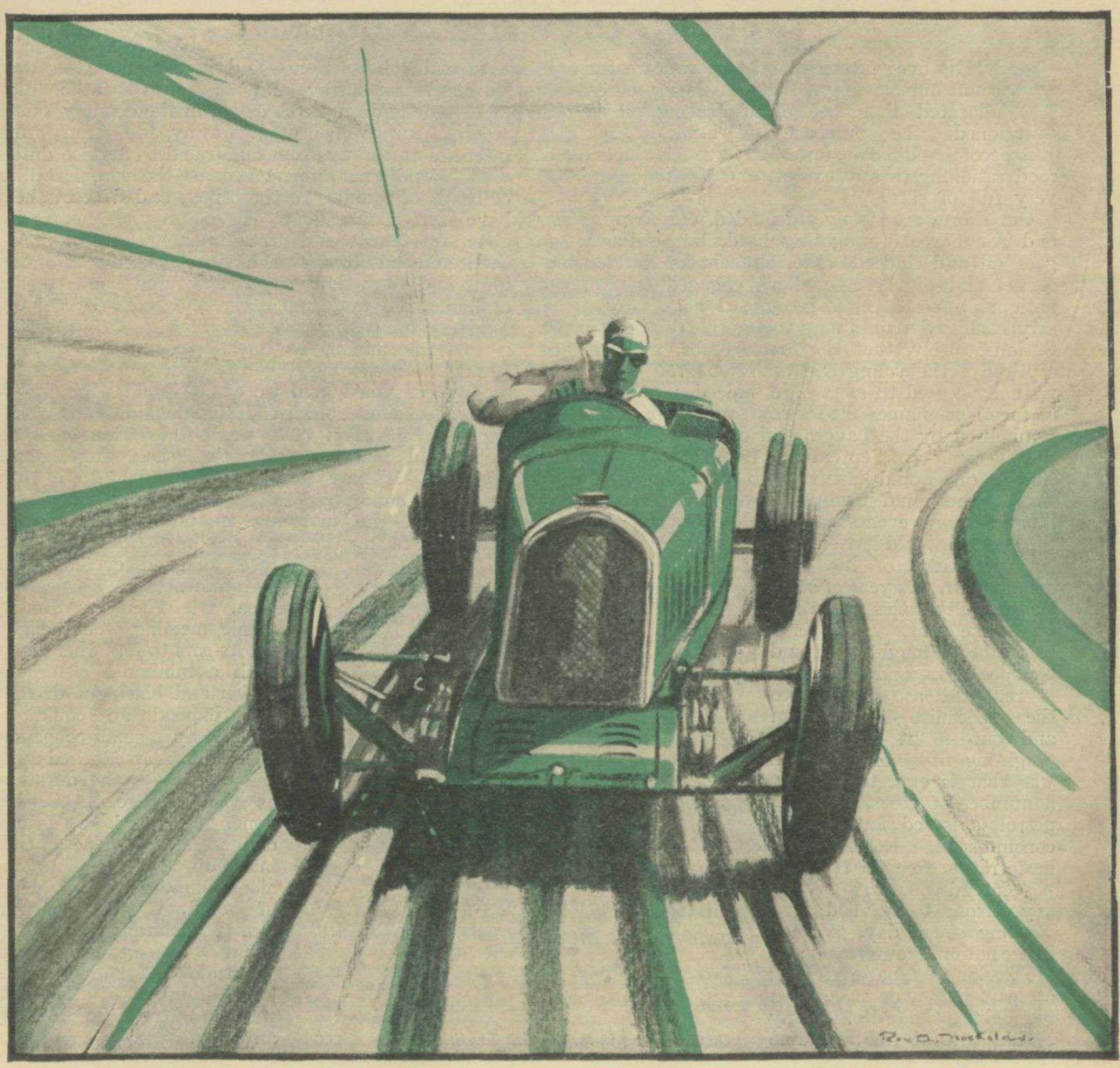
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BUCK UP, THE CLUBS

AFTER over fifteen months of war we can still count our blessings. Petrol is being more freely allocated than before, lubricating oil is still unrationed, the purchase of luxuries is only just becoming difficult, few of us have felt the effect of food rationing to any extent, and the roads are still very full of cars.

Our shores are strongly defended, our Army, Navy and Air Force are fighting hard, but ordinary life goes on and, indeed, entertainment of Service personnel and of those civilians engaged on work of national importance, is recognised as a very necessary means of maintaining the morale of the country. Curious, surely, that the motor clubs, with the exception of the young and ambitious 750 Club, have virtually ceased to exist ; are, indeed, now mere lists of members' names filed away somewhere, ironically symbolised by the badges still carried on the enthusiasts' cars. In September, 1939, it was thought that no one would have time to organize club events, that no one would have petrol to burn in transporting himself to any events which were organised ; perhaps that no one would have a skin to go in, unless he spent 100 per cent. of his time defending it. A year of strife has shown that this war is not quite like that. This is a battle being fought with and by specialists, and relaxation is regarded as essential to the specialist—in uniform and out—if he is to keep "fighting fit" throughout a war that is expected to last a number of years. Ample petrol is issued for business consumption, leaving the basic ration free for the purpose intended. Lots of people, key-personnel included, are working seven days a week in the national cause, lots more are working six, but even then at least half a day's leave a fortnight is the order. Many enthusiasts are free and able to attend club functions—and there are none to attend. To blame the barrage and the bombs is futile. Lots of us now find ourselves exiled in the country, out of reach of inconveniences, but away, too, from former interests and away from our friends. Service duties, work of national importance, or the responsibilities of heads of families to those near and dear to them, have sent thousands to the country. Cinemas are open, for bombs and shell fragments are never encountered, but townsfolk have seen their out-of-date films and they shut early. Favoured books remain at home, the workshop equipment likewise ; country roads are uninviting in the blackout . . . . Boredom is not uncommon, or unexpected, in the circumstances. In this busy age the basic fuel ration is not readily consumed, and we exiles would willingly use some of it to meet old friends under conditions suggesting the conclusion of a peace-time trial. Let the clubs hold socials *outside the towns* these winter evenings. It may be folly to motor into a town on which bombs are falling, but the *Luftwaffe* has not cowed the motoring sportsman and he will not mind facing the run back into the danger zone after a good evening's entertainment in a peaceful area. Then, a Sunday picnic meeting would enable sports-cars to forgather again, with a minimum of organisation and black-out driving, and expenditure could be covered by a small collection, where clubs have locked away the coffers for the duration, as the Vintage S.C.C. has done. Cannot those versatile club secretaries of peace time buck up and do something along these lines on behalf of bored, if not yet war-weary, enthusiasts ? They could be certain of the gratitude and support of a large number of motorists without offending or injuring anybody.

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IN SEARCH OF AN IDEAL . . .

WHEREIN DOUGLAS TUBBS RELATES SOME EXPERIENCES IN LOOKING FOR A CAR HE HAS NOT YET FOUND

THE recent *Krieg* which has been going on in MOTOR SPORT instigated by Clutton and prosecuted (almost) by the "modern" troops who misunderstand the Vintage tenets, viz., that cars were good up to 1930, mostly bad up till 1936 or whenever the V.S.C.C. was started, and were only resuming their vintage excellence when stopped by the war, prompts me to tell you my experiences in looking for a proper car.

I originally learnt to drive on one of the old Swift Tens. It was a delightful little car as I recall it, having a nice signal-box gear handle on the right and a clutch stop. This Swift was replaced by another, this time with four speeds. The clutch stop gave a feeling of condescension over all cars not so provided which has never really, to my shame, been overcome. Which makes the car I at length bought seem all the more strange. The problem was the usual one, I suppose, whether to get a really old car and thoroughly do it up, or spend my all on a two-year-old and just hope. Unhappily, my longing eyes were deflected, by parental blandishments, from such worthy things as "12/50" Alvis and Brescia Bugatti. ("Just think . . . £12 a year tax, you know, and besides these old cars are always going wrong!"), and I finally bought an M-type M.G. Midget, already two years old. Thus began the search for the Proper Motor, which is still going on. My wants are quite simple; all I require is a car which handles well, is comfortable enough to take out the delicately nurtured, that will cruise happily at over seventy, and will not go wrong in thirty-thousand miles. I am still looking.

An M.G. Midget was enormous fun in 1933; faster than the bulk of the cars one met on the road, quite good off the mark, but not really tough enough to put one in serious jeopardy. It would do about seventy, eventually, what with polished ports, a thin Klinger gasket, and one of Mr. Derrington's 25/- camshafts. It was after I had had it for about a year that the idea of blowing it first came up. A low-boost Centric was buttoned on to the near side of the engine, driven by belt, and its smell led all the way round the back of the block, and into the *induction manifold on the off side*. The arrangement worked surprisingly well, and the resulting car gave enormous joy. Instead of the habitual 65, this particular Midget had more than 80 m.p.h. available, and counted Alvis and Frazer-Nashes its playmates. It earned its nick-name of the "Bloater" by doing half-an-hour's lappery during an M.C.C. "blind" on three pistons, with smoke coming out through the fourth. It was a most exhilarating little car, and only broke its two-bearing, 50/- crankshaft twice. One time, with rather more "blow" than anyone quite expected, it did 0-50 m.p.h. in 9½ secs. [And the Meadows-H.R.G. takes 9⅘ secs.—Ed.]

The Midget, through no fault of its own, was then sold. The problem now was economy. Having been brought up to consider side-valve machinery more reliable than o.h.v., I at length bought a small red side-valve "racer," which revved like an electric fan, but didn't go places at all. I will draw a veil over this episode.

After this shocking debacle my faith in nice motor-cars was restored by a ride in one of the best-handling of all 1936 small cars—the Balilla Fiat. For sheer delightful driving I have never found a small car to touch it, but to my undying regret the funds necessary were just beyond my grasp. Instead, an old fifth-series Lancia "Lambda" was obtained, shortened to a 9′ 4″ wheelbase, and done up (nearly!) as good as new. It took us and our luggage down to Budapest in great style, and was so stable that when a front tyre burst at 65 m.p.h., we thought it was something going bang in the engine. Eventually the old car rather gave out, as we were misinformed about the rear-axle ratio, and always cruised at 65. This turned out to have been excessive.

The year 1937 was spent in the United States, driving a 1933 (English 1934 type) Ford V8 Convertible Coupe. ("Cab" for short, in the U.S.) Of all the cars I have owned this was quite the most useful all round. She was comfortable enough to take my mother for a 3,000 mile motor-tour from Boston to Virginia and back in a fortnight, she always started on the starter, though often left out in the yard even in temperatures of —15°, was good for over 80 m.p.h., would cruise at 75 on the highway, and yet not be a handful in traffic. And when tired of ordinary motoring you could take off across country, shooting at the lesser American fauna with a .22. Really a *most* "general purpose" motor car. Fitted with a new motor when I bought her, the only replacements in thirty thousand really hard miles were a front spring, broken by a ten-inch pot-hole at Flagstaff, Arizona, and an electric petrol pump. Bought for £55, kept fifteen months and sold by the wayside for £30 in time to catch the boat, she was quite the luckiest car I have ever owned.

Returning to this country after this intensive motoring education, the problem of what car to buy was even more difficult than formerly. Lack of funds precluded buying a large and expensive car, the tax and high insurance rates as well as garage charges in London would rule out the Americans, even if I had overcome the disdain of my Vintage friends. And the car had to be a saloon, for use in town. I tried all the small British cars of less than fourteen horsepower. Some steered like trucks. The majority steered like sailing dinghies. Picking the filthiest sludge-driven winter's day, I drove all those that survived after trying their steering for play while still in the showrooms. A Standard Twelve failed this test the best of all, with 45° of play at a mileage of 10. Pausing only to give the unfortunate salesman the biscuit, we left. I thought that the Austins fell into the "dinghy" category, the Rovers were too "aunty" for words, the M.G. seemed altogether too *ersatz*, and its gear-ratios all wrong, the Riley was too dear, and too heavy, and not fast enough. Harking nostalgically back across the Atlantic, I tried a Ford Ten. It frightened us very much at forty-five on the wet Kingston By-Pass, and in my opinion was not "dinghy"; it was *tout bonnement* "ice-yacht"!

Forsaking these shores at last, after this perilous patriotism, I tried the new independently-sprung 10/12 Fiat. It seemed the perfect answer. The steering was beautiful, the road-holding extremely good, the car was comfortable to ride in, it did thirty to the gallon, and you could see out of it. The gear-ratios were just right; they gave speeds of about 20, 37, 50+ and 72. She was built for good average speeds, but was quicker off the mark than most of the little red English "racers" one met. Probably her best day's trip was from Perpignan, in the Eastern Pyrenees, to Berne; 520 miles in 18 hours, with five hours off for sights and food. She seemed about the perfect small touring car, and, if the driver felt like "playing bears," the gearbox gave full scope, and the steering and springing backed him up. It fell to pieces, of course, in the end, because it had too much "grand-prixing." It took us to Le Mans, Abi and Berne, always hurrying on the way, and hurrying round the circuits after the races. We envied Mr. Camerano, who did so well at Le Mans in a saloon identical with ours. The chief trouble was caused by the Totalitarian ball races, which were a bit soft for all this hurrying.

In March, 1938, it began to look as though the only solution of our problem was to keep one car for being sedate in, and get another, and altogether tougher vehicle, for "adopting a crouch." We eventually came by the "30/98" Vauxhall chassis that R. J. Munday used to race at Brooklands, and which was said to have housed the "Gold Star" engine. The chassis was number 220. The engine, however, was quite a touring motor and was content to drag the rest along at about 90 or a little more. Much (too much) has been written about "30/98" versus Bentley. Anyway, I can't join in as I have never owned a Bentley, and the only Vauxhall I've driven is my own. For what it's worth, though, I think it's only fair to make the point, which I have never seen mentioned in print, that the 4½-litre Bentley was designed in 1927, *the year the* "30/98" *went out of production*.

The appeal of the big engine, the high-geared steering and the hard springs soon "got me" (though not my girl friends). Captain Hornsted found me a few brakes, by coupling up all four drums to both hand and foot controls. It gave a markedly picturesque appearance to any fast driving; especially in towns.

Motoring was now expensive. One paid a heavy tax and double garage.

IN SEARCH OF AN IDEAL—continued

Also, it seemed a shame to leave the Vauxhall at home when going abroad to follow the races. So the Vauxhall was kept permanently at Dieppe, an arrangement that obviated all the troubles of owning a large car in this country, i.e., tax, insurance, high storage-rates, crocked roads, dense traffic and big repair bills, There was, in fact, no tax at all, insurance was cheaper than here, garage was six shillings a *month*, and when a badly fitted piston ring caused a seizure, the block was removed, new rings fitted all round, the scored cylinder honed, the whole issue re-erected, the ignition and fuel systems checked over, all for £3 10s., believe it or not. And M. Caralpt, of Perpignan, the *garagiste* lent me his car in the interim ! He was a very experienced fitter, having once successfully raced a B.N.C. for the works.

If you want to " make haste slowly " or find yourself a long way away, ahead of schedule, there is nothing, short of the new luxury cars which have learnt their vintage lessons, to beat the old four-cylinders. My first run in the Vauxhall, driving leisurely and enjoying the moonlight, came within ten minutes of the Midget's best time from Cambridge to the Tower at Finchley, for, not having a speedometer fixed up in the " 30/98," what, to the untutored small-car driver, seemed about 45, turned out to have been more like 70.

In the year before the war the Vauxhall gave us some very invigorating runs, notably from Dieppe to Pau, where we saw Brauchitsch win, and Fifi Etancelin handle the very short Grand Prix Talbot. His cornering on that very tricky little " round the Park " circuit was the most elaborate thing you could wish to see. His arms worked like a specially tuned beam engine. Chaboud also drove, seated in the S.E.F.A.C., which was lapped by the six-cylinder Delahaye.

After Pau we went right across the Pyrenees to the East, but not before dicing round the old Grand Prix circuit where Birkin drove the race of his life in the Blower 4½-litre Bentley. After one lap in his footsteps, so to speak, the course left us gasping.

The end of the Vauxhall is almost too sad to tell. After taking us to Le Mans, to spectate, she had a couple of months off. Then, in August, we went to the Cote d'Azur. The day we were due to leave, a valve broke round the cotter-groove, so we returned to England in a friend's car, meaning to take a valve down at a later date . . . . and, well, you know what's happened since. If you want to buy a " 30/98 " cheap, the address, so far as I know it, is " Garage Majestic, Marseille . . . . " unless, of course, it's been moved !

The Fiat eventually died, having become rather ankylosed with the passage of the miles, and was superseded by a Type 45 B.M.W. This car was in terrible condition when bought, but had returned to proper form by this month. So she has been laid up till petrol is easier to get. Despite " Pool," the petrol consumption worked out at 26-30 m.p.g., with 85 jets in the two Solex *Vergasers*. Speed with these jets was limited to just over 70 m.p.h., but none the less, the pick-up went with quite a swish. B.M.W. steering is only to be compared with Bugatti. The lock is enormous, no effort is necessary, the car goes where you want it to, and the ratio is quite high. The road-holding, too, is exceptional, though I would ask for hydraulic brakes.

Purely for reasons of petrol economy, I now run about in another " Axis " motor—the large four-seater, two-cylinder two-stroke, front-wheel-drive D.K.W. which is fitted with a free-wheel and an openable top. Who said you couldn't sell an unorthodox motor car in quantity ? Petrol consumption is better than 42 to the " Unit," there's lots of room for four large people, and cornering presents no problem, as the Pomeroy Technique [Laurence Pomeroy of " The Motor " owns a D.K.W. also.—Ed.] always seems to work. You arrive at the corner " full chat," steer like mad, and then continue on along the straight to the next corner. Complete stability throughout. Flat out speed, unassisted by wind or gradient, is 52 ; average speed across country, 36. The springing is extremely good, and not at all " eight horse-power," and a good time is had by all.

Pleasant as most of the above cars have been in their several ways, none of them has fulfilled the modest ideal with which this nonsense started ; the problem was to find a car that handled well, was comfortable enough to take out the delicately nurtured or the motorphobe, could be cruised reliably at over 70, and wouldn't go wrong in 30,000 miles.

There follows a table applying these tests to the cars I have owned ; and perhaps it might amuse readers to apply it to their own cars. Surely in this day and age I am not asking the British motor industry for something it hasn't got ? Such a machine ought to be available *now*, with a 2-litre engine, and should sell for £400. Has anyone found the answer ?

Car	H.P.	Cruising Speed in m.p.h.	HANDLING	COMFORT	RELIABILITY
M.G. 1931	8	60	Poor for speed (83). Brakes not powerful. Medium lock. Medium visibility	Good in sports fashion with hard shockers. Not a car for aunty	Nil, *with compressor*
M.G. 1933	8	50	Boggy but fast cornering. Steering too low geared. Poor lock. Poor visibility	Very little for man or beast	Scarcely any ; engine or body
Lancia 1926	14	50/55	Very good. Direct steering, kicking slightly. Wonderful lock. Good visibility. Grand cornering	Body a bit sketchy	Very good if not overdriven
V8 Ford 1933	30	65/70	Better than you might think. Brakes not up to speed. Reasonable lock, medium visibility. Quite good cornering, but you can't go G.P. in a Ford	O.K. for the highway, cattle-track, logging trail or the city	Very good
Fiat 1938	12	55/60	Steering very nice. Slight roll on fast corners. Excellent brakes. Enormous visibility	Very good for 12 h.p. Hydraulic shockers dealt with all shocks effectively	Good ; don't cane
Vauxhall 1925	24	70	Steering high geared. You can still hurry in the wet as the front end stays put. Brakes bad	Only for an enthusiast	Very reliable car, but decayed with age
B.M.W. 1936	16	60	Very good. Light, high geared steering. Cable brakes not powerful enough. Excellent lock, good outlook	Very well sprung. No roll. Not much room for four !	Should be satisfactory
D.K.W.	8	48	Very good. Cornering a marvel. F.W.D. limits lock	Excellent for four people in an eight horse	Good, I am told

TACKLING THE MOTORING PROBLEM

[A CONTRIBUTION TO THE "CARS I HAVE OWNED" SERIES BY N. MASSEY-RIDDLE, NOW SERVING ON H.M.S. "ARK ROYAL," AND WHICH WE ARE VERY HAPPY TO PUBLISH.—ED.]

