

THE AUTOCAR

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

EDITED BY H. WALTER STANER.

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Notes.

Two Important Principles.

Two important principles for which we have contended in our columns have been accepted by Parliament within the last few days. First, with regard to the Road Bill, the Chancellor of the Exchequer has consented to amend the Bill in two important respects. The powers to make new roads for motor traffic alone will be omitted, so that all roads made or improved by the new Road Board will be open to all traffic alike. The Road Board will also work for facilitating road traffic generally, and not, as the Bill was drafted, to provide for motor traffic only. This is a principle which we are extremely glad to see accepted, as we are convinced that more harm would have resulted if the principle had once been accepted and adopted that

motor cars require special roads for their exclusive use.

As it is, the mere suggestion has done considerable damage to automobilism. Further than that it is, after all, a question of commonsense. We say this with no disrespect to the Chancellor of the Exchequer, but we have held from the first that any improvement which facilitated motor traffic must necessarily be for the benefit of all traffic. Indeed, we would go further and say that, if improvements in the roads were required for motor traffic only, it would not be right to expect ratepayers at large to find the money for them. For instance, waterproof and dustless roads are, as a matter of fact, of far more benefit to other road users than to motorists. The straightening out of needless corners, the cutting down of hedges at dangerous cross-roads, and so on are all improvements in which every road user participates.

Mr. Lloyd George has also made another proposal which authorises an officer of the Army Motor Reserve to obtain an abatement of the duty in respect of each day his motor is used for army purposes. This is only fair, and we have no doubt that when the Territorial Reserve scheme, in which motorists are invited to participate, is developed further some similar provision will be made in the case of those motorists who become members of the Territorial Reserve and place their cars at the disposal of the War Office. This again is a concession which is not only in accordance with commonsense, but also with sentiment, as it would not have been fair that those motorists who were willing to devote their cars to the service of their country should pay the same as those who decided to have nothing whatever to do with home defence.

A Good Example.

A magistrate who, in addition to being a resident in a county which is a little too celebrated for its police traps, is also a motorist was struck recently with the idea that it would be a good plan if he could persuade his non-motoring colleagues on the county bench to accompany him on an expedition of practical investigation into the working of certain police traps within their jurisdiction. He was successful in obtaining the co-operation of his colleagues, and with three or four of them in his car he drove forth to make investigations. With speedometer and careful timing the magistrates knew exactly what they were doing, and they purposely exceeded the limit in the first trap they tested. At the end they were promptly pulled up by one of their own constables, and were told they had exceeded the limit. When the driver removed his goggles the police found they had stopped one of their own magistrates, and the motorist explained that he and his brother magistrates were testing the accuracy of the police timing. It is not fair for us to give the results of the tests which were made. It will suffice to say that as a result of the expedition more than one trap was moved from the open road to a populated area in which there is no doubt whatever that the legal limit should not be exceeded.

The magistrates who accompanied the motorist were

quite agreed that a trap on the open road was wrong, though it must be confessed that they have fined a good many motorists for alleged excesses of the speed limit over perfectly open roads. We only hope that they will sin no more. In the meantime, we commend the idea to other motoring magistrates who find themselves in the minority on their borough or county benches. There is no doubt that a good many traps are imposed through lack of knowledge. Complaints are made as to excessive speed in a village, and the magistrates tell the chief constable to stop it. If the chief constable be a motorist or understands motoring he knows what to do, but in a good many instances it would appear that his idea of stopping undue speed in a village is to establish a police trap outside the village, whereas the stationing of a constable for a day or two every now and then in the village to regulate the traffic would have done all that was required. Whether the fault is with the magistrates or with the chief constables we do not pretend to say, but there is no doubt that there is an impression, which is too often justified by facts, that when complaints are made about undue motor speeds the "remedy" which is too frequently applied is not to reduce the speeds by instructing the constable to stop and warn all drivers who appear to be driving too fast, but to collect as much money from motorists as possible by the simple and profitable process of trapping.

The fault, of course, primarily rests with Parliament, which instituted the senseless speed limit—senseless because there were already in existence ample powers to regulate motor traffic. The idea that the speed limit would be abused probably did not enter

the heads of legislators, but experience has proved that it has placed a dangerous weapon in the hands of petty local tyrants, who see in it only a lucrative means of easing their own burdens. What wonder, then, that the machine is used, or rather abused, not so much from motives of public safety, or even out of vindictiveness, spite, or aversion, as for purely sordid purposes? The irony of the situation is that the speed limit defeats its own ends. Instituted for the protection of the public, it is being used merely as a machine for the collection of fines in open places where members of the public never congregate, while the guardians of the public safety are absent from those places where danger exists. At these dangerous spots the public could be best protected by the common law of the land being brought into operation or by the application of those provisions of the Motor Car Act which are directed against dangerous and reckless driving.

This view cannot be too strongly emphasised, that police traps, instead of being a protection to the public, are in fact, a source of serious public danger, in that they occupy the attention of the police at places where no danger exists, while at really dangerous spots, such as villages and populous parts, the public are absolutely unprotected. Such practical experience of police traps as that afforded to the magistrates to whom we have referred will tend to put the matter in its true light. Magistrates will come to see that the only real protection to the public is to be found in the abolition of the speed limit and traps, so that the police may work in places where their presence will serve a useful purpose.

The Grantown-on-Spey Speed Limit.

We are sorry to see that the *Strathspey Herald* is extremely indignant with us because we have spoken strongly in these columns about the notorious ten miles limit in Grantown-on-Spey. We may pass over its accusations of misrepresentation, because no misstatement has been made editorially. One was made by a correspondent with regard to the destiny of the fines, but it was corrected by another correspondent. However, we need not trouble to go into this matter, as nothing which the *Strathspey Herald* can say would gainsay the facts, and the facts are that motorists have been fined for driving through Grantown-on-Spey at speeds so little above ten miles an hour that it is unsafe to run through the place, because the difference between ten and twelve miles an hour is not worth mentioning so far as public safety is concerned. Our contemporary says that the trap was imposed to stop

excessive speed through the town, but it is no good stating that reasonable motorists are welcome unless the police are to take the same attitude as our contemporary, which, after all, is not out of sympathy with us because it says, "We are not in favour of enforcing the ten miles limit so rigidly that those driving twelve miles an hour are prosecuted." This is and has been our contention from the first, but, incidentally, a side light is thrown on the whole attitude, as the paper winds up by stating a truism that Grantown owes its prosperity to a very large extent to regular visitors staying in the town, who deserve the same consideration as the motorist who passes through it to some other place. Possibly this is the bottom of the whole trouble—that motorists have not stopped in Grantown, but have dared to use it as a thoroughfare, and have proceeded to do so at the monstrous speed of twelve miles an hour.

Merionethshire Justices Accept Defeat at Last.

The Towyn (Merionethshire) bench of magistrates have decided not to proceed with the fresh summons issued against John Cookson, motor driver, of Newtown, Montgomeryshire, whose conviction and fine of £10 for driving to the danger of the public inflicted at the May court was quashed on appeal to the High Court.

The first summons was served in Cookson's absence, and he was convicted without having been heard. His employer, Mr. Edward Powell, of Newtown, decided to appeal against the conviction to the High

Court. Notwithstanding that the conviction was quashed, a second summons was issued, but at the August court the right of the bench to deal with the case now it had been taken out of the Lower Court was challenged by counsel.

The bench then decided to adjourn the hearing for a month in order that the clerk might advise them. At the sessions on September 24th, the prosecuting solicitor said the chief constable, after considering the matter, had decided not to offer any evidence, and the case would be struck out.

Useful Hints and Tips.

A Good Burner.

THE majority of acetylene burners procure a flat, fan-shaped flame by employing two jets of gas impinging on each other at an angle. If the minute orifice from which the rear jet emerges become choked, there is nothing left to stay the front jet, and it may strike backwards and hit the reflector. If the reflector be a lens mirror the jet will crack it in a very few seconds, and these mirrors are very costly. It is, therefore, better to use a flat jet burner, such as the Lucas, or, failing that, Bray's latest, the Roni, which cannot under any circumstances damage the reflector, and is also very economical of gas.

A Simple Generator.

Some acetylene generators are woeful boxes of tricks. Quite a clever motorist may not understand how they work, and if they strike work he will not know what is the matter. There are others which are extremely simple, and closely resemble the standard cycle and motor cycle generators. Such a generator consists of three main parts—the water container, a screw-down water drip valve, and a carbide container. A boy of ten can keep such a device as this in working order. If in addition the carbide rest on a false bottom in the form of a grid, which riddles the white ash through into a waste pit beneath, the device will be as economical as it is reliable. This is the type of generator for which purchasers should be on the look out. There are several patterns of this type on the market.

A Switch Tip.

Expensive switches are now marketed for dual ignition, which enable the driver to employ magneto and accumulator ignition separately or together, and even to use either of two accumulators or both accumulators at once. But these switches are decidedly costly, and certain makers prefer to fit two or three separate switches. A car fitted with a series of separate switches is a dangerous possession. For instance, the spark must be fully advanced for starting up on the magneto, and tolerably retarded for starting up on the accumulators. Sooner or later the driver is pretty sure to approach the starting handle with both switches "on," and the spark full forward, when a broken wrist will very likely be the sequel. In the absence of a composite switch, great care in inspecting the position of the levers is necessary, before a finger is laid on the starting handle.

A Magneto Tip.

A bad jib in the Cathedral Close at Wells and a fruitless half-hour's tinkering in the blazing sun, the cajoling of loafing urchins by the lady of the car to shove us agoing—that was but the beginning. Going North, we adjusted all things time and again, but never knew whether the engine was going to start in a Christian spirit or sulk for half an hour at a time, so we never halted but on a good down grade if we could help it. Once going, it did its very best, however, till, having delivered us safely to our friends at Chester, it quite pathetically gave up further effort. Its pulse stopped as we took off the last of our luggage, and it became permanently unconscious. So we sadly pushed the car round to the motor house and left it. Next day, having definitely located the trouble in the magneto, we sent for a local expert. He looked wise, and said the condenser was wrong. But he was soon dismissed, and we proceeded to consider the question of despatching the magneto to London. "Wait a bit," said our host, himself a

knower of many motor matters. "My friend T— is calling this afternoon." He came, did this good Mr. T—, of blessed memory. He heard our report. "Probably a little dampness in the winding," said he. "Bring me the armature. Yes, I don't think there is anything that will hurt. Is your kitchen fire alight? Well, just put this in and bake it as you would an apple pie—a common or garden pie mind, nothing special." Full of faith, but wondering, we did as we were told. Half an hour later, armed with thick dusters, we withdrew the hot but still unmelted apparatus, and when cool remounted it. The engine started at the first turn over, and has never caused any trouble since.

PHILIP J. KENWAY.

[Before proceeding to dry a magneto armature in the manner here indicated it is important to know that no material of low melting point is used in the construction; if there be, such treatment would mean absolute ruin.—ED.]

Misfires at First Starting.

I have often noticed during the past summer that the engines of certain cars invariably misfire when first started up, and that the driver has to race them for a minute or two to obtain regular firing, to the annoyance of himself and anybody else within earshot. Some owners imagine that this misfiring is inseparable from a carburetter which normally uses hot air, and has naturally to depend upon cold air till the exhaust gases have warmed it up. As a matter of fact, these misfires are almost always due to the automatic air valves; the throttle is opened too wide before jerking round the starting handle, and as a result the pull of the engine sucks open the air valve, without dragging through enough petrol vapour to make a properly combustible mixture. The cure is to only open the throttle a quarter, a third, or a half, as the case may be. The pull of the pistons will then provide a rich mixture, because it is insufficient to suck the air valve open.

Straining Lubricating Oil.

I have recently experienced considerable trouble with the lubricating system on my Talbot car. The method adopted is the ordinary exhaust pressure drip and pump system. On disconnecting the pipes from the box I found that they were so choked with dirt that the engine was getting no oil at all. It then occurred to me, to obviate the trouble, to strain the oil through a fine gauze funnel, and the necessity for this has been proved by the amount of foreign substance that I have had to extract from the funnel to allow the oil to pass through at all.

This may be a useful warning and hint to other motorists who have experienced similar trouble with their lubricating systems.

Appropos of this, there was recently a collision on the Metropolitan Railway at Moorgate, owing to the automatic signalling system having failed. At the Board of Trade inquiry it was proved that the failure was due to an oil valve having become clogged, thus releasing the signal. It seems as though extraneous matter in the oil used was also responsible for this accident, and, instead of redesigning the valves, it might be found less expensive and more expedient to strain the oil before use.

[When cars are not provided with strainers in base chamber oil fillers, oil replenishment should always be done through a gauze lined filter funnel.—ED.]

The 12-15 h.p. Panhard Car.

A New Car with an Old Reputation.

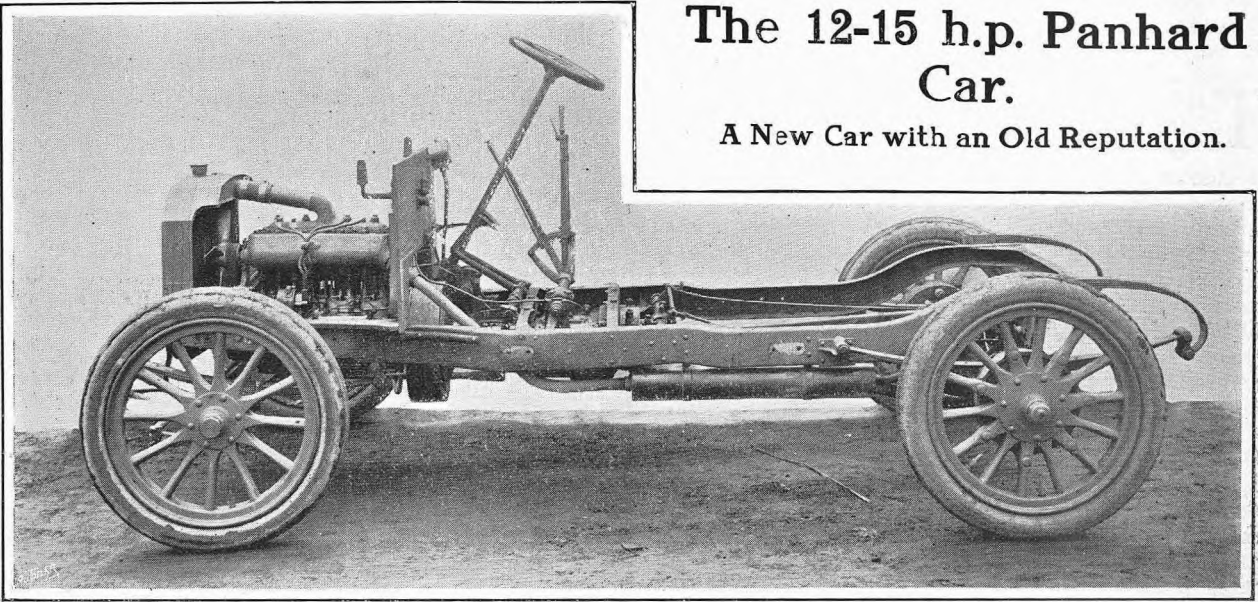


Fig. 1.—Left-hand view of the 12-15 h.p. Panhard chassis.

WHEN motorists meet the conversation invariably turns on the cars they happen to be using. In the case of little known cars, reliability, fuel consumption, and other points are gone through in detail, but when the answer to the enquiry "What is your car?" is "It's a Panhard," little more remains to be said, for that expression covers everything, in the same manner that "At Lloyds" covers a boat.

The trouble with the older Panhards—if it can be described as trouble—is that they never really wear out. There are many Panhards on the road with five to ten years' running to their credit, which are still going strongly, and show little signs of wear in their vital parts, and although most of them are very noisy on their gears, their reputation for soundness is unsurpassed in the motor car industry. That being the case, it may be taken for granted that the latest chassis, in the form of the 12-15 h.p. Silent Panhard, which has just reached these shores, has received every care and consideration in design and construction with a view to upholding, and, if possible, enhancing, the reputation of the famous French house.

One day last week the

first new chassis was received at the showrooms of Messrs. W. and G. DuCros, Ltd., 14, Regent Street, W. The chassis illustrations given show that it generally follows the lines of the latest design of live axle vehicles.

Special attention has been given to the strength of the frame, gears, front and back axles, and propeller shaft joints. The frame is narrowed to a considerable extent in the front, so that sufficient lock can be given to turn the vehicle within a 25ft. circle.

Coming to the details, the first thing which demands attention is the particularly neat-looking engine. This is exceedingly simple in construction. The four cylinders are cast *en bloc*, a larger space being left between the second and third cylinder barrel than between the others, so that a centre bearing can be given to the crankshaft. A good point in the construction of these cylinders is that as the exhaust gases come from the ports they pass into a receiver cast with the cylinders and water-jacketed in the same manner as the combustion chamber. This prevents unequal expansion at this part—a trouble which most makers of block cylinders have experienced, and in some cases very seriously.

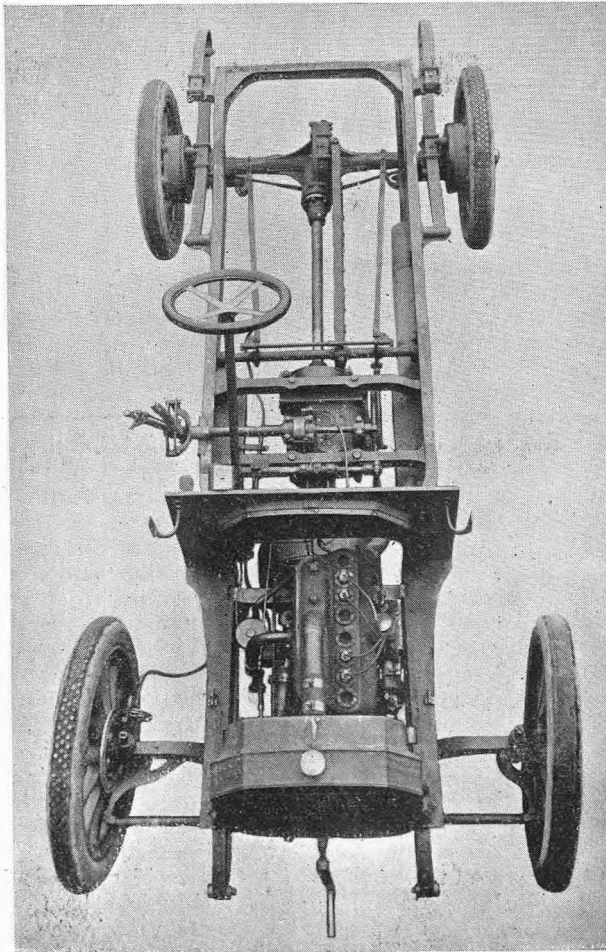


Fig. 2.—Plan view of the 12-15 h.p. Panhard chassis.

The valves are all arranged on the left-hand side of the engine, and are stated to be exceedingly quiet in action, although at the time of our visit a vehicle was not available for testing this. The bore of the cylinders is 80 mm. and the stroke 120 mm.

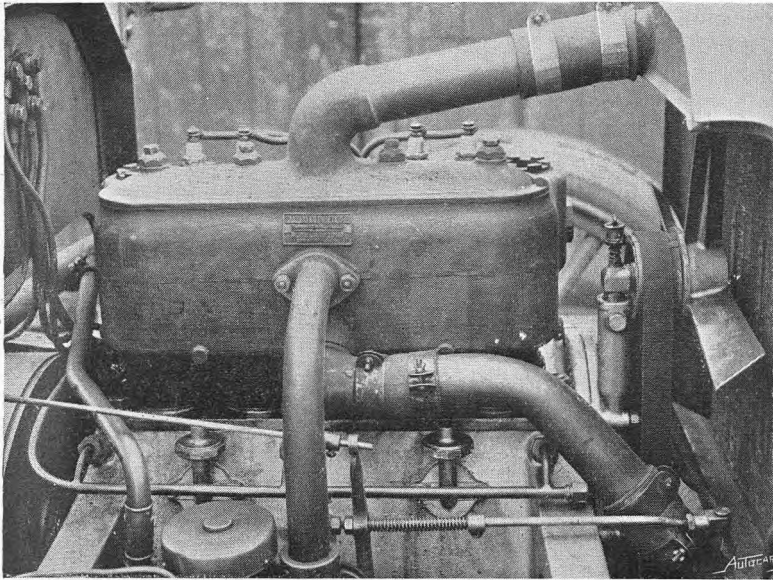


Fig. 3.—Right-hand side view of the 12-15 h.p. Panhard engine.

The cooling is on the thermo-syphon principle, with exceedingly large inflow and outflow pipes connecting the radiator with the cylinder jackets as shown in fig. 3. The radiator has eighteen vertical rows of flattened tube, the tubes being connected together by fins, which serve to stay the tubes, and also radiate heat from the cooling water. The fan pulley face is covered with leather, so that the leather belt operates on a leather face.

The carburetter is on the well-known Krebs lines, slightly modified in this model for ready control by the driver. The throttle of the carburetter is controlled in three ways. For ordinary driving, a pedal is operated by the right foot of the driver, this acting upon the throttle through the medium of suitable connections. A governor arranged at the forward end of the camshaft can also act upon the throttle to prevent racing of the engine; whilst the throttle can be set to any opening by means of a thumb operated lever mounted on the dash.

The Nilmelior high-tension magneto is the only ignition mechanism fitted, the time of ignition being fixed. Thus the control of the engine is exceedingly simple and the steering wheel is free from all levers. The dash is not over-ornamented, only the body and sights of the lubricator, the before-mentioned engine control lever, and an earthing switch for the magneto being fitted thereto.

The lubrication system is mechanical, a special type of pump operated from a worm on the rear end of the camshaft being used in conjunction

with the sights on the dash to furnish the requisite amount of oil to all the working parts of the engine and to the gear box. The oil supply is taken from a tank mounted on the left-hand side of the engine between the two supporting arms on that side.

A rather neat and substantial form of cone clutch is fitted inside the flywheel, the male portion being pressed inwards to release the drive from the gear box shaft.

The gear box gives three speeds, with the direct drive on the third, the gears being operated by a lever working over a sector. There is a swivel jointed pressed steel torque rod connecting the rear axle and a cross member of the frame, this piece of pressed work being very finely carried out.

The brakes are arranged so that the pedal operates on the rear end of the gear box shaft, and is of the metal-to-metal contracting type, cam actuated. The rear wheel brakes are internal expanding, and are carefully balanced. The brake connections to the rear wheel are simply a piece of thin steel like a stout tape measure, and cannot rattle.

The wheelbase is 8ft. 4in., the track 4ft. 10in., and the wheels have 815 by 105 mm. Dunlop tyres. The frame is carried on semi-elliptic springs at the front and (almost) threequarter elliptic at the rear. The front axle is of I section, the steering rod being in front of the axle. The main steering lever is attached to the quadrant shaft inside the frame to the left hand of the box, and not outside, as is the more usual practice, and therefore the main steering rod cannot be fouled by the front wheels when they are at their greatest lock.

This particular type of chassis will make its first public appearance at the forthcoming show at Olympia.

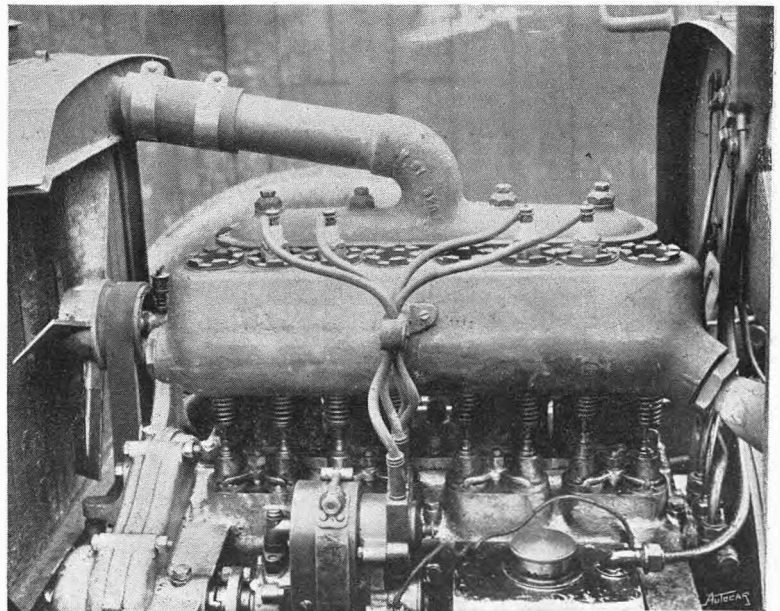


Fig. 4.—Left-hand view of the 12-15 h.p. Panhard engine. This shows the Nilmelior magneto, the oil supply tank, fan, and neat arrangement of water-jacketed exhaust chamber.

