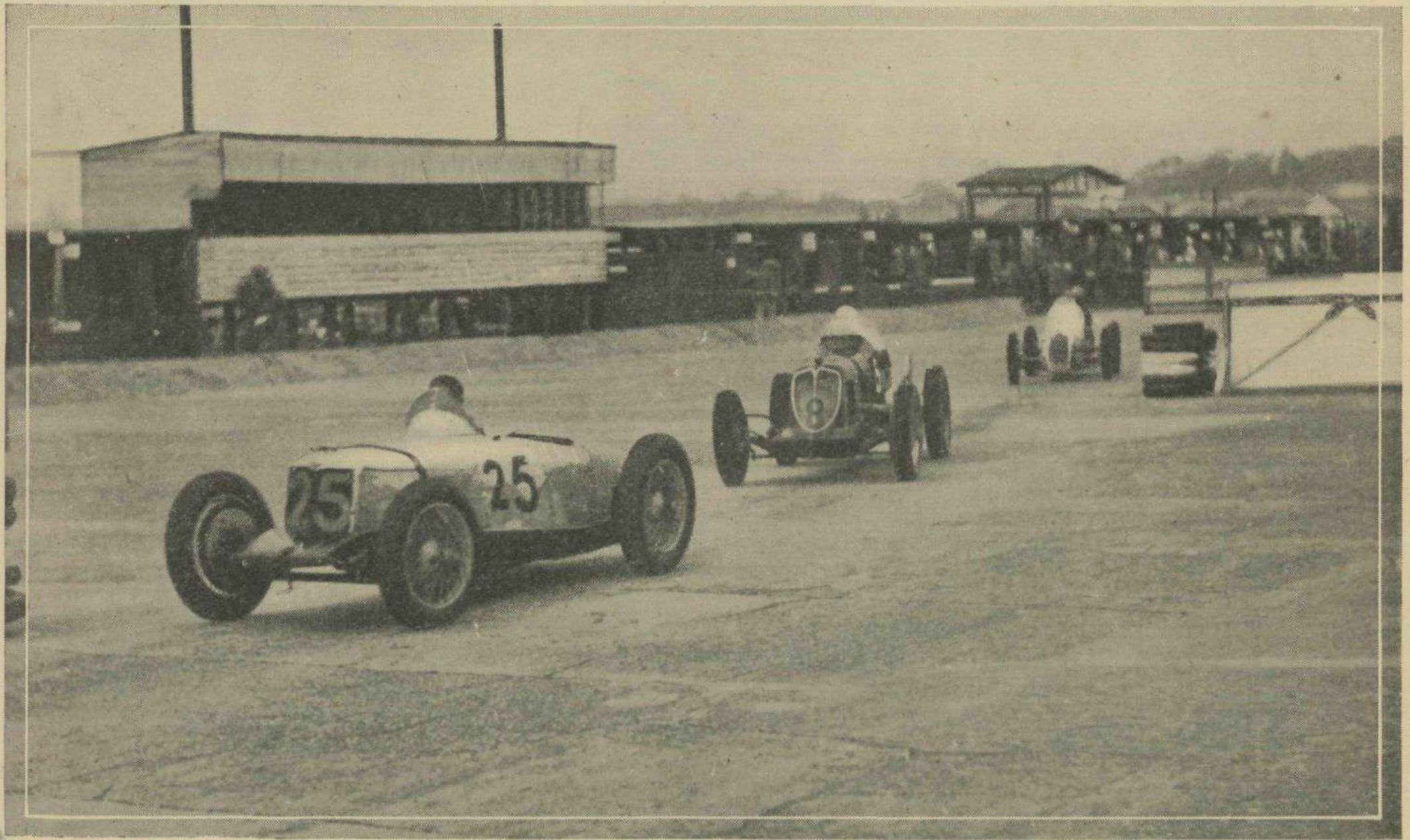


MOTOR SPORT

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THE THIRD BRAINS TRUST

Donald McCullough as Question Master

THE Motoring Brains Trust at the "Rembrandt" on April 16th, for which Rivers-Fletcher was mainly responsible, gained vastly by having Donald McCullough, the B.B.C. Question Master, as its questionmaster on this occasion. McCullough's particular brand of wit, his understanding of the Sport, and his undisguised appreciation of the 3-litre Bentley, combined to make him the ideal question master at a gathering of this nature. One sample of his wit—in introducing the "brains," he referred to Rolls-Royce, Ltd., as a concern which had come into prominence after joining with Bentley.

The first question was, "What is a sports car?" Scott-Moncrieff thought any car which gave pleasure as distinct from purely transport; Laurence Pomeroy suggested "a car which is slower than a streamlined saloon and faster than a standard saloon"; and Peter Monkhouse emphasised that chromium plate often distinguishes the British sports car from its touring counterpart. D. Bastow, B.Sc., A.M.I.A.E., of Rolls-Royce, Ltd., thought in terms of fast tourers or sports cars for trials, rallies, etc., as a far more usual type than the sports car; and Clutton said a car giving some return for the exercise of skill in handling it. This led Pomeroy to venture "a car driven for pleasure derived from performance." Clutton then retorted that other things besides performance matter a great deal; the early Twenty Rolls being a most pleasurable car, although it "hardly goes at all." McCullough here terminated the answers with the comment: "We don't want to lose the whole crowd (of listeners). The simple answer is, of course, a 3-litre!"

Question No. 2: "Where lies the dividing line between cars like the M.G. and a normal saloon?" Scott-Moncrieff thought the sports car needed skilful driving to reveal its performance and wasn't just a car with a zo-zo exhaust. (McCullough: "If you can change gear it's not a sports car!") This question rather faded out, and then we had:

"Why shouldn't a sports car have a good steering lock for town use?" Monkhouse said that B.M.W., Bugatti and Alfa-Romeo have, but some sports cars developed from touring cars may offend. Pomeroy reminded us that ordinary suspension reduces lock, whereas i.f.s., if of the right type, improves it, and Scott-Moncrieff wound up by recalling the 3-litre Sunbeam as having a fair right lock but needing to go right-handed to

get round left-hand corners. Next question: "How do insurance companies determine what is a sports car and why do they take a poor view of them?" Clutton remarked that his mother said that any car you can't walk through from one side to the other without stooping must be a sports car [shades of Fafnir], and he said that the "30/98" Vauxhall always went by as a fast tourer even when so old as to be unsafe. Next question: "Why does a Jeep, with ordinary axles, high c. of g. and hard tyres, hold down so well?" Monkhouse cited its i.f.s., but was told it has normal springing. Clutton was "quite terrified at speed" in one, but Moncrieff said even with an inebriated driver they give great confidence, "like Aldy's things." Sam said yes, but don't they eventually take complete charge? and Pomeroy drily remarked that some cars are so dangerous as to kill all the evidence.

Anthony Heal then asked what kind of concern will build sports cars after the war. (McCullough: "And what will they cost?") Pomeroy expected a much bigger market than before the war, bearing in mind the large numbers of mechanically-trained ex-Service men who will find "civvy street" very dull. Bastow said that quantity production would offset high price, and Aldington wanted to see a good tourer produced first and a sporting edition evolved from it. The specialist market was a restricted one, of expensive cars. Moncrieff disagreed with Pomeroy, considering that expensive sports cars would be quite unable to compete with 100-m.p.h. Buicks after the war—he emphasised the great strides in roadholding technique recently made by American designers. Clutton here asked, "Why have sports cars at all?" Comfort, silence, performance and roadholding were now achieved in one design by use of high r.p.m., short stroke and i.f.s. Monkhouse thought the specialist market would survive, selling some 500 cars a year, and asked Aldy's view. Aldington said that the Frazer-Nash market had become too

THE APRIL BRAINS

Question Master:

DONALD McCULLOUGH, of the B.B.C., 3-litre Bentley owner.

THE BRAINS

H. J. ALDINGTON, of Frazer-Nash and B.M.W. fame, only private owner of a Messerschmidt.

D. BASTOW, B.Sc., A.M.I.A.E., suspension expert of Rolls-Royce, Ltd., author of many learned articles on springing.

CECIL CLUTTON, famous vint-agent and driver of veteran cars. Son of the late Col. Clutton. Expert on 16th-18th century music. Plays the harpsichord, clavichord, virginals and the organ.

PETER MONKHOUSE, famous driver of M.G. and other racing cars, and a director of Monaco, Ltd., one of the few firms which did business with racing drivers—it still exists.

D. SCOTT-MONCRIEFF, purveyor of horseless carriages to the nobility and gentry. Probably the only racing driver who speaks Russian well enough to get some petrol.

LAURENCE POMEROY, Technical Editor of *The Motor*. Son of the designer of the "30/98" Vauxhall. Expert on blowing. Plays the 'cello. The Dr. Joad of the Brains Trust, but, unlike Joad, does not dislike motor-cars.

limited, so he had introduced the B.M.W. as a modern version of the 'Nash. [But, at the time, he disliked the Press referring to the Frazer-Nash-B.M.W. as a modern edition of the 'Nash, emphasising that it was a separate entity.] Pomeroy thought the future lay in cars like the 10-h.p. Simca Fiat, and he expected to see increased spending power. Bastow then raised the point that if only synthetic rubber is available, fast cars will be impossible, as the tyres will not stand up. This brought out one of the most interesting answers of the meeting, Aldington telling us that for three years he had raced B.M.W. motor-cycles on synthetic tyres with no ill results. Germany, likewise, used it for m/c. T.T. racing before the war.

A lady then wanted to know why we don't sell our sports cars on the Continent, although Continental sports cars are popular here. Monkhouse said probably because we never tried to—we did sell many M.G.s. Aldington said because British cars did not give satisfaction, which is why he imported the B.M.W. He saw no reason why we shouldn't make sports cars suitable for export. Moncrieff said people on the Continent still think that we are the finest engineers in the world, but economic conditions prevent them buying our cars. There was little free currency—Rumania sold oil, it is true, but Greece only olive oil, and the smaller countries spent what they had on war materials. Clutton remarked that it was true up to a point to say that the English didn't build sports cars, and Pomeroy said that directors of our factories were apt to regard a 10-mile jaunt as a sound test, and 50 m.p.h. as rushing along like an express train, whereas on the Continent 100 m.p.h. for 100 miles was more the order (recalling his own drive on a V12 Lagonda in Germany). Douglas Tubbs then wanted to know how fast a sports car should go. Pomeroy thought the cruising speed should equal the maximum of an ordinary car, *i.e.*, a 25 per cent. margin of maximum speed—cruising 85, flat-out 95–100 m.p.h. Monkhouse said 140 m.p.h. [he had attended in his Type 51 G.P. Bugatti in the course of business journeys], and Clutton referred to engine output, reminding us that 70 b.h.p. per litre was about the highest achievement to date, by Alfa-Romeo and Bugatti, but he felt that, with higher boost, some 130–140 m.p.h. should be possible with reliability. Aldington said this was wishful thinking, and sought a continuous 100 m.p.h. in safety. Monkhouse said the public could not measure acceleration on a clock, and so always asked, "How fast will it go?" [the Wattle-club?]. Thus 90 m.p.h. down the by-pass on the speedometer usually leaves them satisfied. Moncrieff observed that he and Lycett played a game of seeing how fast they could go from A to B, observing the 30 m.p.h. limits. It is average speed that counts in the end, and touring cars are catching up on sports cars on this score.

Next question: "Have sales managers had a bad influence on sports car design?" Monkhouse thought partly, otherwise one wonders why certain cars sell at all. Then someone wanted to know why i.r.s. hadn't been developed like i.f.s. Bastow felt it had been attempted, and aban-

doned, by people who didn't know what they wanted to do or how to do it—true, also, of some i.f.s. Moncrieff said when he was at Untertuckheim he was told that Daimler-Benz needed their best brains for other things [we now know for what!], otherwise they would have developed independent rear suspension, as there is definitely something in it.

Shortt then asked whether the old-school Bentley set a standard by which all sports cars are judged? (McCullough: "Definitely, yes!"). Clutton said probably it had lived longest in public esteem, though it never won races by going fast, but by never breaking down. Aldington had liked the "30/98" Vauxhall, but had had no use for the 3-litre Bentley. Bastow said the "30/98" had probably lived longer than the Bentley, which caused Pomeroy to add that it was designed for a 58 sec. run but had been known to function for far longer periods! Monkhouse thought perhaps the older cars could still hold their own, due to backward development. Moncrieff said he had had "30/98s" and Mercedes-Benz, and had never liked the Bentley, but you do love a Bentley as a real engineer's car.

Next question: "Why are modern cars so difficult to maintain, and will enclosure make things worse in future?" Pomeroy said the bad spots of old cars were certainly perpetual running sores, and specialised cars of the future would need special service. A 4½-litre Bentley was easy to maintain, but a Fordson tractor was still easier—moderns would do 20,000 trouble-free miles and then need a depot overhaul. Clutton challenged this statement, citing the Rolls-Bentley as a car holding its tune over longer periods probably better than any other. Bastow observed that old cars had to be accessible, whereas moderns need not be.

George Monkhouse [he uses a 4½-litre Bentley] then wanted the Brains Trust to tell him why the modern sports car has such inadequate luggage space. Pomeroy said there is no basic reason, just bad design, and Moncrieff, at the risk of upsetting the Bentley boys, said cars built up to a price must look pretty. His ideal was an S.S.K. Mercedes able to accommodate a man, a girl and two suitcases. (McCullough: "He is taking his mind off the technical side!") A lady now queried whether an upright driving position was preferable to the horizontal. Monkhouse [remembering his drive?] said Bugatti is excellent except for the pedal well, and he favoured a position verging on the horizontal, while Clutton recalled that his Bugatti very nearly halved the fatigue factor as compared with his Bentley, largely due to light pedal action. Bastow thought that if you want to feel you are going fast you sit low, but if you go fast you prefer to be more upright. Large bonnets are trying in fog, etc. Moncrieff said Ferrari spent a few guineas on getting an orthopaedic surgeon to design the Alfa-Romeo driving position, and did British concerns make a practice of doing this? Aldington got very technical, saying that the top half of the human frame should tend to lean forward from the waist upwards, and Pomeroy said, alter the seat position as boost pressure rises! Peter Clark

then asked whether spares exist with which to button up old cars such as the Bentley and, if not, whether it wouldn't be better to smash up all such well-worn vintage cars to avoid bodging up? He drew a comparison with the commercial world, where a new Bedford could be bought for £460 but bodged-up ones sold for £750, so that the M. of S. encouraged the scrapping of old lorries before new ones were bought. Moncrieff remarked that in old cars all parts are renewable (look to Bentley shackle-pins as well as at the paint), and he felt such cars should be restored, because manufacturers are unlikely to tool-up to produce 1,000 specialised sports cars a year after the war, *i.e.*, 200 a year from each factory. Aldington said he thought selling 200 cars a year, renewable every three years, a reasonable prospect. Monkhouse said there is no point in smashing up old cars, because plenty of folk crave real sports cars, so let the others have their Bentleys! Clutton thought the vintage car now merely a sentimental cult, albeit a very, very pleasing one.

A question about the relative use of achieving high speed in various capacity classes on record runs resulted in the Brains Trust very largely debunking cars like the 369-m.p.h. Railton, and Monkhouse said surely the Railton was merely built to go very fast, not to prove anything, and, incidentally, it happened to look something like a motor-car. [But it is a fine engineering achievement nevertheless, and did Dunlops learn nothing from this record attempt?]

McCullough then put a question of his own: "What are we learning from this war that is likely to benefit motor-cars?" Pomeroy said that, put in rather a low key, there was the improved fatigue qualities of metals. Bastow cited development of light alloys, certain forms of drive and supercharging. Moncrieff said supercharging had reached fantastic pressures. He would like to see a diesel-engine class at all future events because these engines, clumsy before the war, now make a lot of sense. Clutton called-up i.f.s., and Monkhouse disc brakes. Bastow remarked that war has released the money needed for research and has developed, *but not introduced*, light alloys, new brake linings, etc. R. A. Waddy now asked why interest in sports cars was so evident on the Continent and so lax here, where we have such a dense motoring population. Pomeroy said this is not a fact. Barring Italy, there was more interest here than in France or Germany in the sports-type car. Germans only wanted to watch G.P. racing, and thought 65 m.p.h. fast enough from their own cars unless they bought an S.S.K. Little cream sports cars were in less demand there. Moncrieff said the French Bol d'Or race was an exception, the entrants working on their cars in backyards for a year beforehand, and the cars going quite fast without accidents.

Julian Fall now queried whether the progress made in air conditioning would lead to open cars going out of production. Bastow said yes, if you only wanted to go fast, but open cars would always be wanted for enjoyment. Monkhouse, calling America the home of the saloon, said even there you found plenty of drophead coupés and 2-seaters. Pomeroy said you

cannot really enjoy motoring with fewer than 11 cars and, of these, one should be open. Moncrieff saw the future composed of transparent plastic eggs, greatly liked by the future generation—but he does not like transparent plastic eggs! Someone now asked why there is so much prejudice against forced induction and 2-stroke engines. Pomeroy said the low power of the 2-stroke barred it for sports cars, and supercharging was entirely a matter of price and what was wanted. Big unblown engines were cheaper than small supercharged ones and not necessarily heavier. Monkhouse said the present tax basis encouraged supercharging. The next question was, "Why do Germans build better sports cars than the English?" Aldington excused the lady who asked this by saying that one or two good cars from any country can give that country a false national prestige. B.M.W. had given glory to Germany she may not really deserve. Pomeroy here said surely two Austrians designed the first B.M.W., so Aldington told us the truth—the B.M.W. was actually developed from our Austin Seven and, incidentally, wasn't regarded as a sports car in Germany. Moncrieff said Mercedes ceased sports-car production in the thirties. Their Types 500 and 540 were not liked by him as sports cars, but they were like a Lincoln product or a General Motors of eight years later. Adler rather "missed the bus." Aldington found the S.S.K. a very over-

rated motor-car, and a prestige model—the Rolls-Bentley was a far better car. (McCullough: "Very satisfactory—no good German sports cars—B.M.W. merely a glorified Austin Seven!") A query as to the future of engines like the Cross rotary-valve led Monkhouse to say that the Aspin engine was quite fantastic in single-cylinder form, but running up to 14,000 r.p.m., hardly practical. As a 4½-litre 6-cylinder lorry engine running at 2,800 r.p.m. it is very promising. Pomeroy thought rotary valves had developed too slowly and could not now compete with other developments in i.c. engine design. Then, "What bodywork will attract the ladies most?" Moncrieff said that, speaking from his bachelor days, a body in which they will not get too badly wet, which *looks* fast, and which *looks different*. Here the lady sitting beside Klemantaski said that Louis had remarked in an undertone, "One with a horizontal driving position." [Do you always use a 2-seater, Klem?] Mrs. Peter Clark wanted to know why speed was always allied to discomfort, which led Aldington to cite racing suspension, and to remark that the racing B.M.W. motor-cycle is most comfortable and Miss Patten to give her Le Mans Peugeot a puff. In reply to a question *re* the future of the h.p. tax, Moncrieff quoted, from the *Daily Worker*: "Motoring is a form of social affectation," and said the Government is very unlikely to listen

to us while the masses dislike us. Aldington wanted a tax on engine capacity. The Trust concluded on a technical note, with questions and answers anent aerodynamic form, over *versus* under-steer, 90-octane fuel, i.e. turbines and jet propulsion. And so to bed!

* * *

Apart from the Brains Trust it was all a most excellent show. At lunch F. J. Findon was in the chair, and George Monkhouse replied for the guests. Lord Howe was unable to attend, and "Bira's" aeroplane was held up by bad weather, but Raymond Mays was at the lunch. McCullough paid a very nice tribute to the motoring enthusiast: rather a social embarrassment in peace-time but so necessary if a great country is to remain pre-eminent; so many of whom have already laid down their lives. The Aston-Martin "Atom" was on view outside the "Rembrandt," the Monkhouse Type 51 Bugatti was garaged nearby, and going home was enlivened when the Lancia "Aprilia" carrying Aldington became skittish in the wet, and that disgusting Editorial "12/50" Alvis was arrested at Hyde Park Corner by a policeman who had quite forgotten that a Road Fund licence is carried on the *near* side. Our thanks to Rivers-Fletcher. There is to be another gathering in September, after the summer season.

Why Neglect the Early Small Cars?

IT is rather curious that examples of small cars of the early nineteen-twenties fail to fascinate the enthusiast, although he will willingly restore to pristine order a pre-1905 veteran or give shelter to pre-1914 cars of quite sober h.p. The really early motor vehicle obviously has considerable historic value and is a distinctly refreshing study into the bargain, even if rather too frail and valuable to be exercised in other than the Brighton run or an occasional extra Veteran C.C. fixture. The later veterans are more rugged, and often quite practical runners, and a heap of fun was to be had entering them for the quite frequent competitive events organised by the Vintage S.C.C. and other bodies.

However, such cars are usually difficult to find when sought and, when found, a deal of restoration is usually necessary, while, so far, few persons have been brave enough to tax one for regular use. On the other hand, small cars of the early nineteen-twenties have not entirely vanished from amongst us and, when encountered, they are very often in such condition as to offer reasonable low-speed motoring of an "everyday" nature without a complete rebuild being necessary. Why, then, amongst vintage and veteran enthusiasts, is so little interest shown in them? The reason is probably that they offer nothing of the performance and complete practicability of a good vintage sports car, and none of the quaint adventure which a journey in a car constructed before the last war can embrace. There is a fascination of a rather different sort about these cars. And

what of ex-Service enthusiasts, many of whom will be distinctly hard up when they return to "civvy street"?

These small cars have no particular value, yet, as the Editor has satisfied himself with 1922 Rhode, 1923 Jowett, and 1924 and 1925 Gwynne Eights, they can provide much fun and quite sound transport. Sports cars acquired for like sums are usually far more worn out, cost more in fuel, oil and tyres, and are likely to attract far more attention from the police. So let us not scorn these rare and often technically-absorbing examples of the veteran field.

