

THE AUTOCAR

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

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"THE AUTOCAR" SUBSCRIPTION RATES.

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Notes.

The Club.

Owing to its environment and the causes which brought it into being, it is hardly reasonable to expect the Automobile Club to occupy a position similar in all ways to that of any other thoroughly good social club, for the simple reason that it exists for the furtherance of an entirely new movement, into which absolutely novel conditions are brought. Members of well-known clubs who have joined the Automobile Club have often expressed surprise at the number of members of the motor manufacturing industry, who have a strong voice in the management of the club affairs. Sometimes their criticisms have not been altogether reasonable, as they did not bear in mind the fact that motoring is nothing without the motor, and that the club is one of encouragement rather than a mere social organisation. At the same time, it will be necessary to take care this

feeling of dissatisfaction has the smallest possible excuse for existence, and it will be well for all members of the industry who are active in club affairs to take precautions to place themselves above suspicion, as it is as much to their interests as it is to the everyday member of the automobile world that the movement should be represented by a strong organisation which has the unqualified support of the great bulk of automobilists.

The Nationalisation of Roads.

The report of the Departmental Committee appointed by the President of the Local Government Board to look into the subject of highway administration has been issued. In it a number of points which have been discussed in *The Autocar* from time to time are taken up, and some very useful suggestions are made. Space forbids our going into the subject at length, but probably the most important suggestion made is with regard to the supervision of the maintenance of the great trunk roads. It is pointed out that these are a national rather than a local concern, and that, therefore, their upkeep should be a national matter, and that the supervision of their maintenance and repair should be in the hands of a central department under the Local Government Board. It should be understood it is apparently not suggested that the State should entirely pay for the upkeep of these roads, but rather that it, in virtue of such subsidies as it gave, should overlook the matter, and see that the quality of the great main roads was as nearly as possible uniform. It is obvious to anyone who has even a slight acquaintance with the main roads in this country that those in one county are in many cases much worse than those in another. This should not be, as the quality of all the great highways should be uniformly excellent, and the supervision exercised by the proposed central department would tend to this. Of course, the county roads, as distinguished from the national highways, would still be entirely administered by the county authority. The necessity for some better system of highway administration is clearly shown, when it is pointed out that the total number of highway authorities in England and Wales, excluding the administrative County of London, is 1,855. For instance, for the four hundred miles of the Great North Road between London and Edinburgh no less than seventy-two separate local bodies are responsible. This alone is enough to show how cumbersome, though in many cases inadequate, the present arrangements are. There is no sort of co-ordination. They have simply come into being by degrees, and various comparatively new-born petty authorities in the way of district and rural councils have only served to complicate matters still further

Another proposal is that bypass roads should be built for fast traffic round large towns or towns the streets of which are already overcrowded with traffic. An even more important proposal at the present moment is that the authorities should be given additional powers for the widening of existing roads which are too narrow for the traffic of the time. It is pointed out that the district authorities are often unable to find the necessary money for comparatively small, though none the less important, widenings in their own locality, and it is suggested that the county highway authorities should be called upon to help in such cases. Another thoroughly sound recommendation is to the effect that the minimum width of roads upon which it is proposed to lay down tramways should be thirty-three feet in the case of double lines, and twenty-seven feet in the case of single lines. So that the development of tramways and light railways shall not be unduly restricted by such a regulation, it is proposed to give the promoters power to purchase lands compulsorily in districts where the roads are narrow and cannot be widened except at excessive expense. This is

essentially a commonsense proposal, and one which would have been an immense boon to all traffic other than tram and light railway if it had been law from the beginning of the tramway era in this country, as trams have been laid upon roads which are much below the specified width, and, consequently, are unduly congested and often very dangerous for eighteen hours out of the twenty-four. There is no doubt that the automobile party in the House of Commons should do their best to have some of the more important recommendations of the Departmental Committee passed into law during the next session. Mr. Rees Jeffreys, whose name is constantly referred to in the report, gave some of the most valuable and weighty evidence upon which their recommendations were based. The importance of his information is fully recognised in the report, and all road users no doubt will be grateful to him for the work he has done in this very important matter. Colonel Crompton, who has made a special study of traffic on the highway, also gave much valuable evidence, particularly in regard to the often unsuitable methods of road repair at present in vogue.



A MOTOR TRACTOR FOR FIRE ENGINES. This machine has been built by the Wolseley Tool and Motor Car Co., for the London County Council Fire Brigade and has been officially delivered to the Brigade at the headquarters in Southwark Bridge Road. The engine is a 24 h.p., but the car is not a standard vehicle at all, being built to the scheme of Capt. Wells. The gear box is of special construction, and it will be seen that the same remarks apply to the bonnet and cooler. The fire engine is of standard type with the front wheels removed, the king pin of the fire engine dropping on to the back of the motor, which has a proper turntable arrangement to receive it. The combination is admittedly an experimental one, one of the chief points to be settled being whether side slip will be serious, and if so, whether it can be easily counteracted. There should be little difficulty about this. The engine was driven from Birmingham to London with its steam fire engine attached, and only one stop was made owing to the belt coming off the fan. The combination excited great interest on the road, and in St Albans there had just been a small fire, so that the inhabitants were firmly convinced that the locomotive engine had come down from town to extinguish it. In the Southwark station there is also a 10 h.p. Wolseley car which is used as a first aid machine. It seems to be giving every satisfaction, and probably this class of vehicle will be more extensively used by the Brigade in the near future.

USEFUL HINTS AND TIPS.

To Patch Air Tubes.

In *La Vie Automobile* our good confrere, M. Baudry de Saunier, affords his readers a very good tip to make a permanent repair of a puncture by a solutioned patch. He says the method is not exactly classical, but he has carried it out on several occasions and has always found it give excellent results, even on fast and heavy cars. In addition to preparing the surface of the inner tube and the patch by cleaning free of sulphur solutioning, allowing them to remain some hours to ensure the requisite tackiness, and then pressing them firmly, and if necessary beating them together with a mallet, M. de Saunier advises that, the patch in position, the inner tube should be inflated to its maximum, and that over the patch should then be solutioned a piece of very thin rubbered fabric about half an inch larger every way than the patch itself. M. Saunier says that a patch so secured never moves.

To Test Sparking Plugs.

With motors of two or more cylinders, and one or more firing badly or not at all, it is not always easy to discover the erring ones without some trouble. The common method is to open the coil box and hold down the tremblers, so that only one cylinder is left in at a time, but in doing this the adjustment of these delicate parts is frequently deranged. In order to avoid this trouble an enterprising firm have produced a small switch plate, to be attached to the dashboard, furnished with push buttons, numbered in consonance with the cylinders. By pressing in the buttons the cylinders in relation can be cut out, and the firing of each verified singly without interfering with the tremblers on the coil.

Want of Petrol: Its Symptoms.

It is often a simple thing which causes an involuntary stop. This was brought home to us very forcibly a few days ago. The particular car on which we were driving has the petrol tank beneath the seat, and the supply to the carburetter is shut off by means of a needle valve. Through frequent use the thread of this valve had become sufficiently worn to enable the road vibrations to shake it round, and thus reduce the supply of petrol. In the first place,

we could not account for the extraordinary loss of power in the engine. Power rapidly decreased, and then firing back through the air inlet of the carburetter began to give us additional trouble. When this stage was reached we considered it quite time to investigate matters. The first cause we attributed the trouble to was bad inlet valves. These were examined, and found to be working quite correctly. We then tried starting the engine up, and it went at first turn, but very quickly repeated the previous performance, and back fired through the carburetter. The next move was to examine the carburetter to see whether it was getting sufficient of the necessary fluid. It was found that the supply valve was very nearly closed, thus allowing only half the needful quantity of spirit to pass to the carburetter.

The Filtering of Petrol.

On more than one occasion we have had our engine stop from want of petrol, although the tank was well filled at the time, and upon disconnecting the union of the petrol feed pipe where the latter enters the float feed chamber of the carburetter we have been surprised to find the small disc of gauze placed within the union for the purpose of filtration rendered almost impervious to the flow of the spirit by a kind of short silky fluff which completely filled up all the minute interstices of the gauze. This occurred no less than twice in one week, and upon mentioning the fact to a fellow automobilist, that gentleman told us that we were by no means the first to be so troubled, and that since the falling off in the all round quality of petrol, he had had several such experiences. He is of opinion that the fluff is derived from some material through which the spirit is now filtered, but we are bound to say that the trouble has only arisen while using one brand of spirit. The fluff is certainly introduced into the tank with the petrol, passing easily through the gauze of the funnel. We have carefully examined the spirit by a strong light in a test tube, but there is no visible evidence of the presence of this irritating substance. Whether it can be arrested by filtration through other material than the funnel gauze we cannot say, but we are about to give some textile material a trial.



Making good use of a compulsory stop.



One cause of a traffic stop.

THE 1,000 MILES RELIABILITY TRIALS. CAUSES OF ROAD STOPS.

OWING TO THE FACT THAT IT WILL BE IMPOSSIBLE FOR THE JUDGE'S REPORT ON THE RELIABILITY TRIALS TO BE ISSUED TILL NOVEMBER, WE GIVE BELOW THE CAUSES OF ROADSIDE DELAYS FOR A NUMBER OF THE CARS ON THE DAILY RELIABILITY RUNS.

The particulars we are able to give below as to the causes which resulted in the various cars losing time while under official observation, and, consequently, losing marks, may differ in a few instances from the official report which will be issued. It should be clearly understood that they are the results of direct enquiry from the competitors, and the explanations of the causes of the delays are in most cases given in their own words. Of course, we do not infer that there are any intentional inaccuracies, but it is impossible in every case for the competitor to give exactly the same version as that of the official observer upon the car. In cases where the principals drove themselves, they, of course, made nothing but mental notes of any roadside stops, and where they made enquiries of the drivers they appointed there is still further chance of small discrepancies creeping in. Our object in instituting the enquiry has been to afford our readers some indication as to the chief causes of the stops. We have already given the names of the four cars which made absolutely non-stop runs throughout the 1,000 miles, as well as those which failed through breakage of some important part, or through accidents. It will be seen that many machines whose record we give below performed almost as well as the non-stop cars, and the derangements from which they suffered, though causing slight delay, were, in many cases, due to the conditions of the trials, and would be too trivial to

notice in ordinary every-day practice. Other cars were seriously delayed or absolutely withdrawn from the trials before completion entirely through some comparatively small derangement which the drivers could not diagnose, but which was easily rectified by the makers. The element of chance must, of course, enter into these trials. Some good and tried cars have come through them with a poor record. There is also the fact to remember that some of them were imprudently handled; those placed in charge not having the necessary qualifications for successfully getting a car through a thousand miles road trial in which speed was not the chief factor, but reliability the keynote of the competition. It is perhaps desirable to add that all the cars which finished are not dealt with below. Only those about which we have been able to obtain some particulars are mentioned. At the same time these particulars are exceedingly interesting, as although the road tests are only a portion of the reliability trials, they are regarded by the majority as by far the most important section of the competition. However, as we have already pointed out, it is possible that some of the cars which lost only a few marks upon the road may take precedence to those which lost still fewer marks, or none, as reliability on the road is only one of the qualities considered by the judges, there being no less than seventeen points in all, such as brakes, appearance, fuel consumption, condition at end of trials, etc.

CLASS A1.—Price less than £160.

1. 5 h.p. CENTURY TANDEM.—1 cylinder; 88 bore and 110 stroke. Two non-stops. Five runs completed with brief delays. Results for one run not computed. "The causes for which our 5 h.p. Century tandem lost marks throughout these trials were all of a trivial nature. In the brake tests at the Crystal Palace, the tandem would have done much better, but the driving wheel skidded round on the loose surface, disturbed by about eighty cars which had been tested before our turn came. On Westerham Hill the tandem was stopped by a large car which failed to get up in front of it, and, although going strong at the time, was unable to restart satisfactorily without shedding passenger. On the first day's run about five minutes was lost for inflating tyre, which had got slack owing to a leaky valve, and this was repeated again on another day. There were two stoppages for dirty contacts, each of about two minutes duration; one stoppage to change accumulator, of about two minutes duration; and on the last day within about three minutes run from the Palace gates (at the end of the Parade) on the homeward journey, one minute was lost in examining driving chain, which the driver thought had gone wrong; there was, however, nothing amiss except a little slackness. This information is furnished by our driver."
2. 6 h.p. EAGLE TANDEM.—1 cylinder; 90 x 110. One day non-stop; four days completed runs with brief delay. "So far as we know No. 2 had no mechanical stops in the trials, but as you will have surmised from the tandem going out of the trials without a word of warning, we have had trouble with our driver, and consequently are not quite certain on this point, but we think that apart from tyre delays the tandem went satisfactorily."

CLASS A.—Price not more than £200.

4. 5 h.p. BABY PEUGEOT.—1 cylinder; 94 bore and 100 stroke. Three non-stops. Five days completed runs with brief delays. "We cannot give you the exact number of marks lost, but the stoppages were for the following reasons: Baby Peugeot lost marks for, (1) repairing one inner tube nipped through being faultily



THE 1,000 MILES TRIALS. Outside the Hind Head Hotel. Unlike some other police officials, the constable in the foreground boldly faced and saluted the camera.

- put on, (2) adjusting the platinum-pointed screw of the trembler, and (3) adjusting one inlet valve."
5. 6 h.p. REGAL.—1 cylinder; 90 x 110. Two non-stops. Six runs completed with brief delays. "The stops were caused only by ignition troubles and punctures, and no structural defect appeared in the Regal during the trials."
14. CADILLAC.—1 cylinder; 5 x 5. Five non-stops. Two runs completed with brief delays. "Driving wheel

damaged through collision on second day. "The only cause for which we lost marks—apart from tyre troubles—was when the check ball, which automatically cuts off the supply of oil when the engine is not running, got fixed in its seating, and the lubricator had to be taken off and the ball taken out of it."



THE 1,000 MILES TRIALS. Comparing notes. Miss Dorothy Levitt and Mr. E. H. Arnott discussing the Gladiators' running.

17. 5 h.p. OLDSMOBILE.—1 cylinder; $4\frac{3}{8} \times 6\frac{1}{2}$. Two non-stops. Six runs completed with brief delays. "Apart from tyre troubles, the only stoppages were that a man in two or three cases disconnected the switch with his coat, which would, of course, stop the engine for a minute, and then again the wire on the sparking plug broke twice. This was a stoppage of a minute or two, but nothing whatever was done to the machinery of either this car or No 21."
18. $6\frac{1}{2}$ h.p. CLYDE.—1 cylinder; 90×110 . Three non-stops. Five runs completed with brief delays. "The cause of stoppages were as follows: First day, the driver stopped the engine to run free down a hill and did not put his clutch in quickly enough to restart the engine before reaching the bottom; had to get out and restart the engine with loss of one minute, otherwise non-stop run. Second day, union nut of silencer pipe came loose, four minutes lost in tightening this up, otherwise non-stop run. Third day, grit



THE 1,000 MILES TRIALS. Mr. Frank Wellington fixed a toy Pomeranian on to the bonnet of his car, much to the delight of the children in the terminal towns.

on trembler, three minutes to clean. Fourth day, cotter pin of inlet valve came loose, five minutes in replacing this and also replacing trembler. In future we shall fit artillery wheels to all cars unless otherwise specified."

19. 6 h.p. ELSWICK.—1 cylinder; 100×110 . Two non-stops. Three runs completed with brief delays. Re-

tired during two days through ignition troubles. "During the whole of the trials the mechanical portions of the car had never to be adjusted in any way. The only marks we lost were through the accumulators running down in a most extraordinary way, as we have never been troubled in this way before. Our driver, unfortunately, did not record the minutes lost through this cause."

21. 5 h.p. OLDSMOBILE.—1 cylinder; $4\frac{1}{2} \times 6$. Two non-stops. Six runs completed with brief delays. "See No 17."

CLASS B.—Price £200 to £300.

24. 6 h.p. SWIFT.—1 cylinder; 90 bore and 110 stroke. Five non-stops. Three runs completed with brief delays. "On two days we had stops with punctures, but we are unable to ascertain how long the delay lasted exactly. On one day we had a stop through the breakage of inlet valve, this being the only mechanical trouble we had, and the delay on this account was five or seven minutes."
29. 9 h.p. ARGYLL.—1 cylinder; 100×120 . Four non-stops. Four runs completed with brief delays. "Although this car, fitted with De Dion engine, did not make complete non-stop runs, still the delays were only of a few minutes duration, owing to the inlet



THE 1,000 MILES TRIALS. The cars assembled outside Warne's Hotel, Worthing. This hotel is quite the favourite one on the South Coast for automobilists. It was one of the first to provide a pit, resident mechanic, and every convenience for the motorist.

valves on the De Dion engine getting choked up either with dust or through using Carburine or probably a combination of both. All that the driver did to the car was to ease the inlet valves by putting in some paraffin. Unfortunately, the car sustained two punctures, and these account for the loss of the majority of its marks. It is interesting to point out that no spanner was used on the car from the beginning to the end of the trial. It was also fitted with thermo-syphon bonnet."

58. 9 h.p. MOHAWK MAXON.—1 cylinder; 100×120 . Three non-stops. Four runs completed with brief delays. One run result not settled. "On Friday we had a non-stop run. Saturday we adjusted back hand brakes just before climbing Westerham Hill, for which we lost four marks. Monday, puncture; Tuesday, tightening nut on exhaust (five marks lost); Wednesday, adjusted trembler and one puncture (fifteen marks); Thursday, one puncture (five marks); Friday, non-stop; Saturday, non-stop. If it had not been for the three punctures we should have had five non-stops out of the eight."

CLASS C.—Price £300 to £400.

41. 10 h.p. GLADIATOR.—2 cylinders; 105 bore and 130 stroke. Three non-stops. Five runs completed with brief delays. "One stoppage to replace inlet valve. Three stoppages to mend broken accelerator wire. In garage changed one inner tube, one valve rubber, and pumped three tyres. Also changed one experi

mental valve for standard in order to prevent a second trouble. Two sparking plugs were changed in control."

42. 12 h.p. ALBION.—2 cylinders; $4\frac{1}{2} \times 5$. Six non-stops. Two runs completed with brief delays. "We had a stop of one minute on the second last day of the trials, due to a little dirt in the carburetter."
47. 9 h.p. JAMES AND BROWNE.—2 cylinders; 4×6 . Four non-stops. Four runs completed with brief delays. "Wednesday: Missing one cylinder—exhaust valve sticking (delay of seven minutes). Thursday: Exhaust valve stuck, new one put in and seized (time, twenty minutes); old one led down and replaced (time, twenty minutes). Friday: Inlet valve cotter broke (time, nine minutes). Saturday: Inlet valve cotter broke, other cylinder (time, three minutes), having previously lasted for over 4,000 miles."
48. 10 h.p. ARGYLL.—2 cylinders; 88×120 . Non-stops throughout. "This car has a non-stop record. Not a drop of water was added to the thermo-syphon bonnet. Carburine was used on this car, although several times the car indicated that the valves were getting gummy, still it passed off without having to stop."
49. 14 h.p. ARGYLL.—3 cylinders; 90×120 . One non-stop. One completed run with brief delay. Result

our car lost marks in these trials, and also the approximate time of the delay for each stoppage, were—Friday: Petrol pipe choked (three minutes); lost nut from back axle stay (nine minutes). Saturday: Sprocket (three minutes); water (three minutes). Monday: Water (two minutes); inlet valve (one minute). Tuesday: Lost pin from propeller-shaft (five minutes). Wednesday: Adjustment of back axle (two minutes); water (two minutes). Thursday: Stripped half-speed gear wheel on motor and withdrew. The car also lost a few marks on two or three occasions when ascending steep hills."

