where motors are concerned, he is equally at home on land and water and takes a keen interest in motor boating, owning two very fast racing boats, one being a 3 litre Saunders hulled Wolseley, capable of 32 knots,

MOTORING SPORTSMEN—continued.



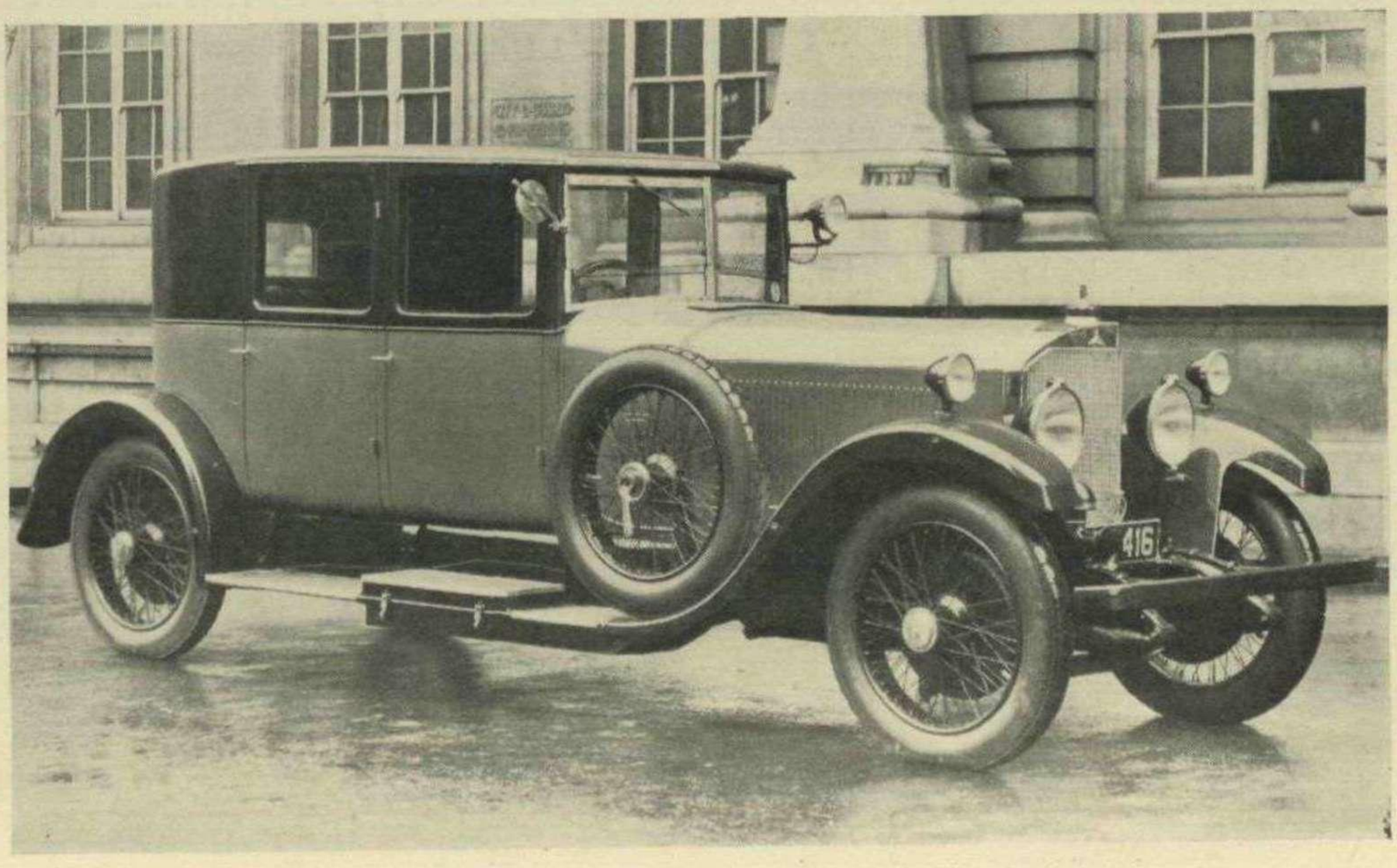
Mr. Woolf Barnato on his Bugatti at Brooklands.

and the other a 1½ litre Saunders Sunbeam with a speed of 40 knots. This year he won the Duke of York's Trophy on the Thames and has many continental successes to his credit.

Speaking of motor boat racing, Mr. Barnato described some very interesting details about cornering on the water and explained how a good helmsman could cause his craft to execute a double skid, so as to cut round the buoys without loss of way, much in the same manner adopted by road racing motorists.

He appreciates the opportunities presented by Brooklands as a training ground for beginners and as a venue for races, but considers that the possibilities of the Track should be developed not only for racing but to provide more of a social rendezvous than is the case at present.

In a brief review it is impossible to do justice to the attainments of this very versatile sportsmen, and we join our readers in the hope of seeing him at the wheel in further record breaking runs as well as in next season's races.



The 33/140 h.p. Supercharged Mercédès Saloon.

SPORTING CARS ON ROAD AND TRACK.

THE 20/70 H.P. CROSSLEY.

By RICHARD TWELVETREES.



THE 20/70 CROSSLEY SNAPPED AT THE BEGINNING OF THE SPEED TEST.

RECOLLECTING the wonderful performances set up by Mr. Leon Cushman with his very fast Crossley at Brooklands, I was only too glad of the opportunity of submitting a similar chassis fitted with a standard four-seater body to a test for the purpose of contributing an article to this series.

Since its introduction the 20/70 Crossley has been regarded as one of the finest examples of its class and the model, whilst ranking in the Sports category as far as performance is concerned, is particularly interesting from the viewpoint of the owner who delights in fast touring, as its speed is combined with a degree of comfort that would be difficult to surpass.

Immediately a car is catalogued as a Sports Model, one is apt to conjure up pictures of elaborate tuning operations and the need of frequent adjustment as a part of the price one has to pay for sheer speed, but whilst it has a guaranteed Brooklands speed of 75 miles per hour, the standard Crossley Sports possesses all the gentle manners of those designed to give a comparatively low maximum speed.

Simple and Straightforward Design.

As far as details of design are concerned, the chassis reveals none of the complications one expects to find on a car of high performance. Externally, the engine has all the appearance of a touring car power unit, and on lifting the bonnet one might well be surprised that so simple looking an engine should be able to give so high an output.

The latter point is just one of the most interesting features of the car, which in many ways is one of the most astonishing vehicles I have handled. It looks for all the world as if the designers had set out to evolve a specially substantial touring model, only to find the machinery had become inoculated with speed. I should think the tester who took the first chassis out of the Gorton factory had the surprise of his life when he put his foot right down for the acceleration test.

To-day, after having driven the 20/70 Crossley for over 500 miles, I am still bewildered to know where all the power and " pep " comes from. If the engine were fitted with four valves per cylinder, actuated by an overhead camshaft and fed by two or three carburettors, with magnetos in duplicate, one could understand its liveliness, but none of these complications exist. On the contrary, the engine seems quite content with its side valves, single carburettor and other perfectly normal features.

Chassis Characteristics.

The four-cylinder engine measures 90 mm. bore by 150 mm. stroke and has a cubic capacity of 3,705 c.c. It is quite obvious that a great deal of attention has been paid to the refinements of engine balance and the aluminium alloy pistons are designed to eliminate slap at all engine speeds. The lightness of the reciprocating parts, as well as the perfect balance of the rotating components, accounting to a large degree for the extraordinary flexibility and power of the engine.

Another secret of the efficiency appears to lie in the shape of the special tulip valves, in conjunction with the careful design of the ports, and I can only assume that special care has been paid to polishing the latter to give an absolutely unrestricted passage for the gases. The valve timing is rather interesting and though the modifications from strict standard practice are very slight, they appear to be admirably suited to the design of the engine. Apart from these details, which are not anything out of the ordinary, there seems to be nothing which accounts for the remarkable performance of the engine.

Four speeds are provided by the side controlled gear box, which is a separate unit carried on a sub-frame,

SPORTING CARS ON ROAD AND TRACK—continued.

and the ratios are as follows :—First gear, 12.5 to 1; second gear, 7.93 to 1; third gear, 5.17 to 1; fourth gear (direct), 3.33 to 1 and reverse 10.36 to 1.

The high top gear probably accounts for the deceptive running of the car, for when travelling at fifty miles an hour, the engine appears to be idling in a most unconcerned fashion.

The 27/70 Crossley in Traffic.

On taking over the car from Messrs. Crossley Motors, Ltd., Service Depot in Westminster, I was prepared to spend a quarter of an hour in becoming acquainted with the controls, especially as the time coincided with the "rush" hour traffic. There must be some little tricks, I thought, with an engine possessing so much power. But no! It seemed to behave in quite a sedate manner and took the car along on top gear without the least exertion.

I could not help contrasting its demeanour with that of the Bugatti, which I took from the same Depot, for whereas the latter bustles one into a particular style of driving, the Crossley exerts an entirely different kind of personality—for nothing will persuade me that cars have not personalities of their own.

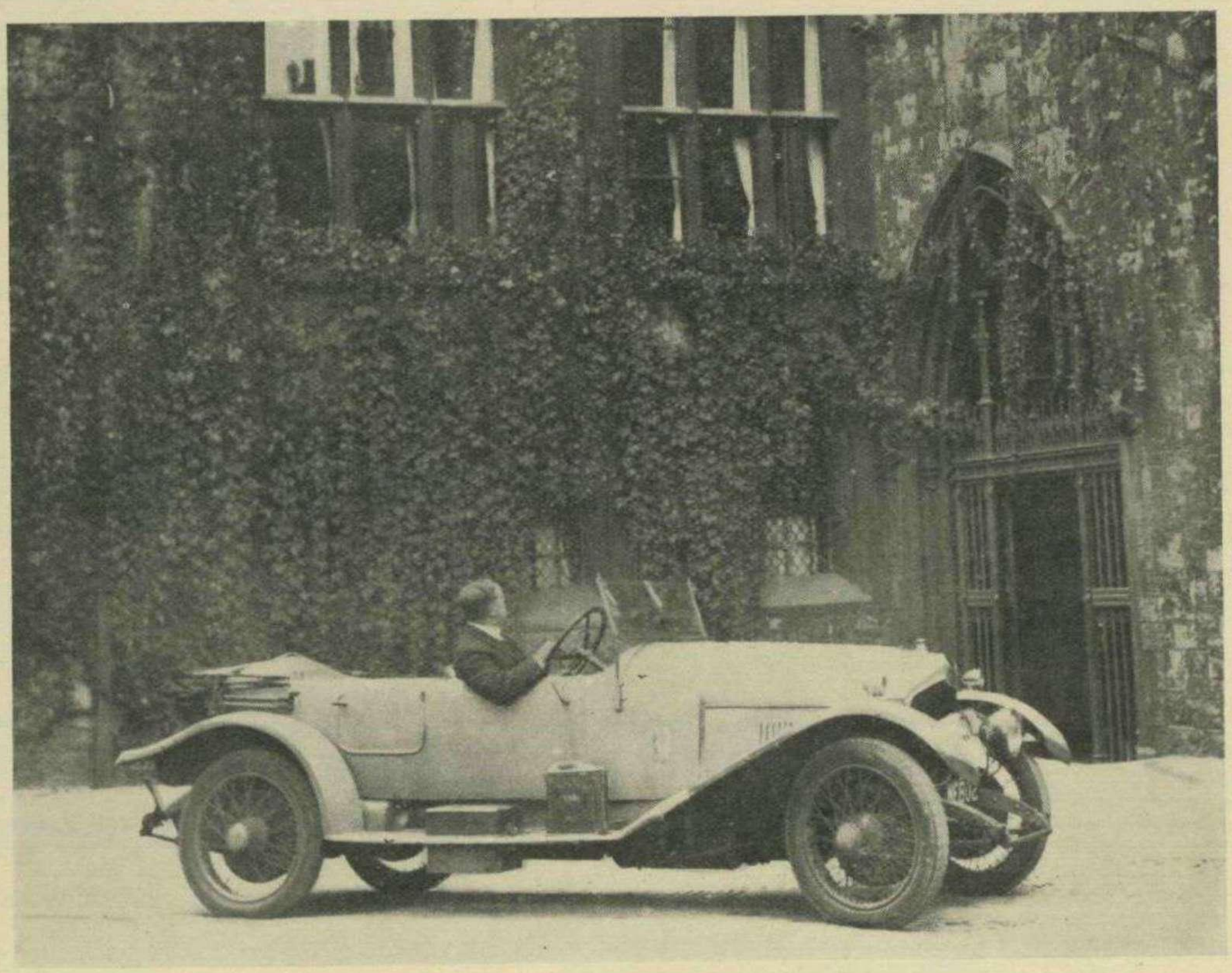
It took some little time to get a really clean change of gear and the box differs from some in that the silent change can only be obtained if the conditions are quite correct. One cannot flick the gear lever about from gate to gate irrespective of engine and car speeds, which is not altogether a disadvantage, and if the change is a wee bit on the heavy side, one can forgive the designers as they certainly provide a set of gears of such generous proportions as to promise everlasting wear.

By adjustment of the clutch stop, however, one can procure an easy change to suit individual requirements, and as an example Mr. Cushman's car is so regulated as to render "snap" changes quite simple.