"The Autocar League."

A Good Example of the Power of Unity and Co-operation.

"THE AUTOCAR LEAGUE" HAS NO SUBSCRIPTION. ITS AIMS ARE TO OBTAIN THE SUPPORT OF EVERY MOTORIST IN THE UNITED KINGDOM, SO THAT WHEN MATTERS OF VITAL IMPORTANCE COME UP FOR DISCUSSION A POSTAL REFERENDUM CAN BE TAKEN. WHEN THE REFERENDUM IS COMPLETED THE GOVERNMENT OR OTHER AUTHORITIES CONCERNED AND ALL THE CLUBS AND MOTOR ORGANISATIONS WILL BE NOTIFIED. ON CERTAIN OCCASIONS THE MEMBERS WILL BE ASKED TO TAKE UNITED ACTION SO THAT INJUSTICES MAY BE REMOVED OR ABUSES STAMPED OUT. IT IS ONLY BY SOME SUCH SYSTEM AS THIS THAT MOTORISTS WILL BE ABLE TO OBTAIN FAIR TREATMENT.

An Important Petrol Tax Concession.

WITH the exception of that granted to medical men, the only concession made in relation to the petrol tax refers to industrial motor vehicles, and the means by which this concession was brought about form an excellent example of the power of a united body organised on the lines of "The Autocar League," but necessarily on a much smaller scale.

The leading official bodies of the motor movement were not in a position to take up the special case of the business motor vehicle sufficiently strongly. One reason for this is that none of these bodies have devoted themselves exclusively to this branch, and another that none of them possess a membership providing for the necessary co-operation of industrial users and manufacturers.

Consequently nothing effective was done in the matter until our offspring, *Motor Traction*, feeling that the interests of their branch of the movement were at stake, undertook the organisation of the case.

As a result that journal, backed by the whole-hearted assistance of the leading manufacturers, was able to compile a very representative list of nearly 400 users, employing an aggregate fleet of nearly 7,000 vehicles, who were at one with the manufacturers and agents in the matter.

The whole case was then put before the Hon. Arthur Stanley, M.P., who, realising the strength of the protest, took it up and handled it in the most energetic and able manner.

As a result of voluminous correspondence it had become apparent that the greatest hardship was felt where users had tied themselves down to accept large quantities of petrol under contract, the contract price being now increased by the amount of the tax. Such cases were very general, and in many instances the users were further tied to carry out certain work at a fixed price by means of their vehicles.

This point was consequently selected as the one which opened up the only real chance of success, since it showed that serious hardship existed of a kind which had not been anticipated, and might be relieved without disturbance of the general principle of the tax, from which it was known that the Chancellor of the Exchequer would not depart.

A deputation was then formed as follows: Mr. Daniel Duff, joint manager London General Omnibus Co.; Mr. Walter Wolsey, director Thos. Tillings, Ltd.; Mr. Godfrey Isaacs, managing director Provincial Motor Cab Co. and director general Motor Cab Co.; Mr. T. Blackwood Murray, chairman Albion Motor Car Co. (representing also the Scottish Automobile Club); Mr. W. Flexman French, representing delivery contractors and agents; and Mr. H. M. Wyatt, of *Motor Traction*.

This deputation was introduced to the Chancellor of the Exchequer on Thursday, September 23rd, by the Hon. Arthur Stanley, M.P., who was supported by Sir Charles Rose, M.P., vice-chairman of the R.A.C., and by Mr. T. H. D. Berridge, M.P. Mr. Lloyd George promised to consider what such a concession would cost the Road Improvements Fund.

On the following day, Friday, September 24th, the clause came up for discussion in the House, and Mr. Arthur Stanley moved an amendment, repeating the arguments which he had used when introducing the deputation, and, in the words of *The Times* of Saturday, September 25th, "the Chancellor, yielding to a demand made by Mr. Arthur Stanley, undertook to grant a rebate of the whole amount during a period to be fixed after further consideration."

His reply was given in more detail in the same journal as follows:

"The Chancellor of the Exchequer said that the suggestion was first made to him by a deputation yesterday, and would require a good deal of very careful examination. He confessed that a very strong *prima facie* case had been made by the owners of commercial vehicles who had entered into contracts which allowed them no means of adjusting the matter to the new conditions. He could not at that moment assent to the proposal that the rebate should cover the whole year, but was disposed to accept the suggestion in principle. (Cheers.) He hoped the hon. member would be satisfied with the promise that the point would be considered by the report stage. But whether the Government should remit the tax for the whole year or for six months was a matter upon which he should not like to pledge himself at that moment."

Before Mr. Stanley's amendment was moved Mr. Lloyd George had refused to accept the suggestions of Mr. Fell and Mr. O'Connor, who took up the general case for motor omnibuses.

This result shows very clearly the advantage of unity and co-operation, such as that embodied in the principles of "The Autocar League."

The strength of the case which was ultimately successful lay in a point which had never been touched upon by the deputation organised by the recognised official bodies, and the full force of which was only capable of realisation through general circularising and correspondence.

Further, the active support ultimately afforded by the Scottish Automobile Club and by prominent members of the R.A.C. and S.M.M.T. shows that such unofficial action is not detrimental to the status of the official bodies, the "Motor Traction Defence Alliance" being supplementary, and not antagonistic to them in the matter.

Short Measure of Petrol.

Since our note on this subject a fortnight ago we have received letters from members of the League which tell us that they have found a number of tins a pint or more short. As we said at the time we do not want to exaggerate the importance of his matter, but there is no doubt through one cause or another there are a number of short measure tins being offered for sale at the present time. It is unquestionably due in a good many instances to the fact that some very old tins are still in use. The tins are very much knocked about by the average user of petrol. Not only is one tin almost invariably used to open another, but the tins are tossed about, used as footstools, and generally treated as though they were made of half inch boiler plate. The petrol distributors are constantly repairing them, but the fact remains that many of them leak slightly. At the same time much of the shortage is not due to tin leakage; it must be either careless

filling or stopper leakage. We shall be glad if our readers will report all cases of shortage, so that we can find out at which centre or centres of distribution the carelessness is occurring. We may say that already some of our readers have obtained credit notes from the petrol suppliers, in one case for as much as twenty gallons. They have found their tins were short and have reported it to the local agent. He in his turn has brought the matter before the representative of the distillers, and then a credit note has been given. If complaints do not cease very soon it will be necessary for the matter to be reported to the county inspector of weights and measures with a view to proceedings being taken. This course has already been suggested by one member of the League, but we are loth to act precipitately unless complaints become general, for, as we said at the outset, we do not think that the shortage is due to any desire to cheat, but merely to carelessness.

Some Extracts from "The Autocar League" Correspondence.

INCONSIDERATE DRIVING.

The man (?) who drives a high power car and forces his smaller brothers off the road is a bigger sinner than all the horse traffic, cyclists, and children put together. Driving through London is a pleasure compared to meeting on a country road a big car going at 40 m.p.h. and keeping to the middle of the road until the last yard or so. The whole pleasure of motoring is spoilt by such driving; the speed does not matter much so long as the driver pulls on to his own side of the road. Such cases want reporting every time.—S. I.

[We should be glad if members of the League would report such cases to us, giving the number of the car, place, and date. We want definite information on a number of cases upon which we can take legal advice with a view to instituting such action as may bring careless drivers to a sense of their responsibility. It would be of great value to us if members in reporting cases would intimate if they are willing to support their evidence personally in the case of any legal action being taken.—Ed.]

In *The Autocar* for September 25th the suggestion is made by Mr. E. C. Perry that motorists should report "road hogs." The words "to the proper quarter" follow. Now what quarter would be more proper than "The Autocar League"? I wish to propose that the League should start a "Black Book," only members of the League to have the right of reporting "hogs" (this to prevent unfair complaints by prejudiced persons); each complaint to be entered against the offender's number. When a maximum number of complaints (and sufficiently serious in the eyes of the editor of *The Autocar*) has been credited to the offender, notice or warning should be sent to him, and if the com-

plaints continue, information of his conduct should be forwarded to the police. I believe that by this means real hogging could be coped with, while slight "mistakes" in driving which might be reported by the anti-motorists would carry little weight in the "Black Book."

I believe it has been suggested that there should be an optional subscription yearly to the League. I, for one, should be very willing to subscribe.—SW 95.

I would suggest that all owners should report favourably on those cars that slow down (say to 15 m.p.h.) when passing, and unfavourably on those that pass at a high speed, leaving one in a dense cloud of dust. This could easily be done by sending you a postcard with their registered number, date, hour, and place, and if you published merely the registered numbers in a column under the different headings, it should help to put down the inconsiderate drivers and scorchers, also be a reference for those who do well in the event of their being unjustifiably trapped.—D. R. G.

THE BUSINESS MAN'S WANTS.

I have been a motorist for four years, but I have never joined any union or association till now. I motor almost wholly for business, and in a quiet way without any ostentation. My little car carries me many miles in the season, and I keep a faithful record of all its doings and cost. It has often struck me that I have been selfish and ought to have joined one of the several bodies who look after our interests. Motor sports, racing, gymkhanas, and the like have, however never appealed to me; neither have I had the time to attend to such. Then the jealousies and keen competition amongst the motor bodies annoyed me, and the Budget has proved to us what such brings about. I would

Those of our readers who approve of the object of the League are asked to sign and send in the following form

THE AUTOCAR LEAGUE.

I am the owner of a h.p. and will undertake to vote by postcard or letter on any important matter concerning the welfare of automobilism.

Name.....

Address.....

To the Editor, "The Autocar," 20, Tudor St., London, E.C.

have borne with grace a penny on petrol, but this 3d. along with the increased heavy duties on cars has raised my strong objection. I am a regular reader of the motor press, and much interested therein, but I do not keep to one publication, hence I did not come across your first appeal. When I read of the League it at once struck me as the association I could join, since it gave me just what I wanted—namely, an opportunity of making my voice known, without being required to join in other matters. I have no objection to a small subscription if such should be ultimately desired, but the way you deal with this and the other points in your prospectus I consider admirable.—J.A.L.B.

AMALGAMATION ADVOCATED.

May I suggest as an early and important question for the membership of "The Autocar League," which probably includes a large proportion of members of motoring associations, whether, in view of the advantages that would certainly accrue from unity in motordom, it would not be advisable for the amalgamation of all, or at least two of the existing motoring associations?—H. M. T. TUDOR, Rear Admiral.

SCOTTISH MOTORISTS AND THE LEAGUE.

I follow with much interest the many subjects discussed by your correspondents week by week. I wonder if you are having a liberal response from Scotland. Motorists north of the Tweed need their interests and liberties looked after very zealously. In many districts of Scotland the action of the police and sheriff courts almost amounts to tyranny and persecution, and the innocent many are penalised for the guilty few. I hope Scottish motorists will combine with those in England and endeavour to get and deserve that toleration and fair treatment in sport which is the Britisher's boast in all things good and honest. I cannot see how you can do very much without a subscription list, however, and when you find that necessary I shall be glad to give towards the funds of the League.—D.

[Scottish motorists are giving valuable support to the League. —Ed.]

SHORT MEASURE OF PETROL.

I have been making some enquiries *re* short measure of petrol. I quite agree with your remarks that it is not the intention of the suppliers or retailers to defraud the public by giving short measure, and either leaky cans or carelessness in filling is probably the cause. The petrol tax of 3d. per gallon is bad enough but the price was raised 4d. per gallon, and the 1d. margin should well allow of at least full measure being received by the purchaser. I think it has been a sore point with many motorists the extra penny being charged. On the announcement of the 3d. Budget tax there must have been a large quantity of petrol in the hands of retailers and in store, and on which 4d. extra per gallon was charged without any duty at all having been paid on it. In the letter I received from my garage man he mentions that "it seems impossible that a leaky, short measure, or dirty can could leave the premises." If this be so this brings it then to the cans being damaged after leaving the works and before delivery to the customer, but one would think that if a can is damaged at all a great deal more than

a pint would be found to be short, seeing that a can is not opened or sold directly on arrival from the suppliers. As you are taking the matter in hand I shall not go further with it, and am pleased to find you have invited the League to take the trouble (in their own interest) to carefully check some tins of spirit and report to you.—G.H.P.

A correspondent, whose letter arrived too late for insertion, states that he made tests of fifty cans, and only found three of them contained full measure.

TOO PRONE TO LET THINGS SLIDE.

I have filled out "The Autocar League" form, and find that without exception all my friends have done so. I hope your League will be properly backed up, but I am afraid the Englishman of to-day is too prone to let things slide. Having been abroad and in the Colonies many years it annoys me to find how far the Old Country is behind-hand in business trade, etc.—R. W. W.

SLEEPY CARTERS.

I do not believe that a lot of different organisations which are generally at loggerheads do much good for motorists, but I do think that "The Autocar League" (which every motorist, however poor, can join), so long as it does not interfere with existing associations, will prove extremely useful to both motorists and non-motorists. I should very much like to see a crusade started against carters driving at night with tail lights not visible. They are undoubtedly a great source of danger. A motorist is fined, and heavily too, if his tail light goes out, although he is driving the fastest vehicle on the road, but what happens to a carter who very often, even if he have a tail light, has it so placed as to be invisible right behind?—G. M. H.

A SCOTTISH CASE.

Perhaps you are aware that trapping has been most persistently carried on this year in Banffshire. *Appropos* of this I may mention that in a report on the police force at Banffshire issued a month or two back the reporting official made the statement that the Banffshire force was under strength. It seems, therefore, that there is some serious neglect of duty in thus using the police which according to the finding of the report ought to be used for their more useful and proper duties. I might mention that last week whilst cycling in the vicinity of Keith I had a narrow escape from serious accident. I encountered a drunken farmer in the most helpless stage of intoxication driving his pony and trap in a dangerously erratic fashion along the high road, I having to ride right on to the grass, and owing to his drunken driving the trap just shaved past me. This is the sort of thing the police should spend their energies in preventing, instead of hiding behind hedges in the safest parts of the roads. As regards the condition of our roads round Banff some concerted action will have to be taken if motoring is to be pursued with any enjoyment. I can safely say the main road from Aberchirder to Banff is the worst road I have ever ridden over in the United Kingdom.—H.G.W.

The Secretary would be obliged if Mr. George Hamilton Archibald, whose membership form was received on the 1st September, would kindly send in his complete address.



THREE EDITIONS.

The Threepenny Edition.

Printed on Art Paper.

The Penny Edition.

Printed on thinner paper.

The Foreign Edition.

Printed on thin paper for circulation abroad (price 3d.)

Both the threepenny and penny editions can be obtained from all Booksellers and Newsagents. There is no difference in these editions except in the quality of the paper on which they are printed.

EVERY FRIDAY.

The Colonial and Foreign Edition.

The Foreign Edition of "The Autocar" is supplied to the trade at a rate which should enable it to be retailed at 3d. per copy in any part of the world. Readers who experience difficulty in obtaining copies at the published price should communicate with the publishers, Iliffe & Sons Ltd., 20, Tudor St., London, E.C.

Body Design and Construction.

A Car for South African Touring.

THE three appended illustrations show a touring car built for Lady Watts, wife of Sir Philip Watts, Chief Constructor of the Navy. Lady Watts intends to make an extended tour in South Africa, and as she will drive out of the beaten tracks, sometimes away from civilisation, special requirements as to body fittings are needed. An ordinary 18-22 h.p. Armstrong-Whitworth chassis is used, as it has been found by the number of cars that have been sent to Australia and Brazil, where similar roads and difficulties are found, that the general design of the chassis is suitable for South Africa. The first photograph shows the left side view of the car, and it will

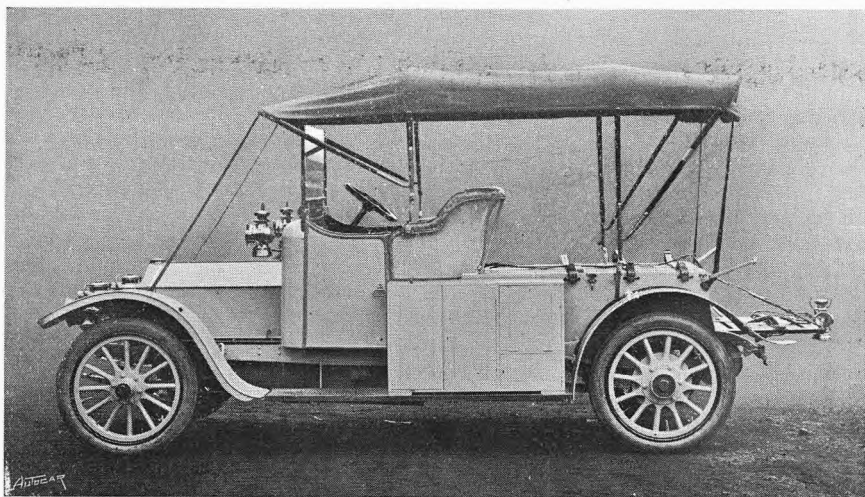


Fig. 1.—Lady Watts's 18-22 h.p. Armstrong-Whitworth as a two-seater.

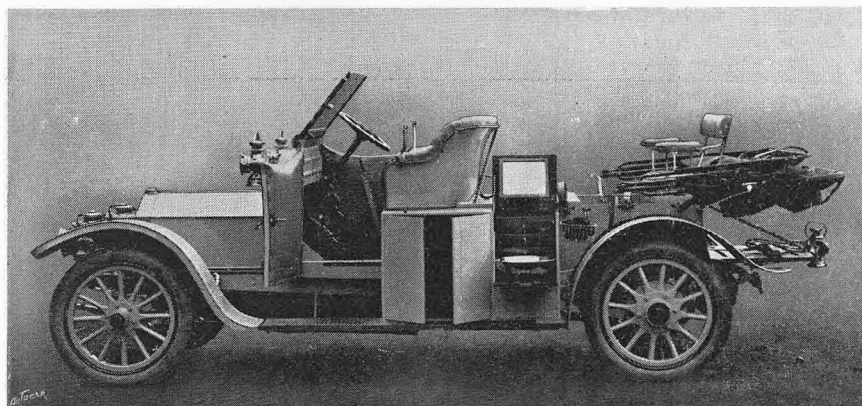
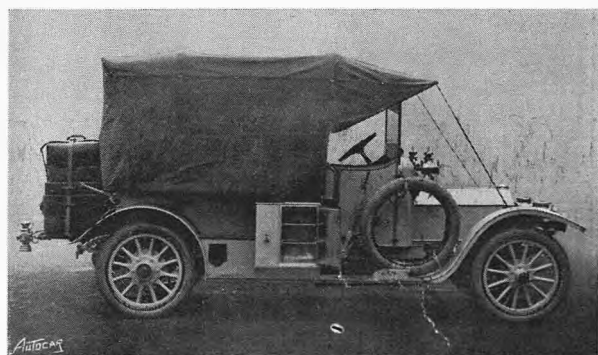


Fig. 2.—In touring trim, showing some of the special fittings.

be noticed that a dashboard after the Daimler pattern has been fitted, with high side doors to the front bucket seats. An extended hood is fitted from the front to the back, and it will be noticed that the supports for the hood are somewhat different from the ordinary type. This photograph shows the car ready for two passengers and luggage, which, if the folding seats (which will be described later) be not used, can be piled up to the top of the hood. The luggage carrier at the back can also carry a large number of boxes, etc., but, of course, the grid can be folded up if not required. Tents, beds, and camp equipment will be carried. Reference to the second photograph will reveal the use of the cupboard on the footsteps. The front cupboard can be used for clothing or small articles of any kind, whilst the back cupboard opens out, the lid forming a mirror, and the door disclosing a wash basin and a nest of drawers for toilet requisites. The hand basin is fixed in sliding grooves, and can be removed at any time and filled at the water tank, which is in the same position as a pressure fed petrol tank. The latter is conveniently placed at the rear, as the 18-22 h.p. petrol tank feeds the carburetter by gravity, and is placed under the seat. This photograph also

shows the folding-up seat in position for passengers. It is arranged to take two persons, and unlike most of these seats is really comfortable. The hood in this photograph is folded back, and neatly stowed. The third photograph shows the chassis with the hood and side curtains fixed as a protection against the tropical rains. Also on this side a refrigerator is placed on the step, which is shown open on the photograph. A Stepney spare wheel with cover and spare cover as well are carried, and it will be seen that no space is wasted. A glass screen completes the car, and

it only needs to be added that both body and chassis were built by Sir W. G. Armstrong, Whitworth, and Co., Ltd., at their Scotswood Motor Department, Elswick Works.



The car in storm rig, with side curtains down completely enclosing the body with the exception of the side entrance. The special kit bags are in position on the rear grid.

Nottingham A.C. Cripples' Outing.

Interesting Visit of Three Hundred Children to Welbeck Abbey.

FOR the past three years the members of the Nottinghamshire A.C. have given the crippled children of Nottingham a day's outing on their cars, but this year it was thought that the outing would fall through for want of support. The Duke of Portland, however, kindly offered to entertain the cripples at Welbeck Abbey, and enthusiasm in the movement revived to such an extent that on the morning of September 23rd sixty-six cars turned up out of seventy-five promised—a most gratifying response, considering the climatic conditions prevailing.

The morning opened with pouring rain, accompanied by frequent claps of thunder and flashes of lightning, but despite this the sixty-six cars and about three hundred children and helpers had assembled by 11.15 a.m., when the start was made.

The Market Place in Nottingham was cleared for the assembling of the cars, and they made a goodly array. After undergoing the ordeal of being photographed the procession left Nottingham, *via* South Parade, Exchange, King Street, Sherwood Street, Burton Street, Mansfield Road, Mansfield Woodhouse, Birklands, past the Russian Log Hut, and *via* Norton Lodge to Welbeck Abbey. The weather cleared a bit on entering the grounds of Welbeck Abbey, and the rain ceased, though the sun refused to shine.

Considerable interest was aroused among the children (and also the motorists) by the sight of thousands of quite tame pheasants; so tame, in fact, that they had to be "shooed" out of the way of the cars. Driving past the Abbey the children were taken straight to the famous riding school, into which all the cars were driven before unloading their freight of crippled humanity, and parked at one end of the building. "Disencaring," the children went or were carried to the opposite end of the building, where a sumptuous spread was laid for them. The catering for over 300 mouths was no small thing, but it was surprising how quickly and quietly everything was done.

When all the children were satisfied a move was made to the cars, which, after taking up their passengers, left the building, and, by special permission of the Duke, they were driven through the gardens and shrubberies. After the tour of the gardens the children were taken to the Abbey, and, leaving the cars, were shown round the underground rooms, including the famous ball room. Here the polished floor seemed a source of great joy and wonder to the children. Some tried sliding on it, others pushed their more crippled brothers and sisters about on little settees, while the pathetic side was shown in the case of a poor little fellow, of about five years, on crutches, who could not



1. Cars in front of Welbeck Abbey. 2. On the way to the underground rooms. 3. The entrance to the underground rooms, the Chapel and the Library on the right. 4. Cars in the Market Place, Nottingham. 5. Cars in the gardens. 6. Outside the Riding School. 7. The children having tea in the Riding School.

keep them from slipping, and was continually falling down. But he accepted all his falls philosophically, and each time he was picked up plodded on.

After the visit to the Abbey the children returned to the riding school, where tea was served, after which the children entered the cars and returned to Nottingham *via* the Lake, Calverton, Budby, Edwinstowe, Rufford, and Oxton.

It was fortunate that the rain ceased by the time the grounds were reached, and though the weather was dull and misty generally, the children were practically all in covered cars and thoroughly enjoyed their visit.

On the Track. By H. C. Lafone.

THE Baker-White-Whittacker combine did a little more record-breaking at Brooklands last week on the 26 h.p. Hutton. This machine already held the 26 h.p. class record for the flying half-mile, its speed being 84.582 miles an hour, and the owner wished also to annex the ten laps record. That he did not succeed in doing so was a piece of sheer bad luck, and the day of triumph will not long be deferred. The Hutton had been entered for the ten laps record a few days previous to the occasion of which I am writing, but it was then found that the water joints at the top of the valve stem guides were not staunch. Mr. Cundy had been summoned, and had put in some hard labour on the defective parts, and when I arrived to see the final record attack all seemed in perfect order. Mr. Whittacker took the car round for a practice spin, and the lap time recorded proved that, if all went as it was then going, the breaking of the record was assured. However, the old proverb about slips, and cups, and lips had to be reckoned with. When the Hutton returned to the paddock it was found that the old water leakage trouble had recurred in the case of one valve guide, and through this defective joint the water poured so fast that any attempt at long-distance driving was obviously out of the question. Everyone concerned took the disappointment very well, and Major Lloyd was just on the point of putting the electric clock to bed when somebody had a brilliant inspiration. Why not have a go at the existing half-mile record? The leak was not so bad that the car could not be trusted to do two laps all out. So water went in and the Hutton went out, and ran as no one has ever seen a 26 h.p. car run before. Almost immediately after the measured distance had been covered, a megaphone came poking out of a window in the judges' box, and a voice informed all and sundry that the record of 84.582 miles an hour had been handsomely defeated. The official figures eventually turned out to be 87.989 miles an hour. The car ran on heavy Palmer Cord tyres. The Hutton will try to lower the ten laps record in a few days, when the water leak has been stopped. The existing record speed is about seventy-six miles an hour, and this should be very much improved upon, as Mr. Whittacker was clocked at over eighty-three to the lap before the leak developed badly.

