

# THE AUTOCAR

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

EDITED BY H. WALTER STANER.

No. 716. VOL. XXIII.]

SATURDAY, JULY 10TH, 1909.

[PRICE 3D.

## The Autocar.

(Published Weekly.)

Registered as a Newspaper for transmission in the United Kingdom.  
Entered as second-class matter in the New York (N.Y.) Post Office.

Three Editions every Friday.

The THREEPENNY EDITION, printed on Art Paper.

The PENNY EDITION, printed upon thinner paper.

The FOREIGN EDITION, price 3d., printed on thin paper for transmission abroad.

Editorial Office :

COVENTRY.

Publishing Offices :

20, TUDOR STREET, LONDON, E.C., England.

## CONTENTS.

	PAGE.
NOTES .. .. .	39-40
MEMBERS OF THE RUSSIAN DUMA IN SCOTLAND .. .. .	40
USEFUL HINTS AND TIPS .. .. .	41
ROAD WARNINGS .. .. .	42-45
THE MOTOR CAR AND PETROL TAXES .. .. .	46-47
BALANCING PETROL MOTORS (ILLUSTRATED) .. .. .	48-51
SOUTH TO NORTH ON A SHEFFIELD-SIMPLEX (ILLUSTRATED) .. .. .	51
ON THE TRACK (ILLUSTRATED) .. .. .	52-55
THE R.A.C. MIDLAND MEET. THE STORY OF A BURST TYRE .. .. .	55
SMALL CAR TALK .. .. .	56-57
SPEED INDICATORS IN POLICE CASES .. .. .	57
9,000 MILES ON A 10-12 H.P. ADAMS .. .. .	58
MOTOR UNION NOTES .. .. .	59
A NON-PUNCTURING INNER TUBE (ILLUSTRATED)—HOW TO MEET POLICE PERSECUTION—MOTORISTS AVOID MERIONETHSHIRE.. .. .	60
BODY DESIGN AND CONSTRUCTION (ILLUSTRATED) .. .. .	61
TRIAL OF A TYRE PROTECTOR—A PROSPECTIVE MOTORIST—R.A.C. LAMP TESTS. ENTRANTS .. .. .	62
CORRESPONDENCE .. .. .	67-71
A FUEL ECONOMISER (ILLUSTRATED) .. .. .	72
FLASHES .. .. .	73-74
CLUBS (ILLUSTRATED) .. .. .	75-78

### Subscription Rates :

British Isles—Home Edition, 16s. ; penny (thin paper edition), 6s. 6d.  
Abroad (thin paper edition), 22s. 8d. per annum.

Index to Advertisements appears on page 40.

## Notes.

### The First Deputations to the Chancellor.

On Thursday last week the Chancellor of the Exchequer received the first deputations which have waited upon him in connection with the motor and petrol taxes proposed in the Budget. As we mentioned a fortnight since, it was announced that Mr. Lloyd George would receive the representatives of all the automobile associations on one and the same day and at one and the same time, but for reasons which have not been made public it was decided to receive deputations from the Motor Union and the Coventry Chamber of Commerce, while at some later date the deputation from the Royal Automobile Club and the Society of Motor Manufacturers and Traders will be received. The Birmingham and Wolverhampton

Chambers of Commerce, although in sympathy with the Coventry Chamber, are not apparently taking any steps to approach the Chancellor, and we regret this lack of enterprise on their part. On another page we publish a report of the speeches and the Chancellor's reply. It will be seen that the attitude of the motorists may be summed up in that of first showing how unfair and unnecessary the additional taxes are and then going on to pray that if they were imposed in the face of their arguments, certain matters not provided for in the Finance Bill should be taken into account, and the necessary modifications made.

### The Result of the Deputations.

The two most important suggestions were undoubtedly that the horse-power tax should be by unit of horse-power, and not under the proposed scale, which means that a very small increase of horse-power gives a fifty per cent. increase in the tax. It was also pointed out that the licences should be made available for short periods, so that people buying second-hand cars could take out licences for three, six, nine, or twelve months as required. Both these points have been insisted upon in these columns as most necessary improvements, and we need only say now that we are very glad to see that the Chancellor appears to regard them favourably. Beyond this it cannot be said that the result of the deputation was satisfactory.

The Chancellor of the Exchequer, after expressing his affection for the motor car and all that appertains to it, stated that if he consented to a reduction on the imposed taxes there would not be enough money to establish the central road authority and road improvement organisation upon which his heart is set. Here again we have already shown that the Chancellor of the Exchequer is mistaken, because on his own figures it is quite clear that if he were to drop either the increased car licences or the petrol tax the remaining extra revenue from either tax would approximately provide him with a quarter of a million a year, and there is no question that this is more than sufficient to carry out all reasonable improvements to the roads, not, of course, in one year, but gradually. If more money be available it will probably be wasted.

There is no question that in this matter the Chancellor of the Exchequer has been misled by his advisers. He thinks, quite erroneously, that enormous sums are required for making the roads suitable for motor traffic, while as a matter of fact the roads do very well as they are. All we want is to reduce the dustiness of the roads, and this can be done without spending any more than is now being spent upon them.

### The Policy for Future Deputations.

It is quite evident, therefore, that the next deputation from motorists which waits upon the Chancellor of the Exchequer should bring facts and figures before him with regard to the roads. The Chancellor thinks that the threequarters of a million or so which he is going to extract from automobilists is really wanted for road improvements. It is therefore our wisest

policy to show him that he has been wrongly informed, and that as a matter of fact no more money is required at all, but only brains, honesty, and organisation on the part of our road-makers. We say honesty advisedly, because anyone knows who has studied the question at all closely that in many counties much unsuitable material is purchased for road repair, and it is not bought on account of its cheapness.

The Chancellor of the Exchequer has stated plainly that he does not wish to tax motorists, but only wants to improve the roads for them. Therefore it is quite obvious that the line of argument by which he may be convinced lies directly through the road question, as the Chancellor now argues that any harm he may be doing to the motor industry or to the motor movement will be more than counterbalanced by the improvement in roads, which he has been led to believe is indispensable, but which we know perfectly well is not indispensable. In plain English, motorists are to be taxed because the Chancellor has been either wrongly informed or only partially informed by his advisers.

Under the circumstances we are very glad that the deputations have been divided, because the Chancellor in his reply to the first has shown so plainly what is passing through his mind that the deputation from the R.A.C. and the Society of Motor Manufacturers should have very little difficulty in bringing facts and figures before him which should convince him that there is no need for the two taxes, and that either the one or the other will be more than sufficient for any reasonable scheme of road development and improvement.

### The Royal A.C. and Motor Mobilisation.

There has been a tendency, and not perhaps an unnatural one, to blame the Royal A.C. for having done nothing to organise the scheme it announced last October for placing at the disposal of the military authorities a large number of motor cars for use in the event of any grave national emergency. As a matter

of fact, the Club has not been idle. The scheme has been gradually evolved, and in its final form has been accepted by the War Office, and we hope before long to publish it. The chairman, Prince Francis of Teck, has had many interviews with the authorities at the War Office, and we are informed that the War Office officials have examined the merits of the scheme most carefully. It will be remembered that it is, speaking broadly, a nationalisation of the county scheme which was established by the Lincolnshire A.C. under the able guidance of Captain, or as he is better known, Dr. Godfrey Lowe, the honorary secretary of the Lincolnshire A.C.

Since last October, the R.A.C. has been steadily developing the scheme on national lines, and it is a pity the Club should have had needless blame, or perhaps we should say discredit, in the matter. We would therefore suggest that in future, when important subjects of this kind have to be taken up and necessarily occupy six or seven months in bringing to a head, something should be said about them from time to time in the periodical announcements of the Club, as there is no question whatever that the average idea of the provincial clubs is that the R.A.C. has more or less dropped the Territorial Scheme, while as a matter of fact it has been steadily developing it. It cannot be too clearly understood that such a scheme would be useless as a factor in the national defences unless it had the full approval of the War Office authorities, and even then it would be useless unless it were organised in the most far-sighted manner.

We are asked by the Club to point out that the scheme in no way trespasses upon the usefulness or prerogatives of the Army Motor Reserve, as the Club scheme has been framed for the purpose of providing transport in emergency and not for daily use. In other words, it is to supplement, and not in any way to supplant, the work so admirably carried out by Lieut.-Colonel Mark Mayhew and his able staff of military motorists.

## Members of the Russian Duma in Scotland.

ON the occasion of the visit of the members of the Russian Duma to Edinburgh the offer of the Scottish Motor Trade Association, Ltd., to supply motor cars was accepted by the Town Council.

The president (Mr. W. L. Sleight), who led the procession in the forenoon on a 30 h.p. Napier, had the honour of driving Mr. Nicholas A. Homyakoff (President of the Duma), Mr. Sergius I. Shidlovski, Mr. Alex. I. Zvegintseff, and Count Vladimer A. Bobrinsky. The other members of the Association to take part in the procession were: Mr. J. H. Paterson (managing director of the Caledonian Motor Co., Ltd.), 28-40 h.p. Peugeot; Mr. W. G. Maxwell (joint managing director Westfield Autocar Co., Ltd., Edinburgh), 22 h.p. S.C.A.T.; Mr. Laurence Bell (managing director Peebles Motor Co., Ltd., Peebles), 20-25 h.p. Sunbeam; Mr. Ewart (Messrs. King and Co., Leith), 18 h.p. Adams; Mr. Wm. Flint (the Flint Motor Car and Cab Co., Ltd.), 10-12 h.p. Aster; Mr. A. J. Baxter (Messrs. J. F. Bradford, Edinburgh), 16-20 h.p. Argyll; Mr. Roy Chalmers (joint managing director Westfield Autocar Co., Ltd.), 18-24 h.p. Austin; Mr. David A. Fairley, C.A. (secretary S.M.T.A.), 10-12 h.p. Humber.

Starting from the Caledonian Station Hotel amidst a large concourse of people, the McEwen Hall, Edin-

burgh Castle, St. Giles Cathedral, and Parliament House were visited.

In the Court of Session Mr. Homyakoff, Count Bobrinsky, Mr. Stakhovich, and Mr. Ephremoff were introduced to Lord Kingsburgh, who is president of the Scottish Automobile Club. Mr. Homyakoff and Count Bobrinsky were given seats on the Bench. The party proceeded to Holyrood Palace and the City Chambers, where all were entertained to luncheon by the Lord Provost, magistrates, and town council.

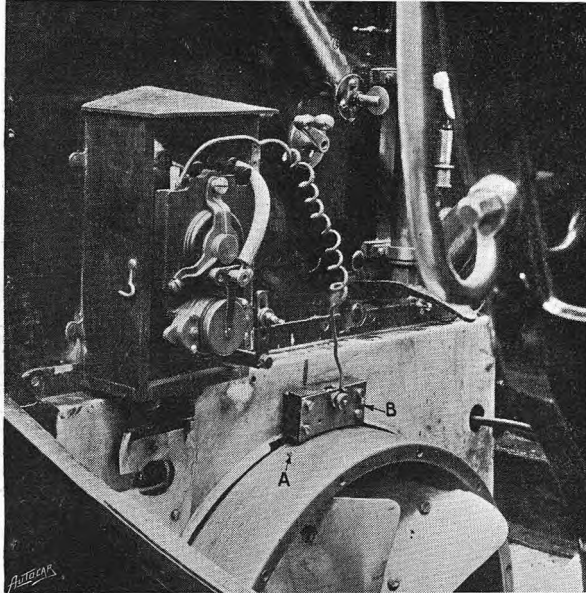
For the afternoon motor run the Lord Provost and other members of the council brought their own cars. The party, headed by the Lord Provost, motored to Abercorn Church, Hopetoun House, Queensferry (Forth Bridge), through Dalmeny Policies (the Earl of Rosebery's estate), to the Burgess Golf Club House, where they were entertained to tea and photographed. On leaving the club house the party returned to the Caledonian Station Hotel.

At an informal gathering in the hotel the members of the Scottish Motor Trade Association were cordially thanked for their kind and valuable services in placing the cars at the disposal of the party. Mr. W. L. Sleight in his reply said it was a pleasure to the members of the S.M.T.A. to be able to render any services to the town council on these historical visits.

## Useful Hints and Tips.

### An Ignition Synchronising Device.

The following is a very simple device which will be found most useful in indicating exactly under working conditions when ignition is taking place on engines fitted with high tension ignition, either magneto or battery. By its means the exact position of the flywheel when the spark takes place can be determined while the engine is running, and from this can easily be



The ignition timing indicator, A being one of the studs let into the flywheel and B the graduated plate.

deduced the position of the pistons. Measuring circumferentially on the rim of the flywheel, the number of inches before dead centre at which the spark takes place will form a very useful basis of computation. The mechanism is arranged as follows:

If it be intended that the spark shall take place within an inch or so of the dead centre, four knobs A, which may conveniently consist of  $\frac{1}{4}$  in. round head brass screws, are screwed into the rim of the flywheel at the points corresponding to the respective top dead centres of cylinders 1 and 4 and 2 and 3 in a four-cylinder engine, and, fixed in any convenient manner on the dash vertically above the flywheel, is an insulated brass plate B, the lower edge of which is trimmed to a concave surface about  $\frac{1}{8}$  in. clear at all points of the rim of the flywheel, this plate being in the plane of the knobs A, so that when these knobs pass under it there is only about  $\frac{1}{8}$  in. between the top of the knob and the concave edge of the plate. The edge of this plate is divided into inches and marked with radial lines, the division, which is exactly opposite the knob A when the pistons are at dead centre, being marked zero. A connecting wire is now led, as shown on the above photograph, from one of the terminals of the magneto to the plate, and the engine started up, the lead from that particular cylinder being disconnected. The spark, instead of taking place in that cylinder, will now take place between knob A and plate B, and its exact position on the plate can easily be noted by the eye, and from the aforementioned scale marked on B the exact position may be measured in inches on the rim of the flywheel at which the spark is taking place before or after the dead centre.

### Tightening Battery and Coil Terminal Wires.

There is a right and a wrong way to do this. The right way is to twist the bare part of the wire or cable round the terminal in a clockwise direction and then tighten up the terminal nut. The reason for this is that, as the nuts have right-handed threads, the fact of tightening up the nut tends to pull the wire round more tightly. If the wire be twisted round in an anti-clockwise direction tightening up the nut tends to uncoil the wire, and it will slip from under the nut whilst it is being tightened or when the vibration of road work comes into play.

### Removing Broken Studs.

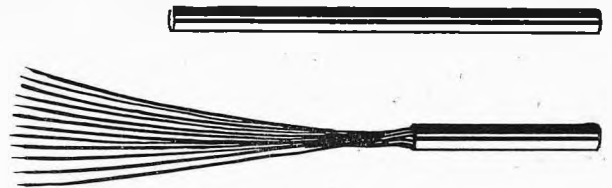
However carefully nuts are tightened a stud may occasionally be broken off short in a casting or some other part of a motor car. It is usually a difficult matter to remove the broken piece, so that a new stud may be inserted.

The best way to go about the removal of the broken portion is to drill a hole in the centre of the part broken in. This hole should be of a certain size depending on the diameter of the stud. For a  $\frac{3}{8}$  in. stud a bare  $\frac{1}{4}$  in. diameter hole should be drilled, care being taken to drill right down the centre of the stud so as not to damage the thread. A flat nosed drill should be used, and should be ground so that it only cuts when rotated in the left-hand direction, and not in the right, as the usual drill is ground. The reason for this is that if the stud thread be at all slack rotation of the drill and the cutting action will tend to screw out the stud, which will very often come out readily before the hole is drilled very far.

If the stud does not come out as described, then, after the hole is drilled through it, a square reamer is lightly driven into the hole. A lathe carrier is fixed to the top of the reamer and the stud twisted out by rotating the carrier anti-clockwise. If the drilled part is very fast and then will not readily come out, the only thing to do is to chip the broken part with a sharp round-nosed chisel. This usually has the effect of cracking the skeleton of the stud, and the pieces can be fished out of the hole with a piece of bent wire.

### Cleaning Carburetter Jets.

A handy little tool for clearing carburetter jets may be made from a short length of Bowden brake cable strand as used on bicycles. The end will probably be found to be soft soldered to prevent the wires from



flying apart. Solder again 3 in. or 4 in. from the end, and then cut off below the soldering, so that the wires will fly apart. The original soldered end will now become a handle, and the wires provide a number of flexible needles which can be threaded from underneath the carburetter even in a confined space in which it would be quite impossible to use a rigid wire.

*The Autocar Handbook* should be secured by every motorist. It is deservedly the standard work on the selection, maintenance, and driving of every class of motor car. May be obtained from the *The Autocar* Offices, 20, Tudor Street, London, E.C., price rs. 6d.; post paid, 1s. 6d.

## Road Warnings.

### The Second of a Periodical Series of Police Trap Maps.

We publish this week the second of our Summer Series of police trap maps, on which are shown as near as possible the locality of the police traps of which we have received intimation during the year. It will be noticed that Surrey and Merioneth are black and Sussex grey, denoting that police persecution in the two former counties has reached such a pitch that it is advisable for motorists to keep out of them, while Sussex is very little better. It will considerably lessen the work of classification if correspondents will give the names of the two towns between which a trap occurs and the county in which it is situated, stating also, if possible, whether the trap is worked by the County or the Borough authorities, as well as the name of the Chief Constable. The thanks of our readers and ourselves are due to those who have gone to the trouble of making us acquainted with the location of the traps.

#### BERKSHIRE

On the Bath Road, just beyond Maidenhead, between the twenty-seventh and twenty-eighth milestones from London, quarter-mile trap on small hill, invariably worked downhill towards Reading. Mostly worked on Saturdays and Sundays.

The Wokingham bench are very keen, and generally obtain good hauls from traps worked between Reading and Wokingham, and down Buckhurst Hill between Wokingham and Bracknell.

London-Bath road. Between Maidenhead and Reading traps are frequently worked. They are almost invariably set at one of these places: (1) At Knowl Hill, (2) near Wargrave or (3) near Sonning, at the point where the road from Woodley to Sonning crosses the main road.

King's Road, Windsor, ending at the Park Gates (Queen Anne's Gate).

London-Basingstoke road in Sunningdale.

London-Basingstoke road, between Holloway College and top of Wheat-sheaf Hill.

There is a police trap in Windsor ending 100 yards from the Park gates on the road from Windsor to Bagshot. It is 440 yards long, and commences about a quarter of the way down the slope. The timing police are behind the hedges, and the uniform constable remains in the park Lodge till required.

Egham High Street, also from Egham Causeway to Old Windsor, along the Runnimead Marshes; also up Egham Hill.

A trap is working in the village of Clewer Without, in the parish of Windsor, starting outside the village and ending at a blind corner about the centre going towards Windsor.

There is a police trap a quarter of a mile the Windsor side of the post office, near the Wheat-sheaf, between that and the Long Walk. A boy is at the post office and whistles to a man round the corner.

#### BUCKINGHAMSHIRE.

There are said to be traps in or near Colnbrook, on the Bath Road.

Quarter-mile trap on Slough-Beaconsfield road at Farnham Common. Trap either includes or is near to a cross road.

On the Bath Road, between Slough and Maidenhead, trap between twenty-third and twenty-fourth milestones from London.

Taplow, from goods station to Slough, and right through to Colnbrook. The traps are 300 to 600 yards long and are often shifted.

A ten miles speed limit now exists at Well End, Little Marlow, over a

stretch of about half a mile, covering the distance guarded by Motor Union and parish notices. This stretch is on the Bourne End-Marlow road, after leaving Bourne End village. The trap is operated by two plain clothes and one uniform official, and is worked in and just outside the limit stretch.

The police are very strict on the ten miles limit in Slough. They have different traps in the town 200 yards long.

Rickmansworth to Amersham. Quarter of a mile long, and starts soon after the road from the Chenies joins the main road. It goes round a curve towards Chalfont Road Station.

London-Coventry road, over a hill top a mile and a half into Fenny Stratford.

Cars are timed in Burnham.

A police trap is working on the London-Oxford road from Gerrard's Cross to Beaconsfield. Also there is generally a trap down White Hill, a long slope between an avenue of trees about two miles on the High Wycombe side of Beaconsfield; also through Beaconsfield town itself on Saturdays and Sundays.

#### CAMBRIDGESHIRE.

There are intermittent police traps at various points in the ten-mile limit area at Newmarket.

Newmarket-London road, 8½ miles out of Newmarket, near cross roads.

In Trumpington village, near Cambridge, 2½ miles on the London Road. This trap, which covers about 490 yards, is constantly being moved up and down the road. Anything above 20 m.p.h., speed limit; under 20 m.p.h., common danger.

London-Cambridge road (*via* Bishop's Stortford) at Sawston, about six miles south of Cambridge. This trap is evidently worked in addition to the one in Trumpington, near Cambridge.

#### CARDIGAN.

We learn that all the roads leading into Aberystwyth are trapped.

#### CHESHIRE.

Chester-Wrexham road, a few miles out of Chester.

Nantwich-Whitechurch road, from the first mile post out of Nantwich to four miles further on round a corner, and again at a mile post (this being the fifth mile from Nantwich).

The police are getting very active again in Cheshire. For a long time, since the Chief Constable got a motor himself, they have left motorists pretty well alone, but lately they have been stirred up by fussy inhabitants of the county, and are out again between Plumley and Altrincham, also between Chester and Northwich, also on the Warrington and Tarporley road.

The police are timing cars between Netherton and the foot of Dunham Hill, on the Warrington to Chester road.

West Kirby-Birkenhead road, on the road *via* Sanghall Massey, and also between the Glegg Arms, Gayton, and West Kirby, on the Chester-Hoylelake road.

#### CORNWALL.

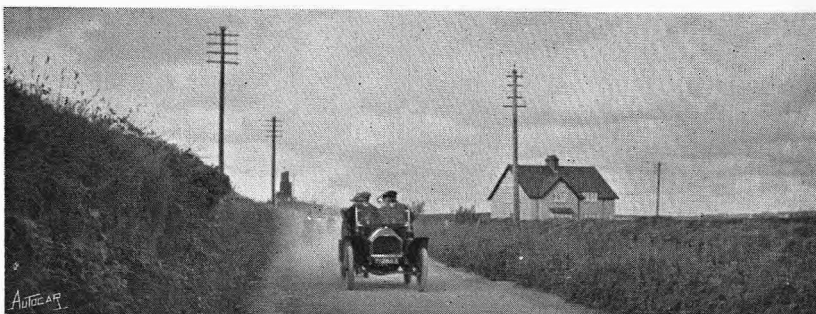
A measured 440 yards at Compass, Southpetherwin, about a mile from Launceston towards Camelford. There is a trap in St. Columb, and one about a mile out, on the Wadebridge Road, in the hollow of two hills, a straight and open road. Also on entering Newquay. This trap finishes at the first house of the town. Also one on the Falmouth Road from Truro.

The police are active on the Helston-Falmouth and the Helston-Lizard roads.

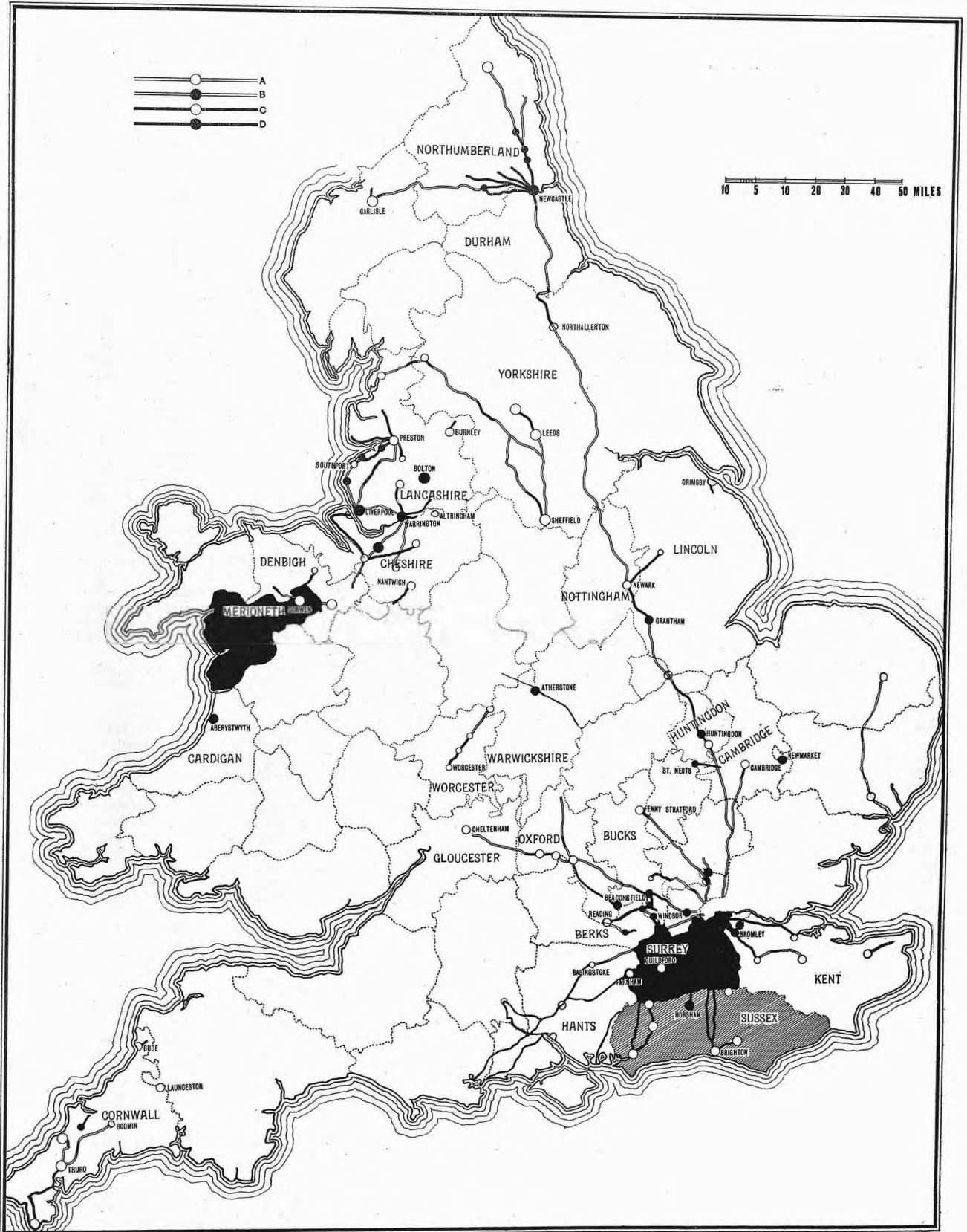
Between Bude and Tintagel (old road near Stratton).

Traps are being worked on the Antony Road and the Polbathic Road.

Lizard main road at Dodson's Gap, Mawgan; also at Bolan Grean, Wemdrom Bodmin-Truro road, at Brighton Bridge, about two miles from Ladock; another about one mile.



The quarter-mile trap on the road leading into Newquay, Cornwall, extends 220 yds. on each side of the house shown.



Open roads and towns A are inserted to indicate connections and localities. A black town B on an open road indicates that a town is trapped under the borough police, while a road which is trapped under the county police is indicated as at C. A trapped town on a trapped road is indicated as at D. Surrey and Merionethshire had best be avoided altogether, while Sussex is distinctly risky. There are no police traps in nineteen English counties, and nine Welsh counties are free.

## CUMBERLAND.

There is a trap two miles north of Carlisle.

## DENBIGHSHIRE.

Ruthin-Corwen road, from Ruthin to the county boundary. Motorists are advised to drive with special caution through the towns of Denbigh and Ruthin.

Holyhead Road, near Cerrig-y-Druidion.

## FLINTSHIRE.

The county surveyor advises us that the Joint Counties Bridge at Bangor-on-Dee is closed until further notice for the purposes of repairing and strengthening the bridge.

## GLAMORGAN.

Complaints reach us of the inconsiderate driving of some few motorists along the Swansea-Mumbles road to the discomfort and annoyance of cyclists and other road users. It is hinted that police action may follow unless more moderate speeds are adopted.

## HAMPSHIRE.

Winchester to Ringwood and Poole. There is a trap between Winchester and Hursley.

A trap is being worked on the main road from Southampton to Totton (for Christchurch, Salisbury, etc.) The measured distance is 220 yards between Millbrook and Redbridge, a mile or two west of Southampton.

There are three traps between Basingstoke and Winchester, one is between 5½ and 6 miles from Basingstoke, and ends just before the road forks to Winchester and Stockbridge. There are three traps between Winchester and Romsey. (1.) Pilt (two miles from W.) (2.) Hursley (about five miles from W.) (3.) Ampfield (about eight miles from W.) All are in the open country where there is no danger. Great caution should be observed all round Bournemouth.

Lyndhurst-Bournemouth road, between the fourth and sixth milestones from Lyndhurst.

London-Winchester road. A trap was working recently on this road a few miles west of Farnham, going towards Alton.

There is a trap at Sherfield English between Romsey and Salisbury on a straight stretch of road four miles out of Romsey.

There is a trap at Sleet, near Petersfield, on the Portsmouth Road, about a mile and a half the Liphook side of Petersfield. It is a quarter-mile trap, worked towards and from Petersfield, round a bend. Haslemere district is now in charge of Sergt. Pike, who was very successful at Godalming last year with motor traps. All motorists using the road from Hindhead to Haslemere, or *vice versa*, should drive very steadily. Parts of the road are narrow and twisty, and the local people are trying to get up a petition for a ten mile limit.

Basingstoke district, just before leaving Hatch Cross going towards Basingstoke; also after passing Hook.

## HERTFORDSHIRE.

A trap about a quarter of a mile long is being worked on the Rickmansworth-Amersham road, commencing soon after passing the road that leads into Chenies.

In High Barnet between Park Road and the church over 200 yards on the ten mile limit. Traps are in daily operation on the Great North Road at varying places between Barnet and Littleheath.

## HUNTINGDONSHIRE.

St. Neot's-Cambridge road, trap just outside St. Neot's, beginning on the Cambridge side of a railway bridge and finishing at some cottages. This trap is sometimes worked three miles nearer Cambridge.

Through the village of Alconbury Weston. The average width of road through the measured distance is about 27 feet.

Little Stukeley, on the Great North Road, a few miles north of Huntingdon. Motorists should drive with every caution at this point, as the two hills on which the trap is worked are dangerous, there being cross roads at the bottom. Motorists are usually convicted of driving to the common danger.

St. Neot's. All entrances into St. Neot's are intermittently trapped. One favourite spot is by the Great Northern Railway Bridge. Just before entering St. Neot's one passes under the G.N.R., and a trap begins at this point.

## KENT.

Between Sturry and Upstreet, on the Ramsgate Road; a four miles trap.