59. 13 h.p. REX.—2 cylinders; $4\frac{1}{2} \times 4\frac{1}{2}$. Four non-stops. Four runs completed with brief delays. "The car had one stop on the first Saturday to change sparking plug, which resulted in a loss of four minutes. On the following Tuesday a stop was made to change both sparking plugs, this stop taking again four minutes. On Thursday a stop of seven minutes was made on account of dirt getting into the petrol pipe. On Friday five minutes were lost through the sticking of an inlet valve."
64. 12 h.p. DARRACQ.—2 cylinders; 100×120 . Three non-stops. Four runs completed with brief delays. One run not computed. "Twice stopped by the police, and one stop for petrol pipe clogged with dust. Other



Photo

THE 1,000 MILES TRIALS. The cars at Crawley during the compulsory halt of fifteen minutes.

Mr. C. Friswell.

not computed for one run. Retired on the fourth day. "This was put out of the trials through the lubricating pipe becoming choked. One of the connecting rods seized on the crankshaft and burst connecting rod and bolts. The car was taken to a hotel yard, where there was a pit, and the men were only beginning to get ready to tackle the job when one of them lighted a match, which was thrown into the bottom of the pit. Evidently there must have been some stale petrol lodging, as immediately there was a great flare up, and both men had their faces and hands very badly burned. They were medically attended to, but they stuck to their ground, being determined to get the car back to the Palace before 12 o'clock at night on the two cylinders. Unfortunately, that was the night of the fog, but a gentleman kindly volunteered to bring it along with his own car, he having two very powerful acetylene lamps. We deeply regret to say that despite this he ran into a bank, and did considerable damage to his own car. The Argyll also ran against the bank, and smashed one of the front wheels. It was now late at night, and the attempt had to be abandoned."

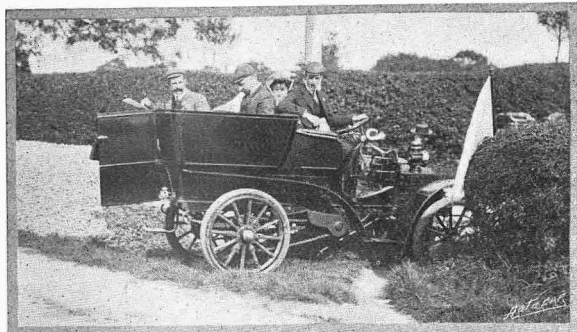
50. 10 h.p. SIMMS-WELBECK.—2 cylinders; 95×110 . One non-stop. Four runs completed with brief delays. Retired on the sixth day. "The causes for which

stops were for filling tanks with petrol. The drivers of the Darracq cars having left for Paris immediately after the trials further information is not yet available."

CLASS D. -Price £400 to £550.

65. 12 h.p. SONBEAM.—4 cylinders; 80 bore and 120 stroke. Six non-stops. Two runs completed with brief delays. "We lost fifteen marks on the first Friday owing to governing valve clogging, which was caused by a red deposit, evidently from the petrol. On the following day we lost twenty-six minutes, having trouble again with the same valve, also tyre trouble. After filling up with different petrol, we made non stop runs each day."
66. 12 h.p. GLADIATOR.—4 cylinders; 88×110 . Three non-stops. Three runs completed with brief delays. "Three stoppages to replace inlet valve; one stoppage to search for cause of petrol not reaching carburetter. Cause: Some paper placed under the cushion had covered air vent to petrol tank, which had consequently become air-bound. It will be seen that apparently all stoppages on the road for mechanical troubles for this and car No. 41 were caused by two simple defects. The real cause of the troubles, however, can be narrowed down to one, namely, lack of judgment on the part of a person responsible for pre-

paring the cars. It must seem almost incomprehensible, but the fact is a new type of accelerator wire was used, and an experimental type of inlet valve on the trial cars. Why these experiments were put upon the cars I do not know, unless under the belief that they were exceptionally good, as the standard fittings were quite satisfactory; and when during the



THE 1,000 MILES TRIALS. Mr. McLulich's 10 h.p. Buffer-tyred Wolseley, which conveyed Messrs. Woollen and Straight to Hind Head to time the cars at the top of the ascent, where they are shown in pursuit of their duties.

trials the new valves were replaced with the usual pattern, no further stoppage from this cause was experienced by either car. In addition to the above stoppages on the road, the 12 h.p. once repaired accelerator wire in control, and changed the fourth inlet valve in the garage (when three experimentals had given way) to ensure no further trouble. Tyres were not touched. I find also that the pipe on the lubricator for the pump was mended, and two sparking plugs were changed.—ERNEST H. ARNOTT."

68. 14 h.p. BROOKE.—3 cylinders; 3½ in. × 4½ in. Two non-stops. Six completed runs with brief delays. "The car which I was driving would have had seven non-stop runs in place of three but for the fact of the valve in my auxiliary oil tank hanging up, and necessitating my filling the lubricator once on each of the runs—an operation occupying but five seconds, but meaning a mark. The only day on which I lost any genuine marks was on the Southsea run, when my clutch started slipping, necessitating seven minutes' stop to adjust it.—M. BROOKE."
70. 10 h.p. THORNYCROFT.—2 cylinders; 4 × 4½. Four non-stops. Four runs completed with brief delays. "On the second day an inlet valve spindle broke, and



THE 1,000 MILES TRIALS. The 6 h.p. De Dion comes up to its 12 h.p. companion. The driver of the former holds a conversation with the latter's mechanic. This photograph was taken from the front seat of the next car in the procession.

we experienced occasional commutator trouble due to the excess of dust. So far, however, as road running is concerned, this car made non-stops during the remaining six days. Both our cars behaved exceedingly well throughout the whole trials; no mechanical defect whatever, excepting the trifling matter of an inlet valve."

71. 10 h.p. PEUGEOT.—2 cylinders; 105 × 105. Six non-stops. Completed runs on two days with brief delays. "Lost marks for replacing one outer cover which got cut in the brake trials; but we entered this carriage with twenty-three teeth sprockets upon it, as it was our latest model, and, unfortunately, the gear was so high that the car would not go up the stiff hills with its full complement of passengers. We subsequently applied to the secretary of the club for permission to change the sprockets, also to the honorary secretary of observers, who gave us permission. We drew his attention to the clause under the rules which stated that sprockets were not to be changed. We also stated that we did not wish to change the sprockets on account of the hill-climbing contests, they having been gone through, and we having lost all the marks in the hill-climbing trials we could lose, but so that the machine should show its reliability. After permission was given, the sprockets were changed, and the car was allowed to run during the remainder of the trials four consecutive days; and after the trials were over we received a letter from the club saying 'that no marks will be awarded to this carriage, the sprockets having been changed.'"

77. 10 b.p. STAR.—4 cylinders; 3½ × 4½. Six non-stops. Two runs completed with brief delays. "The two stoppages were of two minutes duration each, and



THE 1,000 MILES TRIALS. The surprise-inspection. While the cars were being examined by the judges on Hind Head, the passengers gathered blackberries.

were for filling in petrol, as the car had run short. On one occasion the engine was left running, and on the other occasion it was stopped."

79. 16 h.p. ARGYLL.—4 cylinders; 88 × 110. Five non-stops. Three runs completed with brief delays. "The driver puts the bulk of his stoppages down to Carburine. He had to stop several times and wash the inlet valves. Fifty-seven marks were lost at one time through having to wash inlet valve, carburetter, and sparking plug, a green slimy deposit having been found over them. All the inlet valve cotters had to be renewed on the second last day of the trials, and all four Argyll cars competed covered just on a thousand miles before they started on the trial journeys. One of the induction coil trembler blades also gave trouble on this account. It was cured in a few minutes after the trials by fitting a new blade."
84. 10 h.p. WHITE STEAM CAR.—2 cylinders, compound; 3 × 5 × 3½. Four non-stops. Four runs completed with brief delays. "Had two stops for tyre punctures; one of twenty minutes, and the other minutes. We also had one stop of one minute and a half for a choked vaporiser, and three minutes stop one day for water."
85. 12-14 h.p. DENNIS.—2 cylinders; 105 × 130. Four non-stops. Four runs completed with brief delays. "Lost five marks for adjusting pump, and on one of the other days one minute for replacing key of inlet valve, two

minutes for adjusting coil on another day, and on another day two minutes fitting new keys to inlet valves. These were the only causes of delay for this car."

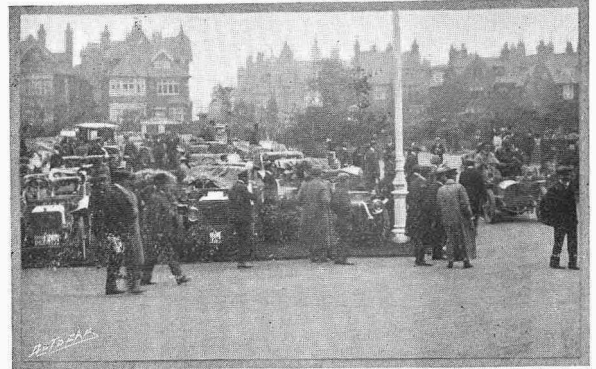
89. 12 h.p. **BAVSH.**—4 cylinders; 85 × 118. Two non-stops. Five runs completed with brief delays. One run with result not computed. "The longest stop we had on the road in any one day was caused by the breaking of a petrol pipe. The time we took to repair this and again get under way was exactly twelve minutes. Our other stops were accounted for by disconnection of accumulator wires on two occasions and faulty lubrication during the first days of the trial. The reasons for these troubles may be found in the fact that the car was only just prepared for the trials two days before it was due in the Palace; and, consequently, no preliminary running was possible. Had we been fortunate enough to have had a little more time we have no doubt we should have been able to have made a non-stop run throughout, as the condition of the car at the finish was distinctly better in every way than on the day in which we started. The time we lost on each day was as follows: Margate run, one minute; Worthing, twelve minutes; South sea, six minutes; Bexhill, one minute; Winchester, ten minutes."
90. 16 h.p. **MAXIM.**—2 cylinders; 110 × 120. Two non-stops. Five completed runs with brief delays. "On the first and second days we had stops to adjust the tremblers, causing a short delay. On Monday we were unaware of any stoppage of our car, and on Tuesday we were delayed in starting, due to the slipping of the clutch, but from the time of leaving the Palace to our return we had no stop whatever. On Wednesday we had a leaky water tank that caused a stop of fifty minutes. On Thursday we had a non-stop run. On Friday, when running back to the Palace, we were stopped by the traffic, and on restarting the motor we unfortunately found the bolt of the starting handle had sheared, otherwise that was a non-stop run. On Saturday we made another non-stop run. You will see from the above that although by the results of non-stops per day we have not come out, perhaps, as well as some of the other cars, yet our stoppages were not due to any faulty construction or bad design."
92. 12 h.p. **NEW ORLEANS.**—4 cylinders; 95 × 110. Five non-stops. Two runs completed with brief delays. Result of one run not computed. "The cause of the stops were owing to inlet valves becoming choked through the dust, with one exception, namely, when it ran out of petrol within 300 yards of the Palace.

This inlet valve trouble was the only one which the car had."

93. 10 h.p. **RENAULT.**—2 cylinders; 100 × 110. Seven non-stops. One brief delay. "Friday, filling petrol tank ten yards before reaching Crystal Palace on return journey. Non-stops all other days."

CLASS E. Price £550 to £700.

94. 20 h.p. **THORNYCROFT.**—4 cylinders; 4in. bore and 4½in. stroke. Four non-stops. Four runs completed with brief delays. "During the first three days of the trial, the engine being new, and bearings consequently stiff, profuse oiling was necessary, and the



THE 1,000 MILES TRIALS. Some of the cars at Folkestone during the 45 minutes compulsory stop.

sparkling plugs needed repeated cleaning in consequence. On the fourth day, due to error of judgment, the car ran out of petrol, about three miles from Palace on the homeward journey; a loss of under two minutes was thus incurred. On the occasion of the Westerham Hill climb the engine was starved of petrol, owing to there being an insufficient head between the carburetter and the petrol tank."

95. 12 h.p. **CHELMSFORD.**—2 cylinders; 4 × 4. Three non-stops. Five runs completed with brief delays. "The car did extremely well, and was in better condition at the end of the trials than at the beginning. As the car was only on the road one day before it had to be sent to the Crystal Palace, it is remarkable that, notwithstanding this, we had not the slightest trouble with any of the machinery, but the packing on several of the pipe joints began to

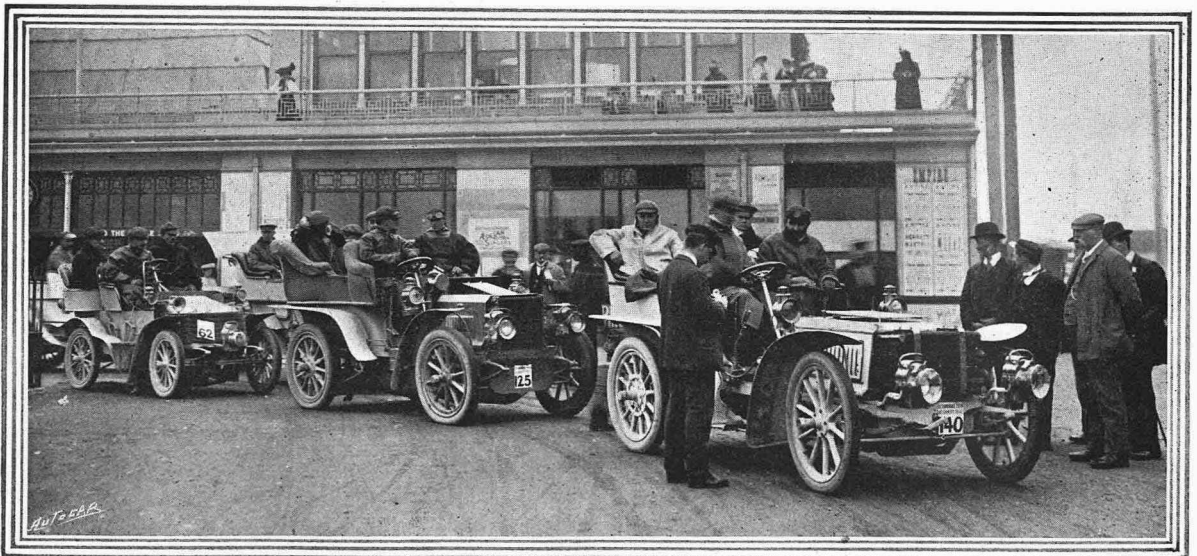


Photo.

THE 1,000 MILES TRIALS. About to leave Southsea on Wednesday, September 23rd.

Argent Archer, Kensington, W.

leak after the car had done 500 to 600 miles, and this spoiled us in getting more than three non-stop runs. As a matter of fact, the car succeeded in getting four non-stops, and the above mentioned leakage on the joints was the sole cause which prevented our obtaining three others. We had one or two minutes delay in connection with the Westerham climb, owing to the gearing of our car being rather too high for such a severe test. Given a week's preliminary test, for tuning up to get our joints tight



THE 1,000 MILES TRIALS. Mr. Jarrott looking regretfully at his observer disembarking.

and to determine on the best gear for Westerham, there is no reason why the car should not have obtained a non-stop every day. Immediately the car returned to Chelmsford from the Palace, it went on to Cambridge, where it has been doing excellent service in conveying a shooting party each day to the meet."

96. 15 h.p. GERMAIN.—4 cylinders; 95 × 130. Three non-stops. Five runs completed with brief delays. "We had three nail punctures, all on the back wheel tyres, and they took the following times to repair: First, ten minutes; second, twelve minutes; and the third, ten minutes. The only other stop on this car was for changing accumulator, which occupied about thirteen minutes. Car finished in perfect condition."
97. 15 h.p. NEW ORLEANS.—4 cylinders; 100 × 110. Five non-stops. Three runs completed with brief delays. "Had stops owing to the bush which holds the reverse shaft coming out of the aluminium case and being lost. I have never seen this happen before on any other of our cars, and it was certainly a fault which could easily have been remedied under ordinary conditions.—W. H. ASTELL."
100. 18 h.p. JAMES AND BROWNE.—4 cylinders; 4 × 6. Four non-stops. Four runs completed with brief delays. "Friday: No knowledge of reason of stoppage. Time, one minute. Saturday: Stopped engine changing speed. Time, thirty seconds. Monday: Stopped engine changing speed. Time, thirty seconds. Wednesday: Countershaft brake adjusted too tightly. Time, two minutes."
105. 10 h.p. GARDNER-SERPOLLET.—4 cylinders; 75 × 72. Six non-stops. Two runs completed with brief delays. "As far as we are aware, we have only twenty-three seconds down against us on the first day's run to Margate, which would represent one mark. The reason for this was on a stiff hill just on the other side of Bromley there were about a dozen cars stopped, and while we were running up at very good speed those cars that were stopped so blocked the road that it was necessary to nearly stop, with the result that the already big pressure caused the safety valve to operate; and, although we managed to get in front of the obstructing vehicle without actually stopping, yet through the loss of water we stopped about twenty yards ahead, waiting twenty-three seconds to get sufficient steam to proceed. Had the driver waited behind the vehicle which stopped

him it would have been counted a traffic stop, and thus no loss of marks. We may say we have protested against not being awarded a non-stop for this, giving the above particulars, and we understand on good authority that this will be recognised. (Since heard our protest will not be upheld.) We of course with all others lost a number of marks off garage allowance for filling and getting away. In our case these average twelve minutes, which covered filling, water and fuel, lubricating and raising steam. As far as we are aware, this is our complete loss. It will be noticed that steam cars were slightly handicapped by being under the same rules as petrol in starting away in the mornings, as they have greater quantities of water and fuel to carry and steam to raise, which cannot be done in the one minute allowance. Other than this we have no complaint to make."

108. 16-20 h.p. DENNIS.—4 cylinders; 88 × 110. Four non-stops. Four runs completed with brief delays. "Six marks were deducted for changing accumulators. This car did not have a stop on the road at all, and did not lose marks for any other cause whatever, and had it not been for the accumulators would have had eight absolute non-stops."
113. 14 h.p. RENAULT.—4 cylinders; 85 × 105. One non-stop. Seven runs completed with brief delays. Friday: Cleaning sparking plugs, punctured tyre. Saturday: Cleaning sparking plugs, trembler on coil broken. Monday, Tuesday, and Wednesday: Cleaning sparking plugs. Thursday: Cleaning sparking plugs, filled up differential case with oil. Friday: Puncture, trembler on coil broken, cleaning sparking plugs."
114. 14 h.p. MARTINI.—4 cylinders; 100 × 130. Six non-stops. Two runs completed with brief delays. "Lost two marks owing to the pressure of the driver's cushion upon the petrol tank cap, blocking the air hole, and so preventing the petrol reaching the carburetter. On the second day it lost one mark owing to the same reason; otherwise, the car ran right through without attention."
116. 10 h.p. WHITE STEAM CAR.—2 cylinders (compound); 3 × 5 × 3½. Seven non-stops. One run completed with brief delay. "Went through with but one road stop of twenty-five minutes for tyre puncture."
118. 24 h.p. DARRACQ.—4 cylinders; 112 × 120. Two non-stops. Six runs completed with brief delays. "On one occasion the coil had to be replaced owing



THE 1,000 MILES TRIALS. The 10 h.p. Gardner-Serpollet putting on a spurt.

to the insulation having broken down in spite of using the very best coil procurable (a very unusual occurrence)."

CLASS F.—Price £700 to £800.