I am glad to say that Major Lloyd has already taken in hand the initial preparation of Brooklands as a flying ground. By the time these notes appear in print there will be about thirty acres in the middle of the course ploughed in and rolled smooth. The idea is that this space will afford a starting and alighting ground for any expert aeroplanist who cares to come and demonstrate his prowess. It is quite on the cards

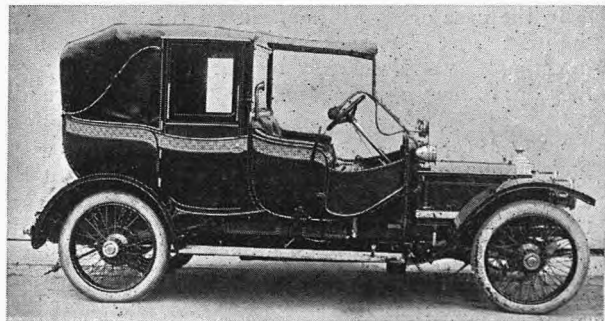
Some of the poor little sufferers were too much crippled to show great enjoyment, but among the crowd every expression was depicted on their faces, from excited breathless interest to self-satisfied conceit of the little mites lording it in a handsome limousine.

The good that a run like this can do, both for the cripples and for motoring (in the eyes of the public), is inestimable. The children get something to talk of and brighten their little lives for months, while the fact that "our Willie had a ride in one of them there motors" goes a long way to wipe out the prejudice against cars in the minds of the masses.

that we shall be invited to witness an aviation display at Brooklands in the very near future, but the officials, wisely enough, do not wish to make premature promises which it might not be possible to carry into immediate effect.

The work of levelling and preparing the thirty acres is already in hand, at the time of writing, but a much larger project is also contemplated. This is the construction of a fairly wide track down the centre of the land enclosed by the course. This track will be straight, and beginners will be able upon it to learn the rudiments of aerial navigation up to a point at which the desire to make turns manifests itself. Even turns will be quite possible over the central thirty acres space, so it quite looks as though we shall soon be able to see flying machines in use without being compelled to make long railway journeys to desert places on the coast. One good feature of the central flying area at Brooklands is that it is far away from any of the banks, and should not be subject to the wind eddies to which I referred a fortnight back.

Next Wednesday's race meeting gives promise of affording fine sport. There are eight entries for the sprint race, as against four last time, and the "four-inch" handicap has also filled well. The team race should prove a very fine spectacle, as some good cars and drivers are engaged. The combination of the 26 h.p. record-breaking Hutton (Whittacker up) and Mr. Stocks's erstwhile record-holding 26 h.p. De Dion should be, to put it vulgarly, pretty hot stuff in this event. It is interesting to record the fact that the entries for next Wednesday's meeting have come in so well that Major Lloyd has had to cut out one race altogether, in order to ensure the events being concluded at a reasonable hour.



A cabriolet body by Messrs. Maythorn and Son on a 22 h.p. Daimler chassis for Mr. J. H. Higginson, of Hayes, Middlesex. An adjustable leather extension is fitted, reaching from the front of the head to the wind screen.

Motor Body Building.

An Article Showing the Difference between a Good and Bad Body.

Price Differences.

WHY should the price of a motor body of the same design, size, and apparent quality by different makers vary from twenty-five per cent. to fifty per cent. or more?

This question has often been asked us by intending purchasers, who add that when desiring the body of their car to be built by a firm other than the makers of the chassis the allowance made by the chassis makers and the price demanded by the body builder show a difference of from twenty-five to fifty per cent. This difference cannot be accounted for, and is altogether out of proportion to the cost entailed by transit of the body for fitting it to the chassis. It would not be sound business policy for the chassis firm to guarantee to replace the body in case it should be smashed or burnt by accident with a new one at the price they quoted. We must therefore seek some other explanation.

At the outset it must be noted that in constructing a complete motor car two sets of men with entirely different thought and training are engaged. If working side by side under proper guidance and in harmony the most perfect specimen of the art of each should be produced. The engineer will exert his full energies upon his portion of the production, and will give but little, if any, thought to that branch of the work for which he has had no training, and which he inwardly regards as a necessary evil. Lacking expert knowledge in regard to bodies, he will entrust this part of the finished production to another firm at an agreed price, overlooking perhaps many of the refinements and qualities which his customer has been accustomed to find in his horse-drawn vehicle.

On the other hand, the first-class body builder, whose long experience has taught him what pitfalls to avoid in producing a structurally strong, light, and luxurious body, naturally considers his contribution to the finished article quite as important as that of his engineering friend, for without the best abilities of both the customer would not be pleased.

The foregoing difficulties have been overcome in recent years by many of the farseeing and wealthy motor companies placing their engineering and body-making staff under the separate control of the best skilled experts, who, each working in harmony with the other's department, still concentrate their energies on their own particular part of the finished car.

In the case of such firms, with a full knowledge of the prime cost of chassis and body, such discrepancies in estimates would scarcely be expected to occur; but they do, to the wonderment of the motor buying public.

Material.

The following considerations will serve to show where differences in quality and price may creep in. Material and labour form the two main factors in the construction of every article of trade, and a motor body is no exception to the rule. The principal timber employed in the framing of motor bodies is English ash, which from its toughness and elasticity is without exception the best wood for the purpose. The demand for this timber is considerable, so that it is difficult to obtain, and therefore expensive. The tree after being felled and kept for a time is cut into planks and sold to the body builder; but as it is not dry enough for his purpose he stores it for one, two, three, or four

years as required until it has become, as he calls it, "bone dry" and ready for use. This, of course, increases its value by adding interest on capital, storage, insurance, etc. Other valuable timbers, such as mahogany and walnut for panels, have to be stored, and become a serious item, involving the employment of further capital. The firm that is driven to employ cheap and unsuitable material must cut prices.

Another item figuring largely is iron. The best marked brands of forging iron alone are used by the good houses, who decline unmarked and inferior kinds as not sufficiently reliable to resist the severe strains to which the body is liable.

In order to use these valuable materials properly and obtain the greatest strength with the least weight the most highly skilled mechanics are required, and as such men are well known they are difficult to obtain unless assured of something like constant employment and wages proportionate to their ability.

Locks, hinges, handles, beading, and the various accessories vary in price, according to quality, the difference being scarcely perceptible until after they have been some time in use.

Painting and Upholstery.

Painting, which comes next in order, can, with the advance in chemical knowledge, show as great a difference in cost. Colours such as vermilion have substitutes at one-third the price, which fade sooner. As the panels are very absorbent, it is necessary to apply some half-dozen coats of paint, called filling, to close the grain, especially on white wood—a kind of American poplar which is more porous than mahogany, and employed in cheap bodies. The painting on the cheap bodies is completed by a quick drying method, which gives at first most brilliant results; but these are not so lasting as the slower method properly employed.

The upholstery or trimming comes under the same rule. Enamel, hides and cloth for the backs and cushions, lace for finishing, carpet, silk for curtains, and hair for stuffing cushions all can bear their proportion of the twenty-five per cent. to fifty per cent. difference in price.

With regard to labour, the special skill required by the expert body maker and smith also applies to the painter and trimmer.

A passing consideration of the points mentioned is sufficient to show where the difference in price is obtained. The motorist who pays the low price gets value for his money, but nothing more, and is certain to be disappointed if he expected more, whereas it is evident that by the employment of the best selected materials and skilled workmanship a more durable and satisfactory article will be obtained. Inferior work and materials are only to be detected after use. Under skilful management they may often look smarter for a time than articles in which good materials and workmanship are used; but it is after use that noisy doors and window frames, joints of framework bulging out, split panels, general dowdiness of painting and upholstery, and an air of having seen better days begin to appear.

A Good Body in the Making.

We have now to point out how it is possible to make the difference in value of two apparently iden-

tical bodies, but it is not sufficient proof without going further into the details of construction. Let us take as an example of good coachbuilding the old stage coach and travelling carriage of our forefathers. This was subjected to the roughest usage on the rough country roads of the early part of the last century, yet many of these old bodies may be found, with all their joints perfect, doing duty as tool houses, etc., in suburban gardens at the present day. It is with the construction of this class of work we will first deal, leaving until a later stage the class we do not recommend.

To commence with, the man whom it is possible to entrust with such a piece of work has served a

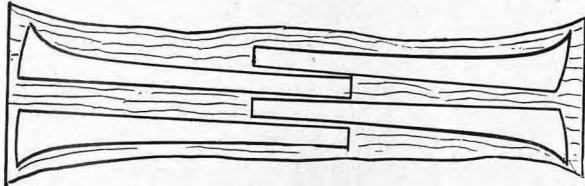


Fig. 1. — Showing how the pieces employed are cut from the plank

seven years' apprenticeship with a first-class firm, where he has ample opportunity of working upon the parts of such bodies until his employer considers he possesses sufficient experience to mark out, frame, panel, and finish one. The apprentice has to provide himself with a chest of tools worth from £20 to £40, for which during the seven years of his service he receives but paltry payment. It is, therefore, not to be wondered at that at the end of all this time and expense he expects to be well paid, and the builder, who is also a practical man, having gone through an apprenticeship himself, does not only well pay but values him as a necessary part of his business. The budding coachbuilder must learn drawing, for without it the framing up and hanging doors, quarters, etc., in order that the grooves for receiving the panels may be accurately gauged, would be impossible, short of a terrible waste of valuable material. The material, as we have previously stated, is principally English hedge-row ash for the framing, and Honduras mahogany for the panels. The former, after being cut into the required thickness, is placed on end against covered racks, in order that the air can circulate freely on each side of the plank, and, although a costly method, is undoubtedly the best. Other artificial and quicker systems have been tried, but they rob the timber of its tough qualities, leaving the fibres hard and brittle. When the timber is ready for use, the bodymaker selects

those planks most suitable for his use, and, with the aid of wooden templates or patterns, marks off on the planks the form of each piece, allowing the grain of the wood to follow the curves of the templates as nearly as possible, as shown in fig. 1.

Where machinery is employed, the bodymaker is saved a lot of heavy work that neither requires much brain nor muscle. The band saw will cut out without waste the pieces shown in fig. 1; the hand planer will level the one side and the thicknessing machine will reduce it to the exact dimensions required, leaving both sides perfectly true and parallel; and the shaping machine will true up the edges to the templates.

The bodymaker has now all the parts shaped and planed true in well-seasoned timber, almost as hard as ivory and dry as a bone, on which to employ his skill in cutting out and fitting the mortices and tenons, lap joints, grooves in mouldings for panels, as shown in

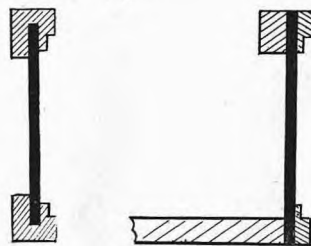


Fig. 4. — Good, frame boxed screw ed to frame. Fig. 5. — Bad, panels sun and rain will not permit wet to work out for panel. Mould dings nailed over.

the examples figs. 2 and 4; boxing or grooving out the pillars for the glass frames and shuts of doors with such care as to prevent rattling when travelling on the road; grooving, fitting, and fixing the roof boards so that the action of the

panels that they will neither rattle nor allow wet to work in at the mouldings; canvassing, battering and blocking the panels and roof boards to prevent warping, and at the same time to preserve the beautiful curved shape. As a further precaution to ensure perfect work, all the joints are made with white lead and oil, as glue is unsuitable in our damp climate for a body exposed to all weathers. The roof and upper panels are then covered with a hide of leather, put on wet, stretched, and firmly secured, so that when dry it is as tight as a drum-head, and perfectly impervious to hail, rain, and sun. In all this it is perfectly clear that everything has been done with the aid of the best material and workmanship to produce an article as light and strong as possible.

While the bodymaker has been engaged on his part of the work, the smith has been equally well occupied. He, like the woodman, has gone through an apprenticeship, but is more difficult to obtain, as fewer boys, unless they have a natural taste for such hard work, care to join the ranks. The smith's duty is to strengthen each part subject to strain with wrought-iron plates, fitted closely to the woodwork—not burnt on, as you may see a farrier fitting a horseshoe, which would only char the wood and render it useless, but an absolutely dead fit that, when secured with the proper bolts and screws and a bedding of white lead and oil, form part and parcel of the whole, enabling the car to withstand any strain.

Cheap Body Construction.

To explain the method, or want of it, in producing the cheaper car is more difficult. The great aim seems to be to buy in the cheapest and sell in the dearest market. We do not wish to impute unfair methods to

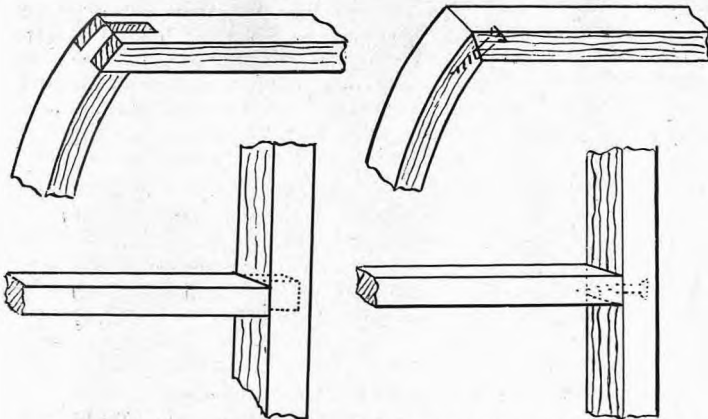


Fig. 2. — Good, mortised joint.

Fig. 3. — Bad, stump joints screwed up.

anyone, and prefer to think that it is from want of knowledge how to produce a well-built body that the builder falls into the error of producing what he believes to be perfect, but which in a few months is full of defects. The maker is surprised, and puts it down to bad treatment either by the owner or his servants. This not being proved, search for the origin of the faults is made in all directions. Cures are suggested which often make matters worse. Doors stick—a man comes along with a chisel, and makes the pillars weaker by cutting the wood away. Handles rattle—a piece of tin is driven in between the spindle and the lock hole, and, if a spring lock, often prevents it acting. Doors rattle—pieces of rubber are nailed on the shuts, which interfere with the lock and soon perish. Glass frames shake, and rubber is again the cure, preventing the easy movement of the frame; and numerous other faults which were unseen by the unskilled constructors, and are caused to a large extent by matters which we will proceed to explain.

The expensive timbers and methods of preparation do not now enter largely into the calculations of the builder. It would not suit his purpose to sink capital in providing such stock, so he is content to buy from any timber dealer that which is suitable and dry enough for his immediate demands. American ash, a straight-grained, brittle, non-elastic, forest-grown timber; and white wood, the clean, smooth-grained wood of the American tulip flowering poplar, are what he seeks. Both are fine woods for cabinet purposes, but the latter, on account of its porous nature and liability to rapid decay, is, like the former, cheap and unsuitable for the exposure and strains to which the motor car body is liable. The wood being so soft, screws will not take firm hold, and quite recently we saw a body the top part of which had been knocked clean away from the bottom in an accident, as the screws and bolts refused to hold.

The artisans are drawn from all ranks and grades—from the carpenter, whose only experience of doors and glass frames is of the jerry-built house order, to the wheelwright, whose greatest ambition in life has been to construct a handcart. Do not blame these men; they are doing their best. With such material, however, the foreman, who is usually a skilled man, has a hard struggle to turn out the smart saleable body demanded from him.

Constructional Differences.

After the timber has been cut out as previously explained, no attempt is made to frame it, as framing is understood by the skilled workman. The ends of each piece are cut off true and glued and screwed together. (See fig. 3.) The sides and seat boards, which in such bodies form the superstructure, are cut out of solid whitewood boards, and battens—not framed in or protected by white lead or even glue—are screwed on to prevent warping, entirely forgetting that these battens would give valuable help in resisting strains if properly fixed to the framework as well as the sides. The shuts of the doors, on the plan of those known to the carpenter, are run straight through, no raised bearing pieces at top and bottom being left to prevent noise and give draw to the bolt of the lock, without which no door could be noiseless. Hinges, locks, etc., are fitted with the same want of experience, the result of which will be shown later on.

Instead of boxing out the framework to receive the panels in the grooves previously shown in fig. 4, the panels, without canvas, are nailed to the frame (fig.

2); no attempt has been made to keep them against the battens intended for their support; blocks are not glued to hold batten and panel together, or blocks to hold in form or prevent vibration of the exposed inside portion of the panel or roof boards. The mouldings, such as used for cheap picture frames, without white lead or glue backing, are nailed on; the joints are then cleaned off, the whole sandpapered, and after all you do get a clean-made, smart-looking body. But what a body! Beautiful to the eye of the amateur constructor but a curse to the owner.

The smith considers that if he forges a good strong plate or bracket to the instructions given him he has fulfilled all that is required, and is much surprised if a complaint should be made. It has not been part of his experience that a vehicle travelling rapidly over an ordinary road will cause the strong heavy work he has badly fitted or placed in an unsuitable position to fail; the bolts, which are too small and do not fill the holes drilled for them, to be valueless.

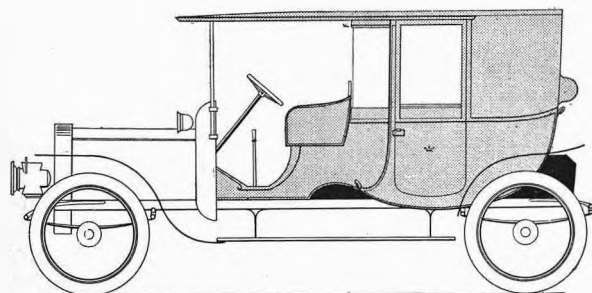
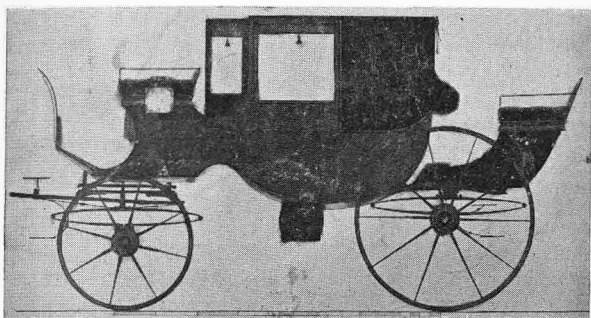
We have in the foregoing tried to show how to build and how not to build a body, but unless working drawings and prime cost are added it would be impossible to prove our case. We can, however, point out evils resulting from faulty construction. The car being frequently covered in mud, the moisture works in behind the mouldings and joints, causing the glue to dissolve and the wood to swell, bulging out the joints, causing the pillars to swell, preventing doors from opening, and glass frames from working smoothly. There is no real cure for these evils; the joints must be planed true again, and woodwork where it binds cut away, thus removing strength from the framework, which soon shows signs of collapse.

The occupant of a closed vehicle is practically sitting inside a drum, and if the precautions previously named are not carefully watched, he will find that the faster his car travels, the vibration set up will beat a devil's tattoo in the panels, to the accompaniment of rattle of doors and glass frames, and the squeaking and groaning of all the infernal instruments ever invented to drive a man or woman mad.

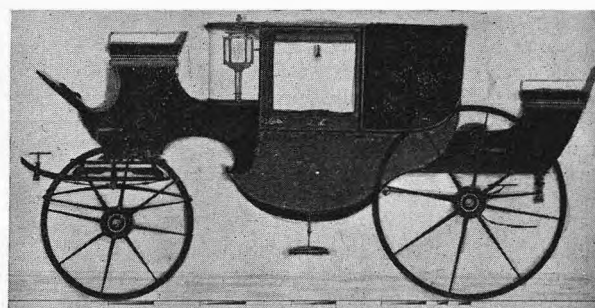
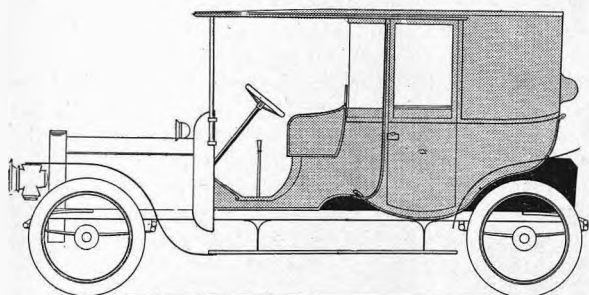
We think enough has been pointed out to our readers to show that, before the body has received a coat of paint, there is a difference in cost of the two articles. The processes of painting and upholstery will show with less difficulty of explanation greater difference in cost.

Painting.

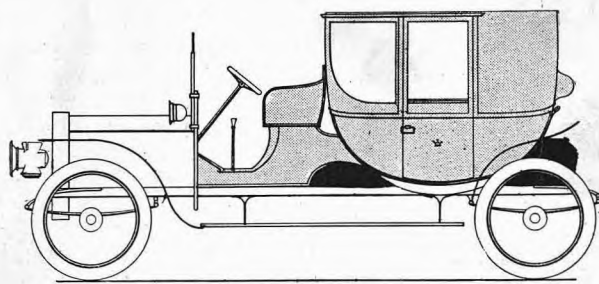
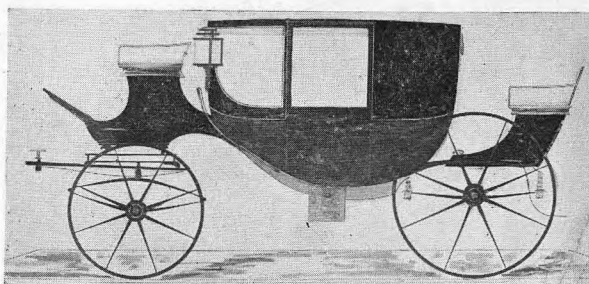
The painting of a car body is not solely for decorative purposes, but to preserve it from the effects of the weather. It is important that the care and expense entailed in the construction of the body should not be thrown away by the employment of inferior or insufficient painting material, and when it is considered that timber is more or less porous, and will suck in the liquid (oil) portions of the paint until the pores are filled, it will at once be seen that a large number of coats of colour and varnish will be necessary to produce the mirror-like finished surface. The usual method of obtaining this is to first give the whole of the inside of the body one or two coats of good oil colour to preserve it from the moisture that is attracted by the upholstery of the interior. Then the whole of the outside panels receive three coats of lead colour mixed with raw linseed oil, and the pinholes and any other small places are stopped up with white lead and gold size. Then six coats of "filling"—a thick heavy paint intended to form the finishing surface—which, when thoroughly dry, is



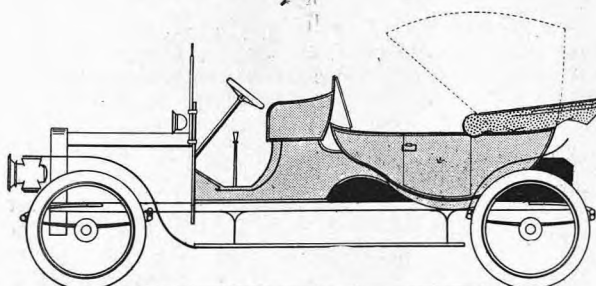
The old pair-horse Chariot and its modern rendering for a chassis.



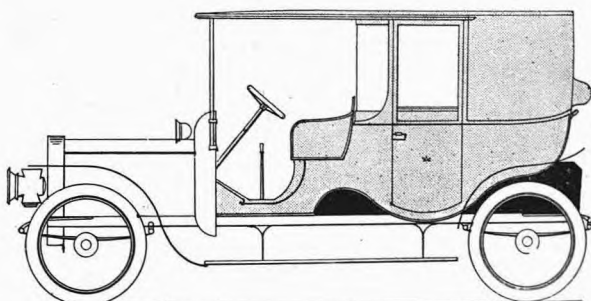
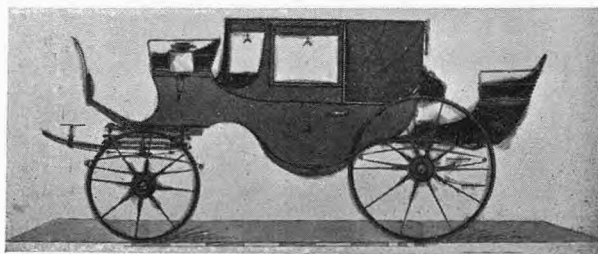
The Clarence, another development of the Chariot, but with different lines and a round glass front.