Our thoughts were re-directed to this subject recently when Rowland Motors, of Byfleet, took us out in a 1924 Horstman 4-seater. This car, which has recently come into their hands, has had very little use and is virtually brand new, as the hood, side-screens, paintwork, safety-glass screen and upholstery, all unblemished, testify. The s.v. Anzani engine, of touring type, seems as sound as bell; it is almost inaudible on the tick-over and quite smokeless. The front-wheel brakes have hydraulic operation embracing some quite fantastic external rubber pipe-work, and the 3-speed gearbox is controlled by a ball-gate, r.h. lever rather reminiscent of that on the Sequeville-Hoyau we discovered last year. The disc wheels carry almost new balloon tyres and have knock-off hubs; the radiator is the V-fronted, fluted-top, gilled-tube type always used on these cars; the tubular front axle actually varies its castor action as the ¼-elliptic springs deflect, and the bonnet divides down the middle to give access

to the engine. The facia carries a thermometer and the cockpit-starter usually fitted is not in evidence in this car, which was apparently built for Mrs. Horstman, and has had only one owner since. Rowland uses it for business journeys, but really has no room for it, and we believe it could be bought—a virtually new car—for £12 10s. The original tool-kit, incidentally, exists in the near side-door pocket. Curiously, as we were going to see the Horstman, quite by chance we came upon another early small car outside a garage in Weybridge—a 2-seater A.B.C. with, surprisingly, five almost unmarked 710×90 Dunlops. It appeared quite complete, even to hood and safety-glass screen, and had been last taxed in 1942, since when Charles Brackenbury has used it occasionally on Trade plates. It would appear to be an early model, probably 1921, with overhanging boot and the exposed push-rod 1,100-c.c. air-cooled, flat-twin engine. The vertical gear-gate, splash lubrication with facia drip-feed, petrol tank filled through the radiator cap and massive rear axle, were typical A.B.C. features. Such cars could form the nucleus of a stable as interesting as that of any other collection of veterans, and we shall always be glad to hear of similar, well-preserved examples. Where, for instance, are the true cycle-cars, like the belt-drive Tomplin we found in Portsmouth two years ago? Soon impecunious enthusiasts may have a use for such cars, when sports cars are too expensive. And wouldn't a post-war Defunct Makes meet be rather pleasing?

Notes on the Original Aston-Martin Company

By E. M. Inman-Hunter

IN studying the early history of the Aston-Martin car it is interesting to go right back prior to the production of the first experimental model in 1914 and discover the origin of the marque.

In the early days of motoring, when the sport of cycling was at its height and road races were run off every week-end, there were a couple of enthusiasts named Bamford and Martin who, through their intense rivalry, soon became very great friends. Their friendship was fostered still further by a mutual interest in motor cars, and some years before the last war they decided to enter into a business partnership and, trading under the name of Bamford & Martin, Ltd., opened a garage at 53, Abingdon Road, Kensington, W.8, a building now occupied by a dairy farmer, all traces of the part it played in the history of motoring having long since disappeared.

Lionel Martin had no professional engineering background but an abundance of enthusiasm, whereas his partner was a fully-trained engineer, having served an apprenticeship with Messrs. Hesse & Savory at Teddington. Their first task after launching their enterprise was to secure distribution rights for a light car possessing qualities that would appeal to those desiring something rather better than the average. After several enquiries had been made they found themselves in the position of having to choose between the Singer, a tried and well-known make, and the Morris, a new and somewhat unknown quantity. For an enterprising concern the choice was not an easy one.

Fate decreed that they should select the Singer. If this had not been so, it is probable that Messrs. Bamford & Martin would be in the position held by Stewart & Arden to-day, and there would be no Aston-Martin to gladden the hearts of enthusiasts.

Having secured the selling rights for a large area of South-East England, Martin, always the sportsman, drove examples of the 10-h.p. model in numerous events with a good measure of success.

But again Fate smiled on future Aston worshippers, for on many occasions the new Singers delivered to the distributors did not meet with their approval, and eventually either the Singer Company became tired of the persistent return of their product, or else Bamford & Martin tired of waiting for new vehicles to be delivered in the desired condition.

Whichever the case the contract was not renewed, and the Kensington firm decided on the bold step of manufacturing their own car, and three 4-cylinder engines of 1,400-c.c. capacity (the class limit at that time) were put in hand. These engines were of fairly straightforward design, but for one unusual feature in that the valve caps were ground on to conical seatings in the manner of a valve and held in position by buss bars carrying individual adjustments, a system soon scrapped in favour of the more usual screw-in pattern. At the same time changes were made in the four-speed gearbox, the first examples having "constant mesh gears" which were moved out of mesh when in top!

The first of these engines was mounted

AUTHOR'S NOTE.—Some of the information contained in this article has recently been covered in "Motor Sport," but is repeated here in order that the complete, but necessarily brief, history of Bamford and Martin can be published in one chronological survey.

in one of the beautiful little Isotta Grand Prix chassis carrying a semi-sports 2-seater body and a radiator of the true Aston contour, produced from sketches made by Mrs. Lionel Martin.

At this stage World War I prevented further development work, although by using the hybrid car for hack work during the four years of war much useful knowledge was gained, which showed itself when at last it was possible to think seriously of production.

With the return to peace conditions Bamford seemed to have lost interest in the project, but the ever-enthusiastic Lionel Martin sketched out a specification which was translated into actual motor car by a team of specialists comprising S. Robb, who had previously been with Coventry-Simplex in charge of engines, and E. G. Wrigley, who laid out the transmission, aided by a young draughtsman named Cecil Kimber, later to achieve fame as "Mr. M.G." The frame was built by a northern firm, but soon modified as insufficient depth had been allowed the side members, which were found to break at the rear of the gearbox.

And so in 1920 the Aston-Martin sports touring car, as the makers described it, was formally introduced to the motoring fraternity, in whose favour it rapidly soared. The name, of course, was derived from that of its sponsor and his favourite sporting venue, the Aston Clinton Hill Club.

The car was exceedingly successful in competition, but Martin's dream of beating up the hitherto invincible Brescia Bugatti was never realised, for he had no driver of quite the same calibre as Raymond Mays, who shone so brightly on that make. Back to the drawing office returned Robb, to emerge with blueprints of a single overhead-camshaft engine with four vertical valves per cylinder, utilising the standard s.v. bottom half. Unfortunately this power unit suffered from over-heating the valves and was anything but a success.

About this time, however, Count Zborowski and Clive Gallop, who had just finished his apprenticeship at Peugeot's, fell in love with the little Aston and planned to persuade M. Henri, the famous Peugeot and Ballot engineer, to design a racing engine capable of beating the Brescia Bugatti.

The delightful story is told of how Gallop was given a large bag of gold by Zborowski and instructed to proceed to Paris and not to return without the desired drawings. Gallop met with a cold reception. Henri, doubtless a busy man, declared that he had no time to design bits and pieces for a tin-pot little firm

of which he had hardly heard. But the Kensington envoy was not to be put off quite so easily, and produced fifty pounds in hard cash, whereupon the maestro, with a wry smile, placed his T-square across a blueprint of the Ballot 8-cylinder twin-cam, 16-valve racing engine, tore it down the centre, handing the front half to the delighted Gallop and pocketing the fifty pounds!

Three cars were immediately prepared with engines conforming to the Henri layout, and two of them entered for the 1922 French Grand Prix, with Zborowski and Gallop nominated as drivers. Almost from the start of the race they were beset with magneto trouble or, more correctly speaking, trouble with the magneto drive. It was originally intended to use coil ignition on these engines, but the idea was shelved and a magneto fitted in a vertical position above the water pump.

Both cars retired at third distance after having held 7th and 8th positions for a long time out of a field of 18 cars—and this was a 2-litre event!

But racing activities are hardly within the scope of this article, so we will have to content ourselves with recording the fact that from 1921 to 1927 cars from the modest Kensington factory were driven with varying degrees of success, both as works and private entries, by such well-known drivers as Zborowski, Gallop, G. E. T. Eyston, Humphrey Cook, B. S. Marshall, Kensington Moir, Stead, Douglas Hawkes, S. C. H. Davis, and F. B. Halford.

Meanwhile the standard s.v. model continued to be improved and developed, notably by the adoption of front-wheel brakes operating on the Perrot principle, and Rudge wheels. One or two of the twin-cam engines which had utilised the s.v. base were converted to dry sump, and examples of both engines found their way into hybrid racing cars and motor boats.

Yet in spite, or probably because, of all this development work the company's profit and loss account was far from happy, and in 1925, as a final effort to keep the balance on the right side, space was taken at the Olympia Show, where some lovely touring cars were exhibited, together with a new twin-camshaft 8-valve engine designed by the Hon. John Benson.

Sad to relate, this final bid for solvency came too late, and the gallant little company were forced into liquidation, having built some 50 odd touring cars in all, and at most a dozen racing jobs. Before the works closed down a few chassis, without engines, were built up from stock and sold to various people who installed Anzani and other power units.

Several firms toyed with the idea of continuing production, including the Bristol Aeroplane Company, Vauxhall Motors, and the French firm, Donnet-Zedel. Nothing came of these negotiations, however, and in 1926 the name, goodwill and spares were acquired by Messrs. Renwick & Bertelli, Ltd., of Feltham, who, changing their name to Aston Martin Motors, Ltd., resumed production with an entirely new design in 1927. That, however, is another story and must be left, like the A.M. racing history, for another time.

LOOKING back over 20 years of sports-car ownership the most striking things about it are, first, the immense amount of fun and thrill I have had out of it and, secondly, how very little sports cars seem to have changed in that time, both in appearance and, to a minor degree, performance. By this I mean the ordinary "as sold to the public" type of sports car and not special models turned out for some T.T. or Le Mans type of race. My first car was a 1922 11.9 Bugatti, bought in Nice from a M. Guerin, who I believe made scent at Grasse and dabbled in high-speed motor cars in his spare time. I graduated from motor-cycles, having previously owned a very hot Diamond Jap and a 16H Norton, the former being the fastest "250" at Cambridge in its day. However, to get back to the Bugatti. I drove it back from Cannes to England in company with the "family barouche," a "40/50" Rolls-Royce, and on the long straight French roads the little car was almost a dream car; alas, what a different story she had to tell away from her native country! I put her into the late B. S. Marshall (then the Bugatti king) for various adjustments and overhaul, but the traffic and slow speeds necessary near London completely cramped her style. Trouble started, plugs oiled up continually, and I must have left pounds of skin and flesh on her radiator as I battled hour after hour to get her started.

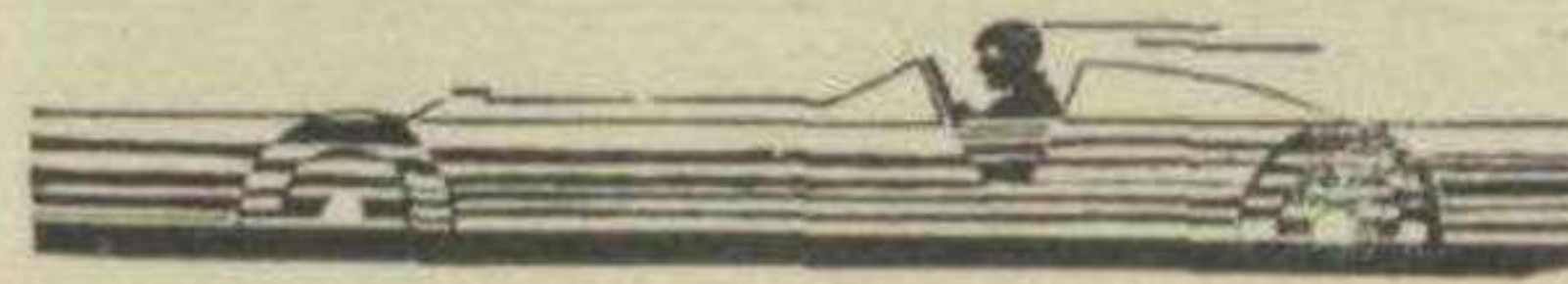
I never kept a date; I would arrange to collect a girl at 7.30 and would still be trying to start at 8.15. I spent all I possessed on every known and unknown type of plug. I have a dim recollection of lending it to some enthusiastic Bugatti representative in Eastbourne for a hill climb and, later, I fitted it with two Cox Atmos carburetters, one of which fell off whilst on a practice run at Shelsley Walsh. I am afraid I blamed Marshall unjustly for all these troubles, and it was not until some years later that I learned that it was only the normal Bugatti way of going about. Her looks were nearly perfect—polished aluminium streamline body, blue upholstery, two spare wheels and the large spotlight and squeaky horn dear to the heart of Frenchmen. In fact, with larger section tyres and f.w.b. she would not look out of date to-day. However, at about this time (1924) Riley had just brought out their new "Redwing," and I parted, with few regrets, with my first and last Bugatti.

The Riley "Redwing" was perfect peace after the sweat and toil of the Bugatti; not so fast, of course, but a "honey" just the same, and with her it was possible to "go places." I expect the description is well known, but for those who do not remember, it was a 1,500-c.c. side-valve, 4-cylinder straightforward job, with no frills but very sound. I did my first car trial in the 1924 Southampton-Exeter. On the way to the start I seized a piston and the rings broke, but after working all night under a lamp-post (yes, they were lit all night then) I found I could do nothing. So I put the head back and got through with, as far as I can remember, a "gold." I did many trials after this: London—Exeter, Land's End—Edinburgh, South Harting hill climb, etc.

I made the acquaintance of all the

CARS I HAVE OWNED

E.R.H.H., now a R.A.F. Squadron Leader, recalls a varied selection and some competition motoring and Continental travel.—Ed.



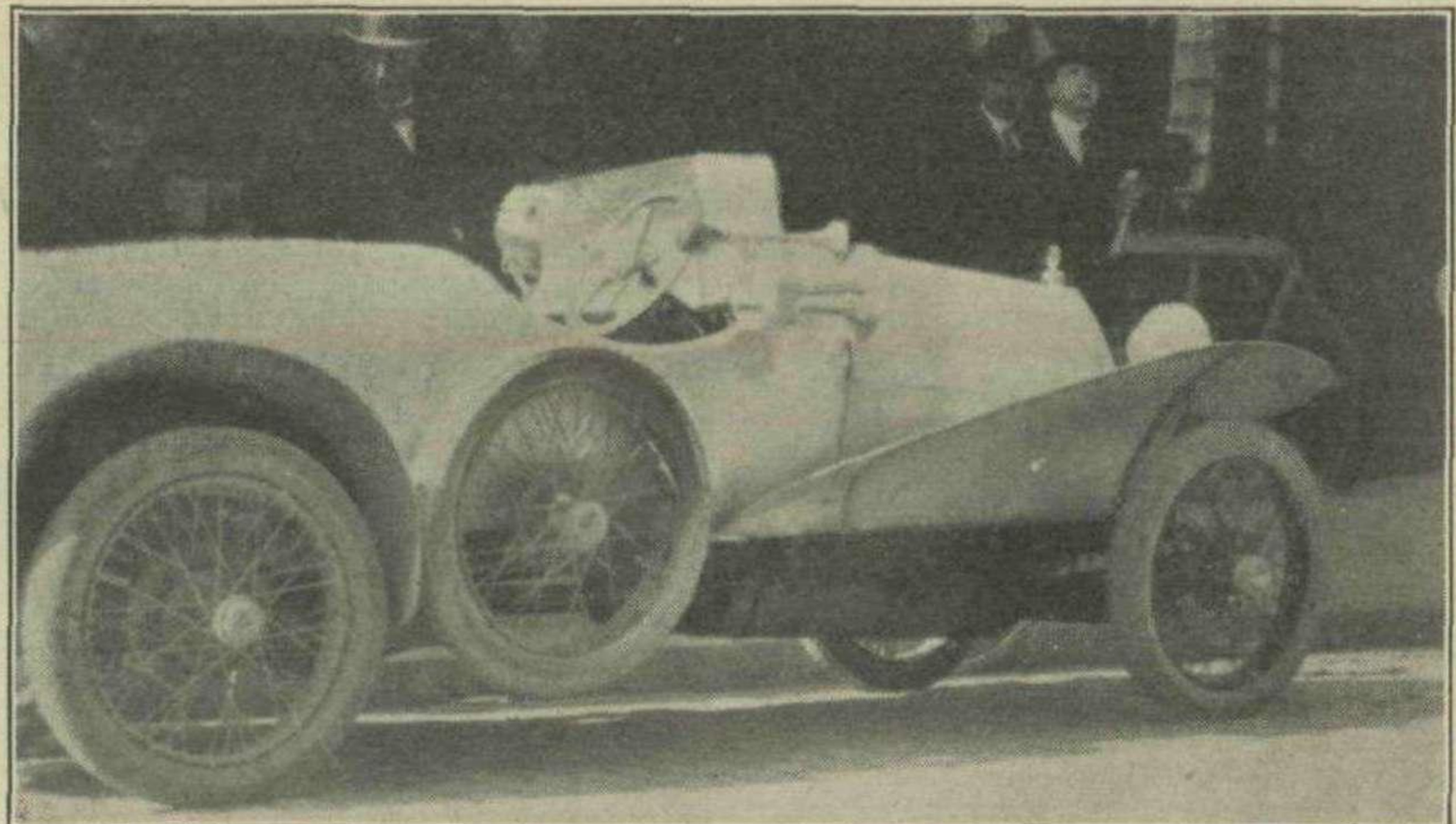
Riley boys—Walsgrave, Gordon Marshall, John Havers and Victor Kiley (who was kindness itself), and was present at the inaugural meeting of the Kiley Club in Edinburgh. I tried hard to get some real speed out of her, and Laystalls and Rileys helped, but rather took opposite views on what made a car go. Kileys would say, "What on earth have you done to your crankshaft?" and I would meekly reply, "I only had it balanced." I sold it eventually to a quiet little man who said he was going to race it at Brooklands. I said nothing! And I was extremely surprised to see that the quiet little man who wanted to race it got his wish, and, I believe, got over 100 m.p.h. out of it eventually, and ultimately became a famous driver of an Alfa-Romeo.

My next love was another Riley "Redwing," a 4-seater. Here the story is the same; more trials and high-speed runs at Brooklands, a very pleasant trip to Cannes and back, again accompanied by a Rolls-Royce (whose chauffeur was amazed at the way the Kiley kept up mile after mile and its passengers as fresh as any after the day's run). This Kiley again gave no trouble and was as good-looking as it was efficient.

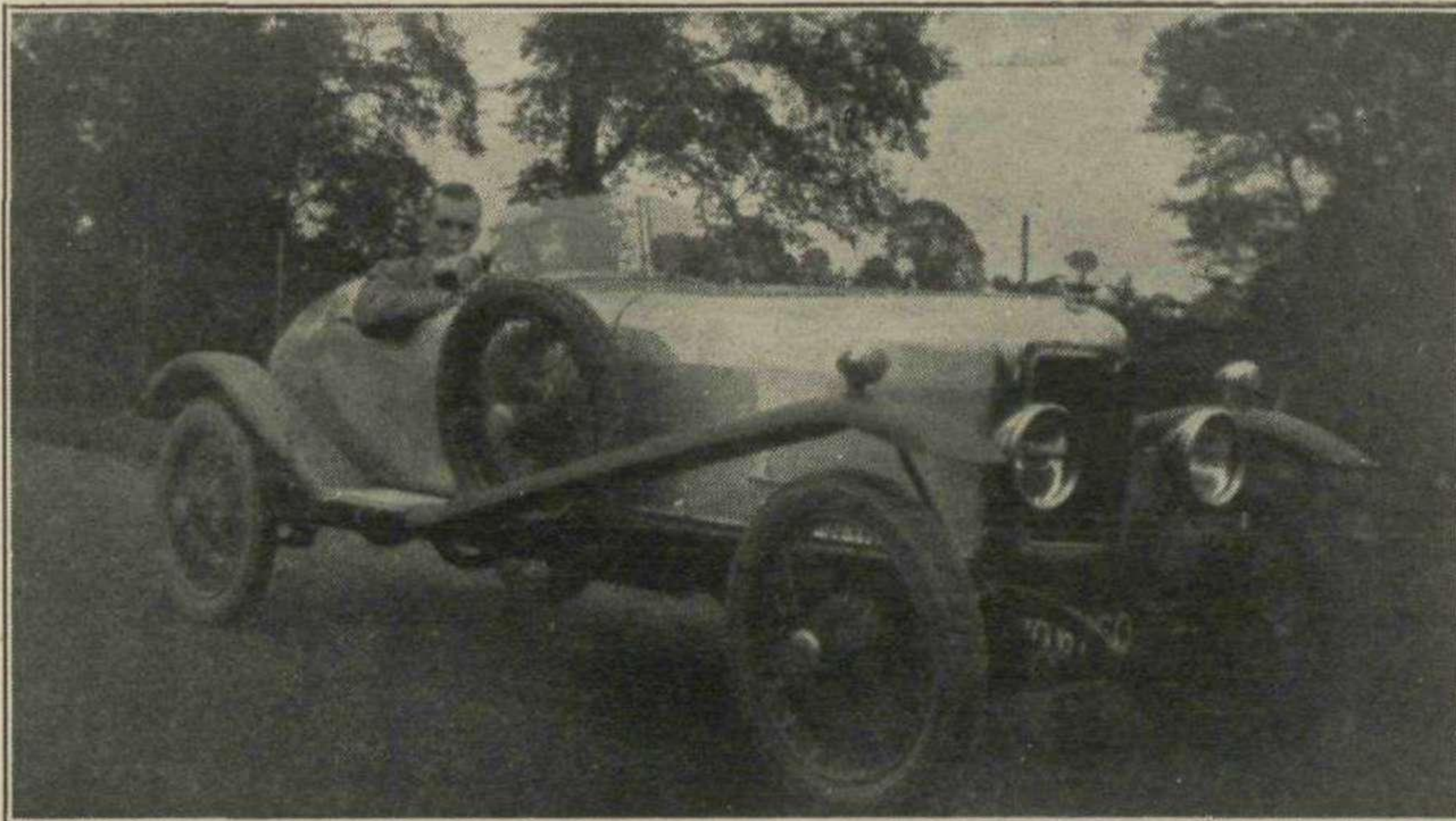
The next car was a "14/40" D.I.S. Delage, discovered in Great Portland Street covered in mud, with a cracked windscreen, with a lovely 3-seater wooden-decked body "with a hole in the back." I fell for it, and on enquiry found that only at that minute had it been traded in in part exchange for some other car.

The vendors insisted on repainting it, and a few weeks later I proudly showed my new possession to my father, who took one look, and hearing that it was second-hand, said: "Umph, wants a coat of paint," which shook me somewhat. This car ran perfectly. I did many miles with it, and again went to Cannes, where she disgraced herself by suddenly losing all lights at once, going fast in the dark. This trip was made alone, and it speaks well for the car that it could be trusted to take on a long and arduous journey of this nature; the lighting failure was soon cured, and having hit nothing whilst coming to a standstill, all was well.