Should the driver happen to like driving almost continuously on top gear, the Crossley engine offers no objection and will trickle round without a murmur, and even though the top gear is so high one might well suppose that the bonnet concealed an eight-cylinder engine, instead of a modest four.

By using the gears in the approved fashion, however, one finds that the engine will rev. up with marvellous rapidity and the car gets into its stride the instant the accelerator is touched.

If ever a car possessed a dual personality that car is the 20/70 Crossley, for it can be all things to all men. For the person who wants to amble about the country, up and down hills on top gear, it is as attractive as to the sporting driver, whose gear lever is seldom still and whose foot is never far away from the floorboard.

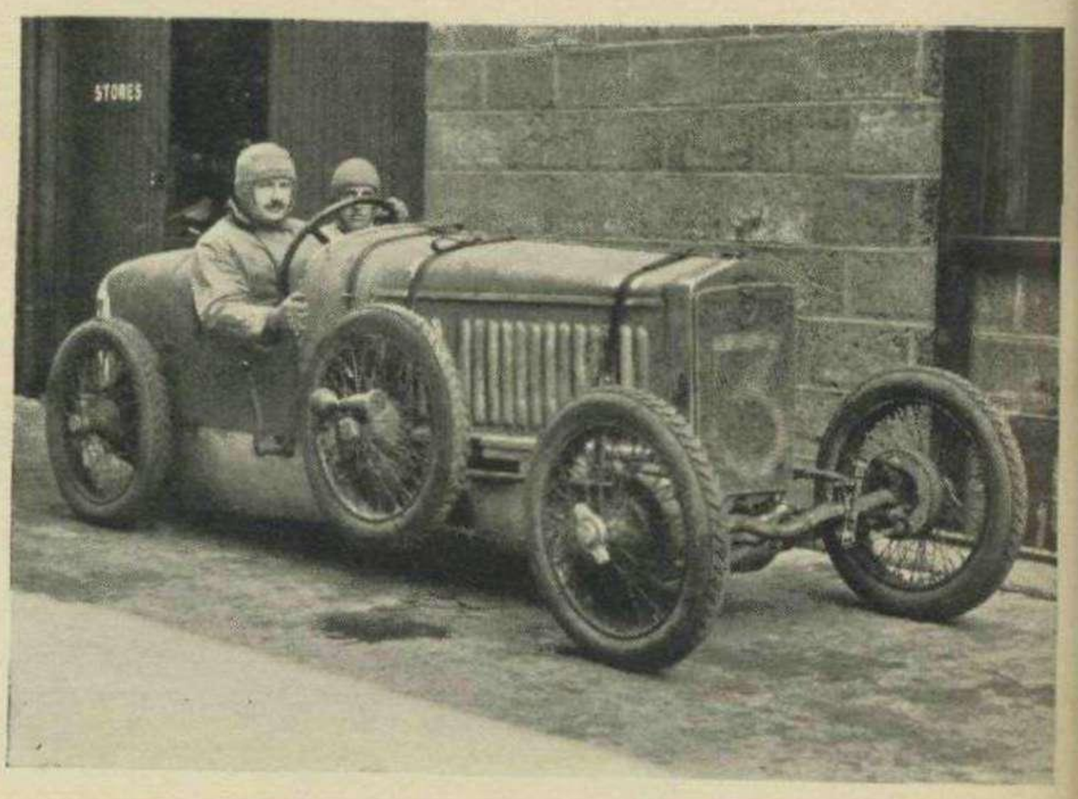


THE 20/70 CROSSLEY OUTSIDE WESTMINSTER SCHOOL.



FINAL FOR SPORTS CAR RACE AT ULSTER AUTOMOBILE SPORTS CLUB.

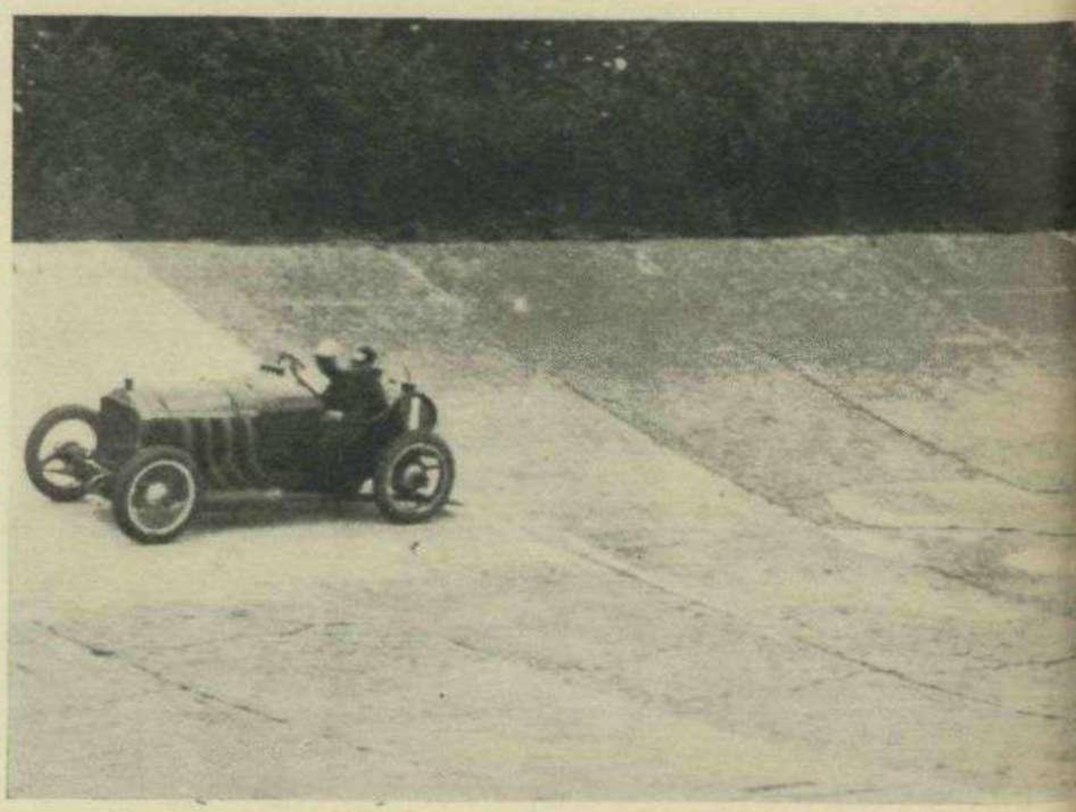
Recent Events in the



CAPT. FRAZER NASH ON HIS FRAZER NASH



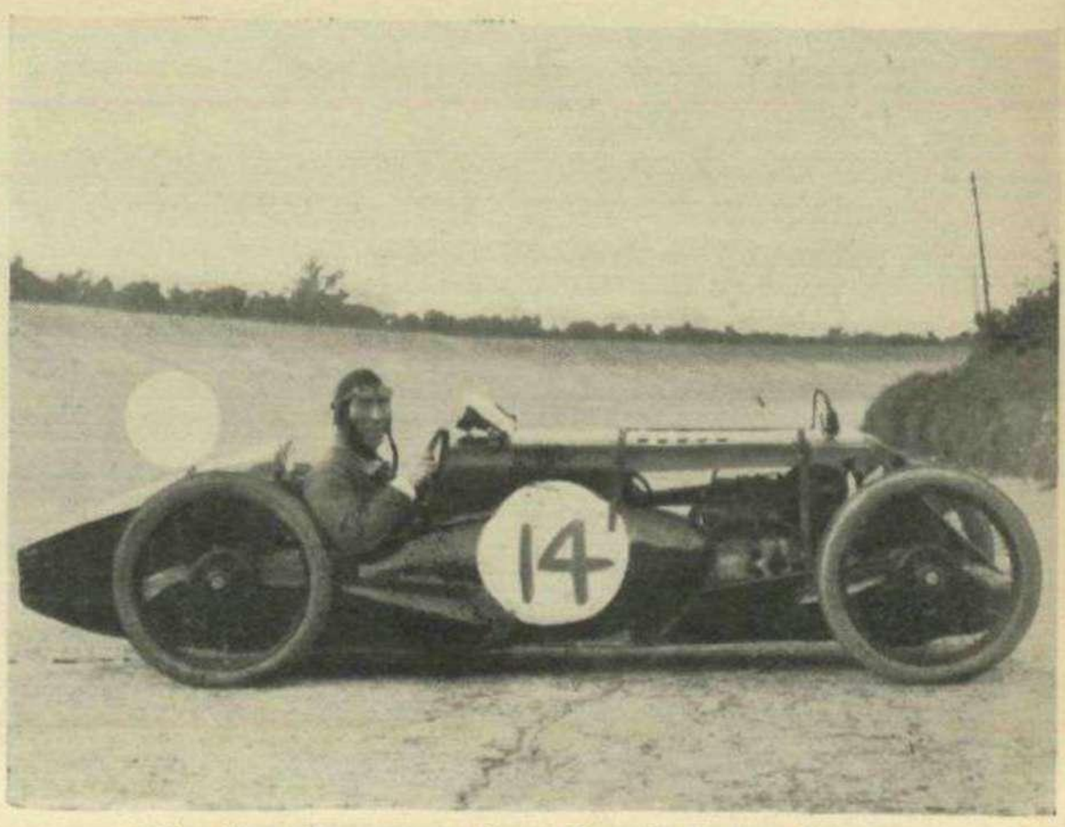
200 MILES RACE. THE SALMSON TEAM, M. GOUTTE, M. DE MARNIER AND G. NEWMAN.



THE FORTY-FIFTH 100 M.P.H. SHORT HA



J. S. WRIGHT ZENITH) WINS 1,000 C.C. RACE AT 102 M.P.H.



MR. GEO. DULLER ON CAPT. WAITE'S AUSTIN SEVEN.