AT *the* tender age, I decided I ought to have something a bit better than a bicycle with which to catch the eye of the potential girl-friend; and so my good friend James Langrish and I set about the Motoring Problem. One bitter Boxing Day we tottered off to the local breaker to seek out the inevitable "Bullnose." Can you imagine our surprise when we discovered that he hadn't got one? Hefty Yank "sedans" by the score, but of Bullnose Morrises—nary a one! However, I noticed a 1931 "Aero" Morgan lying on its side, well and truly smashed. The body was concertinaed and the front end of the frame cut away, but the engine was in excellent condition. Eventually we got the lot for 20/- delivered at the door of the ancestral mansion in plain vans, together with a new steering wheel, back tyre, lamps, and glass for the wind screens. We now set about the formidable task of rebuilding this mess—with no more knowledge of motors than Latin—and we both "failed" in that subject. I managed to get a cut-away drawing of the Morgan two-speed chassis from "The Motor Cycle" and this proved invaluable. Luckily, I had an old 1920-something Morgan frame in my back garden. So without further ado I cut off the 1931 frame main tube just in front of the flange, and the older one at the requisite place, allowing for a certain amount of slide *inside* the '31 tube. Luckily they were almost exactly the right diameter and provided a sliding fit, and the whole was welded up by a friend. I feel I must explain here that, although we had had no previous automobile experience, we had had considerable workshop experience with large-scale model locomotives. This knowledge stood us in good stead. One point I must mention is that the track of the earlier chassis was some inches less than the '31 type. This seemed to *improve* cornering compared with other Morgans we tried. (Martin Soames in his article in the issue of May, 1940, says that he dished his wheels inwards.) After many hours belabouring panels, spraying, straightening and replacing steering, etc., we got the car assembled. To our joy it was a complete success, local garage men taking it for a professional job and the previous owner not recognising his "write-off." Factors I noticed about the car were:—

(1) It had a nasty transmission vibration period, probably due to the smash, the inner tube taking the reaction of the whip of the shaft. (2) The selector forks of the gear change wore away like mad, a usual complaint I fancy! (3) A foot throttle was impossible, due to bumps and stiffness of suspension, so hand type was replaced. There was also a "flat spot" in acceleration, which otherwise was terrific. (4) The improved cornering was a great boon and we never once managed to turn her over on the road. The tyres were 4.50″×19″ front, and 4.00″×19″ (due to width of forks) aft.

This little car was very successfully swapped for a 1935 B.S.A. sports three-wheeler, which we rebuilt when the body (as in Mr. Peter Clark's case) disintegrated. Previously, we had improved the "Divine Providence Rear Support" by running angle-irons out to the tail when it sagged, and strapping up the driver's door with flat-iron. But this was of no avail as the tail wheel-box subsided sullenly on to the rear wheel. We decided to build a closed body on the chassis after the style of the German three-wheelers; our previous panel beating and coach building had heartened us! This decision, however, entailed much hard work, thought and picturesque language, but we made a pretty good job of it, the whole miraculously weighing only 6¾ cwts. on the official corporation weigh-bridge when we re-licensed. This weighing was forced upon us, incidentally, by the taxation authorities! So power-weight ratio was pretty good. Compression was fairly high—the car would bounce on the springs rather than turn over on the handle. Starting difficulties were overcome by using a lorry high-capacity starter battery, bought new, and by flooding the "non-floodable" carburetter with a pin! When getting away smartly the front wheels would spin madly in spite of large-section tyres. The gear-change was remarkably good-tempered, and as with Peter Clark's B.S.A., tappets needed setting every 200 miles at least, or they hammered their threads. We managed to tan the whiskers off a Singer Nine "Le Mans" up a well-known local hill—White Hart—to the intense discomfort of its somewhat effete inmates, who had swept past us, laughing, on the level, when we were flat-out at about 65. (These B.S.A.s seem quite consistent in troubles and performance, Peter Clark's being about the same as ours—as were others we tried.)

During this rebuild we ran a 1928 Standard "Nine," and a 1926 "Aero" Morgan with M.A.G. engine which we had picked up cheap. This Morgan was in excellent condition and much smoother than our 1931 version, although not so well suspended or as fast. It ended its days by being overturned and set on fire by the next owner when he was "dirt-tracking, or so he imagined.

The Standard we got for £6 10s. 0d. with two new Michelin tyres aft and a car heater inside. Very chaste, although a missing self starter was the snag. However, the engine was perfect and used no oil and was most economical, even with a heavy saloon body. We were quite sorry to see this car go when the B.S.A. replaced it. Incidentally, the B.S.A. was externally quite unrecognisable as such, with a special bonnet, polished moulded discs, duo colour scheme in blue and pale grey, sun roof, spot light and bumpers! Unfortunately it was soon written off—by fire.

After this game little motor we took things easily to conserve finance—the B.S.A. being a dead loss—and ran a very clean 1932 Morris Cowley saloon, an Armstrong 12/6 sports coupe—deadly machine—and a "Chummy" Austin Seven, of 1928 vintage. This latter car had a brand-new hood which later graced the Special 1926 Alvis "12/50" I rebuilt. All this time I was becoming more and more enthusiastic over real cars, although, perforce, tied to utility hacks. I am glad to say I was developing motor taste and good sense, and broke none of the "unwritten laws" mentioned in an excellent article in this paper. I say this with a certain air of pride as there were some bad people in the neighbourhood—one idiot with a Ford Eight *saloon*, with—oh, horror of horrors!—a "straight-through" exhaust pipe and cord-bound steering wheel; a cheap toy-trumpet horn completed the picture. The other wretch had a Morris Eight tourer with a "Tubex" fishtail on a straight-through pipe, a fold-flat screen, a much-used horn, and imitation knock-off hubs. Another sacrilegious dog painted false racing numbers on his very touring Riley "Gamecock"!

At last luck and a real motor came our way—a 1926 Alvis "12/50" long tourer, for £5, after we had watched the price descend slowly from £35. "All good things," etc.! The "12/50" is a marvellous car and I can't say enough in its praise. However, more capable pens than mine have dealt with its delights. I modified this car considerably, with great success. I sat the driver about a foot further aft and extended the scuttle over his knees; lowered his seat, gave him an almost vertical sprung steering-wheel, built up an air scoop around it and fitted a polished walnut dash, which now included a rev.-counter; the body side was "cut-away" and moulded smoothly, by the driver's arm. The chassis was shortened considerably, entailing much work on the back axle assembly. This also lowered the car. A slab-tank-cum-luggage box was built to increase rear-wheel adhesion, and the spare wheel mounted on it. A small occasional passenger seat athwartships was provided behind the driver as my friend and I usually carry our fiancees around—silk stockings having, I fear, a high mortality rate. The handy gear-lever, modern wings, Lucas P.100 headlamps and fold-flat screen gave the car a look similar to that of the British Salmson two-seater. The whole was resprayed cream to replace a somewhat objectionable red. This car gave really wonderful service and I was amazed at its reliability (not always the case with these motors, I have heard). Oil pressure was always low, but tappets needed little attention. Hill climbing was excellent, probably due to the weight distribution. This car went the way of all flesh in a crash, unfortunately, but the engine was retained (I found it had Laystall liners), and is now in my present car, a 1931 two-seater Alvis "12/50."

CARS I HAVE OWNED—continued

But before I had the 1931 Alvis on the road I tried a 3-litre Lagonda. This car was very nice, steering being perfect (I noticed the front wheels layout considerably), and the brakes excellent. This unhappy car had its block cracked when I couldn't get to it in time in the bad winter of '38—but I managed to dispose of it satisfactorily for spares in spite of very rough coachwork.

About this time I had the good fortune to try three interesting cars which, however, were not my own. The most outstanding of these was a Type 55 Bugatti with "Aerodynamic" body, in the capable hands of my good friend David Griffiths-Hughes. On this car everything was perfect, steering a dream and acceleration colossal. Of course, the sheer stability goes without saying. One fault it had, however—it slung oil out, smothering the engine. It burned none, but wasted pints. This was especially noticeable on the surge forward of the oil when heavy braking was indulged in. But taken all round, a dream car—even with ten-minutes warming-up time prior to setting out.

The next try-out was an old 1923 H.E. 2-litre tourer. This car had quite praiseworthy acceleration although no flat-out speed. She had been cared for by Laystalls for a local gentleman, and came into the hands of a friend of mine who could not resist her when he found her at the local breakers. Eventually this enthusiast, another Hughes, exchanged her for a 1929 Rover "Ten" sports tourer with a jolly aluminium body, and quite good performance. As is well known, there is good stuff in the Rover, and the "Ten" was a marvel; petrol consumption about 35-40 m.p.g., while it would slog anywhere. Several chaps I know swear by these cars.

After these wanderings from the home stable, I returned to a 1931 Alvis two-seater, upon which I worked considerably, although not structurally, as the bodywork was rather nice, and in good condition. I installed the old engine from my first Alvis, re-covered the hood—a most satisfactory job—and built a fine bench-type seat with drop arm-rest from a Humber Pullman. We could then seat three under the hood in comfort. I also re-covered the doors and built pockets from the Humber panels. The dash was french polished, and instrument and body chromium restored. Lucas P.80 headlamps, Lucas "Mellotone" twin horns and a first-class Bosch spot light were fitted. The old Lagonda full-zip tailored tonneau cover was used satisfactorily. This little car has been a gem and I now have her stored until Adolf seizes up. Previous to this purchase I had joined the V.S.C.C.—excellent body of men. I had become terrifically enthusiastic over Vintage cars, and it was my greatest sorrow that I couldn't do more for this club—a state of affairs I hope to rectify after demob.

The communal family hacks have been: a Morris "Fifteen" Six—here again, like one of Peter Clark's, cruising speed was 60 odd. This car was amazingly quiet and smooth. Acceleration was also brisk, and like a later Ford V8 coupe, its stern dipped down when getting away smartly from traffic lights. I must confess we treated these cars absolutely abominably, especially the Morris—battered the wings like mad and "yellowed" the Triplex till the luckless driver squinted through a hole about an inch in diameter, feeling like a butler at the keyhole, the rest of the screen being practically opaque. The Ford coupe, 1936, was a typical Yank—if you like that sort of car—but had wonderful pulling power, although steering needed a knob on the wheel like those the steam-roller drivers use! The humblest car of all is the present one—a Ford Eight two-door saloon, which can be, and is, slung about anywhere. This car draws spares from a 1936 de luxe saloon, purchased for a fiver from a breaker—the only faults being a ruined front axle and wheels, and wing and door shoved in. The virtue was a reconditioned engine and gearbox.

To return to my personal cars, just before the war I managed to get hold of a "Blue Label" 3-litre Bentley. This car was quite "touring" with heavy body and long chassis, but not to be ignored at the remarkable price. However, it has given just over 78 m.p.h. on the level since attention, and I had hoped to put in a new short frame from a "Red Label" tourer I wot of, thus getting a reasonably good motor at a very satisfactory price. The "Red Label," incidentally, had blown up. The old "Blue Label" (as she still is), however, stands beside the Alvis due to the war. Two other ventures I tried just before this war were a 3-litre Invicta and a Rover "Blue Train." (I can almost hear the sneers at the latter, but beggars can't be choosers.) The Invicta I obtained amazingly cheaply by swapping my decrepit '28 Austin "Chummy" for it through a breaker. I built a new large workshop on an allotment (rent 3/- per annum) wherein to work on it. This car I still have. The Invicta is nowhere near finished, very extensive work being planned upon it. As with the first Alvis, the driving position has been moved well aft and the scuttle extended. A fly-off handbrake from the Lagonda has been fitted and the gear-shift moved outside the new body, which is a light aluminium pointed-tail three-seater, *a la* Bugatti. This body we brought down from London tipped into the rear seat of the Bentley. Top-deck passengers of London buses looked out at what they thought was a mobile "air-crash," a rarity in those days. A new low radiator has been designed and made in the style of the Alfa-Romeo, of which I am very fond. Much as I admire the Invicta radiator, it was unhappily too high for my lowered driving position and scuttle. The steering wheel is Lagonda spring-type Bluemels, with Lagonda ignition and throttle levers, which are very positive and accurate compared with the somewhat crude Invicta levers, which, anyway, were rusted solid! A copper outside exhaust system was being made up, with "Brooklands" silencer, and 4½ Invicta front axle and brakes were fitted. New wheels replace the large 5.25″×21″ size. The 4½-litre Invicta rear wheels, 6.50″×19″, and 5.50″×18″ S.S. front wheels were used. These gave excellent grip at the back and delightfully light steering. I notice that the Invicta steering is first class anyway, but these alterations, where body comfort hasn't to be considered, even further improve it. All the Invicta instruments are being kept as they are of a very high quality. Usual sports equipment is planned—fold-flat and aero screens and abbreviated aluminium wings, etc. Two spare wheels are carried, one each side, just in front of the driver. Several alternative wheel and tyre sizes are available.

The Rover "Blue Train" I managed to work on at odd times before I started on the Invicta. I bought it for £4 10s. 0d., as it had its chassis badly bent by the sump oil filter and the front axle wasn't too happy, either—the car only steering straight ahead or to the left. However, my local breaker had a Rover "16," and I swapped frames and axles, retaining the cycle-wing assembly of the "Blue Train." Otherwise this car was in "Olympia" condition and had just had an expensive overhaul for a very fastidious commercial traveller, whereupon that gentleman jabbed his foot on the accelerator instead of on the brake and rammed an Austin Seven. He decided that labour costs for replacing a frame would bar that job and I managed to snap it up. The car was well fitted out, with polished discs, wheel covers, etc., and I fitted a few extras to make her complete. I remember that the twin Bosch horns gave a very aristocratic note. I quite realise the limitations of these cars—not to be compared with the excellent current model, which is a quality motor—but this particular one was an excellent example and well worth the time and money spent on her. I didn't lose on disposing of it, either!

So we come right up to date; the Alvis, Bentley, and coming along, the Invicta. Meanwhile, one gets a lot of fun on an aircraft carrier even if there's no motoring. . . .

RUMBLINGS—continued from page 258

in the title of his track, if this is not so? In what little car-modelling I have done I have found that to keep true to scale a distance of from 2¼ to about 2⅞ths the diameter of the tyres should be preserved between the rear edge of the front tyre and the leading edge of the rear tyre. American constructors appear to favour a figure for this dimension of over 3. If the pastime ever gets going here, there seems no reason why replicas of famous track cars should not run. I do not think speeds would suffer. In this matter cars score over boats and aeroplanes, for the boat can be little more than a hull full of engine, and the plane nothing but a non-prototype faired shell.

Club News

WE HEAR . . . .

We hear that Joan Richmond has recently given up her Lancia "Lambda" in favour of a left-hand-drive Fiat "Balilla." Alan May's "30/98" Vauxhall is in service, towing car bodies about for the Southern Motor Company. J. G. Clarke, whose unblown Frazer-Nash used to motor so very rapidly, is now running a Citroen and Bill Short and Charles Brackenbury motor in Fiat "Mice," Charles having his 4½-litre Lagonda as well. John Sanders, 4½-litre Bentley owner, is now an Army Captain. Eddie Wrigley, Michael May and Brymer ride Norton motor-bicycles. Forrest Lycett has two Lancia Aprilias and does long journeys with them, having a neat system of easy-starting for cold mornings on one, and special shock-absorbers on the other. Tom Lush has staked a claim in a 1914 water-cooled V-twin Humberette and is building a fabric saloon body on to a 1935 Austin Seven chassis as a war-time hack. Scroggs has left hospital and is back in service with the R.A.F. and goes on using his trials Trojan. P. H. Hunter, secretary of the 750 Club, is busy evolving a sports Austin Seven with A.E.W. two-seater body, "Speedy" engine, 1936 chassis of "Nippy" type, Scintilla Vertex magneto ignition, a Type 75 Marshall supercharger and 17" wheels. His rebuilt A.E.W. Austin Seven four-seater is consequently for sale for around £17. J. D. Aylward has disposed of his immaculate Aston-Martin to Benn and now gets around on a push-bicycle; he does 15-mile runs for fun and averages over 10 m.p.h. in very hilly country, beating the train on one run by 1¼ hours—and he is 70 next year. Rolls-Royce Ltd. run a regular bus-service for employees travelling from the works to outlying depots, nicknamed the "Band Wagon" and consisting of a "Phantom III" Rolls-Royce driven by a chauffeuse. John Ogle has become the owner of a "12/50" Alvis. The V-twin Meo-Special mentioned in the recent article on racing cyclecars is reputed to have had the front axle, which came from the Horton Special and had had O.M. brakes added, scrapped at a later date in favour of Lancia suspension. It seems the engine eventually succumbed with a broken piston. A friend of Meo's had Ogle's Ratier chassis for a time. Gordon Wilkins purchased Billy Cotton's 328 B.M.W. when he left instructional work at Frazer-Nash's to join the Bristol Aeroplane Company and enjoys 90 m.p.h. cruising. When Laurence Pomeroy, Junr. got married he had a brief run in Lycett's 8-litre Bentley after a deal of champagne; the result was a very nice letter to "The Motor" over his name—even B.M.W.ists are captivated by this great car. The ex-Craig Type 57C "3.3" Bugatti coupe was seen in Guildford recently, looking and sounding magnificent. Its young owner has just returned from abroad, vowed he would never leave Bugatti and said he kept down to 65 m.p.h. on "Pool" to humour the machinery. Tom Rolt is now at Hungerford, presumably living in a motor boat, and his 1903 Humber is believed to be for sale. Harold Pratley, who writes letters to the motor papers on G.P. Sunbeam history, is building a sports Austin Seven and disposing of his well-preserved 1929 Austin Seven "Chummy"—possibly to the Editor of this paper! Rowland Smith's December sales list contained 158 cars, ranging from 9 gns. to 595 gns. Brymer, who is now a civilian instructor to the R.A.O.C., had a narrow escape during an air-raid near Bristol when the screen of his Riley "Gamecock" was cracked and the rim of the spare wheel split. Congratulations to Peter and Ariel Clark on the arrival of a son and heir—Anthony Philip Clark—clearly another motoring sportsman is amongst us. Anthony Heal's Xmas card was a real photograph of two racing Ballots, Guyot and Rene Thomas up, taken in Paris in 1919.

LEINSTER M.C.

The Irish are having trials very different from the kind the rest of the British Isles are experiencing. The Leinster Club's Lincoln Cup Trial last year was won by Le Fanu's L.E.R.A., with 69 points, from R. V. Harvey (PB M.G. Midget) which obtained 68½ points, and C. N. S. Pringle (Ford Ten), who took 66 points.

THE C.U.A.C. DINNER

The Cambridge University Automobile Club (Student Racers' Association to the irreverent) held a dinner in the Lion Hotel at Cambridge, on Saturday, November 30th. Thirty-three diners presented themselves at the festal board and consumed a dinner as good as one can generally meet in war-time.

Michael May (ex-student) took the chair, after a late arrival by power-driven cycle (Norton) which had somewhat delayed him by engaging all the gears simultaneously in Watford. Michael, be it said, is now proprietor of a machine shop and makes bits of flying machines and allied articles. Hastings, Sports Editor of "The Light Car," was the guest of honour, and Reggie Tongue (honorary member) was another prominent guest, as was also Anthony Heal, who, temporarily bereft of his high-speed Vauxhall, had toiled along in a Fiat car of very moderate output.

Laurence (Technical Editor) Pomeroy, Clutton and Bunny Tubbs (another ex-student) had been projected from London in Clutton's Bugatti, so furiously driven by Pomeroy that, during a "military detour" round very secondary lanes, it was hardly once out of a slide for a period of fully 30 miles.

Monkhouse had come along in Mr. Drury's classy Rolls-Bentley, and gave one of his inimitable cinematograph displays, with comment, after the speeches. He had also donated a magnificent collection of racing photographs for the Club album.

Mr. Pomeroy proposed the health of the Club. That is to say, he more than lived up to his reputation as a first-class raconteur (albeit, not all his tales on this occasion would have been suitable utterances for that noble organ of the Temple Press), but did little about the health of the Club, which was left to Clutton as seconder, who, after a few characteristically inept and ill-chosen remarks, only just remembered in time what was expected of him. Mr. Jesty (Hon. Sec.) spoke briefly of current Club doings. Michael May then proposed the health of the guests, adding some pleasant reminiscences of previous Club gatherings. Reggie Tongue closed the speech-making with several nice stories, graciously adding that he didn't at all *mind* coming to their dinners and making speeches to them (incidentally, he had to motor no little distance to get back to his R.A.F. station that night).