119. 12 h.p. PRUGNOT.—4 cylinders; 85 bore and 90 stroke. Three non-stops. Completed runs on five days with brief delays. "Went through the whole of the trials

- without being touched, and only lost its non-stop record through a water leak, which necessitated filling up with water some two or three times a day rather than lose two hours (which would cost 120 marks) to have got at the particular place to have mended the leak."
120. 20 h.p. GERMAIN.—4 cylinders; 105 × 140. Five non-stops. Three runs completed with brief delays. "One hour was lost (two stops) through coil defects, and the only other stop was changing accumulator (one minute). Car finished in perfect condition."
125. 25 h.p. MAUDSLAY.—3 cylinders; 5 × 5. One non-stop. Four runs completed with brief delays. Withdrew on the sixth day. "Although we had to withdraw the car from the trials, it was owing to no defect in the mechanism. So that you may fully comprehend the matter, we must explain it at some length. In our 1903 pattern engine with the hinged lay shaft we drive our contact breaker, which is on the dashboard, by a slotted crank on the end of the lay shaft, and a crank with a pin on it engaging with this on the contact breaker itself. This is so constructed that when it is desired to hinge the lay shaft over, the lay shaft and the contact breaker can be readily disengaged. Up till a recent date we have fitted a type of contact breaker which at the point of contact necessitated the compression of a spring. This gave the lay shaft some work to do in driving the contact breaker at the points of contact, thereby ensuring a good contact between the forked crank of the lay shaft and the crank with the pin on it on the contact breaker. Later, however, we have fitted a new style of contact breaker, the wipe of which is of the roller type, and one of these was fitted on our car which was entered in the trials. The car ran through the first day without losing marks, owing to there being a slight amount of friction in driving the new contact breaker, but the second day it began to misfire on one cylinder, and this got from bad to worse, and finally so many marks were lost that we wired to our driver to withdraw the car from the trials. He had changed the coil, plugs, batteries, renewed the wiring, and, in fact, had done pretty well everything he could think of in altering and adjusting electrical ignition gear, but on the return of the car to our works we found the cause of the misfire was that the new sort of contact breaker, being of the roller type and unbalanced, and rotating with practically no friction, at a certain point the weight of the roller overran the drive, thus causing a break of the contact between the forked crank on the lay shaft and the crank with the pin engaging in same on the contact breaker. The car happened to arrive here from the trials after dark one night. We looked inside the bonnet and happened to see the sparking at this point immediately. We therefore simply connected up the lay shaft to the contact breaker by a bit of ordinary insulated wire, and this completely remedied the trouble, as we ran the car directly afterwards to Northampton and back without a stop or a misfire."
126. 16 h.p. DE DIETRICH.—4 cylinders; 104 × 120. Five non-stops. Two runs completed with brief delays. Result of one run not computed. "This car ran through in exactly the same manner as No. 140. There were two stoppages to put in petrol, and had one tyre trouble. Nothing else happened."
127. 15 h.p. C.G.V.—4 cylinders; 90 × 130. Four runs completed with brief delay. Four non-stops. "On the first day five marks were lost by changing accumulators, which had evidently short circuited and run down during the night. On the second day twelve marks were lost in adjusting the clutch, which was slipping, owing to a new leather having been put on. Our driver in passing another car was, unfortunately, compelled by the latter to go into the ditch to avoid collision, and found on restarting that slipping took place. On the third day five marks were lost on account of a punctured tyre. The rest of the run was a non-stop. The car had already travelled considerably over 20,000 miles, having been in use ever since this time last year as one of our trial cars."
129. 15 h.p. PIRE.—4 cylinders; 100 × 135. Three non-stops. Four runs completed with brief delays. One serious delay. "First day: Twenty-six minutes, owing to the dust and having to follow other cars; consequently, our carburetter got full of dust; also two minutes to change sparking plug. Total, twenty-eight minutes. Second day: Seventeen minutes; fourteen minutes to repair puncture and three minutes to change the carbon used on our magneto clutch. Third day: Three minutes to change the carbon used on our magneto clutch. Fifth day: Five minutes to change the carbon used on our magneto clutch. Eighth day: Stoppage of one minute to change the carbon used on magneto clutch."
131. 18 h.p. MORS.—4 cylinders; 106 × 125. Four runs completed with brief delays. Retired fifth day owing to collision. "Friday: One tyre punctured; filling with petrol. Saturday: Water joint leaking, petrol pipe stopped, filling with petrol. Monday: Filling with petrol and cleaning spark plugs. Tuesday: Filling with petrol. Wednesday: Collision with gate in the dark; damaged magneto gear and front dumb iron; retired."
134. 16 h.p. F.I.A.T.—4 cylinders; 100 × 110. Four non-stops. Four runs completed with brief delays. "The only trouble we had was occasioned by dust getting into the carburetter; consequently, the engine was not feeding properly. Our first stoppage was on the run to Winchester, where we lost eight marks (or minutes) for cleaning carburetter. Second and third stops on last day to Brighton for same reason, losing ten minutes. Unfortunately, the carburetter was too hurriedly cleaned on our first stop, with the result that we had a repetition of the same trouble on the last day. I may mention that after the trials the carburetter was thoroughly cleaned out; and without touching the other running parts, the same car travelled a distance of 500 miles without a hitch of any description.—IVOR MILLER."
- CLASS G.—Over £900.
136. 22 h.p. DAIMLER (ten seated).—4 cylinders; 105 bore and 130 stroke. The following is a summary of the marks lost by the Daimler shooting brake (No. 136). These are as recorded by the driver: "Monday, September 21st: Left spring on float needle, and so stopped petrol supply—one minute. Thursday, September 24th: Chipped tooth of driving pinion—one hundred and three minutes. Friday, September 25th: Chipped tooth of driving pinion—forty minutes. Friday, September 25th: Switching on accumulator—one minute. Total: one hundred and forty-five minutes."
140. 24 h.p. DE DIETRICH.—4 cylinders; 120 × 120. Six non-stops. Two runs completed with brief delays only. "The only stoppage I had throughout the trials was to put in petrol, and one day I lost five marks to wash my valves before the Westerham Hill climb. The 24 h.p. car was perfectly new at the start, as also was the 16 h.p.; and, owing to my not having time to run it prior to the trials, I had to enter it just as I received it without the carburetter being adjusted and with weak springs on the inlet valves. This affected the running of the car very seriously throughout the trials, and accounted for the abnormal consumption of petrol, which I never anticipated or expected; but which, of course, immediately the trials had commenced, I could not alter. The five minutes I lost prior to the Westerham climb were lost because I wished the car to do well up Westerham; and as, owing to the previous day's run being very dusty, a lot of dust had been sucked in on the valves, I thought it would pay me to lose five marks on reliability and gain them up the hill. Unfortunately, I was blocked on the hill, but as far as the car itself and the engine were concerned, they gave absolutely no trouble whatever. I am afraid the point we did not appreciate was that with the large engines we were using larger tanks should have been fitted to carry us over the longer time. Of course, one hundred and fifty miles can be accomplished quite easily on the petrol capacity of the car, but when it comes to not so much as one hundred and fifty miles, but from ten to twelve miles an hour running, it is rather a different matter.—CHAS. JARROTT."

A SIMPLIFICATION IN ELECTRIC IGNITION.

A system of high tension electric ignition on a somewhat novel system has been designed and provisionally patented by Mr. Budge, of 193, Stoney Stanton Road, Coventry. The principal features of this system of ignition are the simplification of the low tension circuit, the abolition of the urging commutator or other rubbing parts, and the employment of a single coil to work any number of

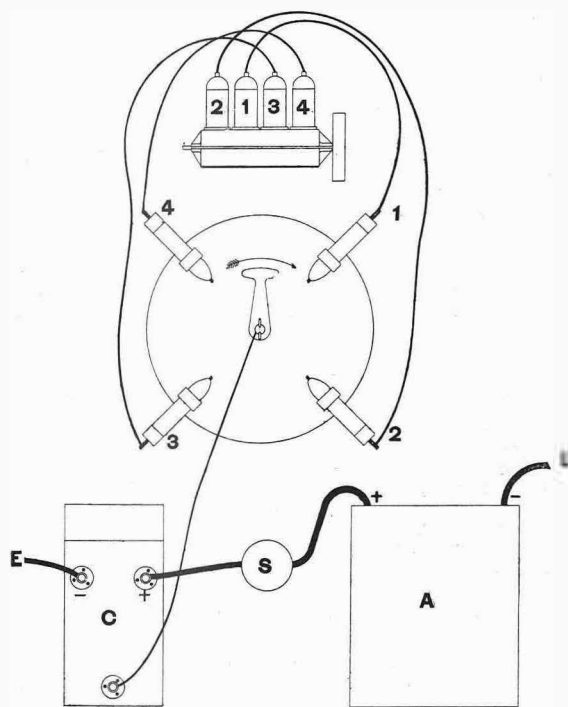


Fig. 1.—Diagram of the wiring.

- A, accumulator
- C, coil
- S, switch
- E E, earthed wires
- 1, 2, 3, 4, distributors to cylinder plugs

cylinders. In order to enable us to explain clearly this ignition, the above diagram has been prepared, and to this we must now direct our readers' attention. A is an ordinary four-volt accumulator, the positive pole + of which is connected to the + terminal of the induction coil C through the switch S. The negative poles of both accumulator A and coil C are connected to earth, as indicated by the letters E E. This completes the low tension circuit.

Now, it is very apparent that when the low tension circuit is completed by means of the switch S the discharge of current from the accumulator is constant, as also is the working of the coil C. This is admittedly a disadvantage with anything but a high speed four-cylinder engine, where the discharge rate is almost constant, so to provide for this a small dynamo is mentioned in the specification, which embraces all known methods of actuating an induction coil.

From the high tension terminal of the coil a wire leads to an ordinary sparking plug located in the centre of the commutator cap. This is seen in fig. 2, to which attention must now be directed. The commutator case is an aluminium casting, which is attached to the dashboard or other convenient part of the chassis, and around it are placed four equi-

distant bosses for the reception of insulated terminals, which in this instance are ordinary sparking plugs. At the back of the commutator is a bearing in which rotates a sleeve. This sleeve is provided with a coarse rifling, in which a centre piece works. A sparking plug is screwed into this centre piece, as shown by fig. 2, and to the terminal of this a distributing arm, made of thick sheet brass, is attached. The sleeve is rotated by a chain and chain wheels, or gearing at half the engine speed, while the rifling serves to advance or retard the time of firing, as will be explained later. Still referring to fig. 2, it will be seen that the end of the rotating plug comes directly opposite to the central plug in the cover, to which, it will be remembered, the high tension wire is attached. A sparking gap of about $\frac{1}{8}$ in. separates the stationary and rotating plugs, so that the current has no difficulty in bridging the gap.

We must now turn to the diagram (fig. 1), in which the distributing arm is seen in a vertical and non-operative position. As the coil is constantly working, so soon as the arm approaches the plug No. 1 the current bridges the second narrow gap which exists between the arm and the insulated centre wire of the plug; this, it will be seen, is connected to the sparking plug in No. 1 cylinder. When the arm approaches No. 2 plug in the commutator, its respective engine plug is sparked, and so on with Nos. 3 and 4. Our readers versed in electrical matters will ask, "But what becomes of the high tension current when the distributor is between two plugs? You must have some outlet for it, otherwise you will ruin your coil." Exactly; provision is made to shunt the

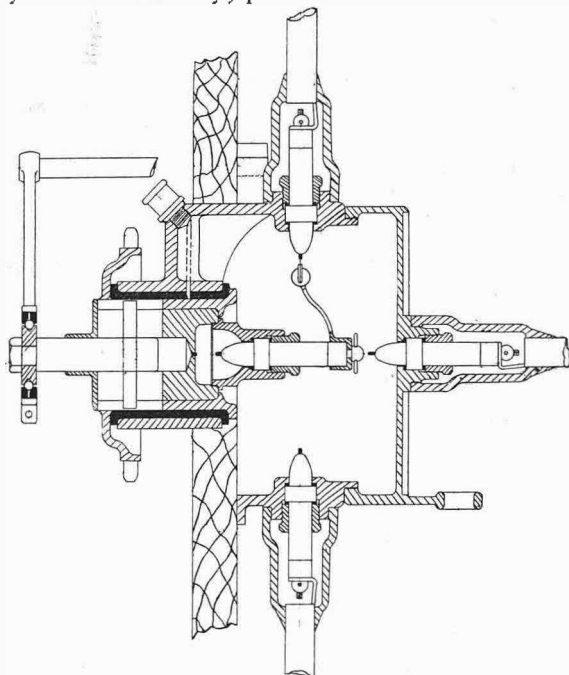


Fig. 2.—Section of the distributor or commutator.

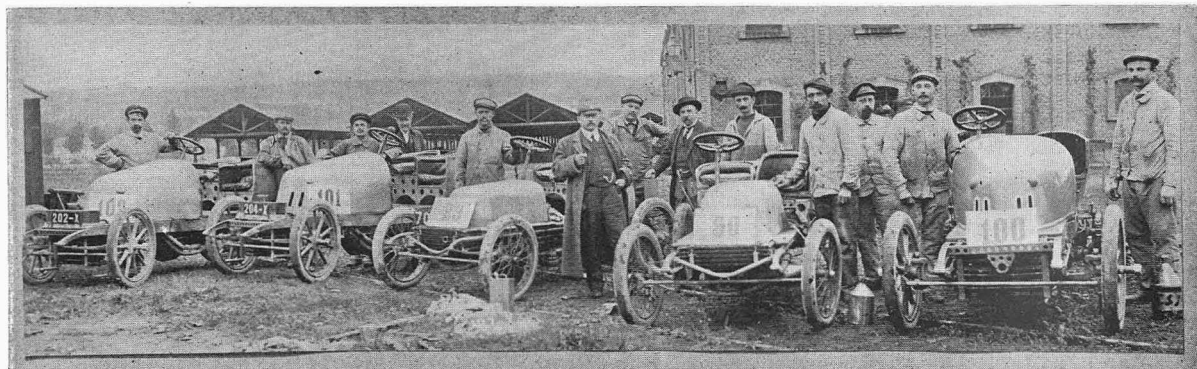
current to earth during such moments as it is not firing one of the cylinders. In fig. 2 it will be seen that the central rotating plug, which carries the distributor arm, is provided with a wide gap between the end of the central insulated wire and "earth."

This gap is set at a distance equal to half the distance that the spark will jump in atmosphere. The majority of coils are capable of giving a $\frac{3}{4}$ in. spark in the air, therefore, $\frac{3}{8}$ in. can be taken as the approximate width of this gap. Thus the current finds an outlet for its energy in bridging this gap and doing negative work during the brief intervals between the firing of the cylinder charge. As the gap between the distributor arm and the insulated collectors is so small, the current takes this path in preference to bridging the wider gap.

As to the timing of the spark, it has been previously explained that the rotating distributing plug is mounted in a rifled sleeve. An extension of the central piece, in the form of a spindle, is mounted in a ball bearing, to which the timing lever is connected. The actuation of this causes a slight longitudinal movement in the rifling, thus giving an alteration in the position of the distributor arm.

To make a complete success of the system, it would only be necessary to carry a small dynamo to replace the current taken from the accumulator.

CONTINENTAL NOTES AND NEWS.



The Georges-Richard cars which competed in the Chateau-Thierry-hill climb.

Chateau-Thierry Hill-climbing Trials.

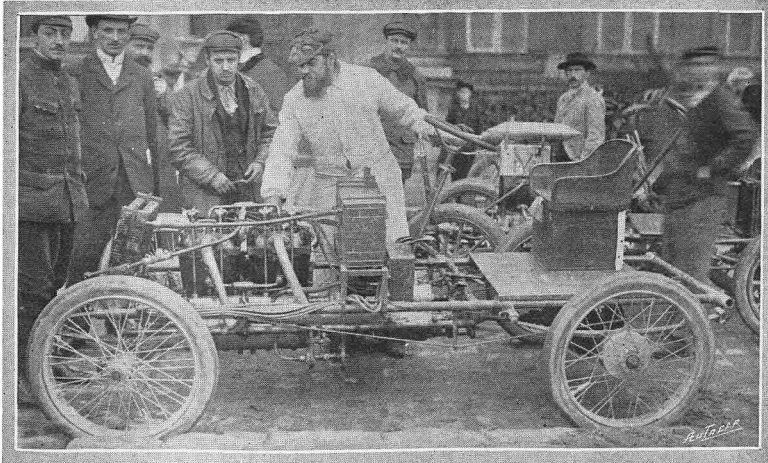
The annual hill-climbing trials at Chateau-Thierry were carried out on Sunday under rather different conditions from those of last year. By giving the cars a flying start for the kilometre race, they had necessarily to take a sharp bend at full speed when nearing the top of the plateau, and as promoters of these events can nowadays run no risks of putting a stop to trials by accidents of any kind, it was found desirable to take the awkward bends out of the course. Consequently, the vehicles on Sunday were sent off from a standing start, so that they had a clear straight course of a kilometre which would allow of the highest possible speeds being safely attained on a heavy gradient. Besides, the standing start added greatly to the interest of the trials. The route selected for the contest is nearly in the centre of Chateau-Thierry, and runs at right angles to the main road by the side of the river Marne. As before stated, it runs in a perfectly straight line for a little more than a kilometre, and then bends rather sharply on its way to the plateau. For the first one hundred and fifty yards it is paved with big granite setts, in fairly good condition, and the rest is macadam. The paved part of the gradient is not very heavy, though sufficiently trying for cars to be started from a standstill. It then grades up eight, nine, and ten per cent., the rise increasing towards the end, so that the continuously augmenting resistances offer a particularly severe test to the cars. The course was kept clear by attaching iron wire to the trees on each side, and no one was

allowed on the road except the men who signalled the approach of the cars by flags and trumpets. The meeting was by no means favoured by the weather, which was very threatening all the morning, but, fortunately, the road surface dried sufficiently before the trials began, though the course had to be freely strewn with sand.

Racing and Touring Cars.

The morning was devoted to the trials of touring cars, which were classified as usual according to their selling price. It is obviously a no easy matter to say just where the racing car ends and the touring vehicle begins, but so long as competitors in the touring section are only required to carry a certain number of passengers, there is nothing to prevent owners of racing cars from temporarily fitting tonneau bodies, and removing them for the subsequent race of speed cars. This was done by Gabriel with his Mors, and by Heath with his Panhard, these vehicles looking very curious with their huge engines dominating the carriage work behind. Some of the light carriages were also racing vehicles transformed for the occasion. The speeds attained, of course, show what can be done with a full load, but, unfortunately, they do not represent the usual capabilities of the touring car. There was very little in the way of new vehicles competing. One mysterious vehicle, driven by Caillois, had nothing to indicate its origin, and it was said to be the production of a new firm who will be putting cars on the market very shortly. The new Georges-Richard Brasier light cars made

a very favourable impression with their rounded bonnets and low down radiators, the whole of the vehicle being finished in Russian blue. By the way, the honeycomb radiator seems to be steadily losing its hold, and the improved types of ribbed radiators, with small tubes connecting large collectors, are coming into increasing use. It looks as if the honeycomb pattern will be a much less prominent feature of the forthcoming Salon than it was last year. A curious looking vehicle was the



A freak racing car. Note the absence of body and other superfluities.

Gobron-Brillié light carriage, built upon the same lines as the big cars of that make. Completely stripped for racing the tubular frame looked surprisingly light for the huge motor, which certainly was not intended for a light touring car. An interesting feature of the meeting was the number of non-competing cars which were well worth inspection on account of the improvements noticeable in carriage construction, chiefly in the way of giving more room for the occupants and more graceful forms to the vehicles. One of these was M. Krieger's petrol-electric car, about which we hope to have something to say before long.