I did one London-Edinburgh trip with her, and was greatly embarrassed by the friendly Riley boys who insisted that I attended their dinner in spite of getting a "gold" not in a Kiley. To make it worse, when the photograph of the proceedings was taken the two largest objects in the photograph of rather unprepossessing appearance were the Delage driver and its passenger. I cannot remember quite why I sold this car. I think it was because I had a friend with a 2-litre Diatto which impressed me quite a bit. I found that Cyril Durlacher had a chassis and I had a very pleasant open fabric sporting 4-seater body built for it. The mudguards were dead straight over the top of the wheels, with another at axle height (quite illegal now). This car was very fast, and in the High Speed Trial at Brooklands in 1928 averaged 68.4 m.p.h. for the hour, after starting nearly a lap late (the passenger not arriving on time), and a stop for a floor-board catching fire. It was run at Shelsley Walsh, but was usually defeated by Oates on a very special O.M. I know it was special because it was offered for sale later, and for a standard sports car it was quite surprising. My car was written off in an argument with a 'bus in 1929, coming back from Shelsley—the 'bus won, although it had to give ground. The engine was salvaged and put into a single-step hydroplane, which caught fire after its first trip; but I digress. The next car was another Diatto 2-seater, which I did not have long. I got engaged at the time, and the



The author's Brescia Bugatti at Auxerre shortly after he had bought it.



The 2-seater Riley "Redwing," which was later raced in rebuilt form by A. F. Ashby.

reason I sold the second Diatto was because my fiancée's dog, a small Cairn who obediently sat on the floor over the exhaust pipe, got roasted too often—the smell of roast dog getting tiresome after a time.

So the next venture was a new Riley Nine with a fabric saloon body in 1930, which I took out to Italy on my honeymoon, along the old familiar roads through Cannes, and then on to Genoa and north to Como. The little Riley created immense interest in Italy, which was surprising, and we had our first experience of Autostradas which we thought were marvellous, though to be treated with caution.

However, I soon felt that the little Riley was having too hard a life and was always being driven too near its maximum capacity, so the next car was bought—an M.G. Mark I 6-cylinder 1,800-c.c., based very largely on the Morris "Isis." This was a delightful car, fast, quiet, comfortable, and full of pleasant gadgets. It had a fabric body by Jarvis, of Wimbledon. I took it out to Biarritz in 1931 with no trouble except financial (England went off the gold standard in the middle of our holiday!). I did no trials in her, although I raised the compression slightly. The next car was a real step down—no doubt due to the imminent arrival of additions to the family making high speed out of the question—a Morris "12/6" coupé, with dummy hood irons. This was very comfortable, but with a really shocking performance. Acceleration was bad, and the maximum speed about 45 m.p.h. Later on we thought the new member of the family was car sick through being in a closed car, and with a hoot of joy and "bags of reaction," I plunged into ownership of a 3-litre Bentley, very open, and a welcome relief from the horseless carriage I had just had. The scarcity of "Red Label" short-chassis models at this time (about 1934) resulted in Bentley Motors, Ltd., offering to convert a long-chassis to "Speed" specification for me. In due course the car was ready, fitted with a new open 4-seater body, high compression pistons, and lots of rumble from the exhaust.

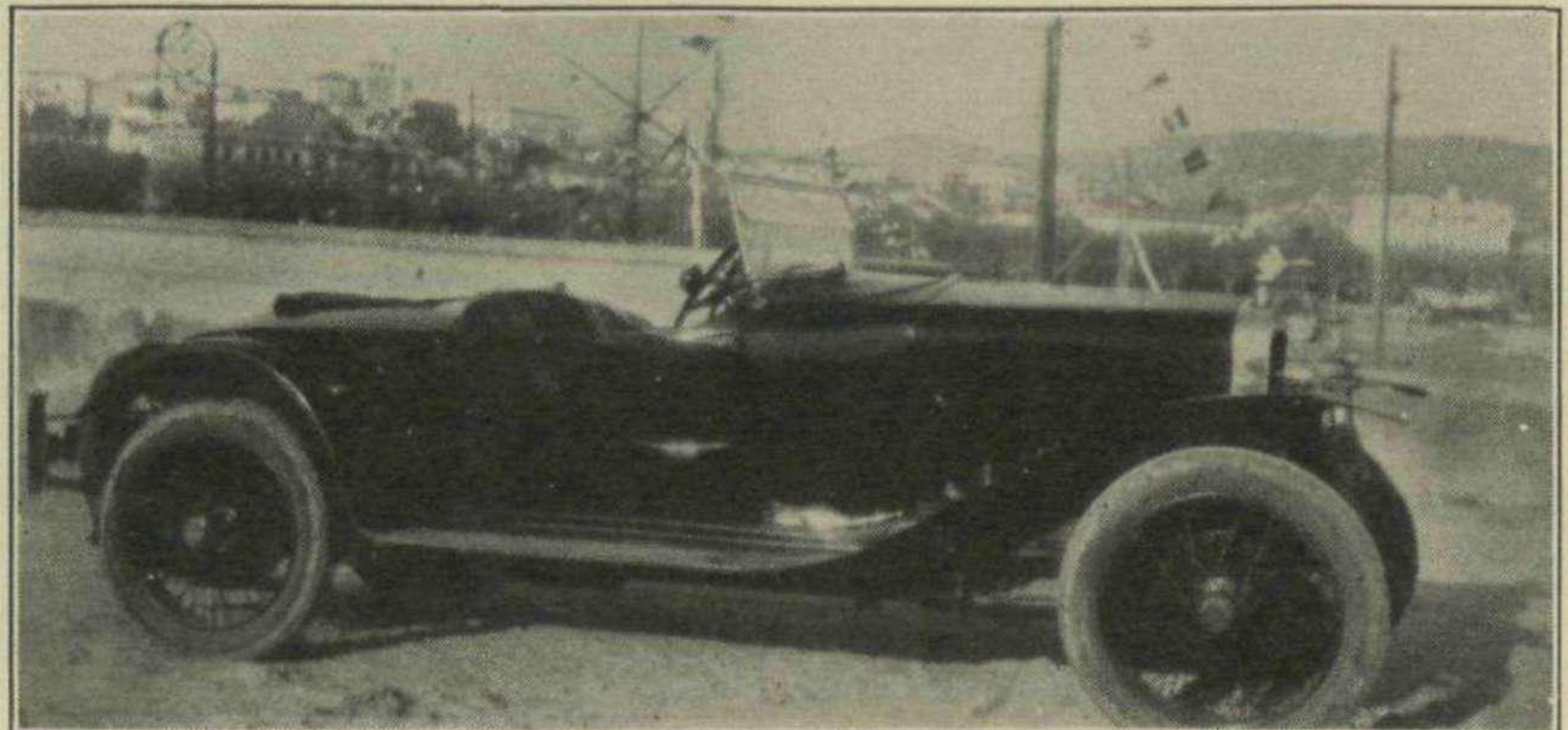
Curiously enough, this car gave me several patches of serious trouble, once

when the crown wheel went, and on another occasion when the cross-shaft-drive to the magnetos sheared. It was

re RILEY CAR		
To rotary balancing crankshaft up to 2,500 r.p.m.	£1	0 0
„ Machining down fly-wheel	17	6
„ Lightening and balancing con.-rods	3	10 0
„ Surface grinding cylinder head	1	15 0
„ Taking out engine, dismantling, cleaning, refitting all parts, erecting, assembling in frame and testing ready for the road ...	10	0 0
„ Supplying 3 new piston rings	4	6
„ 1 gallon Castrol "R" ...	10	6
	£17	17 6

An interesting bill relating to some "hotting-up" by Laystalls of the Riley "Redwing" 2-seater in 1925.

not very fast, and on the whole I was disappointed with it. The climax came



The D.I.S. "14/40" Delage at Cannes—a typical example of its type.

one winter's day on the Kingston By-pass at the Shannon Corner lights; it was just starting to snow and the lights were at "stop" when, to the sounds of sweet music a lovely boy arrived alongside in a big Yank saloon. With no hat, warm and comfortable, he looked a complete and utter Cissie, whilst there was I wrapped up like a sore thumb, cold, but at least feeling slightly superior, whilst the old Bentley chugged happily away ready to go. The lights went green. "Now I would show this Cissie what a car could do." Unfortunately he was not there to show. He had departed with no noise except the soft strains of the B.B.C., and left me standing. After this I thought there was no need to have cold and no comfort, noise and no speed, so the Bentley was sold and a Lancia "Aprilia" was bought in November, 1937. This is an eye opener, and although my trials days are over I have had more real motoring in this car than any other. She has been to Switzerland—Zurich to Le Touquet in a day—with mother and sister unfatigued at the journey's end. To Berlin in November, 1938, with four passengers and luggage—clocking 84 on the Autobahn, but usually only allowed to cruise at 65 for fear of "expensive noises." On the road she is afraid of nothing, and I should be accused of "shooting a hell of a line" if I described some of the little scraps that have happened from time to time, but the Lancia has never been "left" yet. The only fault is a slight drumming on a rough surface, and rather rapid wear of the universals. She is still with me as a co-belligerent, working for the R.A.F., though not as much as I would like. To go back a bit, the Bentley being a large and heavy car, I purchased a Morris Eight fabric saloon for £12, for shorter journeys. This was a really exciting car to drive, 35 m.p.h. was like 90 m.p.h. in any other car, and at 45 m.p.h. both doors would fly open; a highly dangerous performance, and the journey would finish up with the doors joined together across the car with string. This Morris was sold, and a Fiat 500 bought in March, 1937. This I still have, and it is used by my wife for farm and station work, and the last time I was home we took a calf to market in it. I feel quite sure it is the only calf that has ever ridden in a blown Fiat! The blower was put on by Leslie Ballamy, together with an enormous Fram filter

designed to keep the oil pure for the rest of the car's life; also a straight-through Gervais silencer was fitted. Unfortunately I have not had any opportunity to get any real speed out of her, but after the war, with 100-octane, she should be grand. The roadholding is excellent, and whilst third gear is a little low for this country, I find it a real motor-car; it amuses itself by chasing after bigger brethren and sitting on their tails—rather childish but great fun.

In about February, 1942, the inevitable truck turned round in front of the Lancia, which got the worst of the argument and went to hospital for many months (many too many, in fact) so in the meanwhile I

purchased from Ballamy one of his old self-drive-hire cars, a 1934 Wolseley Hornet saloon. Without rear shock-absorbers she was promptly called "Matilda," and ran perfectly. I had no breakdown with it and everything worked, including the free wheel—a new toy to me. The steering was moody at times, but a little doctoring by L.M.B. soon cured this. "Matilda" is now doing many thousands of miles with the R.O.C., and the new owner told me a month after he had bought it that it only wanted running in as the petrol consumption was improving the longer he had it! In conclusion, I have often felt like rushing into print *re* the merit of foreign cars compared with

our own, and I think I have seen enough of both to form an opinion. I think, on the whole, we were apt to "Buy British and be proud of it" out of patriotism, shutting our eyes to improved designs elsewhere, a very dangerous thing and a big handicap to us at the beginning of this war. To belittle the productions of other countries, be they cars, aircraft or weapons, can be very costly when the actual test comes. British workmanship, given the ideas behind it, can compete with any other nation on earth. It is up to the designers and manufacturers to see that this skill is used for world-wide distribution, not just for home market economical family saloons.

More about Gear Ratios

Cecil Clutton's article in the February issue gives rise to some miscellaneous comments, including interesting data on the ratios obtainable with Wilson and Cotal boxes.

ENTHUSIASTS everywhere must have welcomed Cecil Clutton's magnificent article on gear ratios. Let us hope that manufacturers will take equal interest and benefit accordingly. The present comments are intended only by way of an amplifying postscript by one who holds very similar though not necessarily identical views.

The formula that Clutton uses, m.p.h. per 1,000 r.p.m. = $3 \times \text{effective tyre diam.} \div \text{gear ratio}$,

is a valuable approximation that deserves to be better known. Owing moreover to wheel-spin and the difficulty of measuring effective diameter nearer than $\frac{1}{4}$ in., it is mathematically more "honest" than the classical

$$\frac{\text{Diameter}}{\text{Gear Ratio}} \times \frac{1000}{336}$$

from which it derives, and is less likely to lead to quibbles over whether five thou. represents 119.8 or 120.1 m.p.h. Decimal points should be barred from speeds over 10 m.p.h.

As a rule it is over-optimistic to translate maximum r.p.m. into maximum m.p.h. on top gear by strict proportion (though it is, of course, quite legitimate to calculate r.p.m. from observed m.p.h.). Obviously any road speed (*a*) above that corresponding to maximum revs., or (*b*) exceeding that represented by the point of intersection of the engine power curve and the total power needed to maintain a steady velocity, *whichever is the lower*, is beyond reach. Hence the curious anomaly of the early Anzani 'Nashes—if I remember rightly, 71 on third, 74 on top (or was it *vice versa*?) instead of the 90 on top predictable from the ratios. Top gear was in those days too high for the engine to attain maximum revs., although low enough to provide a reasonable reserve of power up to 65 m.p.h. Performance up to the admittedly limited maximum velocity was, however, particularly satisfying. For road work there is undoubtedly a peculiar charm in sensibly equal maxima on top and third, say 85 and 80 for a fast tourer with full load and equipment, and I am surprised more has not been made of it. It implies, of course, top and third gears that are close on either side of whatever theoretical ratio would give the absolute maximum road speed, and this is a tricky business to arrange

really satisfactorily. Maximum revs. must be only just unattainable on top (or overdrive) and maximum velocity only just unattainable in the next lower ratio.

Talking of overdrives, too many, as Clutton points out, have been ruined by an excessive gap between "top" and o.d., the result being an annoying attack of staggers on engaging o.d. under anything but free-wheeling conditions. The importance of (1) plenty of reserve urge on direct drive, and (2) a close ratio between o.d. and direct, seems obvious enough, but has not apparently penetrated some manufacturers. An o.d. should be a real twin top, giving about the same ultimate road speed as direct drive, but at about 15 per cent. less piston speed, with, naturally, 15 per cent. less urge, which must therefore be comfortably sparable if the o.d. is to be wholly satisfactory.

The desirable "expanding progression" of ratios is most readily obtainable with the normal type of gearbox favoured by the majority of *gentilshommes sportifs*. Owing to the facts that, bar mishaps, each pinion has a whole number of teeth and that one tooth less on one pinion of a pair means one tooth more on the other, it is not always possible to get precisely the ratio aimed at; but the approximation is usually close enough for practical purposes. Epicyclic gearboxes are more difficult.

In the Wilson epicyclic box, bottom gear is obtained by holding the bottom gear ring stationary; second and third by rotating the bottom gear ring in the direction of drive at increasing predetermined rates by means of the second and third gear assemblies; and top by locking the lot solid. This is mechanically sound in that it gives minimum tooth-loading and a light, compact box, but in its usual commercial form with similar sized pinions throughout, the choice of ratios is limited. A uniform progression of, say, 50 per cent. drop between gears is easier to obtain than the 25-33-50, or 33-50-66, that we want. A good compromise can be made, however, despite epicyclic "blind spots" or gears that cannot be got on account of mechanical considerations. I have in mind two Wilson boxes, designed for sports cars

that were apparently never produced, with gearbox ratios:

1, 1.38, 2.2, 3.4 to 1 and 1, 1.30, 1.7, 2.27, 4.0 to 1, *i.e.*, a "drop" between gears of respectively, 38, 59, 55 per cent., and 30, 30, 33, 76 per cent.

The Cotal electro-magnetically-gripped box is basically different and rather simpler, consisting of two 2-speed epicyclic trains in series. Call them A and B, and let *a* and *b* represent the reduction afforded by each separately. Top gear is obtained by locking both A and B solid to give a direct drive. Third and second gears involve locking one assembly and taking advantage of the reduction afforded by the other. Bottom gear uses both assemblies together. The available gearbox ratios are, therefore, 1, *a*, *b*, *ab* to 1. This means that the Cotal box will readily give uniform spacing of gears but not a regular expanding progression; the spacing between bottom and second is necessarily the same as between third and top, with an awkwardly uneven gap between second and third, unless wide spacing or a very high bottom gear can be tolerated.

Numerical examples will make this clear. Suppose (conveniently ignoring possible blind spots) one epicyclic train gives a reduction of 1.5 and the other 2.25 to 1, then we have ratios of 1, 1.5, 2.25, 3.75 to 1, *i.e.*, with a 4:1 final drive, the overall ratios would be 4, 6, 9, 13.5—adequate but uninspiring. Top and bottom are all right, but the others would be better at 5.2 and 7.5. This just cannot be done. Suppose *a*=1.3, and *b*=2.25, 2.0 or 1.7, we get the following overall ratios:—

4	5.2	9.0	11.7
4	5.2	8.0	10.4
4	5.2	6.8	8.84 (even spacing)

In each set, except the first, bottom gear is too high in relation to top for anything but racing; but the spacing is painful; second gear is virtually wasted. Perhaps the best way out would be No. 3, with an additional sliding gear to provide an emergency reduction for sticky going (forgetting that this gives eight speeds forward and reverse). Or perhaps Major Wilson and Monsieur Cotal could get together to give us an electrically-operated box that provides expanding ratios and avoids preselection. J. R. EDISBURY,

THE OUTER CIRCUIT "200s"

THE second Junior Car Club 200-Mile Race at Brooklands commenced with the 1,100-c.c. event, which started at 8.30 a.m. on August 19th, 1922, and attracted 15 small cars, comprised of Nash, Godfrey and Pickett (G.N.s); Benoist, Devaux and Bueno (Salmsons); Ware, Martin and Hawkes (Morgans); Taylor (A.V.); Eric Longden (Eric Longden); Peaty (Bleriot-Whippet); Tollady and Pressland (Crouch); and Marchant (K.R.C.).

The start was straggly, some of the drivers not even having their engines running when the flag fell, which the grimness of the hour only partially excused. Indeed, Hawkes was a quarter of an hour stationary, eventually changing a plug before he got the Morgan going. Benoist led the initial lap, Ware's Morgan and Nash's G.N. behind the little Salmson. Stop-watches were applied, and the Salmson team, running easily, was seen to have the legs of everyone, Benoist lapping at 82 m.p.h. Against this, the V-twin G.N.s were doing 80. Trouble came early. Poor Hawkes came in after a lap with disconnected steering, and Ware stopped to caulk a leak in his near-side cylinder. After ten laps Martin was grappling with a mis-fire and Hawkes continued to run erratically between some very fast laps, needing several plug changes and rumoured to have an overheating propeller-shaft, of all things. Nevertheless, Hawkes was soon battling with the Salmsons of Benoist and Bueno and Hawkins on Pickett's G.N., for the lead. Excitement ran high when Benoist had his off-side rear tyre disintegrate, but he and Spikins effected a rapid change, after which he pushed his lap speed up to close on 90 m.p.h. The K.R.C. went out, enveloped in clouds of steam, after limping along on one cylinder, the A.V. broke a petrol pipe and Taylor demanded, and got, rubber tubing, and Frazer-Nash changed plugs without his usual smile. The other G.N.s were reaching almost 90 over the Fork, while the Crouches, the Eric-Longden and the Bleriot-Whippet lapped non-stop at 65-67. Hawkes, alas, suffered more bothers. At 21 laps Bueno led from Godfrey's G.N., with Devaux 3rd, Benoist 4th and Hawkins 5th.

The leading Salmson apparently had the engine out of the record-breaking single-seater which had covered a kilo, just before the race, at over 91 m.p.h. Then came a serious blow to G.N. hopes. Nash came in, tried the compression, and announced that a piston had gone. He and Cushman then calmly commenced to remove the near-side cylinder—in 35 mins. They were off again. Such was racing 22 years ago! Hawkes, unfortunate mortal, lost much time changing a front tyre, set off to lap at over 88 m.p.h., and, doing so, blew his engine up. Later, Ware retired with severe engine trouble, the water leak having spread. Pressland refuelled his Crouch and then—Bueno came in with water streaming from the undershield. In vain was more water added to the radiator; the water jacket had broken away and the car was out for good. This misfortune merely resulted in the other

THE 1922 RACE

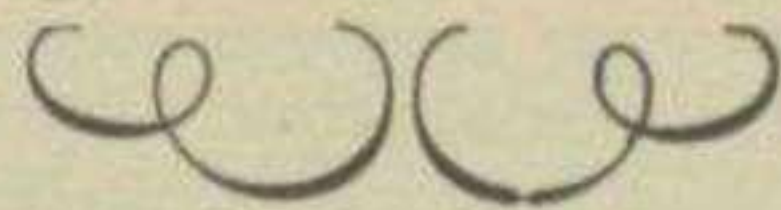
(Continued from the April issue.)

two Salmsons being called in for a top up to their cooling systems! Salmson pit work, incidentally, was excellent. By 50 laps only the Bleriot-Whippet, Godfrey's G.N., Tollady's old Crouch and the Eric-Longden had run non-stop, and then Longden refuelled, later to retire when the magneto platform collapsed. The Bleriot-Whippet then sheared its flywheel key, the Crouch boiled, burned through its H.T. leads, and was pushed off, and the A.V. had blown off its rear cylinder. Godfrey, too, stopped after 67 laps, to refuel, and he also put oil on the air-pump plunger, as he was having potherers over fuel pressure, while Finch, his mechanic, tied cord round the clutch pedal to try to lend his weight to the spring, oil having soured the clutch surfaces. Hawkins also refuelled. It was now all over barring accidents, and at 11.1½



During the early nineteen-twenties small cars were doing outstanding things in B.A.R.C. short handicaps and in the field of record-breaking, but perhaps they achieved their greatest allure in the J.C.C. 200-Mile Races, run over the Outer Circuit in 1921-4; the original race of this famous series being the first long-distance race in England. Previous articles in this series appeared in the February, March and April issues, when the races of 1921 and 1922 were dealt with

—Ed.



Marcel Benoist was flagged in the winner. His Salmson had run for 2 h. 29 m. 39 s., an average of 81.88 m.p.h. Two mins. later came Devaux, at 80.16 m.p.h., and then Godfrey, to fill 3rd place at 74.41 m.p.h. Hawkins and Nash followed, the only intact team—and they hadn't had to change a single Dunlop cover. When the course was closed at 12 o'clock the only car running was Pressland's Crouch, and he had covered only 69 of the 73 laps. Benoist took the 100 and 200 mile and 1 hr. and 2 hr. class records in the course of the race and Frazer-Nash the 50-mile record.

