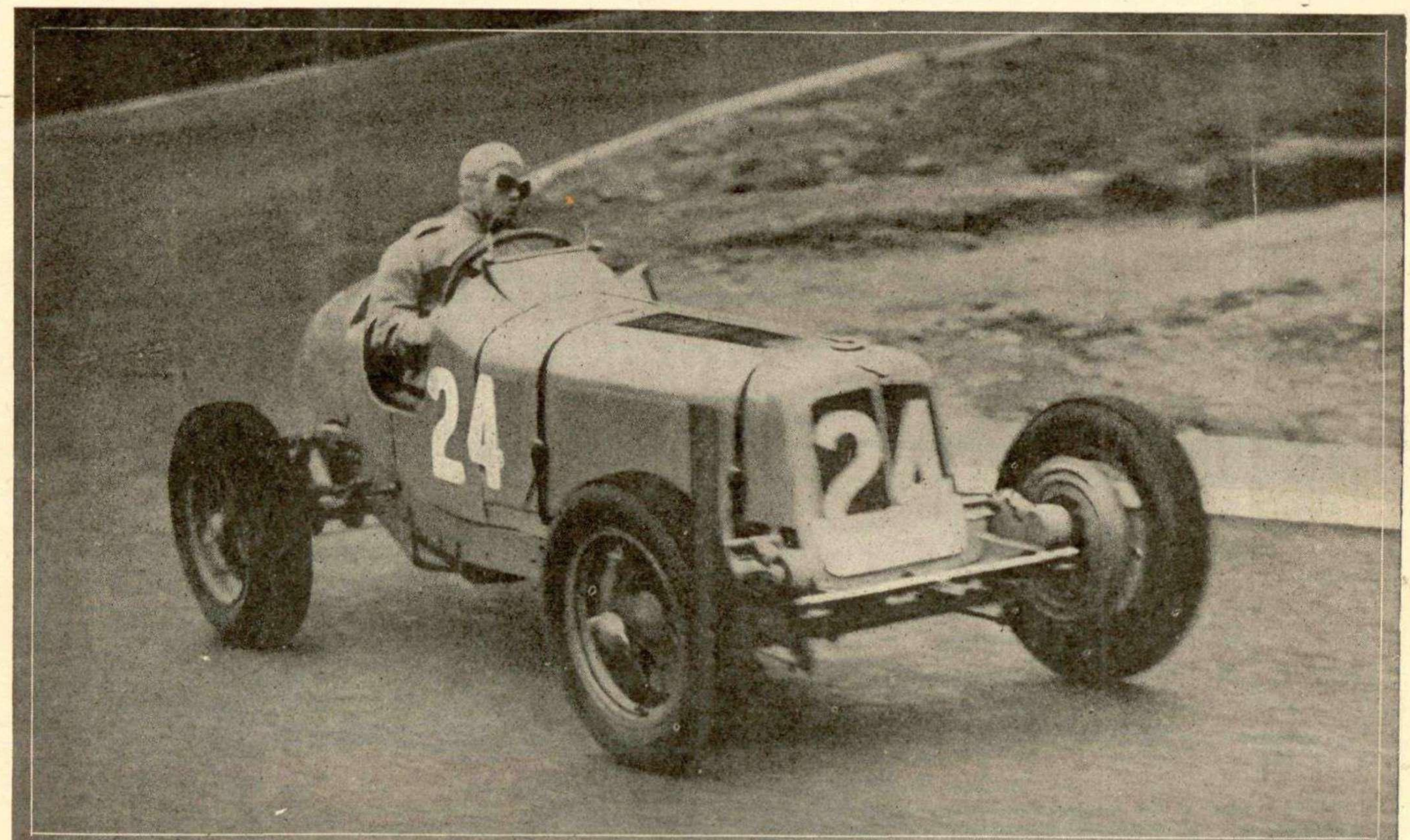
Vol. XXI No. 3 ETHICS OF THE QUALITY CAR March, 1945

MOTOR SPORT

INCORPORATING Speed

ONE SHILLING MONTHLY



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THE ETHICS OF THE QUALITY CAR

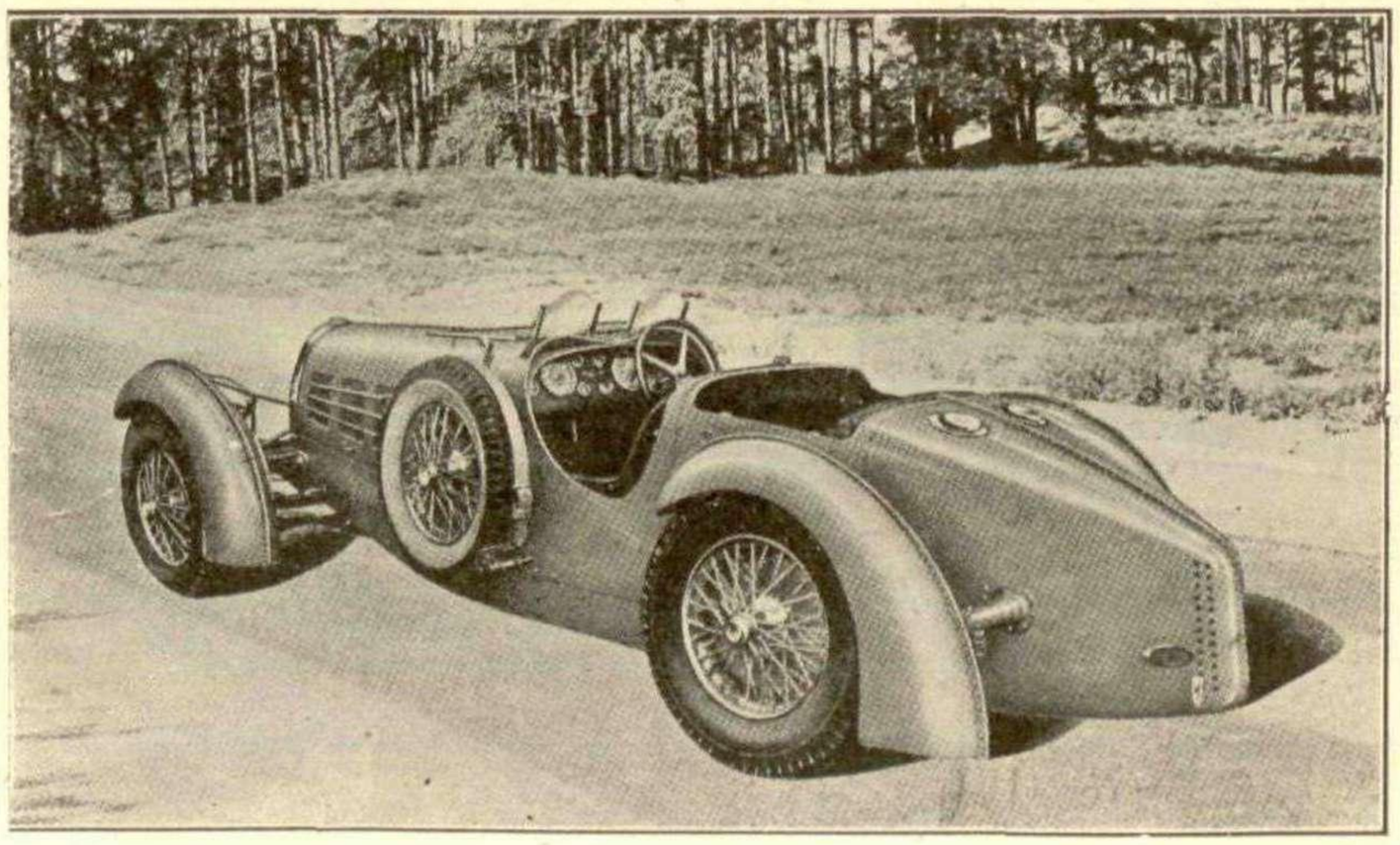
L. T. C. Rolt has some revealing things to say to those who hail modern, mass-produced monstrosities as a national achievement. Before the war he ran a couple of "12/50" Alvis cars and appeared in Veteran C.C. events in his 1903 single-cylinder Humber. Nevertheless, what he writes here is not an outpouring of a vintage-car crank, but a very pungent warning to the Motor Industry and motor-car users alike. Read and digest!—Ed.

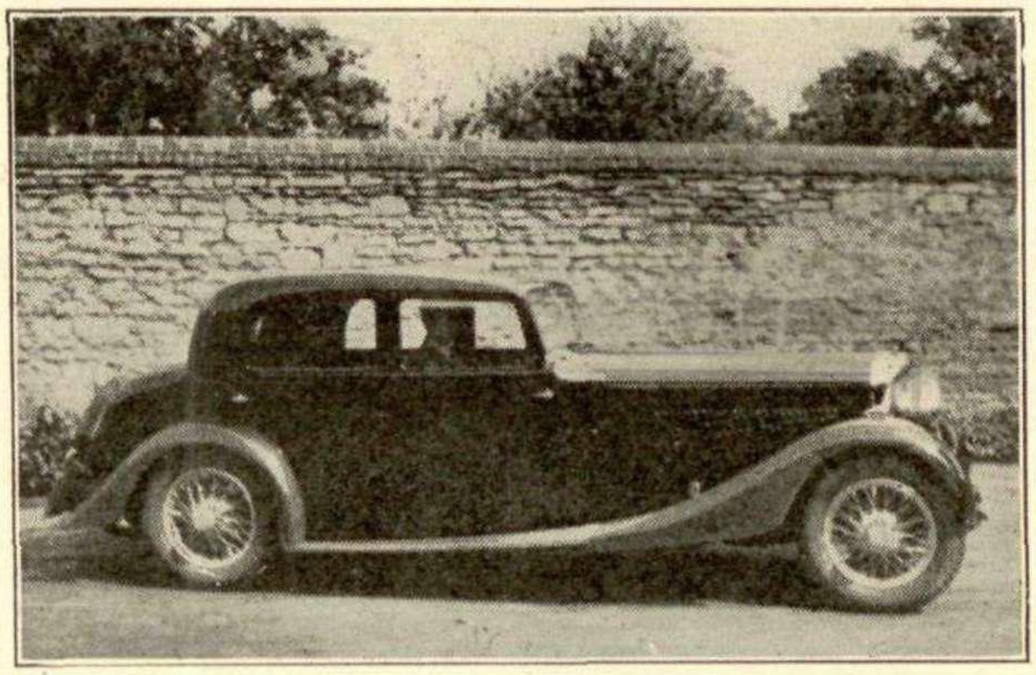
AS the prospect of the end of the war becomes more real the thoughts of many enthusiasts must be turning to the garages, stables and barns where, mounted on blocks and shrouded in sheets, many elderly sports cars await happier days. After five years or more of "utility" or Service motoring, such cars will seem strange to us when these days return; strange the thick rim of the steering wheel, the heavy, positive movement of the high-geared steering, and the sound of the straight-cut gears. Yet *there are many of us who will welcome the* first opportunity to discard our modern vehicles and get back to a car which, by now, may be 20 years old. Why, I wonder?

Even before the war the vintage car enthusiast was looked upon by the majority of motorists either as an irresponsible youth who ran an old car as a cheap, noisy and dangerous toy or, if he was of maturer years, as a crank and a diehard—a kind of mechanically-minded William Morris. (I refer, of course, to William Morris, of Kelmscot, and not to the redoubtable Baron Nuffield.) When he takes to the road again he will inevitably appear as an even more eccentric figure, harried, no doubt, by many new regulations framed to fit modern cars, which will not fit his, short of complete rebuilding.

What, then, is the real reason for this strange preference for cars which many people would say should have been consigned to the scrap heap years ago? Is it merely sentiment, or the desire of the young and impecunious to "cut a dash"? In some cases the answer to the second question may be yes, but I think this is only a half truth, and that the real answer has a much more profound significance, not only for the motorist but for the Motor Industry.

Before the war the Vintage Sports Car Club numbered amongst its members many people who were not primarily interested in competition and who could well afford a modern car, but who drove an elderly vehicle for preference. To the majority of present-day motorists this taste seems mystifying because, as they point out with truth, many modern cars of quite moderate price are capable of matching, or even excelling, the vintage car in point of speed over a given journey. The real reason, I submit, for the attraction of the car of yesterday is its quality, and that those who appreciate this quality expect something more from a car than is revealed by performance figures They are not so much concerned with what the car does as *how* it does it, and for how long it will go on doing it. In other words, the vintage car appeals to those who regard a car as something of intrinsic value, as an end in itself, and not merely as a convenient means of getting from place to place. The average modern motorist, on the other hand, holds the latter view, and beyond this his taste is only influenced by speed, or the "snob" value of size and superficial glitter which will impress his neighbours. His standards, in fact, are quantitative, being measured in m.p.h. and gadgets. These two standards of judgment do not apply only to motor cars, but to everything we use: to our houses, furniture, crockery, food, clothing and what you will. If we regard all these things merely as means to an end it becomes pertinent to enquire what that end is. Obviously, it is the business of living, but if we derive no satisfaction from all the articles of use with which we are surrounded, then, indeed, living becomes a dreary business, and in the





British quality—the 4¼-litre Bentley.

pursuit of means the ends disappear. Thus, although this is an article about motor cars, its ethics apply with equal force to a hundred-and-one other subjects.

Many factors combine to produce the quality in a motor car which gives the connoisseur that almost indefinable sense of satisfaction which he feels as soon as he settles himself in the driving seat. In the first place, before he takes the car on the road there is a sense of solidity and rightness about the steering column, the dashboard, the gear lever and handbrake which reveal that the designers and builders have worked with similar standards in mind; in other words, that they were craftsmen who took pride and satisfaction in the thing they made. To put it in yet another way, the car reveals that its makers did not solely regard it as a means to earn a living and profits for the company's shareholders, but looked upon a good job as an end in itself. When the car is on the road its quality becomes manifest in other ways: in the road-holding, in the positive accuracy of the steering, and in the progressive response of the brakes to foot pressure. Because of their careful perfection of workmanship all the controls have a precision and delicacy of movement which enables a driver equally sensitive to feel their function as they answer the skilled touch. This last quality is not only a source of pleasure and a reward for skill, it breeds confidence through a sense of control over the car so complete that the driver feels "a part of the car." He is in perfect sympathy with the car and with the makers of the car who have made possible this sympathy. Finally, there is the pleasure of the knowledge that these qualities are not, and cannot be, skin-deep; that bonnet and floorboards conceal no shoddy improvisations of pressed steel and piano wire, but materials and workmanship of dateless excellence which, given the care they deserve and invite, will continue to function and to delight the discerning eye for many years.

Now all these qualities are strictly utilitarian, that is to say, they are not "frills," their purpose being to ensure that the car will perform its function in the best possible way and for the longest possible time. Yet so utterly false have our modern standards of value become that these things are considered, if they are considered at all, as luxuries, and the word "utility," which simply means usefulness, has come to mean a shoddy, short-lived and intrinsically worthless article, so much so that if we were informed that we would only be permitted to drive "utility" cars after the war, we should probably give up motoring and take to cycling.

"Ah!" says the realist who moves with the times, "the trouble with the kind of car you describe is that it is not an economic proposition to-day, and that if it were built, it would only command a very small market." The latter criticism is true, because the standards of the modern motorist have been lowered by advertising propaganda and goods of progressively inferior quality. Yet if standards can be lowered they can also be raised again, and the reason why such a renaissance cannot take place is to be found in the words "economic proposition."

What this phrase really means is that from the production point of view a successful car is one which earns the greatest return to the shareholders of the company manufacturing it. This is the primary concern of the Industry; the standards of the producer and consumer are secondary considerations. The former are under direct control, while the latter can be influenced by sales propaganda to take what they are given. In effect, the shareholders of a motor company levy a tribute upon which no limit is set and which is quite unearned. They take out but contribute nothing, with the result that their "pound of flesh" is exacted from the producer, who can never receive the due return for his labour, and from the consumer, who never receives the quality he should expect for his money.

Twenty years ago, when the Industry was highly competitive, it could be argued that this tribute or profit was a justifiable return for the risks which the investor incurred, but at the same time this very stress of competition compelled the manufacturer to pay greater attention to the consumer's needs. To-day, however, when the bulk of car production is in the hands of a few vast monopolies, the argument of risk can no longer justify unrestricted profits, and, what is more, the consumer exercises practically no control over the product.

Since our vintage cars were built we have made great technical advances, particularly in the sphere of metallurgy, the science upon which, more than any other, developments in design must wait. Consequently, we can see the faults of these old cars, and many of us know how they could be corrected and improved. The 1939 Grand Prix racing car is proof enough that the present-day designers and craftsmen of the Motor Industry are not unworthy of their forerunners. Yet the most rabid motor-racing enthusiast must surely admit the falsity of a system which increasingly confines such skill to the construction of a few freak machines for sport and publicity at such a fantastic cost that machines of such quality (and I emphasise quality and not the performance which is a particular by-product of it) are quite beyond the reach of the individual. The argument that the lessons learned in racing are later applied to the commercial product is a dangerous one, for it is only half true. Principles discovered by racing practice may be applied commercially, but over

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their commercial execution it were wise to draw a veil. Every designer knows what happens to a prototype, or, for instance, a system of independent suspension, when a Production Planning Department have adapted it for mass-production. These planners are concerned with "the commercial proposition," the job which will show the greatest profits, and it is to the credit of the designer than even after this mutilation, which leaves his child almost unrecognisable, it is still remarkably reliable, however intrinsically worthless it may have become. At the same time, however, the designer is forced to bear in mind the machines, materials and methods which "cheap" production has evolved upon the principle of increasing "profits" by saving labour costs, in other words, by reducing the reward of the actual producer. Since this cannot be done directly by reducing wages it is done indirectly by increasing output per man by mass-production, a method which depends upon a continual expansion of production for the sake of production if mass unemployment is to be avoided. Assuming, therefore, that the Industry continues to develop on the same lines after the war, we may safely expect a flood of shoddy and short-lived "cheap" cars and an intensified advertising campaign accompanied by "selling" changes in design to ensure that cars are bought and discarded as rapidly as paper-back novels.

I could produce many examples to prove that increasing knowledge is not, under such a system, accompanied by the improvement of the article produced, but in the limited space available here one only must suffice. Not many years ago it was the custom of the majority of reputable manufacturers to use a specially tough, close-grained quality of cast iron for cylinder blocks and, after casting, to leave the blocks to weather for three months or more before machining. The longevity of the vintage car in this respect is thus no accident. This practice is now no longer followed by the mass-producer for two reasons. First, the principle of casting block and crankcase in one unit would involve using costly material merely to form the crankcase where its special qualities are not necessary. Secondly, and more significantly, a soft quality, unweathered casting is deliberately chosen to save machining costs.

