THE AUTOMOTOR JOURNAL

A RECORD AND REVIEW OF APPLIED AUTOMATIC LOCOMOTION.

Circulates amongst Makers and Users of Motor Cars, Cycles, etc., in the United Kingdom, the Colonies, and the Continent.

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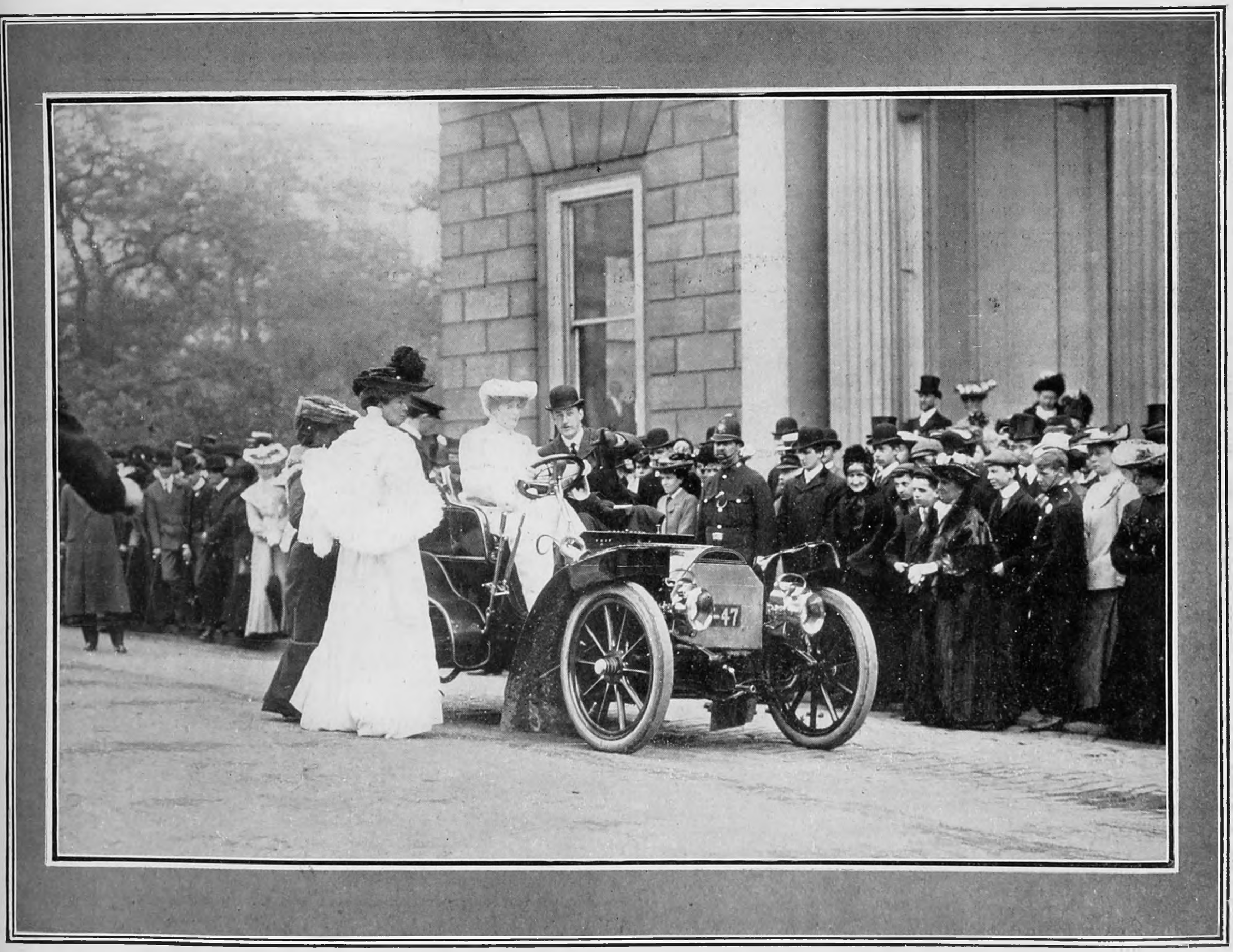

LADIES' AUTOMOBILE CLUB FIRST MEET.—On Thursday of last week the Ladies' Automobile Club held their first meeting, starting from Carlton House Terrace. The President of the Club, the Duchess of Sutherland, was present, and led off the cars down Pall Mall on their way to Ranelagh. The Duchess is seen in her car in our photograph accompanied by Mr. Eric Chaplin.

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DIARY OF FORTHCOMING EVENTS.

British Events.

1904.

June 18	...	Hill Climb (Hertfordshire A.C.).
July 2 ..	...	100 Miles Passenger Trials (Motor Cycling Club).
July 9...	..	Driving Cup Contest (Derby A.C.).
July 23	...	Sunrising Hill Climb (Midland A.C.).
July 26–27	...	Reliability Trials for Motor Boats.
July 30	...	British International Cup for Motor Boats.
Aug. 15–20	...	Motor Bicycle Endurance Trial. (Auto Cycle Club).
Aug. 20	...	Hill Climb (Derby A.C.).
Aug. 27	...	Challenge Cup for teams of 6 (Motor Cycling Club).
Aug.	...	Hill Climb (Kent A.C.).
Sep.	...	Midland A.C. Speed Trials.
Sep.	...	Inter-Club Hill Climb, with Teams.
Sep.	...	250 Miles Trial (Motor Cycling Club).
Sept. ...	...	*Reliability Trials.
Sep. 10	...	Lanark Hill Climb (Scottish A.C.).

1905.

Mar. 3–11	...	Liverpool Motor Cycle Show.
Apl. 1	...	*Light Van Trials.

Foreign Events (Trials, Races, &c.).

1904.

June ...	...	Dourdan Kilom. Trials (*L'Auto*).
June 22	...	Kiel Motor Boat Races.
July 10	...	Mont-Cenis Hill Climb (A.C. Italy).
July ..	...	Speed Trials (*L'Auto*).
July 15–23	...	Ostende Week.
July 15–20	...	Ostende Motor Boat Races.
July 17	...	Antwerp–Ostende Motor Boat Run.
July 25–26	...	Circuit des Ardennes (A.C. Belgium).
July 26–Aug. 1		Spa Automobile Fêtes.
Aug. 8 9	...	Calais-Dover-Calais (motor boats).
Aug. 10	...	Calais-Boulogne-Calais (motor boats).
Aug. 14–20	...	Paris–Deauville Motor Boat Race.
Aug. 18	...	Semmering Hill Climb (A.C. Austria).
Aug. 22	...	Motor Boat Race for Gaston Menier Cup.
Aug. 22–Sept. 4		Paris Industrial Vehicles Trials (A.C. France).
Aug. 28	...	Ventoux Hill Climb (Avignon).
Sept. ...	...	Deauville Automobile Meeting (*L'Auto*).
Sept. 2	...	Chateau Thierry Hill Climb (*L'Auto*).
Sept. 10-12	...	Lucerne Motor Boat Races.
Oct. 8	...	Vanderbilt Cup Race (A.C. America).
Oct. 9	...	Gaillon Hill Climb (*L'Auto*).
Oct. 14–22	...	Leipzig Cycle and Motor Show.
Nov. 20	...	100 Kiloms. Trial (A.C. Algeria).
Dec. ...	...	Paris Salon.

* Automobile Club of Great Britain and Ireland Events.

CONTENTS.

PASSING EVENTS.

A Victim of "Last Across."

WE have frequently had occasion to draw attention to the terrible strain on the nerves of car drivers caused by the inane and idiotic pastime, known by London children as "last across," as well as on the danger to the children that practise it. At last it has claimed its victim, and the Coroner has had to consider the case of a little boy of five who was knocked down and killed on Thursday evening by a 10-h.p. Napier car belonging to the Hon. C. S. Rolls. Games on the highway, even if innocent, are offences under the Highway Act, and under that Act the police would certainly have ample power to stop this dangerous nuisance. Captain Annesley, who was one of the occupants of the car on the occasion in question, and gave evidence at the inquest, stated that the nuisance and dangers are rendered worse than they otherwise would be by newspapers offering prizes to children for obtaining the longest list of numbers of passing motor cars. The step from rushing into the roads to obtain the number of a passing car, to playing the game of "last across" in front of it, is a short one, and in any case the danger is almost equally great. There must be some method and reason in newspapers starting such idiotic competitions, but at present the only explanation we can suggest is that they are organised by anti-automobilists to render the life of car drivers as unhappy as possible, and promote accidents of the kind to which we refer above with a view to as far as possible inflaming popular opinion in the good old "Juggernaut" style.

* * *

An Opportunity for a New Form of Police Trap.

THE beauty of the Vale of Llangollen ought, one would think, to make its inhabitants contented in their minds and amiable and good-natured to all their fellow-creatures. Unfortunately, some of them, at any rate, appear uninfluenced in this manner by their surround-

ings, and have developed a very acrimonious feeling against the automobile as an institution, and even against the humbler bicycle. As both these means of transit bring considerable custom to the town, this hostility is short-sighted. It is, however, the form which it has taken which is its least agreeable feature. The anti-automobilists of Llangollen have determined to attack the automobile (and the bicycle) in their most vulnerable part, and the roads in and through the little town have been recently fairly strewn with nails, screws reaching to three inches in length, and about 150 in number, while even the fair, though not in this instance exactly the softer sex, is reputed to have contributed a plentiful assortment of hairpins and hat-pins. Altogether, a large basketful of articles of this description, evidently distributed for the purpose of injuring tyres, have, we learn from the *Manchester Daily Dispatch*, been picked up "within some 300 yards of the parish pump" of Llangollen. The clerk of the urban council has been confronted with them, and the clerk has handed the interesting objects on to the surveyor, while some action, we understand, though we know not what, is to be taken on the part of the police. Presumably, it would be of little use to point out to the acrimonious anti-automobilists of Llangollen the contemptible character of the tricks to which they have resorted. It may be more to the point to explain to them and those who may be tempted to indulge in similar diversion elsewhere, that to place any object on the high road for the purpose of injuring any vehicle passing along it is a criminal offence which may lead to the imprisonment of the perpetrator. At the same time, we would suggest to the local police that here is an excellent opportunity for employing the organisation of police traps in a new and more beneficent manner. The Llangollenites are not likely to distribute their 3-inch nails, screws, and other devices under the nose of a policeman, and if convictions are to be obtained we fear that the police will have to adopt some of the tactics they have brought to a fine art for the entrapment of the automobilist—on this occasion for his benefit. Let us hope that we may witness a fine display of impartiality on the part of the local police by the organisation of traps for the detection of those who distribute ironmongery on the roads in this way "with malice aforethought."

* * *

The L.G.B. Decision in the Winchester Case.

THE application by the Town Council of Winchester for the introduction of the 10-mile speed limit for motor cars within the limits of the borough has received the same reply from Mr. Long on behalf of the L.G.B. that he gave to the Dover Corporation under similar circumstances. He will, that is to say, decide in neither of them until he has had further experience of other similar applications. In the meantime he does not consider that the Town Council has made out its case. Of course what Mr. Long and every unprejudiced person feels is that the stringent provisions of the present Act, and in particular the phraseology in regard to driving to the public danger, are, if anything, more than sufficient to safeguard the public, even in the most populous thoroughfares. To accede at the present moment to the request of such local bodies as have been so reactionary as to insist, not, it must be remembered, on the enforcement of the 10-mile limit merely in certain narrow streets, but over the whole of the areas which they control, would be to encourage similar applications from almost every local authority in the kingdom which happened to have a bare majority hostile to automobilism. This would lead to an enormous consumption of public time, the time of innumerable officials, and a preposterous waste of good ink and paper, while in any case the ultimate result would benefit nobody. After all nothing would be gained even by the most decrepit pedestrians by the introduction of the 10-mile limit, for in the towns where the narrowness of a few streets would justify its imposition, those streets are usually so narrow and tortuous that to drive at 10 miles an hour would still be dangerous to the public.

* * *

Successful Competition by the Motor 'Bus.

No better evidence need be asked for of the successful competition with the municipal tram which motor 'bus services are not only likely to effect in the near future, but are actually now effecting, than is provided by the fact that in order to circumvent this form of opposition municipalities having tramway powers are contemplating the organisation of motor 'bus services so as to forestal possible competition in this direction. This, at any rate, is the step which the Worthing Town Council proposes to take, and which will probably be followed in a number of other instances. They are seeking to promote a Bill for the purpose. This action on the part of the Town Council is being hastened by the number of applications made on behalf of private persons to know if the Corporation will grant them licences to run private motor omnibus lines through the town. The situation suggests that it might be wiser on the part of the Corporations and Town Councils in many cases to defer the installation of expensive electric tramlines, and preferably to attempt to cope with the traffic by motor 'buses in the first instance. If the motor 'bus can become a serious competitor to an established tramway system it is obvious that the tram is likely to become something of a superfluity. It is a pity that the motor 'bus did not arrive at its present degree of perfection before so many attractive roads, particularly in the near neighbourhood of London, were disfigured by the unsightly overhead erections which provide current for the trams.

* * *

To Diminish the Cost of Heavy Transport.

ONE of the most remarkable examples of industrial economy effected on a large scale has been illustrated in the case of iron works (situated mostly on the Continent) in which large gas engines, driven by blast furnace and coke oven gas, have been introduced to replace the steam engines whose boilers were formerly fired by the same gas supply. In some cases, where but 500-h.p. was obtained by the steam engines, the internal combustion engines have yielded 2,000-h.p. This enormous relative economy of the gas engine, as compared with the steam engine, is not quite maintained when we come down to the small sizes employed for traction purposes, but still the efficiency of the internal combustion engine, as compared with any form of steam engine, is very great. These considerations are of special interest to those members of the automobile industry concerned with the heavier types of vehicle designed primarily for goods transport, and to all manufacturers of motor boats. With them, cost of fuel is a very important consideration, and they would do well, therefore, to keep an observant eye upon the development of the gas producer in connection with the internal combustion engine—a development

which we referred to shortly in a recent issue. In the case of stationary gas engines supplied with producer gas, a separate plant for raising the gas by means of forced draught produced by a steam jet has hitherto been the prevailing method adopted. As referred to in our issue of May 14th, it has now been found that the suction of the engine connected directly to the vessel of incandescent fuel, which produces the gas, enables the extraneous source of pressure to be dispensed with, and plants of this kind have been recently designed sufficiently compact to be applied to the propulsion of relatively small sea-going vessels. This M. Emil Capitaine, the inventor of the well-known marine motor that bears his name, has recently effected, and has introduced a variety of ingenious devices for getting rid of the tar and ash from the producer. There seems no reason why the same principle should not be employed in the case of heavy lurries. They would then be able to dispense with liquid fuel altogether. Needless to say, both their economy and independence would be enormously increased. Further development of the idea adapted for the propulsion of heavy lurries as well as of motor boats would seem to be a promising field for the exercise of invention.

