October 3rd, 1908.

THE AUTOCAR

A Journal published in the interests of the mechanically propelled road carriage.

EDITED BY H. WALTER STANER.

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Notes.

The Attack on the Club.

For the past few weeks several prominent daily papers which disbelieve in motor racing have published a continuous series of criticisms upon the Royal A.C. for not abandoning the Four Inch Race. These criticisms have been of the bitterest description, and many of them have been nothing short of violent attacks upon the Club for organising such a race, and still more for not declaring it off at the bidding of some of the papers. To put the criticisms in a nutshell, they were based upon four main objections. The first was that the race was so dangerous and so likely to end fatally for a number of the participants that the risks were really too great. Second, that as the Club had set its face sternly against inconsiderate driving, it was inconsistent for it to hold a race. Third, public opinion was against the race, and therefore it should not be held, and the fourth objection was based upon the statement that nothing more was to be learned from racing.

To take them in the order in which we have given them. So far as the first objection is concerned, the race itself has proved that the danger was not excessive. Of course, any form of high speed racing is dangerous, and the whole question is whether the Four Inch Race was so excessively dangerous that the risks to life and limb were out of all proportion to what one might call fair sporting risks, and that therefore the race should not have been held. However, little need be said upon this heading, as the race itself has shown that the risks were not excessive. We do not propose to discuss the question as to whether any form of competition should be abolished if it is dangerous, because it would practically mean the cessation of most manly games and sports. When the majority of English people come to the conclusion that everything which is dangerous should be abolished it will be a bad day for the nation. Surely the handling of high speed cars upon a course which requires the exercise of judgment, nerve, and skill is a competition which should be admired rather than discouraged. Racing on motor cars is a strong man's sport, and to attain success the man must be a strong man indeed, as the call for nerve, pluck, and endurance through a 337 miles race on a trying course with fast cars is a real test of what a man is made of, and unless all such risks are to be declared unrighteous we cannot see why occasional races on a properly guarded course like the Manx course should not be held.

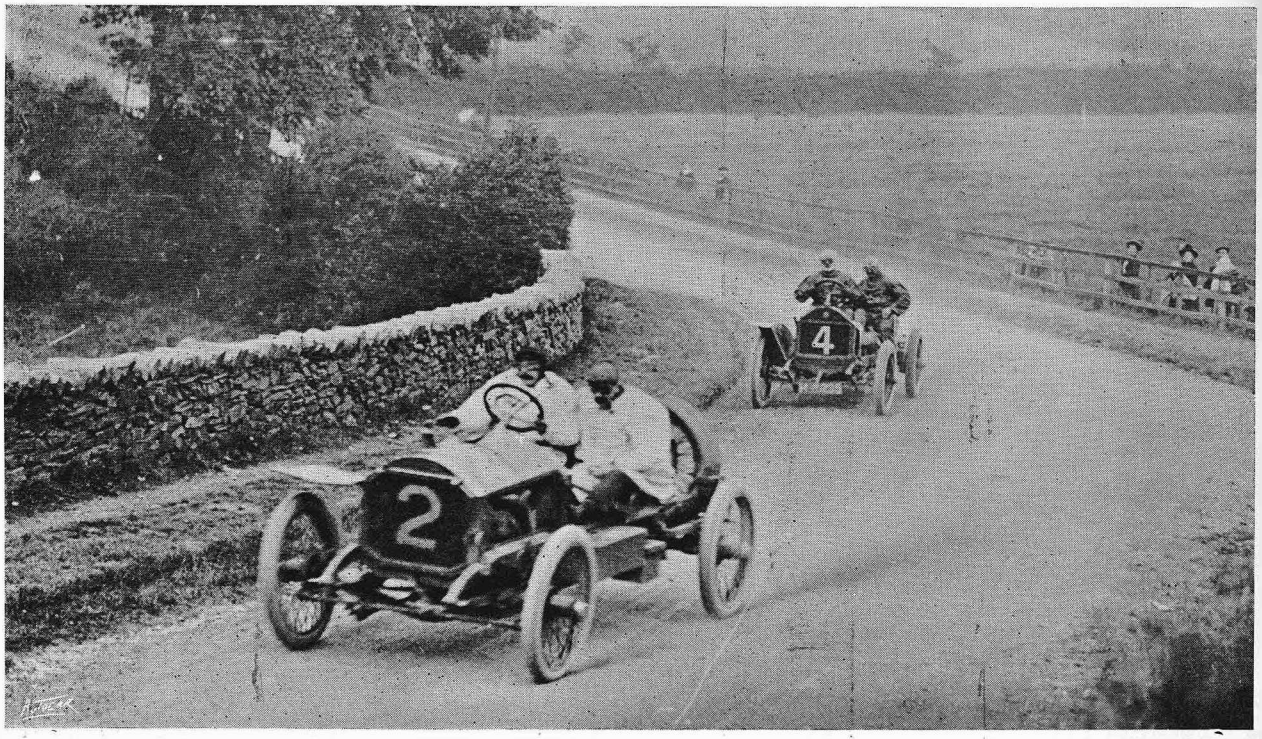
Unfair Criticism.

As to the alleged inconsistency of the Club being opposed to inconsiderate driving and yet holding a race, we can only say that this is absurd. There is a time and place for everything, and it might just as reasonably be urged that a person who attended a place of worship on Sunday could not consistently use a motor car on that day. The outcry about the race being held on the road is absolutely ridiculous. It was held on the Manx roads, which were properly guarded, and the Manx people regarded it in its true light, that is, as a great race that was worth seeing. Hundreds, nay thousands of them, followed it with a keen interest, though to have read the criticisms upon the event one would have imagined that it was to be held in a crowded thoroughfare, or, at the very least, upon an ordinary highway with ordinary traffic and no policing, and in face of protests from the whole of the islanders. Surely the critics of the race can understand the difference between a race and ordinary driving. It really almost seems as though they could not see the difference, though we cannot believe this. They simply refused to see the difference, but if they had spent one-tenth of the time and space they devoted to urging that the race should be stopped to urging upon their readers that the Club, while it organised and held the race, was firmly opposed

to any sort of furious driving or racing on the road, except under similar conditions to those obtaining in the Isle of Man, there would have been little fear of misunderstanding. As it is we fear that many of the criticisms have been wilfully intended to mislead the public, who have been asked to believe that, because the Club held the race, it was not opposed to furious and inconsiderate driving.

As to the statement that public opinion was against the race, there has never been any public outcry against the race, and it is equally certain that the public have been in no way inconvenienced by it. If the Club like to hold a race and competitors like to take part in it, and, above all, if the Isle of Man welcomes a race, surely it is the business of no one else. As we said some time since, we think, all things considered, the Club would have been wise to have dropped the race, not because of its danger, but simply on account of the way every effort had been made to agitate public feeling against it, but as the Club decided otherwise we cannot see why it should not have been left alone. It really seems as though its great offence was that it disobeyed some of the newspapers who demanded the withdrawal of the race. If these papers really had the welfare of motoring and the prosperity of the country at heart they would have endeavoured to reduce public prejudice and not to excite it, and the general impression created by their attacks and criticisms has been that they have been unfair to the Club. They might think it wiser, as we did, that the race should have been withheld, but they need not, and should not, have used every unfair method and criticism to damage automobilism because the Club would not withdraw the event.

When we come to the oft repeated statement that nothing is to be learned from racing, we can only conclude that those who write it really do not know what they are talking about. On another page we mention a few of the lessons which the Four Inch Race has brought out. There are many others which are known only to the competitors, but even if the race taught nothing from a mechanical standpoint, that is no argument against its being held. Surely every act of man need not be educational or utilitarian. Life would indeed be uninteresting if only those things which educated or were essential were indulged in. Indeed, under such conditions life would hardly be worth living. The race has provided both instruction and sport.



THE FOUR INCH RACE. The first and second in the race. No. 2 (Hutton) driven by Mr. W. Watson and No. 4 (Darracq) driven by Mr. A. Lee-Guinness.

The unique distinction that Ireland has hitherto enjoyed of being entirely free from speed limits, other than the statutory limit of twenty miles an hour, has been lost. Last week the Local Government Board for Ireland issued its decision regarding an application made to it by the County Council of Co. Wicklow to impose a restricted limit on the pace of motor cars and motor bicycles travelling in certain parts of the country, and to the surprise of everyone the Board has acceded to the request of the local authorities. The Rural Council of the town of Bray in the Co. Wicklow has erected signs in the form prescribed by the Motor Car Act, purporting to restrict the pace of motor cars passing through the town to eight miles an hour, but as the signs were erected by the local authorities without the sanction of the Local Government Board no one paid any attention to them. It is likely, however, in view of the decision announced last week that the Irish Automobile Club will now apply to the Local Government Board to have the unauthorised signs removed. The town of Bangor in the Co. Down has a speed limit of six miles an hour, but in this case it is imposed under a local Act of Parliament which does not require the Local Government Board's sanction.

USEFUL HINTS AND TIPS.

A Few Don'ts for Motorists.

Don't lose your temper if you drop a nut in the undershield. Remember there are others there, probably the one you were replacing.

Don't grumble at buying a gallon or two of paraffin. It is much cheaper and safer than petrol, because your chauffeur *will* use something to clean the engine with.

Don't because a policeman smiles imagine him to be an old friend, although you may have cause to remember him later.

Don't treat your chauffeur as an accessory. Remember he will last longer than your car, if used properly.

Don't give your chauffeur twenty minutes to catch a train twenty miles away, and then complain of £5 5s. and costs.

Don't, after you have paid the fine, think that you are entitled to drive any faster.

Don't think that it is the brightness of your car that dazzles the pedestrians as you pass. That is not so. It's simply the dust in their eyes.

Don't, on a moonlight night, mistake the river for the road. Remember you can have a *warm* bath when you get home.

Don't splash the mud over the dress of the lady who is walking. Dresses are very expensive; besides it might be your own wife.

Don't laugh at a small car's efforts when you pass it; remember the tortoise and the hare. You may have to borrow an inflator from the owner later.

Don't try to turn a corner on two wheels, remember there are four to your car.

Don't abuse the man in charge of the vehicle on the wrong side of the road. Remember it's drawn by a horse. Like the police, ignore such things.

Destroying Empty Oilcans.

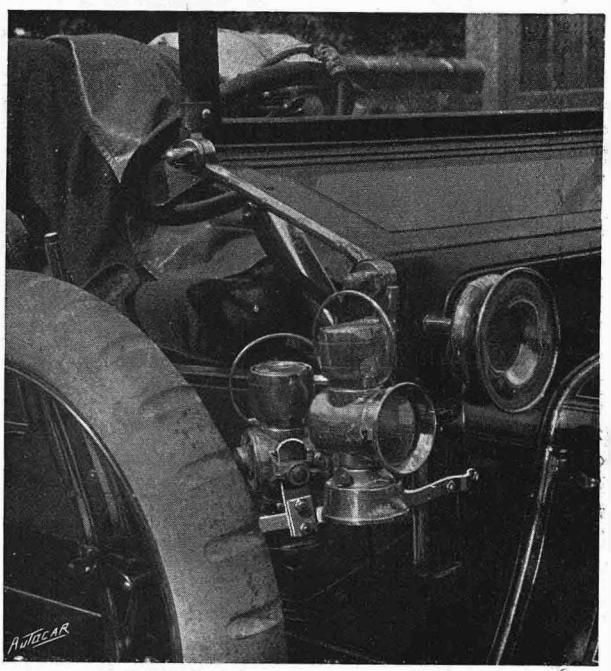
Pulling up at a garage the other day, we found the front shop empty, and wandered into the machine shop at the rear in search of an attendant. Here the sole occupant was a disreputable urchin engaged in refilling a miscellaneous assortment of empty oil cans, all of which bore the names of big oil distributers, with a very dubious-looking liquid drawn from a fifty-gallon drum. This fraud would be impossible if motorists would always stamp an empty can flat before leaving it at a garage. The number of makers who seal their cans is increasing, but unscrupulous dealers can generally dispose of cheap refillings by the simple plan of emerging from the rear part of their premises with the can you have ordered already opened. No one is robbed by the destruction of cans. They are not returnable under any circumstances in the majority of cases, and the prices charged for the full can are calculated to cover the loss of the tin. Our own plan is always to ask for the can to take away as a reserve on the car, so that the seal may be verified.

Tail Lamps Going Out.

On several occasions we have met cars stopped at night for no other reason than that the tail lamp kept going out. Observation has led us to believe that many a sound tail lamp is condemned by owners simply because the flame is habitually turned up too high. The owner further knows that the wick is gradually consumed, and makes allowance for its diminution by turning it up too high at starting; he further imagines a lofty flame is less likely to blow out. No lamps are so made that they will not smoke, and the consequence of turning these lamps up too high is that the lamp body soon becomes full of foul gases, which act upon the flame exactly in the fashion of an ordinary candle extinguisher. Our advice, therefore, is never to condemn or scrap a tail lamp until a very low flame has been experimented with. One lamp we purchased choked with smoke if turned up and blew out if left burning low; but the enlargement of the air holes at the base permitted the wick to be turned up without smoking, and this higher flame was too sturdy to be blown out, so that the lamp was afterwards perfectly saisfactory.

Carrying Back Lamps.

The practice of carrying the rear lamp on its bracket when not required for illuminating purposes is one which is not to be recommended when means can conveniently be arranged for carrying the lamp in a position where it will be kept clean and in good order for use when wanted. The illustration which we give shows how we have arranged to carry the back lamp on one of

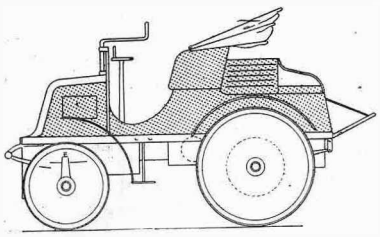


A bracket for a spare lamp.

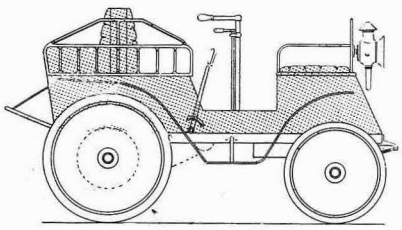
our cars. There is a steadying arm to the ring carrying the Stepney spare wheel which provides a convenient place whereon to fix a simple bracket to accommodate the lamp during the hours of daylight. Here it is out of reach of dust and dirt and damage. It is always in good order, can be readily lighted, and then removed to its bracket when the shades of night have fallen—a much quicker and cleaner proceeding than having to handle a dust or dirt covered lamp, cleaning the glass, and getting it to light, as is the case when the lamp is carried all the time on its working bracket.

WHAT CONSTITUTES A HANDSOME CAR?

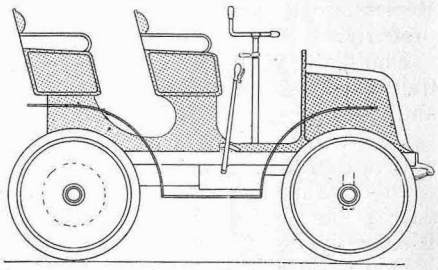
The average non-motorist dubs a car handsome or ugly according to whether or not it is painted in the colour he or she likes. Motorists are apt to assume that it is only ladies who sum up the appearance of a car in this way, but so far as our observation goes non-motoring men are just as easily pleased or displeased by a colour as are members of the fair sex. On the other hand, the motorist, if he be the least bit critical, not to say a connoisseur, only regards colour as one of the many things which go to make up a handsome car. The proportion and outline must be right in the eyes of the critic if the car is to be really handsome and pleasing.



One of the early 6 h.p. Daimler cars, 1897. Some of its immediate predecessors were not by any means as good looking.

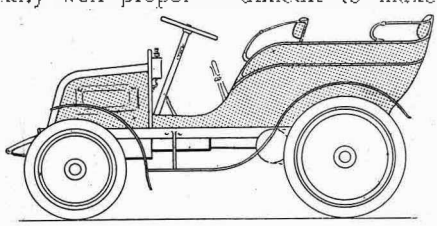


A 6 h.p. Mors car, 1897-8.

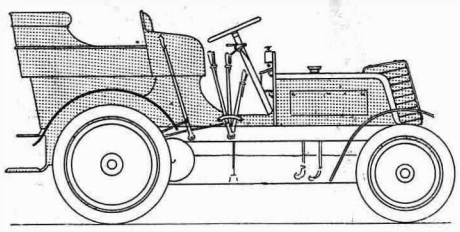


A 12 h.p. Decauville phaeton, 1899.

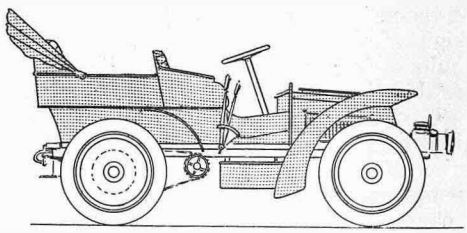
It should be clearly understood that we are not now referring in any way to the chassis. We are assuming a good chassis in the first place, and then we are discussing why the same chassis when fitted with a body should in some cases look smart and in others clumsy. A car which is really well proportioned creates a favourable impression upon people in many cases without their knowing why. Its beauty is very much a matter of its look of fitness for the purpose for which it is built. We know some people will sneer at the use of the word beauty in connection with a motor car, but it is all a question of taste. To a large extent the good looks of a motor car are like those of a railway locomotive, which from a crude conglomeration of levers, pipes, and sheet iron in the early days has become a thing which looks so essentially fitted for its purpose that it is a pleasure to watch it. The main line express engine looks as though it liked to move, and as though it rejoiced in its work.



A 12 h.p. Daimler, 1900.



30 h.p. M.M.C., 1901.



12 h.p. Napier, 1902.

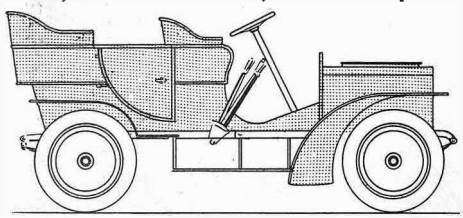
Now the old motor cars of 1896 were hideously ugly. The main reasons for this were that they had huge wheels, high frames, short wheelbases, and little Dutch-oven bonnets. They were called "horseless" carriages, and they looked hopelessly horseless. About this time critics who laboured under the delusion that they were gifted with artistic perceptions seriously suggested the building of cars with swanlike fronts. These constructive critics were quite numerous and very persistent, and it was evident that their ideal of motor car beauty was something between a gilded circus caravan and the hull of an old wooden line of battleship.

As the wheelbases were lengthened and the frames were lowered the cars became much more pleasing to look at, but, given a fairly long wheelbase and a frame which is not more than two feet from the ground at the top, there are still many essentials to the making of a car of handsome outline. One of the most important is that the bonnet must be fairly high if there be a bonnet at all.

All the finest looking cars have fairly high bonnets. They do not look high, but seem to harmonise well with the body, and it is only when one measures them that one realises the importance of a good upstanding bonnet. For instance, it is extremely difficult to make a handsome car with a falling away front, such as the Renault. The body always seems to overpower the car, and the bonnet looks as though it were hiding behind the front wings. On the other hand, one finds large cars like the Daimler and Napier which will carry a fine body with distinction, simply because they have a fairly imposing bonnet—in fact, some of these cars are so well proportioned that their actual size is never realised unless some smaller car is standing by.

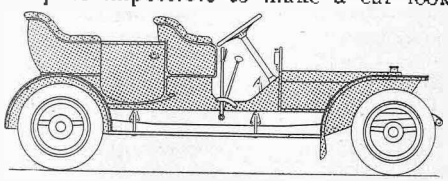
The wings themselves are a very important item in the appearance of a car. With many cars they are made much too high, especially in front, and even with a fairly high bonnet they may completely eclipse it. Of course, the wings must be high enough and sufficiently above the wheels to allow of the play of the springs, but anything more than this simply results in ugliness and clumsiness. Then, again, splayed or flare-back wings are very ugly. The idea was that they should reduce windage, but in practice their main service appears to be to exhibit several square feet of unsightly mud stalactites. The inside of a mudguard is necessarily dirty sooner than any

other part of a car, and the consequence is that cars with these turned back wings always look dirty, because they show their dirty side so prominently.



One of the earliest cars with side entrance, 1903. It will be seen by reference to the four preceding sketches that the crude double phaeton of 1899 was really an earlier instance of side entrance car, but no doors were provided.

Not only so, unless they are very large a great deal of mud passes by them. When we come to the bodies themselves it will be admitted at once that it is quite impossible to make a car look really

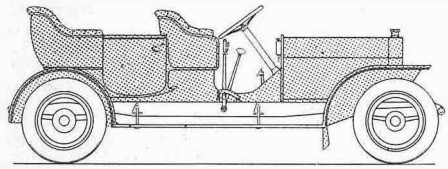


A car with too low a bonnet.

smart unless it has side doors to the front seats; otherwise there is a horrible gap between the dashboard and front seats, which breaks the outline, and makes the car look more or less a patchwork composition.

practically none either back or front, and, so far as the back is concerned, these make by far the most comfortable cars. The side doors should be fairly high, and the same height as the sides of the car. This makes for comfort as well as for appearance. When the wheelbase is too short to allow of a complete door, and the door has to be cut off at the back to clear the wing, it should be made as unobtrusive as possible. That is to say, the door should look like a part of the side of the car, and neither the hinges nor the handle should be prominent—in fact, there is no need for a handle at all on the outside, as a top latch is quite sufficient. When there is room for a door with a straight back as well as a straight front the outside hinges and handle do not matter.

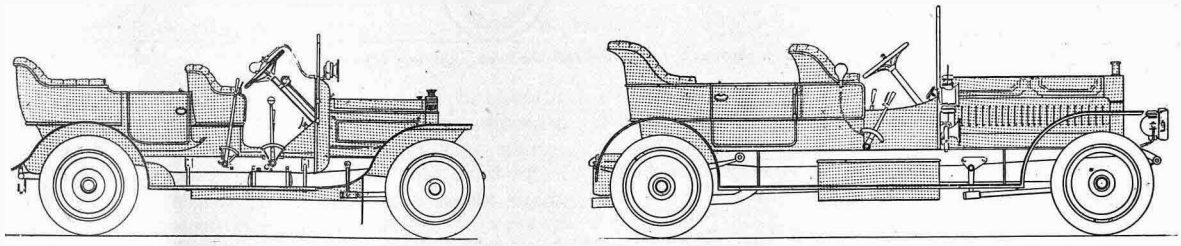
Another important point is that the hood when down should lie flat, and not project skywards, as this not



This car is just the same as the one on the left but has a fine upstanding bonnet. It will be seen that the vehicle as a whole looks much handsomer.

only spoils the appearance but induces a distressing back draught.

Some cars which have box forms of dashboards are often spoilt by putting the screen in the wrong place.



Large cars like the Daimler and Napier will carry a fine body with distinction.

Another source of ugliness is the unduly high back seats and the absurd number of different levels which are so often worked into a design. We find the

That is to say, it is put on the front of the hollow dashboard instead of at the back. We have seen some Beeston Humber cars, which have a distinctive box

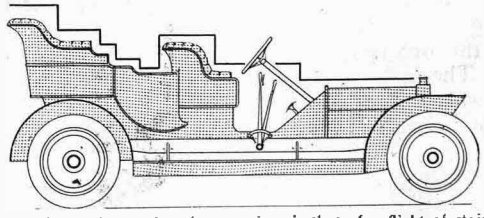
A contrast. There should be no undue overhang at either end.

bonnet at one level, and the doors to the dashboard at another. Then we come to the front seats; the side doors behind them are often too low, and then there is a piece of the back of the body an inch or two higher before the back of the back seats commences to spring upward, and in profile the impression the car gives is that of a flight of stairs. This impression is heightened by the fact that the back seats are often unduly high from the koor—19in., or even 20in., to the top of the cushion—and this, combined with a low side door, provides the maximum of discomfort and unsightliness.

There should be no undue overhang at either end—in fact, the smartest designs are those which have

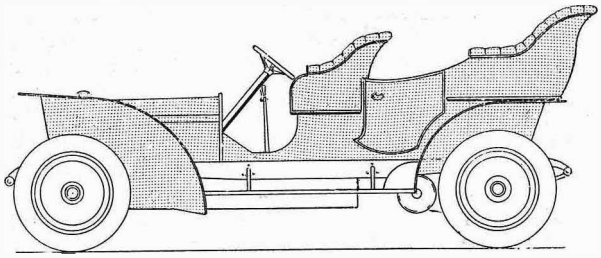
dash, which gives them an individuality of their own, completely spoilt in appearance in this way.

All these criticisms refer to the side view of the car. When it comes to the front aspect, we see many very



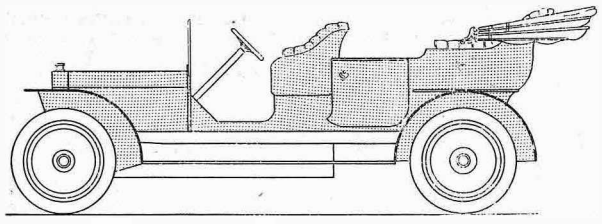
In profile the impression the car gives is that of a flight of stairs.

ugly combinations, such as a sharply angled bonnet backed by a flamboyantly curved dashboard, or a curved bonnet with a dashboard which is curved in an entirely different way, so that the two clash. With a round bonnet it is very difficult to design a dashboard



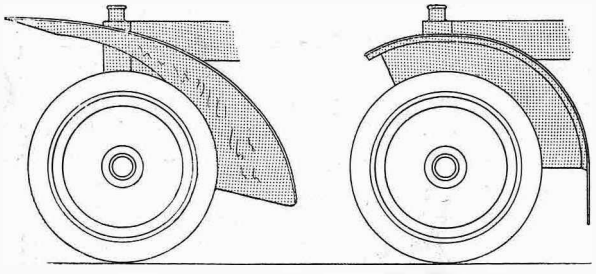
The bonnet looks as though it were hiding behind the front wings.

which harmonises well with it, unless the dashboard is made so low as to be useless. About the smartest front we have seen combining a circular bonnet with a high and comfortable dashboard affording good protection is that of the Sheffield-Simplex. There is no doubt that the difference between a good looking car and a



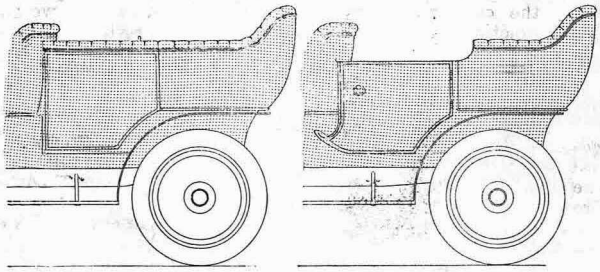
bad looking car, so far as the front aspect is concerned, depends mainly upon the harmonising of the outline of the radiator and bonnet with that of the dashboard.