The excellent practice obtained of warning no one that he would have to speak until the sweet course was already on the table, so that the speeches were all short, unlaboured, to the point, and excellently received.

Then followed Monkhouse's superb Grand Prix films, followed with breathless attention—and how much cannot be learnt from them?—and finally, motoring discussion prevailed until after 2.30 a.m. on Sunday morning.

Shortly after noon on Sunday another informal gathering took place in the yard of the Lion, where might be seen expert undergraduates rectifying electrical inconveniences in the Bugatti; Clutton making farcically ineffectual attempts to ride Michael May's Norton; while Pomeroy cut rapid figures-of-eight in between and round about in an Austin Seven Special which had miraculously appeared on the scene, the full and beaming countenance of the Technical Editor, seen against the eau-de-nil coachwork of the Austin, and through the hail of stones thrown up by his wild gyrations, being a pleasure to behold.

A most notable party indeed; all power to the C.U.A.C. for running it, and Mr. Jesty and his committee, in particular, for all the work of organisation in these aggravating times.

CARS I HAVE OWNED

[THIS TIME BY CECIL CLUTTON, WHO INCLUDES SOME OF COL. CLUTTON'S CARS. HIS FATHER IS, OF COURSE, A VICE-PRESIDENT OF THE VINTAGE S.C.C., AND ONE OF THE KEENEST OF MOTORISTS.—ED.]

IT is with some hesitation that I follow upon the fascinating articles which have already appeared in this series—more especially remembering Mr. Cooper's delightful "Scuderia Impecuniosa." Furthermore, my pen has been pressed into such constant service by the Editor in the last eighteen months that most of my cars have already been written about at some length.

Albeit, the Editor is dictatorial in his demands, and not lightly to be gainsaid. Incidentally, I wonder if readers of MOTOR SPORT realise what a superb job he is doing in keeping this paper going, as well as a full-time war job? I recollect that I used to complain loudly enough about the work involved in editing even so modest a publication as the Vintage S.C.C. "Bulletin" in peace time. What an Atlantean burden, then, must be the organisation of MOTOR SPORT under present conditions? I think, however, that the gratitude all of us feel towards this fine effort must be some reward in itself.

My earliest motoring recollection is of mid-1914, when I was four years old. It is my father's 1907 28 h.p. poppet-valve four-cylinder chain-drive Daimler. This was a most successful model with real power, and when my father had built for it a wickerwork body covered with canvas, oil-painted grey, to keep the wind out, it had a formidable power-weight ratio, although I understand it was the devil to keep on the road. This was a very good body. The scuttle sloped well up to the steering wheel, having only a tiny screen on top. The people sat on cushions direct on the floor, and the body sides came practically to their chin level. I do not think there was a hood; in fact, apart from the general lines my keenest recollection is of the oiling arrangements which were by bottle and chain. That is to say, the oil collected itself in the traditional row of bottles on the dash and was at intervals let go by pulling a sweet little metal chain. To be allowed to do this was a special treat. It was my ambition to wind up the engine of this mighty monster, so one day, when no one was looking, I seized the starting handle and thrust it home. But the spring was too much for me, and the handle came out again and bit me smartly in the forehead, throwing me over backwards. I was, I think, too cross to cry, and my parent too frightened of what my nurse was likely to say to him to give me much sympathy.

He sold the car in 1915 to a man who was going on his honeymoon, but he went over a hedge in the first few miles.

The impoverished post-war period brought few exciting motors to enliven an enthusiasm already so keen that my school report, when aged ten, complained that I really *must* realise that there *were* other things than motor cars. However, runs on a big Mercedes, an early 3-litre Bentley and an exquisite two-seater sleeve-valve Mars, stand out in my recollection of the early twenties. In '23 my father had one of the first Amilcars to reach this country. It was, I think, 8 h.p., and rather good looking in a spartan way. It would do 50 m.p.h. Shortly after this he was stricken by an illness which has left him a partial invalid ever since, although it has never robbed him of his motoring enthusiasm. But it put an end to all interesting motoring for the time being.

In 1927 I learnt to drive on a 1919 left-hand drive 10.4 h.p. Citroen which was the faithful family hack during seventeen years of almost incredible vicissitude and neglect. This car, incidentally, must have contravened the law in an almost unprecedented number of respects, despite which it regularly transported my grandmother to perform her magisterial duties on the local bench; a most enlightened bench, be it said, the chairman of which takes the keenest pride in keeping his 1909 Delaunay-Belleville shooting brake and 1912 Rolls-Royce in immaculate condition.

In late 1927 my father—by then just well enough to drive again—was given the now well-known 1910 16 h.p. Fafnir and it was the first high-quality car I had driven. It served him day in and out till after the war started, and only twice broke down in those twelve years; once with a seized clutch withdrawal gear and once with a broken petrol pipe. It continues to give both of us as much joy to drive as any other car in existence, and I expect we shall both get very drunk to celebrate its relicensing after the war. The top speed is about 48 m.p.h., though I once touched 60 downhill.

Finance prevented me from becoming a car owner till 1933, when I was twenty-three. I then bought an early square-nosed Morris Cowley (ML 423) of 1925 for £12. I drove it about 8,000 miles in six months and sold it for £8 when the tyres had worn out. An utterly unremarkable and admirable hack car. I then bought a 1923 8 h.p. Humber (YL 5563) for £5, but it was more worn out than anything I could have credited, and I was hard put to it to cover 2,000 miles in three months, after which it finally collapsed. It had, nevertheless, been a nice car in its day, and was well made.

Next came ten pounds-worth of most remarkable motor car. It was labelled Frazer-Nash and it *was* a Frazer-Nash. But for all that, it had a large coachbuilt boat-type body, artillery wheels, and—*shaft drive*. The 'Nash Club was not unnaturally alarmed when I applied for membership, but they let me in, hinting that I might perhaps have a little bit of tin to hide the back axle. It really seems that a few such cars were made by the firm in 1923 and it was at least traditional to the extent of possessing an Anzani engine. It had three noisy and widely spaced gears and a 4.4 axle ratio. Normal maximum was 55 m.p.h. After quite a short mileage PD 8133 went too quickly round a corner on May 27th, 1934, in Epping Forest. Over-aged 710 × 90's gave way, and she fell over sideways. I was removed to the North Middlesex Hospital which was close by, and as there were no private wards I was put in the public accident ward—there was never a dull moment. Having put a rib through a lung as only one of many injuries I was scheduled to die, and my sorrowing parents were rushed to their rapidly fading rosebud.

However, I had already decided that a *real* Frazer-Nash was the only proper answer, so after four days the coffin was countermanded. The authorities said I should be there for eight weeks at least, but I explained that I was leaving in three weeks, and in three weeks to the day I walked out of the hospital. It was superbly equipped and staffed and there is no doubt that they saved my life with great skill. I have cherished recollections of the man in the next bed to me who had made advances to a gypsy lady, so the gentlemen gypsies shot him in the backside with a shotgun and he was spending his days in a very bad state, prone upon his front. He was doing that when I arrived, and he was doing it when I left, and I believe he went on doing it a long while afterwards.

The following September saw me the owner of a real dog-with-chain Frazer-Nash, ND 9617; a 1924-5 car with a very light black fabric two-seater body, f.w.b., Anzani engine and three speeds (4.1, 6.2, 10.1). This car cost the princely sum of £70, ex-works, being the cheapest they had, and the most I had ever paid for a car. This was my first experience of a real sports-car and it seemed to me incredible that anyone could ever bear to own anything but a Frazer-Nash. It certainly was a most invigorating car, though the maximum was only 72 m.p.h. (3,600 r.p.m.). During eighteen months of ownership it gave me a lot of pleasure and a lot of small trouble, including the not unusual cracked block round the holding-down lugs. As far as I was concerned, it stayed cracked.

The engine was three-point mounted, and for the front mounting the nose of the timing-case was poked through a bush. As the timing-case and the crank-case were both aluminium, and the bolts holding them together were both slender and far between, it followed that the arrangement was not endowed with everlasting life. Fortunately, there was just enough metal to bore out the studholes and fit oversize bolts.

Then, the front shock-absorber bushes were made of some very friable sort of wood, which fell out now and then, and as they were responsible for locating the front axle, the result, when next the brakes were applied, was very striking. At anything over 3,400 r.p.m. the engine simply spurted oil out of the breather, but I cured this by putting a sock inside the breather. I suppose it then breathed somewhere else, but I never bothered to find out.

CARS I HAVE OWNED—continued

This car won me several awards in early Vintage Club trials, but after I had had it some fifteen months I fell under the spell of Tim Carson's 30/98s—he had about half an acre of them then—and soon bought his own 1921 E-type (XE 7987) for £30. It was in pretty bad condition so far as incidentals were concerned, and, like the 'Nash, it gave me an enormous amount of pleasure and minor trouble. The 3 to 1 top and tremendous low-rev. power were as much a thrill then as they are now, and the car would cruise at whatever speed you wanted. Eighty m.p.h. was its normal maximum, but it went over 90 once or twice downhill. But 820×120 tyres and rear brakes made fast driving a real strain in modern traffic and around Christmas 1936, after a year's ownership, I began to see that it was not a really practicable touring car. I accordingly sold it for what I gave, and I believe it was never driven again.

The 'Nash and the Vauxhall overlapped for a time, but I had kept the 'Nash too long. Frazer-Nashes had gone B.M.W. and the second-hand 'Nash market had lost its gilt edge, so I was obliged to accept £25 from Surrey Car Sales, whence it was bought by that picturesque personality Rupert Pitchford, who spent an enormous sum of money on it, converting it to four speeds before driving it quickly into a hard bridge on some Scottish rally, which quite wore it out.

I learnt a lot about driving from these two cars and shall always treasure a grateful and pleasurable recollection of them.

For some time previously I had been falling under the spell of the Dawkins brothers' 2-litre Ballot saloon. The speed, silence, comfort, brakes, and capacious and handsome coachwork of this superb car, and all for 14 h.p., were, indeed, something altogether out of the way; but unfortunately the one I bought, a 1928 model (UC 6945), was completely worn out; although it was charming when it went, it by no means always agreed to go. I suppose it was unreasonable to expect much more for £22, which I think I gave for it. After owning it for some six months, while returning from Salisbury on June 12th, 1939, a young child of about seventeen, driving a 25 h.p. Rolls-Royce, cut in in front of me and we met head on—not very fast, but with an aggregate impact of some 70 m.p.h. I suppose. Actually, I very nearly got out of his way, and the Rolls was not much damaged, but the Ballot was quite flattened, and they had to pull the body to pieces to get me out. I was not much hurt. I fought the case myself, as I was only insured third party, and the proceeds were sufficient to contemplate purchasing a 3-litre Bentley, which I decided was to be my next mount.

However, I am getting ahead of myself, for in June, 1936, immediately after the Ballot debacle, I had the honour to become possessed of the Itala (LD 2301). So much has been said about this car that I will not dwell on it here, beyond saying that the thrill of driving it equals that of driving the Fafnir, and I know of no car that gives me a feeling of such complete confidence. "Floretta" is by no means the fastest of the Edwardians, but there is not one of them—even "Vieux Charles"—for which I would willingly exchange her. Now that I know her so well she seems the most docile of cars, but I well remember the awe with which I first drove her, and thought it impossible that any single man could possibly start the machinery.

Soon after I bought the Itala I sold a half-share in her to Peter Robertson-Rodger who, although he does not often drive her, is most enthusiastic nevertheless.

Shortly afterwards—December 1936—Rupert Pitchford and I bought the 1921 3-litre straight-eight Grand Prix Ballot from Jimmy Fleet of Pembridge Motors. It cost us £60, but I traded the 30/98 in for my share, so that it cost me no initial outlay. Its career in the hands of Malcolm Campbell, Clive Dunfee and Joan Richmond is well known. Unfortunately, a man called Shipwright had owned it after Joan and he had made a chronic mess of it, even committing the capital felony of taking off the beautiful Ballot badge and re-naming it "Shipwright Special."

"Shipwreck Special" would have been more apt by the time he had finished with it.

However, although we never got it going properly, I did once attain 115 on the Railway Straight, and the steering and road-holding were just like a Bugatti. I bought a couple of 1921 T.T. Sunbeam engines with the idea of making one good one and putting it in the Ballot chassis as the engines are very similar in design; but endless delays, including a great deal of dishonesty on the part of a Belgian rascal, then trading at Hampton Court, who sold me one of them, made for very slow progress, and the war intervened before the scheme could be brought to fruition. Sick of the whole business, I sold the remains of the Ballot to Anthony Heal for a small fee, but after the war some sort of a bedstead will have to be found for the Sunbeam engine. Incidentally, I spent quite a tidy sum of money trying to pin a writ on to the said Belgian, but he was always too quick for me.

After the Ballot saloon (generally known, from its name and ample proportions, as the Balloon), I decided that a drophead coupe 3-litre Bentley should combine reliability, tractability, comfort and performance in reasonably equal proportions, and Marcus Chambers found just the thing in June 1937, in the shape of a 1925 Red Label, and sold it to me for £65. Theoretically, XX 6824 should have been in very good condition, but actually it was far from it, and Marcus certainly treated me very well over replacements. Gradually we got the car absolutely right, and by early 1939 it was in superb condition. It is true that the Bentley has not much performance, but when you have learnt how to drive the thing the cornering is really superb, and a keen gear-shifter can press along surprisingly swiftly, Seventy m.p.h. cruising at 2,500 r.p.m., too, has undoubted charms. I once attained 93 m.p.h. downhill.

More than two years of ownership found me still with a very genuine liking for the car, but unless one was feeling really in good form the driving of it was rather a labour, and my mind was already beginning to revolve around a Type 49 Bugatti, although I had, at that time, strange to say, hardly ever been in a Bugatti, apart from short runs in "Black Bess," a late Type 44, and an early Type 57.

Very early during the war, when I still had a little money, I decided that it would be a good moment to "lay down" a Bugatti, for use in the post-war period, and after trying a 1932 Type 49 and a 1934 Type 57 I fell at once for the Type 49, despite its very moderate performance as compared with the Type 57; and so GY 89 came to me from Lemon Burton, and for a very reasonable sum I became a Bugatti owner.

Lemon warned me that the car really wanted money spending on it, and a few trial runs showed that this was the case. Most serious was that Ettore, who has never, I suspect, had a very high opinion of lubrication, had taken none but the most rudimentary precautions about oiling the camshaft, with the result that the wretched thing had practically worn away. However, W. J. Shortt waved his magic file upon it, and working entirely by hand he has completely reshaped it, making up the valve timing with added shims, so that the performance is now fully up to catalogue standard. The single Schebler carburetter gives phenomenal economy for the size of engine (3.3 litres), and sixteen sparking plugs all in a row ensure American standards of top gear flexibility—10 m.p.h. or less, with rapid pick-up from it is easy money. This model also has the funny, heavily finned, cast aluminium wheels which I think very handsome and give modern standards of deceleration. Steering is as only Bugatti knows how, and the car can be driven equally effectively like a woolly American or a "racer" at will. The body is a splendidly designed close-coupled four-seater saloon by Youngs, which is still almost free from rattles after eight years. Peak revs. are about 4,000, equal to 80 m.p.h.

However, I am again running ahead. In October, 1939, I decided that motoring must cease, and the Bentley was put to bed, while the Bugatti went immediately after its purchase to be ministered to by Shortt.

Had it not been for my many kind friends with cars, I do not know how I should have survived the last motorless year, but I devoted a lot more time than before to my equal enthusiasm for 16th and 18th century music and musical instruments, of which I have a small collection; and there have been vivid drives on Anthony Heal's 30/98, 1919 5-litre Ballot, and 1924 2-litre G.P. Sunbeam, also on Ariel and Peter Clark's 1914 G.P. Mercedes and Le Mans H.R.G. The great V12 Lagonda and what is to be the world's best all-rounder, the post-war I.F.S. Rolls-Bentley, have brought experience of a novel and delightful kind, and have there not been a few delirious miles at the wheel of

CARS I HAVE OWNED—continued

Forrest Lycett's 8-litre Bentley? I had over 100 m.p.h. on the road on both the Sunbeam and Lagonda, while with Lycett driving the Bentley passed 120, and as passenger to Anthony on the Ballot, 109 came up—both these last on the Oxford By-Pass.

As a chartered surveyor, the London Blitz brought an altogether unexpected spate of work, and to get through it, I simply had to run a car again. As I had just sold the Bentley for a little less than I gave for it this meant the Bugatti, and I must say it has more than fulfilled the rosiest dreams I had dared to indulge in about it; a rare car.

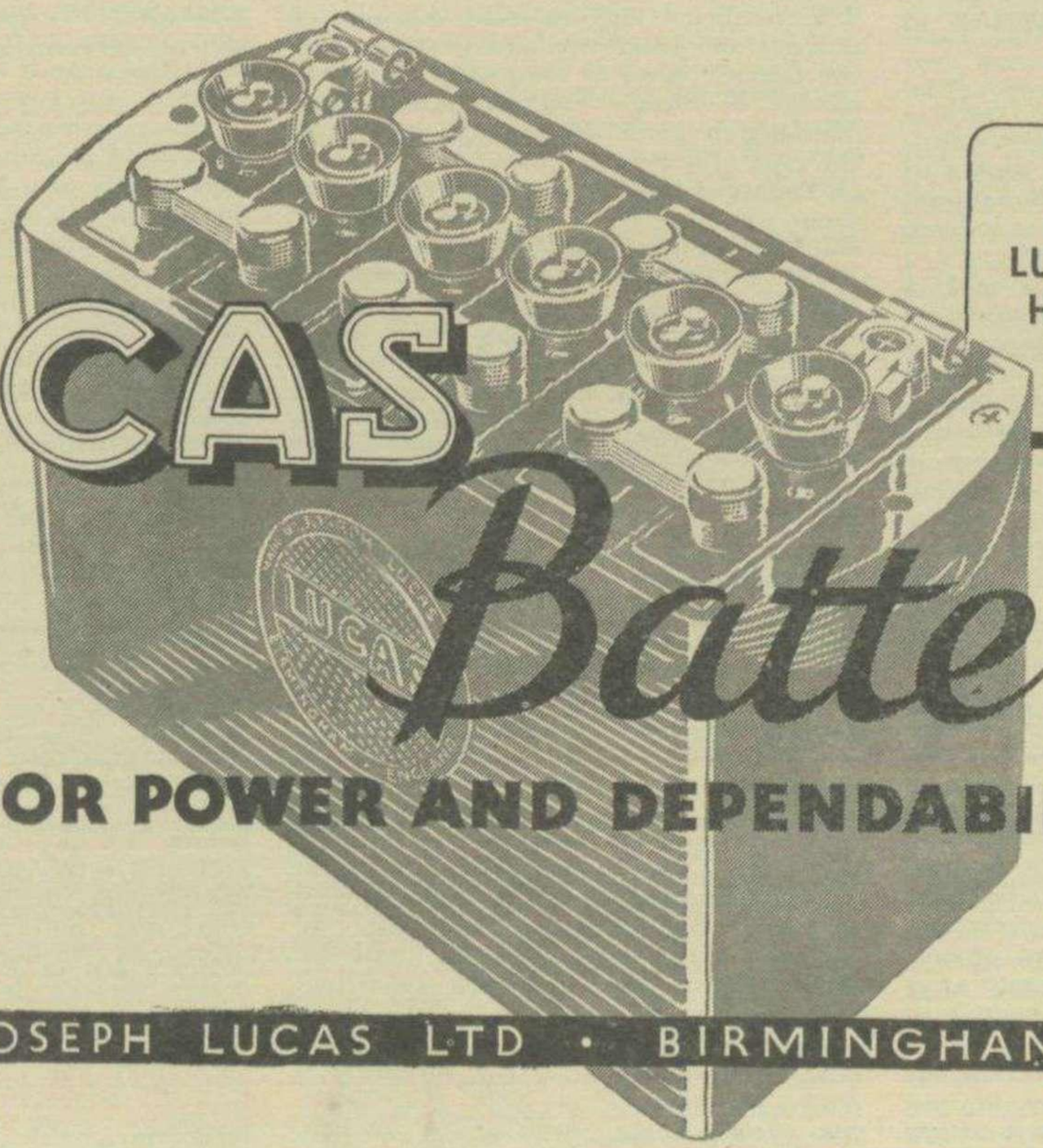
One or two details remain to be told. By 1939 I thought my 30/98 days were over, but in July I had a card from Tim Carson saying he had a superb 1922 E type in and wouldn't I please give it a kind home. So I bought XK 1455 for £12 10s. 0d., and it certainly is in miraculous order, though not very fast. Bitten with the idea of making a really first-rate E type, I then bought the ex-Andrew Leitch car from Andrew Fairtlough for an even more modest sum, and an early O.E. type front axle, and intend to amalgamate them as soon as I have a chance to do so. I also have the permission of none less than Mr. Pomeroy, senior, himself, to depart from standard to the extent of underslinging the back axle, which is easily effected. During a most amusing conversation with the Great Man at Laurence Pomeroy, junior's, recent wedding he kept on decrying the 30/98, to which—somewhat nettled—I finally replied, "Yes, but dash it all, sir, you must admit it is a jolly fine car," to which he responded, "Well, yes, I quite agree, *but it has taken me twenty years to realise it*!"