* * *

Changes at the Board of Trade.

ALL manufacturers and exporters, and automobilists consequently among the number, have a more or less direct interest in the efficiency and up-to-date constitution of the Board of Trade. To give only a single instance, the consular reports as to the state of trade, the conditions of markets, and the best methods of developing commerce in foreign countries, are sent in to the Board of Trade and edited for the *Board of Trade Journal*, in which they appear—usually at a time when the information they contain is a matter of historical interest only. Anyone, too, who desires to obtain a compulsory licence for a patent must apply to the Board of Trade, and it is the supreme authority in matters of shipping, railways and tramways, electricity, bankruptcy, statistics, trade marks and patents, and matters affecting labour. Considering this multiplicity of duties, it is not altogether wonderful that we and others should have to complain from time to time that the information it provides is not always quite modern, and that in other respects the body is not quite up to date. When it is called to mind that its constitution was arranged upwards of a hundred years ago by King George III., that when it was recently desired to find out who the members really were, the information had to be extracted from an Order in Council, dated 1786, and that among the members are *ex-officio*, the Speaker of the House of Commons and, as we remarked when the committee was appointed, the Archbishop of Canterbury, these peculiarities need excite no surprise. The notion of the Archbishop of Canterbury sitting on an enquiry into the conduct of a Captain of Mercantile Marine, presents humorous possibilities. The Board has never met for upwards of a century, and all the work has been done by the President of the Board and his permanent staff. Everyone, however, will welcome the abolition of this comic opera body, and the substitution for it of a real Board, the members of which would be in touch with the commercial interests of the country, who could frequently meet and be of real assistance to the President. This reform, it is now anticipated, will be carried out, as the result of the report of Lord Jersey's Committee, and it is also satisfactory to learn that the position of the Presidents, both of the Board of Trade and of the Local Government Board, are to be raised to that of the Secretaries of State, and their salaries increased from £2,000 to £5,000 per annum.

* * *

The Small Car Trials.

THE Reliability Trial of this year will be quite different from that of last year, and the years before. In the first place it will be restricted to light cars of £200 in price or under, and in the second it will be designed to ascertain pre-eminently which is the best and most reliable vehicle for ordinary everyday work, without the introduction of complicated formulæ or rules of procedure, tending, as they did last year, to limit the discretion of the judges and reduce them very largely to mere calculating machines. The Organising Committee have, as will be seen from the summary of the rules of the trials which we publish in another column, taken a great deal of trouble to devise the simplest possible set of rules for enabling the two principal objects mentioned above to be attained. The results ought certainly to prove of great use to, and be easily comprehensible by, the purchasing public.

It may be as well to draw attention to a few of the principal features of these rules. There will be four classes for the competitors, according to price. No competitor shall enter more than two cars, and unless these two differ by more than 20 per cent. in cylinder capacity, they shall count as a team, that is to say the marks will be averaged between them, and each car given the average. Prizes will be awarded for the greatest number of non-stop runs recorded in each class, while, in addition, other prizes will be given entirely at the discretion of the judges. The 600 miles to be run will be divided up into twelve non-stop runs of 50 miles each, two taken on each day, one 50 miles being run in the morning and the other in the afternoon, hill climbs being taken, if possible, during the run each day. The non-stop runs are regulated by strict rules. Any car that makes an involuntary stop of any kind on any particular run will fail to count that run as a non-stop. If it stops for a greater length of time than 20 minutes during any one run, or if more than 20 minutes is taken in adjustments or repairs prior to starting the run, it will be out of the non-stop competition altogether. Cars that are not ready to start by 11 o'clock each morning, or by 3 o'clock in the afternoon, and which do not get over their daily 100 miles by a certain time in the evening of each day, will be absolutely disqualified. But washing and a reasonable amount of time for replenishing and adjustment will be allowed after every run, though the time so occupied will be taken into account by the judges in their special awards.

Special care has been taken by the committee to render any misleading use of certificates by the competitors, after the trials, impossible, as every certificate will show the position gained by the competitor in the competition. It will be observed that the rules are exceedingly simple, and are well calculated to attain the end the committee have in view, of demonstrating what light cars can be relied on to run on ordinary roads at ordinary speed without breakdowns, while the public will be able to gauge the results practically at a glance. The club is, we think, wise in the present position of the industry in confining this year's trials to light, cheap cars. As London has had its fair share of recent Reliability Trials, the decision to conduct the Light Car Trials from one of the Midland towns as a centre has also much in its favour.

1. The first row of Cars. 2. Mrs. Manville's decorated Daimler Car. 3. Mrs. Gerard Leigh's Car, one of the Vice-Presidents of the Club. 4. Interchange of compliments before the start. 5. The Cars moving off for Ranelagh.

LADIES' AUTOMOBILE CLUB MEET.

THE LADIES' AUTOMOBILE CLUB MEET.

UNDER none too promising weather conditions, a very successful gathering was held of members of this club on Thursday last week. The point selected for meeting was in Waterloo Place, and a few minutes to 3 o'clock the first cars commenced to arrive, ranging themselves in lines across the square, commencing on the side by the Athenæum Club. By a few minutes after three, some half a dozen cars had taken up position, and caused a very considerable crowd to assemble. After this, smart vehicles with smarter occupants succeeded each other rapidly up to the last moment announced for the start—3.30. One of the earliest arrivals was Mrs. Manville on her splendid Daimler carriage. She had tastefully decorated her car with beautiful bouquets of flowers, in which lilies predominated, and, needless to say, the car was a centre of considerable attraction even in the mass of well-appointed automobiles which helped to make up the imposing assemblage. The president of the club, the Duchess of Sutherland, and the vice-presidents of the club, were allotted the front row of the cars, and the Duchess, showing a good example, was in place driving her own car by 3.15. The occasion was an excuse for quite a fashionable little gathering, and on all sides friends greeted friends, and congratulated each other upon the striking gathering which had resulted for the inaugural meet of this successful club. In all nine ladies were driving in the procession, which moved away from the square punctually at 3.30, just half a hundred cars taking their turn down Pall Mall *en route* for Ranelagh, passing Buckingham Palace, where the Queen had specially arranged to witness the passing of the parade. Amongst those who were prominent and chatting with old friends was the Right Hon. Henry Chaplin, who has done so much to help automobilists towards gaining a certain amount of consideration at the hands of Parliament.

LADIES' AUTOMOBILE CLUB MEET. — The Duchess of Sutherland, the President of the Club, on her Mercedes Car prior to the start.

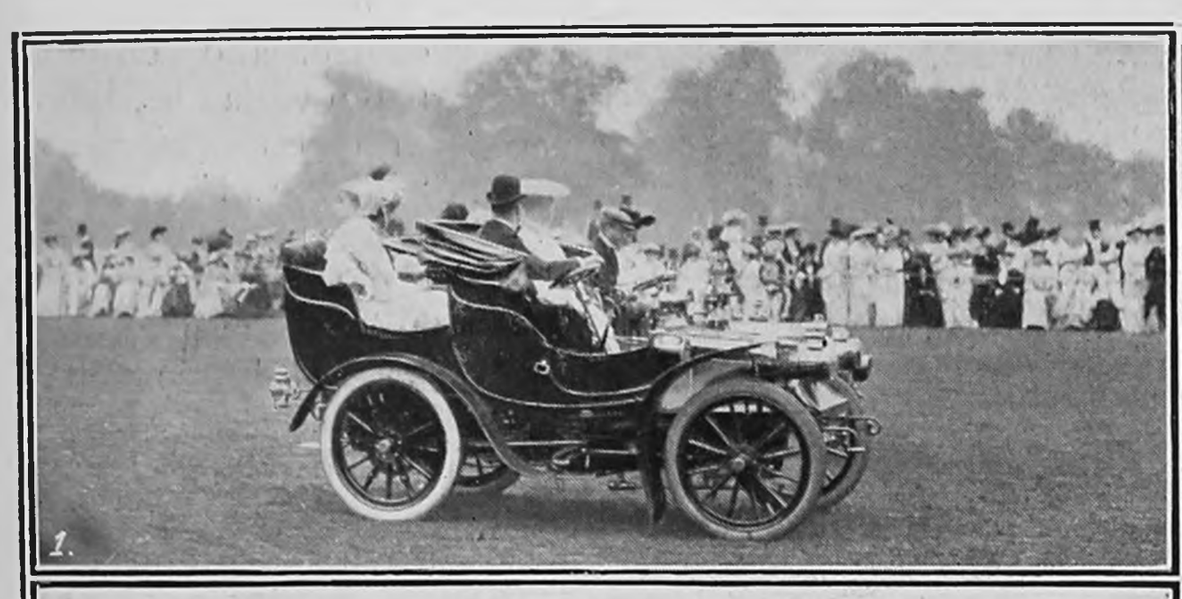
Admirable arrangements were made by the police to prevent the smallest hitch in the proceedings, and the crowd was tactfully handled from the commencement by the two inspectors in charge of the proceedings.

The whole of the entered cars, of which we gave a list last week, took part in the run, with the exception of Mrs. Hall's 30-h.p. Wolseley and Miss Edith Schiff's 24-h.p. Panhard. In addition, we learn from the secretary of the club, the following ladies participated in the meeting :—Mrs. Chas. Hunter (20-h.p. Wolseley), Mrs. Copland, Mrs. T. B. Browne (14-h.p. James Browne), Lady Burrell, Miss Eastwood, Mrs. Elliot (of Clifton Park), Mrs. Edward Hannen, Mrs. Kellgren, Mrs. C. M. Lloyd, Mrs. Lindsay-Lloyd, Mrs. Morrison, Mrs. Bruce Porter, Lady Rodney.

LADIES' AUTOMOBILE CLUB MEET.—Right Hon. Henry Chaplin, who was present at the Meet, has a chat with the Duchess of Sutherland.

Although the sky continued to have a somewhat threatening appearance, fortunately for the elaborate toilets displayed no rain actually fell, and the run to Ranelagh was most successful. When drawn up in the grounds at Barn Elms, the cars and their occupants presented an even more attractive appearance than at the start.

MOTOR GYMKHANA AT RANELAGH.

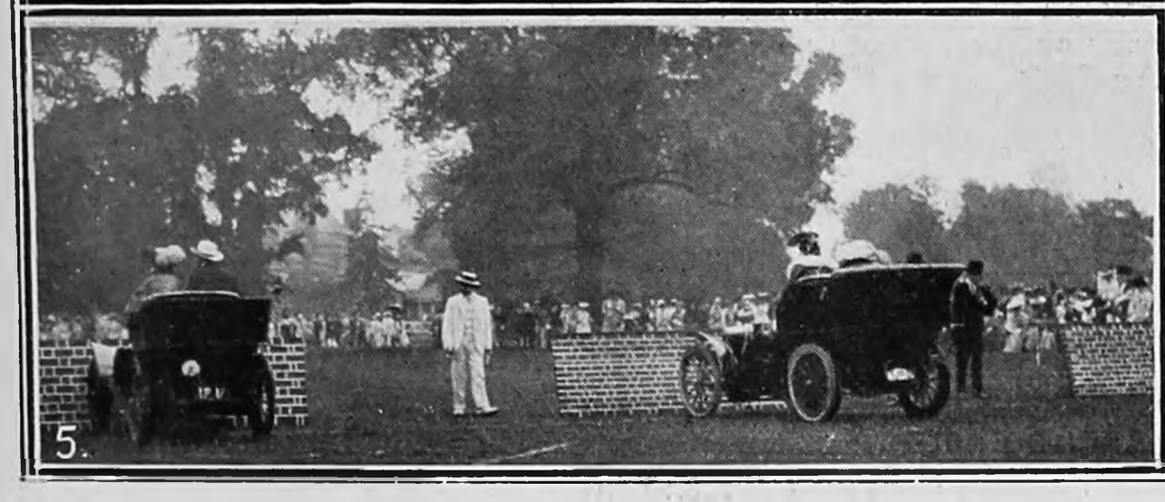


1. Mr. C. F. Torrey, No. 18 (10-h.p. Wilson and Pilcher), waiting his turn to start in the "Ladies' Passenger" Competition.

2. Mr. Torrey dropping a passenger in the race.

3. Ladies' Race.—Mrs. Geo. H. Thrupp has a "walk over" on her 10-h.p. Renault.

4. Bending Race.—Mr. J. D. Restler, No. 12 (7-h.p. Panhard), and Mr. A. Rawlinson, No. 10 (30-h.p. Darracq), coming up the course.



5. Starting and Stopping Handicap.—Mr. H. Langrishe, No. 8 (10-h.p. Panhard), and Mr. A. Rawlinson, No. 10 (30-h.p. Darracq), stopping at the "brick wall."

6. The Appearance Competition.—The Cars in line undergoing the scrutiny of the Judges.

MOTOR GYMKHANA AT RANELAGH.—SATURDAY, JUNE 11TH.

A LARGE and fashionable crowd was present to witness the Automobile Gymkhana which took place on Saturday last at Ranelagh. Seven events were down for competition, and altogether 19 entries were received, but unfortunately several of the entered cars did not take part in the sports, the field being, therefore, very thin in several of the races.

The first event was a "Coach-house" Handicap. This was a competition to get a carriage out of a coach-house from an awkward position, and, on return, turn the carriage inside the coach-house. Cars had to start within an enclosure, with their front wheels on a line at one of the far corners of the enclosure. Cars had to be manœuvred and to pass, front wheels first, out of the entrance; to race to a point 50 yards off and back, passing through a gate twice. The driver, in passing through the gate, had to alight, open the gate, re-enter his carriage, drive carriage through, alight, shut the gate, and return to his carriage. Then re-enter the enclosure, front wheels first, manœuvre, and turn until the front wheels of the car were in the entrance and the rest of the car inside the enclosure. Driver then alighted, stopped the engine, leaving all safe for the night, and came out of the enclosure. The handicapping was effected by altering the size of the enclosure. The winner was Mr. J. D. Restler, 7-h.p. Panhard; 2nd, Mr. H. Langrishe, 10-h.p. Panhard.

