JULY 27TH, 1907.

THE AUTOCAR

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

EDITED BY H. WALTER STANER.

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THE AUTOCAR.

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CONTENTS.

	PAGE
NOTES	131-132
THE MOTOR CAR CENSUS	132
USEFUL HINTS AND TIPS: A TEMPORARY BOLT—ANOTHER PIT SUBSTITUTE—(ILLUSTRATED)—STICKING TREMBLER BLADES—CURRENT LEAKAGES THROUGH INSULATION—SLOW WORKING OF TREMBLER	133
NORTH-EAST LANCASHIRE A.C. HILL-CLIMB (ILLUSTRATED)	134-136
THE 18 H.P. BUICK TOWN TRAFFIC TEST (ILLUSTRATED)	136
MOTORING IN INDIA	136
THE MOTOR UNION MEET AT SOUTHPORT (ILLUSTRATED)	137-138
A REMARKABLE SERIES OF SUCCESSES (ILLUSTRATED)	138
THE ROLLS-ROYCE RELIABILITY TRIAL (ILLUSTRATED)	139-140
THE DUST TRIALS	141
BROOKLANDS AUTOMOBILE RACING CLUB (ILLUSTRATED)	142-144
IN THE HOUSE OF COMMONS	145
THE MOTOR CAR CENSUS	146-147
THE ELLIOTT MOTORMETER (ILLUSTRATED)	148
THE FUTURE OF MOTOR FUELS	149-153
CONTINENTAL NOTES AND NEWS (ILLUSTRATED)	154-156
CORRESPONDENCE	157-161
ON THE ROAD FROM PEKIN TO PARIS (ILLUSTRATED)	162
FLASHES	163-165
CLUB DOINGS (ILLUSTRATED)	166-168
HOW TO SEE THE LAKES BY CAR (CONCLUDED)	169-170
REVIEWS	170
MOTORING AND HEALTH	171
INSTITUTION OF THE AUTOMOBILE ENGINEERS—ROYAL PARKS REGULATIONS—SOME ELECTRICAL NOVELTIES	172
10,000 MILES TRIAL OF THE SIX-CYLINDER HOTCHKISS	172
REMOVAL OF ENDORSEMENTS IN PARK CASES	172

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Notes.

The Fuel Question.

The report of the Fuels Committee of the Motor Union of Great Britain and Ireland was, save for certain appendices, presented to the members of the Union at their meeting at Southport on Saturday last. It comes before us rich in that thoroughness and completeness which has marked all the work of the Motor Union since Mr. Rees Jeffreys assumed the secretarial duties. The effect of the enquiry upon the fuels question as a whole cannot as yet be presaged, but no one in any way responsible for the measures which should and must be taken to prepare for, and grapple with, the *impasse* before, and when it arrives can plead that the whole situation has not been pertinently and starkly set before him in the report under review.

Without dealing with the report *in extenso*, we would draw the attention of automobilists particularly and the outside public generally to the conclusions arrived at by the Fuels Committee after hearing and weighing the vast mass of important and valuable evidence placed before it.

From the summary of the report, it is clear that, owing to the demand, which is every day increasing by leaps and bounds, a petrol famine is inevitable in the near future, and the Committee, while emphasising this probability, earnestly draws attention to the extraordinary and disquieting fact that this rapidly approaching shortage does not appear to be realised by those whom it most intimately and most vitally concerns. This extraordinary short-sightedness would not be of so much account in France or Germany, for the paternal governments of those countries do in large measure exercise foresight and forethought on the part of industries they very properly consider they are called into existence to protect. But it is otherwise on this side of the Channel. With that progress annulling axiom of *laisser aller* which has always distinguished British administrations, no such imperial dry nursing has ever obtained, with the lamentable result that in this, as in kindred matters, we as a nation lag painfully in the rear. But to the automobile industry this presaged fuel famine is fraught with the direst peril, and it is more than imperative—it is for the actual aversion of annihilation—that this subject should be tackled. By the light of the voluminous and valuable evidence submitted to it, the Fuels Committee has considered the whole subject in the most thorough and careful manner, with the result that, having taken into consideration all the fuels available for use in internal combustion engines as applied to road locomotion and marine work, it (without any beating about the bush) has plumped for alcohol. Alcohol produced from vegetation, apart from its present cost, is barred by an artificial rather than a natural restriction, and that artificial bar must in the best interests of a great industry be unhesitatingly removed *malgré* the wrench to an unprogressive and singularly blind bureaucracy.

The statements in the report show what indeed has been shown long since by our most valued contributor, Dr. Ormandy, in the columns of *The Autocar*, namely, that alcohol offers a most complete and satisfactory substitute for petrol, and, what is more, its substitution under properly arranged conditions would undoubtedly form a huge and prosperous home industry, benefiting a class of taxpayers upon whom fiscal burdens to-day press heavily, and who of all the employers of labour throughout the country deserve all the favour and all the support that can be afforded them. We mean, of course, the British farmer, whose row is to-day a hard one indeed to hoe, but upon whose industry largely depends the continued virility of the nation.

Of course, the Committee points to the use of heavier spirit, and urges the Royal Automobile Club to institute

complete and thorough trials of the use of paraffin and paraffin carburetters and vaporisers, referring, later, to the use of tar benzol unadulterated and as a mixture with alcohol, but the penetrating dominating note of the summary is alcohol, alcohol, and again alcohol.

Now, unless the Motor Union is ready to assume further cloaks, its work in this regard is done, and well done. It remains for some other body to assume and carry on the practical portion of the crusade, even if the political agitation remains, as it may well do, in the hands of the Union. The first named moiety of the propaganda should most undoubtedly be taken in hand by the Society of Motor Manufacturers and Traders if as a body it can be brought to a true realisation of the fact that it is charged as a mission with the future of the industry. Hitherto, and notwithstanding exterior pressure from quarters where the importance of the subject is wholly conceived, it has shown a regrettable supinity in this matter. This disregard may, however, be found to have vanished, and now that this admirable, complete, and most valuable report is in the hands of all concerned, the Society will be expected to show quite as much enterprise and enthusiasm as that which has characterised the Motor Union and its officials in the discharge of this great work.

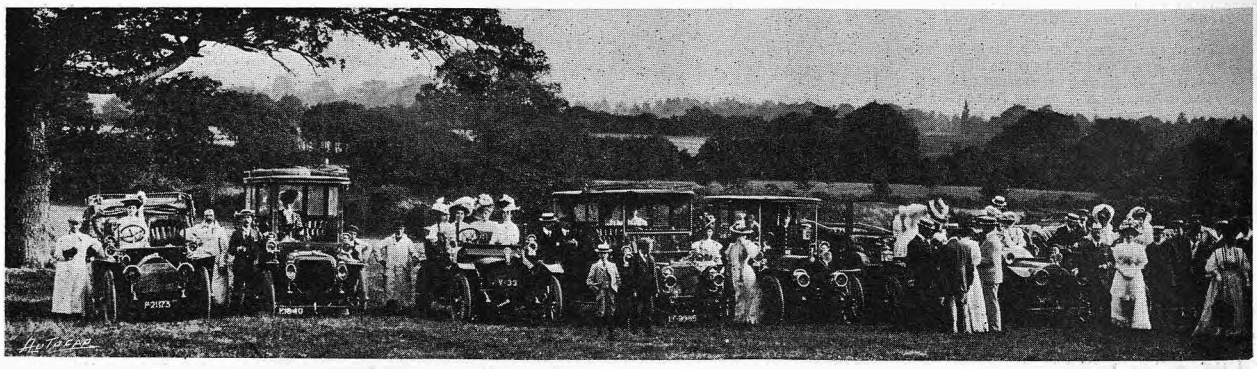
THE MOTOR CAR CENSUS.

When the present Motor Car Act came into force in 1903, bringing with it registration of cars and the issuing of driving licenses, it became a matter of interest and speculation as to how many cars there would be in actual use in the United Kingdom at the end of the first year's working of the Act. The figures were not actually known until July 26th, 1904, when they were given in a paper read before the Conference of Municipal Engineers at Glasgow by Mr. E. Shrapnell Smith. These figures were published in *The Autocar* of July 30th, 1904, and were then given to the world at large for the first time. These statistics were compiled up to Midsummer Day, and the totals, actual and estimated, were 20,076 motor cars, 22,916 motor cycles, giving a grand estimated total of 58,000 motor-propelled vehicles.

Since 1904 it has been our yearly practice to carry out, by the valuable co-operation of the clerks to the various registration authorities, the publication of the sum total of the number of cars registered and driving licenses issued. As time has gone on a certain percentage of these registrations have lapsed and driving licenses have not been renewed, but the actual lapses are comparatively few, so much so, that the grand totals up to Midsummer, 1907, are but slightly affected. The estimated number of lapsed registrations is five per cent.

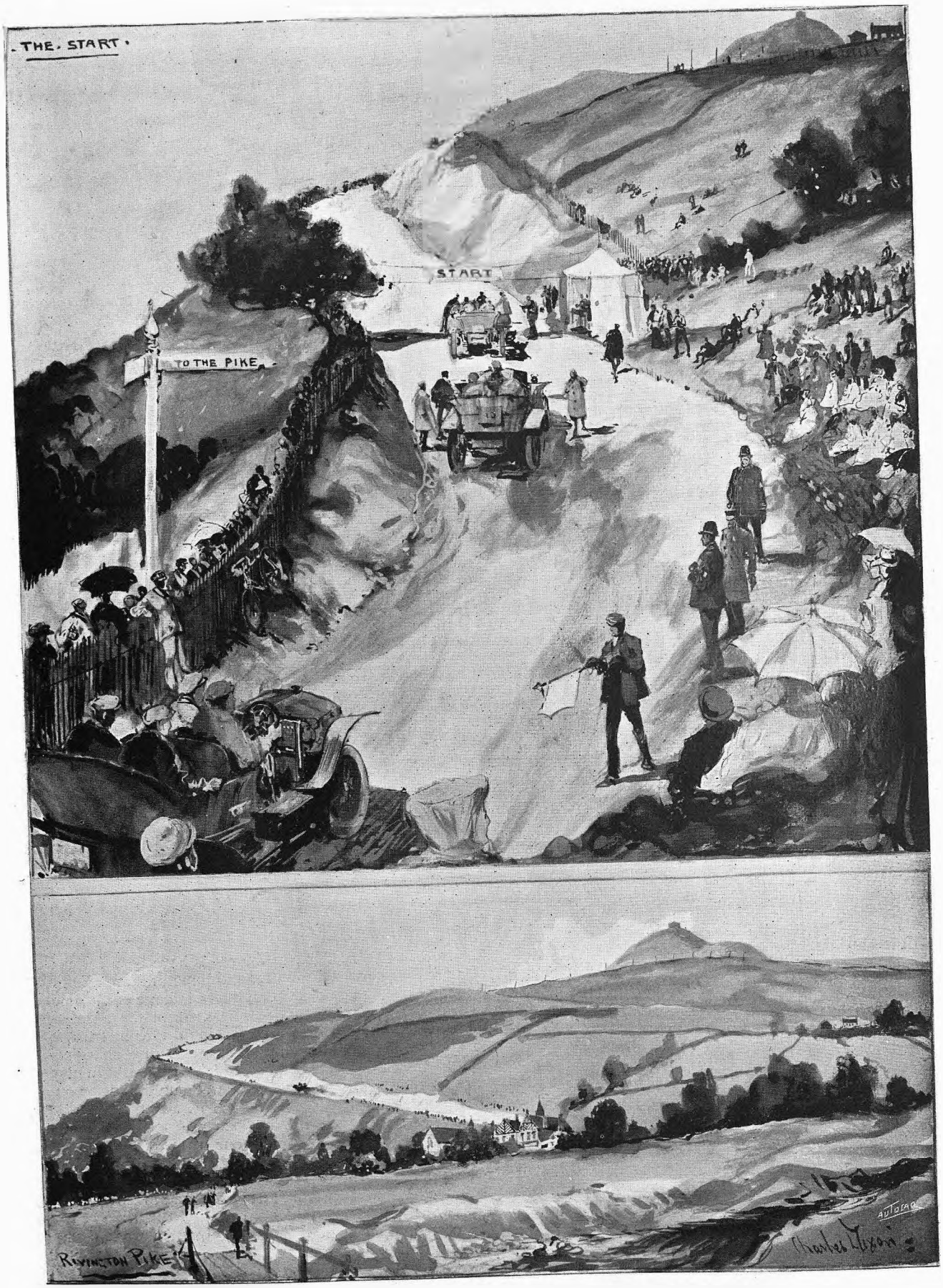
The increase in the number of pleasure cars is most satisfactory, amounting to no less than 15,917. The definition pleasure cars is not strictly correct, as there are a large number of such cars in use for business and professional purposes, but as their numbers are impossible to estimate, they are included under the general heading. Heavy commercial cars are making satisfactory headway, their increase amounting to 1,423. In the motor cycle class the increase is 8,232. The total number of driving licenses taken out exceeds the total of motor vehicle registrations by 85,988.

We wish to tender our most sincere thanks to those who have so courteously complied with our request to fill up the forms giving the necessary information. In only one case have the figures been withheld. The figures are published on pages 146 and 147.



A representative gathering of members of the Ladies' Automobile Club and friends at "Bookhams," Churt, on July 20th, when they were the guests of Mr. and Mrs. Mark Mayhew.

One of the most pleasant indications of the progress made by the A.A. in its work of "creating a better understanding between all users of the highway" and of the sincerity of its committee's endeavour to protect the quiet driver from the odium scattered by a few who are, to put it mildly, the reverse of considerate was furnished recently at a motor car prosecution. On one of the southern roads, a motorist was stopped by the police for alleged furious driving, the incident having been witnessed by an A.A. patrol, who attended the court subsequently, and gave evidence in support of the police. In the course of his answers to counsel, the patrol said that had he been alone when defendant approached he would have signalled to him to slow down, and if he had refused would have at once reported him to the secretary of the Association. A fine of £2 and costs was imposed. Several A.A. patrols have recently been put on point duty at the entrance to long narrow villages, for the sole purpose of regulating and restraining the speed of motor cars. This work has met with general approval, especially from local authorities.


THE START
START
TO THE PIKE
RIVINGTON PIKE

The N.E. Lancashire A.C. Hill-climb.

PRIZE WINNERS.

The following silver cups were awarded:

First, offered by the President (Mr. W. Birtwistle, J.P.) for best results on R.A.C. formula.—Class B car, Earl of Shrewsbury's. Runner-up—Class C car, Mr. Woollen.

Second, offered by Mrs. T. M. Crook on same formula, but restricted to members of the N.E. Lancs A.C.—Class C car, Mrs. Riley. Runner-up—Class A car, Mr. C. Jarrott.

Third, offered by Mr. Geo. Burton for fastest time.—Class F car, Mr. S. F. Edge. Runner-up—Class E car, Mr. F. Birtwistle's first car (60 h.p. Mercédès, which beat his other car by about 3s.)

Unofficially, a silver cup was raced for by Mr. Coddington and Mr. H. Lonsdale (this, instead of a money bet), and the former won.

In each class there was a medal for fastest time, and in some cases two medals; and in all classes there were two medals offered where six or more cars competed. Results:

Class A.—Formula and fastest time, Mr. C. Jarrott.

Class B.—Formula and fastest time, Earl of Shrewsbury and Talbot; second formula, Mr. J. Griffiths; second fastest, St. George's Motor Car Co.

Class C.—Fastest and second formula, Viscount Ingestre; first formula, Mr. Woollen; second fastest, Mr. Crowdy.

Class D.—Two firsts, Mr. Coddington; second formula, Mr. Thornewill; second fastest, Col. Wyllie.

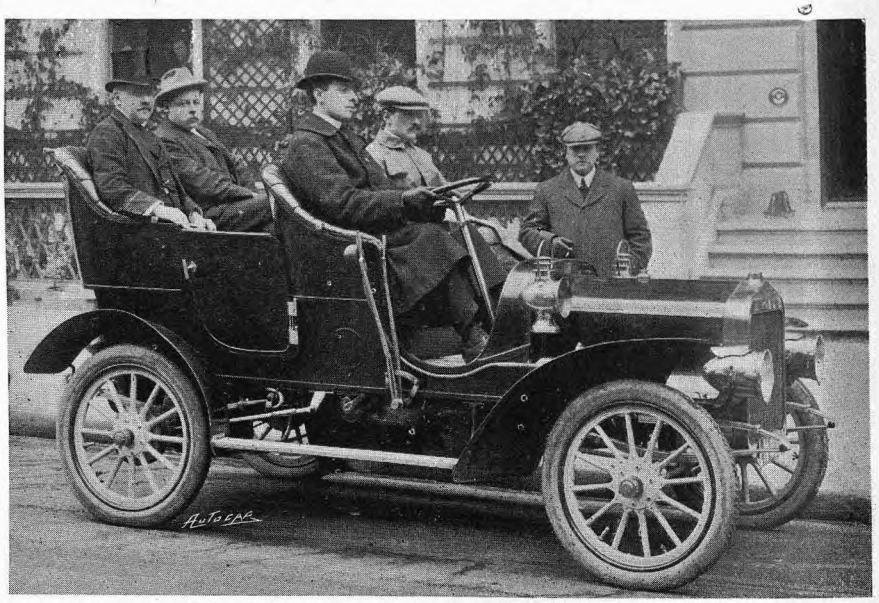
Class E.—First formula and second fastest, Mr. F. Birtwistle's second car (Daimler); first fastest, Mr. Birtwistle's first car (Mercédès); second formula, Mr. Curties.

Class F (only one starter).—Two firsts, Mr. S. F. Edge.

THE 18 H.P. BUICK TOWN TRAFFIC TEST.

On the 19th inst. Messrs. Sternberg and Eason started an 18 h.p. Buick car on an attempt to run the twelve hours in, about, and through London traffic without engine stops, and it succeeded in keeping going for no less than eight hours over circuitous, interlaced roads, ranging between the Automobile Club, Liverpool Street Station, the Embankment, and the north side of Hyde Park, when, owing to a Pickford van suddenly drawing out from a side turning near Waterloo Station, the driver, in order to avoid a collision, jammed on his brakes, and momentarily stopped the engine. We cordially sympathise with Messrs. Sternberg and Eason in having to arrest the trial, which so far had promised to be finally successful. Nevertheless Messrs. Sternberg and Eason claim that they have created a record, as no car has undertaken a traffic test like this before.

The car used for the test was the actual car which took part in the Scottish Reliability Trials, wherein its only trouble was a broken sparking plug, which occurred on the last day, after which it was driven from Glasgow to London by Mr. Eason, and took part in the South Harting Hill-climb, where it gained the eleventh place, and it was afterwards started on this prolonged town traffic test without further adjustment of any sort.



The 18 h.p. Buick car ready to leave 119, Piccadilly, on its town traffic test.

MOTORING IN INDIA.

An interesting light is thrown upon motoring in India by a letter from a correspondent of the Adams Manufacturing Company in Secunderabad, who drives a small Adams car, upon which he has already covered 3,000 miles in and about that district with great success. At the time of writing the hot weather was just over; the temperature had been up to 109° in the shade, notwithstanding which no inconvenience from the heat from the engine under the seats was experienced by the passengers in the car. It has been suggested that the position of the engine in this car is undesirable for hot climates, but this user's testimony does not support the objection. It is found also that the large tank and radiator are ample even under these circumstances. The water has never boiled in this gentleman's experience. This he regards as remarkable, as boiling is rather a feature of many of the cars sent out to India for use during the hot weather. Tyres last well in that district, as the roads have been formed of a naturally crushed granite, and punctures are almost unknown. The use of accumulators is hopeless, owing to the gross ignorance and carelessness of the natives. The writer does not think a native could ever be trusted to charge accumulators, and if sent to any charging station they would sooner or later be ruined. In the case in question, Hellesen cells were used, but upon being once hung up, he found he could start on the magneto by putting in the low gear and getting the car pushed along. He has taught one of his old "syces" to clean and lubricate the car, and pays him twelve rupees per month. Lubricating oil, carbide, etc., costs eight rupees, and petrol forty rupees, in all sixty rupees, or £4 per month. This is about equivalent to the cost of upkeep of two ponies, but the work done is equal to that of four ponies, so there is a good margin left for tyres.

USEFUL HINTS AND TIPS.

A Temporary Bolt.

A novel makeshift repair recently came under the writer's notice. The car, a 10-12 h.p. two-cylinder, shed the bolt holding the universal joint between gear box and cardan shaft. The owner found that he had no bolt near the size, and it was some miles to the nearest town where one could be obtained. After a little thought, he found a way out of the difficulty in the following manner. The sprag wire was cut, then threaded three times through the bolt hole, the ends afterwards being splayed and bound up securely with copper wire. With careful driving he was enabled to complete his journey.

Another Pit Substitute.

I saw in your issue of June 22nd a substitute for a motor pit given. I myself have, for the past three years, used an outdoor pit designed by myself, which is different from anything I have yet seen. It has the same advantages as the one shown in the paragraph referred to, and is easily constructed, provided there is suitable ground handy. It is constructed, as may be seen by the accompanying photographs, as a sort of pier off the hillside on which our stables stand, and will take any size of car. It could be easily protected by a light roof if desired, and when so covered in it would be very light to work in, even in dull weather.

The following are the dimensions which I have used and have found satisfactory for three years: Length of rails, 12ft.; width of rails, 11in. between inside of raised edges; thickness, 4in.; track, inside measurement 3ft. 2½in., outside 5ft. 4in.; height of track at outer end of rails, 4ft. 4in. above pit floor; pit, width 4ft. 5in., length 9ft., including step; step is 1ft. 8in. high and 2ft. 4in. from back to front. The supporting uprights at the outer end of the track are 10in. diameter; both rails and uprights are of pitch-pine, painted.

The buffer at the end is shown covered with sheet zinc to protect it from the wet; the zinc covers for the rails have been removed. The lean-to shown is the motor house adjoining the stables. A cinder path round the pit allows of free movement of cars. Both the pit and the step are floored with paving stones, and sloped slightly towards the front towards a drain provided to carry off the water.—CAPT. G. M. H. STIRLING.

Sticking Trembler Blades.

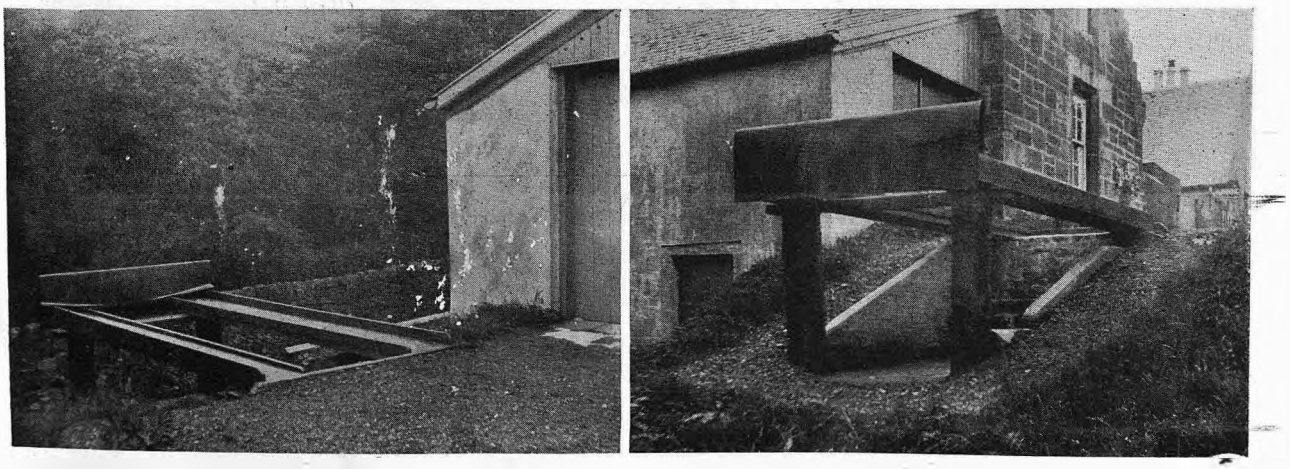
When a coil trembler persists in sticking, the trouble will often be found in the small helical *vertical* spring which keeps the trembler blade up against the platinum-tipped screw—that is, of course, if the coil is fitted with a trembler of the pattern. If the trembler screw is readjusted and this spring slightly elongated, it will be found to give a more vigorous action to the trembler.

Current Leakages through Insulation.

When overhauling a single-cylinder machine a short time ago, to determine the cause of the engine not firing—although the trembler, which had been giving trouble, was buzzing merrily—we accidentally moved the high-tension cable slightly when a double buzz was heard. One was the metallic buzz of the trembler, while the other was a sharp, short spitting, clearly indicating that a fault in the cable insulation was allowing the high-tension current to short to earth, the flaw being found close up to the engine. As no spare wire was carried, the cable was taken down and reversed, that is to say, the coil end was connected to the plug, while the end that was originally joined up to the plug was connected to the coil. This arrangement brought the fault in the cable to such a position that it hung quite clear of the engine, and, consequently, being unable to short to anywhere, the current resumed its correct path through the plug. The difficulty of tracing this derangement is due to the fact that when trying to start the engine, the jolting moved the high-tension cable so that a short could occur, which short was for the same reason inaudible. When, however, the contact maker was put on contact, and the switch put on, the two buzzes were immediately heard, but not till after the accidental moving of the high-tension cable, which brought the short circuit into operation, and the dismantling of the carburetter to clear a possible stoppage of the jet. The time on the latter job, however, was well repaid by the improved running of the machine, as both the float and jet chambers were found in need of attention.

Slow Working of Tremblers.

Some tests which have recently been made with induction coils show that misfiring at high speeds is due to the slow action of the trembler blades, and not to faulty carburation. Only the best rapid action coils should be used to get the most satisfactory results from an engine.



Two views of a simply constructed inspection pit which is built out from a bank side.

NORTH-EAST LANCASHIRE A.C.

OPEN HILL CLIMB AT RIVINGTON PARK.

A more perfect day could not have been desired than Friday last week, when for the second year in succession the North-east Lancashire Automobile Club fixed on a fine semi-private road in Lever Park, Rivington—on the slopes of the historic Pike, with its Armada connection, and its views over moors and right away to the sea—for hill-climbing contests. These were thrown open, because the road is not a public highway in the strict sense of the word.

Of sixty cars entered forty-five turned up at the marshalling ground in the pretty Rivington Lane, and only a few of these failed to tackle the journey. A kilometre length was measured; the surface was very good; the gradient varies but little, being almost all of it about one in ten. Altogether it was a delightful, busy scene, and a glorious day—except for the makers who did not quite succeed as they hoped in the acquisition of prizes. No accidents occurred of any kind.

The 60 h.p. Napier had the field to itself in the "monsters'" class. It was an object of interest by both the inexperienced spectators and the experts of the motor world. Of three other 60 and 80 h.p. cars only one turned up, and unfortunately a mechanical hitch prevented Mr. R. Crossley pitting his Belsize against the good time recorded by Mr. S. F. Edge's car.

The weighing in was done on the previous evening, but the prizes were announced after the races subject to everything being in order, as per entry form. An amusing incident occurred in this connection, and it was a case of *cherchez la femme*. Mrs. Riley was the only lady competitor, and she was cheered as a prize winner, but the officials added that all winning cars must be inspected before the prize could be handed over. "But," ejaculated someone, "the car has gone!" It had left the village, and been driven home or somewhere else. It was a fine chance for the committee to show either their chivalry or their trust in the car not having been altered.

That reminds one of another important detail. To avoid any "doping," with oxygen or other adventitious aid, a clause against any such faking was inserted, viz., disqualification for "using other fuel than petrol."

Although the start was half an hour late, that was one of the few sins of omission or commission by the promoters; and in certain details, concerning the press, the *amende honorable* was tendered—and accepted.

The Contest.

The last bit of a rise on the course was very deceptive, and lost a few seconds for many competitors, who thought they might rush it on the top gear, but could not, and changing was not always made with the promptness desirable. One car evidently had something wrong with the petrol flow, and that last straw nearly broke the camel's back, for after crossing the finishing line by only six inches the car came to a dead stop. It had thus a narrow squeak of not finishing the course. Meanwhile the next car was on the way up, and the troublous car was only backed a few yards downhill in time to leave the successor a clear course.

Only once did a car have to make the trial twice through a hitch, and that was Mr. Coddington's Daimler, which was baulked by an official car. Oddly enough, the first and the second attempts were identical as regards the clocking.

By the way, of all the officials, Mr. A. V. Ebblewhite, the timekeeper, surely deserves praise for his attention and prompt announcements. The importance of accuracy is obvious to all, but he went through with commendable care, checking the eighty odd runs! For every car did the journey twice, once before lunch and once after, the better time to count. Some of the smaller cars lost in the afternoon—some argued that this was due to the increased heat of the sun in the afternoon. Many larger cars lopped some seconds off their initial record—and this success, too, was attributed to the heat! This is a pretty paradox, an you please.

A word of praise ought to be extended to the officers of the N.E.L. Club for the completeness of the complex arrangements. Once the races began, there was not a hitch. Even the catering was very good, considering the out-of-the-way place; and those who drove to Rivington really behaved well, as regards the observance of reasonable speed in towns and villages.

Following is a list of the cars that ran, in order of time. Better times of the two runs only are given:

Entrant and car.	Time.
Class A.	
C. Jarrott (9 h.p. Sizaire)	2m. 24⅗s.
F. W. Hubbard (10 h.p. Alldays)	2m. 27⅘s.
Dr. Fox (6 h.p. Belsize)	3m. 24⅕s.
G. H. Shaw (Wolseley)	3m. 44s.
Dr. Stephenson (Midland)	5m. 18⅘s.
Class B.	
Earl of Shrewsbury and Talbot (12-16 h.p. Clément-Talbot	1m. 41⅕s.
St. George's Motor Car Co. (10-12 h.p. New Eagle)	2m. 27⅗s.
J. Griffiths (12-14 h.p. Singer)	2m. 40⅘s.
T. Hooydonk (12-16 h.p. Talbot)	2m. 50⅗s.
L. Collinson (10-12 h.p. Coventry Humber)	3m. 20⅗s.
B. H. Worswick (10-12 h.p. Coventry Humber)	3m. 41⅕s.
Class C.	
Viscount Ingestre (15-20 h.p. Talbot)	1m. 14⅗s.
A. E. Crowdy (18 h.p. Siddeley)	1m. 38s.
Mrs. E. A. Riley (20 h.p. Belsize)	1m. 39s.
J. A. Doran (24 h.p. Minerva)	1m. 41⅘s.
T. H. Woollen (15 h.p. Talbot)	1m. 50⅗s.
J. Keele (18 h.p. Darracq)	1m. 54⅘s.
E. N. Hodgkinson (24 h.p. La Buire)	2m. 2⅕s.
P. A. G. Bell (16 h.p. Bell)	2m. 13⅘s.
W. Bartholomew (24-28 h.p. Métallurgique)	2m. 16⅗s.
P. Richardson (20-25 h.p. Brotherhood)	2m. 26s.
E. J. Chambers (16 h.p. Bell)	2m. 28⅕s.
J. B. Lomax (15 h.p. Talbot)	2m. 47s.
Class D.	
W. D. Cuddington (30-40 h.p. Daimler)	1m. 16⅘s.
Col. Wyllie (24-40 h.p. Berliet)	1m. 22⅖s.
H. Lonsdale (30 h.p. Daimler)	1m. 24⅘s.
J. E. Hutton (40 h.p. Berliet)	1m. 26⅖s.
E. N. Thornewill (30 h.p. Daimler)	1m. 29⅖s.
G. S. Monck (35 h.p. Horch)	1m. 42⅗s.
F. Lee (30-40 h.p. Daimler)	1m. 43⅕s.
G. W. Grimshaw (35-40 h.p. Critchley-Norris)	1m. 49s.
R. Mangnall (40 h.p. Napier)	1m. 57⅖s.
J. Keele (30 h.p. Belsize)	1m. 58⅗s.
H. H. Stuttard (35 h.p. Mercédès)	1m. 58⅘s.
Class E.	
F. Birtwistle (60 h.p. Mercédès)	1m. 6⅗s.
F. Birtwistle (35-45 h.p. Daimler)	1m. 9⅘s.
C. Sangster (35 h.p. Ariel-Simplex)	1m. 12⅖s.
M. Brooke (30 h.p. Brooke)	1m. 19⅖s.
L. F. Curties (35 h.p. La Buire)	1m. 19⅗s.
H. Hollingdrake (35 h.p. La Buire)	1m. 24⅗s.
Maudslay Motor Co. (35-45 h.p. Maudslay)	1m. 28⅖s.
Class F.	
S. F. Edge (60 h.p. Napier)	0m. 58⅕s.