Incidents of the Race.

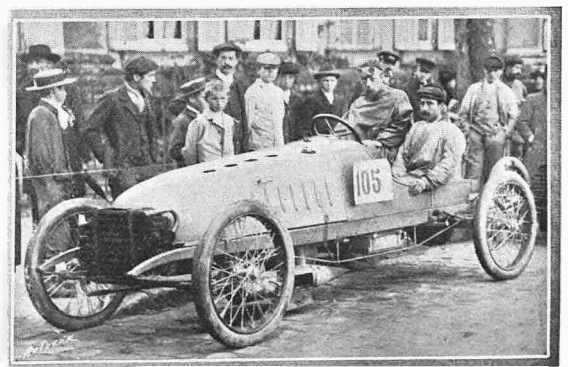
The touring section of the speed trials was at one time simply regarded as a means of drawing out a programme, and serving as an introduction to the racing machines, in which public interest was chiefly



A Darracq light racing car, to which a touring body has been fitted to enable it to compete as a touring car.

centred, but of late the position of the touring car has greatly changed, as the result principally of the suppression of the events for which the racing machines were constructed. If there be no racing there can be no utility for powerful high speed cars, and no demand for them. Consequently, makers are by no means anxious to burden themselves with costly vehicles which can rarely have any occasion of being put to the test, and will almost certainly remain on their hands. Public interest is therefore being gradually diverted from the racing machines to the touring car, which is taking a more and more prominent part in the various events, while the racing vehicles are showing up in much less force than formerly. This tendency was particularly noticeable at Chateau-Thierry, where, in the morning, the touring cars made an unusually interesting display. The motor cycles in this category were confined to machines with motors of a quarter of a litre capacity, and the usual touring equipment. The three first places were taken by Peugeot bicycles, whose best time was 1m. 11 $\frac{2}{5}$ s. The low-priced voituresses did not show up very well, as all of them took more than three minutes. This is disappointing, as there is undoubtedly a large demand for a cheap

and efficient voituress, if only it can be supplied. Among the light carriages there was a very close contest between the 10 h.p. Peugeot of Renaux and an 8 h.p. Ader, the former winning in this class by the narrow margin of the fifth of a second. The big Gardner-Serpollet (which has been driven by Pelzer all over the country, and has covered some thousands of miles during the present year) made a splendid dash up the hill, with full load, in 1m. 15 $\frac{3}{8}$ s., but this performance was eclipsed by Béconnais, on a light Darracq of the racing type, which fairly romped up the gradient as if it were driving along the level. This time was equalled by Gabriel on his Mors, which had been transformed into a touring car by the addition of a tonneau. Among the purely touring cars which had not been built specially for speed, the performance of the Gardner-Serpollet was undoubtedly the best. The afternoon was to have been devoted



The new light car driven by Hanriot, officially described as (X

to the speed machines. A dozen motor bicycles were first sent off, and several of them were in difficulties from the start, for the competitors were placed at a great disadvantage in getting their big motors to start on an up-grade of granite setts. The times consequently varied considerably, the



An unattractive design

best being done by Lamberjack on his Griffon, who covered the kilometre in 55 $\frac{3}{4}$ s. The Darracqs again won in the voiturette class, Wagner doing 50 $\frac{1}{2}$ s., and Villemain 52 $\frac{3}{4}$ s. It was very curious to see these little vehicles fly up the hill in the distance and disappear in the foliage of the trees which lined the road. Just as the light vehicles were being sent off a heavy storm burst, and swamped the road to such an extent that it was found inadvisable to continue, on account of the possibility of a car slipping and running into the spectators. At the same time, the remaining competitors objected to being placed at a disadvantage through starting on the wet granite setts. The meeting, therefore, was postponed until the following morning at an early hour, when all the times were thoroughly beaten by Rigolly on his 110 h.p. Gobron-Brillie. He had to



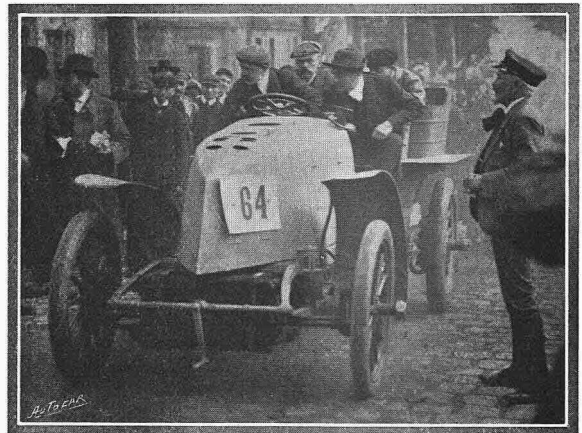
Wagner and Villemain on light Darracqs.

make two attempts, for on the first occasion a dog curled up under the car, and nearly brought about a disaster. Duray on another big Gobron-Brillie ran Rigolly very close, and the Gardner-Serpollet of Le Blon lost its chance of winning by slowing down at the top of the hill. The new Georges-Richard

Brasier did a fine performance in the light carriage class, beating the Darracq by a small margin, but the latter carried off honours among the voiturettes. The motor cycle performances are dealt with in *The Motor Cycle*. The results are as follow :

RACING CARS.

Rigolly (Gobron-Brillie), 45 1-5s.
 Duray (Gobron-Brillie), 45 4-5s.
 Le Blon (Gardner-Serpollet), 49 1-5s.
 Danjean (Georges-Richard light car), 50 1-5s.
 Baras (Darracq light car), 50 2-5s.
 Wagner (Darracq voiturette), 50 4-5s.
 Béconnais (Darracq light car), 52s.
 Villemain (Darracq voiturette), 52 3-5s.
 Brasier (Georges-Richard-Brasier light car), 52 4-5s.
 Augières (Mors), 54 1-5s.
 Harriot (light car), 57s.
 Barillier (Georges-Richard-Brasier light car), 58s.
 Tavenaux (Passy-Thellier voiturette), 58 4-5s.
 De la Touloubre (Decauville light car), 1m. 4 3-5s.
 Mercy (Gladiator light car), 1m. 12 1-5s.
 Breton (Georges-Richard-Brasier voiturette), 1m. 15s.
 Cornillier (Georges-Richard-Brasier voiturette), 1m. 18 3-5s.
 De Boisse (Denis-De Boisse voiturette), 1m. 19 1-5s.
 Birnbaum (Ader voiturette), 1m. 46s.
 Thellier (Passy-Thellier voiturette), 1m. 51 4-5s.



The 80 h.p. Mors, driven by Gabriel, fitted with a tonneau body.

TOURISTS.

Gabriel (Mors), 56 2-5s.
 Béconnais (Darracq), 56 2-5s.
 Heath (Panhard), 1m. 3 2-5s.
 Pelzer (Gardner-Serpollet), 1m. 15 2-5s.
 De Maigret (Gobron-Brillie), 1m. 20 4-5s.
 Caillois, 1m. 32 3-5s.
 Cravoisier (Delahaye), 1m. 34 4-5s.
 Georges Ville (Chassis Mécaniques), 1m. 44 2-5s.
 Lemoine (Delahaye), 1m. 54s.
 Madame Marmottan (Delahaye), 1m. 55 3-5s.
 Gasté (Automotrice), 1m. 56 2-5s.
 R. Edwards (C.G.V.), 2m. 4 3-5s.
 Renaux (Peugeot), 2m. 25 2-5s.
 Gauthier (Ader), 2m. 25 3-5s.
 Vinot (Vinot-Deguignand), 2m. 26 1-5s.
 Boyer (Boyer), 2m. 29 3-5s.
 Mercy (Gladiator), 2m. 38s.
 Peghoux (Renault), 2m. 48 4-5s.
 Davaux (Prosper Lambert), 3m. 6 1-5s.
 Docteur Pineau (Burré), 3m. 7s.
 Demmler (Cottereau), 3m. 32 4-5s.
 Millocheau (Mainant), 4m. 3 3-5s.
 Cudignan (Bardon), 4m. 23 2-5s.

Correspondence.

The Editor is not responsible for the opinions of his correspondents.

JUSTICES' JUSTICE.

[3200].—The following facts will no doubt be of interest to your readers as showing how absolutely impossible under existing circumstances it is to successfully defend an action for exceeding the speed limit. I was summoned at Kingston-on-Thames for driving on the main Portsmouth road at Cobham at a speed in excess of the legal limit. The evidence produced was a police sergeant, who stated he had timed me over a measured 440 yards, that he had started his stop watch as I passed a post 434 yards away from him, and stopped it as I passed a post six yards beyond him, and that I had travelled the distance at the rate of 22½ miles per hour. There was no corroborative evidence of any sort offered by the police as to the pace I was going. The sergeant admitted in cross-examination that I at once stated he had made a mistake, and that I offered to take him over the distance without altering a lever on the car to prove my statement. This he refused to do, saying it was not his duty. I then went over the distance myself, going at exactly the same speed as previously, and stopped in front of the sergeant, who said he wished I had gone six yards further, as then he could have taken the time, but as far as he could make out I had taken about twice as long as on the previous occasion. I then went back to endeavour to obtain a witness who saw me going over the measured distance, and found a man, but he, although stating I was going very slowly and making some remarks about the police, refused to give his name and address, as it would damage him in his employment. I then went back to the sergeant, and informed him the man refused to give his name and address, and asked him to go with me to obtain it, but he refused (as he admitted in court) because his tea was getting cold! I also described the man to him, whom he stated he knew well, and he promised to send his name and address on if a summons were served upon me; this he did not do. My solicitor, Mr. Douglass, endeavoured to prove to the magistrate that the police evidence could not be relied upon, but the magistrate stopped him, saying that had nothing to do with this identical case, and practically stated that no evidence would be any good other than that of a man with a stop watch, as against the policeman's unsupported evidence, and his stop watch. I may state that whilst covering the preceding mile I was warned of this identical trap by no less than four motor drivers and one cyclist. Consequently, I took extra precaution that I was not in any way exceeding the speed limit, and both myself and my driver went into the witness box and swore we were not exceeding eight miles per hour. Notwithstanding this, the magistrate fined me the sum of £1, stating I had exceeded the speed limit of twelve miles per hour.

In face of these facts, and seeing that the police sergeant refused to give me the least assistance in any way, shape, or form, I ask, what is a motorist to do when a policeman says he has exceeded the speed limit?

ALFRED DUNHILL.

PETROL V. STEAM.

[3201].—J.A. should have a Strickland superheater fitted to his car. This would enable him to travel fifteen to eighteen miles on one gallon of petrol and two miles on one gallon of water, with an increase of fifty per cent. in the speed of the car.

(2.) With 50 lbs. pressure in petrol tank, 180 lbs. steam ought to be got in ten minutes.

(3.) J.A. should contrive a little sheet iron box with asbestos at the bottom, and use methylated spirit. There is then no danger of damaging the torch.

(4.) Fix an elbow to each end of flue or chimney pointing upwards. These are a great benefit in windy or any weather.

(6.) J.A. should fix a "pilot light." Then he can leave his car for hours, and it will be ready to start again in two minutes.

I write from experience. The editor has my address if J.A. or anyone else wants more particulars. R.C.
[Several other letters on the subject will be published as soon as space permits.—Ed.]

RELIABILITY TRIALS FOR AMATEURS.

[3202].—I have been following carefully the so-called reliability trials, and I cannot see that they serve any useful purpose to an amateur motorist, but only to advertise certain makes of cars. I am sure that all motorists would like to see some trials inaugurated where all the drivers were *bona-fide* amateurs, and not in the employ of any firm in any manner. Also, I for one should advocate *cleaning* (not repairing) the engine and car after every run, for anyone who knows anything about delicate machinery realises that running it for 1,000 miles on the road under all conditions without cleaning cannot do it any good, if it does not ruin it. It is no test of efficiency to run an engine covered with oil and dirt (grit). I should be very sorry to enter my car under any such conditions.

AN AMATEUR DRIVER (who is his own mechanic).

SOLID TYRES.

[3203].—I have been using solid tyres on a 3½ h.p. Benz since April, 1901. The car was second-hand, and the two hind tyres had been repaired. I have since renewed those two at a cost of £6 3s. 4d. The front tyres have not been touched. The effect on the occupants and mechanism is *nil*, so far as I can see. I shall never buy a car without solid tyres for business purposes, especially as twenty miles an hour is to be the legal limit.

THOMAS H. BUSH.

THE PNEUMATIC WHEEL.

[3204].—"Progressive" in the last paragraph of his letter to you (No. 3171) asks for an opinion on Woods's pneumatic wheel. Being in Manchester a few days ago, I called at their works, and made a thorough examination of this wheel. It is, to put it clearly, a pneumatic-shod wheel running on a revolving platform, the latter being driven by an auxiliary, which entirely prevents creeping. There is no chance of puncturing the air-tube; it is perfectly rigid, and possesses great resiliency. I saw from letters shown me that several engineers had placed orders with the firm for sets of wheels, so I judge from this that it is mechanically sound in principle. SYGOGNE.

[3205].—I notice in your issue of Sept. 26th an inquiry by "Progressive" *re* "Woods Patent Pneumatic Wheels." I have had several opportunities of inspecting these wheels, and must say that I consider them as near perfection as possible. When riding in a car fitted with these wheels one observes the freedom from vibration which most cars are subject to and the absence of dust. There can be absolutely no fear of punctures. The wheels are simple in construction, there is nothing to work out of order, and they weigh very slightly in excess of an ordinary pneumatic wheel. LINER.

ASHRIDGE PARK.

[3206].—I should like to call the attention of those of your readers who find pleasure in picturesque rides to Ashridge Park, Herts.

From London the best road is through Watford to Berkhamstead, turning off to the right in this town down Castle Street immediately before reaching the church. Passing under the railway there is a long but fairly easy ascent to Berkhamstead Common. At the top of the ascent turn to the left. It is a good road over the common, keeping on the high ground, and with extensive views leads straight into the park.

The park is very extensive and well wooded; and although it is situated in the Chilterns, the gradients are very easy. It is famous, *inter alia*, for its beech trees, which are of great size and beauty. It contains a large herd of deer, and is well stocked with game. There is a right of way for carriages over all the roads, at least so I have been told, and I think it is correct, as I have cycled and motored through the park many times without let or hindrance.

There is, however, some talk that the owner—Lord Brownlow—intends to try to close it against motors. Obviously, no individual motorist will contest the point with him, but it seems a case in which the Automobile Club might well act. PANHARD.

INFLUENCE OF SPARK ON ENGINE POWER.

[3207.]—I should much like the opinion of any of your expert correspondents on the question of the extent to which the nature of the explosion and the resulting power in a petrol engine is influenced by the nature of the spark which fires the mixture. I had been under the impression that provided the spark was sufficient to fire the charge regularly it was all that was required, but I have lately had reason to alter this view. On a motor bicycle fitted with magneto ignition I reduced the tension of the trip-rod spring and found that the power of the engine was thereby reduced nearly fifty per cent., though there was no misfiring. On gradually increasing the tension of the spring the power of the engine increased correspondingly. Therefore, with the magneto system the maximum power is only to be obtained with the maximum rapidity of break. It is only within the last few years that the great influence which the detonator has on the nature of the explosion in the chamber of a gun, has been recognised and turned to account. May not the nature of the spark have a similar and perhaps hitherto unsuspected effect on the power of the petrol engine? L.

THE WHITE STEAM CAR.

[3208.]—Having noticed a letter in the last issue of your valuable paper, *The Autocar* of Oct. 3rd, under the heading of "Information Wanted," I have much pleasure in herewith giving your correspondent my experiences of the White steam car, 1903 pattern. I have driven one of these cars almost daily since Aug. 1st, and so far have had no trouble whatever with the boiler, and find the condenser and return water arrangements most satisfactory. The bevel gear being encased and running in oil makes no noise, but occasionally the car overruns the engine on a down grade, causing a slight rattle of the universal joints of the propeller-shaft. The workmanship certainly appears to be very good, and the car is undoubtedly well designed, combining strength with lightness. I have ascended several hills of a gradient of 1 in 8 without ever once reverting to the hand pump, and find it a superb hill climber. It seems a very economical running car. Perhaps I should mention that I am in no way interested in this make of car. E. H. TOWNSEND.

[3209.]—As a regular subscriber to *The Autocar*, I should also be glad to receive any particulars of the White steam car as asked for in the letter 3190, headed "Information Wanted," and signed H. W. I should like to ask in addition as to the following points:

1. How long does it take to get up steam?
2. Can the car be kept standing for any length of time whilst shopping or calling without turning off the burners?
3. Are the burners likely to blow out in a strong wind? I have heard in some steam cars that this happens, and much trouble and danger of explosion results.
4. Does the presence of a boiler render the car hot from the heat of the steam, and make it not too comfortable to sit in in warm weather?
5. In frosty weather would any trouble arise from the water freezing?
6. Is it not difficult to maintain the steam pipe connections and joints in good condition? The jolting of the car seems to give rise to much trouble. I have heard, in these respects. J. M. G.

[3210.]—In reply to J.A.'s letter my only experience of steam cars is with a White two-seated Staubpo. (1.) Petrol consumption: It costs me about 1d. per mile in petrol, but I save in wear and tear of tyres, valves, springs, recharging batteries, sparking plugs, etc. The new pattern White car is said to be more economical in this respect than the old. (2.) I can easily get up steam from all cold in five minutes, and have often done it in less. (3.) There is no torch, "you light it with a match." (4.) I have never had my fire blown out; the makers say that no amount of wind affects the burner in their new pattern car. (5.) There is no water gauge, and when you are used to the car, after once starting, you need hardly ever look at the air pressure or steam pressure gauges. I often drive many miles at night without seeing either. (6.) When stopping you simply turn off the main burner and leave the sub-burner alight. I have left the car for three hours at a time like this. When you are ready

to start you simply turn on the main burner again, and the car starts at once. It is, however, so easy to get up steam from all cold that if I am stopping for more than an hour I put out the fire entirely. I agree with Progression's letter on the whole, but having had a long experience with petrol cars I affirm that it is easier to learn to drive and manage a White car than any two-cylinder petrol car on the market. F. E. R.

SOME HINTS TO USERS OF DARRACQ CARS.

[3211.]—Being a specialist in Darracq cars, the following may be useful to your readers. Referring to the 12 h.p. car, the one failing in this type of car is the overheating, but I have found in numerous cases this is entirely owing to a too rich mixture. As most of the cars are sent out you cannot alter this, for there is no proper provision for supplying the requisite amount of air on the engine side of the carburetter. A wonderful difference is made by drilling a hole midway between the carburetter and engine in the induction pipe, covering this with a piece of fine copper gauze, the effect of this hole being to draw more air and less petrol. The effect can be most readily demonstrated by starting the engine and then when it is running putting your finger over this hole, when the engine will at once slow down, but would pick up again immediately the hole is uncovered.

The 24 h.p. cars are equally troublesome in overheating at first, but this is caused in a great measure by a similar cause. The honeycomb radiators are also slightly underpowered. A good way to remedy this is to put the radiators slightly further forward—about 2in.—and put a wider fan, or rather to put wider wings, to the existing mechanism. The 24 h.p. Darracq is also very weak on the brakes, they being inadequate for such a large car, and to make these more easy to control I have fitted a number of auxiliary brakes, and this is done absolutely in the following manner: By extending the drum on which the existing foot brake works 3in. and fitting a 2½in. steel strap lined with gun metal, and applying to the lever by the foot. This gives you a brake which will hold the car backwards or forwards down the steepest hill, and will check it when running at twenty-five to thirty-five miles an hour, and bring it up at any moment in a very short distance. Cars we have fitted with this brake have always been satisfactory in this respect. Any owner of a 24 h.p. Darracq car who wishes to drive very slowly on the high gear finds it impossible to do so without a great deal of clanging, if a simple butterfly valve is fitted in the induction pipe close by the engine, and this worked by a flexible cord from a foot lever, it will be found that the car can be driven on the top gear without noise from ten to twelve miles an hour when the throttle is up, but immediately it is depressed by the foot the car can be driven from anywhere at its full speed without having to touch any of the levers on the steering wheel.