The police are likely to be active on the main road from Wrotham to Preston Hall, near the second milestone out of Maidstone. There will be several measured lengths on a six miles stretch of road, so that if a motorist should escape one he will probably fall into another. Traps may also be worked between Kingsdown and the Horse and Groom, at the top of Wrotham Hill.

A trap is in operation at least every Sunday at the entrance to Catford, at the end of the tramlines going towards Sevenoaks. At the point where the trap is the road is 43ft. wide, and the distance over which the trap is worked is one furlong.

There is a trap near Bromley from the twelfth milestone on the Bromley-Sevenoaks road to the ten miles limit boards just entering the town going towards London from Sevenoaks.

Canterbury Road. Traps over measured furlongs in operation from Park Lane, Shooters Hill, to the Fox; also on London side of Shooters Hill. St. John's Park Road, Lewisham, to Heath House.

Eltham. From the Tiger's Head, Lee, along the road to Eltham. Trap is moved from day to day.

## LANCASHIRE.

Lancaster-Skipton road. A two-mile trap, beginning about half a mile before High Bentham, and continuing to the far end of Low Bentham.

Southport-Preston road at Crossens, a few miles out of Southport.

Chorley-Preston road, just outside Chorley.

St. Annes-on-the-Sea-Blackpool road. Liverpool-Preston road. Several traps. Preston-Lancaster road. Care should be exercised just north of Preston.

Manchester-Liverpool road *via* Warrington. There is a trap between Manchester and Warrington, and another between Sankey and Bold.

Motorists are warned of the existence of traps around Burnley and Nelson

district, particularly on the main road from Nelson to Gisburn, at the village of Blacko.

A correspondent asks us to warn motorists who may have occasion to pass through Bolton to exercise extreme caution in negotiating the crossings, especially on Sundays. The police are unusually vigilant, and the motorist must always be on the alert.

Traps are in operation at Maghull and Burscough, on the main road between Liverpool and Preston; also at Formby, on the main road between Liverpool and Southport.

Wigan-Warrington road, south of Wigan, and on the Preston-Southport road at Crossens, near bridge, and at Longton.

Preston-Blackpool road and Preston-Garstang road are likely to have traps.

## LINCOLNSHIRE.

Louth-Grimsby road. 220 yards trap just entering Grimsby.

There is a measured 575 yards, finishing at the end of a village, but beginning in the open country, between the sixth and seventh milestones south of Stamford on the Great North Road. The police, we understand, appear to exaggerate the actual speed by ten miles an hour or so. The trap is at a corner.

Great North Road, between Colsterworth and South Witham, two and a half miles. Colsterworth is about eight miles south of Grantham. This trap is sometimes worked between Colsterworth and Great Ponton. North of Grantham cars are being timed over four miles between Great Gonerby and Long Bennington.

Newark-Lincoln road. A trap of about four miles is moved from place to place on this road.

## MERIONETHSHIRE.

Harlech-Festiniog road, about one and a half miles out of Harlech, commencing at a cottage called the "Old Turnpike." Worked downhill only.

Barmouth-Harlech road. We understand that there is a trap on this road between Barmouth and Dyffryn which commences near the old church at Llanaber, situated on the left side driving from Barmouth.

There is a five miles trap through Corwen.

From Llangollen to Corwen there are several short traps (worked principally at the week-end), another at the head of Bala Lake (police hiding behind white wall), with a further short trap at the Dolgelly Bridge (officer usually dressed as workman in Sunday attire, lounging near bridge).

Llangollen-Corwen road, a five miles trap between Glyndyfrdwy and Corwen. Cars are not stopped.

The Dinas Mawddwy-Cross-Foxes-Dolgelly road is badly cut up, and is almost impassable.

A trap is in operation from a point one mile south of Bala Lake on the Bala-Dolgelly road and continuing for half a mile. The police are in a field on the left-hand side after crossing the bridges into the village.

Trapping takes place at times on the road from Dolgelly to Barmouth.

## MIDDLESEX.

London-Harrow road, between Holland's Gun Factory and Kensal Green Cemetery.

Uxbridge Road. A police trap over a measured furlong is in operation at Hanwell.

London Road, two traps, one between Stanmore and Bushey Heath, across Stanmore Common, and the other in Edgware, at the old stopping place of the trams. There is very often one through Bushey Heath itself, all men, as a rule, in plain clothes.

#### NORTHUMBERLAND.

Carlisle-Newcastle road, at Horsley, eight miles from Newcastle, beyond Corbridge. This road last year figured prominently on our police trap map.

Buteland-Newcastle road, at Walbottle, a 440 yards trap at railway bridge, down slope about four miles from Newcastle.

Newcastle-Morpeth road, at Seaton Burn and Stannington-Alnwick road at the Northgate, and also on the Wooler Road. About seven miles further on the Wooler Road there is another trap (760 yards) worked from the Wooler side into Long Horsley village. On the Morpeth-Alnwick road there is a trap at Causey Park. Last year Alnwick was trapped both north and south.

Newcastle to Hexham. Denton Bank foot, just out of Newcastle. This is a short trap where cars rush it to take the other bank.

#### OXFORDSHIRE.

Oxford-Cheltenham road. A trap is occasionally worked on this road about a mile west of Witney, where the road overlooks the valley of the Windrush.

There are three traps between Henley and Shillingford, on the Henley-Oxford road. The entire distance is more or less dangerous.

Between Eynsham and Witney, on the Oxford to Cheltenham road, as well as on the one between Witney and Minster Lovell.

Oxford-Banbury road, about one and a half miles from Kidlington Gate when going from Oxford to Banbury, and finishing near the cross-roads to Woodstock and Bletchington.

#### SUFFOLK.

Ipswich-Norwich road, between Swan Inn, Brome, and Scole Inn, both ways.

#### SURREY.

The local police have taken many measurements of Leigham Court Road, Streatham, and also on the north side of Streatham Common.

We learn that any portion of Reigate borough may be trapped at any time. Speed limits are to be imposed at Redhill from opposite the Institute to about 150 yards south of the Square, a total of about 400 yards. Reigate, from drinking fountain past level crossing to south portion of White Hart Hotel. In an east and west direction, a small portion of Redhill (up to schools) and Reigate High Street.

Brighton Road at Reigate, from the end of the tunnel at the entrance of the town to the foot of the hill, about three furlongs on the main road. The trap sometimes extends over a measured mile.

The Kingston police are again very active against motorists. This time they are out at nights, and are provided with electric flash lamps for the purpose of timing.

There is a trap of about one furlong working nearly every Sunday between Belmont Station and Sutton Station, on the Brighton Road.

Near Stroat's Nest Station, each side of the Purley Road.

Traps are set on all roads leading into Farnham; on the Hog's Back to Guildford Road from the Aldershot fork to Simonds Hill; on the Winchester Road from the Bardon and Petersfield branch, towards Berbley. The ten miles limit is being rigidly enforced in Farnham.

About half a mile from the Jolly Farmers' Inn, entering Camberley, a quarter of a mile measured distance. Also from the Jolly Farmers to Frimley.

A trap one furlong in extent on the Sutton Road, just outside Croydon, on the dead level two miles stretch of tramlines leading to Wallington.

Sutton, near railway station bridge. Trap worked both ways.

Mitcham Lane. Trap here in various parts every day.

High Street, Redhill. Several lengths of road have been measured through the town.

A police trap is being worked nearly every Saturday and Sunday at Croydon, either between there and Purley, or between Purley and Coulsdon.

There is a trap working over the ten miles limit through Croydon; also on Shooters Hill Road day and night.

A trap is working at Figg Marsh, Mitcham, beyond Tooting, in both directions. The trap is worked all the week, and the exact position of it is shifted from time to time; sometimes it is worked in Lower Mitcham.

Croydon and Mitcham, going towards London, between the railway bridge and the pond at the turning of the road entering the village of Mitcham.

A measured furlong on the Esher-Ashted road, starting about 100 yards from Esher.

One mile distances have been measured on the London Road between the suspension bridge and the town, between the town and Buckland Corner on the Dorking Road, and both north and south of Redhill.

In Richmond Park, between Roehampton Gate and Richmond Gate.

London-Basingstoke road, between Egham and Virginia Water.

A trap is being worked from the Griffin Hotel, Kingston-on-Thames, for half a mile along the Esher Road. Also just before the post office at Hindhead, on the Portsmouth Road, and another just beyond the Hotel Moorland at Hindhead.

London-Eastbourne road, over a measured furlong situated on the London side of Blindley Heath, between the junction of the two roads from Godstone and the first house in the village.

#### SUSSEX.

Horsham-Pulborough road, a quarter-mile trap, on either side of a cross road just before reaching Codmore Hill.

Brighton Road, near Hickstead.

There is a police trap working on Sundays on the road between Lewes and Brighton, about half a mile from Lewes. It is about four miles in extent, and is worked both ways.

There is a very dangerous trap at the cross roads five miles south of Horsham on to the main road to Worthing.

Guildford-Chichester road, between North Chapel and Petworth.

#### WARWICKSHIRE.

Watling Street between Wilnecote and Atherstone.

Stonebridge-Castle Bromwich road, on the "two-mile straight," working both ways and being continually moved.

Coventry-Kenilworth road, between the top of Gibbet Hill and the end of Stivichall Common.

#### WORCESTERSHIRE.

Worcester-Birmingham road. Intermittent trapping between Worcester-Bromsgrove, *via* Droitwich, particularly at week-ends.

#### YORKSHIRE.

Skipton-Keighley road, on a safe straight stretch just north of Kildwick. There is an alternative route *via* Otley, Bearley, Ilkley, Addingham, to Skipton.

Leeds-Selby road between Monk Fryston and Selby.

Leeds-Harrogate road, about two miles out of Leeds, between Moortown and All-wooly. There is also a stretch of bad road between Pool and Otley.

Between Northallerton and Durham *via* Leeming Lane a trap of about 200 yards is being worked just before the turning off the lane for Darlington.

#### SCOTLAND.

Care should be exercised in the neighbourhood of Annan between Carlisle and Dumfries.

Aberdeen-Banchory-Ballater road, on the Great Western Road leaving Aberdeen.

Aberdeen-Park-Banchory road. Three traps through Banchory, first beginning at ten-mile limit post to railway station, second from railway station to clock tower in centre of town, and third from clock tower to ten-mile limit post at railway arch. The whole distance is also timed.

Banchory, clock tower to Bridge of Feugh.

There will probably be one through Ballater.

Glasgow-Dumbarton Road, through Bearsden. Timed ten miles limit.

Glasgow-Strathblane road. Timed ten-mile limits in Milngavie, Strathblane, and Dumgoyne.

Glasgow-Stirling road. Ten-mile limits at Dennyloanhead and Condorrat, and three-mile movable trap each side of Cumbernauld.

Glasgow City. Great Western Road.

Motorists are strongly advised to avoid the county of Dumbarton, as the police are most prejudiced and traps abound. A correspondent tells us that it matters not whether you are going eight or fifty miles per hour, you are fined just the same. Motorists going from Glasgow to Stirling should go *via* Kilsyth.

Traps are being laid on all the main roads round Cupar and St. Andrews. Care should be especially exercised on the main roads between Newport and Cupar and Newport and St. Andrews. There is a trap from about one and a half miles from Craig Pier, Newport, to St. Michaels; there is also one between Guardbridge and St. Andrews.

# The Motor Car and Petrol Taxes.

Deputations to the Chancellor of the Exchequer. New Points Raised. Mr. Lloyd George Still Inflexible.

ON Thursday last week the Chancellor of the Exchequer received deputations representing the Motor Union and the Coventry motor industry on the Budget proposals as affecting motorists and the motor industry. The Motor Union deputation, which was headed by Mr. W. Joynson Hicks, M.P. (chairman of the M.U.), included Earl Russell, Messrs. C. Ballin Hinde, Rees Jeffreys, C. McWhirter, H. R. Oldfield, and P. A. Sharman. The Coventry deputation, introduced by Mr. A. E. W. Mason, M.P. for the borough, comprised Messrs. F. B. Bale (Swift Motor Co.), H. W. Barford (petrol dealer), H. Belcher (Humber, Ltd.), E. M. C. Instone (Daimler Motor Co.), F. J. Jenkins (Rover Co.), A. Rowlands (Maudslay Motor Co.), D. C. Sales (Singer Motor Co.), M. J. Schulte (Triumph Co.), H. Sturmev (Sturmev Motor Co.), A. J. White (White and Poppe), G. W. Williams (Deasy Motor Co.), and the Secretary of the Coventry Chamber of Commerce.

## The Motor Union Case.

Earl Russell, on behalf of the Motor Union, addressed himself to the definitions of horse-power and motor spirit in the Finance Bill, and complained that these were loosely drawn, and would permit of alterations by the Treasury at will in levying the taxes from time to time.

Mr. Oldfield suggested that instead of the present schedule by which cars will be taxed in certain classes of horse-power, it would be more satisfactory to levy the tax on units of horse-power. He submitted as equitable a tax of 2s. 6d. per h.p. on motor cycles, 3s. per h.p. on cars up to 40 h.p., and 6s. per h.p. on those above. He urged the abolition of the petrol tax, as in consequence of the 3d. per gallon duty the trade had already raised the price 4d. per gallon.

In reply to a question by Mr. Lloyd George as to why this had been done, he said he understood the 4d. was in consequence of the money deposited for the purpose of paying duty, which would otherwise be bearing interest.

Mr. McWhirter submitted statistics showing what would be the yield of the taxes under the Union's proposals.

Mr. Sharman spoke in favour of the adoption of the R.A.C. formula for determining h.p.

Mr. Ballin Hinde urged that a concession should be made to foreign and Colonial tourists in this country by their cars being freed from the Inland Revenue taxes upon certain Customs regulations being complied with. Similar facilities were given to tourists by several Continental countries, and such a scheme would encourage the touring and spending of money in this country.

## The Views of the Industry.

Mr. A. E. W. Mason briefly introduced the deputation from Coventry.

Mr. E. M. C. Instone then said three of the objections to the proposed taxation were—(1) That any extra tax upon motor cars would be harmful to a young and growing industry, one that was not in a position at present to stand such increased taxation; (2) that the industry was only just recovering from a period of depression, and a better year this year was absolutely necessary to many firms if they were to continue in business; (3) that many people in Coventry were dependent upon the motor industry, and these additional burdens were bound to increase unemployment. When in 1896 the Locomotives on Highways Act became law, Coventry welcomed the establishment of the motor industry within its boundaries, for by reason of the practical extinction of the ribbon and watch trades through foreign competition the city had fallen upon evil times, while signs were not wanting that still darker days might be anticipated unless an industry could be found to replace the cycle business which even at that time was already on the wane. The motor trade received every encouragement at the hands of the city authorities, but although up to 1904 it found employment for a considerable number of workmen, it was absolutely unremunerative to the investor. In point of fact, grave financial disaster marked the early years, and capital of upwards of £1,000,000 sterling was lost in motor concerns estab-

lished in Coventry. In 1904 a period of comparative prosperity was entered upon, and during that and the three following years considerable profits were earned. The working classes found regular and profitable employment, and the city enjoyed a prosperity which was doubly welcome after the previous years of depression. This happy condition of affairs was unfortunately short-lived, for in 1908 came a disastrous slump in the motor trade, resulting in total financial grief to several, and greatly reduced establishments. In the eight leading motor manufacturing companies established in the city, in 1906 the total capital invested was £1,622,344, and the profit earned £381,789. In 1907 the total capital invested was £1,729,401, and the profit £315,083. In 1908 the total capital invested was £1,790,428, and the losses were £61,519. In point of fact, only two of those eight firms made any profits whatever during the year 1908, the one paying five per cent. and the other seven and a half per cent. upon its ordinary share capital. The position of the motor manufacturers in Coventry was rendered the more difficult by the growing practice of foreign constructors to dump their productions into England at cut prices, coupled with the fact that owing to the almost universal depression the Colonial markets were of less service than in the previous year. Indeed, motor exports fell off to the extent of £62,155. This depression in the motor industry was keenly felt throughout the city. The number of unoccupied houses in 1908 showed a marked increase over the figures of the previous years, the actual returns being: 1906, 87; 1907, 89; 1908, 281. Such was the distress that a labour bureau was found necessary.

Mr. Lloyd George: The motor industry all over the world has been suffering from very deep depression?

Mr. Instone: Yes.

Mr. Lloyd George: It is recovering now?

Mr. Instone: Yes.

Mr. Lloyd George: Both here and in other countries?

Mr. Instone: Yes.

Mr. Lloyd George: Is the recovery a steady one?

Mr. Instone: Yes, it was a steady one really until it was affected to a certain extent by these Budget proposals.

Mr. Lloyd George: I see.

Mr. Instone: I have here some communications which different Coventry manufacturers have received from various persons who have been negotiating for the sale of cars, breaking off these negotiations.

Mr. Lloyd George: Probably the motorists feel the effects of other taxes.

Mr. Instone: To a certain extent, yes; but in considering these communications it must be borne in mind that the very classes from whom the motor carriage makers' customers are drawn are the self-same classes which are hardest hit by the Budget proposals generally, apart from the direct taxation of cars and petrol. Therefore the motor manufacturer suffers to a double extent. Manufacturers of commercial motor vehicles in Coventry, continued Mr. Instone, were suffering to a like extent. The trade meant so much to the city. At present, out of an estimated population of 91,000, it was calculated that there were from 25,000 to 30,000 persons dependent upon the motor industry, and in support of this might be noted the preponderance of the unemployed in the motor, cycle, and engineering class of the labour bureau. Wages at the rate of £635,000 per annum were now being paid to the employees of the various concerns engaged in the industry, which was unquestionably to-day the city's staple trade. Coventry had experienced two periods of financial loss and disaster, separated by three years of prosperity, and followed by what promised to be a revival of trade, but to-day the effects of last year's depression were still greatly felt, and the trade was not in a position to stand any increase in taxation. It would undoubtedly assist matters, especially in the second-hand market, were it possible to take out licences for three, six, or twelve months at option. Visitors from abroad, and especially those from the colonies, whose stay in the country might be of three or four months' duration, not infrequently bought second-hand carriages for touring purposes, but a heavy motor tax, to be paid for a much longer period than the duration of their visit, would deter this class of customer from purchasing.

Mr. Lloyd George: That is, of course, quite a new suggestion, which is well worth considering.

Mr. Lloyd George: Have you the figures showing the output of cars in your district month by month?



Mr. Instone: Not month by month. We have only these wages bills; but we could get the figures.

Mr. A. E. W. Mason: We will get them.

Mr. Lloyd George: Also the horse-power, if possible.

#### The Chancellor's Reply.

Mr. Lloyd George, in reply, explained that his attitude towards motor car taxation was totally different from that towards those taxes which were essential to the revenue of the year. Here he was simply raising revenue, not for the purpose of filling a depleted Treasury, but for the purpose of road improvement, and the interest of the motor industry and the motor world generally was an interest just as deep in this matter as the interest of the Exchequer. He also had in view the getting rid of some of the difficulties experienced by local authorities, who were endeavouring to do their duty in the way of road improvement at enormous expense, for the benefit, as a rule, of motorists outside their own particular area. Every suggestion, therefore, which would have the effect of diminishing the yield of the tax would very seriously impair the general policy which had been pressed on him from outside, and which he quickly yielded to. Since one of the suggestions of the Motor Union would reduce the amount by very nearly 50 per cent., and two other suggestions with regard to the petrol tax were to get rid of it altogether, and to reduce it from 3d. per gallon to 1d. per gallon, it was perfectly clear that to accept these suggestions would make the yield so small that really it would be hardly worth while taxing motorists at all for this purpose. Two or three hundred thousand pounds would be very acceptable to the Exchequer, but two or three hundred thousand pounds would not be worth while starting a separate organisation and a separate fund for the purpose of improving the roads of the country. It would be quite trifling altogether. Although he had not proceeded without a good deal of consultation, he was very sorry he did not have an opportunity of consulting with the representatives of the Motor Union. It might have been better if he had consulted, not merely one section of motorists, but other organisations. He consulted the Automobile Club—was in constant consultation with them—and the proposals incorporated in these sections of the Act were those of gentlemen who were members of that club. There were certain amendments which they wished to make as well, but in the main it was the advice received from them that induced him to put the proposals in this form. He had not proceeded without consulting expert motorists, but that did not mean that he should adhere in every particular to the proposals incorporated in the Bill. He was quite willing to listen to any suggestion from gentlemen such as those who had been good enough to come to see him, who had wide experience as motorists, both as manufacturers and as owners of cars. Without expressing a final opinion on the amendments which had been submitted, he would say that Lord Russell had very frequently told him that he was opposed to the whole thing. None the less, his criticism might be sound. Nobody liked taxes, but people were in the habit of exaggerating both the amount and the effect of taxes. And it would be found in this particular instance that their apprehensions would not be altogether justified by the event. He would be the last man in the world to propose anything to interfere with an industry like the motor industry in Coventry, which had one of the most creditable stories in the history of British industry. He could quite believe that for the moment it might check the growth, or rather the recovery, of the trade, but he could hardly think otherwise than that raising £500,000 or £600,000 for the purpose of improving roads for motorists, making them less perilous for the motorists themselves and to the general public, and consequently removing that element of unpopularity which was undoubtedly created by the numerous accidents and inconveniences which were the inevitable result of the introduction of mechanical traction, would in the long run have a very beneficial effect on the growth and the development of the motor industry. He was sure it would, and he was speaking as a most enthusiastic motorist. He certainly did not share the general view in regard to motor traction. He thought it was a great public benefit and a growing one. He would have careful note taken of the suggestions that had been made. The suggestion with regard to the definition of motor spirit had given a good deal of trouble. If Lord Russell had been drawing up a form of definition to cover petrol, he would have admitted that it was one of the most difficult things in the world to do. It was very difficult to find any phraseology that would adequately cover the motor spirit used for the purpose of fuel in mechanical traction. He thought on the whole they had a definition which was a good working one. It enabled them to tax petrol—(laughter)—and that was really what they were after. But there was this

advantage about it: it came late in the Bill, and so enthusiastic was Mr. Joynson Hicks, and so enthusiastic were his friends and colleagues in favour of this Bill, that they had made up their minds not to have a single flaw or blemish in it. They were devoting themselves to removing every grain and particle off the face of it. So that by the time they came to petrol the Bill would be absolutely flawless. There was plenty of time to consider a fresh definition of motor spirit, and he would suggest that the ingenious brain of Lord Russell should be utilised in the meantime in making any other suggestion that would more adequately meet the case. On the question of roads, Mr. Lloyd George agreed that the money should be applied for the improvement of the roads and the motor traffic, and that there should be some sort of advisory body, such as the Local Government Board, the Home Office, or whatever the authority might be, to guide and advise the local authorities with regard to the best means to spend the money for the benefit and the improvement of the roads. With regard to foreigners, two gentlemen were going over to Paris, if they had not already gone over there, to confer with the authorities with regard to this question in particular—

Mr. W. Rees Jeffreys: It is postponed till the beginning of October.

Mr. Lloyd George: Oh. Why was it postponed?

Mr. Rees Jeffreys: At the request of one of the other Governments.

Mr. Lloyd George said, with regard to this suggestion, it was certainly a very reasonable request, and it was only a question of the best way of carrying it out. It was of the greatest possible importance to give every encouragement that hospitality could dictate to those gentlemen who came over. The more they came to see our beautiful country the more popular would it become, and therefore it was very much better from the international point of view that every inducement should be offered. In regard to the unit of horse-power, Mr. Lloyd George said there was a discussion in the House of Commons, and, on the whole, the weight of numbers—he would not say the weight of opinion—was in favour of the present scale. He would give it very careful consideration by the time he had quite grasped the clause dealing with that particular matter. For the time being his mind was off motor cars and on the land. He had not been able during the last few weeks to devote any time to motor cars. It was just as well that they should remind him now and again that in this Bill he was dealing with motor cars, but he did not think for the moment he could give a better answer.

Mr. A. E. W. Mason: With regard to licences for short periods?

Mr. Lloyd George: That is quite a new suggestion. It seems on the face of it a very reasonable proposition.

The deputations afterwards withdrew.

#### Medical Men's Motor Cars.

The joint deputation from the British Medical Association and the Medical Committee of the Motor Union, with special reference to the use of motor cars by medical men, was next received. It was pointed out that the motor car was becoming a necessity to the medical man, and especially to those in country practice, and that it had on many occasions enabled medical men to afford prompt help in cases of urgency, and had saved lives which would otherwise have been lost. The deputation urged that medical motorists should receive at least the same relief as that which the Chancellor of the Exchequer granted to those who used motor cars for commercial purposes.

In reply, Mr. Lloyd George said he was convinced of the justice of the request to place medical motor cars in the same position as commercial motor vehicles in regard to the petrol rebate. The difficulty was as to the practicability of carrying this out. They might take it that he would make the alteration asked for.

#### Review.

"Our Chauffeur's Route Book, 1909." Geo. Philip and Son, Ltd., 32, Fleet Street, E.C. This is a useful work compiled by the Ocean Accident and Guarantee Corporation, Ltd. Under the heading "Sea Transit for Motor Cars" are given all the particulars for transporting touring cars to and from France, Belgium, Holland, Ireland, Channel Islands, Isle of Man, and the Isle of Wight. The exits and routes from London would be more valuable if they did not start from the Corporation's offices. The mileage record, with spaces for various expenses, is well arranged. Price 1s. nett.

# Balancing Petrol Motors.

## Some of the Means whereby Vibration can be Diminished

THE problem of balancing the present high speed engines associated with the modern motor car is somewhat intricate, but it is a matter of the greatest interest both to manufacturers and users. The generally unpleasing and destructive features of rapid vibration are too well known to require discussion. The possibilities in the direction of eliminating vibration as far as the engine is responsible form the *raison d'être* for this article.

in the cylinders and the inertia of the moving parts respectively. In all petrol motors the turning effort on the crankshaft varies greatly during each revolution, and this induces a similar but opposite turning moment acting on the whole engine, and tending to rock it about the centre of the crankshaft. This may be reduced by increasing the number of cylinders, or entirely eliminated, by having two crankshafts rotating in opposite directions.

A point that sometimes seems to escape attention in connection with the effect of pressure within the cylinder is that this pressure acting on the head of the cylinder has never any tendency to move the engine as a whole. Its effect must always be neutralised by an equal but opposite pressure on the crankshaft bearings. The advantage of fitting a piston to both ends of the cylinder, as in the Gobron-Brillié construction, is therefore open to question, while there can be no doubt as to the increased cost and complication.

The second cause of vibration, the inertia of the moving parts, may be conveniently sub-divided into that due to rotating parts and that due to reciprocating parts. The connecting rod has both a rotary and reciprocatory movement, but a close approximation to the truth may be made by considering the weight of the big end as rotating with the crank and the weight of the little end as reciprocating with the piston. It will not be necessary to say much about balancing rotating parts, as one general method covers the whole of the question as far as it relates to this.

Referring to fig. 1, A B is a shaft having a number

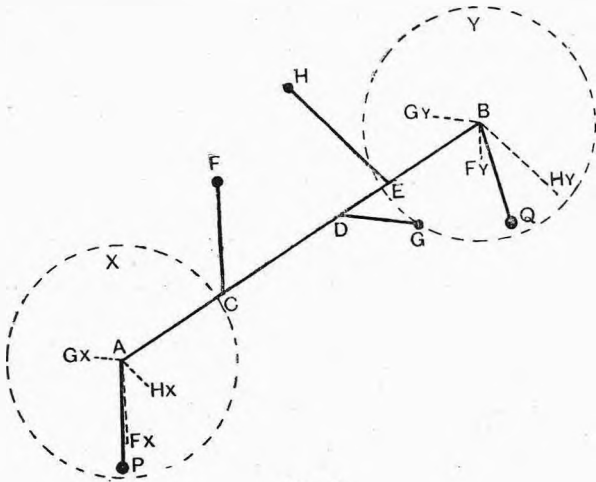


Fig. 1.

Stated briefly, any varying force tending to move the engine as a whole will cause more or less vibration. Varying forces arise without cessation in every motor car engine, the sole effect of balancing being to make them neutralise each other as far as possible, and thus prevent them being transmitted to the rest of the car.

These alternating forces may be divided into two main classes, due to the varying pressure of the gases

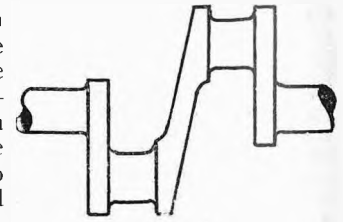


Fig. 2.

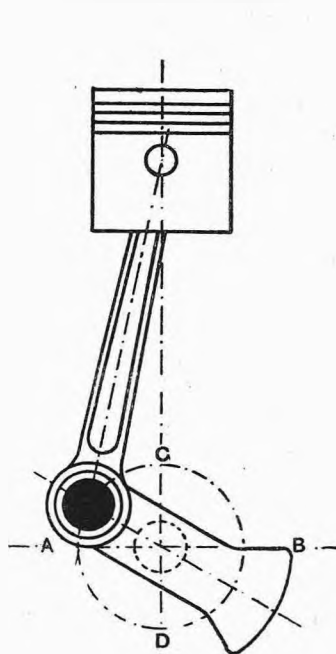


Fig. 3.

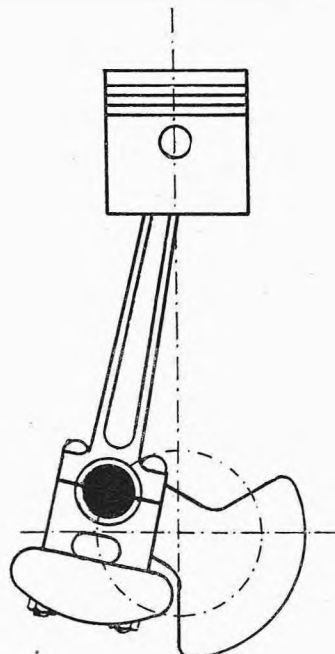


Fig. 4.

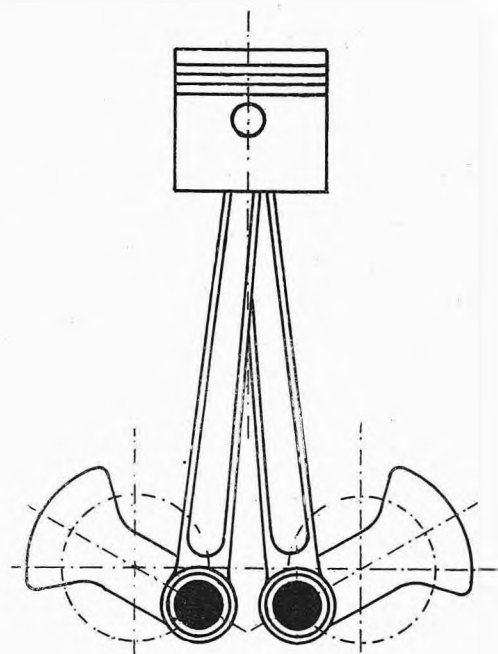


Fig. 5.