These criticisms refer to cars with bonnets. Good



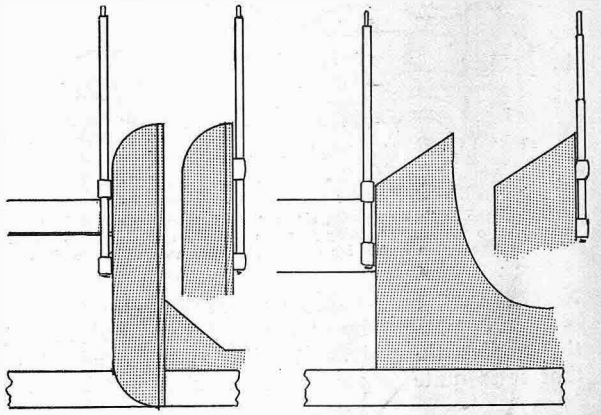
A contrast between flared and straight mudguards. The main service of the turned back guard is to exhibit unsightly mud.

looking bonnetless cars can be made, and are made, as the Lanchester and New Engine cars demonstrate. The designers of both these cars appear to have a lively sense of correct proportion, so that we need not do more than refer to them here. On the other hand,



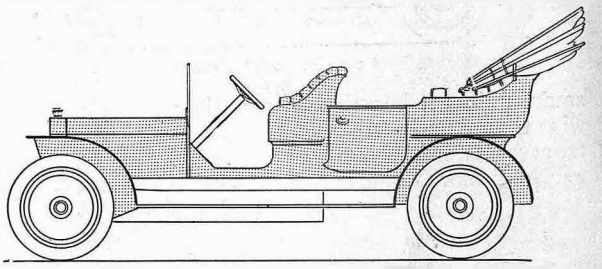
When there is not room for a complete door the door should be made to look like a part of the side of the car, and neither hinges nor handle should be prominent.

while there are many handsomely proportioned cars of the conventional or bonneted type, it must be admitted



Some cars are spoiled by having the screen put on the front of the hollow dashboard instead of at the back.

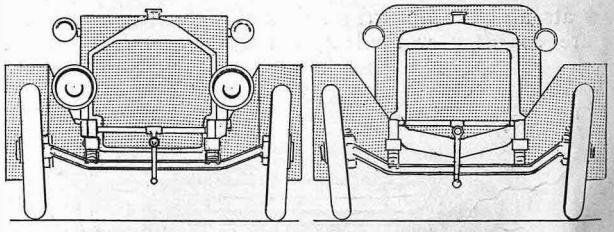
that there are still more which are not pleasing to look at, and so far as we know no one has previously



A contrast between the flat hood and the hood projecting skywards.

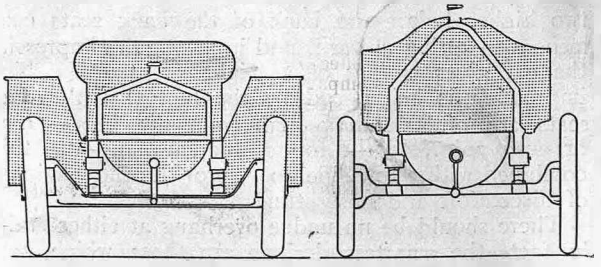
attempted to analyse their proportions or to realise why one car looks well and another quite the reverse.

One very important point which should not be lost sight of is that in practice every one of the suggestions made shows that beauty and utility go hand in hand. It may be urged that there is no sense in making the bonnet high if the engine does not fill it, and, while this is true, it is well to bear in mind that there should



Two handsome fronts.

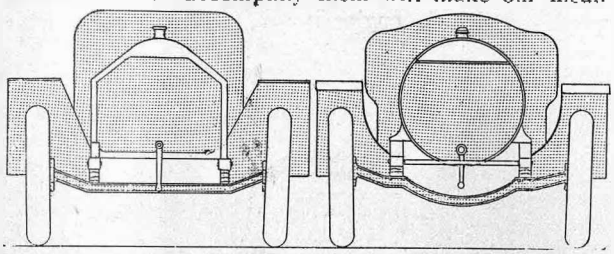
always be a good head of water above the engine, and that therefore the radiator must be made fairly high, but it will be seen, whether we look at front doors, side doors, overhang at the back, or any other of the points analysed, that in each case the better looking arrange-



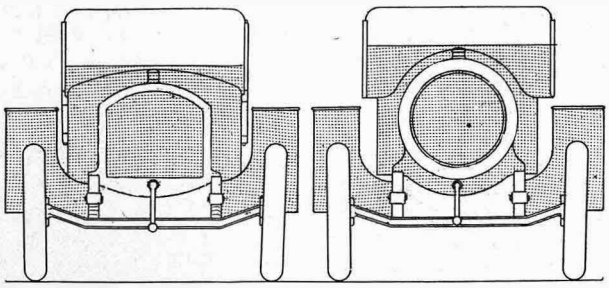
Two very ugly fronts.

ment is also the most practical and the most comfortable. In other words, the beauty of the car depends upon its fitness for its purpose.

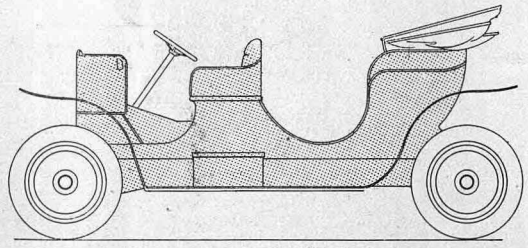
We hope that our suggestions and the outline sketches which accompany them will make our meaning clear, and help to show the difference between the well proportioned and the ugly car.



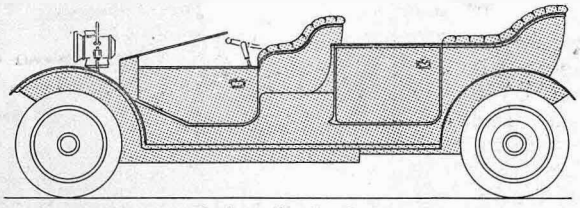
The left-hand view shows the difficulty of reconciling a nearly pointed bonnet with a Daimler form of dashboard. The right-hand view shows how a smart and adequate dashboard can be combined with a circular bonnet.



The left-hand view shows the clashing between a curved bonnet and a dashboard of a wholly different curve. The right-hand view shows the inadequacy of some of the dashboards used with round bonnets which can only be overcome by using a somewhat unsightly filling-in piece between the dashboard and the glass screen itself. This looks much worse on the car than in the illustration.



The bonnetless N.E.C.



The bonnetless Lanchester.

STORAGE AND INSURANCE OF CARS AT HOTELS.

A question having been raised with regard to the storage of cars in the motor houses in connection with the Highland Railway Company's hotels, the matter was referred to the law agent of the Scottish Automobile Club (Mr. G. H. Robb), who has given an opinion on the subject which should cause motorists to examine their insurance policies.

The liability of the Highland Railway Company for motors stored in their garage is not complicated by any considerations of the effect of the well-known Latin maxim *nautæ caupones*, which imposed absolute liability on innkeepers for the personal effects of travellers, which liability was subsequently limited by statute. The position of the railway company is simply that of an ordinary garage keeper or store keeper, who for a consideration stores motor cars or other articles, but is bound to exercise reasonable care and to have the premises fit for the purpose for which they are intended. If he exercises such reasonable care he would not be liable for loss or damage to the motor car. As regards fire, the railway company would not be liable unless the fire were due to their fault, which is almost inconceivable.

The only effect, therefore, of the signature of the letter which appears to be presented to motor owners would be that they discharged any claim they would have against the railway company in the event of the car being damaged through neglect or fault on the part of the railway company or their servants. This liability is not a very substantial one, for it would be very difficult to prove fault on the railway company's part, but one could certainly figure cases, such as inflammable material being negligently left in the garage, or the building being in bad repair so that water comes in, and various other contingencies of this sort. If the owner had signed the letter the railway company would be excused from liability in any of these cases.

As regards the effect of such an arrangement on the rights of his insurance company, I am quite satisfied that the motor owner does not, by signing the letter, affect his claim against the insurance company unless in his policy there is a clause expressly forbidding him to renounce any rights which he may have against parties causing, or through whom there is caused, loss of damage to the motor car for which the insurance company is primarily responsible. I can find no such clause in any policies to which I can get access, and it is obvious that such a stipulation would be unfair and unreasonable, for it would mean that a traveller in the North of Scotland, in the Highland Railway Company's district, would be unable to put up his car at any of the Highland Railway Company's hotels (presumably the only ones available) without voiding his insurance policy. My answer, therefore, is, and I give it quite unhesitatingly, that by signing the letter of agreement exempting the railway company from responsibility, you do not affect your claims against the insurance company.

The only obligation of an insured motorist on getting compensation from his insurance company is that he shall assign to the insurance company, or in legal language surrogate, the insurance company in, any rights or claims he may have against persons causing the damage. If the motor owner has, for instance, signed the Highland Railway Co.'s letter and thereby renounced his right to claim against the railway company for loss or damage caused through the negligence of the hotel keeper, then there is nothing to assign to the insurance company, but the insurance company would have no right whatever to complain of the renunciation.

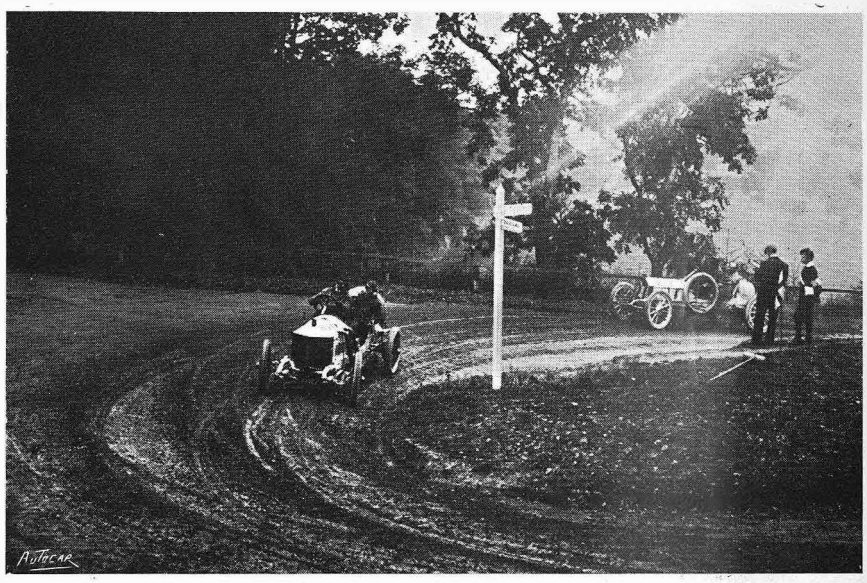
In this connection it would possibly be well that I should point out that a motor owner, who has himself covered his car against loss by fire while in a hotel garage, has no claim against the hotel keeper even if the hotel keeper has an insurance policy covering loss to his own effects or to effects (including motor cars) on his premises at the date of the fire, unless the hotel keeper expressly contracts with the motor owner to hold his car insured.

It would be well, therefore, for motor owners, whose policies do not happen to cover their cars while in hotel garages, to see that the hotel keeper expressly agrees to hold the car covered by insurance. I imagine, however, that practically all policies cover loss by fire while in garage.

SOME LESSONS OF THE FOUR INCH RACE.

It has been freely stated that the Four Inch Race was of no use to manufacturers or designers, and that no lessons were to be learned which would tend to improve designing and manufacturing of touring cars.

We assert emphatically that many lessons have been learned from practice work and from the race itself. These lessons have been, or will be, taken to heart by the manufacturers of the cars, and, although a number of breakdowns and some serious troubles have occurred during the strenuous practice work, it may safely be said that these defects will be remedied before the cars are put into use for ordinary touring purposes. It must not be forgotten that every part on the cars run in the Four Inch Race was submitted to a destructive test. Many parts which would stand on touring cars for a good while, though not really satisfactory for long periods of wear, were utterly destroyed after a few strenuous circuits. Such parts inevitably cause trouble to the user in the long run; the race finds them out almost at once, and in the most unmistakable manner, nothing being more remarkable than the rickety state of the steering of several cars at the finish.



HE FOUR INCH RACE. The famous hairpin bend on the mountain road from Ramsey to Douglas.

The Engine.

In the race every engine was limited to a four inch bore, and it rested with each competitor to find out that particular proportion of stroke to bore which would be most likely to propel his car to victory. As within fairly wide limits the power developed by the engine had been proved to be proportionate to the speed at which the engine is run, it followed that high speed engines were designed, and as a result of this a number of troubles arose which had not been previously experienced with the slower running engines fitted to many touring cars. Valves gave serious trouble by distortion or by actual breakage. The camshaft distribution wheels which had been found to be fairly satisfactory in phosphor bronze or in fibre, had to be replaced on a number of the vehicles with steel wheels; the tremendous knock every time the valve was raised tended to break the teeth of the wheels or split the rim. The Deasy car, in common with the Metallurgique, the Hillman-Coatalen, and several others, had trouble with valves on several occasions, this being due either to wrong material or insufficient allowance in the designs for rapid and severe stresses to which the valves are subjected in hammering on their seats.

THE FOUR INCH RACE. The winning car on the road to Glen Helen and Kirk Michael.

One point which was brought home in the race, and which designers should carefully note, is that even if a crankshaft breaks under certain conditions it may be possible to get the car home. In the race both the Deasy cars had broken crankshafts. The car driven by Mr. Lewis had its crankshaft broken just forward of the centre bearing. The crankshaft bearings in the Deasy engine are supported in the

top half of the case, whilst the lower part of the case is simply an oil well. When the crankshaft broke the bottom part of the case was taken away, and the forward portion of the crank was afterwards removed, together with the two front pistons and connecting rods. On the centre web of the crank is a gear wheel which drives the gear wheel of the camshaft at the centre; hence it was possible to run the engine on the two back cylinders only. In fact, Mr. Lewis completed one and a half circuits on these two cylinders after he had been officially declared out of the race. If the distribution case had been at the front end of the engine such a feat would have been impossible. The fitting of the drive to the centre of the crankshaft is the correct thing, for there is little tendency to put excessive torsional stress upon a long and whippy camshaft.

Ignition Systems.

A number of the competitors in the race experienced serious trouble with the ignition systems. The high speed under which the parts had to run accounts for a great number of these failures. Well-known systems which had been used for touring work were found to fail quite quickly when run under these abnormal conditions. Almost every car had a magneto system of ignition fitted, and where such magnetos had been specially designed to run at exceedingly high speeds practically no trouble was experienced, although if the standard design of magneto were employed the high voltage generated at high engine speeds often broke down the insulation. We have often urged that two entirely independent and satisfactory systems of ignition should be fitted on every touring vehicle, and it is certain that the winning of the race by Mr. Watson was entirely due to the fact that he did not rely upon one ignition only. The ignition system was the Napier synchronised, but, contrary to standard practice, a second coil was fitted, so that if trouble was experienced with the first, the second could be brought into use. The wisdom of this was well shown in the race, for it was found necessary to switch on to the spare coil, and this made all the difference between winning and losing the race. Had No. 31 (Beeston Humber) been fitted with a spare system of ignition that car would certainly have finished, and possibly the result of the race would have been different, as the car was travelling magnificently when it had to be withdrawn owing to ignition troubles. Stocks also had ignition trouble, though his trouble was of a mechanical and not of an electrical character.

Change Speed Gear.

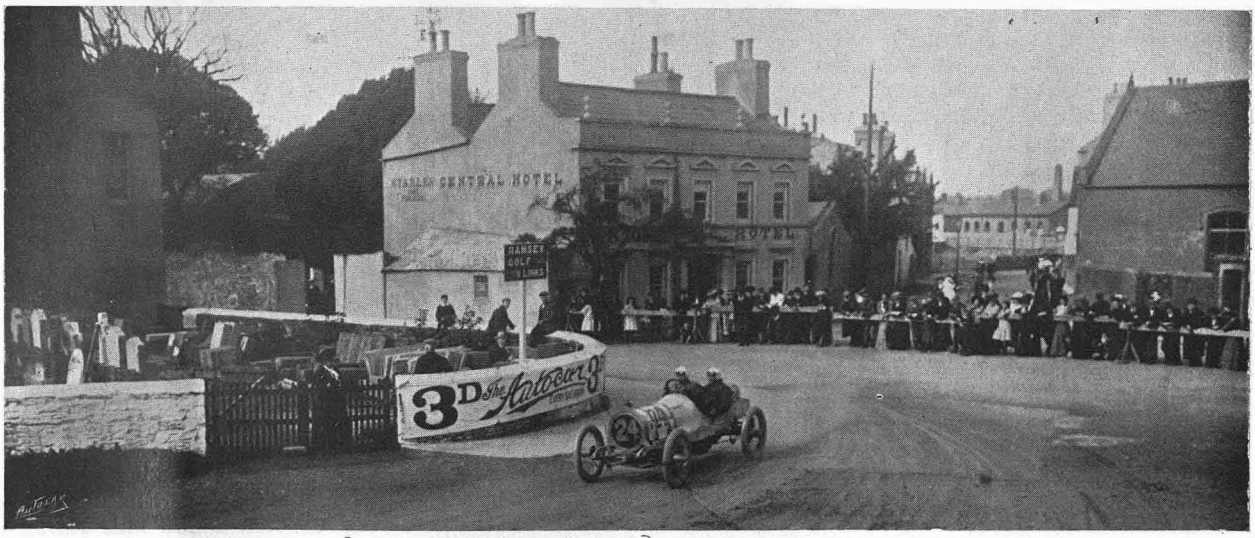
In this part of the car's mechanism very little trouble was experienced, as previous competitions had shown the necessity of using strong teeth of heavy pitch. The shafts of the gears had been made much stronger, and ball bearings were almost universally employed.

Frames.

Only one case of damaged frame was brought to light by the race, although in the practice work several frames were found to be too weak for their work.

Steering Gears.

The excessive stress put upon steering gears by racing upon roads like those in the Isle of Man was well brought to light, for many otherwise sound cars were in trouble on this score. As we have frequently pointed out previously, the steering gear of a motor car is the part which has been given the least amount of scientific attention, and yet it is the part which demands most attention, on account of it being such a vital feature of the car's mechanism. The least defect in a steering gear might result in loss of life at any moment. No fewer than six cars in the race had steering gear troubles, and this has led the makers of the cars to cast about for some improved method of steering which shall be perfectly safe under exceedingly bad road conditions. Many designers of motor vehicles who watched the progress of the cars down Hillberry could not help feeling that the steering gear must give way, for the front wheels waggled and flapped about in an extraordinary manner. Really tremendous stresses must have been put on all the connections, and the designers who witnessed the running of these cars could not fail to be impressed with the absolute necessity for strengthening everything in the steering gear mechanism.



THE FOUR INCH RACE. The level run from Kirk Michael to Ramsey finishes on this corner. No. 24 (Calthorpe) is approaching the mountain road over Snaefell.

Tyres.

It is very remarkable that so few tyre troubles were experienced by the competitors during the preliminary practice work. The wrenching and snatching at corners, together with the rough road surfaces, must

have put extraordinary stress upon the covers, the more so by reason that nearly all the competitors used steel studded non-skid tyres. Until within about two days of the final practice we had not heard of a single case of genuine puncture, and as the larger percentage of the cars were fitted with Dunlops, this is a point upon which the Dunlop Tyre Co. are to be congratulated. Probably one reason for the absence of tyre trouble is the fact that competitors have learned to fit a larger section of tyre, thus giving a larger margin of safety. It is interesting to note that the winner of the race, who had Dunlop tyres, went through without changing them.

Road Wheels.

Evidently wire wheels were considered stronger by the majority of the competitors in the race, for the R.W. detachable wheel was almost universal. No case of breakage or deformation of this wheel under fair running conditions was reported either in practice work or during the race. There were one or two wood wheels broken, and also front wheel spindles. In the case where the wood wheels failed we understand that wire wheels were desired, but there was not time to fit them.

Lubrication.

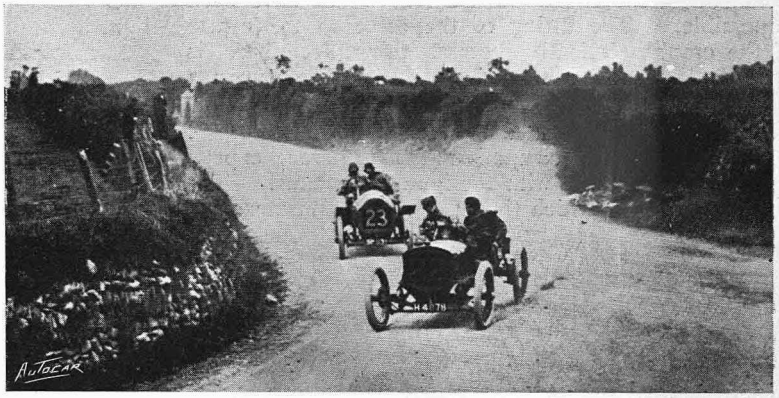
The lubrication of the working parts was very well attended to. It was noticeable that hardly a competitor relied upon one lubrication system, for nearly always a separate pump and extra tank were employed for serving the engine.

Petrol Feed.

On a number of occasions when touring with gravity fed carburetters it has been found that when steep hills have had to be negotiated the engine has pulled badly, owing to insufficient petrol supply to the carburetter. We noticed that although many of the cars in the race were gravity fed, yet means were provided for putting pressure in the petrol tank when climbing the mountain. No doubt this will lead to the adoption of pressure or gravity feed at will on all touring cars, for the petrol tank is often so placed that enough petrol cannot reach the carburetter on steep hills.

Effect of Racing on Engine Design.

In the course of a conversation the manager of one of the largest firms of motor manufactures in this country stated to us definitely that within the last three months he had learned more about engine design and manufacture than he had learned during the previous ten years. He had come to the conclusion as the result of research and experiments conducted in connection with the Four Inch engine that a larger bore than 4in. was not necessary, and that any power desired to suit the light or heavy touring car could be obtained from a 4in. bore engine with a varying stroke to suit the working conditions. It was now possible to get very high piston speeds, and it was only piston speed that regulated the power developed by the engine. This was a generalisation, and not intended to be taken literally; but it showed the direction in which the designers' ideas were tending.



THE FOUR INCH RACE. A study in cornering.

Development of the Chassis.

It has been seriously put forward that car development can be brought about without road racing, and that now Brooklands is available road racing is quite indefensible. Those who make such statements have no idea of the difference between Brooklands racing and road racing. For racing at Brooklands there is little of what one might term "jagging work," such as obtains in rounding corners or changing gears. Once the car is under weigh at Brooklands with the top gear in there is no changing gears, but in road work there is a constant changing of gears, a constant application of brakes, a constant putting in and out of the clutch, accelerating and decelerating the engine. This in conjunction with the tremendous road shocks of uneven surfaces tries every part of the mechanism much more seriously than racing at Brooklands. Ease of adjustment, simplicity of working parts and stronger mechanism to cope with the excessive impact stresses have all been considered as the result of road racing. Brooklands course has developed the engine to a much greater extent than many people realise, but road racing develops every other part of the chassis to a much greater

THE FOUR INCH RACE. Mr. A. E. George, who drove the No. 17 (Darracq) so magnificently at the finish. He would have won if his carburetter had not caught fire in the last circuit.

extent than any racing on a cement surface ever can develop it.

Even Running of Cars in the Four Inch Race.

The Four Inch Race was remarkable for the wonderfully consistent running of some of the cars, and amongst the most prominent in this respect was the Arrol-Johnston No. 3, which did its second and fourth circuits in 45m. 13s, and 45m. 15s. respectively. Darracq No. 4 did its second, third, fourth, sixth, seventh, and ninth laps in 44m. 11s., 44m. 3s., 43m. 59s., 44m. 51s., 44m. 42s., and 43m. 42s. respectively. Thus the maximum variation in time between the worst and best of these laps was little more than a minute. The Hillman-Coatalen car No. 6 on its first, second, and fourth circuits did 50m. 55s., 51m. 1s., and 50m. 46s. respectively. Calthorpe No. 11 was only slightly over two minutes between its maximum and mimimum time for each of the nine circuits. Darracq No. 17 on the fifth and sixth circuits did 43m. 16s. and 43m. 17s. Beeston Humber No. 18 did 44m. 12s. and 44m. 16s. on the third and fourth circuits respectively. Beeston Humber No. 31 did the maximum time on its first circuit of 45m. 4s., whilst its second and fifth circuits were completed in 44m. 7s., these being its minimum, and absolutely coinciding in point of time. This was a wonderful performance when the nature of the course is taken into account. No. 38 S.C.A.T. did its first lap in 49m. 20s., fifth lap in 49m. 21s., its maximum time for a circuit was 52m. 41s. on its sixth lap, the minimum time of 48m. 50s. being done by this car on its fourth circuit. The wonderfully even running of the above mentioned cars was very closely approximated to by a number of others in the race, the Thornycroft car No. 9 doing very well in this respect.

The Future of the Racers.

Objection has been raised in certain quarters to this Isle of Man racing by saying that the racing engines will be let loose on the country to cause destruction. It should be borne in mind, however, that, although these cars are capable of doing fifty miles per hour in stripped chassis form when the roads were absolutely clear of other traffic, it does not follow that when they are placed in the hands of private users, and have to carry comparatively heavy touring bodies, the gear ratios will be the same. It must be remembered that these chassis are designed to carry four and five-seated bodies, so that the extra weight of body, passengers, and accessories, such as screens, hoods, and spares, that are carried would greatly limit the speed which the cars would be capable of attaining. The engines, no doubt, will have a good margin of power, but it does not follow that such power will be used in careering wildly about the country. It will be employed in moving a much heavier weight at a slower rate of speed than in road racing.

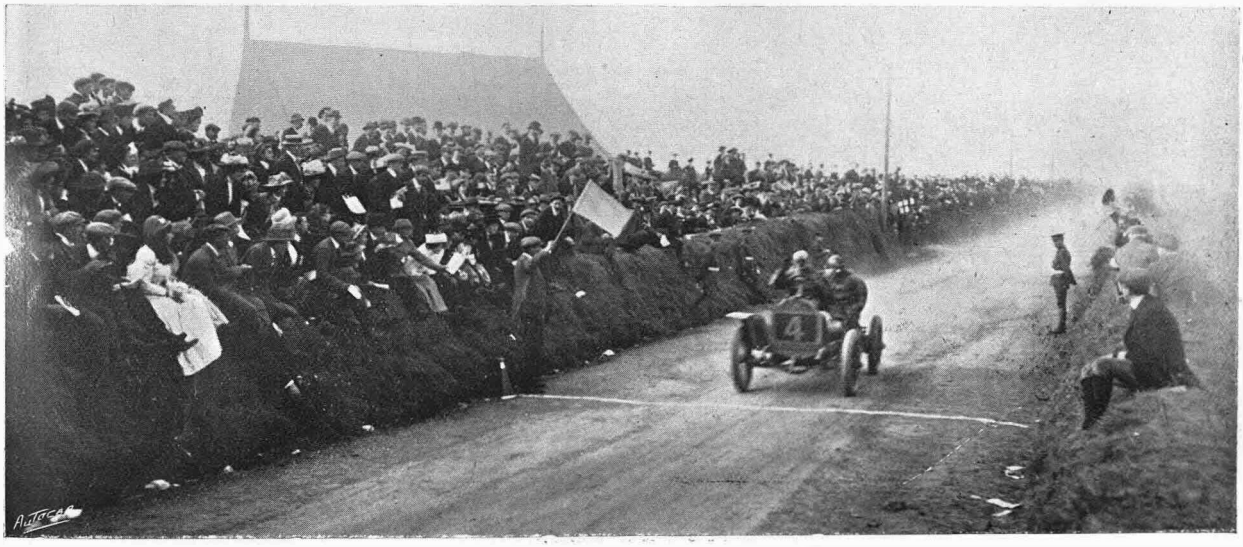
As regards public feeling in the matter, the Isle of Man residents, at any rate, are most anxious that another race shall be held there next year, while the competitors and all those taking part in the race have thoroughly enjoyed it.