The side light coach from which a somewhat uncommon but useful body might be evolved.



A modern development of the old barouche body.



The old and at one time famous Berline, which is not readily adaptable to a chassis of moderate wheelbase.

reduced to a perfectly level surface with pumice stone and water, and we have then a good surface ready for laying the finishing colour upon. As the filling may, however, be slightly porous, another coat of dark lead colour mixed with oil is applied, and when dry faced down with pumice stone and water. The panels will then receive, according to the nature of the work, four or five coats of preparation, finishing, and varnish colour, the black panels japanned, followed by three or four coats of varnish, each of these coats, except the last, being carefully flatted with finely ground pumice dust and water. This last, or finishing, coat is specially made of durable and brilliant quality to stand the rough usage of the road.

All the operations must be carried out in carefully warmed shops (there is no chance of stoving this class of work) or there will be trouble, as only an experienced coach painter can tell the tricks the atmosphere will play with the varnish, sometimes necessitating most of the work being done over again, but with proper men, material, and conditions this does not often happen, and in the end you have a perfect and durable piece of work.

On the other hand a piece of work can be made to look quite as well by the application of one-third less the number of coats of colour and varnish, the former being so mixed that it will resist absorption for a time and enable the varnish to hold brilliantly for a time, but will soon become dull and lustreless. The varnish being made to dry quickly has not the requisite body to stand the weather such as the greater number of more durable and expensive varnish will do. Having received a fewer number of coats, naturally fewer number of hours of labour will be required.

Upholstery, etc.

The difference in the cost of upholstery is to some extent found in the workmanship, although the principal cost is in material. In the former the purchaser is more able to criticise details, but in the latter only an expert could tell the difference in quality between a West of England or Yorkshire cloth at, say, 10s. 6d. and a smart shoddy one at half the price; between horse-hair for stuffing cushion backs, etc., at 2s. and 2s. 6d. per lb. and old stuff redressed at 9d. Carpet, leather, lace, plated fittings, lamps, all in varying proportion, will tell their own tale as soon as the other parts already mentioned.

In submitting a number of photographic reproduc-

Overhauling a Car.

We very much question whether there are one per cent. of motorists who fully realise what work is entailed in the complete overhauling of a car. When such work is properly carried out every working part is taken to pieces, thoroughly cleaned, examined, and tested for wear, after which the chassis rebuilding process commences, new parts, if required, being fitted as this

The Graduates' Section of the Birmingham Centre of the Institution of Automobile Engineers commenced its winter's programme with a dinner at the Imperial Hotel, Birmingham, on Thursday, September 23rd. Dr. H. S. Hele-Shaw, F.R.S., M.Inst.C.E., president of the Institution, occupied the chair, and was supported by Messrs. F. W. Lanchester (vice-president), Alex. C. Tucker, F.I.C., P. L. Renouf, and B. W. Shilson (hon. sec. of the Birmingham Centre). After dinner Dr. Hele-Shaw gave an interesting descrip-

tions of private travelling carriages in use in the early part of the last century, which are taken from a beautiful collection of coloured drawings presented to the writer by the late Mr. G. A. Thrupp, senior partner in the well-known firm of Thrupp and Maberley, carriage and motor body manufacturers, Oxford Street, London, we have undertaken to show in a practical form how these bodies could be adapted to the present self-propelled vehicle, the originals being drawn to a scale of threequarters of an inch to the foot. The proportions shown in our smaller reproductions may be taken as their correct appearance in the completed size.

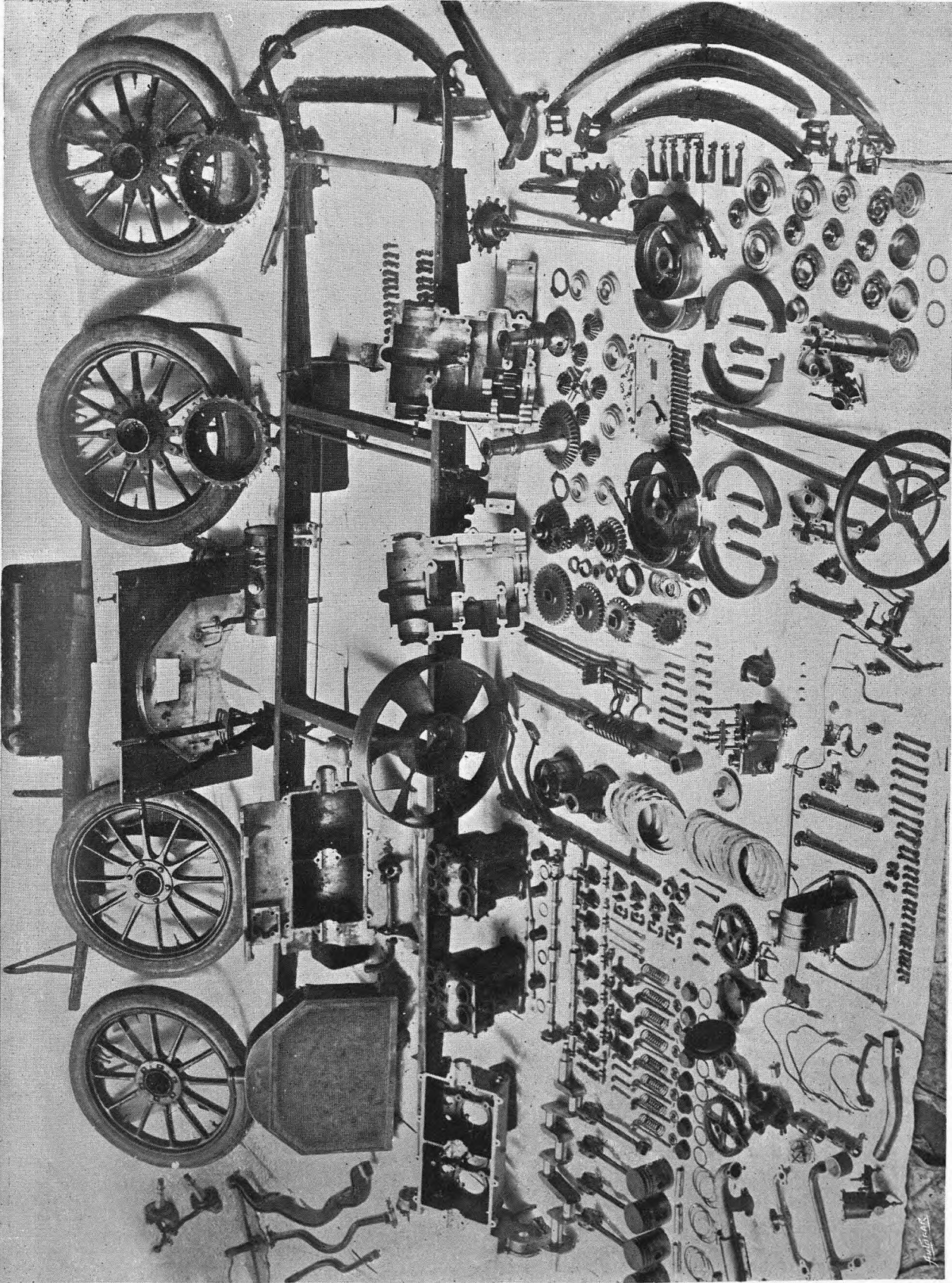
In the early days of motoring, carriage designs of the form prevalent at that period were adopted, but the combination was too freakish and had to be dropped. Ultimately a form of waggonette with variations became the standard, but wherever curved lines were introduced the straight frame of the chassis gave it the appearance of a carriage body on a railway truck. Bent chassis frames have been introduced, but unless standard types are adhered to they are costly. There is, however, no need to make any expensive change in the frame, as the bottom framework of the body can be moulded to overlap the frame, and will not interfere with its being raised for inspection purposes.



Mrs. H. E. Galloway on her 10 h.p. Stanley steam car at the North Eastern A.A.'s hill-climb at Ragbathside. This car did fastest time for all cars of all powers in the amateurs' sections, and second fastest time of the day, being defeated by a 20 h.p. Stanley.

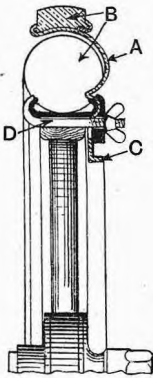
work advances. As the engine has been completely dismantled, it has to undergo a bench test before it can be put into its frame. The photograph reproduced on the opposite page shows the number of parts into which a chassis resolves itself in a complete overhaul. This particular chassis illustrates comparatively modern practice, though it is chain-driven.

tion of the gyroscope, illustrating his remarks by several experiments, and then described its application to mechanical locomotion on land and sea. Mr. F. W. Lanchester followed with an interesting description of its application to mechanical flight. The first graduates' paper is on October 28th, 1909, when Mr. Max L. Silverman will discourse on "Flight." Mr. F. W. Lanchester will preside. The meetings will be held in the University Buildings, Edmund Street, Birmingham.

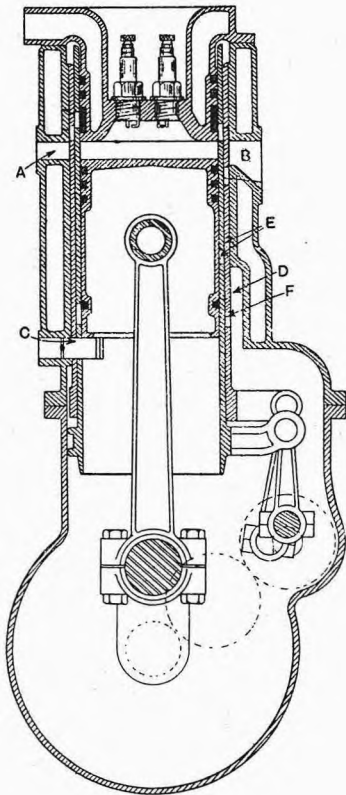


Two Interesting Patents.

THE wheel invention illustrated provides a modification of the Stepney wheel, from which certain advantages are claimed. The spare wheel takes the form of a metal flange A carrying a solid tread at B, the metal ring being flanged over to receive the ordinary tyre within it. The metal ring is carried down alongside the ordinary rim, and is flanged at C, and is attached to the existing wheel by means of claw bolts. By this construction the temporary tyre B is brought into the plane of the wheel, so that no additional leverage is set up, and the strain on the axle and bearings is reduced to a minimum.



The other patent relates to a slide valve engine, the slide valves of which operate in precisely the same manner as in the Daimler engine. A is the gas inlet port and B the exhaust port. The invention consists in supplying air under pressure for scavenging and adding to the inlet charge. The air is admitted into the crank chamber by the passage C, and compressed on the down stroke of the piston. The compressed air then finds its way by the passage D through ports E, which at the right time register with the port F. In this way the air compressed in the crank chamber is allowed to enter the cylinder twice during each cycle. This occurs at the end of the suction stroke after the inlet valve is closed. Thus the gas in the cylinder is added to by the amount of compressed charge supplied, and to compensate for the dilution the gas taken through the inlet port A is richer than usual. On the exhaust stroke fresh air is again admitted under pressure. In this case it affects a scavenging action.

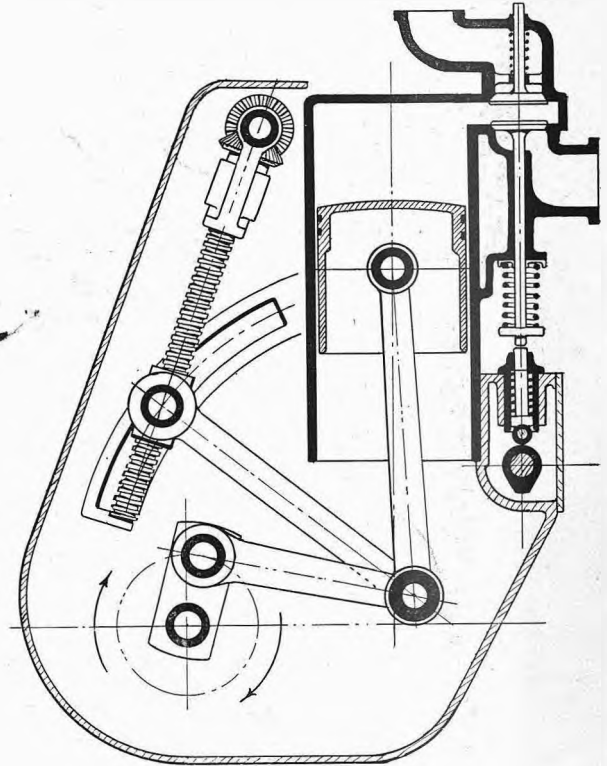


The patentees in this case are an American firm, the Chalmers-Detroit Co., whilst the patentee of the wheel invention is Mr. A. Turnbull, of Glasgow.

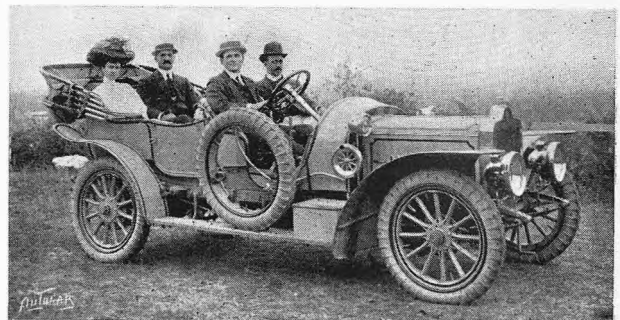
We are informed that a new disposition of space for British motor car exhibits has been made by the Brussels Exhibition authorities, who have allocated 5,400 square feet for this purpose, and the Society of Motor Manufacturers and Traders has resolved to take the whole of the space so allotted.

A Variable Stroke Motor.

This interesting engine is described fully in the current issue of *Motor Traction*. The idea is to give a variable stroke, and so do away with the need for a change speed gear. The stroke can be varied from 2in. to 7½in. by shifting the screw block up and down the quadrant. For hard work the full stroke is used, and as the resistances lighten the stroke is reduced for the faster (road) speed. The engine is driven on full



throttle, and the control is by varying the stroke. The compression remains constant at all variations of the stroke. The engine is intended for motor traction vehicles, as it would probably be too coarse at low speeds when climbing and too slow on the level for private cars. It is none the less interesting, as it is at least suggestive of possibilities, and will certainly be provocative of criticism. This engine has been designed by Messrs. J. F. Gill and T. C. R. Aveling under the supervision of Mr. A. A. Remington.



The first six-cylinder car imported into Queensland, Australia. The car is a 20 h.p. Standard, specially constructed for the Colonies, and the photograph was taken at the summit of White Hill, near Brisbane.

Motor Union Notes.

The Road Bill in Committee.

When these notes appear in print the Development and Road Improvement Funds Bill will have been finally amended in Committee. The Union's attitude towards it was set forth in the resolution which was published in last week's notes, and which was adopted by the General Committee of the Union on September 22nd. The general principles of the Bill were approved, and it was only in certain details that the Union desired to amend it. Its progress through Committee was watched by Mr. Joynson-Hicks (chairman of the Union), who moved the amendments which had been put down on behalf of the Motor Union. At the time of writing he had already secured several important concessions, and had drawn from the Chancellor of the Exchequer a significant statement as to the Government's interpretation of the Bill.

When the Development Bill was first published the wisdom of the provision empowering the Road Board to construct new roads confined to motor traffic was questioned seriously by motorists. Motorists do not wish to be given special facilities based on excessive taxation. They only ask to be treated as any other class of road user, and to be taxed in proportion to them. Mr. Joynson-Hicks's first amendment raised a general discussion upon the Bill and upon the position which motorists would occupy under it. He pointed out to the Committee that on general grounds it was bad policy to construct new roads for fast traffic, from which the ordinary traffic of the country would be excluded. All roads should be open to all traffic. Motorists only want to take their place as part of the wheeled traffic of the country. The principle involved is one which does not only affect the convenience of a small class; the proper development of mechanical traction is a matter of the greatest economic importance to the whole community. It is high time that the motor vehicle should be placed on the same basis as the horse-drawn vehicle; both should be given equal rights, and neither should be handicapped by restrictive legislation.

The second point upon which Mr. Joynson-Hicks laid special emphasis is the fact that the money contributed by motorists should be reserved for the improvement and construction of roads, as distinct from maintenance.

The Chancellor agreed that no attempt should be made to divert the money which constitutes the Road Improvement Grant for the purpose of relieving the rates. During the consideration of the clause defining the powers of the Road Board, repeated efforts were made to include "maintenance" in the purposes for which the Road Improvement Grant should be used. Mr. Joynson-Hicks's arguments were, however, finally substantiated, and all amendments with this object were negatived. At a subsequent sitting Mr. Joynson-Hicks moved an amendment which provided for the representation of motorists upon the Road Board, but withdrew his amendment on receiving an assurance from the Solicitor-General that the interests of motorists should receive proper consideration.

The 3rd issue of the *Motor Union Journal* will be published next week.

The Committee have decided to present the Motor Union special silver medal to Mr. Alan McAlpin, of the Leicestershire A.C., and Mr. H. G. Davies, Swan-

sea. Mr. McAlpin has lately resigned his position as hon. sec. of the Leicester Club, and during the many years in which he has acted in that capacity he has rendered signal service to the Motor Union and to the motor movement in his county. Mr. Davies is a prominent member of the Welsh A.C., and acted as treasurer of the fund opened by the club in connection with the visit of the Union and the delegates of the L.I.A.T. to Swansea.

A large amount of work has devolved upon the Union lately in connection with speed limit applications. In every case all the motorists resident in the locality are communicated with, in order that their views may be ascertained. In this way evidence is obtained upon which the Union's subsequent action is decided, and which is brought forward if an inquiry is held.

Applications have recently been made for ten miles speed limits at Woodbridge (Suffolk), Market Deeping, Heckington, and Great Gonerby (Kesteven). Objections should be lodged on or before the 8th October. The Secretary would be glad of any information bearing upon these applications.

A Local Government Board inquiry into the application for a ten miles speed limit at Bettws-y-coed was held on Monday last, 27th ult., and a similar inquiry was to be held on the 30th ult. with regard to Warwick.

The Local Government Board have issued an order restricting the speed of motor cars to ten miles per hour on certain parts of roads at Great Missenden, Bucks. As a result of the representations made by the Union at the local inquiry, the original application has been modified.

Mr. F. M. Green has been appointed honorary correspondent to the Union for Witney, Oxfordshire.

During August and September the Highways Protection Committee has taken up twenty-two cases of inconsiderate driving, with satisfactory results.

The Legal Department was recently consulted by a member, against whom a claim for damages had been made in connection with an accident which occurred on the Bath Road. The matter was placed in the hands of the Union's local solicitor, who at the hearing proved that the driver of the plaintiff's car was entirely in the wrong, and was successful in securing the dismissal of the case. The member has written expressing his appreciation of the manner in which the Union's solicitor conducted the case, saying that, "But for his able advocacy I should have been mulct in very heavy damages."

A member who has just returned from a tour in France writes:

"In acknowledging receipt of cheque for £35 11s. 8d., being the amount deposited to cover duty on customs triptyque for France, I beg to thank you for the assistance rendered me by the Union. I had not the slightest difficulty either in entering or leaving France. In fact, I found it somewhat easier than going by train, as the authorities did not make me take my baggage out of the car on my declaring that I had no dutiable goods. With best thanks."

Small Car Talk. By Runabout.

Torpedo Bodies for Small Cars.

I HAVE just taken delivery of perhaps the smallest torpedo in the world, having had one of these bodies fitted to a 12 h.p. two-cylinder chassis, and though this type of coachwork has sundry obvious drawbacks when applied to a small car, I am on the whole very glad I selected it. Its advantages are chiefly that it combines the minimum of wind resistance with the maximum of comfort. The car is extremely low and racy-looking, and at the same time provides perfect shelter from all except top draughts. On the other hand, the chassis has to be a trifle long for the power, viz., 9ft., which spells unnecessary weight. There is scarcely any luggage accommodation. The boots under the seats are only about 4in. deep. As the seats are so low, lots of leg room is essential, and Gladstone bags cannot conveniently be put in the car; even a petrol can seems lumbering. The running boards are pretty well occupied by the spare wheel, a generator, and a long accumulator box. Four bachelors could squeeze in just their indispensable kit and no more, but when ladies are carried on tour I shall have to fit a grid at the back. Even a 9ft. chassis is none too long for a four-seated torpedo body, and my side doors forbid much whisking of skirts as the fair ones enter.

Judging from my experience, two points must be kept in mind when passing designs for such a body. First of all, the builder must be compelled to make the "scuttle" of reasonable dimensions. My own builder was of the fixed opinion that the scuttle was a mere ornament. He refused to realise that I wanted my lower anatomy to be perfectly protected from weather without rugs. The scuttle should come so close up to the steering wheel that a vertical line drawn upwards from its front edge just clears the front edge of the wheel, and no more. Secondly, the back seats will be uncomfortable, unless sloped footrests are provided, or the cushion tilted well over backwards. Above all, with a low body of this type (and a high one looks abominable on a short car), pressure fed petrol is absolutely essential. There is no room for a dash tank; a tank below the driving seat would only be too shallow to be practical. And in this connection most men who dispense with a chauffeur dislike pressure feed, because of the pumping that must be done to get a start. By the time I have circumambiated my car with an oil gun, screwed all the greasers up a thread or so, put another 10 lbs. pressure into four tyres, etc., I am more in the mood for the switch than for the pressure pump. Consequently I am going to tuck a snug little gallon tank in one of the two corners of my scuttle, and run an extra feed pipe to the carburetter, so that I can start on gravity, and switch over to the pressure tank when the engine has started pumping. An eight-gallon pressure tank does not look at all bulky, and

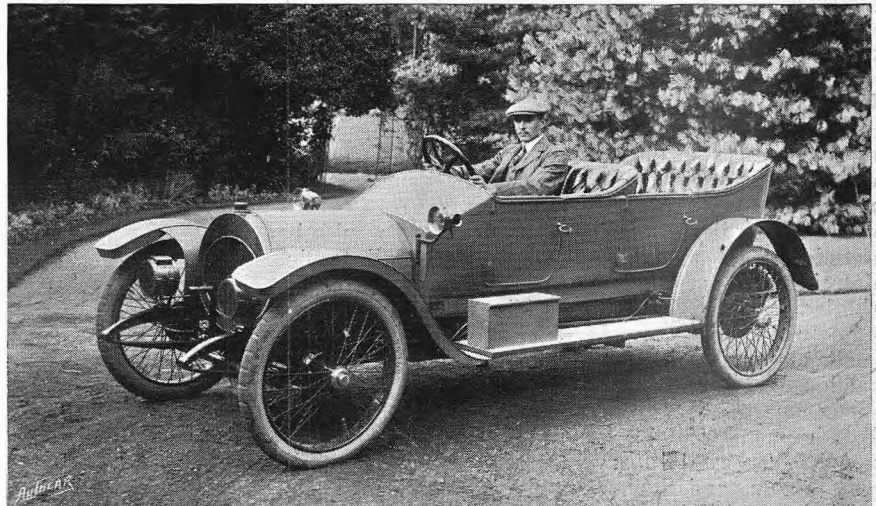
will carry a small car two hundred miles easily, so that it does not make a luggage grid inconvenient.

Abolishing Bright Metal.

Until we can get aluminium-plated lamps, hooters, radiators, etc., the owner-driver must continue in the fiery hate of bright metal. My own dodge is to coat all nickel or brass accessories with vaseline, and to envelop them in waterproof covers. Thus they cannot rust, and when I am tired of the car and re-invest in something new, a very little polish will make them look like new. Even if I get let in for a long day in the rain, the most I have to do is to wipe off the wet vaseline, and smear on some more, which is better than enraging domestic authorities by bespeaking the housemaid's services for a whole afternoon, and far, far better than three hours of personal labour with a saucer, a rag, and a tin of plate powder!

A Trestle-railed Garage.

I was shown rather an original private garage the



Runabout 12 h.p. Riley torpedo. The car is finished in unvarnished grey with red upholstery, and the fittings are brass. It is probably the smallest torpedo body in England, as the chassis is only 9ft. long.

other day, which may interest some of my readers. When the owner took the plunge into motoring he was confronted by a mud-floored stable and a shallow pocket. A concrete floor and an inspection pit seemed necessities, but he disliked the amount of the tenders he procured from contractors. So he got a carpenter to erect a sort of trestle table, consisting of two broad rails, approached by an inclined plane. The edges of the horizontal rails, which stand 2ft. off the floor, are rabbeted, so there is no fear of the car being steered off them, and there are big block stops at the far end. The inclined plane similarly consists of two wide rabbeted rails. The owner runs the car up on to this platform, and the whole of it is immediately far more accessible than if it stood over a pit, while in addition he has plenty of light by which to work. Further, if the gear box leaks—and what gear box does not leak?—the oil drips on the floor, and never under any circumstances gets on the rails or touches his tyres. The cost of this trestle-rail platform was small, and its efficiency is higher than that of the standard garage. The sole drawback is that it is only applicable to a garage with extra head room.