The next event was a bending race for motor carriages, which consisted of driving in and out between staves. Winner, Mr. A. Rawlinson, 30-h.p. Darracq; 2nd, Mr. H. Langrishe, 10-h.p. Panhard.

Ladies' Race and Motor Carriages Handicap.—In this, lady drivers had to be accompanied by a lady, but the engines were allowed to be started by an attendant. Of the four competitors entered, only Mrs. Geo. H. Thrupp was present, with her 10-h.p. Renault. This, therefore, resulted in a walk-over.

Motor Carriage Handicap Race, twice round the course.—Winner, Mr. Claude Johnson, 12-h.p. Orleans; 2nd, Mr. A. Rawlinson, 30-h.p. Darracq.

Ladies' Passenger Race (handicap), for four-seated carriages.—In this, competitors had to drive 100 yards; alight; assist a lady from her chair on to the front seat of the carriage; reseat himself; drive a

further 100 yards, alight, and assist a second lady from a chair to the back seat of the carriage. Driver to then retake his seat, drive another 100 yards, and assist a third lady to the back seat of the carriage. Then remount and drive to the finishing point. The ladies were not allowed to rise from their chairs until the driver took them by the hand to assist them from their chairs. After placing each lady in the car, the door of the tonneau had to be properly shut. Winner, Mr. A. Rawlinson, 30-h.p. Darracq; 2nd, Mr. C. F. Torrey, 10-h.p. Wilson and Pilcher.

MOTOR GYMKHANA AT RANELAGH.—Mr. R. A. Rawlinson, who was the chief winner in the various events on Saturday last, on his Darracq Car. During the intervals between the contests, Mr. Rawlinson was taking part in the polo matches which were going on at the same time at Ranelagh.

Starting and Stopping Handicap.—In this the cars were required to start from a line, race over a straight course, and terminate over a line, but without touching a "brick wall" placed just beyond the line. In this Mr. A. Rawlinson was again successful on his 30-h.p. Darracq.

The final event was the competition for appearance, the awards being made for the car and occupants in conjunction. Twelve entries were received, and the winner was Mr. C. F. Torrey, Mr. Walter Foster being second with his 24-h.p. Georges-Richard car.

The Duchess of Sutherland subsequently distributed the prizes to those who had won the various events.

IMPORTANT STATISTICS OF THE FRENCH AUTOMOBILE INDUSTRY.

OUR contemporary, *Le Velo*, has been at considerable trouble in drawing up a statement in regard to motor cycles and automobiles in France for the year 1903. The figures published by our contemporary show that in France on December 31st last there were 1,310,223 ordinary cycles, 19,816 motor cycles, and 19,886 automobiles. Included in motor cycles are tricycles, quadricycles, and motor bicycles. These figures show that there is in use one cycle per 30 inhabitants, one motor cycle per 1,966, and one automobile per 1,959 inhabitants, and, further, the proportion gives 66 cycles for every motor cycle and 66 cycles for every automobile. The estimated value of the motor cycles (at 700 fr.) is 13,871,200 fr., and the automobiles 171,130,000 fr., allowing 10,000 fr. per machine for 14,340, and 5,000 fr. for 5,546. These machines bring a revenue into the Government of a quarter of a million francs for the motor cycles, and $1\frac{3}{4}$ millions for the automobiles. Dealing with the motor cycles, it is curious to note the manner in which these machines are distributed in the country. Paris comes first with 5,337 machines = 26·9 per cent., then the Northern district 3,036 machines = 15·3 per cent., followed by East, 1,919 = 9·7 per cent.; N.E., 1,862 = 9·4 per cent.; W., 1,837 = 9·3 per cent; S.E., 1,484 = 7·5 per cent.; Centre, 1,456 = 7·4 per cent.; N.W., 1,312 = 6·6 per cent.; S.W., 968 = 4·9 per cent.; S., 599 = 3·0 per cent. In the automobiles the order of percentage is slightly different, as follows: Paris, 6,085 = 30·6 per cent.; North, 3,040 = 15·3 per cent.; East, 1,995 = 10·0 per cent.; S.E., 1,650 = 8·3 per cent.; N.E., 1,617 = 8·1 per cent.; W., 1,411 = 7·1 per cent.; Centre, 1,315 = 6·6 per cent.; N.E., 1,127 = 5·7 per cent.; S.E., 962 = 4·9 per cent.; S., 681 = 3·4 per cent.

Another interesting feature is brought out showing the following statistics for the last four years of 1 or 2-seated vehicles, and vehicles with more than 2 seats in use:—

Year.	1 or 2 places.	Over 2 places.	Total.
1899 ...	946 ...	726 ...	1,672
1900 ...	2,402 ...	2,884 ...	5,286
1902 ...	2,512 ...	4,748 ...	7,260
1903 ...	5,546 ...	14,340 ...	19,886

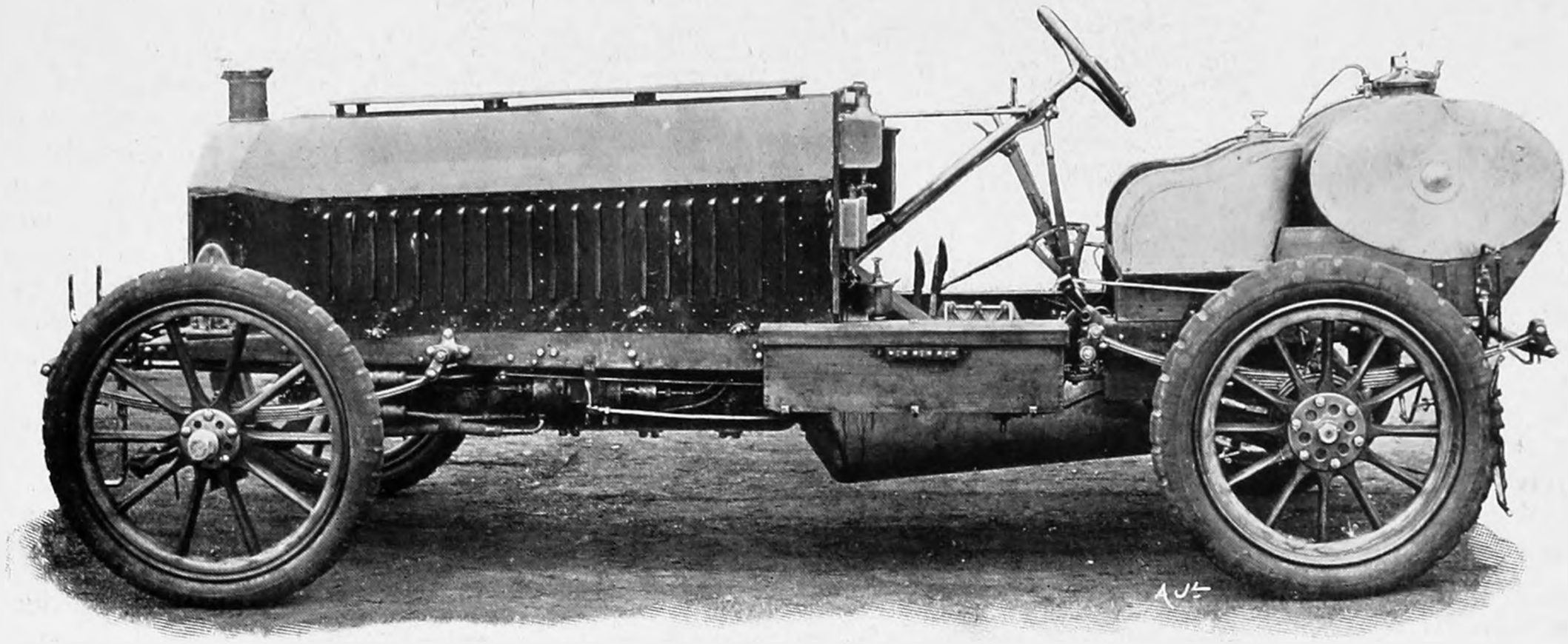
In continuation of these figures it is estimated that at the present moment there are 25,000 automobiles in France, and by December 31st next that there will be from 28,000 to 30,000 in use. These figures only deal with the vehicles which are actually in the country, and do not allow for exportation. Some idea of how this latter item will further swell the foregoing progressive figures may be gathered from the following values of the exports from France:—

Year.	Francs.	Year.	Francs.
1897 ...	623,690	1900 ...	9,417,360
1898 ...	1,749,350	1901 ...	15,782,290
1899 ...	4,259,330		

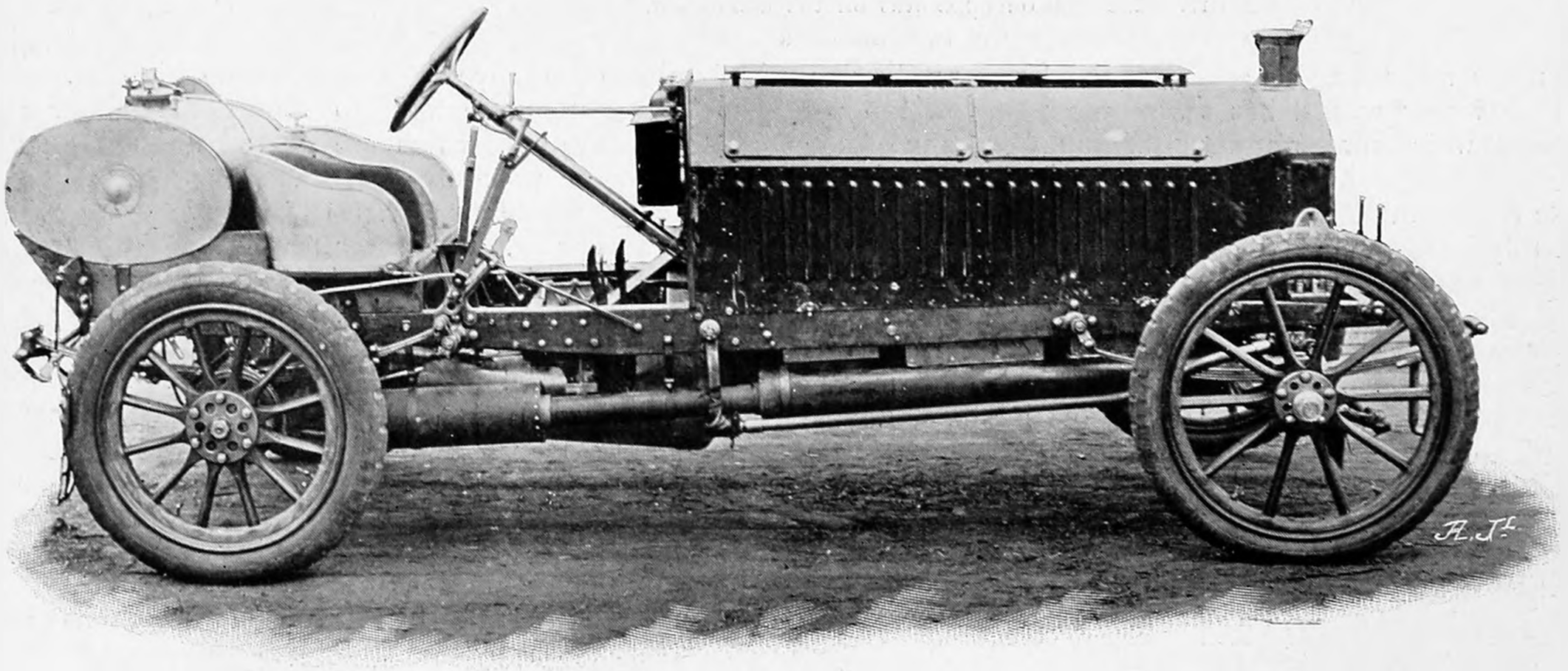
For 1902 the figures are given as 30 millions, and for 1903 they are estimated at 50 millions in round figures. It will be noticed that the number of cars with more than 2 seats is advancing at an enormous rate over the 1 or 2-seated vehicle. By way of a summary the following figures for the three types of machines are given for the period December 1900–1903:—

	Number of machines in 1900.	Number of machines in 1903.	Increase in 3 years.
Cycles ...	975,878 ...	1,310,223 ...	34 per cent.
Motocycles ...	11,252 ...	19,816 ...	76 per cent.
Automobiles ...	5,286 ...	19,886 ...	276 per cent.

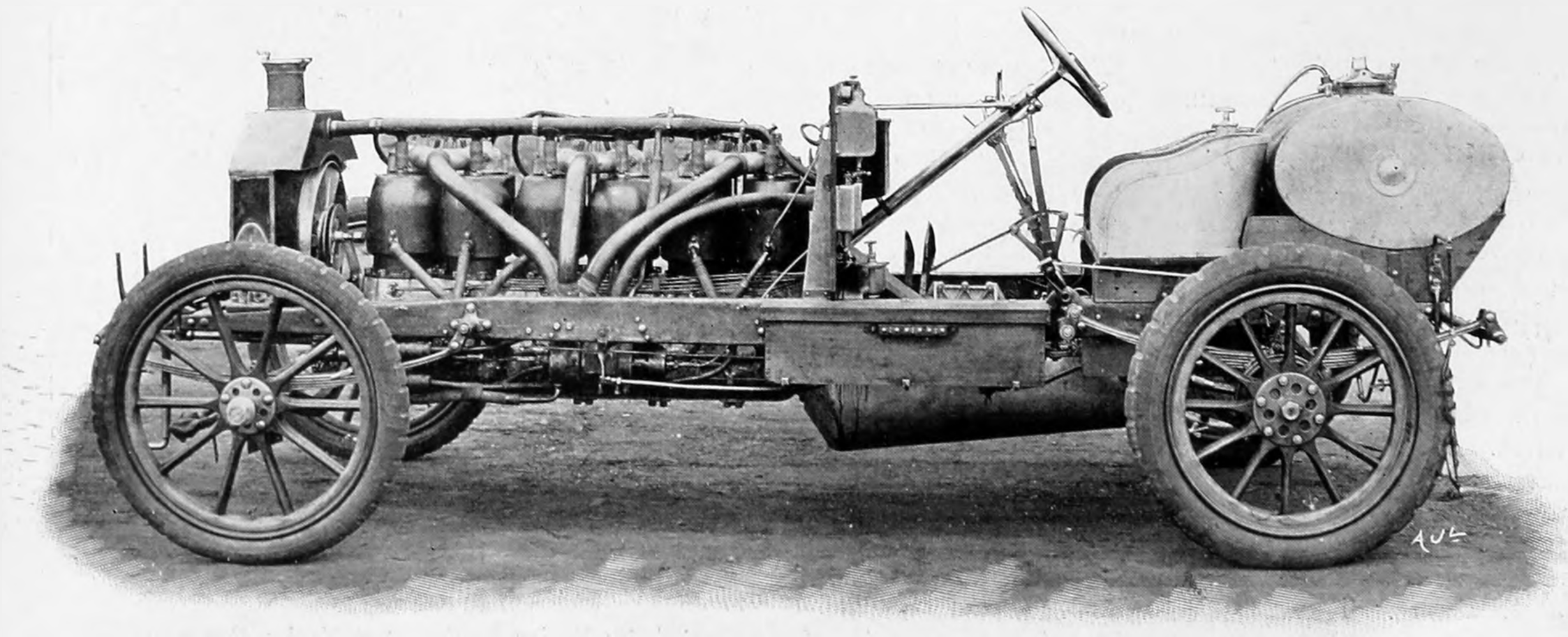
THE SIX-CYLINDER NAPIER RACER.