When I tried the Type 57 Bugatti, before buying the Type 49, it was garaged with Street and Duller, and there I saw to my surprise the ex-Bertram, ex-Cobb, ex-world's record, ex-Brooklands lap-record 10½-litre, V12 Delage. Enquiry revealed that it would change hands with a whole lorry-load of spare parts for a surprisingly small sum; so Shortt and I bought it, though Shortt has subsequently sold his share to Peter Vaughan. It appears to be in excellent order, though needing a general clean-up, and it did 148 practically the last time it ran, at Littlestone. This represents peak revs. (3,200 r.p.m.) on its highest ratio crown wheel and pinion. I have not yet driven this car, but visions of taking it up Shelsley make it most important to win the war as quickly as possible.

Another late-comer was one of the handful of 1911 57 h.p. sleeve-valve Daimlers, primarily designed for George V's state cars. Anthony Heal, Richard Shakespeare and I went shares to save AC 2332 from destruction; but I must say it takes up rather a lot of room! Would anyone like to give it a kind home?

During the last year, my father (who, by the by, has become an ardent Bugattist as a result of my Type 49) has been sharing my mother's 1929 Austin 12-4, which she has had since 1936, when the Citroen was traded in to the local wood merchant in exchange for cutting down a tree. The Austin is the best hack for local work that could possibly be devised; but the brakes and road-holding—oh, my!

A recent appointment to be second in command of a widely spread Home Guard Battalion has now made it necessary for him to have a whole-time car. The Fafnir was rather too cumbersome for the job, so as the latest addition to the family he has just bought a 1936 16 h.p. Triumph Gloria saloon in excellent condition, and a very nice car it promises to be.



MERCEDES-BENZ versus AUTO-UNION

SOME OF THE MOST INTENSIVE RACING EVER AS A PRELUDE TO WAR

[*Continued from the October* 1940 *issue. The* 1936 *Season*]

EVEN before the New Year, news of German plans for 1936 had reached this country. Auto-Union had overcome oiling troubles, it was said, by fitting simple scraper rings, and, much more intriguing, the engine size had leapt up yet again, from 5½ to 6 litres. The team was early announced as Stuck, Varzi, and Rosemeyer. Mercedes went across Switzerland to Monza with five lorries, for test purposes, in December, 1935, taking three of that season's cars and the new slimmer job which had run at Berne. The cars, with some twenty mechanics, arrived first, then Neubauer came, and then Caracciola, Chiron, Fagioli, and Lang, while Brivio spectated. Neubauer's car was used to sweep the track clear of leaves and this wintery training commenced, the chicanes of the Italian G.P. still in place, suggesting practice for Monaco. "Caratsch" did 20 laps, using both old and new cars, Fagioli and Lang put in about 12 laps each and Chiron toured about, only to lap in earnest in 2 mins. 59 secs. after lunch, whereupon Lang did 2 mins. 57 secs., only 7.2 secs. below "Nuver's" own record. The new car was subject to some attention. More training was put in next day, and Chiron rapturously declared the G.P. Merc. to be "Une veritable bicyclette!" The 1936 team was announced to be Caracciola, Fagioli, Lang, Chiron, Brauchitsch and two reserves. Hitler was said to have given personal attention to Chiron's appointment, which received a mixed reception in France, Chiron's friends averring it better for him to win on a German car than to be beaten by an Italian. The scheme was apparently to let Brauchitsch shine in Germany, Chiron in France, and Fagioli in Italy, with "Caratsch" as a free-lance, as it were. Chiron went to see his people in Monte Carlo and was feted by Monaco G.P. officials, ere he went to Switzerland for the winter sports, and Varzi was in the all-racing drivers bob-sleigh teams at Garmisch-Partenkirchen. By January Auto-Union had decided to form provisionally two teams, composed of Varzi, Stuck and Rosemeyer, backed by Heyder, Hasse and von Delius, depending on trials at the end of the month, which Prince Leningen was expected to attend. Mercedes-Benz racing-cars were again exhibited at the Berlin Show, opened by Herr Hitler, and much was made of the increase in Germany's motor trade—44,000 cars sold in 1932, rising to 215,000 in 1935. At a revue run during the show, Brauchitsch and Lang in Mercs. and Rosemeyer in an Auto-Union, steamed across the stage, accompanied by the Avus broadcast, and wheel-changes were carried out under Neubauer's care.

The Auto-Union trials were duly held at Monza, and the promising newcomer Heyder was killed when his car entered a chicane too fast and went off the course into a tree. Dr. Porsche and Stuck blamed inexperience; the funeral was most impressive, with Porsche, Stuck, Nuvolari, Marinoni, Castagneto, Ricordi, and the political secretary of Monza attending. Stuck got in some 30 laps in all, in two stages, and then left for winter sports at Garmisch. Another car was specially sent down to replace the crashed one, and Varzi, just recovered from a throat operation, spent a day on it, while Pietro Taruffi was allowed by Dr. Porsche to handle one of the cars. Stuck later took part in an amusing imaginary interview with a spectator, written by Frau Stuck, in a broadcast from the Beromunster radio station. Caracciola went over to the States, but on his return to Germany Mercedes put in some further training at Monza with the full team. The Monaco entries included both German teams, but the unfortunate Varzi was soon to be in hospital, to ensure no further trouble from the appendix that had worried him the previous season.

Already international politics were looming large in Grand Prix racing, for the three Ferrari Alfa-Romeos were stopped at the Italian-French frontier on the way to Pau, orders having been given that Italian cars were not to race in sanctionist countries until after the next meeting of the League of Nations .... Etancelin finally won a hard race with the 4.8-litre Maserati.

The season really started for Germany when Stuck took out the enclosed Auto-Union on the new Frankfurt-Heidelburg *autobahn* and took three Class B and five world's records, under conditions of poor visibility and rain. Two days were occupied with the attempts, and for the longer runs the car had to hairpin back to the place from whence it had started, along the other leg of the dual carriageway. Even so, the 10 km., 5 miles and 5 km. class records, and the 10 miles, 50 km., 50 miles, 100 km. and 100 miles world's figures were raised, the previous holders being Abe Jenkins and Capt. George Eyston. Stuck's speeds ranged from 163.4 m.p.h. to 194.12 m.p.h., and the car had unfaired wheels, covered cockpit, cowled radiator and a faired "dumb-iron" apron. Stuck followed this up by a splendid victorious drive at the La Turbie hill-climb with the special short-chassis Auto-Union, breaking Wimille's record by 3.4 secs., clocking 3 mins. 39.8 secs.

So to Monaco, for the Grand Prix. In practice Delius crashed the spare Mercedes, the car overturning and being severely damaged, although the driver escaped with slight cuts. Characteristically, Neubauer promptly ordered fast lappery while the course was free of other cars as the mess was being cleared up, and so two Mercs. gained front rank positions. There were eighteen entries in all, and Caracciola and Chiron had the new, lower cars, actually lower in appearance only, as the bonnets were now within an inch of the cam-cases, resulting in better streamlining and improved visibility. The tanks carried fuel sufficient for the whole 200 sinuous miles. Fagioli and Brauchitsch had older cars. Varzi and Rosemeyer had short wheelbase Auto-Unions, with Stuck on one of the longer cars. The race started in heavy rain and drama entered into it right away. On the line, at the very last moment, Brivio's 3.8-litre Alfa-Romeo was seen to be losing oil. An over-full tank was suspected, but Brivio was bundled into Tardini's car. As they moved off, Tardini was seen to be spraying oil over the course, as the sick Alfa had a broken oil pipe. Meanwhile, Nuvolari's Alfa-Romeo just led from Caracciola and soon the Mercedes led, Rosemeyer third, Varzi fourth, Fagioli fifth.

The oil film laid on the soaking road by Tardini altered everything in the second lap. At the chicane on to the quay Chiron went straight on into the sandbags, followed soon afterwards by Farina's Alfa-Romeo. Brauchitsch next hit the Alfa, and both cars were not only disabled but all but blocked the course. Brivio's Alfa-Romeo and Trossi's Maserati completed the mess. Blue flags waved madly; frantic efforts were made to move the more damaged cars. Rosemeyer came upon it all, spun like a top, recovered, and departed at speed. The pace here, even with the chicane patched up and much petrol poured on the oil, fell from 40-50 m.p.h. to 12 m.p.h. or so, and still the cars slid badly. Six cars were out with only four of the 100 laps run! Conditions were terrible, but Nuvolari, just up from a sick bed in direct defiance of doctor's orders, kept close behind the leading Mercedes. Fagioli went out on lap 10, crashing into the wall at the fatal chicane. "Caratsch" was alone now for Mercedes, but shortly afterwards Rosemeyer swerved violently approaching the Hotel de Paris, went on to the pavement, and crashed tail first through the brick wall, the car suspended on the edge of a deep drop, whereupon the driver climbed out, selected a piece of masonry as a souvenir, and walked off. On lap 10 the wonderful Nuvolari got past Caraçciola and led by 2 secs., soon lapping in 2 mins. 20 secs. or so, to increase his lead to 10 secs. Ten rounds later the Alfa's brakes seemed to be failing, and the Mercedes began to close until, by 25 laps, it was only 3 secs. behind. Caracciola was ever the master on wet roads, and when Nuvolari, sick and worried by the illness of his two children, went a little wide at the gasworks turn, the German driver accelerated snakily past.

By the 35th lap he was some 20 secs. in front. Varzi and Stuck ran close together until at half-distance Stuck passed, seemingly by arrangement, as he was signalled to chase Nuvolari, and passed him on lap 57. Stuck now lapped in 2 mins. 11 secs. and Varzi did the fastest race lap of all, in 2 mins. 8 secs., finally passing his team mate. Stuck then refuelled in 18 secs. Varzi stopped later without losing second place and Nuvolari had dropped back due to fatigue

Continued on page 259

THE TWIN-CAM M.G. MIDGET

SIR CLIVE EDWARDS, in his entertaining article in November, referred at length to his R-type Midget with twin o.h.c.

This remarkable cylinder head was the product of Laurence Pomeroy and Michael McEvoy when they were handling Zoller blowers in this country. Pomeroy recently told the story of it, and we thought that it might be interesting to readers.

At the end of 1935 the Q-type M.G. (a Zoller-blown 750 and orthodox chassis) was replaced by the R-type, which had a backbone chassis and four-wheel independent torsion-bar suspension. The engine was the same as before and the whole outfit weighed some 13 cwt.

It was known that Austins were preparing their twin o.h.c. racers for the 1936 season, and that these were likely to weigh only 9 cwt. as well as having a much smaller frontal area than the M.G.

The Austin developed 100 b.h.p. at 8,000 r.p.m., assisted by an 18 lb. Roots-type boost, and while the M.G. gave 120 b.h.p. at 7,000 r.p.m., it cracked its cylinder heads at this output, which anyway wasn't enough to deal with the Austins. Other troubles of the M.G. were that the forward position of the blower led to freezing of the carburetter, while the long induction pipe produced heavy condensation on the over-run, with consequent plug oiling.

The oil pump, driven from the end of the blower, was subject to failure, because blower pressure forced itself up the pump spindle and blew all the oil out of the pump.

The McEvoy firm therefore approached the Evans brothers in November, 1935, suggesting that they should construct three special cylinder heads, which would furnish their M.G.s with a whole team of extra horses with specially reliable characters.

The fee for this ministration was to be £450 (£150 for each head) and the cars were to be ready to run in the Empire Trophy 1936; this was agreed to, one head being intended for the Evans's car, one for Briault's, and one for Connell's.

Details of the projected design were as follows:—

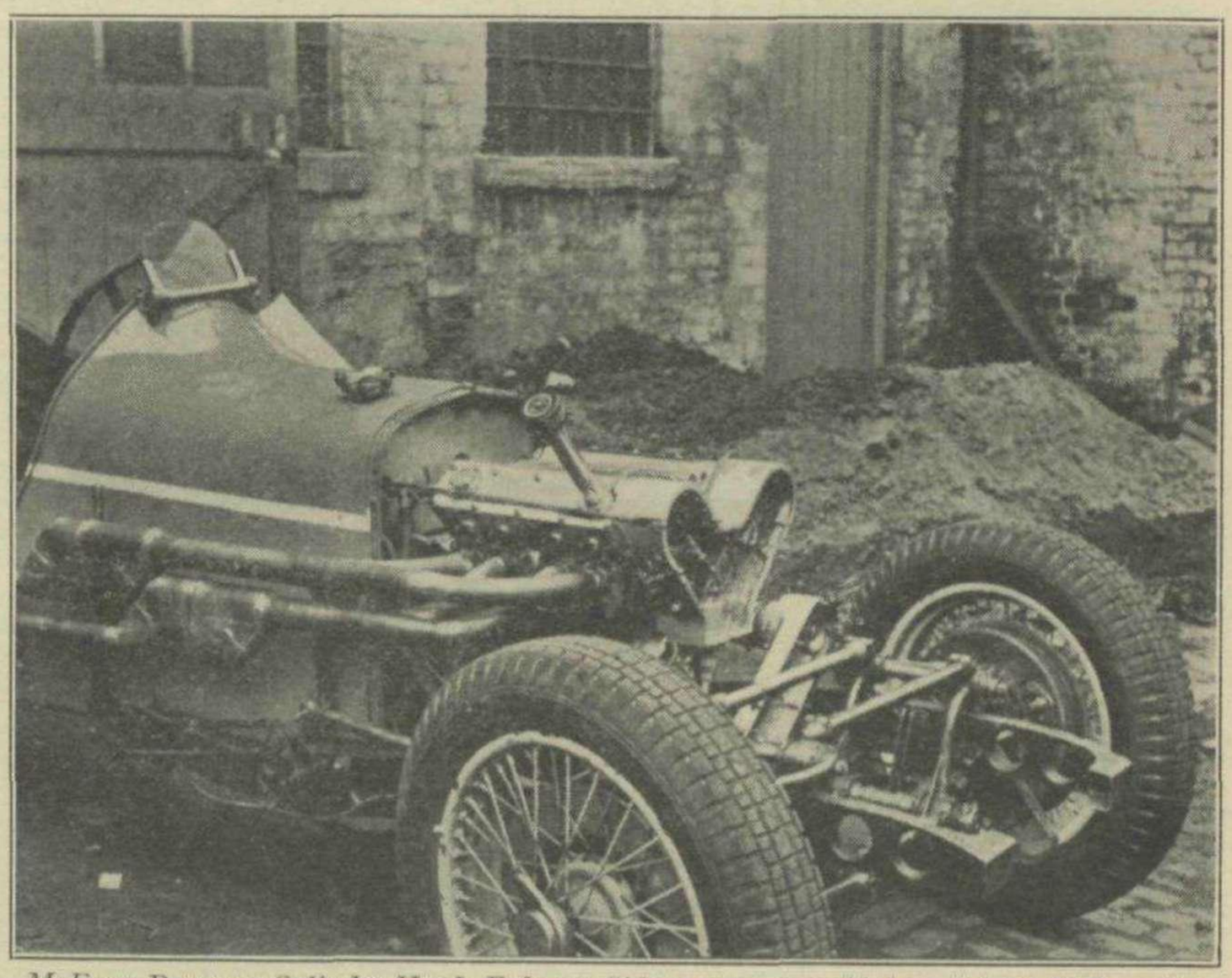
The forward mounted Zoller was to be replaced by another, mounted on the near side of the engine, and giving a 30 lb. boost, or capable of being increased to 45 lbs. if desired. The old blowers had an unfavourable internal air-flow, the air being forced round one right-angle as it entered, and another as it left the wind-whisk. This was to be avoided by using a different casing, bolted direct on to the inlet pipe at its outlet and inspirating through a large single downdraught S.U. carburetter. The blower was driven through a flexible coupling, and was lubricated by a pump attached to the end of a camshaft.

As time was so short, the design was kept as conservative as possible consistent with the aim in view. The head was, accordingly, made in cast iron, so as to avoid valve seat and other distortion troubles. The camshafts were driven by spur gears and two idler wheels, meshing with a single gear, driven by the same bevels as are ordinarily found at the top of the M.G. shaft. The camshafts were pressure lubricated and chromium plated, having three plain R.R. 53 bearings. At the front of the gear case was a chain case, containing a triple roller chain which drove the blower at .7 engine speed.

The valves were at 90° to each other, with a more extreme timing than the standard M.G. to the extent of a 70° overlap, with exhaust valves opening 80° before bottom dead centre. The exhaust valves were made 70 per cent. the area of the inlets, but in order to use the most advantageous size of Brooklands silencer the actual cylinder head ports were much enlarged. All valves were K. 965 and had long stems, to provide good guide cooling, even at the expense of somewhat greater weight than might otherwise have been the case, and very strong triple valve springs were employed. Hardened steel fingers of Bugatti pattern were specified, and the clearance adjustment was also by shims of Bugatti type.

Bottom seating plugs, in the centre of the head, had very masked openings, in order to secure optimum cooling.

The cooling arrangements represented perhaps the most unorthodox part of the design. To begin with, the pump was of specially large pattern, seated on a bracket at the back of, and driven through, the supercharger. From it, water was fed separately into the head and the block. The supply to the head was disgorged straight on to the exhaust valve seats. From there it swirled past the plug bosses, and was prevented from getting on to the inlet side of the engine by an internal baffle, which deflected the water, via four off-take pipes, back to the radiator. This was the sole circuit of this feed, as there was no water passage between the head and block on the exhaust side. A second supply from the pump entered the block and passed through a thermo-syphon to the head, on the inlet side, and thence back to the radiator. The idea was that the restricted flow of water on the nlet side, and the profuse, direct, and turbulent flow on the exhaust side would produce a very even temperature throughout the head, and so avoid distortion and cracked seatings, etc. A provisional patent was taken out for this arrangement. Further to improve the cooling, an air-scoop was fitted to the exhaust cambox and both camboxes had breathers.



McEvoy-Pomeroy Cylinder Head, Exhaust Side, partly assembled on R-type M.G. Note the ventilating arrangements for the bevel gear, and the large bore of exhaust pipe which was obtainable

Special Aerolite pistons with 8 mm. thick crowns gave an initial compression ratio of 6 to 1.

Working seventy-five hours a week the actual designing took until Christmas, leaving less than three months for casting, machining and tuning.

As McEvoy's shop equipment was not capable of carrying out all the machining it was partly done in the Singer tool room, which was fairly slack at the time, and actual assembly was started at the

THE TWIN-CAM M.G. MIDGET—continued

end of February. It was then decided that it would be best to push on with one head and tune it, so that any alterations found necessary by experiment could be built direct into the other two before assembly. The Evans's car was to have the first head.

It was now found that the water spaces had come out wrong owing to a discrepancy in the casting, and these had to be machined back to the intended shape. The inlet pipe and ports, also, did not match up, and the rocker fingers had only been oil-hardened instead of case-hardened—though this was not discovered till later.

On the Monday before the race the first engine was erected on the Evans's test-bed, and all was set for starting up at 9 p.m. that evening.

But would it start ?

Frankly, no !

At the suggestion of Pomeroy's versatile brain they even wound a rope round the blower-drive shaft to which three men attached themselves and fiercely pulled, as it were a child starting a top ; but they didn't start that engine.

The electric starter was then brought up. Twelve volts—no good. Twenty-four volts—no good. Thirty-six volts—excellent fireworks but no effect on the engine, which lay glowering on its test-bed, determined to ward off all attacks upon its neutrality.