Skilful Driving and Good Organisation.

Most of the reports in the daily papers condemned the race almost as forcibly after it had been successfully run as they did before it was held. They hinted that it passed off well more by good luck than by skilful management. As a matter of fact, the skilful driving of the competitors and the splendid organisation of the Club brought the event to a successful conclusion.

United Motor Industries, Ltd., inform us that the Hutton car which won the Four Inch Race was run on Castle coil and Castle accumulator, and they also say that the using of this ignition was entirely spontaneous on the part of the makers of the car, and that they (United Motor Industries) had no knowledge of the car being so fitted until after the race was finished.

An anti-motor daily paper stated that the Rover's (No. 1) improved speed in practice before the Four Inch Race was due to the fitting of shock absorbers, and that the car's average time for completing the circuit was then equal to the average of its competitors. We may say that no shock absorbers were fitted to this vehicle until two days after this statement appeared, and on the particular morning referred to the Rover's time for completing the circuit was practically one hour longer than that of the next slowest car, some idea of the reliability of the daily reports may be gathered.



THE FOUR INCH RACE. The crowd at and near the finishing point of the race. The whole circuit of 37½ miles was well lined with spectators who had little or no difficulty in finding points of vantage, thus reducing the congestion at the finish.

GAUDEAMUS IGITUR.

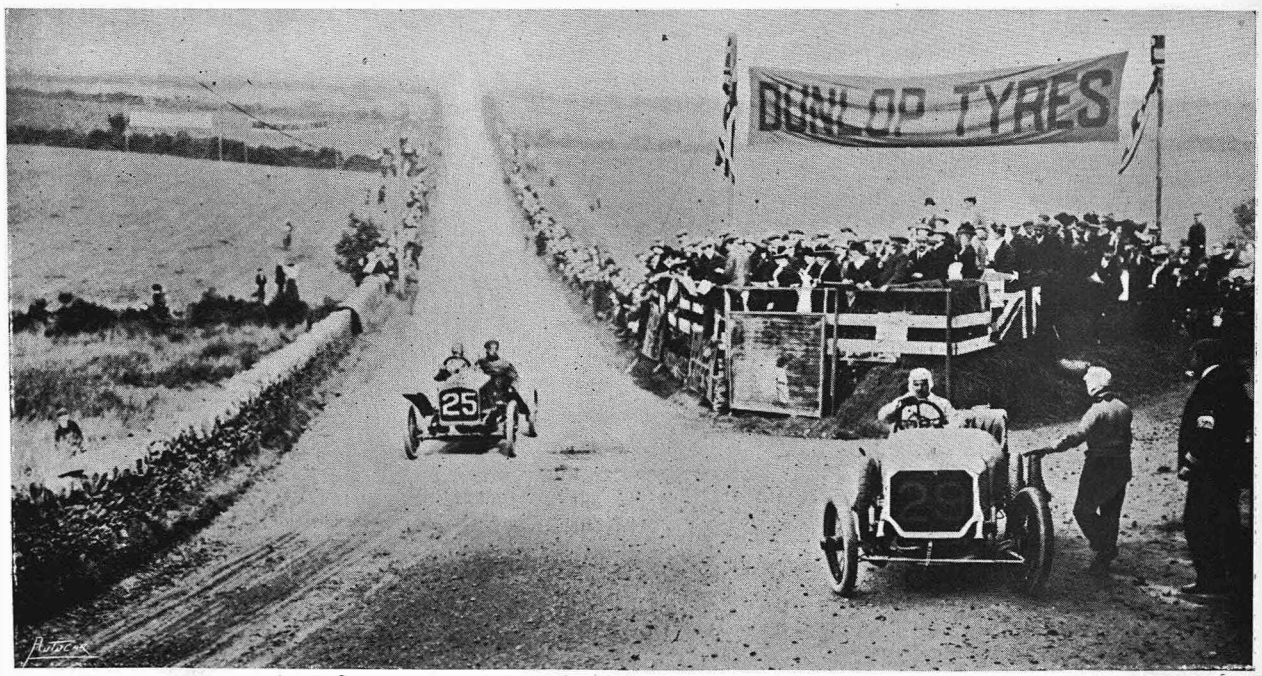
The Four Inch Race is over, and the fastest race the Club has ever organised is now a thing of the past. No fatal accident has marred the brilliant success of the meeting, and to us, and not to the yellow press, belongs the satisfaction, the pleasing right of saying "I told you so." Had by some unlucky chance anyone been killed in this race the howl of execration would have been terrible, and the anti-motorists would have poured out the vials of their prejudiced wrath upon the devoted head of the Royal Automobile Club.

Now, it has been amply proved that it is possible to carry out a thoroughly sporting event of this kind without pandering to the lower instincts, or arousing the lust for blood of the spectator. Such talk is childish; and yet it is probable that, owing to the machinations of one or two of the daily papers, some people have seriously thought that most of the onlookers went to the race longing for smashes, and were deeply disappointed when the cars rounded the corners in safety. Rubbish of this kind is unworthy of any self-respecting paper, but there are a few to whom circulation is more than honesty; and as the man in the street will believe anything against the motorist, the juggernaut line is a paying one. Right or wrong, just or unjust, nothing matters so long as the public buys. Thus is prejudice created.

But the race is over, the competitors are all safe and sound, and the Club has proved amply to its supporters that it is worthy of their support. Had it given way to the opposition so cleverly engineered by a certain section of the trade, and inflamed by the dust trouble and the requirements of the silly season, would anyone have put his faith in it again? To what extent could the motor world have trusted a body which promoted events and then abandoned them at the last moment in deference to the frightened wails of "Paterfamilias" and "A Mother of Seven." Imagine that the Club had yielded. Conceive the situation then. The very people who had written condemning the Club for its action in promoting the race would have doubly damned it for its "weak-kneed policy" and "backboneless behaviour" in giving way; those critics who had opposed the race would have been the first to hold the Club up to public opprobrium for its pusillanimous decision, and to point out to all and sundry how useless a thing was this our governing body. Those who had supported the R.A.C. would have had the ground cut from under their feet, and would doubtless have thought twice before they supported it again. The manufacturers who had built their cars would have lost their money and their confidence in the Club, whilst our good friends the Manx would have been sadly disappointed.

Let those who stay at home babble about murderous engines careering over the public roads, scattering the frightened population in all directions. It will be a long time before I forget the tour round the course on the day before the race; every cottage had its group of smiling, waving people, every village was lined with men, women, and children welcoming the cars, every stoppage during which one could chat with the people—all pointed to one thing, the enthusiasm of the Manx for the race. Everybody knew the racing cars and their drivers, everybody had their especial favourites, and everybody had but one heartfelt wish—that the morrow might pass off without accident.

But there is another direction in which the successful result of our Four Inch Race will have considerable influence. On the International Commission which regulates the rules governing the big road races we have been—and let it be remembered to our credit in these days of outcry against the huge racing car—invariably the apostles of moderation. We have steadily demanded reductions in the racing vehicle, and it is mainly through our efforts that the present system of maximum bore of 155 mm. and minimum weight



THE FOUR INCH RACE. The long straight down to Hillberry Corner, with No. 25 (Deasy) approaching the bend, and No. 29 (Arrol-Johnston) backing off the course to make adjustments.

of 1,100 kilogs. is in force. What better argument could our representatives have in the coming struggle in Paris for a further reduction than the evidence of the wonderful success of our little cars. The Hutton and the Darracqs have shown themselves capable of making a higher speed average than the big racers in the Gordon-Bennett Eliminating Trials of 1905, though heavier and less powerful. Had the Four Inch Race been over the Grand Prix roads I doubt if the average speed would have been much less than 60 m.p.h. We have proved ourselves true to our principles, and by so doing have armed our delegates with a powerful weapon for the next International Commission meeting.

The Club has shown its strength and independence by refusing to be intimidated by pressure from outside. Now it can turn its hand with a good conscience to its next undertaking, and we, knowing its strength, can rest secure with the knowledge that we have an organisation at the head of affairs which is worthy—to the full—of our confidence. T. G. R.

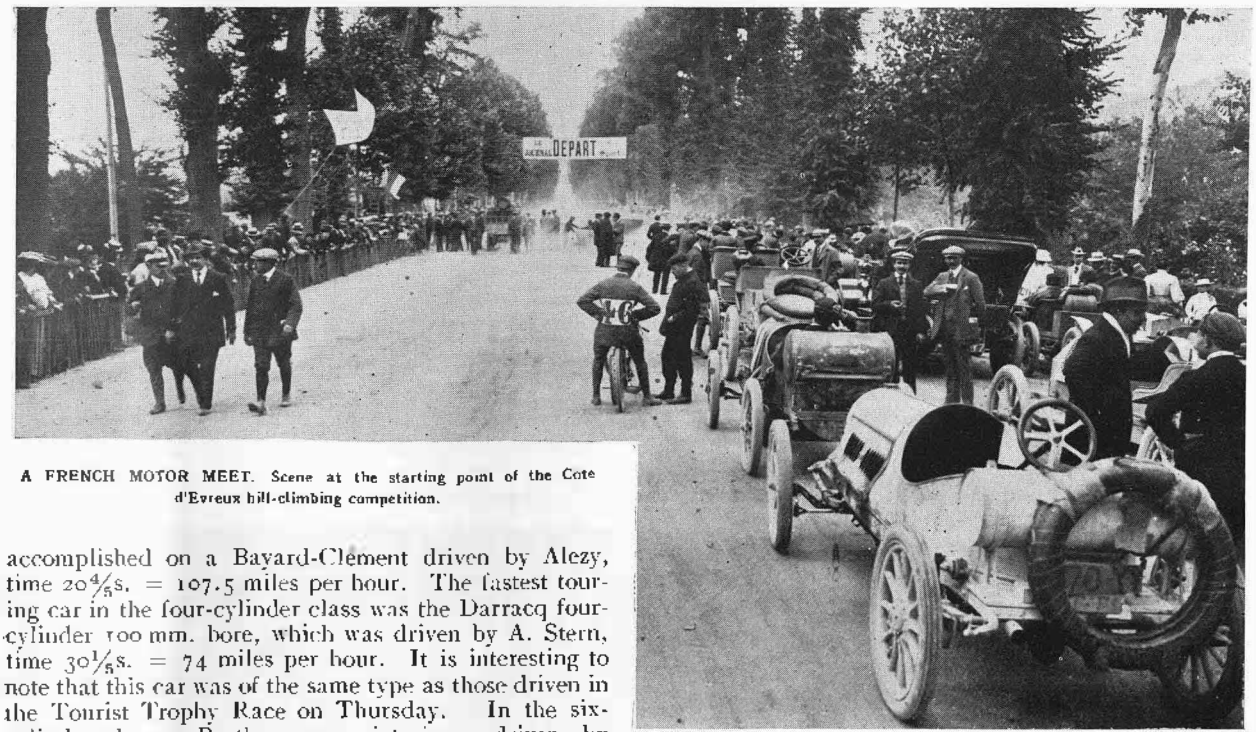
LA COUPE D'EVREUX.

The above contest, which was held on Sunday, September 20th, consisted of a flying kilometre race on the Route de Cambolle, a flexibility test, and a one mile race uphill with a standing start. There were classes for touring and racing cars, which were again sub-divided into single, twin, four, and six-cylinder classes.

In the flying kilometre race the fastest time was accomplished on a Bayard-Clément driven by Alezy, time 20⅘s. = 107.5 miles per hour. The fastest touring car in the four-cylinder class was the Darracq four-cylinder 100 mm. bore, which was driven by A. Stern, time 30⅕s. = 74 miles per hour. It is interesting to note that this car was of the same type as those driven in the Tourist Trophy Race on Thursday. In the six-cylinder class a Porthos was victorious, driven by Simon, the time being 29⅘s. = 75 miles per hour.

In the flexibility test the Vinot and Deguingand snatched the victory from the Brasier, which won it last year. Both these cars were fitted with six-cylinder engines. According to the published times, in the flexibility test the René Legros was the slowest car over the course, but the classification was arrived at by taking the fastest and slowest speeds attained, dividing the slow time by the fast, the highest co efficient winning.

In the final test, the mile race with a flying start uphill, the Darracq four-cylinder car driven by Stern was again victorious, time 1m. 5⅖s. = 55 miles per hour. In this portion of the contest Bablot's Brasier was first in 52⅗s. = 68.4 miles per hour, thus winning the Evreux Cup.



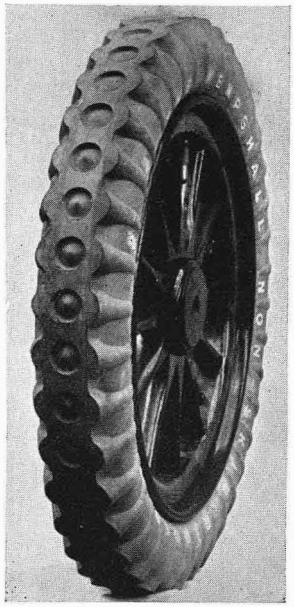
A FRENCH MOTOR MEET. Scene at the starting point of the Cote d'Evreux hill-climbing competition.

THE CERTUS GEARLESS CAR.

It is many months since a reference was made to the Certus friction-driven car, and a drive on two of the latest types proved extremely interesting. The car is now fitted with a four-cylinder engine, and the first vehicle on which we were driven was the identical one which came in third in the All-comers' Race held at Brooklands during the Bank Holiday week-end. This car, which is fitted with a 16-20 h.p. Aster engine, proved itself to be a good hill-climber, and very quick at picking up, smooth running, and easy to drive. During the short run that we took, the car behaved admirably, and took all the hills in the neighbourhood of Wimbledon and Kingston in excellent style, proving itself at the same time to be tractable in traffic. The return journey was made on another Certus, fitted with a B. and M. engine, rather over-bodied, which for the greater part of the trip was driven by ourselves. We found it very easy to control, and changing the friction gear was a real pleasure, since, under any conditions, the change is effected silently and smoothly. The splendid way in which the lighter car took all the grades above referred to shows that this particular friction drive is not wanting in efficiency.

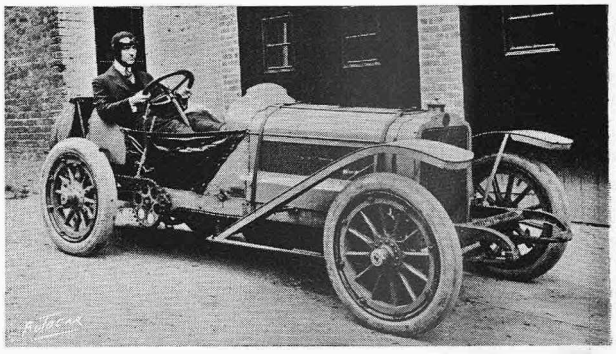
THE NEW KEMPSHALL TYRE.

The accompanying illustration depicts the latest form of Kempshall tyre which has been developed after long experience and experiment. Originally the tread of the tyre was moulded in the form of a series of buttressed turrets in which holes were sunk, the suction effected by these holes serving to prevent side-slipping. A later development was the moulding of a "pip" at the bottom of each of these holes, a modification which considerably lengthened the life of the tread and which did not perceptibly interfere with the non-side-slipping qualities of the tyre. As may be seen, the latest development consists of extending the buttresses in the form of a rib right round the cover from the tread to the bead, thereby distributing the flexion which takes place at the sides of the cover, and so tending to prolong the life of the tyre, which already has a good name for longevity, especially when compared with the average metal studded cover.



A CHALLENGE.

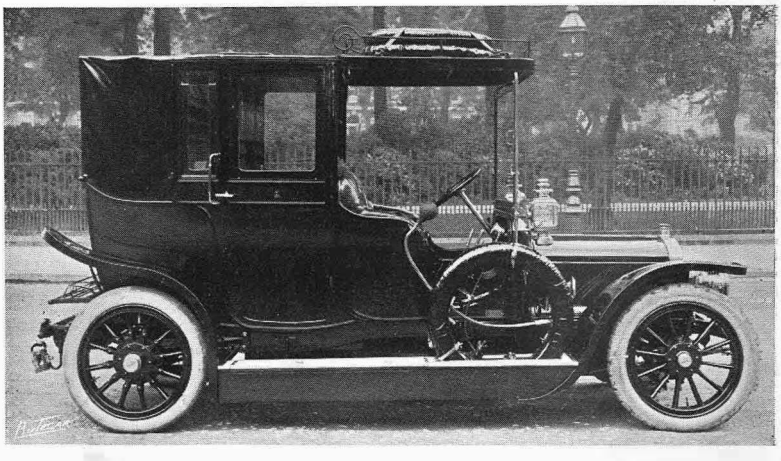
Mr. Clement Hobson challenges any one or more motor cars propelled by means of internal combustion engines of a B.A.R.C. cylinder dimension (D^2N) 148.96 or under (with the exception of motor cars manufactured by Messrs. Brasier) to race against his 59.6 h.p. (R.A.C. rating) four-cylinder Brasier car (Grand Prix, 1908) of a cylinder dimension of 148.96. Stakes, £600 per car, the winner to receive all stakes. Place of race, Brooklands Motor Course. Weight,



2,700 lbs. (B.A.R.C. definition). Distance, Railway start to fork, then nine laps, and finishing straight (about twenty-seven miles). Challenge open until twelve o'clock noon on October 2nd, 1906. Date of race to be settled by the committee of the B.A.R.C. and to be fixed for a day between October 8th and October 14th, 1908, inclusive.

THE LORD CHIEF JUSTICE'S CAR.

This is an 18-24 h.p. Austin chassis with bodywork by Todd and Wright, London. The car was completed to a most exacting specification of Messrs. O'Gorman and Cozens-Hardy, in which, amongst other things, it was stipulated that the chassis, fully charged and complete with tools and accessories, and with a load equivalent to a 9 cwt. body and six people, is to be capable, without any adjustment of the carburetter between the various tests, of climbing Cudham Church Hill, Kent, and Netherhall Gardens, without faltering or rushing; to climb up St. James Street to Piccadilly on third gear (direct drive) without slipping the clutch at six miles per hour; climbing any hill or highway in Great Britain without faltering; traversing ordinary give and take roads at the rate of twenty-four miles an hour, using not more than one gallon of petrol for twenty miles when complying with the foregoing. Then follows a stipulation as to the amount of carbon monoxide and unburnt gases as determined by analysis with the engine running at 900 r.p.m. which are discharged. The final stipulation was a 150 miles continuous trial on a route which started and finished in London. The chassis was loaded up with ballast to make the load equivalent to the weight of six persons and a 9 cwt. body. It is gratifying to record that the car passed through the ordeal successfully.



TRIAL OF A 12-14 h.p. SINGER CAR AT BROOKLANDS.

On Saturday last the 12-14 h.p. four-cylinder, 80 × 90 mm. (15.7 R.A.C. rating)—in fact, the car that did so well in the 2,000 Miles Reliability Trial—was run a time trial at Brooklands, Mr. G. O. Herbert driving. Attempts were made of one lap and five miles, both with flying start. The average speed attained for one lap was 59.05 miles per hour, and that for approximately five miles was 57.56 miles per hour. The car was stripped, but in no other way specially prepared, and Mr. Herbert, who drove it, was alone on board.

Motor Union Notes.

(Communicated by the Secretary.)

The annual dinner of the Motor Union will be held at the Wharncliffe Rooms, Hotel Great Central, on Wednesday, November 18th. This is the occasion of the yearly reunion of motorists from all parts of the country, and members are asked to reserve the date.

◇ ◇ ◇ ◇

A sign suitable for warning motorists of concealed carriage drives can now be obtained from the Union.

◇ ◇ ◇ ◇

Union danger signs have been supplied during the past week for erection at Surbiton, Sidmouth, Docking (Norfolk), Newhaven, Helston, and Sevenoaks.

◇ ◇ ◇ ◇

Speed limit inquiries will be held on October 1st at Newhaven (Sussex) and on October 3rd at Shepperton (Middlesex). The Secretary will represent the Union.

◇ ◇ ◇ ◇

Members resident in districts in which Messrs. Smith and Son have no agency, shop, or bookstall will be supplied with the Motor Union edition of *The Autocar* by their local newsagent.

◇ ◇ ◇ ◇

The Union's solicitor at Bristol (Mr. W. A. Roberts) has received instructions from the Union to defend a summons issued against the driver employed by Mr. P. Winterbotham, J.P., taken out by a private individual.

◇ ◇ ◇ ◇

Speed limit applications have been made on behalf of (1) Felixstowe and Walton, (2) Wimbledon, (3) East Sussex (Mayfield), and (4) West Sussex (Cowfold and Findon). If you reside in one of these districts please write to the Secretary of the Union.

◇ ◇ ◇ ◇

A revised prospectus of the Union has been published. Will non-members please write for a copy? Members can obtain a supply for distribution to motoring friends. The Union gives unequalled advantages for a moderate subscription.

◇ ◇ ◇ ◇

Twenty warning notices have been sent by the Union for erection at St. Clears, Port Talbot, Skewen, Loughor, Sketty, Cadle, Killay, Parkmill, Hawthorn, Whitchurch, and Pencoed. In this undertaking the Union has received the co-operation of the Glamorganshire County Council, the police, the Welsh A.C., and the A.A.

◇ ◇ ◇ ◇

Typical letters received by the Touring Department:

"My journey through France was very delightful and satisfactory in every way, thanks to your kind attention."

"I am much obliged to you for obtaining the refund of the amount I paid for a reserved cabin from Southampton to Havre, and for your arrangements for the transport of my car, which were very satisfactory."

"I beg to thank you very much for the itinerary from Windsor to Land's End and back. The trip was a great success, and we owe a great deal to you. The hotels were good. Far and away the best was the Metropole at Minehead."

◇ ◇ ◇ ◇

"Individual" members of the Union who have not received from the Secretary a letter explaining the arrangements under which they will receive *The Autocar* in future as one of the privileges of membership, and enclosing certain necessary forms to be filled up, are requested to communicate with the office at once.

Nearly 250 copies of the "Motor Union Digest of Legal Traction Cases" (price 1s.) have been sold.

◇ ◇ ◇ ◇

Many members have written to the Secretary expressing their approval of the arrangements whereby they will now receive the Motor Union edition of *The Autocar* weekly.

◇ ◇ ◇ ◇

A clergyman member sums up his experiences of a tour thus: (1) Great lack of horn-blowing round curves; (2) drivers take it too much for granted that the road is clear; (3) averted two collisions only by my own carefulness; (4) paid drivers for the most part keep too long to the middle of the road.

◇ ◇ ◇ ◇

The Foreign Handbook continues to receive favourable notices. The latest appeared in the *Yorkshire Post*, which states:

"It compresses into small space an astonishing amount of information, and will slip easily into a breast pocket . . . are features which the tourist will appreciate."

A pile of appreciative cuttings from reviews in American journals has also come to hand. Mr. E. B. Gallaher, of 228, West 58th Street, is the New York representative of the Union.

◇ ◇ ◇ ◇

Colonel F. W. Blood, who won the Motor Union medal presented to the Cheshire A.C., writes thanking the Union for "the beautiful medal sent through the Hon. Secretary of the Cheshire A.C."

◇ ◇ ◇ ◇

Contributions to the Legal and Legislative Fund during the past week amounted to £13 4s. The contributors are:

£2 2s.: F. N. Mainetty, Esq.

£1 1s. each: Chas. McWhirter, E. Becker, J. H. Ashton, A. E. Barlow, H. A. Smitton, and Wm. N. Walker, Esqrs.

£1 each: J. H. Brookes Smith and J. W. W. Broughton, Esqrs.

10s. 6d. each: T. J. Bonner and C. Kerr, Esqrs.

10s. each: J. P. Kinghorn, A. J. James, and C. S. Leake, Esqrs.

5s.: H. H. Beale, Esq.

Over £500 is still required.

◇ ◇ ◇ ◇

Mr. A. Lloyd Griffith, Secretary of the A.C. of North Wales, writes:

"With reference to the recent summons against Mr. Nunn, I understand from him that the Motor Union very kindly came to his assistance financially. I mentioned this to my committee, and they wish me to write and thank the Union."

The summons was dismissed. Mr. Nunn was carrying the Motor Union badge at the time of the allegation.

◇ ◇ ◇ ◇

Grants towards legal defence in summonses for an offence when driving a car carrying the badge have recently been made to members at Portsmouth, Skipton, Newcastle-on-Tyne, Stoke Ferry, London, Birmingham, and Strathspey under the badge scheme. The Legal Cases Committee has to be satisfied that the applicant did not commit the offence with which he is charged.

◇ ◇ ◇ ◇

The Union is appearing by counsel on 6th October in opposition to the confirmation by the Board of Trade of the Mid-Lincolnshire Light Railway Order. The object of the Union is to prevent the unnecessary multiplication of level crossings, which are already too numerous in Lincolnshire.

FOUR THOUSAND MILES ON A 14 H.P. SIDDELEY.

Farewell to a Favourite.

It was never with greater regret that we parted with a car than when we bade farewell to the 1908 14-20 h.p. Siddeley, which had served us so faithfully through the spring and summer of this year. Early in February a short trial run called forth a short eulogy of the excellence of this handy little vehicle in *The Autocar*, and after seven months' use an account of our experiences with it may be of interest. The total mileage covered was as nearly as possible four thousand, made up of business runs, to attend motoring events, week-end runs, for pleasure, and a holiday, during which seven hundred odd miles were traversed. Not the least important of the car's many good points was its wonderful consistency. Every day on which it was taken out it pulled with the same regularity. The number of stoppages for mechanical defects was nil, for lubrication troubles one, for ignition one, for petrol feed and carburetter troubles nil. Tyres gave trouble at first, and then were rendered satisfactory. The lubrication defect arose in the square coupling between the clutch and gear box, and could have been cured by fitting a Stauffer grease cup. The one and only ignition trouble was due to the earth terminal of the magneto touching the frame of the latter, and had we screwed up the former more tightly the car would have never missed fire while in our possession.

When delivered the back tyres were French studded Dunlops and the front smooth Dunlops, all 810 by 90 mm. The back tyres wore badly, and the front covers were evidently too light for their work; but the Dunlop Co. replaced one of the back covers and retreaded the three others—one with steel studs, the other two with grooved treads—and then tyre troubles practically ceased. Had the clutch spring been eased at the outset, since it was obviously too tightly adjusted, the French tyres would have had a better chance. Considering that 100 mm. tyres are far more suitable for a car of this power than those of only 90 mm., the Dunlops may be said to have behaved remarkably well. The water circulation, which is arranged on the thermo-syphon system, gave not a moment's trouble or anxiety. While running the water gradually attained to a temperature of about 160°, and then remained constant; little was lost, and it never boiled, even under the most trying conditions. The Bosch magneto, which is the only portion of the car not manufactured in England, took all the burden of the igniting duties, starting the engine with ease whether hot or cold, and giving the coil and accumulator no work to do at all.

The carburetter was splendidly adjusted, and gave an excellent mixture at all speeds, allowing a marvellously quick acceleration and a wonderful capacity for picking up from almost walking pace. No other spirit, except when away from London, than .760° was used, thus saving a certain amount in upkeep.

Useful Information.