Avoid Freak Gear Boxes.

Some amateurs are under the impression that the design of the normal Panhard gear box is a trifle unsound. They think it barbarous to slide revolving pinions in and out of mesh, and they are always ready to be entrapped by some hasty inventor who offers them a plausible substitute. Dozens of cars have found customers simply because their gears were not of the sliding shaft type. The efficiency of this gear

is proved by the fact that ninety out of every hundred cars possess it. There are others which are good—possibly better. I myself have not got Panhard gears. But some of the novel gear boxes which annually disfigure Olympia are atrocious. One owner near me has had three new gear boxes in a single quarter; and the makers made him pay for the last two. He was attracted by a novel gear box at Olympia, and though he is an expert, it will not last more than a month!

The 15 h.p. New Model S.C.A.T.

MESSRS. NEWTON AND BENNETT, of King Street West, Manchester, who have found such favour amongst their clients with the now well-known S.C.A.T. car, give us particulars of the new model 15 h.p., which will be shown at Olympia and put upon the market for the coming season.

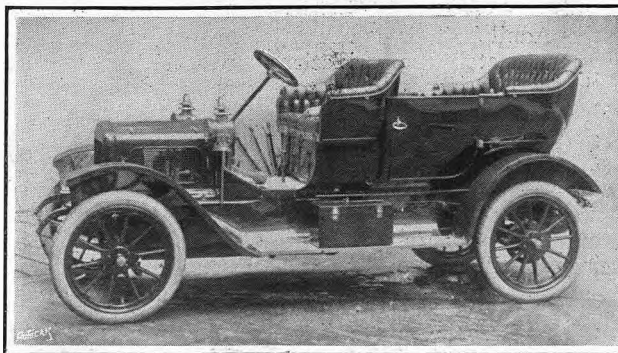
In general design the car will follow S.C.A.T. lines with the following modifications. The four-cylinder engine will have a bore of 85 mm. and a stroke of 120 mm., the cylinders being cast *en bloc*. The valve lifters and valve stems will be enclosed by easily detachable covers, the former being on the left-hand side of the engine, so that one camshaft only will be used. Forced lubrication will be provided by means of an oil pump set in a sump formed in the crank chamber, and driven by bevel gearing through a vertical shaft off the camshaft. This vertical shaft will be produced upwards for the purpose of driving the rotary valve of the Harper self-starter, which will be a standard feature of the car. There will be no outside piping of any description, all exhaust and water leads being formed within the engine casting. To avoid noise the universal clutch coupling is abandoned, and a split coupling which allows of easy detachment used in its stead. The gear box will be formed with two brackets, extending forward for the purpose of being bolted to the crank chamber. This is done to preserve the due alignment of crank chamber and gear box. The rear portion of the gear box will be carried on a downswep cross member, which also supports the torque rod swivel and the brake shoe pivots, thus relieving the gearshaft of objectionable braking strains. The shafts within the gear box are kept exceptionally short and of large diameter. The gear will afford four speeds, direct on top speed. The propeller-shaft will

be made with one forward universal joint only, a plunger joint being formed in the rear portion of this universal, and the propeller-shaft produced through ball bearings in the differential gear socket to take the driving bevel pinion at its rearward end. The rocking joint of the V torque member will be central with the universal joint of the propeller-shaft. Brake connections by wire will be dropped and rods only used, all of which will be placed inside the frame.

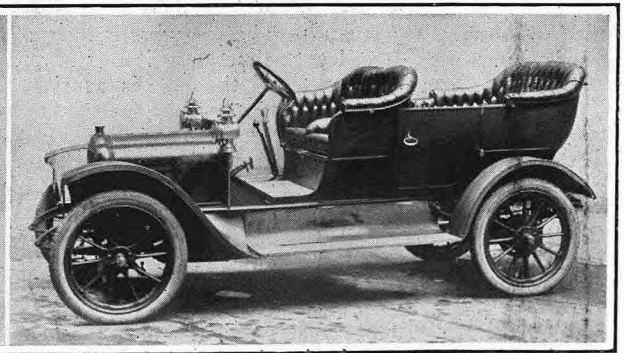
In the 15 h.p. S.C.A.T. the petrol tank will be removed to beneath the driver's seat, and gravity feed adopted. The frame will be upswept at the back, so that the central portion of the main frame will be lower than at present. Threequarter elliptical springs support the rear of the frame, the stub ends of these springs being carried in a very neatly designed extension of the rear cross member, thus obviating the use of independent brackets, which require to be bolted or riveted to the frame members, which they consequently weaken.

With regard to the 22 h.p. S.C.A.T., the frame will be of similar design to the car already referred to, but the engine will have its cylinders cast in pairs and the self-starter fitted as in 1909. The oil leads will be all enclosed in the crank chamber casting, and the clutch coupling dropped. The clutch sleeve will slide on a castellated shaft, giving a very sweet and easy movement. The propeller-shaft and torque rod will be as in the 14 h.p.

We understand that a 10 h.p. two-cylinder car, to be called the 10 h.p. two-cylinder N.B., 90 mm. bore, 130 mm. stroke, is in contemplation by Messrs. Newton and Bennett, and we hope to be able to give full details of what will undoubtedly be an interesting vehicle before the opening of the Olympia Show, where it is hoped this chassis will be shown.



A 15 h.p. White steam car.



A 20 h.p. White petrol car.

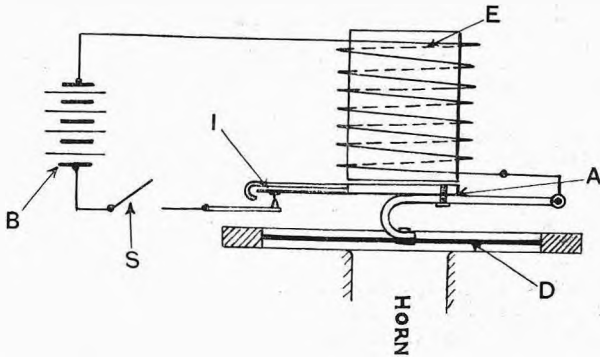
Both these cars are the production of the White Co., and the price of each is the same, so that the buyer has the choice of either systems at the same figure. The body in each case is built by Cann Ltd., and is of the standard type adopted for 1910 by the White Co. With practically identical bodies, the likeness between the cars is remarkable on general lines though the systems of propulsion are so different.

The Adnil Electric Hooter.

A Pleading and Persuasive Instrument.

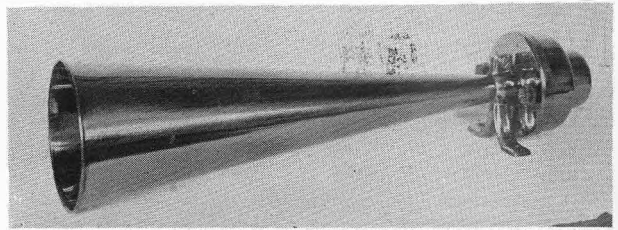
WE hesitate to describe this most engaging instrument as a "hooter," for so far as the instrument which we have now had in constant use for over six months is concerned the sound it emits upon pressing the button is the very reverse of a hoot. It emits a long sweet, far-carrying, imploring kind of note, which offends no one and is most successful as

in connection with phonographs and gramophones. The transformation of electric energy into sound is effected by an electro-magnetic contact breaker, but the spark which would otherwise result from the making and breaking contact is entirely avoided by a special magnetic blow-out winding. In the accompanying diagram, No. 1, D is the sound producing diaphragm made specially of a tough bronze alloy, E is the electro-magnetic with



A, armature
B, accumulator
D, diaphragm

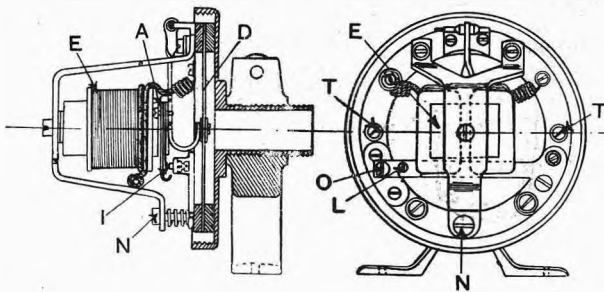
E, electro-magnet
I, interrupter or contact breaker
S, switch



The Adnil electric horn.

a road clearer. It will, and does, gain the attention of a sleepy carter at from 250 to 300 yards away, and is so pleading in its character that both in country and town it clears the road before its owner more by moral suasion than insistence. It is operated by a small, easily-stowed, 8 volt accumulator, and appears to take little or no current, for in all the time our particular horn has been in use it has never once

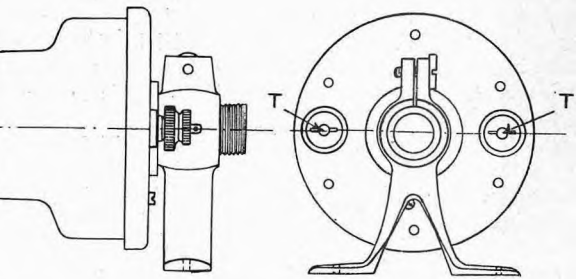
blow-out winding, I the interrupter or contact breaker, A the armature, and S the switch. When the connection is made between the apparatus and the accumulator B through the switch S, which is placed conveniently on the steering wheel, current flows through the interrupter contact I to the magnet windings, the armature A is attracted, and the diaphragm D deflected. At the same time the interrupter I breaks contact, the magnetism of the armature is dissipated, and the armature lever returns to its normal position. These two phases occur with such rapidity that the trepidations of the diaphragm give off the sound for which



A, armature
D, diaphragm

E, electro-magnet
I, interrupter

Sections of the Adnil electric horn.



L, locking screw
N, auxiliary adjusting screw

O, ordinary adjusting screw
T, terminals

failed, although the accumulator has only been charged at long intervals. In all that time, too, it has never been opened for adjustment, and the tone is as rich, as full, and as far carrying as upon the day we first fitted it to our Napier car.

By means of the following description and accompanying diagrams the operation of this horn may be followed, and the reason for its reliability grasped.

The sound is given off from a vibrating diaphragm, in manner and on principles similar to those that obtain

the Adnil horn is famous. The diaphragm makes approximately 320 oscillations per second, which practically corresponds to the tone denoted by the lower E in music. We are informed that the consumption of electric current is less than 4 watts with a 12 volt horn. We cannot check this, but can only say that the consumption with the instrument we have had in such satisfactory test for so long appears infinitesimal. The makers are the Adnil Electric Co., Ltd., Adnil Buildings, Artillery Lane, London, E.C.

In regard to the fears which we expressed recently as to the newly appointed chief constable of the Blackpool and Fylde district being as much opposed to automobilism as his predecessor, and that there is little or no likelihood of trapping being discontinued, we are pleased to note that the *Southport Guardian* says perhaps this prediction may not be fulfilled.

Mr. Francis E. Harding, of Old Springs, Market Drayton, who in July, 1906, purchased a 16-20 h.p. Sunbeam, reports that he has succeeded in reducing his petrol consumption from thirty miles per gallon, which in itself is not bad, to an average of 32.26 miles per gallon. He also states that he has run his car in all 25,108 miles.

The Development Bill.

Roads and Motor Traffic: Discussion in Parliament.

THE Standing Committee presided over by Sir D. Brynmor Jones, which has been for some days diligently considering and amending the Provisions of the Development and Road Improvement Funds Bill, entered upon the discussion of Part II. on Wednesday, September 22nd. This section deals with road improvement, and consists of eleven out of seventeen clauses.

Special Motor Roads Not to be Made.

Mr. Joynson-Hicks (N.W. Manchester) led off with a speech projected to raise a general discussion on the policy of the clause, and to put himself in order moved an amendment standing in the name of Lord R. Cecil (E. Marylebone) to leave out words which set forth that the Road Board should be constituted for the purpose of "improving the facilities for motor traffic in the United Kingdom." He took exception to the proposal of the Government that there should be special roads for motorists—roads for which taxes were levied from the user. He admitted that some motorists misused their powers, but protested against condemning all motorists because there was a class rightly designated as "road hogs." Motorists, he contended, did not want any roads to themselves, desiring neither to be made the pariahs of the general roads nor the aristocrats of their own roads. All roads, he thought, should be open to all traffic, and the funds collected from motorists should be used for road improvement rather than road maintenance. He invited a statement as to policy from the Government.

The Chancellor of the Exchequer responded to the appeal, and indicated some important changes which he intended to propose. To remove the impression that the whole of this money was to be spent on motor roads he intended to transpose the sub-sections, putting advances to highway authorities for new roads or the improvement of existing roads before the construction and maintenance of new roads. In like manner he proposed to meet the objection taken to confining roads to motor traffic by omitting sub-section (a) in Clause 7, which was as follows: "The Road Board may, subject to the approval of the Treasury, make regulations as to the user of roads constructed by them, and, except to such extent and upon such terms and conditions as to payment and otherwise as may be prescribed by the regulations, such a road shall not be available for any traffic other than motor traffic." As to compulsory purchase having altered the provisions in the first part of the Bill, they ought to make the second part conform to the first so that the Development Commissioners would consider whether land should be taken compulsorily.

In the course of the discussion which followed Lord R. Cecil deprecated the creation of a Road Board with highway powers to interfere with the highway authorities who had improved the roads enormously since 1888. In response to the noble Lord and other speakers, the Chancellor of the Exchequer again rose and declared that the object of the Bill was not to relieve the rates but to cope with the special difficulties of motor traffic—to lay the dust, allay the perils to pedestrians, reduce the difficulties of motor traffic, and so forth. He pointed out that the improvements were to be made as much for the benefit of those on the roads—children at dangerous corners, for instance—as for the benefit of motorists. The £600,000 would not be flung into the bog of the rates where it would sink and make no impression on the roads, but would be used for distinct improvements. With regard to concurrent authority he believed in the appointment of a body *ad hoc* for the purposes of the Bill, and did not believe that it would cause any friction. If the co-operation of local authorities was to be obtained the work would never get done. The authorities on the Great North Road, for example, ran into hundreds, and they could never be got to agree as to what should be done.

Lord Balcarras and others spoke for the competency of the existing road authorities, denying that their methods were extravagant, whilst Mr. Munro Ferguson declared himself at a loss to conceive why rural districts should be forced to maintain roads for the motorists of London and Manchester.

Facilities for Mechanically-propelled Traffic.

The Committee then busied itself with the amendments. Mr. Joynson-Hicks had a proposal on the paper to alter the phraseology of sub-section one which set forth that "for the purposes of improving the facilities for motor traffic in

the United Kingdom" there should be constituted a Road Board, etc. His desire was to substitute "mechanically-propelled traffic" for "motor traffic." Col. Ivor Philipps (Southampton) had an earlier amendment to substitute "road traffic," but this was passed over for the other proposal. The Solicitor-General, when he came to put forward the views of those in charge of the Bill, agreeing that a change would be beneficial, expressed a preference for the earlier amendment, and this was adopted notwithstanding the objection by Mr. McLaren (W. Staffordshire) and Mr. Joynson-Hicks, that if the word "motor" were left out the Road Board would be able to spend the money on roads which were not used by motor traffic instead of upon the main roads of the country.

The New Road Board.

The consideration of the clause was resumed on Thursday, when a considerable time was spent in discussing whether the new road authority should be an advisory committee, a departmental committee of the Local Government Board, or an independent board as proposed in the Bill. Lord Robert Cecil had an amendment to substitute the Light Railway Commissioners, but this he did not press at the moment, electing to bring it up again at a later stage. Mr. Munro Ferguson (Leith Burghs) moved the adoption of an "advisory committee," formed of representatives of the different road authorities. Viscount Morpeth (South Birmingham) favoured the appointment of a departmental committee of the Local Government Board, seeing that that department was familiar with local affairs and the machinery of local government. This view was supported by Mr. Joynson-Hicks, who pointed out that motorists had had considerable experience of the Local Government Board, and were satisfied with the way in which they had held the balance between themselves (the motorists) and the public. Moreover, they already had inspectors versed in road matters, having had to conduct speed limit inquiries. Mr. Masterman (Under Secretary to the Home Office), in resisting the amendment, maintained that the Local Government Board was hopelessly overworked, and ridiculed the idea of setting up a permanent departmental committee. If the Board's officials had done speed limit work it had been under pressure and protest. Mr. Chaplin (Wimbledon) agreed that a permanent departmental committee would be an innovation. Mr. Peel was content with the provision in the Bill, recognising that Parliamentary pressure might be brought to bear upon departmental officials. After prolonged discussion, in which a variety of opinions were expressed, the Solicitor-General (Sir F. Evans) declared that the proposals for an advisory or a departmental committee were inadmissible, and though the suggestion that the Development Commissioners should act was plausible, there were insuperable difficulties in the way. They would be a judicial or recommending body rather than an administrative body. Later on Lord Morpeth made a remarkable speech, in which he commented upon the ostracising of the Local Government Board in connection with the Road Board, hinting that the different departments had been quarrelling among themselves. He held that the proper department to appoint the Road Board was the Local Government Board. On a division the amendment for an advisory committee was rejected by thirty-two votes to five, and on a further trial of strength, the amendment by Mr. Joynson-Hicks for a departmental committee of the Local Government Board was lost by thirty-nine to two.

The Control of the New Board.

Mr. Joynson-Hicks then sought to substitute the Local Government Board for the Treasury as the authority to appoint and control the Road Board, but this was opposed by the Solicitor-General, and ultimately rejected by twenty-eight votes to eight. A further amendment by Lord R. Cecil had for its object to replace the words in the sub-section relating to a road board with, "It shall be the duty of the Light Railway Commissioners to offer, so far as they are able, every facility for considering and maturing proposals by highway authorities for improving existing roads and constructing new roads." He reminded the committee that it was a wasteful process to set up innumerable boards all over the country, and that so far as the Light Railway Commissioners were concerned, they had not at present sufficient work to keep them employed. They had, practically, completed the work for which they were appointed. The nature of their inquiries had brought them into close contact

with the roads of the country, and there was no reason why the two sets of commissioners should not be brought together. There were only three Light Railway Commissioners, it was true, but if that were considered insufficient it could easily be increased. The Solicitor-General, whilst sympathising with the desire to avoid unnecessary duplication of bodies of commissioners, pointed out that the Light Railway Commissioners were constituted differently from the Board which was needed, possessing no powers of administration. Lord R. Cecil interjected that he did not wish the Light Railway Commissioners to become the Road Board, whereupon the Solicitor-General said that if it were merely a matter of putting the Light Railway Commissioners on the Road Board that could be done without altering the Bill, though the commissioners had not been asked if they would be willing to serve. In reply to Mr. Chaplin, the Solicitor-General gave an undertaking to personally bring the matter to the attention of the heads of the departments concerned. A note of discord was here struck by Mr. Munro Ferguson, who declared that the highways of the country were becoming a good deal too much like light railways already, and expressed a hope that the commissioners would not be introduced. However, on the pledge given by Sir S. Evans, the amendment was withdrawn.

Constitution of the Board

In reply to Mr. Joynson-Hicks the Solicitor-General intimated that the Government favoured five as the number of commissioners. Mr. Barnard (Kidderminster) moved that one-third of the board should be members of the highway authorities, but this was opposed by the Solicitor-General, who, however, said that no doubt the position of the highway authorities would be one of the first considerations when the appointments came to be made. He declined to pledge the Government to bring up words covering the point on report. Mr. Cullinan asked for an assurance that, at any rate so far as Ireland was concerned, new roads would not be constructed without consulting the highway authorities. A proposal was submitted by Mr. Joynson-Hicks to the effect that in appointing the members of the Road Board the Treasury should include representatives of the Royal Automobile Club and of the Motor Union after consultation with the committees of those bodies. The Solicitor-General declared himself ignorant of these bodies, and declined to commit himself to their representation, but he assured the Committee that the interests and desires of motorists would be regarded as an important consideration.

On the question that Clause 5 be added to the Bill Lord R. Cecil found fault with the clause, holding it to be an improper thing to set up a new authority for the expenditure of money on roads in a year so financially bad as the present. Other members adversely criticised the section, but it was ultimately agreed to, the Irish and Scotch members having been assured that their respective countries would be represented on the Board.

Powers of the Board.

Clause 6 (Powers of Road Board). In accordance with a pledge given at a previous sitting the sub-sections of the clause were transposed, the objects making "advances to highway authorities towards the construction of new roads and the improvement of existing roads" being placed before giving power to the Board "themselves to construct and maintain any new roads." The change was to prevent undue prominence being given to the making of new roads. Mr. Joynson-Hicks then proposed the substitution of the Local Government Board for the Treasury as the controlling power, holding that the duties of the Board would be administrative and outside the purview of Treasury clerks. The Solicitor-General opposed the change on the ground that to bring in the cumbrous machinery of the Local Government Board would lead to delay. No one dreamed that the Treasury would be an advisory authority in the matter of road construction or improvement. The control exercised by the Treasury would only be financial, whereas if the Local Government Board were brought in inspectors would be employed and there would be power of control and supervision over every practical detail. On a division the amendment was defeated by twenty-two votes to nine.

Lord Morpeth proposed an amendment to provide that advances to highway authorities under the clause should be available for the maintenance as well as the construction of new roads. While he did not desire to see the money spent in reduction of rates he considered that the local authorities ought to receive money for the improvement of the surface of the roads. The Solicitor-General opposed the amend-

ment, holding that the cost of maintenance of roads should be borne by the local authorities, and that it was essential to take precautions against the money going in relief of rates. There were things, however, which could be done other than maintenance, such as the improvement of surface, and he would be willing to accept words to amend the clause in that sense at a later stage. The amendment having been negatived a further proposal by Mr. Verney to insert the words, "or towards the consequent increased cost in maintenance of existing roads" was rejected by fourteen votes to eleven. Further proposals were made, and the new sub-section (a) as finally adopted was in these words: "To make advances to highway authorities in respect of the construction of new roads or bridges, or the improvement of existing roads or bridges."

The Vital Point.

On Tuesday the Committee proceeded with the consideration of Clause 6, and the greater part of the sitting was taken up with a proposal by Mr. Joynson-Hicks to delete from the clause the sub-section giving powers to the Road Board "themselves to construct and maintain new roads."

Mr. Joynson-Hicks pointed out that the idea of building these new roads for the use of motor traffic and for "scorching" purposes only had now gone. It was not, however, desirable that the Board should have power to construct roads at all. They had the power to make advances for such purposes to the local authorities. He objected to the Board purchasing land on each side of new roads. Unless the sub-section were omitted there would be a clash of interests and divergent opinions which would imperil the success of the new Board.

Mr. Masterman, in the absence of the Chancellor of the Exchequer, refused to agree to the omission. The first duty of the new Board would be to improve the existing roads, but, as the Chancellor of the Exchequer had explained, the construction of new roads was essential to the scheme. They were not intended to be, as they had been described, roads "for scorching purposes for wealthy motorists," but roads for rapid transit from city to city, which the road authorities did not consider they had any obligation to make, and which would be of advantage to the public welfare.

Lord R. Cecil feared that the making of trunk roads would eat up the whole of the funds at the disposal of the Board, and there would be little left for the existing roads. Nothing would excite such energetic hostility as for a Government department to come down as a highway authority to make roads without consulting the local authorities. The new authority should be confined to making advances to the local authorities in connection with the roads. If they went further they would quarrel with the highway authorities and launch out on a scheme which was really circuitous.

The Solicitor-General: It is common in all the countries of Europe.

Lord R. Cecil said that the members of the Road Conference who had visited France had attributed the bad state of many of the roads there to their being in the hands of a central authority.

Capt. Craig pointed out that what was really required was that the existing roads should be improved by cutting off corners and lowering hedges and walls so as to render them safer. Comparatively small grants would enable that to be done.

Lord Morpeth considered that it was undesirable that the road authorities should be multiplied, and that there should be dotted about the country a number of roads belonging to a central board sitting at Whitehall. The system would lead to waste and inefficiency.

Mr. Munro Ferguson supported the amendment. They were, he said, once more face to face with a bill mainly in the interests of motorists. (Cheers.) The making of motor roads should be undertaken by motorists themselves, who should levy taxes on their own roads. There was no reason for taking off the speed limit on the new roads for the transference of ordinary traffic. It would be taken off in the interests of motorists for pleasure. Commercial motor traffic did not require high speeds, and, therefore, it was more a question of improving the existing roads.