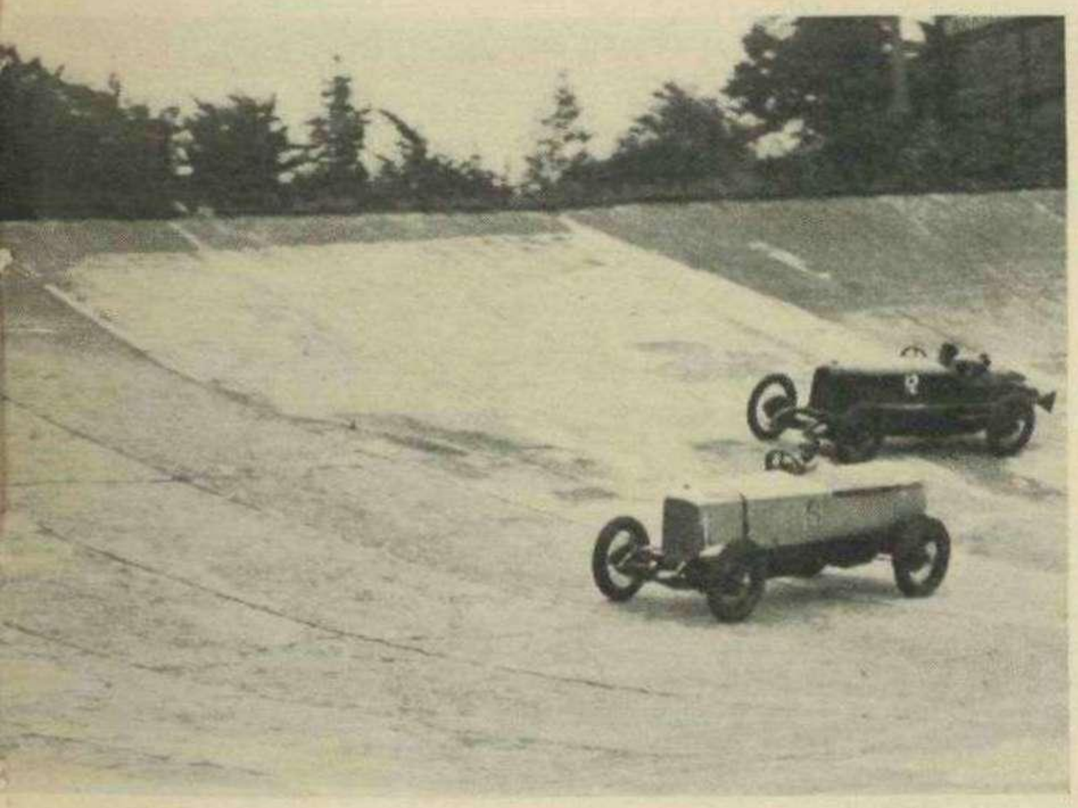
Motor Racing World



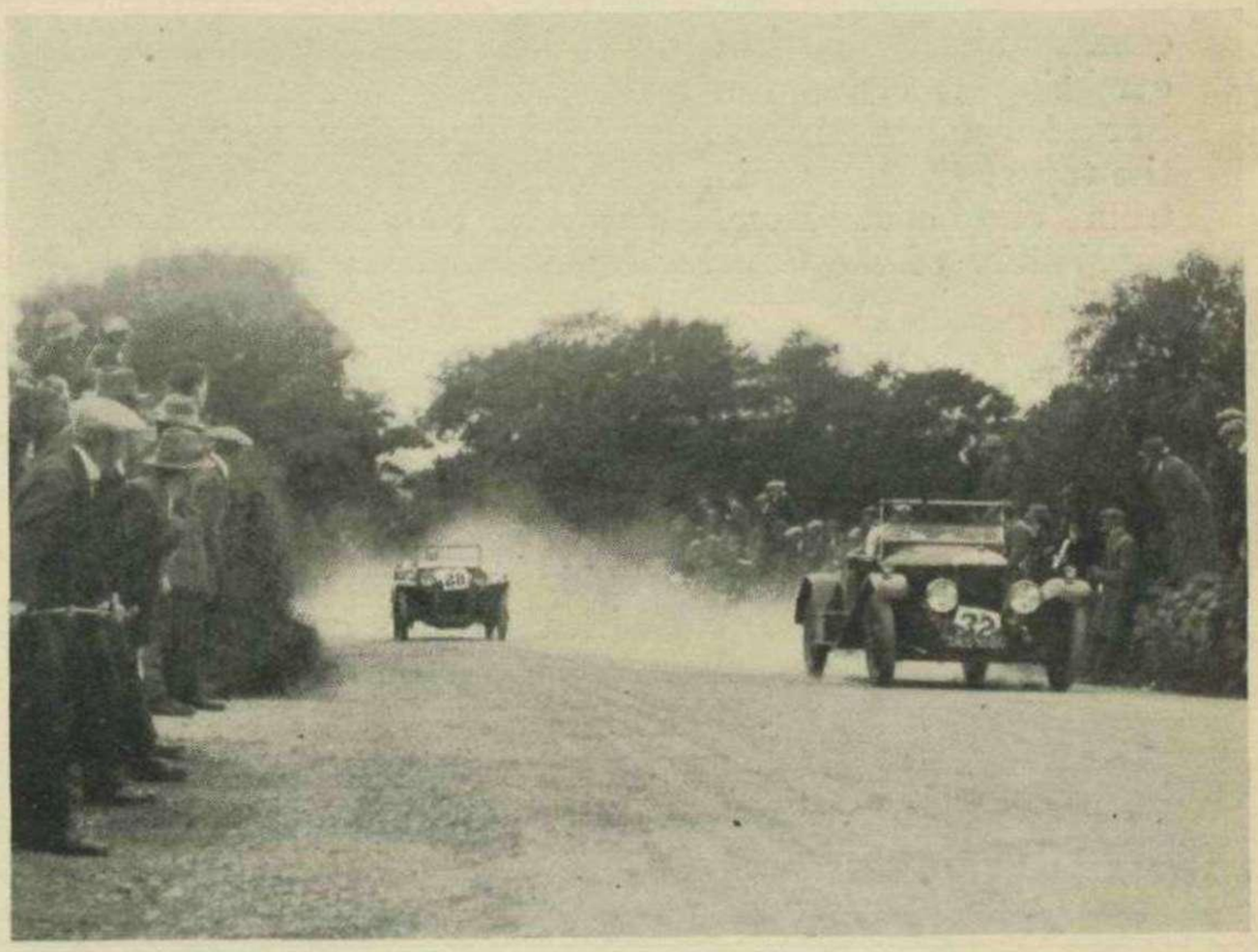
—AND ON THE CRESTA RUN, ST. MORITZ.



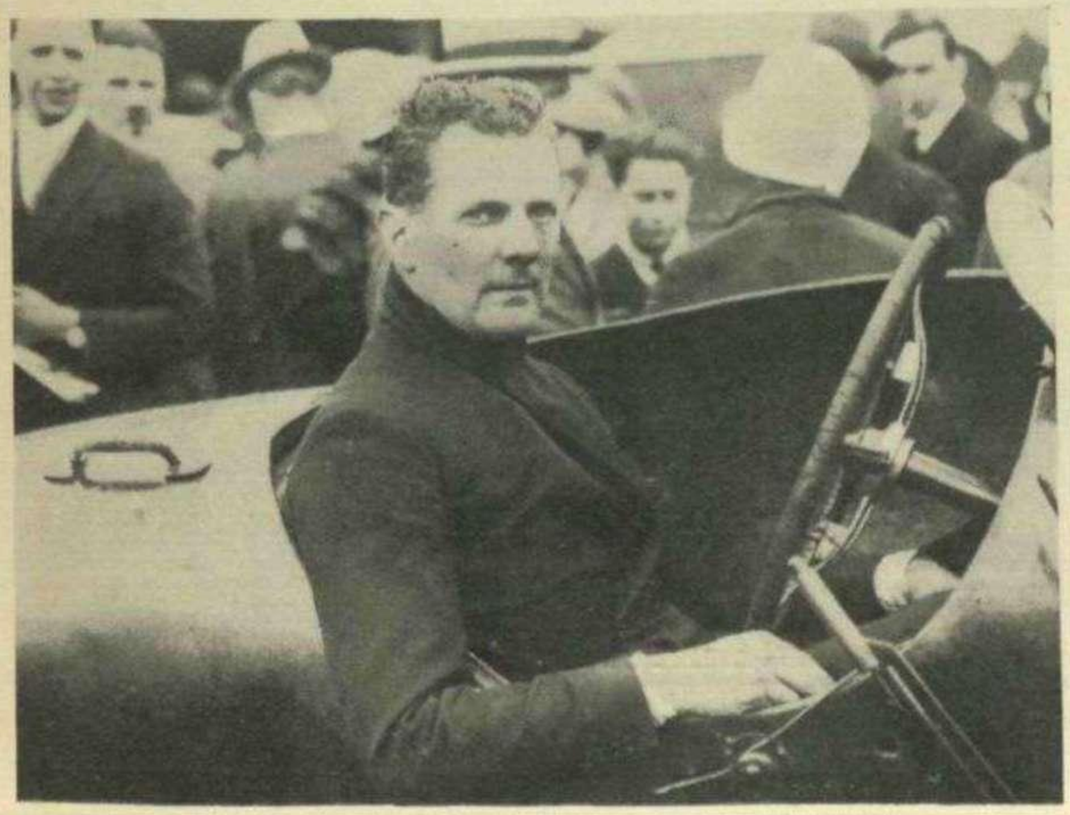
B.M.C.R.C. CHAMPIONSHIP MEETING : START FOR SCRATCH RACE.



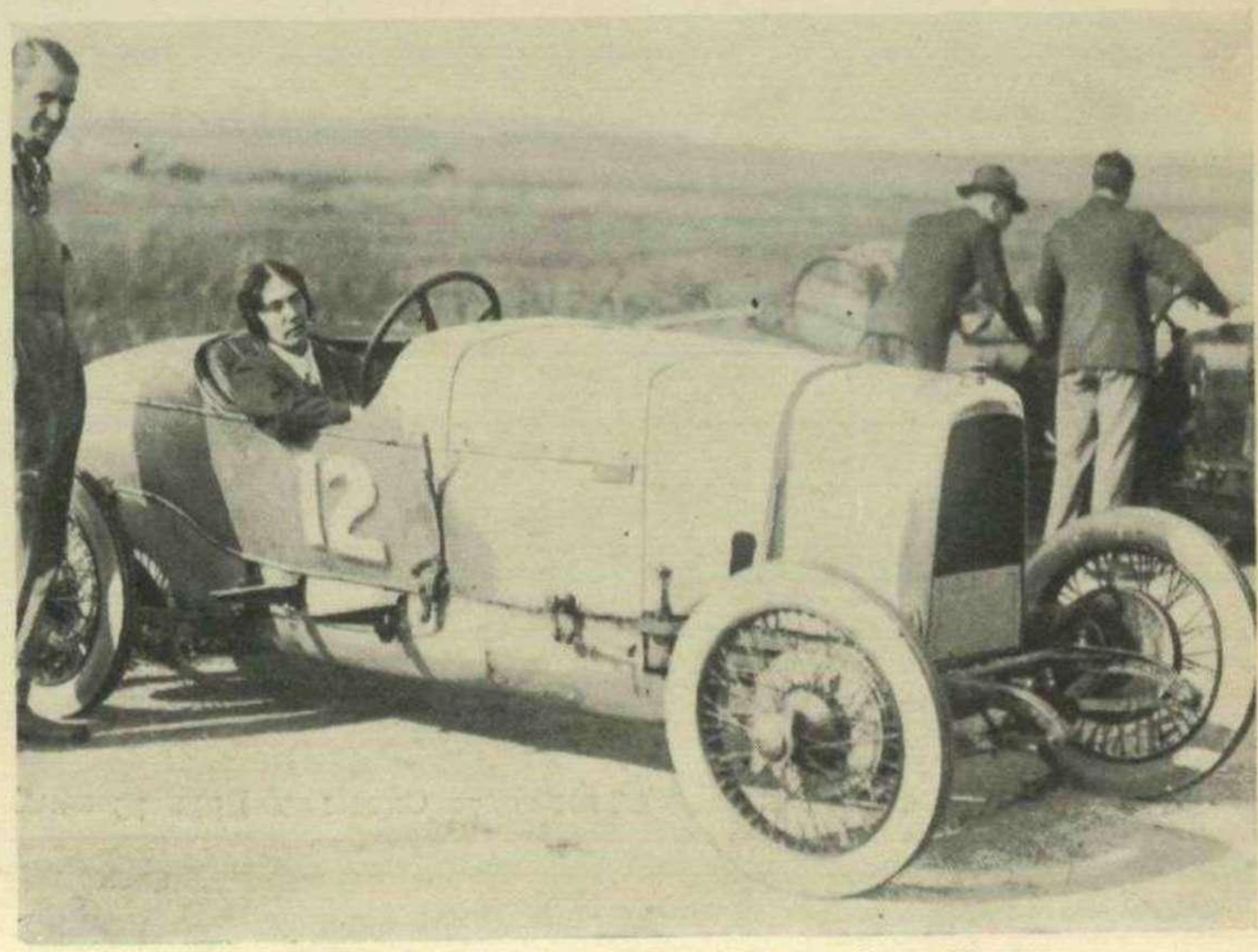
CAP : COMPETITORS ON THE BANKING.



ULSTER AUTOMOBILE SPORTS CLUB : MRS. COUTTON ON HER STAR CAR.



MR. R. WARDE AT THE WHEEL OF THE BIG FIAT.



MISS H. M. LISTER AT BROOKLANDS ON HER ASTON-MARTIN.

SPORTING CARS ON ROAD AND TRACK—continued.

For a car of its capacity, the petrol consumption is very good and it is quite economical with regard to lubricating oil. Nothing could be better than the suspension system and though the seats are rather high on the example I tested, I notice the new body work has been modified in this respect, as well as with regard to other detailed improvements, which should give a still greater degree of comfort and convenience.

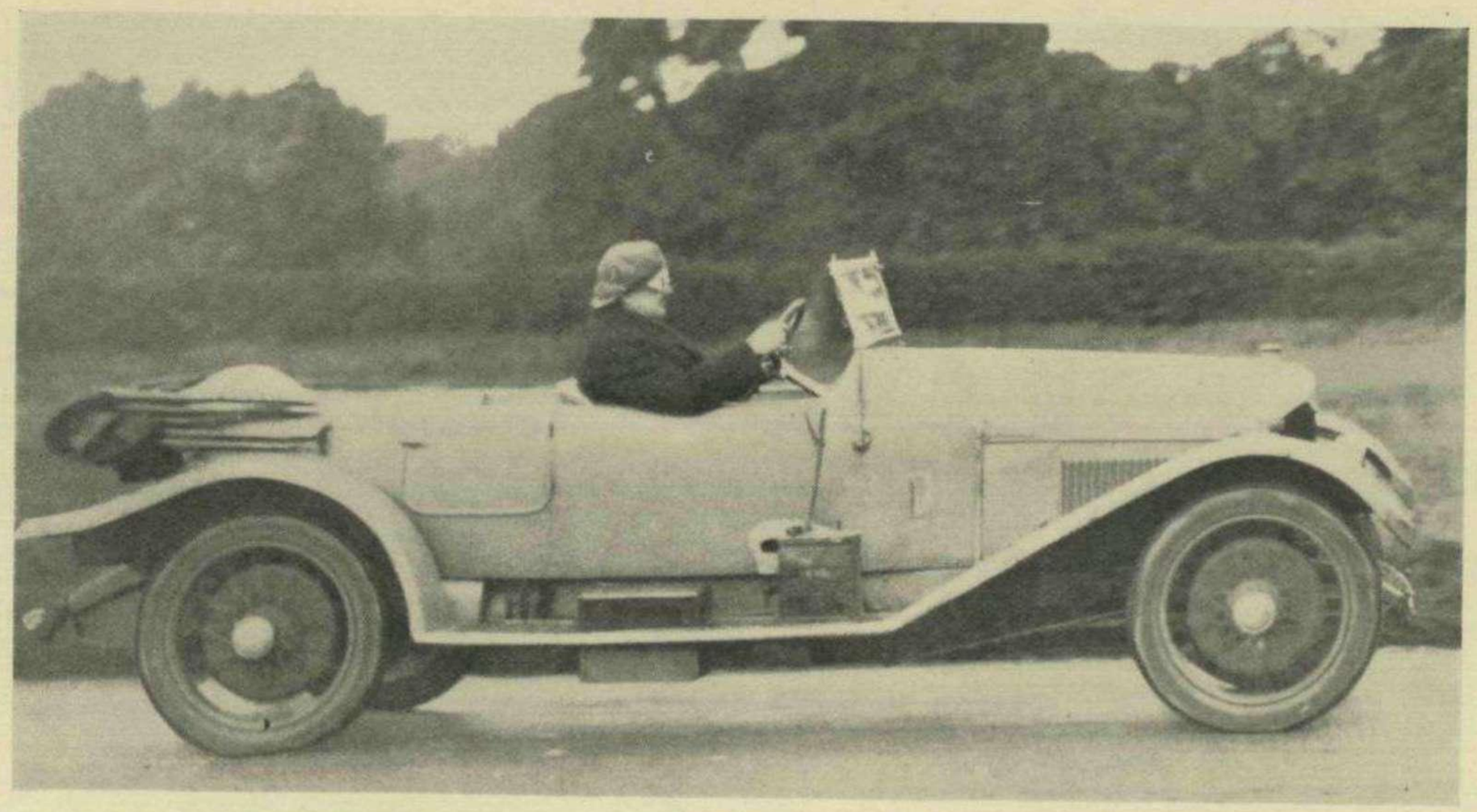
The four-wheel brakes are operated by a pedal and a very conveniently located outside lever actuates the rear wheel brakes. With regard to the four-wheel brakes, these operate on the well-known Perrot system, whereby it is impossible to lock the wheels when taking a corner, as one wheel frees itself immediately the wheels are locked over in either direction.