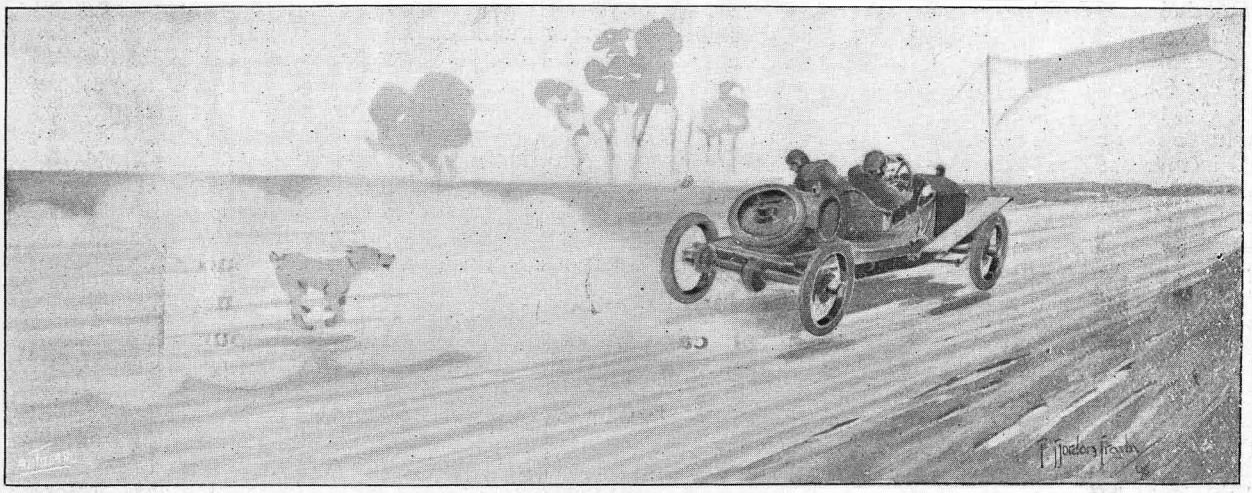
The lubrication, which is by gravity, was quite satisfactory, but it required a certain amount of care. One is supposed to level up the oil frequently in the crank chamber by turning on an awkwardly placed tap; to do this it is necessary to wear a suit of overalls, or the arm of one's coat is soiled. Should the tap release only two or three drops of oil, more must be poured in through the small relief pipes on the off side of the engine until it flows through the drain tap in a continuous stream. By setting the drips to run fast and by giving a pumpful of oil every twenty miles, the level of oil need only be tested occasionally, and when tested will be found to be almost exactly correct. Great care must be exercised not to leave on the tap controlling the drips or to turn on accidentally the two-way cock to the pump, or the whole of the contents of the oil tank will quickly disappear into the crank case. The latter contingency is difficult to prevent, except by screwing up tightly the nut behind the tap, which is undesirable. When "off" the tap is horizontal, and its end projects beyond the level of the side of the lubricator, so that when the side of the latter is cleaned the cleaner, who is often more at home with the carriagework than the mechanical, knocks it down vertically or catches it in his cloth, does not notice what has happened, and the damage is done. Were the tap "off" in a vertical position, the trouble would not occur, and we sincerely hope to see this small alteration embodied in the 1909 models. Both universal joints are absolutely grease retaining, and need very little attention. This is an extremely important point. Once during the 4,000 miles they were examined, and were found to be perfect. The Siddeley lubrication chart is very clear, but to a man who has just bought a car a few additional hints gained from practical experience will be of service.

Every morning oil the clutch collar, the forward end of the torque rod, the brake and clutch pedal spindles, the control lever sleeves on the steering column, the valve tappets, and give all grease cups a turn or two. Every two or three days, in addition to the above, oil the magneto (see Bosch handbook), lubricate all spring shackles, and check the level of the oil in the crank chamber if the journey is to be a long one. Unless any of the oil leaks into the crank chamber through either of the reasons previously mentioned, the engine will not smoke, and if the car is fitted with the standard gear for a four-seated body—namely, about 4 to 1—and is driven fast for any length of time under circumstances such as might obtain on French roads, the tap beneath the pump may be left on and the oil allowed to trickle into the crank chamber for ten miles or so, and no smoke will be visible, provided the engine is kept up to its work all the time, while there is, of course, no need to use the pump. This is *only* intended to be a hint to be followed under very exceptional circumstances, and care should be exercised to turn the tap off as soon as the driver resumes a normal speed.

General Running.

As regards general running, the car proved itself to be flexible to a remarkable degree, quite fast enough on open roads, and a real pleasure to drive at the legal limit or under in tortuous country lanes. One in twelve could be climbed on top speed with four up, and only one hill was discovered on which the engine had to work at all hard on the low speed. This was the famous Sutton Bank, near Thirsk, which has a certified maximum gradient of 1 in 3.96. From London to Thirsk, a distance of 226 miles, the car ran to a schedule like an express train. On the following day it took four people up the Bank, needing the first speed only twice, namely, at the "Trough," the worst point, and at another point where the gradient is 1 in 8. On two following occasions in the same day the "Trough" was twice negotiated with equal success. On the following

day the car ran just as well on the return journey, which it accomplished in equally good time. The vehicle is essentially a top speed car, both in town and in the country; a steep hill calls for the second, and 1 in 8 or less for the first. Less than 1 in 6 calls for some work to be done on the first speed. Of worse than that we have no further records save the Sutton Bank incident. The standard body is most comfortable, and the springing is distinctly good. At the end of the 4,000 miles no appreciable amount of wear was perceptible; there was a suspicion of play in the big ends, and the same in the steering bolts, but not of such a nature to need immediate attention. In the "Fourteen" the Wolseley-Siddeley Company have a car which they may justly boast is second to none as regards silence, speed, flexibility, reliability, hill-climbing, and economy. More than this the most ambitious manufacturers can desire nothing.



THE FOUR INCH RACE. A stern chase.

THE END OF THE NEW YORK TO PARIS ZUST.

By a strange irony Signor Scarfoglio's Züst car, one of the heroes of the New York to Paris race, after travelling over several continents has been almost irreparably damaged on the drive from London to Folkestone. Leaving London on Friday night the car broke down at Bromley, where it was noticed that the sprockets were loose and a chain broken. As Scarfoglio was anxious to catch the following morning's boat, he handed the car to a local motor agent for conveyance to the station. A horse was used to tow the car to the L.C. and D. railway station at Bromley South, and whilst draining off the petrol the vapour ignited through the too close proximity of a railway porter's oil lamp. The local mechanic, Maynard, was pulled out terribly burnt, and flames rose 30ft. high; indeed, it looked as if the car would be totally destroyed, but the prompt action of the local fire brigade saved the front portion of the vehicle. The entire rear half of the car, however, driving wheels, baggage, and full equipment of the tour, also Scarfoglio's correspondence, etc., were reduced to *débris*. Scarfoglio upon arriving and finding the wreck was much agitated. "The car is dead. It is irreparable," he said. On Saturday the car was hoisted on to a rail truck, the rear wheels collapsing when the car was moved. The manager of the Züst Co., who motored down, retained the burnt-out wheel rims and the remains of Scarfoglio's driving coat for exhibition at Long Acre. The car and Scarfoglio left Folkestone by the midday boat on Sunday. The car goes direct to the Züst works at Milan, and a new body, wheels, etc., will be fitted in time for the Paris Show.

The burnt-out Züst car.

It is unfortunate that Scarfoglio was denied the opportunity that he so much wished of making a triumphal return to Italy on the car which had carried him so gallantly over the intervening continents between the American and the French capitals.

The scene of the fire at Bromley Station was visited by a number of motorists at the week-end. Fragments of tyres, the tanks, petrol cans, and charred portions of letters, clothing, etc., were speedily seized as souvenirs. The car was not insured. Scarfoglio left England soon afterwards, and the mechanic Maynard has since died as the result of the injuries he received.

SMALL CAR TALK. By Runabout.

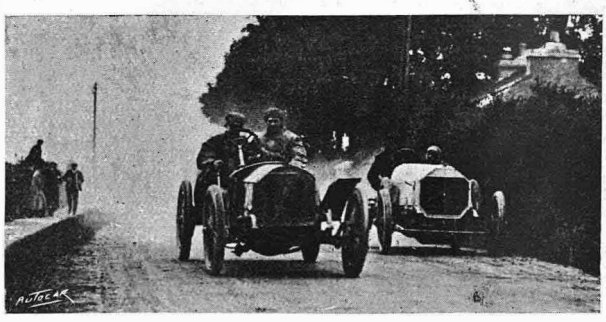
The Tyring of Small Cars.

One of the misfortunes of the small car man is that labour and time-saving devices in the tyre line are almost as costly for a small car as for a big one, and that detachable wheels, detachable rims, and the Stepney wheel are very little cheaper in the 700 by 80 size than in the 920 by 135 patterns, while the small car stands in even greater need of them, as it can make up no time after a puncture over a short journey, and very little time over a long one. Thus on the only small car for which detachable wheels are a standard extra, viz., the 9 h.p. Riley, the cost is about £14; detachable rims are not much cheaper; and a Stepney wheel in that size costs little less than for a 20 h.p. car. None the less, one of these extras is the first luxury the small car owner must indulge in. The Stepney is the cheapest, but if the owner possess a vulcaniser and wishes to delay repair of the damaged tyre indefinitely, to be done at home, he will find little choice between detachable wheels and rims, so far as cost is concerned.

In choosing a particular make of detachable rim, it seems a pity to purchase one which depends on six or eight bolts while devices attached by a single lock are procurable. Then there comes the further question of the size and sort of tyre. The bigger the better, and 700 by 80 is none too large for a car weighing half a ton. As rubber treads outlive at least two sets of the armoured type, men of small means must stick to rubber treads, whatever further precautions they take against side-slip. The nervous driver must have permanent non-skids. Detachable non-skids are all very well, but if a man happens to be nervous on grease, he cannot stop the car to fit a temporary device, when, for instance, he runs into a twisty little town like Rickmansworth early on a summer morning and finds its tortuous streets but half dried from their first watering. Such an owner can choose between Palmers, Kempshalls, Shamrocks or Goodrichs, and the more standard types, like the notched Dunlop. With the modern car, whether it have the engine amidships like the Riley, or forward like the Rover, I see nothing to be afraid of in a brief stretch of town grease, provided the car be driven slowly, turned gently, and braked as little as possible. Consequently I prefer to carry a set of Parsons chains, or a dozen strap-on armoured gaiters. These only call for employment two or three times in a summer. I have used mine thrice in 1908—once when I had to thread my way through the entire length of Watford on a busy market day, when the roads were very dangerous, and the traffic requisitioned much braking and swerving; once when driving between Salisbury and Honiton over a long stretch of limestone butter; and once when threading the lanes round Brent and Torquay, an hour after a heavy shower. Either gaiters or chains take about twenty minutes to affix, including jacking up the car for the chains; the gaiters may be attached by rolling the car forward a few inches, without using a jack at all. One friend of mine has the Riley detachable wheel, and his fifth wheel is always shod with an armoured tread, so that when he gets nervous he merely spends five minutes changing one back wheel. With the more positive forms of rubber non-skid, such as the ribbed Palmer or a Kempshall, a small car with open body is safe anywhere; it is only a long car with a high, covered body which ever absolutely *needs* metal non-skids.

A Prophecy.

In the pages of an American contemporary I found illustrated one of the toy cars built for the spoilt children of some Transatlantic millionaire. It took the form of an extremely *petite* four-cylinder two-seater, the motive power of which was provided by an air-cooled engine lifted from a 6 h.p. F.N. motor bicycle. There is no doubt that a huge potential small car public in England is waiting hungrily for the first really cheap and good four-cylinder car at the small car man's price, and I believe its day is nearer than most people imagine. No matter how excellently a single or two-cylinder engine be designed and constructed, no matter if that excellence be equalled in every detail of the chassis which carries it, the English public has now been educated to a point at which it dislikes the distinct "countable" explosions of the best one and two-cylinder engines. Not so long ago anyone could have asserted without contradiction that the extra expense of machining the parts of a four-cylinder 6 h.p. engine as contrasted with a single-cylinder 6 h.p. made it for ever impossible that a four-cylinder small car could be sold with profit at a small car price; yet to-day we see the two-seater Coventry Humber selling at a price which is only some £35 above what we may call the standard small car price, and the F.N. motor cycle engine proves that this gap in prices is capable of much greater reduction. No one who has examined this beautiful little motor cycle engine can hesitate to say that equal material and work might be vainly sought for on not a few quite distinguished cars. And the salient point is that the 6 h.p. four-cylinder F.N. motor cycle sells at £50, whereas the best single-cylinder and twin-cylinder cycles sell at £48 and £52 respectively. Obviously, therefore, when turned out on approved commercial methods the four-cylinder engine need only cost fractionally more than the single or twin-cylinder of equal power. And so I look forward confidently to seeing the small car man presently provided with a two-seater which shall "purr," instead of "chug-chugging," at something less than £200. When that day comes the trade will have tapped the real motor market of England; but we must get rid of the "chug-chug" and attain the "purr," to which the refined senses of non-motorists have already been educated. That day would be a good deal nearer than it is if the first successful producers of small four-cylinders had not found it a safer speculation to cater for an already existent 12-16 h.p. four-seater market than to coax into activity a somewhat less ripe 8-10 h.p. two-seater market. Next Olympia may be the opening of the sequel.



THE FOUR INCH RACE. The S.C.A.T. passing the Arrol-Johnston near Bray Hill.

THE A.A. COMMITTEE OF PUBLIC SAFETY.

So much has been written lately upon the vexed question of motor car driving, as to what should be done and what is going to be done, that it will be of interest to note the work which is actually being carried out by the Automobile Association.

In May last the A.A. Executive, realising the effect which the bad driving of a certain type of motorist was having upon public opinion, formed a Committee of Public Safety. This committee, composed of members who by virtue of their experience of motoring were well able to deal with this vital question, set out to put the motorist's house in order in a practical and business-like way. Not only were members, non-members, and even non-motorists invited to communicate cases of reckless or careless driving to the offices, in order that complaints might be dealt with impartially but firmly, but a special organisation of patrols under the command of an experienced official was devoted to the work of checking, timing, and reporting upon those cars which in their estimation were driven improperly.

Since that time over 200 cases have been registered. Of these, 159 were sufficiently serious to need an investigation, and the owner of each car was called upon for an explanation. Eighty-eight cases have been satisfactorily settled, and not only have the owners reprimanded their drivers where necessary, but they have also written expressing regret and thanking the Association for having called their attention to the fact. In four cases only has the offence been repeated. Further, in five instances, where the fault was particularly flagrant, the driver has been discharged. In a few cases no result could be arrived at, either because of a mistake in the reported number of the car, or because the owner had gone from his registered address, leaving no other to which the letter could be forwarded.

It is interesting to note that of the 159 cars reported as travelling too fast only twenty-six have belonged to members of the Association—an average of not quite seventeen per cent.

The committee's labours have brought to light some instructive examples of the way in which rules of the road are interpreted by drivers. In many cases trouble has been brought about by a car overtaking another vehicle travelling in the same direction, and passing it at the moment when another car, vehicle, or cyclist was approaching in the opposite direction, leaving no more than a few inches of space, and doubtless causing anxiety, to say nothing of danger, to the latter, whose right to his place on the road was unquestionable. In answer to a letter of remonstrance, some motorists plainly showed that they were not aware of the fact that driving of this nature is at all improper, whereas it should be common knowledge that no person driving car or horses has any justification in taking the wrong side of the road, unless he be aware that no traffic is approaching in the opposite direction.

THE FOUR INCH RACE.

Messrs. Warwick Wright, Ltd., are anxious to remove the impression that the non-success of their Metallurgique cars in the Four Inch Race was due to ignition troubles. This, they inform us, was not the case. Their "four-inch" cars were fitted with Bosch magnetos and E.I.C. ignitions, both of which gave the utmost satisfaction. As a matter of fact, Mr. Bennett, of the Bosch Company, was in continual attendance at the Metallurgique garage in Douglas, as was also Mr. Hall, of the E.I.C. Company, and every attention necessary to both the magneto and the E.I.C. ignition was afforded. As a matter of fact, throughout the race itself both ignitions behaved perfectly. The real reason for the non-success of the cars in this event was their late arrival from the works in Belgium. As we intimated, the cars only turned up in Douglas at seven o'clock on the night of the Friday previous to the race, and, owing to the regulations, the fog, and the rain which obtained during the few days previous to the event, Mr. Warwick Wright and his friends were not able to get the cars on the road more than three times for practice and tuning up. This was not sufficient to remedy the valve defects which became apparent after the cars arrived in the island, but both Messrs. Wright and Cupper are of opinion that had they had sufficient time to do the work required the vehicles would have made a very different show in the race itself. In affording this explanation, however, Messrs. Warwick Wright, Ltd., are very anxious to remove any false impression in reference to ignition troubles with regard to their cars in the race.

The two Darracq cars driven by Mr. A. Lee Guinness and Captain Rawlinson in the Four Inch Race are now on view at Messrs. Keele's showrooms, 22, New Bond Street, where they are attracting a great deal of attention. Captain Rawlinson's car, although it was turned over in the first and was in collision in the fifth rounds, creates much surprise by the fact that it looks very little the worse for its dire experiences.

Persistent rumours have been circulated to the effect that the Eisemann factory in France has been closed. This is entirely inaccurate, and the United Motor Industries have sent us a letter which they have received from the French house, in which it is stated that, as a matter of fact, they are extending the factory and are turning out more Eisemann magnetos than ever. There is also the Stuttgart factory, and the establishment of factories both in England and America is contemplated.

* * *

The Middlesbrough stipendiary magistrate the other day dealt in a very reasonable manner with the driver of a motor car who was summoned for alleged dangerous driving on the Newport Road. It appears that an unusually large number of side streets open into this road, making speed dangerous. The speed with which the defendant was credited was fourteen or fifteen miles an hour, though he was not timed. Defendant himself said he was not going at more than eight miles per hour and could pull up in four yards. The magistrate dismissed the case, but said that further complaints of dangerous driving would be severely dealt with.

* * *

A new model Armstrong-Whitworth car is about to be issued by Sir W. G. Armstrong, Whitworth, and Co., Ltd. It is a very smart-looking chassis indeed, and apart from its fine workmanship, simplicity and accessibility can be mentioned as its special characteristics. We hope to deal with the car at greater length before very long.

BROOKLANDS AUTOMOBILE RACING CLUB.

OCTOBER RACE MEETING.

The following are the entries for races to be run on Saturday, October 3rd:

26 H.P. CHAMPIONSHIP.

Mr. J. W. Stocks (25.6 h.p. De Dion).

FIFTH ALL-COMERS' HANDICAP SWEEPSTAKES.
(To be run in Two Heats and a Final.)

Mr. F. R. Fry (59.6 h.p. Mercedes).
Sir G. W. Abercromby, Bart. (58.1 h.p. F.I.A.T.)
Mr. H. G. Nalder (Germain "Yellow Peril").
Mr. J. B. Hissey (Aster "Queenie").
Mr. C. Hobson (27.9 h.p. Nagant-Hobson).
Mr. C. Hobson (48.6 h.p. Brasier).
Mr. S. Straker (18.8 h.p. Straker-Squire).
Mr. H. P. Martin (38.1 h.p. M.A.B.).
Mr. W. Jochems (48.6 h.p. Mercedes).
Mr. C. J. Ratcliff (25.6 h.p. Beeston Humber).
Mr. R. Creyke (8.9 h.p. Sizaire).
Hon. L. Bruce (48.6 h.p. De Dietrich).
Mr. C. E. Whittaker (27.9 h.p. Imperia).
Mr. G. C. Colmore (14.7 h.p. Beeston Humber).
Mr. O. S. Thompson (Austin "Pobble").
Mr. R. Lascelles (5 h.p. Varsity).
Mr. R. Lascelles (5 h.p. Varsity).

LARGE OCTOBER SWEEPSTAKES.

Sir G. W. Abercromby, Bart. (58.1 h.p. F.I.A.T.)
Mr. H. G. Nalder (Berliet "Grayling").
Mr. W. Jochems (48.6 h.p. Mercedes).
Mr. O. S. Thompson (Austin "Pobble").

AUTUMN HANDICAP.

Mr. A. Van Hoboken (35.7 h.p. Mercedes).
Mr. C. Hobson (48.6 h.p. Brasier).
Mr. H. G. Nalder Germain "Yellow Peril").
Mr. R. Creyke (8.9. h.p. Sizaire).
Sir G. W. Abercromby, Bart. (58.1 h.p. F.I.A.T.)
Mr. O. S. Thompson (Austin "Pobble").
Mr. C. A. Bird (34.5 h.p. Mercedes).

Racing will start at 3 p.m.

A special train will leave Waterloo Station (No. 3 platform) at 2.2 p.m. on October 3rd, arriving at Weybridge at 2.40. It will return from Weybridge as required after the races, calling at Surbiton, Wimbledon, and Clapham Junction.

Other suitable trains leave Waterloo at 1.20, 1.50, and 2.28 p.m., arriving at Weybridge at 2.1, 2.33, and 3.9 p.m. respectively.

LONG-DISTANCE TRIAL OF R.R.H. CAR WHEELS.

A trial comprising 1,008½ miles on the road, of the R.R.H. patent motor car wheels, has been conducted under the auspices and official observation of the Scottish Automobile Club.

The R.R.H. motor car wheel is really a wheel within a wheel. The internal wheel is an ordinary pneumatic-tyred wheel of small size, upon which is mounted an external or slipper wheel, consisting of a solid rubber tyre with the necessary channel or rim, on either side of which are bolted steel plates. The inside of the rim of the external wheel is lined with wood, which forms the path against which the inner pneumatic tyre presses. The side plates take up the thrust and keep the slipper wheel in position over the inner wheel. The drive is transmitted from the inner to the outer wheel by the friction of the pneumatic tyre on the wood lining.

Two of the patent wheels under trial were fitted to the driving wheels of a 16-20 h.p. Mass car, driven through a live axle by a four-cylinder engine, bore 98, stroke 130, having three forward speeds and one reverse. The wheels measured 36in. in diameter, or 2½in. more than the measurement of the wheels which are standard to the car. This alteration would have had the effect of increasing the speed of the car on top gear at normal revolutions from 38 miles to 41 miles per hour, but by an alteration of the gear in the back axle from the standard type of gear ratio was reduced from 18/60 to 15/60, and the speed consequently reduced to 34 m.p.h. on the third or top gear.

The weight of the car unladen, but including petrol, water, and spares, was 28 cwt. 2 qr., and the average laden weight of the car during the trial was 35 cwt. 1 qr. 15 lb. The weight of the wheel as used in the trial was 1 cwt. 1 qr. 2 lb. per wheel in excess of an ordinary wheel.

The route of the trial comprised, *inter alia*, the entire route of the Scottish Reliability Trial.

The quantity of petrol consumed over the entire trial was 56 gallons 1½ pints, equivalent to .03148 gallon per ton mile, or 17.95 car miles and 31.76 ton miles per gallon.

The car was timed over each of the hills forming test hills in the Scottish Reliability Trial, 1908.

On the same basis of marking as was applicable to that trial, this car would have earned 82 per cent. of the marks which were gained by the 15 h.p. Mass car entered in Class C, and which earned the highest number of marks in its class for hill-climbing, the relative marks varying from 99.9 to 68.4 per cent. of those gained by the 15 h.p. Mass, cylinders 95 by 120, and weight laden 30 cwt. 2 qr. 7 lb.

No portion of the wheels or tyres was touched during the entire trial, and during the trial there was no sign of wear or of heating consequent on the friction of the pneumatic tyre on the wood lining of the outer wheel, or from slip.

The wheels were dismantled by the Club Committee for examination before and after the trial, and at the conclusion of the trial it was found that no wear of the pneumatic tyres could be detected, and that the solid tyres showed something like the amount of wear which would have been expected had they been mounted on an ordinary wheel. The fittings and other parts of the wheel did not show any appreciable wear.

The committee and observer report that there is an appreciable gain in comfort in the running of these wheels as compared with solid-tyred wheels, although it cannot be said that there is the same resiliency as from the use of the ordinary pneumatic tyre.

The committee are of opinion that the trial has demonstrated—first, that the wheel was reliable, and showed no important wear under the prolonged and somewhat severe test; and second, that the use of these wheels does not unduly, if at all, increase the petrol consumption of the vehicle to which they are fitted, nor does it unduly affect the speed of the vehicle on hills, or its capability to climb steep gradients.

REVIEW.

The Contour Road Book of Ireland.

This most excellent little book has been compiled by Mr. Harry R. G. Inglis, who has made special surveys to obtain the necessary data. It has taken eight years to collect the material included in a book of 256 pages of routes and contours, and, in addition, thirty-two pages of general matter, including a working index. Very great difficulty was experienced in some districts owing to the maps available not being by any means trustworthy; they have probably never been correctly revised since the days of the Grand Juries, but, as may have been expected, great assistance was rendered by the County Surveyors when their aid was sought. Much useful information is to be found in the opening pages, not the least interesting being that on touring in Ireland, which is accompanied with many sketch maps. In the end an invaluable work has been produced, which no one who tours through Ireland should be without.

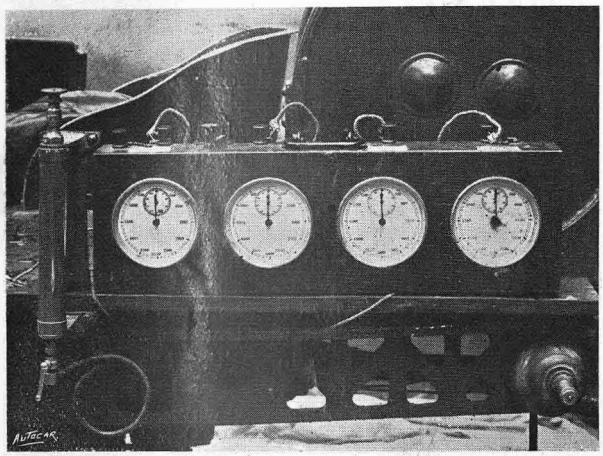
Since issuing their repair booklet Messrs. Charles Jarrott and Letts, Ltd., inform us that they have during the last three months successfully overhauled, in addition to Crossley, De Dietrich, Mors, and Sizaire et Naudin cars, cars of the following makes: Panhard, Daimler, Alldays and Onions, Junior, Gnome, Clément-Talbot, Singer, De Dion, Durkopp, and Napier. The works are specially equipped for executing general repairs, and this fact is being greatly appreciated.

* * *

Too late for inclusion in the correspondence columns, we have received a letter from Mr. Warwick Wright suggesting that as the Royal A.C. cancelled the "Graphic" Trophy and Henry Edmunds Hill-climbs, which were to be held in the Isle of Man last week, the Club should arrange to hold them in England. A Metallurgique chassis was specially prepared for these events, and a body was fitted to it to meet the R.A.C. requirements, and it was actually on the way to the Isle of Man before Mr. Warwick Wright was advised that the two events had been cancelled.

WHEEL SLIP AT THE ROAD.

Some further experiments have been carried out by Mr. S. F. Edge with a Napier car on Brooklands Track to ascertain the amount of slip which takes place at the point of contact between the road and the wheels.