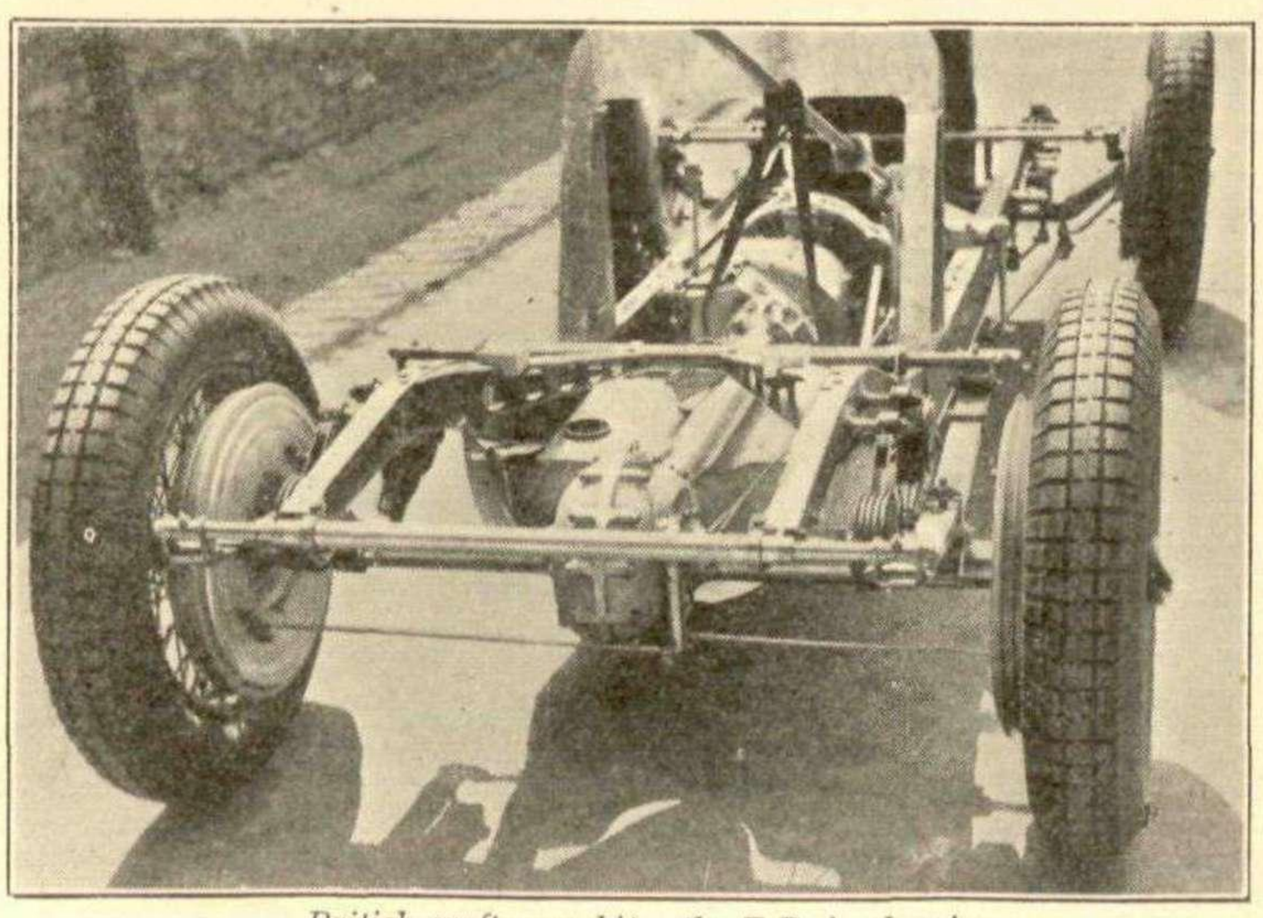
In terms of intrinsic value, in materials and workmanship, the "cheap" car is a fallacy. The buyer actually pays an exorbitant sum for a worthless article. The production of a small saloon car selling at about £100 was hailed before the war as a marvellous feat, and the makers basked in the reputation (sedulously fostered) of being public benefactors. Yet by means of saurian machines, and by the degradation of the actual producers to the status of robots, this car was produced at a cost in labour and materials of £15 or even less. The intrinsic value of the car is, therefore, £15, and the buyer pays away £85 to distributors and dealers and to meet capital charges. Of these, the last-named receive the lion's share. Capital, in the large mass-production plant, is represented very largely by the elaborate machinery and equipment so that in effect the machines are the robot representatives of the shareholders, set there to earn incomes for their masters at the expense of producer and consumer. So far as the latter is concerned it should be obvious that the mass-produced car, by qualitative standards, is not cheap but highly costly, and since we are all consumers, the inference is that in an age of mass-production on these lines our money becomes increasingly valueless in terms of the quality of the goods it will buy.

I have a 40-year-old car which, when new, cost £250, and was regarded as a cheap runabout. Owing to the lack of technical experience at the time it was made, it is crude and archaic in function, yet its value in materials and workmanship is infinitely higher in proportion to its price than that of the £100 car of 1939. The fact that it is still in good mechanical order and has never been re-bored surely proves this.

Unfortunately this process of degeneration is by no means confined to the so-called "popular" car but, with singularly few exceptions, it is apparent in the higher-priced article also. By 1939 many famous makes had been absorbed by the insatiable maw of combines which proceeded to make capital out of the reputation their names had earned in the past, with the most disastrous results; and at the expense of the unsuspecting purchaser. Behind a distinctive radiator and a badge which had become a hall-mark of quality, there lurked a nondescript, standardised mass-produced engine unit similar to that fitted in the "popular" car, but garnished perhaps with an aluminium head or chromium-plated pipes and head nuts. Even the proud radiator itself was a useless piece of hypocrisy fulfilling the same false function as the pretentious facade which conceals the evils of a jerry-built house. *Is there not something wrong with a system which calls for the essential qualities of a good car "uncommercial" luxuries while it equips "utility" cars with useless metal?* Even the manufacturer who had kept out of the toils of "big-business" was unable to avoid the second-rate, owing to the vicious monopoly in auxiliary equipment.

If we survey the pre-war Industry in search of those manufacturers who still put quality first, one name immediately springs to mind, that of M. Ettore Bugatti. Because of his consistent demand for quality his designs reverse the accepted modern technique by reducing complex machining operations to a minimum and calling, instead, for the maximum of skilled fitting. If we accept the modern trend of design as true progress, then we must regard Bugatti as an eccentric, but no one who has looked under the bonnet of a Bugatti, even the humble Type 40, can be in any doubt as to the result he achieves. Critics will say that in this country the Bugatti has a reputation for unreliability, but it should be remembered that these cars (and this applies to other vintage cars) were not built by fools for fools and are, therefore, not foolproof. A craftsman has a right to expect that his work will command from the owner the attention and understanding which it deserves, whereas the average Bugatti in particular, and most vintage cars in general, have passed through many hands possessing more enthusiasm than skill, and have suffered treatment which would have sent less worthy cars to the scrapheap years ago.

To sum the whole matter up, the gloomy moral seems to be clear enough. Without a fundamental change in our economic system, a change which it would obviously be out of place to discuss here, there can be little hope of a return to quality. The roads of England are more likely to be jammed solid with a mass of pressed tin before this will happen. Meanwhile, the enthusiast who appreciates quality in a motor car, the quality that the vintage car displays, is not a sentimental crank. Far from it. He is performing a vital service by upholding, to one industry at least, a critical standard in the face of that which industry dictates. If he continues to do so, and if he succeeds in educating others, then in turn the Trade may be influenced, and at least a few cars may be built in England after the war in which quality and not "cheapness" is the first consideration.



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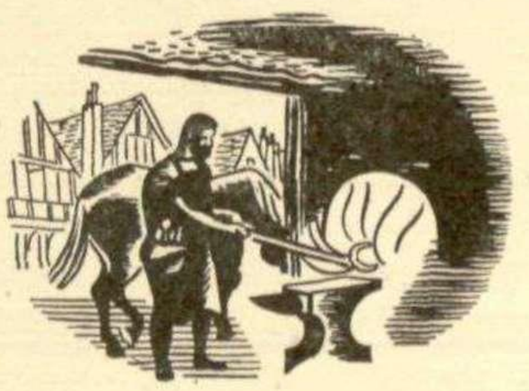
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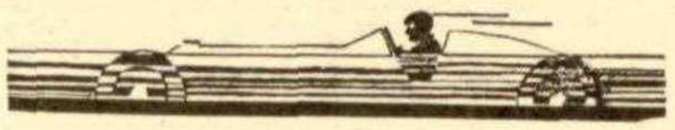
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CARS I HAVE OWNED

J. E. B. Little covers his 19 vehicles, from 90/- Austin Seven to faster stuff.—Ed.



IN common with many people who have a regard for vintage motor cars, my first indulgence was a 1924 Austin Seven, which I bought for the vast sum of £4 10s. when I was 16. This car had many peculiarities, one of them being a decided tendency for the wheels to heel over whilst cornering. As is usual with youthful car-owners, my first thought was of building a new body, and on hearing of a long-tailed 2-seater to be had very cheaply, I decided to buy it with a view to using the body only. On viewing this car at Bromley, I found it to be a make of which I had never heard, namely, an Eric Longden (not an Eric Campbell, as many people have since argued). This was purchased for £7 10s., and after a most hectic tow from South to North London at night, I decided that it was too good to pull to pieces, and consequently sold the Austin for about 30s. The Eric Longden had many notable features. About 1923 vintage, it had an 11.9-h.p. side-valve engine, very much like an Anzani, a Moss 3-speed gearbox with a short gear lever very conveniently placed, and a most beautiful outside copper exhaust. I am quite sure now that it was the exhaust that made me buy the car. The body was not at all bad considering the price, albeit a bit sketchy, and the car had a very pointed radiator, rather like a Mercédès. The acceleration was exceptionally good, but I was never able to find out the true maximum, as my financial position precluded me from taxing and insuring the car. It was eventually sold to the local breaker, and the last I heard of it was that someone was using it for dirt-track racing.

My next acquisition was a 1924 push-rod o.h.v. Salmson, which had been given a very nice long-tailed body from an Amilcar by a friend of mine. My earliest recollection of this car was a most terrifying tow from Folkestone, during which we arrived at the Bank crossing at about 11 a.m. on a Saturday morning with about 4 ft. of tow rope. The engine of this car, having blown up good and proper about two months previously, was removed and another substituted, but somehow the car was never the same, and the best that it could attain with a following wind was about 62 on the clock.

Following the Salmson came a "Brooklands" Austin Seven, a really delightful little car, its only snag being a very narrow body; as I am about 6 ft. 2 in., and most of my friends just as large, the journeys we made in her were not of very great duration, but, nevertheless, I had a good six months of very happy motoring.

After having bought this car I found that the engine was definitely not a "Brooklands," but a good 60 m.p.h. could be attained with quite passable roadholding, there being a slight tendency to boil in traffic. After the "Brooklands" came a car which, I believe, was called the "Chinese" Austin in the Trade—why, I could never quite fathom. It certainly was a most peculiar shape, the body being made of linoleum and plywood throughout. But if a little queer it was not really bad-looking. The steering column had been lowered so much that it was necessary to sit with one's legs apart to accommodate the steering wheel. Its great feature was the lights, it having no fewer than six on the front (not including the side lights), and they all worked! But I dread to think what would have happened if they had all been turned on at once. This car was kept until my long legs objected to journeys of more than 50 miles, and it was eventually exchanged for a Fiat Eight 4-seater, *circa* 1927. The only redeeming feature of this car was that it started quite easily, except for having one of those starting handles that fly off and smite you if a too vigorous crank is used. Its hill-climbing was exceptional, owing to the very low top gear, but on the whole it was not a particularly exciting car to drive.

After the Fiat came a full 4-seater 1926 Frazer-Nash, and having decided that the body was a little dated, I lowered the chassis about 3 in. and endeavoured to fit a late-type Vernon Derby body on to it. Unfortunately it meant that, owing to the transmission, the tail would have to overhang to a great extent and the scuttle would have to be very long, so I scrapped the whole idea and sold the chassis to a local enthusiast, who rebuilt it entirely and fitted it with a very nice J2-type body.

My 21st birthday being attained, I invested in an 8-h.p. Vale Special, but I am afraid that this car was not a good example, although it had "every conceivable" extra, including Rudge wheels. It lacked the one thing that one expects with cowls, large instruments, etc.—power. Its maximum was at the very best 60 m.p.h., and after being passed on a slight incline by an Austin Seven saloon with three up, I decided that it was time to part with it and accordingly exchanged the Vale for an O.M.

This car was a 1927, 6-cylinder, 2-litre fitted with a 2-seater boat-deck body which was astoundingly roomy, it having done quite a few long journeys with six up. Its main features were acceleration and good roadholding, but the maximum was poor, in the neighbourhood of 65 m.p.h. Nevertheless, it was a very pleasant car to drive, with very easy starting. One of its greatest attractions was its hood; first one had to construct out of various odd lengths of tubing a kind of framework, after which this was covered by the hood itself, all of which was held taut by a series of springs, and if one were unlucky enough to have a spring slip, the hood and framework would wrap themselves about you and endeavour to strangle you.

My next venture was a "Hyper" Lea-Francis fitted with an Alfa-Romeo body, once the property of Lord Avebury, but whether or not this was the car he raced in the 1934 Relay Race I was unable to ascertain. It had a No. 8 Cozette compressor and was fairly reliable, with a maximum around 75 and quite healthy acceleration, but its best feature was the gearbox, which was an absolute gem. I have only met one other box like it and that was on a 2-litre Bugatti.

After the "Leaf" came a "Brescia" Bugatti, which I obtained from a friend, after having cast envious eyes in its direction for four months; but here, I am afraid, I paid far too much attention to the body, which was a beautiful low full 4-seater, but not enough to the engine. It was a "Full Brescia" fitted with twin magnetos and carburetters, but I was not able to stop a chronic misfire that developed. So with a view to a little more speed I exchanged it for the late Mervyn White's F.W.D. Tracta, the parts of which were distributed over half the garages in London. After having spent three or four week-ends in trying to collect all that were missing, I found I was still three or four very important parts short, and was reluctantly forced to return the car to the dealer. The body of this car, I believe, now adorns Peter Clark's "scruffy" 3-litre Bentley.

The dealer had, however, a very nice 2-litre, Type 35, straight-eight Bugatti, a car which I had always wanted but never had the nerve to buy, so after much talk, for and against (mostly for), I became the proud possessor of a real motor car. This was of about 1926 vintage, and I was told that it had been in the hands of the great Guilo Ramponi, which may or may not have been true; but it at least had magneto ignition which is, I believe, a departure from standard practice. I will always remember the terrific thrill of hearing the engine run for the first time on eight new Bosch plugs; a sound never to be forgotten. I spent many hours of real motoring in this car and never once regretted having bought it. Its acceleration was terrific, and I attained 92 on the Hatfield by-pass one memorable afternoon. My main reason for disposing of the 2-litre was because my long-suffering girl-friend objected to the all-weather equipment, which was stark, to say the least of it.

After the 2-litre came a very nice 1928 4½-litre Bentley with a full 4-seater fabric body, not a Van den Plas, unfortunately. Any remarks concerning this car being superfluous, I will just say that it was all a Bentley should be.

As running a Bentley was getting a little too much for my pocket, I exchanged her for a terrible old 6-cylinder Amilcar, a Fifth Series Lancia "Lambda" and the "Razor Blade" Aston-Martin. The only thing on the Amilcar which was of any use was the front axle, the engine, unfortunately, having "had it." I did quite extensive work on the Aston, including fitting a new tail from a 1½-litre G.P. Bugatti and 12-in. brake drums to the front axle from the Amilcar. I was trying to fit a new rear axle when war was declared, and things began to get a bit sticky. The Aston was fitted with one of the original twin-wipe engines and had two S.U. carburetters, but, unfortunately, I was never able to get it moving under its own power. I was later forced to sell it owing to lack of garage space, for the princely sum of £14 10s.

After having run the Lancia for about two months I exchanged it for a 1932

2-litre three-carburetter Alvis, with a very peculiar 2-seater body, rather after the style of the "Chinese" Austin. The bodywork and extras on the car were truly phenomenal, everything being chromium plated and in A1 order, but, unfortunately, I was never able to get the three carburetters tuned properly, and after three months I part-exchanged it for a 1928 Type 40 Bugatti with the well-known pointed tail 4-seater body.

I have been glad to read in MOTOR SPORT recently that people have been praising the "Molsheim Morris," and I heartily agree with the sentiments expressed. For a Bugatti it was very reliable, with a true maximum of 70, coupled with good acceleration, and a very comfortable body and the well-known Bugatti roadholding characteristics. The bodywork was immaculate until I unfortunately side-swiped four cars in a skid during a snowstorm going into Redhill. This was undoubtedly one of the most delightful little cars I have ever owned, and, after the war, I am going to do my best to find another.

After the Type 40 came a "Balilla" Fiat in need of rather a lot of attention. Having spent about £15 and a lot of time on it, I lent it to a friend for about three months, why, I just cannot remember. Having decided that I could not afford to hang on to the car I returned it to the dealer from whom I had bought it and received exactly what I gave for it, this being very unusual. This same friend has lately been able to buy this car and has been getting a phenomenal performance from it on "pool."

Owing to the difficult position regarding petrol I decided not to buy another car, but had as much enjoyable motoring as the "basic" would allow in my mother's 1938 Rover Ten. Since then I have had a very scruffy Hillman "Aero Minx," and am now running an even more scruffy Triumph "Southern Cross" saloon.

About six months ago I was able to buy, at a very reasonable figure, the immortal Anzani-Nash "Spook." As readers will probably remember, this car was Dick Nash's mount before the "Union Special" and clocked 43 seconds at Shelsley in 1933. It has an o.h.v. Anzani engine with a No. 9 Cozette compressor, which is in very good condition. It has a very sketchy short-tailed body and twin rear wheels. When I bought the car there was an awful lot of rust on it, but during the last six months I have been able to get rid of most of it. I have yet to attempt to strip down the engine owing to the fact that my garage facilities at the present moment are not all that could be desired.

During these past years I have had the opportunity of driving my mother's cars, which have included Austin Seven, Hillman "Club" saloon, Fiat "110" 11.9 2-seater, S.S. II, Talbot Ten D.H. coupé, Hillman "Minx" saloon, and the aforementioned Rover Ten. The local "scuderia" has consisted of Bugatti, Type 44, "Ulster" Austin, twin-camshaft Salmson, and 3rd, 4th, 5th and 7th Series Lancias. There was also one memorable afternoon during which I borrowed my brother-in-law's "38/250" Mercédès and used 14 gallons of petrol in three hours, which included a stop for tea.

TWELFTH "REMBRANDT"

—continued from page 53

Nash and Godfrey, for example. Peter Monkhouse emphasised the excellent return possible from Irish races and was told that all officials worked for nothing and never sent expenses claims to the organisers, which assisted to this end.

Someone asked whether B.M.W. had not raced on synthetic rubber tyres for several years before the war, and Freeman was able to tell us that in this country they always used Dunlop tyres, and he doubted the synthetic story—certainly Mercédès and Auto-Union ran on natural rubber, as he had been able to purloin a German tyre and had had it analysed. Laurence Pomeroy closed the meeting by backing up Mays's desire to see British prestige increased by racing—a million pounds would be a very cheap expenditure on the part of the Foreign Office to provide us with a team of world-beaters.

Amongst those who supported the meeting were: Cooper, Battersby, Parnell, Thomas, Ayris, Wagner, Ballamy, Close, Greig, Hull, Keisells, Worton, Gibbons, Marcus Chambers, Abbott, Crowther, Franklin, Elsie, Best, Elwes, Wilcox, Tooley, Humphreys, McNab, Everer, Austin, Tubbs, Lowrey, Mrs. Bolster, Berton, Heath, Burtens, Leonard Potter, Miss Miller, Mrs. Hitchens, Perkins, McKenzie, Mrs. Petre, Meisl, Jenkinson, Pollard, Miss Cooper, Smith, Wood, Shepherd, Mrs. Heal, Penny Fletcher, Edmonson, Scott-Moncrief, Clutton, Shortt, Rodney Clarke, Hume, Birkett, Phillip Turner, Lewis, Edisbury, Clarkson, Ashworth, Buxton, Waddy, Metcalfe, Lund, Francis, Ghandi, Holloway, Dear, Seth-Smith, Cooke, Manning, McDonald, Lister, Martin, Russell, Mrs. Cowell, Rumfit, Rawley, Cubson, Antib, Coles, Couper, Boddy and Mrs. Boddy, etc.