CHAS. BINKS.

FOR FAMILY USE.

[3212.]—I am thinking of giving up my horses in favour of motor cars, having used a low-powered car (9 h.p.) for the last twelve months for part of my necessities. I am now getting an additional second little car, and am thinking of getting a third, but the third car I want would be to take the place of my landau. I cannot find any car at present that suits my needs. What I want is a car in which I can send out my children and my nurse with the driver, feeling that they are going out in perfect safety, and a car that will do fifteen or twenty miles an hour at the outside for this work is all that I require or desire. I constantly find other friends who are family men, and who are talking about giving up their horses, looking for a similar vehicle, but the only cars we are offered are high-powered cars, capable of going at a much greater pace than we care for when our drivers have such a valuable cargo on board as our children. The other purpose for which my car would be used would be for going to the theatre, etc., from my country house, which is a few miles out of a large town, and the car would therefore be largely used for night work, but here again the same difficulty applies. We want a quiet going, reliable car and cannot get one. It appears to me that motor car manufacturers are making no provision for the needs of

"paterfamilias," and that once again the British manufacturers are striving to get their customer to take what *they think he ought to have* and not what he wants! I can quite see that in France, where I have been touring recently in a motor car, a different class of car entirely is wanted, because they have broad roads with gritty surfaces and easy gradients, instead of, as in England in the country districts, bumpy, and often greasy, roads and lanes, narrow, and with tall hedges.

The horse will be run off the road not by the touring motorist, but by the motorist who will use cars for daily use as I have indicated above, and I cannot help thinking that the sooner some enterprising manufacturers build and advertise a car for family men and men of moderate means suitable for this country, i.e., a comfortable, low speed, reliable car, a greater business will be theirs.

SUBSCRIBER.

THE KREBS CARBURETTER.

[3213.]—Our attention has been called to a letter in your issue of the 3rd October under the signature of "W. Watkins."

We have no concern with any of the statements contained in this letter except one which contains the allegation that the Krebs carburetter reduces the power of an engine by one-twelfth of its total horse-power.

With regard to that allegation we would like to say that the statement is totally incorrect. The Krebs carburetter does not reduce the power of an engine in any degree; its action has an entirely opposite effect.

For PANHARD AND LEVASSOR,

GEORGE DU CROS.

AN EXAMPLE FROM HEREFORD.

[3214.]—I am glad to tell you that the Herefordshire County Council will confine their attention to the licensing and registration of motor vehicles, and will not for the present apply for the closing of any roads to motor vehicles, neither will they at present apply for the application of the ten miles limit anywhere.

J. T. HEREFORD.

TOURING IN NORTH DEVON.

[3215.]—I have recently been over the same route as described by "Ex Morr." The car I drove was a 16 h.p. Rex with very large body, and, consequently, heavy. I found the Parracombe hills moderately good, and had no trouble with them, but the hills at Lynton and Porlock I found great trouble in getting down, owing to the sliding of the tyres in the deep red mud. The wheels were not skidded, but they were only revolving about half the speed of the car, and the result was bad wearing away of the tyres. I was obliged to keep the speed down to about four or five miles an hour, or I could not have got round the corners. Any approach to high speed on those hills would be fatal. One could never slow up again because of skidding. Another car descended to Lynton before me, and I was told by a horseman that it slid less than mine. I did not see the car. The hill up from Lynton, called Countisbury Hill was exceedingly bad at the bottom. The red mud was fully three inches deep in places, and one wheel had to run in it. I only just got through it. These hills all have a maximum gradient of one in five to one in six, and, owing to their surface, they are more than most cars can do without a push. Not having unbounded faith in my brakes, I put in the reverse gear at the top of each hill, and descended with the clutch out and engine running. This is bad for the clutch if leather covered, but it is a grand brake in an emergency. Of course, the other brakes do not withdraw the clutch, as in some cars. As regards the sliding down these hills, am I not correct in supposing that larger wheels would slide less? Mine were 32in. with 3½in. tyres, and I think they are too small for such a large car. They are now 34in. by 4½in., which is rather better. Did not the members for Devon and Cornwall speak against motor cars in Parliament recently? I went all over Cornwall and a great deal of Devonshire, and met with the most friendly feeling everywhere, and from all classes. I have no belief in any genuine hostility to motors among the

country people, except some farmers, and even that I have never met with. If the narrow roads are not to be closed to motors, Devon and Cornwall are delightful touring counties, but scarcely anywhere is high speed desirable.

C. L. SCHWIND.

CONDENSER ON SECONDARY WIRE.

[3216.]—One of the simplest ways of introducing a condenser into the secondary circuit is to use a lead coated wire, attaching it at one part of its length to the frame of the car. It must be borne in mind that a condenser reduces the length of the spark, so unless ample power is provided in the battery and coil it is quite possible that the condensed spark may not be able to jump across the dischargers of the plug, though the non-condensed one may do so easily. The condensed spark should be able to fire many a charge that the ordinary spark would not. WILSON NOBLE.

SIDE-SLIP.

[3217.]—In your issue of May 23rd, over the initials of "J.B." you published a letter upon the avoidance of side-slip and skidding evils.

"J.B." had exactly grasped the cause of these, and I must say that since automobilism came into vogue in this country no more important and thoughtful letter has been published in the interests thereof.

Unfortunately, the following week the subject was crowded out by the Paris-Madrid race preliminaries, and, later, by the sequel thereto; then the Gordon-Bennett and good old Ireland, and almost forgotten.

One writer ("Engineer") in issue of June 13th, certainly took up the matter, but only to fly off at a tangent to advocate the steering of the *hind* wheels whilst driving the front.

What "J.B." contended for was the front drive combined with front steering, and emphatically he is in the right. I make bold to say, without fear of contradiction by any man who knows the subject, that a rear driven car is always in danger and uncertainty instantly upon striking a greasy, a wet clayey, or a wet chalky road, and, indeed, to a smaller degree, a dry road very thickly covered with dust, whilst a front-driven car is not.

This accrues from the pushing action of the hind wheels, aided by a touch of the steering wheel, an application of the brake, or an unevenness in the road surface causing the front wheels to mount upon the film of grease and to slide with that sliding motion so well known to and feared by motorists.

This is so serious that no motorist is safe in life, limb, or car immediately upon striking a greasy road, and the car is, withal, a source of danger to all other road users in these circumstances.

Of what use is a car, which, though it carry its owner safely and well over hundreds of miles of dry, good road, yet, nevertheless, is liable, through a *fault in principle*, to dash itself and him to pieces on a grease patch, which might be encountered at any moment?

Not so the front-driven vehicle. The action of the drive is, of course, to cut through the grease and obtain a hold upon the road surface, when, naturally, the car follows its lead; just as a horse, getting a foothold upon a greasy road, and pulling from that point, causes an ordinary carriage to trail after him.

As "J.B." remarks, "there are mechanical difficulties" with respect to the steering, but none which are insurmountable. In fact, having thought out the subject some five years ago and arrived at precisely the same conclusions as "J.B.," the writer of this has devised an irreversible steering gear, which enables a front drive to present, what has hitherto been wanting in such vehicles, a *rigid front* to the road.

There is no question about either the safety or certainty of this.

I trust this subject, surely the most important that can be imagined by the motor user, may, now that the Gordon-Bennett, etc., etc., have passed, not be allowed to drop, because beyond all dispute the future of the development of the motor car lies upon this line. Pull your vehicle, do not push it—it is axiomatic to any thinker.

C. COLEMAN WRIGHT.

[A large number of letters are unavoidably held over.—ED.]

Flashes.

The Hon. H. S. Bowen made a non-stop run from London to Southport on his 12 h.p. Sunbeam car. He missed the way, and consequently had over forty miles on the cobble stones, but, despite that, averaged a speed slightly in excess of the new legal limit, and reached Southport in 10h. 55m.

* * *

The *Modern Engineer* has got a table of screw and wire gauges which has been specially compiled by A. H. Bagnold, of the Royal Arsenal, Woolwich. The various gauges are Stubb's steel wire and Morse steel wire gauge, the Steel Iron wire gauge, and the American wire gauge, which are all compared with decimals of one inch. The table can be obtained at Temple House, Tallis Street, W.C., at a cost of 3d., and would be found of considerable value to anyone connected with mechanics.

* * *

Mr. R. E. Phillips, one of the judges in the reliability trials, lost the dust cap off one of the wheels of his car. If any motorist has picked it up, Mr. Phillips would be glad if he would send it to 70, Chancery Lane, W.C. It was lost either between Croydon and Westerham or Westerham and Bury Hill. The cap bears the inscription, "Rochet and Schneider, Lyons."

* * *

Recently we referred to the carburetter which had been invented by Mr. J. W. Hall, of Ahmedabad, and which has enabled him successfully to use paraffin instead of petrol. In a letter to us the other day he mentioned a difficulty which we do not think has been generally grasped by Europeans who have had no experience of the East. In his letter, Mr. Hall says: "There are a few cars in Bombay among the wealthy natives, but not a single car is now running, owing to the heavy monsoon; the air is almost up to saturation point, and with an ordinary carburetter it is, I believe, impossible to take up further vapour from the petrol." This is a distinct contrast to Mr. Hall's device, which can be used right through the rainy season without difficulty, owing, he believes, to the fact that the oil goes direct to the cylinder, no carburisation in the accepted sense of the word being required. This extreme moisture of the air in certain parts of the world is unquestionably a difficulty which will have to be considered in the near future if motors are to be used daily in such localities.

* * *

The American press appears to have been much impressed by the motor car race meeting held on the Empire City track on Saturday last, when, according to the reports, the most important features were the value of the cars attending—"a million dollars worth"—and the driving of Winton's car by Barney Oldfield, who "demolished nine records."

Mr. B. J. Smythe, care of Messrs. Burnham and Co., St Paul's Wharf, Deptford, desires the title and address of the Scotch Insurance Co., which takes motor tyre risks. Should this paragraph catch the eye of any official of the company perhaps the same would forward the information to our correspondent.

* * *

The autocar is playing an important part in the development of Madagascar, where its advantages have been fully recognised by the French authorities. Mr. Sauzier, the British Consul at Tamatave, writes that there is now a regular service between that place and the capital—Antananarivo. Passengers take the railway as far as Fooudrona (seven and a half miles), then embark on small steamers through the lakes to Mahatsara. There they arrive the same night, and go on by autocar to Antananarivo, where they are landed, four days later, at a much less cost and with much less fatigue than by the old system of palanquin transport.

* * *

A specimen of a good cleansing soap which will remove greasy dirt has been sent us by Oowana, Ltd., of 205, Victoria Street, S.W. It certainly has great cleansing properties, equal to those of the coarser and unpleasant smelling soaps. It is scented, and but for the way in which it attacks the dirt on a pair of greasy hands would be taken for an ordinary pleasant toilet soap.

* * *

The 22 h.p. Daimler car has been passed by the French authorities as fulfil-

ling all the requirements laid down by the Government. Owners of these machines who contemplate touring in France need only apply to the makers to obtain the necessary certificate. That is to say, they will be able to start with a *permis de circulation*, and will only have to obtain the *permis de conduire* when they reach France. In other words, they will have their car certificate, and will merely have to get their driving certificate. The examination for this is not unduly rigorous, and simply consists of taking an official of the Department des Mines for a drive, and showing him that the would-be holder of a certificate is capable of properly managing the car.

* * *

The connection between the opening of the Simplon Tunnel and the autocar may appear to be somewhat remote, but the British Consul at Milan specially draws attention to the fact that the event is to be celebrated at that city by a great International exhibition, which will be open from April to October, 1895. This exhibition will be primarily devoted to means of locomotion, and a large, and perhaps its most important, section to means of transport by land. Members of the motor industry further interested should communicate direct with Mr. Towsey, British Consulate, Milan, who will put them in the way of obtaining further information.

"THE AUTOCAR" DIARY.

- Oct. 10.—Midland A.C. Mr. Holder's Hill-climbing Competition.
 ,, 10.—Sheffield A.C. Drive to Sickleholme.
 ,, 10.—Southern Motor Club. Drive to Ditton.
 ,, 12-17.—Paris Cab and Delivery Van Trials.
 ,, 15-21.—Leipzig Automobile Show.
 ,, 17.—Southern Motor Club. Drive to Esher.
 ,, 17.—Scottish A.C. (Western Section). Anniversary Drive to Troon.
 ,, 22.—Speed Trials at Dourdan.
 ,, 22.—Leicestershire A.C. Drive to Market Bosworth, Hinckley, and Earl Shilton.
 Nov. 15.—German War Office Alcohol Competition for Heavy Vehicles
 ,, 22.—Leicestershire A.C. Drive to Market Bosworth, Hinckley, and Earl Shilton.
 Dec. 10-25.—Paris Salon Automobile Show.

We have before now referred to the excellent qualities of the Castle accumulator. Another proof of its durability comes to hand from Mr. Glidden, who used one on his 6,670 miles European tour. It never gave him a moment's anxiety.

* * *

It will be useful to owners of electric motor carriages to know that facilities for charging the batteries are provided at the works of the Phoenix Motors, Ltd., Blundell Street, Caledonian Road, King's Cross. Blundell Street is about halfway up the Caledonian Road, on the left going north.

* * *

The members of the Yeovil Rural District Council have not been behindhand in discussing the provisions of the new Act. The roads in the district are to be measured by the surveyor. The council are convinced that motor cars cannot be safely driven at a speed exceeding ten miles per hour in the district, and the surveyor will be further occupied in preparing a list of the places where notice-boards should be erected. These things are the outcome of resolutions moved by the Rev. W. D. H. Armstrong, and several of the councillors gave their constituents an opportunity of estimating the wisdom or lack of it with which they are associated. In the opinion of one of these councillors, "Motor drivers were rich loafers, who had made playgrounds of their roads, upsetting people's nerves, and laughing at their victims." However, two at least of the members present were capable of discussing the matter in a more rational spirit, and one of these thought they should treat sensible motor car drivers with a certain amount of consideration, and not apply to all of them the epithets which had been used; while the Chairman said horses were often driven at ten miles an hour, and before long farmers would be using motors instead of horses, and they, too, would want to go fast.

* * *

At the Farman Automobile Co.'s spacious depot, 48-104, Long Acre, W.C., may now be seen one of the new 14 h.p. four-cylinder Clément cars, which exhibits several interesting features. In wheelbase the car is slightly longer than the 12 h.p. pattern, and the bore and stroke of the cylinder is 5 mm. greater each way. The spring hangers up to which the rear springs are anchored are turned outwards, so that the rear springs are now entirely outside the body, and when a big obstruction is met with upon the road, no bump is felt, plunge the body never so wildly. Some modification has also been made in the stamped channel steel frame supporting the engine and gear chamber. The two longitudinal members of this frame are now kept closer together, being swept outwards where they clear the flywheel, so that the aluminium brackets of the crank chamber and gear box are much shorter, and consequently stiffer, than with the older pattern. There are also modifications in the automatic lubricator and coil. This car is a very fine example of automobile construction.

Captain Deasy is reported to have driven his 14 h.p. Martini up the cogwheel mountain railway from Caux to Rochers de Naye, above Territet, on the Lake of Geneva.

* * *

We do not know what is the record distance run by a pair of chains, but we have just heard of a 5½ h.p. Wolseley car fitted with Coventry chains which have run nearly 23,000 miles, and have only now come to the end of their active life.

* * *

Anyone who has lost a Dunlop tyre cover on the Bath Road, near Marlborough, should apply to the Motor Garage, London Road, Marlborough, as the proprietor informs us that he has been handed such a cover which was dropped from a car on the Bath Road just outside the town.



THE 1,000 MILES TRIALS

Mr. Basil Joy as signaller.

Going into minor matters

We have received the following telegram from Southport: "Higginbotham home from Southport races near Ormskirk corner tyre all in ditch wheel broken no hurt. Sheffield."

* * *

The prospectus of the Car and General Insurance Corporation, Limited, has been issued to the public. It starts with the assertion that "no other company in the United Kingdom" is "devoting its energies chiefly to the development of motor car insurances," which in the present state of things appears to show wisdom on the part of the "other companies." The usual list, showing results attained by other insurance companies, which, as stated, have not devoted their energies to motor car insurance, demonstrates that other insurance business is remunerative, and also shows that there are plenty of companies to take up motor car insurance as soon as some likelihood of that branch of the business paying presents itself. A careful perusal of the prospectus reveals the fact that it is apparently built round Mr. Frederick Thoresby, who is described in the signatures to the articles as "insurance official," and who has "during the past seventeen years held various positions of responsibility with three of the leading accident insurance companies." The directors proceed to allotment on the subscription of 30,000 shares, out of a capital of £100,000. Possibly Mr. Frederick Thoresby may be able to do well for the concern, but when he does so no doubt other companies will also take a hand in the game.

SOME QUERIES AND REPLIES.

We are always pleased to reply to queries, even if they be of an elementary and untechnical description, under this heading. Only a selection of those which are of general interest will be published, though all will be answered direct through the post, for which purpose a stamped and addressed envelope should be enclosed.

When advice concerning different makes of cars is sought, each vehicle should be given an identifying number.

Letters should be addressed The Editor, "The Autocar," Coventry.

POWER, SPEED, AND WEIGHT.

Suppose a 5 h.p. engine will take a car with passengers weighing 10 cwt. up a given hill at ten miles per hour, does it follow that a 10 h.p. engine will take 20 cwt. up the same hill at about the same speed?—J. B. J.

Provided that the transmission of the driving power from the engine to the road wheels is of the same efficiency in both cases the speed should be the same.

SELF-IGNITION.

My car is a 10 h.p. double cylinder Gladiator, 1903 pattern. When I have been running it some distance, then stop and switch off the current, the engine continues to run in a spasmodic sort of way, then stops, and very often there is a loud report in the silencer. This happens although the gas lever of the carburetter (Longuemare) is as far over on the "F" side as it will go. Would you kindly let me know what you think is the cause, and, of course, the remedy?—AUTOWIATOR.

The continued running of the engine after the current has been shut off is due to self-ignition caused either by the overheating of the engine, which may be due to the pump not working up to its full capacity of water delivery, or to some small projection in the combustion chamber, owing to irregularity in the casting, or to a slight accumulation of carbon deposit which may become sufficiently heated during the time the engine is running to continue the firing of the charge after the electric current has been switched off. Self-ignition invariably takes place when compression is at its highest point. Explosions in the silencer are probably due to the second cylinder passing its live charge thereto, this being exploded by the next exhaust charge from the other cylinder.

SOOTING AT THE PLUG.

In your number for 20th June you published a letter from "E.B." on the subject of sooting at plug of a 6 h.p. De Dion-Bouton voiturette. I also have a 6 h.p. voiturette of same make, and am troubled in same way, but your answer to "E.B." does not help me much. I cannot go more than a mile or two without having to clean the plug, which gets covered (porcelain and all) with a thick dry black soot. I use Carless-Capel petrol s.g. .700, and D lubricating oil. I fancy I use an excessive amount of petrol—two gallons for under forty miles. I keep the gas throttled as much as possible. I have looked at the throttle to make sure in which position the lever should be; besides, I have tried it in all positions with the same result. Can it be the nipple of the carburetter allows too much petrol through? If you can suggest the possible cause or causes I shall be most grateful.—T.D.H.