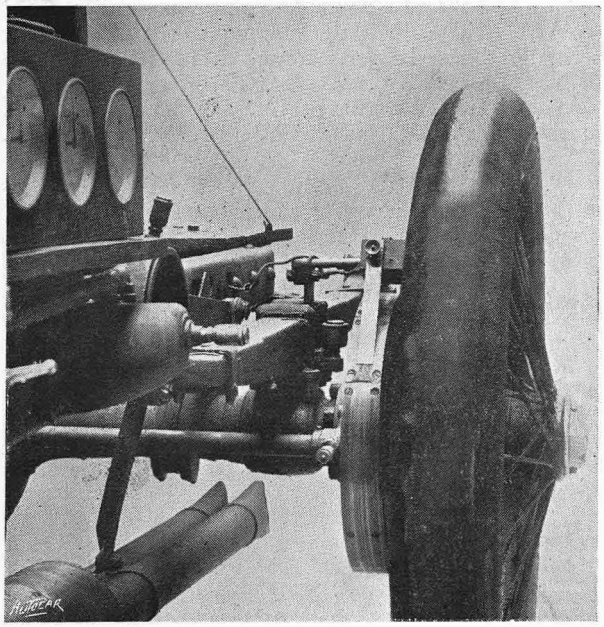
The instrument made by Elliott Bros. for recording the number of revolutions of each wheel.

The tests were carried out between two given points on the track, and the recording instruments were electrically switched on when the starting line was crossed and off when the finishing line was passed over. The instruments employed were made by Messrs. Elliott Bros., who gave an enormous amount of care and attention to producing an apparatus which should faithfully record the doings of each of three wheels of the car during the test runs. The fourth wheel was employed to drive a speedometer, but we understand that a new fitting is being made whereby the behaviour of each and every wheel can be recorded. The revolution counter was an ordinary clockwork mechanism, but worked with an electro-magnetic escapement which moved every time the electric circuit was completed by a contact maker fitted to each wheel hub in the manner depicted in one of our illustrations. The electric escapement could not, of course, be worked until the current was switched on.

On studying the accompanying table, the first thing to strike one is the curious decrease of front wheel revolution as the speeds get higher, until really high speeds are attained. This, Mr. Edge suggests, may be accounted for by the reduction of speed during the time it has bounced off the track. Also, some of it may be explained by the possible loss by unequal electric contacts at the start and finish, and at very high speeds a much different course had to be taken.

The next item is the excess of back wheel revolutions over the front. At 20 m.p.h. for all practical purposes they are equal, and some of the variations can be accounted for by the fact that the records were taken from a flying start. It was therefore impossible to set all the contacts to make at the same time. This, of course, would apply to all the tests. All other figures in this column seem compatible with what would have been expected except those of 40 m.p.h., which seem rather difficult to account for except by the fact that the engine ran throttled particularly well at this speed, thus avoiding any jerks on the road wheels. From 60 m.p.h. upwards big jumps are made at 90 m.p.h.

The next column, "Excess of off back wheel revs. over near back wheel," we might have expected to see a greater difference owing to the larger circle they travelled over, and this almost clearly proves that the inside wheel does most of the slipping by this comparison. The rise of back wheel revolutions over those of 20 m.p.h. needs no comment except that it clearly demonstrates the larger amount of slip that takes place, and



A back wheel showing the electric contact breaker as fitted to the hubs of the wheels.

leads one to think that it would be considerably more on the road owing to frequent use of clutch, and a badly-designed one and a badly-sprung chassis without road equalisers must still further increase it; this in conjunction with a bad driver gets quite alarming, and may explain some of the heavy tyre bills, as of course the average condition of a road is far worse than that of Brooklands Track.

M.P.H.	No. of Revs. per Lap. F.	N.B.	O.B.	Excess of B.W. Revs. over F.	Excess of N.B. Revs. over O.B.	Excess of O.B. Revs. over N.B.	Excess of B.W. Revs. over those at 20 m.p.h.	Excess of F.W. Revs. over those at 20 m.p.h.
20	1654	1640	1652	—	—	3	—	—
30	1651	1668	1669	18	—	1	17	—
40	1651	1655	1656	5	—	1	4	—
60	1654	1670	1665	16	5	—	22	—
76	1640	1681	1683	43	—	2	31	—
90	1697	1783	1786	89	—	3	134	33

F., front wheel. N.B., near back wheel. O.B., off back wheel. B.W., back wheel.

THE AMERICAN MOTOR PARKWAY.

With the abandonment of the Vanderbilt Cup Race in 1907 came the decision to build a private motor road on Long Island, New York. The full scheme provides for the construction of a special motor highway practically from one end of Long Island to the other—a road so near New York City that it can be reached by thousands of automobilists; a road that will know no speed limit, that will never be traversed by other than mechanically-propelled vehicles, that will follow the natural outline of the country without any attempt to cut down grades, but which will nevertheless be so constructed that it will be perfectly safe at speeds altogether unattainable on an ordinary highway. Brooklands was the first motor racing track; the Long Island Parkway will be the first motor highway.

A glance at a map reveals the unique position of the sland for such a scheme. Separated from Manhattan Island by the East River, the western portion of Long Island is within the limits of New York City. Four-fifths of the total population is crowded in this western end, principally in Brooklyn and Long Island City. Eastward the population becomes more and more scattered, until at Montauk Point, 115 miles from Brooklyn Bridge, the only inhabitant for miles around is the lighthouse keeper. It was decided to make the Parkway down the centre of the island—a portion which had been somewhat neglected by country residents and holiday makers, but which had sufficient beauty to make it a splendid touring ground. Starting about twenty miles from the centre of New York City, the road was to run due east, with various windings and detours which natural and artificial obstacles placed in its way, until it reached Riverhead, a point on the north-easterly extremity of the island. It was in the first place a matter of speculation what amount of capital would actually be required for the construction of a motor highway over sixty miles in length, but the body of men responsible for the scheme resolved to invest £400,000. The amount was so great that for a time there was an idea that the Parkway was only a subterfuge to obtain land for a railroad or other scheme.

Many of those most closely connected with the movement were large landowners on Long Island, and at once gave right of way across their estates. But this was far from completing the scheme, and a large amount of careful work had to be done to induce other owners to grant the land necessary to fill in the many gaps. Not a yard of land is being paid for, the Parkway Committee considering that sufficient return will be made by the general increase of land values consequent on the completion of their motor road. A few owners held out in the belief that their plot would be found indispensable, and that in the end the corporation would be obliged to purchase it. When such tactics were adopted the surveyors took care to go as far as possible from the would-be seller.

The American Automobile Association, which has very close ties with the Parkway Incorporation, had announced its Vanderbilt Race for the autumn, the intention being to complete a specially wide stretch of the Parkway for a distance of about twelve miles, create huge loops at either end, and hold the race on a private road, from which, of course, they would have full power to keep back the crowds. This was found impossible of realisation, and as an alternative eleven miles of road were ordered to be completed before October 24th, the date of the race, to link up with some of the best highways in Nassau County, making a circuit of about twenty-six miles. This first section having been divided up among numerous contractors, each of whom was under bond to complete by a given date, five miles have already been built, and the whole will certainly be ready in time for the American elimination and trial trips early in October.

The first eleven miles form a sample of what the complete Parkway will be. The width of this section is from 20ft. to 30ft., a central portion only being built at present to allow of its properly drying, 6ft. being added on each side later. Though over perfectly level country, there will be several turns on it, and no fewer than fourteen bridges, thirteen of which are over or under highways and one over a combined railroad and highway crossing, the span being about 90ft. The average grade of approach on these bridges is about 1 in 25.

Protection from the crowd will be provided by a stout steel fencing 5ft. high, composed of ten parallel wires set close together, and held in position by vertical wires about 12in. apart. It is this type of barrier that will be continued along the whole Parkway, thus making it impossible for cattle to stray on the road, or for motorists to enter or leave the Parkway except at designated points. At each of the spots where the motor road opens to the ordinary roads there will be an artistic toll gate in charge of an attendant, who, in addition to receiving payment for the use of the road, will have for sale petrol, oil, and various sundries, and will be in telephonic communication with every other toll gate on the road. On this initial portion of the Parkway three of the toll gates have already been erected.

After close enquiry into methods of road construction in Europe and America and a close study of the Brooklands Track, the Parkway Committee has decided to adopt a cement finish on reinforced concrete. On a thoroughly rolled sub-base there is placed a layer of broken stone about 2in. mesh, well wetted down and rolled, on top of which is laid reinforced steel wire. Above this is a second layer of crushed stone, somewhat smaller than the first, which is also wetted down, rolled, and packed. The whole mass is then grouted with a mixture of one part cement to three parts of stone and sufficient water to make a liquid or semi-liquid grout, this being applied until all the interstices between the stones are thoroughly filled. Rolling and tamping are continued during the entire process. Above this is a finishing layer of crushed stone screenings, well rolled in. As the mass begins to dry, it is given a rough broom finish to guard against skidding. With such treatment there is no need for any anti-dust preparation.

In addition to races and various types of contests similar to those carried on at Brooklands, the Parkway will be available as a demonstrating ground for New York motor car dealers, the short distance from the city making a speed test for a prospective customer a very simple matter. Its main use, however, will be for touring. Doubtless scores of the richer residents who at present come into New York City by train will use the Parkway every day, the time necessary by car over such a road being considerably shorter than by train. The various feeders to the Parkway which are to be constructed will make its use popular for reaching the various golf links, yachting stations, and holiday resorts which abound on the island.

CORRESPONDENCE.

EDITORIAL NOTICES.

No letters from members of the motor industry will be published when they deal with subjects which may be regarded as advertisements for the writers' or their business interests. At the same time as many of the most practical suggestions come from those engaged in the motor industry, their letters will be inserted when possible, though the names of the firms they represent may be expunged, and the initials of the writers substituted.

Letters of a personal nature will be withheld.

The Editor, although accepting no responsibility for the opinions expressed by correspondents, reserves the right to publish a portion of a letter and to omit any part which he does not consider interesting or essential.

All communications under a nom de plume should be accompanied by the name and address of the writer, not necessarily for publication, but to assure the Editor as to good faith.

Enquirers who ask for the experiences of private owners with specified cars, parts, or accessories, are requested to enclose a stamped addressed envelope, so that replies which space will not permit us to publish may be forwarded to them. Circulars or letters from interested parties will not be forwarded.

HOW IS THE WHEEL SUPPORTED IN A PNEUMATIC TYRE?

[13450.]—The theories propounded by your correspondent D. W. Samways, D.Sc. M.D. [letter No. 13410], afford interesting reading. If they had appeared in *Punch* I should have presumed that the author was exploiting his humorous vein, but as they appear in your sedate and scientific journal, we must suppose they are put forward seriously.

I can well believe the writer's statement, "I have never seen this subject discussed." The fact accounts for the theories. The first discovery is given in answer to the query, "What lifts the wheel when the pneumatic tyre is inflated?" We are solemnly told, first, the pressure of the air in the tyre above the rim and below the rim are equal—the one presses the wheel down and the other presses it up, therefore if left to these forces alone it would neither move up nor down—it would float in mid-air, "because all the centripetal forces exercised by the air on the rim are equal and opposite and neutralise each other." The fallacy here (well, there are several, but the chief one) lies in asserting that the pressure of the air on the rim forces the wheel up and down. Of course, it does nothing of the kind. The rim merely affords a *point d'appui* from which the air, confined by the tyre within fixed limits, and compressed by the force exercised through the pump until its pressure inside the tyre is greater than the pressure of the outside air upon the outer surface of the tyre, can push both car and earth away from each other, and as the earth does not give way the car must, and therefore is raised.

Again, we are told the earth exercises an upthrust against the tyre. Well, it does not; the car exercises a downthrust by the attraction of gravity. But we are informed "the upthrust" on the wheel of the earth plus the pressure of the air in the lower part of the tyre against the rim overcomes the down pressure of the air in the upper part of the tyre on the rim. These two pressures cancel each other and leave the upthrust of the earth to act alone upon the wheel and raise it up.

I have quoted the matter with undue partiality towards the writer. What he asserts is something even more ludicrous than this, viz., that "the upthrust of the earth pushes the tyre towards the wheel, and takes off some of its (the tyre's) downpull." "In other words," we are further enlightened, "it supports the pressure which the adjacent portion of tyre would have had to support, and which would have necessitated its (the tyre's) pulling that much harder in a downward direction on the rim and wheel." The old-fashioned idea that the earth by gratitation exercised a pull downward on everything above it seems, according to this new idea, to be quite a mistake. It is the tyre on the lower part that pulls the wheel downward, and the earth only reduces this downpull by an upthrust! This downward pull of the lower half of the tyre on the wheel is equal to the pull of a man; the upward thrust of the earth makes it a mere child's play, reducing it in the proportion of twelve to one.

"A wheel in a tyre (only) appears to move up and keep up because the upward pull on the rim by the tyre walls above the wheel is greater than the downward pull on the rim by the tyre below the wheel"; whereas our author has previously assured us these two forces are equal and opposite.

But, after all, the air in the tyre has nothing to do with the wheel being raised up. The inflated tyre in reality does not raise up the wheel at all. It is an optical illusion and a delusion of the senses. The wheel is not supported from below: it is suspended from above. And it is the tyre that suspends it. And not only is the wheel suspended from above by the tyre—more wonderful still, it is suspended in the tyre from above. When I read this stupendous discovery my brain reeled. I could only sit and gape. After an interval for recovery, I was prepared to read on of further and greater discoveries still, relating to the different kinds of wheels.

A wire wheel consists of a hub. This hub is hung by spokes to the rim above it. This rim appears to be hung on to the portion of the tyre above it, but it is only an appearance, not a reality. What the rim is really suspended to deponent sayeth not. He seems to imply that, in the case of the wire wheel, it is unknown and unknowable. In the case of the wooden wheel, however, he is on sure ground. In this case, the hub is supported by the upthrust from the spokes below it. (Quite different, you see, from the wire wheel, which is suspended by the spokes above it to the rim, and this again to that portion of tyre adjacent.) And the lower half of the wooden wheel must be hung from the upper half (a little doubt seems to creep in here in the author's mind, for he says)—"if the latter" (*i.e.*, the upper half) "is suspended at the rim, as appears likely" (not quite on solid ground here), "by the tyre walls about it."

In this case, *i.e.*, if it is really true that the lower half of the wooden wheel is suspended to the upper half, at the rim, by the tyre, "then there is something to be said theoretically for wire wheels." For in that case they are as good as the wooden wheels suspended by an upthrust.

Well, Mr. Editor, I trust you and your readers will never have to say after this that the subject has not been discussed.

CYCLO MANIAC.

[13451.]—There seems to be something wrong with Dr. Samways' reasoning [letter 13410]. If this theory were correct, a tyre that reached only half-way round the rim, and whose middle point rested on the ground, would never raise the wheel on being pumped up, as in that case there would be no "upward pull on the rim by the tyre walls above the wheel."

Also the pull on the rims all round is neutralised by the pressure of the inner tube on the bed of the rim. A gas exerts the same pressure in all directions, and, therefore, the pressure outwards against the tread of tyre must be equal to the pressure inwards against bed of rim. It is plain that the wheel must be supported from below, as, if the wheel were at rest, the top half could be dispensed with altogether and yet equilibrium would be maintained.

CANTAB.

MOTORISTS AND THE PUBLIC.

[13452.]—In view of the controversy going on at present between the public and motor owners, or drivers, I should like briefly to give you a holiday experience. I am a keen motorist, having travelled some 30,000 miles in the past eighteen months, and though much attached to motoring I am strongly of opinion that the grievances of other users of the road are very real, for even from the comparatively safe post of vantage, *i.e.*, my car, I have this last week carried my life literally in my hands through, I regret to say, the abominably careless driving of my fellow motorists. From a place near Towyn, North Wales, I started out to drive sixteen miles to Barmouth. It is, as maybe some of your readers will know, sixteen miles of almost serpentine road. There is seldom more than 100 yards of road without a corner, and a bad one. I met fourteen cars in nine miles, the first eight cars were all met at corners. All were on their wrong side, none blew a horn. The ninth and tenth, also on their wrong sides, almost sent us to the next world. The eleventh, the only one driving carefully and on his own side and sounding a horn, was like ourselves carrying the A.A. badge, and we were mutually pleased. The twelfth, thirteenth, and fourteenth, all on their wrong sides and no horns blowing.

The two latter had to put great and sudden strains on their cars to prevent running into us, though we were within six inches of the hedge on our own side. So trying a drive was it that when next I view the Mawddach Estuary, it will be from the safe window of a train. Recently I tried another route with similar results, and was excessively annoyed to see most other cars stick determinedly to the centre of the roads, leaving cyclists and pedestrians to get in the hedges and ditches as best they could. Surely motorists have it in their own hands, so it appears to me, to create in a very short time a much better feeling on the

Correspondence.

road. The sad accident recently in Towyn was due, so the people round tell me, not to excessive speed but to lack of sounding a warning. This lack is to me more and more apparent every day. Surely lives should not be endangered at every turn through absence of this small consideration to other users of the road. Your readers will wonder at a motorist running other motorists down, but I am not running them down. I am striving to hold up a pastime which they appear to be endeavouring to degrade. In this letter I have but given you samples of what is my general experience, and I am convinced that unless motorists as a whole show very much more consideration to the public, that public will take the law into its own hands, with results to the motorist likely to be far from pleasant.

TAL-Y-LLYN.

COST OF RUNNING SMALL CARS.

[13453.] "I think your correspondent "L. Y. Z." very much over-estimates the depreciation of small cars. A few years ago I bought a 10 h.p. car for £300, and have since spent about £3 on renewals. I have run this car more than 13,000 miles, and it is running just as well now as on the day it left the works, so the depreciation up till now seems remarkably small. There are two small cars that I know of which have both been driven something like 50,000 miles, and are both in fair condition still. Given a good car and fair treatment depreciation will be a very small item as compared with the cost of tyres and petrol. I may mention that the three cars I have referred to are all of different makes. When a car is sold depreciation is then a much more serious matter.

PETROL.

WHY LONG STROKE MOTORS?

13454.]—I have been rather interested in this question of the R.A.C. formula for petrol engines. I notice a letter [13381] from Mr. S. F. Edge attacking the R.A.C. formula, and also against the use of a long stroke in a motor engine [13413].

Personally, I look upon any kind of restriction as good for the development of motor cars, as it is always safe to assume that manufacturers, when confronted with a restriction which means they cannot obtain more power along that line, will at once set to work to obtain more power and better engines from the lines of thought that are left open to them. The R.A.C. formula therefore has been useful, if only to bring out the possibilities of the long stroke.

Undoubtedly the Club evolved its present formula on the ground that if the stroke were increased the number of revolutions would be decreased, and so the power of the motor would be kept normal; that is to say, one maker would obtain 10 h.p. by having a small bore and a long stroke, and another would obtain 10 h.p. by having the big bore and a short stroke, and each would get the same piston speed and the same power, though the number of revolutions per minute would be quite different.

But it was found—and here comes the rub—that if the engine, as regards shapes and sizes of valves, combustion chambers, inlet pipes, exhaust pipes, and all the thousand and one small points that go to make a successful engine, were correctly designed, it was possible to get the engine to turn round practically as fast with the long stroke as it had been previously possible to get it to turn with the short stroke, with the great additional advantage that the piston would then pass through so many additional feet in a given time.

This, in so many words, meant so many pounds lifted a tremendous additional number of feet.

For the R.A.C., therefore, to have succeeded in forcing the manufacturers to redesign their faulty valves, their ports, combustion chambers, etc., and nothing else, it would still have had a beneficial effect on car design, because it must not be forgotten that, even though our manufacturers were now to revert to the obsolete short stroke, as Mr. Edge would urge, if they still retained their correct sizes and shapes of valves, ports, pipes, etc., that, for a given quantity of petrol, they would receive far and away more useful power at the road wheels than they had before they set out to improve their motors with the limited bore.

Mr. S. F. Edge sets out a series of objections to the long stroke which, to casual observation, might appear crushing.

Size of Engine.—Possibly, in an engine which is already too big either from its design or number of cylinders, a small addition to the stroke will be a serious item; but with an engine correctly designed, and capable of giving an enormous power from a small size, the argument immediately falls to the ground.

The alleged difficulty of the crank case having to be bigger to pass the longer crankshaft, and thus bring the crank case nearer to the ground, is surely not seriously put forward. The flywheel of all engines I am acquainted with invariably projects below the level of the crank case, and a very long stroke indeed would be required to make the crank case foul the ground before the flywheel did. So that, far from the centre of gravity being raised on this account, it can in reality be lowered, and the car made more stable, and less likely to skid or overturn on the road.

Vibration.—Vibration, we are told, is due to inertia of the forces of the reciprocating parts causing the crank case and crankshaft to distort and whip. This may be so in an unnecessarily long six cylinder engine with only five bearings; but even in a six-cylinder engine with the crankshaft supported with a bearing between each crank there can surely be little or no whip of the crankshaft. And certainly with a well-designed four-cylinder engine the imaginary discomfort from engine vibration is so masked as to be a negligible quantity, and certainly should not be seriously urged as an argument against the long stroke.

An advantage also of the long stroke is that, when the long stroke engine is running at the same revolutions as the short, the piston speed is greater, consequently more power is obtained; whereas to get the greatest power with the short stroke means that the reciprocating parts have to be reversed more times per minute, causing loss of power and wear and tear.

Weight of Engine.—I fear Mr. Edge has fallen into a strange error in this. I gather from his letter that he is comparing engines of equal bore as being of equal power—one to have a long stroke and the other to have a short stroke. Obviously this is not fair, and if weights are to be compared it should be with engines of equal power. This would necessitate that the short-stroke engine would require a much bigger bore, and this would add weight out of all proportion to the reciprocating parts, which is bad. It would also add weight to all the stationary parts of the engine; thus it will be seen that, power for power, the long-stroke engine is no heavier than the short-stroke engine, because the engine of the short stroke will have to have a bigger bore to equal it in power.

Noise from Engine (said to be due to vibration and valve actuation).—Possibly Mr. Edge's contention might be true if, with the small stroke, absurdly small valves and other detrimental design were present; but, obviously, the same number of valves are operated not quite so often with a long-stroke motor as with a short one. Indeed, that is one of the troubles that makers have had to surmount to get the engine revolutions of the long-stroke motor as high as those of the short-stroke motor; so that, if anything, the valves do not, as a rule, move quite so fast.

Lack of Flexibility.—Here again I fear I must join issue with Mr. Edge. Some of the slowest running motors have had the longest strokes, and undoubtedly slow running and long stroke are not antagonistic, for a given power with a given flywheel and a given compression. Indeed, it is questionable whether, with an engine of great power obtained by a long stroke rather than by increasing the bore, the difficulties of starting are not lessened; because, assuming the two compressions equal on the two engines, one with a large bore and the other with a small bore, then the pressure is acting in the small bore over a smaller area, and, against this, there is only the additional length of the crank for the starting handle to pull against. But, as the compression is not great or intense until near the end of the stroke, this possible disadvantage is certainly not sufficient to neutralise what would be the pressure to overcome, if acting on a much larger and proportionate bore to obtain the same power.

Danger from Preignition.—I fear I cannot follow Mr. Edge as to what he means with regard to this. I see no more difficulty in keeping an engine cool and avoiding preignition with a long stroke, provided the plugs are correctly placed, etc., than with a short stroke. Neither can I see why the connecting rod should lie in a more oblique direction with a long stroke than with the short one, provided both are correctly designed.

Necessity for Stronger Shafts and Transmission.—Surely this is not a consideration that should enter into the calculations in connection with the modern motor car. High-type steels can now be obtained that give enormous margins of safety for quite commercial weights of motor cars. The only difficulty seems to be in the question of manufacture. Obviously it costs more money to work high-grade, hard, tough material than commoner or crude types of metal, but I should be very sorry for the day to come when, for instance, we had to make our Métallurgique cars with shorter strokes,

lest the more powerful motor should break the transmission; and I should think this is a difficulty for those who use the cruder metal to tackle. Let them not shorten their strokes to suit their transmissions, but redesign their transmissions to suit their strokes.

Increased Wear and Tear on Tyres.—This trouble is more imaginary than real, and here again I think the transmission should be improved rather than the long stroke discarded. It has long seemed to me a crude way to transmit power from an engine through a solid shaft to the admittedly weakest portion of the car, namely, the pneumatic tyre. The designers of the Metallurgique car saw this years ago, and seriously tackled the question of a spring drive that would absorb all unequal drive of the engine and all the hard knocks that the tyre usually receives, and transform those knocks into a steady, even, elastic pull. This is the cure for the tyre bills Mr. Edge pleads so eloquently for, not the reintroduction of the obsolete short stroke.

WARWICK J. WRIGHT.

PRIVATE CAR OWNERS AND THEIR DRIVERS.

[13455.]—In view of the ever-increasing craze to become motor drivers, I should like to draw the attention of car owners, and others concerned, to the inadvisability of employing cheap men, a large percentage of whom are not fit to take charge of valuable cars, though I am sorry to find that these men are, in the majority of cases, the ones who secure the situations, leaving the good men, so to speak, stranded.

There can be no doubt that the cause of this is the exceptionally low wage these men are prepared to take, consequently the owner thinks the cost of running his car per year so much cheaper. Whether or not he gains thereby I will not say, but there is plenty of evidence to cause doubt.

I am beginning to think the good man's day is gone. He may be an engineer with life experience, and may have worked with motors from the early days, but he seems to be no better off than his brethren who started but a few months ago, who gave up their situations as drapers' assistants to become fully fledged driver mechanics.

Perhaps my experience will tally with that of others who have found the situation problem hard to solve. My career started at an engineer's works, as I always had an ambition for mechanics. I then followed up the motor industry almost as soon as cars were seen in this country, and kept at this for nearly five years, gaining experience of all systems. I then felt competent to take up private service, and have been at it ever since, up to a few months ago. Though my references are absolutely faultless, I have come to a dead stop, having tried all the reputed firms as well as the leading club houses, with the same result.

The last car I drove for a gentleman two years, and kept it running perfectly, there being no occasion to run it periodically to the hospital for repairs. I might add I own a complete machine plant, and not only did I do every repair, but made many a part for it when the stores happened to be closed and the car was wanted urgently. My last reference certifies to this; but still it makes no difference.

There must, surely, be some gentlemen who are willing to pay fair wages for the services of a good man, and there are lots of good men to accept them, but the difficulty lies in bringing them in touch with each other. I think it is time that something should be done to accomplish this end. A sort of registry would be required, where investigations into drivers' characters, reliability, etc., could be made. Drivers should be divided into classes, according to their merit and experience, and according to whether they are trained mechanics or otherwise. Private owners would then have a choice of their men and pay them accordingly. But as it is at present drivers are all classed on the same level, consequently the cheap man, who is often gifted with the "gab," obtains the situation, and the good man is lost sight of.

Good cars are worth good men, and good men good wages, where they can act straightforwardly and honourably towards their masters, and they expect the same in return.

ELEVEN YEARS AS MECHANIC-DRIVER.

INCONSIDERATE DRIVING.

[13456.]—The letters of your various correspondents show how imperative it is that efficient action be taken forthwith to remove the infliction of the inconsiderate driver. Action by any special association, club, or union, will be open to the objection—(1) of favouring one's own members; (2) of indirectly making it desirable that inconsiderate drivers should join the aforesaid associations with a view to remonstrance rather than active proceedings.

Surely the Motor Union should have taken this matter in hand. Its road agents being old police sergeants would have had wide experience. It either should not have commenced the matter or should have persisted in it. At present it appears to be handing over its functions on the one side to the A.A. and on the other side to the R.A.C.