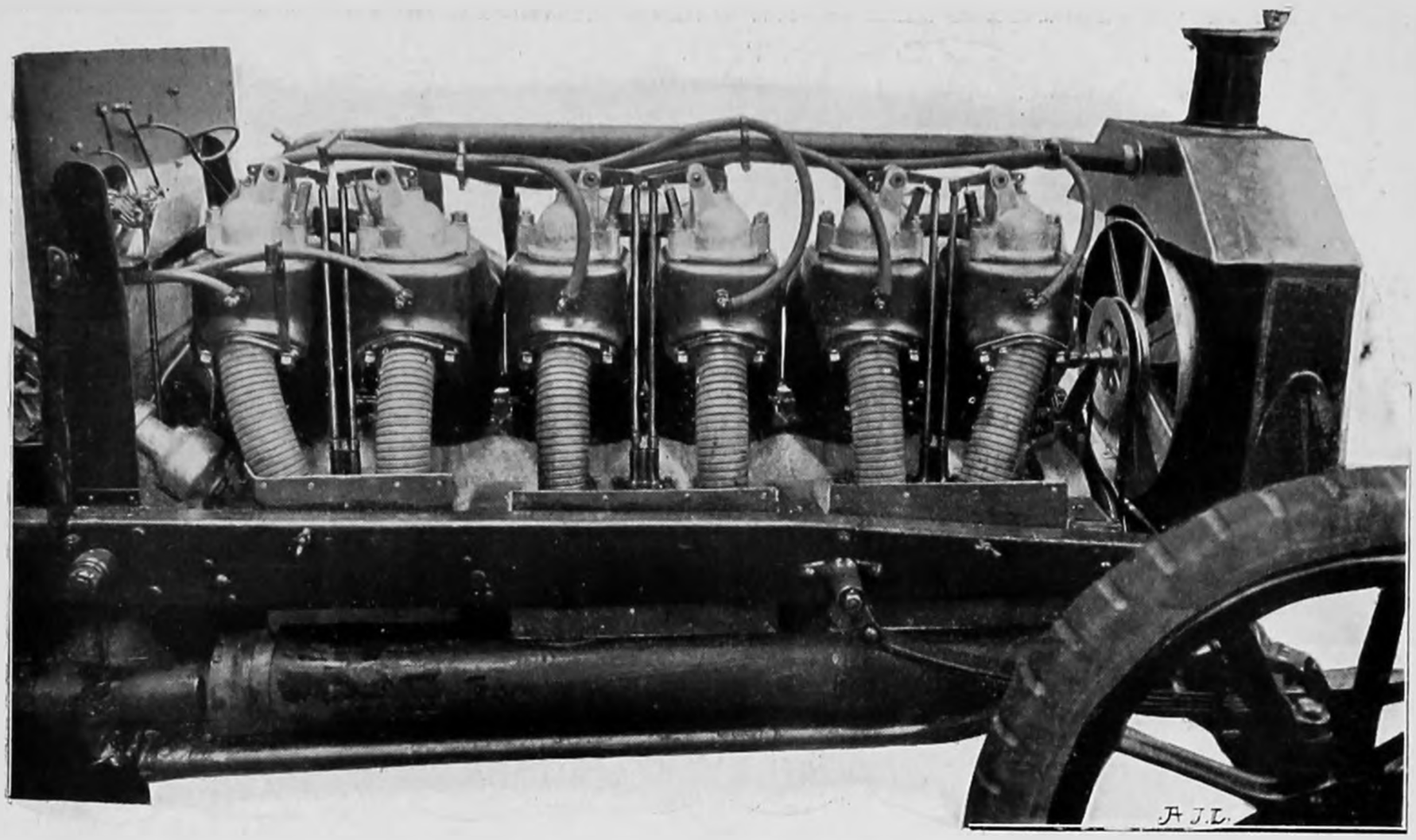
The Six-Cylinder 80-h.p. Napier Racing Car in running order.



View of the Six-Cylinder Napier Racer from the Off-Side.



View, from the Near Side, of the Six-Cylinder Napier Racer with its Bonnet removed.

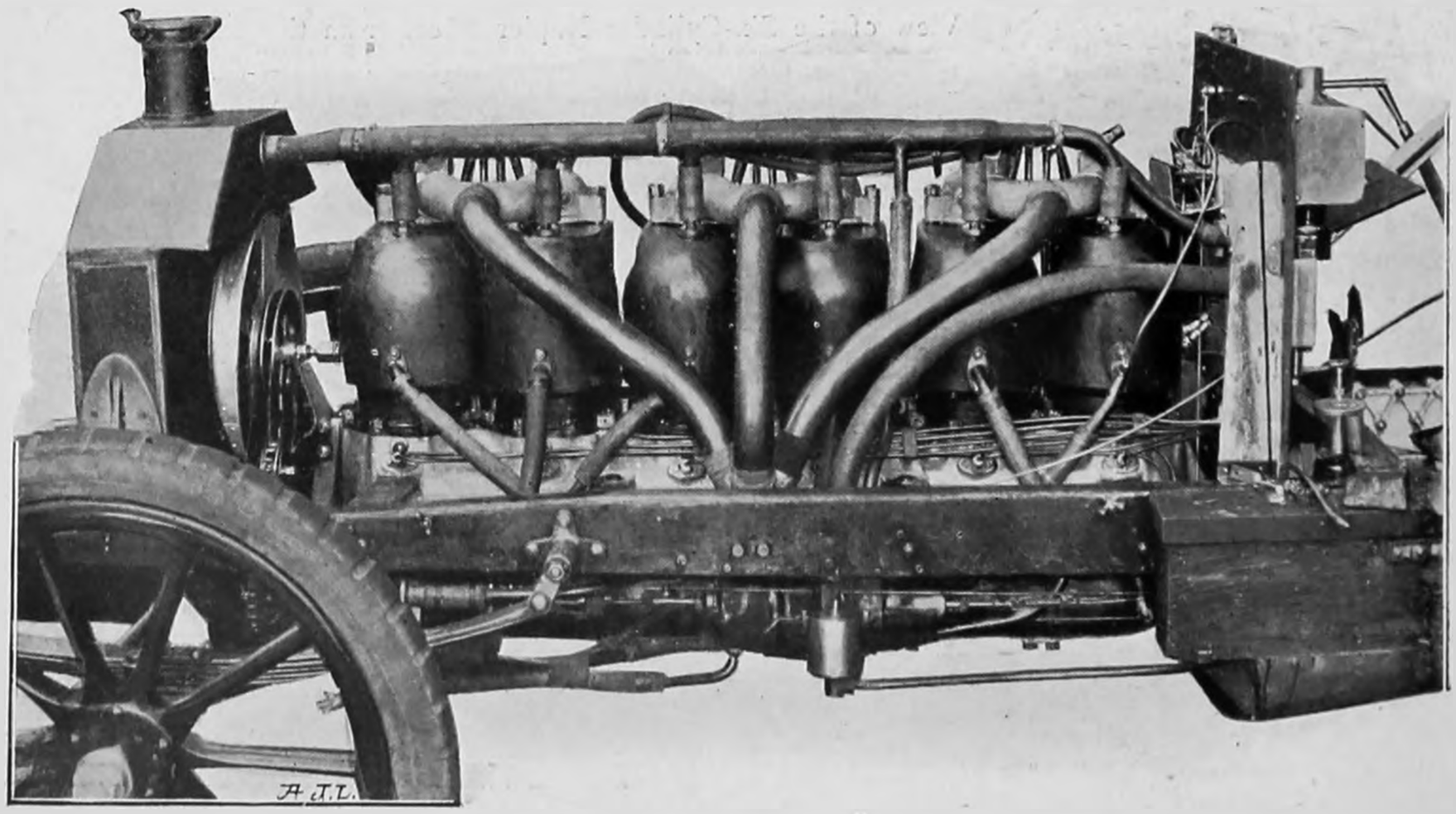


The Six-Cylinder Engine on the Napier Racer, as seen from the Off-Side. Showing the mechanically-operated inlet-valves, the flexible exhaust pipes, the ignition plugs and the spiral gear that drives the ignition apparatus on the dashboard.

THIS powerful racing car, which is the latest production of the Napier works, has many interesting and novel features, which render it very different from any of the other big racers hitherto constructed. Chief amongst these is the employment of six separate cylinders, having electrolytically-deposited copper jackets, and mechanically-operated inlet-valves, and the adoption of an unusually small change-speed-gear, which provides only two forward speeds.

As will be seen from our illustrations, the engine occupies fully one half the length of the chassis, and the driver's seat—with the large petrol tank high up immediately behind it—is practically situated over the back axle. The front axle, too, is well forward, beneath the radiator, so that the weight appears to be well distributed upon the four wheels. It will also be observed that the filler caps, both for the petrol tank and above the radiator, are of considerable size, and are provided with rapidly-detachable locking devices.

Amongst our illustrations, the three which show the car with the bonnet removed, and give good views of the engine from both sides, respectively, enable a clear idea of the general construction (particularly of the engine and the frame) to be obtained at a glance. It has a pressed steel main frame, and the springs supporting it are shackled in much the usual way. The engine and the gear are fixed direct to it, and the car is, of course, of the live-axle type. The engine is normally of 80-h.p., though there can be but little doubt that it is capable of developing considerably more power than that. Its six cylinders, which are made of steel, are independently bolted to the aluminium crank-chamber, which is made in one piece. The jacket around each cylinder is formed by depositing copper electrolytically around it; the steel cylinder being, for this process, covered with wax which is coated with plumbago to give it a conducting surface, and is melted out ultimately to leave the water space. The inlet-valves, which are of the annular type, are mounted in precisely the same position that atmospherically operated valves usually are — immediately above and facing the exhaust valves. They are, however, actuated by cams, on the same cam-shaft as those which lift the exhaust-valves, and are for this purpose fitted with small rocking levers, which engage with the upper ends of long vertical push rods. The ignition plugs, which are of the high tension type, lie horizontally, and pass through the sides of the valve chambers, between the valves. A special feature of the engine is the construction of the crank-shaft and of the connecting-rods, all these parts being hollow throughout their length. These portions constitute some of the best examples of high-class workmanship which have ever been turned out by the Napier factory.



View from the near side of the Six-Cylinder Engine on the latest Napier Racer.

The carburettor, which lies on the near side of the engine, is water-jacketed, and three induction pipes lead from it—one to each pair of cylinders. It is fitted with the makers' latest throttling arrangements, and with their hydraulic air-regulator by which, it will be remembered, the pressure of the water in the cooling system is made to give the necessary automatic control. The throttle valve is subject to hand regulation from a small lever mounted above the steering wheel, and it is this lever which primarily controls the speed of the car.

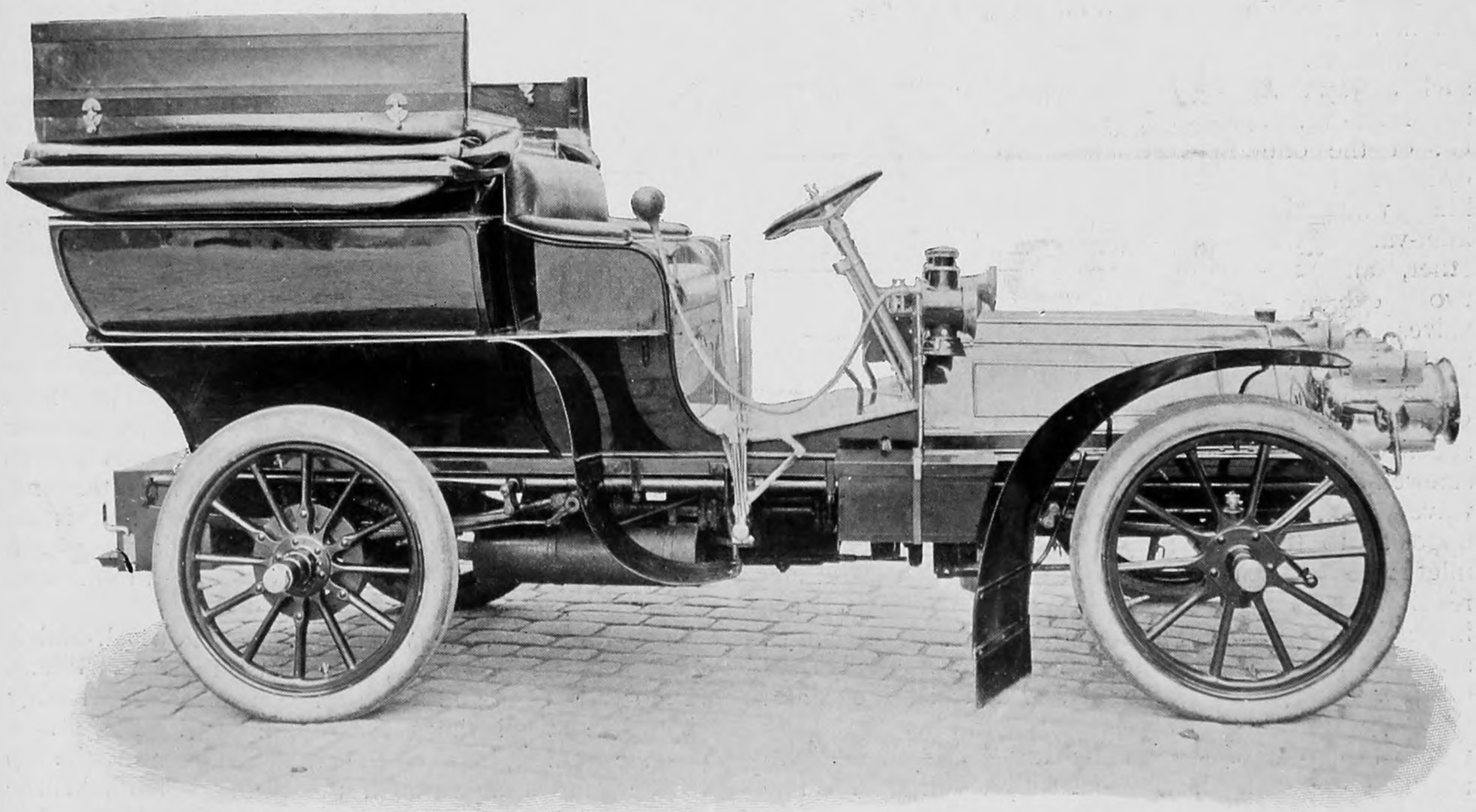
The ignition system, which employs only one coil and trembler for all the cylinders, is practically the same as on the makers' latest touring cars, and was described very fully by us recently (16th April, p. 469). It is mounted on the dash, and its two revolving spindles are, on this racer, driven by spiral gearing instead of by a chain and spur-wheels. The timing lever passes horizontally across to the steering pillar as on their other cars.