The Chancellor of the Exchequer, in the course of a long and vigorous reply, stated that the Government regarded the power to construct new roads as an essential part of the scheme for road improvement, and declared that nothing he had said had been inconsistent with that position. If the Committee decided that no part of the fund should be applied to the making of new roads, the Government would have to seriously consider the whole position in regard to the road portion of the Bill. It was upon that basis that

the taxes were to be imposed, and their imposition had been justified in the House of Commons, and if the position was to be changed, he doubted if the Government could proceed with Part II. of the Bill at all. The local authorities would not be interfered with, or compelled to spend money in any way, and the whole function of the Road Board in respect to them would be confined to making advances for improvements and the making of new roads. If, in consequence of the number of local authorities, or owing to the whole conditions, the Road Board thought it better to make a road themselves where was the interference with the local authorities? No fund was taken away from them. The road fund was to be raised by a tax upon motorists, a tax on petrol, by a burden on the motor industry, whose consent had been more or less obtained to it by an indication that the money would be spent in a certain way. How could the Government withdraw? It would be a petty policy to raise money by these methods merely to assist the rates; that was a problem to be faced by a bolder method. The fund would be administered by a board composed of able men, not a board of motorists.

In reply to an inaudible interjection by Lord Morpeth, The Chancellor of the Exchequer continued: The noble lord seemed to think that the Government were capable of putting even five wild automobilists to spend the money with reference only to the "scorching" part of the motor community. The Government had no such idea in their heads, the motorists themselves had never asked for it—(cheers)—but, on the other hand, they took a perfectly sane view of the whole position. If the Committee did not wish to stand by the speed limit abolition that was not an essential part of the Bill, and the same limit might be imposed for the new roads. Improved means of transit were much needed for the carriage of goods. Within forty or fifty miles of London the roads were crowded with motor vehicles cheapening transit, increasing convenience, doubling comfort, and making people infinitely happier and better than they were. (Cheers.) If the Committee consented to the amendment it would mean that they wanted to tinker up, and that when they came to a really new work they were afraid to face it. (Cheers.)

Looking Ahead.

Mr. Adkins supported the amendment from the point of view of the businesslike administration of the public roads.

Sir C. D. Rose said he gave a certain amount of credit for sense to the Road Board, and thought they would devote their first energies to helping highway authorities to improve existing roads. He would ask the Committee to look forward to the position in another nine or ten years if the permissive powers were not given. It would then be absolutely necessary that certain stretches of new road should be made. He should support the Chancellor of the Exchequer in maintaining the permissive powers. Mr. Channing felt almost compelled to vote for the amendment. The fund was for the improvement of the roads for the public generally, and not for one section.

Mr. Verney opposed the amendment.

Mr. Joynson-Hicks said that so far as he knew the views of motorists they did not want any new trunk roads made. They were submitting to the burden placed on them for the purpose of removing the hostility which they unfortunately felt was largely directed against them. They wanted to appease the local authorities and those who lived by the side of the roads, and therefore they submitted to be taxed for the improvement of the roads of the country.

After further discussion the amendment was negatived by twenty-nine votes to sixteen, and some further amendments having been discussed and withdrawn, the Clause was added to the Bill by twenty-one votes to nine.

On Clause 7 an amendment moved by Lord Morpeth with reference to roads constructed by the Road Board was agreed to. It ran, "Every road constructed by the Motor Board under the provisions of this Act shall be a public highway." Its purpose was that the new roads should be open to the general public.

Sub-section (a) which reserved the use of the new roads to motor traffic was struck out and sub-section (b) was amended to read, "All roads or paths connecting with any such road shall be made to communicate in a manner approved by the Road Board."

The Committee adjourned.

On the Road.

TO my sorrow it has come to my knowledge that certain of the writers of motoring articles in some of our London dailies, both morning and evening, are under the impression that I was including them when I wrote a few weeks ago of the incompetent and absurd compilers of automobile topics in provincial papers. Nothing was further from my mind, for, though I do not see all the leading Metropolitan journals, I am well aware that they cannot afford to employ any but the best talent available, and I seldom read any of their articles without obtaining real information and valuable hints. In addition to which, the majority are practical motorists, and, in view of the enormous amount of motoring they get, they would be very queer folk if they did not know more about their business than almost anyone else. So let them forgive me, and they will be the first to grant that I wrote concerning their far distant and less worthy imitators.

And while on this subject I have come across elsewhere a new (to motors) idea which makes me smile. This is somewhat how it runs, and I should say it was written by a feminine hand did I not know that "Aunt Maria," of the "Tiny Totlets' Corner," is frequently a bearded writer with a weakness for gin and water. First there is an article dealing almost entirely with the "hupper succles" and the latest Paris fashions. This finishes with a dainty *nom de plume*, and then begins this sort of stuff:

STRATHPEPPER.—So glad you doing so well with the grouse and the deer. I wish I was with you. You are quite right, Mme. Siné's face ointment is the *only* thing to remove those wrinkles you must get going eighty miles an hour on your new six-cylinder.

BIRDIE.—No, of course not. You need *never* send your valet and maid by train if you go to Joblolly's in Bond Street and buy one of his travelling trunks that will hold them both and your new hat in addition. So *sweet* of you to think of me, and I adore venison.

DEBUTANTE.—*Everyone* goes to court now *en automobile*. Why not persuade you father to buy a ninety-horse T.L.M.D.? They are all the go nowadays. T.L.M.D. means *tout le monde descend*, and they are made near dear Menton.

LADY NOISETTE.—You could get a car to match your new narwhal *pâté* at Limousines, Ltd., and it would be extremely devvy if you dressed your chauffeurs in arctic seal. I do not recommend routes, but why not try Cook's? So nice of you to write.

AND SO ON.

I note a valuable suggestion in the correspondence columns of last week which deserves more than passing notice. The author of it writes that if the present speed limit were abolished or made more elastic, so as to render the prevalent system of police trapping useless, there is no doubt but that decent motorists themselves would take over the duty of suppressing scorchers in the wrong place themselves. In this I am confident he is right, and I feel sure that all the many motoring organisations that exist would contribute to that end. Indeed it would become a point of honour, and should be made a condition of membership. Once upon a time the motto of one of our great political parties was "Trust the people," but, although that is now an exploded idea, I do not think either of them would suffer if they realised that motorists on the whole are as trustworthy as other people. OWEN JOHN.

A Wholesale Demonstration.

Reinforced Inner Tubes: A Series of Challenges.

THE Challenge Reinforced Inner Tube Co. are determined to leave no stone unturned to demonstrate to the public at large the utility and saving of their now well-known inner tube. Trials there have been in numbers already, both officially vided and under private cognisance, but it was left to Mr. Yarworth Jones to devise a demonstration on a unique scale both in dimensions and originality. It occurred to this resourceful gentleman that a big run from London to Brighton and back on scrap tyres, by which a large number of representative journalists, more or less interested in automobilism, should be conveyed to the sea and back, would help them to realise in their own proper persons just in what scandalous habit or covering these inner tubes would run upon the road.

Recognising authority, Mr. Jones invoked the aid of the Royal Automobile Club, and under the supervision of one of the technical officials purchased a number of tyre covers from the junk dealers—covers which had been cast aside as absolutely worthless, and without another mile of running in them under ordinary conditions. These terrible and awe-inspiring ruins were purchased at the upset price of 30s. per cwt., a contrast somewhat to the present price of raw rubber alone, which is 8s. per lb., so that each cover used represented something under 10s. per cover.

Some thirty cars were requisitioned, the bulk being supplied by the General Motor Cab Co., and one driving wheel of each of these cars was fitted with one of these covers enclosing a Challenge Reinforced Inner Tube. The party which gathered at the offices of the company at ten o'clock on Tuesday morning last numbered just on eighty, so that the thirty cars, all enclosed in some form or other, permitted the company's guests to travel in comfort, notwithstanding the weather, which was of the worst. Rain fell persistently from start to finish, so that the roads were covered with mud and slush, thus trying the covers and their tubes to the highest degree. The route followed was over Westminster Bridge and by Streatham and Croydon, thus giving a good many miles of running over trammed routes, with all the tyre wrenching of which tram rails are capable. A most successful trip by Merstham, Red Hill, Horley, Crawley, and Handcross with its absurdly long ten miles speed limit, to Brighton was made, all the cars but one arriving without tyre mishap of any kind.

With ordinary inner tubes we do not think that the best of the scrap tyres would have run five miles, but here they were safely acquitted of fifty-two, and ready for the journey back. At Brighton Mr. Jones gave a short history of the Reinforced Inner Tube, and the intentions of the company in putting it upon the market. He also gave particulars of four challenges issued with regard to these tubes. The first was to the manufacturers of standard all-rubber tubes to forfeit £250 if they could take a car out of a garage (without their tubes bursting) using a cover in a similarly damaged condition to the one with which the Challenge Reinforced Tube Co. successfully negotiated 1,000 miles in the recent R.A.C. test.

The second, for £300, was as follows: (a) To fit a new standard cover and all-rubber tube to one back wheel of a heavy car. (b) To fit a similar cover and a Challenge tube to the corresponding wheel. (c) To

run both tyres absolutely to destruction, each to be allowed to repair covers and tubes, etc. (d) The Challenge tube to lose if it fails to cover 1,250 more miles than its competitor.

Third challenge: (a) Car to be fitted with two badly damaged covers, but not necessarily with bursts. (b) One to contain a Reinforced and the other an ordinary tube. The Reinforced tube may be repaired, but not replaced, but the Standard tube may be replaced by 500 new ones, and they may be repaired as often as required. The covers may not be repaired. (c) The car to run until the one Reinforced or the 500 (inclusive) standard tubes are destroyed, and the one Reinforced tube—to win—must outlast the 500 standard tubes. The Reinforced Co. will pay for the standard tubes should they lose.

Fourth challenge for £200: (a) Fit one back wheel of a heavy car with a new Dunlop, Michelin, or Continental cover and a standard all-rubber tube. (b) Fit corresponding wheel with a scrapped cover of similar make and a Reinforced tube. (c) Run both tyres absolutely to destruction, each competitor to be allowed to repair tube and cover, but neither to reconstruct cover, but re-treading permissible. The Challenge Reinforced Tube Co. to lose if it fails to obtain more mileage from its "scrapped" cover than is obtained from the new one. The test to be conducted under the auspices of the R.A.C., who will select the "scrapped" cover.

This challenge has been accepted by Mr. Edgar Cohen, the chairman of the General Motor Cab Co., and the test will be carried out.

In the pelting rain the party returned to town. The scrapped tyre on the car in which the writer travelled with Mr. Horace Bell, of the General Motor Cab Co., and two Scotland Yard officials ran perfectly. At the moment of going to press the returns of the R.A.C. officials as to any failures, if any, were not to hand.

The danger attending the use of insufficient headlights was emphasised by an accident which occurred the other evening near Warwick. A driver whose headlights persisted in blowing out transferred his tail lamp to the front of the car to light him home for the short distance he had to travel. The illumination, however, was not sufficiently powerful to allow him to distinguish the road from the footpath, or to see where he was driving. The result was that the car veered into the ditch, and the driver went over the hedge.

* * *

We are informed by Mrs. Ibbetson that we were entirely wrong in suggesting that her husband was an anti-motorist in dealing with the Lancashire police traps. At that time Captain Ibbetson was the Deputy Chief Constable of the county. Since then he has been elected Chief Constable of the county. We are extremely pleased to hear that he and his wife are motorists, and hope that it is a sign that other motorists will not be persecuted in Lancashire in future, though, of course, the possession of a motor car by the Chief Constable does not necessarily imply that trapping on the open road will be discontinued, but when it does we shall be the first to congratulate Captain Ibbetson.

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.

Inquirers 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.

DISPROVING POLICE EVIDENCE.

[14763].—Will you allow me the use of your columns to suggest that motorists should, for a change, take steps to trap the police in the "black" counties? If the A.A., the R.A.C., or the M.U. were to fit up a car or more with, say, three speed indicators, one of which recorded the maximum speed attained during the day, and drive this car, with three up to act as witnesses, at a speed of 19½ miles per hour through the various traps, the driver would at once be summoned for exceeding the limit. If this were done a few times where traps are numerous the unfair way in which motorists are being treated would soon be made manifest to the man in the street, and the evidence of the police, based on their unreliable watches, would quickly be shown to be of no value, if it were not proved to be something worse. It would, perhaps, be an advantage to have the car fitted with the device, lately described in *The Autocar*, which absolutely prevents a greater speed than that for which it is set (in this case 19½ miles per hour) being attained.

EAST KENT.

ROAD WARNINGS.

[14764].—I regret to tell you that Wiltshire is not as free from police traps as is generally intimated by your paper. The police possess an electrical timing apparatus, which they move about to various parts of the county, and lately they have been very troublesome in this district (Salisbury). The spots generally selected in this neighbourhood are between the first and second milestones on the Salisbury-London road, and three miles from Salisbury, at Bodenham, on the Salisbury-Bournemouth road. The police have also had the impertinence to time cars in open country over the downs, three and four miles from here, on the Salisbury-London road. Police traps are also in vogue at times between Fordingbridge and Ringwood. If motorists did not come to Salisbury for a month "the fat would be in the fire," as a great many cars touring come here, and occupants stay at the hotels.

M.D.

[14765].—I should be much obliged if you would insert the following in your columns, which shows one of the numerous risks with which would-be law-abiding motorists have to contend. While driving from Farnborough Station at about five miles an hour, in order to avoid a group of labourers, an attempt was made to extinguish our tail lamp, which was burning clearly at the time. Had the attempt succeeded, we should have been prosecuted by the next servant of the law encountered, probably gaining the reputation of prevaricators as well as being fined.

A. L. P. N. W.

[14766].—The Wilts police were out last week on Warminster-Salisbury road between Warminster and Heytesbury, just before you come to the railway bridge from Warminster. I thought it was a trap, but they only wanted to see licences, and were quite civil, especially as I could not find mine in its usual place under the seat, having forgotten that I had put it in the door pocket some months ago. They had the politeness to tell me that they were not trapping. I showed my licence on my return journey.

SUNBEAM 1618.

[14767].—With reference to police traps in last week's *Autocar*, 9-53. Saltash, is an error, there being no such trap, nor has there been one in the place mentioned, the police being very lenient towards motorists.

L. CROYDON-FOWLER.

[14768].—Trapping seems to have commenced outside Hereford on the Hereford-Abergavenny road, about two miles out. I passed there an obvious trap, but was warned in time. A policeman also signalled with his arm. The beginning of the trap appeared to be a man in plain clothes leaning against a gate with a bicycle, and there were three policemen in uniform about half a mile on. W.C.

[14769].—With reference to your notice of misplaced police traps on page 487 of your issue dated Sept. 25th, the trap as shown in the map was moved on the afternoon of the

24th ult., about a quarter of a mile further east to a point not shown on the map. It starts at the junction of the old Dover Road with this road, and extends to Marlborough Lane, which is the next road running in from the north and where the houses end on the north side of the road. I do not think the distance is quite 220 yards, but have not measured it. No roads run in on either side throughout its length.

W. H.

[14770].—Each week I look through the list of so-called traps in this county (Kent), and I have observed with regret that responsibility is attributed to us for roads which are not in the administrative county at all. In your last issue (page 483) you commence by referring to a limit through Croydon. Well, this is a county borough in Surrey. The next paragraph deals with Shooters Hill. This is within the London County Council area, and is in the borough of Woolwich. To three and four the same remarks apply. Five, we have no traps, as such, in this county. The timing which is taking place is over long controls, and I happen to know that no one would be more delighted than our esteemed Chief Constable if motorists would drive with such care as to do away with the necessity for even these. A week or two ago you mentioned Catford under the heading of Kent. This is a metropolitan borough. Again, Canterbury is not in the county of Kent.

H. P. MAYBURY.

[14771].—I would strongly advise all motorists to avoid, or at least to refuse to spend any money in, the Helston-Lizard-St. Keverne districts, where motorists are mercilessly persecuted by the police, backed up by an anti-motorist bench. One of the traps is set in the private grounds of one of the magistrates.

In one of the districts in that county (Cornwall) I am told that all traps have been discontinued because the hotel-keepers complained that motorists refused to come into the district. This is one of the most effectual means of making a protest which will be felt against unfair treatment, and it would be well to make good use of it.

M. A. L.

[14772].—Will you warn your readers of a police trap which is being worked on the Merrion Road outside Dublin. The trap is some 400 yards long, and is situated between Ailesbury Road and Ball's Bridge show grounds. Cars coming into Dublin are stopped by a policeman in uniform just before reaching the show grounds. The timing is done by two plain clothes policemen who can generally be seen with bicycles apparently studying the sky or an advertisement hoarding. The road is wide and open and free from houses. Trams have been timed to travel at the rate of twenty-six and a quarter miles per hour over this portion, and the tram company have recently applied for official permission to travel at twenty-three miles per hour over it!

I hear that trapping of motorists is also being carried on near Belfast and Cork, though I have not heard any details. In view of the infamous nature of nearly all the Irish roads, if trapping is to be carried on over the very few fairly good portions that exist, English motorists will be wise to avoid this country. The freedom from police persecution which has hitherto characterised it is apparently at an end, but the disgraceful and tyre-destroying roads are as numerous as ever.

BRIAN BORU.

IMPORTANCE OF GOOD STEEL.

[14773].—The last letter on this interesting subject gave no direct answer to the question in letter 14634, asking what kinds of steel should be used in the various parts of

Correspondence.

a high-grade motor car chassis. The only book on the subject so far as I know is "Spooner's Machine Design and Construction"—a book that came out last year, and describes all the latest steels, including vanadium. Can any of your readers give the name of any work describing the steels that should be used in the construction of a high-grade chassis?

Mr. Spooner in his book says, talking of high-grade steels, "The greater tensile strength of these steels not only represents a saving in weight of some 30%, but there is also greater efficiency." According to this, I suppose a chassis built of high-grade steel would be 30% lighter, strength for strength, than a chassis built of the common steel.

RED ROCK.

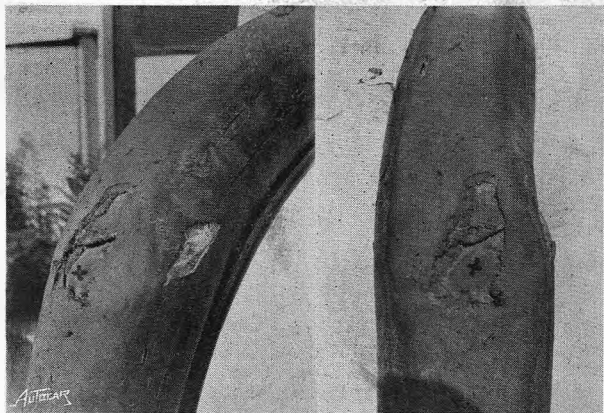
THE 8 H.P. HUMBER.

[14774.]—In reference to the letter of "R. S. B. H." [No. 14500], I should like information on the following points: Petrol consumption; wear of tyre; whether engine overheats and water boils in radiator. S. LEIGH.

THE RE-INFORCED (CHALLENGE) TUBE.

[14775.]—It may interest fellow motorists to have a perfectly independent account of a Challenge tube, so I give my experience.

I took a Dunlop cover (880 by 120) that had run me 5,855 miles on a 40 h.p. Austin. The canvas had badly broken up and the cover would, in the ordinary way, have had to be scrapped. I put in a Challenge tube, and the cover held up for a further 1,729 miles, making a total of 7,584 miles. After the first 200 miles a cavity about the size of a six-pence formed in the rubber, exposing the tube. This cavity increased to the size shown on photograph, and a further burst took place on the side of the cover, also exposing the tube; but the tube held up perfectly until it came itself in



contact with the ground, and I then dismantled it so as to save my tube (see cross on photograph). It is self-evident that so long as there is any rubber left on an old cover its life can be extended to the full limit by the use of the Challenge tube, and also that one may with impunity put one's old covers on front wheels without danger of a burst.

I am making a further test with a new Dunlop cover and Dunlop tube side by side with a new Dunlop cover and Challenge tube, and shall run both to destruction.

The makers also claim there is less liability to puncture with these tubes, and this appears reasonable; but in my case I did not touch the tyre during the 1,729 miles, and the pressure at finish was 65 lbs.

The Challenge tube is quite as resilient as the ordinary, and I think the Re-inforced Tube Co. have made a most valuable contribution to motoring—one that spells economy and safety. I am posting them on my cover for anyone who cares to inspect it. J. MARTYN SMITH.

REMOVABLE V. DIVISIBLE RIMS.

[14776.]—May I venture to put the question before you of removable rims? To the user of a moderately powered car, the usual removable rim seems to be less useful than a divisible rim. To have to carry a spare rim fitted with a tyre is a definite addition to the weight of the car, while a divisible rim would mean that the cover and inner tube need

only be carried. The removable rim, when removed, has to be deprived of its punctured tyre and replaced—an operation of great difficulty in some cases, even when working at leisure. The divisible rim makes, or should make, the removal of the tyre an easy matter. This subject (as far as I know) has not been broached in your paper, and it seems to be one which would be of serious interest to the majority of your readers—at any rate, to those who drive their own cars and are left to their own resources. Anyhow, there is one reader who would be grateful for the exposition of the views of others, and he is AD 95.

THE NEW MAXIM ENGINE.

[14777.]—To reduce the weight per horse-power by using extra special material presents little or no difficulty, as such suitable material is at hand for some time now; neither does this weight reduction *per se* constitute an improvement of the internal combustion engine as such.

A casual observation will show that most of the so-called improvements which have been made up to now are only an evasion of the main issue, and that the internal combustion engine as such is still suffering from its original defect, a defect inherited with its inception, viz., its dependence for the fuel supply on the piston speed?

How is it that all these clever people have been unable to abolish this initial defect? Is it through want of knowledge, or what other reason can there be?

No satisfactory aero motor can be built before this initial defect is abolished. That ought to be obvious for the following reasons: (1.) The motor must be positively self-starting and reversing under a load so as to retain absolute control over the machine. (2.) The fuel supply must be positive and independent of the piston speed to ensure proper carburation irrespective of atmospheric conditions or altitudes. (3.) The rated horse-power must be developed at a low revolution to ensure propeller efficiency and immunity from breakdown. (4.) Lowest possible consumption to give a reasonable radius of action. (5.) Simple and absolutely fool-proof. An engine working with forced induction covers all the above requirements.

It is absurd to cut down the weight of the motor, then to add a lot of paraphernalia to make that motor fit (badly) for its work—aero, car, or marine. A. GORE.

BLACKPOOL AVIATION WEEK AND TRAPS.

[14778.]—In the article in *The Autocar* of September 18th referring to the Blackpool Aviation Week, it is stated that we have police traps in Blackpool. I have made full enquiries in this matter and I am glad to say we have not one motor trap in Blackpool. If there be any traps, they are outside the borough, and the new chief constable, Capt. Ibbetson, is a motorist.

COUNCILLOR R. E. TREASURE.

[Our correspondent overlooks the fact that so long as the roads leading to Blackpool are likely to be trapped the motorist cannot get into Blackpool without running big risks of being persecuted. So long as this state of affairs exists so long will a large number of motorists keep away from Blackpool. The only thing to be done to make Blackpool accessible to the thousands who would visit it by car is to prevail on the county authorities to control the traffic in the ordinary way.—ED.]

[14779.]—I notice in your issue dated September 18th that you refer to the town of Blackpool and the surrounding district as being infested with police traps.

I regret that you should have been so misinformed as to publish a statement of this nature, which is not only absolutely contrary to facts, but a great injustice to the Chief Constable of Blackpool and the Corporation of Blackpool, and is but a poor return to make to the Chief Constable by a leading automobile journal for the very considerate manner in which he has always dealt with motorists.

Speaking as president of the Blackpool Automobile Club, I have had every opportunity for knowing the exact facts of this case, and I can assure you that there is no place in England where more consideration has been given to motorists than in Blackpool itself.

There has never been a police trap of any description set in Blackpool since Whit week of 1907, and that was the only occasion when any police traps have ever been set in Blackpool, and previous to giving instructions to time a number of very inconsiderate motorists over a distinctly dangerous road, and only after a fatal accident had occurred, the Chief

Constable wrote me a letter saying that he would be compelled to take some such steps, and asking our club to please warn all our own members and other motorists, as he had no desire whatever to commence a practice with which he thoroughly disagreed.

In spite of our warning certain motorists persisted in driving to the danger of the public on this most dangerous main road, and a large number of times were taken much in excess of the legal limit, but in only two cases were they prosecuted.

In the face of such a record as this, I think it is only just to retract entirely the statement made in your issue of September 18th, as I am sure you will be the first to wish to give credit where so much consideration has been shown.

There are many police traps on the different roads leading to Blackpool, but this is entirely a matter outside the jurisdiction of the Chief Constable of Blackpool, the roads outside the borough being under the county police, but as a new Chief Constable for the county has recently been appointed there is every hope there will be less of this in future than has occurred in the past; but I think that, even with regard to the roads leading into Blackpool, there has been a great deal of exaggeration in regard to the number of police traps, as I myself have been driving for years constantly on these roads and have never been prosecuted.