But the need for restraining action is urgent. Ladies in carriages are being constantly forced on to the sidepath at the bottom of Pain's Hill here (Fairmile) by cars rushing down the hill and leaving their own side of the road to overtake slower traffic regardless of what may be meeting them on the other side—the proper one for approaching traffic. One owner when remonstrated with regretted he had no knowledge of the incident, though the approaching traffic had absolutely to pull up—this scarcely looks well, it rather indicates that the incident was not an uncommon one in that particular case. Again, the other afternoon outside Kingston a car bearing an LN number rushed along the promenade and deliberately and recklessly made the approaching traffic pull up dead in its great hurry to pass slower traffic instead of slowing down until the approaching traffic had passed. Unless we are to have inflicted on us very severe restrictions—mainly on account of the inconsiderateness of the paid chauffeur (in each of the above special cases the trouble was caused by a chauffeur in livery) the sooner effective action is taken by motorists themselves the better it will be for us all.

ALFRED JAMES.

PREFERENCE FOR SPACE AT OLYMPIA SHOW.

[13457.]—Whilst the agitation on the above matter is still in mind, I would like to suggest to fellow-members of the industry that they should now very carefully consider, quite apart from prejudice or party feeling, whether an altogether wider policy is not advisable.

First of all, I should like to place on record my opinion that the general work of the Committee of Management has been of the very highest order, and that too much stress cannot be laid on this fact. Apart from the selection—which, after all, involves questions of opinion—there has been no complaint against the work of the committee in any way. On the other hand, an enormous amount of good solid satisfactory work has been done, the benefit of which in many cases will only be apparent later on. The committee on the whole is composed of sound business men, who give a very large amount of valuable time to the work of the Society, and the results achieved have, I think, been extraordinary. It would have been a disaster if the assistance of these men (or at least the bulk of them) had been lost to the Society through the agitation. This fact should not be lost sight of by those members of the trade who are not represented on the committee of the council.

To get to my point, I hold the revolutionary view that every bond-signer should have an equal chance of getting one of the best spaces. I am opposed entirely to any preference. It can never be exercised without jealousy and suspicion. If we must have preference, let it be limited to the inclusion in the first ballot of those firms who have signed the bond for, say, three years or more.

Given that everyone has an equal choice, the large firms will be likely to be spread over the whole of the show, thus making every part equally interesting. The advantages are obvious. It is complained at present that there is not enough room for spectators at Olympia. This is likely to be the case so long as the best-known firms are put in the centre. During the past two years the centre gangways have been crowded, the others almost empty. Where the best means of obtaining and dealing with a large "gate" have to be considered, surely this is an unwise policy.

I attach no importance whatever to the spectacular aspect of the matter. People come to the show because they want to see cars. As a spectacle, Olympia can never hope to compete with the White City. It is not even certain that the spectacular effect, such as it is, would be lessened in any way by my proposal. Those firms who get the prominent places will certainly be prepared to spend enough money to make them attractive.

I contend that Olympia lends itself to the forming of a show which is interesting in every part. It is only just to the exhibitors (who all pay equal rates) that this should be the object in view. As to the question of "gate," the visitor who now comes only once and does the few firms in the centre, considering the others as beneath his notice, will, under the other conditions which I advocate, have to make several visits and do the whole of the show thoroughly for fear of missing something good.

Correspondence.

I suggest that the present policy is opposed to getting a good "gate," and unjust to the large body of exhibitors (who, after all, "pay the piper"), without in any way benefiting the "selected" few. The public will find Daimlers, Humbers, Napiers, etc., in whatever part of the hall they are placed.

A. C. HILLS.

EXPLORING BRITAIN ON A SMALL CAR.

[13458.]—At the present time when so much interest is being displayed in the light car, I feel that it will not be without interest to your readers if I relate my experiences.

I came over to this country from New South Wales for a pleasure trip in the spring of this year, and wishing to thoroughly explore England, Scotland, and Wales, I decided to purchase a light car. I was an entire novice at motoring, and after examining and testing various light cars on the market from a hill-climbing point of view, I decided, on June 1st, to purchase one of the 8 h.p. two-cylinder two-seater Phœnix cars.

Before starting on my tour I took pains to become acquainted with the mechanism of this car, and also, with the aid of one of the company's drivers, to get into its handling and management. I left London on June 5th, and returned on August 28th, being away a total of eighty-five days. I was touring only for pure pleasure, stopping at places of interest, and not driving with a view to putting up a big mileage. The total distance covered in my sixty-four driving days was 3,500 miles, and I did this on an expenditure of £5 16s. 3d. for petrol, and 5s. 6d. for lubricating oil, while, in addition, sundry disbursements, not occasioned by any fault of the car, amounted to a matter of 25s. only. The total weight of my wife and self is 25 stone, while we always carried 2 cwt. of luggage.

The car gave me entire satisfaction, and on many occasions I surprised owners of very high-powered cars by the manner in which I was able to negotiate steep hills in Scotland, the Lake District, and Wales. The condition of my car on my return was to all intents and purposes the same as when it left the works, and I am now having it boxed up for export to take back with me to Australia, where I hope to repeat my satisfactory experiences in this country.

I have no interest whatever in the Phœnix Co., having purchased my car at their showrooms for cash in the ordinary way, and my object in writing you is merely to comply with the numerous requests I received from enthusiastic motorists to write of my tour in the motoring press, and so let others interested in the light two-seater know of what good work a first-class car of the type is capable.

M. STEPHENSON.

THE ROADS AND PUBLIC PLAYGROUNDS.

[13459.]—As a landowner, I beg to protest against the claptrap of an article in your journal entitled "The Roads and Public Playgrounds." There is no necessity, while protesting against the injustice of those who wish to exclude motorists from the road, to commit another injustice by pretending that landowners have stolen their land. Enclosures were made by Act of Parliament a hundred years ago for the benefit of the country, not for the benefit of individuals. If King Demos has been deprived of his right, it was by King Demos himself, for his own benefit. But even supposing that the landowners of the period obtained land wrongfully, even an unthinking person might know that in the course of the last hundred years land has changed hands for value received on the strength of a good Parliamentary title.

ALFRED H. HUTH.

[Our correspondent overlooks the fact that King Demos, as he calls the people, had no political power at the passing of the Enclosure Acts, also that we did not infer that *all* land was stolen.—ED.]

UNDESIRABLE PRACTICES.

[13460.]—There are two matters which I wish you could find space for in your paper, to which I am now a regular subscriber.

One is as to what practical difficulties there are in the way of meeting the very reasonable complaints about dust and the excessive speed of many motor drivers, especially round corners, by heightening the body of the car off the ground by about 18in. This, I understand, would much reduce the dust and would render it unsafe to take corners at a high speed.

The other matter is the question of the giving by garage keepers of money to chauffeurs. This, presumably, if given in the shape of commission on payments made by the master is now illegal, but attempts are being made to evade the statute by calling the payments gratuities to encourage care, as the heading of a letter just received by me from Mr. ——, of ——, coachmaker and garage keeper, is the following: "The usual trade custom of presenting coachmen and chauffeurs with small gratuities as an encouragement to exercise care is observed by this firm."

I should be sorry to believe that this is a "trade custom." At all events, I am glad to say I have never come across it before, and the only result so far as I am concerned was that I wrote and declined to have any transactions with Mr. ——, and gave him my reasons; but a few words in your paper would do far more good than individual remonstrance.

WM. MORGAN.

THE INSANITARY HORSE.

[13461.]—There is seemingly another bone which we have to pick with the insanitary horse, and that is the spotting and dulling of varnish.

The other day I asked a varnish maker how it was possible that rain and road grit could have this effect upon coach work, and he astonished me by saying that it was not the rain and pure inorganic grit that had this effect, but the ammonia evolved from the excrement of animals, chiefly horses.

As a chemist I feel that he is quite justified in making this accusation.

A. DUCKHAM.

THE 1909 DAIMLER ENGINE.

[13462.]—Together with almost every automobilist who read the graphic description of the new Daimler engine, I was extremely interested in this remarkable innovation, and as a student of automobile design, seeking for information, may I be permitted to ask a question or two regarding this valve gear, in the hope that those interested in its production may see their way to elucidate further?

There are no packing rings provided to compensate for wear of the sleeves as in the ordinary piston valve, therefore it is only the oil between the two surfaces that will prevent leakage, so when wear takes place blowing must follow. How long, therefore, do the Daimler Co. estimate these sleeves will last, and what will be the cost of renewal, for I judge these sleeves, to answer their purpose, must be a very fine, and therefore expensive, piece of work?

The idea of using eccentrics, or cranks, in place of cams for valve actuation was not very successful in gas engine practice, as the opening and closing of the valve can hardly be so rapid, and it would be interesting to know through how great an arc the crankpin travels from the time the valves commence to open, until their maximum opening is reached, as compared with a cam actuated valve.

My reason for asking this question is that the quick opening and closing of a valve is of the highest importance if quick acceleration is to be obtained: therefore, it would be interesting to know how the double sleeve eccentric valve compares with the mushroom cam actuated form so far as concerns speed of opening?

Doubtless the Daimler Co. have obtained very good results out of their engines with this gear, but I believe they always fitted far too small a valve of the ordinary type.

Large valves are essential to quick acceleration, and without quick acceleration an engine is a dead and lifeless thing for motor work. Of what use is it for a maker to state that an engine gives, say, 30 h.p. at 1,500 r.p.m. if the engine takes so long to attain that speed, under load, as to hardly ever reach it in practical use?

What the useful limit of valve area is I am not prepared to state definitely, for considerable advances will be made in this direction before long; but, roughly speaking, no valve should be less than a quarter of the area of the piston, which would approximate to a 2in. valve for a 4in. piston, and so on, induction and exhaust pipes to suit.

I have spent considerable time in trying to adapt piston valves to suit the needs of car petrol engines, but lack of funds has prevented me following up the problem.

However, I should like manufacturers who are endeavouring to supersede the mushroom valve and spring closure, which in itself is wasteful of power, to carefully consider the claims of large piston valves, with small lift, actuated by means of a face cam of large diameter. Following on these lines it should secure a very high speed, silent running engine, of high mechanical efficiency, and one piston valve could readily control both inlet and exhaust strokes.

This, in almost natural sequence, leads one to consider the claims of a double acting petrol engine, but this is still in the lap of the future.

F. H. HARRIS.

Correspondence.

THE FOUR INCH RACE.

[13463.]—I should just like to acquaint you with one or two facts with regard to the "Four Inch Race."

Most of the accounts of the race give Mr. George as being 7m. ahead of me in running time. This was not quite correct, as in the fifth round I stopped 5m. in Ramsey for replenishing. This was certified by several people and would make my fifth lap under 43m., the total time of the lap being only 47m. 20s. Mr. George did not replenish until the seventh round, which gave him a lead of 7m. until then, but actually only 2m. lead on running time. He was never more than 3m. ahead of me, and then only in the first three rounds.

I was also detained in the last lap owing to the Westinghouse accident at Glen Helen, the car blocking the road for a little time. You will see from this, therefore, that it would have been a very close thing in any case between George and myself, even if he had had no fire. Please understand that I do not wish to belittle Mr. George's magnificent performance in any way.

I may also mention that I had bought "Little Dorrit" some time before the race. W. WATSON.

[13464.]—I am writing to let you know my experience in the last Four Inch Race in the Isle of Man. As you know, I entered two Westinghouse chassis, which were the ordinary standard pattern in every way. These chassis, with the two-seated body, specially tuned up, have attained a speed of sixty-eight to seventy miles an hour on the level road. We expected these chassis to give a good account of themselves, and are indeed very sorry we were put out of the race entirely on account of faulty magnetos, namely, that the magnetos supplied to us could not resist the speed of the engines. Consequently, we had to fit three magnetos during the first four rounds of the race.

Allowing all due honours to the winner of the race, I must mention that it is hardly possible for the motor car race to have a future unless there is some regulation made so that the public will distinguish the ordinary standard type chassis from the specially built freak engines which under no circumstances could be used for private purposes. You will agree with me when I say that the firm who construct special engines and win a race with them, selling an altogether different article to the public, will not prove their qualities by winning a race with their specially built engines. I think this is a very important question, and, therefore, have thought it advisable to draw your attention to it.

A. GAAL.

[13465.]—On my return from the Four Inch Race it has struck me that the following questions might be answered through your columns by the organisers: (1) Where was the R.A.C. enclosure? (2) Where were the light refreshments (or rather who consumed them)? (3) Where were the results of the "terrific thought and detail work" connected with the clearing of the course and keeping it so? (4) Where are the advantages of being either an R.A.C. member or associate on such an occasion, or, for that matter, any other? (5) Shall I retain my privilege (?) ticket of admission to the R.A.C. enclosure, special stand, and refreshments, for next year's race, as I was never asked to produce it this trip? (6) Why was Mr. Napier, the designer of the winning car, not recognised at the presentation of the trophy, or Mr. Edge, who entered it?

Finally, I regret to say I must still for a few weeks longer remain an R.A.C. ASS.

ECONOMICAL RUNNING.

[13466.]—Your correspondent, Mr. A. C. Gibbons [13442], is quite correct in assuming that the 18-24 h.p. Austin car, referred to in your issue of September 12th, has a stroke and bore of 105 and 127 mm. respectively, but he is in error in placing the ton mileage per gallon at 42.64, as the footnote to the photograph in your issue particularly stated the weight of the car *without passengers* at 27¾ cwts. The weight of the two passengers, viz., 3 cwts., has to be added, which gives a total weight of 30¾ cwts., and this shows a ton mileage per gallon of 47.30—not 42.64, as stated by your correspondent, who evidently, judging by his figures, took weight of car only.

While not in the least desirous of belittling the truly splendid performance of the 35 h.p. Iris, I think most motorists acquainted with the hilly nature of the road from Bromsgrove to Evesham will recognise that a car showing a ton mileage per gallon of 47.30 over fifty miles of such a route is not only highly creditable to the 18-24 h.p. Austin, but may be fairly described as remarkable. J. MARTYN SMITH.

P.S.—I may add the run was the outcome of a wager, and that, before starting, the petrol tank was emptied in the presence of witnesses, the petrol measured in, and, on our return, the contents of tank were carefully measured out in the presence of witnesses, who duly attested, in writing, the figures *re* petrol consumption and milometer registrations.

MOTORISTS AND GARAGE PROPRIETORS.

[13467.]—A great deal has been said about the "motor murderer" and the "garage shark." We have wondered whether the customers' views were always the correct ones, and we would therefore like your opinion on the following case:

A car stranded at eleven o'clock p.m. with no carbide in a main street with a fifteen-mile journey to go that night. We went back to the garage some two or three hundred yards, procured carbide, and as the car was starting noticed the back electric lamp was out. The owner was not very familiar with the wiring, and we tested the accumulators separately and found them both down. We went back to the garage again, taking a 20 amp. accumulator and lending the owner a new 40 amp. accumulator.

This was kept nine weeks, and no reply was vouchsafed to our enquiries as to whether it would be returned or purchased outright. At the end of that time the servant called and asked for the owner's 20 amp. accumulator in the afternoon. It was put on the charging board and "touched up" and delivered in the evening. A charge of 2s. 6d. was made for nine weeks' loan of our accumulator (this includes recharging it when it was returned to us), and a charge of 9d. was made for charging the 20 amp. accumulator, making a total of 3s. 3d.

We received a letter enclosing a P.O. for 3s. (the 3d. evidently being too trivial a matter to bother about), and saying "the charge is exorbitant in view of the fact that we had used the other accumulator"—a statement without foundation in fact.

The only thing we are surprised at is that it is in good condition, for as a rule accumulators are returned to us showing about two volts and terminals and plates badly sulphated. THE SALISBURY GARAGE.

RUNNING EXPENSES.

[13468.]—I see many letters in your excellent paper written by owners satisfied with their cars, both in the economical running and freedom from mechanical defects. I would like to add very briefly my own experience with my present car—a 16 20 h.p. Hotchkiss (the tenth car I have owned). Mileage run by Cowey speedometer since date of delivery, Easter Sunday, April 19th, 5,784 miles; weight of car without passengers, 26 cwt.; average consumption of petrol, sixteen and a half miles to the gallon, better results on long fast runs; tyre consumption—no punctures, one non-skid (Michelin), burst at 4,700 miles, remaining original tyres delivered with car, Michelin square treads, and one non-skid, still in use, and looking good for a good deal further service.

These extraordinarily good results with tyres are obtained, in my opinion, (1) by perfectly true running of wheels; (2) by extraordinary absence of friction in the transmission system (the hind wheels when jacked up spin round easier and keep up their revolutions longer than I have seen on many front wheels); (3) by careful driving. The only mechanical defect has been four balls in one ball bearing on a gearshaft breaking up. This caused no damage, and was, of course, replaced free of charge by the makers.

I have never ground in the valves yet, as the car does not show any loss in power. In addition this car is without doubt the quietest and by far the pleasantest to drive I have ever been in, and never offends with a foul exhaust.

I am not of course interested in any way in the Hotchkiss Co. SATISFIED.

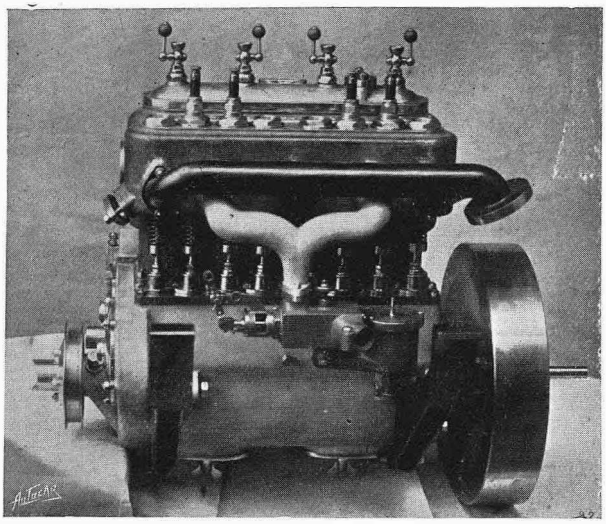
SUMMARY OF OTHER CORRESPONDENCE.

A FORMALITY.—We are asked to state that the voluntary liquidation of Messrs. W. A. McCord, Ltd., is purely formal, and due solely to the formation of a new company called McCurds, Ltd.

HOTELS.—Mr. T. Carr writes in complimentary terms of the accommodation provided for motorists at the Royal Hotel, Deal, which he made his headquarters for a fortnight during a tour in East Kent. He adds that this is an hotel where motorists can rely on securing every comfort and attention, and where they need have no fear of being overcharged.

A RUN ON A 14-16 H.P. LAURIN-KLEMENT.

The Laurin-Klement is a car which is not so well-known as it deserves to be, and the 14-16 h.p. model is the least known of the two types of which the firm has made a speciality during the last twelve months. With the other model, the 8-9 h.p. two-cylinder V type, the Laurin-Klement Motor Agency has had some considerable success. Two of these cars—driven respectively by Count Kolowrat and Toman, the firm's driver—made an excellent non-stop journey from London to Holyhead, which has been described in these pages, while another 8-9 h.p. passes its life in being driven as fast as can be reasonably expected between Carmelite Street and the Franco-British Exhibition in the service of the *Daily Mail*, daily proving its reliability under the most arduous conditions. It is, however, with the more powerful model that we are about to deal. The motor has four cylinders cast *en bloc*, the casting being one which reflects the greatest credit on the firm's foundry work. Each cylinder has a bore and stroke of 84 × 110 mm., and the valves are all on one side. The ignition is by Eisemann H.T. magneto ignition with separate coil, the latter also serving for the reserve accumulator ignition. The water circulation is efficiently carried out on the thermo-syphon principle, which causes little or no loss of water, and maintains an equal temperature all day. The lubrication is by a mechanically driven pump delivering the oil to the engine through sight feeds on the dashboard.

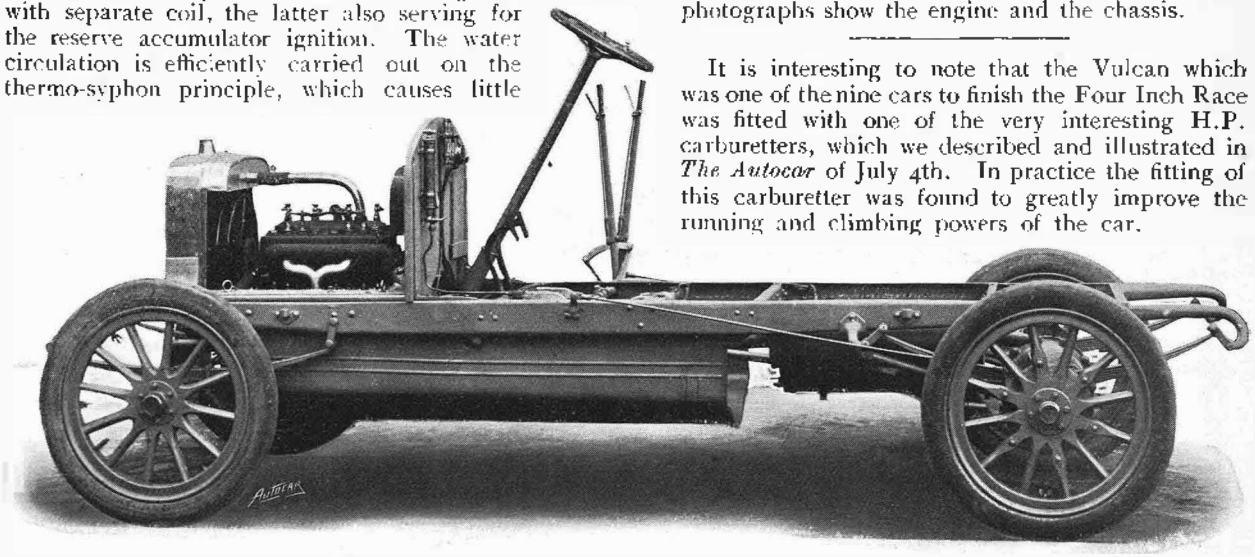


The 14-16 h.p. four-cylinder engine of the Laurin and Klement car.

The rest of the car follows standard lines throughout, and calls for no special criticism, except that the petrol is pressure fed. Having driven the car over 280 miles in one week end, including two journeys of 127 miles each, we feel confident of expressing an opinion on its running. Previously we have covered the journey four times this year on a car fitted with an engine having a bore of 90 mm., and though the L. and K. felt the difference on several hills, it pulled remarkably well, despite the fact that it had been used continuously for about fifteen months, having in that time covered a considerable mileage, and having been driven to Paris from the Laurin and Klement factory in Jungbunzlau, Bohemia.

One of the car's best points is in the steering, which, though irreversible, is remarkably sensitive and easy, requiring practically no effort. The clutch is smooth in its action, and takes up the drive without shock or jerk. The control is by throttle and spark lever on the steering wheel and by foot accelerator pedal. The latter is rather awkwardly placed, but in the open country the hand lever is generally used. During our run to a village some eight miles north of Norwich, a certain amount of driving while there, and the return journey, the car behaved admirably, showing itself capable of maintaining a good average speed, despite an exceptionally heavy load and the fact that for many miles a terrific rainstorm dead ahead was encountered, and the hood had perforce to be erected. On the hills, which were on the whole of average severity, the extra 5 mm. bore of the engine of the other car before referred to were missed, but the efficiency of the L. and K. motor for its size, which never required anything below second, in spite of the weight it had to propel—three adults, two children, a heavy collapsable basket brim full, a large hand-bag, a suit case, luncheon basket, coats, wraps, and several other items which cannot at the moment be remembered—left a most favourable impression in our minds. The accompanying photographs show the engine and the chassis.

It is interesting to note that the Vulcan which was one of the nine cars to finish the Four Inch Race was fitted with one of the very interesting H.P. carburetters, which we described and illustrated in *The Autocar* of July 4th. In practice the fitting of this carburetter was found to greatly improve the running and climbing powers of the car.



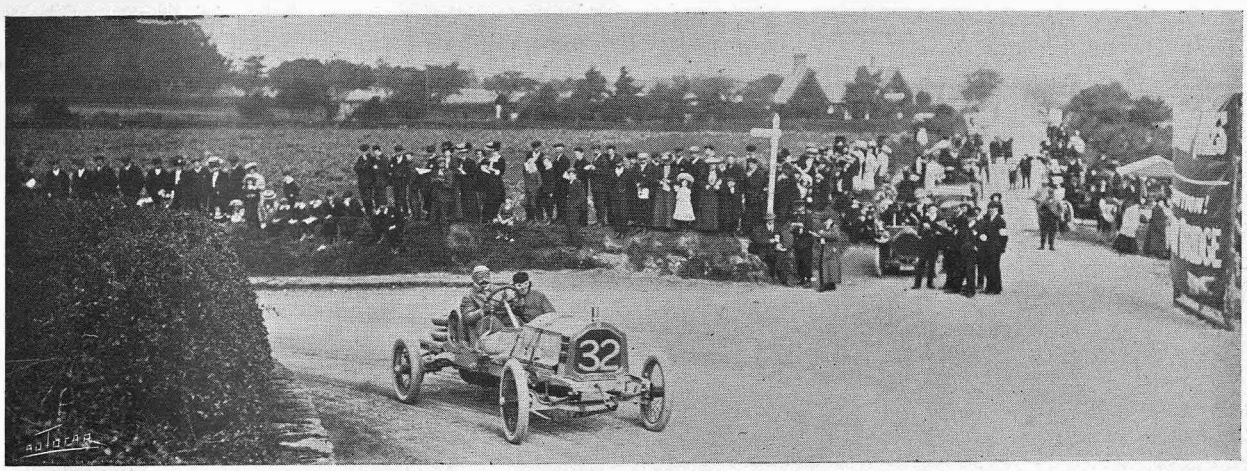
Chassis of the 14-16 h.p. Laurin and Klement car.

ON THE ROAD.

[The post bag has evidently got mixed up again, but as this is the silly season we do not like to be out of fashion.]

Dearest Limousine,—It is years since I wrote to you on motoring topics, and as the men are still out salmon shooting in the coverts I must tell you all about everything. First about men's wear. Dicky, who is always so smart and *chic*, has brought into fashion the butcher's white coat so long associated with the Central Meat Market at Smithfield, and the dear Conte di Girgenti has gone one better, and now motors in a gold-beater skin *surtout* made out of the remains of late lamented dirigible airship *Nulli Secundus I.* My word, Limmy, he does create a sensation, especially at lunchtime, and now that dust coats have spread even to the taxicabbists, it was quite time that the leaders of Society thought of something new. I hear the Motor Club, which contains the *crême de la crême* of the motor movement in the shape of the "fast set," is adopting the style unanimously, but that the more sedate members of the R.A.C. scout the idea and content themselves with wearing Four-inch top hats, just to show they are not behind the *Times*. Smart, is it not? But with the universal spread of motoring something has to be done to justify existence. Billy (Lord Watling's second son, who has just left the militia and refuses to join the Territorials, and is busy bringing out a new tyre to take the place of pneumatics —isn't he clever?) tells me that negotiations are once more on foot to amalgamate the various associations, but that petticoat influence in the Motor Union is too strong to ever let it come to pass. *On dit* that it was proposed to refer the whole question to a committee of the Army Motor Reserve consisting of subaltern officers over fifty years of age, and armed with plenipotentiary powers, and that the idea only fell through owing to wholesale resignations of these dear boys in order to take vacant majorities in the Coventry and other smart Horse Artillery Brigades. It all seems such a pity, and now I hear, on top of all, that the more advanced and endorsed members of the M.C., in order to show their disapproval of the A.A.'s action in assisting the police, have decided to secede in a body and float the late lamented Alsatian Club once more on behalf of the debenture holders and other unfortunate persons.