In all probability the sooting of the plug is due to the mixture being too rich in petrol vapour. This may be due to the nipple in the carburetter, which, we take it, is a Viet, being too big, or to flooding through the supply valve not cutting off properly. The latter is the more likely cause of the trouble. On the bottom of the carburetter is a chamber to which the petrol supply pipe is connected. This pipe should be disconnected and the chamber removed from the carburetter by undoing the union nut, thus allowing the supply valve to be taken out and cleaned and ground in if necessary. If this is done the high consumption of petrol will be reduced and the sooting of the plugs prevented.

MAGNETO IGNITION.

Can you let me know if it has yet been satisfactorily proved possible to advance and retard ignition in cars which are fitted with the magneto ignition, or is the variation of the ignition only dependent on the speed of the magneto generator, and thus the intensity of the spark? If the former, however, is used in practice, I should be very grateful if you could explain briefly the mechanism, and also what make of cars adopt this method. Also are there any cars that use dynamos without accumulators?—E. L. B.

Nearly all the latest types of magneto ignition apparatus are fitted with timing gearing, so that the moment at which the spark takes place can be varied by the driver. In the earlier types the moment of timing was predetermined, the rate of firing increasing or decreasing in accordance with the speed of the engine. With the Eismann system of ignition, in which the armature is rotated, the current is supplied to an induction coil direct, so that the usual high tension sparking plugs are employed. The variation of the timing is obtained by means of a sliding sleeve on the camshaft, which causes the position of the contact making and breaking cams to be advanced or retarded, so that they make and break contact sooner or later as required. No accumulators are used in this system. Full details of this ignition, together with diagrams, will be found in *The Autocar* of February 21st, 1903, page 257. In the Simms-Bosch magneto ignition a similar method of varying the time of the spark is employed. Worked on the low tension system the Eismann is to all intents and purposes a small dynamo working direct on to the step-up induction coil. There are several makes of cars which employ the Simms-Bosch ignition, among which may be mentioned the Milnes-Daimler, M.M.C., Clement, Beaufort, etc. In all these instances it is fitted to order, and, as a matter of fact, the majority of firms will fit this or any other type of ignition specified by purchaser.

AN EXPANDING BRAKE QUERY.

Sir,—I have owned a 9 h.p. Renault for more than a year now and reckon to have run it over 8,000 miles, but my experience does not at all lead me to endorse your description of the "Renault expanding segmental brake" (*The Autocar*, August 1st, p. 152). I have had continual worry with it, on account of the wearing away of the surface of the two segments 1 1 where they come into contact with the inner periphery of the drum 9, which allows after a time the bolt 6 to be turned completely over without expanding the segments sufficiently to press them against the outer drum. My remarks, of course, apply to the footbrake, as the 9 h.p. Renault was fitted with ordinary hand side brakes. I have tried several adjustments. First of all I have ring washers made of length varying from $\frac{1}{16}$ in. to $\frac{1}{4}$ in. to fit on the rod A which slips into 8 (the footbrake of the 9 h.p. being applied by the lever 7 being pressed back, not drawn forward), then, when the wear becomes so considerable that block 6 turns round without applying the brake, I have flat pieces of metal riveted on to the ends of the segments B B, and as the wear goes on I increase these in thickness. I find I have to make some adjustment to this brake every 100 to 300 miles according to the amount I have to use the brake, and I am now getting to the end of my second pair of segments, having worn the first pair right through, and the outer drum is also wearing away, though not quite at the same pace as the shoes, I am glad to say. Perhaps some other owner of a Renault car may be able to suggest a remedy.

VIVIAN A. SIMON

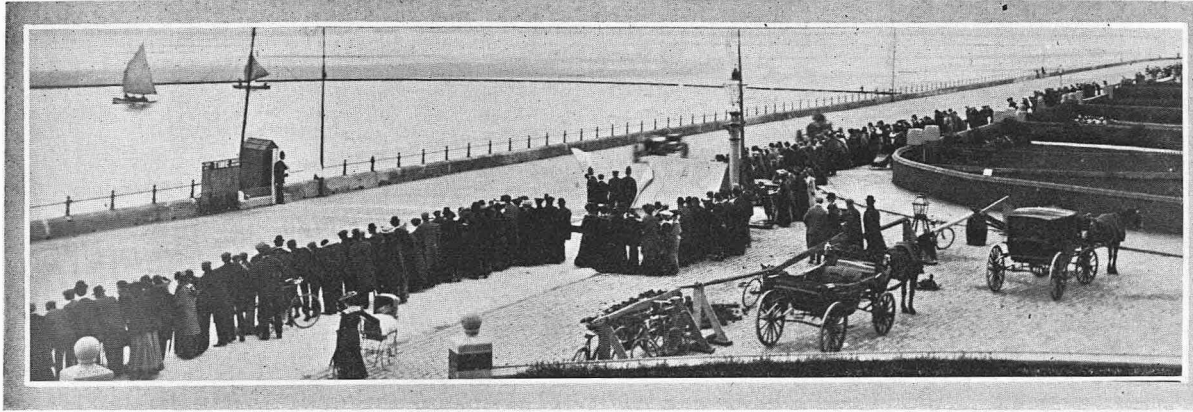


Photo. THE SPEED TRACK AT SOUTHPORT. THE NAPIER AND MERCEDES RACING CARS COMING DOWN AT FULL SPEED. *Argent Archer, Kensington, W*

The Southport Speed Trials.

TWO DAYS SPEED CONTESTS OVER A FLYING KILOMETRE.—HEATS AND FINALS IN THE TOURING CARS CLASS.—TIMES OF THE RACING CARS AND SPEEDS IN MILES PER HOUR.—A SUCCESSFUL MEETING.

THESE trials, of which the general press was so flippantly full on Saturday and Monday last, were promoted and carried out by the Automobile Club of G.B. and I. and the Liverpool Self-propelled Traffic Association. The Borough Council of Southport was fundamentally responsible, and certainly that enterprising body spared no pains to bring about the entire success of the trials. Of that success, so far as the organisation and conduct of the two days' racing were concerned, there can be no doubt, for all the borough officials, from the Mayor, the Deputy-Mayor, the Borough Surveyor, Chief Constable, and their respective assistants, spared no expense or effort, and left no stone unturned to carry out to the minutest fraction each and every suggestion made by Mr. Julian Ord, the secretary of the Automobile Club, with whom the planning of the trials originated, and by whom the whole organisation was conceived. Quite a host of officials figured upon the programme, but from the moment the first motor bicycle was loosed on its

way on Friday morning until the last speed car fled down the track on Saturday evening, the cares of the days rested upon the shoulders of Mr. Julian Ord (the club secretary), Mr. E. Shrapnell Smith (the starter), Mr. J. D. Siddeley (clerk of the scales and marshal in chief), and the timekeepers, Messrs. Harry J. Swindley, Henry Sturmeay, T. H. Woollen, and F. Straight.

The Scene of the Trials.

The classes and the cars entered therein were given in *The Autocar* of the 3rd inst., and therefore need no recapitulation. If our readers, however, will refer to the illustration of the Southport Promenade, given on page 445 of that issue, they will arrive at some notion of the trouble and expense to which the Southport people went in order to prepare as perfect and as safe an automobile speed course as possible. The front, as portrayed in several of our illustrations, is seen to consist of a broad asphalted promenade towards the foreshore and an ordinary kerbed and channelled roadway inland.

The whole length of this roadway was levelled up to the surface of the promenade with tarred paving, and the course on both sides barricaded with stout fencing, wire netted, to prevent the ingress of the ever-present dog, from end to end. Except for the motor bicycles, the course would only allow a flying kilometre to be taken, and even then a slight curve had to be negotiated in the first third of the distance, while the cars after finishing found sufficient straight in which to slow. Park Road formed the marshalling ground, and after having traversed the

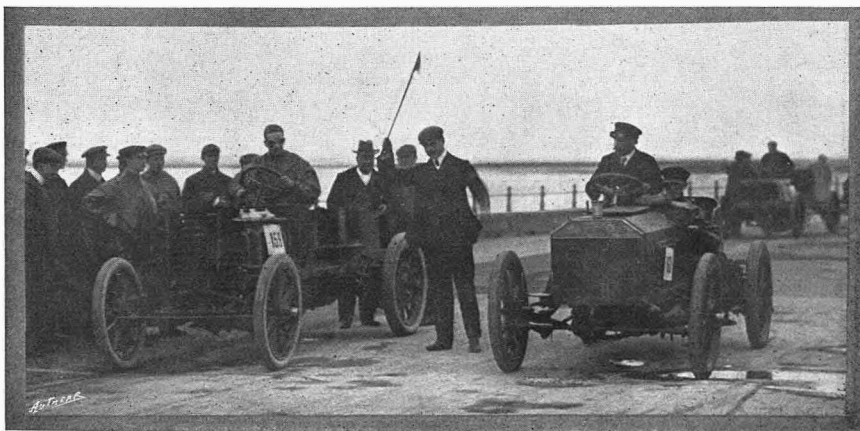


Photo.

Two competitors in the racing car class. The 70 h.p. Panhard and the 45 h.p. Napier. *Argent Archer.*

THE SOUTHPORT SPEED TRIALS.

course the competitors returned thereto by Duke Street, Lord Street, and Albert Road.

The weather outlook on Friday morning last week was far from encouraging. Half a gale or more of wind was blowing from the southward directly up the promenade, and full against the cars, and as this high wind obtained very largely on the following day the times achieved by the various vehicles, as can be seen from the details hereunder given, were by no means astonishing. Indeed, the speed obtained by the touring classes was certainly not impressive, and even when the racing cars went over the course downhill and before the wind at the close of each day's programme, nothing better than sixty-nine odd miles per hour was touched. This, of course, is a

that he spent two nights on the car, but could not get it to run much more than at half speed; the engine cut out from want of petrol, owing to the petrol supply being too small.

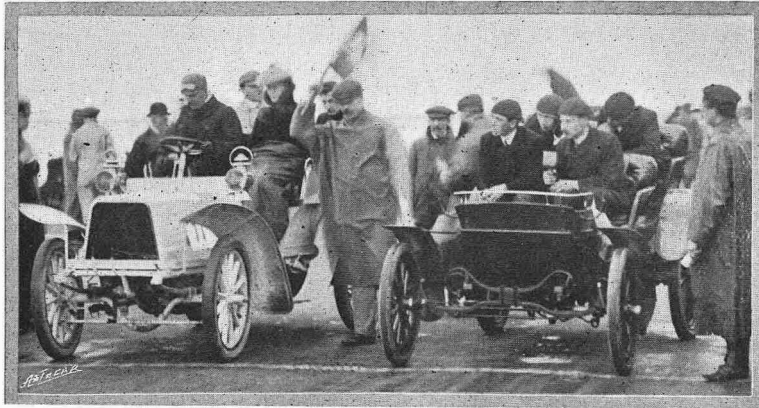
Times and the Awards.

A study of the results will show that had the awards for speed been made on the watch times only—that is to say, the fastest time done in either class, whether in the preliminary rounds, or finals—the prize-takers would have been other than they are in more than a few cases. It will be noticed that a car won its trial heat in better time than that in which it was beaten for the second round or final, a case in point being the 18 h.p. James and Browne driven by Mr. T. B. Browne, in Class H.

On the Friday the attendance, though large, was not altogether encouraging, the numerous stands erected by private owners and speculators along the front being practically deserted, while the crowd that lined the barrier along the left-hand side of the track was only two or three deep in places. But on Saturday, particularly the afternoon, dense masses of spectators lined the course and crowded the stands, so that, on the whole, we could have wished the proceedings a trifle more exciting for their sakes.

The actual racing of the fast cars in Classes O, P, and Q, together with the improvised scratch events, finished the meeting with a rattle, and sent

everyone away with the impression that he had seen speed at last. Mr. Charles Jarrott, driving his 24 h.p. De Dietrich against Mr. George Iden's 25 h.p. M.M.C., gave a fine example of generalship, for the conception of which his old cycle racing experience is responsible. Leading slightly at the start, he found the M.M.C. creeping by, so he allowed Iden to take the lead, and tucked up behind



The 10 h.p. Duryea, winner in Class F, and the 12 h.p. Richardson.

very high speed, but on so good a surface, and with a fair wind, something more was expected. It is greatly to be regretted that the Hon. C. S. Rolls could not get his boat-bodied 80 h.p. Mors into its best trim, for the comparisons of its performances at Welbeck and over a comparatively level track such as that formed by the Southport Parade would have been distinctly interesting. Mr. Rolls tells us



Photo. Some of the light two-seated cars in Class F. The Oldsmobile and new 6 h.p. Wolseley on the starting line. The next two competitors in the rear. Argent Archer.

him out of the strong wind all the way up the course. Two hundred yards or so before the finish of the kilometre, Jarrott accelerated to the utmost, swung clear of Iden, picked him up, and just pipped him on the mark. This and Edge's and Hutton's neck-and-neck race all up the track, the former driving the Gordon Bennett 45 h.p. Napier and the latter his 70 h.p. Panhard, were the features of Saturday afternoon's running, and served to give the proceedings a much-desired fillip.

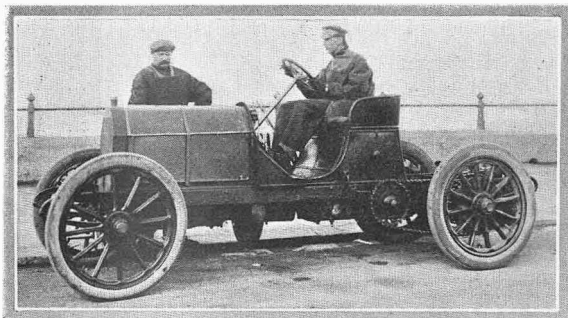


Photo. *Argent Archer.*
Mr. Andrew Fletcher's 60 h.p. Mercedes.

On Friday evening the active officials and members of the press were most hospitably entertained by the Mayor and Mayoress of Southport, Mr. and Mrs. T. Scarisbrick, at their residence, Glaves Hall, about five miles from the town. The Mayor's guests were driven out and home in pair-horsed carriages—a mode of transport which somewhat palled upon the practical automobilists amongst the crowd. There was much enquiry amongst these for sparking levers and accelerator pedals, but the only accelerator was in the hands of the coachman, and, though occasionally applied, it resulted in nothing but a little more tossing of heads and whisking of tails. Several excellent speeches were made, the Mayor, Mr. Councillor

THE SOUTHPORT SPEED TRIALS.

Trounson (the Deputy-Mayor), and Mr. Julian Ord carrying off the palm in this direction.

After dinner on Saturday night the prizes were gracefully presented to the successful competitors at the Cambridge Hall by the Mayoress, Mrs. Scarisbrick, the Hall being crowded in honour of the function. The charming and graceful Mayoress of Southport met with a most enthusiastic reception, which, by reason of her keen interest in and support of the trials, she richly deserved.

TOURIST CAR SECTION.
CLASS E.

Tourist Cars costing £200 or under, which need not carry more than two people.

Prizes.—First, "Southport Visitor" cup; second, silver medal; third, bronze medal.

FRIDAY.—First Round.

	m. s.
HEAT 1.—Mr. W. Munn's 6 h.p. De Dion, Mr. J. Stocks driving, walked over	1 38½
HEAT 2.—Mr. W. M. Letts's 5 h.p. Oldsmobile beat Mr. H. Austin's 6 h.p. Wolseley	1 55½
HEAT 3.—Mr. Thos. Hampson's 6½ h.p. Vulcan beat Mr. J. Newton's 6 h.p. De Dion	1 47½
HEAT 4.—Mr. F. D. Tryon's 6 h.p. Pick beat Mr. Laurence Vickers's 4 h.p. Oldsmobile	1 55½
HEAT 5.—Mr. J. A. Bennett's 5 h.p. Baby Peugeot beat Mr. W. P. Walker's 7 h.p. Cottereau	1 57

SATURDAY.—Second Round.

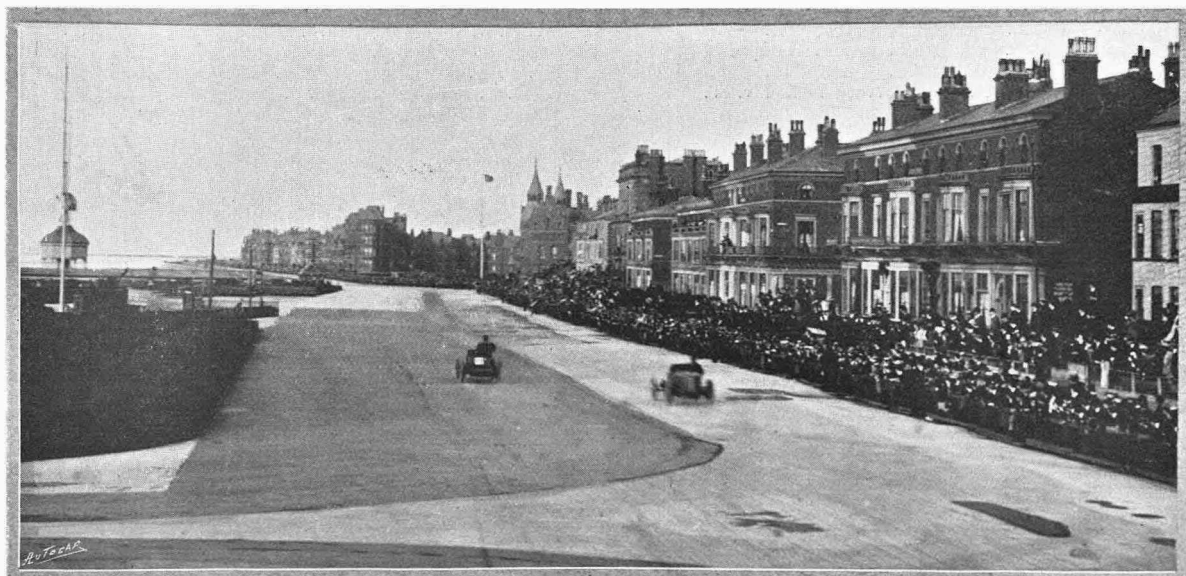
HEAT 1.—Mr. W. Munn's 6 h.p. De Dion beat Mr. W. M. Letts's 5 h.p. Oldsmobile	1 40½
HEAT 2.—Mr. J. A. Bennett's 5 h.p. Baby Peugeot beat Mr. Thos. Hampson's 6½ h.p. Vulcan	1 46
HEAT 3.—Mr. F. D. Tryon's 6 h.p. Pick (a bye)	2 4

Third Round.

Mr. W. Munn's 6 h.p. De Dion beat Mr. J. A. Bennett's 5 h.p. Baby Peugeot (1m. 55s.)	1 42½
Mr. F. D. Tryon's 6 h.p. Pick ran a bye	2 8

Final.

Mr. Munn's 6 h.p. De Dion beat Mr. H. C. Tryon's 6 h.p. Pick (1m. 58½s.)	1 34½
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Photo

Looking down the track. This shows how the road was levelled up to widen the track.

Argent Archer.

THE SOUTHPORT SPEED TRIALS.