THE MOTOR UNION MEET AT SOUTHPORT.

Some of the visitors assembled at Knowsley Hall, which was visited at the invitation of Lord Derby.

A charming day and a programme to match formed the lot of those who attended the Motor Union's annual meet at Southport on Saturday. The event turned out to be far more interesting and important than was perhaps expected by the general body of automobilists. Nearly 200 cars brought passengers.

Southport, with its super-abundance of sands and insufficiency of sea, and its unequalled (in England) Lord Street, always welcomes motors, but some of the roads thither would do with improvement.

The first part of the day's proceedings was of a severely practical nature, viz., considering the report of the Fuels Committee, appointed ten months ago, to enquire into the alarming rise in the price of petrol, and to report steps to protect the consumers' interests. The enormous increase in the use and price of petrol, the possibility of a "famine," the poor hopes of geologists as to the chance of a greater supply—these and other factors led to the search for an efficient substitute.

The Committee recommended alcohol.

(The report is dealt with on p. 143.)

Decisions in Brief.

The Union passed a number of resolutions, which may be epitomised as follows, and it will be seen that the Motor Union is at least rendering most practical service to members, and incidentally to other road users.

£150 to be guaranteed towards erecting signposts on the Holyhead Road.

In order to check the increasing demand for five and ten miles speed limits, it was agreed to authorise the Highways Protection Committee of the Union to place a limited number of trustworthy agents upon the roads to act with the police in warning drivers at dangerous places, and advising motorists when driving through towns and villages where special caution is necessary.

Seventy-eight cases for legal advice and assistance were considered, and a number of financial grants were made, including ten guineas towards the expenses of prosecuting an alleged fraudulent employment agency for motor drivers. Half of his legal expenses were granted to a member charged with an offence when carrying the Motor Union badge on his car, the Committee being satisfied that he was not in fact guilty of the charge brought against him.

Report was made that since the June meeting the Union had won two appeals in the High Court, and had also been successful in three appeals at Quarter Sessions.

On the recommendation of the South Devon A.C., the driver of a horse vehicle is to be prosecuted for obstruction.

Steps to be taken for removing the toll on Freckleton Marsh (between Preston and Lytham, on the old original Blackpool road).

The announcement that the Union now numbers ninety-nine clubs (which will be the hundredth?) was followed by thanks to the Southport Corporation, the Liverpool A.C., and the Earl and Countess of Derby, after which a truly delightful afternoon was spent by the great company of motorists in a run from Southport to Lord Derby's seat at Knowsley, proceeding *viâ* Ormskirk, that town with a unique church—a tower and a steeple.

Visitors' cars "parked" in front of Knowsley Hall.

The Motor Union Meet at Southport.

A morning shower had done good in many ways, but there was still much dust. At every important turning there was a police officer to signal the way to strangers on the cars. Not only the processionists, but others, turned up at historic Knowsley, till the two hundred and odd cars formed a record gathering for the provinces. They lined up four deep in striking array—a monument to the industry and the pastime of motoring. The guests were free to wander through the hall, picture gallery, library, etc., whilst the cool shades of the beauteous park drew many into these pleasaunces. It was a most agreeable garden party in every sense of the word.

The Dinner.

The third and last stage of the proceedings was the Union's dinner at the Prince of Wales Hotel, Southport. The Hon. Arthur Stanley first apologised for the absence, at so important a gathering, of his father, Lord Derby; and then he referred to the Automobile Association's allegations that the M.U. had been copying them. Well, he replied, he did not see why they should not copy good points. Mr. Stanley fired off a delectable Irishism before he resumed his seat. "Thank you," he said, "very much for the way in which you have not drunk the toast which has not been proposed." This was the toast of "The Motor Union," which Sir George Pilkington had omitted, so that the visitors might get away early to see the bonny boulevards of Southport lit up in their famous fashion.

Of course, there were several other toasts, and thus a delightful day's variety ended in a view of the illuminations which make Southport so charming on summer nights.

Altogether, the affair had been brighter, more full of incident and good work—"meat and drink," as one man called it—than anyone could have hoped.

A REMARKABLE SERIES OF SUCCESSES.

Those of our readers who take a diligent interest in club doings cannot fail to note the number of successes scored by Clément-Talbot cars in open events. Many of the victories have been gained by standard stock cars in hill-climbing competitions, and the special 15-20 h.p. has made some good times in pure speed work. The 15-20 h.p. Clément-Talbot should not be regarded as the standard 15 h.p. car in disguise, because it has never pretended to be this, as it has a much larger engine than the car with the single denominated h.p., the engine dimensions of which are 90 mm. bore, 117 mm. stroke, as compared with the 105 mm. bore and 115 mm. stroke of the 15-20 h.p. Practically speaking, the 15-20 h.p. is a light speed model of the 15 h.p. with a higher speed and more powerful engine. The body is lighter and built low for speed work.

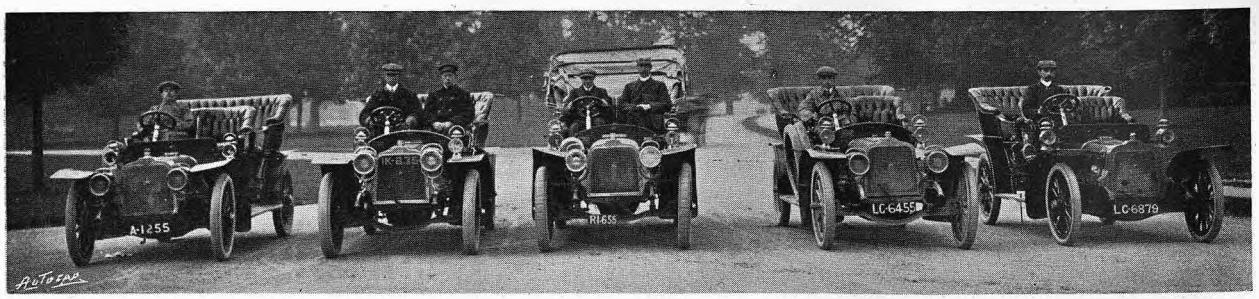
On the 10th and 13th of this month the Talbots obtained eleven placings in three events, as follows:

South Harting Hill-climb, July 10th.—2nd, 3rd, and 4th on handicap.

Shelsley Walsh Hill-climb, July 13th.—1st, 2nd, and 3rd on open handicap, and 1st on closed handicap.

Sudbourne Speed Trials.—1st in flying mile, and fastest time in Class III. Standing mile and flying kilometre, fastest time in Classes I., III., and IV., with 2nd in Class III.

In addition to these, the cars have obtained the 200-guinea Dunlop Challenge Cup by Mr. S. T. Robinson (15 h.p. car), open section Irish Trials, and the 100-guinea Dunlop Challenge Cup by Mr. W. Sexton (20 h.p. car), who each obtained the gold medal in their respective classes on price classification.



A group of successful Clement-Talbots which competed in the Irish trials.

15 h.p., 2nd open competition in class for cars costing from £350 to £500.

20 h.p., winner of 100 gns. Dunlop Cup and Gold Medal.

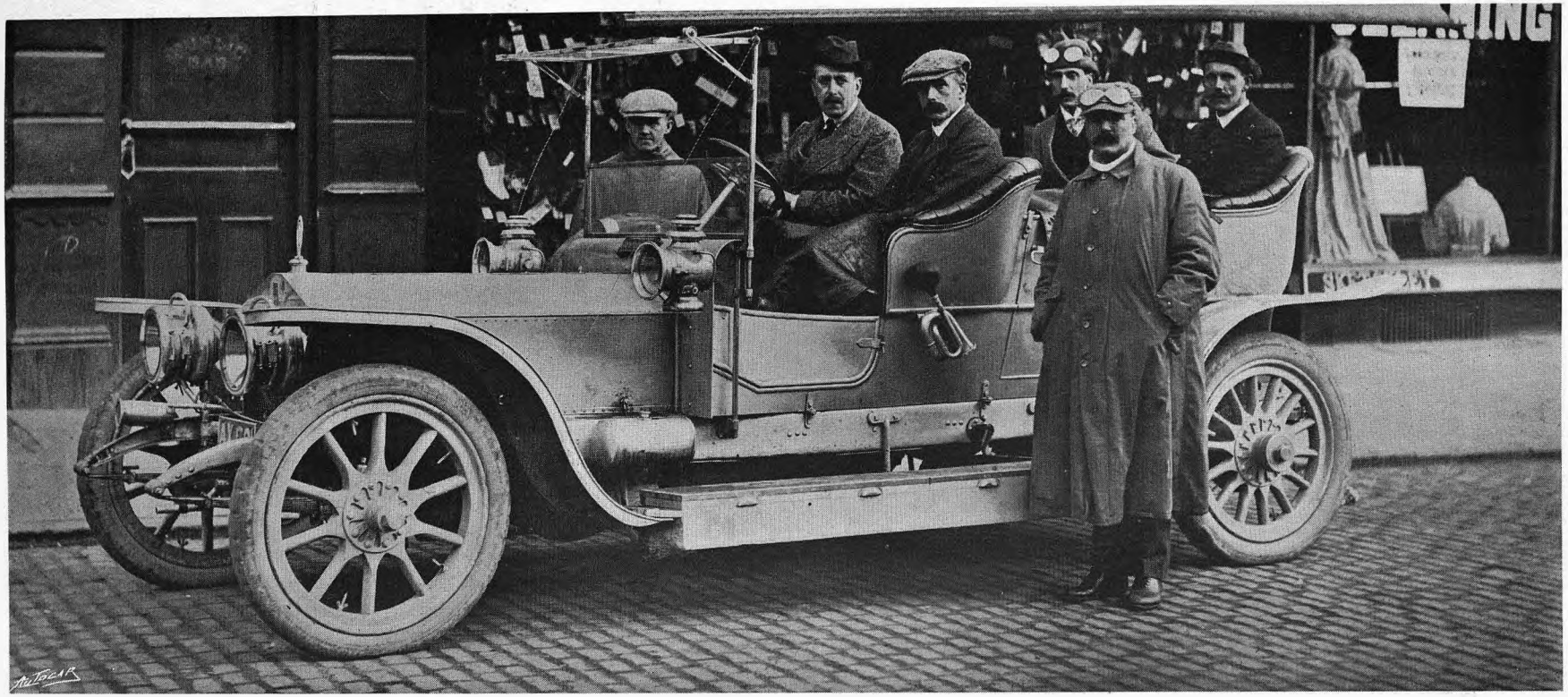
20 h.p., 2nd in class for cars costing from £500 to £650.

15 h.p., winner of 200 gns. Dunlop Cup and Gold Medal.

In the course of an interview with a *Cape Times* representative, Mr. R. L. Jefferson, who has recently been touring on a Rover car in South Africa, expressed his opinion of the roads there in anything but favourable terms. The journey from Durban to Johannesburg, he said, was accomplished in five days, but in addition to the country being excessively mountainous, progress was impeded throughout by the execrable condition of the roads, which he characterises as being the worst in the world. Since the war they have been absolutely neglected, and are strewn throughout with rocks and big boulders displaced by stress of weather and allowed to lie where they have rolled. The drifts are dangerous to cross, and he classes that five days' journey as being "the hardest going for a motor car which he has ever experienced." He speaks in very enthusiastic terms in regard to the hospitable treatment extended to him during his stay on the Rand by everyone, and especially by the Transvaal Autumobile Club, who could not do enough to ensure his comfort. "In fact," continued Mr. Jefferson, "that has been my experience throughout the journey. A more hospitable country could not be imagined; wherever I stopped it was the same, Dutch and English alike seemed to have only one idea, and that was to make me feel quite at home. Such courtesy and hospitality far exceeded my utmost expectations, and they are the most pleasurable features of the journey through the country."

THE ROLLS-ROYCE RELIABILITY TRIAL.

"THE SILVER GHOST" BEATS THE RECORD OF 7,089 MILES.



The 40-50 h.p. Rolls-Royce car "Silver Ghost," which has beaten the long-distance reliability trial. On Friday morning, July 19th, the car had travelled 7,122 miles without an involuntary stoppage, and at the time of writing is still running.

"All going well, the 'Silver Ghost' will beat the world's reliability record in the early hours of Friday morning next, seventeen miles south of Newport, in Staffordshire, on its way south from Manchester to London. Will you come? I shall be driving." So ran the message from Claude Johnson, and, eager to experience a night run over this route, particularly with so interesting an object in view, we gladly accepted the invitation. As the party numbered some eight souls, including Messrs. Vincent (*The Times*), Pedley (*The Car*), Harry J. Swindley (*The Autocar*), and a representative of the *Manchester Courier*, it was clear that the "Silver Ghost," sweet, willing soul though she be, could not accommodate them all. A six-cylinder Rolls-Royce car, just fresh from the shops (it had not, so Mr. Royce assured us, been driven fifty miles), was driven to the Midland Hotel, Manchester, to accommodate the surplus of the party. It speaks volumes for the faith Messrs. Rolls-Royce have in their cars, inasmuch as they were quite content to despatch this car new from the shops to accompany the much-tried "Ghost," and carry that most important individual, the Dunlop tyre expert.

The record party arrived in Manchester by train from London shortly before eleven, to find that the "Ghost" was already in from Berwick, and only awaited them and the witching hour to set its bonnet southwards once again.

This pale car is now well known at the Midland Hotel, but it had become noised abroad that on this particular trip to town the car would with luck

The Rolls-Royce Reliability Trial.

gather the laurels of the reliability record unto itself, and a large and enthusiastic crowd left the hotel to bid us God-speed.

The writer travelled on the new car for the early part of the journey, it being driven by Mr. Royce as far as Mere, where he left the party for Knutsford and home. Thence to Coventry a works driver took the helm, and but for occasional far-distant glimpses of the "Ghost's" red light we might have been making the trip on our own over the mist-swathed, desolate roads of the brine country. The sunken houses nodded good-night to us in the black shadows made by the light shafts of our head lamps as we passed through Northwich, and fetched the more open country towards Tarporley and on to Whitchurch as the grey of the morning lightened the sky on our left hand. The mist which hung here and there in fantastic swathes, and somewhat reduced our speed, presented a most curious and interesting appearance for many miles towards Newport. It lay in a distinct but shallow cloud, a foot or so deep, some three to four feet above the road, so that the upward glancing rays from the lamps made it appear as though we were running under a low-lying fleecy roof, while if one stood up on the floor of the car one's head was above the cloud, and all below was blotted out by the golden-tinted flume. In all our many years of night riding per cycle and motor, we have never seen anything of the kind, so curious and regular. Six and a half miles south of Newport we turned towards the rising sun along Watling Street, and broke record as nearly as possible at the crossing of the Wolverhampton and Cannock cross roads. Every mile onward added to a total that no car had covered before in this connection and in this wise, and at the moment of writing the "Silver Ghost" is still running.

Coventry was reached shortly after 5 a.m., where breakfast awaited the party at the King's Head.

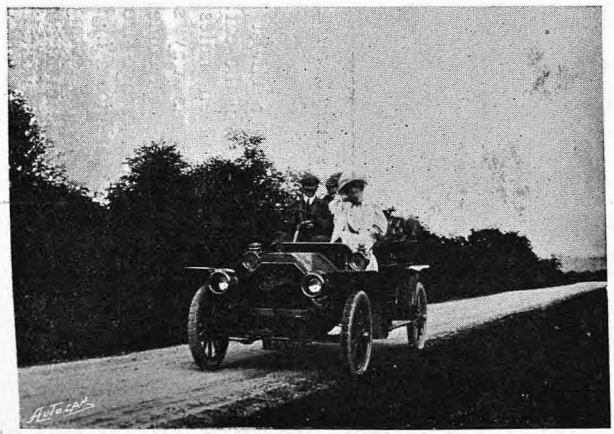
The run to London over the well-known Holyhead Road was made without incident, save that the writer took the wheel of the tender six-cylinder over that stage, only to find that each successive Rolls-Royce he drives seems sweeter, silkier, and sleeker in running than the one before.

Early on Wednesday we were informed by wire from Berwick that it had completed 8,854 miles non-stop.

The team of Minerva cars stined to compete in the Circuit des Ardennes on Thursday last. The drivers (reading from left to right) are Messrs. Lee Guinness, Moore-Brabazon, and Warwick J. Wright.

A HANDY CAR FOR COUNTRY WORK.

The Anglo-American Motor Car Co. have good reason to be proud of the fact that for three years in succession the Cadillac cars have come through the Scottish Reliability Trials, the most strenuous road trials yet instituted in this or any other country, with the glory of mechanical non-stop runs each year. This is a record in which any firm of makers may take pride, and if any confirmation of the staunchness of these well-known cars were desired, surely we were treated to an ocular demonstration thereof on a recent Sunday at Newlands Corner, when Mr. Sharp, of the Anglo-American Motor Car Co., in his natty little car ran a regular cross-country course along the rough and rugged traces of the ancient Pilgrims' Way, stretching westward from Newlands Corner. In and out amongst the trees, up and down the rough, furze-grown, rutted, and sandy hollows of these lovely Downs, this little car was driven with absolute certainty and safety. If the hounds are ever to be followed by automobile, there should be a lot of these cars used for such cross-country work.



A 20 h.p. four-cylinder Cadillac a the top of South Harting.

The Committee of Management of the Society of Motor Manufacturers and Traders has approved of an agreement to take over the goodwill and assets of the British Empire Motor Trades' Alliance, and engage its secretary and staff as members of the staff of the Society. The work which has hitherto been carried on by the Alliance will therefore presumably form part of the operations of the Society of Motor Manufacturers and Traders.

THE DUST COMPETITION.

The weather on the eve of these trials did not promise well for such a purpose, and although the prospect in London was not brilliant better news came from Brooklands, and those who motored down there on Tuesday morning found the weather improve as they travelled through the country, which had been refreshed by the rain, and over roads which were dustless from the same cause. They found on the race track sunshine and a cool and gentle breeze—a combination which was almost ideal for the purpose of the gathering.

The test was a severe one, 100 feet of track being laid with finely-powdered limestone about ¼in. thick and 10ft. wide. The approach to this was laid with a short strip of the same dust 2ft. 3in. wide, which had to be run over without touching it with the wheels. Each car was photographed as it ran over the track, and from these photographs the prizes will be awarded, as it would be practically impossible to judge fairly in any other manner.

The cars passed over, in the first instance, at a speed of twenty miles per hour, the speed being set by means of an endless cord with pieces of cloth attached at intervals. The cord ran over two pulleys, one of which was driven by a small dynamo from an electromobile car, and the speed of the competing car was regulated to the speed of the most convenient piece of cloth in view of the observer. The pulleys were set well apart, and the first one gave the driver ample time to regulate his speed before he touched the dust track.

The apparatus acted with great reliability, and cars which fell short of or exceeded the speed were sent back to keep accurate time. The official photographer was placed at such a distance and elevation as enabled him to take the whole of the dust patch into the field, and some 120 photographs were taken of the forty cars which competed.

Close observation of the cars (which were, with three exceptions, of the open phaeton type of body) was all that was possible, and it soon became evident that the tyres were playing an important part in deciding the question of dust-raising. The photographs will have to be seen before any decision can be come to as to the relative position of the cars, but amongst the first placed the White steam car, the 15 h.p. Ford Junior, the 20 h.p. Dennis, 30-40 h.p. Spyker, 24-32 h.p. Porthos, 28-36 h.p. Armstrong-Whitworth, and the 20 h.p. six-cylinder Thames will be found.

In Class I. all the tyres were the ordinary pneumatic; solid tyres, non-skid bands being barred, in order to make the trials as fair as possible.

The cars varied considerably in position, and those which stood highest from the ground and were clear underneath raised the least dust. Partially deflated tyres were also responsible for much dust being spread. Hard flat surfaces kept the dust together better than the round soft treads.

In the inter-club contest, which was also run at 20 and 30 m.p.h., the cars were very even. A steam car—a 20 h.p. Stanley—will be placed high.

The experimental class was an interesting one. Some special cars were provided. Messrs. Dennis Bros. supplied two identical cars which were fitted with movable canvas screens made to the Club's special instruction to test the qualities of a shield placed under the entire length of the car and others of varied length. They did not appear to be successful. The special car submitted by Messrs. Dennis Bros. with the wheels filled up and the front mudguards flat and wide, and with the inside enclosed, appeared to raise very little dust, beyond the surface displacement. The under part of this car stood well off the ground, and the after part was clean. It appears to be an advantage to keep all the works to the front end, leaving the back part as clear as possible. There was a car fitted with a flat tray and a blind extending backwards 6ft. and 5ft. 3in. wide, which had the effect of compressing the air on the ground.

The length of the dust test was not sufficient to show what difference the shape of the back part of the body had upon the raising of the dust above the level of the wheels. A fifty miles test on a dry and dusty road would have to be made before any decision on that point could be arrived at.

At twenty m.p.h. the dust raised, considering the severity of the test, was not so much as might have been expected.

The result of the tests make the following points very evident.

(1.) The motion of the body of the car over the dust is negligible as a disturbing agent. The dust is entirely disturbed by the wheels—the front wheels as much as the back wheels. This was proved by no dust being disturbed in the approach strip which was not touched by the wheels.

(2.) After the dust has been disturbed, it is further distributed by the shape of the car at the back chiefly. A square-backed car, especially when fitted with hood, causes a greater vacuum and draws the dust after it.

(3.) The distance between the bottom of the car and the ground appears to make little difference.

(4.) The type of wheel makes little difference.

(5.) The amount of dust raised is in direct proportion to the speed travelled. The maximum amount of dust would be raised at about 40 m.p.h., and beyond this speed there is very little difference.

The secret of dust prevention appears to lie in giving the dust time and space in which to get away before the vacuum suction can take hold of it. In this the steam cars showed a distinct advantage.

The following is a list of the tested cars:

CLASS 1.—MAKERS' STANDARD CARS.

10 h.p. Adams.
40 h.p. Iris.
24-30 h.p. Dennis, 1907.
26-30 h.p. Nordenfeldt, 1907.
10 h.p. Turner-Miesse.
30 h.p. Thornycroft.
14 h.p. Panther, 1907.
30 h.p. White, 1907.
24 h.p. De Dion.
17-20 h.p. Scout, 1906.
15 h.p. Coventry-Humber.
12-16 h.p. Vauxhall.
15 h.p. Ford Junior, 1907.
15 h.p. Ford Junior, 1907.
18 h.p. Osterfield.
25-30 h.p. Pilgrim.
20 h.p. Dennis, 1907.
30-40 h.p. Spyker, 1907.
30 h.p. Lindsay, 1907.
12-16 h.p. Wilson-Pilcher.
24-32 h.p. Porthos, 1907.
9 h.p. Sizaire et Naudin, '07.
25-35 h.p. Hotchkiss, 1907.
28-36 h.p. Armstrong-Whitworth, 1906.
36 h.p. Thornycroft.
15 h.p. Mors, 1907.
50 h.p. six-cylinder Thames.
18-24 h.p. Austin.

CLASS 2.—AMATEURS' CARS, INTER-CLUB COMPETITION.

18 h.p. six-cyl. Malcolm, '07.
10-12 h.p. Humber, 1906.
20 h.p. Dennis, 1907.
14-22 h.p. Germain, 1906.
22 h.p. Minerva, 1906.
12 h.p. De Dion, 1906.
16 h.p. Calthorpe, 1907.
14 h.p. Lindsay.
24 h.p. Deasy.
10 h.p. Renault, 1903.
20 h.p. Stanley Steam Car.

CLASS 3.—EXPERIMENTAL CARS.

10 h.p. Mors, 1901.
18 h.p. Osterfield.
30-35 h.p. Dennis, 1908.
15 h.p. Humber.
20 h.p. Brotherhood, 1906.
20 h.p. Velox.
22-28 h.p. Vivinus, 1907.

BROOKLANDS AUTOMOBILE RACING CLUB.

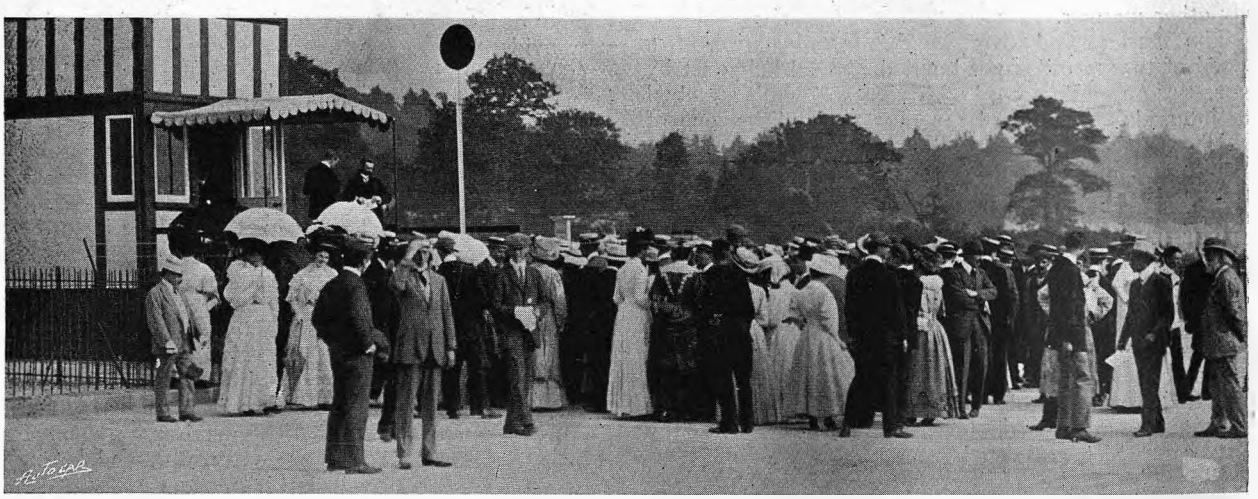
SECOND MEETING, JULY 20th.

Glorious summer weather favoured this meeting on Saturday last, but owing to counter attractions at Sandown Park and other places near London the attendance was not a very satisfactory one, there being probably only a little over one-third the number of people who patronised the opening meeting. From the spectators' point of view, the arrangements for their convenience were much better than previously, and although entries for the events did not rule large, the racing was better and more keenly followed by the spectators. The first race for the Manx Stakes was open to cars which entered for the Tourist Trophy Race in 1907. Only three entries were secured, and Tom Thornycroft proved the only one to finish, his victory being a popular one. The other two cars could not finish on the petrol allowance. It was unfortunate that more entrants for this event were not secured, but we understand that some of the makers did not know officially that there was to be such a race until too late to enter for it.

The second race in the programme was for the Hollick Selling Plate, and this brought out 11 competitors. It was noticed that in this race oxygen cylinders were openly shown on some of the cars. The Junior car No. 1 had its connection to the oxygen cylinder made above the jet in the mixing chamber. The Weigel car No. 6 had two oxygen cylinders fitted, these being of such capacity that the vehicle could be run on oxygen for the whole of the race, the inlet for the oxygen to the carburetter being below the jet. Napier No. 2 also had oxygen, the inlet being into the main air pipe. The Iris No. 9 had oxygen which was let in with the petrol supply on reaching the jet. The Minerva car No. 11 was fitted with the Wright surface carburetter, and judging by the way the engine ran prior to the start it appeared to have a good chance of showing up well.

When the cars reached the post they got away after some delay to a false start and were brought back to the line. This event provided a fine race between the first three cars, the Napier ultimately winning by a few seconds from the Daimler, with the Iris about the same interval behind the Daimler.

In the third race for the Century Stakes, the two Daimlers entered did not come to the post. The Napier car appeared to be the only one fitted with an oxygen cylinder. After some delay at the line, all but the Lorraine-Dietrich got away well together. Mr. Jarrott was unfortunate, for although his engine was running well his car refused to move when the gear and clutch were let in, this being apparently through some failure between the flywheel and the clutchshaft. The Darracq took the lead at once, but commencing the second round the Napier passed it in great style. At the start of the third round it looked as if there would be a fine tussle between the Napier and Darracq; the Gobron-Brillié was going rather badly. After completing three laps Mr. Sangster's Ariel-Simplex retired owing to an inlet valve spring breaking. On the fourth round the Darracq had drawn up to challenging distance of the Napier.



Photograph by *Argent Archer.*

An historical incident. Offering the winning car in the Hollick Selling Plate for sale by auction.

The result of a fairly interesting race was that the Napier finished well ahead of the Darracq, and the Charron took third place. An exciting incident occurred at the finish. The Napier car had passed the tape and was rounding up at the outside of the bend to finish at the enclosure, when Huntley Walker on the Darracq endeavoured to run up on the inside of the track, whereas he should have followed the track of the Napier. It looked as though he were certain to run into the latter broadside on, but with great exertion he applied his brake, unfortunately at the same time shifting the change speed lever into reverse, the result being that the car ran down the steep bank at the inner edge of the track, a matter of some twenty feet. The mechanic slipped clear, whilst Walker pluckily stuck to the steering wheel. The car sank in the soft sandy earth up to the axles, and ultimately came to rest a foot from the inner iron railings in a very much inclined position, but it did not overturn. On returning to the enclosure Mr. Walker was warmly congratulated upon his narrow escape from injury.