Men now stood about in corners, muttering darkly and nibbling their finger-nails, while Pomeroy all unconsciously rendered several moving passages from Wagner with that degree of fervour to which only a soul in anguish can attain.

Finally the insides of the cylinders were dried out, and with a further blazing of thirty-six volts the engine at last gave way and started somewhat after 2.30 a.m.

The exhausted combatants then went to bed, and on Tuesday the engine was run in, and by the evening it was ready to test. It was then found that chronic pre-ignition set in at 6,500-7,000 r.p.m., though all kinds of plugs were tried without avail. Finally, some very spent Bosch racing plugs, left over from the previous season, were espied on a shelf, and with them the trouble more or less disappeared.

Then, although the works of the blower were the same as had given 30 lbs. with the old head, nothing better than 21 lbs. could now be clocked. It was then discovered that the new porting gave so little back pressure, as compared with the old type head, that this accounted for the drop in blower pressure ; but against that the engine already gave 124 b.h.p. on this moderate boost.

It was also found that the optimum ignition advance was 55°. The other engines were now put together, and the cars were shipped to Donington for practice on Friday, which was a desperately cold day, producing very erratic carburation. In the race on Saturday the handicapping was most peculiar. The 750 class were invited to tour at 67.49 m.p.h., and the unlimiteds only had to encompass 69.51 m.p.h. In point of fact, Seaman won at 66.3—something wrong somewhere. Evans's car ran fairly well for a first time out, and was still motoring at the end of the race, by which time his was the only 750 still operating, having completed 91 laps. Connell did 40 laps before retiring with a broken oil-pipe and Briault's car, which was running fitfully, retired after 35 laps owing to carburation. At 12 laps "Bira" had led at 67.05 m.p.h., while Evans lay second at 66.95 m.p.h.—only .1 m.p.h. slower. It was now seen that even at this low temperature the engines would tick over at 1,200 r.p.m. and pull away cleanly on the hardest plugs without oiling. After the race the cars were returned to their owners, and Pomeroy went to prepare Evans's for the International Trophy at Brooklands.

The valve operating fingers had now worn considerably, but as it was still not known that they were only oil-hardened this wear was attributed to the very strong valve springs. They were accordingly chromium-plated, and this seemed to work quite well for the time being. The pre-ignition was finally suppressed by the use of a very rich mixture, and the engine put out a sustained 130 b.h.p.

The car went well in practice, but Briault's was still in trouble with its plugs, and persisted in throwing out all its water, despite a spring-loaded overflow pipe, and to overcome this the entry to the pump was restricted, so as to curb its over-exuberance.

At 5 p.m. on Friday Evans missed a gear change coming off the banking, the revs flew up, and a valve was bent. Scrutineering was to take place at 11 a.m. next day.

Pomeroy therefore set out to Derby on Doreen Evans's trials car, and broke into the works store at midnight, found a valve, and left again at 12.30 a.m. 3 a.m. found him back at Wandsworth, having covered the 145 miles in 2½ hours, including an average of 57 m.p.h. from Derby to the end of the Barnet By-Pass.

The valve was at once put in, and the plug holes bored out to revert to normal top-seating plugs, it having been ascertained that the pre-ignition was due to the exposed, unpositioned copper washers at the foot of a bottom-seating plug.

Wilkinson reassembled the engines, and with the help of an hour's time-extension the car was brought intact to the scrutineer—no mean feat of speedy work and endurance.

Connell's car turned up very late, having been prepared by his own mechanics. It was wheeled to the starting line, but it refused to start, so they wheeled it away again.

Doreen Evans had a fine scrap with the Austins, frequently leading them, but after re-fuelling, at 52 laps, her car caught fire on the Railway Straight and could not go on racing. Briault retired after 31 laps with chronic misfiring.

Evans's car was then prepared at greater leisure for the Nuffield Trophy Race at Donington, and now that all the snags had been overcome it had the race all sewn up by a good 10 m.p.h. on its handicap. But alas ! the coil ignition burnt out on the first lap and the car again had to retire.

Briault now decided to give up 750 c.c. racing and sent his car back to the Evans's garage to be put together properly with a view to selling. When his engine was dismantled it was found that the unprecedented turbulence brought about by this type of water circulation had caused pockets of local boiling and distortion, and the head had cracked. This was rectified, and a recurrence of the trouble prevented by slightly drilling the baffle in the head, so as to allow some degree of communication between the inlet and exhaust sides. The plug holes were bored out, as on the Evans's car, and these two engines finally gave 141 b.h.p. at 7,300 r.p.m. on a 25 lb. boost. Even this output would not have been enough to cope with the Austins, which finally developed 120 b.h.p., but there is little doubt that the 45 lb. boost originally intended would have yielded a reliable 160 b.h.p. or more (213 per litre, and an m.e.p. of roughly 390 !) and that this would have answered the purpose.

The Evans brothers and Connell now also gave up 750 c.c. racing, and the Evans's car was sold to Sir Clive Edwards ; the Baines brothers bought Briault's ; and Connell's machine went to some destination in the Midlands.

Pomeroy and McEvoy then went to Germany to pursue their supercharger researches and largely lost touch with the cars, but several interesting reflections on this narrative may be made.

(1) Even at 141 b.h.p. the output was 10 h.p. more than Kohlrausch's world record-breaking car, and this was far below the potential maximum which, as stated above, is 160 b.h.p. at least.

(2) Equally, even 141 b.h.p. is believed to represent as high a b.h.p. per litre as has ever been obtained from a petrol motor.

(3) At the price of £450 McEvoy and Pomeroy neither gained nor lost money, so far as the designing and manufacture were concerned.

(4) This engine was used as the basic design for the highly successful Parnell-Cuddon Fletcher M.G., which, however, has an aluminium head and lighter valves.

(5) How thorny is the path of the innovator, be he never so conservative and canny in his design !

(6) Finally, it can be seen that Edwards has a power unit which, despite its age, is still probably the most advanced 750 c.c. engine in existence and which, with a lighter chassis and proper streamlining, is fully capable of taking the world's class record.

Letters from Readers

Sir,

Just home on leave, so I took the opportunity of securing a copy of MOTOR SPORT and noticed your paragraph in "Rumblings" *re* the demand for hosts. If anybody cares to drop me a line I would be extremely pleased. We might even arrange a meeting somewhere over suitable refreshment.

As you can see, I am now stationed in the lovely old trials country, and my particular job is driving a cross-country wheeled vehicle, with a remarkable turn of speed, and in its way it gives you all the thrills of the old trials days; unfortunately I am not in the position to be able to give you any technical details, which are quite unique!

After the war it is my hope (finances permitting) to build a trials car embodying its main features.

By then I should be quite well acquainted with some of its extremely peculiar and thrilling, or should I say unorthodox, habits.

Although I could write considerably more, unfortunately my leave is not so long, and I have much to do. At the moment I am in Bristol and have already had the luck to meet one or two C.A.P.A. enthusiasts, so my cup is full.

May I congratulate you on continuing your paper. I might mention that we as a regiment have more than our fair share of enthusiasts. So one comes across MOTOR SPORT in the most amazing places.

I am, Yours etc.,
PETER G. WITZEL.

H.Q. Squad.,
3rd C.L. Yeomanry,
(Sharpshooters).

[That's the spirit!—Ed.]

* * *

Sir,

I was interested to see a letter in the November issue from Mr. Hutton-Stott about a 1912 Lanchester.

I saw some time ago a photograph of a group of cars belonging to him and noticed that one of them was a 1930 straight-eight Lanchester. I ran an identical model till Christmas, 1939, when I laid it up, and I should be very interested to hear Mr. Hutton-Stott's experience with his, if he could find time to write.

With congratulations for carrying on the paper so well.

I am, Yours etc.,
W. STUART BEST.

Manor Farm,
Godmanston,
Dorchester.

* * *

Sir,

As I have just started a week's leave from professional driving in the Army and I am divorced from my motor car until later on, I feel I must write you a letter about sports-car motoring in wartime as one who is in the novel position of only having been a car owner since the war started. This was because I thought if I do not have a car of my own now, I may never possess one, and I honestly mean it when I say that your decision to carry on MOTOR SPORT for the duration has done more towards keeping up my morale than anything else.

My first car, which I bought at the end of November, 1939, was a 1925 four-push-rod Salmson of the type known as VAL 3. I bought it from a couple of friends for £3, and I think it must have been the last car of its type on the road for it was extremely unreliable and lacked hood, screen, and all other weather equipment. It was a blue two-seater sports with a pointed tail, and whilst on close inspection it looked dilapidated, it had quite an inspiring appearance from a distance. My friends had found it lying in small pieces in a garage where I believe they spent some time searching for "the four missing push-rods!"

Due to the unusual design of valve operation considerable difficulty was experienced in getting all four cylinders to function properly. Clearances had to be adjusted every 50 miles, and in itself this was largely a matter of guesswork as it was almost impossible to get a feeler gauge in. As far as I remember clearances were: exhaust 8 and inlet 20—very *bizarre*! One cylinder, I think it was number four, used to work with extraordinary verve and aplomb, in fact, it was really the mainstay of the whole engine, and could always be depended upon to keep going when the rest had stopped. The others used to more or less come in when they felt like it, and on these occasions we exceeded 50 m.p.h. The previous owners got over 60 m.p.h. out of it. Before going out, I always had to squirt a mixture of paraffin and oil on the cone clutch otherwise it was much too fierce. I always drove the car with a floorboard or two out so that I could see what the not-too-reliable clutch was doing, and the fact that as a member of the London Scottish Regiment I invariably drove in a kilt, reassured passengers who were nervous about draughts.

The one real spot of bother I had with the car happened one day last January, when the magneto seized at East Finchley. After enquiring at about half-a-dozen local garages and breakers' yards, we discovered that it had picked a very sensible place to pack up, for we were right by the factory which manufactures fibre vernier coupling inserts, a tremendous slice of luck, for you know how difficult it is to get hold of the right size of insert. We took the mag. off and a local garage proprietor unseized it for us, and then we put it back and got the car going just as it was getting dark. The thread had gone on the bolt on the metal strap holding the magneto on its platform, and in spite of the help of paper packing between the strap and the magneto we didn't expect it would last very long. By this time the black-out had descended upon us and as we had no lights we made a typical "enthusiast's return home" by trolley-bus and train. As I had to report back for duty that night, next day my father and my sister-in-law-to-be very sportingly towed the "Sammy" across London to home.

One day last February, my brother was poking about in the yard of Scotias, the Tooting breakers, when, lying on its side amidst the scrappery, he found a complete 1925 Anzani Frazer-Nash, one of those perfect old cars with a polished aluminium bath-back body. The outcome of this was that the 'Nash was bought in part exchange for the "Sammy" and £7. I hate letting an old car go to the breakers, but it was a case of the Salmson perishing or the 'Nash, and it is obvious that the 'Nash was the worthier car. I could hardly believe that I was now actually a 'Nash owner, one of those fortunate people who own something which is the real thing.

The engine, which had been fitted to the car in 1936, was found to be in excellent condition, but new king pins and bushes were required, and the dogs, which were worn, needed building up as sometimes the gears wouldn't stay in. There were a few other small things to be done as well as the car had been lying in the open since it was driven into the breakers in September, 1939. At a minimum of expense these things were completed, and for this I have to thank my brother, in fact, had it not been for him the 'Nash would not be what it is to-day. It has typical 'Nash performance, and is a real wizard car.

You may remember that earlier in the year Mr. Gordon Woods, of Epsom, wrote to you hoping to hear from other 'Nash owners. Whilst I was away from home we wrote to each other regularly, and last time I was on leave we met with our two respective cars, though by this time he had sold his Anzani-engined car and was running his new T.T. replica, ex-Alpine Trial car. It was through him that I met Mr. John Clarke, and great was my joy when I found that this famous 'Nash exponent is an ex-owner of my car, and actually built the present front axle with its front wheel brakes. From him I learned a lot about its past history, and found that it had been completely overhauled by the owner in 1936. Had it not been for MOTOR SPORT I would never have discovered these things, which is just another example of how valuable the paper is.

And now a word or two about driving Army vehicles, and transport driving from the enthusiast's point of view.

A lot of the fun in transport work comes in driving impressed vehicles

LETTERS FROM READERS—continued

which are sometimes in poor condition. Memories stand out of a 3-ton Morris brick lorry on which racing changes were practised until the throttle stuck wide open through somebody jamming his rifle in the exposed carburetter and breaking the throttle connection. This was repaired with string. There was the Renault van with the M.G. exhaust note and no brakes, the Morris which ran a big end, and the little two-cylinder Jowett van which boiled every 5 miles and in which I drove the padre, who sat beside me on a petrol can. We had a Bedford lorry with servo brakes which pulled up wonderfully from 30 m.p.h. to 5 m.p.h. and then went on and on and on. . . . I also remember a remarkable run in two Fordson "Thames" vans, in which the driver of the other van was an ex-"Lambda" Lancia, 3-litre Bentley and Voisin owner, whose father had introduced Roland-Pilains to this country.

Finally, to end this already far too long letter, I must just mention the other cars in the family. Besides the .'Nash, only my brother's Lancia "Augusta" is taxed. His Balilla Fiat, for which a Marshall blower was recently bought, was taxed up to the beginning of this month. We have still got my father's 12/50 Alvis, and the 1935 Le Mans winning Lagonda is still in pieces after its accident, until we have the wherewithal to repair it. The latest addition is a 1930 Aston-Martin open sports, which was picked up very cheaply with a hole in the crankcase, and it is hoped something will be done about that in the winter evenings. My brother in the R.A.F. is more permanently settled than I am in the Army, and so has more opportunity for working on cars. Incidentally, previous to the Lagonda, a sort of crowning achievement, he had never owned anything not vintage, his cars including Austin Seven, "Lambda" Lancia (various), f.w.d. Alvis, Silver Eagle Alvis, Lea-Francis, 4½-litre Bentley, etc.

I must apologise for the length of this letter, but I believe you like to get news of motoring which is going on in wartime, and if letters such as this encourage you to carry on then this one has achieved its purpose.

I am, Yours etc.,

PETER M. A. HULL.

London,
S.E.23.

[Enthusiasm such as Mr. Hull displays is as common as it is encouraging.—Ed.]

* * *

Sir,

For the past several years I have received your magazine from my friend Mr. France K. Peachey in Manchester, and enjoy it greatly. Even during the present conditions I have not missed a single copy. We thank you people for carrying on as you have.

I noted with interest in a recent issue an article about the "Termites" or Model Midget Race Cars; they are, indeed, fascinating, and have developed here into far more than a mere toy, the present speed record being 72.5 m.p.h., and an unofficial speed of 75.1 m.p.h. for the mile having been recorded. I am enclosing several pictures of the cars and our track here, and will also attempt to describe the building of the track. I wish right here to take exception to your writer's statement that the cars are all alike; they are quite different in performance and appearance. Quite a number are home built, as it is possible to buy only such essential parts as drive gears, axles, motor parts, electrical equipment, and wheels of various types, and then build your own chassis and body. Of the stock designs, I have four cars. They are very good replicas of (1) a Fontenac Ford dirt track car; (2) a Miller straight-eight of 1930; (3) a "Doodlebug" or Midget Racer; (4) a Duesenberg Indianapolis car. Some of the new models are true replicas of the Maserati cars and some just American dirt track cars. Incidentally, the kits range from $15.00 to $45.00 for the good ones, or about three to seven pounds in your money; the motors are also very reasonable, the record holders at present being the Cyclone motors which sell for $16.00, then they range up to $60.00 for stock motors. You pay as high as $125.00 for specially built motors, and $75.00 for all-ball-bearing cars. But just for sport and speeds in the 60 m.p.h. class the cost is not great.

The official track is 105′ in diameter (thus using a 52′ 6″ steel aircraft cable for a tether), the pavement of which must be very smooth and about 4′ wide, as the cars run at full length of the cable when in speed and need only the width of the tread to run on, but in starting they weave some, and must have more room. Of course, the infield must be level and free from all obstructions, a good grass preferred, for when the cars "run in," as they sometimes do, and turn over they are not damaged as they are on an asphalt area. The concrete tracks can be built reasonably by using stone rubble, or old brickbats, for foundation, then topping it with about 2″ of good concrete, trowled very smooth—a reinforcing mesh, possibly wire fencing, in the base coat is recommended, as then it is not necessary to put in expansion joints (because the cars jump wildly whenever they hit an uneven place, the expansion joints are not used much in the tracks). The pylon, or centre post, is located in the exact centre of the circle and should be anchored very securely in concrete, the post being either a steel shaft (we use motor car axles) or a 2½″ iron pipe, the bearing for the spindle being an old ball-bearing of a size to fit snugly over the axle. The spinner arm is clamped tightly around this and the steel cable fastened with an eye and thimble (Note—do not use a tight joint at either end as the whipping action of the cars soon causes breakage at this point); at the track end of the tether a strong but small-sized snap-hook is fastened in the same free-playing manner. The entire outfit should be strong enough to stand a 60 lb. straight pull, as that is the equivalent to the pull of a car weighing 7 lbs. at 60 m.p.h. Right here, I would like to say that some kind of a "crash fence" or a retaining wall on the outer edge is advisable for the protection of spectators, as there have been several cases of the cars coming loose and injuring people standing close to the track; personally, I do not care to be hit by a 7 lb. piece of metal travelling 60 m.p.h. either. Accidents do happen and the cars get off once in a while.

While the 105′ track makes one-sixteenth of a mile to the lap, and the cars are run on a quarter, half and 1 mile basis, the laps are easily figured out; many tracks are half size (one-thirty-second of a mile). Ormond Raceway is one-thirty-second. They are not as fast for actual speeds, but appear much faster to the spectators, as the cars get around more often. The location should be as far from residential property as possible, preferably at an aerodrome or industrial location; inside Brooklands would be fine for a track. The noise of the little motors is very penetrating and is disturbing for fully a mile away; we are within half a mile of a church and must not run the motors at all during services.

Now about portable equipment; an old steel motor wheel with the rear hub intact, and an old tyre fitted, makes a good anchor for speeds up to 45 m.p.h., using a piece of the drive axle stuck into the hub for a mast, and the same bearing arrangement as before. Any dance floor, skating rink, airport apron or smooth hard-surfaced area becomes a racing field. When using a line as short as 15′, or a 30′ circle, the wheels have to be "cut" very sharply on the cars and they drag badly, but such a line is used only when giving exhibition runs in limited space and not for competition.

It is impractical to give the cost of the tracks, but they vary from $25.00 to $300.00 for the flat cement raceways, up to $1,500.00 for the elaborate four-lane steel rail tracks they build out in California and race four cars at one time. The actual material cost us $25, but we used refuse, brickbats, etc., and did all the work ourselves, including the mixing the cement and the finishing of the surface.

Enclosed are a few pictures of the track, some of the cars, and a sketch of the layout. I would be mighty glad to hear from some of your readers about Model Midgets, and model race-car building in general. I have over 300 showcase models of race-cars including many of the famous European cars, an extensive clipping collection, and thirty or more books, by such men as Sir Malcolm Campbell, S. C. H. Davis, Prince Chula, and others. Many of the books I saw reviewed or mentioned in your magazine.

With best wishes to you and hoping you will find this useful.

I am, Yours etc.,

LAWSON G. DIGGETT.

Ormond Model Midget Raceway,
P.O. Box 104,
Daytona Beach,
Florida, U.S.A.

[Now what about starting in on model car racing in this country of curtailed motoring? The illustrations referred to appear on pages 257 and 258.—Ed.]

LETTERS FROM RFADERS—continued

Sir,

Congratulations on continuing the publication of MOTOR SPORT under such abnormal conditions, and the best of luck for the future. With reference to the G.P. Sunbeam which came to Northern Ireland and which was mentioned in your October issue by T. A. S. O. Mathieson, and again in your November issue by Arthur L. Fee, this car was raced by the late Trevor McCalla in the Bray (Co. Wicklow) "Round the Houses" in 1934. Also in the County Down Trophy, I believe in 1935, which it won from scratch, doing the record lap at just over 70 m.p.h. This car was a supercharged six-cylinder, and it once belonged to Jack Dunfee. It is now in the possession of Mr. Jack Barbour, who was a great friend of the late Trevor McCalla. It is reported that Mr. Barbour intends to fit a 2.6-litre M.G. engine in place of the old G.P. unit and to use it as a sports-car. Consequently there is very little hope of this car leaving Northern Ireland.