I was able to test the brakes under abnormally severe conditions, as at the time of the test, the test hill usually frequented was in a very chalky condition, and though, thanks to the brakes, it was possible to descend quite comfortably, the surface was so bad as to prevent the car being backed up on reverse, owing to wheel spin. For a few moments I was puzzled to know how to reach the top of the hill again, as it can only be approached from one end. Here, however, the hill-climbing capabilities of the Crossley came into prominence, for by descending to a point beyond which I usually venture, it was possible to turn round and start the ascent from a very steep incline. A clean run up resulted, though the 1 in 3½ portion had been badly chewed up owing to my attempts to restart backwards on the first attempt.

The 20/70 h.p. Crossley combines all the advantages of a first class sporting car with those of a comfortable touring carriage and from the viewpoint of design would be very difficult to surpass. As far as maintenance is concerned, I should be surprised if the repairing fraternity would grow very rich if all cars of to-day possessed the sound constructional features which are to be found in every detail of the Crossley chassis.



An Abnormal Brake Test on a 1 in 3½ Gradient.



The 20/70 Crossley Does 75 m.p.h. in Full Touring Trim.

THE M.C.C. ONE DAY SPORTING TRIAL.

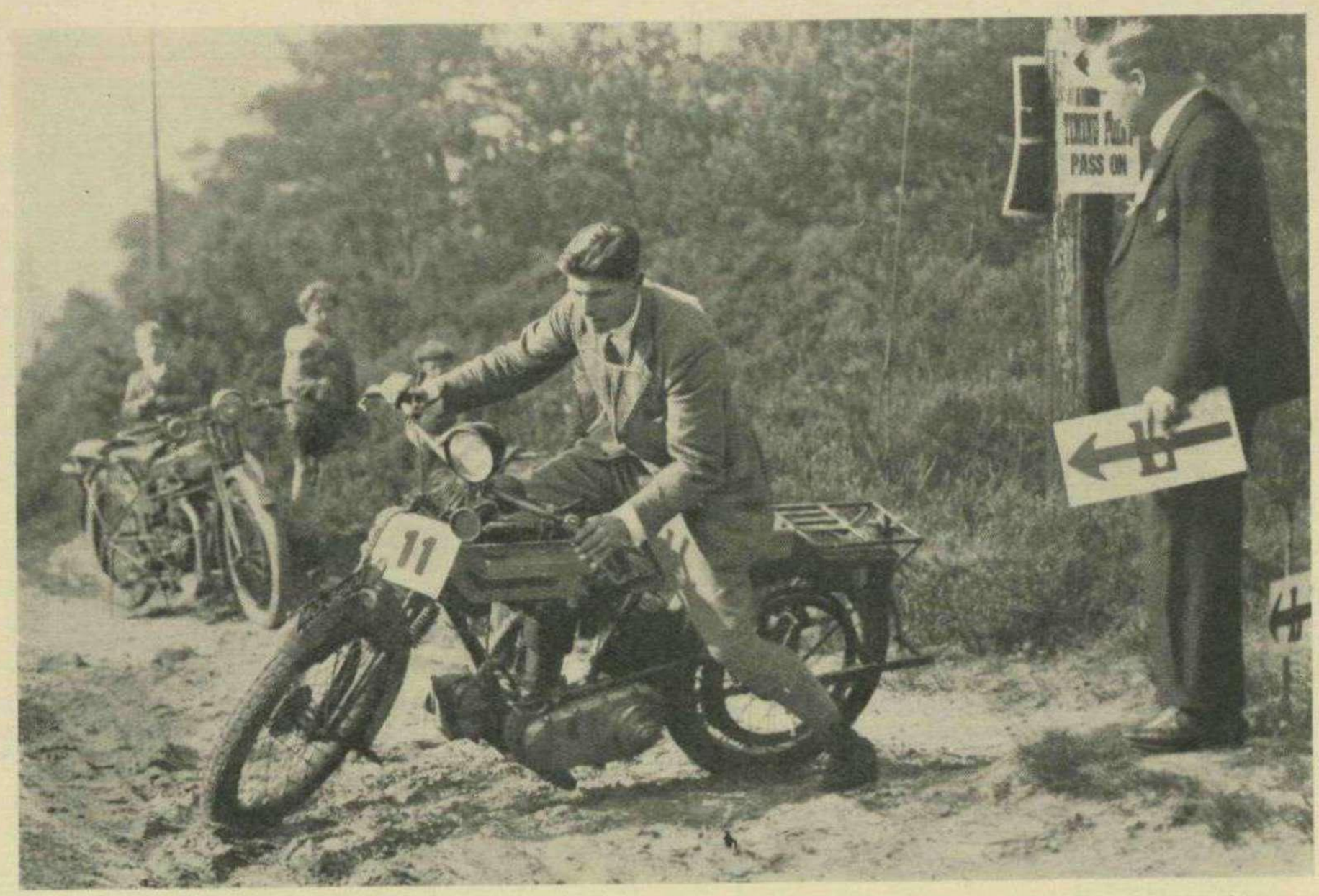
An Interesting Event on Camberley Heath.

ON October the 3rd the heights and the depths of Camberley Heath again resounded to the crackle of exhausts. This time it was the M.C.C. who used the sandy tracks and deceptive boglands which have hitherto been thought of only as the venue of the Camberley Club. With great humility, however, the M.C.C. bowed to the genius of Mr. E. O. Spence as an originator of routes, and with his aid they were able to place before the competitors a course so intricate that a 20 mile an hour average was only just possible. In fact, only three riders actually reached that figure.

Wild and Woolly did not figure in the programme, its place being taken by Kilimanjaro. Although not actually volcanic like its namesake, it provided enough loose soil to enable the " pushers " to remember it as such.

However tricky the older hills, such as Red Road may be, they never provide the amusement that a new hill does : in the case of Kilimanjaro it was unknown except to a few local riders, and, in consequence, very few knew the best way to tackle it. A deceptive gradient combined with a vile approach sufficient to unseat the majority. The first mound could not be taken fast owing to the nature of the surface at the foot. A slow climb could not be made on account of the steepness, and consequently it was not till a rider was on his third and last round that he really knew the ascent. By that time, however, the helpers were so worn out that the first part of the hill was cut out, leaving only the more awkward second part. Here failures were plentiful owing to gorse bushes and a bump which was inclined to foul the crankcases of some machines.

Following close on Kilimanjaro was Red Road Hill, too well known to need any introduction here. The performances on this hill were not up to the Camberley Club standard; this is possibly accounted for by the fact that a nasty piece of ground had to be covered at the foot of the hill. This was likely to cause a demoralising effect, thus spoiling the quality of the ascents. It is usually the custom to tackle Red Road from the main road, giving a clear view of the hill all the time the riders being fresh from a strip of good surface. In this case, however, the approach was round a hillock and very bumpy, and in the majority of cases the hill was taken too slowly, a large percentage of failures occurring half way up before the loose soil was encountered.



M.C.C. Trial at Camberley : J. E. Hewens (Triumph) on Turf Hill.

The remainder of the circuit included no other fierce hills, it being generally acknowledged that Devil's Drop was in good condition and an easy climb. Water-Tower Hill constituted a long one-track pull and included a few yards of really surprising gradient.

Those with folding footboards were happy on this climb, as in two places it was nearly impossible to get through with low footrests. The Bog at the foot of this ascent provided the solitary observer with much

THE M.C.C. ONE DAY SPORTING TRIAL—continued.



B. W. Swabey (James) and P. O. Manderville (B.S.A.)

entertainment, culminating, however, on the last lap, with a fire, which he gallantly assisted to extinguish with his coat.

Bilney, in rushing his Rex-Acme across in an attempt to keep up his previous record laps, struck a deep hole with his front wheel. In a second the machine was over and petrol pouring from the tank on to the open exhaust part of his engine, which was still running. Frantic efforts with wet coats proving useless, the machine was thrown bodily into the water and the remaining petrol burnt itself out on the surface. Picturesque! but not calculated to improve the machine or its chances of finishing. To Bilney's astonishment the bike restarted on its resurrection, but would not run long, and he spent a quiet quarter of an hour drying it out. Plenty of incident occurred at this spot, several riders measuring their length in the swamp and one riding straight into the lake nearby.

Individual Performances.

In a trial of this nature it would be invidious to pick out certain individuals and set them on the pinnacle of fame; were it possible it would be interesting to recount the circuits of every competitor. All had a good yarn to relate at the finish. Tales of smashed gear boxes, broken footrests, sheared pins, bent handlebars and bruised crankcases were to be heard on all sides and each one of these stories shadowed a deeper and more interesting but unspoken account of difficulties overcome by the wayside, in feverish heat lest precious seconds be lost.

Easy it is to record how a certain rider failed on Red Road, but how is one to know that he had just crashed and bent his clutch, rendering it inoperative. For instance, Bilney made a very weak climb of Devil's Drop on the last circuit, but when one considers that his machine had been totally immersed in water and mud for quite five minutes, it is a fact of wonder that he ever got going again at all.

Wherefore, beyond mentioning a few really outstanding features of the event, we will make no comparisons between the ordinary riders, since they all displayed a tremendous amount of grit and skill in handling their mounts over so difficult a course. Nevertheless, certain ascents of Red Road and Kilimanjaro impressed even the casual observer.

On the latter hill the performance of J. S. Barnwell on his O.H.V. B.S.A. was outstanding, being the most meritorious by reason of his small engine power. Unfortunately he was dogged by bad luck, eventually retiring with a broken inlet valve.

The big brigade, consisting of Chantry, the two Wills, Heath, Love and Brackpool, all made successful climbs at least once of the first Kilimanjaro, but they had to acknowledge defeat sooner or later, in most cases firmly entrenching themselves on the hillside.

Pa Applebee deserves a gold medal for entering the run at all, but his ascent, unaided, of Red Road on his little old Levis merits the very heartiest cheers we can give him.

The 172 c.c. Francis Barnett is undoubtedly a wonderful little machine and with T. G. Meeten on its back it can perform wonders. Not only did he check in at the finish, but he made a practically clean ascent of Kilimanjaro 1!!!

Results:

The following checked in at the end of the three circuits:—W. S. Bishop (596 Scott), A. H. S. Love (980 Matchless), G. Richardson (499 P. & M.), R. H. Hay-Will (348 A.J.S.), J. E. Hewens (550 Triumph), F. J. R. Heath (1,301 Henderson), R. L. Richardson (490 Norton), P. L. B. Wills (1,208 Harley-Davidson), H. B. Chantry (980 Brough Superior), A. A. F. Symes (346 Zenith), E. J. E. Burt (490 Norton), B. W. Swabey (499 James), M. K. H. Bilney (348 Rex-Acme), J. W. Bartleet (347 Matchless), W. G. Churchill (499 Ariel), L. A. Welch (349 O.K. Bradshaw), P. J. Dyster (349 Montgomery), G. D. S. Knowles (346 Rudge), C. Loder (348 Douglas), C. D. Noel (596 Scott), C. J. White (499 Triumph), B. Bragg (490 Norton), H. R. B. Waters (596 Indian), S. C. Hubbard (499 Rudge), R. J. Low (499 Sunbeam), E. W. Warrick (498 Burney), and T. G. Meeten (172 Francis-Barnett).



Bilney's Rex-Acme on Fire in the Bog.

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(Mr. L. Parker, Douglas.)

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(Mr. F. A. Longman, Harley-Davidson, 89·66 m.p.h.)

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B.M.C.R.C. CHAMPIONSHIP MEETING.

BROOKLANDS is as equally unbearable on a hot day as on a cold day, but on October the tenth the gods indeed smiled, for perfect conditions prevailed at the track.

Plenty of really fast work was to be seen, but in spite of this no really thrilling finishes occurred.

Le Vack had a field day, carrying off the 250, 350 and 500 c.c. championships and breaking the 10 mile standing start record on an H.R.D. with a speed of 96.02 m.p.h. With the exception of P. G. Dallison, who scored a runaway win on his tiny Norman engined Elfson, all the events were won by well-known track riders, by which is meant men who have been in the public eye all the season. Even the second and third places were filled by men whose names have been on everyone's tongue during the past six months or so.