(in this case, three) of masses F G H requiring to be balanced. The lengths of the lines C F, D G, and E H are supposed to be proportional to the weight of each mass multiplied by the distance of its centre of gravity from the centre of the shaft—that is, to the turning moment of each mass about the centre of the shaft.

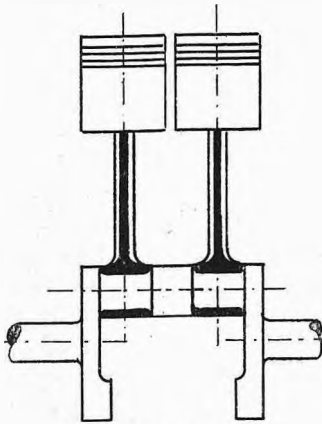


Fig. 6.

Then, taking any two convenient planes X and Y at right angles to the shaft, the weight and position of one balance weight in each of these planes which will perfectly balance the masses F, G, and H may be determined. Draw A Fx and B Fy parallel to C F, but in the opposite direction.

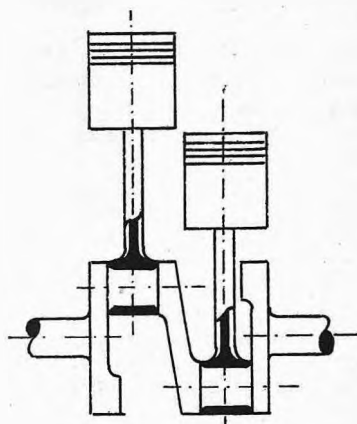


Fig. 7.

of such length that the sum of A Fx and B Fy is equal to C F, and so that A Fx is to B Fy as C B to C A. Draw similar lines for the remaining masses G and H. Then determine the resultants of these lines A P and B Q in the same way that the resultant of a number of forces acting on a point is determined. A P and B Q will then represent by their lengths the turning moments, and by their directions the positions of the two balance weights required. There is no necessity, of course, for the planes X and Y lying beyond the masses to be balanced; their position may be chosen solely from considerations of mechanical convenience. In some cases the problem may be solved by the use of only one balance weight, but when this happens there is no choice as to its position. From the above it will be seen that rotary parts can always be perfectly balanced, and therefore, in considering the balancing of various types of engine, no reference will be made to the question of balancing their crankshafts. A point to be noticed in this connection is that the two-crank shaft shown in fig. 2 is unbalanced. It can, however, be perfectly balanced in the manner indicated in fig. 7.

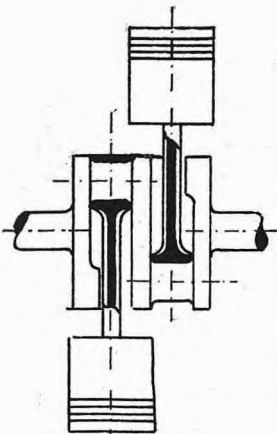


Fig. 8

The problem of balancing the reciprocating parts has been considered in connection with each individual type of engine.

One general theorem, however, may be stated. To obtain perfect balance, the total kinetic energy of the moving parts must be constant at every point in the revolution of the crankshaft.

This is one of the points in which the six-cylinder engine so much excels the four-cylinder type. This theorem does not apply where two crankshafts rotating in opposite directions are used.

Fig. 3 represents the standard single-cylinder engine. Supposing the rotating masses to be exactly balanced by the counterbalance shown, the forces introduced by the reciprocation of the piston remain to be considered. The piston has a velocity which varies from zero, when the crank is at C and D, to a maximum approximating to that of the crank pin when the crank is at A or B. Neglecting friction, which has no direct relation to the mass of the piston, no force is required to keep the piston moving at a constant velocity, but a force is necessary to change its velocity. The result is that as the crank is travelling from A to B in the direction of the arrow, a force attaining its maximum with the crank at C is

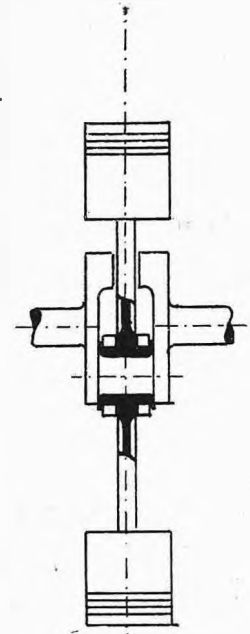


Fig. 9.

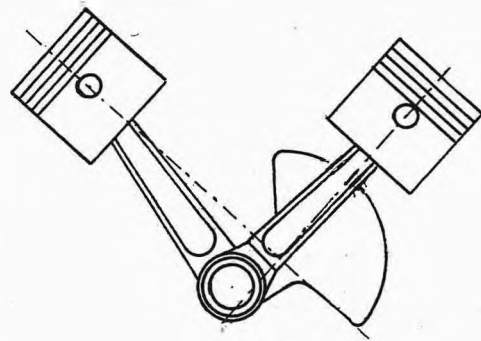


Fig. 10.

communicated through the connecting rod and shaft to the mass of the engine itself. In an engine having a 4in. stroke, and running at 1,500 revolutions per

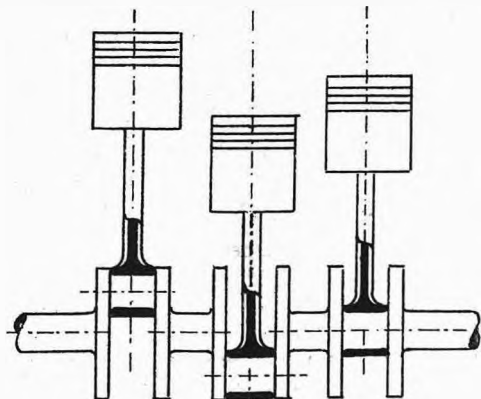


Fig. 11.

minute, this force attains a maximum value of 140 lbs. in an upward direction and 120 lbs. in a downward direction per lb. weight of reciprocating parts. This force will therefore total something in the region of 1,000 lbs. in an engine of ordinary weight and size. It will be referred to later as the "primary inertia force."

There is also another set of forces brought into action through the inertia of the piston. With the crank at C the piston has no velocity; at B it has a velocity approximately equal to that of the crank pin, and consequently a kinetic energy proportional to its weight and the square of this velocity.

When the crank reaches D it has lost the whole of this energy; at A it has regained it, and so on. Thus twice in every revolution our 4in. single-cylinder engine obtains from and returns to the crankshaft, say, 83 ft. lbs. of energy.

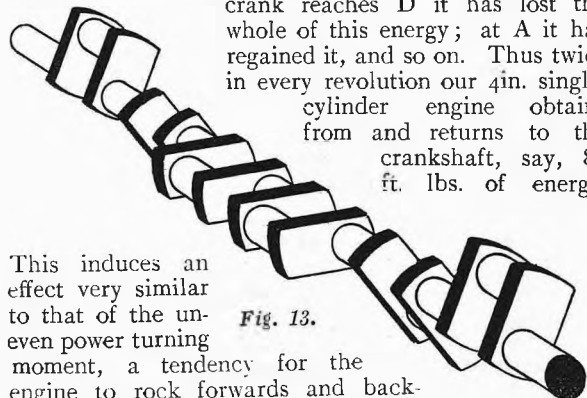


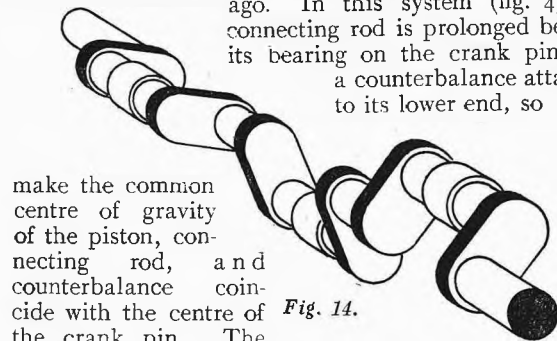
Fig. 13.

This induces an effect very similar to that of the uneven power turning moment, a tendency for the engine to rock forwards and backwards about the centre of its crankshaft. This effect may be termed the "transverse inertia couple." Neither of these effects can be balanced by increasing the weight of the counterbalance to that necessary to balance statically the reciprocating parts. If this be done the only effect on the primary inertia force is to change the direction of its action from the centre line of the cylinder to a line at right angles to it, while the transverse inertia couple is unaltered. An engine of this type should therefore have a counterbalance just sufficient to balance the rotary parts, while the reciprocating parts should be made as light as possible.

A rather interesting system of balancing, applicable to single-cylinder engines, was patented a year or two ago. In this system (fig. 4) the connecting rod is prolonged beyond its bearing on the crank pin, and a counterbalance attached to its lower end, so as to

make the common centre of gravity of the piston, connecting rod, and counterbalance coincide with the centre of the crank pin. The

Fig. 14.



whole of the moving parts are then balanced by a weight opposed to the crank. Both the primary inertia force and the transverse inertia couple are practically balanced by this method, but the connecting rod would appear to be subjected to rather heavy bending stresses.

Fig. 5 shows an interesting, if complicated, type of single-cylinder engine. Two connecting rods are employed to drive two crankshafts in opposite directions. Both the reciprocating and rotating parts are counterbalanced, and both shafts are fitted with flywheels. Only one of the shafts drives the car. If some sort of spring drive be arranged so that the turning

effort on the propeller-shaft is constant, in spite of some slight variation in the speed of the crankshafts during each revolution, not only are the primary inertia force and the transverse inertia couples balanced, but the power turning moment affecting the engine is rendered constant. Engines similar to this, but with two opposed cylinders, were used on the older types of Lanchester cars.

The commonest types of two-cylinder engines are shown in figs. 6 and 7. The only advantage that the type shown in fig. 6 possesses over the standard single-cylinder engine is that it has an impulse every revolution in place of one every other revolution; otherwise it is just as unbalanced. In the engine shown in fig. 7 the primary inertia force is converted into an alternating longitudinal couple, whose magnitude varies as the distance between the centres of the cylinders. The transverse inertia couple remains unaltered. The impulses, of course, occur at unequal intervals. In fig. 8 the cylinders are opposed. This enables their centre lines to be brought pretty close together, thus reducing the longitudinal couple. Its impulses occur at equal intervals, but the transverse inertia couple is not reduced.

Fig. 9 shows a thoroughly bad type of engine. The primary inertia force is large; the transverse inertia couple is similar to that of the previously mentioned two-cylinder engines, and its impulses occur at very unequal intervals.

The two-cylinder engine with single crank and cylinders at right angles (fig. 10) is one that is coming

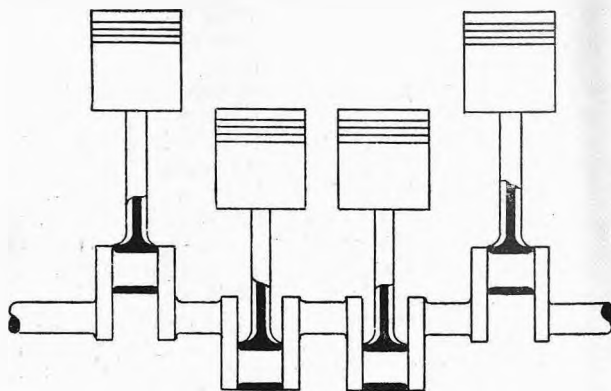


Fig. 12.

in for considerable use nowadays. Its impulses occur at somewhat unequal intervals, but it has the great advantage that there is no transverse inertia couple, while the primary inertia forces may be balanced by employing a counterbalance opposed to the crank. The weight of this counterbalance is that which would be necessary to statically balance the moving parts of one of the cylinders.

The three-cylinder engine (fig. 11) is one that for some obscure reason has found little favour. It has no primary inertia force or transverse inertia couple, and only a small longitudinal couple. Its impulses occur at equal intervals. There seems little to choose between it and the standard four-cylinder engine shown in fig. 12. This engine has no primary inertia force or longitudinal couple, but the transverse inertia couple is equal to that of four single-cylinder engines having cylinders of the same size.

In the six-cylinder engine, the virtues of both the above types are combined. It is almost perfectly balanced, and its impulses occur at frequent and equal intervals. The usual arrangement of cranks for this

type of engine is shown in fig. 13. The crankshaft shown in fig. 14 has sometimes been used for this type. When this is the case, a longitudinal couple, similar to that in a three-cylinder engine, arises. Owing, however, to the greater length of the engine, its magnitude is greater than is the case in the three-cylinder engine.

Eight-cylinder engines of both the vertical and Antoinette V type are practically perfectly balanced as far as their moving parts are concerned. They also have a very even power turning moment.

A table is appended which shows at a glance the chief characteristics in the matter of balance for

different types of engine. The figures in the columns headed "Primary Inertia Force" and "Transverse Inertia Couple" give the values of these unbalanced forces relative to their values in a single-cylinder engine with a cylinder of the same dimensions. The relative power of the different types is more or less in proportion to the number of cylinders, and this must be taken into account in comparing them. It is not possible to construct a table in which each type is supposed to be of the same power, owing to the complicated relationship which the weight and speed of the moving parts bear to the power.

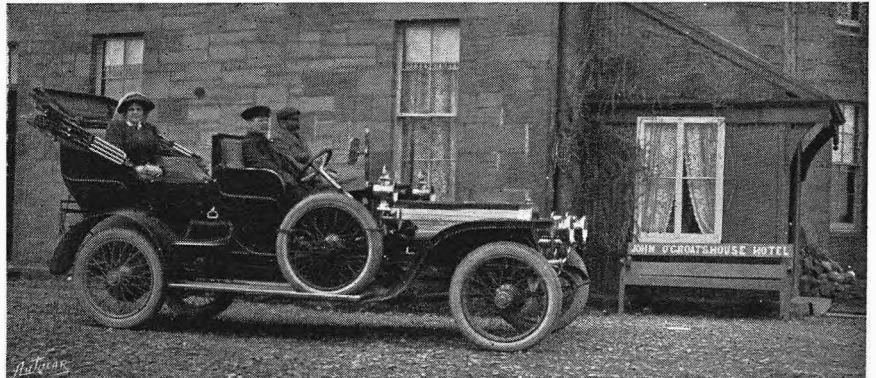
No. of Cyls.	Type of Engine.	Fig.	Primary Inertia Force.	Transverse Inertia Couple.	Longitudinal Couple.	Intervals between Consecutive Impulses in Revolutions and Fractions.
1	Standard .....	3	1	1	—	2
1	With connecting rod counter balance ..	4	—	—	—	2
1	Double crankshaft .....	5	—	—	—	2*
2	Cranks at 360° .....	6	2	2	—	1
2	Cranks at 180° .....	7	—	2	Small	1½ and ½
2	Cranks at 180°, cylinders opposed .....	8	—	2	Very small	1
2	Single crank, cylinders opposed .....	9	2	2	—	1½ and ½
2	Single crank, cylinders at 90° .....	10	—	—	—	1¼ and ¾
3	Twin cranks at 120° .....	11	—	—	Very small	2/3 and 1/3
4	Standard .....	12	—	4	—	1/2 and 1/2
6	Standard .....	13	—	—	—	1/3 and 1/3
6	Crankshaft as three-cylinder engine .....	14	—	—	Small	1/3 and 1/3
8	Vertical cylinders .....	—	—	—	—	1/4 and 1/4
8	V type, cylinders at 90° .....	—	—	—	—	1/4 and 1/4

\* With flexible drive the power turning moment on the engine is constant.

### South to North on a Sheffield-Simplex.

It is not everyone who would start out on a tour covering over 2,000 miles on a brand new car, yet this is what Mr. E. A. de Pass did with his gear-box-less Sheffield-Simplex. When the car was delivered in London to Mr. de Pass by the body-builder, he took it for a short run, including the ascent of Fitzjohn's Avenue, and, next morning, started straight away on a fishing excursion to the North of Scotland. In the journeyings from one fishing to another, the traversing of shooting roads was frequently necessary, and so the car was put to rather more than ordinary work. The Scottish journey landed the party at John-o'-Groat's House, whence a southward run was made to Plymouth, and so back by devious ways to London. One incident occurred during the journey which Mr. de Pass says speaks volumes for the efficiency of the lubricating system with

which the car is provided. Owing to an outside circumstance the drain tap to the radiator was opened and all the water was lost, yet the engine ran for some



Mr. de Pass with his Sheffield-Simplex at John-o'-Groat's House.

distance without showing any tendency to seize. Altogether a distance of 2,350 miles was covered during the tour.

At the motor boat races held at Kiel under the patronage of the German Emperor, the Duke of Westminster's racing boat *Ursula* carried off the first event in brilliant style. This boat, specially built for its owner by the Wolseley Tool and Motor Car Co., Ltd., also won the international race at Monaco recently under the name of *Wolseley-Siddeley II.*, running at the record speed of 34.5 knots. The Kaiser, whose interest in all yachting and naval matters is as great as ever, afterwards paid a visit to the Duke of Westminster's yacht *Grianaig*, and an exhibition run was given by the *Ursula* for his especial benefit. The

Kaiser followed the proceedings with the closest attention, and expressed himself as highly delighted with the performances of the boat. One of the Emperor's sons, not content with a mere view, went out in the boat the following day on two separate occasions, being driven through the water at the rate of nearly 35 knots.

"USEFUL HINTS AND TIPS FOR AUTOMOBILISTS."—Under this title "Useful Hints and Tips" have been reprinted from *The Autocar* in booklet form. The third edition now on sale has been thoroughly revised and brought up to date. The book can be obtained from *The Autocar* Offices, 20, Tudor Street, London, E.C., price 2s. 6d.; post paid, 2s. 10d.

## On the Track. By H. C. Lafone.

**R**ECIPE for infallible method of putting a stop to protracted spell of bad weather: Provide a motor racing track; on said track arrange to hold a motor race meeting; hold said race meeting, *et voilà tout!* Honestly speaking, it really does seem that the above simple recipe fills the proverbial want of long standing. However evilly the elements may have entreated us for days, and even weeks, beforehand, the advent of a Brooklands meeting banishes the lowering clouds, dries up the puddles, and generally removes "that tired feeling" and our appearance of having just found a shilling and lost eighteenpence. And so it was last Wednesday week, when a most satisfactory crowd turned up to see that mighty man of valour Felice Nazzaro have a go at the records for the kilometre and mile on Mr. Baker White's big F.I.A.T., which was modestly described as of 89.5 h.p. on one page of the programme and as of an estimated horse-power of 180 two pages before. This record-breaking attempt was, of course, the chief attraction of the afternoon, and of it I propose to speak first of all. Last week I commented on Nazzaro's

cheers which greeted his arrival in the paddock on the racer—that is, provided the cheers reached his ears, which were probably fully occupied in listening to the splendid roar of the F.I.A.T.'s mighty cylinders. The cheers were really hearty, and indicative of the relief caused by his appearance after the terrible and circumstantial falsehoods which had run like wild-fire through the assembly to the effect that a cracked cylinder would prevent his driving at all. Well, he did arrive, and he did drive, and the roar of his engine and his smiling face and the glamour of his name quite satisfied the crowd, though he never looked like fracturing a record. In fact, I should not be at all surprised to learn that Stirling's Brasier at the moment of his slight mishap (referred to below) was travelling at a higher speed than was ever attained by the F.I.A.T. However, there's a deal in a name after all, and Mr. Stirling, plucky sportsman though he is, has but a local reputation, while Nazzaro's fame is world wide. To be precise, Nazzaro made two attempts to beat record, but his first lap, as timed by me, was at an average speed of well under 100 miles



*The animated scene at Brooklands on the occasion of the Midsummer meeting*

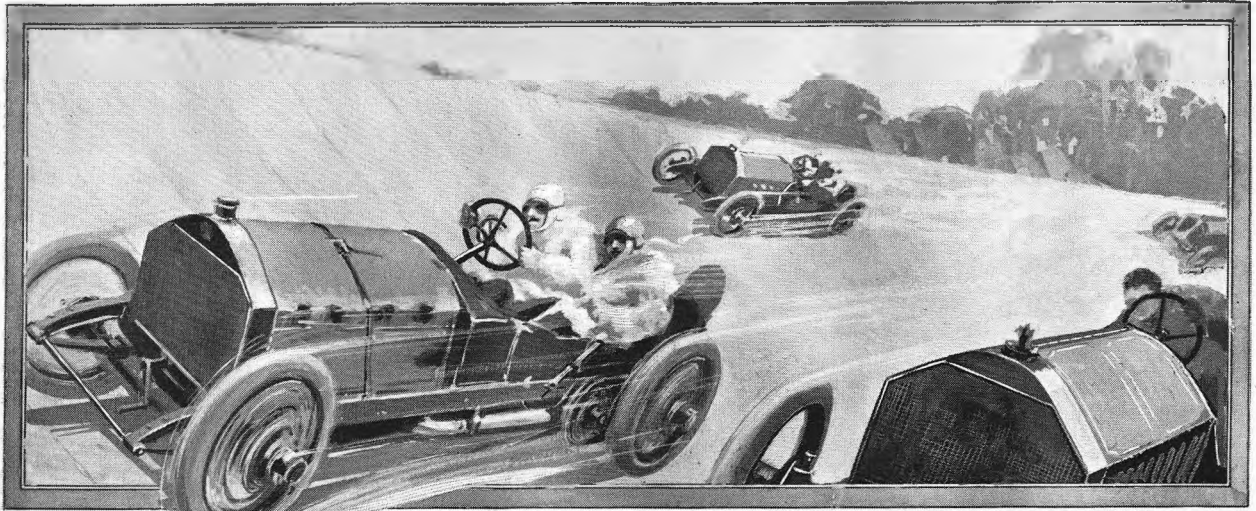
bad luck, first as regarded the weather dealt out to him for practice, and secondly in connection with his bent axle on the afternoon of the Monday before the meeting. One might have been excused for imagining that when the latter mischance had been overcome Fate would have been satisfied; but not at all. On the very morning of the meeting the Italian, after scuffling round a few practice laps at speeds variously estimated by "experts" at from 95 to 120 miles an hour (I was not there with my trusty stop watch, so, not knowing, can't say), the Italian, as I remarked some way back, discovered a blow-hole in his back cylinder, and had to face the unpleasant alternatives of either abandoning his attempt and disappointing the crowd or getting the cylinder off, temporarily repairing it if possible, and reinstating it—all in a little matter of three hours. That he chose the latter course we all know, and I am sure that those present appreciated his determination to show them something for their money if it could be managed.

It is understood in England that all foreigners regard us as a cold-blooded, undemonstrative race. At any rate, we like to believe that we are so regarded, though, goodness knows, some of our recent behaviour has been anything but calculated to enhance our reputation for stolidity. When Nazzaro goes back to his native land we shall be in danger of getting a name for real enthusiasm if he takes the trouble to tell of the

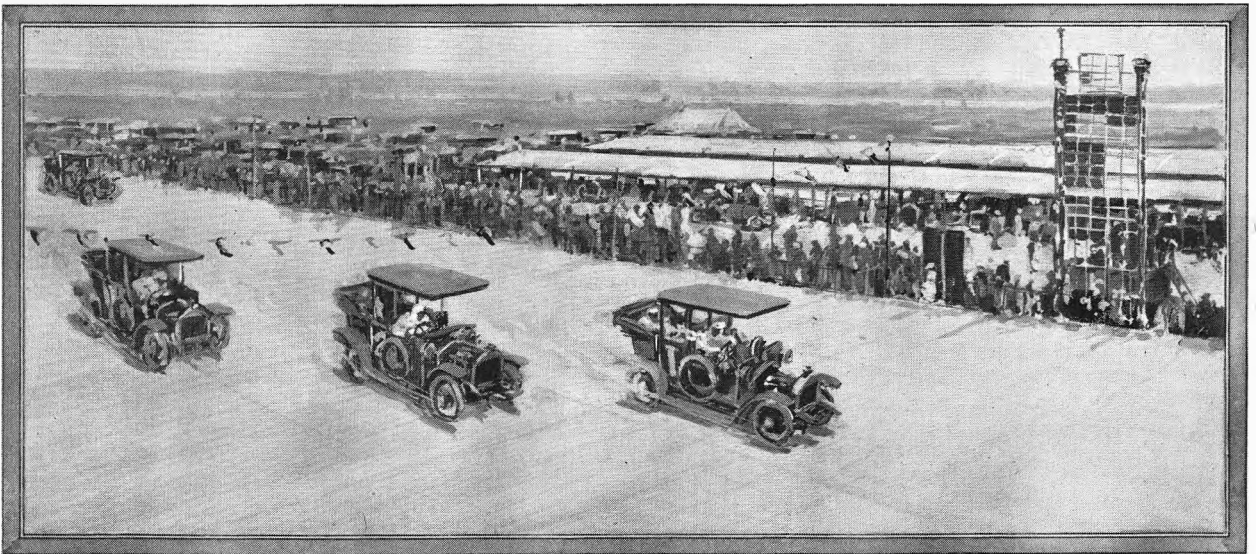
an hour, while his final effort was 101½ miles an hour, the B.A.R.C. electric timing apparatus registering a maximum speed, presumably over the measured kilometre, of 105½ miles an hour. The famous Italian was quite unperturbed by his failure, and has vowed not to leave the country until he has put to his credit the figures both for the kilometre and mile. He evidently likes Brooklands—in his own words, "it entices to speed." He was said to be going to make another attempt at the end of last week, but he did nothing of the kind, though the chances are he will have done so before these lines appear in print.

The other items in the race meeting's programme, though giving pride of place as regarded popular interest to Nazzaro and his doings, were anything but tame, and would alone have provided a most enjoyable afternoon's sport. First came the Summer Handicap for cars between 15 and 40 h.p. R.A.C. rating, and eight of the nine entrants turned out, Mr. Baker White's 25.6 h.p. Hutton being the only absentee. The winner, Mr. J. H. Evans, on an 18.2 h.p. Lagonda, had been somewhat leniently treated by the handicapper, and won rather easily by 300 yards from Mr. Erl on his Paris-Madrid De Dion-Elsa. The scratch man, Sir George Abercromby, drove a fine race, and finished third 50 yards behind the De Dion. Had the course been only 100 yards longer, these two would have had their positions reversed. It is

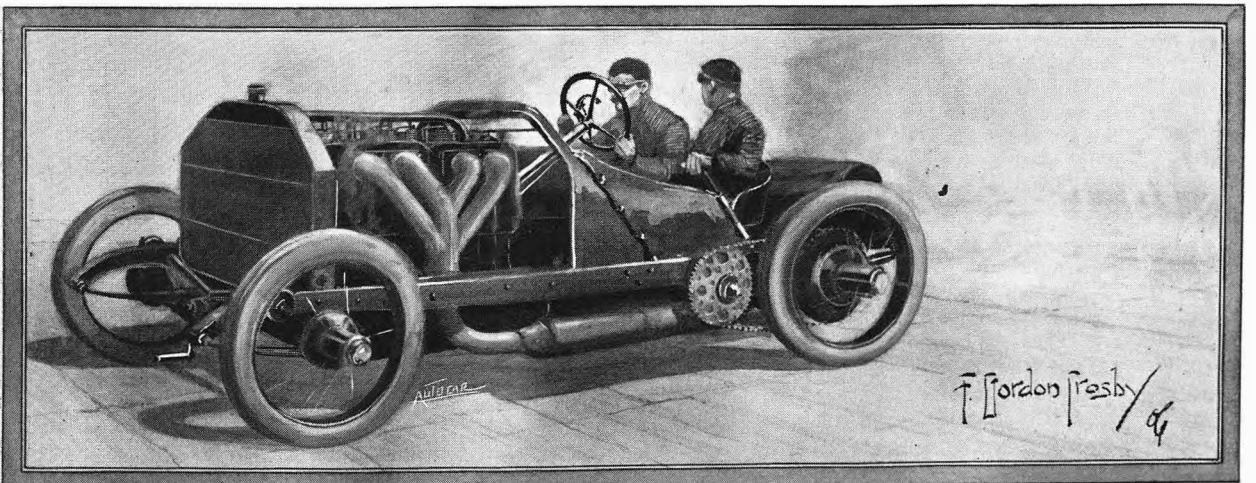
# Sketched at Brooklands Mid-summer Meeting.



THE MONTAGU CUP RACE.



THE FINISH OF THE TAXICAB RACE.



NAZZARRO AND THE 180 H.P. F.I.A.T.

not often that Mr. Selz is at the tail of the hunt, but he and his Vauxhall on this occasion had to be content with a back seat. The winner's speed was  $54\frac{1}{2}$  miles an hour.