The fourth race, which was a match between Mr. Coleman's steam car and Mr. Sangster's Ariel Simplex,

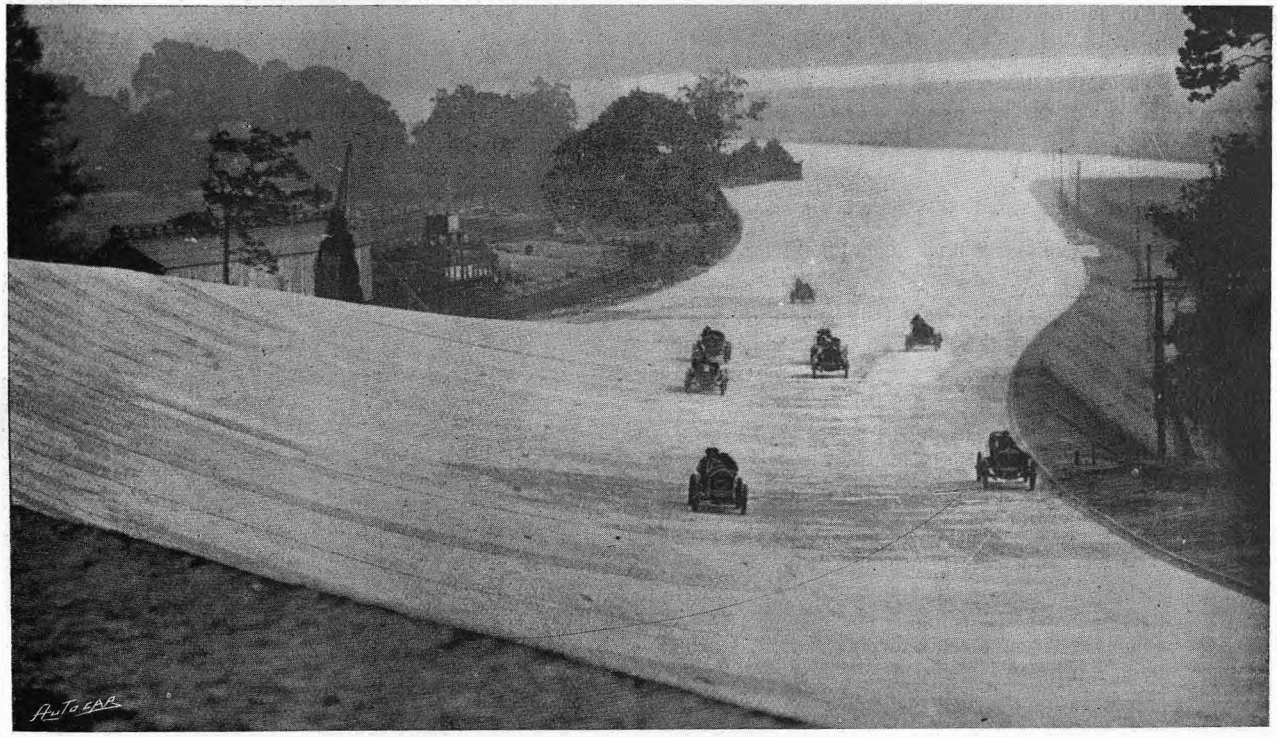
furnished a battle between steam and petrol. The Ariel was the quicker away from the line, but Coleman on the White steamer after passing the bridge was seen to be making some impression on Sangster's lead. Meanwhile the burner of the steamer was emitting a loud screaming noise like a tormented spirit. Oxygen was passed from a cylinder to the main air intake of the White burner. What would no doubt have been a good finish was spoilt by the safety valve of the steamer blowing out of the steam pipe, thus incapacitating the engine. Mr. Sangster in a very sportsmanlike spirit stopped and offered to wait whilst the damage was repaired, but this was hardly possible in the time at command, so that the victory rested with the petrol-driven vehicle.

In the fifth race for the Weybridge Stakes, Mr. A. Rawlinson's racing Darracq, which was to have been driven by Sidney Girling, did not appear at the starting point, as, unfortunately, in tightening up a stud holding down the front cylinder inlet dome, too great a leverage was put on the spanner and the stud broke. Although great efforts were made to fit a new one, a satisfactory job could not be made in time to start.

The contest practically resolved itself into a match between Mr. J. E. Hutton on his Mercédès and Mr. D. Resta on Mr. Fry's Mercédès. D. Resta was expected to win, as he certainly should have won the Montagu Cup but for a misunderstanding as to the laps to be covered. However, Mr. Hutton's car was either tuned up better or the other car was not running so well, for Mr. Hutton won by over a quarter of a mile from Resta, Huntley Walker's Darracq being practically a mile behind, and taking up third position. The Lorraine-Dietrich driven by the crack driver Duray did not make a great show. The race was completed in very good time. Evidently the spill over the bank had not affected Mr. Huntley Walker's nerves, for he drove well in this race and in the last race of the day, for the Hollick Selling Plate, which he won very easily, Mr. Grahame White's Minerva being second.

The only non-starter in the latter race was the Minerva belonging to Mr. Sopwith, some trouble being experienced with this car in the enclosure, there being a difficulty in getting the cylinders to fire equally.

The second exciting incident of the day then occurred, for immediately on passing the finishing point Captain Owen's Aries was seen to be on fire. After burning for some time, sand was thrown on the car, and the flames were ultimately extinguished by the use of sacks. Only a little damage was done to the dashboard and coil, since the car was in racing trim. There was a great chance here for the patent fire extinguisher people to have given a test of the quality of their wares, but apparently no extinguishers were on the ground. It would be advisable at future meetings to see that a supply of fire extinguishing cylinders are to hand, as some time or other they may be badly wanted.



A unique view of the Brooklands track taken from the top of the banking and showing the entrance to the back bend with the finishing straight running to the right at the bottom.

The better arrangements for storing the cars were much appreciated by visitors, although the number present was not a tithe of that seen at the opening meeting. It will probably take some considerable time to efface altogether the bad impression created on the minds of visitors by the hopeless tangle into which cars were of necessity involved by the inadequate accommodation at the opening meeting. The access from the enclosure to the other portions of the ground was also much appreciated and taken advantage of. The bookmakers were a little noisier on this occasion than on the first, but the tipsters were still hopelessly out of their reckoning; in fact, in one prominent case, two out of six winners only were tipped, and these were practically certainties.

BROOKLANDS RACING—THE RESULTS.

Note.—The horse-powers given are those calculated by the R.A.C. formula $\frac{D^2N}{2.5}$.

1.0.—The MANX STAKES of 200 sovs., added to a sweepstake of 10 sovs. each for starters only. The entrant of the second to receive 100 sovs. out of the stakes; the entrant of the third to save his stake. For motor cars which were entered for the Tourist Trophy Race of 1907, and which consume one gallon or less of petroleum spirit, measured and supplied by the Club at the start. Weight, 2,000 lbs. Entrance, 6 sovs. Distance, 29.331 miles.

Mr. T. Thornycroft's 22.5 h.p. THORNYCROFT, 2,200 lbs. .....Owner 1
Mr. C. Harman Wigan's 27.3 h.p. Vinot, 2,203 lbs. N. Littlejohn 0
Mr. F. C. Baisley's 22.4 h.p. Gladiator, 2,200 lbs. M. Ross-Browne 0

The winner's average speed was about 47 m.p.h.

At the end of the first lap T. Thornycroft was leading well, and won after running throughout in excellent style. The others failed to finish on the petrol allowed.

2.30.—The SURREY STAKES of 50 sovs., added to a sweepstake of 5 sovs. each. The entrant of the second to receive 20 sovs out of the stakes. For motor cars propelled by means of internal-combustion engines only, of a cylinder dimension 95 to under 105, R.A.C. rating. Weight, 3,200 lbs. Entrance, 5 sovs. Distance, 3.279 miles.

Mr. S. F. Edge's 38.4 h.p. NAPIER, 3,235 lbs. H. C. Tryon 1
Mr. E. Manville's 41.9 h.p. DAIMLER, 3,207 lbs. G. Ison 2
Capt. W. E. D. Owen's 41.9 h.p. Junior, 3,210 lbs. H. E. Hives 0
Mr. A. Farnell's 41.9 h.p. Daimler, 3,200 lbs. .....Owner 0
Mr. D. Jameson's 41.9 h.p. Isotta-Fraschini, 3,202 lbs. N. Macklin 0
Mr. Chas. Jarrott's 41.9 h.p. Lorraine-Dietrich, 3,204 lbs. Owner 0
Mr. G. W. Goldsmith's 41.9 h.p. Weigel, 3,213 lbs. W. R. Wills 0
Mr. P. Martin's 41.9 h.p. Daimler, 3,204 lbs. ...J. Hodierne 0
Mr. A. Huntley Walker's 41.9 h.p. Darracq, 3,203 lbs. Owner 0
Capt. G. Ll. Hinds Howell's 40 h.p. Iris, 3,212 lbs. Owner 0
Mr. L. Aspinall's 41 h.p. Minerva, 3,200 lbs. .....Owner 0

The winner's average speed was about 69 m.p.h.

This event looked like providing a very close finish between the Napier and Mr. Manville's Daimler, but putting on a fine oxygen sprint in the last half-mile the Napier won easier than expected. The Iris was a good third. Mr. P. Martin's Daimler was unfortunately shut in just after the start; otherwise it would have shown up better, as it moved very fast, but could not pull up the leeway.

3.0.—The CENTURY STAKES of 100 sovs., added to a sweepstakes of 10 sovs. each, for starters only. The entrant of the second to receive 50 sovs. out of the stakes. For motor cars propelled by means of internal combustion engines only, of a cylinder dimension under 145, R.A.C. rating. Weight, 3,500 lbs. Entrance, 3 sovs. Distance, 19.586 miles.

Mr. S. F. Edge's 49.9 h.p. NAPIER, 3,500 lbs. F. Newton 1
Mr. Huntley Walker's 55.8 h.p. DARRACQ, 3,504 lbs. Owner 2
Mr. J. B. Hissey's 48.6 h.p. Charron, 3,553 lbs.... Owner 0
Mrs. G. E. Taylor's 51.8 h.p. Gobron-Brillié, 3,563 lbs. H. Vincent 0
Mr. C. Sangster's 57.6 h.p. Ariel-Simplex, 3,522 lbs. Owner 0
Mr. Charles Jarrott's 52.9 h.p. Lorraine Dietrich, 3,646 lbs. .....Owner 0

The winner's average speed was about 75 m.p.h.

The Darracq led until commencing the second round when the Napier shot to the front and was never afterwards headed. After passing the finishing line, Mr. Huntley Walker, in pulling up, and trying to avoid fouling the Napier, ran his car down the inner banking of the track. The mechanic jumped clear, and the driver sat tight at the wheel. Neither were injured, and the car gently slid down the soft sandy earth about 20ft. until it sank up to the axle and came to rest at an awkward angle close to the iron rails.

3.45.—A MATCH of 60 sovs. between Mr. F. Coleman's 30 h.p. White steam car and Mr. C. Sangster's 30 h.p. Ariel-Simplex petrol car. No entrance fee. Weight, 3,500 lbs. Distance, 3.279 miles.

The winner's average speed was about 53 m.p.h.

The Ariel led from the start. Near the fork at the finishing straight the safety valve of the steamer blew out of the steam pipe, and the Ariel was thus left to finish at its leisure.

4.15.—The WEYBRIDGE STAKES of 50 sovs. each. The entrant of the second to receive one quarter of the stakes. For motor cars propelled by means of internal-combustion engines only, of a cylinder dimension under 220, R.A.C. rating. Weight, 2,600 lbs. Entrance, 50 sovs. Distance, 14.15 miles.

Mr. J. E. Hutton's 75.9 h.p. MERCEDES, 2,615 lbs. Owner 1
Mr. F. R. Fry's 75.9 h.p. MERCEDES, 2,685 lbs. D. Resta 2
Mr. A. Huntley Walker's 80.4 h.p. Darracq, 2,756 lbs. Owner 0
Baron Turckheim's 80.4 h.p. Lorraine-Dietrich, 3,105 lbs. M. Duray 0
Mr. H. R. Pope's 84.9 h.p. Itala, 2,875 lbs. .....Owner 0

The winner's average speed was about 95 m.p.h.

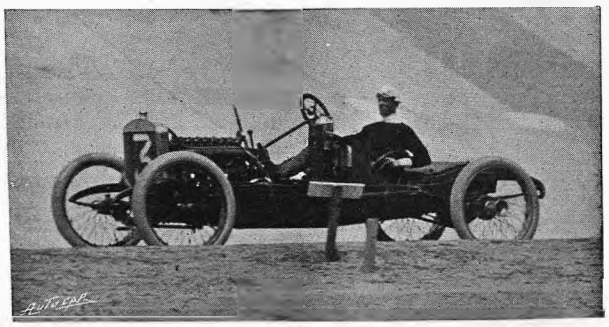
Hutton led from Duray at the start, and maintained his position to the end, D. Resta being then about half a mile behind. Pope retired on the fourth lap with a broken transmission-shaft.

4.45.—The HOLLICK SELLING PLATE of 200 sovs. The entrant of the winner to receive 150 sovs., and the entrant of the second 50 sovs. For motor cars propelled by means of internal-combustion engines only, the winner to be sold by auction for 500 sovs. Weight, 2,600 lbs. for cars of a cylinder dimension 75 or under, R.A.C. rating, and 3.465 lbs. in addition for every additional 0.1 of dimension. Entrance, 10 sovs. Distance, 8.715 miles.

Mr. A. Huntley Walker's 34 h.p. DARRACQ, handicap weight 2,943 lbs., actual running weight 2,952 lbs. Owner 1
Mr. C. Grahame White's 27.9 h.p. MINERVA, 2,600 lbs., running weight 2,647 lbs. .....Owner 2
Mr. H. J. S. Moyse's 32.4 h.p. Thornycroft, 2,808 lbs., running weight 2,813 lbs. .....B. Redwood 0
Capt. W. E. D. Owen's 27.3 h.p. Aries, 2,600 lbs., running weight 2,736 lbs. .....H. E. Hives 0
Messrs. S. Straker and Squire's, Ltd., 30 h.p. Straker-Squire, 2,600 lbs., running weight 2,602 lbs. W. T. Lord 0
Mr. H. V. Hermon's 27.9 h.p. Minerva, 2,600 lbs., running weight 2,621 lbs. .....Owner 0
Mr. A. Huntley Walker's 41.9 h.p. Darracq, 3,629 lbs., running weight 3,633 lbs. Marquis de Mouzilly St. Mars 0
Mr. S. Saunderson's 31.1 h.p. Brasier, 2,693½ lbs., running weight 2,825 lbs. .....Owner 0
Mr. D. Jameson's 41.9 h.p. Isotta-Fraschini, 3,629 lbs., running weight 3,640 lbs. .....N. Macklin 0

The winner's average speed was about 62 m.p.h.

The result of this race was never in doubt, for Mr. Huntley Walker easily led the field all the way, and won with plenty to spare from Mr. Grahame White's Minerva. Capt. Owen's Aries car took fire at the finish owing to a back-fire in the carburetter, but little damage was done to the car.



Mr. Tom Thornycroft driving his Thornycroft in the race for Tourist Trophy cars.

IN THE HOUSE OF COMMONS.

Legislative Intentions.

Tuesday night.

Doubtless with a view to avoiding an attack by the Independent Labour Party on the unemployed question, Mr. J. Burns has cleverly arranged it so that it is now very doubtful whether the debate on the Local Government Board vote may not be taken this session. This is a matter of regret among motorists in Parliament, because it was hoped that the occasion would lend itself to a more definite statement than has up to now been forthcoming as to the principles on which the Ministry intend to tackle the motor question in the near future. It must at once be said that no fear is expressed as regards the possibility of repressive legislation, or, indeed, of any official action which would be extended to impede the growth of the motor industry in the long run. But, nevertheless, regret is expressed that the only opportunity now available of extracting the exact intentions of the Government is now likely to disappear.

Motor Racing at Brooklands.

Mr. Marnham asked the President of the Local Government Board whether his attention had been drawn to the danger and inconvenience caused to the inhabitants of Weybridge from the influx of motor cars, including racing motors, into that village on days when races are held on the Brooklands motor track; and whether he would seriously consider the advisability of issuing restrictions of such traffic on such race days through the village of Weybridge in accordance with Section 8 of the Motor Car Act, 1903.

Mr. Burns: My attention has been drawn to this matter. I find that the Urban District Council of Walton-on-Thames and Weybridge have written to the Surrey County Council with a view to an application being made to frame regulations relating to motor car traffic in their districts. I have not at present received an application from the County Council, but I am in communication with them on the subject.

Mr. Trevelyan: Have any steps been taken to regulate the traffic in the same neighbourhood on the towpath between Kingston Bridge and Hampton Court Bridge?

Mr. Burns: An inquiry has been held, and as the result of a report that I have received on the subject I have decided to retain this riverside resort between Kingston Bridge and Hampton Court Palace for the use of the general public free from the inconvenience and discomfort that would arise there from motor car traffic. (Cheers.)

IRISH RELIABILITY TRIALS.

The Fuel Consumption Competition.

In connection with the recent Reliability Trials of the Irish Automobile Club, there was an interesting competition for fuel consumption. For this competition, a cup presented by Sir G. D. Goff was offered for the car showing the lowest cost for fuel per ton mile, which was won by Mr. J. B. Dunlop, jun.

The following table shows the cost per ton mile in pence for each of the cars that completed the trial:

CLASS B, £150 TO £250.

F. Carter (10-12 h.p. Swift)	.5494
J. Hurst (10 h.p. Chambers)	.5982
W. D. Turner (7 h.p. Star)	.6341
A. W. Inglis (9 h.p. Adams-Hewitt)	.6662
R. Burns (10-12 h.p. Swift)	.6981
F. S. Bennett (9-10 h.p. Cadillac)	.7096
P. L. D. Perry (15 h.p. Ford Junior)	.7273
R. W. Archer (15 h.p. Ford Junior)	1.1256

CLASS C, £150 TO £250 (Four Seats).

J. H. Chambers (10 h.p. Chambers)	.5651
F. S. Bennett (9-10 h.p. Cadillac)	.6991

CLASS D, £250 TO £350.

C. E. Chambers (10 h.p. Chambers)	.4887
Singer Motor Co. (10-14 h.p. Singer)	.4902
G. W. Hands (16-20 h.p. Calthorpe)	.6369
Argyll Motors, Ltd. (12-14 h.p. Argyll)	.7294

CLASS E, £350 TO £500.

J. B. Dunlop, jun. (15 h.p. Humber)	.4242
S. T. Robinson (15 h.p. Clément Talbot)	.4864
R. J. Mecredy (15-20 h.p. Unic)	.4941
W. Gutmann (15-20 h.p. Chenard-Walcker)	.5115
A. Armitage (18-22 h.p. C.C.C.)	.5365
E. L. Stirling (15-20 h.p. Unic)	.5525
Viscount Ingestre (15 h.p. Clément Talbot)	.5649
J. H. Kenny (14-16 h.p. Argyll)	.6518
R. Crossley (20 h.p. Belsize)	.6788
J. Burns Dumbell (10 h.p. Turner-Miesse)	.7132

CLASS F, £500 TO £850.

F. Eastmead (16-20 h.p. Sunbeam)	.4507
Earl of Shrewsbury (20 h.p. Clément Talbot)	.4542
T. C. Pullinger (30 h.p. Beeston Humber)	.4725
H. duCros, jun. (18-24 h.p. Austin)	.4764
R. Burns (18-24 h.p. Swift)	.4853
Wolseley Co. (18 h.p. Siddeley)	.5032
H. P. Wilson (18-24 h.p. Austin)	.5188
W. Sexton (20-24 h.p. Clément Talbot)	.5223
Wolseley Co. (18 h.p. Siddeley)	.5590
T. M. Greer (24 h.p. Minerva)	.5991
Thompson Motor Car Co. (20-24 h.p. Clément Talbot)	.6258
Capt. Lindsay Knox (22 h.p. Orleans)	.6342
W. Watson (22-30 h.p. Berliet)	.6633
P. L. D. Perry (40 h.p. Ford)	.7994
S. Straker (25-30 h.p. Straker Squire)	.8355
J. B. Geake (15 h.p. De Dion)	.8560
Climax Motors, Ltd. (14 h.p. Climax)	.8620

CLASS G, £650 TO £850.

G. M. Downie (20-36 h.p. Brasier)	.4554
E. Herrington (28-38 h.p. Ariel-Simplex)	.4873
W. F. Peare (35-45 h.p. Gladiator)	.4945
E. M. Stirling (28-42 h.p. Brasier)	.5399
E. Herrington (30-40 h.p. Ariel-Simplex)	.5452
T. Watson (25-30 h.p. Austin)	.5470
T. Henshaw (35 h.p. Daimler)	.5621
Wolseley Co. (30 h.p. Siddeley)	.5930
H. Austin (25-30 h.p. Austin)	.6454
Wolseley Co. (30 h.p. Siddeley)	.6725
A. W. Perman (25 h.p. Iris)	.7110
H. A. Browning (32 h.p. Maxwell)	.8344

CLASS H, OVER £850.

Capt. B. D. Corbet (40-45 h.p. Hotchkiss)	1.088

We learn with pleasure that the recent accident to Mr. Spyker is by no means so serious as the papers suggested. When driving his new 60 h.p. car round a bend he suddenly came across two children playing in the road, and had to choose between running over the little ones or charging into the trees lining the road. Naturally he took the trees and smashed up his car, he himself escaping with only a black eye, while the other two occupants of the car were merely shaken.

STATISTICS OF MOTOR CARS, HEAVY MOTOR CARS, AND MOTOR CYCLES REGISTERED, AND DRIVING LICENSES IN FORCE, JUNE 24th, 1907.

Registration Authority.	Index Letters.	Cars Registered. Pleasure.	Heavy	Motor Cycles Regis'd.	Driving Licenses in Force.
ENGLAND.					
County Councils.—					
Bedfordshire	BM	269	7	482	750
Berkshire	BL	593	12	477	2,094
Buckinghamshire	BH	358	17	406	2,401
Cambridgeshire ..	CE	214	13	399	648
Cheshire	M	783	248	639	5,095
Cornwall	AF	265	46	286	1,503
Cumberland	AO	223	10	257	532
Derbyshire	R	460	8	472	966
Devonshire	T	1,082	30	745	1,800
Dorset	BF & FX	346	12	293	829
Durham	J	343	25	481	1,031
Essex	F	1,099	32	1,457	6,302
Gloucestershire ...	AD	529	12	402	1,765
Herefordshire	CJ	233	10	167	484
Hertfordshire	AR	626	11	729	3,185
Huntingdonshire	EW	68	1	177	739
Isle of Ely	EB	79	—	171	439
Isle of Wight	DL	129	18	133	256
Kent	D	1,704	127	1,460	6,357
Lancashire	B	986	102	1,011	3,077
Leicestershire	AY	301	6	342	654
Lincolnshire—					
(Holland)	DO	93	—	223	283
(Kesteven)	CT	164	2	248	415
(Lindsey)	BE	186	3	303	1,108
London	A,LC,LN	15,754	1,520	7,380	57,658
Middlesex	H	1,784	57	1,855	4,285
Monmouthshire ..	AX	175	9	172	309
Norfolk	AH	542	14	377	1,240
Northamptonshire	BD	337	13	427	1,651
Northumberland ..	X	575	22	411	2,312
Nottingham	AL	410	14	428	1,380
Oxfordshire	BW	258	10	240	561
Peterborough, Soke of	FL	49	1	154	490
Rutlandshire	FP	46	2	90	49
Salop	AW	343	6	301	536
Somersetshire	Y	684	24	568	2,578
Southampton (Co. of Hants)	AA	818	193	766	2,208
Staffordshire	E	584	13	749	1,668
Suffolk (East).....	BJ	279	16	213	1,188
Suffolk (West)....	CF	148	3	164	356
Surrey	P	1,977	31	1,674	13,010
Sussex (East)	AP	724	24	493	3,794
Sussex (West)	BP	401	4	420	2,161
Warwickshire	AC	466	12	524	2,635
Westmorland	EC	135	4	168	300
Wiltshire	AM	474	9	563	950
Worcestershire ...	AB	417	13	403	2,122
Yorkshire—					
(E. Riding)	BT	128	46	168	393
(N. Riding)	AJ	350	6	232	1,086
(W. Riding)	C	842	70	825	5,355
Total		39,833	2,888	31,615	152,988
County Boroughs.—					
Barrow	EO	44	5	111	131
Bath	FB	103	17	100	205
Birkenhead	CM	117	11	132	276
Birmingham	O	1,414	65	1,435	2,153
Blackburn	CB	72	8	134	283
Blackpool	FR	78	1	58	196
Bolton	BN	173	16	179	312
Bootle	EM	30	4	48	125
Bournemouth	EL	278	10	201	399
Bradford	AK	461	18	286	617
Brighton	CD	246	40	338	430
Bristol	AE	370	53	645	1,764
Burnley	CW	88	4	146	174
Burton-on-Trent ..	FA	55	10	78	120
Bury	EN	49	1	66	98
County Boro's. (cont.)					
Canterbury	FN	164	2	133	141
Chester	FM	95	1	71	121
Coventry	DU	667	11	570	843
Croydon	BY	346	7	489	688
Derby	CH	111	3	160	490
Devonport	DR	33	—	63	228
Dudley	FD	62	—	59	129
Exeter	FJ	54	1	44	117
Gateshead	CN	30	3	57	112
Gloucester	FH	63	—	85	161
Grimsby	EE	54	7	182	190
Great Yarmouth ..	EX	31	1	56	145
Halifax	CP	98	2	71	179
Hanley	EH	87	4	118	111
Hastings	DY	86	11	88	144
Huddersfield	CX	266	3	77	303
Ipswich	DX	155	5	119	291
Kingston-on-Hull	AT	175	3	301	813
Leeds	U	497	141	469	954
Leicester	BC	165	6	298	456
Lincoln	FE	209	36	235	269
Liverpool	K	1,021	42	699	2,268
Manchester	N	1,292	77	771	5,326
Middlesbrough ...	DC	137	1	131	176
Newcastle-on-Tyne	BB	194	22	273	616
Newport (Mon.) ..	DW	60	11	86	156
Northampton	NH	96	7	163	253
Norwich	CL	187	7	126	297
Nottingham	AU	284	5	291	603
Oldham	BU	111	3	122	204
Oxford	FC	122	1	233	203
Plymouth	CO	95	13	135	183
Portsmouth	BK	326	7	385	769
Preston	CK	88	43	188	270
Reading	DP	194	6	136	514
Rochdale	DK	46	3	54	79
Rotherham	ET	32	3	106	101
St. Helens	DJ	48	2	77	122
Salford	BA	164	1	162	673
Sheffield	W	560	21	410	877
Smethwick	HA	10	—	37	41
Stockport	DB	146	7	113	141
Southampton	CR	276	4	197	295
Southport	FY	125	2	54	317
South Shields	CU	25	—	57	83
Sunderland	BR	135	7	126	541
Tynemouth	FT	16	—	31	175
Walsall	DH	43	—	110	121
Warrington	ED	79	1	113	219
West Bromwich ..	EA	27	—	49	75
West Ham	AN	120	63	455	438
West Hartlepool ..	EF	59	1	132	177
Wigan	EK	75	2	111	130
Wolverhampton ..	DA	217	16	157	258
Worcester	FK	69	2	70	250
York	DN	126	3	167	304
Total		13,631	893	14,229	31,423
WALES.					
County Councils.—					
Anglesey	EY	53	—	55	55
Brecknockshire ...	EJ	70	—	67	237
Cardiganshire	EJ	39	3	50	102
Carmarthenshire ..	BX	71	5	123	389
Carnarvonshire ...	CC	110	5	98	240
Denbighshire	CA	118	15	115	547
Flintshire	DM	82	7	103	384
Glamorganshire ..	L	311	30	510	825
Mericnethshire ...	FF	60	—	75	84
Montgomeryshire	EP	33	—	66	162
Pembrokeshire ...	DE	58	1	72	265
Radnorshire	FO	41	1	59	44
Total		1.046	67	1,393	3,334

Registration Authority.	Index Letters.	Cars Registered. Pleasure.	Cars Registered. Heavy	Motor Cycles Regis'd.	Driving Licenses in Force.
WALES (CONT.)					
County Boroughs.—					
Cardiff	BO	223	2	231	404
Swansea	CY	137	2	203	190
Total		360	4	434	594
SCOTLAND.					
County Councils.—					
Aberdeen	SA	123	25	191	484
Argyll	SB	63	2	23	87
Ayr	SD	193	10	162	605
Banff	SE	35	—	48	71
Berwick	SH	43	—	56	93
Bute	SJ	23	—	36	3
Caithness	SK	18	—	31	40
Clackmannan	SL	33	1	49	152
Dumbarton	SN	123	—	77	309
Dumfries	SM	162	1	75	269
Elgin	SO	58	—	60	263
Fife	SP	182	1	97	531
Forfar	SR	106	4	99	245
*Haddingtonshire					
Inverness	ST	75	—	47	158
Kincardine	SU	42	—	26	95
Kinross	SV	17	—	86	51
Kirkcudbright	SW	63	1	42	149
Lanarkshire	V	211	65	235	546
Linlithgow	SX	37	4	32	96
Midlothian	SY	163	1	106	287
Nairn	AS	15	—	18	23
Orkney	BS	24	—	31	17
Peebles	DS	63	—	30	87
Perth	ES	175	6	178	445
Renfrew	HS	103	2	73	567
Ross and Cromarty	JS	43	—	43	142
Roxburgh	KS	95	1	42	192
Selkirk	LS	44	—	70	69
Stirling	MS	133	2	118	283
Sutherland	NS	44	—	32	75
Wigtown	OS	40	3	50	78
Shetland	PS	10	—	42	5
Total		2,579	129	2,305	3,517
Registration & Licensing Burghs.—					
Aberdeen	RS	161	4	154	394
Dundee	TS	132	3	78	462
Edinburgh	S	593	33	323	1,782
Glasgow	G	784	37	381	1,105
Govan	US	8	—	32	61
Greenock	VS	28	—	41	73
Leith	WS	67	—	42	126
Paisley	XS	120	7	61	154
Partick	YS	27	—	29	113
Total		1,964	84	1,141	4,270
IRELAND.					
County Councils.—					
Antrim	IA	73	12	103	340
Armagh	IB	44	1	45	93
Carlow	IC	38	2	47	69
Cavan	ID	23	—	96	53
Clare	IE	31	—	27	57
Cork	IF	90	—	56	227
Donegal	IH	20	6	27	57
Down	IJ	100	2	133	453
Dublin County	IK	339	—	286	942
Fermanagh	IL	11	—	45	37
Galway	IM	32	—	39	95
Kerry	IN	22	1	76	56
Kildare	IO	112	—	105	402
Kilkenny	IP	24	—	32	67
King's County	IR	26	—	28	47
Leitrim	IF	12	—	27	16
Limerick	IU	28	—	32	96
Londonderry	IW	27	3	52	38
Longford	IX	8	—	17	14
Louth	IY	30	1	80	114
Mayo	IZ	22	1	52	76
Meath	AI	54	—	60	159
Monaghan	BI	16	—	20	14
Queen's County	CI	33	—	46	133
Roscommon	DI	21	—	64	29
Sligo	EI	11	2	21	16
Tipperary—					
(N. Riding)	HI	57	—	38	61
(S. Riding)	FI	23	1	24	66
Tyrone	JI	50	—	52	153
Waterford	KI	16	4	18	31
West Meath	LI	30	—	24	39
Wexford	MI	49	—	77	90
Wicklow	NI	43	—	63	91
Total		1,515	36	1,892	4,231
County Boroughs.—					
Belfast	OI	242	9	311	502
Cork	PI	46	1	39	131
Dublin	RI	295	3	408	1,420
Limerick	TI	28	7	36	78
Londonderry	UI	24	—	34	88
Waterford	WI	54	3	40	30
Total		689	23	868	2,249

SUMMARY OF TOTALS.