Breadline Motoring

Being a sequel to "How the Poor Live," published in the December, 1944, issue. Although, as the author says, £5 cars that will give good service are almost a thing of the past, nevertheless, his observations should go some way towards encouraging impecunious ex-Service folk.—Ed.

THE latter end of the great slump found me occupying a mouldering and remote farmhouse, unemployed, and owner of one "14/40" Sunbeam and one slightly decayed s.v. "12/40" Alvis 2-seater.

The latter luxuries came under the axe forthwith, the Alvis being presented to my slightly astonished garage man in token payment of his bill, the Sunbeam sold to a friend in Yorkshire, who subsequently added some 70,000 miles to her clock before losing her in a fire. But having regard to my geographical position, my last journey in the car took me to a local scrapyard, whence we returned with twenty-five shillingsworth of ancient 2-stroke Dunelt lashed to the luggage-grid. This, my frail link-to-be with the outside world, was a 1926 edition, with inclined twin-port engine with a double diameter piston and alloy head. The machine generally was in the last stages of decay, but a few more months of useful life were wrung from her. She took letters to the post, carried groceries in a bass bag balanced on the tank, lapped the surrounding grass field in spirited fashion as a diversion, and fetched bottled beer from the "Five Bells" of an evening, illuminated by a wavering torch held in the hand not engaged in steadying the cargo.

The bicycle's chief characteristic was a deceptive burst of exemplary running which one learnt to recognise as the final warning of imminent seizure; not surprising in view of the lubricant, which was mostly drained from old tractor oil drums; nor was she innocent of an occasional whiff of paraffin in her odorous wake. She gave of her best, however, in the mist of a September dawn, when we set forth in haste to fetch the doctor and his black bag; an epic ride, culminating in despairing squeaks and the inevitable seizure a mile from our goal. The machinery was pushed into a dry ditch, and the journey finished at a panic-stricken and perspiring jog-trot. When recovered from the ditch by a proud parent 36 hours later, the engine commenced at the first prod.

She met her Waterloo some weeks later when the rear spindle broke whilst negotiating the ¼-mile of farm track known to the family as "the back drive," and I was forced to carry the rear end and steer the front—no mean feat—to her journey's end. I sold her piecemeal to an earnest youth who was rebuilding a sister model, at a fixed price of 5s. the piece, and showed a profit at the end of the somewhat protracted proceedings.

A G.T.P. 250-c.c. Velocette followed, which, after 24 hours of ownership, blew up comprehensively, strewing its vitals far and wide. A kind-hearted dealer took it back, and hired me a comic little bicycle by Enfields, called the Cycar, a really clever attempt at an all-enclosed lightweight, which would have been grand with a more ambitious engine. I rode it throughout the winter, doing a 25-mile journey in darkness morning and night to a newly-acquired job, with no trouble whatever, except for one incident, rather pleasant than otherwise. The rear chain jumped its sprocket on a lonely stretch of road, and while blasphemously unravelling it by the light of matches, a rapidly moving car pulled up, reversed back, and offered to light the subject with a large spotlight. The car was an Alvis "Silver Eagle," and on learning of my interest in the breed, this good Samaritan suggested leaving the bike in the hedge and taking a trundle down the road. We duly "trundled" at an astonishing gait, and I learnt that my helper was Ivan Waller, and the car but recently returned from its very creditable performance at Phœnix Park. On retracing our steps we were quite unable for some time to locate my green bicycle, nestling coyly in its green hedge, despite the aid of the enormous spotlight.

By this time I was heartily sick of motor-cycles as a mode of winter transport, so returned the Cycar to my kindly dealer, and for the sum of £3 15s. became the owner of a 10-h.p. Singer tourer, purchased from the wife of a Bentley-owning friend (much to his relief). This modest price included a fag-end of insurance and a few weeks' tax, so we sallied forth in the car-owning class again. I look back with a feeling of warm regard for this little car, and I certainly got my money's worth. A 1924 model, with an ungainly but roomy body, the Singer was fitted with a neat and accessible o.h.v. push-rod engine, unit 3-speed gearbox, steel disc wheels and 710 by 90 covers, innocent of tread. Life became one long struggle to keep the car off its rims, there being no money to spare for new covers, and a great dearth of same in the breakers' yards. But it would surprise the moderns to learn just how long one *could* extend the life of the old high-pressure covers; the appearance of the breaker-strip merely heralded a sort of St. Martin's Summer. (N.B.—*Not* applicable to early Brescias!)

After a top-overhaul and general check-over, we repainted the wings, wheels and valances, patched the hood, cleaned up the bodywork and plugged a radiator leak with chewing-gum and black paint. M.p.g. was 35/38 on No. 3 spirit, and oil negligible. All the early Singers had something in this respect; a cylinder block which resolutely refused to wear.

About this time I was in rooms in Lincoln during the week and making the 40-odd-mile journey home at the week-end. So when my wife was laid low with 'flu with next to no help and a very new daughter to maintain, something had to be done. My gallant 75 bobsworth rose to the occasion, and for a fortnight I did the trip daily, in bitter winter weather over snowbound roads, slithering along on bald treads, clinging to top gear to keep the petrol consumption down. (My microscopic mileage allowance didn't start till I reached the office.) Finally, in the following spring, whilst negotiating a long stretch of flooded road near Ruskington, the faithful engine ceased abruptly, leaving me marooned amid the waters. Even in the midst of this element, however, the usual small boy appeared, wading to the knees, and after extracting the maximum enjoyment from viewing my predicament, consented to make contact with the headman of the village, who presently appeared on the farther shore. After some minutes of somewhat stilted and difficult conversation at maximum lung-power, a horse was produced, and we entered the village in style. A 'phone call brought a friend and a tow home, where it was found that a fibre timing pinion had chosen just that spot in all those perishing miles to strip its teeth. A replacement was obtained from my breaker friend, but went again a few weeks later. Time being precious, I parted with the Singer with real regret.

A bull-nosed Morris-Cowley took its place in the cart-shed, if not in my heart; a ghastly thirst for oil and an anvil chorus from the engine made her a nightmare to own and drive, though in fairness to Lord Nuffield, she never let me down. I kept her for the duration of one drum of unbranded oil, and traded her for a 10-h.p. Hampton 4-seater, with a Peterborough breaker. Now the Hampton in its day was a quality light car in the Lea-Francis class, and this one retained the tattered rags of its gentility. The power-unit was an o.h.v. Meadows, and the gearbox a 4-speed Moss, so far as I remember, with right-hand gate. The body boasted good leather upholstery, with an adjustable bench front seat, giving a good driving position when the column had been lowered. No brakes to speak of, and a maximum speed of about 56 m.p.h., after I had eliminated a fearful propeller-shaft judder by replacing the fabric joints and truing up the shaft *in situ* by a few judicious wallops with a large baulk of timber.

The usual heart-breaking search for serviceable 710 by 90 covers was resumed, lightened somewhat by fortune's smile when I chanced upon a nearly new one on an old caravan axle in a garage in Gargrave, and was *offered* it for 6s. And this charge included fitting, what time I consumed bread and cheese and a half can in the local nearby. I have raised my hat to that small garage in passing ever since. Altogether I found the Hampton a very nice car, quite trouble-free and very economical to run, until an almost total lack of brakes and tyres, plus a shaky battery, forced me to sell her back to the breaker, and for a couple of pounds or so I took over a 7.5-h.p. Citroen.

The attraction of this equipage consisted chiefly in its magnificent Michelin balloon tyres, offering a truce from the old nightmare. It was fitted with an almost unmarked 3-seater clover-leaf body, with a full set of side-curtains, and I was at first mystified by its abandonment in a scrapyard. The riddle solved itself without delay. In all my life I have never struck such a gutless, inanimate lump of metal. Nothing that one could do availed to improve things. Its lack of ambition was inherent in its inadequate gas passages and wretched little valves. Never shall I forget the dreadful feeling of impotence as one rushed the approach of some long main-road hill at its flat-out maximum of 28 m.p.h., watched the Jaeger needle sink to 15, changed down, and ground towards the summit with awful deliberation and a scream of cheap pinions. Its reliability was never in question; doubtless the thing is going yet; but it was more than I could bear. I drove it to the Harrogate district to spend Christmas with friends, the junior member swaddled cocoonwise in the single rear seat, and for that 100 miles of main road, including a short tea stop, we took six hours, on full bore, the crew frozen stiff and bored to death. On my return we read a family commination service over the thing, and I had no difficulty in disposing of it at a slight profit, again on the strength of those tyres.

My next venture was much better. Armed with £5 in hard cash I stalked my prey with stealth and cunning. I had noticed in the garden of an isolated house in the district a weather-beaten "10/23" Talbot 2-seater which had been in the open for at least 12 months. I approached the owner, an elderly invalid, who was at first reluctant to part with it. It took some little time to persuade him that a fiver in the hand was better than a rusty motor in the garden, but after several visits he saw my point, and I took possession of an excellent little car. A cursory inspection proved the mechanical side good, but the body panels were badly rusted, the hood fabric a dead loss, and the battery beyond hope. I disregarded the hood, did what I could with the panels with sheet zinc and Robbialac, and bought a secondhand battery.

In my opinion the "10/23" Talbot was a very good motor car indeed, and a great loss to the Talbot range when it was dropped. It was less a scaled-up "8/18" than a scaled-down "12/40" Darracq, with all its young brother's appetite for revs., but with much improved roadholding and braking, and fitted with a differential and 19-in. by 500 tyres. The whole car was beautifully made, uncannily quiet for a small 11-year-old, and gave me a long run of pleasant motoring at a tireless cruising speed of 40 m.p.h. As with its big brothers, a water-pump was fitted, and even Honister Pass from Buttermere failed to flurry the engine. The only spot of bother was caused by a ball-joint in the ignition control linkage coming adrift where it passed behind the cylinder block, allowing the rod to drop neatly across the rapidly revolving clutch spring studs, shearing all but one. It felt very expensive when it happened, but Barlby Road provided spares by return, and I had the car on the road again within a few hours.

The Talbot then went on to cover some 7,000 miles of business and pleasure motoring with no untoward incidents or expense. I am, indeed, hard put to it to explain the reason for her sale, so satisfactory was her behaviour, so must simply ascribe it to the restless lust for change.

But the sands of time and space are running out, with less than half of my breakers' bargains catalogued. Indeed it may well be that these modest adventures are of scant interest to anyone but the owner, who alone knows the hopes and fears, the schemings and triumphs of motoring on an average income of about £3 per week, augmented in part by a meagre mileage cheque. Mention must be made, however, in common justice, of two chummy Austins of the 1925/6 era, of which no more need be said than that one could, and frequently did, throw a suitcase into them and set forth on a 200-mile journey with less than 10s. in one's pocket to meet emergencies; the cheaper of the two cost just £3, and had neither starter motor nor dogs on the crankshaft nose, starting being achieved by walking the car smartly down the road and smacking it into 2nd and out again. An entirely satisfactory manœuvre, except for the night when I failed to select neutral, stumbled, and was left on all fours in the road, what time the Austin, containing my life-partner, tettered off on its own towards home.

Taken for granted to the same degree were the four Jowetts of different lengths; a short 2-seater was the most fun, and the only one of the quartet to give trouble; a crown wheel shed its teeth as a result of my exuberance. These, however, have been spoken of in an earlier issue. Another 10-h.p. Singer also yielded up its remaining miles in my ownership; this time a smart "Custom-built" 2-seater with sportive unvalanced wings and skeleton running-boards. On the strength of these amenities I competed in some mild trials, with but moderate success. The stop and restart bits were not so hot, and we were unfairly outclassed by the semi-professional cads who could not only stop, but *did* restart. However, it was great fun, and I bought a check shirt. The Singer eventually expired with a locked rear axle slap between the narrow gate-posts of a friend's bungalow. At one time it seemed that to dig out the gate-posts was the only solution to the impasse.

Two Morgans complete the tale; a very bad "Aero-Anzani" which blew up, and a very fast hybrid with "family" body, Aero radiator and o.h.v. J.A.P. motor, which just wouldn't, despite the modest twenty shillings it cost me.

If this rambling story has a point at all, it is this: that what may read like a chapter of irresponsible tinkering and haphazard collecting of junk, actually represented between 60,000 and 70,000 miles of quite serious motoring, over a period of five or six years, in return for a ridiculous outlay in cash. Although I have no reliable records to quote from, I have for the purpose of this article, gone as carefully as memory will allow into the cost of it all. I have taken re-sale prices (if any) into consideration, and cannot make the total reach £35. A further £3 would certainly cover replacements, and work done other than by myself. True, much of that mileage was covered at an average speed that would cause some distress to younger and more fire-eating readers, and some of it would have pained the minions of the law. But I can count on the fingers of one hand the occasions when I failed to arrive at my destination, albeit late and dirty now and then. And on the sole occasion when I caused another road-user any concern (by ramming the stern of a "90" Talbot in a double traffic line), the injured party apologised to me very charmingly.

When the Editor suggested that I should record these experiences with breakers' models, he expressed the hope that it might serve to interest and encourage those of his readers who look forward to post-war fun and games with high hopes but low bank balances. Sincerely do I echo the hope, but I feel impelled to strike a cautious note. Leaving aside the twin bogeys of increasingly repressive legislation and insurance, let one reason suffice. The sane, sound light cars of the middle 'twenties, so devoid of frills, so easy to take apart and put together, and to maintain in reasonably roadworthy trim, are gone. To my mind they have no counterpart in the decade that followed.

It is not my intention to decry the 'Nashes and Astons of 10 to 15 years ago, but they and their like will not be bought for many times the sum I paid for my Talbot or Hampton. Yet these were also quality cars of their day. But let me not paint a gloomy future for other impecunious enthusiasts. The building of "Specials" and the ambitious restoration of existing cars will doubtless flourish as of old, amongst those with the facilities, time and skill. But I fear that the days of the £5 motor car, as anything more than an amusing plaything, are gone, not to return.—G. H. D.

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LETTERS FROM READERS

—*continued from page* 64

very strongly that if anyone is willing to exert his energies to the furtherance of British motoring Sport in the post-war world then they deserve the *support*—and not the gibes—of all true enthusiasts.

Most people, I think, fully realise that many things in this country will have to undergo drastic changes if we are to achieve the post-war ideals for which we are supposed to be fighting, and it is certainly about time that something really constructive is done to raise motoring Sport in this country to a decent level after the war. Exactly how this is to be done is a big problem, but it is obviously only by trying to co-ordinate the views of all those interested that anything will be achieved.

I feel sure that there is no one with the interests of British motor racing more genuinely at heart than Raymond Mays—his record of activities proves this; and myself and my Service friends welcome this movement on his behalf for the furtherance of the Sport which means so much to us, and we are only too willing to give our support and help in any way that we can.

I am, Yours, etc.,

R.A.F. PATRICK GREEN (Cpl.).

TWELFTH "REMBRANDT"

ANOTHER extremely successful enthusiasts' gathering happened, thanks to A. F. Rivers-Fletcher and his wife, at the Rembrandt Hotel on February 11th, some 150 persons attending the lunch and the "To Start You Talking" feature. E. C. Gordon England was in the chair, and he reminded us what good fun motor racing was, and suggested that, quite apart from national prestige, international display and improvement of the breed, surely the very fact that motor racing was excellent sport and a sound outlet for energetic young people, was all the excuse needed for furthering it.

H. J. Morgan, of the J.C.C., said his club would like to run an International Trophy race as a peace-day celebration, and said how nice if Mr. Churchill had written him a letter permitting the closing of Hyde Park for the purpose. Certainly the J.C.C., which had led the way with so many new races in the past, would put over the High Speed Trial again, and it also had European rallies and Continental road races in mind. Dick Cæsar spoke next, Robin Jackson being away flying. He advocated post-war sports-car racing and wanted to see few departures allowed from catalogue specification, save for higher axle and compression ratios. Pump fuel should be used, although if it could be that which would be sold a year ahead, this would encourage fuel development. Standard supercharged engines should be allowed and handicapped on the basis of engine plus supercharger capacity, *i.e.*, a 2-litre car blown at half an atmosphere would be classed as 3 litres. Another ingenious idea of Cæsar's was to insist on standard-size fuel tanks for the race, perhaps of X-gallons per 1,000 c.c., thirsty cars thus handicapping themselves by needing extra pit stops. He hoped non-standard bodies would be permitted, but wanted to see uniform width, and the same body-regulations for all sports-car events. For the T.T. he particularly wanted separate class winners and no out-and-out winner to detract from this classification. Cheaper racing was essential—not necessarily "Bristol-fashion," but on similar lines. Motor-cycle grass track meetings are happening now, and we must get the ball rolling; what of "basic ration" speed trials?

H. R. Godfrey spoke after Cæsar, and asked if extra performance isn't unduly costly. He felt lb. wt. per c.c. of engine to be more important than maximum output, and strongly advocated an 11-cwt. car developing 50–60 b.h.p. and pulling a high top gear. But would anyone buy it? He thought capacity classes in competition wrong, because power/weight ratio in the middle of the r.p.m. range suffers. He quoted 500-c.c. and 1,000-c.c. motor-cycles, and felt that if you double everything up the same performance will result from a car. He referred to progress in air-cooling since G.N. days, and said that in that way you reduce weight by half but do not get so much power per c.c.

Freeman, of Dunlops, next outlined the rubber situation, and said the outlook, from the viewpoint of racing tyres, wasn't rosy. Ninety per cent. of the world's natural rubber supplies was in enemy hands. He believed that during the South African campaign 2,000 tyres were changed every day, and more than that during the Normandy campaign. But he was able to say that his firm will make racing tyres again as soon as it is practical to do so. Capt. A. Frazer Nash was in great form and told us we must first decide what we want from motoring Sport and then go flat out to get it. In the old days a lap of any circuit at around 60 m.p.h. was news, and he remarked that those who lap at, say, 70, have good reason to hope to knock 5 secs. off their speed in time, whereas he who holds the lap record at 134 m.p.h. knows he is unlikely to knock off even *one* sec. It was so difficult to see the future clearly that any regulations made now in good faith might seriously hamper design. The fun of the game, as Gordon England had said, was what mattered. Brooklands Outer-Circuit cars were the most romantic form of racing car, perhaps because they were the most dangerous, but the 1913 Cyclecar G.P. had been grand fun, at very much lower speed. A Jeep race over Snowdon with no set course could be fun! The great thing was to decide what we want and how to achieve it. Capt. Nash hoped to see J.C.C. type of events revived and plenty of young chaps taking part. In North Cornwall he had encountered considerable enthusiasm over the possibility of closing public roads for racing.