Separate exhaust-pipes are led from each cylinder to a large expansion-box, lying on the "off-side" close to the engine. These pipes are made of flexible tubing to allow for any unequal expansion of the different metals, and there is another exhaust-box into which the gases are subsequently led.

The cooling water is circulated through the radiator by a pump of large size, which is driven at a comparatively low speed, and there is a belt-driven aluminium fan mounted immediately behind the radiator. This radiator is built up of a large number of very thin tubes, which are fluted in order to increase both their cooling surface, and the water space between them. The water is forced through each of the jackets independently, and the pipe connections are made with rubber tubing to give the necessary flexibility.

The main clutch appears to be of much the same construction as on other racing cars of this make. It has metal to metal friction surfaces and is normally held in engagement by three independently adjustable springs; it is self-contained so far as end thrusts are concerned.

As already mentioned, the gear-box is exceptionally small, and only provides two forward speeds, which are found to be all that is necessary, owing to the flexibility and high power of the new engine. We are informed that the car weighs just over 19 cwt., that it is expected to attain a very high speed, and that one of the chief objects of the designer has been to build a car capable of exceptionally rapid acceleration when starting.



Lord Moreton's New Ariel Car.—This handsome vehicle is one of the 20-h.p. Ariel "Lonsdale" Wagonettes, and is constructed on particularly pleasing lines, having a seating capacity for six persons. The hood, which is divided down the middle, folds sideways, and when up affords complete protection for those inside the wagonette.

OPPONENTS of automobilism are certainly not very well advised in their arguments. Dr. Farquharson, who objected in the House of Commons to what he was pleased to term the invasion of Hyde Park by motor cars, on the ground, amongst others, that the fumes of "petroleum" (*sic*) contaminated the air, is taking a doubtful line. For years past the medical profession has been attacking the horse as a leading cause of the impurity of our great cities. Dr. Farquharson ought to have been the first to recognise that in an argument of this kind comparisons are really "odorous."

THE "FORD" PETROL CAR.

(*Concluded.*)

The Engine.

A SIDE-VIEW of the engine, fixed in place on the car, is given in Fig. 6, and this illustration, taken in conjunction with those of the chassis already referred to, will enable its construction to be clearly understood. It has two horizontal cylinders, F, which are bolted, slightly out of line with one another, on opposite sides of the crank-chamber. Each cylinder casting forms a large valve chamber beneath the cylinder proper, and there is a large water-jacket around the entire combustion-chamber. Although the cylinders are not in line with one another, yet their valve-chambers are so arranged as to be quite opposite, and the valves, being horizontal and pointing towards one another, can therefore be operated by the same cams. The inlet and exhaust-valves in each valve-chamber lie alongside one another, in such a way that the inlet-valve, G^6, of the one cylinder is in line with the inlet-valve of the other, and the two exhaust-valves, H^3, are also in line. Inspection plugs, G^5 and H, respectively, are screwed into the valve-chambers opposite to the inlet and exhaust-valves, so that any valve can be readily got at for grinding in when necessary; the inspection-covers, G^5, have the ignition-plugs, J^1, screwed through them. All four valves are normally held on their seats in the usual way, by helical springs, and they are operated by horizontal push-rods that pass through the base of the crank-chamber and engage with the two cams on the cam-shaft lying therein. The cylinders have a bore of $4\frac{1}{4}$ ins., and the stroke is 4 ins.

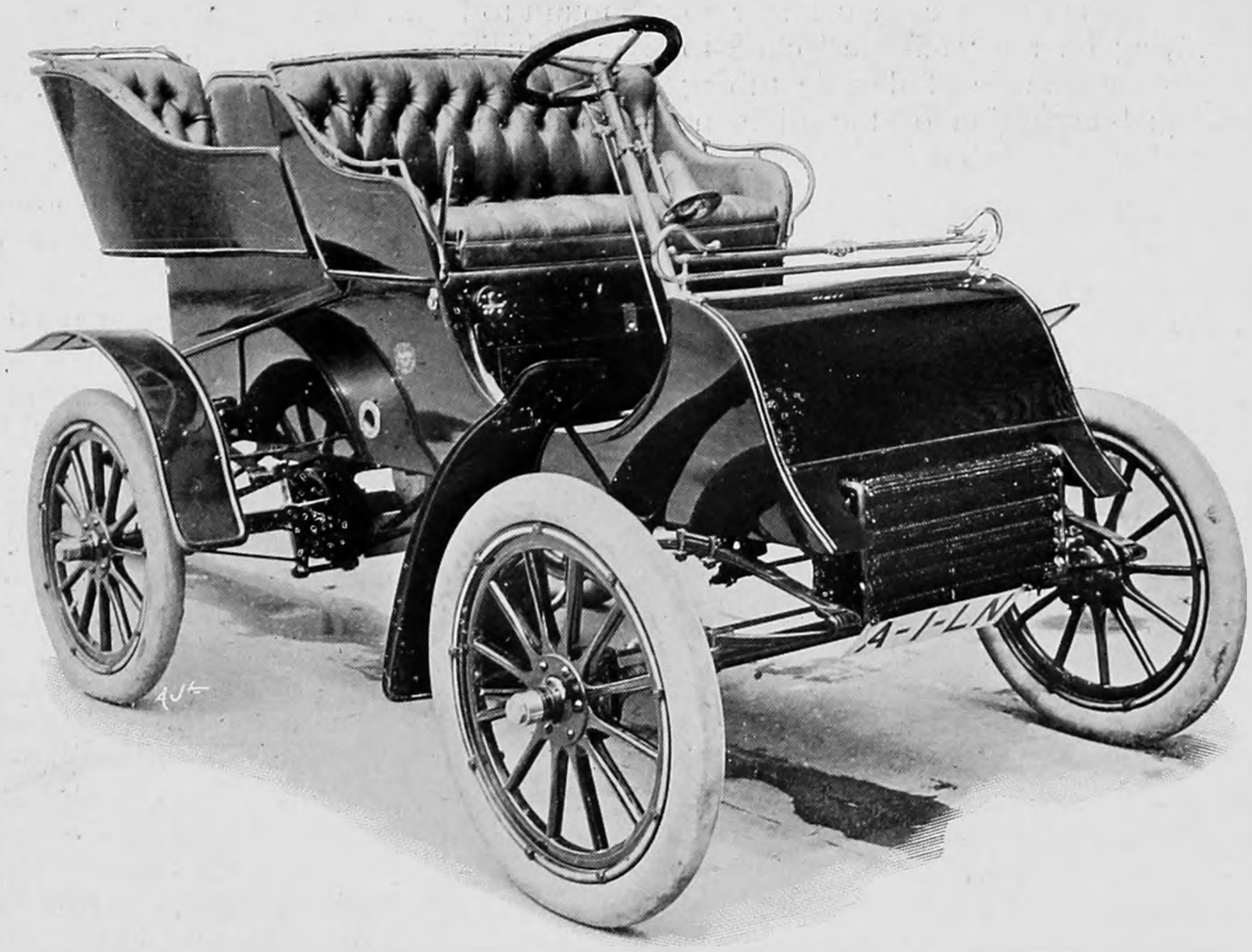


FIG. 5.—Another View of the "Ford" Petrol Car, fitted with its Tonneau.

The crank-chamber proper is formed of two castings, F^1 and F^2, the joint between which is horizontal, and lies above the crank-shaft bearings. The lower casting, F^1, is slotted at each side to receive the bearings, which are made in two parts—divided vertically—and are forced up together by a wedge which can be tightened up against them from outside. The upper casting, F^2, is provided with a flat cover plate, F^3, to which is fixed a large sight-feed lubricator, L, which feeds the engine at six different points. The crank-shaft has two crank-pins arranged opposite one another, with only a thin cheek between them, and the two connecting rods, acting upon them, are quite straight. The reciprocating parts are in this way mechanically in balance, and the two pistons reciprocate in opposite directions to one another. The valves are so set that the two cylinders do not fire at the same time, but work alternately, and thus an impulse is given to the crank-shaft at the same moment during each revolution, thus also securing balance so far as regularity of impulse is concerned.

The crank-shaft is carried in bearings of large size, which are kept as near together as the cranks permit, but there is a spur-wheel between the crank and the bearing on the right side for driving the cam-shaft, which lies immediately below the crank-shaft. The cam-shaft and the spur-wheels driving it are thus kept well lubricated, since they lie inside the crank-chamber, and, as we have already said, the cam-shaft has only two cams formed on it, the one for actuating the two inlet-valves, and the other the two exhaust-valves.

The connecting rods have adjustable bearings at both ends, and their big-ends are so formed that only one bolt is required for holding the cap in place, the cap being hinged to the connecting rod on the underside.

The lubricator, L, is of larger size than usual, and is fitted with a filler cap, L^1, which—like the caps, G^1 and K^1, for the petrol and the water respectively—are readily accessible at all times for replenishing. There is a passage formed between the crank-chamber and the top of the lubricator, through the fitting which holds the latter in place, and a non-return valve is introduced in this passage. By this means a certain amount of pressure is, whilst the engine is running, maintained on the oil, because the two pistons tend to compress the air in the crank-chamber when travelling inwards, and to draw in a fresh charge of air when travelling outwards. Since the pressure is only maintained whilst the engine is running, its lubrication is to a great extent automatic. Each of the six feed pipes, leading from it, has a separate adjustment, and the oil to each drops through a short length of glass tubing. Two of the pipes feed the two pistons, two of them lead to the main-crank-shaft bearings, and the other two drip on to the connecting rods.

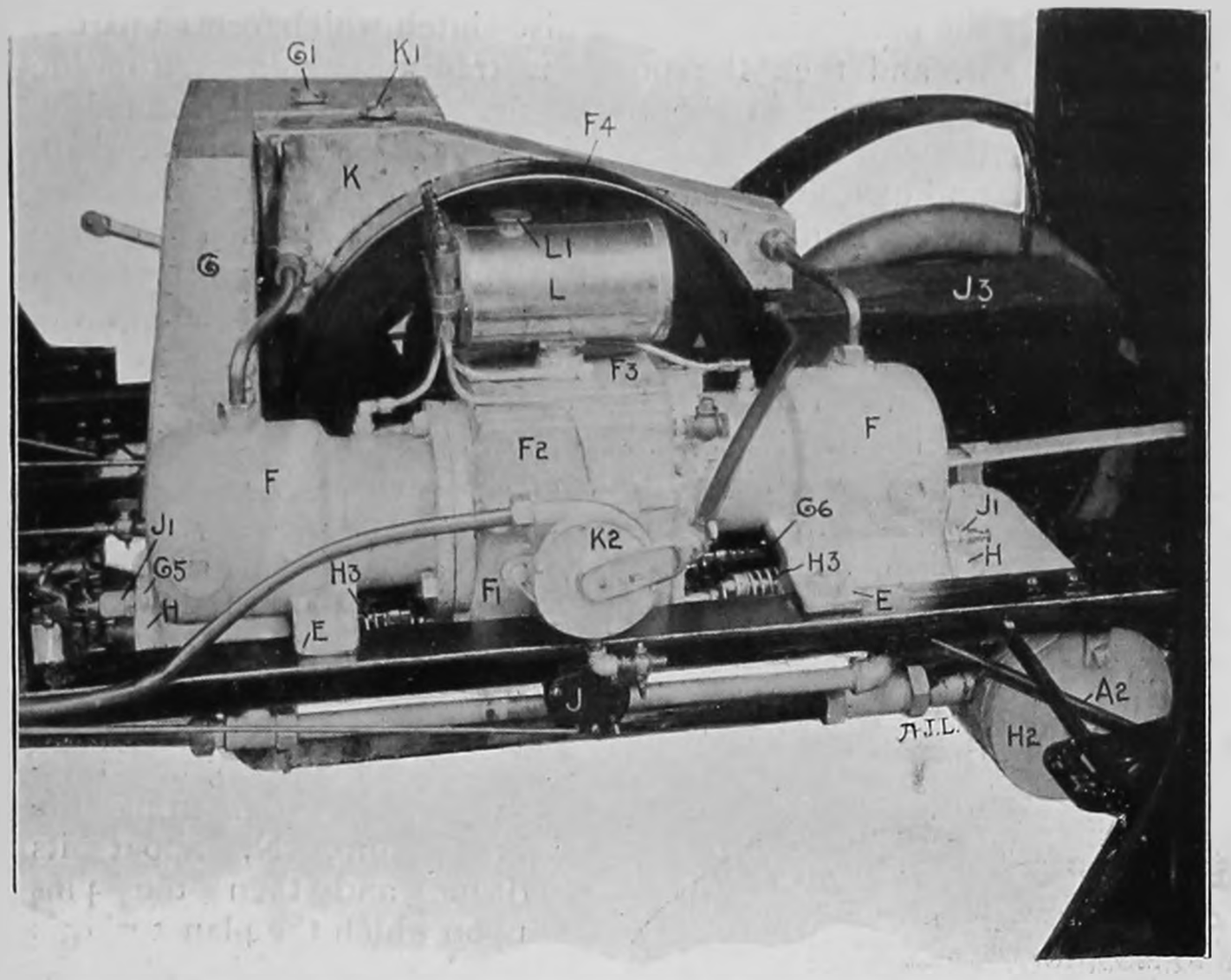


FIG. 6.—The "Ford" Engine, as seen from the "near" side of the chassis.