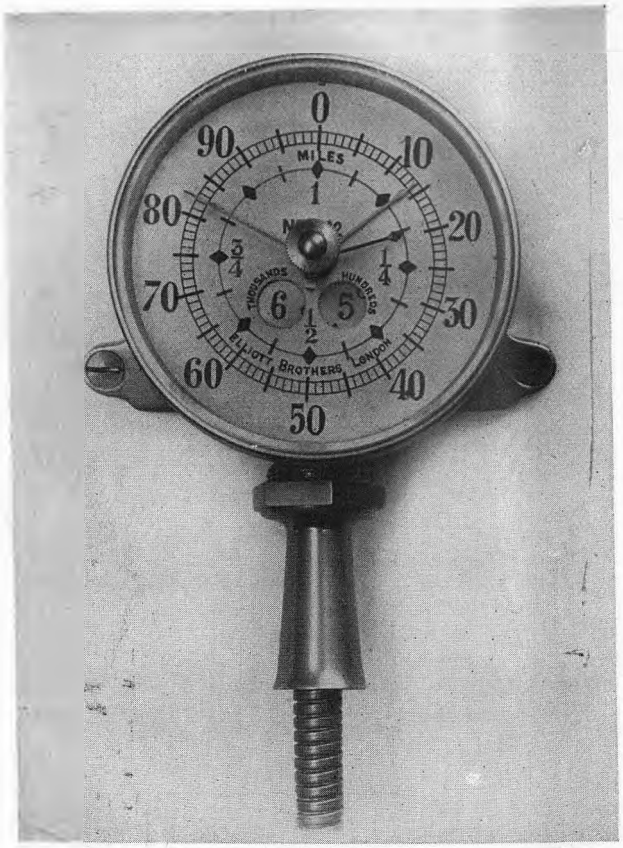
	Cars.	Heavy Cars.	Motor Cycles.	Driving Licenses.
ENGLAND.				
County Councils	39,833	2,888	31,615	152,988
County Boroughs	13,631	893	14,229	31,423
TOTALS	53,464	3,781	45,844	184,411
WALES.				
County Councils	1,046	67	1,393	3,334
County Boroughs	360	4	434	594
TOTALS	1,406	71	1,827	3,928
SCOTLAND.				
County Councils	2,579	129	2,305	6,517
County Burghs	1,964	84	1,141	4,270
TOTALS	4,543	213	3,446	10,787
IRELAND.				
County Councils	1,515	36	1,892	4,231
County Boroughs	689	23	868	2,249
TOTALS	2,204	59	2,760	6,480
Totals for 1907	61,617	4,124	53,877	205,606
Totals for 1906	45,700	2,699	45,645	167,565
Totals for 1905	31,129	863	34,706	107,426
Totals for 1904	13,340	—	21,521	—
Increase of 1907 over 1906	15,917	1,423	8,232	58,041
Percentage of increase for the whole of the United Kingdom	34.82	52.76	18.03	22.70

* Clerk to the County Council declined to give returns.

In the North of London a man was stopped the other day by a constable, who was suspicious of a bulky parcel containing a quantity of brasswork. The man protested that it was his own property; examination, however, brought to light a brass A.A. badge bearing a number, which enabled the police to identify its owner. This gentleman, Mr. Charles R. Price, of Bishopsgate Street Without, had no difficulty in identifying the remainder of his property, and the case is now before the court.

THE ELLIOTT MOTORMETER.

In its 1907 form the Motormeter, made by those well-known mathematical instrument makers, Messrs. Elliott Bros., of 36, Leicester Square, W.C., has been very much improved, and provided with a particularly original form of odometer, placed below the Motormeter proper. The form and aspect of the latter is well known to automobilists, as a large number of these instruments are now in use upon motor cars all over the country, but it will not be uninteresting if we describe the newly-added odometer in detail. This portion of the instrument is provided with three hands: (1) A white hand, making one circuit of the dial in one hundred miles, over the dial scale, which is clearly divided into tens and units. This hand operates in conjunction with the figures which appear in the two small windows just below the transverse diameter of the dial, and shows the mileage (6,582) to date. (2) A black hand, shown white in the illustration, which also makes one revolution of the dial in one hundred miles, can be set for each individual trip, and, moreover, can be set at any time the car is running. (3) A short red hand, which makes one revolution of the dial to the mile, works over a red scale marked in divisions of 110 yards each. This hand can also be set at any time while the car is running. The car to which the illustrated apparatus is fitted has, according to the figures shown thereon, travelled a total distance of 6,582 miles, and had completed 14 miles since the trip pointer was set. The knob seen projecting from the centre of the glass cover of the cyclometer is for testing the working of the instrument. It should be pressed in, and the red pointer turned to zero and retained there until the car has passed a milestone, when the knob should be released and the position of the red pointer noted when the car passes the succeeding milestone. According to the loss or gain of the red pointer, the position of the friction wheel on the ring should be altered, being moved further or nearer the centre of the wheel as the red pointer has been short of, or over, the mile-mark on the dial. When testing an instrument of this kind, care should be taken to run the car over a mile which is known to be correct. The distance between milestones is often presumed to be a correct mile, whereas the opposite is frequently the case. The black hand, and also the small red one, can be set back to zero at any moment. The utility of these hands will be found in measuring any distance from any one point. For instance, when driving by a road book one frequently has to bear in mind that a turning to the right or left is taken at some odd distance, say three and threequarter miles from a certain point. When driving a motor car, even in the daytime and particularly at night, such points are very easily overrun, and when that is done there is the annoyance of having either to reverse for a considerable distance, or even to return on the course in order to take the right direction. The approach of the trip hands to the divisions on the dial intimating the point at which the diversion should be made gives ample and convenient warning of the same, and mistakes of the kind suggested will not occur. In our opinion this is one of the most interesting and useful additions yet made to a speed indicator. Messrs. Elliott's reputation as leading instrument makers is sufficient to guarantee the perfection of the apparatus.



The Lanchester Motor Co., Ltd., inform us that they have just received from the Jam Saheb of Nawanager (better known to the British public as Prince Ranjitsihnji) an order for two of the largest and most powerful motor cars manufactured by them, and that in response they are supplying two of their latest six-cylinder 28 h.p. cars. This order is probably attributable to the fact that the Prince purchased from the same firm on his return to India between two and three years ago one of their cars, in order to compete in the Delhi-Bombay trials. In these trials he was successful in obtaining the maximum number of marks, going through without any hitch whatever, also obtaining first prize in the Gwalior Gymkhana, and later gaining further laurels by climbing the famous Gwalior Fort. The interior and exterior decoration of the cars just ordered is to be carried out on a luxurious and truly Oriental scale.

* * *

Two important Colonial motoring organisations have just been affiliated to the Motor Union of Great Britain and Ireland, viz., the Automobile Club of Ceylon, with a membership of over 150, and the Automobile Association of Bengal, which has its headquarters at Calcutta. There are now three Indian motoring associations included in the membership of the Motor Union, the third being the Motor Union of Western India.

THE FUTURE OF MOTOR FUELS.

REPORT OF THE FUELS COMMITTEE OF THE MOTOR UNION.

Summary of the Report.

The conclusion which impressed itself upon the committee more and more at each meeting was that a famine in petrol appears to be inevitable in the near future, owing to the fact that the demand is increasing at a rate much greater than the rate of increase of supply. The very important matter of the coming shortage does not appear to be realised by those most concerned. For instance, the committee have reason to believe that even large commercial undertakings, such as omnibus companies, whilst rapidly increasing the number of their vehicles, have been able to make but little provision for their future supplies of fuel.

The fuel at present almost universally employed, and to the abundant supply of which the rapid rise of the automobile industry may be said to be largely due, is petrol. The motor industry, which is rapidly becoming one of the greatest of the world's industries, is thus dependent upon the supply of a fuel which to all appearance must, according to the present trend of progress, fail in the near future to be equal to the demand. In order that the responsibility for so serious a statement as this may not be taken entirely by the committee, the views of a number of eminent authorities on the subject are quoted in the Report. Assuming, then, this approaching shortage to be inevitable, what are the possible alternative fuels available? These may be placed in two main divisions as follows:

A. FUELS LIMITED IN AMOUNT.

(a) Derived from petroleum and shale	{	(1) Heavier spirit. (2) Paraffin.
(b) Derived from coal ...	{	(1) Dust. (2) Gas from producer. (3) Benzol.

B. FUELS UNLIMITED IN AMOUNT.

(c) Derived from vegetation	Alcohol

There is an essential difference between the first and second group—those in the first group when exhausted not being capable by any known process of being replaced, whereas that, in the latter, viz., the supply of alcohol, is practically inexhaustible.

The committee have carefully considered the various substitutes for petrol which have been brought before them, and have unanimously arrived at the conclusion that the main efforts of the Motor Union should be in the direction of encouraging in every way the use and development of a substance such as alcohol, produced from vegetation. The chief difficulty which stands in the way of the general use of alcohol as a fuel, apart from its present cost, is an artificial, rather than a natural one, being the restrictions which are absolutely necessary from the fact that it is, in the potable form, one of the most profitable productions from the point of view of revenue to the Government (producing about £30,000,000 sterling per annum); and the steps which have to be taken to prevent the revenue being defrauded have hitherto proved an insuperable barrier to its economical production and general adoption as a fuel.

It will be found from the statement in the Report (page 22) that alcohol offers a complete and satisfactory substitute for petrol so far as its properties are concerned, and hence probably the most important recommendation of the committee is that connected with the production on a large scale of alcohol for the purposes of a fuel. It may be noted that the argument added to all others, but which to many people in this country would probably appear the most important of all, is the fact that it would form a home industry, especially if produced from some substance such as peat, potatoes, or beet, which would place the country in an independent position with regard to foreign supplies, a consideration which is leading the Governments of France and Germany to give every encouragement to the use of alcohol as a fuel.

Turning to the other possible alternatives, it will be seen that heavier spirit which has been put upon the market since the committee commenced their labours, and which can be obtained all over the country, is recommended for use.

There is a further recommendation regarding the complete and thorough trial by the Royal Automobile Club of the use of paraffin, particularly of paraffin carburetters and vaporisers.

Another material concerning which a definite recommendation is made is tar benzol, produced during the distillation of coal. It is shown from the evidence of witnesses that a large quantity of this material is available, and that if inducement is offered for its consumption this quantity would be considerably increased. From experiments that have recently been made, it seems possible that it may be a good deal used in the future for mixing with alcohol itself, the combination of the two substances apparently giving a fuel having very valuable properties. Lastly, it may be pointed out that it is quite possible that, although the difficulties owing to the deposition of by-products, tar, etc., in the way of a light gas producer suitable for motor vehicles are very great, such producers will be put on the market, and that at any rate heavy vehicles will be able to run by the use of coal without the necessity of employing a steam boiler.

It will be noted that the special work of the committee was concerned with the "alarming" rise in the price of petrol, and they were to report on steps "to protect" the interests of private consumers. A good deal has been said and printed concerning the trusts and monopolies in connection with the petrol supply, and it will at once be admitted that the control of the sources of supply is practically in the hands of two financial combinations.

Recommendations.

1. The committee, being unanimously of opinion that of all the proposals before them which are likely to overcome the difficulties in the supply of fuel which have led to the formation of this committee, the introduction of alcohol as a fuel in the future is by far the most hopeful, and they recommend:

   (a) That the Motor Union support any steps that may be taken, and if necessary inaugurate a movement, with the object of bringing about a reduction in the restrictions now imposed on the production of commercial alcohol.

   (b) That a prize be offered for the best essay on the subject of the manufacture and introduction of cheap alcohol as a motor fuel.

   (c) That the Royal Automobile Club be asked to organise and to conduct impartial and trustworthy experiments on the comparative merits of alcohol and petrol as a motor fuel, with a view to encouraging both users and manufacturers to turn their attention to this subject.

2. That the notice of members of the Motor Union be specially directed to that portion of the Report which deals with heavier spirit, the use of which for various reasons given in the Report is recommended by the committee.

3. That the committee are of opinion that modifications in some of the present regulations for the storage and distribution of petrol might be made, which would tend to reduce the cost to the individual consumer, and that action be taken in this matter by the Motor Union in conjunction with the distributing firms and the motor trade.

4. That, in consequence of the large number of paraffin carburetters that have been invented, and for which claims of high efficiency have been made, but of which, in spite of the demand for such an invention, a comparatively small number are in actual use, the Royal Automobile Club be asked to organise a competition for paraffin carburetters and vaporisers, and to offer awards for successful competitors in the same.

5. That the notice of members of the Motor Union be directed to the use of benzol, either alone or in combination with petrol as a motor fuel, since it can be used with complete success with the present type of engines and carburetters; moreover, it is a home production, and more economical in use than petrol at the present time.

6. That a Standing Committee of the Motor Union be formed for the purpose of giving effect to these recommendations, and generally of recommending from time to time any line of practical policy in connection with fuel supply that may be desirable in the interest of users of motor vehicles.

H. S. HELE-SHAW (Chairman).
J. L. LOCK.
R. W. A. BREWER.
CHAS. McWHIRTER.
REES JEFFREYS (Secretary).

(Extracts from the Report follow on succeeding pages.)

The Future of Motor Fuels.

EXTRACTS FROM THE REPORT.

The Supply of Petrol.—The Present Position.

Before the advent of the motor car there was only a very small demand for petrol, and this chiefly as a solvent and for cleaning purposes; indeed, this spirit, now so sought after, was largely regarded as a waste product and a nuisance, to be got rid of by burning or by evaporation. Within the last ten years the position has changed completely, and petrol is one of the most valuable components of the crude mineral oil.

Owing to the gradual depletion of the Pennsylvanian oil beds which have been so largely worked for so many years, the supplies from this region are rapidly decreasing, and the new fields in the Gulf States and California are handicapped by the greater distance over which their products have to be sent. These facts, combined with the increased home consumption in the United States, no doubt account for the fact that, whereas the United States in 1904 supplied 50 per cent. of our petrol, in 1906 this proportion had decreased to 30 per cent., while in the first half of 1907 it had still further decreased to less than 20 per cent. of the total amount of petrol imported. Fortunately, owing to new fields in the East, of which the crude oil contains a very large proportion of suitable spirit, the imports into the United Kingdom from the Eastern fields have increased from 37 per cent. to 61 per cent. during the two years, 1904-6, *i.e.*, from 4½ to 16½ million gallons, while for the present year, 1907, petrol is being imported at the rate of over 20 million gallons annually.

As a mere illustration of the manner in which one important source of supply may rapidly fall off, it may be pointed out that the supply from the United States of petroleum spirit into Great Britain in 1905 was 10,500,000 gallons, out of a total of 18,500,000 gallons imported into this country. During the last six months, the importation of petroleum spirit from the United States has fallen to 2,500,000 gallons. We may, therefore, assume that the importation for the present year from the United States will not be more than 5,000,000 gallons; in fact, as the rate of import from that country is still falling, probably less. This means that the quantity imported into this country from what was at one time not only its most important but approximately its only source of supply has fallen in two years to half its original quantity. Of course, the total quantity used in this country is greater, the deficit from the United States being more than met by the increased supply from the East Indies, but there is no reason whatever to think that the supply from the East Indies is inexhaustible, or may not be attracted to other markets, especially in view of the fact that it is derived from a part of the world much further away from this country. To show that the drop above quoted is not an accidental one, it must be pointed out that last year (1906) the imports were approximately 8,000,000 gallons, this representing a fall in the ratio of 8: 5 as compared with the year before, or less than 60 per cent. It is from facts such as these that the committee have been led to the conviction that one after another the important sources of supply of petrol will diminish.

Shale Spirit.

There is yet another source of supply of paraffin and petrol, viz., shale, which is a bituminous mineral found in different parts of the world. Up to the present, the most important production of petrol from shale has been in Scotland. The petrol so produced, however, amounting to a few million gallons per annum, is largely absorbed in satisfying local requirements. Considerable interest has recently been taken in the large deposits of shale discovered in Australasia, but it does not seem probable that much spirit from the latter source will reach this country.

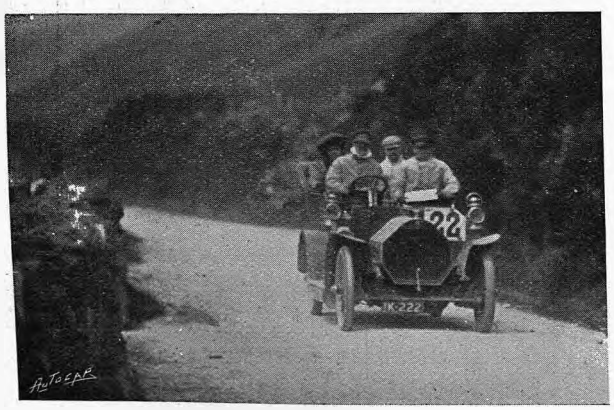
The Control of the Petrol Supply.

The limitation of the petrol supply of the world renders important the question of its control. Since the formation of this committee, a statement has been made by Sir Marcus Samuel, on the occasion of the increase in capital of the Shell Transport and Trading Co., Ltd., to £2,500,000 on May 15th, 1907, that the amalgamation with the Royal Dutch Companies, involving a capitalisation of £10,500,000, has been successfully accomplished.

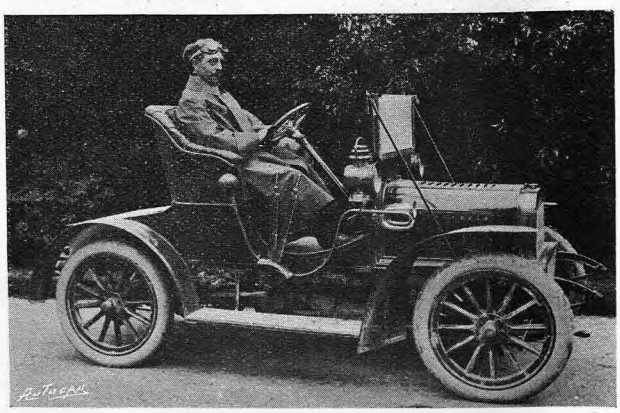
This huge company, together with the Standard Oil Trust of the U.S.A., therefore, control the principal sources of supply. It is evident that it would not be difficult for these companies to adopt a policy which might be fraught with disastrous results to the users of motor vehicles. It is only right, however, that the committee should point out that, although the price of petrol has undoubtedly risen in recent years, it cannot be said to have been raised to an exorbitant figure. It has been said that the companies discriminate between supply to trade and supply for pleasure purposes, thus avoiding for the present, at any rate, undue pressure in directions which would immediately cripple the motor industry. Such an attitude, however, on the part of the corporations supplying petrol cannot be expected to be maintained as the demand comes to exceed in any marked degree the available supply. When this inevitable condition of affairs comes to pass it must be evident that, if this were so, in accordance with the operation of commercial principles, those who could afford to pay would be able to secure supplies to the exclusion of those who could not compete with them. Hence, the commercial users of internal combustion motor vehicles would be the first to feel the pressure of the shortage of supply. The consequence would not only be very serious to the motor industry, but in view of the position which the industry holds, both in goods transport and public service vehicles, it might injuriously affect the internal trade of the country. As a matter of fact, it is not at all certain that the difference between the price paid by large consumers such as omnibus companies and the private user may not be largely accounted for by the expenses of supplying petrol in small quantities to the latter.

By the courtesy of one of the distributing companies, your committee has been furnished with a statement of the retail price of spirit in London during the last two years, showing the dates on which changes in the price were made. It is as follows:

Date.	Price of motor spirit in cans and cases to the retail agent.	Price usually charged to the consumer.
November, 1904	7d. per gallon	10d. per gallon
November 20th, 1905 ...	8d. ,,	11d. ,,
January 19th, 1906 ...	9d. ,,	12d. ,,
February 21st, 1906 ...	9½d. ,,	12½d. ,,
May 3rd, 1906	10d. ,,	13d. ,,
August 2nd, 1906 ...	12d. ,,	15d. ,,
December 24th, 1906 ...	13d. ,,	16d. ,,

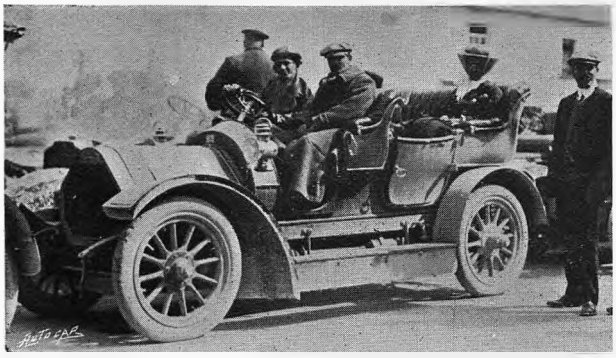


AN IRISH TRIALS WINNER. Mr. J. B. Dunlop, jun., and his 15 h.p. Coventry Humber, which won the Goff Cup for car showing least cost per ton mile for fuel consumption.



AN IRISH TRIALS WINNER. Mr. Carter, of Sunderland, and the 10-12 h.p. Swift which gained a gold medal in the class limited to private owners for cars costing from £150 to £250.

It must be recognised that the private consumer, in using petrol for pleasure purposes, must always expect to be squeezed more than the large consumer, because to the latter it is a question of their business existence if the price rises to such a point that profit is eliminated; but to the former it is a pastime, and, therefore, he must expect to pay more than those engaged in trade. At the same time, the committee feel that there are so many members of the Motor



AN IRISH TRIALS WINNER. Mr. T. C. Pullinger's 30 h.p Beeston-Humber. Gold medal in class for cars costing £500 to £650.

Union who, although small customers, are now using petrol for the purpose of motor vehicles as professional and business men (who are entitled to be considered as having a limit to what they can afford, and to these the disuse of their motor vehicles means crippling their business) that it may become the duty of the Motor Union as a whole to take steps to protect its members should the difference in price between the large and small consumer further increase.

ALTERNATIVE FUELS TO PETROL.

Fuels Limited in Amount.	Fuels Unlimited in Amount.
(*a*) Derived from petroleum—	(*c*) Derived from vegetation—
(1) Heavier spirit.	Alcohol.
(2) Paraffin.	
(*b*) Derived from coal—	
(1) Dust.	
(2) Gas from producer.	
(3) Benzol.	

FUELS LIMITED IN AMOUNT.

(1) Heavier Spirit.

By heavier spirit the committee mean a spirit which has a specific gravity up to 0.760 and yet distils completely between the temperatures of 60° Cent. and 150° Cent., and is at present chiefly obtainable from the East Indies. Such a spirit is on the market, but, on account of its higher specific gravity, is regarded with suspicion by the majority of motorists, who have in the past been accustomed to gauge the quality of a spirit by its specific gravity alone. It becomes expedient for the committee to emphasise the fact that the specific gravity should not be taken as a standard, because there are in the East Indies supplies of the spirit available, the boiling point of which makes them eminently suitable for use in a motor car engine, although their specific gravity is much higher than that of the brands which in the past have alone been on the market. It should be remarked that the committee find that this heavier spirit, volume for volume, is more economical in use, as it possesses a larger percentage of carbon than spirits of lighter specific gravity and of practically the same distilling points obtained from the American fields.

It is within the bounds of possibility, however, to so treat crude oil as to largely increase the amount of petrol which can be obtained from it. Such a process might materially add to the world's supply of petroleum spirit, and the conclusions of the committee as to the shortage in the immediate future would be necessarily modified.

(2) Paraffin.

By paraffin is meant the ordinary commercial article sold for illuminating purposes, having a specific gravity not exceeding 0.830, and containing only fractions distilling approximately between 150° Cent. and 300° Cent., and having a flash point not below 23° Cent.

A disadvantage connected with the use of paraffin is the inconvenience which its smell causes owing to the length of time required for its complete disappearance if spilt in or about a car.

Owing to the decomposition, it is found necessary to clean the engine more frequently and at regular intervals, and, therefore, inasmuch as the man in charge will not as a rule do this if it is a difficult task, an important condition of a paraffin engine should be easy accessibility for cleaning. Improvement in the form of carburation should tend to diminish the necessity for such a procedure.

Complete ignition being a more difficult matter in using paraffin than in using petrol, owing to the condensation taking place much more readily, especially upon the ignition points of the sparking plug, or even on the igniters in low tension ignition, much greater skill in design is necessary in the arrangements for ignition.

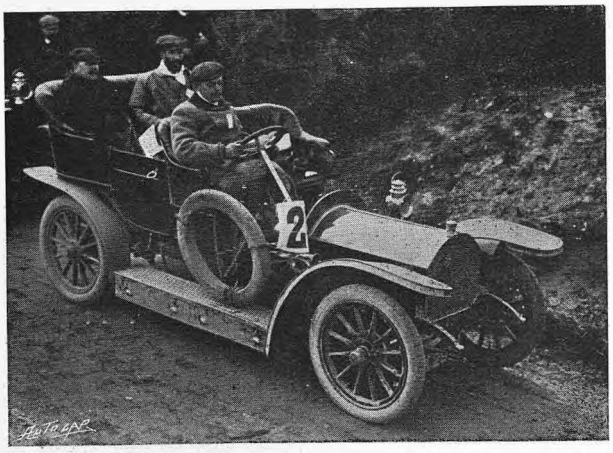
(b) Derived from Coal.

(1) Dust.

For a number of years attempts have been made to use fuel in the form of dust, such as coal dust, to drive an internal combustion engine, but, up to the present, no successful engine has been built. It is possible to form an explosive mixture by spraying a fine, inflammable dust into a cylinder containing air, assuming that this carbonaceous dust and air are in the proper proportion. However, the resultant explosion is necessarily slower than that of a purely gaseous mixture. This is due to the fact that the propagation of the flame only takes place as each solid particle is reached in turn by the burning gases. Such particles of dust are of necessity fairly large as compared with a gas. In order to fire a dust mixture, the dust must be kept in suspension in the mixture to preserve its uniformity, and in such a case a theoretical pressure of fifteen atmospheres would be developed if it were burnt at constant volume and without previous compression. Such results, of course, could only be obtained under ideal conditions in any system consisting of a mixture of dust and air. Though that dust be as fine and light as lycopodium, it is exceedingly difficult to keep the relative proportions constant, and the combustible properties vary enormously from moment to moment. The comparative slowness of combustion of a dust mixture is a source of trouble with an engine of even slow speed, as the gas remains inflammable beyond the limits of ordinary gaseous mixtures. In any mixture of this sort we have to face the trouble caused by residual products, such as ash and tar.

(3) Benzol.

What is commonly known as 90 per cent. benzol, can be utilised with perfect success in the engine of a motor car either alone or mixed with petrol, or mixed with alcohol. Owing to the high percentage of carbon which is found in benzol, and to the low percentage of carbon in alcohol, it is evident that a mixture of these two liquids more nearly approaches the ordinary hydrocarbon liquid fuels to which



AN IRISH TRIALS WINNER. Mr. R. J. Mecredy's 15-20 h.p. Unic. Gold medal in class for cars costing from £350 to £500.

we are accustomed in its chemical composition. Benzol will carburate air in the ordinary way when an ordinary petrol carburetter is used, but its specific gravity is very much higher than that of petrol, viz., 0.883, which may necessitate an adjustment of the float to prevent the benzol standing too low in the jet of the carburetter. Crude benzol inevitably contains a certain amount of foreign matter in combination with sulphur, which imparts to it an unpleasant smell in the liquid state. Owing to its comparatively low price, how-

The Future of Motor Fuels.

ever, it might pay to have benzol still further treated after washing in order to remove these impurities, which could be done for the expense of about 1d. per gallon. At the present time benzol cannot be obtained in very large quantities, as the number of recovery plants in this country is not very large. As benzol is a home production, its use should be encouraged, and particularly at this present time when the difference between the prices of petrol and benzol is very small.

Mixtures of benzol and alcohol have been tried in a desultory manner on the Continent, but in this country nothing has been done upon an extensive scale. The possibilities for the successful use of such a mixture are very great, and both these fuels are capable of manufacture in this country in very large quantities. Although a mixture of benzol and alcohol is in its normal state quite nauseous, and would not require a further treatment such as the addition of wood naphtha, yet it is possible, at any rate, to partially separate these two liquids, the alcohol having an affinity for water.

FUELS UNLIMITED IN AMOUNT.

(c) Derived from Vegetation.

ALCOHOL.

The fuels that have been previously considered are obtained from what may be termed Nature's storehouses, the evidence concerning which—at any rate with regard to the (petroleum)

AN IRISH TRIALS WINNER. Chambers Motors, Ltd., 10 h.p. Chambers. Silver medal in class for cars costing from £150 to £250 having seating accommodation for four people.

liquid fuels—points to an early exhaustion. To what are we to look as a substitute? To some substance that can be produced in quantities that can easily keep pace with the demands and the rate of consumption, and preferably to a substance that can be produced in the United Kingdom, so that we shall not be dependent on foreign sources, the supply from which, in the event of a war, might be cut off. It is probable that there is not more than a few months' supply of petrol at any time in the United Kingdom, and supplies of fuels for our submarines, motor boats, etc., would quickly become exhausted. Moreover, the best way of ensuring that the price of petrol shall not become excessive is to have available a fuel that can compete with it, and that can be produced at a moderate price, in unlimited quantities.

Of all the liquid fuels which have been considered by the committee the one holding out the greatest promise is alcohol. The use of alcohol for heat, light, or power has never had any encouragement in this country, as has been the case in Germany and France, where the Governments favour and encourage the production of this spirit. In Germany the alcohol motor has been established as a commercial success for several years, especially for agricultural engines, which are rapidly increasing in numbers. The reason why motor car engines specially designed for the use of alcohol have not been made in Germany is owing to the fact that the best customers of the German motor car manufacturers are in England and other countries where petrol has up till now been the only fuel used for this purpose.

The restrictions which exist in England to the use of alcohol owing to the high Excise duties have prevented its adoption for power purposes, and, consequently, experiments and tests have not been carried out to any extent in this

AN IRISH TRIALS WINNER. Mr. P. L. D. Perry's 15 h.p. Ford. Gold medal in class for cars costing from £150 to £250.

country; but there seems no reason to doubt that if the same amount of time, money, and experience were expended on tests and experiments on the alcohol motor as on the petrol motor, improvements would follow, which, if carried to a similar extent, would place the alcohol motor far ahead of the petrol motor as an engine for power purposes. Owing to the large amount of experience which has been obtained in experimenting with petrol, the additional expense incurred in perfecting the utilisation of alcohol as a motor fuel would not be very great.