I would be interested to hear from any reader who has successfully cut down the petrol consumption of a J2 M.G. Midget. Also if there are any enthusiasts in the Services stationed around Belfast, they would be made welcome if they care to call at my address for an evening.

I am, Yours etc.,

SAM MITCHELL.

16, Prince Edward Park,
Stranmilles,
Belfast, Ireland.

[Please write direct.—Ed.]

Sir,

I can add a few more economy cars to your list:—

Make	R.A.C. Rating	No. of Cyls.	No. of Gears	Nationality
Constantinesco ...	5.6	2	0	British
Deguingand ...	7	4	2	French
Gnome	3.5	1	4	British
Humber ...	8	4	–	British
Lloyd	6	1	3	British
Mathis	7.5	4	4	French
Rover	8	2	3	British
Senechal ...	8	4	3	French
Sheret	7	2	3	British
Wolseley ...	7	2	3	British

I see Mr. Clutton's article in the August issue has aroused much ire. I agree with your contributor of "Picking up Sam's Gauntlet" that nothing is good from Britain until it is history. But surely the Rover 14 cannot be compared with the Lancia "Aprilia." Certainly the Rover is better in finish and equipment, but its performance is not in the same class as the Lancia.

Rover saloon: 14.9 h.p. (15 h.p. rating): price £330; m.p.h. 70; m.p.g. 24; Lancia "Aprilia" saloon: 12.9 h.p. (13 h.p. rating): price £355; m.p.h. 82; m.p.g. 30. So the bill is not much less. I note that your contributor wonders why there are not many 9 h.p. H.R.G.s on the road. The answer is because it costs £100 more than the admirable Morgan "4/4" and £70 more than the M.G. Type T, the latter two of which are nearly, if not quite, as good. Then again, everybody seems to sneer at the S.S. In defence of that excellent car I would like to point out that the S.S. 3½-litre saloon can beat a 4¼-litre Bentley saloon (even with the overdrive) on all acceleration figures, and also equal it on maximum speed. The finish is *nearly* as good as that of the Bentley and definitely it looks as smart. It is excellent value at £445, less than one-third the cost of a Bentley. And why is the Type 328 B.M.W. always given preference to the S.S. 100? We know the S.S. 100 has a 25 h.p. engine whilst the B.M.W. has only a 17 h.p. engine, but the S.S. is as good as the B.M.W. on petrol consumption and is far more flexible on top gear. Incidentally, the S.S. saloons are full five-seaters. If the S.S. cost £1,000 or so, it would be hailed as a masterpiece of automobile design. Lastly, the finest value, to my mind, is the 33 h.p. Mercury V8 (95 m.p.h., £390, 22 m.p.g., 0-50 m.p.h. in 9 secs., six-seater); the finish is as good as the B.M.W. and fitted with, say, L.M.B. suspension, it should have quite excellent road-holding and cornering properties.

I am, Yours etc.,

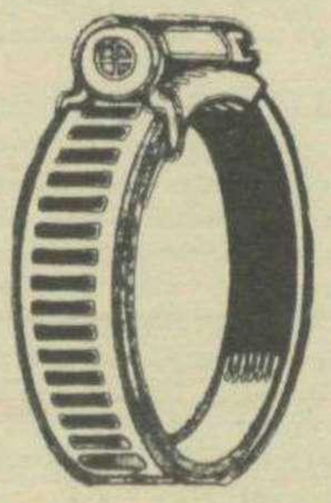
DAVID L. GANDHI

Stockport.

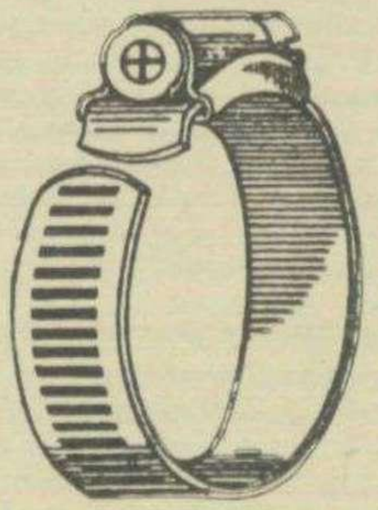
[We included the Constantinesco in *our* Economy Car list and the Gnome was the same as the Nomad. The Rover Eight actually came in the 9 h.p. category, likewise the Senechal, and the flat-twin, ex-Stellite Wolseley was a very early post-1918 car. So far as the S.S. is concerned, Mr. Lyons should be blushing.—Ed.]

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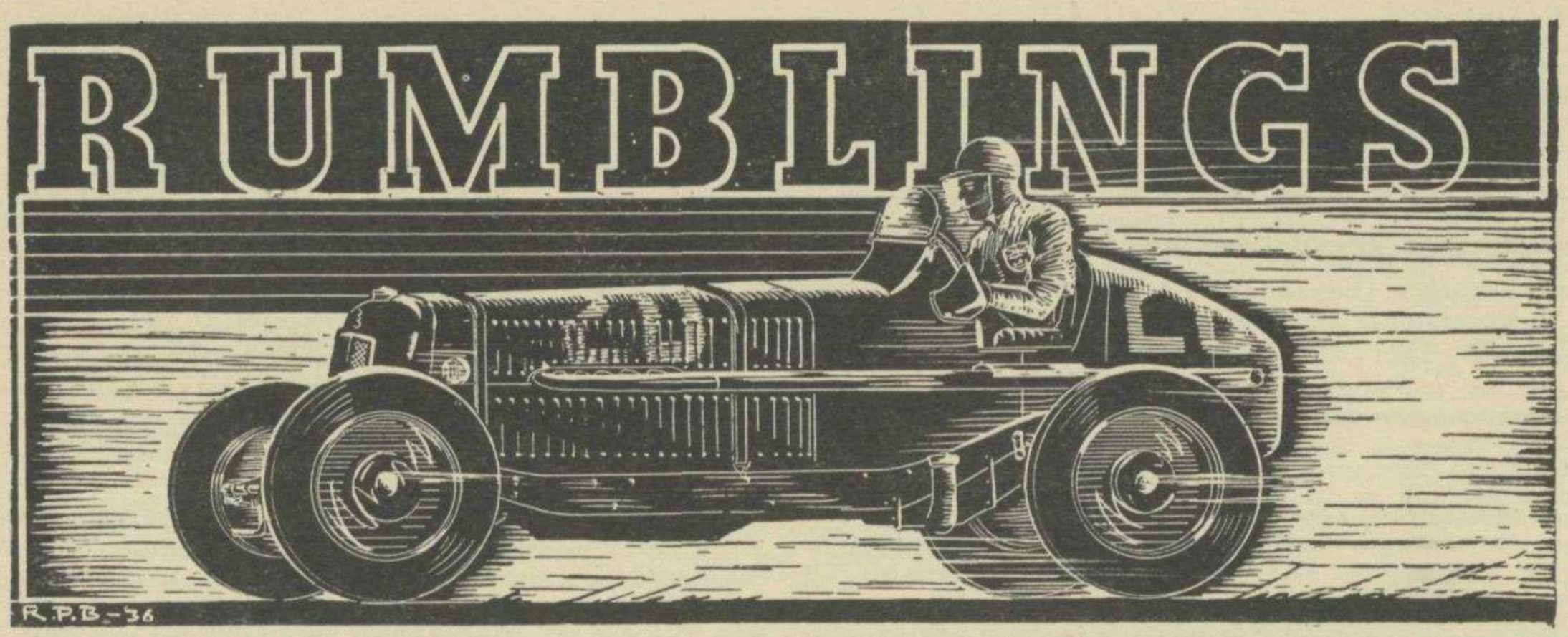
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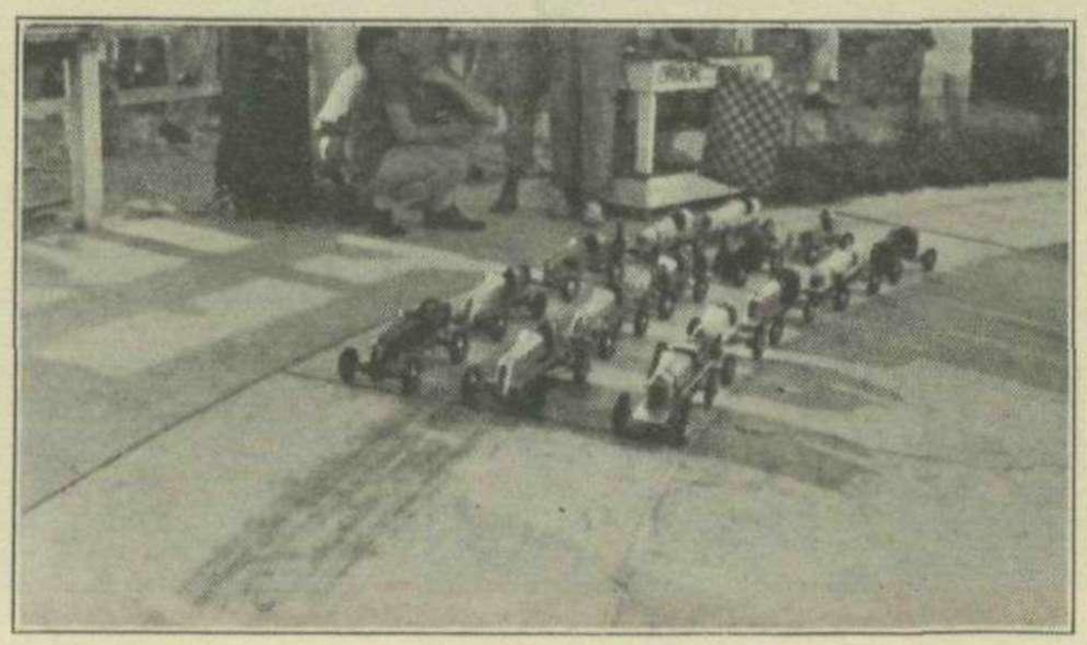


More Economics

FOLLOWING our attempt to offer some observations on the cost of running a sports-car and using it in mild competitions ("Economics—and a Possible Case for the Amateur-Built Special"—December, 1940), some interesting figures have been submitted to me by K. N. Hutchison, well known for his exploits in trials with Allard-Special cars, and whose motoring career formed the subject of an article in the issue of January, 1940.

Hutch considers that the actual expenditure of the ordinary trials enthusiast may be set down under the headings of subscription and entry fees paid to two clubs, say, his local club and the N.W.L. M.C. or similar body, trials entry fees, hotel expenses, fuel and oil expenditure, tyres and expenses. He sets £4 down for the clubs, and £9 in entry fees for twelve events, four of them classics; this, he points out, averages a trial every other week during the season, which he guesses is about sufficient for the average entrant. He adds £2 to £2 10s. 0d. for hotel bills on each long-distance event involving a night away from home, and £1 for a snack, tea, beer and cigarettes on each of the remaining day events. That gives a total of £18. Estimating the "season's" competition mileage at 3,000, assuming each day trial to involve 200 miles in all, and taking a reasonable average fuel consumption under these conditions for a big-engined car and a blown small car alike as 20 m.p.g., the fuel bill absorbs £15-£20, with a margin included to permit an occasional change of sump oil. Hutchison next comes to the cost of tyres and, never having been in love with the ban on "comps.," he suggested buying six such tyres to have two spares always available. As many people considered that the use of ordinary covers for trials resulted in the need for more frequent replacements than formerly, and allowing that good quality covers were essential, his figure of £20-£25 for the season's tyre bill, varying according to size, applies to whichever type of event the R.A.C. permits us after the war. The total is now, on the average, just over £70, and Hutchison wisely suggests setting some £30 aside as proof against emergency repairs and parties—I gathered the latter to include those of the sort you might recklessly throw after a big event. So you find your twelve trials have cost you rather more than £8 each. My economist pointed out that he does not feel that the purchase price of the car, additional repairs and tuning and tax and insurance should be added to the "competition" account, and in any case they are variables. But he bears me out in saying that a car like a Ford V8 should be less expensive in respect of repairs than a supercharged job, albeit tax, insurance and fuel may, collectively, be a bigger item. I was most interested when he suggested that a second-hand Ford V8 costing £30-£40 should constitute quite a useful trials car and still not cost a lot for repairs.

So far as his own expenses are concerned, Hutchison told me that in 1938, when he ran with Sydney Allard and Guy Warburton in the famous Allard-Special "Tailwaggers" team, in all twenty-six trials, eight sprint events, two rallies and the L.C.C. Three Hour Sports-Car Race and a Southport race were covered either by the team or part-team. Excluding the Brooklands and Southport entries, entry fees alone absorbed £51 18s. 0d., and the mileage was 27,000. Taking fuel consumption as 20 m.p.g., the fuel bill is around £101, or an expenditure per member of £51 in all, or £1 8s. 0d. per event, regardless of overheads and hotel bills. Actually, as all three members



A group of cars from over a 500-mile area gathered at the Ormond Model Raceway, U.S.A. They were valued from $15.00 *to* $60.00 *each. Winning car took the prize at 56 m.p.h.; 21 cars competed in a meet lasting from 3 p.m. till midnight*

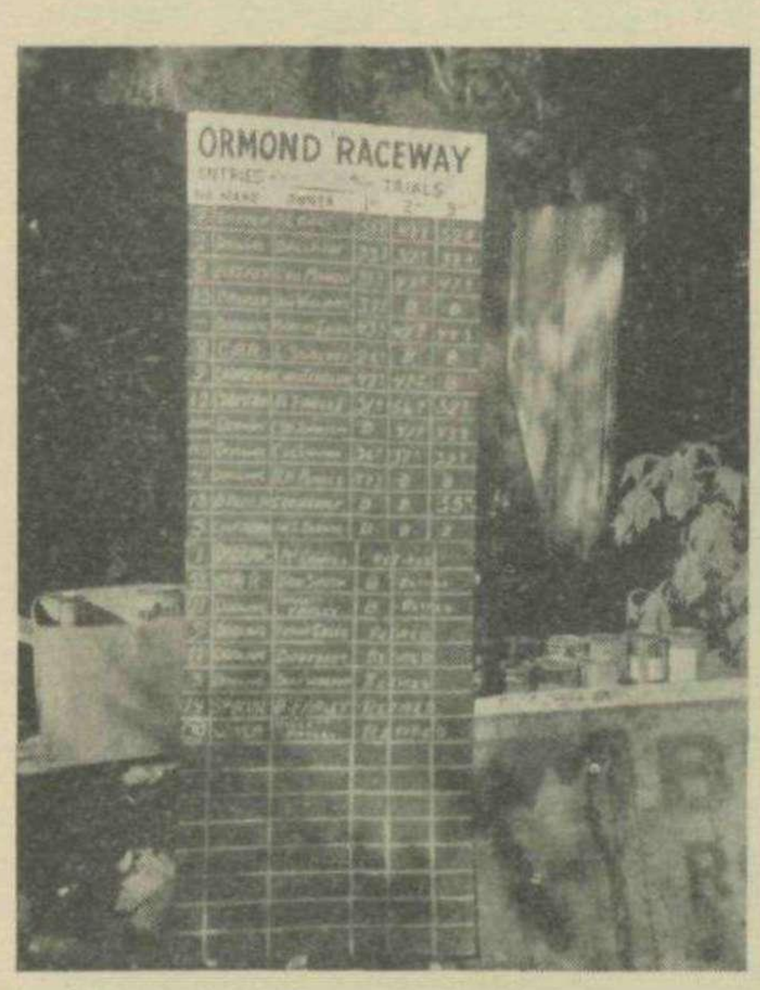
RUMBLINGS—continued

of the team did not run in every event, the figure would be a little higher for each individual member. In addition, Hutch joined fourteen clubs in the course of that season and his colleagues a like number. They ran in nearly every county in England, covering a large area of Scotland and Wales in addition, and being away from home for about thirty nights during the season. Over and above this, Allard and Warburton ran as independents in a number of other events. The "Tailwaggers" competed together in all the classics of 1938, the Colmore, Gloucester, Highland Two-Days, Sunbac Team Trial, Laurence Cup, Experts, Vesey Cup, Thatcher Trophy Trials included, as well as at Lewes, Prescott, Wetherby, Brighton and Poole speed events. They used the black touring Allard, Hutch's white V12 Allard, a four-seater grey V8 Allard, and the well-known V8 and V12 pointed-tail two-seater Allards. Only once did one of these cars fail to return to the stable under its own power, and that is a remarkably fine record for competition reliability. In all, thirteen best performances, twenty-one trophies, thirty-five team awards, eighteen first-class awards and seven second-class awards were taken, the individual scores being :— Allard, 4, 2, 12, 7 and 1 ; Warburton, 4, 4, 8, 5 and 2 ; Hutchison, 5, 15, 15, 6 and 4. Hutch was emphatic in saying that he does not grudge a penny or a minute of the money and time he has spent on the Sport, and he counts the companionships, the experiences and the travel that have resulted very adequate recompense for the drenchings, weariness and occasional disappointments that dicing an open motor car in such a large number of competitive events has entailed. Like so many others, he is only awaiting the end of war to start-in again, perhaps with a new trials-special, his Allard being for sale. Incidentally, continual participation in trials need not be counted as a home-breaker, if the "Tailwaggers" may be safely taken as an example, for Mrs. Kitty Hutchison, Mrs. Warburton, and Mrs. Allard have nearly always accompanied their husbands in the navigator's seat.

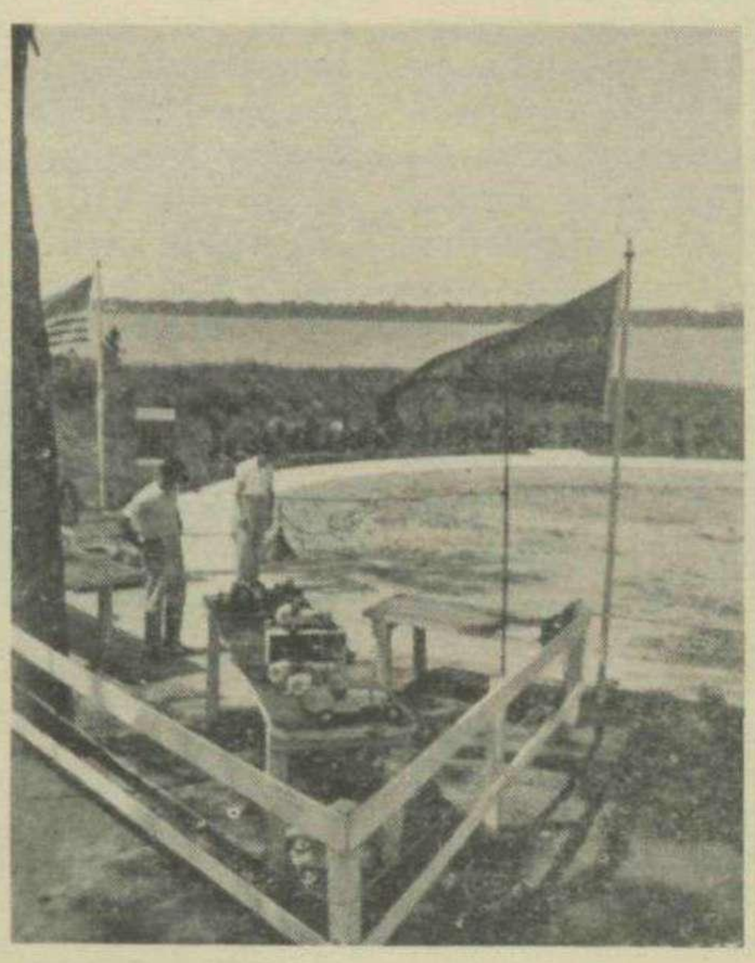
And More About the Models

Nothing has been done, so far as I know, about racing models in this country, although you would have thought that many folk would have had lots of time in which to construct the necessary tracks and would find it easier to produce petrol in pints for models than in gallons these times. Meanwhile, over in the States this new pastime is going right ahead. There is a letter in the correspondence pages from the Ormond Model Midget Raceway which gives us a whole lot of useful information. Some good pictures came with this letter, and it has been found possible to reproduce some of them herewith. When you realise that the Americans run their models on circular concrete tracks of up to one-sixteenth of a mile, and that speeds of 60 m.p.h. are now commonplace, so that stout hedges are desirable to prevent injury to spectators should a car run wild, you begin to like the idea more and more. It seems hard to believe that 75 m.p.h. has been attained, but I believe that a flash-steam power-boat reached 50 or so years and years ago, so on land the model speed record should, as with the real thing, be appreciably quicker. Our correspondent takes me to task for criticising these American models as being all the same and based on the midget dirt-track cars. His photographs sure do show (sorry !) that there is wide variety in body styles, and apparently Miller and Maserati are reproduced, but it still seems that tiny wheels are universal, giving the impression that the designs have been based on cinder-track prototypes. And why the "Midget"

Continued on page 246



Score-board of the meet Sept. 1st, 1940, showing speeds—" B" represented 5 balk starts in that heat. 3 B's 1 run. Numerous cars retired through mechanical failures.