The City Motor Cycle Handicap brought out twenty-nine starters, and produced a rather straggling race, of which it is impossible to say very much, for it transcends the power of at any rate one human brain to follow the kaleidoscopic performances of twenty-nine riders strung out all round the course. One competitor seemed to prefer to take a little walking exercise about half-way through the race, while another, evidently tired of sitting still, decided to finish the race on foot. In the end H. A. Collier on an 8 h.p. Matchless led the field home, winning by 400 yards from H. G. Partridge on a 6 h.p. N.S.U., H. V. Colver being third on an 8 h.p. Matchless. The Grand Prix sweepstakes was decidedly disappointing, for only three cars went to the post, and then the speediest was put out of the running by a broken petrol pipe. Mr. Baker White's Napier, driven by Cundy, got fastest away from a line on the railway straight, but Mr. Stirling, after an indifferent start, overhauled him so fast that his Brasier flashed ahead as the cars were at the extreme western end of the track, the faster machine being at the very top of the banking. From this point the Brasier travelled so swiftly that it had opened up a gap of  $18\frac{4}{5}$ s. between itself and the Napier by the time the first circuit had been completed. From a stand-

ing start Stirling had covered this lap at an average speed of  $89\frac{1}{2}$  miles an hour. Half-way round the second lap a petrol pipe came adrift, and Stirling had to give up, leaving the Napier and a 59.2 h.p. Weigel (the third car in the race) to finish in the order named. The Weigel pulled up well towards the end, and finished only  $3\frac{4}{5}$ s. behind the winner, whose speed was  $72\frac{1}{2}$  miles an hour. The June Private Competitors' Handicap attracted eleven entries, all the cars going to the post. A very good race was won by two lengths by Mr. Erl's De Dion "Elsa" from Mr. J. L. Farmiloe's 24.8 h.p. Mercédès, Sir George Abercromby again being a very fast third. It is worth mentioning that Sir George's second lap was covered at the rate of  $99\frac{1}{2}$  miles an hour. One comment on this race I must make. Mr. Erl must be warned of the extreme danger of waving his hand to his friends, and swerving badly in so doing, when he happens to pass the winning post two lengths ahead of a faster car. A word should suffice to put this matter right. The F.I.A.T. taxicab race was decidedly amusing, and caused intense excitement among the dethroned chauffeurs who had driven the cabs from London to Brooklands. "The yellow cab," as Mr. Harvey Du Cros's mount was instantly dubbed, became a warm favourite, and flattered its backers by coming in a length to the good, Charles Jarrott's chariot being second, followed at a similar distance by George Du Cros's four-wheeler. The passengers inside the cabs had a great time, some inciting the drivers by threats, entreaties, and the prods of umbrellas, others

perpetually ringing electric bells, and yet others cooling the ardour of their rivals by means of soda water aimed with no small skill from the spouts of syphons. The afternoon's proceedings terminated with the race for the Montagu Cup for cars of 35 h.p. (R.A.C. rating) or over. Ten of the eleven entrants lined up at the pond, and Harbutt, driving Mr. H. P. Egleston's 41.9 h.p. Bianchi, made quite a sensational start, his car appearing to leap away in a phenomenal manner, and attaining full speed in a remarkably short distance. Presumably the handicappers had not much information to go upon in fixing the Bianchi's time allowance, and the result proved that they had been far too generous in their gift of 3m. 52s. to a machine which showed itself capable of covering its second lap at an average speed of  $81\frac{1}{2}$  miles an hour. Going well from start to finish, the Bianchi



*The animated scene at Brooklands on June 30th. The crowd in the paddock. In the middle distance some of the cars in the members' car enclosure may be seen.*

won so easily that no one was near enough to lodge a protest against its driver's amazing evolutions when the judge's box had been passed. The car was pulled up before the end of the finishing straight had been reached, was turned completely round on the track, and driven back into the paddock through the exit gate. And all this took place before the first of its rivals entered the straight! Truly a hollow victory. A good race for second place was seen between Mr. Astley's 60 h.p. Napier and Sir E. Pauncefort-Duncombe's 55.8 h.p. Daimler, the former just getting home ahead. My only criticisms on the meeting are that the tea service in the members' enclosure was utterly inadequate, and that many members who arrived after racing had commenced were detained outside the gates for annoyingly long periods. I hope these two matters will be attended to before the August Bank Holiday meeting.

A nasty accident, which might easily have had fatal results, occurred on Thursday morning. Two Cambridge men—a Mr. Wigglesworth and a Mr. Wright—neither of them members of the racing club, took an old racing Napier, which long ago belonged to Mr. Hargreaves, round the track at full speed, and went down the finishing straight "all out." Failing to negotiate the turn on to the track at the railway side, the two men were carried right over the highest part of the banking, both car and occupants falling down the opposite side of the slope. The car lodged between a telegraph pole and the bank; one of the men was flung into the road above the tunnel, and the other fell on the outside of the bank. The car was



badly smashed, and had to be partially cut up before it could be extricated. Mr. Wigglesworth, who was driving at the time of the accident, escaped without serious injury, but Mr. Wright was picked up insensible, suffering, among other things, from severe concussion. The latest news as I write is that Mr. Wigglesworth is practically himself again, while Mr. Wright's condition is most reassuring. No one will ever know exactly what happened, but Mr. Wigglesworth states that he lost his head, and found himself passing the judge's box at full speed before he realised that he was in the straight at all. The next thing he recalls is that two wheels were over the top of the banking, and then all is blank. It must be particularly borne in mind that the track authorities were in no way to blame, for high speed finishing is strictly forbidden when the track is open for ordinary training, and the two Cambridge men were acting in absolute disobedience of instructions. The obvious



The competitors in the fifth race lined up by the paddock gate.

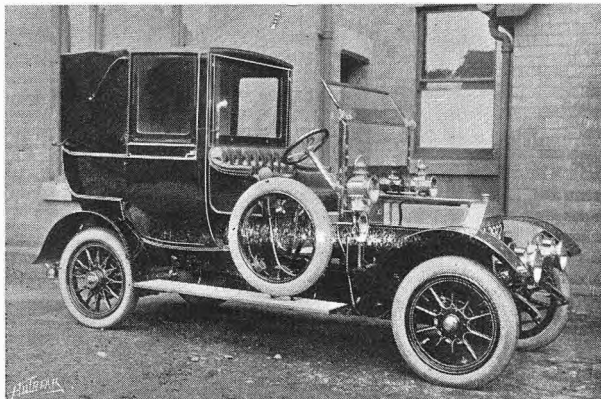
reflection is that drivers should make themselves conversant with the rules before appearing on the track.

The latest news of Nazzaro is that he has fitted two new cylinders and a new camshaft to the F.I.A.T., and is practically ready for another attempt at record breaking.

### The R.A.C. Midland Meet.

In Coventry, Warwick, and Leamington Spa, the three centres which will be visited in the course of the Royal A.C. provincial meeting of 24th July, the authorities and others who are interesting themselves in the meeting are making every provision for the pleasure and convenience of the visitors. The meeting is being held in conjunction with the Coventry and Warwickshire M.C., and, with the co-operation of the Midland A.C. and other associated clubs in the Midland Counties, there is every reason to anticipate that the 24th July will witness the largest meet of the motorists of the Midlands yet held. Twenty-four firms have kindly invited the visitors to view their works at Coventry.

At Warwick Castle the members of the party will be permitted to see many portions of the Castle which are not available to the public. H.S.H. Prince Francis of Teck will preside at the dinner at Leamington.



The 18-23 h.p. B.S.A. landaulet specially built for General Sir Ian Hamilton.

### The Story of a Burst Tyre.

Let us tell the story of a burst tyre that our readers may peruse, and profit by what must prove to us a somewhat expensive incident. For the past three years we have never been without two charged Parsons Sparklet inflators, for being at all times our own chauffeur, the labour of pumping up a tyre, even with a Hattersley and Davidson pump, is a task that one would always put out if possible. But if the Parsons Sparklet inflators are used it is most incumbent that the gauge is known to be accurate and in working order, and if there is a shadow of a suspicion that the tyre has been inflated on the hard side, it is penny wise and pound foolish not to test again for pressure by some other gauge, such as Roberts's automatic tyre tester, which we have found simple and easy to attach and quite accurate in expression. Then if the pressure has been run up too high by the use of the labour-saving bottle, it is very easy to slack it off until the required number of lbs. per square inch are indicated. Else that which befell us may likewise befall others, for having used the bottle on a steering tyre that suggested softness, and not testing it afterwards with the Roberts' gauge, which we actually had on board at the time, we were horrified by the sound of a regular howitzer shot some twelve miles out of Eastbourne. There was nothing for it but the Stepney wheel. By the way, and in that connection, this being the first time we have had cause to fit our Stepney with the new channel rim fitting, we, like Mr. Fred. Coleman, would say right here that on the head of the man who devised this attachment motorists should assuredly call down blessings. The job is quickly and easily done, and once done the makeshift is unnoticeable.

**THE AUTOCAR MAP FOR MOTORISTS.**—Invaluable when touring or contemplating a tour. This map is supplied in three styles, *i.e.*—(1) varnished and with roads marked in red; (2) on suitable materials for marking in the roads traversed or to be traversed; (3) folded in case, suitable for carrying in car. Size of map, 4ft. 8in. X 3ft. 6in. Price 8s. 10d., carriage paid, in any one of the three styles, obtainable at the offices of *The Autocar*, 20, Tudor Street, London, E.C.

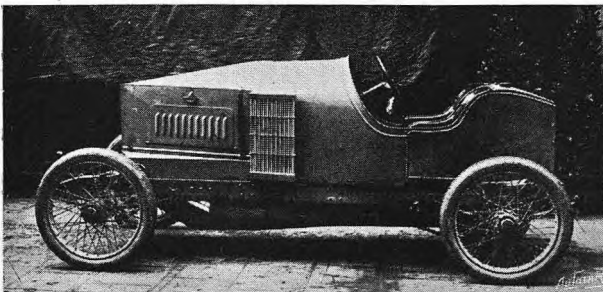
## Small Car Talk. By Runabout.

### The Ideal Provincial Garage.

**G**ARAGE owners sometimes wonder why so few motorists resident in their towns consent to store a car permanently in a public garage. They think how much handier it is than to be continually sending men round with supplies, or to wash the car, or to adjust it, or to fetch it in for repairs and overhauling. The fact is that if we store our car in the ordinary public garage we know very well that Tom, Dick, and Harry will come and play with it, test the working of the levers, and very probably strain them, that dusty motor cyclists will come and lean their machines against it, that greasy mechanics will leave finger marks on it when the manager is at lunch, that inquisitive strangers will open the bonnet, and that generally we shall pay in a hundred annoying little ways for the undoubted convenience. Hence we prefer our own often fusty stable, approached by a double-there-and-back lane, destitute of proper washing, heating, and lighting facilities, and innocent of machine tools. I called at the new St. Giles garage in Northampton the other day, and felt instinctively that the proprietor thereof was a man who deserves imitators. His garage is a normal garage in every respect, with additions! The additions consist of a nest of little private lock-ups, each painted white, provided with concrete floor, inspection pit, and electric lights, together with a good head of washing water obtained from a special private main. The result of this policy is that the garage owner is almost ensured against a bad year by the rental of the private lock-ups. I should think that not one provincial town in seventy-five possesses such a garage. Yet in old towns, where the number of private houses possessing proper garages is small, I am sure that such a set of premises would be tremendously popular, and do a roaring trade. I know that if I could lock my car up in a loose box at a public garage in entire certainty that no one would either see or touch it till my return I should never dream of keeping it in my own dark coach house, redolent with odorous memories of a bygone stud.

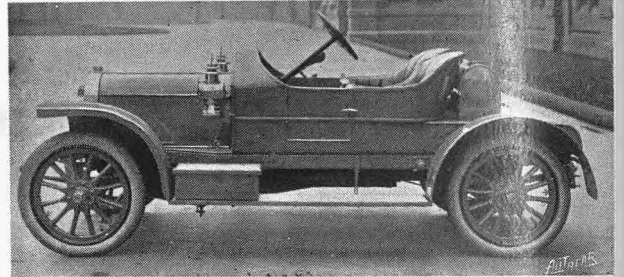
### Getting Rid of Metalwork.

I was driving a small open two-seater this week, when I saw the man who to my mind is the very paragon of chauffeurs sitting impassively at the wheel of his mistress's big Renault outside a shop. I was all adrip with moistness, sitting in a pool, providing in the angularities of my person a score of watersheds, down each side of which a myriad miniature rivulets



*The 1910 model Lion Peugeot voiturette. In point of elegance of design this small car certainly does not compare favourably with the average, and the sooner it is improved in appearance the better.*

of water trickled. He was sitting dry and sheltered under the tilt of his lordly limousine. "Lucky Larry!" quoth I, as I passed. He pointed eloquently to his dripping metalwork—I seldom saw a car with more brass about it. When I got home I set to and cleaned down my own modest lamps and nickel



*A new design two-seated body which has been adopted by Argylls, Ltd., as one of the types for the new 12-14 h.p. Argyll chassis. Although only recently introduced the makers tell us that they are experiencing a strong demand for this "Brooklands" type.*

fittings, and when I had finished there was a highly satisfying kink in my vertebrae. Undoubtedly what we small car men who don't keep a chauffeur chiefly need is a car with no metalwork at all upon it. I think I am right in saying I have only ever seen one car of which every external detail was painted, and which yet looked smart; nor was it a cheap car. Every single protuberance was painted to match the coachwork—a light mauve. The acetylene headlights, the horn, etc., were buried in a scuttle dash, only their bell mouths being visible, and when that car gets wet it is hosed down regardless. If I could clean my car in the same way I should save two hours on a really wet and mudsome day. Countersinking the usual plated accessories in a special type of dash means expense, and expense weighs with the small car man. Painted lamps, hooter, etc., fitted in the usual positions look worse than ghastly. I therefore timidly offer two alternative suggestions to a no doubt gratified and appreciative industry. One is that they should offer us accessories to a gunmetal finish. I ran a gunmetal finished headlight of Yankee make for two or three seasons on a motor cycle some years ago, and it looked as smart when I sold the machine as when it was new. The objection to this finish is that it does not go well with the popular shades of carriage enamel. My second suggestion is more timid still, because I am no chemist, and do not know if it is practicable. We have brass and nickel plating—why not aluminium plating, which would go with almost any colour of carriage enamel, require no cleaning, and be untarnishable? Ye inventors, bestir your mighty brains, and discover a process by which a thin veneer of aluminium may be deposited on copper, or even tin. When so many absolutely infallible aluminium solders (who cursed?) are on the market, 'tis surely but a step farther to "aluminium plate!"

### A Novel Anti-skid.

I hear rumours of an extremely novel anti-skid, theoretically so plausible that a very leading firm indeed have thought it worth their while to secure a provisional option on the world's rights. I might be cruel, and only state that it prohibits skidding—

yea, even to the width of a single barleycorn—if a 1903  $4\frac{1}{2}$  h.p. Renault be shod with bone-smooth tyres, and driven at 100 miles an hour over an asphalt surface smeared with soft soap and Thames mud. That sounds good, doesn't it? But when I add that no part of the device touches either the ground or the tyres, even when the most colossal side-slip is in process of cancellation, I have said enough to prevent my revered editor reading another page of my MSS., and I have further only told half of what the inventor has graciously communicated. Before you call me liar, let me add that the device is gyroscopic. You will then credit it with anything.

#### Essentials of a Low Body.

Much riding in ultra-low two-seaters has taught me that the average bodymaker has yet to study the requirements of a driver whose pet fad is an almost horizontal steering column. A vertical seat back, a flat footboard, a horizontal seat cushion were well

enough when the steering wheel lay parallel to heaven, as in the prehistoric voiturettes at Shepherd's Bush, but when the steering wheel is canted sternwards, as in our modern scuttle dashed, semi-racing two-seaters, all the angles of the driving position must be tilted backwards to suit if the chauffeur of a seven-ton 'bus be not to be envied by comparison. Thus the back of the seat should hit the ground under the starting handle if produced forward in a right line; the seat cushion should be tilted over backwards, and the footboard whence the control pedals sprout should make an angle of  $45^\circ$  with the flat part under one's knees. Otherwise the intrepid steersman touches the "seat" at two points only—the extreme front edge of the cushion and the extreme top edge of the back. The first is slippery, the second hard. Further, to operate his pedals delicately after the tenth mile in this posture he will require a double-pivoted, universally jointed tendon Achilles. *Experto crede!*

## Speed Indicators in Police Court Cases.

UNTIL recently it was a rare occurrence for a motorist to be acquitted when summoned for exceeding the speed limit, the magistrates as a body being influenced by the reckless tactics of the minority of motorists, with the result that the innocent suffered for the guilty. Now, however, a reliable speed indicator, particularly if fitted with a maximum speed hand, is usually accepted by magistrates as evidence in the motorist's favour. They consider that a mechanical instrument of precision of this kind is more reliable than the police stop watch, which is dependent upon skilful handling to produce accurate results. One of the firms instrumental in bringing about this desirable state of affairs is Messrs. Smith and Son, makers of the well-known Perfect speed indicators. For years they have had an uphill fight against the police, but they have never hesitated to send their representatives to any court where a motorist might be summoned to give evidence in support of their speed indicator, and to challenge the police to prove its inaccuracy. Within the last week or so their speed indicator has been brought forward as evidence in five cases, in four of which the summonses were dismissed. Two of these latter were at Haywards Heath, another at Kingston, where the issue was fought out upon the evidence of the speedometer alone, and another at Windsor, where the motorist relied solely upon the evidence of his speed indicator.

The folly of driving a car without one of these instruments is illustrated by the words of Mr. Paul Taylor, who in a case which came before him recently said: "Inasmuch as it is proved that there is such a thing as a speedometer which indicates the maximum speed at which the car has been travelling and retains it, it seems to me motorists in future will have no justification for being found on a car without one." This magistrate was referring to Smith's Perfect speed indicator.

The following are the particulars of the cases referred to above: Mr. Parsons, of Streatham Common, said to be travelling seventeen and a half miles and fifteen miles per hour at Hands Cross village, where the limit is ten miles per hour; speed indicator showed under ten; case dismissed; Haywards Heath Court. Mr. W. Webb Ware, of Fulham,

said to be travelling twenty-six miles per hour on the Portsmouth Road; speed indicator showed eighteen; case heard at Kingston and dismissed. Mr. G. Hamel, of London, said to be travelling twenty-eight miles per hour; maximum hand of speed indicator showed fifteen; case heard at Windsor and dismissed.



AT THE SIGN OF THE A.A. In order to relieve the congestion in the streets in the vicinity of the White City, the Automobile Association has opened a garage for visitors' cars. An A.A. scout is in attendance at Wood Lane Station, and will conduct cars to the garage and be generally at the service of motorists—members or non-members.

## 9,000 Miles on a 10-12 h.p. Adams.

### A Doctor's Experiences in Twelve Months' Work.

THE above distance, covered in approximately one year, is sufficient to test the capabilities of any car, let alone a single-cylinder. It can hardly fail to be of great interest to enumerate impartially the advantages and drawbacks of so unique a type of control as the "pedals to push" system; nor have I been able to ascertain why so many car owners who have more than a passing knowledge of motor engineering should prefer to do in two actions (of the gear changing and clutch) what can be better and more quickly done in one by the Adams system, the hands being left free for steering, braking, and the like.

Besides this, the engine is exceptionally simple to overhaul and extremely get-at-able, and a motor pit is hardly ever required. When I purchased the car a year ago I hoped to get a really good car, but, to tell the plain truth, I never expected for a moment that I should secure a machine that would prove so absolutely reliable and so entirely fool-proof, or that I should be able to run for 160 miles and over without any attention to lubricating devices of any kind, as I have done on more than one occasion.

It seemed a wonderful thing to take Netherhall Gardens from a standing start and to stop and restart with ease on a gradient of about 1 in 7 with three persons up; but now this seems nothing, and I have taken this four-seated car over a really rough hill covered with stones and a bad surface at that, rising 430 feet in 1,300 yards, with numerous parts of 1 in 5 and 1 in  $5\frac{1}{2}$ —a far worse test.

Rest and be Thankful, Kirkstone Pass, and Frome's Hill are stiff enough, but Birdlip caused me no anxiety, the car stopping and restarting on its steepest gradient without the slightest trouble, and, moreover, without even a jerk.

The hand brake (internally expanding) will hold the car on any gradient, but is so strong that I never use it except in an emergency, it being so easy to skid the wheels. The reverse pedal is enough for all purposes, and a far stronger brake is provided in the low speed pedal with closed throttle, and by using these alternately one prevents overheating of the fibre lined bands, about which I confess I had considerable apprehension at starting. My doubts were quite unfounded, however, and these bands seem good for many thousands of miles more, in spite of much wear in hilly country over inferior roads.

On the top speed one can run at under four miles an hour or accelerate to over thirty. On long hills one can thus average over twenty miles per hour or more with ease, and five passengers (fifty stone) can be taken up all the ordinary hills (up to 1 in 8 or 1 in 7) in an exceptionally hilly district, and more than this no one expects from a single-cylinder car, or at any rate should not expect it. Lubrication of the crankshaft was not satisfactory when I got the car, but the Adams Co. have solved this problem, and now this never causes me the slightest anxiety. The car is still far quieter than the vast majority of four-cylinder cars, new or old. So much for the advantages of the car. What intending purchasers wish to know is one's failures and stoppages on the road. These have been less than about one in 1,000 miles since I got the crankshaft lubrication adjusted by fitting a pressure release device, which is now a standard fitting, and

stoppages have practically all been due to a broken sparking plug or to the mica on the low-tension plug working loose. No one has yet discovered a substitute for mica or soap-stone, but, even when all is said and done, a new plug is only required every 2,000 to 2,500 miles, and I have never failed to reach home on the coil and accumulator system. The L.M. plug I had at first is still going strong. On two occasions some part of the carburetter (Brown and Barlow) has shaken loose, but the jet has never yet been choked up on the road. No one needs to be told of the excellence of this type of carburetter, which is the best on the market, and allows one to get over thirty miles per gallon, and at times thirty-three; but I have found it necessary to supplement the strength of the screwed joints by sweating them up after riveting. The petrol pipe, being cut through by contact with the frame, has had to be renewed, but this caused me no stop on the road.

The chain by which transmission is effected is absolutely self-lubricating, in spite of friendly but ignorant press critics. I am now using a Coventry Wormo roller chain, which is wearing very well.

Finally, to return to the advantages of "pedals to push," these, once they are pushed, keep in place. They are adjusted for wear with the greatest ease and the exercise of a very limited amount of ordinary intelligence or commonsense. The Timken roller bearings of the wheels are as near perfection as anything can well be. The springing of the car is also worthy of all praise. The gears deserve a brief notice. They are as silent now as the first day when I got the car, and have never given me a moment's anxiety, though wisecracks warned me of the bad reputation that all epicyclic gears had (one chauffeur called them "epileptic"). It is only fair to say that, in order to err on the right side, the gear box has been given probably four or five times as much gear oil (Duckham's) as it ever required. Duckham's medium oil suits the rest of the engine admirably.

I omit many other points on account of space, and also because the chief point a sensible motorist demands is a thoroughly reliable and, within limits, powerful machine, and this, in my opinion, the Adams Manufacturing Company supply. I have, of course, no interest whatever in the sale of the cars, but merely write as a private owner.

J. CROPPER, M.D.

---

Acting Consul-General Erskine reports that, although the trade of Chicago in 1908 has not been good, "the sales of automobiles are reported large." Vice-Consul H. G. Meredith says in his report that Detroit is the centre of the motor industry of the United States. In 1908 there were thirty-nine automobile manufacturing companies there. These turned out 18,250 finished machines. He adds: "From plans approved and orders received for 1909 the output of Detroit alone will amount to between 40,000 and 50,000 cars, valued at £10,000,000, or nearly half the value of the entire number manufactured in the United States in 1908, giving employment to 14,000 men. The cars range in price from £150 to £800 and £1,000 each."

## Motor Union Notes.

(Communicated by the Secretary.)

### Diary of Summer Tour.

- July 8.—Banquet to L.I.A.T. Delegates. Hotel Great Central.  
 OFFICIAL TOUR (Saturday, 10th July, to Monday, 19th July).  
 10.—Maidenhead, Henley, Reading, Oxford.  
 11.—Oxford.  
 12.—Warwick, Leamington.  
 13.—Stratford-on-Avon, Cheltenham.  
 14.—The Wye Valley, Swansea. Smoking Concert.  
 15.—Visit Docks, Tin Plate and Steel Works. Garden Party, Civic Reception.  
 16.—Speed Trials on Pendine Sands.  
 17.—Tour of Gower Castles. Garden Party. Gymkhana. Official Dinner.  
 18.—Swansea or Tenby.  
 19.—Cardiff.

Please advise the Secretary whether it is your intention to take part in the tour.

The following letter has been addressed to the Secretary of the Motor Union by the Chairman, Mr. W. Joynton-Hicks, M.P.:

House of Commons, July 5th, 1909.

Dear Mr. Rees Jeffreys,—I think the deputations from the Motor Union to the Chancellor of the Exchequer have advanced the discussion on the motor taxes considerably, and have served to remove certain misapprehensions.

In communicating the result of the deputation to the members, it can be pointed out that the Chancellor has given us expressions of his opinions amounting almost to assurances on the following points:

(1.) That an Advisory Committee, on which motorists shall be represented, will be associated with the Central Authority in the distribution of the Road Grant.

(2.) That the Road Grant shall be devoted to the improvement of the roads as distinguished from maintenance.

(3.) That he will consider the possibility of making arrangements to exempt foreign, colonial, and Indian visitors to this country from the car tax.

(4.) That doctors shall have a rebate of fifty per cent. on the petrol tax.

The Motor Union is also to be congratulated on having obtained from the Chancellor of the Exchequer a definite statement which entirely exonerates it from the charge that has been brought against it in several quarters—that it is responsible for the additional taxation.

Yours faithfully,

(Signed) W. JOYNTON-HICKS, Chairman.

At the recent inquiries held by the Local Government Board into applications for ten-mile speed limits at Weybridge, Stoke-on-Trent, and Richmond the Union was represented, and tendered opposition to the applications.

The Secretary, in company with the officials of the Middlesex County Council, made an inspection of the roads at Teddington, Sunbury, Ickenham, and Wealdstone on Friday last, in connection with applications for ten-mile speed limits at these places, with a view to arriving at a satisfactory arrangement with regard thereto.

To-day (Saturday) will see the commencement of the Summer Tour, which has been organised by the Union in connection with the visit to this country of the delegates to the L.I.A.T. Congress. Those taking part in the tour will spend Sunday at Oxford, and will reach Leamington at mid-day on Monday. They will proceed to Stratford on Tuesday, leaving for Cheltenham in the evening. On Wednesday morning a start will be made for Swansea, *via* the Wye Valley. Swansea will be reached on Wednesday evening, July 14th, and the three succeeding days will be spent at that town. Members who are unable to take part in the whole of the tour (full particulars of which will be found in the *Motor Union Journal* issued last week) are invited to join the party at any place *en route*, or to proceed direct to Swansea.

The Congress of the Ligue Internationale des Associations Touristes, for which the delegates have travelled from all parts of Europe, and the Official Banquet in their honour will have been held when these notes appear in print. At the time of writing there was every indication that the Congress would be of international importance to motorists and every prospect of the banquet being a most successful function. Amongst those who had signified their intention of being present were His Excellency the Ambassador for Switzerland, Earl Russell, Sir E. Boehm, Bart., Col. E. R. Johnson, Lieut.-Col. C. H. Baskerville, the Mayor of Leamington, J. W. Courtis, J.P., Deputy-Mayor of Cardiff, and Mr. W. Joynton-Hicks, M.P. (in the chair).

During June 393 *new* individual members were enrolled—an increase of 130 when compared with the number who joined during the corresponding month of 1908. Apart from its affiliated members, the Union has now over 8,000 *individual* members. During the first six months of the current year the individual membership has increased by over forty-five per cent.

In the second number of the *Motor Union Journal*, issued last week, is published the correspondence which has taken place between the Union and the Local Government Board with regard to the inadequacy of the signs which are erected to give notice of reduced speed limits. It will be seen from this correspondence that, as the result of the Union's representations, the Local Government Board has communicated with the County Councils Association and the Municipal Councils Association on this subject. At the meeting of the Highways Committee of the County Councils Association, held on June 15th, the correspondence which had taken place between the Motor Union and the Local Government Board was considered, and it was resolved:

"That it is desirable that some more conspicuous symbol should be adopted for motor speed limits in populous districts, and that the Committee established by the Road Conference be asked for their opinion on this resolution and on Mr. Joynton-Hicks's letter."

The Executive Committee of the Union have unanimously decided to affiliate to the Secret Commissions and Bribery Prevention League, and Mr. H. R. Oldfield has been nominated to represent the Union upon the Council of the League. The Union has for some time recognised the fact that, in spite of the Prevention of Corruption Act, 1906, the practice of giving illegal commissions is to a certain extent prevalent in the motor trade.

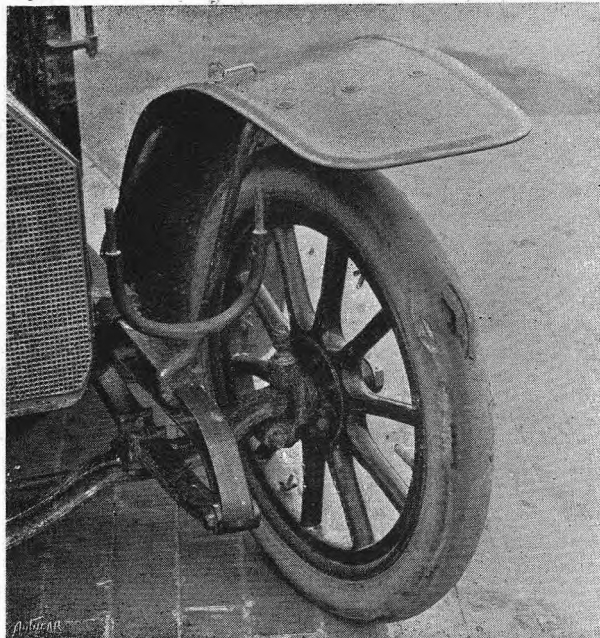
The Union wishes to gratefully acknowledge the following additional donations to the L.I.A.T. Entertainment Fund:

C. A. Elgood, Esq., £3 3s.; Mrs. A. C. A. Starkie, A. Thrower, Esq., and J. T. Towell, Esq., £1 1s. each; E. V. Turner, Esq., and J. Freedman, Esq., 10s. 6d. each; W. Benton, Esq., 10s.

The monthly meeting of the General Committee will be held in the Council Chamber of the Guildhall, Swansea, on Saturday next, July 17th.

## A Non-puncturing Inner Tube.

THE other day Mr. George King, of the Reinforced Inner Tube Co., 218, Shaftesbury Avenue, W., showed us a 14 h.p. car he had just driven some ninety miles with a terrible gash in the front cover. The size of the wound is shown in the two illustrations, and was so large that the air tube could be plainly seen, and we deemed it worthy



of photographing. Needless to say, it would have been impossible to use an ordinary air tube in such a

cover, but the reinforced tube was perfectly safe, and had been in for some 2,000 miles. At first the damage was confined to the side of the tyre, but had gradually



spread as shown. We took the pressure with a special gauge with a 3in. dial which Mr. Southhall made for us, and we found it to be 46 lbs. The tyre was a 760 x 90 mm. Of course, the test was an unfair one, and merely to show what could be done and how any ordinary weaknesses of the cover, such as bad flint cuts or parted strands in the fabric, which have no effect on the tube. In other words, the reinforced tube can be used for long distances in covers in which an ordinary tube would burst at once.

### How to Meet Police Persecution.

The persistent persecution of motorists in North Wales is arousing the indignation not only of motorists themselves, but more particularly of the tradespeople and hotel proprietors of the Principality. A motoring correspondent who for many years past has been in the habit of spending his holidays in the Barmouth district appears to have been so scared by the reports of police traps that he wrote to the hotel proprietor with whom he has hitherto stayed expressing his regret that, owing to the systematic persecution of motorists, he would be obliged to go elsewhere this year for his holiday. The reply he received from the hotel proprietor was: "I hope you won't let the ignorant Welsh policemen deter you from coming to Barmouth. They are taking all sorts of liberties with the rights

of people at present, owing, I suppose, to their compatriot Lloyd George being at the head of affairs. However, the country at large cannot stand much more of their humbugging. The tradesmen here are feeling the loss of motorists already. I have given your letter to the chairman of the county council. There will be a stop put to the traps at once in this part."