John Bolster now arose (Rivers-Fletcher reminding us he is really a manufacturer!) and asked for dicing of two sorts—long-distance racing—but not too often—and short sprints and hill climbs. The first class of race, limited to three a year, to be for quick people only, to current G.P. formula, with no entry fees. The other events to be for sportsmen only and the Trade not to be encouraged. Shelsley Walsh had become "all loused up with the B.B.C." John said once you received sympathy and consideration from the officials if your pet car blew up, but of recent years it was rather a matter of "How dare you break your crankshaft in the middle of the broadcast!" He felt officials should be carefully chosen. The competitor should be treated like a gentleman and given the benefit of the doubt. Slow corners should be eliminated —British circuits suffer from them—and we don't want too many spectators. Bolster emphasised that sports-car races, in his view, are more expensive to the competitor than racing-car events and cause more bickering. He considered them bad for design, and personally dislikes "Le Mans" models and "T.T. Replicas." He doesn't want to see boy-racers' clubs, and said the impecunious should graduate *via* the motor-cycle, as Nuvolari, Rosemeyer and Dixon had done. Raymond Mays then spoke, as one of the fast men. He thought "cadet" racing essential, and sports-car events should make for cheaper racing. But the ultimate must not be neglected and British prestige must be upheld. We must not make mistakes again, such as disarmament, and neglect of mechanisation. Racing is at once a sport and a spectacle, providing data and prestige. The English inferiority complex, encouraged in the past by the Press, must be overcome. We make the best aircraft and tanks and we must show the world that we make the best cars and motor-cycles. Mechanisation should replace polo and hunting as a Service recreation. Mays hoped for sports-car racing and more road racing in this country, all races to be on formula and not handicapped. He suggested a 750-c.c. formula for this country and a 1½-litre formula for G.P. events, and he felt that all members of the R.A.C. Competitions Committee should have the interests of the Sport at heart.

Anthony Heal, in place of Eric Giles, wanted ten things after the war, embracing wider recognition by the public of the value of racing, active and energetic leadership by the R.A.C., very many more active participants in the game (spectators *last*); all the old circuits restored and new sprint courses found; longer courses for sprint events as cars become faster; more small club events, like Dancer's End and Backwell, over circuits like the Donington Inner, if possible; separate events for vintage, veteran and Edwardian cars, so far only seen by organisers as comic relief at ordinary meetings; a Vintage G.P. for pre-1930 cars ("a longish race for the *pursang*, as Bugatti would have it, to show up some of the later cars!"); and, finally, an early revival of International racing (with Napier, Sunbeam, Bentley, M.G. and E.R.A. running) if only as an excuse, as England had said, to go abroad again.

Finally, G. Dix, of the M.M.E.C., said the cost of racing was likely to be worse after the war, and the amateur must be looked after. Club cars, standard-car racing, 500-c.c. and 750-c.c. events, and the German system of loaning drivers to car makers, must all be considered. Larger "gates" must be sought, to make possible more events and new circuits. Less prize and greater starting money would be worth while and classes might be kept for "specials." Dix reminded us that motor-cycle grass-track racing is held now, and at one town of 50,000 inhabitants a "gate" of 8,000 was achieved.

The meeting was now thrown open to general discussion. There is no space in which to even summarise all the views which were forthcoming, but mostly the speakers seemed to wish for the R.A.C. Competitions Committee to control the Sport, but for action to be commenced *now* to ensure better things after the war. Donald Parker provided comic relief by suggesting that the members of the Competitions Committee all be active racing drivers, of whom 51 per cent. must have driven formula G.P. cars and have raced since 1934, and of these 25 per cent. must still be capable of driving in formula races, and 10 per cent. must do so regularly, the remainder of this "active" committee taking regular driving tests! He also thought the R.A.C. should grab some racing tyres from the 10 per cent. remaining natural rubber supplies. To this Morgan said he hoped a "too old at 40" movement wasn't afoot and said older members combined "an ounce of enthusiasm with a ton of experience"—England,

Continued on page 50

★ A CONCISE EXPLANATI

A METHOD OF CALCUL

We have sometimes been accused of not presenting sufficient matter of a technical nature, so we have much pleasure in publishing this contribution on engine balance by Dr. R.

WHILE, perhaps, a matter largely of academic interest to others than their designers, some understanding of the method of calculating the inertia forces in reciprocating engines may not be out of place. In practice the usual method is graphic, *e.g.* Klein's diagrams and polygons of forces.

The formula for calculating the inertia forces at any selected r.p.m. is: $P=\frac{M}{g}\ \omega^2 r\ (\cos\ \theta+\cos\ \frac{2\theta}{L})$. For simplicity all higher harmonics than the second will be neglected.

P=force in lb. M=mass of piston and upper end of con.-rod, etc., in lb. g=32.2 (to bring poundals to pounds). ω= angular velocity in circular motion. [2π radians=360°]. r= radius of crank throw in feet. θ=angle of crank to cylinder axis at any moment. $L=\frac{\text{length of con.-rod.}}{\text{radius of crank throw}}$. A usual ratio of con.-rod length to radius of crank throw is 4 to 1 approx.

Let us first consider a single-cylinder engine, and from the results, work out the balance, or lack, thereof for multi-cylinder engines. As we are not concerned with the total inertia forces generated (which become enormous at really high r.p.m.) we will assume throughout that $\frac{M}{g}\ \omega^2 r=4$ lb. At top stroke $\theta=0°$, cos $0°=1$, $2\theta=0°$, cos $0°=1$, $\therefore$ cos $\theta+\frac{\cos 2\theta}{L}=1+\frac{1}{4}$. Thus the formula gives $4(1+\frac{1}{4})=5$ lb. The piston is, thus, exerting a force of 5 lb. upwards at t.d.c., for a body continues in a state of rest or of uniform motion in a straight line unless acted upon by an external force. This force, stopping and reversing the motion of the piston, is exerted by the main bearings acting through the crank and con.-rod. At bottom d.c. $\theta=180°$, cos $180°=1$, $2\theta=360°$, cos $360°=1$ Cos 180° is 1 acting downwards, cos 360° is 1 acting upwards. Thus $P=4(1-\frac{1}{4})=3$ lb. acting downwards.

When the crank has turned 90°, $\theta=90°$, cos $90°=0$, $2\theta=180°$, cos $180°=1$, acting downwards. $\therefore$ $P=4(\frac{1}{4})=1$.

Thus at t.d.c. we have a force of 5 lb. acting away from crank
" b.d.c. " 3 lb. " towards crank
" 90° or 270° " 1 lb. " "

Maximum piston speed is reached when the con.-rod and crank are at right angles, so on the down stroke the piston is decelerating below this point. Hence we find that when the crank has turned through 90° the inertia of piston, etc., exerts a force towards the crank. The forces exerted on the upward stroke are exactly the same, though the piston is first accelerated and then decelerated to t.d.c.

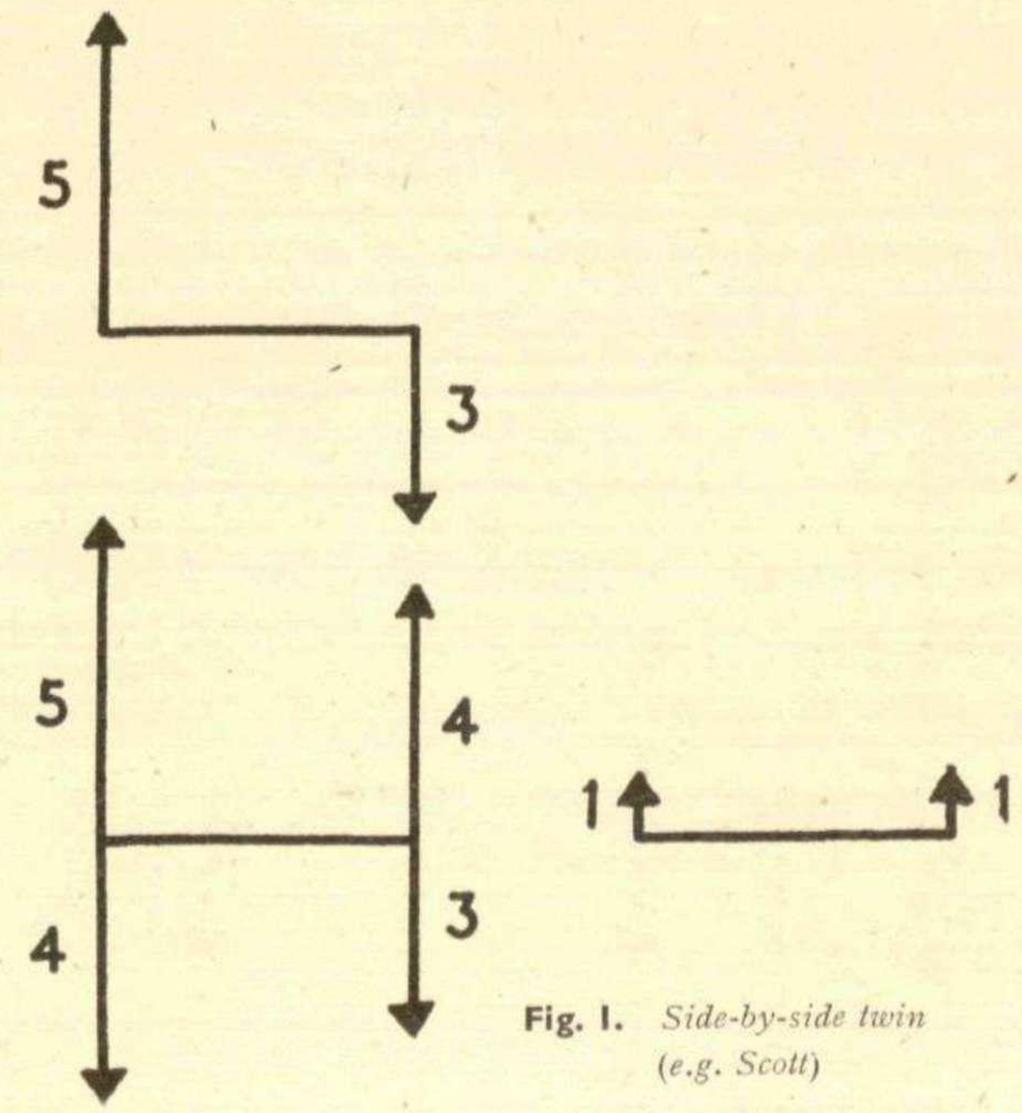


Fig. 1. *Side-by-side twin (e.g. Scott)*

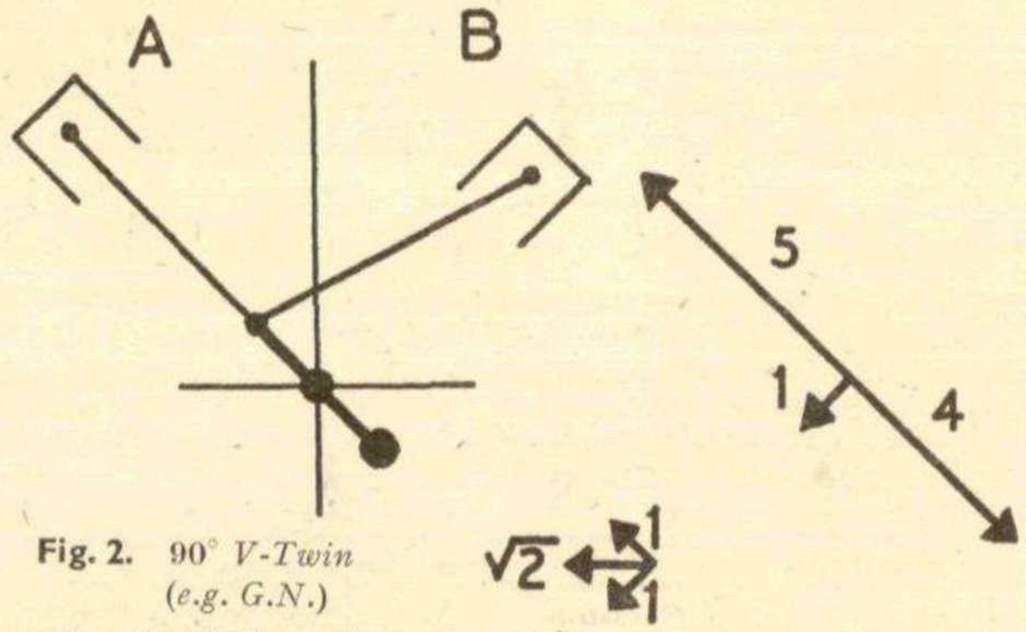


Fig. 2. *90° V-Twin (e.g. G.N.)*

The forces at t. and b.d.c. may be counteracted by bob-weights on the crank heavier than needed to balance the rotating weights, but, unfortunately, this excess weight is unbalanced at the 90° position and so helps to add to the vibration.

Twin-cylinder engine.—(1) 360° *twin:* Double the number of power impulses, but the same lack of balance as a single. (Triumph "Tiger.")

(2) *Side-by-side twin with cranks at* 180° (*e.g., Scott*).—This is used only for 2 strokes: one piston at t.d.c., 5 lb. up; one piston at b.d.c., 3 lb. down (*see fig.* 1).

This introduces a couple in the axis of the cylinders. By the addition of bob-weights this couple is eliminated, but a new couple introduced at the 90° position. In addition, as a 4-stroke, this engine gives unequal firing intervals.

(3) *Flat twin* (*e.g. Jowett*).—Here we find that the movement of each piston assembly is exactly matched by its opposite number, but the necessity for the two crank throws at 180° means that the cylinders must be mutually offset and so a narrow couple is introduced. This is eliminated by the bob-weights, but they introduce a new couple at the 90° position. Neither in (2) nor in this case does the elimination of the couple balance out the forces at the ends of the piston travel.

(4) 90° *twin* (*e.g. G.N.*).—Here the best achievable balance is due to the bob-weights (*see fig.* 2). Piston A, 5 lb. away from the crank. Piston B, 1 lb. towards the crank (at rt. angles to A) Bob-weight 4 lb. in opposite direction to piston A. The resultant force is $\sqrt{2}$lb., acting horizontally to left. After turning through 90°: B piston 5 lb. away from the crank, A piston 1 lb. towards the crank. Bob-weight 4 lb. in opposition to B. $\begin{smallmatrix}1\\1\end{smallmatrix}\rightleftarrows\sqrt{2}$ Resultant $\sqrt{2}$lb. horizontally to Rt, after turning another 90° A piston (b.d.c.) 3 lb. towards crank, B piston 1 lb. towards the crank. Bob-weight 4 lb. in opposition to A piston. $\sqrt{2}\rightleftarrows\begin{smallmatrix}1\\1\end{smallmatrix}$ Resultant $\sqrt{2}$lb. horizontally to L.

In the same way, after a further turn through 90° (b.d.c. for B piston) we find $\sqrt{2}$lb. acting horizontally to the Rt.

Thus we find small unbalanced forces acting alternately to L and R., four times per revolution, and unequal firing intervals.

Flat twin with single-throw crank.—Here we have one piston at t.d.c. and the other at b.d.c., *i.e.*, 5 lb.+3 lb., say, to the left. A bob-weight exerting 8 lb. to the right exactly balances this at both ends of the stroke, in fact, the combined movement of the

...N OF ENGINE BALANCE

...TING THE INERTIA FORCES

Wood, who is an acknowledged expert on this subject; incidentally, he ran for a time a 6-cylinder Scott-engined Aston-Martin, and now possesses a flat-four Jowett.—Ed.

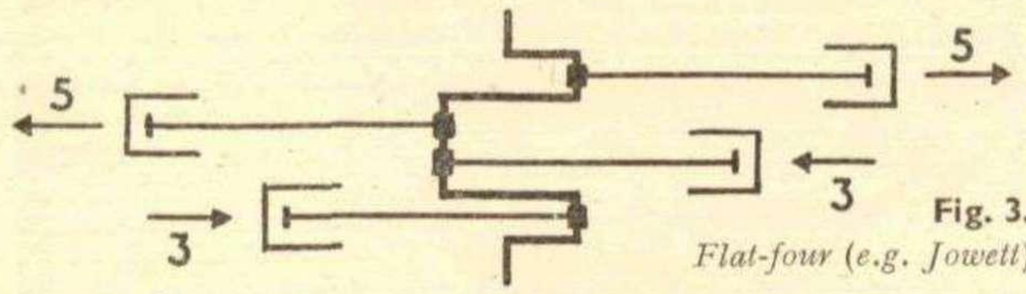


Fig. 3. *Flat-four (e.g. Jowett)*

two piston assemblies approximates very closely to S.H.M. At the 90° position, while the two pistons mutually balance out the 1 lb. towards the crank, the bob-weight is exerting a force of 8 lb. entirely unbalanced at right angles to the cylinder axis.

Dr. Lanchester overcame this by using two bob-weighted crankshafts one above the other, geared together and revolving in opposite directions. Thus, in the 90° position the forces exerted by the two pistons balanced each other, as did the forces due to the bob-weights. This design necessitated two con.-rods from each piston. There was the additional disadvantage of unevenly spaced firing intervals. The 4-cylinder Brough Superior "Golden Dream" motor-cycle uses two engines, one above the other, with crankshafts geared together and so achieves real balance plus 4-cylinder torque. This layout also allows efficient air-cooling.

Four-cylinder engines—Straight four: Two pistons at t.d.c., 5+5 lb.=10 lb.; two pistons at b.d.c., 3+3 lb.=6 lb.

Resultant, 4 lb. upwards.

90° position, four pistons, 1+1+1+1=4 lb. down.

Resultant, 4 lb. downwards.

180° position, two pistons t.d.c., 5+5 lb.=10 lb. upwards; two pistons b.d.c., 3+3 lb.=6 lb. downwards.

Resultant, 4 lb. upwards.

'270° position, four pistons, 1+1+1+1=4 lb. downwards.

Thus we see in each revolution we have two "kicks" of 4 lb. upwards and two "kicks" of 4 lb. downwards, upwards and downwards alternating. This is rather poor and hence we have rubber mountings! The Lanchester harmonic balancer counteracts these unbalanced forces and was used on one Vauxhall model. Bob-weights in this case do not affect the balance, as they cancel each other's forces out, but they ease the load on the main bearings very considerably.

Flat four (e.g. Jowett): With the two front pistons at t.d.c. and the two back pistons at b.d.c., we have 5 lb. to R, 5 lb. to L, but rather further back, 3 lb. to L, further back still, and 3 lb. to right at the rear (*see fig.* 3). The resultants of these give 8 lb. to R and 8 lb. to L, but not quite in line, giving a very narrow couple, which alternates every 180°. At 90° position the balance is perfect. Jowetts mount their flat-four on rubber to absorb this narrow couple, resulting in a very smooth engine.

Six-cylinder in line engines: The crank throws are set with No. 1 at 0° (t.d.c.), No. 2 at 240° to it, No. 3 at 120° to it, No. 4 in line with No. 3, No. 5 in line with No. 2, and No. 6 in line with No. 1 (*see fig.* 4).

No. 1, 5 lb. upwards.

No. 2—240°, cos $240° = \frac{1}{2}$, cos $480° = \frac{1}{2}$, both acting downwards, *i.e.*, $\cos\theta + \frac{\cos. 2\theta}{L} = \frac{1}{2}+\frac{1}{8}=\frac{5}{8}$, $\therefore P=4\times\frac{5}{8}=\frac{5}{2}$lb. downwards.

No. 3—120° in the same way exerts force of $\frac{5}{2}$ lb. downwards.

Thus the force due to No. 1 is exactly equalled by that due to Nos. 2 and 3, and in the same way Nos. 4 and 5 equal force due to No. 6. This holds good for all positions of the crank and the engine is in balance. In passing, it may be noted that the engine is out of balance for the third harmonic. The long crank and the layout of the "throws" plus the bad gas distribution of an unblown 6-cylinder accounts for their liability to break their cranks at high r.p.m. Amilcar overcame this by forced induction and Freddie Dixon by fitting six carburetters to his Rileys.