Talking of the lighter forms of entertainment, the agitation concerning stripped chassis shows no signs of abatement, and the famous classic dancer who is responsible for the new fashion in bodies has consented to preside at the Sunday evening debate at the M.I.M.E. Institute next week. The mention of bodies brings us to the subject of clothes, and it is no revelation to say that the late expert opinion as to the number of stinging and biting insects collected in our garments during a drive has created quite a panic on the motor section of the Stock Exchange. It is true that there was a rise in wind screens and some of the solution firms left off a shade harder, but the cat has been let out of the bag, and now, I am told, seaside landladies have no scruples whatever in replying to complaints that the subjects of them were brought in the cars with the objectors. Therefore as necessity is the mother of invention, it has occurred to me to alter the ordinary method of doing things, and I now reverse my coal-scuttle bonnet, and have had a celluloid peephole put at the back to see out of. The difference it makes is wonderful, and the exquisite little curls that are supplied by Siné with the bonnets are every bit as effective. Is it not extraordinary how these bonnets have come into general wear, though it is incorrect to say they suit every style of face. Indeed, at an inquest on a motor cyclist who was run over and killed near Heckmondwike, one of the witnesses, who had a face like a pug dog inkstand, appeared to give evidence garbed in a bonnet of the tint known as Mrs. William Allan Richardson. Directly she appeared the Coroner enquired if she had worn that headpiece on the fatal occasion, and, on receiving an answer in the affirmative, the jury stopped the case and found an open verdict without leaving the box. So, dear Limousine, take my advice and follow my example, always remembering, however, the very important maxim that when you buy celluloid, see they celluloid. Now I had better stop. —Thine, ARAMINTA. OWEN JOHN.



THE FOUR INCH RACE. Mr. J. W. Stocks and the Brooklands De Dion approaching Sulby Bridge.

Since the announcement of Mr. T. H. Woollen's success on his 15 h.p. Talbot at the Yorkshire A.C. hill-climb, the figures relating to this competition have been furnished by Mr. C. P. Wilson, secretary of the Yorkshire Automobile Club. From these it appears that Mr. Woollen's car has augmented its splendid performance already reported by beating the world's record for efficiency by .1085. A claim accordingly has been placed before the Royal Automobile Club.

CONTINENTAL NOTES AND NEWS.

The Coupe des Voiturettes.

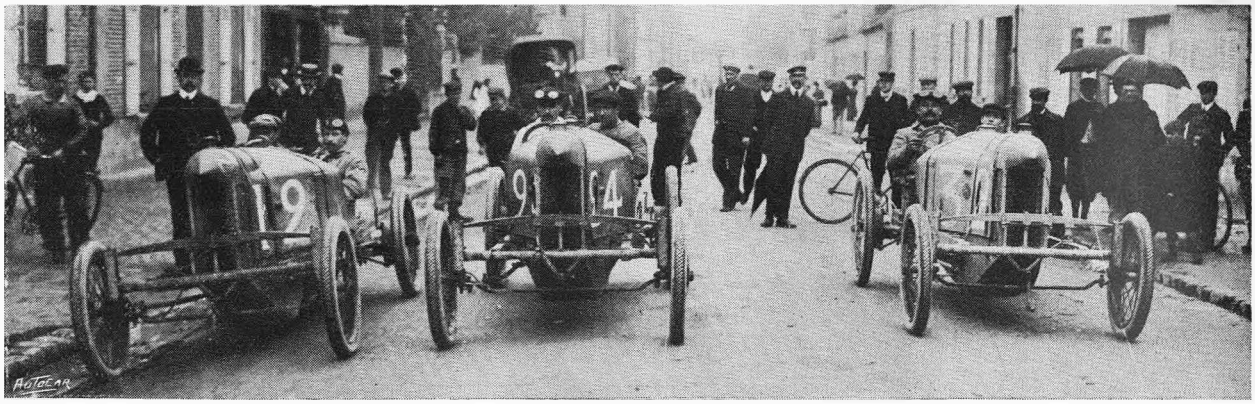
The race for the Coupe des Voiturettes took place on the 27th September over a total distance of 250 miles. The circuit, which measured 31¼ miles, passed through the towns of Compiègne, Pierrefonds, Crepy-en-Valois, and Compiègne, and had to be covered eight times. Out of the thirty-three entrants thirty-two started, practically all the best known French firms being represented.

The course was a much more difficult one than the Dieppe Circuit, where the Grand Prix took place three months ago, being more hilly and varied. The starting point was upon the road from Crepy-en-Valois to Compiègne, about 328 yards from the Napoleon Square, taking the route from Compiègne to Pierrefonds. The competitors went in the direction of Pierrefonds, and therefore had to turn to the right shortly after the start. The press stand was on the left of the road—that is, the outside of the circuit—and there also were placed the timekeepers and the signalling arrangements.

Unfortunately, the organisation was greatly at fault. The soldiers and gendarmes who guarded the course were totally insufficient in numbers, and the result was the crowding of the roads by the public in the straight stretches where the cars should have made the fastest time. Then the press stands and the replenishment stations were not at all satisfactory, being in pools of water, so that the tyres, etc., which had been brought in case of need were spoilt by the damp. Then again the stands were crowded up with people who had no business there.

In the hubbub of the many people who surrounded the timekeeper, Gatoux, in finishing his seventh round, knocked over a gendarme. It was miraculous that nothing more serious happened, as it was only the efforts of two or three brave gendarmes and the shouts of Rigal and Cailloux, who themselves recognised the danger, which kept back two or three hundred people who wanted to get near to see the cars at high speeds.

The timekeeping was most unsatisfactory. The timekeepers declared and had posted up that the three voiturettes Sizaire et Naudin were first, and that the Lion, driven by Goux, was fourth. The reporters telegraphed it to the evening papers, who published it, and the officials proceeded to verify the motor of the third Sizaire. Two hours later one of the timekeepers declared that he had made a mistake, and that the third position was taken by Goux on the Lion car. This mistake was made through an error in subtracting the time of starting.



The team of three Sizaire-Naudin cars which ran first, second, and fourth in the Coupe des Voiturettes.

Between Compiègne and Pierrefonds the route is broad and straight, allowing fast times to be made. In Pierrefonds there are several corners to be negotiated, and from Pierrefonds to Crepy-en-Valois the straight stretches are very short and cut up with winding ascents with awkward turnings. After Bettancourt the road becomes again good and wide through the forest as far as Compiègne.

The road was well guarded and medical services were placed at the different towns on the course. Warning signs were posted at some distance before each corner for the drivers to slacken their pace, and the officers in charge of the route were supplied with three flags for signalling to the competitors to slacken speed (blue), stop (yellow), and a car coming at the back (red).

In addition to the Coupe des Voiturettes to be gained by the fastest car, there was also the Coupe de Régularité for the firm having three classed voiturettes with the least difference between their total times, the Prix Gregoire for the first multi-cylinder car, the Prix Delage for the voiturette nearest to the commercial type having made an average of at least twenty-eight miles an hour, the A.C.O. vermilion medal for the driver making the record circuit, and the Prix du Syndicat d'Initiative for the car having the most even times in the circuits.

The following is the classification, not official, there being no official classification, but it is, nevertheless, the actual classification of the officials, which is not exactly the same thing:

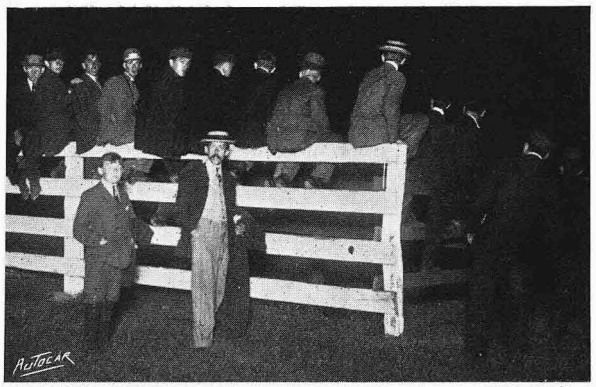
	Driver and car.	Average speed.
1.	Naudin (Sizaire et Naudin)	76 kil. 400
2.	Sizaire (Sizaire et Naudin)	74 kil. 680
3.	Goux (Lion)	69 kil. 800
4.	Lebouc (Sizaire et Naudin)	69 kil. 795
5.	Collomb (Corre-La Licorne)	69 kil. 070

6, Menard (La Joyeuse); 7. Sonvico (Martini); 8, Beck (Martini); 9, D'Avaray (Guillemin-le-Gui); 10. Richard (Martini); 11, Riviere (Guillemin-le-Gui); 12. Boillot (Lion); 13, Roisan (Alcyon); 14, Gassier (Werner); 15, Meaux Saint Marc (Aries); 16, Schweitzer (La Joyeuse); 17, Giraud (Truffault).

In spite of the poor organisation and the danger of the crowded roads, the Coupe des Voiturettes was an excellent test, and a triumph for the eighteen cars which finished.

The Martini was the first of the four-cylinder cars, and the Martini cars gained the two cups offered by the Delage and Gregoire to the firm whose cars were most regular in running and the nearest to the commercial type.

The Sizaire et Naudin cars gained the cup for the third time. All through the race Naudin et Sizaire kept the first and second places, and it was thought for some time that the three cars had finished first. The astonishing manner in which the three cars increased their speed as the race proceeded is evidence of their superiority. They kept to the road marvellously, which was very slippery, and the corners were difficult; the average time was the fastest; and the times of each round showed very regular running. It is a pity that the race was not better managed from the spectators' point of view.

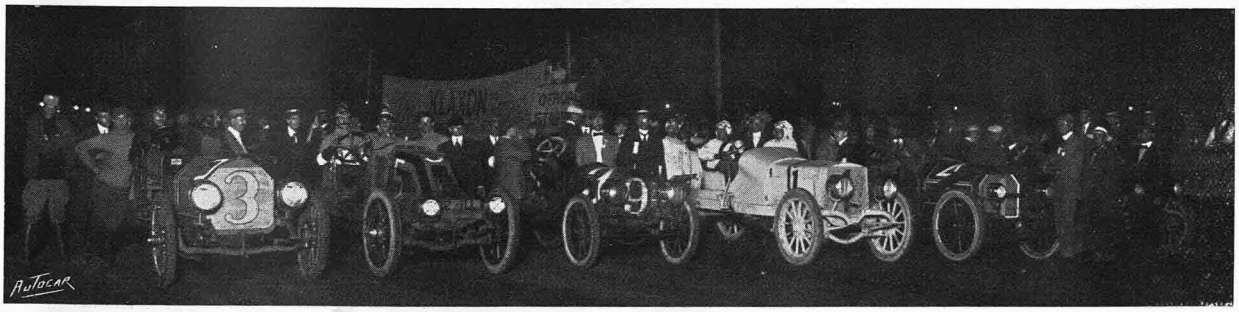


Some of the spectators at the Brighton Beach twenty-four hours' race.

USEFUL CO-OPERATION WITH THE POLICE.

People who do not understand the whole scope of its work, or who wish to misrepresent it, are given to suggesting that the Automobile Association devotes the whole of its energies to detecting police traps and warning members to beware of them. This is certainly an attitude which is taken by the police in some districts. As a matter of fact, while the A.A. does its best, and rightly, to keep its members out of traps set upon the open highway, it is no friend to the scorcher, and is the active enemy of any motorist who may have caused an accident and endeavoured, or apparently endeavoured, to avoid his liabilities. A very good instance of this is in connection with the recent Worplesdon accident. On Thursday, the 10th inst., at about 4.30, a child was knocked down by a car at Worplesdon, near Guildford, and died shortly afterwards. Worplesdon is about two and a half miles off the main Portsmouth Road, but the car which is alleged to have caused the accident joined the main road at Guildford, and its passage and the time of it is recorded in regular sequence by five A.A. scouts, the first at Peasmarsh, second at Rodburgh, third at Thursley, fourth at Hindhead, and the fifth at Jolly Drovers. The driver of the suspected car stopped and asked the patrol at Rodburgh and also the patrol at Jolly Drovers to direct him to Southampton. The same evening the A.A. patrols were in communication with the local police, to whom they gave all possible assistance. By reference to their note-books the A.A. men identified several cars besides the suspected vehicle, and from the notes they had made about each car, such as its colour, make, etc., the records were pieced together, and were sufficient to enable the other cars to be traced and to quickly eliminate those which were evidently not connected with the matter, such as the car of a local doctor, the car of a local resident, and so on, and it was through the information that the A.A. men gave to the police that the suspected car was identified, and its driver detained the same night.

Those motorists, and particularly those police authorities and local councils who regard the A.A. as antagonistic to law and order, should ponder these things. The instance we have given is only one of several—that is to say, there has been no accident on any main road upon which the A.A. patrols were set in which the men have not given every possible assistance to the police whenever such assistance has been required, or whenever it was within their power to aid the course of justice.



THE START OF A TWENTY-FOUR HOURS' RACE. The Brighton Beach (New York) twenty-four hours' race took place on Saturday, September 12th. A six-cylinder Lozier car driven by Messrs. Ralph Mulford and Harry Cobe completed the longest distance, covering 1,107 miles in the time limit. Another Lozier car, manned by Messrs. Michiner and Lynch, finished second, covering 1,092 miles.

We are informed that the design and prices of Austin cars will remain unchanged for 1909.

* * *

Altrincham Agricultural Show, which is the largest one-day show in the country, has this year arranged for a portion of the show ground to be reserved for motors. What has the Society of Motor Manufacturers and Traders to say to this?

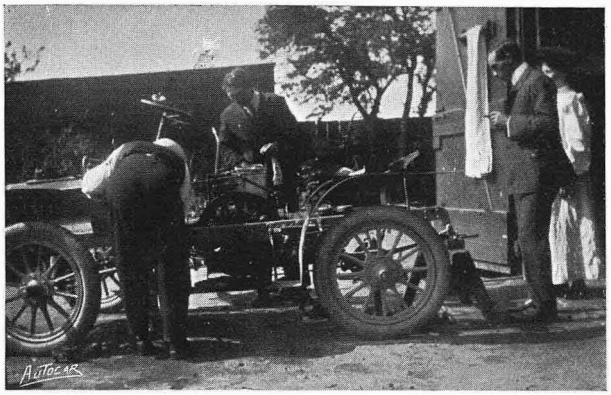
The Maharaj Kumar of Cooch Behar appears among the names of recently elected members of the Motor Club.

* * *

The Aster Engineering Co., Ltd., inform us that they are removing the whole of their business from No. 4, Princess Street, Hanover Square, London, W., to new offices at their works, Wembley, Middlesex.

Flashes.

Brighton appears to be suffering more than any other health resort from the effects of the persecution of motorists. The traps on the roads leading thither have driven the majority of visitors to go to places

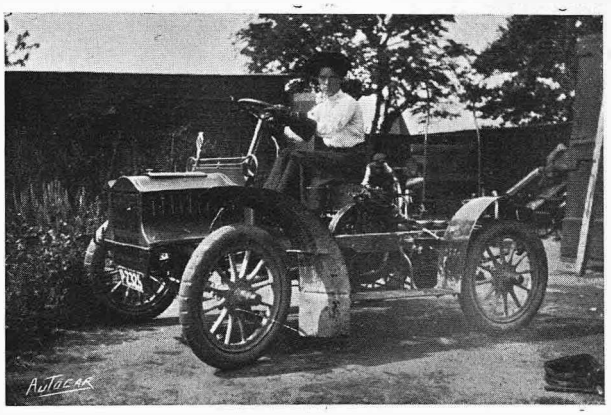


The Toil.

which they can reach without passing through an almost continuous police ambuscade. The matter is becoming serious, and on Saturday the local hotel proprietors held a meeting for the purpose of registering a protest against the continuance of police traps, to the detriment of their business. The matter was discussed at some length, and eventually the meeting was adjourned.

* * *

We have received from the Mansfield Motor Body Co., of Mansfield, a photograph of a car fitted with a screen of Pilkington's inserted wire glass which had been in an accident. Although the metalwork of the screen was badly bent and the glass cracked in all directions, it held together by reason of the large mesh wire netting worked into it.



The Trial.

* * *

The Motor Club claims to have been the first club in London to learn the winner of the Four Inch Race.

* * *

A most useful price list and telegraphic code of parts for the 20 h.p. six-cylinder car has been compiled by the Standard Motor Co. and issued to owners of their cars. Every part of the car is given a name, number, and a price, so that on any spare being required it will be seen at once what it will cost and the number by which it should be ordered, either by letter or by telegraph. To simplify reference, the parts are grouped. First come all the engine parts, and nothing down to the smallest washer appears to be omitted. Then the gear box parts, clutch parts, steering parts, carburetter, back axle, and other portions of the car are dealt with in the same simple and complete manner. The list is an evidence of the care taken by the makers in their system of manufacture, the same attention being given to details in the cars themselves as in this list.

The Calthorpe Motor Co. inform us that their Four Inch Race chassis will be a standard type for 1909, and, in fact, they are prepared to accept orders for December of this year.

* * *

Mr. H. O. Mack has presented the Motor Club with a number of large aeroplane photographs, which, together with those he formerly presented, make a very interesting and unique set illustrating the progress of flying.

* * *

We shall be pleased to send to any of our readers who may be interested in the Nagpur Speed and Reliability Trials, to be held from December 23rd to the 29th, a copy of the preliminary programme containing entry forms.

* * *

Three types of Clément car, we understand, will be henceforth manufactured in the company's Coventry works, viz., the 10-12 h.p., 14-18 h.p., and 18-28 h.p. models, each possessing shaft drive, gate change-speed mechanism, and Bosch magneto ignition.

* * *

The Enfield Autocar Co., Ltd., under their new management, are arranging their programme for next season. In addition to their standard 18-24 h.p. model, they will market a 10-12 h.p. Popular model, and to meet the demand for a high powered touring carriage they will introduce a 30-35 h.p. The standard model will, we understand, embody several new features, which are likely to attract considerable attention at the show.

* * *

Lately we have been given demonstrations of lubricants by two different makers, each of whom professed their anxiety for us to use their greases and to express our opinion upon them after extended trial. For this purpose each volunteered to supply us with the material for such trials. One maker has sent us a single quart tin of oil and the other a 3 oz. pot of grease. We wonder why!

The Triumph.
(From photographs by Mr. C. O. Trew, Upchurch Rectory, Sittingbourne.)

Flashes.

The Imperia car, which has been conspicuously successful, having won first place in every Continental event for which it has been entered this year, will make its first apearance in England at the Brooklands meeting this (Saturday) afternoon.

* * *

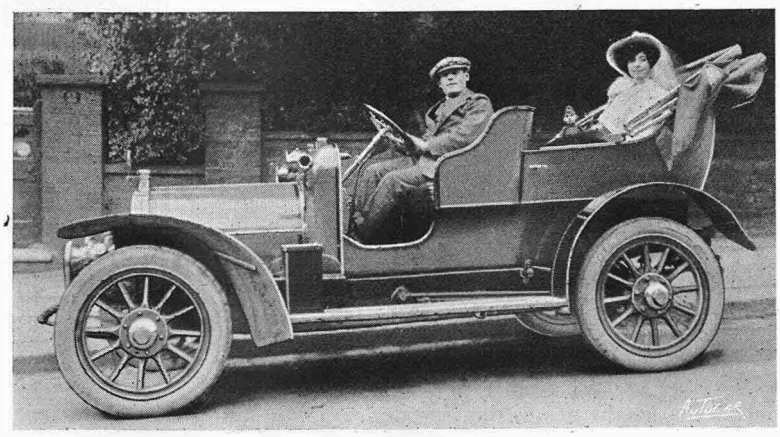
The Charlesworth Bodies, Ltd., Coventry, have built a landaulet on to the chassis of a 14 h.p. Siddeley car. The car has been made specially for the Chief Constable of Chester, and is fitted with speedometer, milometer, and other useful accessories, including interior electric lights.

* * *

An electrical engineering exhibition, some of the features of which will be of interest to motorists, will be held on Platt's Fields, Manchester, between October 3rd and 31st. Amongst others the Hoffmann Mfg. Company, of Chelmsford, will have examples of their balls and a great variety of ball bearings, besides a number of electric motors and other machinery fitted with Hoffmann ball bearings.

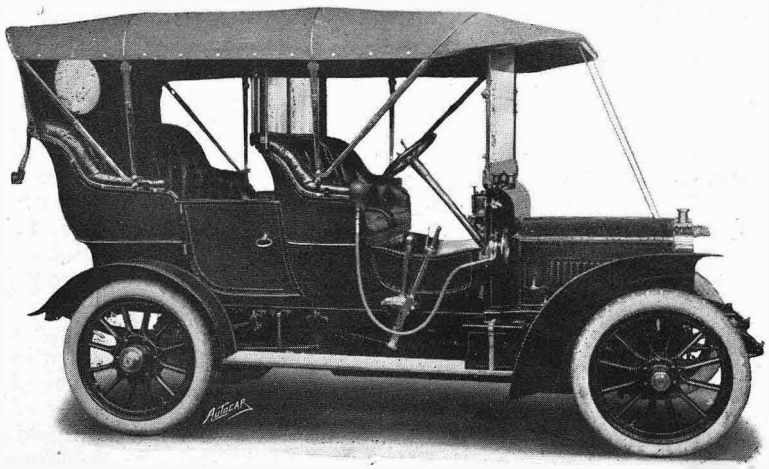
* * *

The Michelin Tyre Company, of 49-50, Sussex Place, Kensington, S.W., are coming to the assistance of the motorist in the matter of tyre troubles in yet another way. We are aware of what they have done in the shape of a mechanical tyre pump, but as this is a somewhat expensive fitting, and is not meat for all men, they are now putting upon the market the Michelin air cylinder, charged with compressed air and not carbonic acid gas. This cylinder contains rather over 2 lbs. weight of air at a considerable pressure, sufficient to inflate from three to ten tyres, according to their size. It can be connected to the tyre valve by means of a flexible tube and connection in the ordinary way, and is operated simply by turning a tap. The price is moderate, and the charge for refills a mere bagatelle. About 260 strokes of an ordinary inflator are required to pump an 870 × 90 mm. tyre to 70 lbs. pressure per square inch. The carriage of a Michelin air cylinder, so simply operated as that under review, will be found a boon indeed, especially to users of the larger sizes of pneumatic tyres.



A TWO-CYLINDER CAR. The subject of this illustration is Mr. and Mrs. Vandervelde and their 12-18 h.p. Riley car. The car has been driven between 4,000 and 5,000 miles, and has made top gear runs to Brighton and Coventry from N.W. London.

Owing to his being appointed a British delegate at the International Road Congress, to be held in Paris early next month, at which he is reading a paper on "The Effect of Road Surfaces on the Deterioration of Motor Car Mechanism," the Hon. C. S. Rolls will be unable to take part in the balloon race for the Gordon-Bennett Cup, and his place in the British team has been taken by Mr. Griffith Brewer.



A DOCTOR'S CAR. A useful type of car suitable for a country doctor's work. It is a 12-14 h.p. Singer, with an extended hood and double glass screens, one in front of the driver and one behind him.

* * *

The coolness of Tom Thornycroft in the Four Inch Race was quite remarkable. Though driving at racing speed on a rough and twisty road, Mr. Thornycroft steered a straight course, and yet found time to talk with his mechanic. At Willaston Corner this intrepid driver skidded into a bank and hit it quite hard. Having done so he looked behind to see if his wheel was still intact, made a forcible and yet audible remark to his trusty car, and proceeded as if nothing had happened. Such *sangfroid* did not go unrewarded, and though no doubt he in company with ourselves would have liked to have seen the Thornycroft among the first three cars, he did what many others did not—finished successfully.

* * *

We have received an intimation that the prices of Carburine and Glico motor spirits were reduced one penny per gallon from the 23rd ult.

* * *

The autumn exhibition of motor cars at Olympia under the auspices of the Society of Motor Manufacturers and Traders will be held from November 13th to November 21st. The show will be confined to racing, touring, and pleasure cars, and accessories, and a show for commercial vehicles and motor boats will be held next spring. The principal novelty at the coming exhibition, we are informed, will be the new types of Four Inch touring cars which have taken part in the Isle of Man race, but there will also be several new departures in engine design of a startling character. Over 300 firms have entered their products, and the whole of the space in Olympia and its annexe will be completely occupied.

WESTWARD HO! By H. C. Lafone.

To Avoid Porlock.

Bleak Exmoor is but a memory of the past, and my journeyings have led me ever westward into the fair land of Cornwall, where a certain scarcity of trees is more than compensated for by good solid road surfaces, and an absence of the mountain tracks that formed the sole means of travel in North Devon. Before quitting the moorland I made a final expedition down to Porlock, in order to verify the story concerning a private road from Porlock village to the top of the hills which form a great wall along the southern shore of the Bristol Channel. This private road I had heard of from several sources, the last of my informants being the driver of a car which had been brought up to a meet of the staghounds near the summit of the famous Porlock Hill. Of the existence of a comparatively easy route from Porlock to the top of the moor I was, therefore, convinced; the questions to answer were whether the gradient was severe, and whether the surface was passable. I assured myself on both points, making both descent and ascent with equal ease on my little Sizaire. The private road bears off to the right from the main Porlock-Lynton coach road just at the foot of Porlock Hill proper. A gate bars access to it until the disbursement of one shilling has been made, after which all is plain sailing for cars with reasonably efficient water-cooling systems. The road curves and winds round and about amid the woods on the sloping sides of the hills, and finally emerges on to the main highway about a mile west of the summit of the old Porlock Hill. The gradient on this easier climb cannot be more severe than 1 in 15 at any point, and the surface is quite fair—for a Devonshire byway. The corners at several places are decidedly awkward, and, at two of them, a long car will have to reverse before getting straightened out once more, unless it be provided with an exceptionally good lock. However, as the slope is quite easy at each hairpin, there need be no fears concerning the car running backwards or failing to start upward again. Given a gleam of sunshine the journey up this road would be very beautiful, the openings in the trees affording glorious views of the Bristol Channel.

The Lizard.

The day on which I quitted quaint little Brendon and its friendly villagers was a day of pouring rain and howling gale. The steep climb up the hillside from Oare Church, where Lorna Doone was shot by Carver, to the coach road had to be tackled with a heavy load in the teeth of the hurricane; but my little car manfully clawed its way upward until the crest was reached, and we turned our backs to the wind as we made for Porlock once more. In order to strike out for the Lizard, we had determined to skirt round the eastern side of Exmoor, and run down the valley of the Exe as far as Exeter, from which town we would again face westward. It will be long before the memory of that miserable drive to Exeter fades from me. The rain poured down upon us, and the mud poured up upon us, in spite of the fact that I had provided the most ample mudguards on the car. In oilskins and sou'-westers, we forged ahead, with the water streaming from our glistening coats and spurting from the wheels as we made up time after delays caused by the premature failure of a couple of sparking plugs. Cold and miserable, we descended upon the village post-office at Bridgetown, and, while sending a telegram, demanded from the amiable postmistress (who was just sitting down to tea) slices of cake and glasses from which to imbibe the contents of a half-bottle of champagne, which we had borne about with us for a fortnight in anticipation of some such need as we now experienced. The shades of night were falling far too speedily as we ploughed our way out of Tiverton on the last stage of our run to Exeter, where we arrived half drowned and wholly weary, just in time to be too late for dinner. One becomes tired of comparing English provincial hotels and their ways with those of foreign countries, but the annoying sensation of being treated merely as an interloper to be fleeced is ever fresh. At Exeter I vowed for the hundredth time to travel by road no more in England, but to go and spend my good money among smiling folk, who give one a friendly greeting, good cheer, and a hearty *au revoir*.