The action taken in this case suggests that the plan of writing to hotel proprietors in those holiday resorts where police persecution prevails would be an effective lever for moving the powers that be to relent in their severity towards motorists, upon whose visits to the localities so much of the prosperity, and even the livelihood, of the residents depends.

### Motorists Avoid Merionethshire.

By the County Council of Merionethshire motorists are made to provide a rod for their own backs. At a recent council meeting the Hon. C. H. Wynn proposed a resolution to the effect that six stop watches should be purchased for the use of the police in the county, drawing attention to the fact that as they had received £136 by fines on motorists last quarter and as much as £85 at Corwen the previous Friday they could well afford to make this purchase. Now, notwithstanding the statement lately made in our columns, it is obviously intended to persecute motorists in this county, and we would advise all tourists who are

anticipating staying at the seaside places on the coast of this county to avoid them absolutely. Motorists and all friends of motoring should rigidly abjure Barmouth—the seaside resort of the above named county—and Aberystwyth. As a correspondent points out, there are plenty of other places just as nice in every way in other counties of Wales where motorists are welcomed more hospitably. In drawing our attention to the remarks of the Hon. C. H. Wynn a correspondent states that he was about to visit Aberystwyth, but he will now avoid doing so, as the police traps are of a very unfair description.

## Body Design and Construction.

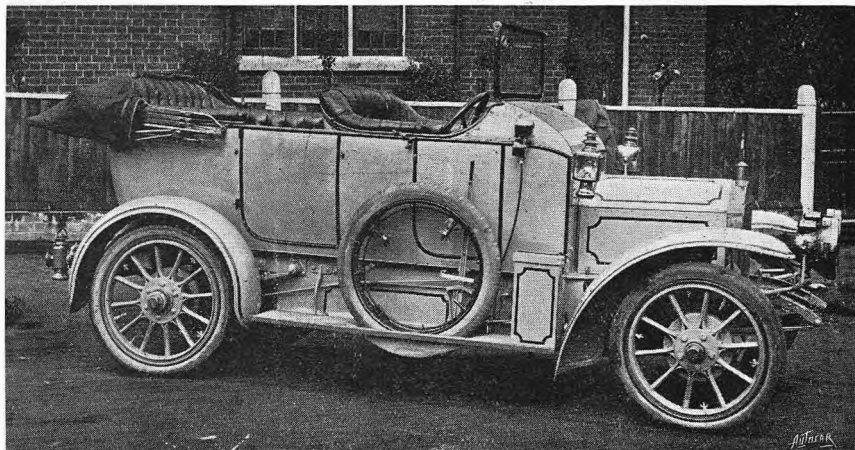
### A Torpedo Body on a Small Chassis.

THE four-seated torpedo body we illustrate on this page is interesting as showing how a really comfortable high sided body looks upon a comparatively small chassis. The chassis is a 15 h.p. Napier, and, large as the body appears compared to it, it pulls it with perfect ease, and is very good uphill. The torpedo body is really light, though it looks heavy to the unpractised eye.

We are very pleased with this one, which has been built by the Ideal Motor Hood Co., of Parsons Green Lane, Fulham, S.W. They have made an excellent job of it in every way, and the hood is one of the Ideal patent hoods, which, it will be remembered, work on the lazy-tongs principle, so that it is a perfectly simple matter for a lady to open and close the hood single handed. The only point about the appearance of the car which call for criticism are the relative heights of bonnet and dashboard and the size of the wheels. The bonnet looks insignificant and somewhat too

dwarfed for the body behind it, and from an appearance point of view the car would look smarter if the bonnet were some four inches higher and at least as many inches longer, though, of course, the practical advantages obtained from such an alteration would be nil. Owing to the high flush sides, the 810 mm. by 90 mm. back wheels look a little small, though this is very much a matter of taste, and not in our opinion a blemish. The side doors are 24in. high, and have no side handles, but the much neater top latches. The front door is 16in. wide and the back doors 20in. The distance from the front seat to dashboard is 25in., and from the front of the rear seat

to the back of the front seat 18in. Of course, more leg room could be provided on a longer chassis or if more overhang were given on the present chassis, which has an 8ft. 8in. wheelbase. The front seat is 50in., the back 52in. wide, and the total height of the body at the back is 33½in. The top of the front cushion is 14in. above the floorboards and the back 15in., so that



the sides of the car are some 9in. to 10in. above the cushions, and consequently the knees are right below the doors. The petrol tank is fitted inside the hooded top of the box dashboard—a most convenient position, as it leaves room under both seats for spare tools or luggage, and ensures a good head of petrol on the steepest hills, so that one gets the advantages of pressure feed without any drawbacks. The body is most comfortable, and quite spoils one for the low sided kind of body, while, as we have already inferred, the workmanship and finish are in every way excellent, and a credit to the makers. The Frankonia wings keep the car very clean in muddy weather.



The Scottish Automobile Club has donated quantities of chloride of calcium to the authorities of Haddingtonshire and Stirlingshire, in order that they may

conduct dust prevention experiments on the road leading into North Berwick and on the road from Stirling to Bridge of Allan respectively.

### Trial of a Tyre Protector.

Messrs. Cloud and Co., Ltd., of High Street, Kensington, W., have just finished a 4,000 miles trial of the Atlas tyre protector under the observation of the Royal Automobile Club, 3,000 miles being run on the road and 1,000 miles on Brooklands Track. Throughout the trial, we understand, no difficulty



The rent in the cover, exposing the Atlas puncture proof inner case.

was experienced as regards punctures. Some idea of the value and the advantage of the Atlas tyre protector will be gathered from an examination of the accompanying photograph taken of one of the tyres at the end of the road portion of the trial. The fracture observable in the cover was the result of a piece of flint about 3/4 in. long, 1/2 in. wide, and 1/4 in. thick penetrating the centre of the tread on the eighth day's run. The flint was extracted the same day on the return to the Club, but the hole in the tyre gradually increased in size, until at the end of the eighteenth day's run it assumed dimensions of approximately 6 in. by 1 3/4 in., exposing the protector for this area, and the car ran for about forty miles with the tyre in this condition. Even after this fracture the tyre pressure only dropped from 70 to 63 lbs.

The Atlas protectors were fitted in Dunlop tyres of the plain grooved type, the car being a 40 h.p. four-cylinder one.

The steadily increasing strength of the R.A.C. associated bodies is shown by the fact that the number of members of the organisation (now 16,307) has increased by 2,302 during the past half year. The number of associated clubs is now 96, of which 22 have joined this year.

### A Prospective Motorist.

The following quaint request was received the other day by Messrs. Peugeot, 46, Knightsbridge, London, S.W., apparently from a farm hand who is looking forward to becoming rich under the new regime which is being instituted by his compatriot Mr. Lloyd George at the Treasury:

Thomas Scott  
c/o John Morris  
Glancarrog Farm  
Llanrhystwyth  
near Aberystwyth

Dear Sir,—I write just a few lines to you asking if you will please kindly send on New Catalogue I found a piece of paper about our farm and what was on it about your motor cars I am very sorry I do not want a Motor Car but a Motor byicle when I have got plenty of money to buy one Please do not think for me to buy one this year because I must have plenty of money before I buy a motor byicle Please tell how the way to begin to learn to ride one if you are not willing for me to wait till I have plenty of money Please do not send the catalogue for their is plenty of Motor byicle in Aberystwyth if you send a Catalogue Please send one with Motor byicle in it and Please send the way how to learn to ride it because I would like to buy one when I have got plenty of money Please send the prices of the Motor byicle.

I remain

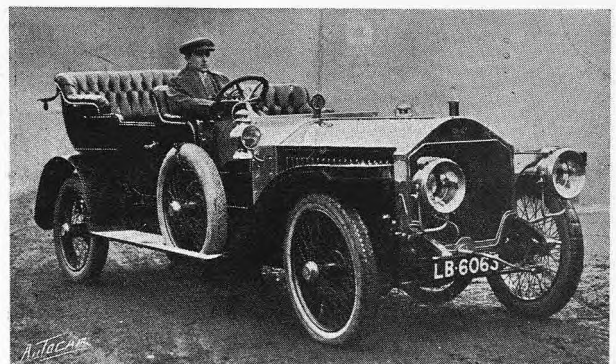
Yours Truly

THOMAS SCOTT

Please rember the adress

### R. A. C. Lamp Tests. Entrants.

	Acetylene.	Elec- tric.	Petrol- oxygen.	Petro- leum.
Bleriot, Ltd. ... ..	1	1	1	—
Badger Brass Mfg. Co. ... ..	6	—	—	—
S. Smith and Son, Ltd. ... ..	2	—	—	—
Motor Accessories Co. ... ..	1	—	—	—
C. A. Vandervell and Co. ... ..	—	5	—	—
Salsbury Lamps, Ltd. ... ..	2	—	—	—
Universal Motor Imports, Ltd. ... ..	1	—	—	—
The Willocq-Bottin Motor Lamp Co. ... ..	1	—	—	—
Rushmore Lamps, Ltd. ... ..	3	—	—	—
Sylverlyte, Ltd. ... ..	—	4	—	—
Howes and Burnley, Ltd. ... ..	1	—	—	—
The Reflector Syndicate, Ltd. ... ..	1	—	—	—
Rotax Motor Accessories, Ltd. ... ..	2	1	—	—
Alfred Dunhill, Ltd. ... ..	1	—	—	—
Brown Bros., Ltd. ... ..	2	—	—	—
Otto Scharlach ... ..	5	—	—	—
A. W. Gamage, Ltd. ... ..	1	—	—	1
C. H. Gentry ... ..	—	1	—	—
Worsnop and Co., Ltd. ... ..	1	—	—	—
Samuel Hall and Co. ... ..	1	—	—	—
W. Tweer and Co. ... ..	1	—	—	—
Total 47 ... ..	33	12	1	1



NAPIER CARS FOR PORTUGAL. A 65 h.p. Napier, one of several which were recently shipped to Lisbon and Vigo.



## On the Road.

### Accidents and Incidents.

THE earnest motorist should never take a journey without adding to his knowledge, and the various accidents and incidents that befell me on a small tour I took last week to the easternmost parts of England must be my excuse for inflicting this account. To begin with, about six miles north of Oxford I picked up a nail in a back tyre. "Now," said I, "to observe the simplicity of detachable Dunlop rims." My tyres were of the excellent kind known as the Samson de Luxe brand, and there are arrows stamped on the cover showing the proper way to put them on. But when I came to look for it I saw a hand-burned arrow on the spare cover. Evidently, I said, this is the right way, and for half an hour I endeavoured to put it on according to its direction. Then a kindly chauffeur stopped and enquired as to my trouble. I told him I was trying to obey instructions, and he suggested trying to put on the rim in the contrary direction. It promptly slipped on "like a silk glove," as he put it, and I spent the next hour inventing language to fit the fiend who had disguised his laziness by drawing incorrect arrows. I presume that his hand-made arrow indicated that to get the rim on correctly it was necessary to put the tyre on incorrectly, and when I inspected the other back tyre I found that that, too, was revolving in the wrong direction. Therefore at Lichfield that night Mr. Jones, of the Lichfield garage, and his head man talked over the subject, and we found that if the lazy artist had had the sense to change the two back rims over the tyres would have gone rightly on to the rims and the rims rightly on to the wheel, and there would have been no necessity to take the trouble to illustrate erroneous wheels. While on the subject I should be glad to know if all tyres should always be put on to revolve in one direction. Once upon a time it was so, but nowadays one hears little of the subject, and from observation I notice that they are put on all and any ways. Tubes and leather non-skids, I know, should always run in the commonsense direction, especially repaired ones, but most kinds of tyres give no indication at all, and if economy is the result of putting them on correctly it would be well to be informed.

### The Home of Experts

After which episode I came through Banbury to Coventry, where I exhibited my new Zedel to some of the experts who live there. They were pleased to say that low set, up-sloping seats seemed more comfortable than high horizontal ones, and that brown waterproof cushion covers made of the same material as the hood were very elegant. In fact, the car came through their critical inspection well, and the only fault found was that my side lamps were too big. I was shown, on the latest thing in cars, a pair no bigger than back lamps, and the idea struck me as a very sensible one, and doubtless we shall hear more of it. Coventry seemed fuller of motors than ever, and it was good to hear that nowadays no bad car is made in or near it. Considering how plain-spoken and critical motor makers are to each other, this is not to be wondered at, and I have no doubt that when the boom in English-made cars comes along Coventry will be even more famous than it is now. As every other man you meet in Coventry is, or seems to be, an expert, there is no truer way of hearing the truth than leaving anything new in cars or bodies in a

Coventry street and listening to the remarks, complimentary or otherwise, made about it by passers-by.

### A Silly Police Trap.

North of Coventry I came into Watling Street beyond Nuneaton, and, being a trifle late, was hurrying along the big, wide, empty road that runs to Atherstone. Here I had a piece of luck. I was overhauling a brougham in my usual quiet refined manner, when a head emerged and hailed me by name. I slowed down, and beheld the face of a friend and comrade, who informed me that I was just entering a trap. I persuaded him to come in along with me, and as we slowly progressed he pointed out a sheepish-looking policeman looking at his boots. This was the uniformed captor at the S.E. end. A little further a rustic was apparently mending a bicycle puncture with a stop watch. Twice between there and Atherstone I halted, and inside that particularly unattractive town I waited ten minutes before I went on towards Lichfield. Conscious of my integrity and rectitude, judge of my astonishment and indignation when, in the very middle of a street, a brown toothed, supercilious bobby strolled into the middle of the road and called on me to stop. He informed me I had just come through a measured three miles, asked for my licence, and took all particulars. I told him that this was the first time I had ever been asked for my licence, that he had no right to assume I had not entered the town by another route, that I knew all about his something trap, and that it was a disgrace to shame a harmless tax-paying Englishman by compelling him to stop and be the centre of a gaping street crowd in the middle of a town on suspicion of having committed an offence at a place he need never have even been in. He treated me as a warder treats a prisoner in a dock, and finally remarked that if I had not broken the law I should hear no more of the matter. I knew I had not broken the law, but for all that I told him to tell his senior Jacks-in-office my exact, complete, and carefully detailed opinion of him, them, and any superior asses (only I did not say asses) they might have the misfortune to be under. I was quite proud of my wealth of language, though I was careful to avoid breaking the law there also, and I straightway composed a letter (not yet written) to the A.A. to enquire why it confined its energies to the trade routes around London when such an arrant, useless, well-known, and flagrant trap existed in the Midlands without one of its scouts being on the spot to point out the heinousness of going too fast in places where the local authority objected to it. I cannot put into words my feelings at being so insulted and falsely suspected. Never before had I been so outraged, and probably never before had I ever been so innocent. And then, after Tamworth, with its many smells and abundance of dirt, my feelings had their effect on the weather, and I came into Lichfield in thunder, hail, and lightning, with such floods of rain falling that I was wet through before ever I could get at the hood to put it up. Lichfield rejoices in a most excellent garage belonging to Mr. Jones, and it seems that every customer is presented with a little card giving the distance and route from Lichfield to most of the towns around. It is most useful, and the only improvement I can suggest is that the silly police trap by Atherstone should have a column all to itself on it.

From Lichfield the road to Burton-on-Trent is a splendid one, lying by the side of the little-used canal, but on that day it rained persistently, and all the way out of Burton, through the coal villages of N.W. Leicestershire to forsaken Ashby-de-la-Zouch, busy Loughborough—hard hit by foreign dumpers—and Leicester itself to Market Harborough was one long painful gazing through a blurred and streaming glass screen. Occasionally, it being a new Auster, I played with its many handles and put it in all sorts of attitudes, but even this delight palled, and I slogged along the hilly, devious, and narrow roads through Oundle to Peterborough, not interested in anything but getting somewhere where I could sit in front of a fire and get warm. And the date was June 24th, Midsummer Day!

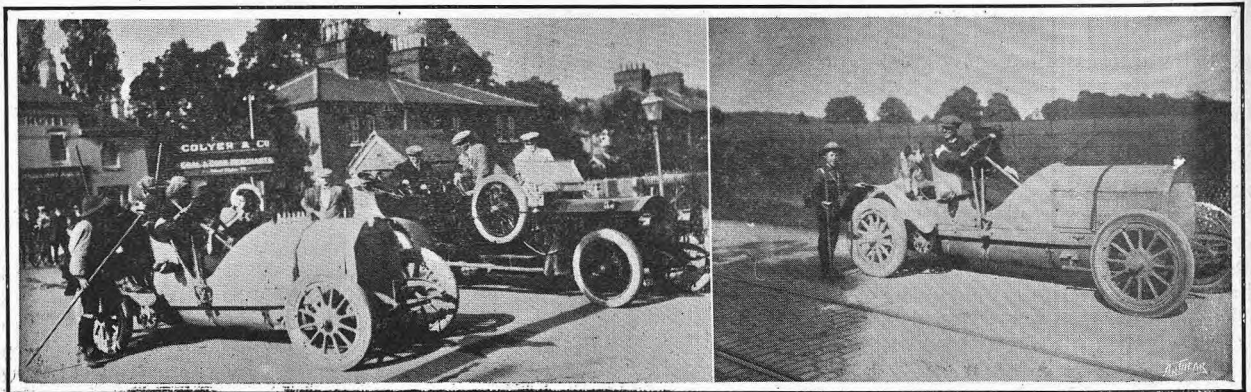
#### Ancient Associations.

The next day was a slight improvement, and I rejoiced in the long straight Fen roads that lay between Peterborough, Whittlesea, Wisbech, King's Lynn, and Downham. All the same, it was sad to see the fruit pickers loafing idly in the villages, and thousands of acres of strawberries refusing to ripen. But the roots and the big fields of celery seemed to enjoy the weather, and there did not seem much the matter with the wheat. Though I have written of the Fens and their charms before, I am never tired of advising people to visit them and see a very different England from any other part of it, and find hotels much in advance of the majority. Huge splendid churches abound, and as their architects put to good account the knowledge that there were no natural heights to dwarf their pro-

portions, they look even finer than they are. King's Lynn, full of history and romance, lies flush with the water like some old Dutch city, and Wisbech, set in gardens and orchards, seems with its quaint cobbled market place and mediæval "Eau Brinks," as if its ancient inhabitants had brought it with them across the North Sea.

I left the Fens behind at Downham Market, and drove through Stoke Ferry south-east to Thetford, across a very different kind of country. Here wide, bare, rolling fields, divided by belts of pine trees, and often merging into nothing more or less than prairie land, lie on each side, and should one desire to let the car out there is every opportunity—in places. Near Brandon an old man works at flints even now, and the curious will notice that the seat he occupies, and his father before him, differs in no degree, shape, or size from that of the prehistoric flint worker whose abode can be seen near by. And this now decaying industry should have a particular interest for motorists, because not only is it the oldest known industry in the world, but it is also the place of manufacture for a primitive but efficacious form of sparking plug. Who knows that when lycopodium is fired in rotating cylinders that all magnetos and batteries will not be abolished in favour of the endless and unwearable striking of the flint on steel? Stranger things have happened, for with regard to steam itself are not the latest things in turbines nearer akin to Hero's crude device of 130 B.C. than to those of twenty years ago?

(To be continued.)



Mr. Fred Jane, well known in connection with Naval affairs, together with a number of Naval officers, organised a scouts' day at Portsmouth last Saturday, the object being for the boy scouts to hide along a given route and the motorists to find them. The first illustration depicts Mr. Jane and Lieut. Eyre, R.N., in consultation, the second; Mr. Jane on his 90 h.p. Benz. Lieut. Eyre's car is a Napier.

### Clean Counties. Counties in which no Police Traps are Set.

Out of the forty counties of England nineteen are free from police traps. On pages 42 *et seq.* we publish a map and full list of traps, of which we have been kindly advised by our readers. The counties which are free from traps are:

Bedfordshire	Herefordshire	Shropshire
Derbyshire	Leicestershire	Somerset
Devonshire	Monmouthshire	Staffordshire
Dorset	Norfolk	Westmoreland
Durham	Northamptonshire	Wiltshire
Essex	Nottinghamshire	
Gloucestershire	Rutland	

Those which are nearly clear of these miserable ambushes are:

Cumberland (1)	Suffolk (1)	Warwickshire (3)
----------------	-------------	------------------

In Wales, out of the twelve counties three have become notorious for their virulent trapping, but these three practically block out a large portion of the best of North and Central Wales. The Welsh counties which appear to be free from police persecution are:

Anglesey	Carnarvon	Montgomery
Brecknock	Flint	Pembroke
Carmarthen	Glamorgan	Radnor

Scotland on the whole is so nearly free from traps that all needed information can be gathered from page 45, but the few which exist are most vigorously, and not always scrupulously, worked.

Ireland is in the hands of the Royal Irish Constabulary, and that is equivalent to saying that no attempt is made to rob the wayfaring motorist.

# In the House of Commons.

## Motors and the Finance Bill.

### Petrol Duty.

Mr. Joynson-Hicks asked whether the stocks of non-duty-paid petrol existing in the country prior to 30th April last have now been practically exhausted; if so, whether the users of commercial petrol are now entitled to the rebate provided under the provisions of the Finance Bill; and if so, whether he has made the necessary regulations for the obtaining of such rebates?

Mr. Hobhouse: It is understood that the stocks of non-duty-paid petrol are still very considerable. Users of commercial petrol are now entitled to claim rebate upon all petrol used by them which has paid duty. Regulations have been drawn to enable users to obtain petrol duty free, or at half-duty, as the case may be, from bond, or to claim rebate if the full duty has been paid.

Mr. Joynson-Hicks: Is he aware if those reductions have been published?

Mr. Hobhouse: No; but they have been issued by the Customs and Excise authorities.

Mr. Joynson-Hicks: Why should they not be published?

Mr. Hobhouse: I will consider it.

### Motor Spirit Manufacture.

Mr. Joynson-Hicks asked the Chancellor of the Exchequer whether he is aware that motor spirit is now being manufactured as a bye-product in many parts of the country; whether he has established a system for carrying out the Excise on such motor spirit; and whether he can say what is likely to be the cost of enforcing such Excise duty and the amount of money likely to be produced to the Exchequer thereby?

Mr. Hobhouse: I assume that the hon. member refers to coal tar produce. A certain quantity of these products might be capable of being used as motor fuel, but, so far as can be ascertained, they are not so used at present, except to a quite inappreciable extent, and in these circumstances, as stated in reply to a question by the hon. member for Leigh Division of Lancashire on the 22nd ult., it has not been thought necessary to make arrangements for charging duty on these articles. If all the works producing the spirit in question were brought under Excise control with a view of raising a revenue charge on all such spirit produced, the expense would be considerable, while, owing to the fact that practically none of the spirit is used as motor fuel, the amount of money received by the Excise would be trifling.

Mr. Joynson-Hicks: I may take it no excise is charged on motor spirit manufactured in England.

Mr. Hobhouse: That is what I have said.

### Excess Motor Speed Penalties.

Mr. Bowerman asked the Home Secretary whether he is aware that after the second conviction of motor men of stage carriages for exceeding the speed limit it is the custom to deprive the men of their licences; whether he is aware that in the case of motor car drivers this action is not taken; and whether he will

take steps to remove this inequality of treatment by having motor men of stage carriages treated the same as the ordinary motor car drivers.

Mr. Gladstone: The drivers of public motor carriages, whether stage or hackney, who are convicted of dangerous driving or of twice exceeding the speed limit within the year forfeit their licences. This is done for the protection of the public, since the Commissioner of Police is required by statute to satisfy himself that public carriage drivers are fit persons to be licensed. At the same time, the Commissioner is always ready to consider applications for the regrant of a licence after the lapse of a certain period. Every driver of a public carriage is fully warned of the consequences of default when he is first licensed.

### Importation of Motor Cars.

Mr. Fell asked the President of the Board of Trade what is the total value of the motor cars, motor cycles, and parts and accessories of cars and motor cycles imported into this country during the ten years ending 31st December, 1908.

Mr. Tennant gave the information desired by the hon. member so far as the particulars were available. The following are the totals:

1902	...	...	£1,103,065	1906	...	...	£4,452,464
1903	...	...	1,988,553	1907	...	...	4,631,532
1904	...	...	2,471,667	1908	...	...	4,177,901
1905	...	...	3,446,966				

NOTE.—Prior to 1902 the imports of motor cars and parts thereof were included under the heading of Carriages, Waggonettes, Carts, etc., including those with Motors.

### The Chancellor's Assurances to Motorists.

Motoring members of Parliament (says our Lobby correspondent, writing on Tuesday night) derive at least two consolations from the reply which Mr. Lloyd George addressed to the deputation that waited upon him last week from the Motor Union and the Coventry Chamber of Commerce in regard to the question of the taxes on motor cars and the duty on petrol. The first is that the revenue from the new taxation is to be devoted to the "improvement," and not the "maintenance," of roads. This raises a very important aspect of the whole question of motor taxation. It is felt that if the yield from the new impost were devoted only to the maintenance of roads, it would simply result in the end in being a contribution in aid of local rates. The motor industry from the first recognised that a mere subsidy to local authorities would not in any way bring about the desired improvements. The undertaking given by the Chancellor of the Exchequer will now, it is hoped, provide a fund which will lead to a great development in road facilities. The second point, which is of no less importance, is that a representative of the motoring industry will be appointed to the central body which has to deal with the administration of the road fund. This, it is believed, will prove of some benefit to motorists, and will, in any case, establish the claim of the motor industry to have a voice in determining the end to which the yield from the new taxes must be applied.

Three hundred and ninety-three new members were elected to membership of the Automobile Association on the 8th inst., among the most prominent being: Lady Gordon Cumming, Major-General R. Montgomery, Sir Charles Milburn, Lord Victor Paget, Sir

Christopher Furness, the Hon. Lady Miller, Sir Walter Runciman, His Honour Judge Bacon, the Dowager Countess of Desart, Viscount Groschen, General C. Richardson, C.B., etc. The secretary's address is Prince's Buildings, Coventry Street, W.

## Overtaking Sheep.

A CASE was heard before the Diss magistrates recently in which a drover was fined for obstructing the highway by neglecting to make a way through a flock of sheep for a cyclist who desired to pass. Of course, in this matter cyclists suffer in some respects more inconvenience than motorists. It is easy enough to meet a flock of sheep, as then one only has to stop the car till the flock has passed; but overtaking is another matter, and often a very difficult one, unless the drover or, better still, a good sheep dog will take the flock in hand. Overtaking is so difficult because the sheep begin to run, and one is therefore bound to go a little faster than they run to get through them, and this is so difficult because one is in constant fear of touching the animals, while, if one does not go slightly faster than the fleetest of the flock, one simply becomes a drover and remains in the flock for a long time. We always find the best way is to go slightly faster than the speed of the flock, and to use the voice now and then, if one is gifted enough, to make noises which appeal to the

sheep, the best and easiest being an imitation of a yapping dog bark. As we have said, the cyclist suffers still greater inconvenience, because he must dismount and try to run through the sheep when he overtakes a big flock. We do not believe in any very drastic measures in cases of this sort, as there must be give and take on each side, but it would be a very good thing if all drovers had the idea firmly impressed upon them that a little help from them in clearing a way through their flock would greatly facilitate traffic. On the other hand, what the motorist is apt to forget is that clearing a way through a flock is rather a laborious job, and from what he knows the man might have done it several times that day though he fail to do it for him. The best remedy is a well-trained sheep dog, but in a good many parts of the country sheep dogs appear to be obsolete, though here we are speaking without very wide knowledge, as perhaps it might be there never were any in the districts which have come specially under our notice. If this be so, the remedy is obvious.

## The Automobile Association Legal Defence.

### First Successes of the Scheme.

At the moment of going to press we learn that the new scheme of the Automobile Association for the legal defence of its members has already been put into working order, and of the four cases which have been brought to a conclusion, success has been obtained in each instance.

On July 1st, at the Thames Police Court, the case of a member charged with driving to the common danger was dismissed.

On July 5th, at Godalming, in two cases of exceeding the ten-mile speed limit the summonses were dismissed on payment of nominal costs.

On July 6th, at the Westminster Police Court, a member was summoned for employing an unlicensed driver. An interesting point arose in connection with this case in that the driver was temporarily hired from a firm of garage proprietors, to whom payment was made. Mr. Taylor Parkes, the defending solicitor, submitted that the relation of master and servant did not exist in that case, and that if anyone was guilty of an offence it was the proprietor of the garage. The magistrates concurred in this view and dismissed the case.

The above cases are sufficient to show the extreme usefulness of expert legal assistance being readily available when required, and members of the A.A. should bear in mind that whenever legal difficulties in connection with the Motor Car Acts loom ahead they should at once write to the Secretary of the Association, Prince's Buildings, Coventry Street, London, W., who will promptly provide the necessary assistance.

## The Dust Trials Abandoned.

The abandonment of the dust trials or "experiments" by the R.A.C. was probably the best way out of a state of affairs that for some time past has been becoming very serious. The Club seems to take it for granted that it cannot conduct trials without the co-operation of the trade as represented by the S.M.M.T., and, acting on these lines, it has shown a disposition to be dictated to by that body in a way which is entirely foreign to its functions as an independent institution professing to exist for the promotion of motoring. The latest example is the last chapter in a series by no means creditable and worthy of such a fine institution as the Club at its best undoubtedly is. We hope the indefinite postponement of the Dust Trials indicates that the Club has repented of its agreement to conduct the experiments out of sight of the impartial criticism of the press and public, and has determined in future to carry on similar work in dignified independence. We would remind the officials that it is the behaviour of cars in the hands of the average motorist that is really of concern, and that the average motorist is generally willing to render all reasonable assistance in the advancement of the cause he has at heart by entering for competitions or otherwise. Moreover, as we anticipated, although the trials have been adjusted to meet the makers' requirements, the makers have shown no greater disposition to enter than before. This is what usually happens in these cases.

We, in common with many of our readers, have received a circular from a Wurtemberg inventor, who offers to send an illustrated booklet telling how to completely use up old and new tyres without retreading and without employing "adhesive, binding, clinching, riveting, fill up, or any other materials," provided he is sent two guineas and an undertaking not to tell anyone, except one's chauffeur, how the mystery is accomplished. We may be mistaken, but we should have thought the German vendor of secrets would have been better advised to complete his patents and sell his secret on the open market, as most people have a peculiar aversion to buying "a pig in a poke."

Road tarring as now carried out on long stretches of the Portsmouth Road has proved itself completely during the late wet weather. In days gone by this road would have been cut up two inches deep after the terrible soaking to which it was subjected for nearly a week, followed by the heavy motor traffic of last week-end. As it was, for mile upon mile the surface was unbroken and dry an hour after the rain ceased on a recent afternoon, while in exposed parts even a little dust was showing. It is obvious that though the local authorities may be put to some initial expense in the original treatment, the cost of the upkeep of the roads must in the long run be greatly reduced.