The 1½-litre race commenced at 2 p.m., and the starters comprised K. Lee Guinness, Segrave and Chassagne (Talbot-Darracq); Stead, Zborowski and Moir (Aston-Martin), Smith (Eric-Campbell); England (A.B.C.); Don and Joyce (A.C.); Cushman and Marshall (Bugatti); Miller (Wolseley); Barnato, Bertelli and Chance (Enfield-Alldays); and Oates (Lagonda).

The A.C.s were far from ready, and the Press of the day was not slow to notice it, some play being made of the slogan "the Amazing A.C.!" When the flag fell

practically the entire field got away in a tightly-packed bunch, but actually Stead's famous Aston-Martin "Bunny" and Oates's Lagonda, in that order, showed the others the way. However, Moir soon went out in front of everyone, to gain nearly half a lap, but after a lap two Talbot-Darracqs and Zborowski's Aston-Martin were only a quarter of a lap behind him. Much early excitement was occasioned by the retirement of the two A.C.s, and Moir's (with magneto trouble) and Zborowski's Astons, and by Guinness stopping to effect, with Perkins, a rapid change of wheel, a tyre having left the rim completely. All this happened ere eight laps were run! Then Chassagne had also stopped soon after starting and came in again, very soon, to change plugs. A critical Coatalen told him the worrying mis-fire would clear itself, and sure enough it did. Segrave now led, at well over 90, with Guinness a lap away, and the quite incredible s.v. Aston-Martin lapping at 88-90 m.p.h. Some laps, at 88, were completed by Stead, Bertelli and Marshall in close company, until the Enfield-Allday stopped for water. The Lagonda, after running well, suddenly blew up, and after 15 laps Cushman literally lost a carburetter, a flange having fractured. Major Lefrere thereupon ordered a single carburetter and manifold to be stripped from a Bugatti which happened to be standing in the public enclosure and, new joints being made with Petro-flex, Cushman continued. Barnato called at his pits once or twice, to retire eventually with a seized engine, and Miller cured pre-ignition by a rapid plug-change. The A.B.C. ran beautifully, lapping at well over 80 and asking only a plug-change in the entire race. Even the Talbot team wasn't so happy as in 1921. Segrave's car lost its crisp note and came in for a plug-change, allowing Guinness to take the lead; when it restarted it was noticeably slower.

Then came Chassagne's crash. It is now a matter of history that his Talbot-Darracq lept over the Byfleet banking, following deflation of a rear tyre at some 98 m.p.h. Chassagne and Dutoit were thrown out, but both were virtually unhurt, and Chassagne rode in on the carrier of a marshal's motor-cycle, scorning the ambulance. The Wolseley was again missing somewhat, and it snaked about to some extent, rather as the 2-litre Fiats had done in the G.P. Nevertheless, it was lapping at about 70. Both Stead and Marshall were going magnificently, while Guinness was getting round the concrete at 94½ m.p.h., to consolidate his lead. The Talbot actually stopped once, for 4 mins., on the far side of the Track, to change over from magneto to coil ignition, but still it held its lead, for Segrave could now lap only at 83. Stead was 3rd and getting faster, Marshall 4th, Chance (Enfield-Allday) 5th, and the A.B.C. 6th. So they finished. Guinness had taken 2 h. 17 m. 37 s., and he averaged 88.06 m.p.h.—actually only .82 m.p.h. slower than the 1921 winning average, in spite of his stops. Stead, a great surprise

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An Afternoon Amongst the Gerard Rileys

by Sir Anthony Stamer, Bt.

IT was one of those afternoons when the clouds were very nearly sitting on the vast pools of mud which are sometimes termed "airfield surface," and even the birds were walking in small, damp formations, nattering plaintively to each other as they went.

In the rest room three completely brassed-off motoring types (crude variety) sprawled aimlessly in armchairs, the topics of conversation sinking rapidly in step with their spirits. Ron, in fact, was telling us sadly how his marriage was due in another week or so, and how he had recently parted with his beloved Anzani 'Nash as a direct result—a statement that drew from Hugh a reply that, luckily, can hardly be reproduced in mere words, and which caused the others to suggest aggressively that the rest room was not the place where he should be sitting.

Consequently, when Johnny put his head round the door and suggested an afternoon's visit on our way home to that impressive establishment (fully occupied in overhauling Gardner and E.R.F. lorries) wherein reposes the fleet of quick Rileys belonging to F. R. Gerard, of Brooklands and Donington fame, there was a mad rush for the door. Sundry innocent bodies who were entering the room at that moment were severely mauled, but we had no time to worry over trifles. Somehow we wedged ourselves in a spam-like mass into the 10-h.p. mass-produced mistake that Johnny uses purely as a means of transport, the starter wheezed grudgingly, and soon we were chamfering along at an uneasy 40 m.p.h. down the Foss Way. Squashed into a corner of the back seat, Stamer was silently racked by a bad go of his old complaint, Muffled Pinking.

Gerard met us at the door of his establishment, and we were conducted straight to the splendid sight of his three racing Rileys, resplendent in their dark blue paintwork, racing numbers and Dunlop racing footwear. Morale rose with a rush, and even Ron forgot his matrimonial worries and grinned from ear to ear.

The first car was an ex-T.T. 6-cylinder which, like all his others, has undergone much careful modification. Although fast, this model was apparently prone to shedding rods on the over-run unless the driver kept a sharp look-out, a trouble not cured even by the use of special rods incorporating 4-bolt big ends. The amount of superfluous metal that was drilled from this chassis in the process of lightening it must have been truly impressive.

Next came a very short and stubby "9" chassis carrying an ex-Percy McClure 4-cylinder power unit which had been fitted with a special head incorporating two 14-mm. plugs to each cylinder, fired by an 8-cylinder magneto with a twin-armed rotor.

The third of the bunch was the 6-cylinder with cowled radiator in which Gerard was performing just before the

war. This has been fitted with an E.R.A. crank and rods, and Gerard states that it is virtually indestructible, its maximum engine speed being somewhere around 7,000 r.p.m.

At this point we retired into the management's holy of holies and were provided with an excellent tea, over which everyone talked motoring furiously, regardless of whether anyone was listening or not. It was interesting to hear that Percy McClure has parted with his Rileys, and that his well-known blue car with independent suspension at the front is now owned by Parnell. This led to much speculation as to Percy McClure's future, and the suggestion that maybe E.R.A. have signed him up for post-war use. Surely he can't be giving up racing? Once every six months, Gerard told us, it used to be the custom to "run up" the three racing Rileys, and a "round the houses" course was laid through the works, out at the back and by devious routes back to the main entrance. The entire staff used to turn out to view this wonderful spectacle, and it can well be imagined that this invigorating sight (and sound) used to pep up production far more than any "music while you work" programme. What better music could one listen to? These days the D.P.O. would frown upon such a proceeding, and so it has had to cease. We then returned to the works, and "Sprite" after "Sprite" (all Gerard modified) was shown to us. Never have I seen such Riley enthusiasm. There was his own immaculate cream "Sprite," used on essential business, a similar blue one, and a very special one that is being highly modified for post-war trials, and should prove itself to have vastly more than average urge. In a corner was a treasured car, his original red "Gamecock," which carried him many miles on the Continent to see the German Grand Prix, as soon as he was old enough to obtain a driving licence. And there were sundry saloon Rileys, too.

Finally, we came upon a blue "Imp," and this, we learnt, was "Bira's" original car, in which he entered the competition world. It has been fitted with a Centric blower, and is due for the usual Gerard modification. When he first obtained it, he told us, the car was most reluctant even to enter the 60's. It must have had other owners since it left the White Mouse Garage. In due course we did a tour of the whole establishment and watched the beautifully-designed power units which are fitted in Gardner lorries being stripped down to the last bolt and reconditioned. The quality of these engines came as an eye-opener to most of us; in comparison, the power unit of the average British private car is indeed an anæmic affair. In the electrical service department we watched an outsize in axial self-starters do its stuff and marvelled at the power developed in comparison to its size. It became obvious why the Bosch starter on the writer's laid-up Alfa-Romeo can fairly whip the

engine round after he has nearly wrecked himself in his efforts with the starting handle once a month.

Before leaving, Gerard took us upstairs to what appeared to be a normal garage stores, but which, on closer inspection, proved to be composed of Riley spares—and very special ones at that. This department was enough to make strong men weak with envy, and while Hugh examined special connecting rods laid out in rows, Stamer's mouth fairly watered over the giant racing plug box and its contents. There were, to misquote the poet, "lots of little things that you'd love if you could see 'em, the Scintilla and many more besides." Bits for a proposed single-seater chassis lay around, vast petrol funnels stood on shelves, and a windscreen still proudly before the notice "Competitor." Ron was seen to be stealthily trying to force an inlet manifold resplendent with four Amals into his overcoat pocket, but it was too big, and he reluctantly put it back on the shelf.

The four individuals who left that building were hardly recognisable as the browned-off men who had shambled in three hours previously, though it wasn't until half an hour after opening time that they really recovered from what they had seen in that stores, and once more found the use of their fluent—if unintelligent—tongues. From then onwards the denizens of one of Leicester's less reputable ale houses were constantly troubled by the highly life-like impressions of fast motors leaving the starting line, conjuring up (to the initiated) visions that would make those binders, the tyre-control men, turn in their graves—if only they were in them! Life was good once more, thanks to Mr. Gerard.

THE OUTER CIRCUIT "200s"

—continued from page 96

and a splendid achievement, brought his s.v. Aston-Martin in 2nd at 86.33 m.p.h., and Segrave was 3rd, at 85.55 m.p.h. Chance was 4th at 76.88, Cushman 5th at 76.53, and Marshall, England and Miller (at 66.2) followed them home. Guinness had put in the fastest lap, at 95.78 m.p.h. The Talbots used Solex carburettors, Delco-Remy ignition, Hartford shock-absorbers, Speedwell oil, Rudge wheels, Dunlop tyres, S.R.O. bearings, Shell petrol and K.L.G. plugs. Stead used a Scintilla magneto, ordinary Good-year artillery wheels and K.L.G. plugs. Incidentally, the reason why Marshall finished behind Cushman was because he had to stop to tighten his exhaust pipe and change four plugs, one magneto having failed after 60 laps. Thus ended another successful and instructive "200." The next event of the series actually produced a win by a British car, in a race of still spidery, if less cycle-carish, small cars. That, however, is a story for another issue.

(To be continued.)

ANYONE who knows the "Mountain" course used for the motor-cycle T.T. races in the Isle of Man may be surprised to learn that 36 years ago a side-valve-engined car, with only rear-wheel brakes and narrow section (105 mm.) high-pressure tyres, covered nine laps (337 miles) of this circuit at an average speed of 50.3 m.p.h. Driven by W. Watson, of Liverpool, the Napier-built Hutton won a very close race by just over two minutes from Algernon Guinness's Darracq. This article is not the place to give a detailed description of the race, but it can be said that, although the two overhead-valve Darracqs, driven by A. E. George and Guinness, were a good deal lighter and slightly faster than the side-valve Hutton, Watson drove very steadily and doggedly, gradually climbing from sixth place at the end of the first lap to third position on the fifth. Expecting the course to be wet he had fitted a set of new steel-studded tyres before the start, and as a result the car skidded a good deal on the dry metalled roads until the studs had worn down. This, and his determination not to over-rev. the long-stroke engine, accounted for his lap times being slower than the Darracqs' during the opening stages of the race. He even coasted down the Hillberry Straight to avoid risking a blow-up. Feeling he had the measure of the Darracqs he was content to keep within striking distance, ready for a final burst on the last lap should it prove necessary.

By dint of two pretty quick laps, each in 43½ minutes, he managed to pass Guinness and to gain some three minutes on the leading Darracq, which speeded up a bit on the eighth lap, thus staving off the challenge. Although A. E. George still had a lead of over two minutes and only one lap to go, he had the misfortune to break a petrol pipe, and as a result his car caught fire. By the time the conflagration had been mastered and the fuel feed patched up again, both Watson and Guinness had passed him. The Hutton won comfortably in spite of a gallant effort by Guinness to avenge his team-mate's misfortune.

Before it ran in the Isle of Man, Watson's car had achieved a good deal of success at Brooklands, where it was well known as "Little Dorritt." It was the oldest of the three Huttons in the T.T. Although entered by S. F. Edge, the winning car actually belonged to Watson, who had acquired it from Napier's some time prior to the race. The two new "works cars" were driven by J. E. Hutton and P. D. Stirling, the latter being similar to the eventual winner, but it was the former that really carried the team's main hopes, as it had been developed from the experience gained at Brooklands with Watson's car. It is worth digressing a moment to say something about J. E. Hutton's car. Under the regulations for the race the bore (for 4-cylinder engines) was limited to four inches, but designers were free to use any length of stroke they fancied. In consequence long-stroke engines were encouraged and a good deal of secrecy surrounded the actual stroke/bore ratios used by many manufacturers. "Little Dorritt" had a stroke of seven inches, but on J. E. Hutton's car it was increased to eight inches. This engine, with its higher compression and extra capacity, gave a good deal more power than its two team mates, and it was confidently expected that J. E. Hutton would win the race. On the last day of the practice he decided to advance the ignition another tooth, in spite of all the Napier engineers' advice to the contrary. When the engine was started and the throttle opened, the cylinder blocks just parted company from the holding-down flanges. The broken pieces were duly collected together and taken to a shipyard in Douglas, where the jigsaw puzzle was re-assembled with red lead and tape. The compression was reduced by 10 lb./sq. in. by packing up the valve caps. A piece of boiler plate was put on the top of the engine and by means of four long bolts passing through the plates and under the sump, the cylinder blocks were clamped to the crankcase. The work was completed half an hour before the start of the race and the car was pushed to the



VETERAN TYPES XXVII

A 1908 "FOUR INCH" HUTTON

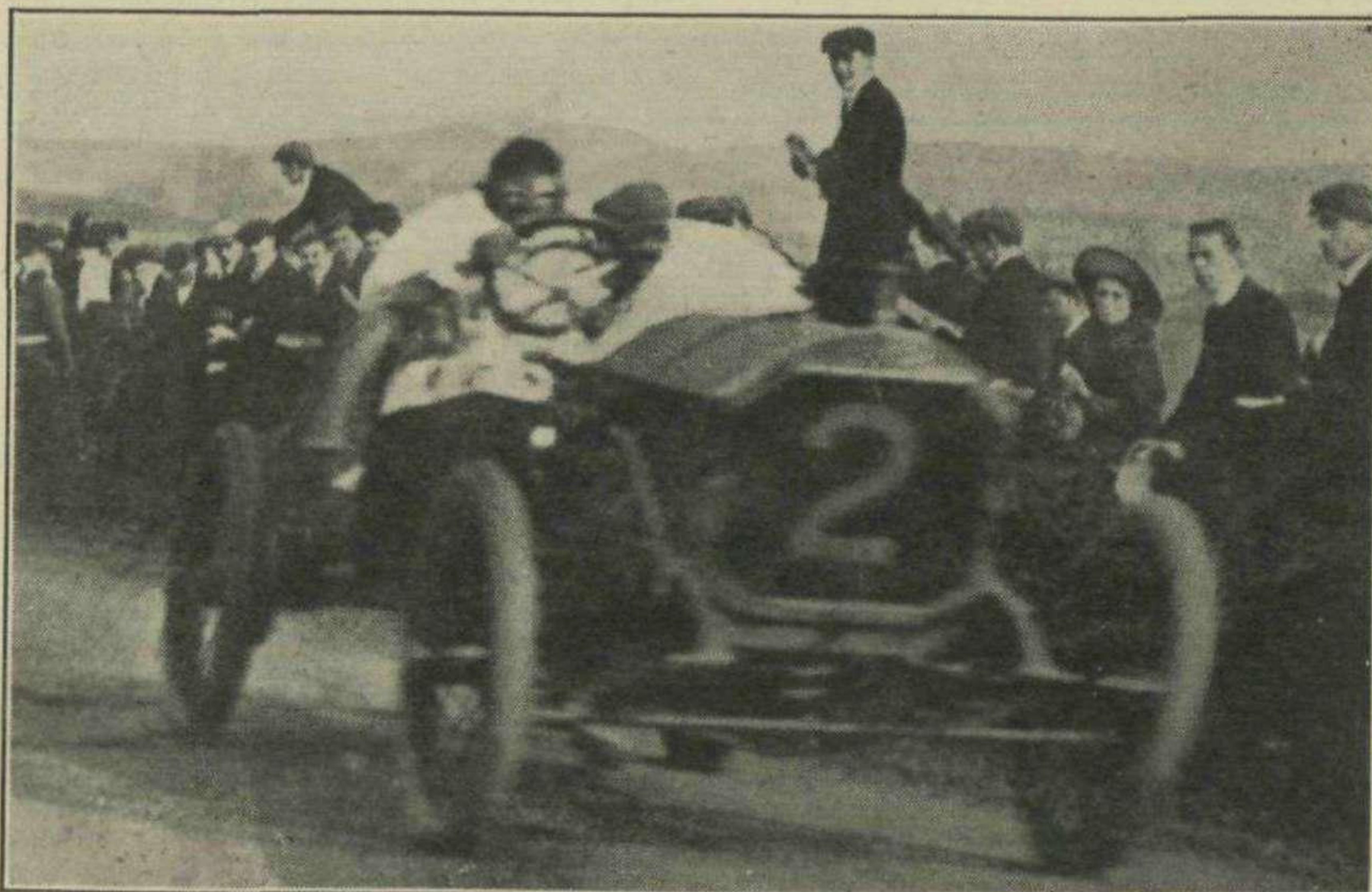
The actual winner of the Tourist
Trophy Race of 1908.

By Anthony S. Heal

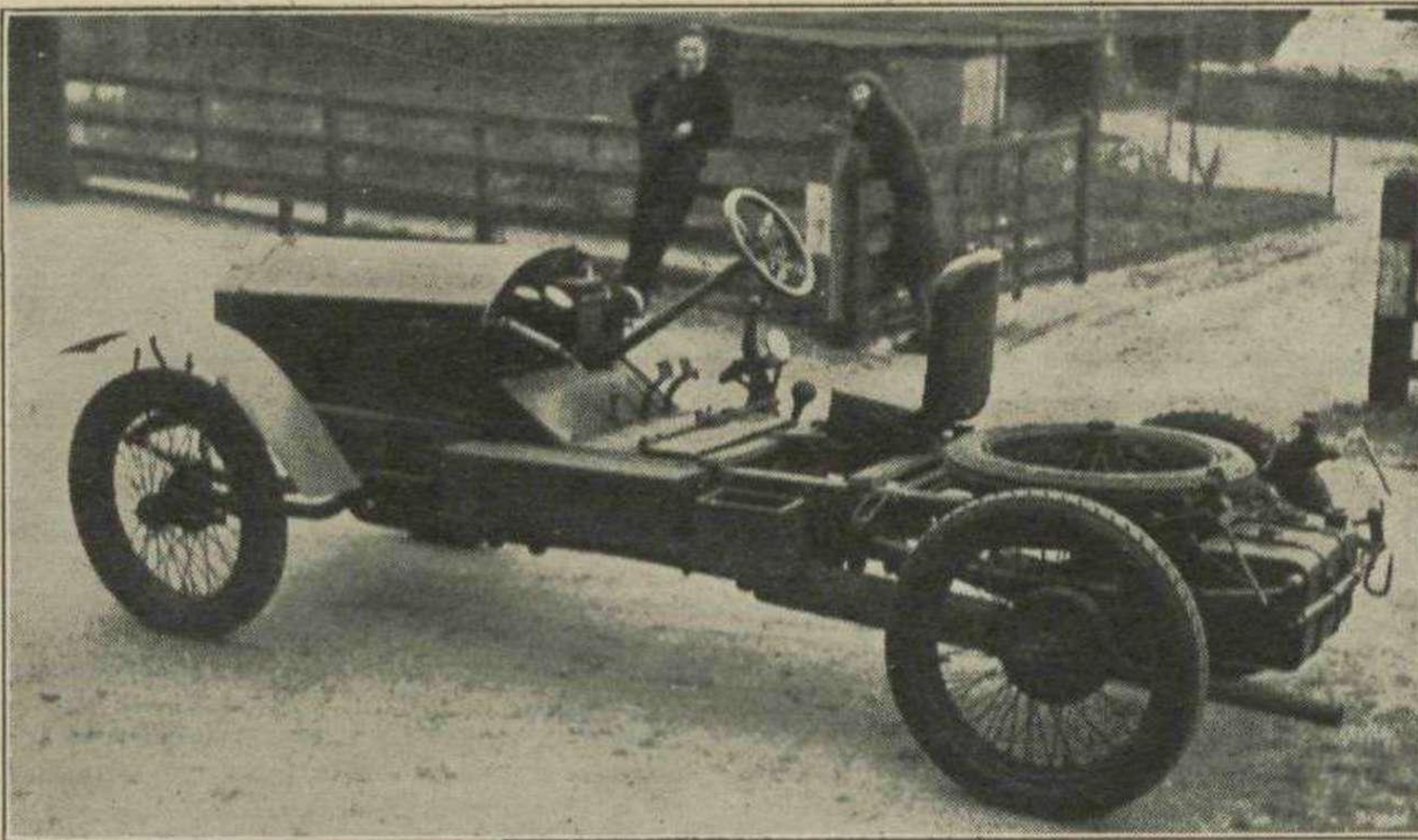


line. J. E. Hutton started well and drove with a good deal of bravura for four laps in eighth position, but excess of zeal on a corner at Ramsay was his undoing, and he retired with a buckled wheel and bent front axle after hitting a wall. The third Hutton was even more unlucky, having to retire on its first lap in a rather battered condition after its driver, P. D. Stirling, had driven it into the wall of the Ballacraigne Hotel.