It has been stated in evidence that the average price at which alcohol can be produced in Germany amounts to 1s. a gallon, including the cost of denaturing and Government supervision. It is also a fact that in this country the actual cost of manufacturing alcohol amounts to 11½d. a gallon (64 overproof, a strength common in industrial spirit)—see Report of Departmental Committee on Industrial Alcohol. This is produced from beet, potatoes, and molasses. Evidence has been given which tends to show that alcohol may also be produced from sawdust at a very low cost. The lowest figure it is possible to touch in this respect is 3d. per gallon when peat is used. Now, owing to the great strictness of the Excise authorities in England, the cost of denaturing and expenses of supervision bring the total cost of the alcohol up to about 2s. per gallon at the present time, and it is, therefore, evident that should the Government see their way to take a wider view of the question of alcohol as a fuel for internal combustion engines this price of 2s. a gallon could be very materially reduced. If this were done, the price could easily be brought to such a figure that it would be a very serious competitor with petrol in this respect alone.

The Government that will recognise this, and will allow untaxed alcohol suitably denatured to be used for light, heat, or power, will be conferring an immense boon and benefiting a very large proportion of the population.

AN IRISH TRIALS WINNER. Mr. G. W. Hands's 16-20 h.p. Calthorpe. Gold medal in class for cars costing from £250 to £300.

ALCOHOL AND PETROL.—COMPARATIVE ADVANTAGES AND DISADVANTAGES.

Most readers of this Report are familiar with the properties of petrol as a fuel, but they have very little idea of the great advantages of alcohol, having probably only heard of certain objections more or less imaginary, such as corrosion, and it has, therefore, been thought desirable to add the following summary of the properties of alcohol, comparing them with those of petrol :

AN IRISH TRIALS WINNER. Mr. T. Henshaw's 35 h.p. Daimler. Gold medal in Class G for cars costing between £650 and £850, and a gold medal in a similarly priced class but limited to private owners.

(1) Safety, (2) thermal efficiency, (3) calorific value, (4) practical limit of compression, (5) complete combustion, (6) propagation of the flame, (7) smell, and (8) flexibility.

(1) *Safety.*—In the first place, in case of possible conflagration, alcohol can be extinguished by water, whereas petrol is only scattered under similar circumstances and the area of conflagration increased. In the second place, and even more important, the flash point is considerably higher, being 60° Cent. compared with petrol, which may be taken as anything down to 10° Cent. below freezing point. This enables the alcohol to be carried and stored with safety under conditions where petrol would not be permitted. This further very much reduces the cost of freight and insurance.

(2) *Thermal Efficiency.*—Owing to less air being required and a consequent reduction in the amount of inert gas, the thermal efficiency of alcohol is as high as thirty-five per cent., as against something below twenty per cent. in the case of petrol, and this greatly reduces the chances of overheating, besides also reducing the weight of cooling water, radiator, etc.

(3) *Calorific Value.*—The calorific value of absolute alcohol is 12,600 B.T.U., that of methyl alcohol with a specific gravity of 0.820 is 11,300, and alcohol with the addition of twenty per cent. of water shows a calorific value of 9,810; whereas that of petrol with a specific gravity of 0.722 ranges from 20,300 to 19,300 B.T.U.

(4) *Practical Limit of Compression.*—The practical limit of compression of alcohol is about 200 lbs. per square inch; and its explosion pressure is therefore considerably higher than that of petrol, the practical limit of compression of which—in view of possible pre-ignition—is limited to 80 lbs. per square inch.

(5) *Complete Combustion.*—With alcohol complete combustion is more easily attained, owing to the fact that it distils completely in its commercial form over a small range of temperature (80-100° Cent.), a very accurate degree of carburation thus being maintained. In the case of petrol the range of boiling points extends between 50° Cent. and 150° Cent.; such a large range of boiling points renders accurate carburation at all times more difficult, and makes the spirit what is commonly known as *stale* owing to the evaporation of the lighter fractions. Alcohol has not this disadvantage, the liquid being practically homogeneous throughout.

(6) *Propagation of Flame.*—There is less rapid propagation of the flame when alcohol is used, which gives a much more uniform pressure throughout the stroke than petrol.

(7) *Smell.*—With alcohol there is approximately no offensive smell in the exhaust, as compared with petrol.

(8) *Flexibility.*—Alcohol will explode when mixed with air over a wider range than petrol—4-13 per cent. alcohol vapour in air being combustible, the range in the case of petrol vapour being 2-5 per cent.; thus the engine will be much more flexible.

There are three points, however, on which it is popularly supposed that alcohol compares unfavourably with petrol. These are :

(9) Corrosive effect.
(10) Starting from cold.
(11) Vaporisation.

(9) *Corrosive Effect.*—With regard to alcohol, any corrosive effect that may occur is probably due to impurities in the denaturing agent present in acetone and methyl alcohol, but these difficulties would be overcome if the carburation is such as to give complete combustion. Upon this point Dr. W. R. Ormandy writes to the committee as follows :

"My information with regard to the action of the effluent gases from motors running on alcohol was obtained from the engineer at the Gährungsversuchsanstallt at Berlin, who reported that engines running on pure alcohol, or even on alcohol with the German denaturant, gave no appreciable corrosion except on such parts of the motors as were so cold that condensation took place; thus the silencer was apt to corrode, more so the larger the percentage of water in the alcohol employed. As the average amount of water at present in German industrial alcohol is ten per cent., this corrosion might become appreciable if the cooling of the cylinder walls was too effective. It has been proved, however, that the efficiency of alcohol engines is enormously increased by keeping the cylinder walls near the temperature of boiling water, and under these conditions no condensation and no corrosion obtained."

(10) *Starting from Cold.*—As for difficulty in starting from cold, it will be probable that alcohol as a fuel will almost always have a greater or less quantity of benzol mixed with it, in which case this difficulty entirely disappears. Even without the addition of benzol there is little doubt that the question of starting from cold will be almost entirely overcome by the use of a suitable carburetter.

(11) *Vaporisation.*—Alcohol requires 5½ per cent. of its total heat of combustion to vaporise it, whereas, on the other hand, petrol vaporises without any external assistance. With regard to the heat required to vaporise it, it is to be noted that, inasmuch as a large amount of the heat produced passes off in the exhaust, this is really available for the purpose of vaporisation and does not represent any thermal loss.

Other Means of Utilising Alcohol.—From the previous argument it will be seen that, in order to utilise alcohol in an internal-combustion engine, certain modifications in the engine itself become necessary, but it is quite reasonable to expect that such alterations would be unnecessary if the proportion of tar benzol, acetylene, or other hydrocarbon containing a high percentage of carbon were mixed with the alcohol. Owing to this high percentage of carbon present, the chemical composition of the mixture will be brought more nearly to resemble that of the petroleum products. As to the most suitable relative proportions, experiment only will determine these, but such a fuel as is here suggested has the advantage of being a home production, as well as one that could be used without material alteration to the engine.

AN IRISH TRIALS WINNER: Captain Corbet's 40 h.p Hotchkiss. Silver medal in class for cars costing £850 and over.

CONTINENTAL NOTES AND NEWS.

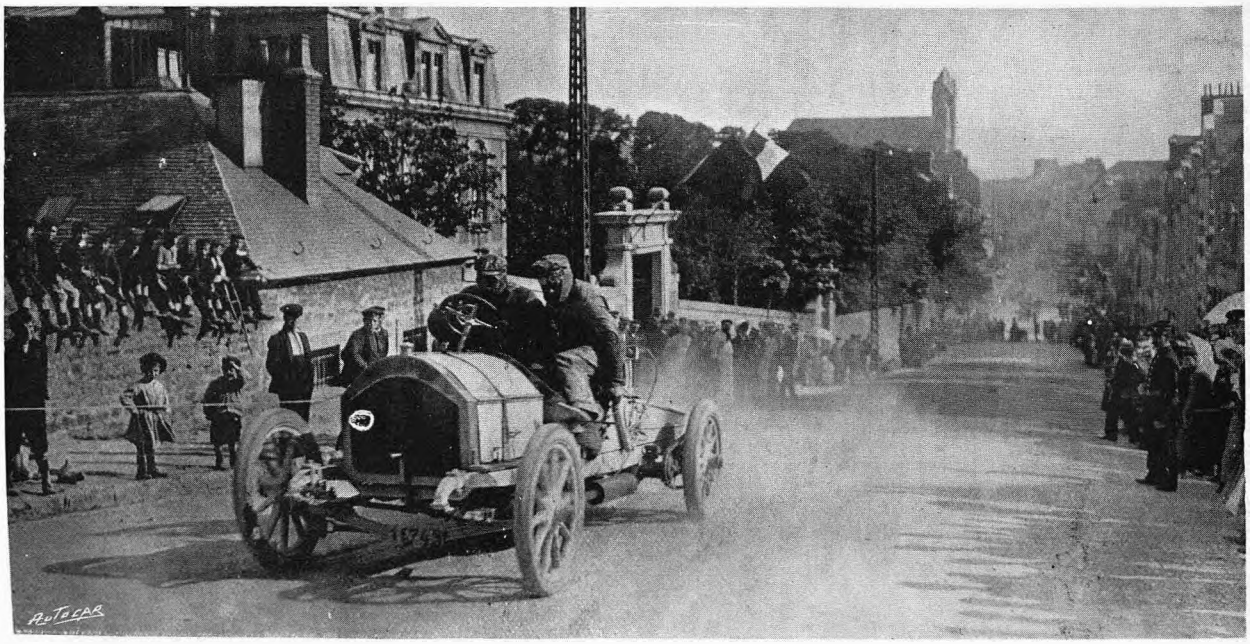
The Sport in Belgium.

The pivot of the automobile movement has been displaced in Belgium during the past week, where several interesting events have been held, not the least important being the annual Criterium for touring cars over a circuit taking in a part of Belgium and the northern departments of France. In connection with this tour, several speed and hill-climbing tests were held, one of them taking place at Boulogne for the Caraman-Chimay Cup, which really consisted of three tests—one over a level stretch of 3 kilometres, another on a mile gradient at Bainothun, and a third on a 300 metres gradient with an incline of fourteen per cent. near Gayole. The classification was obtained by adding the times made in the three different tests, and comparing them with the standard time for the category of cars based upon previous performances over this course. Thus, while light cars might not do such good times as a more powerful vehicle, they might yet stand higher in the classification on account of the better performances as compared with the standard time for their category. In this way, the small Germain car driven by M. Servais secured the Caraman-Chimay Cup with 235 points. The Pavillon Impérial Cup went to Cissac, who drove an Alcyon motor bicycle, with 227 points; and M. Wery, on a Nagant car, secured the special prize for the best time on the 300 metre gradient. M. Wery was also awarded the Franchomme Cup for the best time of 4m. 9s. over a rather hilly course of 7 kilometres between Ostend and Boulogne. The Nagant car obtained 503 points in this test, followed by Servais's Germain with 462 points, Ambron (Rochet-Schneider) 419 points, Stekke (Minerva) 396 points, De L'Epine (Darracq) 365 points, Bathiat (Peugeot) 361 points, Cissac (Alcyon motor bicycle) 288 points, and De Closset (Bayard-Clément) 172 points.

Previous to leaving Ostend for the tour, some speed tests were carried out over the mile and kilometre course, when special interest was given by the presence of some of the cars that competed for the Grand Prix and the Kaiser Cup. Over the kilometre course the cars had to run each way with a flying start, and the results were obtained by adding the times. Rigal on his Grand Prix Darracq did the fastest time in 50$\frac{2}{5}$s., and Baron de Caters on his Kaiser Cup Mercédès was second in 52s., with Hieronymus third in 1m. 2s. on his Mercédès. De Langhe (Darracq) was fourth in 1m. 3$\frac{1}{5}$s., and Christinens (Darracq) fifth in 1m. 4$\frac{2}{5}$s. Among the touring cars, the best time was made by Baron de Caters on his six-cylinder Mercédès in 57$\frac{4}{5}$s. The Mercédès of Jochams did a particularly good performance in 1m. 3$\frac{3}{5}$s., while the Nagant of Wery, with a smaller bore, only took 1m. 8$\frac{4}{5}$s. Over the mile course with a standing start, the times were also added both ways, and for the racing cars gave the following results: Baron de Caters (Mercédès), 1m. 43$\frac{3}{5}$s.; Rigal (Darracq), 1m. 55$\frac{2}{5}$s.; Hieronymus (Mercédès), 2m. 3$\frac{2}{5}$s.; De Langhe (Darracq), 2m. 15$\frac{4}{5}$s. The Mercédès again showed up well in the tourist category, the time of Baron de Caters being 1m. 52$\frac{2}{5}$s., and of Jochams on a Mercédès 2m. 18$\frac{3}{5}$s., while the Mercédès of Pilette in the third category also defeated all the more powerful cars.

The Ardennes Circuit.

The slowness with which entries have been coming in for the Ardennes races shows that the efforts of the promoting club to satisfy everyone are not meeting with the success they deserved. As a matter of fact, the splitting up of the classic race into two events, one under the Grand Prix rules and the other under the Kaiser Cup regulations, not only has the effect of considerably weakening the fields in the two races, but it also offers a comparison which is somewhat objectionable to the makers themselves, who do not care to run their vehicles over the same course as other cars that have been designed for entirely different



THE BELGIAN TRIALS. M. Wery, on a Nagant-Hobson car, climbing the 300 metre gradient test in the competition for the Caraman-Chimay Cup. It would be interesting to learn what remarks would be made by the local authorities if a hill-climb up the main street of any suitable provincial town in England were suggested.

conditions. At the same time, as there are now two circuits, the contest naturally loses a good deal of importance, since the winner of one race must obviously share the honours with the winner of the other. Under these circumstances, it is perhaps not surprising that the circuit race under the Grand Prix rules should only have brought in thirteen entries of cars from six makers. The race to be run off under the Kaiser Cup regulations has received much stronger support. The entries, which closed on Sunday last, are as follows:

Race A.—Grand Prix Formula.

1, Lorraine-Dietrich (Duray); 2, Lorraine-Dietrich (Gabriel); 3, Lorraine-Dietrich (Rougier); 4, Weigel (Harrison); 5, Weigel (Laxen); 6, Darracq (Huntley Walker); 7, Mercédès (Jenatzy); 8, Mercédès (De Caters); 9, Rochet-Schneider Belge (De Lamine); 10, Bayard-A. Clément (P. Garcet); 11, Bayard-A. Clément (Alézy); 12, Bayard-A. Clément (——); 13, Bayard-A. Clément (——).

Race B.—Kaiserpreis Formula.

1, Pipe (Hautvast); 2, Pipe (Jenatzy); 3, Pipe (Deplus); 4, Pipe (——); 5, Gobron (——); 6, Benz (Hémery); 7, Benz (Hanriot); 8, Benz (Spamann); 9, Adler (Geller); 10, Adler (Fischer); 11, Adler (Goebler); 12, Gaggenau (Peter); 13, Gaggenau (Hieronymus); 14, Gaggenau (Robl); 15, Minerva (Brabazon); 16, Minerva (Guyol); 17, Minerva (——); 18, Minerva (——); 19, Ariès (——); 20, Ariès (——); 21, Imperia (——); 22, Imperia (——); 23, Imperia (——); 24, Darracq (——); 25, Métallurgique (——).

Class D.—Coupe de Liedekerke.

1, Métallurgique (Wilhelm); 2, Métallurgique (——); 3, Métallurgique (——); 4, Vivinus (——); 5, Vivinus (——); 6, Vivinus (——); 7, Minerva (Brabazon); 8, Minerva (Guyol); 9, Minerva (——).

The International Conference.

As we stated last week, the Congress that was held at Ostend on the 14th inst. settled upon a uniform regulation under which the international races are to be held next year. It was only after a long discussion that the Congress was able to come to a decision. Adopting first of all the principle of a maximum bore and a minimum weight the difficulties faced by the Congress became apparent when the delegates from each country proposed a different limit. The French delegates held out strongly for a bore of 160 mm. on the ground that it is by speed alone that it is possible to make an impression upon the public, while it was only by speed that they could hope to improve the pneumatic tyre, for which reason the French Club proposed to debar the use of detachable rims in races. Germany, on the other hand, was not disposed to accept a larger bore than 135 mm., since the German idea of racing was not to impress the public but to favour the buyer in every possible way by developing the essentially touring type of vehicle. The British delegates proposed a happy medium of 152 mm. Eventually, Germany made a concession by offering to come as far as 150 mm., and then the British delegates acted as mediators by offering to accept 155 mm. if Germany and France would agree to this limit. Finally, Chevalier René de Knyff fell in with the offer of the British delegates on condition of the minimum weight being fixed at 1,100 kilos. without load, but including oil and petrol, and this arrangement was unanimously approved of by the Congress. This uniform regulation will undoubtedly have an excellent effect upon the sport next year, since recent experiments have been sufficiently conclusive as to the evil effects following upon the multiplicity of rules, and while makers now have the assurance that they can build one type of racing vehicle to take part in all the different events on the Continent, they have the further advantage of being able to start upon their designs at once instead of having to wait until the last moment, as was the case in some of the big races this year.

Progress of the Motor Car Industry.

The returns published from time to time showing the number of motor vehicles declared for taxation are calculated to considerably modify the general idea that as France is the leading manufacturer of automobiles she should stand at the head of countries using them. As a matter of fact, the number of cars actually in service is probably less than in either England or the United States. According to the latest statistics issued from the Inland Revenue Department the number of pleasure cars declared for taxation in 1906 was 17,358. This shows a steady and continuous progression from 1,438 in 1899, the average increase each year being roughly 2,500. At the same time, the cars are becoming more and more powerful, and the average horse-power has doubled within five years, the 5 h.p. declared in 1901 having reached 10.33 h.p. in 1906. Of industrial vehicles, 8.904 were declared for taxation last year, or about one half the number of pleasure cars, while the average horse-power increased from 4.18 in 1901 to 8 h.p. in 1906. About 5,000 cars of all sorts were put into service last year, and as this is scarcely more than a quarter of the estimated entire production, France must continue to rely chiefly upon exports.

Preparing for a hill-climbing test for the Caraman-Chimay Cup. On the road from Colembert to la Capelle.

Continental Notes and News.

The Boulogne-sur-Mer Automobile Meeting.

The meeting of the Boulogne Automobile Club, held in conjunction with the Automobile Club du Nord, took place on Wednesday and Thursday, in which the members of the Belgian Automobile Club who are running in the Criterium Belge endurance trials, and who left Spa on July 12th, took part. The Belgian Club arrived at Boulogne-sur-Mer on Wednesday morning shortly after eleven o'clock, having left Ostend at nine o'clock. Though a slight rain was falling the speed competitions for the Franchomme Cup were contested on the road between Coquelles and Inglevert over a distance of seven kilometres. M. Tampier, the well-known official timekeeper, was in charge of the chronometer.

Wednesday, July 17th.

Seven kilometre race on the road between Coquelles and St. Inglevert. Cup presented by M. Franchomme, president of the Automobile Club du Nord.

FIRST CLASS.—Cissac (Alcyon), 288 points.
SECOND CLASS.—De Clossel (Bayard-Clément), 172 points.
THIRD CLASS.—De l'Epine (Darracq), 365 points.
FOURTH CLASS.—Servais (Germain), 462 points.
FIFTH CLASS.—Wéry (Nagant-Hobson), 593 points.
SIXTH CLASS.—Ambron (Rochet-Schneider), 419 points.
SEVENTH CLASS.—Bathia (Peugeot), 361 points.
EIGHTH CLASS.—Stekke (Minerva), 396 points.

Immediately after the race the competitors proceeded to Boulogne, where their arrivals were timed by M. Tampier, who was assisted by MM. Crouy (president of the Boulogne section of the Automobile Club du Nord), Ravinet, and Beukelaer.

The cars proceeded to the Casino, where the prizes were awarded to the successful competitors at the reception held in the evening in the Salle-des-Fêtes, and at which there were present M. Péron, Mayor of Boulogne; M. Franchomme, President of the Automobile Club du Nord; Prince Caraman-Chimay, etc., etc.

Wéry, on the Nagant-Hobson, was ultimately declared the winner of the Franchomme Cup, but will only become the holder when the bore and stroke of the cylinders of his car have been verified on the return to Spa.

Thursday, July 18th.

Beautiful weather prevailed for the second day of the meeting, and at eight o'clock the competitors left the Casino garage for the scene of the speed trials on the La Capelle-Colombert Road.

The placings in the trials were as follows:

Three kilometres race (standing mile) on the La Capelle-Colombert Road, between the 42-1 and 45-1 milestones. Cup presented by Prince Caraman-Chimay.

SINGLE-CYLINDER CARS.—Cissac (Alcyon), 2m. 58⅘s.
FIRST CLASS.—1, Albert Ville (Saventheim), 2m. 38s.; 2, De Clossel (Bayard-Clément), 3m. 19⅘s.
SECOND CLASS.—1, De l'Epine (Darracq), 2m. 28⅕s.
THIRD CLASS.—1, D'Aoust (Fondu), 2m. 9⅕s.; 2, Servais (Germain), 2m. 11⅗s.; 3, Sabbe (Minerva), 2m. 17⅘s.
FOURTH CLASS.—1, Brisson (Nagant-Hobson), 1m. 54⅗s., 2, Wéry (Nagant-Hobson), 1m. 55s.; 3, Raymackers (Nagant-Hobson), 2m. 6⅕s.
FIFTH CLASS.—1, Grisart (Rochet-Schneider), 1m. 56⅕s.; 2, De Bosredan (Regina), 2m. 4⅘s.
SIXTH CLASS.—1, Gasté (Radia), 2m. 5⅕s.; 2, Crespel (C.G.V.), 2m. 12⅖s.
SEVENTH CLASS.—1, Bathia (Peugeot), 2m. 4⅕s.; 2, Franchomme (Peugeot), 2m. 9⅘s.
SIX-CYLINDER CARS.—Stekke (Minerva), 2m. 4⅖s.

One mile hill-climb at Baincthun, between the 67-2 and the 68-809 milestones, from a standing start. Rise, ten per cent.

SINGLE-CYLINDER CARS.—Cissac (Alcyon), 3m. 17⅘s.
FIRST CLASS.—1, Albert Ville (Saventheim), 3m. 29⅗s.; 2, De Clossel (Bayard-Clément), 4m. 6⅘s.
SECOND CLASS.—1, De l'Epine (Darracq), 2m. 36⅖s.
THIRD CLASS.—1, Servais (Germain), 2m. 0⅗s.; 2, Decuyper (Germain), 2m. 10⅖s.; 3, D'Aoust (Fondu), 2m. 11⅘s.
FOURTH CLASS.—1, Brisson (Nagant-Hobson), 1m. 43⅗s.; 2, Wéry (Nagant-Hobson), 1m. 44⅗s.; 3, Raymackers (Nagant-Hobson), 2m. 2s.
FIFTH CLASS.—1, Grisart (Rochet-Schneider), 1m. 40⅖s.; 2, De Bosredon (Régina), 1m. 48⅕s.; 3, Ambron (Rochet-Schneider), 2m. 1⅖s.
SIXTH CLASS.—1, Gasté (Radia), 1m. 50⅗s.; 2, Créspel (C.G.V.), 1m. 53⅗s.
SEVENTH CLASS.—1, Bathia (Peugeot), 1m. 50⅗s.; 2, Franchomme (Peugeot), 1m. 50⅗s.
SIX-CYLINDER CARS.—Stekke (Minerva), 2m. 2⅗s.

300 metres hill-climb, from a standing start, on the Rue Porte Gayole (Paris Road), rise, fourteen per cent.

SINGLE-CYLINDER CARS.—Cissac (Alcyon), 50m. 2s.
FIRST CLASS.—Albert Ville (Saventheim), 46m. 4s.
SECOND CLASS.—De l'Epine (Darracq), 44m. 3s.
THIRD CLASS.—1, Servais (Germain), 35m.; 2, D'Aoust (Fondu), 36m. 4s.; 3, Ménard (Régina), 36m. 4s.
FOURTH CLASS.—1, Wéry (Nagant-Hobson), 28m. 2s.; 2, Brisson (Nagant-Hobson), 28m. 3s.; 3, Raymackers (Nagant-Hobson), 33m.
FIFTH CLASS.—1, Grissart (Rochet-Schneider), 29m. 1s.; 2, Ambron (Rochet Schneider), 29m. 4s.; 3, De Bosredon (Régina), 30m.
SIXTH CLASS.—1, Gasté (Radia), 31m. 4s.; 2, Crespel (C.G.V.), 43m. 3s.
SEVENTH CLASS.—1, Bathia (Peugeot), 31m. 1s.; 2, Franchomme (Peugeot), 35m. 2s.
SIX-CYLINDER CARS.—Stekke (Minerva), 41m. 3s.

Next Year's Targa Florio.

The regulations for the Targa Florio Race for next year have been definitely arranged by M. Vincenzo Florio in consort with *L'Auto*. The prizes will remain the same as last year, and the entry fees are fixed at £40 per car, which will not be returned. The Committee will arrange for the transport of the cars, mechanics, and drivers by sea. The date for the Targa Florio Race for next year has been fixed for the 12th May.

The Grand Prix Aftermath.

The French are apparently settling down very uncomfortably with regard to the results of the Grand Prix Race of 1907, as one of the French daily papers, *Les Sports*, publishes a long article in the issue of the 23rd inst., in which it shows that, calculated on a certain formula, which to all intents and purposes converts the Grand Prix Race into a team competition, French cars on the formula would have been 1st, 2nd, 3rd, and 4th, with Italy 5th, Germany 6th, France 7th and 8th, Belgium 9th, and France 10th. The formula is the total time of each team of three cars divided by the number of laps completed by each car. For example, in this year's race, Nazzaro (Fiat) completed 10 rounds, Lancia (Fiat) 9 rounds, and Wagner (Fiat) 3 rounds; total, 22. Nazzaro's total time was 6.775 hours, Lancia's 7.024 hours, Wagner's 6.682 hours. The result of this sum is as follows:

$$\frac{10 + 9 + 3}{6.775 + 7.024 + 6.682} = \frac{22}{20.481} = 1.0704.$$

The Brasier team on the same formula works out at 1.263, Darracq 1.161, Dietrich 1.080, Bayard 1.071.

Although this is a somewhat unsportsmanlike way of treating the victorious Italian car, it is only fair to state that the Renault is placed 7th. However, to our mind, a race is a race, and whoever wins it should be given full credit for the victory, and no attempt should be made afterwards to belittle the performance by converting what is a test *à l'outrance* to the level of a team competition.

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.

UNIFICATION OF RACING CAR LIMITS.

[12078.]—As you are aware, a unanimous decision, which is momentous from the point of view of automobilists, was arrived at by the conference of the automobile clubs of the world at Ostend on the 14th inst.

This decision, by unifying the basis of rating for international road races for a definite period, and by fixing the size of the largest engine for which such road races will be held, secures for manufacturers a very great economy in the number of racing types they can be called on to build. In fact, for the largest races, only one size of car will be required, viz., one having a 155 mm. bore per cylinder for four cylinders, or the equivalent piston area if any other number of cylinders be decided on. The minimum chassis weight to correspond to this is 1,100 kilogs. This result, coming after the year in which the Kaiser-Preis, the Grand Prix, the Herkomer Race, and the Targa Florio are run under entirely divergent rating rules, will be appreciated by those who have faced the immense expense involved by these races, and the conference is certainly to be congratulated.

As the decision of the clubs was unanimous, it is clearly unlikely that any road race inviting cars of a widely different specification to compete will receive support. It is to be noted, however, that this ruling does not affect track races or runs for the short records of one mile, one kilometre, one hour, etc.

Now, it seems to me to be a matter of great importance and a matter which the existence of the Brooklands Track brings into the field of practical politics that the efforts which have been made year after year to build machines of the maximum possible speed and power should not be entirely relaxed.

The past shows how much is to be learnt from attempts to reach the utmost extremes of engineering possibilities. In ten years we have seen, to our own surprise, that 12 h.p., 24 h.p., 30 h.p., and 40 h.p. machines, which were year after year called freaks, or "machines fantastiques," when they appeared on the race ground, have taught us how to make touring cars of the greatest possible utility—indeed, we may say that incidentally the appearance of the motor 'bus engine which has about 40 h.p. would have been delayed many years but for the races which resulted in these freak engines being built and stringently tested. Without pretending to say whether it will be the motor boat, the big motor road tractor, the aerial motor, the railway explosion engine or military transport waggon that will benefit most from a race in which no limit is artificially placed on the power, I think it has been abundantly proved in the past that automobilism will benefit largely from deliberately offering an inducement to makers and inventors to show what can be done when physical science is confronted by physical difficulties only, and unhampered by arbitrary regulations.

With this end in view, I have offered to the Brooklands Club a trophy, to be called O'Gorman's (No-limit) Trophy, to be competed for annually over not less than 100 miles. Whether or not this offer be accepted, I think the subject is worth ventilating. MERVYN O'GORMAN.

THE COUNTRY HOUSE MOTOR CAR.

[12079.]—We hear a great deal about the motor car being the vehicle of the future, which is bound to displace the horse carriage more or less entirely in the course of a few years. It is therefore a matter of considerable surprise to me to see so many of our chief motor car firms neglecting so absolutely the design and construction of the moderate-powered and moderate-priced car in favour of 40, 60, and 70 h.p. cars, which can only become the property of the rich or the extravagant.

Surely this is a policy which in the future they will regret when the market for the £300 car has been captured by the more far-seeing firms, who by that time will have developed their works and agencies and standardised their cars to such an extent that they will have an enormous advantage over their rivals who have only catered for a limited class. The car-buying population of Great Britain—or even Greater Britain—does not consist exclusively of those who can afford to pay from £1,000 to £1,500 down and an annual maintenance charge of £500 to £800 for a single vehicle, but it does consist of a great many persons who want a car which they can use for the same purposes as they now use a carriage or carriages, with one to three horses in their stables, costing them from £50 to £400 to buy, and from £50 to £300 or £400 per annum to maintain.

I refer to the large class of persons like myself who live in the country, and use our vehicles for station work, journeys to the neighbouring country town for shopping, for visits to our neighbours, and, in fact, for the ordinary country house locomotion, without which life in the country becomes very limited in its scope.

Personally, I have for the last two and a half years used a car which I find costs me about £250 per annum to run, or, including the item of depreciation (usually omitted), say £350, so I have some experience of what are the motor requirements of those in a similar position to myself. For this expenditure I can, of course, get about far more freely than my neighbours, who spend an equal sum on their horses and carriages, and do my station work with the greatest ease and freedom.

The mention of "station work" leads me to another point I wish to emphasise, in which, I think, motor car designers are extraordinarily obtuse and short-sighted.

If we admit that the motor car of the future is to perform much the same work as the horse carriage of the present, one of its chief functions is not only to carry the owner and his guests, but also their luggage. You cannot expect your friends to come and see you even for a week-end with only a handbag; and yet how many cars can carry anything larger than a Gladstone without serious inconvenience to the occupants of the tonneau? As to a lady's dress basket, that is a thing a 40 h.p. car is as a rule quite unable to tackle, though a one-horse shay has proved equal to both a dress basket and a portmanteau, not to mention a dressing case and a hat box, for many years past. When I am speaking to the obliging gentlemen on the show stands at Olympia, who have been descanting on the merits of their especially silent, speedy, powerful, comfortable ——— cars, they invariably become ominously silent when I ask them, "And where is your accommodation for luggage?"