Close-up of the "pits" and work benches



A poster used in downtown stores to invite the public to attend. No charge is made. The prize and expenses are all covered by donations.

MERCEDES-BENZ versus AUTO-UNION—continued

and a 15 secs. fuel stop. Caracciola ran on non-stop, to win a faultless and trying race in 3 hrs. 49 mins. 20.4 secs., at 51.95 m.p.h., 1.2 sec. ahead of Varzi, with Stuck third and "Nuvers" fourth. Caracciola was lucky in lapping Tardini before the oil trouble began. Some idea of the terrible conditions is gained when it is realised that "Bira's" win in the 1½-litre with the E.R.A. was at an average 1.04 m.p.h. higher, albeit for half the distance. Under such terrible conditions Mercedes-Benz conclusively took first round in the 1936 season.

The second round was that great race at Tripoli, on the fastest road circuit in the world. Auto-Union put three 6½-litre cars in the field, handled by Varzi, Stuck and Rosemeyer, while Mercedes-Benz had Chiron, Caracciola, Fagioli and Brauchitsch, all driving the new, low 4¼-litre cars, having a 15" shorter wheelbase than formerly. Alfa put in the new twelve, of 4.1 litres capacity, but Nuvolari burst a tyre and turned his model over completely in practice, escaping with slight back injuries. Rosemeyer set a new lap record, in 3 mins. 33.2 secs., against Caracciola's 3 mins. 41 secs. The tyre problem was expected to be severe and the German teams brought 300 spares, using 22×7 covers. Stuck led Chiron away when the flag fell, and he did his standing 8 mile lap at 139.3 m.p.h., leading Rosemeyer by 300 yards. "Nuvers" was third, Caracciola fourth, Fagioli fifth and Brivio's Alfa sixth. After a few rounds the three Auto-Unions were line ahead in the lead, the order now being Rosemeyer, Stuck and Varzi. At 10 laps Stuck was back in first place, and as all three Auto-Unions came in for tyres on lap 12 the Mercedes went ahead. However, when the Mercs. came in for the same reason the position reversed again and Varzi consolidated it with a lap in 3 mins. 33 secs. Brauchitsch then retired, but things were evened up when Rosemeyer's car lit up on lap 18. Varzi was now second and Chiron third. The Alfa-Romeos were no match for the German cars and were experiencing plenty of tyre trouble as well. After 20 laps Stuck led at the immense average of 129.6 m.p.h. with Varzi a mere .8 of a sec. to the bad. The latter actually led two laps later, only to be repassed. More tyre delays and then Stuck and Varzi were ordered to ease up in their ding-dong battle; at first both obeyed to the tune of 10 secs. a lap. Varzi soon lost another 30 secs. having a front cover changed, and he then did an immense lap in 3 mins. 35 secs., to lead Hans by 15 secs. He kept to it and finally won by 24.4 secs. at 128.9 m.p.h. from the more obedient Stuck. The race time was 2 hrs. 31 mins. 5.4 secs. Fagioli was third, and Caracciola fourth, but the new Mercs. seemed less stable than formerly, and Brivio's new V12 Alfa was faster. However, the following week-end Caracciola won the Tunis G.P. at 100.2 m.p.h., ahead of Pintacuda's Alfa-Romeo and Wimille's Bugatti. Rosemeyer's Auto-Union was completely burnt out and Varzi had a miraculous escape when his Auto-Union went out of control at 180 m.p.h. He was thrown out before the car somersaulted several times and finished up a mass of wreckage. Only four out of eleven starters finished.

Now came a most interesting period of Grand Prix history, and a reversal of German successes. It started with the Coppa Penya Rhin, at Montjuich Park. Over this twisty circuit everyone expected Caracciola to repeat his previous year's victory. However, Nuvolari the Master led away in the V12 Alfa-Romeo, and at half-distance Caracciola was still behind him. The Italian then lost 40 secs. in a terrific refuel and tyre change and let the Mercedes past, but a record lap at 71.5 m.p.h. regained him the lead. Caracciola then lost time refuelling and he just failed to catch the Alfa-Romeo when Nuvolari lost another 30 secs. for a wheel change. The last 20 laps were terrific, but Nuvolari won by 3 secs., in 2 hrs. 43 mins. 7 secs., at 69.2 m.p.h. Farina's eight-cylinder Alfa-Romeo was third, ahead of von Delius and Rosemeyer (Auto-Unions) and Chiron's Mercedes-Benz. It was rumoured that Mercedes were in a position to pull out 10 per cent. more speed whenever a real challenge made this necessary, and 300,000 folk went to Nurburg in the rain to see if this was so. The Eifel race was not a formula event, but Auto-Union put in 5.8-litre cars, while Mercedes used the shortened chassis, the teams being Stuck, Varzi, Delius and Rosemeyer; Caracciola, Brauchitsch, Lang and Chiron. "Nuvers" and Brivio took the V12 Alfa-Romeos. In practice Brauchitsch had set a new (but unrecognised) Nurburg lap record of 81¼ m.p.h. Rosemeyer looked like being away first, but wheelspin on the tricky surface let Caracciola through, and Nuvolari was very soon between the Merc. and Auto-Union. "Caratsch" led lap one by 4 secs. from Tazio, at 72.5 m.p.h. for 14 soaking miles. After two laps Nuvolari was a mere second behind and then the Karussell announcer was heard to say: "Nuvolari leads!" At the end of that great lap he still did, and by 5 secs. On lap four, the meteoric Rosemeyer also passed Caracciola, and the Alfa-Romeo led by 18 secs. Stuck now lost 1½ mins. while all his sixteen plugs were changed. The Merc. now seemed to be slowing and Brauchitsch passed, and the trouble was found to be a broken shock-absorber which made the car so useless that Rudi retired. At half distance Rosemeyer was 9 secs. behind Nuvolari, and lap six was immense, the Auto-Union closing and finally passing on the stands straight, to go past the hysterical crowd with a three lengths lead. Mist in great patches now added to the driver's unpleasantness, but Rosemeyer just speeded up some more and established a 15 secs. lead. Lang left the road after spinning round several times, and a tyre change was needed, and Brauchitsch, from third place, now retired for similar reasons. Chiron's car remained unwell, but the leading Auto-Union was going amazingly, mist or no mist, and did the ninth lap at 72.96 m.p.h. So Rosemeyer won a very trying race, helped by sheer good pilotage, in 1 hr. 56 mins. 41 secs. at 72.76 m.p.h., 2 mins. 13 secs. ahead of the Alfa-Romeo. Brivio and Farina were third and fourth and the best Mercedes could do was fifth and sixth (Lang and Chiron). Varzi, Stuck and Delius were next home.

So German prestige was a little improved. But in the Hungarian G.P. at Budapest Nuvolari, now with the eight-cylinder Alfa-Romeo, led, was passed by Rosemeyer, tailed him until beyond half-distance, then caught him at a corner and went on to win by 14 secs. at 69.1 m.p.h., in 2 hrs. 14 mins. 3 secs. Varzi was third, and the Stuck-Delius combination fifth behind Tardini's Alfa, while *all three Mercedes retired*. Then, at Milan, Alfas home town, only Varzi, of the Germans, met the Alfas, and after an almost wheel-to-wheel tussle for the better part of the 98 miles, Nuvolari got home first by 9 secs., after 1 hr. 35 mins. 56.2 secs. of concentrated motoring. Truly great is Tazio; so, too, was Neubauer's frown at this time! Meanwhile, Stuck had brought an Auto-Union to Shelsley Walsh—the 5.3-litre, wide rear axle, twin rear-wheeled job—and on a typical English summer afternoon, found the wet and the course quite unsuited to the car, which ascended in 45.2 secs., winning his class, but his time equalled by Denis Evans's M.G.

The German G.P. at Nurburg opened well, but tailed off at the end, although terrific enthusiasm was displayed before, during, and after the race. Brauchitsch led until half way through the second lap, when he slowed, to be overtaken by Rosemeyer's Auto-Union. Rosemeyer proceeded to drive the race of his career, proving himself master of the Ring, to win in 3 hrs. 49 mins. 39 secs., at 81.8 m.p.h. Lang, for Mercedes, drove extremely well in second place until he broke a finger and Brauchitsch took over. When Fagioli came in Zehender hopefully prepared to take over, and actually entered the car, when Lang appeared, his finger now splinted, whereupon Neubauer barked "Get out!" and Zehender obeyed, after which Caracciola always filled the role of spare driver. In the end, Stuck's Auto-Union was second, and Brivio's Alfa-Romeo third. Nuvolari having retired. Chiron had a very terrific crash. Tazio declared Rosemeyer the Nurburg champion, and in Adenau that night the Eifelerhof Hotel was besieged with crowds demanding the great ones. Again Mercedes had done badly and the rigid team discipline enforced by Neubauer seemed to have resulted in resentment and ill-feeling on the part of his drivers. In contrast, Auto-Union had a no-trouble run and everyone was very happy. While Mercedes stayed behind at Nurburg in an endeavour to cure the suspension troubles which had beset them throughout the 1936 season, Auto-Union set out on the long journey to Montenero, hardly touching their cars. The Coppa Ciano opened badly for Alfa-Romeo, when Nuvolari's twelve-cylinder car broke its rear axle in the first lap and the three Auto-Unions led. However, Nuvolari took over Pintacuda's eight-cylinder Alfa-Romeo and drove in a truly inspired manner, and on lap 20 he caught Rosemeyer. The

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ON SOMETHING IN THE ENGLISH TRADITION

"NEVER IN THE FIELD OF HUMAN CONFLICT WAS SO MUCH OWED BY SO MANY TO SO FEW."—THE PRIME MINISTER, OF THE R.A.F. FIGHTER PILOTS, 1940

THE firm of Rolls-Royce Ltd. is, perhaps, the most famous in the whole Motor Industry; indeed, it is so well known, and so highly respected, as to be virtually an institution. This was the case in the days before the last war with Germany, but it can fairly safely be said that not until now have so many people been so closely bound up with the activities of this great company, or so many able to experience such pride and satisfaction in its products as is the case to-day. Practically the whole of the Fighter Command flies on Rolls-Royce engines. Lots of our most potent bombers rely on Rolls-Royce engines. Our learner pilots do their advanced training behind engines emanating from the firm of Rolls-Royce Ltd. So obviously more people are keenly interested in this firm than has ever been the case before, and scores of people not previously having had anything to do with its products now have very good reasons for regarding the magic initials R.-R. with considerable affection. Those great young men, of whom Mr. Churchill said in all sincerity that never before have so few rendered such service to so many, appreciate, perhaps more keenly than any, the worth of the Merlin. Pilots about to enter squadrons for active service have developed a real love for the Kestrel. Ground engineers and aircraftsmen know both motors well. When you consider what a vast organisation is our Royal Air Force you can well imagine that many thousands of young men, to say nothing of their knowledgeable and charming ladies (who so proudly wear the R.A.F. wings, whether in the form of a "Woolworth" brooch or a badge which some squadron-leader has conveniently "lost") centre their thoughts and conversation and pin their trust and hope very much in relation to matters R.-R.

Bring in all those officials of the Air Ministry and those employees of outside firms whom the war has brought in close contact with Rolls-Royce in their various capacities, and it must be clearly evident that this great concern is, to-day, of real significance to a very great many people, who cannot fail to be interested in everything that has to do with it. Certainly, if you have been able to see Rolls-Royce getting down to its war tasks, as I have done, you will have experienced an immeasurable admiration for this wonderful organisation. Happy workers (very few of whom are not specialists at their own particular jobs), for R.-R. look after them well, tumble out of the works at lunch time or at the end of a "shift," the very essence of English liberty in oil-stained flannels or baggy boiler-suits. In the "mess," quiet-spoken gentlemen, quite a lot of them going more than a little bald, discuss technicalities as a hobby rather than as a hang-over from the morning's toil; they are ministered to under conditions and in a manner which would put many good-class restaurants to shame. In the offices, well lit and well furnished, but not at all ostentatious, each department works to keep control of and to guide, as it were, the great organisation existing without. In the shops I have seen aero-engines that might well have been on the company's stand at some international aero show, so clean were both they and their surroundings, whereas, in sober fact, they were even then in course of reassembly following a routine strip for overhaul. The dance music emanating from the radio which now entertains these war workers (who work as hard in the national cause as any uniformed troops) serves only to strengthen this impression, albeit no aero show ever held has contained so many motors, counting all the different makes together, as these shops can boast of one type alone. Standing by the test-beds—above which floats an ever-present steam cloud generated by coolant of motors continually being passed out as fit for service, deafened by the blast from open exhausts, with oil-laden water spray blown over one by the air-stream from the dynamometer fans—these impressions crystallise. You go out through the gates of what is really a surprisingly humble-looking factory, into a dingy, trolley-bus-infested city of cheerless streets and cobbled pavements, and you feel proud of this organisation, which has built up such a great reputation, and which is even now maintaining and consolidating it, working as it has done for over a quarter of a century in a manner entirely in keeping with the English tradition. A desire is created to further one's associations with the firm, and for most of us that implies learning something of its origin and history. Thanks to that excellent book, "The Magic of a Name," which Harold Nockolds wrote after he had been inspired, in his turn, by contact with R.-R., and which Messrs. G. T. Foulis and Co. Ltd. published some two years ago, we are able to do just that. Incidentally, the author is the same Harold Nockolds who used to write "Continental Notes" for us in the now seemingly far-off days when there were Continental motor-races to write about. Nockolds has written up the history of Rolls-Royce in a most comprehensive and appropriate way and his book should be of very real appeal to all those war workers aforementioned, in uniform and out, who appreciate now what they were quite willing to believe before—that the firm of Rolls-Royce is an unique and essentially British organisation to whom only the best is good enough, down to the very last tab-washer or split-pin. It is an absorbing story which Nockolds has to tell. Frederick Henry Royce was born at Alwalton, Lincolnshire, the son of a miller, nearly seventy-eight years ago. His first job seems to have been that of newspaper boy to W. H. Smith and Son, a firm, incidentally, whose name is a household one in the newspaper world as Rolls-Royce was destined to become in another sphere. Some years later Royce was apprenticed by a sympathetic, and perhaps far-seeing, aunt to the Great Northern Railway works at Peterborough, and a certain Mr. Yarrow, with whom he boarded, sent him a very long way towards a sound engineering career. His hard-won but invaluable experience prompted him to take an ambitious position with the Electric Light and Power Company in London and later a responsible position with the Lancashire Maxim and Western Electric Company. When the latter concern faded out, Royce set up in business on his own, in partnership with his friend A. E. Claremont, with a capital of £70. As F. H. Royce and Company they made simple electrical appliances, and it was so commonplace an article as a household bell set which finally set the Company on its feet. Royce then perfected the dynamo, and from that time on he began really to prosper. From an eternity of work, study and virtual starvation, Royce emerged to a life of more conventional standards, and at the age of thirty he married a girl whose sister married his partner. Came the Boer War, and with it a flood of cheap electric cranes from America and Germany, which seriously cut into the market for the beautifully-made products which had for some years been the chief concern of F. H. Royce and Co. It was in the midst of this depression, with the future of his business anything but rosy, that Royce lost interest in electrical matters and spent nearly all his time playing with, and evolving improvements for, his Decauville motor car. And on April 1st, 1904, the first Rolls-Royce emerged from the doors of the Manchester factory. It was a 10 h.p. vertical-twin of 95 mm. × 127 mm., having coil ignition, a three-speed quadrant-change gearbox, live axle and a weight of 14½ cwt.

From the commencement the 10 h.p. Royce proved a refined and reliable car, but, far from satisfied, its creator reverted to his old practice of long hours of work unpunctuated by food or rest and, aided by his loyal employees, carried out a very exacting process of evolution. In its more finalised form the two-cylinder Rolls-Royce was a very remarkable car, as the Hon. Charles Rolls and Claude Johnson were soon aware. These two gentlemen were running a motor business in London and Royce was introduced to them by Henry Edmunds, a director of Royce, Ltd., as the firm was now called, and on the committee of the A.C.G.B.I. C. S. Rolls and Co. agreed to absorb the entire output of the Royce factory. Rolls had a display of these cars on his stand at the 1904 Paris Salon, beside the Panhard and Minerva for which he was agent. For 1905 he was able to offer his distinguished clients a choice of 10 h.p. two-cylinder, 15 h.p. three-cylinder, 20 h.p. four-cylinder, or 30 h.p. six-cylinder Rolls-Royce cars, at respective chassis prices of £395, £500, £650 and £890. To-day, if you enter the waiting room at Derby, you will have in your company

ON SOMETHING IN THE ENGLISH TRADITION—continued

one of the 1905 two-cylinder Rolls-Royce cars, which a Scottish owner presented to the makers after he had extracted over 100,000 miles of service from it; the condition is still about 100 per cent. Rolls, however, realised that publicity was as essential to a good car as to a bad, if commercial success was to reward mechanical genius, and he commenced enthusiastically to publicize his new interest. In 1904 he met H.R.H. the Duke of Connaught at Folkestone and took him for a coastal tour in a two-cylinder Rolls-Royce, keeping his appointment at 9 a.m. by leaving London before dawn and returning that evening—a day's run of 220 miles. Rolls was behind the presentation of a Rolls-Royce to the retiring headmaster of Eton, and it was Rolls who drove Lord Methuen in a Rolls-Royce at the army manœuvres that year.

Then Mr. Briggs, of Yorkshire, a highly satisfied owner of the "Heavy Twenty" Rolls-Royce which was a new model at the Olympia Show of February, 1905, suggested the entry of two Rolls-Royces for the T.T. Needless to say, the entry went in—the first to be received—and on the day of the race the official car was a 30 h.p. Rolls-Royce. Rolls had visited the I.O.M. course in May and the two 20 h.p. cars were thus ready in ample time for the race in September. History relates how Rolls experienced gearbox trouble a few miles from the start, but that Percy Northey finished second to Napier's Arrol-Johnson, at 33.7 m.p.h.—the fastest non-stop run. Up to this time C. S. Rolls and Co. had handled the Panhard, Minerva, New Orleans and Dufaux agencies, as well as that of Rolls-Royce, but the 1905 T.T. results decided them on a new policy, whereby they sold only the last-named car, for which purpose Rolls-Royce, Ltd., was formed, with a capital of £60,000. We owe that great business undertaking to Rolls, Johnson, Edmunds and Briggs.

At a luncheon at the Trocadero to celebrate Northey's T.T. success the new 20 h.p. V8 Rolls-Royce, with engine at the side, was dramatically announced, which could do almost all its running on top gear. This developed into the famous "Legalimit" model, shown at the November, 1905, Olympia, with normally-located engine governed to run uphill, downhill and along the level at the legal 20 m.p.h. With open three-seater body the price was £1,160, and Sir Alfred Harmsworth was the first to order.