It may seem odd that a well-established concern like Napier's should build three cars for the Tourist Trophy Race and then enter them under another name. The reason for this manoeuvre was apparently that the firm had become so much connected in the public eye with 6-cylinder engines that they were somewhat self-conscious about appearing in a race with cars that had only four pots. Much of the point of this nominal camouflage was lost, as everyone seems to have been fully aware that the Huttons were only Napier's by another name. If people did not know they could hardly have failed to guess, because the Huttons had all the typical Napier characteristics as will be seen from the illustrations accompanying this article. The car with which we are now concerned is "Little Dorritt," the actual winner of the 1908 T.T. race. It is now owned jointly by Marcus Chambers and the writer. When they acquired it in 1939 it had had only three previous owners in 31 years. "Little Dorritt" first appeared at Brooklands in the early part of the 1908 season. In June, J. E. Hutton set up "Long" (10 laps) and "Short" (½ mile) records in the 26-h.p. class, at 76.5 m.p.h. and 80 m.p.h., respectively. At the August meeting in the same year the car ran second in the O'Gorman Trophy. Shortly before the T.T. race in September "Little Dorritt" was sold to W. Watson, and after his success in the Isle of Man he disposed of the car to Col. E. Hoyle, of Huddersfield, who retained it until May, 1919. While in the latter's possession the Hutton was a frequent and successful competitor at Pateley Bridge Hill Climb (where it achieved fastest time of the day in 1909 and 1910), Saltburn Speed Trials (where it won its class in 1910), Meltham Hill Climb (fastest time in Amateur Class, 1911), Rivington Pike Hill Climb (best



W. Watson at speed on the Hutton during the 1908 T.T., which he won at 50.3 m.p.h.



The 1908 T.T. Hutton as it looks to-day, 36 years after its race victory. It is owned by Anthony Heal and Lt. Marcus Chambers, R.N.V.R.

performance on formula, 1912), and Heyden Bridge Hill Climb (first on formula, 1912). In these events it was driven by both Col. Hoyle and W. Bradwell. In 1914 it was laid up, and it was not used again until May, 1919, when the engine was started up without any difficulty after standing for nearly five years. "Little Dorritt" was then acquired by Mr. C. T. Allen, of Cardiff, who used it for many years and who kept it until 1939, when he disposed of it to Chambers and Heal.

The Hutton's present appearance (as shown in the photographs reproduced herewith) is not unlike its T.T. winning trim, and it is the intention of the present owners to restore it to its original Isle of Man form. For the race the stripped chassis was encumbered only with the barest necessities. A one-piece bonnet enclosed the engine, two bucket seats and a large cylindrical bolster tank were fitted just forward of the rear axle and the spare wheel was carried vertically just behind the rear cross-member.

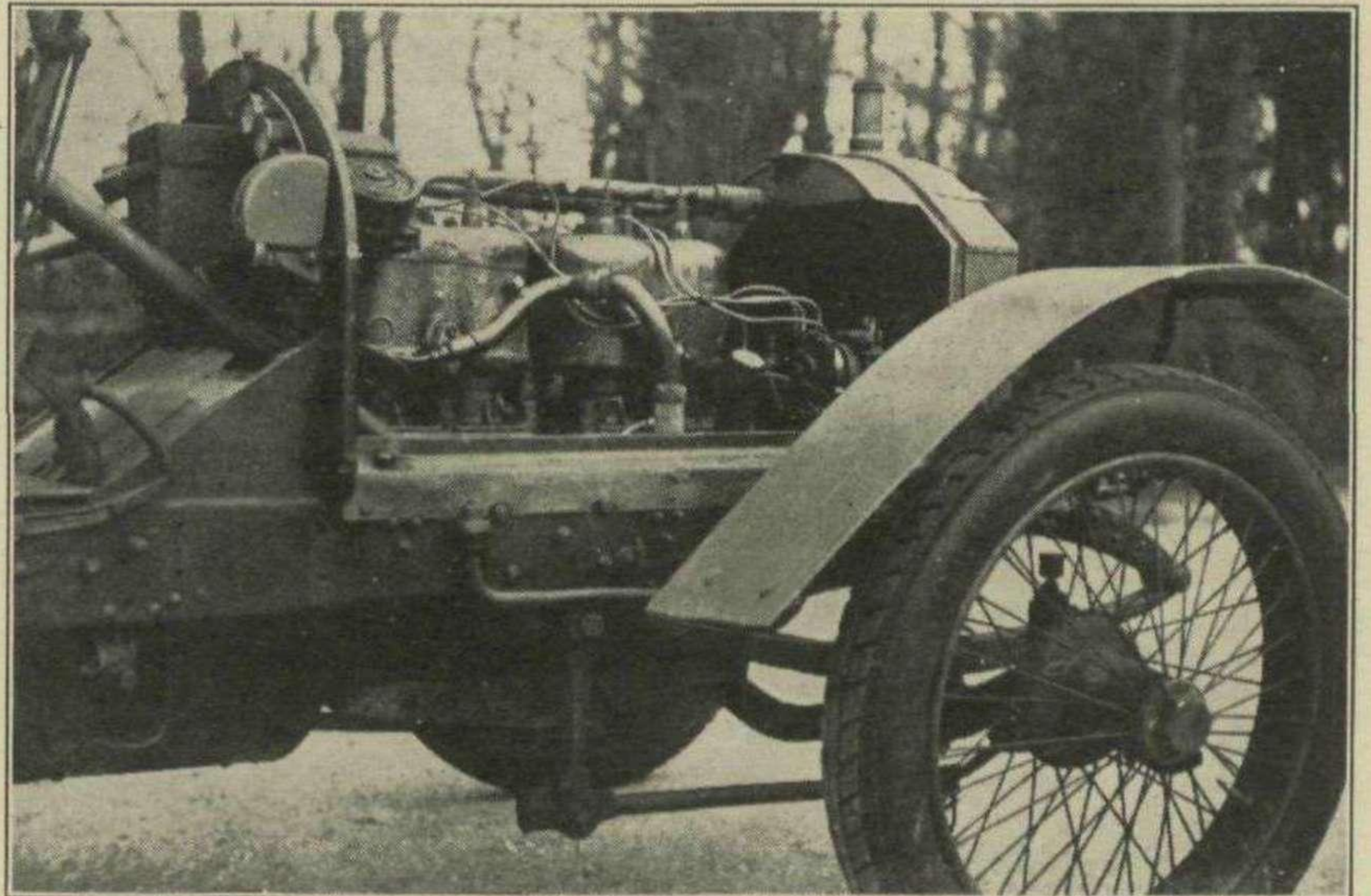
The four cylinders (101.5 x 180 mm.) are cast in pairs, and have copper water jackets, formed by electrical deposition on wax moulds. The process took about three weeks to build up the necessary thickness of metal. The valves are all on the near side and bronze valve caps are screwed into the cylinder head. Each valve cap is tapped to take a sparking plug, and an alternative position is provided in the centre of the cylinder head. It would seem that some experiments were made to determine the most effective place for the two plugs which were provided for each cylinder. Dual ignition was attended to by a magneto and trembler coil, the distributor for the latter being shaft-driven at 45°, from the rear end of the crankshaft. From its front end a chain is taken to drive both the magneto and the water pump. Twin water outlets are provided on the top of each block, one being taken off between the two inlet-valve caps. Two Memini carburetters are now fitted, but the original Polyroe is available, and it is intended to restore it to the engine. The oil pump is driven by a vertical shaft

off the tail end of the camshaft, while near its forward end there is a small air pump for maintaining pressure in the petrol tank.

An orthodox multi-plate clutch transmits the drive to a four-speed gearbox, which is unusual in that all the gears are indirect, the propeller shaft being taken off the rear end of the layshaft. No advantage was taken of this arrangement to provide an overdrive geared-up top gear, although it would have been an easy matter to have done so. Two gear levers are provided; one controls the forward speeds and the second engages reverse, an interlocking device preventing the former being moved while reverse gear is in use. Behind the gearbox is a transmission brake, the drum of which is extended to carry ratchet teeth of a sprag. The bevel-driven rear axle is

located by a tubular radius arm of triangular form. An axle ratio of 3 to 1 is at present provided, the intermediate gears being: third 4, second 5.5, and bottom 7.25 to 1. Four $\frac{1}{2}$ -elliptic springs, damped by Triou hydraulic shock-absorbers, provide the suspension. Originally friction dampers were fitted, but the existing hydraulic type must have replaced them while the car was still quite young. The car is slightly crab-tracked, being 5 ft. 2 in. in front and 4 ft. 8 in. at the rear. For negotiating the downhill bend at the end of the Hillberry straight the 12-in. brake drums on the rear wheels look rather inadequate for a car capable of travelling at 80 m.p.h. An early type of Rudge-Whitworth wire wheel is fitted, and the hubs are provided with fewer and coarser splines than is usually associated with this make of wheel.

When the Hutton was first received by its new owners it had not been run for some years, and the ribbed Palmer cord tyres could not be persuaded to hold air for any length of time. Ignition was another doubtful factor, investigation showing that although the trembler coil on the dashboard still functioned the distributor had many cracks in its insulation, which caused sparks to occur at irregular intervals and in improper places. The old Bosch magneto, after drying, was found to be in first-class condition. The leads were connected to the sparking plugs fitted above the exhaust valves after some deliberation as to which of the three positions offered the best possibilities. After liberal priming and a short tow the engine broke into life and the air and oil pressure gauges revived from their long sleep. Even the water-pump pressure showed 2 lb./sq. in. After some slight adjustment to the twin Memini carburetters the tick-over was soon regulated. Some difficulty was experienced in getting the clutch to free, and even when it did the engagement of



The off side of the engine, showing the two pairs of cylinders with their electro-deposited copper water jackets. The jacket of the rear pair of cylinders has been damaged and repaired by a coppersmith. The distributor for the coil ignition is just forward of the dashboard and the magneto at the front end of the engine.

bottom gear was still noisy, due to clutch drag. On moving off one is struck with the liveliness of the engine, the getaway being very similar to the E-type, side-valve "30/98" Vauxhall. Laurence Pomeroy, in his "Milestones of Speed" series, in the *Motor*, said that the engine gave 70 b.h.p. The maximum speed is stated by the previous owner to be about 2,300 r.p.m. The gear changes were quite easy, third gear seemed very high, and top gear could only be used for a very short distance. The maximum speed reached was only about 50 m.p.h., and there was a good reserve of power. There seems little reason why a cruising speed of 55 m.p.h. to 60 m.p.h. should not be maintained and a top speed of over

70 m.p.h. achieved. The engine is very sensitive to ignition advance, and no doubt with the dual ignition functioning properly and correctly timed, the car's performance could be improved. Sitting in the driving seat the small steering wheel is sufficiently far away to allow perfect freedom of movement to the driver's elbows. The controls of thoroughbred cars always have a certain charm, and the Hutton is no exception. The brake and gear levers come readily to hand, although the latter has a fairly long travel by present-day standards. On the dashboard is the box containing the trembler coil, and facing the driver are the three pressure gauges for air, oil and water. The object of the latter is presumably

to give due warning of water pump failure, which might result in damaging the copper water-jackets. The steering is high-g geared and very light. There is a slight tendency to oversteer. Engine and gearbox run quietly, and the exhaust note with the existing silencer is pleasing. The brakes are more powerful than one might expect, and the combined use of foot pedal and hand lever can be very effective. Wartime conditions precluded an extensive test, but the short trial run was sufficient to show that the 1908 Hutton should be a worthy addition to the ranks of the competitors in the "Edwardian" class of post-war hill-climbs and speed trials.

RACING AND THE PUBLIC

A BRISTOL CIRCUIT?

SOME reference has been made recently in the weekly motoring Press to a possible post-war racing circuit near Bristol. The original suggestion came from Mr. G. H. Draft, whose views were published in a letter to the *Bristol Evening World* of March 7th. He suggested a course using the Portway (re-surfaced), Stoke Hill, Sea Walls, down Fountain Hill, and then down Bridge Valley Road to hairpin back into the Portway. A sketch map was published, and Mr. Draft made clear the immense benefit that Bristol City could be expected to gain from holding motor-races of international repute. What followed is of interest, if only to show what we are up against from the man-in-the-street when attempting to focus public attention on the importance of establishing new road-racing circuits in this country—the opposition is astonishing in view of the part the mechanised army is playing, and has to play, in winning the war.

Mr. Draft's letter was followed by sensible support from Mr. A. W. Morrish, of Redland, who emphasised Germany's advantage over us in matters motoring at the commencement of the war, due to her youth being motor-minded, but, in view of the Government's antagonism to motoring in this country, asked whether it wouldn't be wiser to begin with a less ambitious circuit to that outlined by Mr. Draft. Mr. Morrish suggested the Downs "Ladies' Mile" and the 200 yards of Stoke Road crossing the Downs, and thought that if sufficient support were forthcoming, the Bristol M.C. and L.C.C. would be pleased to organise the racing.

Two days later Mr. F. J. Warren wrote to protest strongly against Mr. Morrish's suggestion. His outburst contained such observations as "The Downs . . . this glorious piece of God's own garden, perfect in its answer for the best recreation of the ordinary folk—the estate park of Bristol's citizens—is too old-fashioned for these racing sportsmen, so we must 'paint the lily' and make it up to date, modern and progressive. . . . They want

something for nothing—a venue for their racing by robbing the people of their recreation. It (the Downs) should never be desecrated by speed, noise and, perhaps, casualties." Two days later still the *Bristol Evening World* published a cartoon headed "Bristol Merry-Go-Round" over a poem reputed to be written by a soldier who had not heard the suggestion that part of the Downs should be used as a motor-racing circuit. The soldier dwelt on the peace of the Downs and the cartoon depicted fantastic, partially air-borne racing cars crashing in a big and multitudinous way behind a man sitting on a seat, reading a book—presumably he is Mr. Ordinary Folk. In the same issue Mr. Draft had a restrained and sensible reply to Mr. Warren, pointing out that if Bristol decides not to take advantage of a road-racing scheme, another city will, and will benefit commercially and recreationally. Mr. Walter Watkins later pointed out that other countries have taken just as "glorious pieces of God's own garden," and in no way harmed them with an occasional motor race. He went on to say that the West Bristol M.C. and L.C.C. is gaining valuable experience by organising motor-cycle grass track meetings this year [this is possible by using wood-alcohol fuel, and the first event was held on Easter Monday—ED.], the proceeds from which go to Bristol's Own Fund for prisoners of war—hardly a case of racing folk wanting something for nothing.

Mr. Morrish reminded Mr. Warren that racing on the Downs would entail only sandbags and a wooden barrier once a year, and would not be anything like so disturbing as the carnivals and agricultural shows already held there. Notwithstanding, Mr. Warren wrote to display his appreciation of the anti-motor-racing cartoon and expressed the opinion that arguments relating to prosperity, progress and commerce are trite and whiskered, demanding to know what all this had to do with the Downs "which is held in trust for all citizens." He had

support from Mr. C. R. Northcliffe, of Hanham, who sarcastically suggested that racing should embrace the City's blitzed ruins and so involve pedestrians, that air-raid shelters should be retained to give the non-motorist a chance of survival, and that parachute jumping from University tower, Spitfire flights under Suspension Bridge, and M.T.B. races up the Avon, be added. This futile correspondence finally concluded towards the end of March by Mr. F. W. Thomas, of Clifton, writing to say that in "the eighteenth and early part of the nineteenth century horse-racing, athletics, dancing, cricket, pugilism, bowls, rounders, and swordsmanship were enjoyed by ordinary folk on the Downs"; by Mr. Jarman, of Taunton, reminding us that racing "improves the breed"; and by Mr. Morrish reminding Mr. Warren that after Dunkirk it was the motor industry which saved us from disaster, and that Germany recognised the value of motor-racing over road circuits.

We do not think that this correspondence in any way decides the future fate of Bristol's road-racing scheme, but it does indicate the sort of opposition to be expected from the provincial Press. Those who delight in attacking such schemes are presumably glad when night fighters are heard overhead as they cower in shelters and relieved that we won the Battle of Britain. Let them remember that, whether or not Waterloo was won on the playing fields of Eton, our present air supremacy originated at Brooklands and Calshot. Let Mr. Warren consider Weybridge, Derby, Sydenham, Le Mans, Monaco, Boulogne, Tours, Dieppe, Pescara, before he condemns his own city to a motor-racing-less future. We understand that Mr. Morrish and fellow enthusiasts intend to return to the scheme at a more opportune time. We hope that they will then have the backing of ex-Service men and women who have seen something of Germany's motoring might, to assist them against the opposition.

More Early Bugattism

By Cecil Clutton

IN MOTOR SPORT for May, 1941, I gave some rather disconnected information about Ettore Bugatti's early career as a designer and maker of motor-cars. The Editor has now asked me to supplement that article with further information which has subsequently come to light, relating to the Type 13 Bugatti and the Bébé Peugeot, which latter, as is well known, was also designed by Bugatti.

Recapitulating for a moment, when Bugatti set up in business on his own about 1910, his first two models were the 1,327-c.c. 8-valve model, later known as the Type 13, and the 5-litre machine whose sole representative in this country is the superb "Black Bess" of Col. Giles. At an even earlier date, Bugatti had shown his preference for the overhead camshaft, remarkable "banana" tappets, multi-plate clutch and other features which remained prominent Bugatti characteristics for many years; but various authorities have pointed out the really striking resemblance which exists between "Black Bess" and the 1910, 10-litre, G.P. Fiat, similar to that now owned by Anthony Heal. The "Black Bess" type must have been on the drawing board in 1909, since the prototype machine competed in the 1910 Prince Henry Trials. The Fiat was also well on the way to completion in 1909, since it is almost certainly the machine which was intended for the abortive 1909 Grand Prix. Bugatti must, therefore, have had very advanced knowledge of the Fiat arrangements, and I think that dispassionate examination of the two cars must carry conviction that the similarity is not accidental. Even the little 8-valve model shows evident signs of Fiat influence, but here I cannot help suspecting that Bugatti must, in some measure at least, have been influenced by the several high-efficiency 62-mm. bore, 4-cylinder cars which ran in the 1908 G.P. Voiturette class.

This reads like an attempt to rob M. Bugatti of all the credit for these undoubtedly pioneer efforts, but I do not think that this is really so. The Fiat people had, since 1905, been producing G.P. machines of startlingly modern design, but owing to their immense size they did not influence normal design. It was just another of the many cases where Bugatti saw a means of putting the ideas of another to more profitable uses than had the originator. In this case, he showed himself the first to realise that the Fiat racing design, if greatly reduced in size and stepped up in crankshaft speed, would result in a perfectly practicable production machine. This in itself was a sufficiently revolutionary notion, beside which the apparent plagiarism becomes comparatively unimportant. "Black Bess" and the Type 13 can therefore lay very strong claim to be the forerunners of all modern high-efficiency sports cars, both large and small.

The original Type 13 of 1910, described in my previous article, was fairly soon modified in several particulars, and by 1913 or 1914 it had become much more typically Bugatti; it will therefore be of interest to the Bugattisti to see the eventual shape of this famous type. Briefly,

it will be remembered that the 1910 effort had a quite non-Bugatti radiator, and a 65×100 engine, with a capacity of 1,327 c.c. The wheelbase was 6 ft. 7 in., track 3 ft. 9 in., and total weight of the complete car only 6 cwt. The price, complete, was £300. The crankshaft was carried in two main roller bearings, and was said to be capable of turning at 3,000 r.p.m. The cruising revs. were 2,300 per minute. Maximum speed was 60 m.p.h., a most remarkable figure. The overhead camshaft was wick lubricated, and the main lubrication was assisted by exhaust pressure. The 4-speed gearbox was 3-point mounted, with one bearer on the off side and two on the near.

It was this little machine which finished second in the 1910 Grand Prix, the winner being the very 10-litre Fiat to which it so largely owed its inspiration.

In its final form, with typical Bugatti radiator, the Type 13 was interviewed by a now defunct Iliffe publication, the *Light Car* (not to be confused with the current Temple Press periodical of the same name) of March 14th, 1917, from which the following particulars are taken. The engine dimensions were as before, but the crankshaft, of chrome nickel steel, hardened and ground, was supported in three phosphor-bronze bearings, described as "possessing anti-frictional properties and being a secret of the designer."

The o.h.c. was driven by a shaft at the front end and carried by three ball bearings. Valve operation was by the remarkable Bugatti "banana" tappets of hardened steel, working in white metal-lined brass guides. Clearances were adjusted by normal shims and thimbles. The inlet valves lived in detachable cages so that the valves could be replaced without dislodging the whole cylinder block. Exhaust valves would be dropped through the inlet orifice, slid across the piston till they registered with the exhaust valve guides, and raised deftly into position by winding up the piston.

The valve arrangements generally are of considerable interest, especially as to the timing diagram. The inlet valves opened 22° before t.d.c. and closed only 14° after b.d.c. The exhaust valves opened 62° before b.d.c. and closed as much as 43° after t.d.c. In considering this diagram it must be explained that the exhaust valve opened very slowly, and the other valve operations were fairly rapid. The inlet valve diameter was 39 mm. with a 10 mm. lift, and the exhaust valve diameter was 36 mm. with an 11 mm. lift. The effective valve openings were therefore practically identical. The total overlap is 65°.

The head was flat, as was the case with all Bugatti types until Type 50, and as the total valve diameter exceeded the bore the combustion chamber had to be L-shaped, the extension being on the inlet side, which, in conformity with the customarily perverse Bugatti practice, housed the sparking plugs. Contrary to the later Bugatti reliance on cast-iron

cylinder head and valve-seat cooling, the Type 13 is provided with fairly copious water passages round the head.

Considering the low r.p.m. it is remarkable that such large valves were considered necessary, and one cannot help feeling that smaller ones would have improved performance as a whole, and certainly at low revs. The same diameter (39 mm.) and the lower lift of 9 mm., in conjunction with a 40° overlap, was considered adequate for the P.3 Alfa-Romeo engine which was capable of 6,500 r.p.m., the cylinder dimensions of the two engines being identical. The valves were composed of "the best chrome nickel steel."

Lubrication was by plunger pump and the overflow from the pump lubricated the camshaft. Big-end lubrication was by splash; consumption was claimed to be 2,000 m.p.g.

Turning to the transmission, power was put through the usual beautiful Bugatti multi-plate clutch (5 c.i. and 6 steel plates) and a 4-speed gearbox, most rigidly held by an immense bearer stretching right across the chassis. This must have had an admirable stiffening effect, as also must have done the 4-point engine mounting.

The overall gear ratios were the admirable ones of 3.43, 4.5, 6.25 and 11 to 1. At the permitted maximum engine speed of 2,500 r.p.m. in the gears and 2,700 in top (less than the 3,000 r.p.m. of the original 1910 model) the road speeds were 18.5, 32.7, 45.4 and 65 m.p.h.