If they answer at all it is to say that a luggage grill can easily be fitted. A luggage grill! Of all the inconvenient devices that carriage-builders adopted in the past, a luggage grill is the worst. It takes a quarter of an hour to tie on the luggage, the boxes scratch the paint of the body, and you are never sure that you are not leaving a trail of boxes behind you on the road. On horse carriages they are, I think, now chiefly to be met with on those ancient landaus which carry tourists over Alpine passes. And yet this is the device which our progressive and up-to-date motor car designer advocates on a modern car.

If the car has a canopy with sufficiently strong supports, the other plan adopted is to place the luggage on the top of this, with the result that the centre of gravity of the car becomes so high that if the driver has to pass another vehicle on the sharply-cambered side lanes so common in our country districts, the car is exceedingly likely to remain on its side in the ditch for a good many hours afterwards.

The remedy suggested to me by a representative of one of the great firms was on a par with the price of his cars: "Have a second car, which you can use for luggage." He might have added, "Increase your income by £150 to £200 a year to meet the cost of running the luggage car." But I maintain that the user of the country house motor car ought to be able, with 20 h.p. at his beck and call, and for an annual expenditure (including depreciation) of £300, to fetch from the nearest main-line station at which expresses stop, perhaps eight to ten miles away, not only a man and his wife, but also their luggage to a reasonable extent.

I am moved to this protest against modern tendencies because I have been using, ever since I have lived in the country, a 12 h.p. Lanchester, which does possess the power of luggage-carrying to an extent that I believe no other car

Correspondence.

does. In this car, designed some seven years ago, Mr. Lanchester showed his foresight as to the requirements of the average owner as remarkably as he did in so many other details in design. But we find the pressure of public opinion too much for even Mr. Lanchester; he has been obliged to abandon the engine in the centre of the car, and hence he has lost the luggage space, and now that the Lanchester Co. have given up the manufacture of 12 h.p. cars they can only offer me—when my 12 h.p. car dies a natural death in extreme old age—a car with a grid, and as little luggage capacity as any other well-known car that one can mention. I do not pretend that this problem of luggage-carrying is an easy one, but I do hope the public will exercise such pressure on the makers—as the latter seem disinclined to tackle the problem themselves—that the designer of the future will make some more practical effort to deal with this matter satisfactorily, and enable me, when the time comes, to find a substitute for my present 12 h.p. Lanchester. W. A. WILLS.

INCONSIDERATE DRIVING.

[12080.]—On Friday, the 19th inst., a grey-coloured car was being driven at a fast rate along Whalley New Road, Blackburn (a road leading to Whalley and much frequented by motorists), and when some two hundred yards past the gates of the cemetery it ran over a valuable fox-terrier dog, probably doing damage to the extent of £15 to £20. The dog was a prize animal, and kept for exhibitions at dog shows. Now, the "gentleman" in the car unquestionably knew he had run over the animal, as he slowed down to a crawl, but almost at once, when he saw someone approaching him, accelerated the speed and was rapidly out of sight—unfortunately, without my being able to get his number.

Such ungentlemanly and cowardly acts are much to be deprecated, and in the mind of the ignorant raise strong prejudices, and at the same time give the anti-motorist further opportunities for invective. However, it is with relief I know this type of ruffian (really the word is not too strong) represents such a small portion of the motoring community. Should the letter come under this "considerate" owner's notice I hope it will be of some use in conveying a warning. A. ROWELL YOUNG.

BURST TYRES.

[12081.]—I have read with interest the letter [No. 12025] signed "X.X.," which appeared in *The Autocar* of the 6th inst., which referred to fatalities caused by the bursting of pneumatic tyres. "X.X." asks if anyone can recommend a pneumatic tyre which shall run a few thousand miles, and which can be guaranteed not to burst, or overheat in hot weather. In answer, I can most unreservedly recommend the claims of J. McConechy's patent corseted walls tyre. I use this patent with, I am pleased to say, the happiest possible results; to me it has proved a revelation of pleasurable experience, reducing my tyre bill by two-thirds, and as the patent develops a new principle there is greater freedom from the old-time tyre worries and dangers.

I should like to give my reason for stating that the McConechy patent develops a new principle in tyre practice by giving a comparison of the working which takes place in each make of tyre.

(1.) An ordinary pneumatic tyre, when on the road, is subjected to a continuous expansion and contraction of its walls on the lateral plane. This continuous compression or flatening has a breaking or cutting effect on the cords of the canvas fabric, which after a time leaves the tyre ripe for bursting, which develops when an extra strain occurs.

(2.) An ordinary pneumatic tyre, by this continuous lateral compression, churns the air, thereby raising the temperature abnormally, altogether apart from the heat produced by road friction.

(3.) An ordinary pneumatic tyre, when turning corners at speed, receives the lateral tear or strain on two inches of the bead. The strain may be anything from five to twenty tons, according to weight of car and speed.

(4.) An ordinary pneumatic tyre is more easily punctured, because its road tread absorbs sharp flints, etc., owing to the greater spread of the tread at the point of road contact, which also adds to the dust nuisance.

The McConechy patent corseted tyre briefly consists of a thin band of corseting, which runs circumferentially round the centre of the walls of the tyre cover on its inner side. The air tube, when inflated, takes advantage of the corseting to throw or direct its pressure against the ground tread of the cover, thereby setting up a form of compression chamber, which develops a keener and more responsive resilience, while the compression being on the vertical plane, the greatest cushion is concentrated on to the ground tread.

(1.) The corseted patent pneumatic tyre does not compress laterally; therefore the cords of the canvas fabric do not cut or burst.

(2.) For the same reason the air is not churned, and the only heat developed is that from road contact.

(3.) Owing to the air chamber acting in conjunction with the corseting in the cover walls, the staying effect is spread over from twenty to thirty inches of the circumference of the bead.

(4.) Puncture is less in evidence, because owing to the concentration of pressure on the ground tread it is narrowed, and the pressure acts as a repellent. No suction occurs between the tread and the road; therefore less dust is thrown up.

With these two comparisons I leave "X.X." to decide which is the better tyre. L. SIMPSON.

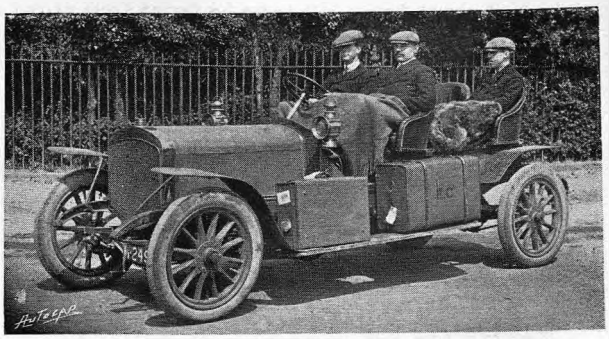
TOURING BODIES IN COMPETITIONS.

[12082.]—Before the next hill-climbing season I think that the Royal Automobile Club should come to some definite decision as to what constitutes a touring body for hill-climbs, and that this definition should be adopted at all hill-climbs throughout the country.

It should also be decided whether these bodies may be put on chassis when the latter are not fully painted and run thus in hill-climbs.

When considering this matter, I think that the Club should take into consideration the fact that hill-climbs are almost entirely supported by the manufactures, and that it is quite unnecessary in these competitions to fit a highly finished standard touring body. If this were insisted on very heavy expenditure would be incurred by those entering, as it would mean that every firm would have to put aside a number of highly finished bodies for a season's hill-climbs which would be unsaleable afterwards.

Nobody can now suppose there can be any difficulty in obtaining a thoroughly satisfactory body for touring purposes from any firm of standing.



In judging of hill-climbing merit the public do not look to the luxury of the body, but to the running of the chassis, and I should like to see a standard body adopted for all hill-climbs, which would save manufacturers needless expenditure and eliminate disqualifications, complaints, and acrimonious correspondence.

At present bodies which are allowed by judges in one contest are rejected in another, which is absurd and most unsatisfactory.

As a case in point, I may mention that my 45 h.p. Thornycroft car, which competed, without attracting any adverse criticism from the Royal Automobile Club officials, at the South Harting Hill-climb, was disqualified for the Midland Automobile Club hill-climb at Shelsley Walsh on the following Saturday.

One would naturally think that a car allowed to compete by the Royal Automobile Club would be passed by any provincial club.

I enclose a photograph of my 45 h.p. Thornycroft car entered in the above competitions.

TOM THORNYCROFT.

OFFICIAL EXAMINATION OF DRIVERS.

[12083.]—Regarding the motor car wrecked at Sheffield with the resulting injury to six persons, I would like to point out that this emphasises very strongly the necessity, as I have often advocated, of the careful examination of each driver of a motor car, professional or lay, before he is allowed to drive a motor car on the high road.

That official examination of the personal efficiency of each driver cannot be too seriously regarded is perhaps sufficiently obvious, but I may be permitted to point out a few reasons to more fully demonstrate my case.

In London, as an example, although the same thing is taking place in almost every large city of the world, horse traffic is gradually becoming ousted in favour of mechanical traction. Ignorant, bad, and criminally careless driving that I have myself been witness of in the driving of motor omnibuses and motor cabs, and the number of accidents that have already happened with these vehicles, are due entirely to the absence of official examination of their drivers. As the motor 'bus and motor cab become more in evidence, as in the natural order of events they are bound to be, the danger through ignorant and bad driving will become far greater. These motor omnibuses and motor cabs will be chartered, as they have been in the past, more and more for extended country trips, especially during the summer months, and this is only a loophole for more accidents to ensue.

A great many accidents are caused through skidding, and an accident of this kind is due generally to the driver, mainly by reason of his ignorance of some of the elementary rules in driving.

A driver normally efficient, unless he has had sufficient experience, may be hopelessly at sea and fall to bits in an emergency. There are thousands and will be many more thousands of newcomers owning motor cars and driving upon the highways, and as this traffic increases without the official examination of each driver, accidents are bound to happen due to this increase.

Moreover, there is an enormous number of motor car drivers who have not the faintest idea as to the margin of safety in the condition of their cars. It should be part of the official examination that each driver should answer satisfactorily questions with regard to the safe condition of his tyres, wheels, steering, brakes, and so forth. There is as much danger to the car, its occupants, and the public in a weak front tyre, defective steering, loose road wheel bearings, or rickety steering wheel, as in careless or ignorant driving.

Many motor drivers have very little idea of the speed at which they travel, as may be witnessed whenever they are held up by the police for exceeding the speed limit, for because a man is a motorist he is not necessarily a liar.

Before an engine driver takes the rails on his own responsibility he is submitted to a most searching examination as to his capacity. And yet he drives on rails. In the same way an electric car driver is carefully examined, yet he drives on rails. But the Government has allowed many thousands of motor vehicles of all kinds to be put on to the streets and high roads of this country, with the tremendous traffic encountered in the streets, and the wicked corners and hills in the country to be negotiated, without any preliminary examination of their drivers whatever, and grant a driving certificate for the sum of 5s. to any lunatic or dumb and blind person who may apply with the necessary funds in his hand.

In the above remarks I think I have clearly stated my case, which I contend is a very strong one, and I consider, if arrangements are not very soon made for an efficient official examination of every motor car driver on the road, that upon the Government will rest a responsibility of the gravest kind. It would be interesting to have your readers' views on this subject. ARCHIBALD FORD.

ENGLISH AND CONTINENTAL CARS.

[12084.]—G. R. Hindes Howell's letter [12045] in *The Autocar* of 13th inst. interested me considerably because it very fairly represents the position taken up by a large number of people with reference to the British motor trade.

Your correspondent appears to think that I have been duly crushed by your footnote to my previous letter, but as I was then only writing of automobile mechanism, I did not take tyres into consideration. However, I believe it is a fact that an Englishman invented the pneumatic tyre about 1848, but, undoubtedly, Michelin first successfully applied these tyres to motor cars.

I fail to see that I in any way confuse the case of racing with that of touring cars; the firms which are prominent in racing are equally prominent in the manufacture of touring cars, and it is very certain that it is mere child's play for a successful racing firm to build a successful touring car. If English touring cars were as good as those produced on the Continent, British firms would also be able to compete successfully with foreign racing cars. As an example, it is only necessary to mention the Renault. The racing cars of this firm are an exact copy (except in size) of their touring cars. So that if an English firm had entered a copy of their touring car for their Grand Prix, it would have had as good a chance as the Renault if it had been as well designed; or an English firm might have followed the example of the Germain Co. and entered two standard touring cars.

Sprint racing on a prepared track will not, I fancy, prove anything of the qualities of a car. It may be that the engine is severely tested, but the whole race can be run from start to finish with the clutch in and without changing gear or applying the brakes. Moreover, luck enters into a short race of this kind to a far greater degree than in a long race; as an instance, while an English car was placed second in the race for the Marcel Renault Plate at Brooklands, an Iris finished last, being beaten by three foreign cars.

G. R. Hindes Howell's references to the simplicity of the Iris are very much to the point. This make of car very well illustrates the statement in my previous letter. The first car produced by Messrs. Legros and Knowles has long since been abandoned, while a later model with a "new and original feature" in the way of universal joints has also gone the way of its predecessor; but in the latest models I am pleased to see that there is some approach to the simplicity of the racing Renault—since G. R. Hindes Howell asks for the name of a car of at least equal power to the 35 h.p. Iris—or the Renault 35-45 h.p., 20-30 h.p., or 14-20 h.p. types. I may also suggest that the designers of the Iris could, with very great advantage, study the simplicity of the 20-30 h.p. Westinghouse with a view to producing an equally simple and silent car. G. P. H. DE FREVILLE.

RUNNING EXPENSES.

[12085.]—I send you running account for twelve months for my 20-24 h.p. Clément-Talbot landaulet. I think the publication of cars' mileage and expenses is most interesting when such are accurately kept. I keep mine day by day, so that nothing is overlooked. Some of the accounts which you have published are so palpably in under or over estimation of running expenses that I think an account which has been correctly kept to a penny may be interesting to your readers as being a guide to the average expense of running any car of like weight and horse-power. I have not allowed for depreciation, as it seems to me a most difficult matter to determine, being largely governed by the manner in which the car is kept and driven.

RUNNING EXPENSES FOR TWELVE MONTHS FOR 20-24 H.P. CLÉMENT-TALBOT (FIRST YEAR).

		£	s.	d.
A.	Wages	104	0	0
B.	Tyres	82	7	3
C.	Repairs and renewals	39	11	4
D.	Petrol	26	15	6
E.	Small expenses, including also lubricating oils and grease	14	14	8
F.	Insurance	14	0	0
G.	Garage (1s. per day)	18	5	0
	Total	£299	13	9

Mileage, 6,612.

Cost of car when new in May, 1906, complete, £730. This includes four tyres supplied with car, lamps, horn, etc.

A. Wages of one driver mechanic.

B. Does not include four tyres supplied with car. Driving wheels 875 × 105; steering, 870 × 90. The car was undoubtedly under-tyred, and the makers now fit larger sizes. I used these sizes for twelve months, but have now Moseley's detachable 880 × 125 all round, and find them a great improvement in wear and comfort.

C. This amount includes new back axle, new cones and spindles to steering wheels, one new piston, new disc clutch, and one gear renewal.

D. At average price of 1s. 3d.

E. Lubricating oil and grease included in this item.

F. No accidental damage to car necessitating claim on the Assurance Co.

G. Average cost out and home. FUSILIER.

Correspondence.

PRICE OF MICHELIN TYRES.

[12086.]—A few weeks ago while touring in France, large advertisements appeared on the walls, telling users of Michelin tyres that a reduction in price had been made. I had just bought a cover (810 × 90 round tread), and I found that on June 15th a reduction of sixteen francs was made on this size. Since returning home, I have been expecting to hear of these reduced prices, but it has not come off. I write to bring it to the notice of motorists that they ought to claim this reduction, as the dealers must be keeping it in reserve.

H. BRIGHT.

[The new prices came into operation on the 15th inst., and no avoidable delay has occurred in the issue of revised price lists.—ED.]

COMPETITIONS.

[12087.]—There has been a great deal of criticism concerning the various formulæ adopted by the R.A.C. and other automobile clubs who organise and hold hill-climbing and speed competitions and various forms of reliability tests.

The presumed object of all these competitions and tests is to furnish reliable information for prospective purchasers. A most important point, therefore, is that cars taking part should be absolutely standard cars, as catalogued by the various manufacturers.

The first thing a prospective purchaser makes up his mind about is, how much he is willing to pay for a car, and having made up his mind that he is willing to pay £200, £400, £600, or upwards for a car he then begins to look around and gather in particulars of all cars coming within his price range. Only after having fixed his price range does the prospective purchaser become interested in hill-climbing capabilities, speed tests, and general reliability.

Most of the formula now used in competitions entirely ignores price, and, therefore, is, in my opinion, absolutely valueless from a practical point of view.

I beg to suggest to the officials of the Royal Automobile Club, and the various organisations affiliated thereto, that a proper and practical handicap for competitions should be as follows:

Time in seconds, being the time taken for hill-climb on other test, multiplied by pounds sterling, being the manufacturer's catalogue price of the complete car.

Competitions would be classified into rough groups, say, under £200, under £400, under £600, and so on.

The above suggested handicap formula is simplicity itself, but what is more, it is practical, and, in my opinion, would show the prospective purchaser exactly what he wants to know.

PERCIVAL L. D. PERRY.

[12088.]—We were very much interested to read two letters [Nos. 12051-2] under the above heading in your last week's issue.

We presume that both your correspondents allude only to the small local competitions and not to such searching tests as the Irish and Scottish Reliability Trials.

We were not aware that purchasers in general are guided to a very great extent by the results of the small local events; at any rate we think it would be very unfortunate if such were the case. We are, of course, quite aware that there are certain makers of cars who pay very special attention to contests of this nature, and spend a considerable amount of time and money in getting ready special cars, or in assisting their clients, so as to take advantage of every possible opportunity of beating competitors who are running some other make of car. Of course, there is nothing very wrong in doing this, so long as the firms who are successful advertise the results in a proper and sensible manner. We should be very sorry to think, however, that the bulk of the purchasing public gave more than a passing notice to such results. There are no doubt a few who like to have a car with which they can successfully compete, and who are not particularly concerned regarding other and far more important qualities usually demanded by those who wish to obtain cars giving all-round satisfaction. It would be a great pity if the very interesting, pleasant, and enjoyable meetings held by the local clubs should degenerate into mere trade competitions. We are sure the trade would be the losers in the long run were such the case. We ourselves are limiting our efforts almost entirely to the big events, such as the Scottish Trials and contests of an international character, which are, generally speaking, rather too big an undertaking for private owners.

Looking back on the competitions which have been held during the past six months, it is surprising how so many of the formulæ favour the small car; in fact, most of the winners are cars having a cylinder bore of less than 4in.

We think it is rather a pity that some of the clubs attempt to fix up a formula which will enable very small cars to run in competition with much larger ones. An owner of a 60 h.p. car, after going to the expense of attending a meeting and getting his car into trim, does not like to be always beaten on formula by a car of one-third the power, and he often has a strong objection to attempting to run his big and expensive engine at an extreme speed, even for so short a time as is taken by a hill-climb.

One of your correspondents suggests that the classes should be divided, so as to separate the private owner from the trade member. This, we are afraid, would be impossible, and would only serve to make manufacturers keener than ever to uphold their make of car, and to use every endeavour to beat their rival trade members. The result would be to put the private owner very much in the shade. It would also be a very difficult task to decide as to who was a representative of a trade firm or who was a *bonâ-fide* private user. Quite a large number of the competitors parading as amateurs are nothing more nor less than paid drivers in disguise. We should very much like to see some satisfactory solution of the difficulty, which we do not think is insurmountable.

We are quite in favour of the views expressed by "T.P.H." in the same issue, under the heading "The R.A.C. Hill-climbing Formula."

AUSTIN MOTOR CO., LTD.

[12089.]—Might I call your attention to the rules governing the open hill-climbing competition held under the auspices of the North-east Lancashire Automobile Club. I feel sure that the committee of this club, like that of any other similar club, are desirous of making their competitions as interesting as possible, but in this particular case I fail to see how great interest can be maintained, or a good race obtained, where so wide a range is given to cylinder dimensions in each particular class.

As an instance, in class E there is a range between a cylinder dimension of 100 to 150, or, roughly speaking, the same class would be open for four-cylinder engines of 6in. down to 5in. It is obvious that there can be no "race" between an engine with 5in. cylinders against an engine with 6in. cylinders.

I recently wrote a letter upon similar lines to the effect that some standard unit should be adopted by all clubs holding races in this country, and I would suggest that a meeting of the hard working secretaries of the various provincial clubs might find means of regulating what up to the present moment has been a most unsatisfactory method of judging local events.

D. M. WEIGEL.

[12090.]—I was much interested to notice in one of your recent issues some remarks on the subject of private owners in hill-climbing and other motor competitions.

It is very pleasing for the private owner to find an influential journal like yours taking up this matter, since, failing some change in the construction of motor competitions, they will soon become, from the amateur's point of view, entirely unattractive.

Competitions might well be divided into two classes:

(a) Confined to makers, agents, etc., and designed for the purpose of showing what cars can be made to do.

(b) Confined to private owners unconnected with the motor trade, and designed to afford amusement, and incidentally to show what the car normally will do.

The first of these does not much interest me, though, owing to the obvious absurdity of handicap, it would surely be far fairer to give everyone an equal chance by fixing the bore and weight of car, say, 4in. and 25 cwt., having stroke and engine speed to the makers' dimensions, and giving the prize to the fastest car. This method would help to show what is the best ratio of bore to stroke, and would avoid all tedious delays in working out handicaps.

The amateur class being confined to people who only compete for amusement and have no axe to grind do not mind muddles, provided no one is intentionally favoured, and might safely be left to the tender mercies of the R.A.C.

The main point to be remembered is that the genuine amateur does not want to be bothered by filling up all sorts of forms and conforming to all sorts of regulations. He wants to go to the hill, watch the others, take his own car up as well as he can, and then be quit of the affair.

The professional, on the other hand, competes for advertisement, and business, and being business requires quite different regulations from those which will satisfy the casual amateur.

This letter has already reached a terrible length, though I have barely skirted the question, and I, therefore, conclude with the hope that either *The Autocar* itself, or some of its correspondents, may be able to suggest some satisfactory solution, and thereby earn the gratitude of all private owners who care for this kind of sport.

O. S. THOMPSON.

EFFICIENCY AND HILL-CLIMBS.

[12091.]—I wish strongly to protest against the advertisement of Messrs. S. F. Edge, Ltd., which appeared in your last issue, and in which they state that "for efficiency" the 40 h.p. six-cylinder Napier beat a large number of cars at South Harting and Shelsley Walsh, including three Clément-Talbots. This is entirely misleading, and I append a copy of the results as published by the Royal Automobile Club and the Midland Automobile Club, so that your readers may judge for themselves as to the accuracy of Messrs. Edge's statement and the value of their advertisement.

At South Harting, Clément-Talbot cars finished as follows: 2nd, relative efficiency 72.35; 3rd, 71.60; 4th, 69.50; 6th (bracketed), 63.75; 7th, 66.8; 32nd, 43.35. Average, 65.39.

The six-cylinder Napiers occupied the following positions: 6th (bracketed), relative efficiency 68.75; 23rd, 49.35. Average, 59.5; the average relative efficiency in favour of the Clément-Talbots over the six-cylinder Napiers being 5.89 per car.

The 15-20 h.p. Clément-Talbot beat the 40 h.p. six-cylinder Napier in actual speed, their respective times being 2.237 and 2.280 minutes.

In the Midland hill-climb (Shelsley Walsh), Clément-Talbot cars finished as follows: 1st, marks on formula 1.675; 2nd (bracketed), 1.485; 2nd (with another), 1.485; 5th, 1.467; 15th, 1.217. Average, 1.4658.

Napier cars finished as follows: 6th, marks on formula 1.404; 29th, 1.058. Average, 1.231. Average in favour of Clément-Talbots, .2348.

The 15-20 h.p. Clément-Talbot again beat the 40 h.p. six-cylinder Napier on actual time, on this occasion by one second.

In the members' race at the same meeting, Clément-Talbots were placed as follows: 1st, marks on formula 1.485; 26th, 0.910. Average, 1.1975. (The latter is an obsolete type of car which has passed through several hands.)

The only Napier finished as follows: 16th, marks on formula 1.058. Advantage in favour of Clément-Talbots, .1395.

I do not think it necessary to comment on the above figures—they speak for themselves.

I have another complaint to make. On perusing the catalogue issued by Messrs. S. F. Edge, Ltd., I notice that they claim to have won the South Harting hill-climb last year on a six-cylinder car. The facts are that the first was a Stanley steamer, the second was my own 12-16 h.p. Clément-Talbot, and the third was Mr. Grogan's 12-16 h.p. Clément-Talbot.

This is another misleading statement, and I hope that the firm concerned will take the earliest opportunity of making the *amende honorable*.

T. H. WOOLLEN.

[12092.]—In your last issue appears an advertisement above the name of S. F. Edge, Ltd., advertising that the 60 h.p. six-cylinder Napier car did fastest time at the Shelsley Walsh Hill-climb, July 13th. According to the official times my car made the fastest in 1m. 7⅘s., the 60 h.p. Napier taking 1m. 9⅘s.

The advertisement appears to be misleading.

J. E. HUTTON.

[It is not our usual practice to insert letters in the correspondence columns drawing attention to statements made in the advertisements in this journal. As, however, there appears to be some misunderstanding with regard to the matters dealt with in the two preceding letters, we publish them here in order to afford Messrs. S. F. Edge an opportunity of explaining their position with regard to the matter.—ED.]

[12093.]—I was a spectator at the Shelsley Walsh hill-climb and noticed that in the open event the fastest time was made by an 80 h.p. Berliet, and in the closed event by a 35 h.p. Daimler. These times were substantiated by the report in *The Autocar* of July 20th, page 96. Under these circumstances, I am quite at a loss to reconcile Mr. Edge's statement in his advertisement that he made fastest time at Shelsley Walsh in the club event.

In view of the fact that the modern fashion in advertising is to secure at least a moral victory in every event in which such maker's car competes, it would be interesting to have Mr. Edge's explanation as to how he came to add this to the list of successes which Mr. Cecil Edge has made on the 60 h.p. Napier with which all interested followers of motor competitions are so well acquainted.

R. M. GREEN.

ENGLAND AND THE GRAND PRIX.

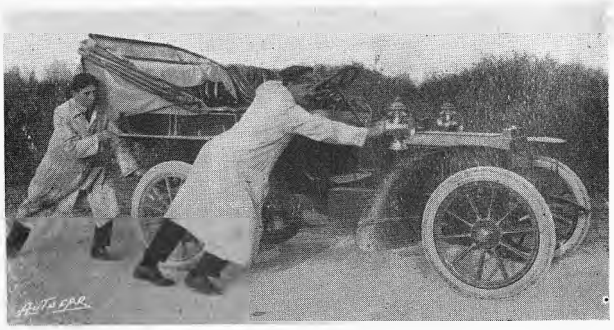
[12094.]—Your correspondent Mr. Sword [No. 12062] says, "There are motorists who are firmly convinced the Weigels are the best designs yet turned out in this country," and he goes on to say that "the Italian car Mr. Weigel slavishly copied was in its turn a copy of the Mercédès." The Weigel car was slavishly copied from the Itala car bought by Mr. Weigel, and a glance at it will show it purports to be a copy of the 1906 Itala. If the Itala Co. had copied the Mercédès it would not have a live axle drive, a disc clutch, a carburetter of its own, or its own unique system of firing. The Itala Co., like other big foreign firms, employs highly-salaried engineers who design their cars, and who are constantly improving their original designs.

As regards the entry of Weigel cars in the Grand Prix, it was certainly a plucky thing for Mr. Weigel to have done, and in this country it was a good advertisement. If Mr. Weigel had bought the Itala racing car that an employee of his enquired about, and had copied it as he did the touring car, he would have stood a better chance of winning the race.

ITALA AUTOMOBILES, LTD.

HOW TO BAULK THE POLICE.

[12095.]—The enclosed photograph may be of interest to your readers. My car has not broken down—it is a Peugeot, but owing to my activity in endeavouring to warn motorists of the traps, the police have openly vowed to catch me



if they possibly can. I therefore, on coming to a measured distance, deliberately get down and push my car through the trap. I can't think that even the P.C., hardened evidence giver though he be, could swear that I was exceeding the limit.

M. F. MELVILLE.

SUMMARY OF OTHER CORRESPONDENCE.

OXYGEN, ETC.—Mr. S. F. Edge writes that in his letter [12055] in reference to oxygen, "Lord Churchill" should be read for "Lord Stanley."

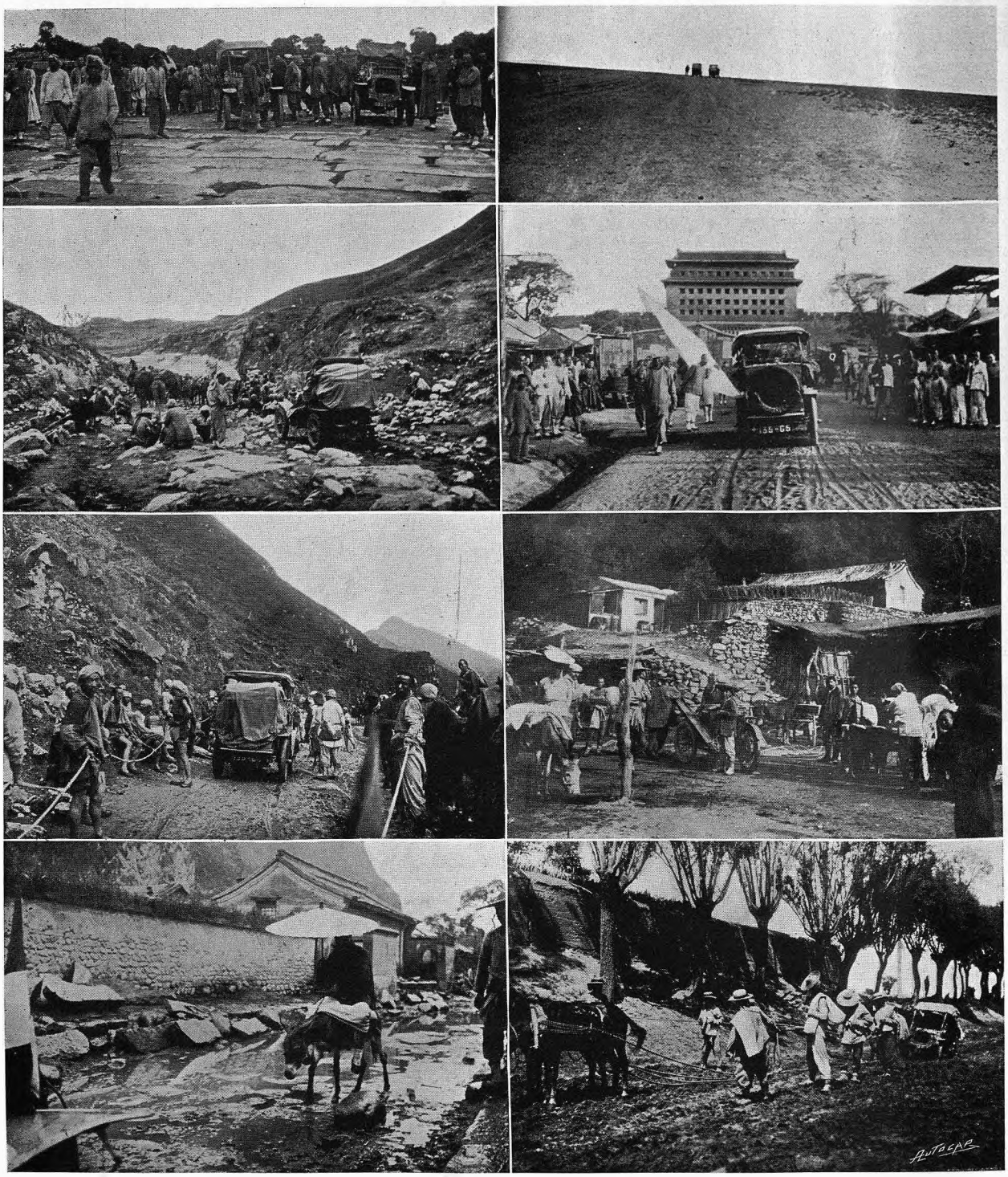
THE CHAUFFEUR DIFFICULTY.—Will "Ex-Soldier" please send his name and address in accordance with the rules under which letters are published?