The only exception was C. W. Lacey. An intrepid rider, playing a lone hand on a Cotton Jap, he has consistently tried hard all the season, and at last he reaped his reward by riding third to Le Vack and Handley, conscious of the fact that he was leading the rest of the field.

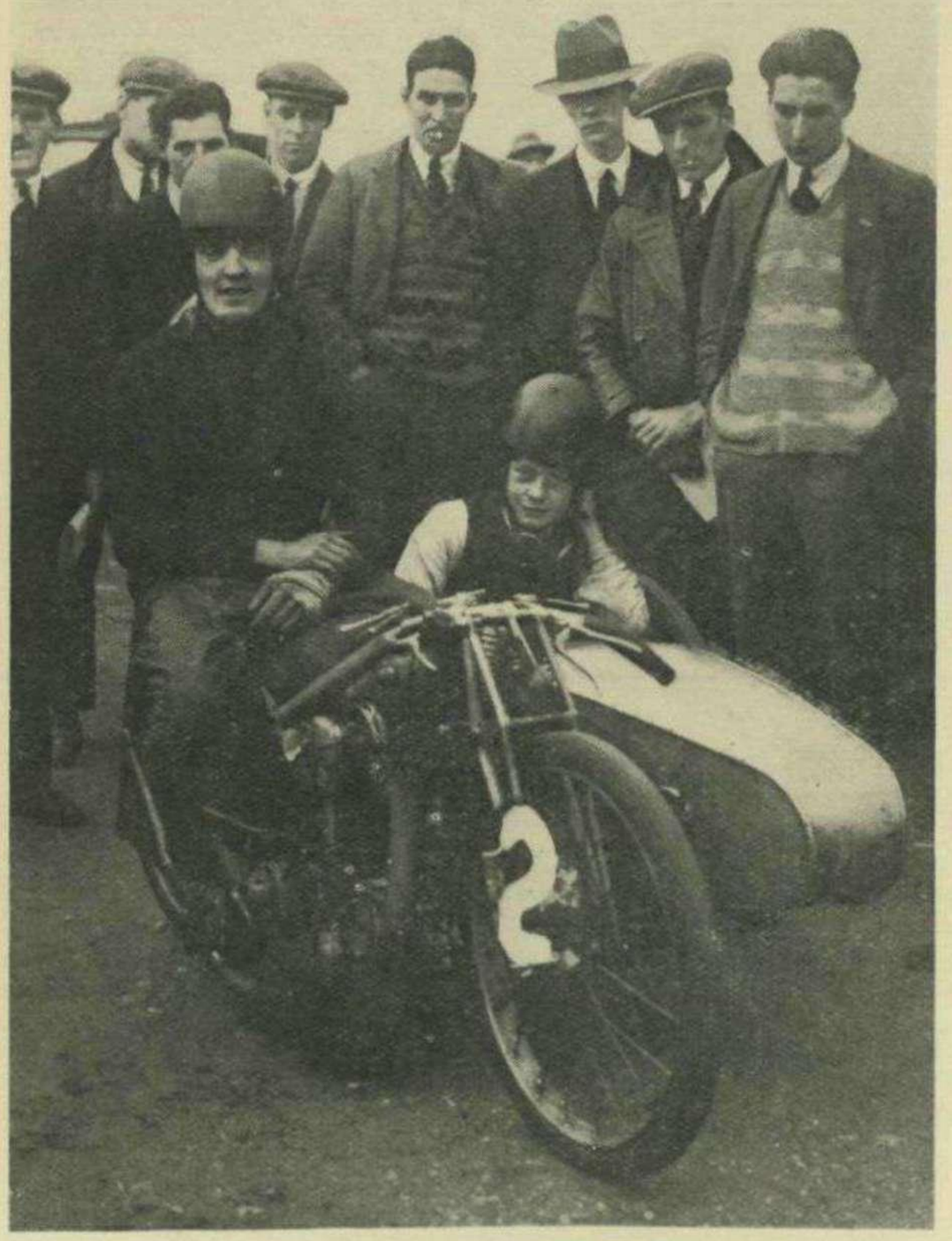
V. Horsman met much more serious opposition than he has been used to, and in both the solo races he had to concede first place, first to Le Vack in the 500 c.c. and second to H. M. Walters in the 750 c.c. event. Walters was mounted on a 730 c.c. Zenith Jap and succeeded in passing both Horsman and Dixon on the last lap.

In the 350 sidecar race Marchant with a damaged hand secured a real victory for his Chater-Lea. This outfit is really one of the best track productions of the year and merits close scrutiny by all racegoers.

Horsman triumphed at last in the 600 c.c. sidecar event, easily overtaking Fitzgerald's outfit and leading Dixon by a good distance to the finish. G. Tucker brought his Norton and sidecar into third place, a very commendable attempt when it is considered that it appeared unlikely that he would be able to get a place.

The 1,000 c.c. race produced an unexpected finish. J. S. Wright, driving a 980 Zenith Jap sidecar, scored a good win in vanquishing Le Vack on a Brough Superior and both Longman (Harley Davidson) and Riddoch (Zenith Blackburne) had to follow Wright to the finish nearly three-quarters of a mile behind him.

The Three-wheeler race proved instructive, for R. T. Horton, on an outwardly standard Aero Morgan, was only beaten by the very special Morgan Blackburne



W. D. Marchant (Chater Lea), Winner of Class B/S Scratch Race.



V. Horsman (Triumph), Winner of Class F Championship Scratch Race.

B.M.C.R.C. CHAMPIONSHIP MEETING—continued

driven by the record breaker, H. Beart. The latter's speed was 83 m.p.h.

Altogether thirteen records were broken—four going to Dallison on the 170 c.c. Elfson Norman, one to Le Vack, four to Marchant on his O.H.V. Chater-Lea and sidecar, and four to J. S. Wright, riding a 980 Zenith Jap and sidecar.

RESULTS.

Solo.	*Rider.*	*Machine.*	*Speed.*
175 c.c. ...	P. G. Dallison ...	Elfson Norman ...	67.74
250 c.c. ...	H. Le Vack ...	Coventry Eagle ...	73.24
350 c.c. ...	H. Le Vack ...	Coventry Eagle ...	88.62
500 c.c. ...	H. Le Vack ...	H.R.D. (J.A.P.)...	97.08
750 c.c. ...	H. M. Walters ...	Zenith Jap ...	97.65
1,000 c.c. ...	J. S. Wright ...	Zenith Jap ...	102.90
Sidecar.			
350 c.c. ...	W. D. Marchant	Chater-Lea ...	76.73
600 c.c. ...	V. E. Horsman ...	V. E. Horsman ...	80.98
1,000 c.c. ...	J. S. Wright ...	Zenith Jap ...	88.46
Two-seater Three-wheeler.			
1,100 c.c. ...	H. Beart ...	Morgan Blackburne	83



M.C.C. ONE DAY TRIAL: M. K. H. BILNEY (REX-ACME).

GOOD RACING AT THE ESSEX MOTOR CLUB MEETING.

Mr. George Duller Drives Capt. Waite's Austin at 89.9 m.p.h. for 50 Miles.

THE last meeting of the Essex Motor Club was a comparatively small but extremely interesting affair, attracting large crowds, though a certain amount of disappointment was experienced owing to the absence of Mr. Parry Thomas' huge Liberty engined monster capable of developing 400 h.p.

The Essex Junior Long Handicap.

In the Essex Junior Long Handicap Miss H. M. Lister drove her Aston-Martin with very great effect, leading the field for two laps, when she was overtaken by Mr. Duller on the Grand Prix type Bugatti, formerly owned and raced by Lieut. Glen Kidston, R.N. Having passed R. E. H. Allen on another Bugatti, Duller then overtook Capt. Hazlehurst's Salmson, and by treading on the gas caught Miss Lister's Aston-Martin on the finishing line. H. W. Purdy on his Alvis was third, the race being won at 105¾ m.p.h.

The Essex Senior Long Handicap.

The Essex Senior Long Handicap for cars over two litres produced a very good race, in which R. B. Howey drove the Leyland-Thomas and J. G. P. Thomas had Howey's Ballot as his mount. J. S. Spencer on the old Gordon-Bennett Napier, J. D. Barclay with his T.T. Vauxhall, Warde on the big Fiat, and Capt. Malcolm Campbell on another Ballot, also took part in this race.

Thanks to a good start Spencer's Napier led for a couple of laps, with Barclay in hot pursuit, but was overtaken by Warde, who handled the big Fiat with skill and daring. Capt. Campbell, who had been running third, lost some ground at this juncture, whilst the tail of the race was brought up by Howey and Thomas. Warde, who had gained a fair lead on the Members' Banking, drove the Fiat home at 107.34 m.p.h., with Barclay (T.T. Vauxhall) second, and Howey (Leyland-Thomas) third.

The Fifty Mile Handicap.

Fourteen starters lined up for the Fifty Mile Handicap, the first competitor released being Miss Lister (Aston-Martin) with 9 min. 22 sec. start. Gordon England's Austin and Hazlehurst's Salmson were away next. George Duller was driving Capt. Waite's supercharged Austin Seven, the other starters being Purdy (Alvis), Douglas (Aston-Martin), Densham (Bugatti), R. C. Morgan (Thomas Special), Woolf Barnato (Bentley), G. Newman (Austro Daimler), F. B. Halford (A. M. Halford Special), J. G P. Thomas (Thomas Special), J. D. Barclay (Vauxhall) and Capt. Campbell (Ballot).

The outstanding feature of this race was the amazing performance of the little supercharged Austin, which lapping at 92 m.p.h., took the lead on the ninth lap, at which time Hazlehurst's Salmson was running second and Gordon England third, but the last-named was passed by Purdy (Alvis) on the next lap. Halford, on his very nice-looking A. M. Halford Special, was going well, but ran short of water and lost valuable time during the replenishment. Getting away again, he was about to make up time, when he had tyre trouble, and failed to complete the course in time. Barclay also suffered tyre trouble, his average up to that point being 106.88 m.p.h., which indicates the high speed at which the race was run.

George Duller came in first at 89.90 m.p.h., with Purdy (Alvis) second at 90.22 m.p.h., and Hazlehurst (Salmson) third at 83 m.p.h.

In the Three Lap 1,000 c.c. Motor-cycle Handicap, G. B. Brown (494 c.c. Douglas) was first, with H. M. Walters (Zenith) second, and J. W. Wheeler (Douglas) third. Winner's speed, 82.86 m.p.h.

J. S. Worters (348 New Gerrard) won the Three Lap Passenger Handicap, with L. P. Driscoll (588 Norton) and J. S. Wright (980 Zenith) second and third respectively. Winner's speed, 74.44 m.p.h.

SPORTING MACHINES ON TEST.

The Henderson.

By ARNOLD RADCLYFFE, with Notes by F. J. R. HEATH.

THERE must be hundreds of prospective Henderson owners in England who are put off buying one for four reasons: first, complication; second, weight; third, unsporting appearance; and, fourth, nationality.

Now I am not trying to sell Hendersons through the medium of my columns, but I think it a duty to explain away some of the objections that are often raised against this machine.

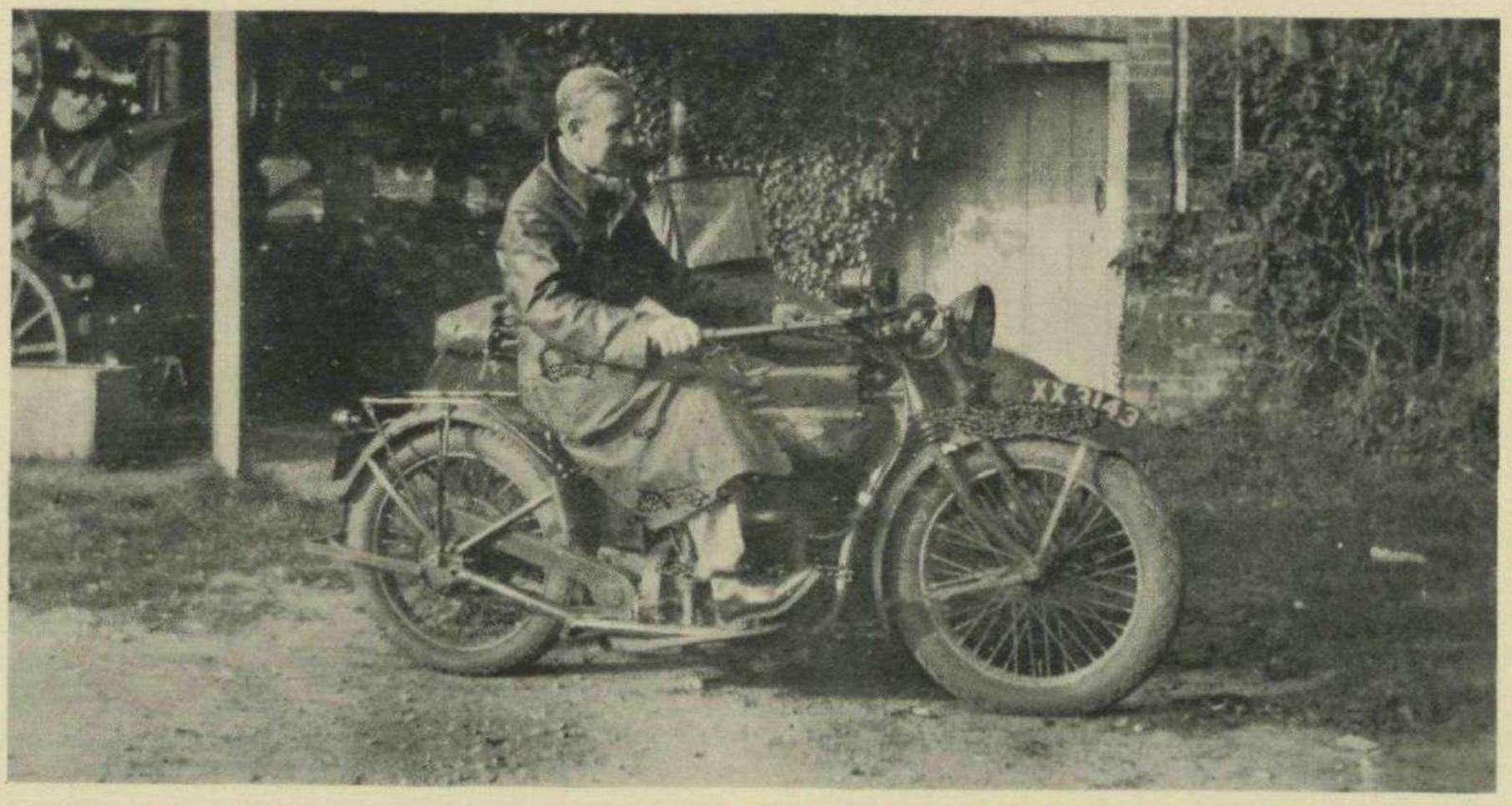
To me it has always been an ideal machine, and yet, like many others, I have never owned one though many makes have found a place in my stable. Previous to testing the Henderson, it had never occurred to me to analyse this fact, that despite continuous admiration for the massive motor, I had never even contemplated picking one up second-hand. Out of the four objections, I think I must place unsporting appearance first, with perhaps complication as an unlaid ghost in the background. Weight and the fact that the Henderson comes from the States would never have affected me. Complication should not have, but all of us are brought up to think that a four-in-hand needs more managing than a pair.