The chassis followed usual Bugatti lines with open propeller-shaft, torque arm, semi-elliptic front springs and reversed quarter-elliptics behind. The wheelbase was 7 ft. 10½ in., and track 3 ft. 9½ in. Overall weight was 10¼ cwt. The foot-brake worked on the transmission, and the handle operated large drums on the rear axle. Bugatti brakes were consistently poor until the late '20s, and these seem to have been no exception. Apart from this, the road-holding, steering, comfort, speed, hill-climbing and accelerative powers of the little machine came in for high praise.

In 1914 the Type 13 was practically superseded by the Type 22, which was a sort of transitional model between the 13 and the famous Brescia, Type 23, which made its bow in 1923. It is not intended to deal at length here with the Type 22, but it may be mentioned that it had a slightly larger 68×100, 1,453-c.c. engine and four valves per cylinder. The gear ratios were almost identical to the Type 13. A team of these cars was entered for the 1920 Voiturette G.P. at Le Mans, and the winning car, driven by Friederich, averaged 57 m.p.h. At half distance the Bugattis lay 1st, 2nd and 3rd. It seems that the cylinder dimensions in this case may have been 66×100.

Although not marketed until 1923 it seems that the Brescia was first raced in September, 1921, when it won the Brescia light car race, from which it took its name. The Full Brescia differed from the Type 22 in having two magnetos on the dash, as distinct from the Type 22's one driven by a skew-gear from the camshaft. The Brescia, too, had a centre

main roller bearing for the crank, shorter wheelbase, and plugs on each side of the engine.

For most of this Type 22 and 23 information I am indebted to Mr. Laurence Pomeroy; in fact, there is nothing original about this article at all.

It is known that M. Bugatti was experimenting in 1913 with a straight eight composed of two Type 13 blocks on a common crankcase, but the first straight eight was not made available to the public until 1923, when the 2-litre (60×88), three-bearing Type 30 was put on the market. However, it is not generally known that a straight eight was shown at the Paris Salon in 1921. Nothing seems to have come of it, and it was probably made of wood! It seems to have been a sort of pre-Type 30, with two Solex carburetters. A two-speed gearbox lived on the back axle, as was later to be the case on the Types 41, 46 and 50.

If the Type 13 was the forerunner of all modern high-efficiency sports cars, it is equally true that the Bébé Peugeot fully anticipated the modern baby car, having been in successful production over ten years before the Austin Seven. Although built by Peugeots, the car was designed throughout by Bugatti.

Briefly, the particulars were as follows: The engine capacity was 855 c.c., the bore and stroke being 55×90, which gave a

Treasury rating of 7.5 h.p. The b.h.p. was stated to be about 10, which seems rather surprisingly low. I should have expected 12 or 13. The whole engine was in one piece, with just a plate at the bottom of the sump. The top end was T-shaped, with inlet and exhaust valves on opposite sides, and detachable valve caps. The beautiful four-branch Bugatti exhaust manifold was in evidence, and induction took place by courtesy of a Zenith carburetter. Sparking by Bosch, lubrication by gravity and sight feed, and cooling by centrifugal pump and gilled-tube radiator. A leather cone clutch passed the power to a novel two-speed arrangement. Incidentally, this provision of only two speeds, despite the small size of the engine, was a marked weakness of the design. The overall ratios were 3.3 and 6.7 to 1, which gave maxima of 26 and 40 m.p.h. With the minute (wire) 550×65 wheels this suggests a peak engine speed of around 2,600 r.p.m. The engine could, therefore, hardly be over-revved in top, on which the theoretical maximum would be 52 m.p.h.

There was no normal gearbox, there being two propeller shafts, one inside the other, and both enclosed. Each engaged with a different set of teeth on the crown wheel. The "gearbox" contained only a double-faced dog-clutch, which engaged one or the other propeller shaft. By this ingenious arrangement direct drive on

each ratio was obtained. Two bevels and an idler bevel (engaged by a Bowden control) on the clutch shaft, provided a reverse gear, working through the lower ratio.

The Chanel steel frame was a typical minute example of Bugatti, with reversed $\frac{1}{4}$ -elliptics behind, and semi-elliptics in front. In fact, the whole machine was a complete miniature car, in marked distinction to contemporary cycle-cars, which were little more than 4-wheeled motor-cycles. The wheelbase was 5 ft, and the track 3 ft. 5 in., so that the overall weight cannot have exceeded 5 cwt.! I myself have lifted the whole front end of one without much effort. Shock-absorbers were a distinct novelty on touring cars pre 1914, especially on light cars, and the Peugeot was remarkable in fitting them as standard. The make was "Truffault," whatever they may have been. The riding and performance of the car were much admired when it was tested by the *Light Car and Cyclecar* (predecessor of the modern Temple Press *Light Car*) in their issue of August 13th, 1913. Marketed, complete with hood and windscreen, at £160, the Bébé Peugeot was a really remarkable advance in very small car design, and it gave reliable service in the hands of numerous unskilled owners. It is certainly one of the many feathers with which M. Bugatti would be well justified in decorating his headgear.

THE VETERAN CAR CLUB'S SOCIAL

Another of the Veteran Car Club's "lunch-with-films" meetings was held on April 22nd at the Waldorf and was very well attended, over 100 members and friends being present.

The first speech, after an excellent austerity lunch, came from Lt.-Comdr. Montague Grahame-White, R.N.V.R., the Club's President. He welcomed to the meeting several old-timers, mentioning among others F. S. Bennett, Jack Stocks, W. H. M. Burgess and Sir Kenneth Murchison. Commenting on the steadily shrinking group of pioneers, he especially mentioned the loss they had sustained in the death of Lt.-Col. Charles Jarrott. After Major Allday had said how gratifying it was to see so many ladies and members of the Services present, he extended a special welcome to Roger Hardacre, of the American Horseless Carriage Club. Major S. C. H. Davis, pleading for more Anglo-American co-operation, mentioned that with the aid of the American Air Force he had recently got a Jeep up the steps of a certain town hall. Major Allday rose again to speak

on a personal matter. The committee felt that Captain Wylie's tireless efforts on the Club's behalf deserved some recognition, and that they wanted him to accept a scale model of his veteran Wolseley from the Club as a token of their gratitude. Captain Wylie accepted, saying he had always done his best to strengthen the Club's position, mentioning that they had enrolled 70 new members since 1939, and that members owned some 200 veterans. He also said that to avoid any argument in the future he was writing the history of the Club from its founding up to date.

After a brief interval the film show began. A film of the V.C.C. Leamington Spa Rally of 1934 was followed by one of the 1910 Coupe des Voiturettes. This was the year the Birkigt-designed Hispano-Suizas triumphed over the freak Lion Peugeots. Next, a brief but excellent film of the 1906 Grand Prix, held at Le Mans, when Szisz's 13-litre, with Michelin rims, was the winner at 63 m.p.h. Following an A.A. film came Southall's magnificent colour

film. This was made up of shots of several different subjects, including the 1936 Eastbourne Concours d'Elegance, a Brighton run, the Itala and Heal's Fiat in action at Prescott, the 1939 V.S.C.C. Welsh Rally, a magnificent shot of Cecil Clutton riding a boneshaker bicycle in anything but a straight line, and a Holden and other early motor-cycles in action. The show concluded with a very good sound film of the 1904 Gordon-Bennett, when They won at 54½ m.p.h. on the 10-litre Richard-Brasier. There was an excellent spoken commentary on shots of the weigh-in, the start, and of cars in full flight. Major Allday thanked Lt. Inman-Hunter for the work he had done on the Club's films. Then tea was served, and after much discussion the party broke up.

Among those present were Mrs. S. F. Edge, F. W. Hutton-Stott, S. E. Sears, C. St. John Nixon, Capt. Johns, Douglas Tubbs, Lt. Farrar, Anthony Heal and his wife, Alec Hodsdon, E. Lightfoot, J. Egerton, E. A. Stafford-East, Julian Fall, Frank Bale and Jackie Masters.

EATON MOTORS

(Ian Metcalfe)

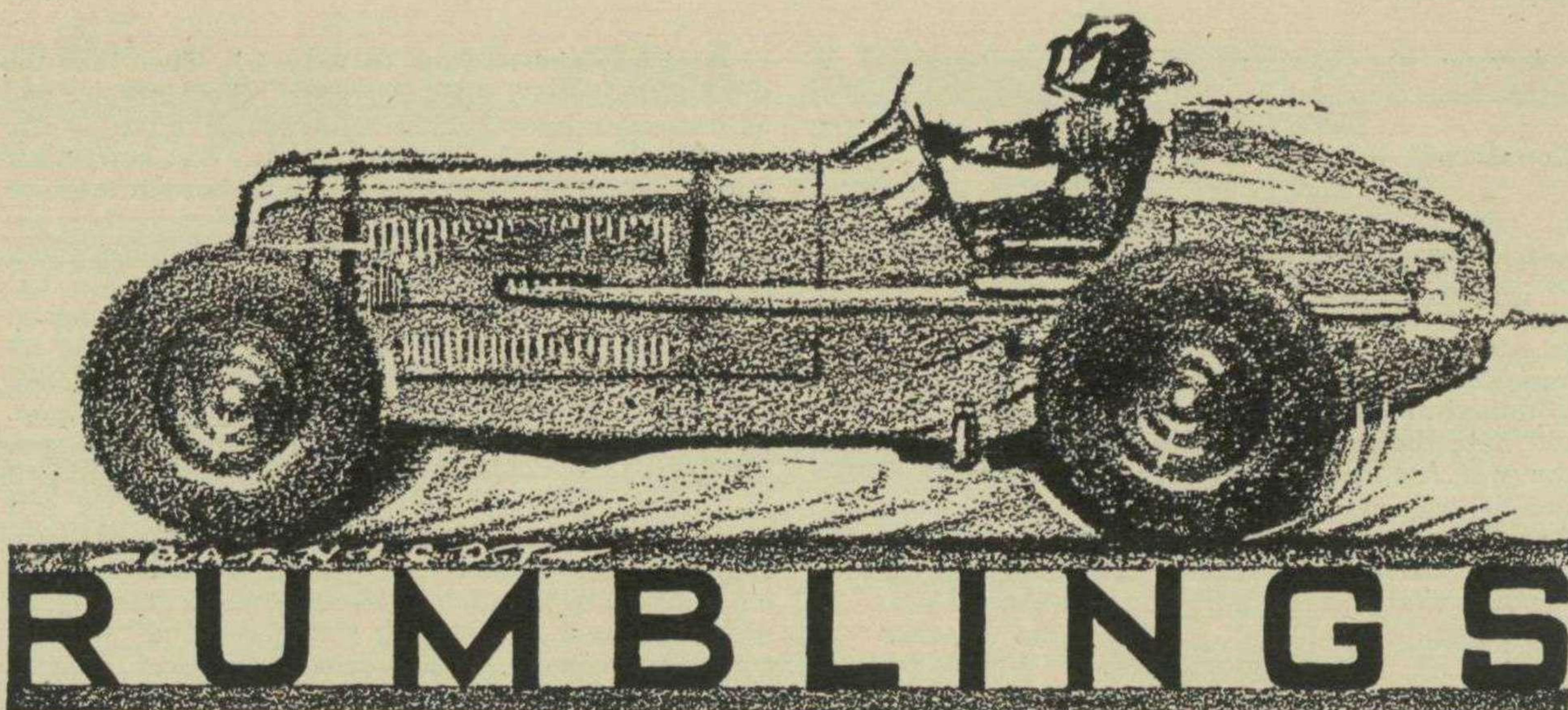


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These days, when things are apt to fall from the night sky, knowledge of what they are and what brings them here is instructive and absorbing. So Faber and Faber are to be congratulated on publishing Charles Grey's latest book, "The Luftwaffe." It runs to 251 pages, is nicely illustrated, is very readable, and tells one practically all one could wish to know about German air power. Now that the *Luftwaffe* is no longer a menace, but merely a nuisance, this book makes pleasant study. C. G. Grey not only deals with the formation and history of the *Luftwaffe* but he tells of bombs and guns and other relevant things. He also takes us back to 1914-18 and compares the British and German air forces of those days, while the book contains a table of all the German aircraft known to have been used in this war, compiled by John Stroud. Those who are interested in air warfare should get this book right away—they will begin to appreciate why we cannot fail to win the war. It costs 8s. 6d. and is a most fitting companion to C. G. Grey's earlier books, "British Fighter Planes," "Bombers," and "Sea-Fliers," by the same publishers.

* * *

We pulled off a long shot, whatever that is, the other day, and it got home. For a long time, as has been mentioned previously in "Rumblings," we were puzzled by the identity of a Singer which de Jongh raced at Brooklands in 1925. Seeing someone of the same name asking for spares in a contemporary, we wrote on the slender chance that here was the same person. A reply from Flt./Lt. G. de Jongh, R.A.F., proved that he was. The Singer in question was, as we suspected, pre-1914, being a 1911 20-h.p. model with the same bore and stroke as a 3-litre Bentley. From 1911-13 it ran at Brooklands in the hands of Percy Martin, and was known as "Pearly." The chassis was standard, save for flattened springs and a higher axle-ratio, and even had normal Sankey steel wheels. The engine, however, was a most ingenious

conversion. Normally it consisted of an L-head job with two cylinder blocks on a 3-bearing crankshaft. For racing all the side-by-side valves were used as exhausts, a new camshaft being used, and on the off side another camshaft was built in, driven by gears from the extended timing case at the front. This extra shaft was exposed, but the cams were enclosed in oil-tight boxes. From it unenclosed push-rods operated enormous o.h. inlet valves, almost as large as the cylinder bores. Enormous valve springs, enclosed in metal boxes, were stuck on top of each cylinder. Each of the eight valve caps carried a sparking plug over an exhaust valve, ignition being by two magnetos, driven from the front of the engine, one being driven by the other. A White and Poppe carburetter was set low down on the off side and fed by gravity from a tank in the scuttle, the inlet pipe being extremely long. The cams on the extra shaft were lubricated from the main supply and each exhaust valve had its own off-take pipe to an expansion chamber and tail pipe. The pistons were steel Zephyrs, and the engine ran very smoothly up to its maximum, which de Jongh considers was about 3,000 r.p.m. This curious Singer could do around 100 m.p.h., but this took a lot of getting as the power only came in properly high up, and acceleration was poor. There was little mechanical noise, and the exhaust had a pleasant, not too loud, burble. Transmission embraced cone clutch, 4-speed gate change and a clutch stop. Final drive was by bevel, and all the brakes were on the rear wheels. The pointed radiator was of gilled-tube type, brass plated, and circulation was by pump, so powerful that unless very hefty hoses were used on the inlet side they were sucked flat and water-flow ceased. Lubrication was by force-feed from a gear-pump. A 2-seater body was fitted with a short, round, pointed tail, and hood, narrow wings and dynamo lighting figured in the equipment. De Jongh remarks that he sold the car and was in S. Africa for some years afterwards. He last heard of it in the Coventry neighbourhood about 15 years ago, and wishes he'd got it now. Any clues?

Anyone who has naughtily used half-a-gallon of petrol since September, 1939, for a false purpose, or who has otherwise sinned against the requirements of the Ministry of Fuel and Power, may care to ease his or her conscience. On Easter Monday some 700 taxis took lovers of horseflesh and easy money to the Windsor races, and Mr. Noel Baker has recently revealed in the House of Commons that London dog-tracks alone get 164 gallons of petrol a week for transport of dogs from kennels to tracks—apart from private cars and more taxis, of course. Visit London main line stations and note the arrival and departure of the taxis and you will feel decidedly better. It would be rather nice if one of the pro-motorist organisations had thought to display posters about the country on the Tuesday after Easter reading something like this:—

700 TAXIS ATTENDED THE WINDSOR RACES
YESTERDAY: ONLY WAR-WORKERS VISITED
BROOKLANDS.

Get something off our chests, it would!

* * *

In spite of the articles on the evolution of the racing car which figured in recent issues of MOTOR SPORT, our Veteran Types series relating to actual historic cars still in existence, and Laurence Pomeroy's magnificent "Milestones of Speed," published every so often in *The Motor*, motor-racing history remains an immense study. Anyone claiming a comprehensive knowledge of it should be asked to quote from memory the various

Peugeot types raced from 1912–1914! Then take the small Talbots or Talbot-Darracqs. Most people, and all historians, know they were invincible in the 1½-litre class in the early nineteen-twenties. But how many know there were three distinct types used to achieve that distinction, let alone how to recognise photographs of them? In 1921 the Talbot-Darracq was a 4-cylinder 65×112-mm. plain-bearing job with 16 o.h.v. operated by twin o.h.c. driven from the front of the engine. Twin Solex carburetters were used, ignition was by coil, and cooling by pump. 51 b.h.p. was developed at 4,000 r.p.m., and about 55 b.h.p. at 5,000 r.p.m. In 1922 these cars underwent only minor changes, magnetos being added to supplement the coil ignition. In 1923 entirely new cars appeared towards the end of the season. They had 4-cylinder 67×105-mm. engines with two valves per cylinder operated by twin o.h.c. driven by a train of gears at the rear of the engine. Also at the rear of the engine was a cross-shaft, driving a Scintilla magneto. The bearings were roller through-out, dry sump lubrication was used, and a single Solex carburetter fed *via* a T-shaped induction manifold. The engine was 22 in. long and gave 70 b.h.p. at 5,000 r.p.m. Finally, for the 1924 200-Mile Race an entirely new team of twin o.h.c. cars was built, having a bore and stroke of 67×105.5 mm. and supercharged by Roots blowers. These cars developed about 108 b.h.p. at 5,500 r.p.m., and were virtually scaled-down examples of the 2-litre 6-cylinder Sunbeam design. These cars were used again in 1925 and set the seal to the S.T.D. 1½-litre reputation.

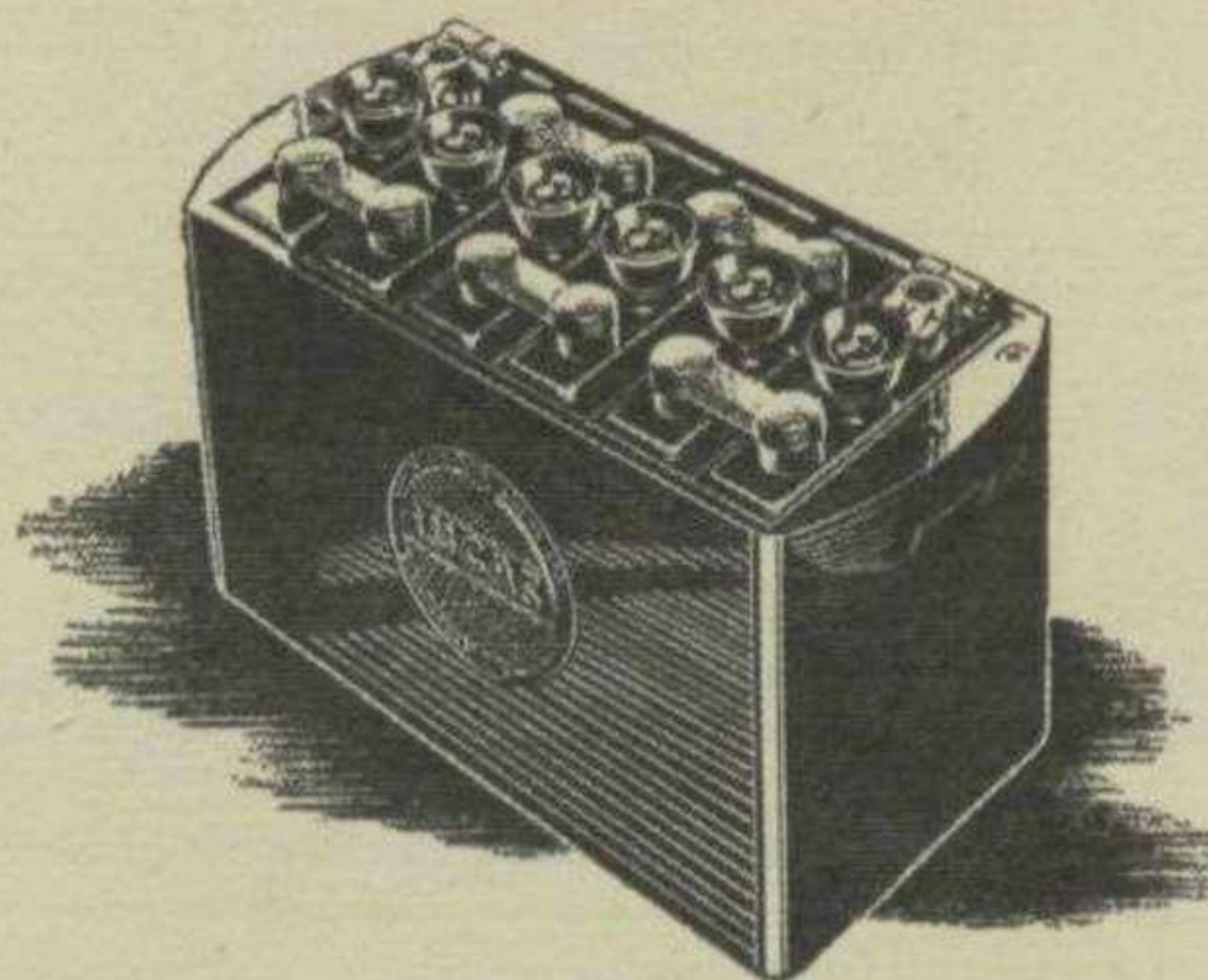
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WE HEAR

Apart from the Horstman and A.B.C. mentioned elsewhere in this issue, another early small car, but of rather different conception, exists in Amersham, in the form of Stafford East's touring V-twin G.N. He is assembling it from a large collection of G.N. parts, making up the body from data obtained from memory and photographs, so that it will be virtually a new car. He has also just acquired a rather beautiful old Panhard landaulette of about 10/12 h.p. and about 1910 vintage, complete with "folding occasionals" and recently saved from a scrap-heap, a remarkable 1909 or thereabouts T.T. Replica Rudge motor-cycle, which still reaches 60 m.p.h. Then there are other early motor-cycles at his premises. E. G. M. Wilkes's sprint G.N. and ex-John Bolster "30/98" Vauxhall are in process of rebuilding, and East's own Frazer-Nash possesses something very potent in the way of Meadows' engines. A hot spot! Then the irrepressible Birkett has acquired a lot more Type 40 and Type 44 Bugatti spares, and also a Type 30 straight-eight Bugatti; and Boddy, following in the footsteps of former Editors of MOTOR SPORT, has bought a Meadows' Frazer-Nash.