# Correspondence.

## EDITORIAL NOTICES.

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

Letters of a personal nature will be withheld.

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

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

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

## THE NEW MOTOR TAXES.

[14408].—Motorists throughout the country are crying out against the new taxes, but many of those who cry loudest and talk most about what the leading motoring organisation should do are unattached motorists.

May I point out that the leading motoring organisations are, as is known to the majority of your readers, doing their level best to contest these taxes and get them modified, but the good work they are doing cannot be done for nothing, and it is the duty of every motorist to back up the leading organisations by either joining such organisations or their local clubs.

ERIC W. WALFORD,

Hon. sec. Coventry and Warwickshire Motor Club.

## NATIONAL MOTOR LEAGUE.

[14409].—I read with great interest the letter published in your paper regarding a national motor society or league. [We presume our correspondent refers to "Owen John's" contribution "On the Road" in *The Autocar* of June 19th, page 864.—Ed.] Such would be a great thing for motorists, and I enclose a scheme which would include all motorists in the British Isles.

Members to be divided into subscribing, non-subscribing, and honorary. Every motorist to have a vote on subjects of general interest, and to have a voting card posted to him for the purpose. Subscribing members to be eligible for committees, to have a vote in financial questions of the league, and to enjoy any other benefits that may be added to the league. Honorary members to be the same as in other societies.

J. H. K. WILLIAMSON.

## BROOKLANDS RULES.

[14410].—I attended Brooklands Racing Track on June 30th for the first time this year, and I was much struck by a change that apparently has taken place.

Last year, to ensure the absolute safety of competitors, very stringent rules were laid down in regard to the conduct of a competitor and his car after passing the finishing straight, and absolute compliance with these rules was enforced. This year I noticed with some surprise that a competitor on reaching the finishing straight deliberately turned his car round across the track and returned to the paddock in the face of oncoming competitors, and to my amazement I noticed in the newspapers that he is given as the winner of the race. That is to say that, although I understand the same rules to be in force this year as last, in actuality they are not forced in fact. I would be interested to know:

1. At what distance the leading competitor must be in front of the next competitor.

2. At what speed the next competitor must be going to admit of the leading competitor at the end of a race deliberately turning round across the track.

As an old racing motorist I deplore the laxity of the stewards who administered the rules on Wednesday, June 30th, particularly as the rule which was broken was especially laid down with a view to preventing dangerous accidents. The opinion of other racing men on this point should prove interesting reading.

S. F. EDGE.

## WHITTLESEA AND THORNEY TOLLS.

[14411].—May I state for the information of motorists who may be touring and have toured in the district of Peterborough that the toll-gate which lies between Whittlesea and Thorney is now taken over by the County Council at an annual rental of £20. The council have now

thrown the road open to the public with the exception of one day in the year. The gate will then be closed to receive a nominal fee just for legal rights. Those who have passed through this gate previously will bear me out in stating that a charge of from 2s. to 4s. was imposed on all cars.

This opens up a new road to pleasure seekers and business men without the annoyance of "tolls"; in fact, it now makes an exceedingly interesting run from Cambridge to Peterborough, for Thorney, beyond being a pretty place in itself, possesses the remains of a fine old abbey. The roads are in good condition.

J. KEEBLE.

## THE SCOTTISH TRIALS.

[14412].—In the general conclusions concerning the Scottish Trials you mention that a point particularly brought out is the need for improvement in circulating systems, and on this point I should esteem the hospitality of your columns to make an explanation as to the stoppage of seven minutes by my 10-12 h.p. Phoenix car for the purpose of filling up with water. Without an explanation it can reasonably be assumed that this was due to replenishment being necessary in the ordinary course, but such was not the case, because unfortunately a few days before the trial my car was backed into by a cart; the radiator had six tubes torn out, and the only thing to do with the limited time at disposal was to make as efficient a repair as possible, necessitating the cutting open of the lower portion of the radiator and refitting the tubes inside. This repair lasted until the fourth day of the trial, when it partly gave out, and necessitated a roadside repair and the refilling of water, which was the chief cause of the loss of marks my car sustained. It is interesting, I think, in regard to your remarks concerning cooling generally, to point out that on the Phoenix car neither pump nor fan is fitted, thus proving that, provided the radiator tubes are of sufficient size, thermo-syphon circulation without the aid of a fan is entirely up to the strenuous work that was demanded for this exceptional trial, and I need hardly state that the car throughout, including the radiator, was perfectly standard. Explanations of this sort are never very satisfactory, but if it is necessary ample proof can be given of the statements I have made which I feel are desirable in justice to my car. Except for the filling consequent upon the roadside repair the radiator was not replenished during the course of the runs. I think it is satisfactory to know that here is a radiator without the complication of pump or fan which is capable of performing its work, merely because it is planned on a generous thermo-syphon system.

J. VAN HOOYDONK.

[14413].—With the Scottish Trials fresh in the public mind, it is opportune to put forward one or two suggestions which we think the committee of the Scottish Club might consider with advantage.

In your issue of the 26th ult. you make a suggestion as to the advisability of in future classifying by cylinder capacity instead of by price, and point out that under the existing arrangement an engine with a bore of 85 mm. and a stroke of 100 mm. has to compete in hill-climbs against an engine with a bore of 110 mm. and a stroke of 130 mm. Personally, we think that the classification by price is, taking all things into consideration, most satisfactory, but we certainly do think that in the matter of hill-climbs a secondary result should be given on formula. This would give the smaller powered cars an opportunity of showing the high efficiency that they undoubtedly develop, instead of giving the whole of the palm to the fastest run up a hill, because it is practically a foregone conclusion that the largest engined car is bound to do the fastest time, and no publicity whatever is given under the present arrangement to those cars which on formula may be doing a more meritorious performance.

Although on our 10-12 h.p. Phoenix car we covered the whole route without tyre troubles of any kind, we think, nevertheless, that the conditions as applying to tyres are unnecessarily stringent, and that a reasonable relaxation might be allowed; for instance, it should be permissible for a man at least to pump his tyres in the morning before starting without incurring loss of marks. He is allowed to oil his car; why not also to pump his tyres?

## Correspondence.

With regard to the maximum times allowed for each class over the day's route, a concession was made with regard to the smaller cars, but this concession works out as being on paper only, for the reason that over the major portion of the route the road is so narrow that it is quite impossible for one car to pass another, the result being that the smaller car was in ever so many cases followed up by a larger car of double, and sometimes three times, the power, and had simply got to go at the faster pace in order to keep its position. The advantage could be made actual by starting the classes each day with what may be termed the handicap allowance between them—that is to say, the class that has to do a stretch in 2h. could be despatched 15m. in front of the class which had to do the same journey in 1h. 45m. This would not, of course, entirely obviate passing, but would tend very considerably to that end.

The trial just past was our first experience of the Scottish Trials, and although we were told that no car entering the trials for the first time could be reasonably expected to come through, we, nevertheless, took a standard 10-12 h.p. Phoenix car, and on it covered every inch of the course. Everyone cannot be a winner, but from our point of view we are more than satisfied with the result achieved, particularly as the trial is considered by many to be abnormal.

The organisation and the carrying out of the trials call for the highest praise, with the exception, if the Club will accept friendly criticism, which we take to be the case, of the weighing in in a public street, which was attended by many inconveniences. Whatever may be the fate of the Scottish Trials, we can only express the hope that they will again be held next year.

PHENIX MOTORS, LTD.

## DETACHABLE WHEELS.

[14414.]—In reply to "H. N." [14365] *re* the above, my experience has been the same as his, with the exception that my car is a 14-16 h.p. Argyll, and has run some 12,000 miles. My wheels and rear hubs are now being repaired at the same cost. From Messrs. Rudge-Whitworth's instructions, "The Care of Detachable Wheels," which were apparently not issued at the time my wheels were fitted (May, 1908), I take it that the reason they have worn loose is that I did not force the spanner round with a mallet after I had screwed the nut handtight—a method which I think would occur to few. As regards the note about grit in the spare wheel, I only have used mine once, for a distance of sixty miles, so that cannot have been the reason.

W.A.C.C.

## RESILIENT FILLINGS FOR TYRES.

[14415.]—Replying to "Northumberland's" letter [14361] criticising my article on resilient fillings for tyres, I hardly know whether to treat it as a joke or not. Supposing I were bringing out something wonderful, it is hardly likely I should first of all sow seeds of distrust in the public mind as to the value of such fillings. Again, does "Northumberland" really mean what he says in the expression, "No resilient substance containing water can possibly give satisfaction in a motor tyre"? Well-informed people usually term rubber resilient, not to mention being aware that a considerable proportion of it is water.

Surely "Northumberland" is able to grasp the fact that he and I take the same point of view in regard to the generality of resilient artificial compounds intended to replace rubber. He quotes several instances to the same effect as I do (see pars. 3, 4, and 5 of his letter).

"Northumberland" is decidedly wrong, however, when he put failure of such preparation down to destruction of the containing rubber tube. I will be as positive as he is, and assert that in several cases it was the filling that liquefied and allowed the wheel rim to cut it that destroyed the tyre, not *vice versa*.

For an enquiring amateur "Northumberland" seems to know a remarkable lot about the inner history of the "Rigford Tyre Co." Cannot he answer his own question as to why it has "fizzled out"? Surely this item is a mere detail to one who knows the composition of the board—and that of a private syndicate that never reached the advertising stage—with a single and unauthorised exception.

Yes, I admit I am and was interested in this concern—to the extent of giving money to assist in experiments, and seeing it lost. This, I reckon, is about the most likely thing to interest an individual that I know of.

Having read carefully through my article three times since the letter from the Equatorial Trading and Mfg. Co.,

Ltd. [14362], appeared in the same issue of *The Autocar*, I really cannot find any ground in it for the caustic remark that I damned future inventions of the kind. My article was purely retrospective—with, it is true, a cautionary word to possible future inventors. Am I to take it that Rubberine is exempt from all criticism? The article may be excellent for all that I know. Perhaps the company would prove the courage of their convictions and allow me to test a sample, the result to be published in *The Autocar*. A trial run as offered by the Equatorial Trading Co. is not nearly enough proof—I have had a good many such. Things must be done on a methodical and extended scale before any assertion as to an article's value is made.

A. J. MCKINNEY.

## A DOCTOR'S CAR.

[14416.]—I regret to find that the arrangement of the Stepney wheel on the door of my 14 h.p. Wolseley-Siddeley car, which was illustrated and described in your issue of June 12th (page 841), constitutes an infringement of Messrs. W. H. Bailey and Co.'s patent, No. 21,284, 1906, and I beg that in consideration of their allowing me to use the device you will be good enough to publish this acknowledgment of the fact.

R. DE S. STAWELL.

## EDISON'S NEW BATTERY.

[14417.]—Our Transatlantic Edison seems each summer to send forth his announcement of his discovery of a "lightweight electric accumulator."

A year is as a day to this inventor; every year the same old chestnut, but no lightweight electric accumulator.

When it was put forth that Edison had, by the use of aluminium grids, produced the necessary lightweight accumulator, I furnished to the *Birmingham Gazette* an article proving that the "presumed" new grids had been actually made in Birmingham many years ago at Holford Works, Perry Barr, and made up into an accumulator.

This year we are illusively promised a sixty-cell battery of 18 lbs. weight, capable of carrying a 1 ton truck from London to Southampton.

Only a small section of your readers will, as electrical technicians, be in a position to criticise the statement presented in this summer's announcement, but among that technical section of your readers may be several or, in fact, many British inventors, each carrying out experiments with the object of producing a lightweight accumulator. Such experimenters may at first thought, after reading the article in your paper, decide to drop further experimenting as useless on the presumption that Edison had done all that is needed, not knowing that this latest announcement is at least the fourth early annual in the form of a very positive statement that the inventor Edison had produced the required "lightweight electric accumulator."

To such of your readers permit me through your columns to say, "Go right on with what you are at." The whole world will be altered by the successful invention of the necessary lightweight electric accumulator; but would it not be wiser to copy somewhat the methods of the Wright Bros., where they did not say they had invented a flying machine until the thing had been actually made and tested and proved to be a success? The roadway from London to Southampton is not likely to be spirited away or stolen; whenever the accumulator is ready there are plenty of 1 ton trucks knocking about with which to make the commercial test.

The value of petrol-actuated motor car companies' shares should not be trifled with every July by these illusive messages from New York stockbroker journalists.

ALFRED WILLIAM TURNER.

## THE POLICE IN MERIONETHSHIRE.

[14418.]—Being a resident in Merionethshire, I was greatly interested in the letter signed "J.P." *re* "The Police in Merionethshire." Does "J.P." think that Wales is only made up of the Welsh? Who is it that reside in most of the large houses in my part of the country? Why, English! If not for them the houses would be empty. Motors enable people to reach and see places; they could not before the advent of the motor car. Now these very people on motor cars might like to take one of the empty houses in the district, and the landlord would benefit from the much-maligned motor car. About this part of the country it is openly boasted that fining motors is a good way to reduce the rates. Does "J.P." consider this a very straightforward act? I call it on the lines of Socialism. I quite agree with "J.P." the roads (lanes, I should call them) are narrow and the hedges rarely cut. They are not fit to drive a horse and trap along.

Correspondence.

much less a motor car. It is a pity the road authorities do not see to these matters, for they are a danger to people cycling, driving, or motoring. "J.P." does not seem to realise that motorists do good by bringing money into every town or village they stop at. Now that the motor car is so heavily taxed, I take it the average motorist will not be trodden down by the antagonistic feeling of fanatical Socialistic anti-motorists. ONE WHO KNOWS.

[14419.]—Those of your readers who have explored the highways and byways of the more remote parts of Wales will quite understand the mental outlook of your correspondent, "J.P." In Merionethshire and other parts of the Principality, the lack of large communities, the absence of facilities of railway travel, the bareness of the land, and the climatic conditions, conduce to a state of physical and mental isolation of the few inhabitants. The units of the sparse population show little disposition to leave their native hills, but rather to shrink into themselves.

The energy of vindictive intonation so often met with in the reply "dim Saesnog" (no English) to a question or remark denotes the general lurking sense of dread of the "intruder." It is apparent that a similar attitude of defensive hostility exists in the mind of "J.P.," though he is possessed of facility of expression in the English language.

As to social distinction, it must be remembered that the position of a seat on the county or parish council is not overshadowed by rivals enjoying civic honours (as there is no corporate town in Merionethshire, his worship the mayor is absent).

Many of the lives of those dignified by a seat on the local councils revolve in the narrowest of orbits. Little to broaden the mind ever enters into them; perhaps their loves or else their sheep are all that do their simple thoughts so busy keep. Y GWYLLIAD COCHION.

RUNNING COSTS OF A CAR.

[14420.]—As you from time to time publish the running costs of cars, I am sending you the details of expenses of my 15 h.p. Mass car for the first year's running, from April 7th, 1908, to April 7th, 1909. I may say that each railway journey which has been saved is one which I must have taken had I not a car.

The repairs, with the exception of a new leaf to a spring, which, with the fixing, cost 16s. 6d., were entirely to do with the accessories of the car, such as repairing wind screen (£1 12s. 6d.), repairing jack (10s.), etc. A careful record was kept of the time each day my lad spent on the car in cleaning it.

	£	s.	d.	per mile.
Insurance, licences, subscriptions	20	10	0	.84
Petrol (304 gallons)	16	13	8	.68
Lad's time and clothes	13	11	6	.55
Tyres	7	14	10	.31
Accessories and tools	4	17	3	.19
Oil, etc.	3	5	4	.13
Repairs	3	2	6	.11
Leathers, sponges, etc.	1	6	3	.05
Tips	2	2	0	.08
Garage	1	1	0	.04
Accumulators		6	0	—
Etceteras	1	4	0	.04
	£75	14	4	
Less railway journeys	28	12	9	
Total saved	£47	1	7	

Distance run—5,852 miles at 1.93d. per mile.

HARRY F. SULIVAN.

MOTOR CYCLISTS.

[14421.]—You have of late in your correspondence columns referred to the relations of motor cycles and cars upon the roads. There is, however, another point which I have never seen mentioned by motor cyclists in the columns of a motor paper, and that is the treatment of motor cyclists by garages. I almost fear to enter a big provincial garage where I am not known, because of the haughty and unmannerly way in which I am treated by garage attendants. I ask for petrol, and a tin is brought. No offer or attempt is made to open it. It is dumped down before me in a lordly way as much as to say a motor cyclist is a nobody; let him wait on himself. I

have never been so treated when I bring a car into a garage, nor have I ever seen a car owner treated in like manner. I have rarely come across a garage which has a funnel which will fit a motor cycle's tank, and times without number I have been asked whether I have not one of my own. Surely a garage is reasonably expected to have apparatus wherewith to fill such tanks as motorists desire to have filled. I do not complain as the result of an isolated incident, but as a result of three years' motor cycling.

I have also come across the garage which has told me that it does not undertake any motor cycle repairs, although I have offered to take down and put up again the part needing attention. There is room for great improvement in the behaviour of garages towards motor cyclists.

To change the subject. On May 31st a lady warned me of the trap at St. Neots, and careful looking about proved it was working. J. M. OAKEY.

CONTRASTS IN JUSTICE.

[14422.]—One of the chief grievances against which motorists have to contend is that the law as regards speed limit is administered with undue severity in one or two counties. It is strongly felt that some motive other than that of public safety must animate the authorities who institute police traps with the object of catching motorists in the act of exceeding the speed limit by a few miles an hour on perfectly safe open roads.

The Automobile Association has never wavered in its antagonism to these un-British methods, and I invite the attention of your readers to a few parallel instances taken from newspaper reports during the past few days:

BEFORE THE KINGSTON BOROUGH BENCH (June 14th).

A motorist was fined £10 and costs for exceeding the speed limit on the Sheen Road, there being one previous conviction. A man was summoned by his wife for assault. Complainant gave evidence of persistent cruelty, and the defendant, who did not appear, was fined 10s. and costs, or fourteen days.

Your readers will notice that, in the view of the gentlemen who dispense justice at Kingston, it is cheaper by twenty times to ill-treat a woman than to commit a technical breach of the Motor Car Act.

BEFORE THE SYDENHAM BENCH (June 16th).

A motor cyclist was fined £3 and costs for exceeding the speed limit by five miles an hour on the Shooters Hill Road. A man was summoned by his wife for persistent cruelty. Complainant gave evidence to the effect that her husband was frequently drunk and abusive, had tried to cut her throat, to strangle her, and to burn her. She had always to lock up razors and cutlery before he came home, because she feared his violence. There was one child, one year old. The defendant did not contest the case, but it was practically dismissed upon his offer to do no more than his obvious duty, namely, consent to a maintenance order.

It is only fair to contrast the following cases:

BEFORE THE FAREHAM BENCH (June 14th).

A motorist was fined a sovereign for excess of the speed limit. A man was sentenced to three months' imprisonment for wife neglect, although no persistent cruelty was alleged.

Motorists are having to bear an intolerably heavy burden of taxation in consequence of the Budget. Added to this, they suffer unreasonable penalties at the hands of a few benches, which have for some time been quite notorious for their decisions in regard to merely technical offences against the Motor Car Act. STENSON COOKE, Secretary Automobile Association.

THE REBATE ON PETROL.

[14423.]—As I have been in communication with the Inland Revenue authorities regarding duty free petrol for a stationary engine, I thought their replies would be of interest to your readers, not having seen them published before. They are as follows:

*Correspondence.*

1. If less than 500 gallons yearly is used for non-dutiable purposes, duty paid spirit only can be received, and the certificates from the seller must be kept for examination by the Customs and Excise officer to show that the duty has been paid.
  2. Spirit must be received in quantities of not less than two gallons at a time.
  3. Claim for rebate of duty must not be for less than twenty gallons at a time.
  4. Spirit must be purchased within six months of claim.
  5. Claims must not be sent in oftener than once a month.
  6. The certificates (that duty has been paid) must be kept and delivered to the local officer with the application for rebate and declaration on the proper official forms, signed in the presence of the officer.
  7. The spirit must be used solely for the purpose sanctioned.
  8. Any officer shall have free access to the premises where the spirit is stored and used.
- Further conditions may be imposed. A. G. M.

## CLUB TRIALS AND THE MAKERS.

[14424].—I have read your article concerning the attitude of the Royal Automobile Club and the Society of Motor Manufacturers, and I gather that you object to the two organisations working so closely in concert. Although I am a manufacturer I must admit that to a very large extent I share in your objection.

The principle is unquestionably excellent, but it has been carried too far. The idea originally was that the club as a body representing amateurs was apt to propose trials which were not of a practical nature, and it was therefore thought desirable that it should confer with a society of manufacturers so that they might criticise its projected trial and point out any part of it which was not really practical. This was all very well and quite a sensible working arrangement, though, of course, there were certain objections to it mainly on the score that although the R.A.C. theoretically represents the amateur user, its trials are proposed and conducted mainly by a small number of gentlemen who represent neither the manufacturer nor the private buyer, but a class of their own, as they are nearly all of them consulting engineers or professors of one sort or another, and quite a number of them know very little about the motor car from the private owner's point of view, as they do not own cars, and I may say that there is a very general feeling among makers that the consulting engineer flavour in connection with the club trials is much too strong. However, this is wandering away from the subject, although I think it shows why the makers feel they must keep a very sharp eye upon trials which are promoted by the club, and because of this they have overdone it. As you say, they object to practically every trial which the club proposes, and then the more nervous of them influence the others so that by the time the projected trial has passed their supervision it has been watered down into something which is so different from the original proposition that it may be almost without interest or value.

Where the makers have done so much harm has been in their fear that one of them might win the first prize or gold medal, or whatever the award may be, and thereby obtain an advantage over the other makers. Rather than run this risk they do all they possibly can to persuade the club to water down the competition till it possesses no competitive features. It is something which nobody can win, and it is something for which no marks are given, or if they are given they are not published. Last, but not least, everybody gets a certificate, and no one is shown to have done very badly even though he may have nearly disgraced himself, and although I am a maker I would not dream of taking part in such milk and water events from which every competitive element has been carefully removed by the club because some, by no means all, of my fellow makers are afraid of a good straight contest in which the best man will win. The only sort of contest in which they are really interested is one in which everybody who enters may be sure of a prize.

A MANUFACTURER.

## SMALL CAR RACES.

[14425].—I have read with much interest the letter appearing in the last issue of your paper signed by "Monte Cristo," and cannot understand what he expected the races to prove beyond what they usually prove, viz., that the best car is the car that wins, and that the manufacturer

of the winning car, as a rule, obtains a very big advertisement, which results in his selling a large number of his ordinary touring cars.

I have never heard of a manufacturer receiving orders for many duplicates of the winning car. He never expects this, but simply builds a car to comply with the rules laid down by the promoters of the race. It does not interest him whether it is a car suitable for a lady shopping or not; he is only out to win the race, and is designing a car which he hopes will achieve that result.

It may interest your correspondent to learn that the enormous successes of the Sizaire car in the various races have given a very big fillip to the single-cylinder car, with the result that during the last two years many thousands of single-cylinder cars have been sold, because it has been proved that a car of the Sizaire type is a comfortable car, thoroughly reliable, very low on upkeep, and marvellous on petrol consumption. Owing to this there has been a big demand for the car, and at the same time many people have started to build a single-cylinder car on the lines of the Sizaire.

Your correspondent is evidently not aware of the fact that a racing model car is totally different from a touring car. No one expects a racing car to do the work of a touring car, and in many cases it is very difficult to purchase a racing car even if one wished to do so.

It might interest "Monte Cristo" to know that the firm which won the voiturette race this year has probably built and delivered some hundreds of small cars during the last twelve months.

This gentleman further states that the Humber, Rover, and Swift have too much sense to compete with cars which are built for speed. Now, if either of these firms were to take part in the voiturette race would they, in their wildest dreams, ever think of entering a touring car? Of course they would not! They would build a car which was speedy and had a chance of winning the race, otherwise they would not enter.

Perhaps "Monte Cristo" will come out in the open, and sign his letter, instead of affecting a *nom-de-plume*, so that we may know whether he really wishes to be enlightened regarding racing cars, because in finishing he assumes his letter will inform the readers of *The Autocar* of the difference between a British and foreign small racing car, while in another part of his letter he states that the British manufacturers, in entering for a race would not build racing cars but would enter their touring cars. I suppose, however that in the year 1909 every owner of a car knows the difference between a car which is built for a race and a car which is built to be sold as a commercial article, and the manufacturer who builds a car for the purpose of entering it for a big race does so with the idea of winning that race, in the hope that the advertisement which he gets from the race will enable him to bring before the eyes of the buying public his ordinary runabout or touring car, which, of course is a commercial article, whereas a racing car is not.

It would have been better if "Monte Cristo" had simply avoided all reference to British and foreign cars. I do dislike any suggestion of belittling a car which has won any race, be it a foreign or British car, and I hope that your correspondent is a sufficiently good sportsman to say that the whole glory and honour of the voiturette race should go to the manufacturers and driver of the car which finished first.

W. M. LETTS.

## RIVINGTON PIKE HILL-CLIMB.

[14426].—We notice on page 10 of *The Autocar* dated July 3rd the report of the Rivington Pike Hill-climb.

In Class C for cars over 17 h.p., but not greater than 26 h.p., you place the cars—J. S. Cordingley first on a Humber, P. A. G. Bell second on a 20 h.p. Bell, and G. H. Ward third on a 20 h.p. Lancia. The actual positions were J. S. Cordingley first, G. H. Ward on a Lancia second, and Bell third. This to the average man in the street is very misleading, as when he opens the paper to look for the result of a race he takes it 1, 2, 3; so it is with the average motorist who opens a motor paper. Although our time on the Lancia was not as good as the times of the other cars, we gained second place on formula, having the smallest engine in the class 95 by 110 bore and stroke, against 100 mm. and 110 mm. bores, and we carried considerably more weight than any other car competing in the class, hood, screen, headlights, generator, tools, and forty-four stones passengers.

GEORGE WARD AND CO.



## REMOVAL OF CARBON DEPOSITS.

[14427].—With reference to the rather bitter correspondence *re* the above, possibly the experiences of private users might interest your readers.

My car was running rather sluggishly, and I suspected carbon deposit, and as I could not see how any harm could result from a trial I invested in a 10s. tin. I followed out the instructions to the letter, with the exception that I did not cut off the oil supply. The exhaust emitted volumes of grey smoke totally different from that of excess of petrol or oil. I cannot tell what effect it has had upon any carbon deposit in the cylinders, but the running of the car fully bears out Messrs. Shippey's claims. It is quieter, and has never run better. I have since added a little to the oil in the crank case, but as the car could not run better than it did after the doses I naturally do not see any improvement, but on starting up the engine after a couple of days' idleness I again noticed the peculiar grey smoke from the exhaust, which ceased within half a minute.

My car has forced lubrication, and unless a certain pressure is exceeded never smokes, and therefore if this grey smoke is vaporised carbon, as claimed by Messrs. Shippey, then the contention that the addition of the decarboniser to the oil in the crank case will keep the engine clean appears to me to be highly probable.

As regards the plugs, although they did not miss, I found them oily, and pieces of carbon sticking to them, which is only a matter of cleaning. I also cleaned and ground in the exhaust valves, and I should advise anyone making the experiment to put it off until he is thinking of grinding them in. I do not think it is necessary, but as bits of carbon undoubtedly do get detached they may get under the seating.

So pleased was I with the results, I have persuaded some of my friends to go and do likewise, with the following results:

A large car pre-igniting and pulling badly—Treatment, two doses. Result, pre-ignition ceased, and running with full power. Valves not ground in.

A small car—Done considerable mileage. Owner thinking of scraping cylinders. Treatment, small dose. Result, "car has never run better." Valves not ground.

Motor bicycle—Pulling badly, and refusing to climb hill. Treatment, two teaspoonfuls. Result, climbs hill with ease.

May I respectfully suggest to Mr. Duckham that an ounce of practice is worth a pound of theory? 40 H.P.

## ROAD WARNINGS.

[14428].—There is one phase of police persecution which seems to have escaped attention. This is the disastrous effect it must have upon the *personnel* of the constabulary in the counties where it is practised. The powers that be decree that motorists are to be harried, trapped, and fined, and constables are sent out on fine days to lonely spots to "collect scalps." Possibly the "man in uniform" who is detailed to stop the cars is a young and healthy-minded Englishman, with a natural inborn love of fair play.

What must his feelings be when he sees his seniors—sergeants and inspectors—faking up cases, "cooking" times, and juggling with distances and seconds. Undoubtedly he will be disgusted at first. But when he sees that these men obtain promotion and gain favour among their superiors as a result of their efforts to thwart and rob motorists, can we wonder that, being only human, he in time comes to do as they do, and by polite lying, glib perjury, and plausible misrepresentation, he too in due course comes to wear a sergeant's stripes? Thus are the morals of the constabulary in some of our counties steadily and persistently being undermined. Not a week passes but one sees in your columns a story of injustice to some poor motorist. Every one of us knows of some case among his own acquaintances, if indeed he has not suffered himself, in which the police have been guilty of wilful perjury and deliberate falsehood. The dear, benevolent old gentlemen who "indifferently administer justice" are delightfully ignorant on motoring matters as a rule, and in their innocence give credence to the word of these policemen as against the solemn sworn statements of English gentlemen who would rather pay fifty fines than tell a lie. I have seen cases reported in which the statement of one wretched police inspector has been taken in preference to that of an officer of high rank, holding the King's Commission, and in another instance where a police sergeant was believed as against a bishop of the Established Church, who was sitting next to the driver of the car. This complete demoralising of the force (there are dozens of counties, in addition to the City of

## Correspondence.

London, where the police are a credit to the country) in so many parts of England and Wales is a very serious thing indeed, and the chief constables have a heavy responsibility on their shoulders. The people should be taught to have confidence in the police, and to co-operate with them gladly, in support of law and order. "To be like a police sergeant" is unfortunately coming to mean the most brazen-faced and energetic form of lying which can be found. A.J.M.

## THE COUPE DE VOITURETTES.

[14429].—In your list of winners of the Coupe de Voiturettes with the average speed for the last four years, you infer that the Delage car which won the Grand Prix de Voiturettes over the Dieppe Circuit in 1908 was fitted with a De Dion engine. This is not the case.

The winning Delage was fitted with a single-cylinder Delage engine and had four sparking plugs. Moreover, it was the smallest motor in the race.

B. D. CORBET, Capt.

## R.A.C. HEADLAMP TRIALS.

[14430].—I have read Mr. Polkey's remarks [letter 14366] on the coming R.A.C. headlamp trials with very great interest, and certainly must say I cannot agree with him in a great many respects, even though he is a man of much more experience in the way of traffic lighting than myself.