Now to disperse these bogies. The weight of the Henderson is certainly great, but it is actually lighter than one English big Twin; it is, however, easy to raise it on to its stand, and when astride the low saddle position permits one to place both feet firmly on the ground, so that, unless one is disabled or very puny, the Henderson should not take any more managing than any other machine, since it is a perfect steering vehicle and seems to balance itself at absurdly low speeds.

The Henderson is no more complicated than an Austin Seven, and surely, no one can complain that the latter taxes one's brain to keep it in order. Actually there is an added complication to the Seven, as it is water-cooled, which, of course, the Henderson is not.

I will not enter into a discussion here about the comparative merits of four cylinders against one or two. It is a well recognised fact that the first arrangement is better for car practice, but if you wish to hear more on the subject, it is only necessary to adjourn to a place where two or more motor-cyclists are gathered together and there shall you hear every argument for and against.

No one could call the Henderson a sporting looking machine according to our British ideas, but, nevertheless, it has most excellent lines in its 1926 form and its compact appearance is a joy to behold after regarding some machines whose designers main effort is to build a bike with as many gaps in it as possible. The Henderson is without doubt a sports mount of the highest quality and its comfort should easily outweigh a minor point like its handlebars, and, after all, I suppose those could be ordered to suit. I have seen semi-T.T. bars on a Henderson before now.



THE HENDERSON OUTFIT DESCRIBED IN THE ACCOMPANYING ARTICLE.

Performance.

I am going to deal first with the machine which was delivered to me to test. This particular outfit was a combination which had several thousand miles to its credit and should, therefore, be in an ideal condition for a test. At the conclusion of this test, I am pleased to say that I could find not a single loose nut or bolt on the whole machine; it is regrettable that this is not by any means the case on some machines which one has to test.

SPORTING MACHINES ON TEST—continued.

Let me say at once, without fear or favour, that I have yet to find a more comfortable machine than this particular balloon-tyred Henderson. It may seem a large statement, but so impressed was I by the absolute comfort and stability, both solo and sidecar, that I feel compelled to admit that I fail to remember having been astride a more luxurious motor-cycle. But this complete isolation from road shock is not accomplished by sacrificing controllability at speed: there is a certain patch of road which is in the process of being widened, and therefore during the past eight months has not been touched. It resembles the effect caused by a stone dropped in a pond. It is possible on a 30-98 or similar car to take this at speed, it is a beastly experience on a motor-cycle with high pressure tyres. It was taken all out both ways on the Henderson, both in the daytime and at night, and the passenger (when the sidecar was attached) complained of no bumps whatsoever, and the driver did not notice them. The surface here is really bad, so bad as to cause a car to jump into the ditch on one occasion. So much for the steering.

Acceleration and Deceleration.

As might be expected from a four cylinder, the acceleration of the Henderson is good: so good, in fact, that the cowpuncher's saddle fitted is really necessary if one is to retain one's seat in a dignified manner, when the throttle is inadvertently opened wide and with a twist grip this is always liable to happen at least once in a lifetime.

Deceleration cannot be said to be as efficient as it might be if a front wheel brake was fitted; this is really an important point which I am led to believe is at present exercising the minds of the designers. As usual, Alms Hill was included in the test as it forms a very good comparative hill, and the descent was made in a very undignified manner as the one braked wheel was insufficient to resist the forces of gravity and the combination was gently lowered over the worst part by three stalwart Oxonians. In the case of the machine solo, the brake was quite sufficient, but the heavy sidecar needed more braking power than one wheel could deliver. Nevertheless, the brakes that are fitted are of sensible diameter and their method of operation is easy, yet powerful, the internal expanding one incorporating a type of ratchet in the pedal gear which is very useful in Guildford High Street and similar acclivities.

The ascent of Alms with a heavily loaded two seater sidecar proved child's play for the Henderson, second gear being engaged above the Cannons, and acceleration was indulged in on bottom gear while climbing the steepest portion. This climb was made with the baffle shut, which rendered speech possible between driver and passenger. The latter's comment was "Good climb." The note of the Henderson with the baffle open is extraordinarily pleasant to the ear of the speedman, resembling as it does the throaty rumble of a Bentley without in any way causing undue attention to be directed towards it by the man in blue.

Top Gear Performance.

Bearing strictly in mind that sidecar ratios were fitted on this particular machine, the following occurrence is nevertheless a remarkable tribute to the four-cylinder engine.

Passing through Henley, we had just reached the centre of the town and were taking the white line round the bend when a cyclist approaching from the opposite direction and entirely unconscious of our approach, as we were only proceeding at about 5 miles per hour (at which speed the Henderson is nearly inaudible) ran straight at us; braking hard I locked the wheel round to the left and by completing the circle gave the man the little room he needed to avoid us. This had brought us to a standstill, but to my surprise the Henderson picked up on top gear without sign of knock or pink. Truly a remarkable effort.

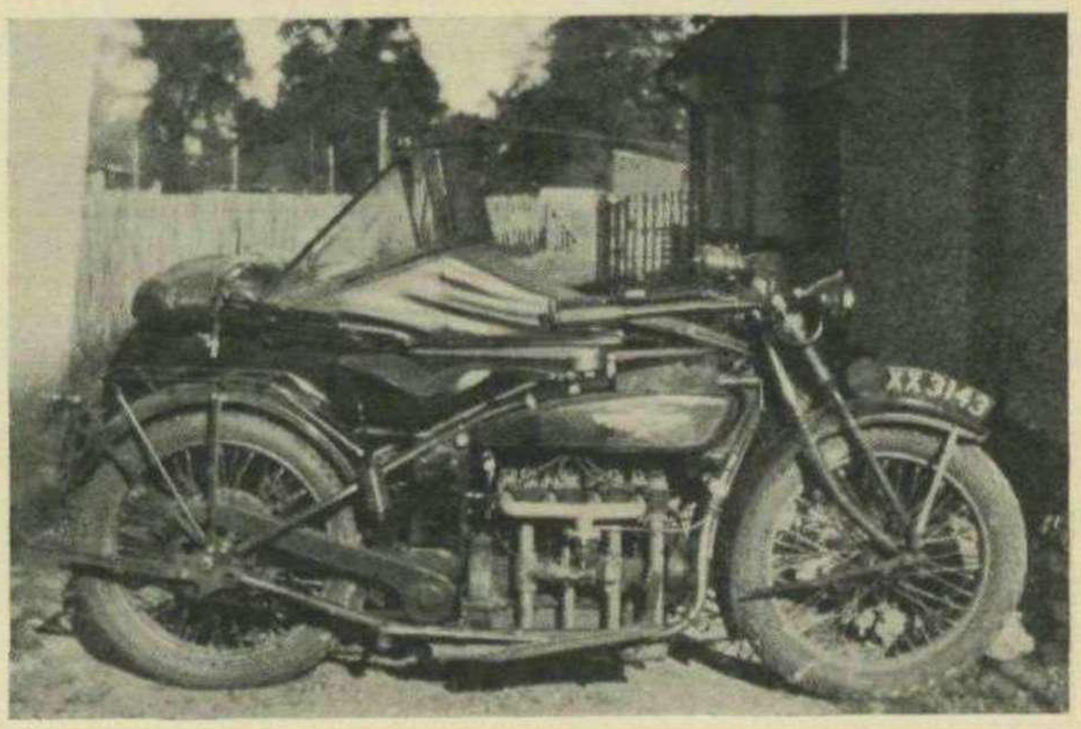
Cooling.

"Doesn't she get very hot?" was the question put to me by someone, and it is a question I myself have put to Henderson owners. This particular machine by no means remained as cool as some singles do, but its warmth did not seem to affect its performance in any way, no appreciable difference being noticeable in the engine revolutions when cold or when it had been running for an hour or so. The efficient oiling system accounts in large measure for this, as the oil pressure remains always steady, thus the engine is always working under as ideal lubricating conditions as one can at present obtain.

I will close my article with a few words about accessibility. The Henderson at first sight gives one an impression of being solid, and the effect obtained naturally spells inaccessibility of tappets, valves, plugs, etc.; on close examination, however, each of these points were cleared up, and it was found that if anything the Henderson was pleasantly accessible as regards all the important adjustments.

Finish is in dark blue, and pale yellow wheels are fitted to the latest models; the design is quite attractive, and the very wide mudguards combine with the big tank and solid construction to give the impression that the machine is built to last.

Not being able to have one of the latest solo models out on test, I requested Mr. Raymond Heath, who is



THE HENDERSON IS ACCESSIBLE FOR ALL IMPORTANT ADJUSTMENTS.

SPORTING MACHINES ON TEST—continued.

well known to most readers of this journal, to send me a few notes on his machine. I transcribe them here, almost word for word. Naturally having been a Henderson owner for many years his impressions will be of great interest.

Extracts from Notes by F. J. R. Heath.

It is difficult for me to write in an unprejudiced manner about the Henderson, for one is bound to be an enthusiast for or against it, I think—and if one knows anything about it, it is inevitably enthusiasm in favour.

However, the following jottings may be of interest.

I. My motor is non-standard as regards the following points :—

(*a*) Fork dampers (Hartford) are fitted.
(*b*) High pressure cord tyres are fitted.
(*c*) Steering damper is fitted.

I fit high pressure tyres because balloons are still an unknown quantity in trials. Fork dampers are less necessary with balloon tyres, but are still desirable as the fork is on the lively side, and on certain types of surface bouncing is apt to occur. The steering damper is there because I like the head of any machine to be stiff.

II. In something over 5,000 miles of heavy work *no* adjustments to wheels, steering head, primary drive (spiral bevel), clutch, gear box or timing gear (helical gears) has been necessary, and my experience has been that such adjustments are seldom required. Consequently, the only parts that need watching are the final drive chain and the brake adjustments—both extremely simple and not very often used.

The motor will run 4,000 miles without being decarbonised (although I have heard of 9,000) and tappets do not require adjusting in this period. Incidentally tappets are *not* inaccessible, and all the eight can be adjusted in about 15 minutes or less given an assistant to turn the motor round by the **kick** starter.

The machine as a whole has been designed for trouble-free heavy duty work, and this aim has been achieved, but when things must be done they are easy to do, *e.g.*, no need to remove engine from frame to decarbonise it.

Performance.

III. Maximum speed I don't know. I had 86 m.p.h. from a standard fully-equipped 1924 model, but have not fully tried out the later machines. Alms Hill can be comfortably climbed in second gear 5½ to 1. The motor will maintain touring speeds of 50—55 all day long, and should give 55 m.p.g. If, however, high speeds are required the consumption drops to 40 m.p.g.

Oil consumption can be regulated almost indefinitely. The engine holds 5½ pints, and anything from 1,000 to 3,000 m.p.g. may be obtained according to how often it is drained.

Although I always scrap tyres early because of trials I expect to get 5,000 miles from a back tyre and 12,000 from a front one, and on account of the large sized tyres such things as dented rims and loose spokes are unheard of.

My Bonniksen has 2½ second intervals between the readings, and the following accelerations were obtained on the level ground on calm days.

Beginning of 2½ secs. ...	30	40	50 m.p.h.
End of 2½ secs.	40	50	60 m.p.h.

In other words, from 30 to 60 in 7½ secs. This was unfortunately done with a trials gear of 4¼ to 1 on top as I had not my 3½ to 1 sprockets available at the time. The figures were obtained several times in both directions, and can be taken as fairly accurate.