"J. L."—Will this correspondent, who sends an account of his running expenses, kindly favour us with his name and address in compliance with the rules?

"LOOKING AHEAD."—In view of the fact mentioned in *The Autocar* last week in the article under this title that several makers of motor cars in this country are at the present time overstocked, Mr. H. Austin writes that his firm are as busy as ever, and cannot give delivery earlier than from two to three months ahead. The extensions which they are making will enable them to turn out between 500 and 600 cars next year, more than half of which they have already sold. Considering that the company has only been in existence about eighteen months, this is a very satisfactory state of affairs. Mr. Austin adds: "I, personally, quite agree with what you say, although at present at any rate we do not seem to be in any danger of over-production."

ON THE ROAD FROM PEKIN TO PARIS.

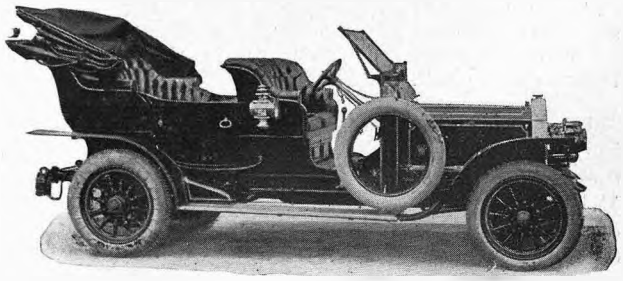
SCENES EN ROUTE AND SOME SAMPLES OF ROADS.



Early in February the proposal was made by a Paris journal that an endurance trial for cars should be held from Pekin to Paris, this route being chosen on account of its severity. The start, which took place on June 10th, was accomplished after innumerable difficulties, not the least of which was the reluctance of the Chinese Government in taking the responsibility of the safe passage of the travellers through China. No less than 150 coolies were employed to help the cars over the first stage of the journey, and without doubt their aid was sorely needed. Bridges were found to be non-existent, roads were mere boggy cart tracks, and the route itself followed the most difficult country. The starting cars were an Itala, Spyker, two De Dions, and a Contal tricar. The latest news is that the Itala car has a good lead.

Flashes.

H.R.H. the Duke of Connaught has placed an order for a 30 h.p. Daimler chassis of 10½ft. wheelbase.



One of the difficulties in connection with the use of a leather Victoria hood is to get it to close down neatly and to lie fairly flat. In a body lately built by Maythorn's, of Biggleswade, to a Daimler chassis, this difficulty has been cleverly overcome by using double-jointed stays of a peculiar design. The front of this hood comes down level with the back of the front seats and is provided with a concealed screen and side curtains so that the rear seats may be entirely enclosed.

Residents in the district of Milford, on the Portsmouth Road, the centre of vigorous motor trapping, have a distinct grievance against the local police. A burglary was successfully carried out there a few days ago, and a large amount of valuable property stolen. At the time of the burglary a motor trap was in operation within a quarter of a mile of the house, and it is reported that no fewer than eleven constables were engaged in this duty. The thieves being aware that the police were thus occupied, made the most of their opportunity, and, needless to say, they escaped with their booty. What the luckless householder thinks of the "guardians" of his property may be better imagined than described.

* * *

We are informed that Miss Ratcliffe, who drove a 10-12 h.p. Humber doctor's car in the Birdlip Hill-climb, and who was awarded one of the special silver medals given by the Club for the amateur driving a car doing the best performance in its class, had only been driving a car about six weeks—a fact which speaks well not only for her own abilities but for the simplicity of the Humber car.

* * *

The Secretary for Scotland has issued his decision in regard to the Hawick inquiry, and the ten-mile limit has been imposed on the busy portions of the main routes through the town, the portions of those between the centre of the town and the burgh boundary, which were also included in the application, having been exempted from the order.

* * *

The engine dimensions of the Ariel-Simplex cars which competed at the Brooklands meeting on July 6th, but which were not included in the list on page 62 of *The Autocar* of July 13th, were as follows: In the Marcel Renault Memorial Plate and the Gottlieb Daimler Plate, 133 by 150; in the Byfleet Plate and the Stephenson Plate, 138 by 140.

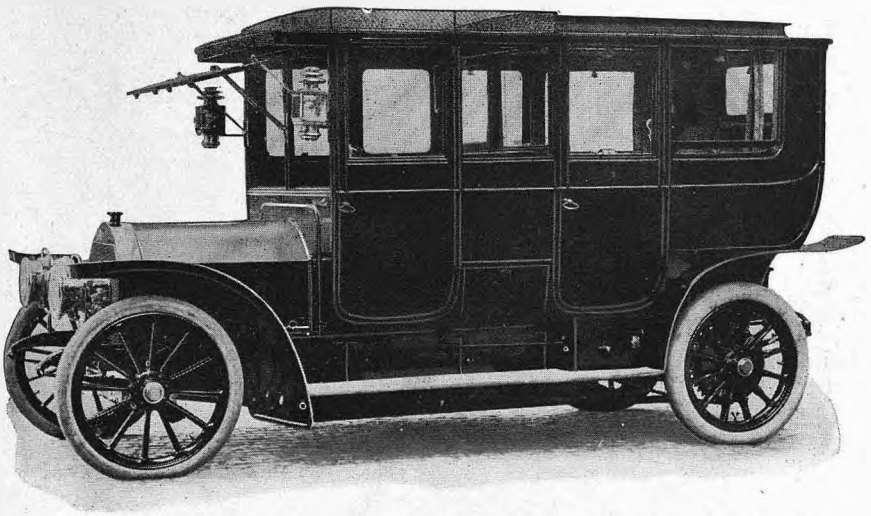
At a meeting of the Management Committee of the Society of Motor Manufacturers and Traders, on Thursday, July 18th, a letter from Mr. S. F. Edge and a communication from the Royal Automobile Club were read on the subject of the definition of a touring car, and a sub-committee was appointed to consider the definition and confer with the Club. Mr. Sidney Straker and Mr. H. G. Burford have been appointed to represent the Society of Motor Manufacturers and Traders on the Engineering Standards Committee in connection with the question of screw heads.

* * *

The press secretary of the Brooklands Automobile Club, Mr. R. W. Crowly, points out that the conditions for the race for the Belgian Plate, to be held on August 5th, are liable to be misconstrued, owing to the fact that two races are to be held over the Circuit des Ardennes. As a matter of fact, the Belgian Plate Race is open only to cars complying with the Kaiserpreis formula, so far as cylinder capacity and weight are concerned. This must be strictly limited to eight litres, and the weight must be less than 1,175 kilogrammes. The specification of chassis dimensions and bodywork will not be put into force.

* * *

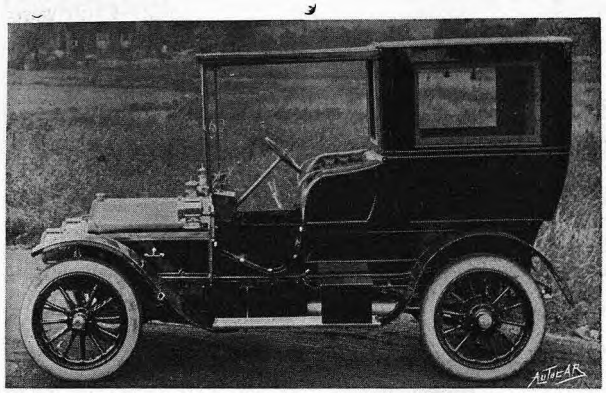
Mr. J. Downie, of the Western Motor Co., of Glasgow, who drove a 12-14 h.p. Argyll car in the Scottish Reliability Trials, makes the suggestion that an inspection of the condition of the cars should be made on the completion of the ordeal. In support of the suggestion, he states: "It is within my knowledge that one of the high-class expensive productions which put up a good performance throughout and will in all probability become a gold medallist, could not be driven out on the day after the conclusion owing to structural failures, which would undoubtedly have revealed themselves on inspection, and there were several with their road wheels in such a condition that I really felt quite nervous when driving near them." We should like to have the views of the Scottish Club upon Mr. Downie's suggestion, which is not without precedent, for subsequent examination and report has more than once been a feature of the Reliability Trials of the R.A.C.



A COMFORTABLE CARRIAGE. For comfort and convenience the 45 h.p. Mercedes Pullman limousine here depicted meets every requirement. The effective manner in which all the occupants are protected from the elements is easily perceived, but the special means for draught exclusion and ventilation are particularly noticeable; the rear part of the roof is constructed on railway carriage lines with carefully-arranged ventilating louvres.

Flashes.

The lack of knowledge of their own town's affairs shown by some men is quite pitiable. Even an alderman of Birkenhead mildly protested the other day



A particularly useful vehicle for 'country house' work is the type of body here illustrated, and which has been built on to an 18 h.p. Siddeley chassis for H.S.H. Prince Louis of Battenberg. It is a most useful and reliable vehicle, and suitable for all weathers as the top is removable.

against the carriage of motor cars on the ferry boats between that town and Liverpool. It was necessary to remind him that cars are not allowed on passenger boats when the goods steamers are running. By the way, here is valuable advice to trans-Mersey travellers with motor cars. Board the boat at the last minute; be the last on, and you'll be first off.

* * *

In winning the Werneth Low Hill-climb on July 13th in Class 3 with their six-cylinder Horbick, Messrs. Horsfall and Bickham found some compensation for the manner in which an unsatisfactory clutch leather let them down in the Scottish Trials. It will be remembered that this clutch leather burnt up and practically put them out of the running. When the car was returned to Manchester, one of the old hard leathers was fitted, and with this leather in operation Mr. H. W. Cranham easily won the Werneth Low Hill-climb in Class 3, making fastest time and getting the Motor Union medal for the best performance, irrespective of class. The steepest gradient of the hill is one in four and a half.

* * *

Should there not be some restrictions upon entrants for hill-climbs and all other forms of contests? At a certain important event last week-end, we were confidently assured that one competitor had only been driving a few days—certainly not more than two or three weeks. Small wonder there was a hitch.

* * *

The southern roads were in capital trim at the week-end, and on the Folkestone road on Sunday we encountered a large number of cars, many, judging by the luggage they carried, being bound for this and other seaside resorts. The Folkestone road is free from traps at present, and the lovely landscape rendered travelling most enjoyable.

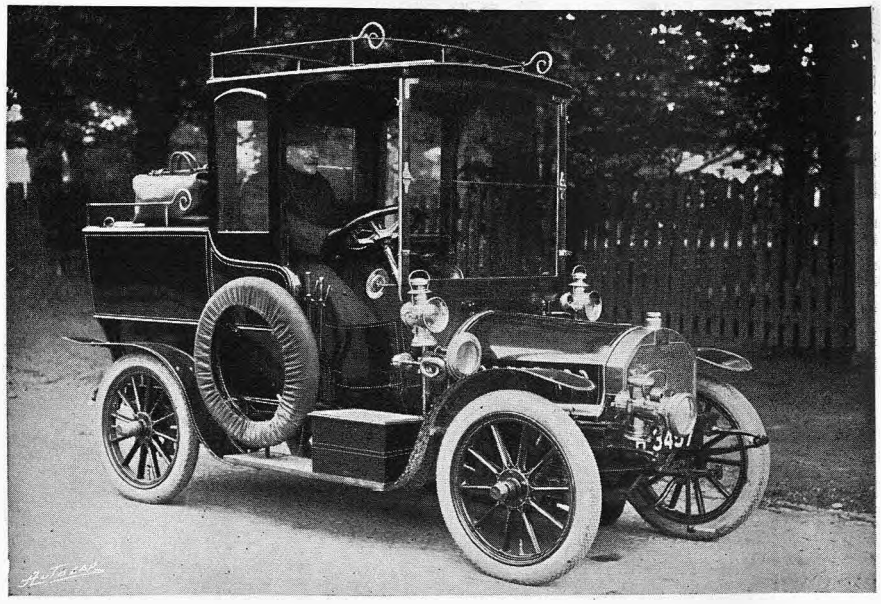
Would the two men who left Skindle's Garage, Maidenhead, between half past one and two o'clock on Sunday, the 21st inst., on a 15 h.p. Darracq chassis painted red, with a test body on it, and who were followed by a wire-haired fox terrier, which they picked up on the further side of the bridge and drove off with, be good enough to return the dog to Mr. Duncan Campbell, 81, Shaftesbury Avenue, W.?

* * *

Lancashire seems to be red hot on motor matters, judging from the two great events of last week-end—the hill-climb on Rivington's healthy moors and the M.U. meet at Southport. No wonder that the manager of a big firm which has a *recherché* depot in Manchester, says he has been delighted with Lancashire people; they are keen on big cars, generally ready to pay cash down (and a bit extra for prompt attention!)

* * *

During the King's visit, two cars from His Majesty's garage were brought to Cardiff. First of all, a 30-40 h.p. Mercédès came down by rail from Bangor, but the King's chauffeur, anxious that there should be no *contretemps* during the visit, decided that it was wise to have a reserve, and wired to London for a 35 h.p. Daimler. The King's driver took this car for a trial trip over the route on Friday morning, and decided that it should be used to convey the Royal party from Cardiff to Caerphilly. Both cars were housed for the whole of the time they remained in Cardiff at the garage of the Automobile Co. of Cardiff, in Charles Street, where the attention they received was highly praised by the King's chauffeur. The King's motor trip through Snowdonia is likely to still further popularise that picturesque country. For jaded city workers in need of a really bracing holiday the wilds of Eryri are unrivalled. Speaking to J. E. Greaves, Esq., Lord Lieutenant of Carnarvonshire, who expressed a hope that their Majesties had enjoyed their run through the passes of Ogwen, Capel Curig, and Llanberis, the King said: "Immensely. I enjoyed the tour through these mountains immensely. Your scenery here is beautiful."



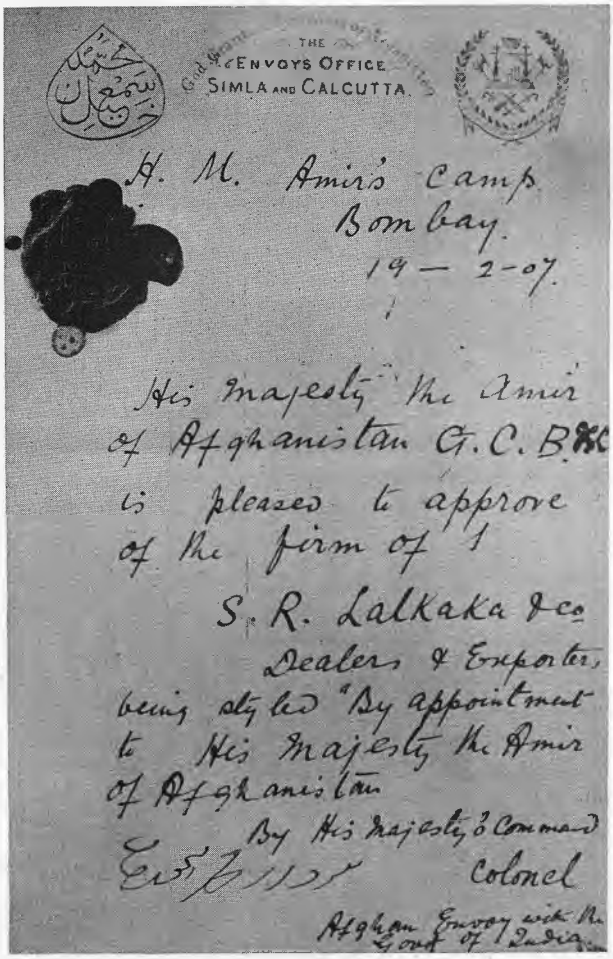
A COMMERCIAL TRAVELLER'S CAR. A 10-12 h.p. Brown car fitted with a special body designed for the use of travellers who call at a large number of small towns, many of which are very inaccessible by railway The car carries a considerable weight of samples and personal luggage in addition.

Flashes.

Under the heading of "Motor Accident," the *Birmingham Daily Post* of Saturday, July 13th, reports that "owing to a lady cyclist losing control of her machine whilst descending Priestley Road into Stratford Road, she collided with a motor car which happened to be passing at the time." The motor car, it was stated, was being driven at a moderate pace, but it was quite impossible to avoid an accident. When will the prejudiced daily press learn to discriminate between what are motor accidents and what are not? We do not suppose the paper would have called it a lamp-post accident if the lady had happened to have collided with a street lamp instead of with a motor car.

* * *

A novel form of trial is about to be undertaken in Ireland by Mr. Frederick Eastmead, of the Sunbeam Motor Co., of Wolverhampton. He proposes to drive from end to end of the country and back again without stopping his engine. The route by which he intends to travel from Mizen Head in Cork to Fair Head in Co. Antrim is a distance of 390½ miles, making a total for the whole journey of 781 miles. Mr. Eastmead's intention is to start from Mizen Head on Wednesday morning next at nine o'clock, and to travel *viâ* Bandon, Cork, Fermoy, Cashel, Abbeyleix, Kildare, Naas, and Dublin, reaching the Irish metropolis at 8 p.m. During the night he proposes to travel over the route covered in the trials of the Irish Automobile Club from Dublin to Ballymena, there branching off to Ballycastle. He returns by the same route, and expects to complete the journey in thirty-nine hours. The test will be officially observed by the Irish Automobile Club. It is not proposed to make any attempt to exceed the legal limit of speed, the object being to demonstrate the possibility of the car and engine running continuously for a distance of nearly eight hundred miles. It will be within the recollection of our readers that Mr. Eastmead successfully accomplished a similar journey from Land's End to John-o'-Groat's over a year ago. It is interesting to note that the car which he proposes to use in Ireland is the same vehicle which he used on that occasion. It has since covered many thousands of miles in Great Britain and Ireland.



On page 662 of *The Autocar* of May 4th last was published an illustration of the Amir of Afghanistan alighting from a Siddeley car. Underneath the picture it was stated that as a mark of his pleasure His Majesty had appointed the Wolseley Co.'s agents in Bombay to his service. This brought forward a letter from the Amir's engineer at Kabul, which was published in our issue of June 29th. In this our correspondent contradicted the statement that the Wolseley Co.'s agents had been appointed to the Amir's service. The reproduced warrant will, we think, clear up any points of controversy which may exist.

Everything is done by tabloids nowadays, though we have not yet arrived at tabloid fuel for motor cars. Even in this respect there were indications a year or two ago that solid fuel would be introduced for automobiles. However, nothing has been heard of it since. We are reminded of this by a dainty little coloured booklet which has come to hand from Messrs. Gamage, Ltd., illustrating and describing a tabloid medicine chest which contains all the necessaries for first aid. There are also carron oil for burns, castor oil to relieve the grit-laden eye, and so on.

* * *

An illustrated description of the new Humber cab will be found in this week's *Motor Traction*. This interesting vehicle, fitted with the standard 10-12 h.p. Humber engine, embodying as it does all the latest ideas of town carriage construction, offers great possibilities to the private owner who wants a well-appointed vehicle in which to run about town.

* * *

The six-cylinder Hotchkiss car, which lately finished its 10,000 miles reliability trial, under the supervision of the R.A.C., has been sent on a further 5,000 miles, upon the completion of which the car will have travelled 21,250 miles altogether, 15,000 of the total being upon every kind of road in the British Isles.

* * *

In returning from the Coventry M.C. hill-climb near Daventry on a small two-seater, we travelled for some distance in the wake of the Hispano-Suiza car, and were particularly struck with the small amount of dust which it raised. The car was not travelling very fast, but the roads were dusty, and as our field of observation extended over about fifteen miles of main road we had every opportunity of noting the dustless qualities of the vehicle.

* * *

Motorists will learn with regret that the severe strain of strenuous business during the past four and a half years, especially in connection with the Deasy Motor Car Manufacturing Co., Ltd., has caused a breakdown in the health of Captain H. H. P. Deasy which only a long rest can cure. To this end he has been ordered by his medical man to make a protracted sea voyage. Captain Deasy has our best wishes for a speedy restoration to health.

CLUB DOINGS.

CLUB FIXTURES.

July 27th.—Somerset A.C. Reliability trial.
" 27th.—Irish A.C. Open hill-climb.
" 27th.—Herts County A.C. Open hill-climb, Aston.
" 27th.—Manchester A.C. Run to Tideswell.
" 27th.—Crystal Palace A.C. Open hill-climb.
" 27th.—Liverpool A.C. Meet.
" 27th.—East Surrey A.C. Run to Cuckfield, King's Head Hotel.
" 27th.—Southern M.C. Gymkhana.
" 27th.—Cardiff M.C. Run to Southerdown, Dunraven Hotel.
" 27th.—West Essex A.C. Run to Billericay, Red Lion Hotel.
" 27th.—Midland A.C. Meet at Camwell Hall, Sutton Coldfield.
" 27th.—Notts A.C. Hill-climb, Hazlewood.
" 30th-31st.—Motor Yacht Club. Reliability trials.
Aug. 3rd.—West Surrey A.C. Gymkhana.
" 3rd-5th.—Southern M.C. New Forest tour.
" 3rd.—Sussex County A.C. Gymkhana.
" 5th-6th.—British Motor Boat Club. Cowes races.
" 5th.—New Forest A.C. Meet at Burley.
" 5th.—Essex County A.C. Gymkhana, Wickford.
" 7th.—Motor Yacht Club. Cowes Regatta.

Coventry M.C.

Very few competitors and visitors to the Coventry Motor Club Hill-climb, on Saturday last, thought for a moment that the hill chosen would be the same one as that which formed the scene of the contest last year. The hill was not made known to the competitors until an hour or so before the start, and during the fortnight or so prior to the event discussion had been rife as to its actual locality. The only clue given was that it was within a ten miles radius of Charwelton, the natural result being that the local manufacturers and keen amateurs who had entered had spent a large amount of time trying all the hills—and the district simply abounds in them—within the limit. It therefore came as a surprise to most people that Newnham Hill, near Daventry, was again to form the scene of the Coventry Motor Club's Hill-climb. The start this year was nearer Newnham village, and the finish was about 100 yards short of last year's spot. Total length, 1906, 1,135 yards; 1907, 1,300 yards. The stiffest portion is a short piece of 1 in 6 near the finish.

The road had been repaired in places where deemed advisable, though, as is always the case under such circumstances, it became somewhat loose later on in the afternoon. Men were stationed at short intervals all along the course with flags to signal the approach of a competitor, in addition to which there was a telephone arranged from the bottom to the top of the hill.

Weighing-in operations having been got through during the morning at Charwelton Railway Station, the contest was started soon after two by sending up the hill twenty-three of the twenty-six motor cyclists named on the programme. A report of the motor cycle event is to be found in *The Motor Cycle* of July 24th.

The first car to come into sight from our point of vantage on the 1 in 7 portion, near the top, was the 15 h.p. Ford. It came up slowly, and then stopped just in front of us and refused to go any further up the hill. This was very disappointing, as being the actual car which had just been awarded a gold medal in the Irish Trials, a good show was expected from it.

The class for petrol cars of 20 h.p. and under on Coventry M.C. rating was being run off first, and competitors came up one after the other in excellent style, so that there were no wearisome waits. The sensation of this class was the excellent way in which Mrs. Lewis brought up her 16-20 h.p. Rover. From the accompanying results it will be seen that she made fastest time in this class. It is interesting to note that the car is one of the 1905 Tourist Trophy Rovers, and one of the earliest four-cylinder cars manufactured by the Rover Company.

A surprise was caused when the little 10 h.p. Talbot failed to get up the hill, this being, we believe, the same car which so distinguished itself at Shelsley Walsh by winning on the handicap in the open event. A glance at the weights which we give of the competing cars conveys the impression that the driver of the car had slightly over-ballasted it in proportion to the power of the two-cylinder engine and the hill to be climbed.

Deasy cars figured both numerically and by their consistently good showing in the large car section. This was Class III. for petrol cars of any type over 20 h.p. on Coventry M.C. rating, and steam cars of any type. Unfortunately, the steam fraternity was not represented. The Napier and Daimlers provided the usual tit-bits of the afternoon by coming up the hill at their accustomed speed, as if it was practically non-existent.

One of the new cars in this class was the Nordenfeldt. This came up very steadily, until the driver missed gears and came to a standstill on the steep portion. A few willing helpers lent a hand, and with a push it started off again and completed the climb. A somewhat similar fate was shared by Mr. J. W. Stocks, driving the Scottish Trials De Dion. But he only stopped for about five seconds, and got going again very smartly without any assistance. Mr. Stocks also drove a De Dion in the first car class. It was a 15 h.p. car, fitted with one of the prettiest two-seated bodies we have ever seen, and came up excellently. The new Spanish production—the Hispano-Suiza—was running well, and appeared to be in much better form than when at Shelsley Walsh.

The competition took place in beautiful weather, and this combined with good organisation, made the whole affair very successful. The officials of the Coventry M.C., in particular Mr. E. W. Walford, the hon. sec., are to be congratulated on providing such a good afternoon's sport.

Cars were handicapped by the formula:

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

The h.p. being decided by the club's own formula:

$$\frac{N \times D^2 \times \sqrt{S}}{6}$$

The following two tables give the results in order of time, also the handicap placings, weight, etc. For the times X has been taken as a constant:

CLASS I.—Motor Cycles

CLASS II.—Petrol Cars of 20 h.p. and under on Coventry M.C. rating.

Car and Driver.	Formula h.p.	Total weight.	Time.	Place by formula.
h.p.		c. q. lbs.	m. s.	
16 Rover (Mrs. E. W. Lewis)	19.1	20 3 0	+0 38⅘	12
9 Riley (J. F. Buckingham)	7.1	12 0 14	+0 45⅔	2
17 Daimler (T. Astbury)	18.6	29 1 0	+1 6⅔	8
9 Riley (S. Riley)	7.1	12 1 14	+1 9⅗	6
15 Humber (A. E. Gould)	19.9	29 1 21	+1 14⅘	12
10 Alldays (E. J. Blackmore)	9.9	17 1 21	+1 15⅗	7
15 De Dion (J. W. Stocks)	16.7	27 3 21	+1 16	9
10-12 Humber (J. C. Maude)	15.8	11 2 15	+1 27⅖	13
10 Swift (J. Low)	11.1	14 3 7	+1 31⅗	14
10 De Dion (C. J. Newey)	7.2	16 2 14	+1 36⅘	4
9 Sizaire (R. O. Clark)	8.3	17 1 0	+1 40⅔	7
15 Humber (C. W. Hammett) ...	19.9	28 2 21	+1 51⅔	15
10 Alldays (S. Downing)	9.9	21 0 7	+1 55	10
6 Rover (W. Paddon)	5	12 1 21	+1 57⅗	5
10 De Dion (W. Guilding)	7.2	23 0 7	+2 3⅕	1
8 De Dion (E. G. Newey)	5.6	16 2 7	+2 8⅔	3
6 Phœnix (J. Van Hooydonk) ..	5.8	12 3 14	+2 13	11

CLASS III.—Petrol Cars of any type over 20 h.p. on Coventry M.C. rating, and Steam Cars of any type.

60 Napier (Cecil Edge)	56	34 1 32	—0 4⅔	7
45 Daimler (F. A. Bolton)	56.5	37 0 7	+0 2⅔	8
45 Daimler (G. Street)	56.5	34 2 0	+0 3	10
35 Maudslay (R. H. Verney)	37.3	38 3 21	+0 15⅗	1
35 Daimler (W. F. Holder)	45.7	33 1 0	+0 29	12
24 Minerva (Capt. Byron)	24.7	*	+0 33⅘	—
24 Deasy (P. Graham)	25.6	33 0 2	+0 34⅗	2
15 T.T. Humber (A. E. Gould) ..	25.8	29 0 21	+0 35⅕	6
24 Deasy (Miss M. Hind)	25.6	33 2 21	+0 46⅔	3
20 Hispano Suiza (W. Weekes) ..	22.3	30 3 14	+0 55⅔	5
18-24 Standard (R. W. Maudslay)	24.9	35 2 7	+1 15	8
24 Deasy (E. W. Lewis)	25.6	33 0 21	+1 15⅔	11
24 De Dion (J. W. Stocks)	26.2	36 3 14	+1 15⅗	9
24 Deasy (E. N. Greaves)	25.6	33 3 0	+1 48⅕	4
26 Nordenfeldt (W. B. Leach)....	Not placed.			

* Not weighed.

Crystal Palace A.C.

This club has just had presented to it for competition at its Bexhill meeting on August Bank Holiday a silver cup, from the Mayor of Bexhill (Alderman Glover), to be called the Mayor's Cup, and also a thirty guinea cup from Mr. Spyker, of Amsterdam. Both cups are to be won outright.

Star Hill, leading from Dunton Green to Knockholt Pounde, has been chosen for the hill-climb due to be run off to-day (Saturday).

Transvaal A.C.

We are in receipt of a copy of this club's report which was read at the fifth annual general meeting on May 2nd last. From this we learn that at the end of March 31st, 1907, the membership numbered 180, and the statement of accounts shows the club to be in a sound financial condition. A pleasant part of the proceedings was the presentation of a silver bowl to Mr. W. Wolstenholme, the hon. sec., as a recognition of the invaluable services he has rendered to the club during the past two and a half years.

Sussex Motor Boat Club.

We are informed that, at the Brighton Regatta on the 13th inst., both the *Lady Ada* (owned by Mr. H. J. Preston) and the *Esther* (owned by Mr. J. Angus), the first and second boats respectively, were fitted with Brooke marine motors.

Bradford A.C.