Eight-cylinder engines—Straight eight: All these engines now have a crank consisting of a 4-cylinder crank between and at right angles to the four end throws of another 4-cylinder crank (*i.e.*, two throws at each end).

t.d.c.	b.d.c.	90°	90°	90°	90°	b.d.c.	t.d.c.
1	2	3	4	5	6	7	8

(1) 5 lb. upwards, (2) 3 lb. downwards, (3), (4), (5), (6) each 1 lb. downwards=4 lb. downwards; (7) 3 lb. downwards, (8) 5 lb. upwards. Combining these we get resultants of 10 lb. upwards halfway along the engine, and 10 lb. downwards halfway along the engine, *i.e.*, two equal and opposite forces acting at the same point. This engine is, thus, in balance, and this holds good for the four positions considered in this article. The disadvantage of such engines is the great length of the crankshaft.

V-eight: With No. 1 throw at t.d.c. for No. 1 cylinder, No. 2 throw is 90° behind it, No. 3 throw opposite No. 2, and No. 4 throw opposite No. 1. The engine is four 90° V-twins, one behind the other.

Front pair ... Force $\sqrt{2}$ lb. to L.
2nd pair ... ,, $\sqrt{2}$ lb. to R.
3rd pair ... ,, $\sqrt{2}$ lb. to R.
4th pair ... ,, $\sqrt{2}$ lb. to L.

This gives $2\sqrt{2}$lb. to L and $2\sqrt{2}$lb. to R, and acting at the same point, thus cancelling each other out. This holds good for all the positions considered and the engine balance is very good indeed. It is noteworthy that the 1½-litre Mercédès, which won the G.P. of Tripoli just before the war at a record speed had a V-eight engine.

Two-crank engines (e.g., Junkers, Hambling, etc.): In Yorkshire there is a design ready for production of a 4-cylinder 4-stroke engine on the lines of the Junkers diesel 2-stroke, with a crank at the top and another at the bottom of the cylinder block. This engine has eight pistons and con.-rods, two to each cylinder. Each piston moves in an exact mirror image of its fellow in the same bore, and therefore each pair is in balance, which means that the whole engine is in balance. Each crank is of a normal 4-cylinder layout. The stroke of each piston is very short, giving low piston speeds at high r.p.m., but the effect of the "explosion" occurring between two pistons gives the benefit of a long stroke, and so will allow the engine to pull a high top gear. There is, further, very little waste heat as there is no cylinder-head in the accepted sense of that term. Great things are hoped for from this engine.

Good balance takes a great load off the chassis-frame and allows it to be lightened, but it should be stressed that though an engine is in perfect balance and so vibrationless, the inertia forces are just as great as in an unbalanced engine, and con.-rods just as likely to appear during over-revving!

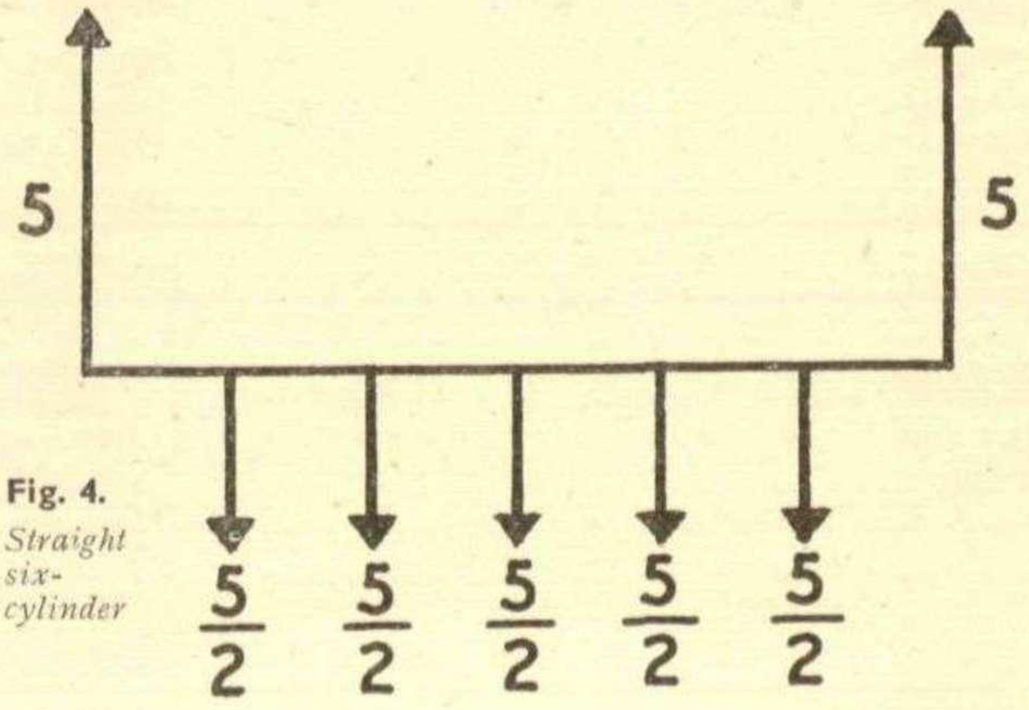
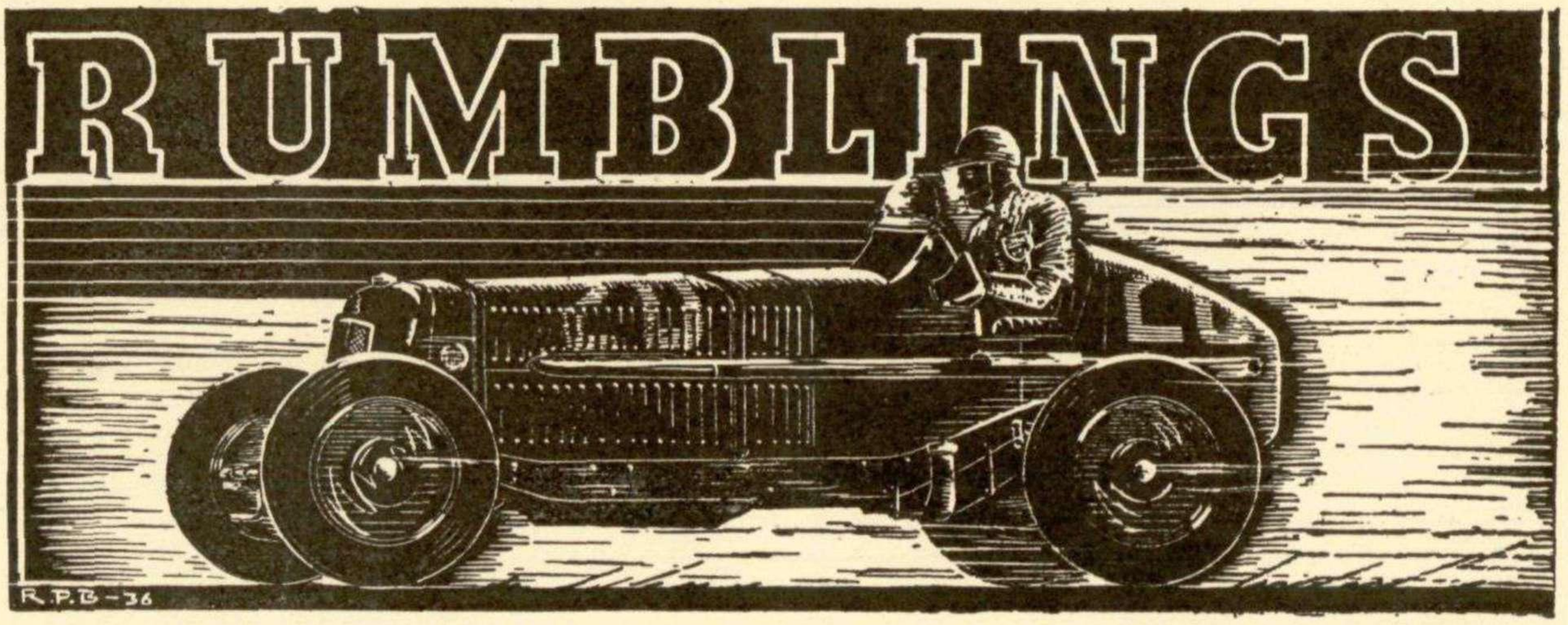


Fig. 4. *Straight six-cylinder*



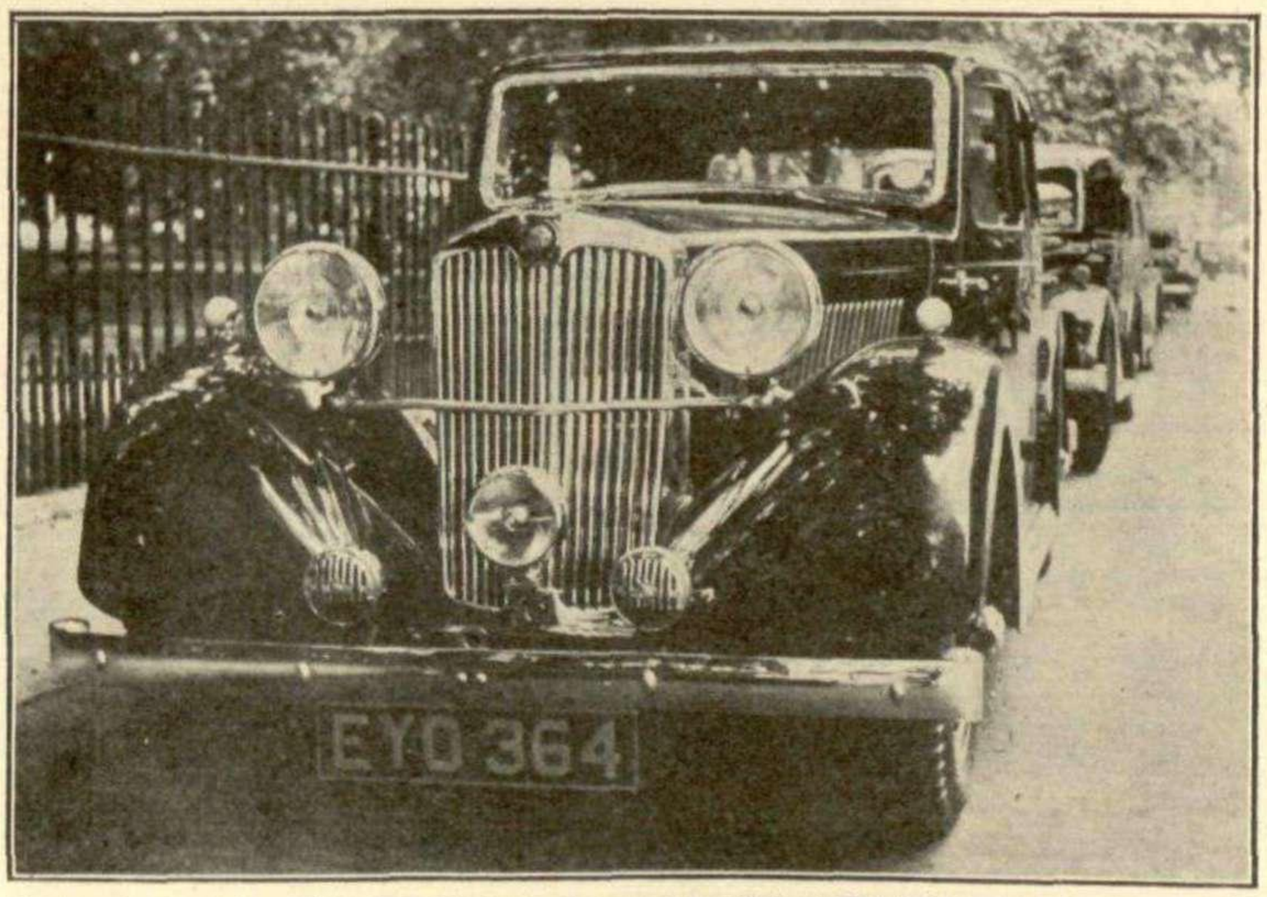
New Roads

The sports-car owner is apt to consider the passionate pleadings for better roads for Britain as something outside his ken, because he likes roads which call for skill in driving and good qualities on the part of his car. However, let him not forget that congested roads are even more trying in a fast car than they are to the occupants of a family saloon and that, if the much-needed new trunk roads ever materialise in this country, they will go a long way towards relieving congestion on the secondary roads, by-ways and even along those roads now regarded as Class A thoroughfares. We must confess that the problem of new roads for Britain rather passed us by, in spite of the frequent references to this important matter in the Press—that is, until we noticed a very attractive book on sale at Smith's, and in the better-stocked branches of Boots, the Chemists. We refer to "New Roads for Britain," by George C. Curnock, published by the British Road Federation, Ltd. Striking a quality note these utilitarian times, this half-crown book presents its message very effectively. Photographs of existing roads and of possible future highways appeal instinctively to those who enjoy their motoring, and they reach a high standard in this praiseworthy publication. From the text we learn that our road mileage increased by less than 4 per cent. between 1899 and 1938, during which time the population increased by 15 per cent; motor traffic is estimated to have increased by 2,500 per cent. between 1909 and 1939. The inadequacy of present-day roads is strongly emphasised and safety measures are discussed, while a water-tight case is stated, backed by some very authoritative views, for the need for 1,000 miles of new trunk motor roads after the war, as recommended to the Ministry of Transport by the County Surveyors' Society in 1938. This little book presents its case to all road users, but it in no way offends the motorist. It should be read by everyone who is concerned about Britain's future status and prosperity. In particular, it should be read by those of you who are addressing your M.P.s about motorists' rights—when you ask what is to be done about the increased rate of taxation, enquire, at the same time, when we are to get new motor roads; refer to "New Roads for Britain" on your postcard when you write. The British Road Federation, Ltd., deserves support in bringing forward the motorist's cause.

* * *

Miscellaneous Motors

Another visit which we have been able to make as a result of our exile in Yorkshire has been to G. P. Mosby, who lives just outside Bradford. Mosby is at present concentrating most of his attention on the old-school Bentley, as his excellently-arranged scrapbooks testify. He recently purchased a blower 4½-litre car which has very imposing open 4-seater coachwork. The history of this car—chassis S.M.3924, engine S.M.3920—has not been fully unearthed, and any forthcoming gen would be very



Post-war model. The Lea-Francis pre-war models will go into production again after the war is over.

welcome. But research, as far as it goes, shows this car to have been on the stand at Olympia in 1930, and it took a coachwork prize at the 1939 Blackpool Rally. It was first registered, incidentally, in November, 1930, and is GK3841. Shortt now has the engine and is giving it a general check-over. Meanwhile Mosby uses a 1½-litre S.S. "Jaguar" saloon, radio-equipped, for business motoring, and his wife a Ford Eight for shopping purposes. But these are only war-time measures. In peace-time Mosby and his wife were keen members of the M.G. Car Club and took an active part in trials. He ran a Marshall-blown M.G. 30,000 miles with no snags, and has only recently sold his second M.G., also Marshall-blown, after driving it some 4,000 miles. This was the P.B. run at Wetherby and Southport by Noel Hewitt and afterwards prepared by Abingdon for the 1939 T.T. It has Q-type valve gear and the special crankshaft fitted for that race, but the compression-ratio is now standard, after having been raised to 8.5 to 1. Incidentally, for Wetherby no gasket was used. The blower set is the standard one of commerce, using double-belt drive with a single jockey pulley. Mosby fitted aero screens, bucket seats and a special dashboard, etc. Some 22–23 m.p.g. was obtained in blown form. Intended for trials, but never used for this sort of thing, is Mosby's special Alvis. It consists of a 1932 "12/60" chassis to which have been fitted "Firefly" axles, front and back, resulting in vastly improved braking. By the use of wide anchorage plates the "12/60" springs have been retained. The engine is a 1929 3-carburetter "Silver Eagle," practically standard, save for a lightened flywheel, and Burgess-reconditioned S.U.s. Into the "Firefly" rear axle casing a 4.55-to-1 crown and pinion from a 1926 big-port "12/50" was inserted, and the wheels carry 5.00 in. by 20 in. tyres at the front and 6.00 in. by 19 in. covers at the back. The body consists of a neat un-upholstered shell built on behind the original front doors, using rather light aluminium panels of 22 g.—the only stuff available—on square steel framework. The gearbox is "12/60." This car is beautifully turned out and weighs about 23 cwt. It has, as would be expected, an excellent performance, doing around 80 m.p.h., yet giving 19 m.p.g. on "pool" on very short runs. Before he acquired his present Bentley Mosby bought a 3-litre Van den Plas 4-seater which had a 1925 chassis and 1926 engine. This car is now owned by his brother-in-law, W. P. Butterfield, and Shortt is preparing a 4½-litre engine for it. The imposing 4½-litre radiator has already been fitted and the body has been shortened at the back. It is to be re-upholstered and sprayed black. Fixed cycle-type wings are now fitted. The dashboard has been neatly re-built, with centrally-placed rev.-counter and the usual Bentley dials. The chassis has a 4½-litre front axle, Speed Six brakes and a Hardy-Spicer propeller-shaft, and the rear axle is believed to have come from one of the rare 9-ft. wheelbase "Speed" 3-litres, owned by Kaye Don, the ratio being 3.43 to 1. The C-type gearbox will be replaced by a D-type. Two Lucas P80 headlamps and two Lucas passlights are set before the radiator. Butterfield uses a standard TB M.G., radio-equipped, for business. These two enthusiasts certainly look like owning two very fine Bentleys between them. But Mosby does not intend to neglect his first love and recently acquired a late-model 2-seater Ford V8, which he intends to convert into a trials car when he can spare time from duties at the firm of which he is a director.

* * *

Post-War Models

The Bugatti Owners' Club has announced Ettore Bugatti's post-war plans. A little news of what other post-war cars are to be like is filtering through. Aston-Martin, Ltd., have told us that their new models will have shorter-stroke, bigger-bore engines with push-rod o.h. valve gear and wet sump lubrication. The famous head layout will be retained and the camshaft will be set high up in the cylinder block and be driven by silent chain from the rear of the 5-bearing crankshaft. We may expect 90 m.p.h. closed cars of very high performance and possibly of advanced body style from the Feltham works. Then Lea-Francis will resume production of the 11.9-h.p., 1½-litre and 12.9-h.p. cars, substantially unchanged as to engine design but with detail improvements. A range of higher-powered models was contemplated, but the capacity tax may have dis-spirited the directors. Lagonda, Ltd., have revealed their intention to market a less expensive smaller car than the V12, and they have had plenty of experience of good smaller-engined cars. The promised Gordano sports car is likely to be produced on a scale of 500 cars a year. That is all we can tell you at present. But there is more, much more, on the way.

* * *

Cecil Kimber

The motoring world suffered a grievous loss when Cecil Kimber was killed in that miserable railway accident outside King's Cross Station on the evening of February 4th. Kimber—"Kim" to all his friends and to thousands of enthusiasts who had never met him—took a standard Morris car and converted it into a rakish 2-seater, with very curious wings, for his own edification, some 20 years ago. So successfully did this car perform in M.C.C. trials that Kimber formed Morris Garages, Ltd., at Oxford, into a manufacturing concern, and the M.G. was born. Seldom, if ever, does one see those early, aluminium-bodied "14/40s" about to-day, but they were excellent cars in their day and paved the way for the introduction of the famous M.G. Midget some years later, developed from the o.h.c. Morris Minor chassis. This car brought sporting motoring within the reach of many impecunious enthusiasts, and largely took the place of the existing small French sports cars which had invaded the market up to that time. Kimber's business went from strength to strength, the M-type Midget giving way to the "J" and "P" cars. Kimber's works at Abingdon-on-Thames became the largest sports-car-producing factory in the world, and his products dominated the trials world. He also made the advanced Q- and R-type racing cars and sold some of them "over the counter." Kimber backed racing and record work with fervour, and the great exploits of Eyston, Gardner and Nuvolari, and all they did to further British prestige the world over, will never be forgotten. Gaining relaxation from yachting, Kimber also had a flair for body designing and for testing his creations personally over a big mileage. He was a happy family man when "off duty"—if he was ever really off duty!—and the "Rembrandt" meeting sent a telegram of sympathy to Mrs. Kimber, in which expression all enthusiasts will wish to join.