Major G. K. Wadsworth reports finding a 3-litre Bentley chassis in some farm buildings near Coventry, which he hopes to be able to acquire. R. Chapman, who was mechanic to Raymond Mays in the days of the Villiers Supercharge, and who also worked for Eric Fernihough, is now a captain in the I.E.M.E. in India, and MOTOR SPORT is sent to him regularly by his friend Owen Williams, who reports him as saying that he sees very few real cars out there—only a "2.3" Alfa-Romeo and a "Red Label" Bentley in the last two years. Owen Williams, by the way, has a 3-litre Sunbeam in safe storage, and is now using a 1939 Renault Eight, which has covered some 66,000 trouble-free miles. He has in his possession a book giving the specifications of cars built from 1908–1922 and will gladly help identify difficult models, if anyone with such a problem cares to write to him at Upper Broadleaze Farm, Cricklade, Wilts. Applied to the recent Cottin-Desgouttes' query, this book shows a 130 × 200-mm. 4-cylinder model to have been built from 1912–1915, the maker's h.p. being given as 50 (41.9 R.A.C.), cooling by pump, ignition by h.t. magneto, the clutch a multi-plate, and the 4-speed and reverse gearbox driving *via* chains. Chassis price £800.

Anthony Heal has added yet another car to his extensive stable, in the form of a 6-cylinder Napier landaulette, this being the car which we mentioned some time ago as being at Angmering-on-Sea. It will, as Mrs. Heal says, make a very nice station-car, when peace returns, and Anthony also craves a 3-litre Sunbeam.

H. F. Hart has just re-taxed his very potent 1½-litre Singer Le Mans, which has twin outside exhaust pipes, for business motoring, and Capt. Millar, owner of a Le Mans Lagonda and breeder of bantam chickens, is constructing an Austin Seven "special" with tandem seats. R.P.O. H. Macey reports that three or four enthusiasts in his depot compete for first glance at MOTOR SPORT each month, and they are busy hatching

Club News



a practical "ideal" car, hoping to get independent suspension all round by using a f.w.d. Alvis chassis converted to rear-drive; W. A. Ryalls is also contemplating purchase of a f.w.d. Alvis. Macey has data relating to the exact cam profiles of the Lagonda "Rapier" camshafts, supplied by Coventry-Climax, if anyone is interested.

It seems possible that a 4½-litre Bentley chassis, offered for sale for £30, may still be available in the Birmingham area, and in this locality a reader reports seeing several old-school Bentleys, including a van and a utility, several B.M.W.s, a very nice duck's back "12/50" Alvis (so apparently the Editor's 1924 car is not the sole surviving specimen), an early Invicta, a 2-litre "Speed Model" Aston-Martin, some D.K.W.s, and a Lea-Francis fabric saloon delivering milk (!). Dick Caesar has acquired another "12/60" Alvis (his third) from Tom Lush, who finds a brisk demand for "12/50" Alvis cars and spares. F/O. Donald Parker has purchased £170 worth of Riley spares from Hodgson in readiness for the day when he can commence racing his ex-Dixon Riley. A B.S.A. "Scout" instruction book has been added to the MOTOR SPORT Library by the kindness of a reader; further contributions will be gratefully received. We also badly need early issues of the weekly motoring journals for our records—even single copies will be very welcome.

"Tubby" Smith, of "The Ely," has recently added a single-cylinder De Dion engine, a very early 3-wheeler De Dion, and a 1904 2-cylinder Riley 4-wheeler to his noted stable of veterans. In a breaker's yard some miles north of London are two Lancia "Lambda" saloons, a 4½-litre Bentley saloon, and a 3-litre Bentley chassis, and a pedal-assisted Rudge motor-cycle (letters, by the way, are not answered and a personal call would be necessary), and a Berkshire breakers' revealed a single o.h.c. Alfa-Romeo lorry, a "14/40" Vauxhall saloon in excellent order, and a Brocklebank Six saloon.



KNUCKLE RAPS

MOTOR SPORT is, as most people are aware, produced under somewhat trying conditions these days. For instance, the Editor has not been able to visit the City Road offices more than about half a dozen times in the last three and a half years. Moreover, he never sees proofs of articles before Press day, unless they are very specially requested. Practically all the persons concerned with producing the paper do so in their spare time, having war jobs that receive first call these days. So it is inevitable that mistakes occur from time to time, although we would like to take this opportunity of congratulating the compositors and reader on a very fine job very carefully carried out, despite all difficulties. The fact that the capacity of the Ford "Mercury" engine was given as 4.8 litres in H. L.

Biggs's article last month, when it should, of course, be 3.8 litres, is attributable to these "things." But the Editor takes full responsibility for his error in describing K. N. Hutchison's Allard-Special that figured on the front cover as a V8; he was aware that it had a Lincoln V12 engine installed, but a lapse of memory resulted in him imagining it to have had a V8 engine for the 3-Hour Sports Car Race. Consultation of his records shows that it actually had the Lincoln V12 engine for that race—in which, incidentally, it finished 9th, covering 74 laps at 56.41 m.p.h. It was recently bought by Imhof. Apologies!



CHICANERY

This month's cover picture shows a scene from the 1936 J.C.C. International Trophy Race, at Brooklands. Negotiating the artificial bend in the finishing straight are Charles Brackenbury on a 2-litre Dixon Riley, Tommy Rose's 2.7-litre Maserati, and one of the then new o.h.c. Austins. Brackenbury finished 6th at 86.47 m.p.h. (the race was won by "Bira" (1½-litre E.R.A.) at 91 m.p.h.), Rose was 4th at 88.11 m.p.h., and the Austins had various potholes, Driscoll's oil filter being smashed by a stone, Dodson's supercharger blow-off valve refusing to hold pressure, and Goodacre's car never going properly at all; Dodson was running at the end, however.



ODD SPOTS

Francis asks us to say that he is no longer in the aircraft industry, having returned to war-vehicle work. Leonard Potter is now a consulting engineer and uses a Fiat 500, and Rodney Clarke may enter the Trade. Biggs is contemplating selling his very special trials Austin Seven, having acquired the Ford V8 he wanted. An officer who collects veteran motor-cycles found an early Italian specimen while on overseas duty, and sent it home to his mother for safe storage as officer's surplus kit!

We know of bound volumes of *The Autocar*, late property of Charles Jarrott, for 1897 and 1898, at £15 each, and a Rover Twelve chassis is available cheaply to a special builder. A Straker-Squire Six, previously mentioned, still runs in the London area, while Rowland, apart from the Horstman, has in stock an extremely fine open 4½-litre Bentley, definitely "in original condition." Short has acquired a Full Brescia Bugatti and K. W. Smith has a 3-litre Bentley, engine No. XR3542, chassis No. 3344, registered No. XR3542, and is most anxious to trace its history. Venables spent Easter exploring the Exmoor hills (on foot!) and reports everything much the same as ever.



VETERAN C.C.

The Veteran Car Club luncheon and film show on April 22nd is reported on p. 102. The April *Gazette* has been issued, and a newly-created Public Relations Committee is announced, composed of Geoffrey Smith, O.B.E., of *The Autocar*, Douglas Tubbs, of *The Motor*, Walter Boyle, of the *Garage and Motor Agent*, H. J. Cunningham, of the *Motor Trader*, and W. Boddy, Editor of MOTOR SPORT. Hon. Secretary, J. H. Wylie, 38, West Cromwell Road, S.W.5. (Western 3032.)

LETTERS from READERS

Sir,

Just had the most colossal piece of good fortune! While convalescing in a nursing home out here from Sicilian wounds I was poring over some *Autocars* I had just received, when a comrade offered me his collection of *MOTOR SPORTS* to read, some dozen copies ranging from 1941 to April, 1943. Now I had never seen a copy of *MOTOR SPORT* before, but I just love cars of the sporting types, and your paper is just terrific!

Living in the country in Scotland, I was able to start my car-driving career at the age of 12, like so many others on a bull-nose Morris-Cowley of my father's. I persuaded a motor-cycle out of him when I was 14, and from that day until I reluctantly had to sell the "12/70" Alvis late in 1941, I have always owned a car or a motor-bike. There have been 28 of them, many of them gems from the breaker's yard, but excepting for a bit of trials and grass-tracking with my A.J.S. solo motor-cycle, I never managed to enter the field of competition. The lure was so strong that I chucked 'Varsity and joined the Liverpool Police Force in 1937, wangled my way into the Motor Patrol Dept. inside a few months, and from then until the outbreak of this [censored] war was a "Speed Cop." You may be surprised, but believe me they are a great bunch of enthusiasts, though some may think we are a bit hard at times. If you saw us, off duty, with our "Leafs," Rileys, Alvises, etc., you would see a different angle on us altogether!

Having no car at all, even to dream of, maybe you could help me, by putting me in touch with someone who has a model on the blocks, or who would promise me the 'bus he's running when I get home after this lot is over. Sounds a bit fantastic, but I'd be willing to plank down £50 now and pay it over for the prospect of having something "nice to come home to," as the song says! He could have the cash and I'd have the prospect, the thrill of anticipation, which is about all we have to really live on out here. That Alfa-Romeo ex-C.W.P. Hampton described in his article in April, 1943, would be "just the job." Is there anyone possessing a Van den Plas "Speed 20" Alvis, or 2-litre Lagonda fixed-head coupé, who'd be willing to play on my offer? It would be such a great comfort to me.

Here's wishing you the very best and hoping to hear from you soon.

I am, Yours, etc.,

DANNY BIRRELL (Capt., R.A.S.C.)

M.E.F. [We can forward letters.—ED.]

* * *

Sir,

Capt. Moon's preference for a heat reservoir rather than a true radiator surprises me, but he is, of course, entitled to his own tastes, and if he doesn't mind a prolonged warming-up period and the possibility of ultimate boiling under adverse air-speed conditions, well and good. A lot depends on what the car is to be used for. It would probably be highly satisfactory under purely racing conditions, but in bank holiday traffic or on Bwlch-y-Groes . . . ?

My own preference is for waste heat to be disposed of, as far as is practicable, as soon as it becomes available; an engine that warms up quickly but never overheats. This requires either blower air-cooling, which is admittedly not easy to achieve quietly and without power loss, or a large radiator with fan and really capable thermostat. I have yet to encounter a standard thermostat that is large enough to cope, as it should, with unlimited cooling capacity, but it is quite easy to arrange. Fan power-loss at really high revs. could be avoided by a centrifugal declutcher cutting-out the fan at, say, 4,000 r.p.m.

I am, Yours, etc.,

Bebington. J. R. EDISBURY.

* * *

Sir,

I should like to hear further from Mr. A. G. Sanderson concerning the 100-m.p.h. "Musketeer" M.G. Midget.

I have covered a good many miles with my friend Macdermid in his various "Muskets" and, as far as I can remember, the speeds of the "T" types were approximately 80-plus unblown, and 90-plus blown. Perhaps Mr. Sanderson refers to the overbored, Marshall-blown Magnettes; these would definitely top the three-figure mark.

In reply to his queries, the drip-feed setting for the Marshall blower should be 30 per minute, and the belts were Gilmer-Fenners, Type 4 A6, and could be purchased before the war from J. H. Fenner & Co., Ltd., of Hull.

I am, Yours, etc.,

Enfield, HAROLD BIGGS.

Middlesex.

* * *

Sir,

Mr. Harold Biggs's notes on the Light Trials Allard Special serves to add to my steadily-growing enthusiasm for, and interest in, special Fords, especially V8s, though I am afraid that the interest will have to remain theoretical until something is done about the present system of taxation.

There is one point upon which I should like to comment, and that is the use of a crankshaft-mounted fan on a car which is, presumably, to continue its trials career after the war. I have had a certain amount of experience with Fords so equipped on cross-country work, and have come to the conclusion that this is an extremely undesirable feature on a trials motor, the reason being that the fan-tips meet the water in even a shallow ford, whipping up a literal deluge under the bonnet which swamps the ignition unit in its rather vulnerable position, so ending forward progression.

As a matter of fact, the position of the fan seems to cause Ford engineers a certain amount of worry, as the 1942 American Ford, not seen in any numbers in this country, has a third way of mounting and driving the fan. It is a compromise between the rather high position on the dynamo spindle and the low position on the crankshaft. This compromise has to be paid for in the form of a rather complicated drive, which is by a separate two-point belt from the

dynamo spindle, situated above the fan spindle and driven, as before, together with the two water pumps, by a four-point belt drive.

I am, Yours, etc.,

R.E.M.E. J. S. MOON (Capt.).

* * *

Sir,

Like every other enthusiast I have devoted considerable thought to the question of the post-war sports car. One is constantly seeing in the motoring Press designs and visions of fantastic machines which it is suggested would be the ideal post-war motor for the ordinary enthusiast.

Surely a glance is sufficient to show that these machines, although no doubt brilliantly advanced, are quite out of the question.

These motors with four-wheel drive, independent suspension on all wheels and similar features would be expensive in the extreme. This alone would completely rule them out, even if they worked, which appears unlikely.

In spite of Beveridge and similar Utopian schemes, those who had £200/300 to spend in 1939 will certainly not have any more in 194? However, there is no need to worry, as the ideal design already exists, and has done so for 20 years. I am referring, of course, to the Frazer-Nash—after the cries of derision have ceased, I repeat, the Frazer-Nash! It only needs more sane handling to succeed.

During 1925-30 the Nash, as sold, was in every way sound. Fairly cheap to buy, very economical to run and, provided not abused, reliable.

Surely an up-to-date but *not* elaborated version of these cars would succeed in filling the gap. In the past Nashes have all suffered from having to use proprietary engines, some of doubtful merit and, latterly, of immense weight, and this has detracted from the superb handling qualities of the chassis to some extent.

What is wanted is a sound and light engine of about 2-litres capacity which will provide a reliable 60 b.h.p. at moderate r.p.m., and no fancy compression ratios, etc. As the market for the car will be a fairly specialised one, I am sure that one of our larger manufacturers could be prevailed upon to supply such an engine and at a reasonable price.

A further concession to modernity which I will allow is hydraulic operation of the brakes; the drums, however, need not be of vast size or covered-in ribs, etc. Light wings and electrics, a simple dashboard layout with only the useful kind of instruments, and straightforward body-work of light weight would complete the motor. The car, complete, need not, and must not, weigh more than 13 cwt. or cost more than £300.

The chain transmission is completely satisfactory and delightful, the $\frac{1}{4}$ -elliptic springs are in every way what is wanted, and if you cannot push down the clutch-pedal you need a bath-chair and not a motor-car, anyway! (Yes, I am a member of the V.S.C.C.)

Incidentally, I write as one who has had many thousands of miles of satisfac-

tory 'Nashing in the past and keenly looks forward to many more in the (preferably near) future.

I am not suggesting that the car would be suitable for racing or violent chassis-smashing trials, but then nobody with any sense uses his road-car for these things, anyway.

Whether or not such cars are for sale after the war I certainly intend to build myself one as soon as I can get back to my workshop. I have no connection with A.F.N., Ltd., except as a user, satisfied on the whole, of their (post 1930) products.

Congratulations on the magnificent quality of MOTOR SPORT, and I only hope you can keep it going, never mind if it has to cost a guinea a copy.

I am, Yours, etc.,

JOHN NORRIS (Lieut., R.A.).

B.N.A.F.

* * *

Sir,

I read the article "Real Racing for the Impecunious" in your January issue with the greatest interest, and am extremely glad that so much attention is being given to the post-war prospects of the impecunious and novice drivers.

However, I do not agree with either the 750 Club's or the Midland Motoring Enthusiasts' Club's ideas, because I do not believe that any formula should be laid down for this type of racing, as it would exclude a large number of would-be drivers who at present own cars which do not comply with the formula. If they wanted to compete they would have to buy a car to suit the formula, and that surely defeats the object of this racing for the impecunious.

There must be many who were able to get a decent car, quite cheap, before the war and who are now patiently waiting to try their hand at some dicing which will suit their limited financial resources. It will be bitterly disappointing for these if after the war they find that, although the financial difficulty has been overcome, they are still barred from the Sport because

they have a car of 1,100 c.c. which they can't afford to change for a 750-c.c. s.v., unsupercharged machine as per formula.

The solution is difficult, but some form of handicap is indicated. As far as the public is concerned I feel that watching a race with all shapes and sizes competing would be far more entertaining and interesting even if it does give the organisers a bad headache working out the handicaps of cars piloted by young, inexperienced, and totally unknown individuals.

Such racing as was put on at the Stanley Cup meeting at Crystal Palace seems nearer the ideal than anything so far.

I am, Yours, etc.,

C. W. LAMBTON (Lieut.).

Home Forces.

[The 750 c.c. racing suggested by the 750 Club and M.M.E.C. is, of course, visualised as something additional to, and by no means superseding, existing club-type events. So we can hope to see Lt. Lambton's G.P. Bugatti in action at a future Stanley Cup fixture.—ED.]

* * *

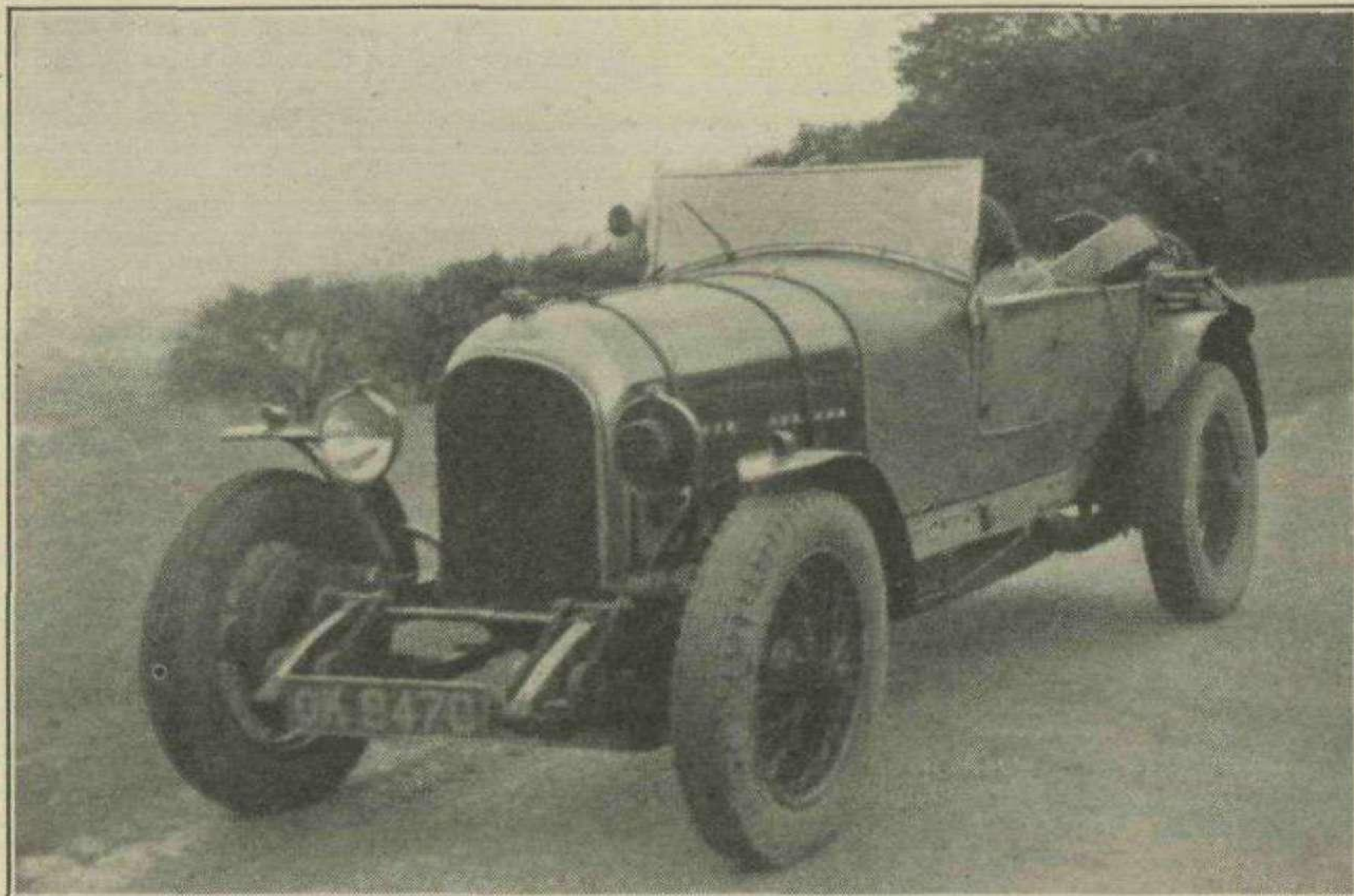
Sir,

Before leaving "Blighty" I realised an ambition of 10 years' standing. I acquired a thoroughbred, namely, a 4½-litre Bentley (OK9470), chassis 290.

The engine (No. TX3246) is in a chassis of 9 ft. 10 in. wheelbase. Said chassis is fitted with 6½-litre brakes all round, and a 6½-litre back axle. An A-type gearbox is employed behind the massive cone clutch.

The log book tells me that the date of manufacture was 1923 (to my mind a lot of "Betty Martin"), although this led me to believe that it might be a 3-litre chassis. It is reputed to have been built into its present form in 1938, possibly by a Mr. Errington, of Worcester.

From the enclosed photograph, can any reader give me personal reminiscences, or any Bentley gen that will help me to understand these truly magnificent sports cars?



S/Sgt. R. Truscott's 4½-litre Bentley at Box Hill, before he left "Blighty." Can anyone tell him more about it?

READERS' SALES AND WANTS

To meet the repeated demands for something on the lines of the old Spare Parts Announcements, we have instituted a system of inexpensive advertisements. Each announcement must be limited to twelve words, plus the advertiser's sufficient postal address, and the charge will be 1s. 6d. per announcement, payable at time of posting.

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18-in. thin rim steering wheel, £1. 12-cyl. B.T.H. aero-mag., good condition, £1. Batten, Marklye, Rushlake Green, nr. Heathfield.

2 Matched 30 F.H. Solex (near-side), 42s. 3 New Riley Timing Gears, 18s. Sayers, 38, Stanley Avenue, Dagenham, Essex.

WANTED

BUGATTI, 1½, 2 or 2.3-litre Grand Prix, complete, or parts for same. F. O. Cleveland Harmer, 83, Old Oak Road, Acton, W.3.