The commutator, J, is fitted just outside the crank-chamber on the projecting end of the cam-shaft, where it lies at the side of the car in a very convenient position. It has but one contact spring inside it, and is used in conjunction with a single trembler coil, which is fixed beneath the front seat on the left. The cam operating the commutator has two opposite projections, so that the low-tension circuit is completed to the coil twice—at equidistant points—during each revolution of the cam-shaft. The high-tension coil has both its terminals insulated, and the two high-tension wires are led to the two ignition plugs, J^1. Electrically, therefore, the ignition plugs are in series with one another, and the spark occurs in both cylinders simultaneously, although only required in one at a time. The idle spark in the other cylinder merely takes place towards the end of the exhaust stroke, and therefore does no harm. The advantage of this arrangement, which is already known to our readers—as, for instance, in the twin-cylinder Chenard-Walcker car—is that one coil serves for two cylinders, and that perfect synchronism between cylinder and cylinder can be ensured. The commutator is, as usual, so mounted that it can be rocked about the cam-shaft, for varying the time of ignition in the cylinders, and this "timing" is controlled from a hand-lever on the steering pillar.

The type of carburettor, G^2, employed, is of the float-feed spray variety, and it is fixed (Figs. 2 and 3) almost centrally in the car just in front of the engine. It is of very simple construction, and with it is combined a throttle-valve that is connected by a system of levers, G^3, with a foot-pedal. The throttle-valve is normally held almost closed by a spring, but can be opened to any desired extent by depressing the pedal correspondingly. The float itself, in the carburettor, is made of cork, and is varnished to prevent any disintegration. The valve which cuts off the petrol feed to the carburettor is fixed direct to the upper side of the float. An adjustment, in the form of a needle-valve above the spray jet, is provided for enabling the richness of the mixture to be determined initially, and there are also adjustable screw stops by which the range of movement of the throttle-valve can be limited in both directions. The throttle-valve is so made that an approximately constant richness of mixture is maintained by it, for it not only controls the flow of the mixture to the engine but also of the air to itself. The entering air is in no way warmed, but is drawn straight in beneath the mixing chamber.

A comparatively long, branched induction pipe, G^4 (Fig. 3), leads the explosive mixture, on the underside of the engine, to both inlet-valves, and this pipe is designed in such a way as to ensure both cylinders obtaining an equal volume of charge.

The exhaust-pipe, H^1, lies alongside the induction-pipe, G^4, underneath the engine, and into it the exhaust gases from both cylinders are led direct. This pipe is clearly visible in Fig. 6, where it will be noticed that the gases have but a very short distance to travel to the exhaust box, H^2. The exhaust-box appears to be very effective, although comparatively small for an engine of this power; it is constructed with four concentric tubes that form annular spaces into which the gases are successively led through rows of $\frac{5}{16}$-in. holes.

The circulating-pump, K^2, which is of the centrifugal type, is driven direct off the left end of the crank-shaft. It draws its supply of water from the bottom of the tank, K, and forces it up through the radiator, K^3, on its way to the cylinder-jackets. The water enters the bottom of each jacket, and is led back again from the top of each to the tank, K. The radiator is constructed of eighteen finned tubes which are arranged in six rows of three, placed one above the other. The water enters the bottom, and passes through each row of tubes in succession to the top, the tubes in each individual row being

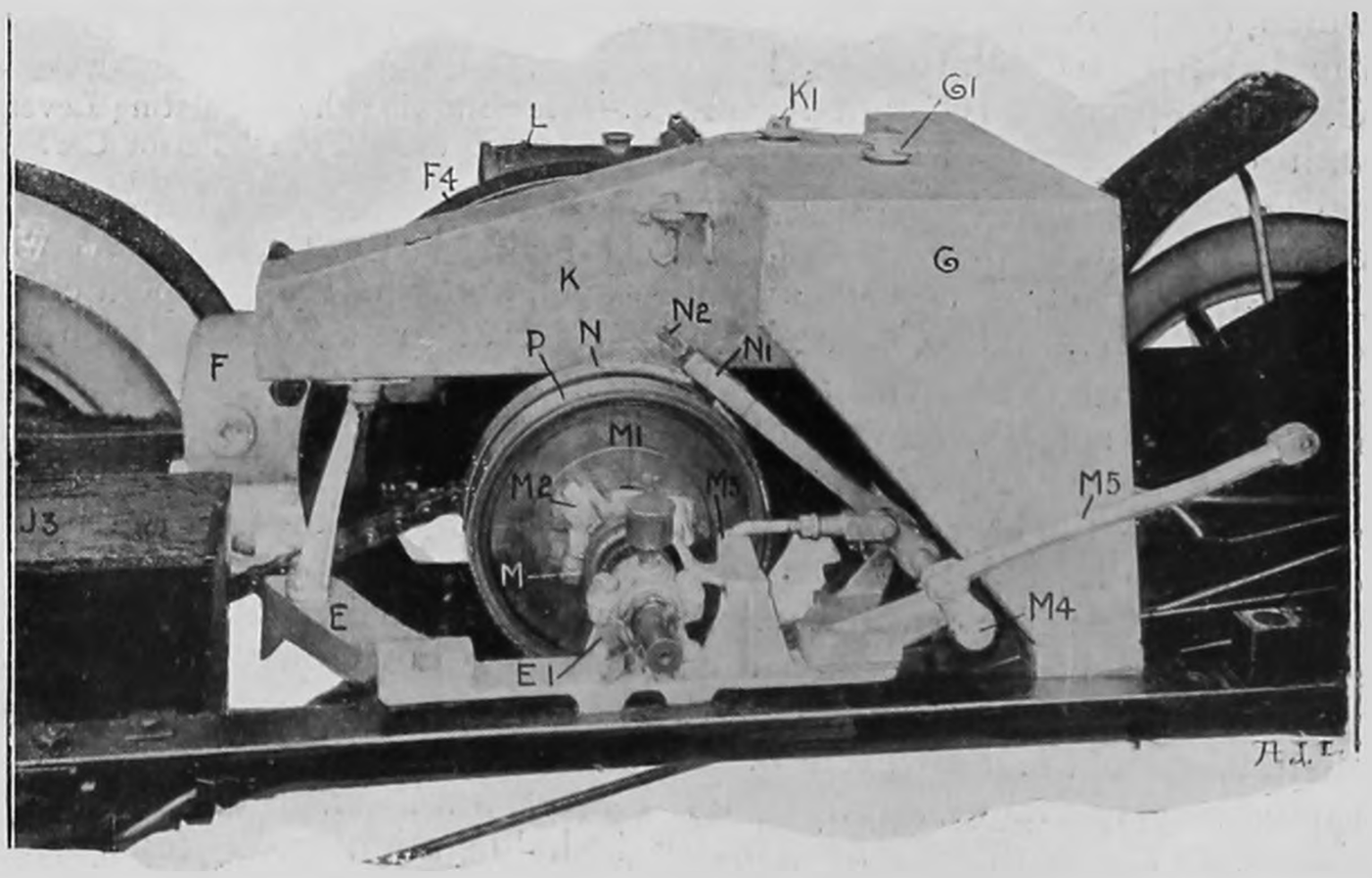


FIG. 7.—The Change-speed-gear on the "Ford" Car, as seen from the "off" side of the chassis.

connected in parallel. This radiator appears to be sufficiently effective to prevent any loss of water by evaporation when the car is running normally and continuously.

The flywheel, F^1, is of large diameter, and is sufficiently heavy to ensure steady running. It is mounted close up to the crank-chamber, and the crank-shaft projects through it right across the chassis to the right side, the change-speed-gear being mounted on it. The crank-shaft at its extreme end, just outside the bearing, E^1, is fitted with a pin, F^5, to receive the starting handle, and it will be observed, in Figs. 1 and 5, that the handle is introduced through a hole in the side of the body. As a matter of fact, it is possible to start the engine from the driver's seat, and, as a comparatively low compression is arranged for in the cylinders, it is not difficult to turn it round. Usually, however, the engine is started from the ground.

The engine is capable of developing about 10-h.p., and it actually gives, we understand, 9-b.h.p. at about 800 revs. per min., which is considered to be the normal speed. In practice it runs at any speed up to about 1,400 revs. per min., and appears to do so without setting up any objectionable vibration.

The Change-speed-gear.

The type of change-speed-gear used on the Ford car is sufficiently similar to that employed on other American vehicles to render superfluous any very full description here, but it differs from others, inasmuch as no internally-toothed gear-wheels are used in it. Mounted freely on the crank-shaft, close up to the flywheel, F^4, is the sprocket-wheel from which the power is taken to the back axle by the chain, C. This sprocket is formed with deep flanges on either side, and the gear ratio between it and the back axle is about $3\frac{1}{8}$ to 1. Fixed rigidly to this sprocket is a spur-wheel, immediately outside which are two other spur-wheels that are also concentric with the crank-shaft. The central spur-wheel is somewhat smaller than the other two, and it is rigidly fixed to the shaft, whilst the outer wheel is free to revolve upon the crank-shaft but is rigid with the brake-drum which is held to give the "reverse." Engaging with all these three spur-wheels are two sets of corresponding planet wheels which are free to revolve upon pins fixed, on opposite sides of the crank-shaft, to the shell forming the low-speed brake-drum. Each set of three planets have their wheels fixed to one another, so that when the low-speed brake-drum is held stationary, they resemble the "back-gear" of an ordinary lathe.

Normally the whole of this gear (which is seen in Fig. 7) is "locked"—so that it runs as one piece with the crank-shaft—by the disc-clutch which forms a part of it, and then the power is transmitted direct from the crank-shaft to the back axle. The clutch is formed by the disc, M^1, which rides upon a feather on the shaft, and can be forced up against the side of the "reverse" brake-drum when the cone, M, is caused to slide inwards along the shaft. The cone, M, engages with three toggle levers, M^2, and causes them to act in the well-known manner upon the sliding disc, whilst the clutch can be adjusted by screwing the bracket which carries the levers, M^2, either inwards or outwards, and locked when adjusted, by a set screw. The clutch is operated from the rock-shaft, M^4 (seen in Fig. 7), through the pivoted bell-crank, M^3, and this same shaft also controls the brake-band, N, which acts on the low-speed brake-drum, so that both these speeds are controlled through the connecting-rod, M^5, by the same hand-lever.

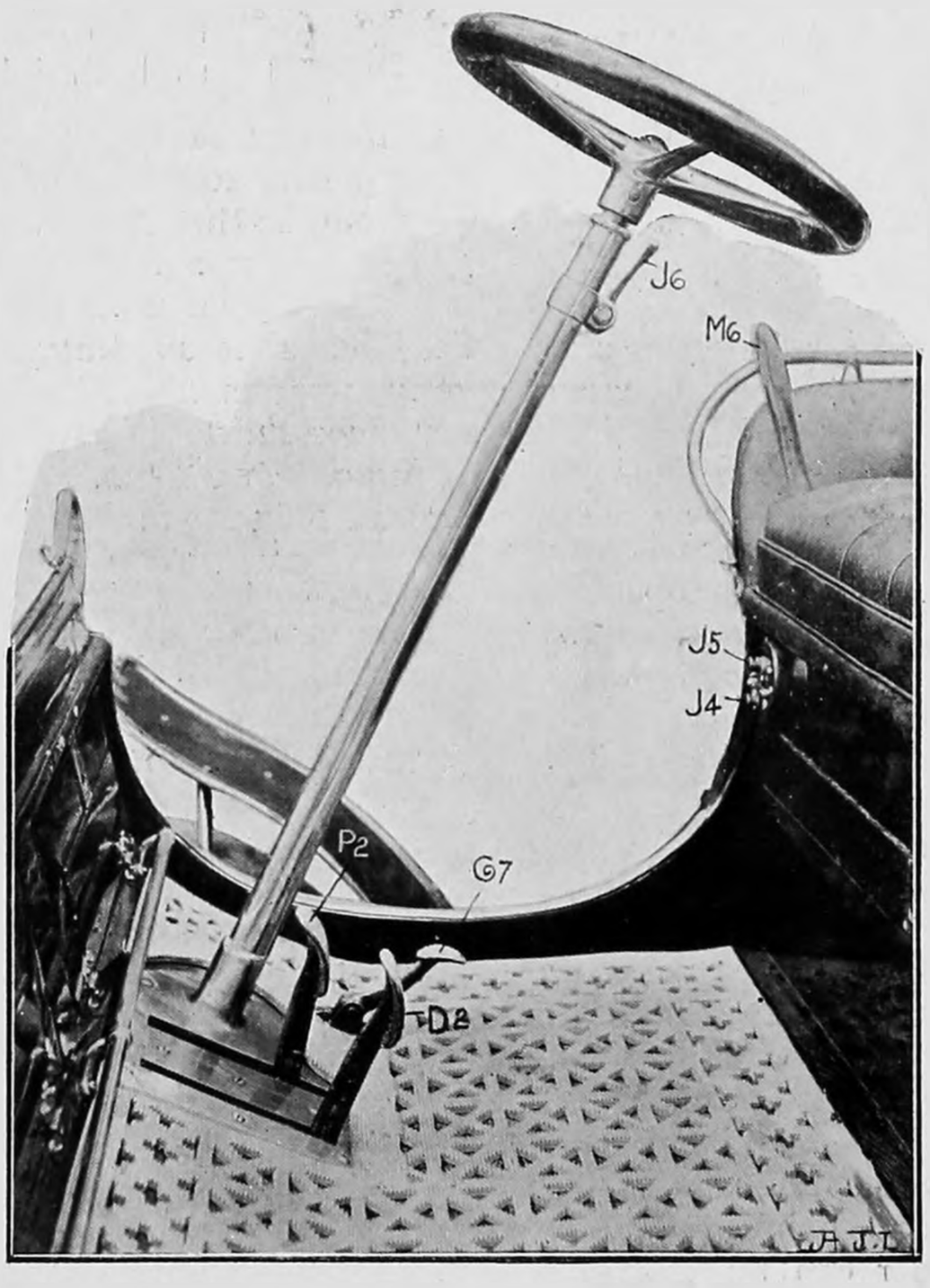


FIG. 8.—View showing the Regulating Levers and Pedals on the "Ford" Petrol Car.

The low-speed-gear is introduced by tightening the brake-drum, N, about its drum, and then the pins upon which the planet wheels revolve are held stationary, so that a double reduction gearing is introduced between the crank-shaft and the sprocket. Provision is made by the set-screw, N^2, on the tightening lever, N^1, for adjusting the brake-band, N; the actual tightening action is obtained by cams on the rock-shaft, M^4.