IV. Steering is excellent, controllability on rough stuff absurdly easy, and the forks are reliable. The electric lights work, and in my experience go on working, though the head lamp is pointed down too much for fast night driving.

The lamp will take a 4 amp. bulb instead of a 3 amp. (standard), and this in conjunction with a slight raising of the angle of tilt of the lamp enables one to maintain touring speeds by night as well as by day.

I ought to mention here that one of the chief points about the motor is its slow pulling; I find an 8¼ to 1 bottom gear amply enough for Scramberley and frequently don't use a lower gear than 7½ to 1 for such trials. The motor is so flexible that the lack of a hand clutch is not felt even on acute hair-pins like Inverfarigaig, etc.

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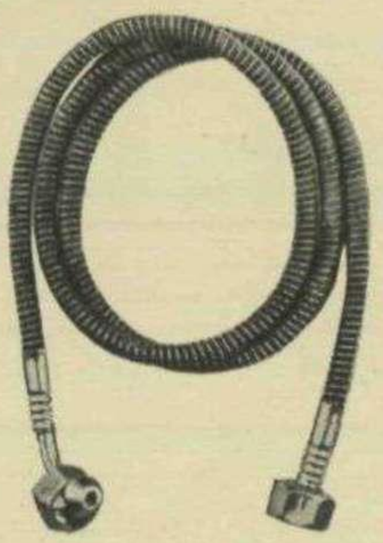
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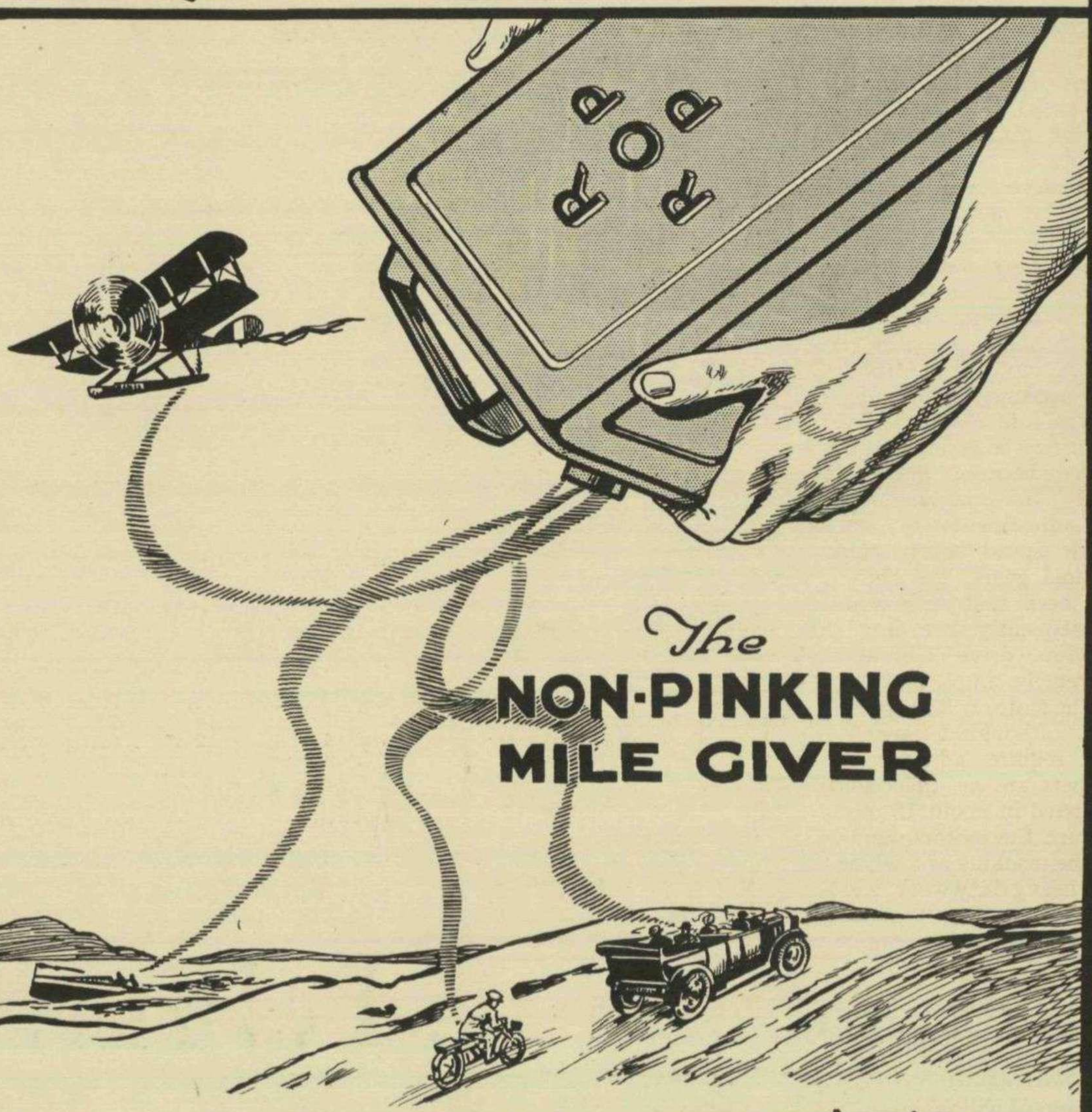
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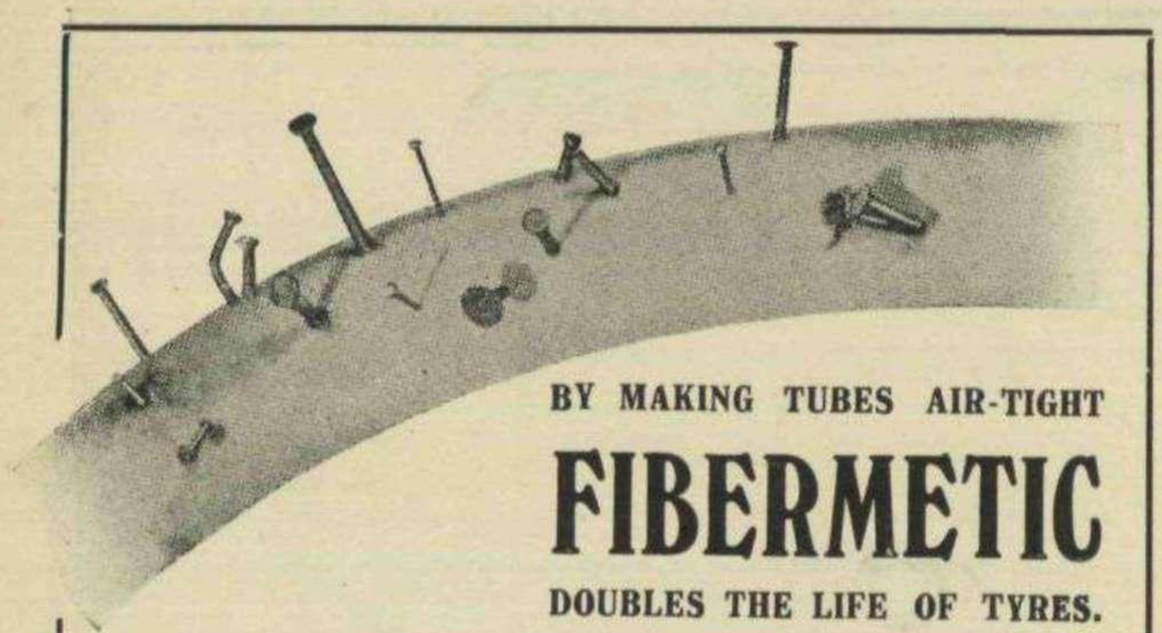
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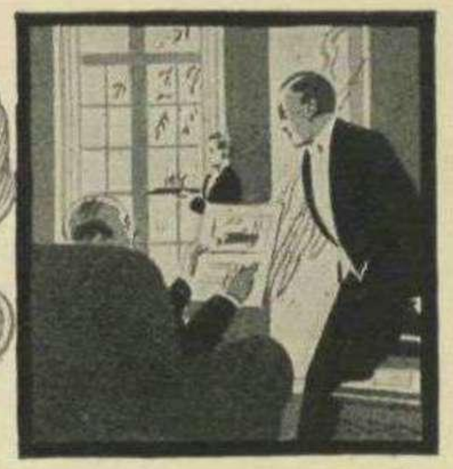
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T.30



Round the Clubs



THE RILEY MOTOR CLUB.

This Club, which was formed in Edinburgh on the completion of this year's London to Edinburgh Trial, held its first annual dinner at the Hotel Rembrandt on October 16th, a large gathering of members and guests attending. Mr. Victor Riley was in the chair, and amongst those present were Mr. Gordon Marshall, Lieut.-Commander John Havers, Sir James Percy, Mr. Thornton Rutter, Mr. A. Percy Bradley, Capt. de Normanville, Mr. S. C. H. Davis, Mr. Begley, Mr. Reeves and the Editor of *Motor Sport*.

Mr. Gordon Marshall proposed "The Press" in a humorous speech, explaining that the Club, though holding its first annual dinner at the time of the Show, desired that the gathering should be free from trade associations, and gave a brief outline of the inception of the Riley Motor Club, the members of which were all owners of Riley cars and were keen on the sporting side of motoring. Sir James Percy replied in one of his characteristic speeches, which thoroughly delighted the members and guests.

The toast of the Riley Club was proposed by Mr. Thornton Rutter, Mr. Victor Riley making a suitable response. The inauguration of the Riley Motor Club marks a distinct advance in motoring organisations, and now, being recognised by the R.A.C., entitles members to use a very handsome badge on their cars.

After some business connected with the election of officials, the proceedings took the form of an impromptu concert, Mr. Smith, of Blackpool, causing great amusement by his rendering of a song entitled "I do like an egg for my tea" as one item in a very comprehensive repertoire.

The function was of a very pleasant character, and the members and guests enjoying a thoroughly happy evening, which, as Sir James Percy described it, was "an oasis among the desert of Show ties." We can recommend all Riley owners who have not yet become members of this bright sporting club to associate themselves with the Riley Motor Club.

WOLVERHAMPTON M.C.C. & SANDWELL (WEST BROMWICH) M.C.C.

I commend to other overworked club secretaries the idea adopted as a preliminary experiment by the above Clubs on Sunday, October 11th. It so happened that both Clubs intended to hold one of their regular reliability trials on this date, and after mutual agreement it was decided to use the same course and observers, etc., thus saving time, labour and, what is more important to Clubs not overburdened with £ s. d., money. The experiment turned out a great success, and the idea will without doubt be generally adopted during the next and subsequent seasons. Each Club competed for their own individual awards, and to add zest to the trial a joint trophy was offered for the best performance of the day, irrespective of these awards.

The course was over 102 miles of the usual trials country, but including much new freak stuff, upon which many riders met their Waterloo. The blue dye lead up Hagley Wood Hill and Shut Mill both in exceptionally good condition and causing little, if any, trouble; but hereabouts the trail was hopelessly intermingled with that used by another Club on some previous occasion, and "finding the correct course" became increasingly difficult. Hereabouts the writer, although subsequently completing the course and climbing successfully all observed hills, lost all possible chance of a premier award by following the dye laid for the recent Alec Ross Trial for 15 miles before coming to the conclusion that he was somewhat off the proper track, ultimately checking in at the lunch check (Ludlow) some 40 minutes late.

The afternoon section created considerable surprise, and had the weather been less considerate clean performances would have been the exception rather than the rule. Sidecar entrants in particular (fortunately numbering three only out of an entry of 29) had a rough passage. The observed hills mostly lay off the Cleehill—Tenebury road, and Titroll Hill (complete with hair-pin), and also one carrying the illuminating appellation of Little Isles Hill consisted mostly of huge boulders strewn all over a narrow track, which would give the average Army mule a few anxious moments whilst ascending, or, I should say, attempting to ascend!

Abberley and Noverton were the last observed hills —the former in good condition, permitting almost without exception clean climbs, but the latter accounting for numerous failures owing to a deep belt of mud stretching across the stiffest part of the gradient.

The finish was at Stourport, and competitors were glad to rest and partake of a well-earned repast in readiness for them at the Swan Hotel. Results are not yet availabe, but the severity of the course may be judged from the fact that only four riders completed the trial without loss of marks.

H. J. George, Hon. Sports Secretary, Wolverhampton M.C.C., "The Homestead," Old Fallings Lane, Wolverhampton.

DOUGLAS M.C.C.

On Saturday, October 10th, a reliability trial was organised over one of the usual Wessex Centre Courses. There was a very healthy turn-out, over 20 members

ROUND THE CLUBS—continued.

participating, but at the next meet—date to be arranged later—nearer 100 entries are anticipated.

Saturday's result was :—

Mr. F. Chapman	Premier Award.
Mr. W. Werrett	Silver Medal, best performance.
Mr. S. G. Hill	Silver Medal, best performance Sidecar.

WATERLOO AND DISTRICT MOTOR CLUB.