ALVIS "12/50" or "60," in good condition. Full particulars and price. W. Snowden, 9, Coverdale Road, Sheffield, 7.

MOTOR racing photographs, private and Press, all types. Full particulars and prices to Patrick Green, c/o 41, Hindes Road, Harrow, Mddsx.

"RED LABEL" radiator, with built-in stoneguard and 4½-litre Bentley axles. W/C. Dr. T. M. Evans, O.A.D.U., No. 2 Officers' Mess, R.A.F., Portreath, Redruth, Cornwall.

CAMSHAFT for 1½-litre International Aston-Martin. Also external exhaust. R. M. Fishenden, Sherwood, Abbey Road, Malvern, Worcs.

TYPE 40 Bugatti engine, any condition. Also any type 40 spares. 53, Hook Road, Surbiton, Surrey.

WANTED. Instruction Book for 38/250-h.p. Mercedes-Benz. Kennard, Langham House, Rode, Somerset.

1930/33 2-litre Lagonda open 4-seater. Blown or unblown. Full particulars and price to D. Trowbridge, 412 Ley Street, Ilford, Essex. Valentine 3229.

Spares Section,
MOTOR SPORT,
21, CITY ROAD,
LONDON, E.C.1

Briefly, may I recount the adventures of each copy of MOTOR SPORT after its arrival? First, it is read avidly from cover to cover by myself. Then the R.E.M.E. mess absorb it. It is then passed to the R.A.F. nearby, and on its return is loaned to the Royal Corps of Signals mess. Finally, it comes back to me battered and torn, held together with stamp paper and insulating tape, and is read once again. Lastly, it is laid to rest in my "gen" file for future loan and reference. Truly a 100 per cent. war effort!

I am, Yours, etc.,

R. TRUSCOTT (S/Sgt.).

R.E.M.E., Ceylon.

* * *

Sir,

It was with great pleasure that I read the article by Marcus Chambers entitled "Preserve or Perish" in the December issue. I am sure the vast majority of enthusiasts will agree with me when I say that vandalism of the sort to which he refers is most strongly to be deprecated, and should be discouraged, forbidden and punished at every available opportunity.

I was very interested in the Scott-engined Aston-Martin illustrated in the same issue, as this is at present in my possession, though, alas! not with the same power unit, as the original has been replaced. The Scott power unit, in a light tubular frame with i.f.s., would make a very useful smallish sports car.

Concerning the Atalanta mentioned in the Editorial article on High-Performance

Cars, surely the later models of the 1½ and 2-litre type, which had the Arnott supercharger, differed from the original design in that they had only two valves per cylinder, and the supercharger was a permanency and could not be de-clutched. An article, or some experiences, on one of these cars would be very acceptable, as I have never seen any performance data, etc., for this model.

In conclusion, the other members of the "Scuderia Impecuniosa" join with me in congratulating you on the continued excellence of MOTOR SPORT—the high-spot in every month.

I am, Yours, etc.,

J. A. COOPER.

Leicester.

[We believe Mr. Cooper is correct *re* the later Atalantas.—ED.]

* * *

Sir,

It gave me much satisfaction to read "A Successful First Season" in the January MOTOR SPORT.

Since the war quite a few ill-chosen words have appeared in print concerning M.G.s, and this timely reminder of their past is all the more welcome, as it may serve to "ungum" some people's memories. In my humble opinion, the amazing successes in M.G.'s first two seasons of racing have never been equalled, and it will be a long time before another marque can boast that it has every record in its class at any one time.

In your article you mention J. Baird Smith's car as being a J4 Midget. I think you will find you are in error, as he owned an early blown "C" type, with inlet and exhaust ports on the near side of the engine. Cole's car is now a J5 and it is unblown. He had a No. 8 Powerplus ready for fitting, but has not been successful in finding the necessary drive coupling, and he also lacks the divided track-rod steering.

The J4 M.G. is a very rare car indeed, as I have it on good authority that only ten or twelve were built.

From various sources I have been able to identify five of them, together with their one-time owners:—

Car No. J4, 002 : A. H. Horton.

" " 003 : J. C. Elwes, P. T. Gifford Nash, C. E. Robb.

Car No. J4, 004 : D. K. Mansell.

" " 005 : H. C. Hamilton,
Peggy Blaythwaite,
R. D. Poore.

" " 007 : R. King Clark, I. H. Nicholls.

I possess No. 3, while K. G. Couper, of Worthing, has the ex-Mansell car. No. 7 has apparently been broken up, as most of the "works" are now in G. V. Cole's motor.

Of the remaining seven cars it is possible that J4 001 was never actually in existence, for as the final figures of the engine and car numbers are identical (*i.e.*, car No. J4 003, engine No. J4 103) and the first J4 engine was installed in the Magic Midget, it is doubtful if Abingdon departed from this rule even in one instance.

Other J4s were owned by Tommy Simister, Bobby Kohlrausch, R. Meyer, Junr., who with it broke several Hungarian records at Tat, and the Frenchman Malliard-Brune.

Can anyone add to the list giving, if possible, the car number?

Likewise, if any reader knows the present whereabouts of any J4, I should be very glad if they would let me know, as in view of the small number built I am endeavouring to keep a short account of each car's history, together with its whereabouts.

I am, Yours, etc.,

A. E. L. ANTELL.

Brookman's Park.

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BLOWN Ulster Austin, all new tyres. Just bored and sleeved, and overhauled at cost of £30. Will sell at £60. R. H. Dyson, Jnr., 90, Somerford Road, Reddish, Stockport, Cheshire.

DELAGE D8 Sports Saloon, 29.4-h.p., good tyres. Any trial given. £175. "Kirkstall," Roundle Avenue, Felpham, Sussex. Middleton 389.

C. C. TURPIN, LTD., 222, Gt. Portland Street, W.1, have a selection of Austins for sale. Competitive prices. Euston 5677/8.

Continued in next column

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1930 Bentley 4½-litre, at present fitted with light lorry body, but convertible for use as a car. Strengthened springs, new clutch, 3 new tyres, perfect running order, £100. Norman Evans & Rais, Ltd., Outwood House, Wilmslow Road, Cheadle, Cheshire.

2.3-litre supercharged Alfa-Romeo, actual works team chassis, now fitted attractive 2-seater coupé by Corsica. Requires painting, after four years' storage. £185 cash. Fitzpatrick, Lambley, Notts.

ALFA (blown 1,750) Saloon, £350, first registered 1937. Spare Zagato open body also available. 1929 Alfa Chassis, £65. Box 137, **MOTOR SPORT**, 21, City Road, E.C.1.

ALVIS "12/60" open 4-seater, 1932, running order, £40. Clayton Garage, Gilberdyke, Brough, E. Yorks.

WANTED

SPORTS CARS. T. & T. interested in purchase of good sports cars. Thomson & Taylor (Brooklands) Ltd., Portsmouth Road, Cobham, Surrey.

ALVIS, any model, Hornet Special or Riley. Sensible price, please. Box No. 139, **MOTOR SPORT**, 21, City Road, E.C.1.

ALVIS Speed 20 or 25 chassis, radiator and steering column. Box No. 140, **MOTOR SPORT**, 21, City Road, E.C.1.

Continued in next column

WANTED—continued

4-CYL. Vertical Magneto, rotation ¼ engine speed anti-clockwise viewed from drive end, for J.2 Midget. Lucas, Scintilla Vertex or B.T.H. Neaverson, 32, Hartington Street, Derby.

WANTED Bound Volumes of **MOTOR SPORT** from Vol. 1. Good cash prices paid. Box No. 136, **MOTOR SPORT**, 21, City Road, E.C.1.

TYPE 35 or 37 Bugatti, less engine and gearbox, cheap for cash. Must have aluminium wheels and large brake drums. Box No. 138, **MOTOR SPORT**, 21, City Road, E.C.1.

WANTED, **MOTOR SPORT**, August and September, 1941; also January, 1943. 2s. 6d. each. Lieut. Rambaut, R.N., The Priory, Scotby, Carlisle.

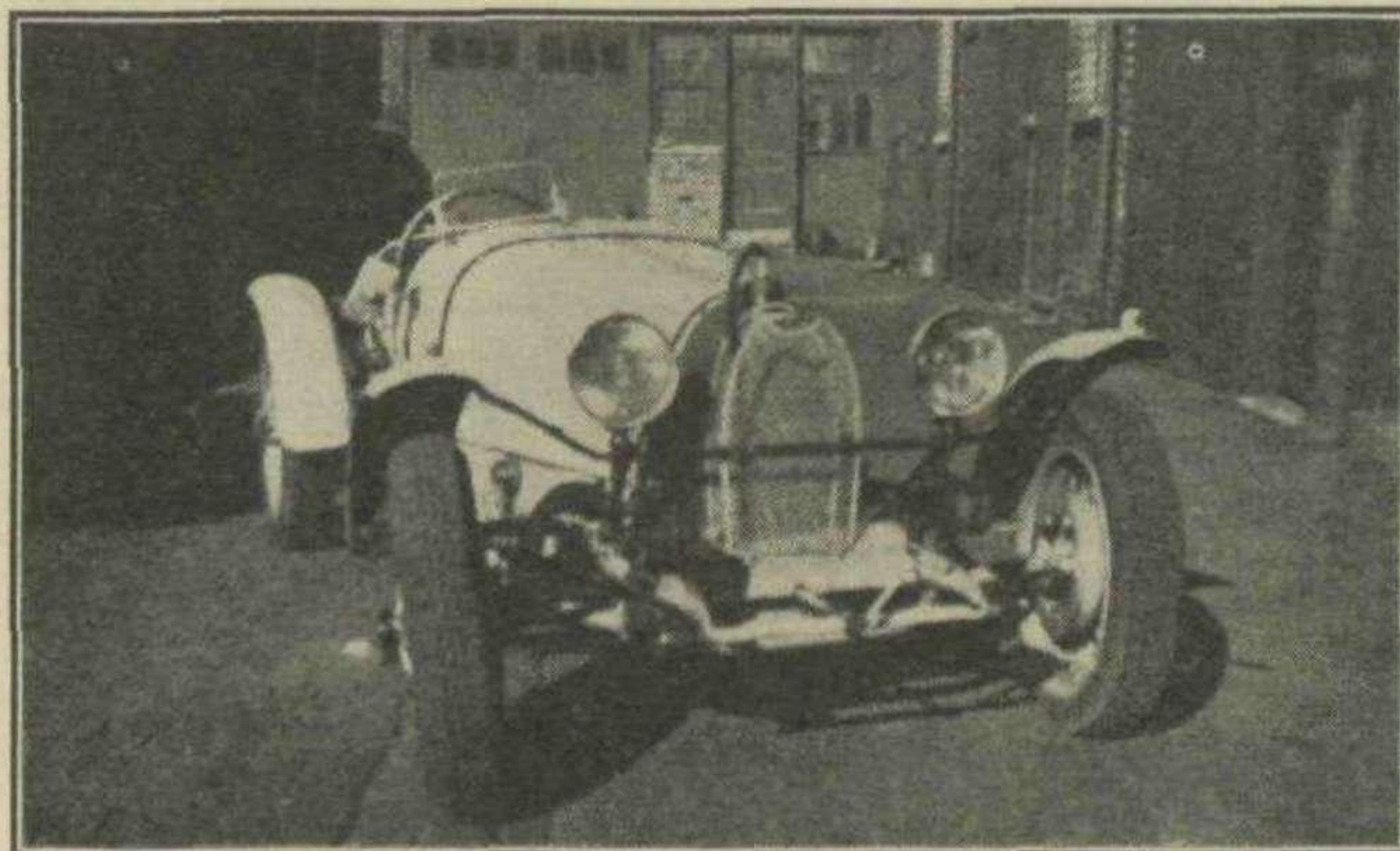
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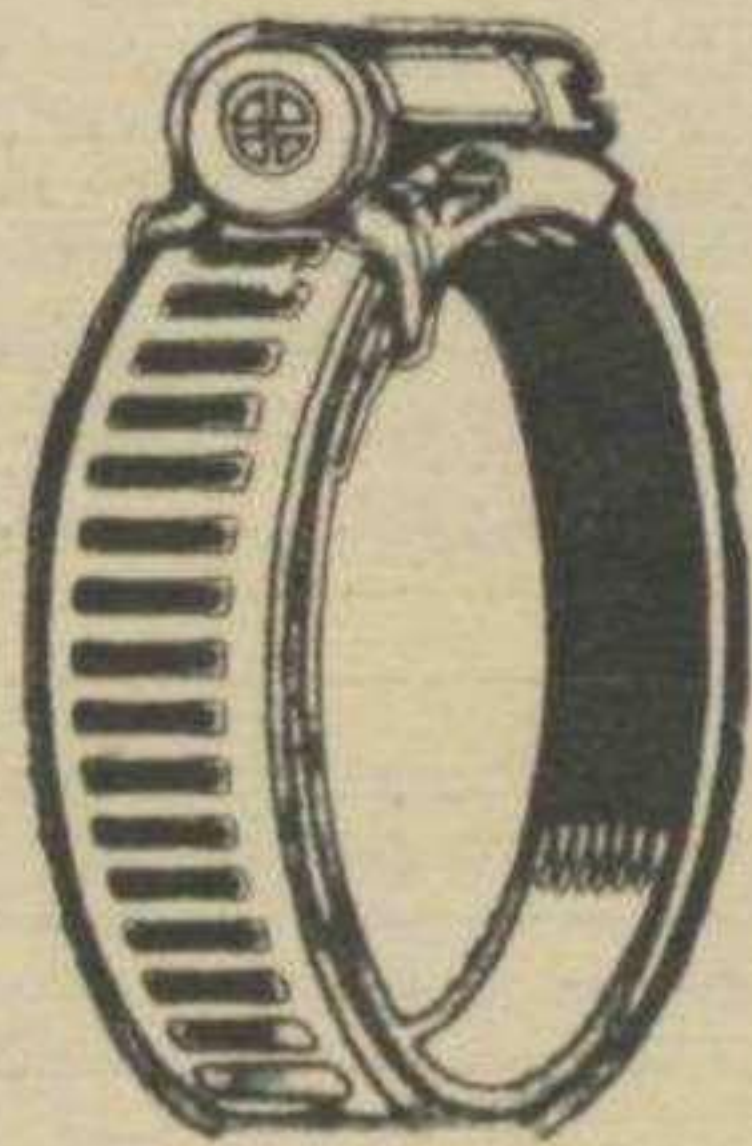
BUGATTI CLASSICS—No. 7

Photograph from the Jack Lawrence Collection

Type 37. 4-cylinder, 1,500-c.c. Grand Prix Bugatti. Produced in 1927, the Type 37 established a reputation for economical graduation to the more potent Grand Prix types. Part specification shows a wheelbase of 7' × 10½", track 3' 9", overall dimensions, 12' 1" × 4' 9", fuel tank capacity, 20 gallons. Although a minor factor, it is of interest to record a weight of 43 lbs. for the cylinder block. Original price of the Type 37, £525.

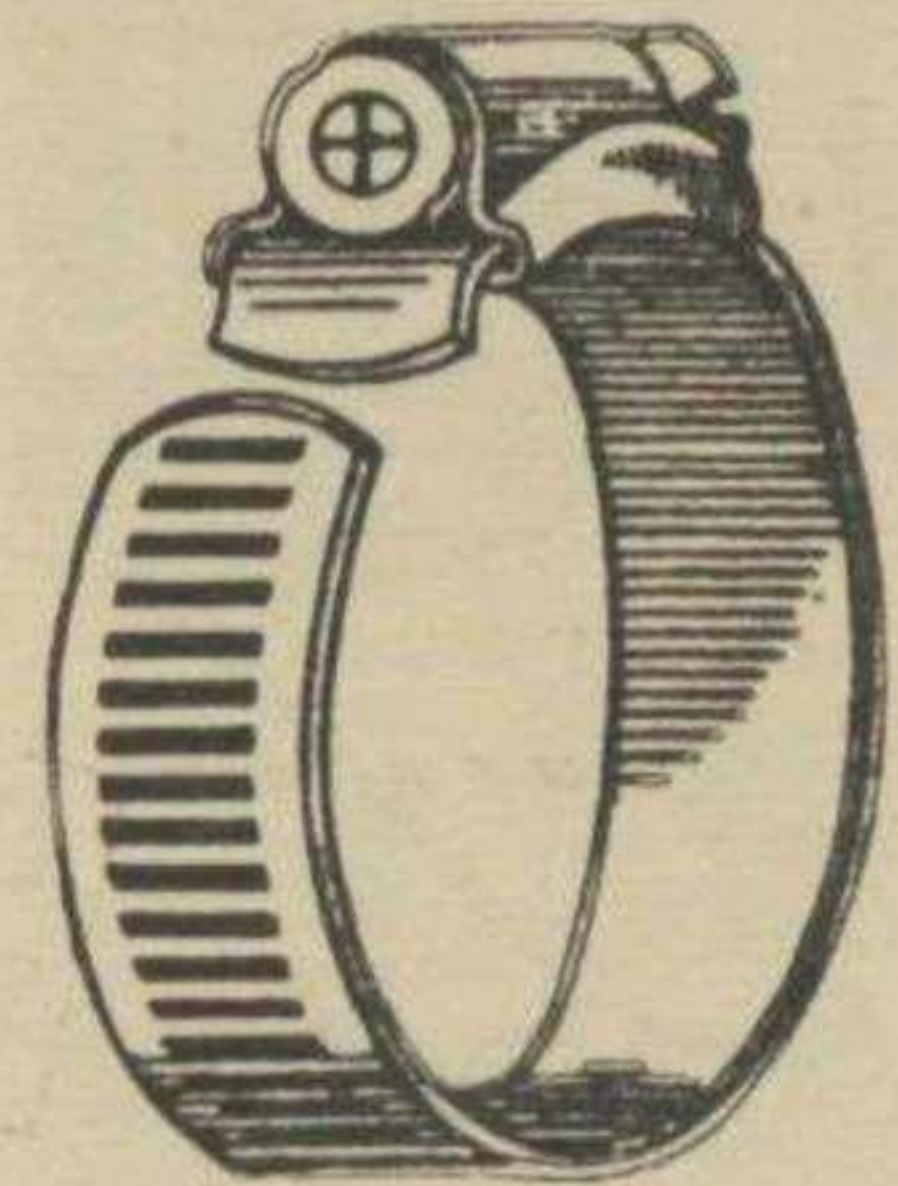
★ Cars illustrated in this series are not necessarily for sale, but shown for the interest of Bugatti enthusiasts by Jack Lawrence, of 166, Clarendon Road, Holland Park, W.11. Phone : Park 5705

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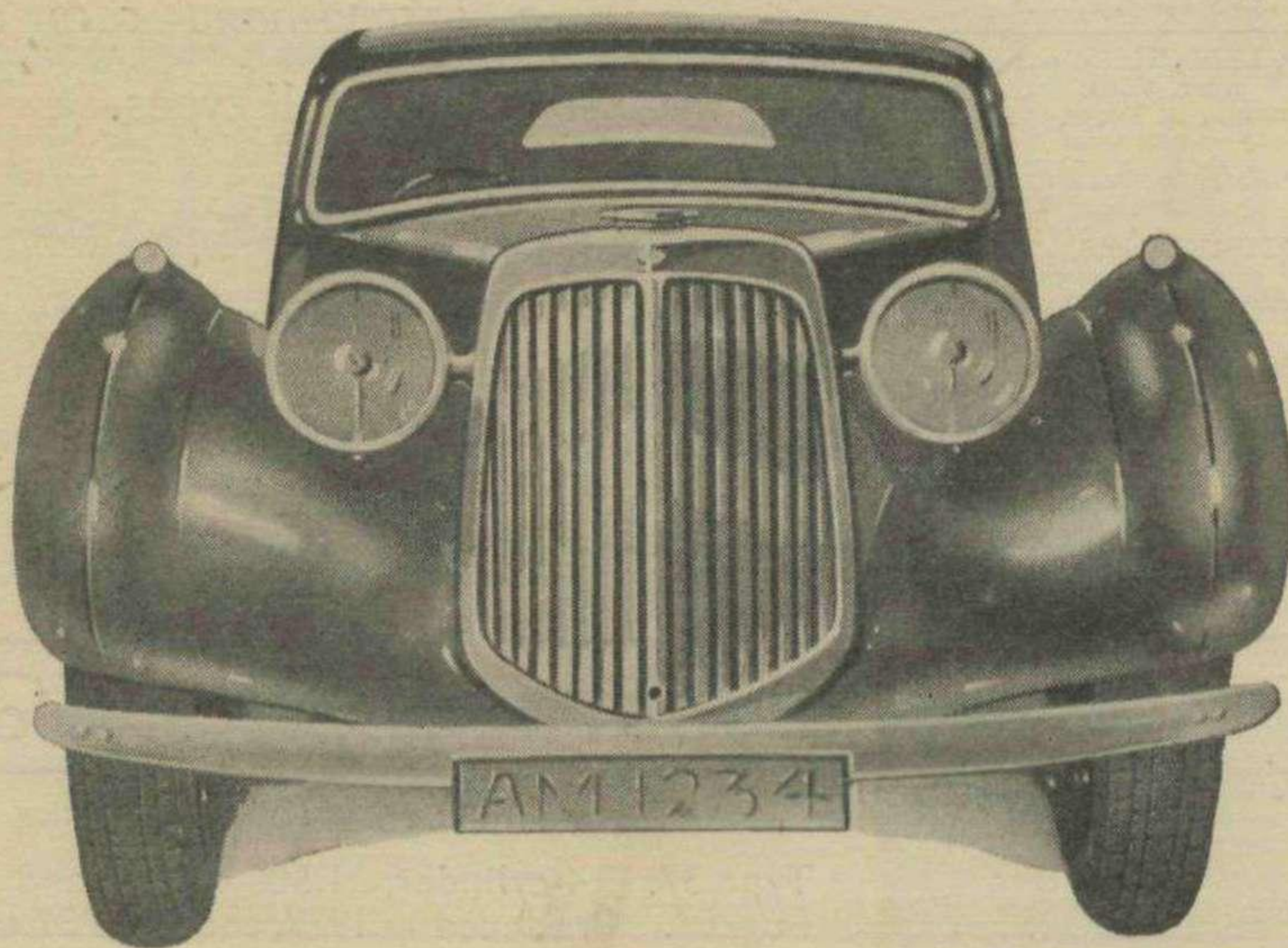
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