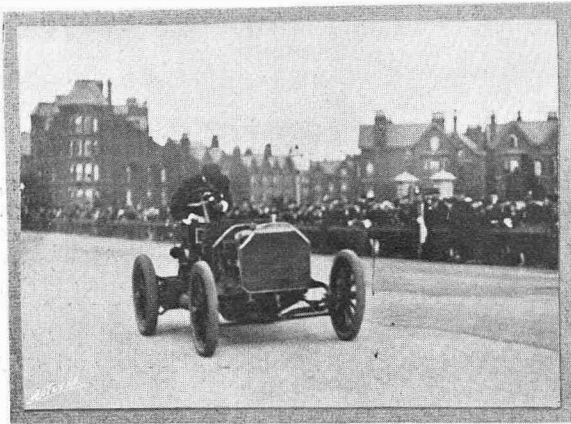


Photo. Churchill, Liverpool.
Mr. Higginbotham driving his 60 h.p. Mercedes over the course.

CLASS F.

Tourist Cars costing £200, but not more than £400, to carry four.

Prizes.—First, "The Autocar" cup; second, silver medal.

FRIDAY.—First Round.

Mr. Henry Sturmev's 10 h.p. Duryea beat Mr. J. R. Richardson's 12 h.p. Richardson (1m. 40 ³ / ₈ s.) ...	1 12
Capt. U. E. Newsum's 12 h.p. Richardson beat Mr. J. Barber's 12 h.p. Belsize ...	1 32 ³ / ₈
Mr. C. W. Pennell's 12 h.p. Richardson beat Mr. H. Austin's 12 h.p. Wolseley (1m. 29 ³ / ₈ s.) ...	1 28 ³ / ₈
Mr. J. Barber's 12 h.p. Belsize ran a bye ...	2 23 ³ / ₈
Mr. W. H. Barrett's 12 h.p. Phoenix beat Mr. A. Seymour Mead's 10 h.p. Wolseley (1m. 52 ³ / ₈ s.) ...	1 32 ³ / ₈
Mr. T. Hampson's 12 h.p. Vulcan beat Mr. V. A. Simon's 9 h.p. Renault (2m. 10 ³ / ₈ s.) ...	1 45 ³ / ₈
Mr. H. Bell's 10 h.p. Argyll beat Mr. W. D. Coddington's 12 h.p. Georges-Richard (1m. 57s.) ...	1 32 ³ / ₈
Mr. Thos. Whitaker's 10 h.p. Déchamps beat Mr. E. A. Rosenheim's 10 h.p. Georges-Richard (1m. 40s.) ...	1 15 ³ / ₈
Mr. T. Vernon's 12 h.p. Georges-Richard bye ...	1 47

SATURDAY.—Second Round.

Mr. Henry Sturmev's 10 h.p. Duryea beat Capt. H. C. Newsum's 12 h.p. Richardson (1m. 14 ³ / ₈ s.) ...	1 8 ³ / ₈
Mr. C. W. Pennell's 12 h.p. Richardson beat Mr. E. J. Moore's 12 h.p. Phoenix (1m. 37 ³ / ₈ s.) ...	1 23 ³ / ₈
Mr. H. Bell's 10 h.p. Argyll beat Mr. T. Hampson's 12 h.p. Vulcan (1m. 35 ³ / ₈ s.) ...	1 32 ³ / ₈
Mr. A. H. Walker's 12 h.p. Darracq beat Mr. T. Vernon's 12 h.p. Georges-Richard (1m. 39 ³ / ₈ s.) ...	1 24

Third Round.

Mr. H. Sturmev's 10 h.p. Duryea beat Mr. C. W. Pennell's 12 h.p. Richardson (1m. 24 ³ / ₈ s.) ...	1 8 ³ / ₈
Mr. A. H. Walker's 12 h.p. Darracq (a bye) ...	1 23 ³ / ₈

Final.

Mr. Henry Sturmev's 10 h.p. Duryea beat Mr. A. H. Walker's 12 h.p. Darracq (1m. 22 ³ / ₈ s.) ...	1 7 ³ / ₈
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CLASS G.

Tourist Cars costing over £400, but not more than £550, to carry four people.

Prizes.—First, cup, presented by Mr. Ernest Owers; second, silver medal.

FRIDAY.—First Round.

Mr. Alex. Govan's 16 h.p. Argyll beat Mr. G. H. Pollard's 15 h.p. Belsize (no time taken) ...	1 13 ³ / ₈
Prof. Hele-Shaw's 24 h.p. Darracq beat Mr. A. Burgess's 12 h.p. M.M.C. (1m. 50 ³ / ₈ s.) ...	1 18 ³ / ₈
Mr. S. F. Edge's 12 h.p. Gladiator (Miss Dorothy Levitt driving) beat Mr. J. H. Johnson's 12 h.p. Gladiator (1m. 53 ³ / ₈ s.) ...	1 14 ³ / ₈

SATURDAY.—Final.

Mr. Edge's 12 h.p. Gladiator (Miss Levitt driving) beat Mr. Alex. Govan's 16 h.p. Argyll (1m. 31 ³ / ₈ s.) ...	1 4 ³ / ₈
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CLASS H.

Tourist Cars costing over £550, but not more than £750, to carry four people.

Prizes.—First, cup, presented by Mrs. Charles Cordingley; second, silver medal.

FRIDAY.—First Round.

Mr. T. B. Browne's 18 h.p. James and Browne beat Mr. J. E. Baxter's 20 h.p. M.M.C. (1m. 19s.) ...	1 7 ³ / ₈
Mr. G. Heyl-Dia's 24 h.p. Newton-Pearce beat Mr. J. Bibby's (jun.) 24 h.p. Wolseley (1m. 11 ³ / ₈ s.) ...	1 10 ³ / ₈
Mr. L. Williamson's 16 h.p. Lanchester beat Mr. A. Rawlinson's 24 h.p. Darracq (1m. 25 ³ / ₈ s.) ...	1 1 ³ / ₈
Mr. W. E. Moss's 12 h.p. Peugeot beat Mr. C. J. Whittaker's 20 h.p. Déchamps (1m. 52 ³ / ₈ s.) ...	1 31
Mr. E. A. Rosenheim's 24 h.p. Darracq (driven by the Marquis de Noc) beat Mr. C. H. Stocks's 24 h.p. Newton-Pearce (no time given) ...	1 17
Mr. F. Lanchester's 16 h.p. Lanchester beat Mr. A. Burgess's 22 h.p. M.M.C. (1m. 18 ³ / ₈ s.) ...	1 8 ³ / ₈
Mr. A. H. Walker's 12 h.p. Darracq (a bye) ...	1 25

SATURDAY.—Second Round.

Mr. H. Pearce's 24 h.p. Newton-Pearce beat Mr. T. B. Browne's 18 h.p. James and Browne (1m. 13 ³ / ₈ s.) ...	1 9 ³ / ₈
Mr. L. Williamson's 16 h.p. Lanchester beat Mr. W. E. Moss's 12 h.p. Peugeot (1m. 19s.) ...	1 1 ³ / ₈
Mr. E. A. Rosenheim's 24 h.p. Georges-Richard beat Mr. F. Lanchester's 16 h.p. Lanchester (1m. 11 ³ / ₈ s.) ...	1 7 ³ / ₈
Mr. A. H. Walker's 12 h.p. Darracq (a bye) ...	1 19 ³ / ₈



Photo. Argent Archer, Kensington, W.
Mr. Jarrott driving a 24 h.p. De Dietrich (No. 113), and Mr. G. Iden a 25 h.p. M.M.C. (No. 114), about to start in their heat in Class J. In the second view No. 113 is shown overtaking No. 114 just before the finishing point was reached.



Photo.

Argent Archer

A view of the track, looking towards the finish. This depicts the spectators on Saturday afternoon; even the housetops were invaded.

Third Round.

Mr. E. A. Rosenheim's 24 h.p. Georges-Richard beat	m. s.
Mr. A. H. Walker's 12 h.p. Darracq (1m. 20½s.) ...	1 7½
Mr. L. Williamson's 16 h.p. Lanchester beat Mr. G. E. Heyl-Dia's 24 h.p. Newton-Pearce (1m. 17½s.)	0 57½

Final.

Mr. L. Williamson's 16 h.p. Lanchester beat Mr. E. A. Rosenheim's 24 h.p. Georges-Richard (1m. 8s.)	0 59½
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CLASS J.

Tourist Cars costing over £750, but not more than £1,000 to carry four people.

Prizes.—First, cup presented by Mr. Lionel de Rothschild; second, silver medal.

FRIDAY.—First Round.

Mr. C. Jarrott's 24 h.p. De Dietrich dead-beated with Mr. A. Burgess's 25 h.p. M.M.C. (Mr. Geo. Iden driving) ...	1 10½
Mr. E. H. Seddon's 30 h.p. Darracq beat Mr. Laurence Vickers's 15 h.p. C.G.V. (1m. 19s.) ...	1 12½
Mr. H. R. Kirk's 24 h.p. De Dietrich beat Mr. Ewart-Hall's 15 h.p. C.G.V. (1m. 19½s.) ...	1 1½
Mr. W. D. Fair's 24 h.p. Gobron-Brillie beat Mr. W. Jackson's 20 h.p. Brush (1m. 4s.) ...	1 2
Mr. Ed. A. Nesbitt's 24 h.p. F.I.A.T. beat Mr. H. E. Garle's 15 h.p. C.G.V. (1m. 23½s.) ...	1 2½
Mr. Jas. Whittaker's 15 h.p. C.G.V. beat Mr. M. Egerton's 15 h.p. Panhard (1m. 34½s.) ...	1 18½

SATURDAY.—Second Round.

In running off their dead heat, Mr. Jarrott's 24 h.p. De Dietrich covered the flying kilometre in 56½s., beating Mr. Burgess's 25 h.p. M.M.C. by exactly one second.

Mr. H. R. Kirk's 24 h.p. De Dietrich beat Mr. W. D. Fair's 24 h.p. Gobron-Brillie (1m. ½s.) ...	0 57½
Mr. Ed. A. Nesbitt's 24 h.p. F.I.A.T. beat Mr. Jas. Whittaker's 15 h.p. C.G.V. (1m. 7s.) ...	1 1½

Third Round.

Mr. Chas. Jarrott's 24 h.p. De Dietrich beat Mr. H. R. Kirk's 24 h.p. De Dietrich (56½s.) ...	0 56½
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Final.

Mr. Ed. A. Nesbitt's 24 h.p. F.I.A.T. beat Mr. C. Jarrott's 24 h.p. De Dietrich (58½s.) ...	0 51½
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CLASS K.

Tourist Cars costing over £1,000, to carry four people.

Prizes.—First, cup presented by Mr. G. Higginbotham; second, silver medal.

FRIDAY.—First Round.

Mr. S. F. Edge's 20 h.p. Napier beat Mr. L. Williamson's 20 h.p. Mercedes (1m. 11½s.) ...	0 50½
Mr. T. T. Vernon's 18 h.p. Mercedes beat Mr. A. Birtwhistle's 22 h.p. Daimler (1m. 9½s.) ...	0 57

SATURDAY.—Final.

Mr. S. F. Edge's 20 h.p. Napier beat Mr. T. T. Vernon's 18 h.p. Mercedes (1m. ½s.) ...	0 54½
--	-------



Photo.

Argent Archer

Two competitors in Class H a 16 h.p. Lanchester and 22 h.p. M.M.C., with the starter, Mr. Shrapnell Smith, between them.

THE SOUTHPORT SPEED TRIALS.
CLASS M.

SATURDAY.—The Lancashire Inter-club Handicap.

Open to touring cars owned by members of the Liverpool Self-propelled Traffic Association, the Manchester Automobile Club, the Burnley and District Automobile Club, or the North-East Lancashire Automobile Club. Cars were eligible for this handicap after competing in one or other of the Tourist Section Class events. Cars failing to run in a class event were debarred from competing in this race.

Prizes.—First, cup presented by the Liverpool Self-propelled Traffic Association; second, silver medal.

	Net time.	Start.	H'dcp. time.	
	m. s.	secs.	m. s.	
15 h.p. C.G.V. (J. Whittaker)	1 5 ³ / ₅	15	50 ³ / ₅	
12 h.p. Georges-Richard (T. T. Vernon)	1 34 ³ / ₅	40	54 ³ / ₅	
16 h.p. Lanchester (L. Williamson)	57 ³ / ₅	3	54 ³ / ₅	
12 h.p. Peugeot (W. E. Moss)	1 24 ³ / ₅	27	57 ³ / ₅	
24 h.p. Wolseley (J. Bibby, jun.)	1 6	5	1 1	
24 h.p. Georges-Richard (E. A. Rosenheim)	1 9 ¹ / ₅	5	1 4 ¹ / ₅	
18 h.p. Mercedes (T. T. Vernon)	1 1 ¹ / ₅	scr.	1 6 ¹ / ₅	
15 h.p. Panhard (M. Egerton)	1 26 ³ / ₅	20	1 6 ³ / ₅	
24 h.p. Darracq (Hele-Shaw)	1 24 ³ / ₅	15	1 9 ³ / ₅	

Seven others ran.

RACING CAR SECTION.

All cars in the Racing Section ran in heats of two, the winner of each heat competing again.

CLASS N.

Racing Cars weighing less than 650 kilos. (12 cwt. 3 qrs. 5 lb.)

Prizes.—First, cup presented by Capt. Thornycroft Vernon; second, silver medal.

FRIDAY.

Mr. A. Rawlinson's V. L. Darracq walked over 36³/₅ = 60.74

SATURDAY.

Mr. A. Rawlinson's V. L. Darracq walked over 37³/₅ = 59.13

CLASS O.

Racing Cars weighing not more than 1,000 kilos (19 cwt. 3 qr. 20 lb.)

Prizes.—First, silver bowl, presented by Mr. L. Williamson; second, silver medal.

FRIDAY.—First Round.

Mr. S. F. Edge's 45 h.p. Napier beat Mr. H. Austin's 36 h.p. Wolseley (51 ³ / ₅ s.)	37
Mr. G. Higginbotham's 60 h.p. Mercedes beat the Hon. C. S. Rolls's 70 h.p. Mors (50 ³ / ₅ s.)	37 ³ / ₅
Mr. J. E. Hutton's 70 h.p. Panhard beat Mr. R. Lewis Lloyd's 35 h.p. Napier (47 ³ / ₅ s.)	33 ³ / ₅
Mr. E. Lisle's Star racer beat Mr. Fletcher's 60 h.p. Mercedes (39s.)	38 ³ / ₅

SATURDAY.—Second Round.

Mr. J. E. Hutton's 70 h.p. Panhard beat Mr. J. E. Lisle's Star racer (42 ³ / ₅ s.)	34
Mr. S. F. Edge's 45 h.p. Napier beat Mr. G. Higginbotham's 60 h.p. Mercedes (57 ³ / ₅ s.)	32 ³ / ₅

Final.

Mr. S. F. Edge's 45 h.p. Napier beat Mr. J. E. Hutton's 70 h.p. Panhard (35s. = 63.89 m.p.h.)	33 ³ / ₅ = 67.33
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OPEN EVENTS.

CLASS P.

Scratch Race for Cars weighing under 1,000 kilos.

Over flying kilometre course. Cars may be driven by any motive power, but must cover the distance in less than 40s., equal to a speed of 55.9 miles per hour (m.p.h.)

Prizes. First, cup presented by Mr. Charles Scarisbrick, J.P.; second, silver medal.

FRIDAY.—First Round.

The Hon. C. S. Rolls's 70 h.p. Mors beat Mr. A. Fletcher's 60 h.p. Mercedes (56 ³ / ₅ s. = 39.36 m.p.h.)	44 ³ / ₅ = 50.12
Mr. J. E. Hutton's 70 h.p. Panhard beat Mr. E. Lisle's Star racer (not timed)	33 ³ / ₅ = 66.93
Mr. G. Higginbotham's 60 h.p. Mercedes beat Mr. H. Austin's 36 h.p. Wolseley (45 ³ / ₅ s. = 49.45 m.p.h.)	37 ³ / ₅ = 59.45
Mr. S. F. Edge's 45 h.p. Napier tied with Mr. A. Rawlinson's V. L. Darracq	36 = 62.10
Mr. R. Lewis-Lloyd's 35 h.p. Napier (a bye)	51 ³ / ₅ = 43.32

SATURDAY.—Second Round.

Mr. J. E. Hutton's 70 h.p. Panhard (a bye)	33 ³ / ₅ = 66.53
Mr. G. Higginbotham's 60 h.p. Mercedes beat Mr. Lewis Lloyd's 35 h.p. Napier (42 ³ / ₅ s. = 52.25 m.p.h.)	37 ³ / ₅ = 59.45
Mr. S. F. Edge's 45 h.p. Napier (a bye)	40 ³ / ₅ = 55.06

Third Round.

Mr. S. F. Edge's 45 h.p. Napier beat Mr. G. Higginbotham's 60 h.p. Mercedes (39 ³ / ₅ s. = 57.02 m.p.h.)	35 = 65.87
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Final.

Mr. J. E. Hutton's 70 h.p. Panhard beat Mr. S. F. Edge's 45 h.p. Napier (38 ³ / ₅ s. = 58.22 m.p.h.)	37 = 60.41
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CLASS Q.

Open to Cars of any power or weight, or propelled by any form of motive power.

Prizes.—First, the "Mayor's" cup, the winner to receive a silver bowl presented by the Mayor of Southport; second, silver medal.

FRIDAY.—First Round.

Mr. Aud. Fletcher's 60 h.p. Mercedes beat Mr. E. H. Seddon's 30 h.p. Darracq (54s. = 41.39 m.p.h.)	38 ³ / ₅ = 57.91
Mr. G. Higginbotham's 60 h.p. Mercedes beat Mr. S. F. Edge's 45 h.p. Napier (36 ³ / ₅ s. = 61.41 m.p.h.)	34 ³ / ₅ = 61.08
Mr. J. E. Hutton's 70 h.p. Panhard beat Mr. A. Rawlinson's V. L. Darracq (57 ³ / ₅ s. = 60.09 m.p.h.)	32 ³ / ₅ = 68.57
Mr. E. Lisle's Star racer beat the Hon. C. S. Rolls's 70 h.p. Mors (54 ³ / ₅ s. = 41.09 m.p.h.)	52 ³ / ₅ = 42.50
Mr. R. Lewis-Lloyd's 35 h.p. Napier beat Mr. J. Vickers's 15 h.p. light C.G.V. (Im. 10s. = 31.93 m.p.h.)	42 ³ / ₅ = 52.47
Mr. Austin's 36 h.p. Wolseley beat Mr. J. Talbot-Clifton's 70 h.p. Panhard (39 ³ / ₅ s. = 56.17 m.p.h.)	37 ³ / ₅ = 59.77

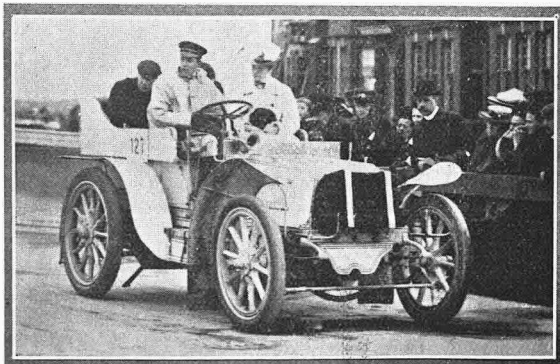


Photo.

Argent Archer.

The winner in Class K. A 20 h.p. Napier, driven by A. E. Macdonald.

SATURDAY.—Second Round.

	secs.	m.p.h.
Mr. A. Fletcher's 60 h.p. Mercedes beat Mr. S. F. Edge's 45 h.p. Napier (41½s. = 53.99 m.p.h.)	39	= 57.32
Mr. J. E. Hutton's 70 h.p. Panhard beat Mr. R. Lewis-Lloyd's 35 h.p. Napier (41½s. = 53.99 m.p.h.)	33½	= 66.14
Mr. H. Austen's 36 h.p. Wolseley beat the Star racer (41½s. = 53.73 m.p.h.)	36½	= 60.74

Third Round.