What he says about a match, or an equally small light, blinding one in the dark is all very well, but I think that one should also not lose sight of the fact that this match is only dazzling at a certain distance; so it is also with headlights, the dazzling zone depending on the way the light is focussed. This is proved in railway lamps on engines, of which I believe, Mr. Polkey is a manufacturer. One has only to stand in a station and watch an approaching train, when one will see that at a distance of 150-250 yards the lights seem to be tremendous balls of flame, whereas at fifty yards distance one sees a much reduced light, and when the engine is drawn up one can hardly see any light at all, the lens throwing it such a distance ahead. This, I may say, is not interfered with by the surrounding lights.

Like Mr. Polkey, I have also done several night journeys, testing lamps of various descriptions, and on darker roads, and at higher speeds than could ever be obtained in this country, my journeys having been confined to the roads leading from Aue to Dresden and Leipzig. The average journey of 140 kilometres, with an Adler 24 h.p., I covered in two and a quarter to two and a half hours' average.

I have always found on these journeys that the bigger the lens in front of the flame the greater was the range of the light filling the road. By filling, I mean that the beam of light, theoretically speaking, from right outside to left outside, measures the same as the width of the road.

I have tried a large headlamp, fitted with tri-optic lens, or condenser, which absolutely filled up the front of the lamp. The full force of the light filled the roadway at 450 mm. from the car, and at 250 mm. one hardly knew that there was a car there at all, except for the acetylene side lamps I was using at the time.

This, of course, is abnormal, but so was also the method used. It clearly proves what a lens can do in front of a flame.

Then again, in one breath Mr. Polkey advocates the use of lamps of a kind in front of a car—that is to say, of acetylene—and then he goes on to say that there should be a light showing from the rear of the car on to the road to let, so to speak, the approaching equestrian or pedestrian down lightly.

A headlight is used to see the road ahead and not that part of the road which is actually under one's wheels. I must take it the approaching person has a big jump from 100 yards ahead of the car to the tail light. This is where paraffin side lamps come in. If acetylene side lamps are used, there is a glare right up to the very bonnet of the car, whereas if they are paraffin the approaching person notices a very bright light more than 150 yards away, and at fifty yards he sees a pair of yellow lights, which show him the front of the car, the beams of the headlights passing him down the road without troubling his eyes.

When he has seen the side lamps he can judge where the rear of the car is likely to be, and certain it is that he would be practically at home in the yellow light after having left the white light of the acetylene burners behind him.

I trust Mr. Polkey will pardon my taking this matter up; but as I personally have a lively interest in the sale of a certain make of lamp, I thought it a good opportunity of expressing my personal experience in the matter.

H. HEILBRONN.

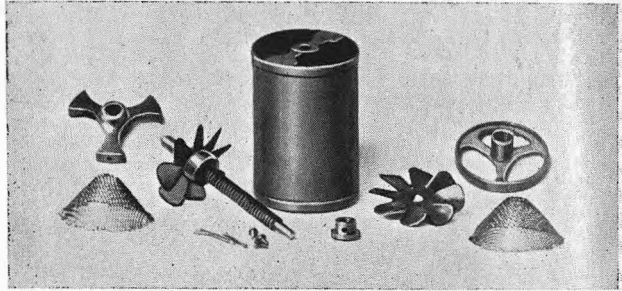
# A Fuel Economiser.

## Interesting Reply to the Question: "Does a Spray Carburetter Spray?"

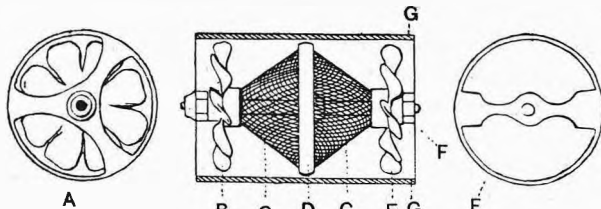
**T**HIS device, which takes the form of oppositely revolving fans and wire cages, is to be placed inside the inlet pipe as near to the carburetter as possible. It would give the impression that it would throttle the engine, but we are told in practice this is not so. The velocity of the gas through the inlet pipe gives momentum to the fans, causing them to revolve at a very high speed. Attached to the fans, which revolve in opposite directions, are fine gauze cages with a flywheel to give weight and steady running.

The makers claim that it is nearly impossible for any petrol in fluid or unatomised form to pass the fan nearest the carburetter, the petrol being immediately atomised. In the event of any petrol passing the first fan it is impossible for it to pass the revolving fine wire gauze cage and the second fan.

gain in power, which is considerable (this is more noticeable on hills), greater silence in running, and



The component parts of Henderson's economiser.



A diagram of the economiser.

- A, bearing nearest engine showing fan
- B, fan with gauze cage and flywheel attached, revolving at high speed
- C, fine gauze cage
- D, flywheel
- E, fan which revolves in opposite direction to the fan B
- F, bearings nearest carburetter
- G, the tube in which the device revolves and which is fitted into inlet pipe

The feature of the appliance is that nothing but pure gas enters the cylinders, no petrol in fluid form whatever entering the engine. Greater economy in petrol consumption results, as, the gas being purer and perfectly mixed, less petrol is required.

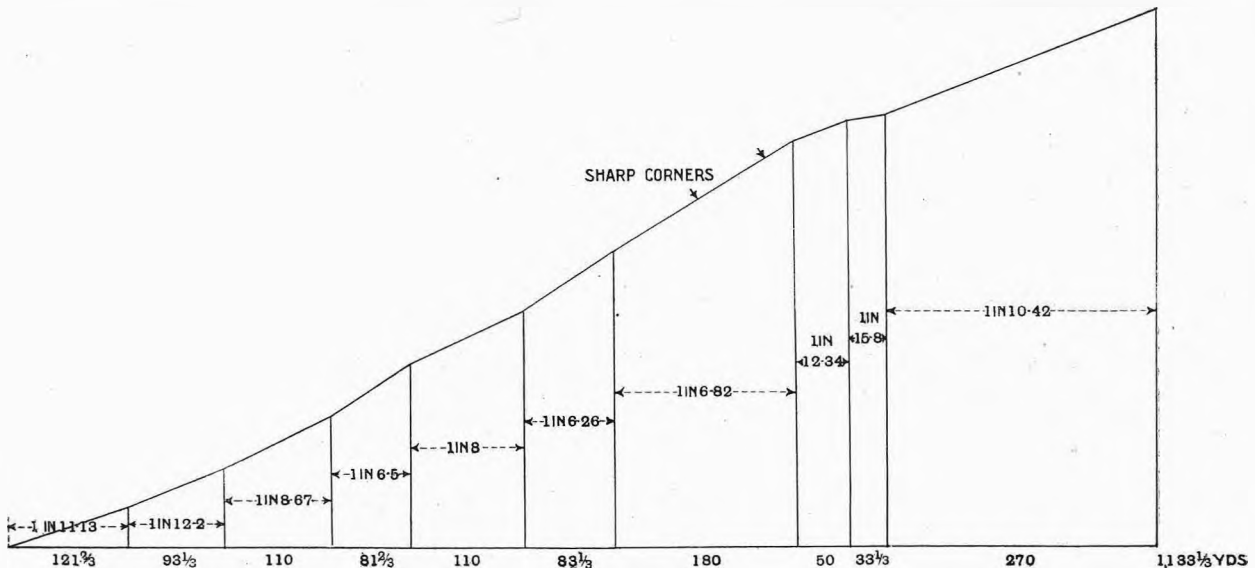
The gas being pure, also gives off little or no smell from the exhaust; the same reason prevents any overheating of the engine. Other advantages are a

an increase of flexibility. A car can pick up in traffic. Even in the latest and most powerful cars a considerable amount of petrol may be found lodged in the valve pockets and in the cylinders—an impossibility with this appliance. Also it is found that the fuel supply at the jet may be reduced with advantage, and therefore a saving in consumption secured. By fitting this appliance nearly any engine can be made to run with paraffin if the owner so desire, a little petrol only being required to start it on cold days.

A good feature of the turbine economiser is that it can be fitted into any inlet pipe and to any engine in a few minutes by an amateur. There is nothing whatever to get out of order, and it needs no attention.

Further particulars may be obtained from Mr. T. E. Henderson, 73, Camden Street, North Shields.

We have not tried the arrangement, but the inventor has undoubtedly improved a number of carburetters by fitting his device, so that it would appear that its choking effect is nullified by better atomisation. We should like to try it on a good carburetter to see if it would also improve that.



A section of the hill at Court House, Shelsley Walsh, Worcestershire, where the Midland A.C. holds its open and club hill climb next Saturday, July 17th. On the same day and hill the "Henry Edmunds" Hill Climb will be held.

## Flashes.

We are informed that, notwithstanding statements to the contrary, all Mercedes cars for 1910 will be fitted with the Bosch magneto, this decision having been arrived at after extensive trials with other systems.

\* \* \*

Just recently a Belgian Juge de Paix publicly stated that he intended to come down severely upon all motor drivers brought before him, and in view of this statement Monsieur Aerts, a lawyer, has refused to be judged before the tribunal over which this prejudiced gentleman presides. He has moved the Court of Assises for a trial before another court. Why have we not this power in free England? If we had, a good many motorists would move for trial before courts other than those of Hayward's Heath, Kingston, Guildford, Mortlake, and other motorphobist tribunals, who in this country are allowed to vent their prejudices upon a certain class of defendants.

\* \* \*

Sir Philip Brocklehurst, Bart., one of the heroes of the recent South Polar Expedition, intends to take up motoring, and has ordered a 40-50 h.p. six-cylinder Rolls-Royce car, with a two-seated body of the type originated by the Hon. C. S. Rolls. In order to qualify for the conduct and care of this delightful vehicle he will serve a short apprenticeship in the new Rolls-Royce Works at Derby.

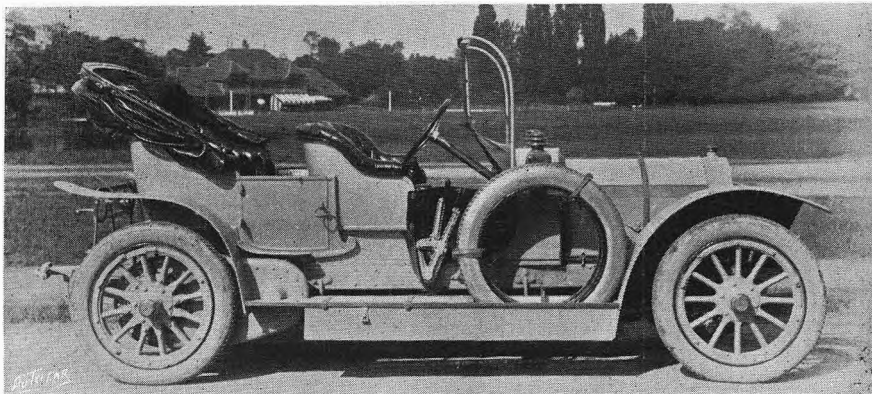
\* \* \*

As the result of representations made by the Hastings and District Centre of the Motor Union, the local tramway company is improving the condition of those portions of the roads for which it is responsible. The local authorities have also been moved to carry out certain repairs to the roads in the district, which will be treated with tar as soon as these repairs are completed.

The next monthly trial promoted by the Royal A.C. will be held on 14th July (the second Wednesday in the month).

\* \* \*

The Secretary of the Royal A.C. intimates in his weekly report that the entrants for the Dust Experiments and Inter-club Competition have been notified that, owing to the continued bad weather, the committee has decided to postpone the tests *sine die*.



M. Paul Meyan, the sporting editor of "La France Automobile," one of the leading journals devoted to motoring in France, has a 30 h.p. Lorraine-Dietrich car, racing type model, with raked steering and short side levers; direct drive on both third and fourth gears. Chain cases are also fitted.

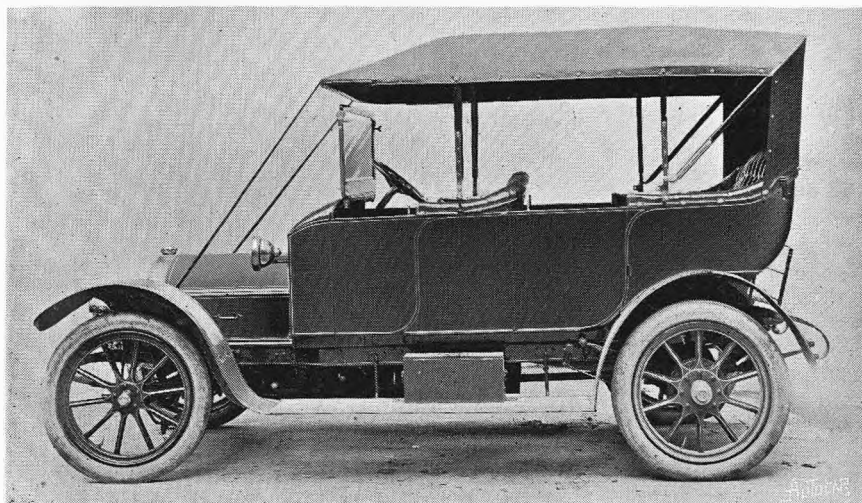
An Italian journal states that, owing to the present inaccessibility of many important districts in Liguria, the inhabitants are appealing for the establishment of automobile services. Applications have been submitted to the Government authorities for lines to pass through the following places: Sestri, Levanto, Varese, Borgotaro, Valva, Sista, Carrodano, Brugneto, Borghetto, Varo, and Spezia.

\* \* \*

The Motorists' Protection Association, which was formed last year, points out that for a subscription of £1 1s. per annum it guarantees legal aid in any part of the kingdom. Moreover, a motorist who is summoned for exceeding the legal limit can between the summons and the hearing become a member of the Association, and thereby secure expert legal help when his case comes into court.

\* \* \*

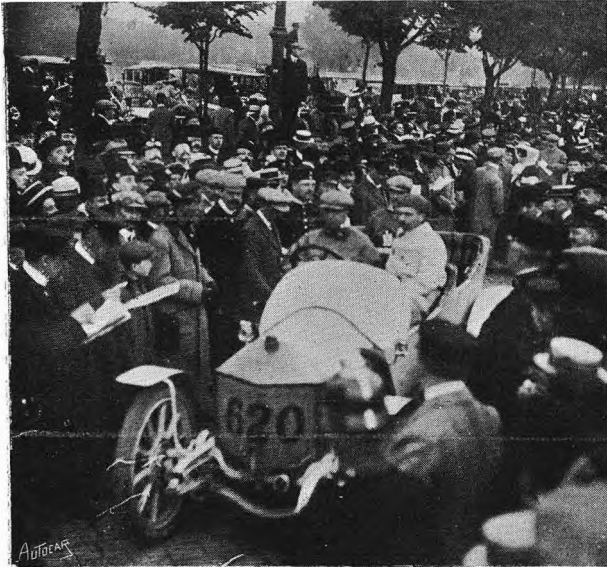
The brilliant performance of the Duke of Westminster's motor boat *Ursula* on the first day of the regatta at Kiel had the unexpected result of deterring the other competitors from turning out in the race for the Emperor's Cup. Despite the lack of competition, however, the boat was put through her paces, and gave a striking exhibition of speed. The course of seventy kilometres was an extremely difficult one, necessitating much careful handling round the marks, but was negotiated in the splendid time of 70½ minutes. The race between this boat and the *Amazon*, arranged for July 24th, is postponed.



The cult of the torpedo body. A 14-18 h.p. F.N. chassis with a body of this type, built by Cann, of Camden Town. The owner of this particularly smart looking car is Mr. S. F. Munday, of Mitcham.

**Flashes.**

The awards in the Scottish Trials have been finally announced, and there is no alteration from the provisional results which we published last week (page 6) except that the 12-18 h.p. Riley car in Class B gained 876.9 marks instead of 976.9, as originally reported.



Messrs. Moore Brabazon and Oscar Cupper who took part in the Prince Henry Touring Car Trial on a Metallurgique.

The Car and General Insurance Corporation, Ltd., generously covered all the risks pertaining to the Club in respect of the cars placed at their disposal by various manufacturing firms and others for press and official use in the Scottish Reliability Trial without charge to the Club.

\* \* \*

Merionethshire Police Committee on June 29th decided to purchase six stop watches for the use of the police in the county. The Hon. C. H. Wynn, in proposing this resolution, remarked that as they received £136 by fines on motorists last quarter, and as much as £85 at Corwen the previous Friday, they could well afford to make this provision. Mr. Munro Edwards complained that traps were laid in places unfair to motorists, while Sir Osmond Williams pointed out that Merionethshire was being constantly pilloried in motoring and other papers, the inevitable result of which must be that motorists would refrain from visiting the county altogether.—*Daily News*.

\* \* \*

With regard to the interesting boat-shaped body built for the Earl of Shrewsbury and Talbot by Messrs. J. Rothschild et Fils, we may mention, in addition to the particulars given with the illustrations last week on page 7, that the rear seat folds down, a revolving shutter being constructed to come across the body and cover up the space, thus giving a clear deck behind the driver's seat when desired. Messrs. Rothschild tell us that a good deal of the success of the design was due to the fact that on the Talbot chassis on which the boat is fitted it was possible to fit the speed and brake levers inside the frame instead of outside. They also tell us in reference to the point we raised as to the effect of the sharpened stern that the car is almost dustless.

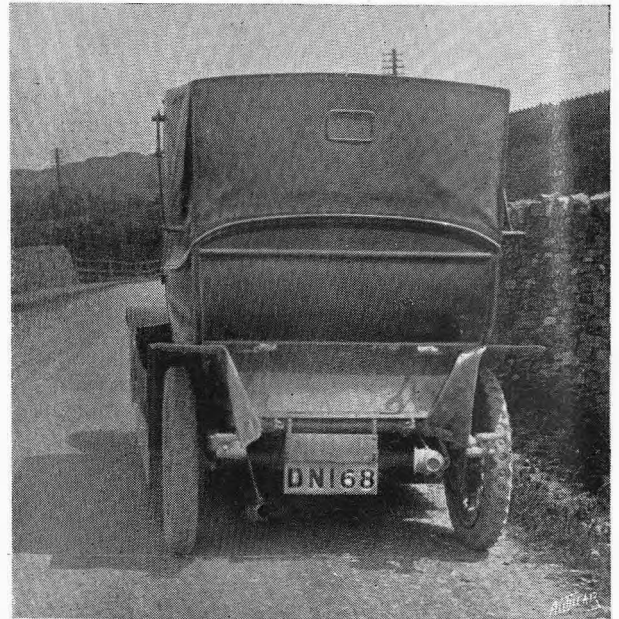
A general meeting of motorists, arranged by the Royal Automobile Club, will be held at Caxton Hall, Westminster, on Thursday, 15th July, at three o'clock, for the purpose of considering the Budget proposals relating to motor car taxation.

\* \* \*

Rural district councils are beginning to recognise that motorists should receive some consideration at their hands. The Stockton Rural Council, for instance, has asked the county council to erect triangular danger boards in the Preston and Eaglescliffe districts. One member of the council remarked, "Now that motorists have to pay for the roads they ought to have their pound of flesh out of them."

\* \* \*

At Dundee last week James Beachin, motor car driver, pleaded guilty to having driven a motor car in Monifieth Road, Broughty Ferry, at a speed of eighteen miles an hour, which speed exceeded the limit by eight miles. It was stated that the road was perfectly straight. Sheriff Campbell Smith said exceeding the speed limit was an offence against the law, but this particular offence was an offence against a law which savoured somewhat of the absurdities of grandmotherly legislation. The regulations as to driving were imposed by people whose fears were much more extensive than their other faculties. Ten shillings or three days.



A skeleton number plate has been invented by Mr. H. Starley, and our illustration shows it on one of the cars belonging to his employer, Mr. Mason of Skipton. It will be seen that the ordinary painted number plate has become smothered out of recognition, while the stencil plate below it is still as plainly visible as when the car started on the drive which obliterated the ordinary plate. We believe similar plates can be obtained from Mr. W. Starley of St. Paul's Road, Coventry, and they are certainly worth having, as one never knows that in an anti-motorist district one may not be summoned for the number plate being obscured, and even in districts which are not anti-motorist there is occasionally an over officious policeman who is not content with stopping the car and informing the owner that his number plate has become obliterated by the mud or dust, though a summons should only be issued when the motorist neglects to clean his plate immediately after such a warning and before proceeding.

# Club Doings.

## Berkshire A.C.

Captain Waring has resigned the hon. secretaryship of the Berkshire Automobile Club in favour of Dr. W. Bernard Secretan, of 10, Redlands Road, Reading. Captain Waring has been elected to a seat on the committee.

## Kensington A.C.

At the recent Kensington Automobile Club's show, Dr. Dobson gained first prize for smartness and points for a first-class carriage with his 16 h.p. Standard, and Dr. Roberts with a 20 h.p. Standard won the second prize in the appearance competition.

## Scottish A.C.

The contracts for the reconstruction of the buildings at 11, Blythswood Square, Glasgow, have now been let, and the contractors are proceeding speedily with the work, which, it is expected, will take three or four months to complete. There is every evidence that, when the alterations are completed, the club will be in possession of an extensive, handsome, and comfortable club and motor house.

## Sheffield and District A.C.

Arrangements have been made to take 180 crippled children to Haddon Hall, viz., ninety to-day, Saturday, July 10th, and ninety on Saturday, July 17th. Tea will be provided by the club. The cars will meet at Leopold Street, Sheffield, at 2.30 p.m., and start about three o'clock for Haddon Hall. To avoid the dust the vehicles will take alternate routes, viz., *via* Baslow and Bakewell; Fox House, Calver, and Bakewell; and Grindleford, Calver, and Bakewell. The cars will be run very slowly through the city, and in the open country eighteen miles per hour will not be exceeded. Many members and friends have already promised cars.

## Midland A.C.

The annual hill-climb to be held at Shelsley Walsh on July 17th will be run before the Henry Edmunds hill-climb over the same course. This will allow competitors to enter for both events.

The special club badge is now ready for issue to all members. The badge may be supplied either in nickel at 12s., or in brass at 10s. 6d., and in either of two fittings for attachment to the dashboard or radiator respectively. It consists of the R.A.C. Associate's Badge with the M.A.C. badge in enamel in the centre. The badge can be seen or obtained at the clubroom any day (except Saturdays) between the hours of 2 and 3 p.m., or the hon. secretary will be pleased to forward same to any member on application.

## Kettleby Hill Climb.

Members of the Leicestershire, Leicester and District, Notts, Derbyshire and North Stafford, Derby and District, Lincolnshire, Northamptonshire, Midland, Coventry, and Wolverhampton Automobile Clubs took part on Saturday last in two hill-climbing competitions at Kettleby, near Melton Mowbray. The first was for the silver challenge cup presented by Mr. J. A. Hartopp, and although amateur members of any of the ten clubs were allowed to compete and take the gold medals offered for fastest time and best performance on the prescribed formula in each of the three classes, only a member of the Leicestershire or Leicester and District clubs was eligible to hold the cup given for the best performance in the three sections. This contest was held under the closed competition rules of the Royal Automobile Club, and comprised three events, viz.—(a) cars with one or two cylinders, (b) cars with four cylinders not exceeding 20 h.p., and (c) cars with four or six cylinders exceeding 20 h.p. The length of the course, which with its many twists and turns calls for the exercise of great skill on the part of motorists, is about three-fifths of a mile, and the altitude 265 feet. The smaller cars found the steep incline as much as they could negotiate, but many of the medium cars made excellent time. The winner of the trophy was Mr. D. J. Swainston on a 25 h.p. Minerva, and the medals were secured by the following:

Class A.—Fastest time H. Jefferson, Derby A.C., 9 h.p. Riley; best performance on formula, A. Douglas Hunt, Derby A.C., 8 h.p. Clyde.

Class B.—Fastest time and best performance, N. F. Bayliss, Wolverhampton A.C., 14-18 h.p. Sunbeam.

Class C.—Fastest time Mr. F. A. Bolton, Derbyshire and North Stafford A.C., 57 h.p. Daimler. Best performance, Dr. R. G. Hogarth, Notts A.C., 25 h.p. Talbot.

A similar number of motorists took part in the second competition, which was for the silver challenge cup given

by Mr. Wm. Baring du Pré, and open to all members of the Leicestershire, Leicester and District, Notts, Derby and District, and Derbyshire and North Stafford clubs. The most meritorious performance (subject to verification by the Royal Automobile Club) was adjudged to be that of Mr. A. Boulter, 15 h.p. Star. The runner-up was Mr. A. H. Faulkner, of Leicester, 30-40 h.p. Daimler, and Mr. R. N. Wright, 12 h.p. F.L., was third. The fastest time was made by Mr. F. L. Bolton, president of the Derbyshire and North Stafford Club (57 h.p. Daimler), who repeated his last year's performance. The medals were afterwards distributed by Mrs. E. G. Mawbey.

## Harrogate and District A.C.

The course for the speed-judging competition (starting near Pannal and running into Wharfedale Hill) was eight miles.

1. J. T. Simpson, 14-16 h.p. Argyll	0	6 fast.
2. W. W. Breare, 10 h.p. Adams	0	8 slow.
3. T. E. King, 10-12 h.p. Motobloc	0	9 slow.
4. H. S. Birtwistle, 40-50 h.p. Rolls-Royce	1	5 fast.
5. J. A. Little, 14-20 h.p. Renault	1	8 slow.
6. Dr. Solly, 20 h.p. Rover	3	37 slow.
7. T. C. Atkinson, 3 h.p. Triumph	4	32 fast.
8. J. B. Brooks, 3½ h.p. Triumph	9	18 slow.
9. Dr. Campbell Ward, 8 h.p. Peugeot		

The hon. sec., Dr. Holroyd, together with timekeeper, carried out all arrangements for the competition.

## Hampshire A.C. Hill-climb.

A most successful meeting was promoted by the newly-formed Northern Division of the Hampshire Automobile Club on Saturday last in the beautiful grounds of the Grange, Alresford, by kind permission of Lord Ashburton. The following are the official times and results according to the handicapping formula of the Hants A.C. Messrs. Ebblewhite and Reynolds officiated as timekeepers appointed by the R.A.C., under whose closed competition rules the meeting was held.

### CLASS I.—CARS UNDER 10 H.P. NO PASSENGER.

Name and Car.	Bore and Stroke.	H.P. by R.A.C. Formula.	Weight.	Time.	Result.
	mm.		lbs.	secs.	
J. W. Davis (Jackson)	100×150	8.42	1414	44.4	1
Glynn Salter (Rover)	95×110	5.92	980	64.6	2
C. W. Breadmore (Rover)	114×130	9.52	1708	84.4	3
Wilfred Godwin (Rover)	97×110	6.15	1204	100.2	4

### CLASS II.—10 H.P. AND UNDER 20 H.P. ONE PASSENGER.

S. F. Crowther Smith (De Dion-Bouton)	75×100	13.8	2345	50.2	1
E. J. Underwood (De Dion-Bouton)	66×100	10.74	1823	52.6	2
G. H. Cox (F.I.A.T.)	80×100	15.7	2184	46.4	3
Mrs. Viner Ellis (Peugeot)	86×95	17.55	2324	51.8	4
Harold Stratton (Darracq)	90×120	11.26	1493	63.2	5
Chas. E. Godwin (Humber)	78×94	14.28	1897	76.2	6
J. W. Davis (Jackson)	100×150	8.42	1414	48.0	*

### CLASS III.—20 H.P. AND UNDER 30 H.P. TWO PASSENGERS.

J. Barlow Robinson (Star)	89×114	21.25	2338	49.6	1
F. W. Ramsay (S.C.A.T.)	100×120	27.81	3080	54.4	2

### CLASS IV.—30 H.P. AND OVER. TWO PASSENGERS.

W. Hamilton Thompson (Brasier)	112×130	36.78	3920	48.6	1
H. Stuart Murray (Gobron Brillé)	110×200	47.3	4760	50.6	2
G. C. Colemore (Darracq)	100×160	33.68	2016	30.6	† 3
N. S. Hind (Berliet)	120×140	44.36	3185	38.4	4
E. A. Philippi (De Dietrich)	146×180	77.7	3925	35.0	5
C. Braun (Lorraine-Dietrich)	146×180	77.7	3360	36.4	6

\* Won, but ineligible in class.

† The fastest time of the day was made by Mr. G. C. Colemore's 4-in. racing Darracq.

### Nottinghamshire A.C.

The Nottinghamshire A.C. has asked that the R.A.C. medal should be awarded to Mr. Booth Granger, its hon. secretary, in recognition of his valuable services to his club, and to the motor movement generally.

### Motor Yacht Club.

The second two-day regatta of the season was held on Friday and Saturday last in ideal weather, which, combined with an excellent entry list and a varied programme, attracted a large number of members to Netley.

Friday's programme consisted of three events. The first was a race for the six and a half to eight metre class, for which *Lucinha* and *Gyrinus II.* were expected to meet for the first time. Unfortunately, the latter, which has hitherto run with the greatest regularity, developed ignition troubles which prevented her starting, and *Lucinha* had a walk over. A handicap for motor boats under twelve knots resulted in a win for *Solace* (Mr. F. P. Armstrong) by 52s., Mr. E. R. Webb's *Kip* being second. The third event was for motor boats under the M.M.A. rating and time scale, the winner being *Lucinha*, with *Lotus* second.

Saturday's programme commenced with a race for cabin cruisers round the Isle of Wight. Mr. F. C. Blake's *Christine* started at 9 a.m., Mr. Barlow's *Wanderer* at 9.41 a.m., Capt. R. T. Dixon's *Sphinx* at 9.52 a.m., and Baron Von Bissing's *Hova* at 11.27 a.m. The two first named made an excellent race, *Wanderer* winning by only 6m. 53s. *Sphinx*, unfortunately, touched the rocks while running down the west side of the island, and retired, and *Hova*, a new boat, as to whose speed some doubt existed, was nearly an hour behind the winner. The second event was a race for the club 36ft. sailing class. *Doris* (Lieut.-Col. Pyne), making her first appearance this season, was first, with *Westra* (Mr. F. P. Armstrong) second, and *Quickstep* (Mr. Slade Oliver) only a few feet behind. A handicap for motor boats of fifteen knots and over resulted in *Lucinha*, which started scratch, being the winner, with *Squirt III.* second, *Lotus* third, and *Gyrinus II.* fourth. The speed of *Lucinha* worked out at twenty knots. In a handicap sweepstake for all comers, *Solace* proved the winner by 22s. from *Ogotua* (Mr. Caldbeck), *Squirt* being third, and *Tyreless* fourth. The programme concluded with races for the club one-design sailing class, the final heat being won by Mr. Tom Thornycroft, with Mr. Duden second.

Owing to the large number of boats now in commission on the South Coast, the committee has decided to have a regatta on Saturday, July 24th, the day after the race from Brighton to the *Enchantress*.

The race between the Duke of Westminster's *Ursula* and Lord Howard De Walden's *Amazon* has been postponed.