Club News

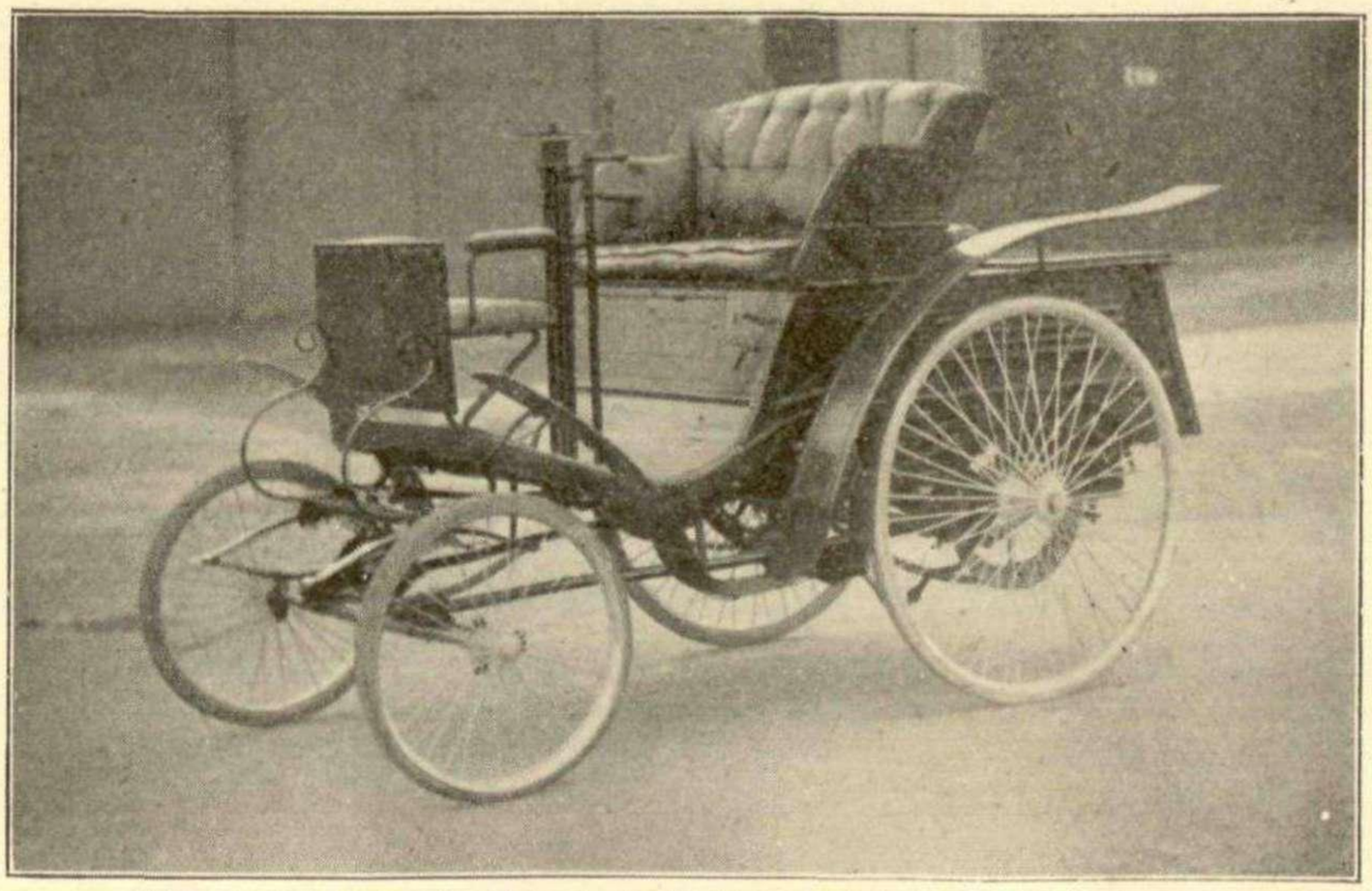
WE HEAR

J. D. Clayton, of Gilberdyke, is building an interesting " special " of modern components, comprising a Triumph " Dolomite " 4-cylinder engine installed in a 10.8-h.p. Triumph chassis having a Cooper body-shell—apparently Triumph models are usefully interchangeable. Clayton's brother, an R.A.F. fitter, is rebuilding a Rapier 4-seater, with E.N.V. gearbox and the fascinating twin-o.h.c. engine, a pleasing blend of vintage and modern. Denys Axel Berg has added a lowered and modernised O.E. " 30/98 " Vauxhall 4-seater to his growing collection of vintage cars. From a reader at Darlington comes news of an almost complete Speed Twenty Alvis, a monoposto Bugatti with underslung chassis [! ?], a 2-litre Lagonda, and a Salmson 2-seater, *sans* tyres, at a local breakers, for those who like this sort of thing. Our informant, Brian Lyth, runs a Riley 12/6 " Kestrel " saloon, and is seeking a blower for his " Montlhèry " M.G., and a friend of his has a J2 M.G. " Midget " engine and gearbox unit, sleeved and with new crankshaft, for disposal. Mavrogordato is now running a f.w.d. Citroen, to which he would like to fit a 4-speed gearbox ; if anyone has done any such thing. V. L. Parry, who uses an S.S. 100 for business motoring, has purchased the Anzani-engined " Spook " originated by R. G. J. Nash and owned for a while by K. N. Hutchison and Guy Griffiths. Congratulations to Flight Officer Dorothy Stanley Turner, W.A.A.F., on her recent marriage to Major H. C. Dryden. C. A. Smith's latest acquisition, a veteran M.V. tricar, has a 10-h.p. air-cooled engine, started by kick-starter and driving to a live rear axle ; it was made in Milano, and the new owner seeks three 700 by 80 b.e. tyres for it—his 'phone number is Yateley 3163.

Patrick McCormick, who describes a brake conversion carried out on his " Nurburg " Frazer-Nash in this issue, has commenced work on a Frazer-Nash single-seater with a Hudson straight-eight engine taken from a Railton, which certainly sounds like something which should step off more than briskly. We have now had an opportunity of inspecting the early Benz in Harrogate, and can testify that it is one of the very early models and is, incidentally, in an excellent state of preservation, even to the solid tyres. The usual gas-engine type of horizontal single with exposed crankshaft lives under a boot at the rear, and final drive is by chain. Steering is from a vertical column *via* pinion and racks to the tie rod. A plate on the lid of the boot gives the supplier as " Hewertson's of Oxford Street," and this is believed to have been the second car licensed in Bradford.

Birkett has acquired the chain-driven Phœnix-Special chassis and intends to make from it a sort of combination of Type 40 Bugatti and Frazer-Nash, with a " Brescia " Bugatti engine. He also tells us that he proposes to build the Type 54 Bugatti mentioned in the January issue into a 4-seater, rather on the lines of the pointed-tail Type 57S, with faired-in wings, which was illustrated in the British papers before the war but never came across the Channel. He has plenty of spares but, like a lot of other people, could do with a deal more time. An alloy or bronze head for an " Ulster " Austin he is rebuilding is wanted by Wright, a Yorkshire enthusiast ('phone Cawood 57) if anyone can help ; at present he runs an Austin Seven " Swallow " saloon. Another " Ulster " exponent is F/Lt. Mallock, who recently towed his example home to Yorkshire behind his other special Austin Seven. E. J. Steel reports that work is progressing nicely on his veteran Alldays & Onions, in spite of several V1 attacks on its garage, in one of which Steel himself experienced a broken wrist ; he knows of a sound 1915 Rolls-Royce breakdown lorry, with tyres on its wheels and Bleriot lamps, to be disposed of cheaply, in the Kingston district, if anyone wishes to preserve such an example of " the quality " for posterity. G. H. Deacon is getting down to some car modelling, and apart from a small-scale job of a blower Bentley, hopes eventually to complete a 10-c.c. model of the single-seater record-breaking saloon Renault 45 (of which he is in need of photographs) and a petrol-driven model of the Fiat " Mephistopheles." Harold Pratley has the 350-h.p. V12 Sunbeam garaged in Liverpool and hopes soon to commence stripping it for re-build. Major R. J. Sully, the H.E. designer, is using a 15-h.p. f.w.d. Citroen, and has had four of these cars.

Waddy has for disposal his 3½-litre Delahaye and a " 500 " Fiat ; he is thinking in terms of another " Fuzzi " and keeping one " 500 " Fiat. Tubbs is also using a " 500 " Fiat, but hopes soon to have his D.K.W. back in commission. It is extremely good news that Bob Cowell, recently reported missing, landed safely and is now a prisoner of war.



A Benz of the type of which an excellent example is preserved in Harrogate.

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N.Z.S. & R.C.C.

We have received two more bulletins from the New Zealand Sports and Racing Car Club. That for July last contains a most informative article on three Bentleys, by Trevor Wickham, which is well worth reading ; the author now owns a Talbot 75. T. A. Thomson has a " Silver Ghost " Rolls-Royce in perfect condition, and has promised an article for the bulletin on these cars. An attempt is being made to compile a register of interesting cars that exist in New Zealand, anyone knowing of any being requested to communicate with A. E. Ansell, P.O. Box 1, Petone. We are interested to note that the vintage *versus* modern controversy rages in New Zealand as well as over here.

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AMBITIOUS DERBY

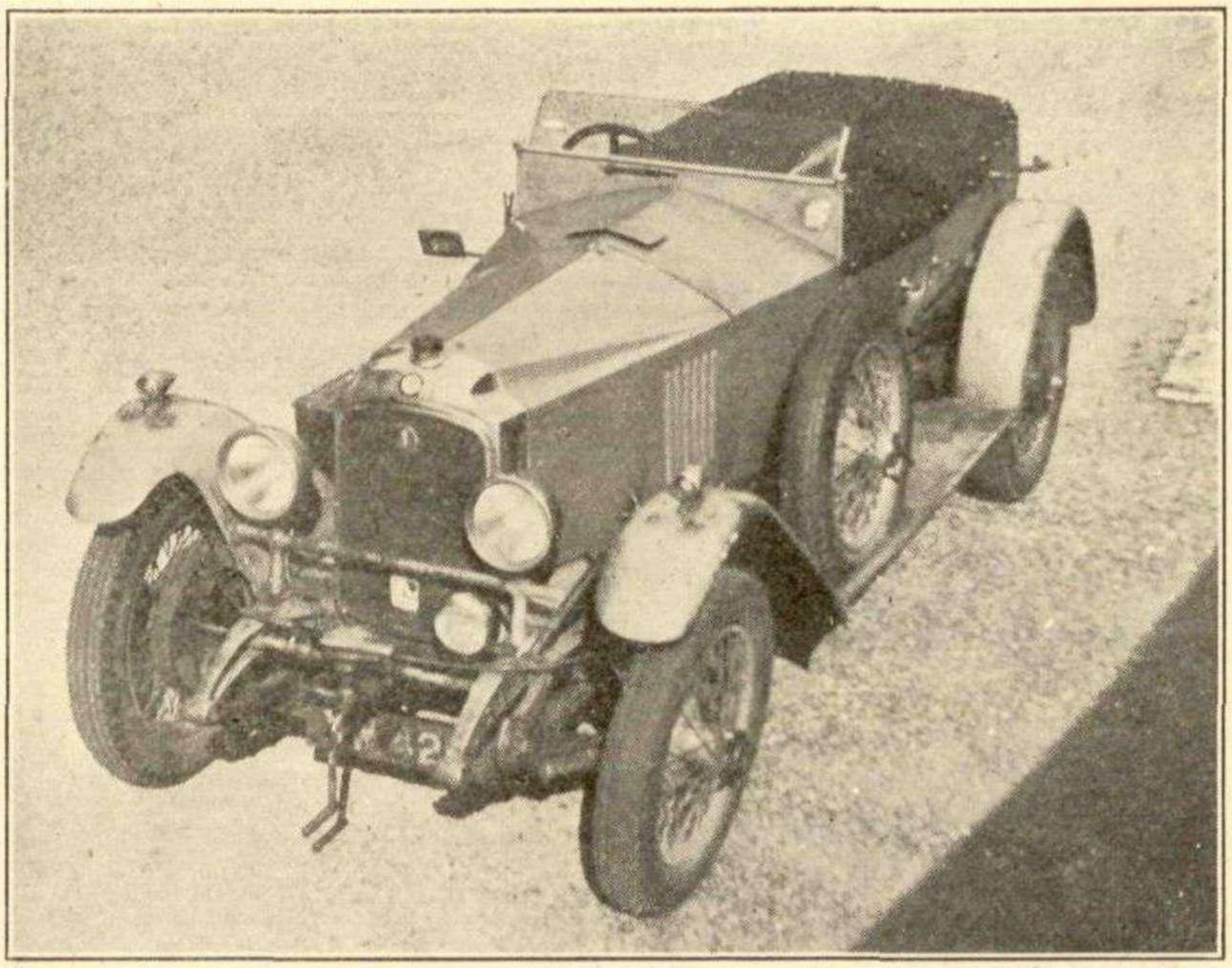
Last month we referred to a new body formed in Derby for the promotion of motoring enthusiasm, and now more details can be given. Known as the

Automotive Development Association, this new organisation offers its members the facility of a fully-equipped machine shop. Actually, three categories of membership are available—voting members, limited to 100 persons, associates and shareholders. Election is at the discretion of the association. The war-time annual subscription is 7s. 6d. for associates and 10s. 6d. for members and shareholders. The last-named must invest a minimum of £5 or a maximum of £10 in the machine-shop fund, and at present only they may use the shop. At present, they also are limited to 50 persons, and before the end of January 47 had signed up, so that the shop fund was at least £235. Apart from the facilities which this shop offers to sports-car owners and " special " builders, it is planned to design, and to construct therein, a small 4-cylinder racing engine, a motor-cycle to accommodate this unit, and a racing car powered with an 8- or 12-cylinder version of the same basic unit. Members and associates are entitled to all amenities except the use of the workshop, and the A.D.A. offers all the usual attractions of a sports car club. Addresses have already been given by Raymond Mays, Cecil Kimber, Reginald Parnell, R. C. Cross, " Ginger " Wood, etc. Policy will be decided by vote, shareholders being given two and members one. Weekly meetings now take place at the Park Hotel, Osmaston Road, Derby. Members' vehicles include the ex-Seaman Delage, the ex-Bira i.f.s. Delage, ex-Ruesch " 3.8 " Alfa-Romeo, ex-Dixon Riley Six, a Zoller-blown E.R.A., a Maserati Six, the Challenge, and various sports cars ; also 1939 ex-T.T. 350-c.c. Velocette, " 8/80 " S.B.-J.A.P., Square Four Ariel, Manx Norton, 1934 T.T. O.K.-J.A.P., now with telescopic forks, alloy barrel, etc., blown 2-stroke 4-cylinder Jones-Special, 500-c.c. d.t. Rudge, 350-c.c. " Brooklands " Special, and 250-c.c. G.R. New Imperial, etc. Work is proceeding on a Riley 14/6-engined Aero Minx, a Frazer-Nash with blown M.G. Magnette engine, a blown " Ulster " Austin, and a blown Singer Six. This is about the most ambitious project of its kind since the formation of the now-defunct J.R.D.C. The A.D.A. is a non-Trade body (although we suspect keen Rolls-Royce employees to be behind it), and from the way it is being organised it seems likely to succeed—we certainly wish it well. It fills a long-felt need, and it is hoped to inaugurate branches in other towns if sufficient enthusiasm is displayed. Hon. Secretary, L. Hassel, 4, Hartington Street, Derby.

★

B.R.D.C.

We receive many letters for forwarding to the British Racing Drivers' Club, as the official organ of that body, and we reluctantly have to state that when war broke out the Queen's Gate offices were closed and the secretary, D. J. Scannell, returned, we believe, to Ireland. Consequently we cannot forward correspondence or answer queries relating to membership conditions—the club's president, Lord Howe, is obviously too fully occupied with important Admiralty matters to be troubled at present. We sincerely hope that after the war the club will flourish again and that MOTOR SPORT will be able to serve effectively as its official organ.



" 30/98 "—*This is the Vauxhall which Anthony Heal subsequently modified quite extensively, fitting twin S.U. carburetters, a Delage front axle, Delage rear brake drums, etc. It now exceeds* 100 *m.p.h. and gives* 14 *m.p.g.*

★

COVER PICTURE

The January cover featured the Brooklands Outer Circuit and last month depicted a Donington scene. This time we see " Bira," in his Jamieson-blown E.R.A. " Romulus," taking Stadium Dip on the Crystal Palace circuit—the London road course—at which we hope to see an early resumption of racing after the war. A history of this car appeared in MOTOR SPORT for November, 1940.

★

B.O.C.

The Bugatti Owners' Club has sent out one of the most interesting news items of recent times. On November 3rd last Eric Giles got a letter through to M. Ettore Bugatti, in Paris, and his reply, dated November 29th, 1944, has been circulated to all members of the club. Bugatti announces that since being deprived of his Molsheim factory he has taken over the works of La Licorne, La Fournaise and Chantiers Navals de Maisons Laffitte. He has produced a 4-cylinder, 1½-litre, 16-valve supercharged engine able to run at very high speed. This has been tested in a motor-cycle having very fine front and rear suspension and a road speed of over 87 m.p.h. This, with a special gearbox, will be used in a post-war 4-seater Bugatti car, which will be a little smaller and very much lighter than a Type 57, and aims to provide a similar performance with very low fuel consumption. Other post-war Bugatti models will include a 4-litre " Grand Sport de Luxe " and a lighter version of the fantastic " Royale," to be built in limited numbers. In addition, Bugatti intends to make machine tools and car parts for others to build under licence, and luxury boats, both sail and power, up to 35 metres long. Some will be entirely Bugatti ; others will have Bugatti hulls, and provision will be made for high-power engines, including steam units. Bugatti has already made a very special boat's windlass, able to exercise a chain pull of 10 tons, and this will be offered in cast iron, or in de luxe form in polished bronze ; the weight, with engine, is 296 kilos. This is the first communication the club has received from Ettore since early 1940 ; it is news indeed !