The balloon chase held by the above club on Saturday was disappointing on account of the fact that the weather was cloudy, everything being in favour of the balloonists. The start was made at 3-30, some thirty cars taking part. The wind being south-east, most of the cars took the road in the direction of the Lake District and Lancashire. Within ten minutes of the ascent the balloon was hidden by clouds, and in reaching an altitude of 4,500ft. encountered an entirely different current of air, taking it in a south-westerly direction. The descent was made at Mirfield, only ten miles from the starting point, the balloon having made a complete circle passing over Thornton, Halifax, and Todmorden, then back to Mirfield. No car arrived on its descent, the nearest competitor being at Todmorden, some eight miles away.

North London A.C.

Captain Cecil Banbury, who some time since consented to become vice-president of the North London A.C., has presented a handsome silver cup for competition at the club's reliability trial next year.

The Scottish A.C.

The committee of the Scottish A.C. have tendered their thanks to Mr. H. A. Watt, M.P. for the College Division of Glasgow, for his kindly interest in the Lighting of Vehicles Bill, in introducing an amendment (which was adopted) extending the provisions of the measure to Scotland.

One of the small cars finishing in the Coventry Motor Club's Hill-climb on Saturday. Last year the finishing point was 100 yards farther round the bend, but the total length was increased for last Saturday's event by having the start nearer Newnham Village than was the case last year.

Club Doings.

Herts. County A.C.

For the annual open hill-climb at Aston Hill, near Tring, to-day (Saturday), sixty-one entries have been received. The cars will be weighed in at Boxmoor Station, L.N.W.R., and the weighbridge will be closed at 1-30 p.m. sharp. The hill contest will be started at 2-15 p.m. instead of 3 o'clock as previously announced. It should be noted that the committee have decided not to allow the use of oxygen or other extraneous aids to combustion. Members and competitors should be on the look-out for police traps at Hendon, Edgware, between Edgware and Stanmore, on Bushey Heath, and the usual four-mile trap between Berkhampsted and Tring.

Derby and District A.C.

On Saturday last the members of the club held a speed-judging contest, which, as far as the Derby and District Automobile Club is concerned, is an entirely new form of competition. The meeting place appointed was at the cross roads on the summit of Cumber Hill, near Duffield, and the route chosen was along Windley Lane, through Weston Underwood, and back along Kedleston Road to the starting point. Members were allowed to name the miles per hour at which they intended to do the circuit, and the two making the least percentage of error took silver and bronze medals for their respective performances. Each car carried an observer to ensure that the driver relied on his judgment alone. Results were as follow: 1, H. G. W. Dawson (8-9 h.p. Swift); 2, Chas. J. Allin (8-10 h.p. Humber); 3, Geo. B. Fletcher (10-12 h.p. Humber).

Edinburgh M.C.

The second of the hill-climbing competitions of the Edinburgh Motoring Club was held in the afternoon of July 20th within the private grounds of Firth House, near Penicuik. Thirty-one cars took part in the competition, which was run on a stiff gradient of about 1 in 6, covering a distance of 605 yards. The following are the times:

W. L. Sleigh (Berliet)	1m. 8s.
J. Graham (Daimler)	1m. 9½s.
G. H. Halley (Weigel)	1m. 13s.
R. Scott (Peugeot)	1m. 14½s.
A. Donaldson (Austin)	1m. 17s.
— Sawers (Mercédès)	1m. 19s.
T. M. Sleigh (Napier)	1m. 19s.

Another interesting competition was one in which the ladies took part, prizes being awarded to those who in carrying a tumbler of water had most in the glass at the end of the speed trial. The result was as follows: 1, Mrs. Alexander; 2, Miss Flint.

Prizes for the best-dressed chauffeur were awarded to: 1, John Oliver; 2, C. E. Gray.

Considerable dissatisfaction has been expressed with regard to the loose interpretation of the rules governing the above competition. The entry form stipulated ordinary touring bodies, and yet it is asserted that the winning car had neither mudguards nor footboards, and that the absence of the former was an important factor in negotiating the sharp corners, of which there were several. Now a touring car without mudguards or footboards would be a most extraordinary vehicle.

Ladies' A.C.

On Saturday afternoon last Colonel and Mrs. Mark Mayhew gave a large garden party at their charming country seat, Bookhams, Churt, where a number of distinguished guests and well-known members of the automobile world were bidden to meet the members of the Ladies' A.C., who turned up in considerable strength. The guests were received upon the lawn by Mrs. Mark Mayhew and Miss D'Esterre Hughes, with Col. Mayhew, who were kept quite busy for a long time by the arrival of no less than some 300 invitees. The cars were parked in the paddock, the arrangements for stalling and their marshalling affording an example to the Brooklands officials, were they wise enough to take advantage of it. The band of the 16th Lancers discoursed sweet music throughout the afternoon, and really brilliant weather favouring the function, it must be regarded as one of the successes of the automobile year. Among those present we noticed Capt. and Mrs. O'Neill, Earl and Countess Russell, Mr. and Mrs. Ingam Whitaker, Capt. W. M. Stewart, Mr. and Mrs. Doulton, General and Mrs. Henry Wilson, Major and Mrs. Grant, Dr. and Mrs. Rideal, Col. H. R. Lloyd, Capt. Townshead, Lt.-Col. and Mrs. Mark Wardlaw, Col. and Mrs. Taylor, Viscount and Viscountess de Satge, Hon. and Mrs. F. Lloyd-Anstruther, Baroness Campbell von Laurence, Hon. Mrs. Assheton Harbord, Mrs. Hartung, Mrs. E. de Lisle, Mrs. Madocks, Mrs. Geoffrey Marks, Mrs. Merryweather, Miss Molyneux, Mrs. Carpenter Rowe, Lady Geraldine St. Lawrence, Mrs. Frame Thomson, the Misses D'Esterre Hughes, Mr. and Mrs. Freeston, Mr. and Mrs. Harry J. Swindley, and Mrs. Jardine of Jardine.

British Motor Boat Club.

The courses for the races at Cowes have not yet been definitely settled. It is the object of the racing committee to lay down a course which will keep the boats free from the crowded anchorage, yet at the same time give the people ashore and afloat a full view of the racing.

The sea mile contest for *The Motor Boat* Challenge Cup will be held over the Stokes Bay measured mile on August 8th. The race for the A. J. Wilson perpetual challenge trophy and B.M.B.C. gold medal will be run off on August 6th.

Motor Yacht Club.

The chief event of interest on the *Enchantress* last Saturday was the arrival of *Dixie*, the American challenger for the British International Cup Race on August 3rd, which ran down from Messrs. Summers and Payne's yard and brought up alongside to formally introduce herself to the members of the home club.

Saturday's racing consisted of the usual handicap for members' motor boats and a race for the one design sailing class, the one design motor boats not being able to make a match owing to the absence of owners. Handicap and times as follows:

Handicap.	Elapsed time.	Corrected time.
	H. M. S.	H. M. S.
3. *Iris II.* (Mr. G. H. Knowles) ...	allows 4 33 30	4 33 30
1. *Fleurette* (Mr. O. B. Colls) ...	37 4 31 12	4 30 35
2. *Napier IV.* (Mr. S. F. Edge)...	1 10 4 33 20	4 32 10

There was a good race in the one design sailing boats, there being a nice sailing breeze. Mr. Hind went off with the lead, and increased his distance at the After Barn, the other overshooting the mark by standing inshore too long. Mr. Brickwood, steering the second boat, just beat Mr. Hearman on the line.

A prize has been offered by a member of the Club for a novel race for motor boats. The suggestion is that boats should be started from the *Enchantress* after dark and proceed to several spots up different rivers and creeks, such as Bursledon, Newtown, Beaulieu, etc., the actual destination to be communicated to competitors after they have started by an observer on board each boat, who will see that his boat actually reaches a certain point up each river or creek.

The programme for to-day (Saturday) is of a varied character. The chief event is the eliminating race to choose three boats to defend the British International Cup on the following Saturday. In place of the weekly members' handicap there is to be an open handicap for motor boats. The first race for the Novices' Challenge Cup is also to be held, and there are to be races for the one design motor boats and for the Club sailing boats.

In connection with the exhibition of the competing vessels in the dock (No. 4 Graving), the following regulations will be in force: The public will be admitted on July 29th from noon to 7 p.m., and on August 1st from 11 a.m. to 6 p.m. The dock will be closed to the public at 7 p.m. on the first day, so as to leave two hours for final preparation of the vessels before the gates are shut for the night.

Southend and District M.C.

The first hill-climbing competition promoted by this club was held last week on Langdon Hill, which has an average gradient of 1 in 10 with a steep portion of 1 in about 6½. The surface at the top of the hill was very loose. Captain Showers, chief constable of Essex, had kindly sent Supt. Jordan, of the Grays Division of Police, with half a dozen constables, so that order might be kept, and the club is much obliged to the police for their courtesy and their valuable assistance. The official results of the car class are as follows:

	Handicap marks. On time.	Unknown
Mr. Perry's 15 h.p. Ford	1	as yet.
Mr. Spencer's 8 h.p. Maxwell	3	188
Mr. Head's 16-20 h.p. Humber ...	2	123
Dr. Laing's 10-12 h.p. Humber ...	4	120
Mr. Greenfield's 10-12 h.p. Humber ..	0	not timed.

The winner on handicap of the gold medal offered to the winner of the car class cannot be decided until the number of marks obtained by the Ford car is known.

HOW TO SEE THE LAKES BY CAR.

(*Concluded from page 112.*)

Wastwater.

There are two ways to Wastwater, *viâ* Coniston or *viâ* Cockermouth. The latter is the better, but longer. I will, however, describe a round, going by the former, returning by the latter. As before mentioned to Coniston, thence along a shocking road past Torver, straight on to Broughton. This road is only a cart track, mostly unmetalled; the gradients will require constant use of the lowest gear. There is a steep descent into Broughton, turn to the right in the town, and up an even steeper hill out of the town. This hill may require backing up. There is then a very steep drop, after which the River Duddon is crossed. About two miles on from here is a road fork; follow the right-hand branch to Whickham. This is a very hilly, rough cart track, requiring constant change of gear. At Whickham turn to the right, and follow the main road, which is very bad, narrow, and in places steep. The signposts are all "To Whitehaven." After crossing the River Esk there is a steep hill past Muncaster Castle. About a mile from Muncaster Station leave the main road and turn to the right up a hill—signpost "To Santon Bridge." When the road forks keep to the left to Santon Bridge, through a gate. Do not cross the bridge, but keep straight on up a very steep hill, which will require the lowest gear, and when over the brow of the hill the road forks, keep to the right. This will take you along a very bad road which runs along the western shore of Wastwater. There is a small inn about a mile beyond the head of the lake.

Returning by Cockermouth, retrace your steps until about a mile from the foot of the lake, then turn to the right by a signpost "To Gosforth" over a cart track with many gates across it. It is undulating, but contains no very severe hill. At Gosforth the main road is rejoined; this has a bad surface, though slightly less precipitous hills, as far as Whitehaven. Turn to the right in Whitehaven, and follow a long but not very severe hill out of the town; the second speed will be required. This is the main road to Cockermouth, and has a very good surface all the way, and no very severe gradients. Follow the signposts all the way. Keep straight on through Cockermouth, along an excellent road to Bassenthwaite Lake Station, following the signposts "To Keswick via Bassenthwaite Lake Sta." The distance to Wastdale Head Inn *viâ* Coniston is fifty-two miles, and *viâ* Cockermouth sixty-six miles, but the latter will be found the faster road.

Thirlmere.

There is a splendid road all round Thirlmere. To Dunmail Raise as above, then to the left about a mile over the summit, and straight on through Armboth. When at the foot of the lake turn to the right and follow the road along the top of the dam. Then turn to the right again on to the Keswick Road. The distance from Lowwood round the lake and back is twenty-eight miles, and except for Dunmail Raise there are no hills involving change of gear.

Crummock and Ennerdale Waters.

There are many ways to Crummock, but the only one fit for a car is along the Cockermouth Road until about four miles from Cockermouth. There is then a turning to the left over a level crossing at Embleton Station. Follow this and keep straight on up a stony road over a steep hill; about a mile from the station the road forks. Keep to the left, and about half a mile further on to the left again. The road then improves somewhat, and there are signposts all the way "To Buttermere." Follow these over several sharp little hills until Crummock Water is reached. The latter part of this road is very bad and stony, and has several gates across it. To Crummock Water from Lowwood is thirty-five miles; very bad roads after Embleton.

The best way to Ennerdale Water is to proceed to Cockermouth, and, instead of following the direct road to Whitehaven, turn to the left in the town, and go up a fairly steep hill past the market. This may require a change to the lowest gear. When at the top of the hill follow the main road to Egremont; signposts all the way, a fairly good road, but narrow, and covered with stones, with few hills. About nine miles from Cockermouth there is a signpost to Ennerdale Bridge; follow this road through Kirkland, and then down a fairly steep and dangerous hill (lowest gear required on return journey), and at Ennerdale Bridge turn to the left and follow a cart track, keeping to the left where it forks to the Angler's Inn. There is no practicable road to any other part of the lake. To the Angler's Inn from Lowwood is forty-four miles; bad roads after Kirkland.

To Haweswater, Esthwaite, and Loweswater.

The best way to Haweswater is to proceed to Windermere village, and then follow the signposts to Kendal. The hill out of Windermere is steep, possibly requiring the lowest speed in places; after that give and take, with much gear changing until a mile from Kendal, when there is a steep descent into that town. Turn to the left past the station, and follow the main road to Penrith. It is a rise with occasional short dips all the way to Shap summit, ten miles from Kendal. The road is very rough, but not really steep. Most of the climb can be done on the second, but the low gear will be required near the top. The descent on the other side to Shap village is not so steep, but there are long patches of unrolled stones. Turn to the left through Shap village, and follow a very narrow road to Bampton. The surface is indifferent. At Bampton turn sharp to the left and follow a cart track along the north-west shore of Haweswater on to Mardale, where there is a nice little inn. Another way home would be *viâ* Ullswater, and will be described later. The distance to Mardale Inn by this route is thirty-seven miles over fair roads.

To Esthwaite Water, proceed as in the first route to Coniston, but follow the signpost to the left "To Hawkshead"; pass through Hawkshead, over bad and hilly roads, necessitating constant use of lowest gear, along the west bank of Esthwaite, then round the foot of the lake back to Hawkshead, and home the same way. The complete round is about fourteen miles, over cart roads after Clappersgate.

To Loweswater follow the road to Crummock as far as the signpost at Scale Hill to Buttermere. Keep to the right here, past Scale Hill Hotel, down a very steep hill, which road leads along the north shore of Loweswater. It is fearfully rough and generally undesirable. The best way home is to keep straight on over the moors past Mockerkin until the main road

How to see the Lakes by Car.

Egremont to Cockermouth is joined. This round is about seventy-seven miles over execrable roads when the byroads are followed.

To Buttermere keep straight on past Crummock Water up an extremely steep hill, over a road covered with stones, mostly sharp, until Buttermere is reached about a mile beyond the head of Crummock, and forty miles from Lowwood.

Grasmere and Rydal Water are best seen from the main road to Keswick; Brotherswater from the Kirkstone Pass road.

To see the lakes comprising the first group, proceed on the second route to Coniston, but instead of crossing Skelwith Bridge keep straight on to Elterwater. Then retrace your steps through Clappersgate, and take the first turning to the left. This comes out on the Keswick Road by Rydal. See Rydal and Grasmere, and return by the main road. About eighteen miles.

For the second group, proceed by either route to Coniston, on to Greenodd, then follow the signposts to Hawkshead. This road is not hilly, but has very bad surface. Go round Esthwaite and return as directed for that lake. Distance, about forty miles.

For the third group, go to Keswick *viâ* the road on the west of Thirlmere, then go round Derwentwater, on to Bassenthwaite, round this lake back to Keswick, and home *viâ* the east of Thirlmere. The roads are all described above. The distance is about sixty-one miles.

For the fourth group, as directed to Buttermere, then back *viâ* Scale Hill Hotel to Loweswater, on to Mockerkin, turn to the left along a cart track leading into the Cockermouth and Ennerdale Bridge Road, on to Ennerdale, back to Ennerdale Bridge, then follow the signposts over a rough, narrow and steep road to Calder Bridge, where the road Whitehaven to Gosforth is joined, then to Wastwater, and back by either of the routes described. The roads are all described above, except the piece from Ennerdale Bridge to Calder Bridge, which is very bad. Distance, 130 miles.

For the fifth group of lakes, take the course as directed on the preceding page to Hawes Water, then back to Bampton, and along a very fairly good road (the Penrith Road) to Yanwath. Here turn sharp round to the left, and follow the signposts to Pooley Bridge. There are no gradients of importance all the way, and the surface is quite good. Proceed up to Brotherswater and back past Patterdale, along Ullswater. Turn up to the left at a signpost "To Matterdale," and climb the stiff hill, on your low gear if you can, if not on the reverse. The surface is good and the road wide. After Matterdale there is another hill to climb, and the road deteriorates to Troutbeck Station. After this, turn to the left and follow the main road to Keswick; bad surface, narrow, and involving much gear changing. The whole distance from Lowwood and back through Keswick is ninety-eight miles.

Although in many cases the roads to these lakes are execrable, the lakes themselves well repay the trouble of visiting them, and in every case I have endeavoured to give the best route, or perhaps some will say the least impossible.

PERSEUS.

REVIEWS.

Motoring Maps. We have received from Messrs. W. and A. K. Johnston, Ltd., Edinburgh, a copy of their "World-wide" map of Scotland, and another map belonging to the same series, of the Lothians, Peebles, Selkirk, Berwick, and portions of the adjoining counties. The scale of the former is eight miles to an inch, and that of the latter three miles to an inch. On the county map the main roads are permanently shown in brown, the names of hills and their altitudes are printed in vermilion, the by-roads and footpaths are plainly shown, while the rivers and watercourses are printed in light blue, the same colour as the sea. The depth of the sea is also stated in feet at intervals, and other interesting and useful particulars are given. The map of the whole country does not, of course, contain so much detail, but here all the main roads stand out prominently, and tables are given of the main motoring routes with the intermediate distances, and of the distances of the principal towns, not only of Scotland, but of England and Wales also, from Edinburgh and Glasgow.

"Annuaire de Route." Published by the Automobile Club de France.—We have here to hand the 1907 edition of the above excellent publication. This is a book which should be of considerable use to automobilists of France, and no less to those of England who use their cars outside their own country. It is compact, and of an easily portable size. It is in three parts: I., France; II., foreign countries (from which we notice that in the estimation of the compilers this police-ridden island—and no wonder—is omitted as being a region to be eschewed by tourists); III., Algeria, Corsica, and Tunis. In the alphabetical list of towns, statistical, topographical, and other particulars are to be found which are likely to prove of interest or value to automobilists. The whole book bears evidence of having been very carefully compiled, and, with the hardly noticeable exception mentioned above, is most complete.

When motorists are halting in provincial towns it is seldom indeed that with the time at their disposal they are able to come readily across a suitable guide book which will in a few brief paragraphs indicate to them the special objects in such towns that they should make some effort to inspect. This want has now been met by Mr. Edward J. Burrow, publisher, of Cheltenham, in the shape of the Borough Pocket Guide Series, which treat of no less than 250 towns, and can be obtained from Mr. Burrow at Cheltenham post free 2½d. each. They are also on sale at the office of the Royal Automobile Club, 18, Down Street, Piccadilly, W. We have carefully examined the various guides dealing with towns with which we are acquainted, and find that they give all particulars necessary to visitors desirous of seeing what there is to be seen wherever they may find themselves.

The 1907 issue of "*The Autocar* Logbook" contains the same useful features as last year, and to bring it as far as possible up to date, many pages of interest have been added, besides fresh pages ruled and printed, in order that an account of motoring expenses may be kept in a concise form. Means are also provided for noting the number of miles run by and incidents occurring in connection with tyres. "*The Autocar* Logbook" can be obtained from our publishers, Messrs. Iliffe & Sons Ltd., 20, Tudor Street, London, E.C., price by post 3s. 2d.

"Travellers' Practical Manual of Conversation." This is a handy little book of conversational sentences in four languages—English, French, German, and Italian. The subjects covered are dealt with alphabetically, one of the sections being devoted to motoring. Besides these conversational sentences, which occupy the main body of the book, there are notes on travel, tables of money, and instructions as to the pronunciation of foreign words. Another portion of the book gives the foreign equivalents of numerals, weights and measures, an extensive vocabulary in the four languages, and other useful matters. The object is to enable the tourist to make his way with ease wherever French, German, or Italian is spoken. The publishers are E. Marlborough and Co., 51, Old Bailey, E.C.

The Irish Motor Directory, 1907. In reviewing this useful work recently, it was by a clerical error made to appear that it contained the names of 4,000 motorists registered in London. This, of course, should have been Ireland, as the only motorists therein registered are those of that country. The publisher is Mr. W. Tempest, Dundalk.

MOTORING AND HEALTH.

Dr. L. P. Gibson, of Cowes, Mr. S. F. Edge's physician, has contributed to the *British Medical Journal* some interesting notes upon the record driver's condition before and after his twenty-four hours' drive on the Brooklands Racecourse. As these particulars have not appeared elsewhere, and are supplementary to the particulars given by our own medical commissioner, Dr. W. E. C. Musson, M.R.C.S., L.R.C.P., we give an extract from them for the benefit of those of our readers who never see the *British Medical Journal:*

PHYSIOLOGICAL EFFECTS OF PROLONGED STRAIN.
Mr. Edge's Record Motor Drive.

"Before the race, Mr. Edge for some time took all opportunities of long motor drives about the country, and then one week's absolute rest from business and from any lengthy drives just before the race, to avoid staleness. He took no kind of special training diet, only living very simply, taking plenty of fruit, cocoa, fish, vegetables, a moderate amount of meat, and no tea. During the race he had fruit (oranges, grapes, strawberries, and bananas), with occasional drinks of cocoa and beef-tea (very little), some chocolate, and beef lozenges; he also took 1 grain extract coca, made up with chewing gum, every hour. He ate no so-called solid food at all.

"During the short stops in the race the chief cause of discomfort and exhaustion was bruising and backache from a light, not very comfortable seat fitted to a chassis from which a heavy touring body had been removed, the springs being too curved for comfort at high speed over a track worn in some places.

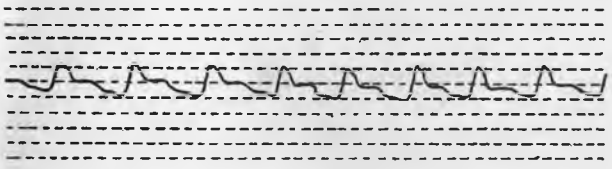


Fig. 1.—Sphygmographic tracing of the pulse before starting.

"After the race a few peas and bread and a drink of water were taken, and he was in bed and asleep within three hours of the finish, slept well all night, and was eating a good breakfast at nine o'clock next morning. The pulse, temperature, and respiration were normal, and he was none the worse for the extraordinary and exhausting strain he had been through.

"His temperature before starting was 98.4°, pulse 74, of which fig. 1 is a sphygmographic tracing. At the end of the race, his temperature was 100°, and his pulse, of which fig. 2 is a sphygmographic tracing, 70. I take it that the slowing was due to exhaustion, that the blood pressure was low, due to vagus control, and that the residual blood in the left ventricle was increased in amount. This condition of weak pulse may be accentuated by the fact of the blood being 'soaked up, as it were, by the lungs,' owing to the long-continued rapid movement through the air. The expression in inverted commas I borrow from Colonel H. E. Deane's paper on respiratory pulse curves in the *Journal of the Royal Army Medical Corps* (May, 1907).

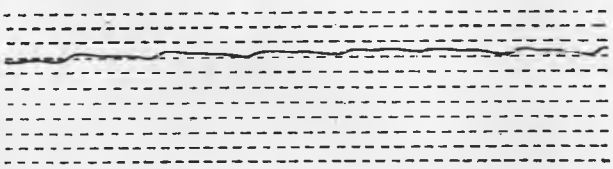


Fig. 2.—Sphygmographic tracing of the pulse after 24 hours' strain.

"Before the ride a specimen of blood was taken and examined for the tuberculo-opsonic index, which was found to be 0.85. Another specimen taken directly after the race gave 1.17. That the power of resistance to the tubercle bacillus should be raised after the long journey is very noteworthy, and helps to strengthen the opinion held by many of us, that motoring is an effective treatment in some cases of tuberculosis, and that the gloomy prophecies of some anent the bad effects of great speed on the system were incorrect."

INSTITUTION OF AUTOMOBILE ENGINEERS.

At a meeting of the Council of the Institution on Thursday, 11th July, the question of the vacancy on the Council, caused by the decease of Mr. Alec Govan, was considered, and it was decided to invite Mr. L. A. Legros to accept the position.

It was resolved that certificates of membership should be issued without charge. The question of the design of the certificates was left in the hands of Colonel Crompton (president), Dr. H. S. Hele-Shaw, and the secretary (Mr. W. Rees Jeffreys).

It was reported that the following papers had been promised, and accepted, for next session:

1907.—October, Colonel Crompton, Presidential address. November, Dr. H. S. Hele-Shaw, "The Fuel Question." December, Mr. Dugald Clerk, "The Principles of Carburetting as determined by Exhaust Gas Analysis."

1908.—January, Mr. J. S. Critchley, Subject not announced. February, Mr. F. W. Lanchester, "Some Problems peculiar to the Design of the Automobile."

A letter was read from the Engineering Standards Committee, inviting the Council of the Institution to nominate two of its members to meet the Committee in conference to take evidence as to whether the findings of the Committee are likely to prove acceptable to the automobile industry, and it was resolved that Messrs. F. W. Lanchester and C. R. Garrard should be nominated as the representatives of the Institution of Automobile Engineers.

A letter was read from the secretary of the Institute of British Carriage Manufacturers, inviting one of the members of the Institution of Automobile Engineers to read a paper on "The Motor from the Engineer's Point of View" at a conference to be held in connection with the Institute of British Carriage Manufacturers at Chester in September next.

The secretary of the Scottish Automobile Club has intimated to Messrs. Arrol-Johnston that their 24-30 h.p. car, which had a momentary road wheel stop on the third day of the Scottish trials, caused by a restive horse, has been duly considered by the committee, and they have decided that this should be treated as a traffic stop. Hence the 24-30 h.p. Arrol-Johnston car has for two years in succession made an absolute non-stop run in these trials.

ROYAL PARKS REGULATIONS.

The regulations for the admission of motor cars to Royal parks have recently been revised, and prints of the regulations as now in force are available. The form headed "Royal Parks" applies to St. James's, the Green, Hampton Court and Richmond Parks, and Kensington Gardens. No motor omnibus, or carrier cycle, or motor car, or cycle bearing a trade number, or motor car in tow, is allowed entry. Drivers must stop when required by a park-keeper or constable, and give name and address. Speed must not exceed ten miles per hour, no smoke or visible vapour may be emitted, racing, plying for hire, standing, and driving on the wrong side of the road or abreast, are forbidden. Driving must not be taught on the park roads.

In respect to Bushey Park, motors are allowed only on the main road from Teddington to Hampton Court when open for carriage traffic. The Royal parks regulations, as summarised above, apply to Greenwich Park, save that the roadway from Blackheath Avenue to the bandstand is barred.

In the matter of Holyrood Park, motor cars are allowed only on the road between St. Leonard's Gate and Duddington Gate, and on the road between St. Leonard's Gate, Holyrood Gate, and Meadowbank Gate, along the western portion of the Queen's Drive, when open for carriage traffic.

The Royal parks regulations apply to Hyde Park, save that the road from Hyde Park Corner to the Magazine is barred to all but electrically-propelled motors, and for the months of May, June, and July, between 4 p.m. and 7 p.m., the roads from Hyde Park Corner to the Marble Arch, and from Hyde Park Corner to Alexandra Gate, and from the Marble Arch to Victoria Gate, are also barred to motor cars other than those electrically propelled.

In Regent's Park the road known as the Inner Circle is barred to motor cars, unless calling at any of the houses opening on to that road.

It will be seen below that steps are being taken to clear drivers' licenses of park endorsements.

SOME ELECTRICAL NOVELTIES.

The switches brought out recently by Messrs. Thomson-Bennett, Ltd., Heneage Street, Birmingham, are of decidedly novel form, the mechanism being of the simplest and easily inspected. The arrangement consists of a roller mounted at the intersection of two toggle levers, which are connected by a spring constantly tending to draw the two toggle arms together and press the roller out towards the space between various pairs of pins, according to the direction in which the central spindle carrying the toggles, and which also form the handle, is turned. These pins are, of course, in connection with the terminals at the back of the switch. There are no loose parts, as the whole of the movement is mounted on the inside of the lid. This movement also is particularly sweet in action. Two patterns are made—a plain two-way switch and a magneto-battery switch.

Another novelty is the internal wipe contact maker, which has a rocking arm carried by an arm mounted in turn upon the revolving centre arm. This rocking arm carries at one end a roller and at the other a sliding shoe, the former running over the segments in the ordinary manner, while the shoe trails behind it on a parallel metal ring which forms the earth contact. A spring controlled arm which carries this wipe piece, and which in turn is carried by the central revolving arm, tends to constantly press the roller and slides into contact with the tracks on which they run. Consequently, the earth track being quite plain metal, the tendencies of the roller to jump at the segments at high speeds are quite obviated. All these devices are substantially made, but it appears that the switches suffer from a defect common to most of their class, *i.e.*, the actual area of contact between the roller and pins is somewhat meagre. However, this particular design is such that the makers can rectify the matter with very little trouble. Black vulcanite is the material from which the cases are made.

10,000 MILES TRIAL OF THE SIX-CYLINDER HOTCHKISS CAR.

In referring to the 10,000 miles trial of the six-cylinder Hotchkiss car in our issue of July 20th, we said that this fine car had covered the distance of 16,150 miles in the British Isles and France without the slightest mechanical trouble. This is hardly correct if the following stops can be said to arise from mechanical trouble, for we are reminded that in the Irish Reliability Trials the Hotchkiss sustained a broken spring on a particularly rough piece of road near Dublin, a stop of a minute being then made for examination, and a new spring fitted the following morning, by which 120 marks were lost. It is further reported that on May 7th there was a stop owing to the petrol supply giving out on a hill, and another on June 3rd on another hill, owing to lack of petrol. Lack of pressure feed or insufficient height of petrol tank may be regarded as mechanical stops. Perhaps it would be better in cases of this kind to abstain from any attempt to qualify stops, and to give all stops and their bare reasons in every case.

REMOVAL OF ENDORSEMENTS IN PARK CASES.

The Motor Union has caused application to be made to Mr. Marsham at Bow Street Police Court, and to Mr. Denman at Marlborough Street, with regard to the removal of endorsements of motor car drivers' licenses for convictions for exceeding the ten miles speed limit in the Royal parks. In the result Mr. Marsham has stated that any licenses endorsed by him will be cancelled if the licenses are forwarded to Bow Street for that purpose, and Mr. Denman has also arranged that any licenses endorsed at Marlborough Street for convictions of this character shall be cancelled upon application to the court. Members of the Motor Union and other motorists affected by this arrangement are accordingly advised to send in their licenses as above arranged. Application is being made by the Motor Union to the magistrates sitting at other courts in which park cases have been heard, and no doubt similar arrangements will be made.