### A.C. of South Africa

The second annual hill-climb of the Automobile Club of South Africa was held on Saturday afternoon, May 8th, on the Rhodes Road at Newlands. The surface of the road was in bad condition, and prevented competitors profiting to the full from the downhill portion of the route. The average gradient of the hill was one in eight, the steepest portion being one in four.

The fastest times were made by Mr. J. W. Jagger's 35 h.p. Mercedes and Mr. Charles Mills's 18 h.p. Talbot. The results were worked out according to a formula, and were as follows: 1, C. Mills's 15 h.p. Talbot, efficiency 82.36%; 2, S. Benjamin's 10 h.p. Siddeley, 65.60%; 3, J. W. Jagger's 35-40 h.p. Mercedes, 61.86%; 4, S. Benjamin's 14 h.p. Siddeley, 61.81%; 5, C. F. Spilhaus's 18 h.p. Siddeley, 61.32%; 6, S. Benjamin's 18 h.p. Siddeley, 60.68%; 7, S. Benjamin's 10 h.p. Siddeley, 60.28%; 8, Dr. Hewat's 14-16 h.p. Argvill, 54.49%; 9, W. Long's 10-12 h.p. Humber, 51.59%.

As Nos. 1 and 3 failed to climb the hill on their first attempt, the committee have awarded the club's gold medal to No. 2, the silver medal to No. 4, and the bronze medal to No. 5, which it will be noted are Siddeley cars.



A.C. OF S.A. HILL-CLIMB. Mr. S. Benjamin's 10 h.p. Siddeley which won the gold medal for highest efficiency.

### The Richmond and District M.C.

A few days ago the above club carried out a 100 miles reliability competition for the President's (the Marquis de Mouzilly St. Mars) Challenge Trophy and the club's gold medal. The entries were: Dr. Horder (18-24 h.p. Austin), Colonel J. Harrison Hogge (32 h.p. Darracq), J. H. Greenwood (10 h.p. Darracq), L. Munroe (14 h.p. Vauxhall), A. Carpmael, jun. (12 h.p. Riley), E. M. P. Boileau (14-20 h.p. Siddeley), and H. J. King (14-20 h.p. Siddeley).

The course was quite a stiff one. Starting from Surbiton in the pouring rain, the cars proceeded through Horsham, Billinghamurst, to Petworth, three miles from which the steep ascent of Duncton Hill was negotiated. Near Horsham the weather cleared somewhat, and the roads dried nicely. At Chichester a stop of about an hour was made for lunch at the Dolphin Hotel. In the afternoon the weather, fortunately, continued fine, and, except under the trees, the condition of the road was considerably improved. The section of road between Midhurst and Haslemere was exceptionally hilly, but all the gradients were negotiated successfully by the competing cars. No speed limit was set, but the cars were allowed to travel at what pace they pleased. No excessive speeds were indulged in, but the best performance was calculated on the most consistent running, and, after due deliberation, the judges (Mr. W. W. Wood and Dr. W. M. Paul) decided that the most consistent performance was accomplished by H. J. King's 14-20 h.p. Siddeley. Next to Mr. King's car, Mr. Greenwood's Darracq made the next best performance; while the other 14-20 h.p. Siddeley probably comes third. Non-stop runs were also made by Colonel Harrison Hogge, Dr. Horder, and A. Carpmael.



A general view of the hill upon which the A.C. of South Africa held their competition. The car in the foreground is Mr. Long's 10-12 h.p. Humber.

Much of the credit of successfully organising the run is due to Mr. H. C. King, the hon. secretary, Walton House, Surbiton Road, Kingston-on-Thames, to whom application for membership of the club should be made.

**Lancashire A.C.**

A pleasant little function was carried out last week at a meeting of the Lancashire A.C. General Committee, the chairman, Dr. F. Stephenson, presenting a Meissonier engraving to Mr. Arthur Birtwistle, J.P., as a token of the club's appreciation of the manner in which he discharged his duties as secretary. This office he relinquished at the end of last year. Tactful, affable, and a most business-like organiser, Mr. Birtwistle for several years rendered signal service to the cause of automobilism in the county and to the North-east Lancashire A.C., which is now known as the Lancashire A.C., and has a membership of nearly 400. He was one of the original members of the old club, as was also his father, Mr. W. Birtwistle, J.P.) an ardent motorist who succeeded Sir W. H. Hornby, M.P., as president of the club).



Mr. Arthur Birtwistle, J.P., former Hon. Secretary of the Lancashire A.C.

Mr. G. D. Walmsley became the first secretary; then, for a period of about two years, he was assisted by Mr. Arthur Birtwistle as joint secretary, and for the succeeding three years the latter held office as sole secretary. He is a well-known Northern motorist. His first car was of the steam-propelled type—a Stanley Locomobile. He next became the owner of a 9 h.p. Daimler, and has since pinned his faith to cars of that make, having run 22 h.p., 35-45 h.p., and 45-50 h.p. Daimlers. With the second named he was very successful in 1905-6-7, winning many prizes in both club and open events. In the Blackpool Races he gained firsts in the standing mile and standing kilometre for touring cars. He also formed one of the English team in the second International Touring Car Competition for the Herkomer Cup in June, 1906, but on the fourth day of the race had an accident on the Semmering Pass, where several other competitors also came to grief. He was placed on the Commission of the Peace for the county of Lancashire in April of last year, and is probably the youngest magistrate in the Blackburn district. Associated with the Volunteer

Artillery and Territorial movement for about twelve years, he at present holds the rank of captain in the 1st East Lancashire Brigade R.F.A., to the duties of which position he is at present devoting most of his spare time. On the occasion of his marriage three years ago, Mr. Birtwistle was presented by his motoring colleagues with a handsome service of plate.

**Automobile Club of Australia. Petrol Consumption Test.**

The Automobile Club of Australia held its annual petrol consumption test on the Bunnerong Road, Kensington, Sydney, N.S.W., on Saturday, May 22nd. There were fifteen competitors in three classes—Class A, single-cylinders; Class B, two-cylinders; and Class C, four-cylinders. Each car had to carry a full load (but riding on footboards was barred), and be driven by the owner, under a penalty. Half a gallon of petrol, in a special tank, was allowed. The competition was decided by the following formulæ: Classes B and C.—Total weight in lbs., plus 800, multiplied by distance in yards driven. Class A.—85% of total weight in lbs., plus 800, multiplied by distance in yards driven. The result was a win for one of the founder members of the club, whose handy little 8-9 h.p. Renault averaged over forty-three and a half miles to the gallon. Tabulated results:

Place, Name, and Car.	Weight of load in lbs.	Miles per gallon.		Points scored.
		Miles.	Yards.	
1. H. Skinner (9 h.p. Renault)...	2,487	43	896	351
2. A. J. Christie (15 h.p. Star)...	3,742	30	1,216	245
3. Dr. F. Pockley (15 h.p. Talbot)	3,969	26	1,506	225
4. A. J. Mitchell (10-12 h.p. Swift)	2,142	43	40	222
5. R. Gaut (12-14 h.p. De Dion)	3,178	33	146	231
6. L. W. Pye (20 h.p. Humber)	4,032	24	1,476	211
7. E. G. Gerard (15 h.p. Talbot)	4,044	25	1,542	200
8. J. Nangle (9 h.p. Star) ...	2,534	33	504	195
9. C. O. Sherwood (10 h.p. De Dion) ...	2,987	29	208	193
10. J. Maillard (12-14 h.p. Brasier)	3,262	24		171
11. G. P. Innes (10-12 h.p. Humber) ...	3,054	25	4	169
12. E. S. Turner (9 h.p. Renault)	1,638	39	232	167
13. H. K. Eaton (9 h.p. Sizaire-Naudin) ...	1,883	31	264	131
14. P. K. Chisholm (9 h.p. Sizaire-Naudin) ...	1,995	24	1,564	109
15. R. Weatherill (16 h.p. Ford)	1,498	26	972	107

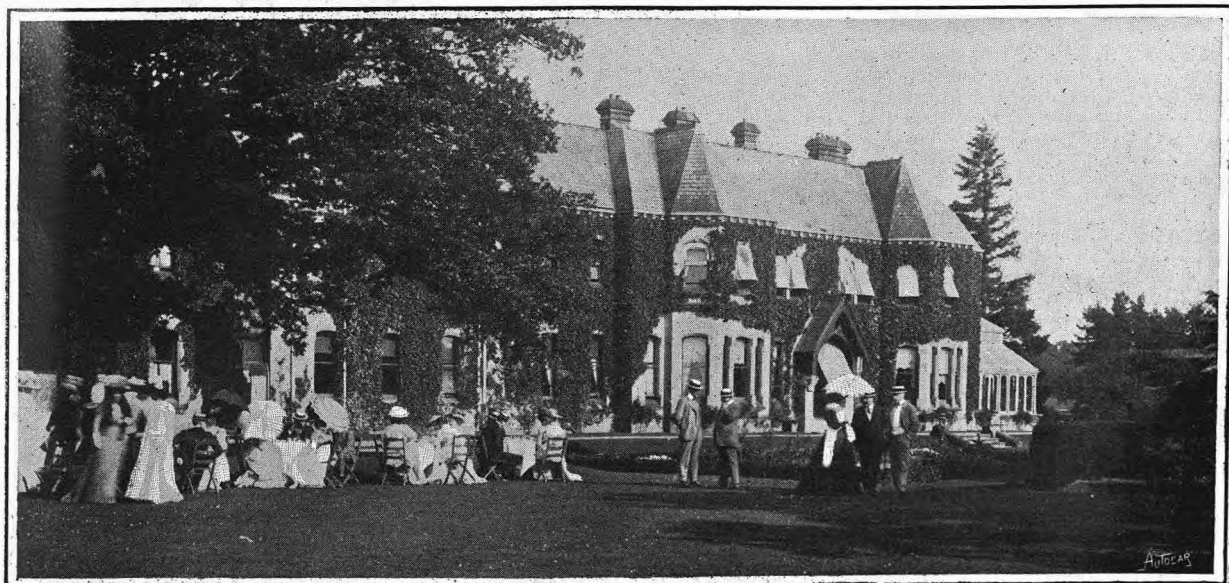
**CLASS WINNERS.**

Winner of competition: H. A. Skinner, 8-9 h.p. Renault; average, 43 miles 896 yards to the gallon.

Class A (single-cylinder cars): H. K. Eaton, 9 h.p. Sizaire-Naudin; average, 31 miles 264 yards to the gallon.

Class B (two-cylinder cars): H. A. Skinner, 8-9 h.p. Renault; average, 43 miles 986 yards to the gallon.

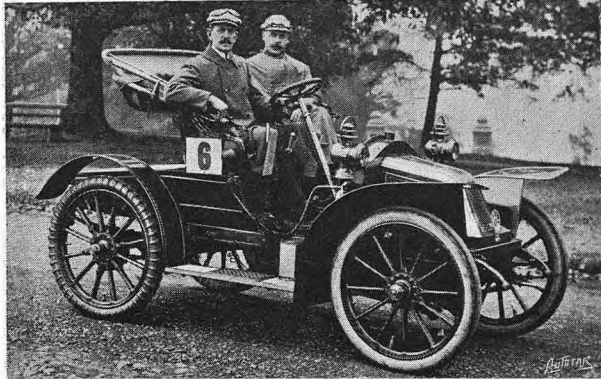
Class C (four-cylinder cars): A. J. Christie, 15 h.p. Star; average, 30 miles 1,216 yards to the gallon.



Ladies' A.C. Tea on the lawn on the occasion of the visit of the Club to Mrs. Waller Munday. Wilderwick, East Grinstead.

### Berks, Kent, and West Surrey A.C.'s.

A joint meeting of these clubs will be held at Brooklands to-day (Saturday, July 10th), commencing at 2 p.m. A large number of entries have been received for the various events, which comprise the following: Baby Handicap—For single-cylinder cars. The Kent Club's Cup Handicap—For cars of R.A.C. rating of under 16. The Junior Hill-climb (Handicap)—For cars of R.A.C. rating of under 16. Tilting at the Ring—Open to any class of motor car; speed to be not less



The Petrol Consumption Test of the A.C. of Australia. Mr. H. Skinner's winning 8 h.p. Renault

than fifteen miles an hour from start to finish. The Herkomer Medal Handicap—For cars of R.A.C. rating of 16 or over. Inter-club Team Trophy Race—For teams of two motor cars (selected from each club), the combined R.A.C. rating of which does not exceed 90. Senior Hill-climb (Handicap)—For cars of R.A.C. rating of 16 and over. Appearance Competition.

H.S.H. Prince Francis of Teck will distribute the prizes.

### North Middlesex A.C. and Southern M.C. Inter-club Meet

A speed-judging competition between the North Middlesex Automobile Club and the Southern Motor Club for the Gamage Cup took place on Saturday last on the Great North Road, the course being from Monken Hadley to Bell Bar and back, a distance of ten miles. The result was a win for the North Middlesex A.C., who, having won the trophy on two previous occasions, thus make it their own.

Both teams can be congratulated on their speed-judging capabilities, as the following results will show. Mr. Barber, hon. secretary of the North Middlesex A.C., and Mr. Holt, hon. secretary of the Southern A.C., acted as judges, whilst the times were taken by Mr. J. H. Burley, official timekeeper.

#### NORTH MIDDLESEX A.C.

Car and driver.	Rate drawn.	Rate accomplished.	Error.
	m.p.h.	m.p.h.	m.p.h.
1. 16 h.p. F.I.A.T. (Mr. Graddon)	15	14.92	.08
2. 6 h.p. De Dion (Mr. Cannon)...	16	16.31	.31
3. 12 h.p. Talbot (Mr. Macgregor)	14	14.36	.36
4. 10-12 h.p. Humber (Mr. Everett)	17	17.77	.77
5. 10-12 h.p. Darracq (Mr. Lendrum)	18	17.22	.78
6. 8 h.p. Jackson (Mr. Cutler)	19	17.34	1.66

Total error ... 3.96

#### SOUTHERN MOTOR CLUB.

1. 12-16 h.p. Clément (Mr. W. Jones)	14	13.97	.03
2. 20 h.p. Rover (Mr. Harrison)	18	18.46	.46
3. 8 h.p. De Dion (Mr. Pole)	15	15.51	.51
4. 12-18 h.p. Riley (Mr. Carpmael)	17	16.28	.72
5. 9 h.p. Panhard (Mr. Gutteridge)	19	16.47	2.53
6. 10-12 h.p. Humber (Mr. Billing)	16	18.58	2.58

Total error ... 6.83

After the competition the Southern Motor Club was entertained to tea at the Red Lion, Hatfield.

Mr. A. W. Holt, of the Southern Motor Club, in a speech thanked the North Middlesex A.C. for its hospitality, and congratulated it on securing the Gamage Cup. He thought there might be a possibility of another cup being put up for competition between the clubs, and suggested that reliability should be the chief factor in the competition.

### Crippled Children's Outing.

About 140 crippled children from the Bromley Hall Road School, Poplar, were taken in motor cars for a day's outing to Epping Forest on Saturday last. Cars were kindly lent

by Messrs. Humber, Brown Bros., Connaught, Darracq, De Dion, Mass Cars, and Rover motor companies, and private cars by Messrs. Fuller, Lee, Norris, and Thorn. The children spent a delightful day in the forest, being entertained to dinner and tea at Oak Hill Farm, Theydon Bois. Each child was presented with two balls, a book, and some fruit and sweets. The drive was organised by the Beaumont Cycling Club, of which Mr. Arthur DuCros, M.P., is president.

### The Ladies' A.C.

On Saturday last many members of the Ladies' Automobile Club and their friends found their way to Wilderwick, East Grinstead, the beautiful Sussex home of Mr. and Mrs. Walter Munday. The weather was propitious, and with but two exceptions there were no reports of even such minor mishaps as enforced stoppage for a puncture. Mrs. Munday was ready early for her guests, many of whom arrived soon after half-past two, and she was kept busy receiving until well after six. Tea tables were arranged on the lawn, near them being stationed Pitman's well-known band, and to the tables sooner or later the visitors found their way. There were 100 people present at the meet, among them being Mrs. G. H. Kavanagh Bone, the Hon. Bryan and Lady Winifred Butler, Mr. and Mrs. Buttemer, Lady Duke, Mrs. Louis Fagan, Mrs. Cross, Miss Fergusson, Lady Guinness, Mr. and Mrs. Hartung, Miss Austin-Jackson, Mrs. Leigh, Mrs. Mansell-Moullin, Lady Beatrice Rawson, Miss Schillizzi, Mrs. Thompson, Mr. and Mrs. Thrupp, Mrs. Waller, the secretary, Miss D'Estorre-Hughes, etc.

### Society of Automobile Mechanic Drivers.

(Communicated by the Secretary.)

The committee have definitely arranged to extend the premises of the Society, and have arranged for a large billiard room to be added in the first instance. The room will be finished in about a month.

Three cases have been placed in the solicitors' hands, and all have been settled favourably.

Members should see that the new rules published in last week's issue of *The Autocar* are inserted in their books when paying their next subscription.

The membership of the Society is now 585, but two resignations during the last two months took place.

Lord Montagu of Beaulieu has kindly consented to be a vice-president of the Society.

S. R. Harbert (71) drove the winning car for the Montagu Cup at Brooklands on the 30th ult.



A warning sign has been erected at each end of the village of Heckington, Lincolnshire, by the Lincolnshire Automobile Club. There have been a number of complaints about fast driving through the long and narrow village street, which has a cross road in the centre. We are indebted to Dr. Godfrey Lowe, the hon. sec. of the Lincolnshire A.C., for the photograph.



## Some Queries and Replies.

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

### QUERIES.

#### No. 979.—Tyres.

I SHALL be much obliged if any of your readers can inform me as to the reliability and wearing power of Midland Rubber Co. tyres.—W.D.

#### No. 980.—Toll at Dunham.

CAN any of your readers say if the charge of 2s. for a motor car crossing the bridge over the Trent at Dunham is a legal one? It seems excessive.—SUSSEX.

#### No. 981.—12-15 h.p. Mors.

I SHOULD be very much obliged if any owner of a two-seated 12-15 h.p. Mors would give me his opinion of the car, especially as regards (1) speed, (2) hill-climbing capabilities, and (3) simplicity and reliability.—G.D.E.

#### No. 982.—Air-cooled Engines in Hot Climates.

I SHOULD be glad to have any particulars of the experiences of any of your readers with air-cooled engines in hot climates; whether such engines have been found efficient and reliable by users.—S.

#### No. 983.—Small Two-seated Car.

I AM about to buy a small two-seated car second-hand, of 8 h.p., and I should be much obliged to any of your readers who have already done so if they will give me their experiences of the cost of upkeep per mile. I propose to buy a good car, of not earlier than 1907 make, and in upkeep I include petrol, oil, tyres, spares, repairs—in fact, every expense except cost of chauffeur or servant, and depreciation in value of the car.

#### No. 984.—Pre-ignition.

I AM troubled a good deal with pre-ignition of the engine of my Calthorpe 16-20 h.p. car, when driven at a high speed, or when climbing hills, especially if I feed the engine with a good quantity of air. I have had the cylinders well washed out with paraffin, so am inclined to think that it is not carbon, although it is possible that all of the carbon has not yet been removed. Until I am sure that it is carbon I hesitate about having the engine taken down. I have been told that Pogon plugs, which I use, sometimes cause pre-ignition by the centres of the plugs getting red hot, and have been advised to use Bosch plugs. Can any of your readers give me any enlightenment in regard to this matter?—DON CESAR.

### REPLIES.

#### No. 973.—Detachable Non-skids.

The Lomax Tyre Co. are quite wrong when they say (*The Autocar* of June 26th, page 23 at the end) the correct measurements were not given. When the bands were ordered the size and make of the tyres they were to be used over were given, also the number of miles they had run. I have no wish to retread the bands. I think perhaps the bands are more suited to very small cars.—NON-SKID.

#### No. 970.—Electrical Tyre Pumps.

I have a large tyre pump driven by an electric motor. The pump was supplied by Messrs. W. H. Bailey

and Co., Salford, Manchester. I have a  $\frac{1}{2}$  h.p. motor to drive it. It will inflate an 895 by 135 tyre in about four minutes. I don't know what I should do without it. Messrs. Bailey supplied me with a pressure gauge, which is a real gauge, not a toy, and also a long length of rubber tube. I can strongly recommend the whole arrangement. My only wonder is that every garage proprietor does not fit one up, and make a small charge for its use.—F. C. HUNTER.

#### No. 965.—Locomobile Crankshaft.

If your correspondent, F. M. Dick, will communicate with me I shall be pleased to inform him how to do the job.—C. J. PAFFARD, Castle Street, Trowbridge.

#### No. 935.—14-18 h.p. S.C.A.T. Car.

I have driven a 1909 S.C.A.T. 14-18 h.p., bore 85, stroke 120, about 3,000 miles, without a single involuntary stop, and must say I have never driven a better car. The speed and flexibility of the engine are marvellous. The car is very economical to run, very silent, and beautifully made. I consider the metal plate clutch fitted to the S.C.A.T. perfect, and would specially mention the splendid gears, four speeds, with delightful change. There are many refinements in addition, which generally are not to be found on any but a £1,000 car, and I should be quite willing to take anyone interested in this car a run at any time.—ERIC S. MYERS.

#### No. 954.—New Pick Car.

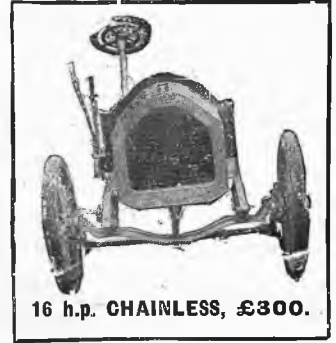
I should like to add my testimony to that of "Panpertas" in your issue of June 26th, more especially with regard to durability, and can fully endorse all he says. I have driven my car nearly 11,000 miles, and have only had one involuntary stop (tyres excepted), and this was due to the magneto getting dirty. I consider the car very light on tyres, as I have only had to replace two after a distance of 9,000 miles. I bought the car early in 1908, and have used it constantly all through last winter, and when taking the engine and back axle down for cleaning this spring found that there was very little sign of wear. The pistons were tight, and the crankshaft bearings (of which there are five) were in perfect condition. The big end connecting rod bearings had to be taken up slightly, but the gears and clutch were as good as new. I have also frequently seen another car of this make owned by a friend who bought it before I had mine, and he gives a splendid account of it, though running daily over some of the roughest roads in Ireland.—G.M.B.

#### No. 967.—10-12 h.p. Phoenix Car.

I am the owner of one of these cars, and find it will tackle any reasonable hill with four up, and so far have found it will do all the makers promised, and honestly believe it is a good strong reliable car.—G.P.

I have just taken delivery of a 10-12 h.p. Phoenix, and find that its climbing powers are beyond my expectations. I can go from Aberdeen to Ballater on top speed—a thing I have never managed on my 15 h.p.

# VINOT



16 h.p. CHAINLESS, £300.

20, REGENT ST., S.W.

# VINOT

# "THERMIT"

will REPAIR your

## BROKEN CYLINDERS,

Crankshafts,

Water Jackets, etc.

Estimates Free.

**THERMIT, Ltd.,**  
27, Martin's Lane,  
Cannon Street, E.C.

Telegrams: "Fulmen, London."  
Telephone: 3749 Central.

WORKS—

210a, BOW ROAD, E.

# FIRST

in Class D,  
at the Riving-  
ton Pike Hill  
Climb,  
35-45 h.p.

# CLEMENT

owned & driven  
by C. Wade, Esq.

Whynotinvestigate  
Clement claims ?

Headquarters for Gt. Britain  
and Ireland—

**THE CLEMENT MOTOR  
CO., LTD.,**

3, Leicester St., Leicester  
Sq., London, W.C.

Telegrams—"Swellish,  
London."

Telephone—1917 Gerrard.  
Send a postcard for name of  
nearest agent.

## Queries and Replies.

(Continued).

Gladiator. I will not say that the Phœnix will beat the Gladiator in average speed, but for climbing it certainly does. As to workmanship the chassis frame will certainly stand a 30-40 h.p. engine, as for other parts they have only to be seen to be believed. The whole chassis, in fact, including gearbox, is much stronger than is absolutely necessary. The things that strike me most are its silence, the slow speed at which it can be driven on top, ease of picking up, and climbing powers. Altogether the 10-12 h.p. Phœnix is far more than its makers claim it to be. There is no such thing as road shock with the Phœnix. If "Waverer" wants any further information he can have my address from the Editor.—**ABERDONIAN.**

### No. 963.—Motoring and Household Expenses.

I would suggest that 6d. a mile is about what "Enquirer" should charge his household account for use of his 18-24 h.p. car, made up thus: 2d. a mile for tyres—and to do it for this I am assuming (1) that they are large enough for the weight of the car, (2) that he sees to it himself that they are always pumped to the right pressure, and (3) that all damage is immediately repaired—1d. a mile for petrol, 1½d. a mile for oil and grease, repairs, livery, and petty expenses. There remain 1½d. a mile for fixed charges, insurance taxes, etc., and this is probably an excessive amount unless mileage be small. "Enquirer" will note that no allowance is made for cost of coachman or coachhouse rent, nor for that very important item depreciation, but as he only allowed his wife for upkeep (not renewal) he will naturally only charge her for the same. To get more accurate information "Enquirer" should state the weight of his car, size of tyres, consumption of petrol, and average mileage per annum. Information given above is from French experience, and expenditure for petrol would be less in England. On the other hand, his car being two years old, repairs will soon cost more than allowed for above.—**ENGINEER.**

### No. 913.—Landaulets.

I have great pleasure in referring your correspondent to the Rover Co. if he requires a moderately-priced and thoroughly reliable landaulet. I took delivery of one (20 h.p.) from them on January 9th last, and have found it faultless, alike as regards mechanism, comfort, and stylishness of appearance. The car has never failed to arrive or return by scheduled time. I do not keep a chauffeur, and my time is otherwise fully occupied, so that beyond cleaning and lubrication the car gets no attention, and, I find, requires none. The design of the engine and of all working parts is clean and simple in the extreme, and accessibility absolute. Lubrication of engine is automatic, and requires neither attention nor anxiety. The greatest comfort is experienced in the rear of the landaulet, not a sound being apparent beyond the smooth purr of the driving pinion and bevel. I have no interest in the Rover Co.—**LB 7271.**

### No. 894.—Detachable Rims.

I was, I think, weak enough to discard my trusted Stepney wheel, with flanges on all wheels, for removable rims at large expense. First, I was not informed that during the first drive abundance of oil would be expressed out of the rim on the outer side of wheel, with much future harm to the rubber of cover. If I had been warned I would have put several coats of rubber paint solution on the outside of cover before going out on the road. Secondly, after a fortnight's steady running I have tried to remove the rims, but they are immovably fixed; so what would happen if a burst or collapsed inner tube took place on the roadside I am at a loss to conceive, as I am worse off than ever. I suppose I ought to have removed each rim after a week's running, and should do so each week to prevent adhesion. So my advice is that of Mr. Punch to those thinking of marriage—Don't try movable rims.

P.S.—Since writing the above, the makers sent me one of their men, who freed the stuck rims by some sharp blows with a hammer, a block of wood intervening. From the state of rust, etc., it is evident that the rims should be taken off every seven or eight days and carefully cleaned and regreased. One spare rim enables one of the five to get a rest in succession at each change.—**AMATEUR.**

## QUERY AND REPLY.

### Smooth and Slow Running.

**M**AY I trouble you for a little advice about a 20 h.p. four-cylinder Brouhot car, with expanding clutch and chain drive? It will not run smoothly on top gear (which is direct) at a speed less than twenty miles per hour. Now I have got another car—an 18 h.p. Dennis worm drive—and I can drive that on the top gear (direct) just as smoothly at five miles per hour as twenty. I find the Dennis car is fitted with a spring drive, and the Brouhot is not. Does this make all the difference in running between the two cars? If so, would a spring drive to the Brouhot improve it?—**H.A.E.**

The ability to run slowly on the top speed depends upon a number of conditions, chiefly gear ratio and carburetter. While the drive would be softened by a spring, that is not the cause, and the fitting of a spring to the Brouhot would do no good. First of all will your engine run slowly and pull on other than top speed? Will it turn very slowly and at the same time do work? If it will it does not seem as though the carburetter or the engine were at fault, but that the car is geared too highly. It ought to be geared about 3½ to 1, or perhaps 3½ to 1, to get good slow running. Assuming that the car is not over-geared, the carburation should be considered. The carburation of the Dennis is exceedingly good, and you get an approximately correct mixture at all engine speeds, and that is one of the main reasons of the satisfactory running at low speeds. Very high compression, or an engine with a badly adjusted valve gear, ignition out of order, or anything of that sort, is against good slow running.

Phone: 2020 North. Telegrams: Slotting, London.

## SWAN LIMITED

### CARS FOR SALE.

#### SIX-CYLINDER.

STANDARD, 15 h.p., 1908, S.E. Body	£300
BROOKE, 25 h.p., S.E. Body	350
BEESTON-HUMBER, 60 h.p., S.E. Body	

Owner wants offer.

#### FOUR-CYLINDER.

VAUXHALL, 12-16 h.p., S.E. Body	£260
HUMBER, 15 h.p., S.E. Body	150
SIDDELEY, 25 h.p., S.E. Body	250
NAV LEADER, 15 h.p., S.E. Body	100
PANHARD, 12-16 h.p., Tonneau Body	60
DIXI, 12-16 h.p., Two-seater	100
ROYDALE, 20 h.p., S.E. Body	250

#### TWO-CYLINDER.

GREGOIRE, 10 h.p., Racing Model	£135
MOTO BLOC, 10-12 h.p., Two-seater	65
RICHARD BRASIER, 14-16 h.p., Tonneau Body	75
DARRACO, 12-14 h.p., S.E. Body	120
PANHARD, 7-9 h.p., Cab Body	100
MILNES-DAIMLER, 8-10 h.p., Tonneau Body	45
BEESTON-HUMBER, 10-12 h.p., S.E. Body	75

#### SINGLE-CYLINDER.

DARRACO, 9 h.p., Two-seater	£60
REGAL, 8 h.p., Two-seater	30
REGAL, 6 h.p., Two-seater	40
PROGRESS, 8 h.p., Two-seater	40
ROVER Tricar, 4½ h.p.	20
RENAULT, 4½ h.p., Two-seater	25
ROVER 6 h.p., 1wo-seater	70
DE DION, 8 h.p., Tonneau Body	50

**ENFIELD AUTOCARS—We are Sole London Representatives.**

**LORRIES—Two in stock, £50 & £60.**

**212, 214, 216, 228, Pentonville Road,  
King's Cross, N.**

**Works—Penton Place, N.**