Bodmin Moor.

The following day was fine and sunny, and we had a splendid run down to the Lizard, taking the main road by Okehampton, Launceston, Bodmin, Truro, and Helston. With the exception of a vilely bumpy ten miles of road immediately before arriving at Okehampton, the surface was in capital order throughout. A somewhat mysterious gear-changing trouble delayed us for almost three hours four miles to the east of Launceston, but I discovered what was wrong at last, and made my way on second speed into that town, where a quarter of an hour and a pair of big "grips" soon put matters right. I take this opportunity of thanking Mr. William Prout, the owner of the Launceston Garage, for his skill and readiness to oblige, and also for his extremely moderate charge. Would that his like flourished in every town in England. The road across Bodmin moor was quite delightful, and gave me my first real opportunity of letting out the Sizaire on a good and deserted road. Suffice it to say that on this portion of the run we were able to get back to something approaching our schedule time. Over a splendid road from Helston we reached the Lizard just at lighting-up time, and here we stay a few days before wending our weary way back to London town and the work-a-day world once more.

As showing the value to chauffeurs of a knowledge of the process of vulcanisation, we are informed that a chauffeur applied for a position the other day, but failed to get it for the reason that he did not know how to vulcanise by the H.F. process, though in other respects he was the most worthy applicant. Considering that a knowledge of the H.F. process can be acquired in a few hours, no chauffeur should lose the opportunity of adding this useful accomplishment to his general education on motors.

The L.B. and S.C. Railway are well advised in arranging to take cars both on their day and night passenger steamers by the Newhaven and Dieppe route to the Continent. Dieppe is a most excellent point from which to start on the other side. It is the nearest landing port to Paris, and is a good starting point for any part of France. We congratulate Lord Bessborough, the chairman, and the directors of the L.B. and S.C. Railway upon the arrangements now in existence.

CLUB DOINGS.

Scottish A.C. Hill-climbing Trial.

On Saturday week the Scottish Automobile Club conducted a hill-climbing competition at Cairn o' Mount Hill, Kincardineshire. Although the contest was confined to members of the club some thirty cars entered. In addition to the club function there was a similar, but much smaller, competition carried out at the same time under the auspices of the Scottish Motor Traders' Association. The cars were divided into three classes, according to horse-power—the first for cars of 12.8 h.p. R.A.C. rating and under, the second for 25.6 h.p. and under, and the third for over 25.6 h.p. Of the twenty-six starters nineteen completed the climb, seven cars being withdrawn on the hill for various reasons. The fastest time of the day was made by a car not competing—a 45 h.p. six-cylinder Sheffield Simplex, fitted with a new and very reliable type of electro-magnetic clutch. This car carried five officials and luggage, and without straining for speed went up in between five and six minutes. The awards were as follows:

CLASS I.

Entrant and car.	Handicap h.p. rating.	Time M. S.	Fig. of merit
A. Wilson (10 De Dion)	10.61	15 58	.190
Maj. J. W. Fraser (10-12 Argyll)...	11.96	14 31⅘	.180

CLASS II.

J. M. Webster (15 Clement-Talbot)	92.22		*
Boyd M. M'Crae (25 Werbell)	36.21	6 37	.284
Lawrence Henderson (16-20 Mass)...	38.30		*
R. V. K. Finlay (18-22 Darracq)...	24.60	13 19⅗	.138
R. J. Smith (18-25 Siddeley)	37.30	11 5⅘	.155
G. J. Lumsden (20 Rover)	24.66		*
J. B. M'Nab (16-20 Humber)	29.34	9 49⅘	.155
J. R. Nisbet (10-12 Humber)	15.97	9 53	.216

CLASS III.

T. Shaw (40-50 Ariel) ...	77.42	6 7	.1400
F. Eastmead (20 Sunbeam)	32.38	7 58⅗	.303
F. Lawrie (28-38 Ariel)	44.50	7 0⅘	.206
J. Adam (20 Sunbeam)	32.38		*
J. G. Raphael (40 Metallurgique)...	49.56		*
J. H. Paterson (18-24 Peugeot) ...	20.07		*
W. Gilchrist-Macbeth (40 Delaunay)	52.22	7 49⅗	.183
W. H. Cox (30 Rapid)	33.60	9 17⅘	.188
F. J. Usher (60 Napier)	100.2		*
J. H. Steen (24 Gladiator)	34.07	7 46⅕	.227
J. F. Henderson (24 Albion) ...	31.34	10 14⅗	.180
G. F. Paisley (24 Albion)	31.34	8 38⅗	.222

SCOTTISH MOTOR TRADERS' ASSOCIATION.

Albion Motor Car Co., Ltd. (24 Albion)	31.34	6 39	.368
W. G. Maxwell (22 S.C.A.T.) ...	27.77	7 59⅕	.216
W. R. Bell (20-25 Werbell)) ...	26.21		*
T. Shaw (40-50 Ariel)	77.42	6 7	.1404
J. H. Paterson (18-24 Peugeot) ...	28.07		*

*Cars were withdrawn on the hill.

PRIZES IN HANDICAP.

Class I.—Mr. A. Hunter Crawford's 10 h.p. De Dion.
Class II.—Mr. Boyd M. M'Crae's 20 h.p. Werbell.
Class III.—Mr. J. Hunter Steen's 24 h.p. Gladiator.

MRS. SELIGMANN'S CUP.

Best handicap result, 4in. and over.—Mr. J. Hunter Steen's Gladiator.

MRS. ADAM'S PRIZE.

Best handicap, any power.—Mr. Boyd M. M'Crae's Werbell.

MOTOR TRADE ASSOCIATION HANDICAP.

First.—Mr. T. Blackwood Murray's 24 h.p. Albion.
Second.—Mr. W. G. Maxwell's 22 h.p. S.C.A.T.
Third.—Mr. Thomas Shaw's 40 h.p. Ariel.

Mr. Henderson's Mass was driven by Mr. Walter S. Macharg, Mr. Webster's Talbot by Mr. Gibbon, both members of the club; Mr. Usher's Napier was driven by his ordinary driver. In every other case the car was driven by the owner or a member of his family.

North Berkshire A.C.

The North Berks. A.C. hill-climb took place on Saturday, September 26th, at Woolstone, by invitation of Mr. and Mrs. Butler. The result of the handicap was as follows: Mrs. Viner Ellis (12 h.p. Peugeot), E. W. Bond (7 h.p. Peugeot), Capt. Loder Symonds (8 h.p. Peugeot), Mrs. Barnett (15 h.p. F.I.A.T.), W. G. James (20 h.p. Rothwell) (fastest time), and Miss C. Fletcher (14 h.p. James and Browne).

Mrs. Viner Ellis holds the silver challenge cup for the second time, having won it last year. The fastest time was made by W. G. James on his 20 h.p. Rothwell, who came up the 1 in 6 gradient in under a minute—a very fine performance. Of the heavier cars, Mrs. Barnett's 15 h.p. F.I.A.T. came up in excellent style.

After the hill-climb a gymkhana was held at Woolstone Lodge. The first event, academy stakes, driving round and drawing at a blackboard, was won by Miss Butler. The second event, Victoria Cross race, in which three dummies had to be separately fetched and placed in the car, was won by Capt. Loder Symonds. Event III., chauffeurs' race, was won by Judge Bacon's chauffeur.

Harrogate and District A.C.

The following are the results of the hill-climb held on September 19th:

CLASS I.

1.	W. H. Breare (10 h.p. Adams)	2.21
2.	Dr. Holroyd (6 h.p. De Dion)	1.72
3.	Dr. Solly (8 h.p. De Dion)	1.59
4.	Dr. Solly's chauffeur (8 h.p. De Dion) ...	1.54
5.	W. Scott (6 h.p. De Dion)	1.51

CLASS II.

1.	J. A. Little (14-20 h.p. Renault)	1.849
2.	S. Holmes (15-20 h.p. F.I.A.T.)	1.837
3.	W. Johnson (14-16 h.p. Belsize)	1.456
4.	W. Jackson (15 h.p. Humber)	1.442

CLASS III.

1.	J. Yates (20-30 h.p. Belsize)	1.89
2.	Miss Jackson (28 h.p. F.I.A.T.)	1.73
3.	Mrs. Warwick (25 h.p. Talbot)	1.58
4.	H. Jackson (20 h.p. Humber)	1.06

The climb was held at Stainburn Moors, near Harrogate, in fine weather. All the competitors were amateurs.

Wiltshire A.C.

The annual gymkhana was held on Wednesday last, on the private cricket ground at Leighton Park, Westbury, a most excellent course for the purpose having been prepared and kindly lent for the second time by Mr. W. H. Laverton. Owing to the threatening aspect of the weather, which eventually fulfilled its unwelcome promise, the attendance was not so large as had been anticipated, and the proceeds, which were in aid of the Westbury Cottage Hospital, did not come up to expectations.

A programme of six events was arranged, which was carried out expeditiously and well by the officials concerned, Messrs. Palairet, Laverton, Meek, and Erskine, the results being as follows: Adam and Eve race, S. J. Applegate; tortoise race, F. B. Oldfield; passenger race, E. T. Shorland; academy stakes, S. J. Applegate; potato race, S. J. Applegate; tilting at the ring, Capt. Colston.

At the kind invitation of Mr. Laverton, members and their friends were entertained to tea at the close of the events, when Mrs. Shorland handed the prizes to the successful competitors, the proceedings terminating with a very hearty vote of thanks to Mr. Laverton for his hospitality and for his untiring efforts towards the success of the meeting.

A meeting of the members was previously held on the question of affiliation, it being resolved, before coming to a decision, to send delegates to the proposed conference organised by the Manchester A.C.

To Colonial and Foreign Readers.

We are constantly receiving enquiries from readers abroad asking the addresses of the Secretaries of the leading motor institutions in Great Britain. We therefore give them below, and shall repeat them at intervals as space permits. The addresses in all cases are those of the secretaries:

Royal Automobile Club, 119, Piccadilly, London, W.

Motor Union, 1, Albemarle Street, Piccadilly, W.

Automobile Association, Prince's Buildings, Coventry Street, London, W.

Society of Motor Manufacturers and Traders, Maxwell House, Arundel Street, Strand, London, W.

Incorporated Institution of Automobile Engineers, 1, Albemarle Street, Piccadilly, W

Scottish Automobile Club, 163, West George Street, Glasgow.

Irish Automobile Club, Dawson Street, Dublin.

SOME QUERIES AND REPLIES.

Readers are invited to send in replies to the queries of their fellow readers.
Letters should be addressed to the Editor of *The Autocar*, Coventry.

QUERIES.

No. 726.—Steam Cars.

I SHOULD be obliged if any reader could give me his experiences with steam cars, either Turner-Miesse, Morris, S.M.V.H., or Sheppee. I should like to know the cost of upkeep, etc., of any of the above cars.—J.J.C.

No. 727.—Overheating.

COULD any reader of your valuable paper explain why the majority of the motor omnibuses on the streets of London should always seem to be overheated? It is no uncommon sight to see a motor 'bus boiling away for all it is worth. Can it be that they suffer from inefficient radiation? Surely it would be far better for the 'bus companies to see that their engines run under good condition, which would tend to increase the lives of the same.—CE 722.

No. 728.—Flooring for Motor House.

CAN any reader very kindly recommend a good material for the flooring of a motor house other than concrete or paving? I work a good deal in my motor house in the winter, and I find concrete very cold to the feet, also to the body, when kneeling or lying down. Has anyone tried Plastomont asbestos flooring? I am erecting a house for three cars, and should be very grateful for any suggestions.—S.

No. 729.—Vulcan Cars.

CAN any of your readers inform me of their experiences with either 25 h.p. four-cylinder Vulcan or 40 h.p. six-cylinder Vulcan cars, having special reference to their (1) reliability and wearing qualities, (2) hill-climbing powers, (3) wear of tyres, (4) petrol consumption, and (5) is the top indirect speed good, and the gate change easy?—F.B.

No. 730.—Touring in Algeria.

CAN any of your readers tell me if early November is a good time for touring in Algeria? Any information as to routes and distances, price of petrol, etc., would oblige; also whether one would meet any difficulty touring on a car without a courier.—F.B.

No. 731.—Two-seater Ford Car.

I SHOULD be very much obliged for any information about the two-seater 15-18 h.p. Ford car. Are there any points in it that require special attention? Can the drip feed lubrication to the differential and live axle be trusted to keep these parts efficiently lubricated?—K.L.E.

REPLIES.

No. 721.—12-14 h.p. Singer Car.

I have one of the above cars which I have driven 3,200 miles. I use Vacuum A oil for the engine and give it two charges each side (*i.e.*, four strokes of the pump) every twenty miles. This works very well and the exhaust is not smoky. Your correspondent appears to have been oiling his engine more liberally. If so, I should advise cleaning pistons and cylinders and then adopting the above rule. My half gallon oil reservoir runs me over 150 miles. For the gearbox I use ordinary grease thinned enough to just flow by the addition of engine oil. Care should be taken not to have too much lubricant in the box. If the largest gears just dip it will be found sufficient, I think. I have not touched my gearbox, beyond looking at it, for 2,000 miles, and it does not need attention now. Regarding petrol consumption, mine is twenty miles per gallon. I usually carry a full load and the car has hood and screen. I suggest that your correspondent examines his carburetter very carefully, as follows: See that short lever on top is properly fastened to its spindle, and then see that stops controlling position of this lever are set to just show the curved marks stamped on the top of carburetter by the makers. I do not think thirty-five miles per hour is the maximum speed of my car.—J.M.

I have driven one of these cars for the last fourteen months and find it most satisfactory, especially as regards petrol consumption—on bad roads in Ireland—where the roads are really bad and nearly always very heavy. I average twenty-five miles per gallon, and in England twenty-eight miles. I use Vacuum A, but not in the quantity mentioned by the querist, only giving one charge every twenty or twenty-five miles. I make sure before starting I have lubricated enough, and get a slight blue haze from the exhaust at normal running of the engine before starting. When driving to get up speed I advance the throttle lever and then the spark lever, and after attaining the required speed retard the throttle till I can just feel the engine is getting all it wants. By this means I can get the car with four up to do its twenty-five miles per gallon always. I have driven this car all over the North of Ireland down to the South of England, and nearly 2,000 miles in France. I have never had the engine stop and had no trouble. I have been driving cars for six years and never had one that goes better. I have averaged thirty miles per hour in France for six hours, so think under good conditions over thirty-five miles would be its maximum speed. I should strongly recommend "No. 721" to get Singers to look at the carburetter if after trying my way of driving he is not successful in reducing his petrol consumption. The W. and P. carburetter and engine are the most flexible combination I have ever come across.—ANGLO-CELT.

Any good lubricant seems to answer all right, such as Filtrate, Vacuum A, or Sternol. The latter I have used almost exclusively on account of the price, 2s. 6d. per gallon. My experience runs that no less than half a gallon, *i.e.*, the tank full, should be pumped in judiciously to each 200 miles running, and I consider it necessary to make the engine smoke at least once a day. If the country is very hilly of course use more. For gearbox try Filtrate B gear oil, price 3s. per gallon. This has given me out and out the best results up to present. In summer I never get less than twenty-five miles to the gallon, sometimes more, and in winter the average is a little bit less, say twenty-three to twenty-four miles. My usual custom is to put in four gallons petrol after running every 100 miles. By this means I do not get let down in awkward places, besides saving the worry as to whether I am running short. I purchased my car on October 11th, 1907, and have ridden it both winter and summer, and the record for eleven months running is 19,383 miles by indicator. Cylinders have never been off, exhausts touched up four times, inlets only twice. I have never had a single repair or replacement in engine. I should be happy to give any little help I can with carburetter, for I am delighted beyond expression with the running of my car. I use a dynamo running with a belt which keeps the accumulators up to concert pitch, besides lighting the car electrically, four 8-volt Osrams being used. May I advise the following remarks: Adjust your tappets and test them often. Be sure the commutator is in very good order. Down hills declutch and close throttle. If car goes too quickly let clutch in gently, and this will act as a brake besides saving petrol and preventing brakes wearing out. Mine are the same as originally fitted. I cannot understand how you get only fifteen miles to the gallon. I drive my car exactly as I did a motor bicycle, operating the firing in conjunction with the throttle. The spark, except at starting, is always a little in advance of throttle. But I think both levers should be used in unison according to conditions ruling, and when engine is once accelerated while driving on open flat road at twenty-five miles, I do not find the need of opening throttle more than two notches. As to speed, my indicator occasionally shows forty. I can count on an average of twenty-four miles per hour, and barring punctures run to my appointments dead to time. All I know about Singers is that I paid full price for my car, and its reliability seems wonderful, besides the comfort of hearing your friends speak. There is not the continual worry of changing down which I have experienced when riding in my friend's car.—M.A.

No. 714.—Standard Cars.

The six-cylinder Standard car is, in my opinion, one of the best touring machines on the market at the price at which it is sold. I am using one myself, and have induced several of my clients to do so. As my work is largely carried out in London traffic I have not attempted to get any definite figures as to consumption and speed, but I have a high opinion of the car as a hill-climber, and its silence and smooth running make driving a pleasure all the time. Judging from my own and my several clients' experience I should say that "J.S." might do far worse than give this car a trial. I am too well-known to the majority of your readers as an independent motor expert for it to be necessary for me to point out that I have no interest whatever in the Standard Motor Co.—H. W. BAMBER, M.I.M.E.

I have had two of these machines—my present one (25 h.p.) for four months, and find its power on hills on top and intermediate gears all that can be desired. I don't care to go fast, but I can easily average the legal limit. With regard to wear on tyres I do not consider the car in any way responsible for any ill luck I may have had, but rather the Buckinghamshire flinty roads. Moreover, I have had no trouble since instituting a daily examination of the covers for any flints or splinters. The mileage per gallon of petrol varies a good deal in these hilly parts, but an air inlet valve fixed to carburetter has made the car run thirteen miles to the gallon, and often more.

As far as I can see in the control and ease of handling the car there is nothing wanted. Also with regard to starting, my chauffeur does not experience any difficulty in getting at any part of the general mechanism. Regarding silence, this is one of the Standard's strong points. It is most quiet and easy to drive. As I have never tried to accelerate from a crawl to a high speed, I do not know what it will do, but it certainly gets into its stride very quickly. The car is extremely comfortable, and I do not wish for a better. I have had some trouble with the magneto but not lately. The fault, now rectified, was not the fault of the makers of the car. Messrs. Friswell, the agents, have always done everything in their power to please me, and I am now perfectly satisfied with their treatment.—C. B. VALLANCE.

No. 722.—Turner-Miesse Steam Car.

There is no relation, as a rule, in a steam car between mileage run and the quantity of paraffin or petrol used for heating the generator or boiler. In the Turner-Miesse car the paraffin burns in the 16 h.p. car under a running pressure of 60-65 lbs. This pressure causes the consumption of a given quantity of paraffin per hour. That consumption is the same whether the car is running at the rate of ten or fifteen or twenty miles per hour. The time of burning and running governs the consumption, and this is constant, not the mileage run. If twenty miles are run in one hour the consumption is exactly half what it would be if the twenty miles were run in two hours, because the time in the latter case is doubled. The consumption of water depends upon the steam used. The amount of steam used depends upon the nature of the roads. If hilly, more steam is used than on level roads for the same distance. There is probably some difference in the consumption of steam when running ten or sixteen or twenty miles per hour, but any increase is compensated by the shorter time of running. Weight of car, power of engine, load carried, character of roads, skill in driving, all affect consumption of steam. Each owner must find out by practice the quantity of water used per mile on his roads at a given speed. There does not seem to be difficulty in lubricating the engine, but it is advisable to carry lubricating oil if going in out of the way districts. Paraffin for burning can generally be obtained.—J.C.R.

No. 716.—Four-cylinder Cadillac.

I have had one of these cars for fifteen months, and have driven it 19,000 miles, and I have never yet had a mechanical stop with the exception of a few trivial matters that have been adjusted in less than a minute. During the time I have had my car I have never tightened up the bearings or touched the engine in any way. Of course, I have looked after it in the way of oiling and keeping it in good running order. I find it extremely light on tyres, and as yet I have only had one puncture, which delayed me for threequarters of an hour. During the time I have had it I have never been more than five minutes late in keeping an appointment in my car. As regards petrol consumption, I can go, on an average, twenty miles to the gallon. People often ask, "Are American cars reliable?" I have certainly found that mine is. It has many fine features, and is absolutely standardised, as is the 10 h.p. Cadillac. The oiling arrangements are very simple and reliable. The carburetter is also most simple, and there are two filters which make it quite impossible for dirt or grit to get into the needle valve. Although not of a magneto type, I have had not the slightest trouble from accumulators. As for sparking plugs, I still have three of the original ones in working order. One I unfortunately broke by dropping a spanner on it. The clutch is delightful to work, and one receives none of the jarring that is found in many types of cars. I think the car is wonderful for its easy adjustment of any part. I have travelled in all sorts of weather in my car in Scotland and the North, South, East, and West of England, and have found no hill that has given me the slightest trouble. It is very seldom that you need to put in the second speed, as you can practically always travel on top. In conclusion, I may state that the four-cylinder Cadillac has met my wants in every way, for it is thoroughly reliable, and if the Cadillac Co. bring out any car of similar type I shall go in for a new model at once, as I like to keep up to-date in motoring.—W. L. FORSTER COULL.

No. 710.—12-16 h.p. Vauxhall.

I have great pleasure in saying that my 12-16 h.p. Vauxhall, now slightly over a year old, has given and continues to give me great satisfaction. I can endorse "Interested's" remarks as to silence, flexibility, and good springing, and would add absence of dust raising above the average. I have never experienced the difficulty he anticipates about getting into reverse by mistake. The corners of the gate are so bevelled as to make the change into second quite natural, and without any fear of slipping past the gate in error. All that is required in changing is a slight side pressure on the lever just sufficient to keep it up against the dividing bar, so that when the lever comes to the gate it must slip through. There is a hand throttle on my car, but in point of fact I rarely use it, and I believe the pedal in this year's model is provided with a catch or rack so that the foot can be rested occasionally. I have used my car considerably in North Wales, and found no difficulty in tackling all the hills I encountered. On the all important question of upkeep I find the Vauxhall car and Vauxhall firm a pleasant change from previous experience. I look after my car myself to a large extent, but so far have had no serious wear or complication to contend with. On the few occasions when I have not been able to tackle a point myself Messrs. Vauxhall have put things right speedily and well; all small spares required come promptly, and at a most reasonable cost. The metal to metal clutch was a revelation after leather, and the lubricating system does its work well. I place the petrol consumption between eighteen and twenty-five miles, according to road and load, but the new carburetter may

improve this. Needless to say, I am in no way connected with the firm.—A. J. HEALEY.

I have driven the 12-16 h.p. 1907 model for twelve months (on accumulator and hand throttle), and no car could have given less trouble in every way. The springing is most comfortable and very successful. The makers do supply a brass catch to drop into the reverse, but directly one is accustomed to the car it is far more handy not to have the reverse locked. The gate is very simple and easy. The pump circulation is excellent and effective. The valves but rarely require regrinding. For the money there is no car better, and but very few, if any, as good. I am now driving the new model 12-16 h.p. magneto with entire foot control. This car and engine runs even more delightfully than last year's model. Missing the comfort of hand throttle I have rigged up a contrivance on the dash which enables me to cut off all gas if desired and yet reset throttle with a touch of the foot. I think all amateur drivers prefer hand throttle to foot control. But professionals always seem to prefer foot control. A very few days driving with new model makes one soon feel quite at home on the extreme simplicity of the control. Lastly, the wear of tyres is very small if one is content to average twenty miles an hour. As regards hill-climbing power both my Vauxhall cars are splendid, but rarely having to come down to second speed.— J. KINGSTON BARTON.

I have owned a 12-16 h.p. Vauxhall car for just over a year, and can speak very highly of the engine, which is simple, flexible, and quiet. The change speed (gate) is quite all right, and there is really very little fear of going into the reverse by mistake. I did it once at the start, but it has never happened since, and I have driven over 7,000 miles. The control is most efficient and quite easy to work. I have never had any serious trouble, the worst being caused by a piece of soldering coming adrift from the petrol tank. I had the engine dismantled last week for my own satisfaction, and the wear was so slight that it was hardly worth speaking of. We did 702 miles this spring through Devon, Somerset, and Cornwall to Land's End and back (three up), and I only pumped the tyres up a few miles from home, a few strokes only to the driving ones. It is very light on tyres, and the springing is good. My engine is run on accumulators, but I believe the latest have magneto. The gears wear well. The Vauxhall people are most obliging. I have no interest whatever in the firm.—F. W. B.

It would perhaps be as well if I prefaced my remarks by stating that I am a country doctor, consequently my cars are called upon for exceptionally hard usage; that I run two, and further that I have at one time and another owned seven different cars, so I think it will be admitted that I speak with some experience. At the beginning of this year I purchased a 12-16 h.p. Vauxhall as my second vehicle, and so pleased was I with its performances that I actually sold my larger car—a 1908 model, by a well-known maker—and replaced it by another Vauxhall. This in itself, I think, speaks volumes. I personally have fitted a stop to prevent accidental use of the reverse, but in the second car I have not troubled to do so, as I have now become quite conversant with the method of change. As to how it wears, I cannot speak authoritatively, as I have only been a Vauxhall owner for eight months, but this I can say, that I have experienced little if any trouble, which is more than I could have said of my earlier purchases. With reference to petrol consumption, I recently drove from Swansea to Devonshire, averaging from twenty-three to twenty-five miles to the gallon.—MEDICUS.

"THE AUTOCAR" DIARY.

OCTOBER.
3.—Brooklands A.R.C. Meeting.
4.—Grand Prix of the Aero Club of France, Tuileries, Paris.
11.—Aeronautical Gordon-Bennett Cup Race. Starts at Berlin.
11.—Sporting Club of Nimes. Circuit du Languedoc for small cars and motor cycles.
11-18.—First International Road Congress and Exhibition, Paris.
14.—Institute of Automobile Engineers. Presidential address by Mr. Dugald Clerk, F.R.S., "Some Problems of the Motor Car."
20-31. — Australian A.C. International Competition for Commercial Vehicles.
21.—Motor Union General Committee Meeting, London.
24.—Vanderbilt Cup Race, U.S.A.

NOVEMBER.
13-21.—The Seventh International Motor Exhibition, Olympia.
18.—M.U. General Committee.
20-28.—Stanley Show, Agricultural Hall.
26.—Grand Prize Race of the A.C. of America, Savannah.
28-Dec. 13.—Paris Salon.

DECEMBER.
9.—Institute of Automobile Engineers. Mr. Mervyn O'Gorman, A.M.I.M.E., M.I.E.E., "How the Weight of the Motor Car is Made Up."
16.—Motor Union General Committee Meeting.
22-29.—Paris Salon. Exhibition of Commercial Vehicles, etc.
23.—Motor Speed and Reliability Trials, Nagpur, C.P., India.
31-Jan. 7, 1909.—A.M. Manufacturers of America. New York Show in Grand Central Palace.

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