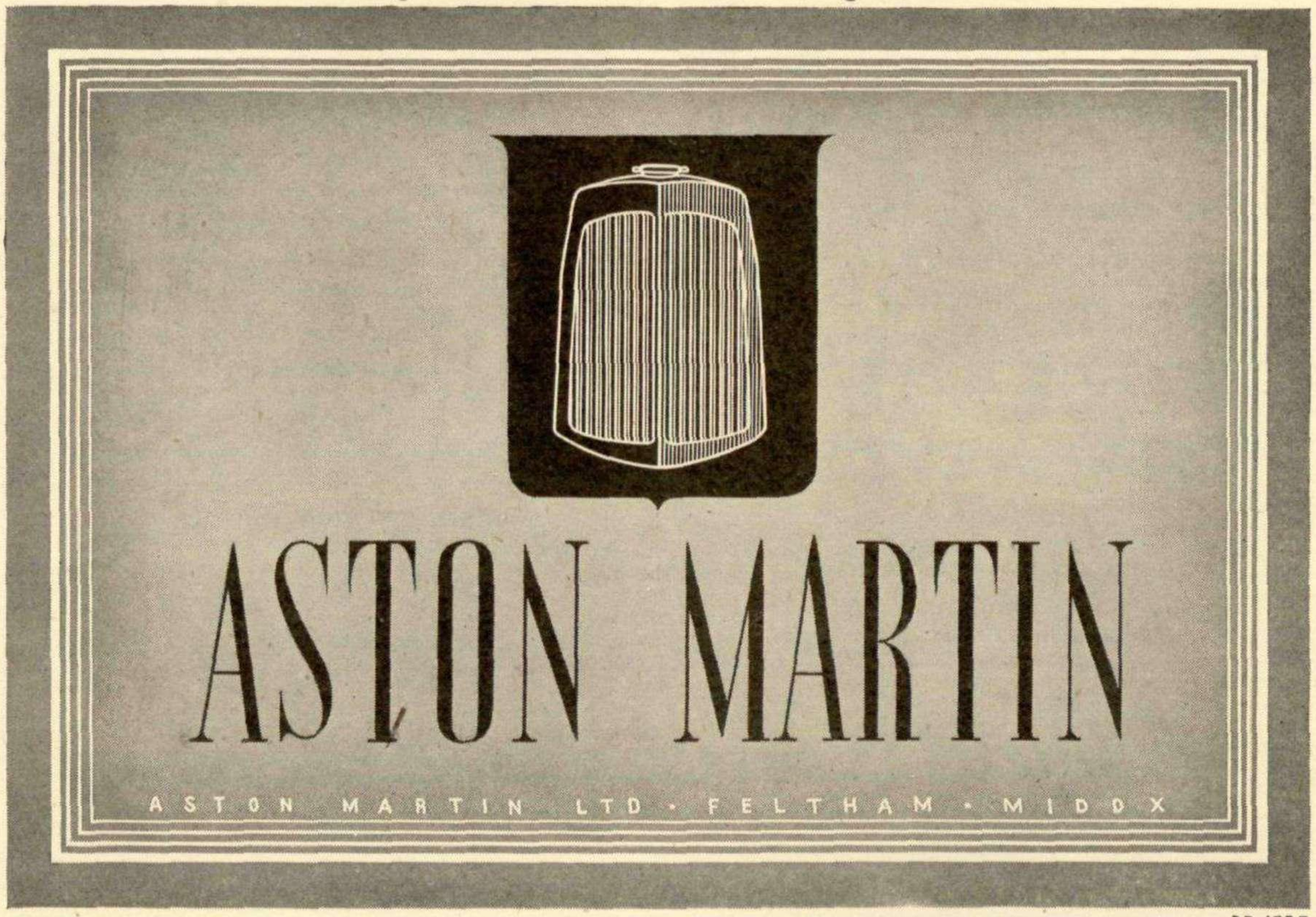
Veteran Specialist

The fourth instalment of the above series by Francis Hutton-Stott is unfortunately postponed until next month owing to the late arrival of MS. These instructive articles have aroused widespread interest, and we apologise to those readers who have been awaiting the next part : we hope that the pleasure of anticipation will subsequently be fully satisfied.

★

SPREADING THE GOSPEL

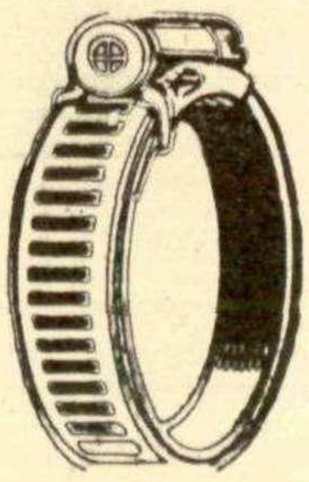
An Enthusiasts' Car Club, which will hereafter be referred to as E.C.C. II, has been formed in the Merseyside and Wirral area, and a meeting was held on February 11th. Hon. Secretary : M. Fisher, 282, Claughton Road, Birkenhead.



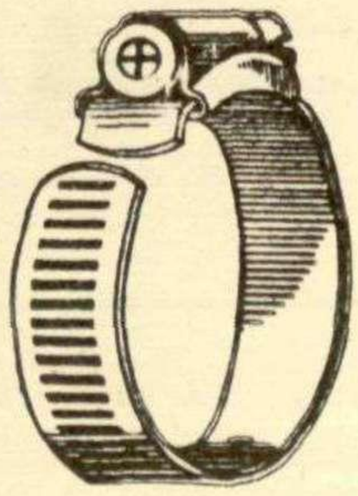
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LETTERS from READERS

Sir,

Under "We Hear" of the January MOTOR SPORT you have got some wrong information about the Vauxhall, and I would like you to know the actual position.

We have purchased a "30/98" Vauxhall from a man called Longbottom, who lives in Scarborough; this car is to be re-built to the instructions of a South African customer of ours—Sergeant J. C. Morland, who lives at 7,000 ft. in Kenya and rarely goes below 4,000 ft., so that he stipulates that the car must be capable of 100 m.p.h. in this country, so that it will do 85 out there. We shall, therefore, make the necessary modifications, including installing a counter-balanced crankshaft.

Sergeant Morland is also rather keen that the car should stop—he has had four "30/98s" out there, and takes rather a plain view of having to cut out three-quarters of a mile before every corner. He also had a British Salmson, which he ran for some time, but the vintage appeal of a "30/98" got him in the end, and he is going back to his old love, but fitted with the most potent hydraulic brakes Monaco can devise.

I am, Yours, etc.,
p.p. MONACO MOTOR & ENGINEERING CO., LTD.,
P. R. MONKHOUSE,
Managing Director.
Watford.

* * *

Sir,

In view of the interest which has been shown recently in S.T.D. racing cars, and having read the interesting article by Mr. Wyer in your January issue, it has occurred to me that a few notes on the ordinary Talbot-Darracq models (of one of which I have very pleasant recollections for good service during some six years' use) might interest your readers.

I do not think that the average enthusiast is really aware of the up-to-dateness of the standard models as far back as 1922. Our particular specimen was an 11.4-h.p. Talbot-Darracq of the type first introduced at the 1921 Show, and put into production in 1922, being a current model until May, 1923, when a revised version was produced and the name reverted to Darracq.

The T.D. had a 4-cylinder engine of 68 mm. bore and 110 mm. stroke, giving a capacity of approximately 1,598 c.c. The cylinders and crankcase were a single casting. A well-made crankshaft was attached thereto by three white-metal-lined bearings with force-feed lubrication. Connecting rods, with white metal run straight on, had slotted caps so that the big-end bolts were relieved of strain. The aluminium pistons had four piston rings, three compression and one on the skirt. They were attached to the con.-rods by hollow gudgeon pins having aluminium end pads, and were lubricated by the oil thrown up by the big-ends, which were force-fed through the hollow crankshaft. The camshaft was driven by a silent chain from the crankshaft and drove by skew gearing the oil pump, and Delco distributor, which had an automatic advance and retard mechanism similar to the type in common use to-day.

The sump was a ribbed alloy one and easily detachable, as also was the alloy timing cover, on which was mounted the alloy centrifugal water pump. A detachable cylinder head had eight tulip-shaped in-line overhead valves operated by push-rods *via* tappets lubricated by a by-pass from the main oil supply. The mixture was supplied by a Zenith triple diffuser carburetter feeding through an aluminium pipe to a combined inlet and exhaust manifold. The Delco dynamo was mounted on the front engine bearer and belt-driven, with an eccentric adjustment in a most accessible position. A nice finish was given to the whole engine by an aluminium valve cover. To this very modern power unit was bolted an alloy three-speed gearbox with the self-starter bolted thereon. A single-plate clutch was housed in the flywheel, which had starter teeth cut on it. This single unit was attached to the frame by four bearers, and at the back of the gearbox a ball housing containing the universal joint had attached to it the torque tube which conveyed the drive, through an enclosed propeller shaft with a steady bearing in the centre, to a very modern banjo rear axle. The spiral bevel gears were all mounted on an aluminium bed which would be the cover plate of a Morris axle, but which, in this car, was the actual drive mounting. It was possible to assemble the whole differential assembly and adjust the mesh of the gears on the bench and then insert the whole affair, which was an all ball-bearing job, into the pressed steel casing. As the car had a dashboard petrol tank, this made what is usually an unpleasant job quite simple.

The power unit would develop some 30 b.h.p. and attain 3,000 r.p.m. The frame was of orthodox design and suspended by semi-elliptic front and cantilever rear springs which gave a comfortable ride. The front axle was a straight beam with steering head with bronze bushes and ball race, which steered well; in fact, the whole car was very stable. Ordinary worm-and-wheel steering in an alloy box was fitted. Back-wheel brakes in large drums and detachable wood wheels with 815 by 105 tyres completed the specification. The chassis had a wheelbase of some 9 ft. 6 in., track about 4 ft., overall length a little over 11 ft. A real honeycomb radiator was set well back, and the seats were within the wheelbase. The body was well made, but the body designer had not the same ideas of weight saving as the chassis designer, so the clever use of aluminium in the chassis was balanced by the solidity of the luxurious body! It had real leather upholstery, and side screens that gave saloon comfort, and some long journeys were undertaken without discomfort at Christmas times. The 6-volt battery was in an excellent place on a side-member of the chassis with the coil on dashboard.

Its performance was good. It would hold 45 m.p.h. for long periods without signs of distress, and on the long climbs, such as one meets in the Cotswolds, a speed of 28 m.p.h. was easily held when the gradient needed a change to second, whilst petrol consumption averaged 28 m.p.g., or would reach 35 m.p.g. when driven for economy. 225 miles was the longest day trip undertaken, and 1,000 miles the record week's trip, which was good in those days. The travel was as pleasurable in this car whether one was at the wheel or a passenger, and it must be remembered that in 1922 it was usual to be well satisfied if a 10–12 h.p. car would give a maximum of 40 m.p.h.

The T.-D. was not rebored until 1928, when its total mileage must have reached over 50,000.

This model remained in production until May, 1923, when it was succeeded by a revised version having a magneto which was in tandem with a dynamo driven by an extra silent chain in the timing case and minor modifications such as 765 by 105 tyres; it seemed a pity to me that the Delco battery ignition was dropped. 1924 saw the adoption of front-wheel brakes of Perrott type, and the petrol tank relegated to the rear of chassis, and fuel fed by vacuum tank. This type was seen in trials of the period and was as successful as the original model, which was a gold medal winner in the 1922 Six Days Scottish Trial.

The 1926 Show saw a re-design; the bore grew to 69.5 mm., power went up to 40 b.h.p., and a four-speed gearbox, a longer wheelbase and saloon coachwork of Weymann type were fitted. From the 1923 type they were known as Darracqs, and some very interesting touring articles appeared in *The Autocar* of the period, written by that famous journalist Mr. W. F. Bradley, who seemed very keen on the marque. During the 1922–1929 period some excellent sports versions were seen, including a twin camshaft type seen at hillclimbs and Le Mans in 1925. After 1929 the firm went in for high-power 6-cylinder cars, which gradually disappeared from our roads. I doubt if a specimen of real Talbot-Darracq is left now, though one or two Darracqs may be still about. It would be interesting to hear if any reader of MOTOR SPORT owns or has seen one.

I am, Yours, etc.,
"COUNTRYMAN."
Woodbridge,
Suffolk.

* * *

Sir,

While one must always congratulate the Editor upon his profound motoring knowledge, the powers of telepathy evidenced in the January issue, where it is stated that Raymond Mays and Wing-Commander Lester have jointly diverted the thoughts of the M.M.E.C. from dangerous channels, are not equally worthy of praise.

One is completely at a loss to understand how MOTOR SPORT knows what the thoughts of the M.M.E.C. are, or in what respect they have been changed by the two people mentioned.

No one could hold either Raymond Mays or Wing-Commander Lester in greater regard than do the members of this club and myself, and we are particularly appreciative of the enormous amount of extremely valuable work which they

have put in recently on behalf of the Sport. I am confident, however, that they would be the first to agree that no change of opinion on the part of the M.M.E.C. has ever been necessary and that in fact none was attempted.

One is bound to express regret that MOTOR SPORT's flight into the realms of fancy, which has absolutely no foundation in fact, should have been permitted to appear in print.

I am, Yours, etc.,
Birmingham, 14. GRAHAM C. DIX.

[Perhaps the expression of opinion which offends Mr. Dix may be more attributable to study of a document we were later requested to destroy, than to the powers of telepathy.—ED.]

* * *

Sir,

I have read with interest Mr. Inman-Hunter's article in your January issue entitled "The Bertelli Aston-Martins."

Not only are there a number of inaccuracies in this record of the firm's activities from 1927 to 1937, but also I take exception to the inference contained in his last paragraphs, that since then a period of technical senile decay has set in, due to attempts at high profits, in *preference to increased performance*. Actually, of course, on sheer performance alone, all the 1938/39 cars outstrip any previous model.

Apart from all this, the article does a grave injustice to one of our present directors, and it is this which forces me to write this letter.

As anyone with any knowledge of engineering must realise, a complicated piece of mechanism such as a motor car can only be designed and produced seriously by a team of experts, not the least important of whom is the designer draughtsman and slide-rule expert.

I am sure Mr. Bertelli will be the first to agree that we at Aston Martins have been particularly fortunate in having rather an exceptional example of one of these "back room" boys, right from the very onset, a d that due credit should be given him for a substantial share in the design of these cars. I refer to Mr. C. Hill, who came from Birmingham with Renwick & Bertelli, Ltd., in 1926, as draughtsman, and became a director of the present company in April, 1943. Many of the early drawings done by him are still available here, and since Mr. Renwick left in 1931, he has carried out all our drawing, stressing and design, first under the direction of Mr. Bertelli and since 1937 under my own.

Apparently, the latter regime has been an unfortunate one for the real enthusiasts—judging by Mr. Inman-Hunter's remarks.

I can well understand the feelings which prompt such an outburst as I, too, am a sports-car enthusiast.

However, it has always seemed to me that the thing worth fighting for above all else was to ensure the continuity of Aston-Martins, primarily for the sake of a number of employees who, like Mr. Hill, have grown up with the firm, and also for the sake of making a British car in which enthusiasts could take a pride. The question of high profits has never entered into it.

This has been my endeavour, and still is. In 1936 the board decided that due to the high figure at which our class of work must always be priced, it was essential that a sports saloon become our main model, even to the exclusion of open sports models if this was unavoidable. Otherwise the market was too limited to enable the firm to carry on.

This policy still holds good to-day, and I mention it in the hope that it may clarify some of our future activities.

The point I wish to make quite clear is that we are not stagnating, as might be thought from the latter part of Mr. Inman-Hunter's article—our "back-room boy" is still very much with us, and, unless I am mistaken, his latest effort will prove the best yet. Incidentally, it will be the first completely new engine we have made since 1926, having been designed regardless of any existing jigs and patterns, h.p., or capacity tax.

Perhaps Mr. Inman-Hunter should be forewarned that it will have push-rod-operated valves instead of o.h.c.—to offset this disappointment, however, the light-alloy sump (wet, please note) has some rather original corrugations for cooling purposes, and the general arrangement undoubtedly will interest the connoisseur of engine design.

In conclusion, I should like to add that our technical achievements during the war, which cannot be revealed at present, have been considerable, and have received favourable comment in official quarters.

I am, Yours, etc.,
for ASTON MARTIN, LIMITED,
R. G. SUTHERLAND,
Managing Director.
Feltham, Middlesex.

[We are very pleased to be able to publish this honest and very justifiable letter from Mr. Sutherland. Sometimes the enthusiast lets his enthusiasm run away with him, but Mr. Inman-Hunter, while mourning the older-model Aston-Martins, did agree that Directors Know Best. His article did not reflect Editorial opinion, and we can assure Mr. Sutherland that we greatly look forward to examining and testing the post-war Aston-Martin when the time is opportune.—ED.]

* * *

Sir,

Pre-supposing that a certain firm, having unlimited resources and full technical ability, designs and produces two cars of the highest efficiency (for Grand Prix purposes), one a 6-cylinder 1½-litre, and the other a 6-cylinder 6-litre, will the larger engine develop as many b.h.p. per litre as the smaller?

As this hypothetical case is stated so as to settle a query in my mind, to which I have never had a satisfactory answer, it should be assumed that the firm in question has aimed solely at obtaining the utmost power-development in each case.

I am, Yours, etc.,
Belfast. J. F. W. GALLAUGHER.

[Expert readers will probably be better able to answer Mr. Gallaugher's query than we, but, generally, a small engine can be made to give greater b.h.p. per litre than a big one because its lighter moving parts permit of higher r.p.m., the stresses set up by high piston speed are less, and its combustion chambers can be made a better shape. The fact that both engines are sixes does not completely undermine these facts.—ED.]

* * *

Sir,

Considering MOTOR SPORT to be the main contact between the distant past when one could breathe all week-end the glorious stench of Castrol "R," and the somewhat problematical future when one will be able to listen to an approaching exhaust throb without wondering whether it will suddenly cease and blow us skywards, I am writing to ask whether any of your readers could help me in my search for a "San Sebastian" Salmson engine—or, at least, a Grand Prix "Special" of the same breed?

I should also appreciate information regarding any of the latter engines which have been blown.

Wishing you continued success, and with great admiration for the way in which you carry on in such difficult circumstances.

I am, Yours, etc.,
A.T.A. DAVID G. S. COTTER (Ft./Capt.)

[Letters will be forwarded.—ED.]

* * *

Sir,

As an ardent "Aston" fan, I was greatly interested in Innes-Hunter's article on the early Aston-Martin days, but I must contest the inference in his concluding paragraph that the production model 2-litre was a "tinny" thing, constructed of undesirable proprietary parts. I bought my 2-litre in 1937, and this particular chassis was fitted with a 2/3-seater drophead coupé by Abbotts, of Farnham. I believe only three of these bodies were ever constructed, and the car, as I had it then, was used as a business hack and also for sport. The only fault I had to find with any of the components was *the hydraulic shockers on the back* axle, which never functioned, and fed oil *via* the dash control on to one's only pair of Sunday trousers.

A considerable mileage was covered during the two years I owned this car, and except for normal maintenance and decokes, etc., it cost me but a few coppers during this time. Owing to the heavier body, the acceleration was naturally inferior to the standard open 2/4-seater, but with the exception of a scrap with Porter-Hargreaves's blown "Ulster," I was never beaten by any of the 1½-litres that I met on the road, I could almost get 85 on the clock, and the best timed speed was 79 during the J.C.C. High Speed trial at Brooklands, when, on this occasion, a strong west wind was blowing and it was snowing hard.

To digress a moment, I have often wondered what happened to this blown "Ulster," as the only time I saw it stationary was in a hotel car park during one of the 1938 Shelsley meetings, and from the large bulge in the off side of the bonnet I gathered that a belt-driven, low-pressure blower had been fitted by the owner himself. I also remember seeing the blown model referred to by Innes-Hunter at a Crystal Palace meeting with large cover between the front dumbirons, similar to the 4½-litre blower Bentley, although it was possible that the blower had at this time been removed.

The Girling brakes fitted to the 2-litre

were excellent and never needed adjustment, the body was unique in that it seated three in comfort (the third seat was placed transversely behind the existing two seats) and the hood could be lowered and *raised* whilst the car was in motion, and, unlike nearly all drophead bodies, it remained silent.

Most enthusiasts deplore the passing of their favourite model, and I was equally concerned when I recently read the announcement that the existing 2-litre would be replaced after the war by another model. Where, for instance, would "Aldy" be if he had stuck to the original Frazer-Nash, and how wise was his choice in deciding to replace it with the B.M.W. range. No, it is best for us that the manufacturer does not become self-centred about these things.