To prove their interest and enthusiasm quite a good number of members were in evidence at the start (Nag's Head Hotel) on Sunday, September 20th, for the Club's hill climb, this time arranged to take place at "Jenkin's Chapel Hill." The journey as far as Macclesfield via Warrington and Knutsford was uneventful, although a few torrential showers were encountered *en route*. The hill is situated about seven miles the other side of Macclesfield, and on inspection was found to be in a very wet and muddy condition due to the recent bad weather. Ordinarily the surface is loose, with a gradient usually estimated at one in two-and-a-half, and includes two hairpin corners. Many showed great keenness to try their skill at making clean climbs, but only three proved successful in making clean climbs. R. Hornby (349 A.J.S.) and K. Corfe (349 A.J.S.) tied for fastest time, they making the ascent in 51 seconds, but in the re-run the latter competitor beat his formidable rival by 9 seconds. H. M. Chipchase (5-6 Sunbeam sidecar) at first looked like being victorious, but some mud at the top, which caused much wheel spin, spoilt his good chances. G. Emsley (494 Triumph) took the hill in a very cool and collected manner, which secured the second place for him. G. Tunstall (494 Triumph), who although absolutely new to this kind of sport, showed many "how to do it," and went up in grand style.

Results are as follows :—

1. K. J. Corfe (349 A.J.S.).
2. G. Emsley (494 Triumph).
3. G. Tunstall (494 Triumph).

THE SCOTT TRIAL.

Crowded out elsewhere this short paragraph on the Scott Trial finds a home under the Club reports.

Out of 117 entries, 106 started from Otley and the remarkable total of 50 finished, five of whom actually did the course in under four hours. Considering that this is an average of twenty miles an hour over a course worse than Scramberley, these five deserve a tablet in every clubroom. Their names are as follows :—

			Times. hr.	min.
A. Jackson ...	A.T.S.	350 c.c. ...	3	38
O. Langton ...	P. & M.	500 c.c. ...	3	50
A. Hill	Scott	500 c.c. ...	3	53
H. Fernside ...	Sunbeam	350 c.c. ...	3	55
T. E. Flintoff ...	Sunbeam	500 c.c. ...	3	56

The course included the worst that Yorkshire could provide, including twelve watersplashes, and about ten really rough hills. If the weather had been wet it is practically certain that no one could have completed the circuit in four hours. As it was, however, the trial was favoured with a perfect day, but this did not affect certain parts of the course which, owing to overhanging trees, are in a constant state of grease.

A record of some of the nicknames of the colonial sections may be of interest : Pomona, Yewdiss Mount, Fawkergive Way, Julius Cæsar's Cemetery, Doantby Rash, Shallweed Alley, Scottsbrum Pasture, Mutere Down, Crankease Crag; these pleasant titles give one a very good idea of what the hardy riders had to put up with for 80 miles; only about 15 miles of good road were included. The awards are as follows :—

Scott Trophy	...	No team qualified.
Raymond Bailey Trophy		T. E. Flintoff (amateur on Sunbeam).
Club Team Prize	...	Keighley Number One.
		H. Fernside, Sunbeam.
		A. Jackson, A.J.S.
		W. H. Smith, B.S.A.
Myers' Cup	...	Leeds Scott Team— J. S. White, A. Bryden, F. Palmer } Scott.
Folbigg Cup	...	A. Hill, Scott.
Galloway Cup	...	F. T. Sibley (Rudge and Sidecar).
Special Trade Prize	...	F. Palmer tied with A. Jackson.

M.C.C.

The M.C.C. have decided to recognise the sporting spirit which prevailed in their recent run to Lugano by giving first-class awards to all cars and motor-cycles which reached the finish under their own engine power. Many stopped to assist their fellow competitors who were stranded by the wayside, thus prejudicing their own chances of success; they now have the satisfaction of reaping their reward.

BRIGHTON & HOVE MOTOR CLUB'S SPEED TRIAL.

Entries to the extent of over one hundred were received by this club for their inter-club trials on October the 3rd. Sunshine and a big attendance combined with excellent racing to form an enjoyable spectacle.

The star performers were : Rolfe (Amilcar), Constable (Morgan), Jones (Bugatti), and E. Hillary (Frazer Nash); the latter won two events.

The most interesting feature of the day was the Joyce-Frazer Nash duel. Frazer Nash eventually vanquished the A.C. by 1-5th of a second.

WOOD GREEN & DISTRICT MOTOR-CYCLE CLUB.

Only one award was qualified for in the recent London to Beggar's Roost and back run, but, owing to the exceptional conditions which prevailed, the Committee decided to give medals to all finishers.

The following received the Special Endurance medal :

H. Clifton	...	Rudge.	Invitation Cup won by R. Allen, P. & M.
R. E. Dunkley	...	Sunbeam.	
W. Cato ...	...	A.J.S.	
W. E. Heard	...	P. & M.	
F. W. S. Osborne	...	Raleigh.	
L. A. Dearth	...	Rudge.	
W. E. Bristow	...	Sunbeam.	
R. T. Bowen	...	New Hudson.	
S. R. Mardon	...	Raleigh.	
H. Dry ...	...	B.S.A.	
G. W. Copeland	...	P. & M.	
C. D. Noel ...	...	Scott.	

CLUB NEWS IN PICTURES.

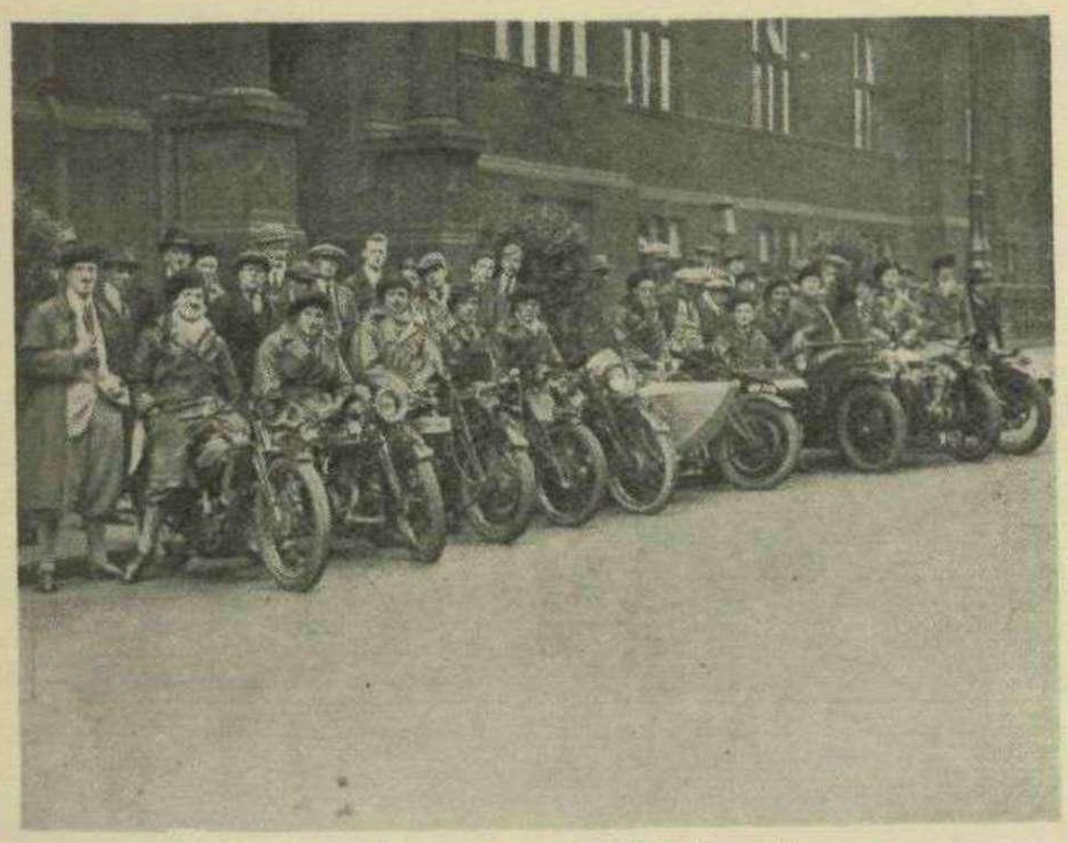
The Sheffield & Hallamshire M.C C. Activities in 1925.



R. May (Bugatti) on Bwlch-y-Groes.



A Typical Sheffield & Hallamshire M.C.C. Water Splash.



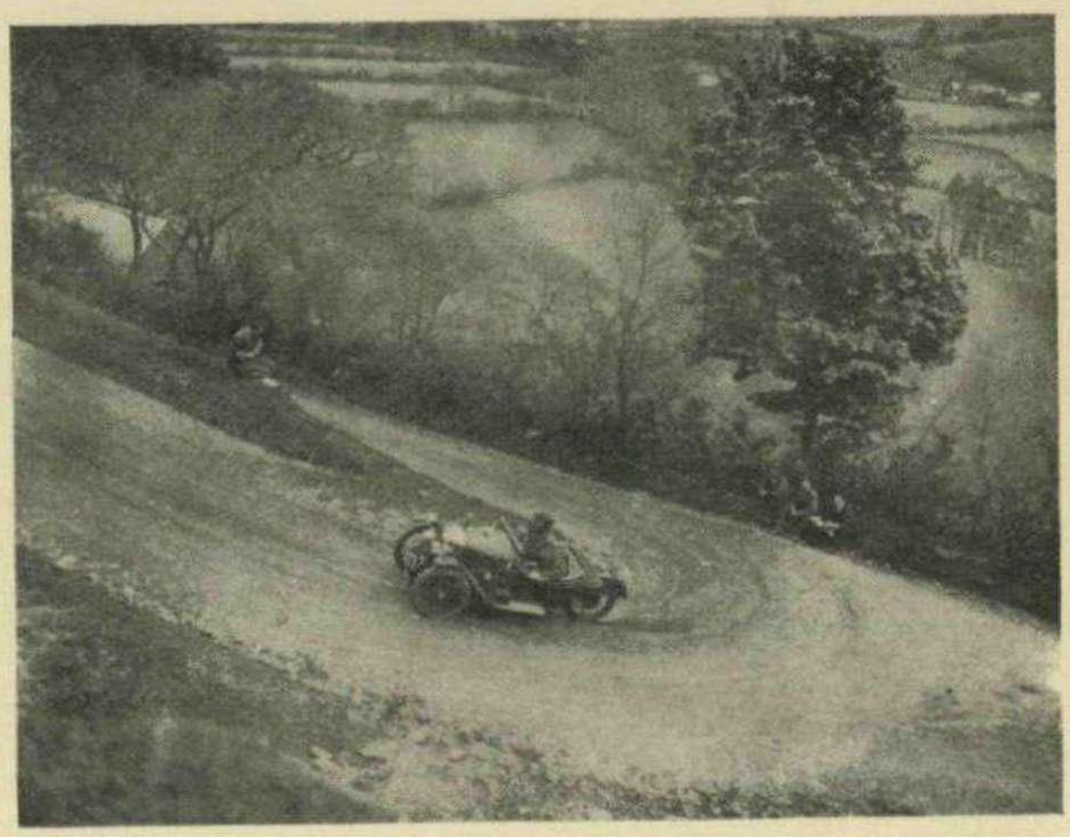
The Club Team in the M.C.C. Team Trial.



"Konked Out" on a Sheffield & Hallamshire M.C.C. Trial.



T. Jury (Martinsyde on a Club Run.



F. W. James (Morgan) on Bwlch-y-Groes during the Sheffield-Barmouth 24 Hours' Trial.

ROUND THE CLUBS—continued.

THE INTER-VARSITY TRIAL.

This year the Oxford University M.C. and the Cambridge University M.C.C. are combining to run their Inter-Varsity Reliability on November 7th on a bigger scale than last year, when the poor support it received was hardly merited. The trial will start from the Railway Hotel, Harpenden, about 10 o'clock, and after an eighty mile course will finish at the same point. The *piece de resistance* is the "Tunnel Slide" and here one should take up one's position early, as if it rains some fun will be seen.

The premier award is a very fine challenge cup presented by *Motor Cycling*.

PONTYPOOL AND DISTRICT MOTOR AND MOTOR-CYCLE CLUB.

At Hendre Park, Monmouth, on September 26th, this club held a very successful meeting. The speed trials were run over a very fast course, which was covered in least time by A. Grey on an o.h.v. Norton.

Results:

350 c.c.	Sidecar, T. F. Lucas, A.J.S.	
350 c.c.	General, W. B. Davies (Dot).	
350 c.c.	Novice, J. Case (A.J.S.).	
500 c.c.	Novice, R. Cambeley (Omega).	
500 c.c.	General, A. Grey (Norton).	
600 c.c.	Sidecar Novice, F. Whent (Norton).	
600 c.c.	Sidecar General, A. Grey (Norton).	
750 c.c.	Novice, D. W. Sparkes (Cotton).	
1000 c.c.	Novice, D. W. Sparkes (Cotton).	
1000 c.c.	General, A. Grey (Norton).	

A. Grey, fastest time for the 700 yards, was 25.7 secs.

RAVENSCOURT PARK & DISTRICT M.C.C.

After an easy run in the London—Oxford—London on September 27th, members of this club were treated to a sporting trial on October 4th. A fifty mile course included much bad going and mud was in the ascendant.

Gold Medal—	L. F. Southwood	o.h.v. Norton.
Silver Medals—	J. Scott	Edmund.
	H. Slater	o.h.v. Enfield.
Bronze Medals—	E. Larter	350 Indian.
	P. Hames	Triumph.
	R. Humphreys	980 Coventry Eagle & S/c.
	A. Colmer	o.h.v. Norton.

HONITON MOTOR-CYCLE & LIGHT CAR CLUB.

This club closed its summer season with a Dance on October 20th.

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