Rolls's next move was to drive a T.T. type "Light Twenty" Rolls-Royce from Monte Carlo to London in 37 hrs. 28½ mins. total time, in answer to Jarrott's run from London to Monte in a 40 h.p. Crossley. On the run across France the Rolls-Royce averaged 27.3 m.p.h. to the Crossley's 24.2 m.p.h. Many other demonstrations of Rolls-Royce reliability and efficiency were given and in the 1906 T.T., after Northey had retired with a broken spring in the first lap, Rolls won easily at 39.3 m.p.h., 27 mins. ahead of Bablot's Berliet. By the end of 1906 the company's capital was increased to £300,000. The present Derby works were now put in hand, but that notwithstanding, Royce found time to design a 48 h.p. chassis to supplement the "Twenty" and "Thirty." Thus was the immortal "Silver Ghost" born, three being exhibited at the end of 1906, when the chassis price was £950. Further demonstrations firmly established the "Silver Ghost," amongst them the historic 15,000 miles run in 1907 under R.A.C. observation, when the engine was only stopped at the conclusion of each day's drive, and a distance of 14,371 miles was covered thus, a slack petrol tap causing the only involuntary engine stop. When the car was stripped at the conclusion of the test, the R.A.C. could not find any faults which could not have been put right at a cost of £2 2s. 7d., while, tyre repairs included, the running expenses came out at 4½d. a mile. This original "Silver Ghost" was still in use when Nockolds wrote his book, and it then had some 400,000 miles to its credit. Yet for the 1907 Show Royce had further improved the "40/50" in respect of steering, suspension, transmission, brakes, carburation, lubrication and silencing. Claude Johnson entered two cars of the "Silver Ghost" type—"White Knave" and "Silver Rogue"—for the 1908 R.A.C. International Touring Car Trial, at the same time challenging any other similar size car to a further run of 15,000 miles non-stop (17,000 in all) at stakes of £1,000 a side, together with a scoring system by points with stakes of 1/- a point, the winner to take all—I wonder how our modern cars would have fared in such a test? In the trial the Rolls-Royce won its class, and averaged 53.6 m.p.h. for the 200 observed miles on Brooklands; no one accepted the Johnson Challenge! Later, under R.A.C. observation, two Rolls-Royces really tried on the track over this distance, and returned 65.9 and 65.84 m.p.h., respectively. Please note the use made of racing, trials, and track-testing by Rolls-Royce in consolidating its early reputation, ye doubters. . . .

In 1908 the "one-model" policy was decided upon, and the "40/50" became the sole concern of the Derby factory until the advent of the 20 h.p. model in 1923.

The unhappy death of Rolls while flying his aeroplane at a meeting in 1910, and the serious illness of Royce, which necessitated his removal to the South of France, did not stem Rolls-Royce activities. The "40/50" was further improved and continued to be kept before the public in various ways. Just before Christmas, 1911, for instance, a special-bodied, hotted-up chassis was taken to Weybridge and timed over the flying quarter-mile at 101 m.p.h.—and that seems to me an astonishing speed for a s.v. Rolls before the war. Prior to this, a "London-Edinburgh" "40/50" had shown up Edge's Napier by repeating this run from which it derived its name in top gear, but at 19.35 m.p.g. on a 2.7 to 1 ratio, on which 76.42 m.p.h. was achieved at Brooklands.

The "Continental" model was evolved for the 1913 Alpine Trial. Although a crash prevented the Rolls-Royce team from taking the Team Prize, they entirely dominated the event and, incidentally, each covered the 1,645 miles, nineteen Alpine passes included, without replenishment of the radiators. Some time afterwards Radley, a private owner, set the London-Monte Carlo record at 26 hrs. 4 mins. total time—so if any young bloods of the present are hard put to it to celebrate the next Armistice . . . .

The war found Frederick Royce working as hard in his drawing office at St. Margaret's Bay as ever he did in Manchester and Derby, and the result was the long range of Rolls-Royce aero-engines which did so much to give our Royal Flying Corps the mastery of the air in 1914-18.

In spite of ill-health isolating him so far from the parent factory (he later moved, but only to West Wittering), Royce got the same results and mantained the self-same perfection in connection with aero-motors as he had with his cars. His first venture in this new field was the Rolls-Royce "Eagle," which at first produced 255 b.h.p. at 1,800 r.p.m., although laid down as a 200 h.p. motor, and which, by 1918, was giving 360 b.h.p. The "Hawk" and "Falcon" were other great R.-R. motors of the last world-war, and after the Armistice the good work was continued, by way of the "Buzzard" and "Kestrel," down to the variety of "Merlin" types to which we of the present generation are already deeply indebted, as doubtless we are soon to be to other R.-R. motors at present "unmentionable." It was in the course of development of these motors that the famous Schneider Trophy engines were evolved, the "H" of 1929 giving 1,900 b.h.p. at 2,900 r.p.m. for 1,630 lbs., and the "R" of 1931 producing 2,350 b.h.p. at 3,200 r.p.m. for a weight of 1,530 lbs. It is the proud claim of these wonderful power units that in their time they have been used by British record-attackers successfully to break the world's speed records on land, on water, and in the air. I particularly like the story that the assistance of the Mayor of Derby had to be obtained to pacify the townsfolk when the 1929 Schneider Trophy engines were on the test-bed—living, as I now do, near the R.A.E. I realise how far and how penetratingly sound carries from the stub-exhausts of really hairy motors. Reverting to that last war, Nockolds tells many episodes of the great part played by Rolls-Royce cars, both armoured and otherwise, and he puts on record the classic tribute of Lawrence of Arabia who, when asked if there was anything to be bought with money that he couldn't afford but would like to have, answered: "I should like to have a Rolls-Royce car, with enough tyres and petrol to last me all my life." Incidentally, the King's Messengers Service, which was operated between the French ports and British H.Q. from September 1914, until the close of 1916 by Rolls-Royce owners, is the sort of thing which enthusiasts now in the R.A.S.C. must wish existed in *this* war. Perhaps, however, some of the luckier ones have been able to emulate the historic run put up by the driver who left Fere-en-Tardenois at 5 a.m. in the

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morning and got Col. Bridges safely to Antwerp, 400 miles away, just after 10 p.m., where pyjama-clad King Albert waited to receive Sir John French's plea for continued support—the car, of course, was a "Silver Ghost" Rolls-Royce. Royce's letters relating to aero-engine design, written to Claude Johnson during 1914-18, were subsequently published chronologically in a book marked "Private and Confidential" and given to the heads of the designing and engineering staff, with instructions that they must always be kept under lock and key—as the holders keep this "Rolls-Royce Bible" to this day. Royce was knighted for his aero-engine researches only a short while before he passed away in 1933. After the war, car production continued alongside that of aero engines. In 1922 the "Twenty" broke into the one-model policy instituted in 1907 and in 1925 the o.h.v. "Phantom I" broke the nineteen year run of the "Silver Ghost" model. In 1929 the "Phantom II" appeared, and to-day we have—or had, until R.-R. had to cease car-production in order to create weapons to hasten Hitler's destruction—the V12 "Phantom III" and the "25/30" "Wraith." Rolls-Royce, Ltd., also took over the Bentley Company in 1931 and produced the 3½-litre Bentley sports chassis to R.-R. standards, until the 4¼-litre superseded it, due to give way, after the next Armistice, to the independently-sprung Mark V Bentley. Then there were the experimental cars, though it would be unfair to Nockolds to say more than that they included such exciting things as the 3-litre Rolls-Royce, a blown straight-eight, and a quite small-engined model—chassis which are entirely unknown to many well-informed people in the motoring world, until they read "The Magic of a Name." I have quoted freely from this book, but I have only been able just to outline something of Rolls-Royce history and not to touch at all on the character of Royce himself or on the personalities of Rolls, Johnson, Sidgreaves, Hive, Secretary De Looze, Edwards, Briggs, the apprentices Platford and Haldenby and the many others who piloted the Rolls-Royce Company through its early ventures, and many of whom share in its successes to this day. Nor have I been able to record all the Rolls-Royce outstanding achievements, while I have written nothing on the methods whereby the world-famed refinement and reliability is built into its products. Nockolds tells of all these things in the book, and it makes a fascinating story. I sometimes wonder if Sir Henry Royce, of humble birth and in every sense a hard and tireless worker, ever pondered on the kind of folk who were to ride in his luxurious cars and whether he would not have had greater admiration for the young men who now defend us, behind his engines, in the sky; as I'm sure Charles Rolls would have done. These gallant young men would do well to read Nockolds's book, I think, while their present keen appreciation for Rolls-Royce products is at its height. Indeed, anyone who finds himself, as a war worker, associated with the "Merlin," should be inspired by Nockolds's story, as no less should those who, helpless on the ground or under it, are so magnificently defended by Rolls-Royce-engined fighters. This article was, indeed, inspired by my own sense of indebtedness to the firm which powers all our fastest fighters and most of our bombers.

In conclusion, I would like to mention that the publishers (Foulis & Co., 7, Milford Lane, London, W.C. 2) still have a number of copies of the book I have taken as my source of reference ("The Magic of a Name" by H. Nockolds, 225 pages) for disposal at fifteen shillings each, and to drop a hint to the effect that it would constitute a very appropriate gift to those young men of the R.A.F. now daily associated with the magic name and who serve us so nobly.

SOME ROLLS-ROYCE CARS

Year	Model	H.P.	Bore & Stroke	No. of Cyls.	No. of Speeds	REMARKS
1904	"Ten"	10	95×127	2	3	The first Rolls-Royce. Chassis price £395
1905	"Fifteen"	15	95×127	3	—	Chassis price £500
1905	"Twenty"	20	95×127	4	—	Chassis price £650
1905	"Thirty"	30	95×127	6	—	Chassis price £890. Three blocks of two cylinders. Dual ignition
1905	"Heavy Twenty"	20	—	—	—	Introduced in February, 1905, to meet demand for bigger bodywork. Started research on R.-R. light alloys
1905	"T.T. Twenty"	20	95×127	4	4	Overdrive top gear, nickel-steel forged front axle, 18 b.h.p. at 1,000 r.p.m.
	"T.T. Twenty"	20	100×127	4	4	As above, but 20 b.h.p. at 1,000 r.p.m.
1905	V8	20	83×83	8	3	Designed to compete with electric brougham. Engine at side. Low top gear
1905	"Legalimit"	20	83×83	8	3	As above, but with normally placed engine and open three-seater body. Governed to run everywhere at 20 m.p.h. First car sold to Lord Northcliffe (then Sir A. Harmsworth).
1906	"T.T."	20	101×127	4	—	22 b.h.p. at 1,000 r.p.m.
1906	"40/50 Silver Ghost"	48.6	114×121	6	4	Two blocks of three cylinders, leather clutch, overdrive top gear. 48 b.h.p. at 1,700 r.p.m.
1908	"Silver Rogue"	—	—	6	4	Built for International Trial. Longer stroke and higher compression ratio than original "Silver Ghost," modifications later incorporated in that model as standard. Overdrive top gear.
1909	"London-Edinburgh"	—	—	6	3	Overdrive top gear, giving virtually only one in direct gear. Flexible engine mounting.
1913	"Continental"	—	—	6	4	Built for Austrian Alpine Trial. Cantilever rear springs.
1920	"Silver Ghost"	43.3	4¼"×5½"	6	4	F.W.B. in 1925
1922	"Twenty"	21.6	3" ×4½"	6	3	Later models had four speeds
1929	"Phantom I"	43.3	4¼"×5½"	6	4	O.H.V. engine
1930	"Phantom II"	43.3	4¼"×5½"	6	4	Half-elliptic rear springs
1930	"20/25"	25.3	3¼"×4½"	6	4	
1937	"Wraith"	29.4	89×114	6	4	In production up to the war
1938	"Phantom III"	50.7	82.5×114	12	4	" " " "

MERCEDES-BENZ versus AUTO-UNION—continued from page 259

Auto-Union brakes were in poor shape after the German G.P. and soon Tazio had passed Varzi and Stuck. The Alfa won easily at 74.8 m.p.h. after "Nuvers" had occupied 1 hr. 44 mins. 40 secs. with some of his greatest driving ever. Brivio and Dreyfus on Alfa-Romeos were second and third, which shows how a modern G.P. car suffers in the course of one long race—when did you last reline *your* brakes?

So to Pescara, where a huge, very pro-Italian crowd watched the Coppa Acerbo in glorious weather. Chicanes had been erected to compensate for the inferior maximum speed of the Alfa-Romeos and for five laps Nuvolari led the Germans. Then Rosemeyer's Auto-Union went out ahead and, doing 170 m.p.h. or so along the straight, won at 86.48 m.p.h., in 2 hrs. 57 mins. 4 secs. Nuvolari finally retired after 150 miles of fighting the Auto-Unions. Varzi was delayed by a pit stop and subsequent trouble, but he did 183.64 m.p.h. over the timed kilo, and set a race lap record of 88.9 m.p.h. He finished third, behind von Delius, with Brivio's Alfa-Romeo fourth. Stuck hit a chicane with his elbow and retired with nasty injuries.

Mercedes-Benz hoped to stage a comeback in the Swiss G.P. at Bremgarten and Caracciola led away, followed by Rosemeyer, Lang and Nuvolari. Tazio got into third place on lap two, but the circuit did not humour his car and he fell back to sixth position. "Caratsch" and Rosemeyer indulged in an immense duel, and the latter set up a new lap record of 105.42 m.p.h. on lap 15. At half distance he refuelled in 35 secs., including a change of rear wheels. Here Mercedes committed a grave error, as only fuel was taken on, perhaps remembering the poor pit work in the German G.P. A mere lap later Brauchitsch's car threw a tread and the cars had to be called in for the rear wheels to be changed. Fagioli had already retired with a broken oil pipe and soon afterwards Caracciola went out with a broken rear axle tie-bar. Rosemeyer eased up, to win in 3 hrs. 9 mins. 1.6 secs., at 100.53 m.p.h. Varzi was second and Stuck, his arm in bandages, necessitating his being lifted from the car, finished third. Lang's finger troubled him, so Fagioli took over his Merc., only to suffer a puncture; it came in fourth, ahead of Hasse's Auto-Union. Another Mercedes-Benz debacle!

There remained the Italian G.P. at Monza. Stuck crashed at one of the artificial corners, but the now world-famed Rosemeyer won in 3 hrs. 43 mins. 25 secs., over 2 mins. ahead of Nuvolari's Auto-Union, with von Delius's Auto-Union third. Incidentally, Rosemeyer had also been victorious in the Grosser Bergpreis hill-climb, winning in 7 mins. 59.3 secs., from Delius.

Thus the "score" for 1936 was:—Auto-Union: six firsts, seven seconds and five thirds. Alfa-Romeo: four firsts, three seconds and five thirds; and Mercedes-Benz: one first, one second and one third. Germany clearly was still meeting a challenge from Italy.

Mercedes did a little to repair lost prestige when the new V12 was brought out in fully streamlined form, with body extending over the wheels and enclosing the rear ones, but with unclosed cockpit. With Caracciola driving, they took the 1 kilo. (f.s.) to 10 kilo. Class B records and the world's 10 mile record. The last-named went up to 209.41 m.p.h., and the Class B mile was set at 228.07 m.p.h. With one exception (Alfa-Romeo) Auto-Union had held all these records. The car used had a 5,576 c.c. engine said to develop 600 b.h.p. at 7,000 r.p.m., and it weighed a ton. The new engine was rumoured to be scheduled for the 1937 Tripoli race, and its record showing was certainly historic.

For racing, Mercedes-Benz had relied on the lower-bodied 4.9-litre V8s they had used in 1935, with coil spring i.f.s. and a rigid rear axle, while Auto-Union triumphed with 5.8-litre V16 engines, still rear-placed, and torsion bar front, and transverse leaf-spring rear suspension. The built-up crankshaft was changed to a solid crank running on roller, in place of the former ball-bearing, mains. Alfa-Romeo used straight-eight and later V12 engines, the V12 car having independent suspension all round.

[*To be continued*]

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A.C. 2-litre, 16.40 h.p., 3-seater	Oct. 1927
A.C. 2-litre, 16.66 h.p., 2-seater	March 1926
A.C. 2-litre, 16.66 h.p., 4-seater	June 1934
A.C. "Ace" 16/80 h.p.	July 1937
Alfa-Romeo, 1½-litre supercharged 6-cyl. Charles 2-seater (1929)	March 1934
Alfa-Romeo 1½-litre supercharged 8-cyl. "Zagato" 2-seater (1932)	July 1934
Alfa-Romeo 2.3-litre supercharged 8-cyl. "Zagato" 2-seater (1933)	Aug. 1936
Alfa-Romeo 2.3-litre supercharged 8-cyl. 4-seater (1931)	Aug. 1932
Alvis 11.9 h.p., 4-cyl., "Firefly" saloon	Feb. 1933
Alvis 4-cyl., 12.60 h.p., 2-seater	July 1931
Alvis 6-cyl., "Silver Eagle" 4-seater coupe (1929)	Aug. 1931
Alvis 6-cyl., "Silver Eagle" 4-seater	June 1930
Alvis 3½-litre saloon	Feb. 1936
Alvis Speed Twenty Vanden Plas saloon	Feb. 1935
Alvis Speed Twenty Charlesworth saloon	Feb. 1934
Alvis Speed Twenty 4-seater	June 1932
Alvis 12/70 4-door saloon	July 1938
Ansaldo 2-litre, 4-cyl., o.h.c., 4-str.	Sept. 1924
Armstrong-Siddeley 20 h.p., 6-cyl. 4-seater	July 1933
Aston-Martin Mark II, 11.9 h.p., 2-4-seater	Jan. 1935
Aston-Martin Ulster 11.9 h.p., T.T. 2-seater	Oct. 1935
Aston-Martin Le Mans 11.9 h.p., 2-4-seater	June 1933
Aston-Martin International 11.9 h.p., 4-seater	Aug. 1932
Aston-Martin T.T., 11.9 h.p., racing 2-seater	Dec. 1931
Aston-Martin 11.9 h.p., 2-seater	Jan. 1930
Aston-Martin 2-litre Speed model	May 1938
Aston-Martin 1935 Ulster	Aug. 1937
Auburn 30 h.p., 8-cyl., supercharged 2-seater	June 1935
Austin Seven Boyd Carpenter 2-str.	Sept. 1930
Austin Seven "65" 2-seater	Jan. 1934
BENTLEY 3½-litre, 6-cyl., Vanden Plas, 4-seater	Nov. 1933
Bentley 4¼-litre, 6-cyl., Park Ward saloon	June 1936
Bentley 6½-litre, 6-cyl., long-chassis saloon (1928)	Dec. 1936
Bentley 4¼-litre Vanden Plas coupe	Aug. 1938
Bentley 8-litre sports 2-seater	April 1938
Bugatti 3.3-litre 8-cyl., Type 57 saloon	May 1934
Bugatti 2.3-litre 8-cyl., Type 55, supercharged, 2-seater	July 1932
Bugatti 2.3-litre, 8-cyl., Type 43, supercharged 4-seater (1930)	Dec. 1932
Bugatti 2 3-litre 8-cyl., Type 43, supercharged 4-seater	May 1930
Bugatti 3-litre, 8-cyl., Type 44, saloon	July 1928
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Invicta 4½-litre Weymann saloon	June 1929
Invicta 4½-litre saloon	Dec. 1929
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LAGONDA 2-litre, 4-cyl., twin o.h.c. 4-seater	Jan.-Feb. 1928
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Lagonda 4½-litre, 4-seater	May 1936
Lagonda 4½-litre Rapide 4-seater	May 1935
Lagonda 4½-litre, 4-seater	Jan. 1934
Lagonda Rapier 10 h.p., 4-seater	Sept. 1934
Lagonda 16.80 h.p., 6-cyl., 4-seater	Jan. 1933
Lagonda 3-litre, 6-cyl., 4-seater	March 1932
Lagonda 2-litre, 4-cyl., twin o.h.c., 4-seater (1928)	March 1931
Lancia Aprilia, Type 238, saloon	June 1938
Lea-Francis 1½-litre supercharged T.T. 2-seater (1929)	June 1934
Lea-Francis 1½-litre supercharged special T.T. 2-seater	Sept. 1933
Lea-Francis 1½-litre supercharged "Hyper" 4-seater	Aug. 1930
Lea-Francis, 14 h.p., 6-light saloon	Dec. 1938
Leyland Eight (1929), 2-seater	Feb. 1938
MERCEDES-BENZ Type 540K, 5.4-litre, 8-cyl., supercharged, 2-str.	April 1937
Mercedes-Benz Type 500, 5-litre, 8-cyl., supercharged, 2-seater	Nov. 1934
Mercedes-Benz 12.40 h.p., supercharged 2-seater	June 1925
Mercedes-Benz 36.220 h.p. supercharged, 2-4-seater	April 1928
Mercedes-Benz 33.180 h.p., supercharged, 4-seater	Aug. 1927
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Talbot "105" sports saloon	April 1934
Talbot 3½-litre saloon	March 1936
Talbot Ten "Rally" 4-str.	Oct.-Nov. 1936
Talbot "105" Vanden Plas 4-str.	Nov. 1932
Talbot "90" 4-seater	Nov. 1930
Talbot Ten sports coupe	June 1938
Tatra 4-cyl., 1,154 c.c., coupe	Dec. 1932
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