In spite of an intense interest in a more potent production of Continental manufacture I shall always retain a real affection for these cars, irrespective of models, and can only add that it is one of my ambitions to re-purchase, if possible, one day, the 2/3-seater that I sold at the beginning of hostilities.

In conclusion, I am confident that any production of Mr. Sutherland's that leaves the Feltham works will maintain the reputation of quality that has always been associated with the Aston-Martin, and long may he reign.

I am, Yours, etc.,
B. W. J. HINDES, A.M.I.A.E.
Windsor.

* * *

Sir,

I have just been reading an article by Mr. Boddy (in another journal) on the excellent service which can be obtained from very old cars, and consequently feel impelled to put on record my experience of an old Alvis.

A year prior to the war I purchased for a small consideration a 1927 Alvis "12/50." This was fitted with an immense red fabric body, so popular at that period. Using it as a second string, I drove it several thousand miles without giving it the slightest attention. I taught a friend to drive it (ideal for this purpose), and after passing his test he bought it and straightway undertook a long tour in the Lakes and Scotland. It was subsequently driven many thousands of miles, including a period on loan to the Fire Service, with never an involuntary stop. Its most remarkable characteristic was its low oil consumption. It must have had a rebore before I acquired it, as it definitely did better than 4,000 miles to the gallon of oil (and the radiator was not leaking into the sump either!). Its gearbox was also first class and dead quiet, and as easy to use as many modern synchro. boxes.

With its large accommodation, genuine 60 m.p.h., battleship build and 25 m.p.g., this old Alvis was certainly an ideal "hack" car, in spite of its negligible brakes.

Amongst other cars, I used a 2-litre Lagonda for one very enjoyable year's motoring. Although desperately slow off the mark, the Lagonda was most satisfying to drive and extremely comfortable. Once it reached 50 it came to life, and would cruise for hours like a train up to its maximum of 75. Good points about this car were: provision for opening the sump plug from above, grouped chassis nipples, instant starting (using the Kigass) in all weathers, and first-class steering.

My last three cars have all been 1,750-c.c. Alfa-Romeos. The first, a Turismo D.H. foursome, was rather slow, but the next, a blown Zagato 2-seater, was very potent and in beautiful condition. I regretfully parted with this as I required more luggage space, and bought my present car (now laid up), an unblown 3-seater D.H.

These Young-bodied Alfas come very close to my ideal car. They are dead reliable, very comfortable, and have superb brakes, steering and roadholding (a very light touch is required on the wheel; people used to driving traction engines find Alfas disconcerting at first).

When the great day dawns I hope to possess myself of a "2.3" Alfa, which, if I am not misinformed, can really go places. Also a Type 40 Bugatti or 8th Series Lancia "Lambda" in which to "pop round to the local."

I am, Yours, etc.,
R. W. S. CARPENTER (S/Sgt.).
S.E.A.C.

* * *

Sir,

I hope I will not be thought to be trying to raise unnecessarily a question which has been discussed by far abler pens than mine, *i.e.*, the problem of the impecunious enthusiast, a matter which seems as far from a solution as ever it was. It is my suggestion that the best thing that can be done in the present circumstances is for the concrete proposals or suggestions of as many impecunious enthusiasts to be published through the kind offices of MOTOR SPORT, which has shown that it has their interests at heart on numerous occasions during the last five trying years. Those letters for which there is not space for publication should be either carefully filed at the editorial offices or passed on to some enthusiast who would volunteer to act in the capacity of secretary. After a goodly number of proposals have been collected a meeting should be arranged with one topic only for discussion. Well, chaps, it's up to us if we want some enjoyable dicing for all pockets, however small. I hope any persons connected with the Motor Trade will refrain from putting forward proposals that might influence decisions which might be to their own benefit and not to enthusiasts'.

Here are my proposals; let's have yours —the more the better, and let's have them soon.

I should like to see a one-design monoposto chassis-cum-body monocoque, to use an aircraft expression, fabricated from plastic impregnated plywood with i.f.s., utilising rubber as a suspension medium and of extremely light weight, about 5 cwt. without wheels, a proprietary make of rear axle to be attached to the car to individual preference. A slightly modified monocoque would enable f.w.d. to be used if so desired. There will be a large surplus of suitable plywood and many firms conversant with fabrication of it, so that the cost of the article could be very low if there was a good demand, and if it was made available on H.P. should be within the reach of all. The design would embody full undershielding, and I suggest that if that part

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Shepherds Bush 5022

INNER tubes (Dunlop), three, 6.00 by 19, one 5.25 by 16, cheap. Jones, 19, Whitehall Park, N.19.

1933 Alvis Firefly sports saloon, overhauled, re-plated. New batteries, stored since 1939. £165. 8, Dalton Road, Coventry.

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.

WATER pump, instruction book, rear mudguards for 1934 Lagonda Rapier. R. J. Penney, Busketts Lodge, Higham Ferrers, Wellingboro', *Northants.*

REMOTE control for Austin "Ulster" 3-speed gearbox. A. D. Alldred, 4, Bannerdale Road, Sheffield 7, Yorkshire.

IMPECUNIOUS enthusiast requires vintage Bentley, condition and model immaterial. M.G. type petrol tank. Gaudin, 77, Brambly Grange, Basingstoke, Hants.

SCINTILLA Vertex mag., 6-cyl. model, N.V.6 or similar. A. Hillyard, 1, Cavendish Road, Woking.

WILL anyone complete enthusiast's set MOTOR SPORT by offering October, 1940? Cash, or exchange others. Yates, 50, Trafalgar Street, Healey, Batley, Yorks.

RADIATOR stoneguard for low-radiator Riley Nine. Chantrill, 18, Durdham Park, Bristol.

SIX Lea-type instrument bulbs and 200 mm. curved headlamp glass, all for Bosch. Batten, Markly, Warbleton, Sussex.

WANTED, International Aston-Martin. Good condition essential. State price and full particulars. D. Trowbridge, 412, Ley Street, Ilford.

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

Blakes BOOK

JUST TO LET YOU KNOW . . .

Sometimes when we see a reader of this journal leafing over its pages, we catch a certain look in his eyes. We know perfectly well what's going on inside his head. He's thinking of "presently" — of the happy day (roll on!) when he will take the road again in a car that's dearer to him than a brother — a car he knows inside out — a car he has tinkered and cossetted till it's something nearer the perfection he longs for. Maybe that car is languishing in his garage. Maybe he hasn't bought it yet. In which latter case we'd like him to know that we've been doing a bit of saving up. We have quite a useful stock now of interesting "jobs" which we shall be in the market with when motoring-for-fun is in order again. Might be a good idea to let us know right now what you have in mind.

110 BOLD STREET, LIVERPOOL 1 : Royal 6622

was covered with a very light gauge of aluminium, the whole vehicle would have a long and trouble-free life and be very durable. Engines to be limited to unblown s.v. units, otherwise complete freedom of make. Two classes only to start with, up to 1,500 c.c., and 1,500–3,000 c.c., the monoposto monocoque to be so designed that either size engine can be used. A very good power-to-weight ratio should result, and would give plenty of scope for individual tuning, driving, etc. Perhaps some enthusiast with present-day experience of design and stressing of plywood aircraft structures would come forward and let us have the gen on the possibilities of such a vehicle. As I see it, a weight of 10 cwt. or under without fuel and tyres should be easily possible. Proprietary brake assembly ought to be worked into the design.

I am, Yours, etc.,
J. P. GROSSCURTH.

Maidenhead.

Sir,

Congratulations are due to Mr. Inman Hunter on his historic article on the "Bertelli Astons." It will delight the hearts of Aston enthusiasts in many far-off places; I know of one in Burma.

Readers may be interested to know that I have a Sportsman's coupé with the "fascinating body" described. This car, now a genteel black, was originally yellow and black, and I would be most interested to have confirmation that this is the car supplied to Mr. Percy Kidner. Car No. S46, Regd. No. HX1632.

Incidentally, the body, including the fixed cycle-type wings, is panelled in aluminium, and, after all these years, is still in beautiful condition, in contrast to the many rust-eaten 1939 models that one sees around. The pigskin interior is almost unmarked, and the doors still swing gently shut with that coachbuilt click so pleasing to the ear.

Astons rebuilt the engine in 1942, and the subsequent mileage is nominal. Truly a fascinating vintage motor and suitable, as in my case, for the family man!

I have only recently parted with an open International to another enthusiast, Flt./Lt. B. C. Wood. (Car No. K084, Regd. No. OG8735.) The earlier history of either car would be much appreciated.

Incidentally, many readers will have seen fairly recent mention of the ex-Jimmy Nervo car with Freestone & Webb body; this car appears to be still going strong.

In my opinion these Bertelli Astons combine the best vintage qualities with economical upkeep, and well deserve their great popularity.

I am, Yours, etc.,
E. WATSON RODGER.

Rotherham. (Scuderia Chemvamo)

* * *

Sir,

With reference to the report of the meeting at Birmingham under the chairmanship of Raymond Mays, I myself feel

Continued on page 52

"1½-LITRE"

85 m.p.h., and with same carburetter setting	32 m.p.g.
0-50 m.p.h.	11.0 secs.
Standing Start, ¼-mile	19.2 secs.

H·R·G

"1,100 C.C."

75 m.p.h., and with same carburetter setting	37 m.p.g.
0-50 m.p.h.	11.3 secs.
Standing Start, ¼-mile	21.8 secs.

★ **The above figures have been proved many times in events by amateur owners** ★

J.C.C. Gazette writes:

"A novel test which has since been done on the car gives a clue to its amazing characteristics. It can travel from a standstill to 60 m.p.h. and back to zero through the brakes in 18.4 secs. This is a two-fold test, the result of which is most creditable, if not unequalled by anything outside the racing stables."

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M.G. 1938 Series T.A. Midget 2-seater. Finished Abingdon blue, new tyres, batteries, Privately owned. Beautifully kept. Price £295. Donald C. Pitt, Rodborough Crest, Stroud, Glos.

M.G. "P-type" Marshall supercharged 4-seater, finished British racing green, low mileage, whole machine as new throughout. Beautifully kept *and maintained. Fitted many extras. Unique opportunity* to acquire good motor. £245. Donald C. Pitt, Rodborough Crest, Stroud, Glos.

1½-litre 6-cylinder Coventry Climax engine, not used since new. Perfect, £30. Triumph 4-speed gearbox, and diff. assy. Also 2 30 mm. downshaft Zenith carbs., and a few Aston-Martin spares. Gath, Woodcroft, Brandon, Coventry.

BUGATTI 3.3-litre, Type 57, twin o.h.c. Fitted Corsica open 4/5-seater sports tourer. Mechanically perfect, 14 mm. plugs, etc. Immaculate, opalescent blue. £1,950. Also Mercédes-Benz, "38/250." 1931 model fitted Corsica 4/5-seater drophead coupé. Immaculate, opalescent blue. Smart 1938 body. Mechanically 100 per cent. 100 m.p.h. £975. Box No. 162, MOTOR SPORT, 15, City Road, E.C.1.

AUSTIN Seven "Ulster" bonnet, £1 10s.; "Ulster" exhaust and induction manifold, £2 10s.; "Nippy" crankshaft and connecting rods in magneto-type crankcase, £6 10s.; without crankcase, £5; eight tulip valves, £1 5s.; flat rear springs, £1; magneto-type engine, £2; B.T.H. magneto, £1 5s.; two pair 3.50-in. by 19-in., £3 and 4-in. by 18-in., £3 10s., wheels, tyres, tubes. R. Yeats, 8, Cavendish Road, Chiswick, W.4.

FOR disposal for any reasonable offer 1924 long-chassis 3-litre Bentley saloon, less engine. Coachwork poor, differential damaged, otherwise complete and good condition. B-type gearbox, 6 wheels, 20-in. well-base rims with tyres, new battery. Box No. 163, MOTOR SPORT, 15, City Road, E.C.1.

MONOMARK Service. Permanent London address. Letters redirected. Confidential. 5s. p.a. Royal patronage. Keytag 9d. Write Monomark, BM/MONO6V, W.C.1.

1923 3-litre Lagonda Selector special. Close coupled sports saloon. Unused since war, and overhauled regardless of cost, telecontrol's lockers, Maylock vacuum gearbox. Good tyres, and complete with two new batteries. Exceptionally fast car. First offer over £200 secures. 17, Wickham Road, Shirley, Surrey.

B.T.H. Brooklands Riley magneto £4 10s. Five new chromium Brooklands dummy hub caps, Riley name, 35s. Spot or fog-light, amber, powerful, unusual, 35s. Autopulse, complete, but worn bellows.—Box No. 164, MOTOR SPORT, 15, City Road, E.C.1.

P.100 DB headlamp, silver-plated, £6. Ford V8 ignition distributor, as new, 75s. 4-cyl. magneto for 1½-litre Meadows, etc., £5 10s. Box No. 165, MOTOR SPORT, 15, City Road, E.C.1.

ALTA 1½-litre racing car. The Faringdon Engineering Co., Ltd., Faringdon, Berks.

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FOR SALE—*continued*

"AUSTIN Advocate," Vol. II, 1912, Vol. III, 1913, both bound. "Encyclopaedia of Motoring," 1908 (R. J. Mercredy), "Motor Vehicles for Business Purposes," 1905 (Wallis Taylor). "Modern Motor Cars," 1924, Vols. I, II and III, bound, in perfection. The lot, depicting several vintage motors, for 35s. "Motor Racing and Record Breaking" (Eyston and Lyndon), 15s. Shapley, 20, Queen Square, Leeds, 2.

M.G. 1937 supercharged T. Marshall blower. Laystall crankshaft, at present fitted normal carburation, many extras. £300. Details, Taylor, 125, West Princes, Helensburgh, Dumbartonshire.

BENTLEY Tourer, 3-litre, twin S.U. Needs finishing. £60. Underslung. Austin 7 M.S. Type body, £30. 31, Town Street, Bramley, Leeds.

WANTED

FOR 4½-litre Bentley BM/1800 camshaft. King pins and bushes, shackle bolts and bushes. General spares. Wellington, Burrwood, Wreccleham, Surrey.

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

M.G. type K.3 in sound racing trim. Details of car and price to Major Hedderwick, c/o G.P.O., Uckfield, Sussex.

WANTED MOTOR SPORT, Vol. XI (Nov., 1934 to Oct., 1935 inclusive); also Vols. I-IV. State price. Lieut.-Commander Fensham, 9, The Drive, Gosforth, Newcastle-on-Tyne.

TYPE 30 Bugatti, with original specification and coachwork preferred. Also Type 37a Bugatti with large brakes and aluminium wheels. Also illustrated literature and press cuttings of Bugatti cars from 1910 to 1925. Also pair early Marchall headlamps, old nickel or brass side and tail lamps, and speedometers. Hampton, Spronketts, Bolney, Sussex.

RACING or "Ulster" Austin engine and gearbox, or spares. Full details and history. Ken Wharton, Hume Street, Smethwick. Smethwick 0656.

Q-TYPE M.G. preselector gearbox, condition not important. Ken Wharton, Hume Street, Smethwick.

"ULSTER" Austin, details and history. Ken Wharton, Hume Street, Smethwick. Smethwick 0656.

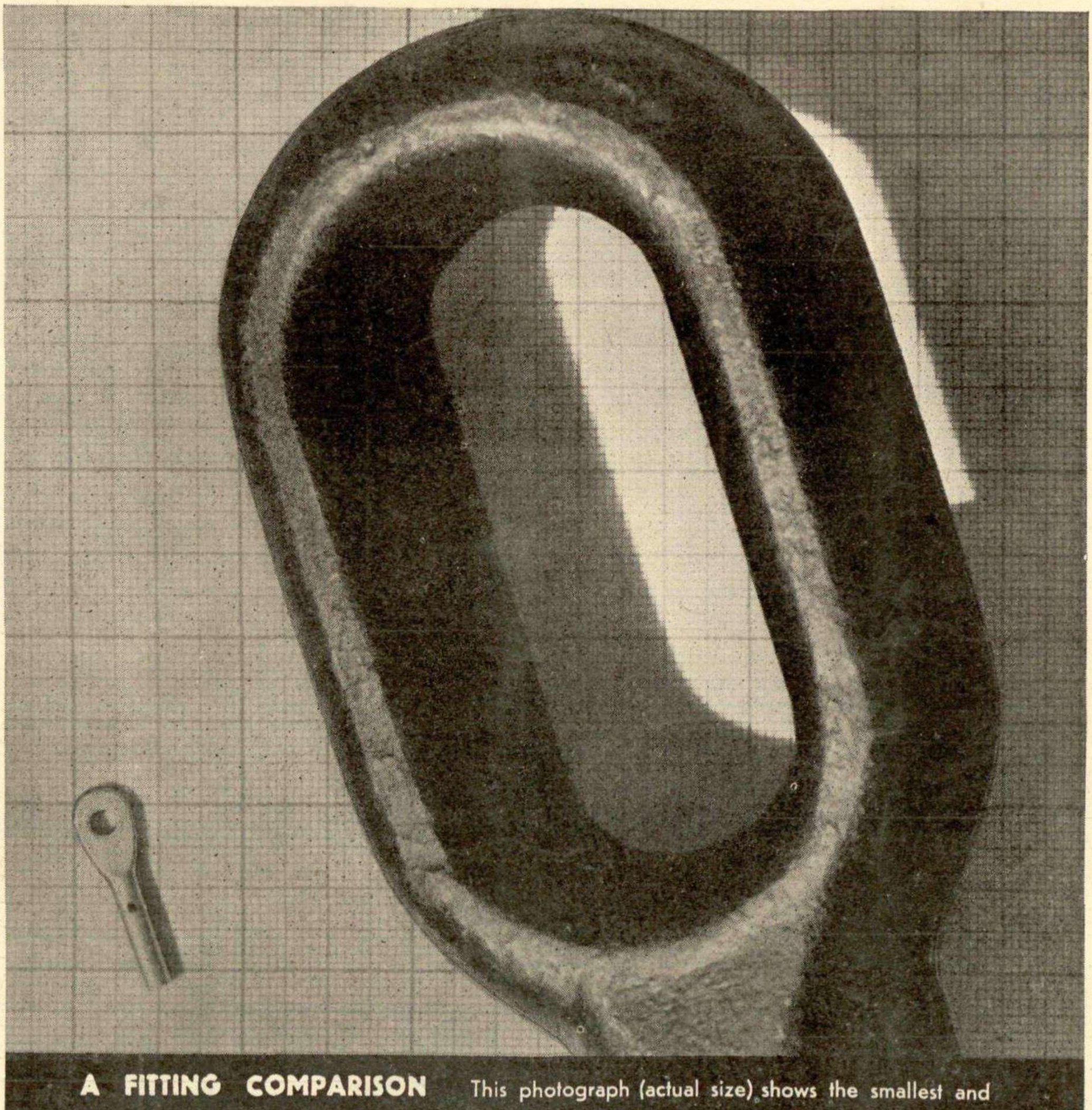
WANTED pre-1933 Aston or "N"-type Magnette open 4-seater or other good 1½-litre or under sports. Condition not important. Yates, Adelaide Terrace, Blackburn.

ALVIS "12/60" flywheel with starter teeth in good order. Box No. 166, MOTOR SPORT, 15, City Road, E.C.1.

SQUIRE, Aston-Martin, Frazer-Nash, H.R.G., or any other good-class sports car. Must be open, with four seats. Not necessarily in running order, but within the scope of well-equipped amateur workshop. Simon, St. Francis, Sonning, Berks.

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