I think that your informant on this matter must be confusing the neighbourhoods of Garstang and Lancaster with that of Blackpool, as they are notoriously infested with police traps.

A. HUNTLEY WALKER.

[14780].—As portions of the article headed "Lancashire Police Traps" in *The Autocar* of the 18th September are likely to mislead your readers as regards this borough, I think it right to state that there have not at any time been any motor traps in the Borough of Blackpool, nor are there any at the present time. Moreover, the council of this borough have no jurisdiction over the roads beyond the borough and leading into it.

T. FIELDING, Mayor.

[14781].—I notice, under the heading of Lancashire police traps, that you mention that at Blackpool there is bitter hostility against motorists, and that the authorities mainly concentrate their attention upon the roads which lead into it. Now I consider the Blackpool Chief Constable, the police, and the bench most considerate in their treatment of motorists. There has been one conviction during the past twelve months, and that was for reckless driving and running down a constable on point duty on the promenade. The traps which are being worked are from five to seven miles from Blackpool, and are under the jurisdiction of the county authorities.

I may add that I am a motorist of nine years' standing (with a clean licence), and I consider twenty miles per hour on the roads leading to Blackpool from Preston quite ample, as the roads wind very considerably.

In a conversation with one of the police who work the Kirkham traps, I elicited the fact that the traps had been formed because sundry motorists had rushed through the village of Kirkham at speeds varying from thirty to forty miles per hour.

J. WRIGLEY.

SHORT PETROL.

[14782].—With reference to your remarks regarding "Short Petrol," I may say I have several times found a shortage in the petrol supplied to me in the two-gallon tins, and once at least a tin completely empty, no doubt due to leakage.

I think the only and a complete remedy for that would be for the company when affixing the seal to have stamped on it the combined weight of the petrol and seal. Now this being known, what would be easier than to have the tin put on scales and the two weights compared? Short weight would mean rejection of the tin at once.

As the tins and seals are all of the same type, their weight would be a constant quantity, and any variation in weight would mean shortage in petrol. Your remedy of measuring the quantity would mean the breaking of the seal, and therefore no satisfaction from the manufacturer afterwards.

W. R. DUGUID, Jun.

DOGS.

[14783].—I should be glad if you would insert the following incident, which took place on the 18th September, as such inhuman conduct is a disgrace to motorists:

A cousin who is staying with me was riding along the Tarpoley Road, accompanied by two hound puppies and

an old English sheep dog. When near the Round Lodge, Sandeway, a green motor car passed her, and ran over one of the hounds, smashing its leg. The hound yelled in agony, but the occupants of the car—two men and two ladies—never even slackened their pace, but went on as fast as they could, leaving the young girl alone in the road with the dying hound. Fortunately, a clergyman drove past, and kindly assisted her, and the puppy was taken to the Cheshire Kennels and there put out of its misery.

Within a week four hounds and two terriers have been run over on the same piece of road by motors.

LOUISA A. L. ASPENALL-DUDLEY.

[Such conduct as that told by our correspondent is reprehensible, and cannot be too strongly condemned. Unfortunately, the number of the car is not available. We know when a car is driven inconsiderately the anxiety of those who see it so driven for their own or other's safety more often than not makes them forget to look for the number till too late, but unless the number can be given, it is impossible to do anything towards stamping out the inconsiderate driving, though there is no doubt that the few who drive inconsiderately are the curse of the motor movement and its greatest enemies.—Ed.]

CURIOUS BEHAVIOUR OF A TYRE.

[14784].—Last Saturday evening week I witnessed a remarkable occurrence. I was near Marlborough House when a taxicab, making for Victoria, passed me, and immediately afterwards I noticed the offside rear outer cover suddenly detach itself with a slight explosion and trundle alongside the cab, both travelling about ten or twelve miles per hour. The taxi turned down between Marlborough House and St. James's Palace, whilst the cover continued its course more slowly till it encountered St. James's Palace. I walked back to see if the driver stopped, and I was just in time to see him turn into the Mall without even looking back. A police-constable stationed at the corner walked over to the tyre and brought it back to his stand, and after waiting another few minutes to see if the driver would return, I went to the constable and examined the tyre. The inner tube I found was inside the cover, and had a large hole torn in it where the valve had been. Both cover and tube were considerably heated, and must have run some distance just previously. That a driver could lose a cover and run on the rim unaware of what had happened passes comprehension.

FRED W. BELLAMY.

ABSENCE OF CARS NOTICEABLE.

[14785].—Going from here (North Lynn) to Cambridge on the morning of September 25th by way of Woodford, Epping, and Bishop's Stortford, we did not meet a motor car till we had gone through Trumpington and were close to Cambridge. When we saw a car on the way out from Cambridge. For a journey of fifty-three miles between 9.15 and 11.40, this seems worthy of notice.

E. J. BEAVIS.

THE R.A.C. AND THE ROAD BILL.

[14786].—I am writing to protest in the strongest terms as an associate of the R.A.C. against the resolution passed quite recently in favour of the Road Bill by the General Committee of the R.A.C., for, in face of nearly all the affiliated clubs sending their opposing opinions against this Bill, the committee accepted it, thus ignoring the views of the club associates, although if a ballot were to be taken they would negative the proposal by an overwhelming majority.

Why did the R.A.C. write to all the affiliated clubs asking for the expression of their views if they were to be ignored as they have been? The motoring politics of the R.A.C. are managed or mismanaged by a few, who seem to rule and override the opinions of all who differ from them, and I have come to the conclusion that provincials belonging to these organisations in London are simply throwing their money away, and obtain no representation (except on paper) in return.

NEMO.

[Our correspondent is misinformed. The meeting referred to was unanimous, and many delegates of provincial clubs were present, and presumably voted in favour of the Bill. We think they were wrong, but this is not the point.—Ed.]

WHAT IS HORSE-POWER?

[14787].—I thank you for publishing my letter [14719], but should like to point out that you have made a slight mistake which rather spoils it. I put (1 m.h.p. = 33,000 lbs., etc.), which I presume you mistook for 1 m.p.h. Of course I meant 1 mechanical horse-power, not 1 mile per hour.

A. W. L.

Correspondence.

THE UNSATISFACTORY CHAUFFEUR.

[14788].—With reference to a complaint of "Chauffeur Mechanic" [letter No. 14712] in your issue of September 18th, I should like to record that I was also a victim of the base meanness of apparently the same individual.

In answer to his advertisement I sent a respectful letter stating, amongst other particulars, that I hold the R.A.C. certificate, and that I am employed in a London garage. Imagine my utter disgust on receiving my application back with the words "No experience" scribbled across, and enclosed in an unstamped envelope, for which I had to pay twopence. I would point out that in the advertisement he did not say he wanted a man with a lot of experience. Such treatment at the hands of a so-called gentleman can only be described as despicable.

POOR, BUT NOT MEAN.

[14789].—I should like to expostulate about the way people are writing to *The Autocar* to complain of their servants (chauffeurs). Surely it is a very undignified thing to do. I doubt whether there are any more unsatisfactory chauffeurs than there are butlers or cooks, and if it is unnecessary to complain in print about our indoor servants I think it is also unnecessary to complain about our outdoor ones.

My experience of the matter is this. I have had several chauffeurs for a short period before I got what I wanted, but I have no complaint to make on that score. They did not happen to coincide with my personal requirements, but that does not say they were not good servants: and I have no doubt the men to whom I refer are now all in comfortable places, and giving satisfaction to their masters.

I think some of your readers might be a little more lenient in their opinions of the chauffeurs who do not happen to suit them.

B. R.

[14790].—With reference to the letter No. 14672, which appears in your issue of September 11th, regarding "The Unsatisfactory Chauffeur," I venture to express the opinion that the experience of your correspondent has been shared by the majority of motorists, and it appears to be a subject that the R.A.C. could, and certainly should, take in hand.

"LN 000" has evidently been most unfortunate in his choice of men, and, as his letter infers, it is not always the highest paid individual who renders the most valuable services in return.

It is a certain fact that amongst the rank and file of the present day chauffeurs, there are to be found some of the most consummate humbugs that ever held a wheel, and how men of this type succeed in obtaining berths at good wages is, to the writer, a matter beyond comprehension.

The majority of drivers profess to be, and are more often self-styled, chauffeur-mechanics—a title to which they have not the slightest possible claim. I will go so far as to state that these individuals have never had the least workshop experience, and that work in any shape or form is absolute poison to them. Any man who puts himself forward as a chauffeur-mechanic should possess some proof that his abilities and experience warrant him describing himself as such.

To my mind, here is an opportunity for the R.A.C. to institute some method of protecting the motorist and the legitimate chauffeur, and so rid "motorism" from one of the curses of the pastime. Combination of forces would soon weed out the black sheep, and the motorist would eventually discover the long-sought-for satisfactory driver.

I have seen cars come into repair works in an indescribably filthy condition; oil, dirt, and dust in every conceivable corner, the accumulation evidently of weeks of carelessness, inattention, and grave neglect.

If all owners, especially of high-grade cars, would insist upon employing only those who had had at least three years' experience in the workshops of a reputable firm, many of the grievances of the motorist would cease to exist.

It will be admitted that no man can keep a car spotlessly clean, and, as in all other things, there is a happy medium. This state does not yet appear to be known where the motor car is concerned. Many wealthy owners have replaced their horses and carriages with high-grade cars, and keep a competent staff to superintend them, so that smartness and efficiency are maintained as in former days. Others less fortunate are at the mercy of the swanker, and many an owner must feel disgusted at the deplorable appearance of his car.

I may add that I have been associated with a well-known firm for just over four years, and although the greater portion of that time has been passed in the workshops, I could only by a stretch of the imagination term myself a mechanic. I anticipate, however, in the dim and distant future becoming acquainted with every detail of the high-grade car and its management, so that, when circumstances arise, I hope there will be at least one motorist who will be unable to write on "The Unsatisfactory Chauffeur."

FRANK STONE.

[14791].—I have read with interest your remarks anent the above, and seeing the very large number of valuable cars, not to mention the innumerable human lives, which are entrusted to the care of chauffeurs (sometimes with disastrous results to the owners and the general public), there is no doubt that some proper system of registration and record should be immediately inaugurated by the leading motor clubs, both in the interests of the owners of cars and of the experienced and capable chauffeur. I therefore venture to suggest that the leading associations (including "The Autocar League") should institute the "Continuous Certificate of Discharge" system which is in use for seamen in the Mercantile Marine, which is a continuous record of a man's career.

If the above system, adapted to motoring needs, be adopted, it must be under the control of the automobile associations, or one head organisation, and not under the Board of Trade or State control; we are burdened with far too many State officials already, as most of us know to our cost.

The evil which your correspondents rightly complain of is one of the many results of the present system of smatter and shuffle, by which a vast number of youths grow into manhood without the slightest intention or desire to do, or learn, anything thoroughly, and then they wonder why the more industrious and better-trained foreigner is preferred instead, and howl for Right to Work Bills and other nonsense.

To make the scheme complete, I think the motor cab companies should be asked to join in, as it is quite as important for them as for the private owner to be sure of obtaining thoroughly competent drivers.

Should not all motor associations be assimilated into one great federation, supported by all motorists in the United Kingdom? We should then be better able to resist persecution and stick up for our rights.

G. ARTHUR BROMAGE.

[14792].—Would you be so kind as to allow me to air my views of "LN 000" and also letter 14730 signed "Chennard." I am afraid they both need to change places to find the true position of things. They are both right in their views to an extent, and both wrong to a further extent. I have been both master and man for nothing more than the experience, as I have been in private service in more ways than one where motors were kept, but as driver-mechanic I have most of my experience, and was well paid to get it, but in return I gave my employers every satisfaction in keeping their cars clean and in good order. Although I am a gentleman, I am proud of the fact that practice is better than all the theory you can accumulate.

"Chennard" may have very little to do with his car, and he ought to get a situation with a doctor who has a good practice, and keeps his car going all day from, say, nine o'clock in the morning to about seven o'clock in the evening.

As an owner of cars, I would not approve of my chauffeur feeding pigs, mowing lawns, or hay-making. Let him repair farm implements if he can; let him look after the electric light or gas plant. I am sorry that motor drivers of the present day have lost so much respect for their employers on this account. No "gentleman" of good consideration does expect these sideshows of his driver, but masters are quick enough to appreciate any good mechanic if he goes to his master and asks him if there is anything in the house that requires repairing, or farm implements that need looking to; but what will the master say if his driver comes to him and says, may I feed the pigs or clean the boots? Has such a man got no conscience? Is he aware that he is taking bread and butter out of probably some more deserving being's mouth by doing things of this sort? Does he think that his employer thinks more of him for it? No; far from it. A good driver-mechanic cares for his master's car as though it were his own, and can always make little odds and ends for the car that are useful on the road.

I have mixed amongst drivers and owners. Now as to owners. I must freely admit that some of them are even callous. They expect so much of a man. If only an owner

would take a driver's place he would call all masters such as himself brutes, and say his life was slavery. Why cannot these so-called gentlemen take the view of his servant in this light: I am human, so is my servant; we have both the same Creator. I am not a religious subject, but I look at both sides, and I say there are as bad masters as there are bad chauffeurs. A man's manner will always show what he is. Courtesy and respect for your employer mean that you get his in return.

Masters too often keep drivers' papers and photographs and do not think they are doing any harm. If it were only known how many men have lost places on this account masters would be ashamed of themselves. I have had this happen to myself, not that I minded, but suppose I were a man who could not afford to be out of work; well, it would be the employers that put me into the workhouse, and there are those who are callous enough to do so. Then the employer says: Oh, that does not matter; So-and-so made so much out of me by getting commission; this sort of man does not deserve any consideration. Well, Mr. Employer, you never know when you may be the cause of putting an honest, industrious man out of human existence by keeping his belongings.

Now the driver. You who accept these illicit commissions are not what anyone can call a deserving human, but a man to be avoided till you change your ways and act straight with your master. I do not suppose there is one master in every twenty who has not heard of something nasty either of his own or a friend's driver, and the master that treats you as dirt leave him; let him look for a car butcher who will rob him in one way or another. BOB

[14793].—I think it my duty to protest against "Experientia Docet's" letter [No. 14727] concerning chauffeurs.

My experience of chauffeurs, which has been of six years, has proved to me that French chauffeurs are nearly all absolutely untrustworthy. Those who are considered honest are those who content themselves with the illicit commissions they get on the goods supplied to their employers. They neglect lubricating the engine of their cars, they scratch the paint work, they leave the oil on the floor of the motor shed, etc. All this to get illicit commissions from the garage which supplies spare parts and tyres, and from the coachbuilders. These chauffeurs are the best you can get in France, and it is most difficult to find some as the others are much worse.

For instance, I know of several French chauffeurs who have arranged themselves with unscrupulous garage owners so as to sell as new second-hand cars to their employers at the price the makers charge for new ones.

It may perhaps interest the readers of *The Autocar* to know that I have known French chauffeurs to do the following deeds: Put sulphuric acid in lubricating oil, saw shaft between engine and gear box half through, put emery powder in lubricating oil, put a piece of iron in the change-speed gear, arrange short circuits, and many other things too numerous to mention.

I have owned cars for six years, and have had eight French chauffeurs, which beats "Experientia Docet's" record, and I have never had peace until I took an English chauffeur, when my troubles ended.

I may mention that I do not know one of my friends who has a satisfactory French chauffeur.

If a reader of *The Autocar* wants to see one of the worst living creatures on the globe then let him have by all means a French chauffeur, but if he wants to do motoring it would be better for him to have an English convict than a French chauffeur. HENRI DE MALGLAIVE.

Orry. La Ville.

[14794].—I should like to suggest to your correspondent "LN 000" that he might with advantage advertise for a "working motorman, willing to be useful." He would get plenty of answers, from which he could probably select a man with sufficient good breeding to be civil and sufficient manliness to be able to rise to the occasion. In any case, the wording of the advertisement would eliminate applications from the by-product of the slums and the garage.

As regards wages, there are and always will be people willing to give fancy wages for men who fancy themselves, to the detriment of other employers and employed. They are welcome to them. But the general rate is rapidly coming into line with those of coachmen and grooms, so many of whom have been turned out of their homes by the newcomers.

No man in his senses, who gives up a couple of horses or a pony and trap for a small or medium-sized car, should

dream of giving more wages than formerly. Should he keep two or three cars, he would require a washer or helper who would receive helper's wages, the head man receiving those of a working studgroom, viz., round about 25s. a week and a cottage. Should he keep a stud of cars, and have a forge and workshop fitted with expensive tools, it would no doubt be to his advantage to engage a mechanic and pay him £2 a week, on the understanding that the day any car under his charge goes into a garage the mechanic goes too. This man would be in the place of a highly-paid studgroom in charge of a stud of fifteen or twenty horses, who has had a life's experience in the stables, and is practically a veterinary surgeon, but to suggest that the owner of a single car or a couple of horses requires a man of this description is ridiculous.

To compare the hours of a motor car driver with those of a mechanic in a works or a studgroom is fallacious. The average yearly mileage of a car is 5,000 to 7,500 miles, including a fairly strenuous tour, which means that there are days and days when half an hour's dusting is all that is necessary, whilst the general incidents of a tour can be fairly put against the more arduous work. The work of a works' mechanic tends towards monotonous drudgery, whilst a studgroom is never off duty, day or night.

To compare the training of a motor car driver with that of a studgroom is equally fallacious. The extreme youth of quite competent drivers speaks for itself. There remains, of course, the owner's bugbear—the overhaul. But the modern car should run at least 10,000 miles or two years before this is necessary, during which time the expensive tools are practically idle, with the certainty that when the day comes the tool most wanted will not be there, and the uncertainty of your man's competence, in spite of certificates and half the alphabet he conspicuously scrawls after his name. Far better is it to get an estimate from a well-appointed garage whose reputation is at stake. DRIVER-OWNER.

SPEED LIMIT AT GRANTOWN-ON-SPEY.

[14795].—I was so interested in your article on Grantown-on-Spey in last week's issue that I cut it out and sent it to a friend who is a member of the Town Council there, at the same time expressing my regret that the authorities should behave so rigorously as to make the town notorious and cause it to be shunned by motorists. I quote my friend's letter in reply:

"I mean to carry out the desired changes as far as my humble efforts will be of service. I consider that a motor going at fifteen miles per hour is less dangerous than a horse going at ten miles per hour. I mean to do all in my power to undo what has been done, and if you can publish something on the lines that Grantown is not to continue to enforce the law so rigidly you will oblige."

I am glad that Grantown-on-Spey has "taint a thoct to mend," and that fellow motorists may run into and explore its lovely scenery in future without having to anticipate that harsh and unnecessary interference by the police which has obtained during the past summer or two. DEFERENTIAL.

MISPLACED POLICE TRAPS.

[14796].—Below is another flagrant example of "misplaced police" which may be of interest to you and readers of your excellent journal, viz., the absence of a constable on point duty at the dangerous cross-roads by the Clock Hotel, Sutton, Surrey, where hundreds of cars pass through daily, especially at week-ends, as this is the main road to Brighton *via* Reigate, but instead of the police making themselves useful at dangerous spots such as this for the safety of the public, they spend their time about a mile and a half away setting traps on the open road over Banstead Downs, where there is mention or no danger even at a speed of 40 m.p.h. I may mention that there have been several serious accidents at the above cross-roads. T.J.F.

UNFAIRNESS OF POLICE.

[14797].—When motoring in Kent the other day I was caught in a police trap. I was approaching Gravesend, and was within a few hundred yards of the centre of the town, the trap being situated on the London side. It was on the main road, and, judging from the time the men came up to me, I infer that I was timed over a very short distance indeed. After being stopped by a policeman, one man came up and then another, whom I take to have been stationed at either end of the distance measured, and as they arrived within two or three minutes of each other, I believe the distance was short.

I asked for this information at the time, but it was refused. It was, therefore, impossible for me to get any confirmatory evidence or otherwise, which seems to me to be wrong, and I shall be glad to hear from you as to whether I was not within my rights in seeking to be informed on the point; otherwise, how could I possibly check it?

A. E. B.

[The question you asked of the police constable was a very proper one, but it was within the policeman's discretion either to give or to refuse the information desired. The police are not bound to divulge their evidence till the case comes on for trial, but then they are subject to cross-examination on the points desired. A protest to the magistrates might also be made as to the unfairness of the police not giving an opportunity of checking the length of the trap, or obtaining any confirmatory or other evidence.—Ed.]

THE LETTER OF THE LAW.

[14793.]—Your correspondent "R. W. B." [14748] asks for instances of un repealed but never enforced laws. The following is one which would cause a considerable amount of inconvenience, if it were enforced with the same severity as the Motor Car Act:

"The samin daye, for-so-meikle as it was devised, statute, and ordained of before, that nane of our Sovereine Ladies lieges, sulde take upon hande to schutte with the half-hag, culvering, or pistolette at deare, rae, wilde bestes, or wilde fowles, under the paine of death: . . . And for remeind thereof: It is devised, statute, and ordained be the Lorde Governouris Grace, and the three Estates of Parliament, zit as of before, that nane of our Sovereine Ladies lieges of quatsumever degree hee be of, take upon hande to schutte at deare,, rae, or uther wilde bestes or wilde fowles, with half-hag, culvering, or pistolette in any time to cum, under the paine of death, and confiscation of all their gudes, for their contemption, and quhat person or persones, that happenis to take or apprehend any manner of persones, cummand in-contrair this present acte and statute, and bringis him to the schireffe of the shire, or his deputes, the taker sall have the escheit of all the persones gudes hee apprehendis, and sall be rewarded utherwaies, as accordis for his laboures."—1551, c. 9.

This Act, if again observed, could only apply to Scotland, and it is doubtful whether the modern hammerless ejector could be considered to be "a hackbut, culvering, or pistolette."

C. A. H.

COUNTRY HOTELS.

[14799.]—At various times there have been letters in *The Autocar* about hotels and the lists of these issued by the associations, but what I think is really wanted is a list of comfortable roadside or country hotels, similar to that named by "Owen John" a week or two ago, and I think it would be a good thing if readers of your paper would supply the names and addresses of such hotels which they can recommend from personal experience. Hotels in towns are easily found when wanted, but really comfortable village or country houses are much nicer to stay at when touring, and are not so easily found, as external appearances are often deceptive, some being much better than they look and *vice versa*.

MANCHESTER.

BRITISH CARS.

[14800.]—I should like to give my evidence in favour of the British car. I have had a Pilgrim (all British manufacture) for two and a quarter years, and the expense for actual repairs has been 3s., and £3 14s. 3d. for new chains after 8,000 miles. I am still using three of the original tyres (on a seven-seated landaulet), have had no engine stop, and find the car most satisfactory and economical in every way, while my neighbours appreciate the absence of noise, smoke, and smell, so that I have some reason to be pleased with the British-built Pilgrim car, and take a pride in keeping it thoroughly up-to-date, which an owner can afford to do if the upkeep be low. I think it is only fair to British manufacturers that owners should speak for them when they are thoroughly satisfied.

A. R. TRIMMER.

RUNNING EXPENSES.

[14801.]—A great many letters to the Editor within the last few years have been on the subject of car upkeep, and from time to time a letter appears from which one might imagine motoring to be the cheapest pastime on earth. This or that car is credited with extraordinary economy. Now I have used small cars since 1904, and am now at my third. I say that cheap motoring cannot be done. Take letter

14749, for example; distance run 3,400 miles, repairs 1s. 6d. Very well, the writer has been most singularly fortunate; but I wish to say that statements of this kind which take note of only one item, such as repairs, are rather misleading. When repairs are undertaken they are pretty sure to be extensive, or alternatively there will be a large item for depreciation. This applies very markedly to tyres, and though a driver may be lucky with regard to punctures, he will find out some fine day that all his covers are crocks.

Again, take letter 14750, 3,500 miles for a total expenditure of under £22, and that with a 12 h.p. car. The car is a new one; the writer has been fortunate, or else he has not allowed much for insurance. Will he detail his expenses after another 3,000 or 4,000 miles? Is he keeping his car up to the mark in every respect, or is he allowing this and that little thing to "do well enough," till eventually there is a big bill for overhaul which, divided up into the miles run, will mount up his expenses?

Here is my own little bill for an 8 h.p. four-seated Rover during 1908, car's second year's running, and the first in my ownership:

	£	s.	d.
Repairs, including alterations to springs and various extras and sundries, and adjustments in garage	13	13	6
Insurance, tax, licence, Motor Union, rates and taxes on coach house (no rent paid)	14	3	2
Petrol (amount not quite certain) approximately	6	19	4
Tyres	22	18	4
Cleaner's wages	3	19	0
Oil and grease	1	6	9
	£63	0	1

Distance run 3,480 miles. Cost, 4.3d. per mile.