The "reverse" gear is not quite as satisfactory, from a mechanical point of view, as the low-speed-gear, although it is sufficiently so to suit its purpose; this is, to a great extent, shown by the fact that it is not so silent in action. When the brake-band, P, is tightened the spur-wheel attached to it is held stationary, and then the sprocket-wheel is driven in an opposite direction to the crank-shaft by virtue of the differences in diameter of the various planets and of the wheels with which they engage. The brake-band, P, is operated by a rod, P^1 (Fig. 3), which lies on the underside, and the adjustment-nut for the brake is also situated beneath the brake-drum; this gear is controlled by a foot-pedal.

The entire gear runs in oil, which can be introduced to it through a plug-hole fitted between the two brake drums. It contains sufficient oil for running a considerable distance without attention, but should be filled up occasionally to replenish what may have escaped. It will have been realised that it only contains nine spur-wheels in all, and it will be seen from our illustration that the case enclosing it is very compact. When the top-speed is in use, the gear ratio between the engine and the road-wheels is such that the car will travel at about 21 miles per hour when the engine is running at 800 revs. per min., though this speed can be con-

siderably exceeded if the engine is accelerated. The low-speed-gear introduces a further reduction in the ratio of about 3 to 1, so that when it is employed the normal speed of the car is about 7 miles per hour.

The System of Control.

The control of a "Ford" car is very simple, the various levers and pedals for which are clearly shown in Fig. 8. To the right of the driver's seat is the change-speed lever, M^6, which lies in a central position when the car is at rest. To start the car—by introducing the low-speed-gear—this lever is pressed rearwardly, and, if moved as far as it will go, it will remain there. When starting, however, it is only necessary to press it back sufficiently to get under way, and it can then be moved forwards to bring the top-speed into play. When running normally it may be left in its forward position, or, when travelling in traffic, the clutch can be allowed to slip to a certain extent by exerting only the requisite pressure on the lever.

The foot-pedal, P^2, which lies just to the left of the steering-pillar, is that by which the "reverse" gear is introduced, and this, of course, is only used when the hand-lever, M^6, is in its neutral position.

To the left of this pedal is the brake-pedal, D^2, which actuates the internal expanding-brake, on the back axle.

The third, and smaller, pedal, G^7, is operated by the right foot, and it controls the throttle valve. The speed of the car on the road is therefore controlled for the most part by means of it, the speed increasing as it is depressed. When completely released, the engine can only obtain sufficient mixture to run quite slowly when the car is at rest.

The hand lever, J^6, on the steering pillar is that which regulates the time of ignition, and should, in consequence, be moved from the vertical position (in which it is in our illustration) downwardly, as the speed of the engine is allowed to increase. As shown, the ignition is "retarded" to the extent necessary for starting, and it assumes a horizontal position for full "advance." Relating also to the ignition system, is the two-way switch, J^4, which is fitted just below the seat. This switch allows either battery of cells to be brought into use, alternatively, or the current to be entirely cut off. The switch is also fitted with a detachable contact plug, J^5, which can be removed to prevent the car being started when the driver leaves it.

The body is constructed so that all the various parts of the mechanism can be readily got at when occasion demands. The front seat can be lifted up for replenishing, and the woodwork forming the front of it is hinged so that the coil can be exposed to view. The floor, too, both in the tonneau and in front of the driver, can be lifted out, so that there is no part of the mechanism to which access cannot be obtained quickly and conveniently. The front portion of the body forms a low dash, which is so constructed as to constitute a sufficiently large tool-box, in which even such comparatively large accessories as jacks and tyre pumps can be accommodated. The petrol tank holds about $4\frac{1}{2}$ gallons, which is found to be sufficient for running a distance of about 135 miles. As we have already said, the 4-seated car is made in such a way that the tonneau is detachable; when this is removed, a sloping back is substituted.

A NEW FIELD FOR THE PETROL MOTOR.

THE Royal Horticultural Society's Show, which has been held during last week at the Botanical Gardens, Regent's Park, was, perhaps, hardly the place at which one might expect to find the latest application of the petrol motor. Nevertheless, visitors had hardly entered those pretty grounds before they were greeted with the unmistakable sound of the internal combustion motor at work. There has been a good deal said lately about parks and pests

FIG. 1.—The Merryweather "general purposes" pump at work in the Grounds of the Botanical Gardens.

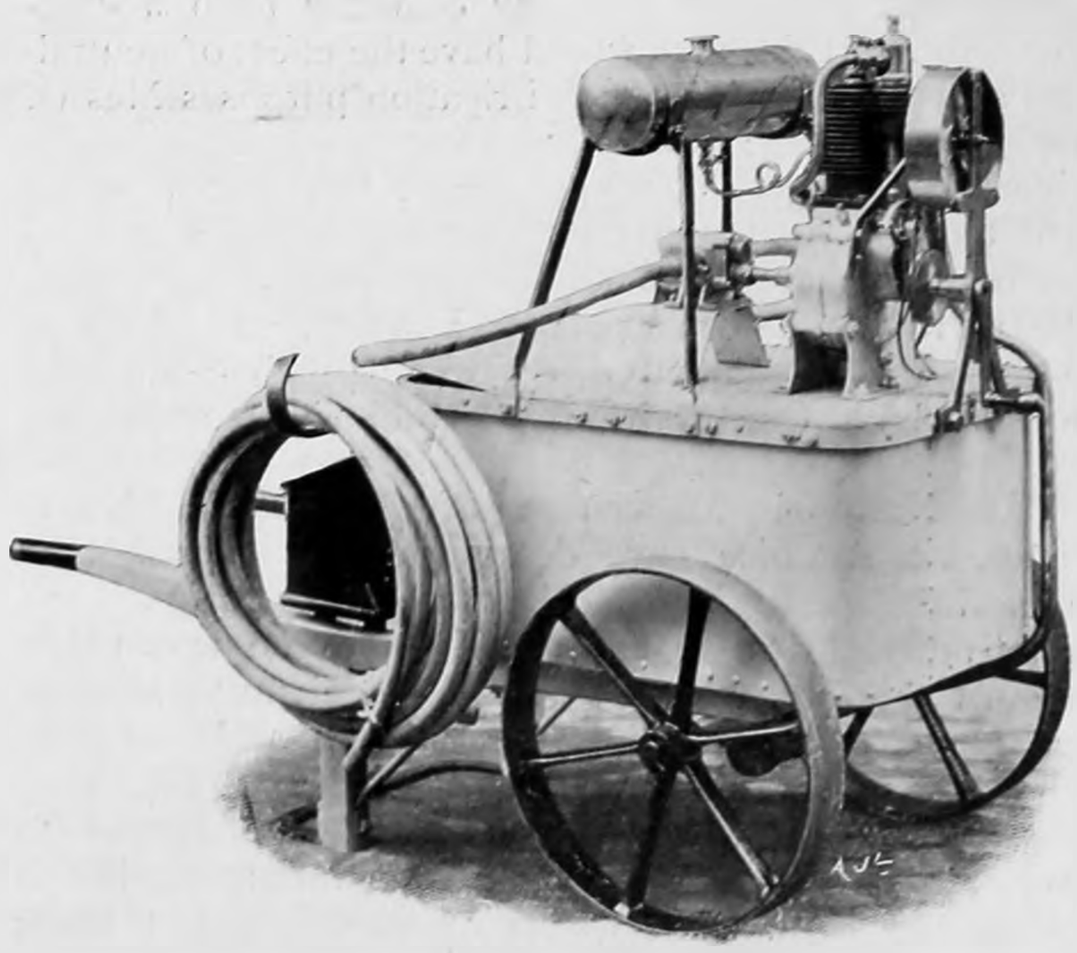


FIG. 2.—Portable Petrol Motor-Driven Hop Washing Plant, constructed by Messrs. Merryweather and Sons.

FIG. 3.—A compact Petrol Motor-Driven Centrifugal Pumping Plant, specially constructed by Messrs. Merryweather and Sons for irrigation purposes.

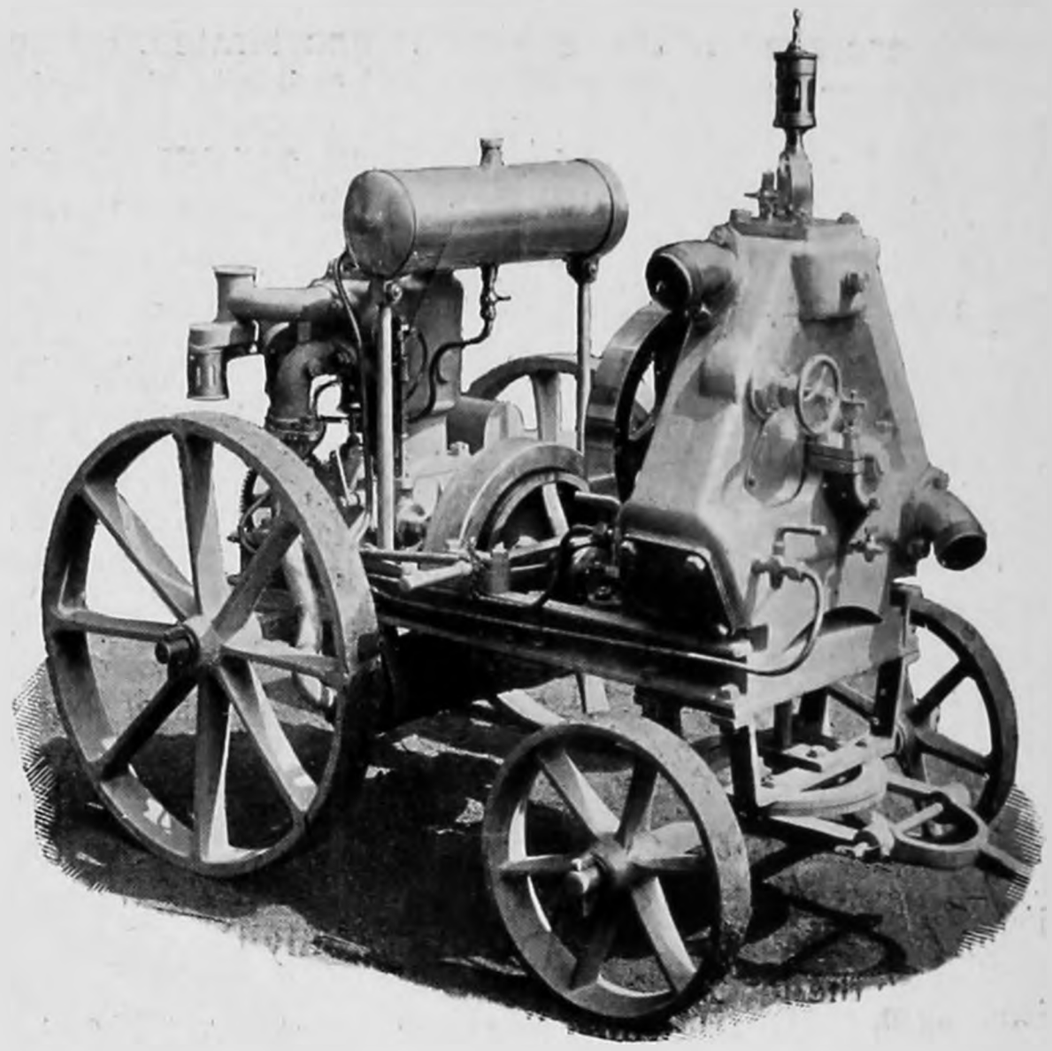


FIG. 4.—Three-Throw "Hatfield" Pump driven by 12-h.p. Petrol Motor, suitable for general purposes on an estate.

but it did not seem as if the various motors exhibited there were regarded in that light at all, although they could hardly be expected to harmonise with the magnificent show of flowers with which the gardens abounded.

The motor lawn mower is not new to our readers, and some fine machines were exhibited by Messrs. Ransom, Simms, and Jeffries. But it is to Messrs. Merryweather that the novelties in "horticultural motors" were due on this occasion, and for these they have been awarded a gold medal. We illustrate on this page some of the machines which were exhibited by this enterprising firm, and it will be noticed how particularly adaptable the petrol motor is to small portable machines of this kind.

Agriculture and horticulture are both industries which depend, one might say almost entirely, on the question of water; at any rate, in every branch of both these industries the question of adequate water supply is a vital one. There are many instances where the means of securing an adequate supply of water from a comparatively short distance would have the effect of neutralising a dry season. For such irrigation purposes Messrs. Merryweather have constructed a very handy little motor-driven centrifugal pumping plant, the whole being mounted on a light "chassis," running on iron wheels, so that it can be drawn to any desired part of an estate. The petrol engine has a pair of cylinders, and develops 12-h.p. It is coupled direct to a 4-inch centrifugal pump, which can deliver 300 gallons of water per minute against a head of 25 feet—a capacity eminently suited for the purposes of irrigation.

Its antithesis is found in the diminutive hop-washing plant, of which we also give an illustration. The tank capacity of this is 40 gallons, and in this tank the "wash" is mixed. On the top of the tank is fixed a 2-h.p. bicycle motor, which is air-cooled by a fan, and drives direct on to a very small rotary pump which can deliver 3 gallons per minute at 60 lbs. pressure per sq. in. Here again the design has been adapted to meet the requirements of a particular case. A very small volume of "wash" is required for hop-washing, but a high pressure is necessary in order to get that wash properly delivered—as a spray—through the exceedingly fine pulverising jets which must be used for this operation. So fine are these jets that they hardly take one gallon per minute, so that even such a diminutive plant as that illustrated could supply nearly four jets.

Another interesting "motor" exhibit was also shown by Messrs. Merryweather, this consisting of a very compact pumping plant for general use. The 8-h.p. motor, which has a single water-cooled cylinder, drives—through a single reduction gear—a three-throw "Hatfield" pump, capable of delivering 100 gallons per minute at 80 lbs. pressure. On a large estate, such a machine would have innumerable uses—it might even be used as a fire engine. The particular pump exhibited had been sold to the Household Cavalry Polo Club, for watering the ground.

THE National Association of Automobile Manufacturers of America have determined to seriously take in hand the question of local shows in the States. The broad principles in regard to this question which they intend to adopt are that henceforth local shows must be sanctioned and dates fixed by the N.A.A.M. Shows will only be sanctioned which are conducted by a local trade organisation or a local club, the former to have the preference, whilst every show must be an automobile show purely, no "mixed" shows being allowed. *Per contra*, the N.A.A.M. will bind its members not to exhibit at other than these sanctioned shows.