Mr. J. E. Hutton's 70 h.p. Panhard beat Mr. H. Austen's 36 h.p. Wolseley (37s. = 60.41 m.p.h.)	35½	= 62.44
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Final.

Mr. A. Fletcher's 60 h.p. Mercedes beat Mr. J. E. Hutton's 70 h.p. Panhard (45½s. = 49.02 m.p.h.)	42¼	= 52.97
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After the programme had been run through each day, some attempts on time were made by the fast cars in the direction of the falling grade of the course, and with a following wind.

FRIDAY.

	secs.	m.p.h.
J. E. Hutton, 70 h.p. Panhard	32½	= 69.43
Star Racer	39	= 57.32
A. Fletcher, 60 h.p. Mercedes	37	= 60.41
W. Pugh, 35 h.p. Napier	43½	= 51.75
L. Vickers, 15 h.p. L.C.G.V.	48½	= 46.19
J. Talbot Clifton, 70 h.p. Panhard	37	= 60.41
G. Higginbotham, 60 h.p. Mercedes	35½	= 63.15
H. Austin, 36 h.p. Wolseley	35½	= 62.44
J. E. Hutton, 70 h.p. Panhard	32½	= 68.57
A. Rawlinson, V. L. Darracq	34½	= 64.61
A. Fletcher, 60 h.p. Mercedes	38½	= 57.61

CAR MATCHES

SATURDAY.

	secs.	m.p.h.
A. Fletcher, 60 h.p. Mercedes	32½	= 69.00
S. F. Edge, 45 h.p. Napier	34½	= 64.98
G. Higginbotham, 60 h.p. Mercedes	32	= 68.57
H. Austin, 36 h.p. Wolseley	39½	= 56.74
A. Fletcher, 60 h.p. Mercedes	32½	= 68.15
Hon. C. S. Rolls, 70 h.p. Mors	35½	= 62.44
G. Higginbotham, 60 h.p. Mercedes	32½	= 68.15
H. Austin, 36 h.p. Wolseley	45	= 49.24
S. F. Edge, 45 h.p. Napier	34½	= 65.36
A. Fletcher, 40 h.p. Mors	38½	= 58.52

THE SOUTHPORT SPEED TRIALS.



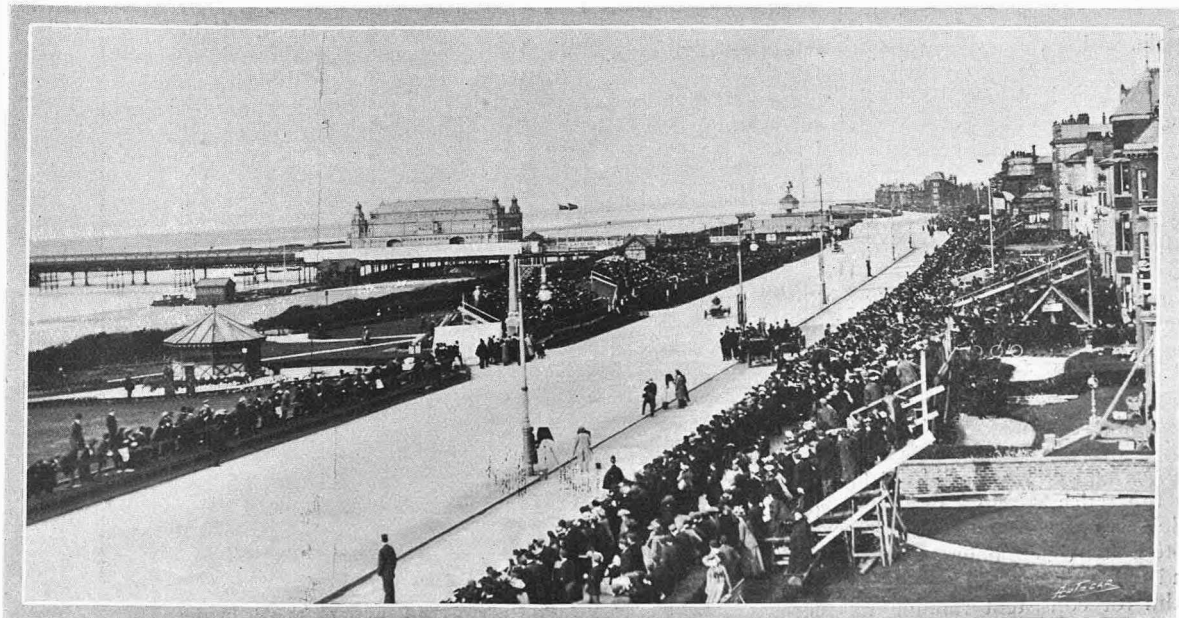
The arrangements for the speed contests at Southport were complete in every detail, though what part the fire engine was supposed to play in connection therewith is unrecorded.

The Southport Programme for 1904.

It is evident that Southport was generally satisfied with the trials, for after the prize giving a meeting of members of the Corporation and the trials officials was held to determine upon the programme of speed trials for next year. It would seem that in this regard Southport has determined to be regarded in future as the Nice of England.

* * * *

The new 36 h.p. Wolseley did not do itself justice. It was run in the trials without the new clutch having been previously tested. In this the clearance had been unduly reduced, so that it was impossible to get sufficient movement to enable it to be properly released. This made it very difficult to change gears—in fact, in the first, second, fourth, and fifth races the driver was unable to go higher than his second speed. The machine was only finished just in time to be sent by rail to Southport.



The finishing point of the flying kilometre. Looking down the track.

THE SOUTHPORT SPEED TRIALS.

No. 17, the little Oldsmobile, which ran in the thousand miles trials, was sent direct from the Crystal Palace to Southport, but had very bad luck, as it was drawn against the ultimate winner. It did faster time than the second car in the final, though, of course, it does not get second prize.

* * * *

At a race meeting such as that at Southport, when the same cars are repeatedly run over the same course, the consistency or otherwise of the times made by the different cars is always a matter of considerable interest to the intelligent observer. The *Daily Telegraph* on Monday drew attention to the fact that the speed rates attained by one of the cars in the light racing class varied by as much as thirty miles per hour; but it ignored the very consistent running of many of the touring cars. It will be remembered that on Friday the races were run in the teeth of

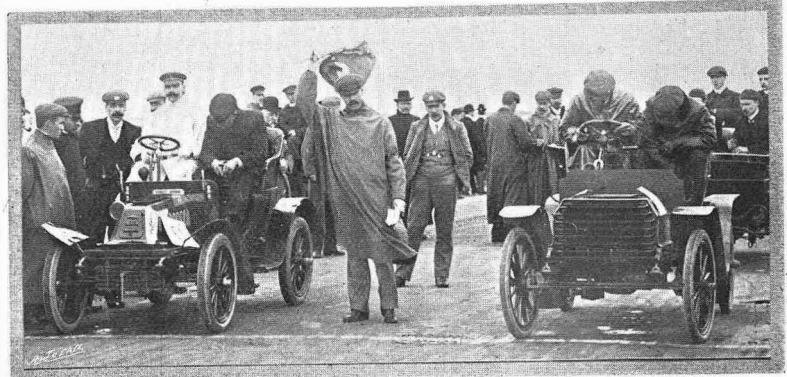


Photo.

Argent Archer

The start of a heat in Class E for light cars, the 6 h.p. De Dion, driven by Mr. J. W. Stocks, proved the winner.

tainly taken by Failes Baker with the 10 h.p. Duryea, who made his four courses to win *The Autocar* cup in 72s., 68 $\frac{1}{5}$ s., 68 $\frac{1}{5}$ s., and 67 $\frac{1}{5}$ s.

* * * *

Undoubtedly, the two tourist cars which made the most striking performances at Southport were the new 16 h.p. Lanchester and the 10 h.p. Duryea. The former was driven by Mr. L. Williamson, its owner, and easily dropped all the other cars in its class, doing the kilometre against the gale in 61 $\frac{2}{5}$ s., which was subsequently reduced to 57 $\frac{1}{5}$ s., its time in the wind being only beaten by three cars in higher classes, viz., the 24 h.p. De Dietrich, the 20 h.p. Napier, and the 18 h.p. Mercedes, whilst the 10 h.p. Duryea in a lower class did even better, when the lower horsepower and price are considered, not only winning its own class, but beating all cars in the next highest, all but the Lanchester in Class H, seventy-five per cent. of the cars in Class J, and fifty per cent. of those in Class K—an even better relative showing than it made in the Phoenix Park trials; and considerable credit is undoubtedly due to Failes Baker for the excellent way in which

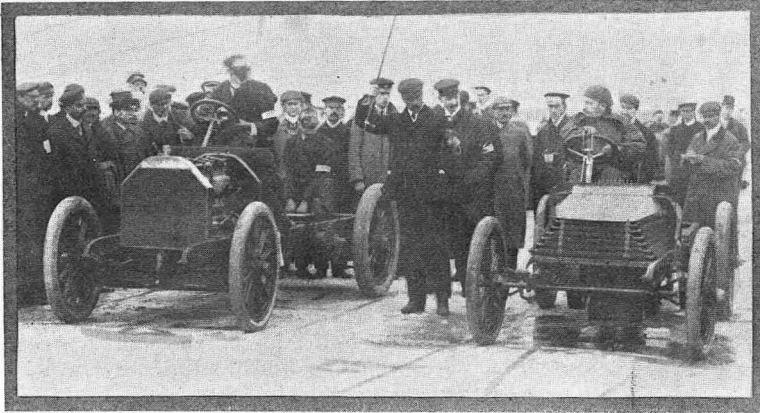


Photo.

Argent Archer.

Mr. Higginbotham's Mercedes and Mr. Austin's Wolseley on the starting mark.

a gale, whilst the strong wind that still prevailed on Saturday moderated towards the afternoon. Naturally, times might have been expected to improve as the races proceeded, yet some cars made worse times in the calmer weather than against the gale, the 20 h.p. Napier and the 18 h.p. Mercedes doing this; yet both made most consistent running in the calmer weather of the following day, running the course twice to one-fifth of a second. Mr. G. R. Smith's 24 h.p. De Dietrich, made most consistent running, improving with the lessening of the wind, and doing the three courses in 61 $\frac{1}{6}$ s., 57 $\frac{3}{5}$ s., and 56 $\frac{4}{8}$ s. respectively, Mr. Jarrott's sister's car doing four courses in 70 $\frac{3}{5}$ s., 56 $\frac{2}{8}$ s., 56 $\frac{3}{8}$ s., and 58 $\frac{3}{8}$ s.—a little falling off at the finish. The 24 h.p. Georges-Richard's performance, too, may be noted, its times being 77s., 67 $\frac{1}{8}$ s., and 67 $\frac{2}{8}$ s. respectively; though the palm for consistent running was cer-

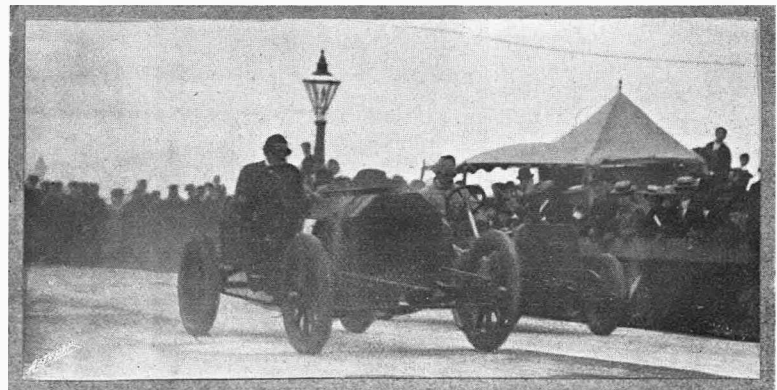


Photo.

Argent Archer.

The Napier and Darracq racing side by side.

THE SOUTHPORT SPEED TRIALS.



Photo.

Argent Archer

The Napier and Darracq racers. The onlookers christened the cars Dignity and Impudence.

he handled it, and brought it right through.

* * * *

Many were disappointed that the Mors racer of the Hon. C. S. Rolls did not show up prominently, as it was one of the Paris-Madrid patterns. The engine ran perfectly well when starting on the first speed, and pulled nicely on the second; but as soon as the third was in, the engine misfired, sometimes all four cylinders at once, till the car was stopped; and, what is more, the reason has not yet been discovered. It was clear, of course, that the poor running was due to starvation of the engine; in other words, that insufficient petrol was reaching it. The filter is in the bottom of the petrol tank, and when the union of the petrol pipe was undone, the spirit flowed freely. However, as the gauze strainer could not be taken out for cleaning, a hole was made through it by means of the point of a file. The car then appeared to



Photo

Argent Archer.

The Marquis de Noe bringing his 24-h.p. Georges-Richard to the starting line at Southport.

be all right; but on each of the first day's races the engine gave up as before and stopped when the third was put in. After that Mr. Rolls took out the petrol tank, and had it emptied and carefully cleaned, as far as possible, and filled up with fresh petrol through a gauze filter; but the engine behaved no better even then. Up to now the actual cause of the poor running has not been discovered, but Mr. Rolls has come to the conclusion that the filter is wrongly placed in the bottom of the tank, as it is quite inaccessible and undetachable, and also that the outlet for the petrol should not be at the bottom of the tank, as he has found that with the petrol pipe an inch or so above the bottom, there is much less likelihood of water or dirt passing through to the engine. It is also desirable that a separate filter should be fitted between the tank and the carburetter, where it can easily be got at for cleaning. Mr. Rolls certainly had hard luck, as he worked day and night almost continuously from Thursday till Saturday, and yet never had a run on the car at full speed, except once unofficially, when he thought he had cured the defect, and that the car was in tune again.



Photo.

Mr. L. Williamson's 16 h.p. Lanchester the winner in Class H. The start of the first heat.

Argent Archer.

CLUB DOINGS.

Lincolnshire A.C.

The last meet of the season of the Lincolnshire A.C. was held at Folkingham on Saturday in beautiful weather. There was a fair number present, including the chairman of the club, Capt. J. A. Cole. The affiliation question was again informally discussed, and it was stated that the committee, after very careful consideration, had not been able to advise the signing of the draft agreement from the A.C.G.B. and I. It was felt that it had been very loosely drawn up, and was not workable. The club desires to work with the other clubs and the A.C.G.B. and I., but feels that the latter does not want them.

Reading Automobile Club.

The fifth and final monthly run in connection with the challenge cup competition for 1903 took place on Wednesday last week under extremely favourable meteorological conditions. Leaving Reading at 2 p.m. the route lay along the main Oxford road as far as Littlemore Station, and thence to Wallingford *via* Chiselhampton and Warborough, then back to Reading *via* Streatley and Pangbourne. A halt was made for tea at the George Hotel, Wallingford. The landlord of this hostelry is pleased to see motorists, and does everything in his power to make them comfortable. Those taking part in the run were Dr. A. C. Major (Baby Renault), Mr. C. Dodd (8 h.p. Renault), Mr. A. C. Brewerton (10 h.p. Georges-Richard), Mr. A. E. Pocock (8 h.p. Dennis), Mr. C. H. Smith (10 h.p. Clément), Dr. Truman (2 h.p. Clément-Garrard cycle), Mr. J. V. Moinet (2½ h.p. Bradbury), and Mr. Arthur Phillips (Royal Enfield).

Wolverhampton and District A.C.—Presentation to Mr. Joe Lisle.

On Tuesday evening last week about twenty members of the Wolverhampton and District Automobile Club met at their headquarters—Victoria Hotel, Wolverhampton—for the purpose of presenting Mr. Joe Lisle with a silver tea service suitably engraved and bearing the club badge upon the occasion of his marriage with Miss Bessie Babbage. The wedding took place on Thursday in last week at St. Luke's Church, Blakenhall, Wolverhampton. The bride was driven to church in a 20 h.p. M.M.C., driven by Mr. George Evans, who after the ceremony drove the bride and bridegroom to Dr. Scott's, the bride's brother-in-law's residence, where a reception was held. The honorary secretary of the club drove to the church on a 16 h.p. Ariel, Mr. W. Owen on a 10 h.p. Wolseley, Mr. A. E. Jenks on an 8 h.p. De Dion, Mr. Ted Lisle on a 10 h.p. Star, and Mr. R. Cobb on a 10 h.p. Star. After the reception the bride and bridegroom left for Southport.

The Ladies' A.C.G.B. and I.

On Oct. 1st the first general meeting was held at the temporary club premises, the Hans Crescent Hotel, when there was a large accession of new members. General approval was expressed of the quarters which have been selected for the club, and of the manner in which they have been furnished with writing tables, etc. The club-room is capacious, having accommodation for at least one hundred persons. As evidence of the manner in which the new régime will cater for the members it may be mentioned that the vice-presidents are arranging for a series of lectures on practical engineering to be delivered at the club during the winter, and as soon as the arrangements are definitely settled particulars will be given.

Cheltenham and Gloucestershire A.C.

Cricklade was the objective of the club run on Saturday last, October 3rd, and owing to the very indifferent weather, the attendance was not so large as it otherwise would have been, motor cycling members in particular failing to put in an appearance.

At the general meeting, held on October 1st, the following resolution was passed after the Motor Car Act had been read and discussed: "That the Cheltenham and Gloucestershire A.C. resolved that, while approving of the general principle of a reasonable speed limit in the interest of all users of the road, regret that the Legislature should have thought fit to impose so many restrictions upon motor vehicles, more especially as regards numbering." At the meeting, Mr. Bennett was appointed to act as correspondent of the Motor Union.

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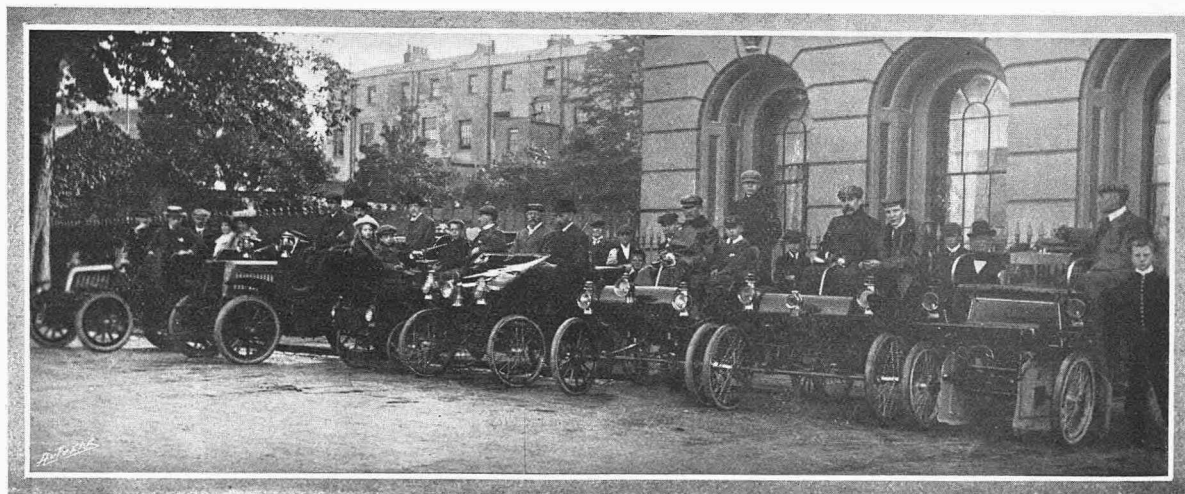
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The first autumn meet of the Cheltenham and Gloucestershire A.C. on October 3rd