In the year 1909 I estimated my total expenses at 5d. per mile, or thereabouts. And still we have not allowed for depreciation! Of course, depreciation is to a great extent dependent upon the amount spent on upkeep. My upkeep has been at a high figure, and therefore my depreciation is perhaps low, but I will refrain from putting a figure on it.

Scottish roads, and especially around the great city in which I live, are accountable for much. My last car was of the same horse-power, different make. I can only say it cost even more to run than my Rover.

I have written rather fully. Is my running expense above normal compared with that of the majority of owners of small cars in Scotland?

E. T.

UNSIGHTLY WARNINGS.

[14802.]—Allow me to lodge a protest in your columns against the shameful disfiguring of our country roads by the hideous road warnings erected at cross roads and corners for the benefit of the reckless motorist. In many cases the beauty of the countryside is completely ruined by these "triangles." Besides this, surely it is encouraging the inconsiderate road hog to tear round corners and past cross-roads near which there are none of these unsightly warnings. Therefore, it is to the interest of all that these unsightly warnings should be removed.

RUSTICUS.

DUST RAISING.

[14803.]—I have a 45 h.p. landaulet weighing two tons unloaded, which at twenty miles per hour raises a mere film of dust, I believe from being very open underneath at back, viz., 27in. clear of the road. There is no back draught when the car is open by raising the upper part of the front draught screen 8in., giving to this part of it the incline backwards.

N. B.

SUMMARY OF CORRESPONDENCE.

DEMAND FOR AEROPLANE ENGINES.—Mr. J. W. Brown, managing director of the Motor Supply Co., Ltd., writes calling attention to the apparent laxity which is being shown by British manufacturers in supplying the demand for light aeroplane engines. He alleges that orders for aeroplanes amounting to nearly £100,000 have already been sent abroad, and his firm has been inundated with applications for foreign built machines owing to the fact that there is no British-built aeroplane yet on the market that has achieved any success. Hundreds of orders are waiting, but the great obstacle in the way is that a satisfactory British engine for aeroplane work has not yet been produced. Only during the past week his firm has had to refuse orders for at least a dozen machines from this cause.

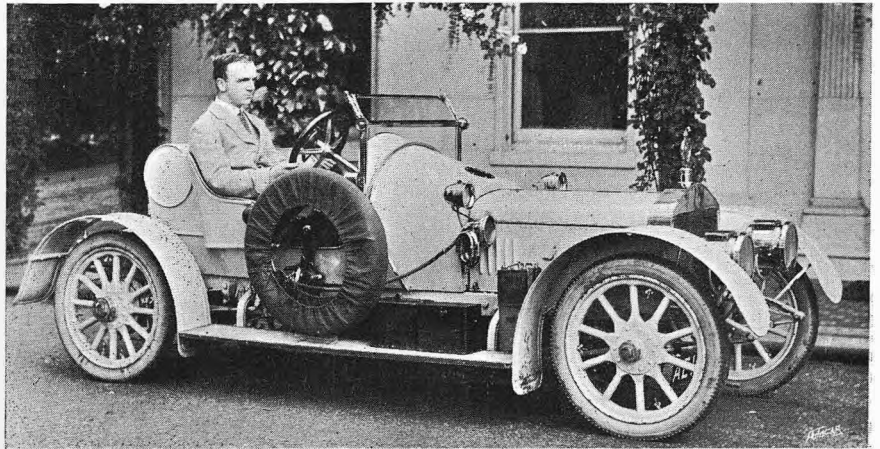
Flashes.

We are informed by the Chief Constable of Denbighshire that there have been no police traps in that county since July 26th. This information is provoked by the paragraph published last week (page 482), in which two traps are referred to as existing in the county of Denbigh. Of course, this does not mean that motorists are absolutely able to drive without restraint, but Major T. J. Leadbetter tells us that he is not in favour of motor traps, though most opposed to any sort of indiscreet driving which may be to the danger of the public. He urges this view on his men, and if motorists will loyally support his efforts by careful driving, they are, we are assured, unlikely to experience the slightest inconvenience. On the other hand, dangerous driving will not be excused. The Chief Constable suggests that motorists are apt to see traps where none exist. As an instance, he says one person discovered a constable disguised as a coal heaver, who was supposed to be trapping, and the man who made the discovery stopped to warn oncoming motorists; as a matter of fact, the coal heaver was genuine. We need hardly say that we are entirely in sympathy with the attitude of the Chief Constable of Denbighshire, but at the same time he will forgive us, we are sure, if we say that a good many of the Welsh county police, or, for the matter of that, the county police generally, are rather poor judges of what is and what is not dangerous driving.

* * *

The main roads of Kent are for the most part good examples of smooth and dustless going, and many of the by-roads are also tarred and provide equally good going. The cross-road from Tonbridge to Maidstone, through the old-world villages of Hadlow,

Mereworth, Barming, and thence into the county town, is a case in point. This is one of the best seventy miles circular run, starting and finishing from London, that can be found. The return is made by the direct Maidstone road.



Mr. T. R. Kay's 14-16 h.p. Straker-Squire. This is the first car of this description to which a wind screen has been fitted. The screen is secured in a brass frame, and is entirely free from woodwork, which gives it a light appearance.

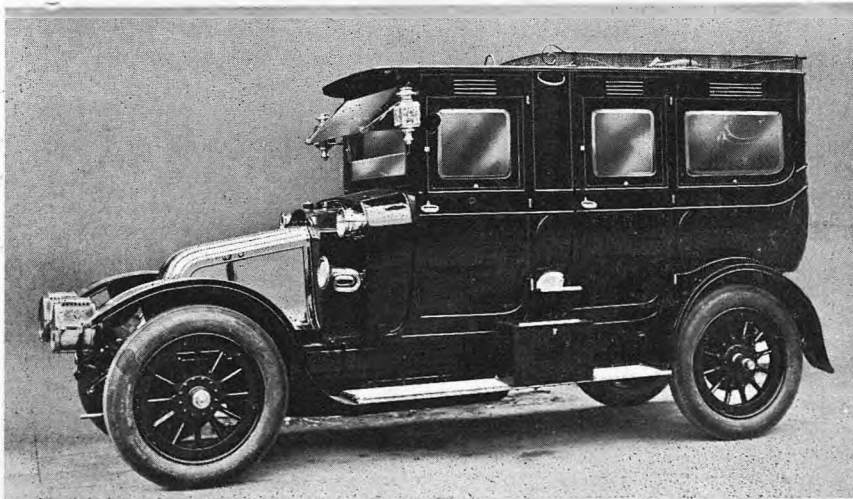
An automobile exhibition will be held at Geneva in May of next year under the auspices of the Swiss Automobile Club. Aviation will also have space.

* * *

It is rumoured that a big motor event will be organised in France next year, and that it will be subsidised by the Government to the tune of £4,000 as first prize. Although a number of French makers are under bond to each other not to take part in any race in 1909 or 1910 under pain of a heavy forfeit, it appears that exception was made in the agreement to any event organised by the national authorities. This is *apropos* of the big motor car race to be held in Germany next year under imperial auspices and the important motor boat race at Kiel.

* * *

A correspondent has sent us a cutting from *Sketchy Bits*. It takes the form of a full page illustration, and shows a much-battered old gentleman appealing to a policeman to help him, as he has been set upon by a couple of ruffians who have knocked him about badly and taken away his watch. The constable is shown with a watch in his hand, and is supposed to be replying irritably to the dear old gentleman, "Don't bother me about a little affair like that; can't you see I am timing a motor." In the background the two thieves are shown running away. Of course, the thing is a picturesque exaggeration, but there is no doubt that in places where trapping is instituted the police are neglecting their legitimate duties in order to catch motorists who may technically infringe the speed limit.



A 35-45 h.v. Renault chassis fitted with a body by Messrs. A. Meier and Son. The car was built for Mr. H. M. Jetts, of Croydon, and has ten electric lights, and the tyres are filled with Pneumatic filling

Flashes.

Every doctor in practice at Sevenoaks makes use of a car. Whilst the motor must be almost indispensable to the medical profession in such a hilly district, we believe this constitutes a record for any town of similar size.

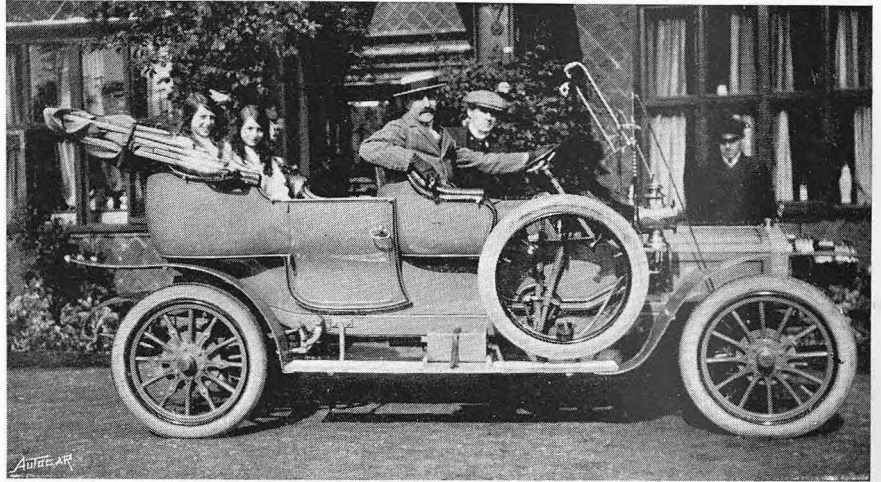
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The German military authorities (says the *Morning Post*) have introduced a scheme by which persons acquiring German-built motor and traction vehicles, which in case of war would be requisitioned, will receive a grant of 4,000 marks (£200) and a yearly subvention of about 1,000 marks (£50). These payments, says Mr. R. Bernal, the British Consul at Stettin, will be made for vehicles of 30 h.p., and higher grants for vehicles of greater power. Interested persons are to communicate with the Minister of War before buying such vehicles, who will then decide whether the grant and yearly subvention can be made; if so, an agreement is to be entered into by both parties. The scheme contains a variety of clauses and conditions, and would appear to be of considerable importance from both a commercial as well as a military standpoint, and is doubtless intended in great measure to assist landed proprietors. A considerable number of the motor vehicles owned here now receive this subvention.

* * *

The *Surrey Leader* is indignant at what we recently said about the attitude of the Reigate Town Council towards motorists, particularly with regard to their action in calling the Chief Constable over the coals for daring to assert that a ten-mile speed limit was not necessary when they said it was. The members of the council presume to know more about the Chief

Constable's special and particular duty than he knows himself. "The Chief Constable (says this local paper) expressed his own opinion in direct contradiction of other authorities, of the Watch Committee, whose servant he is." Such sturdy independence gave some of the members of the council quite a shock, and the way the council took it confirms our contention that they must be small-minded persons to



Max Pemberton, the well-known novelist, in his 12-16 h.p. Delahaye car. The body work is by Messrs. H. M. Hobson, Ltd.

imagine that because the Chief Constable is their servant he must think as they think.

* * *

Commenting further on the attitude of the police towards motorists in Carnarvonshire, the *Carnarvon Herald* says: "In our opinion the police have instituted prosecutions against owners of motors who were neither endangering the property nor the persons of the King's lieges, and that too little consideration has been given by the justices to the sworn evidence of these owners as to the speed at which they were driving. We further appeal to the magistrates to bring to bear on the consideration of all such cases that commonsense and desire for fair-play which invariably characterise them in all other cases."

* * *

Australian motoring has suffered a severe loss by the death of Mr. Samuel Hordern, senr., of Sydney. Mr. Hordern died on Friday evening, Aug. 13th, at his residence at Darling Point, Sydney. The deceased gentleman was president of the Automobile Club of Australia, and the owner of several fine cars. He was also owner of the motor yacht *Bronzewing*, the largest and most powerful motor driven vessel in Australasian waters. He took a keen interest in motoring from all standpoints, and frequently undertook long tours in different parts of Australia in his car.



A 16 h.p. Humber changing a wheel (a Humber detachable) in the middle of a forest in Russia. The road is a fair sample of Russian country roads.

Club Doings.

Southern M.C.

Hon. Sec., Mr. W. L. Lorkin, 2, Wellesley Villas, Clapham Road, S.W.

A hill-climb was held on the 26th ult. at Tilburstow Hill, near Godstone.

Results: Car Class.—1. H. Billing (10.12 h.p. Humber car); 2. W. J. Jones (12-16 h.p. Clément car); 3. W. R. Pele (8 h.p. De Dion car).

At a committee meeting held on Thursday, the 23rd ult., it was decided to hold the annual club dinner on Nov. 25th.

A winter programme was also arranged, and among the interesting events that will take place is a series of papers on interesting subjects, commencing with "Carburation," by Mr. Harrison; "Leather used in the Motor Trade," by Mr. Grottick; "Vulcanisation," by Mr. Jones; and "Electric Ignition," by Mr. Cufley.

Herts County A.C.

Hon. Sec., Mr. Arthur J. Salmon, Woodlands, Langley Road, Watford, Herts.

The members' hill-climb which took place last Saturday was an extra event to the long list of fixtures which the club has carried out this summer, and, considering the time of year, a very fair list of entries had been obtained. Fortunately, the rain which had fallen on and off all day stopped altogether before the start, and though wet under foot, the programme was gone through under comfortable conditions. Some excellent performances were made, considering the state of the roads, and Mr. Hancock again scored the double distinction of making fastest time and winning the cup, open to any member, while Mr. Fred G. Carter won the Jay Cup, which is open only to members who are entirely unconnected with the automobile trade.

Appended is a list of the competitors with their placings on handicap and comparative times, X representing fastest time in each class.

The whole proceedings were well and smartly carried out, and reflect great credit on the club.

Competitor and car.	Handicap placing.	Time m. s.
*F. G. Warwick (8 h.p. De Dion)...	8	X + 3 15
*Dr. F. C. Fisher (8 h.p. De Dion) ...	10	X + 4 29½
A. F. Ilsley (8 h.p. Phoenix) ...	10	X + 2 50½
*E. Webster (8 h.p. Rover) ...	9	X + 3 45
J. Van Hooydonk (10 h.p. Phoenix) ...	7	X + 2 36½
C. J. Newey (12 h.p. De Dion) ...	2	X + 1 24½
F. W. Shorland (12 h.p. Talbot) ...	3	X + 30
L. Walton (16 h.p. Vauxhall) ...	4	X + 22¾
A. J. McKinney (16 h.p. Singer) ...	6	X + 33¾
A. J. Hancock (20 h.p. Vauxhall) ...	1	X
*F. G. Carter (20 h.p. Vauxhall) ...	5	X + 15¾
*O. S. Thompson (40 h.p. Austin) ...	7	X + 11
Claude Watney (80 h.p. Pipe) ...	11	X + 12½

* Denotes competitors for the Jay Cup.

Lancashire A.C.

Hon. Sec., Mr. J. Campbell, Blackburn.

This club closed its summer programme on Saturday, September 18th. with a week-end run to Windermere. The majority of those participating proceeded to their destination on the Saturday afternoon, and one or two fresh arrivals on the Sunday brought the total number up to over thirty ladies and gentlemen. Some of them made the Old England Hotel, Bowness, their headquarters, and others stayed at the Crown Hotel, where a social evening was spent on the Saturday. The party also indulged in fishing and a trip down the lake on a steam launch, and on the Sunday most of them motored to Keswick for afternoon tea. Pleasant weather prevailed, and the event proved very enjoyable.

Yorkshire A.C. Hill-climb at Pateley Bridge.

Hon. Sec., Mr. C. P. Wilson, 24 and 25, Basinghall Buildings, Basinghall Street, Leeds.

On Saturday last the Y.A.C. again held its hill-climb on Greenhow Hill, in very unfavourable weather. The morning opened with heavy rain, the country being hidden in a thick grey fog, and the view looking down from the hill tops into Pateley reminded one of some of Doré's pictures of the nether regions, as the valley represented a pitch black void that might have been the mouth of a bottomless pit. Fortunately the worst of the rain slackened into an occasional drizzle before the events were timed to start, and the roads had had such a thorough drenching that they were not so "skiddy" as they had been when the rain commenced. But of course the going was heavy, and detracted from speeds that might have been accomplished had the roads been dry. As the entries included three Talbots, Mr. P. Kidner's Vauxhall, a 4in. Hutton, a 40 h.p. Métallurgique, a 28-40 h.p. S.P.A., two 16-20 h.p. Sunbeams, and a 40-50 h.p. Rolls-Royce, some good sport was anticipated. Unfortunately the event was greatly marred by the fact that it happened to be the first day of the cattle fair at Pateley, and the cars had to wait so often for sheep, cattle, and carts going up or down the hill that by 3.30 p.m. not quite half of the programme had been carried through.

The cars commenced to weigh in about 8.30 a.m., but it was not until nearly 11 a.m. that all the cars had arrived and been weighed. A move was made for the starting point about 11.15, where all the cars lined up in numerical order. One of the chief points of interest at the starting point was the man with a cinematograph, who later caused some amusement by coming up the hill as a passenger in a competing car, and grinding away for dear life at his cinematograph. The resulting pictures taken on this side, if successful, should be rather interesting.

The first car was started at 11.40—a 16-20 h.p. Sunbeam driven by Mr. N. F. Bayliss, who put up the remarkably good time of 1m. 55½s. Owing to a mistake in telephoning, this was given out at first as 1m. 25½s., and this time caused some excitement, but half an hour later this was corrected by adding 30s. Telephonic communication was established between the top and bottom of the hill, and also to a point half-way up the hill, and Mr. Fattorini was timekeeper at the finishing point.

The next car was also a 16-20 h.p. Sunbeam, but this took 52s. longer than the first to complete the ascent. Mr. R. Lisle with a 15 h.p. Star was third to start (time. 2m. 23½s.)

A 12 h.p. Talbot driven by H. G. Day did the climb in 2m. 26½s., winning Event A on formula. The fifth car was a 15 h.p. Talbot driven by J. W. Hedge, who put the car up in 2m. 21½s. Rather singularly this car exactly tied on formula with the only other 15 h.p. Talbot (J. L. Kirk's) entered, Mr. Kirk's car running seventeenth, and, being heavier, taking 4s. longer than Mr. Hedge's car. Mr. Kidner's Vauxhall did fairly well in 1m. 57½s., but the most exciting ascent in this event was that of the 4in. Hutton driven by W. Bradwell, who made the ascent in 1m. 27¾s. It was remarkably good driving, and despite the wet roads he got round the corners well. His nearest rival on time was L. Aspinall on a 40 h.p. Métallurgique, which ran the course in 1m. 44s. A 28-40 h.p. S.P.A. driven by J. Bargna, and from which great things were expected, had bad luck in Class A, as the engine stopped when the driver was letting in his clutch at the word to go. Arthur Bray, on a Sizaire-Naudin, was again given the unlucky number of 13, and unlucky it proved, as owing to being a shade too highly geared, and wheels slipping on the mud, this little car took 7m. 29s. to reach the top. But Bray is always happy and smiling, whether in good or bad luck.



YORKSHIRE A.C. HILL CLIMB. Mr. J. L. Kirk's 15 h.p. Talbot weighing in.

Club Doings.

After Event A considerable time was spent in getting the competing cars for Events B and C down the hill again, and waiting for numerous batches of sheep, cows, and carts to ascend or descend the hill, and this part was decidedly tiring, nearly an hour being lost. In fact, it was 3.40 before the second car in Class B started.

The competition was not decided on time only, but by the formula

$$\frac{\text{Total weight in lbs.}}{\text{Time in secs.} \times \text{h.p.}}$$

There was a fairly large assembly of spectators on the hill, but, of course, the weather was against a really large attendance. Perhaps the bad weather made the climb more real and testing than dry weather would have done.

It is to be hoped that if the hill-climb is held here again a cattle fair day will not be chosen, as the waiting for traffic to clear a hill nearly a mile long is very tedious both to the spectators and competitors, who are liable to lose interest in the event and decline to enter another year.

Apart from this, however, the official portion of the programme was carried out with all the promptness and accuracy that characterise all the Y.A.C. events.

CLASS A.—Open Event.

Car and driver.	Time.		Handicap result.
	m.	s.	
16-20 h.p. Sunbeam (Norman F. Bayliss)	1	55 $\frac{1}{2}$	.986
16-20 h.p. Sunbeam (E. Genna)	2	47 $\frac{1}{2}$	.791
15 h.p. Star (R. Lisle)	2	33 $\frac{1}{2}$	.819
12 h.p. Talbot (H. G. Day)	2	26 $\frac{1}{2}$	1.203
15 h.p. Talbot (J. W. Hedge)	2	21 $\frac{1}{2}$	1.002
24 h.p. Vauxhall (P. C. Kidner)	1	57 $\frac{3}{4}$	1.179
12-14 h.p. Crossley (G. H. Woods)	2	18 $\frac{3}{4}$	.887
26 h.p. Hutton (W. Bradwell)	1	27 $\frac{3}{4}$	1.065
16-20 h.p. Argyll (G. E. Hunter)	2	26 $\frac{1}{2}$	.757
12-16 h.p. F.L. (R. M. Wright)	3	36 $\frac{1}{2}$	.751
40 h.p. Métallurgique (L. Aspinall)	1	44	.751
Sizaire-Naudin (A. Bray)	7	29	.497
12 h.p. Calthorpe (S. S. Dixon)	3	6 $\frac{2}{3}$	.726
14-16 h.p. Argyll (W. G. Scott)	2	50 $\frac{1}{2}$	.858
20 h.p. Ford (R. Winn)	2	44 $\frac{3}{4}$	.309
15 h.p. Talbot (J. L. Kirk)	2	25 $\frac{1}{2}$	1.002

CLASS B.—Closed event for members of the Y.A.C. and affiliated branches, whether connected with the motor trade or not.

16-20 h.p. Sunbeam (N. F. Bayliss)	1	59 $\frac{3}{4}$	1.019
24 h.p. Vauxhall (P. C. Kidner)	2	2 $\frac{1}{2}$	1.133
26 h.p. Hutton (W. Bradwell)	1	25 $\frac{1}{2}$	1.080
28-40 h.p. S.P.A. (J. Bargna)	2	3 $\frac{1}{2}$	.398
36-45 h.p. Clément (C. Wade)	2	44	.617
12-14 h.p. N.A.G. (H. Donkin)	4	5 $\frac{3}{4}$	.595
15 h.p. Talbot (J. W. Hedge)	2	7 $\frac{1}{2}$	1.116
40 h.p. Métallurgique (L. Aspinall)	1	44 $\frac{1}{2}$	.748
12 h.p. Talbot (H. G. Day)	2	11	1.159
12-16 h.p. F.L. (R. M. Wright)	2	44 $\frac{1}{2}$	.962
20 h.p. Ford (Rowland Winn)	2	19 $\frac{1}{2}$	.365
15 h.p. Talbot (J. L. Kirk)	2	23 $\frac{1}{2}$	1.072

CLASS C.—Closed event for members of the Y.A.C. who are entirely unconnected with the motor trade. Car entered to be driven by the owner or his recognised chauffeur.

26 h.p. Hutton (W. Bradwell)	1	24	1.111
16-20 h.p. Argyll (G. E. Hunter)	2	32 $\frac{1}{2}$	.724
20-40 h.p. S.P.A. (W. A. Foster)	2	7 $\frac{1}{2}$	.386
15 h.p. Talbot (J. L. Kirk)	2	20 $\frac{1}{2}$	1.037
8 h.p. De Dion (A. Fowler)	5	8 $\frac{1}{2}$	.813

The Talbots had another success, as between them two 15 h.p.'s and a 12 h.p. succeeded in gaining firsts in Classes A and B, second in Class C, divided for third place in Class A, and took third and fourth in Class B.

Motor Yacht Club.

Hon. Sec., Mr. W. Morris, 119, Piccadilly, London, W.

On Wednesday, September 22nd, Bursledon annual regatta took place. As anticipated it turned out the greatest success in every way. Considering the narrowness of the river at Bursledon, it is wonderful how the sailing races were carried out, as between eighty and ninety boats of various types and sizes, from *bona-fide* cruisers to 12ft. centre-board boats, were cruising around, and started between 10 a.m. and 10.50 a.m. The afternoon was devoted to rowing races, tugs of war, and a swimming race for the boys of the training ship *Mercury*, whose band enlivened the proceedings during the afternoon.



1. Cars at the start. 2. P. C. Kidner's 24 h.p. Vauxhall. 3. A. Bray on a Sizaire et Naudin. 4. Mr. E. Hoyles's 26 h.p. 4in. Hutton nearing the top of the hill, driven by W. Bradwell.

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