IN the new rules of the A.C.G.B.I. now under preparation, the Club Committee advocate that proxies are for the future not to be admissible, and that members must vote for the full number of candidates to fill the vacancies at each election of the committee.

A CANVAS "shoot" fire escape is now attached to the Piccadilly premises of the Automobile Club. Recently, at 7.30 a.m., this "shoot" was inaugurated by Mr. Frank Butler, who was the first to descend in a trial fire practice, Mr. MacIntosh, the steward of the club, and his staff of male and female servants following Mr. Butler in rapid succession.

THE "G.A." GOVERNOR FOR PETROL MOTORS.

A NOVEL device for controlling petrol motors is that put on the market by Messrs. Grouvelle and Arquembourg under the name of the "G.A." Governor, a diagrammatic illustration of which appears in Fig. 1. The apparatus is intended to obviate the necessity for using a governor of the centrifugal type by substituting a pneumatic control instead. This is done by making use of the suction in the main induction pipe to work a diaphragm which actuates a needle-valve situated in the petrol feed, between the float-chamber and the jet.

In Fig. 1, A represents the float-chamber, in which it will be noticed that the customary lever arrangement has been eliminated by inverting the cutting-off needle-valve, and also that the bottom plate of the float drum is enlarged in order to have a damping effect on sudden disturbances. In the pipe communicating between the float-chamber, A, and the jet, A^3, is a valve, A^1. Immediately over the valve, A^1, is a fitting containing a diaphragm, B (open on the under side to the atmosphere)

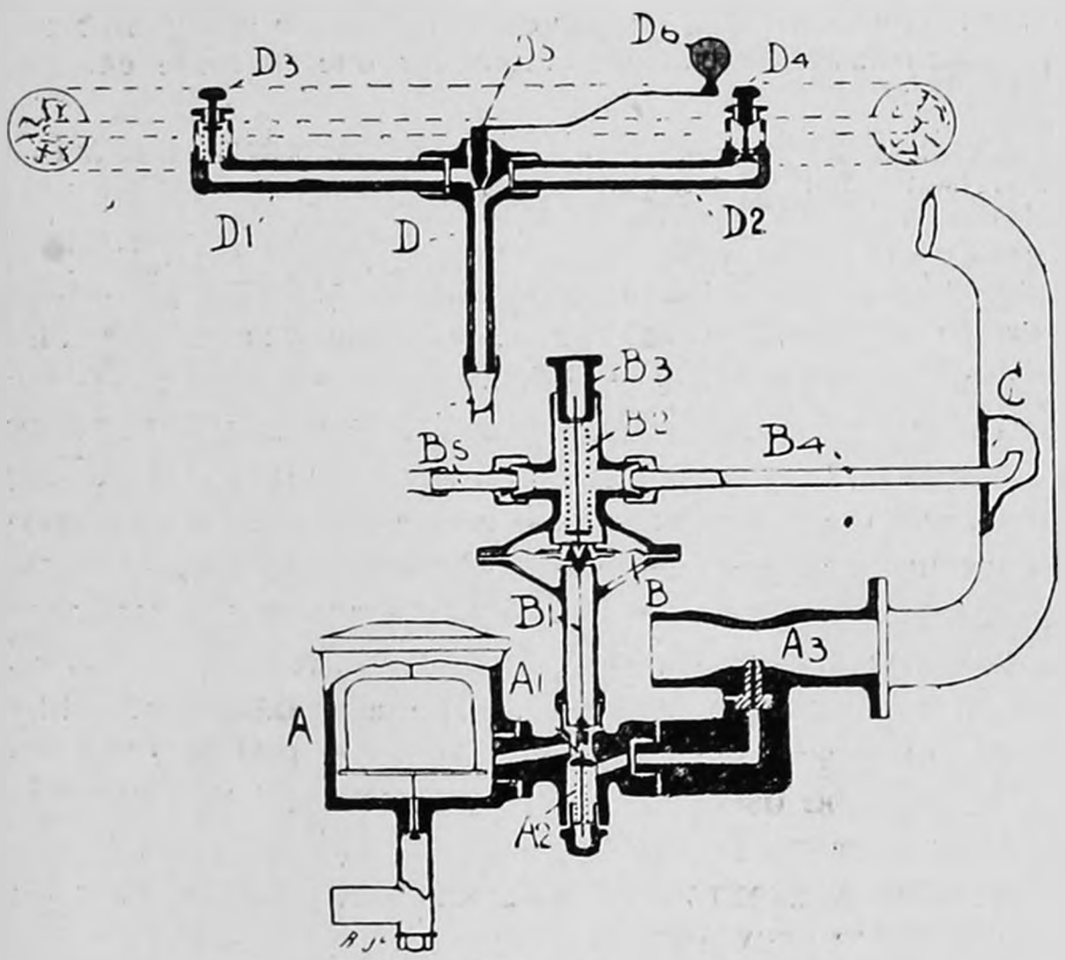


FIG. 1.

which carries a spindle, B^1, the lower extremity of which presses on the valve, A^1. The valve, A^1, is under the direct control of the spring, A^2. The diaphragm, however, is under the control of a spring, B^2, which is stronger than the spring, A^2, but may be adjusted by the screw, B^3. The valve, A^1, is therefore normally held open by the spring, B^2. The upper half of the diaphragm-chamber is in communication, through the pipe B, with the induction pipe, C, and consequently any suction in the pipe, C, forms a vacuum in the top half of the diaphragm-chamber.

A pipe, B^5, also communicates with the top half of the diaphragm-chamber, while its other end terminates in a fitting, D, which is fixed to the steering-wheel, from which position the governing of the engine is regulated. The fitting, D, consists of a "T" socket-piece into which screws the two pipes, D^1 and D^2, terminating in spring-controlled valves, D^3 and D^4, at their other extremities. The valve, D^3, is normally held open while D^4 remains normally closed. In the head of the fitting, D, is a screw-down valve, D^5, operated by a handle, D^6; closing this valve entirely obstructs the communication between the pipes, B^5 and D^1, and consequently between the top half of the diaphragm-chamber and the atmosphere. The communication between the pipes, B^5 and D^2, is unaffected by the position of the valve, D^5.

To reduce the engine speed, the petrol supply to the jet must be reduced by partially closing the valve, A^1. This can only be accomplished by allowing the suction in the top half of the diaphragm-chamber to overcome the pressure of the spring, B^2, which is only possible by restricting the communication between the pipe, B^5, and the atmosphere. By closing the valve, D^5, this is done gradually, but should the exigencies of traffic require a more immediate effect, then the valve, D^3, is pressed down, which instantly shuts off all air supply to the upper half of the diaphragm-chamber, and facilitates the

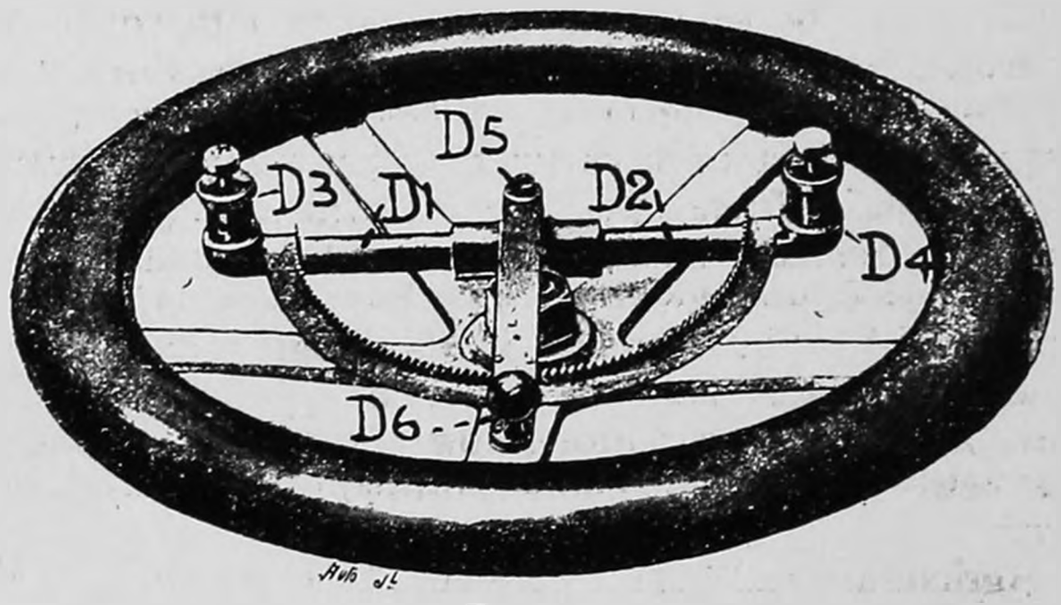


FIG. 2.

immediate formation of the requisite vacuum. Should, on the other hand, the valve, D^5, be closed—the engine running slowly—instantaneous acceleration can be obtained by depressing the valve, D^4, which puts the pipe, D^5, into communication with the atmosphere and immediately destroys the vacuum in the top half of the diaphragm-chamber.

It is interesting to notice that this device gives, in some respects, the advantages of an automatic carburettor. Not only are increases of engine speed, through reduction of load, automatically accompanied by a diminution in the flow of petrol to the jet—corresponding to the opening of auxiliary air holes in other automatic carburettors—but, as the engine is allowed to run faster by the hand-control, so an additional amount of auxiliary air passes from the fitting on the steering-wheel to the induction pipe.

YOU cannot, in the opinion of the Highgate magistrates, register a motor bicycle as such and then proceed to metamorphose it by adding a couple of wheels and a seat without committing an offence under the Motor Car Act. We understand the defendant, Mr. Thomas Belvoir, who was fined £4 7s. for offending in this manner, is going to appeal, so we must not discuss the matter further.

AT the International Congress of Automobilists, which will be held in Berlin on the 20th inst., it is proposed to discuss a suggestion for the establishment of clubs of chauffeurs, to be in connection with the different automobile clubs, so that the members of such clubs, when requiring drivers, can forthwith apply to the associated chauffeur club.

AMERICAN NOTES.

(By A Correspondent.)

NEW YORK, June 4th.—Event by event, the season's work in America is being laid out for the devotees of automobiling as a pastime and a sport, and of autoboat racing as a sport, pure and simple. During the week just closed dates for some of the larger and more important events have been set, and within a week the season's events will be pretty well known. While no definite date has been announced as yet for the Vanderbilt Cup Race*, one is promised within a short time. The members of the Racing Board of the American Automobile Association have held sundry meetings with W. K. Vanderbilt, jun., the donor of the cup, and much has been decided upon. What this may be is not to be known for some time, as the Board desires to have every detail so arranged that there may be no question when the announcement is made. In New York the guessing is pretty lively as to whether the race is to be open to the world or is not, but upon good authority the writer learns that it is to be open to the world, and that all of the fast drivers of Europe and of any other land will be welcome here. To true sportsmen this news is welcome, although some men, who suppose themselves loyal to America, and who wish to see the American colours triumphant, howl for a closed race in order that no chances may be taken. Others believe in true sportsmanship, and believe that, providing the men of Europe can come to America and carry away the cup to their shores, they should be allowed to do so by all means, when American makers will be aroused and go after it, just as they are now aroused to action in regard to the cup team. The failure of the team this year has proved a very salutory lesson to American makers, and American pride is hurt vitally. Should Europe come and carry away the Vanderbilt Cup, then Americans' cup will be filled to the brim with woe, but Americans are not those to give up a fight, as has been long demonstrated.

In opening the door for the Vanderbilt Race the makers will be spurred on in this country to mighty endeavours in the racing line, and the best drivers of Europe will find on this side good drivers and good cars.

Already there are under construction a great many fast cars in American factories, and these cars are being designed and worked upon for the Vanderbilt Race. The makers are silent in regard to their efforts in this direction, but sundry rumours are being heard now of fast cars held in reserve, and drivers have been approached to handle such cars. Once the announcement of the date is made there will be some lively hustling, and when the time of the race comes round there will be in the field an army of American cars and American drivers.

Meantime many Americans are purchasing fast foreign cars, for every American is anxious to win the great race, even though it be on a foreign car. Orders have been given for a great many racers by private parties, and more will be ordered. There is money on this side, among the class which has taken up automobiling, to purchase the best cars in Europe at any price, and this money will be expended. It is dollars to doughnuts that the winning machine in the cup race is purchased by an American if that is possible.

The great 8 mile hill-climbing contest up the precipitous side of Mount Washington, N.H., will be held. An announcement of the date is expected now within a very short time, together with the announcement of the contests to be held. The course is ideal for such a race. It has also been decided to hold 1 and 2 mile races on the 3 mile stretch of ideal going at Orchard Beach, and the residents there will contribute handsome prizes, erect grand stands, and so on. The beach for 3 miles is 500 feet wide and uuobstructed. It has also been decided to hold a meet at Virginia Beach, Virginia, September 26th, and the course has been inspected again and again of late. Last spring, when a New York party thirty strong inspected it, the beach was soft from the seeping of the water to the beach from high ground, but as the water is now out of the hills the beach has hardened and is said to be in excellent shape for racing. In addition to these two beach race meets, there will be held at Ormond, in November, a great record-breaking carnival, when all sorts and kinds of cars will be given their try outs with official timing. Match races may be run, but no open contests will be held. This carnival will be a curtain-raiser for the great meet in January, dates for which have been allowed for late January and early February. So successful was the last tournament that the big Ormond Hotel is being greatly enlarged by the addition of 100 splendid rooms, and accommodations for one half the enlarged hotel have already been made.

The committee which has in charge the arrangements for the St. Louis tour is hard at work, and when, on July 26th, the thousands of automobiles start for St. Louis along the numerous main lines leading to the Exposition, an army will be found on the march. Chairman Augusts Post, the New York banker, is untiring in his efforts, and is now engaged in touring over every inch of the roadways on every route, gathering data for an exhaustive and most complete analysis of the routing in book form. Secretary Gullette is compiling all the data received from the President and the committees, and the run book will be very complete and exhaustive when completed. The chairman of committee after committee has so enlarged upon his original estimate, and the inquiries have increased so rapidly, that it is now certain that the original estimates will be doubled and even trebled before the summer is very far advanced as regards the attendance. The committee appointed by the Mayor of St. Louis to attend to the reception and entertainment of the visitors has extended a cordial invitation to the autoists to take part in the big parade of St. Louis Day, August 11th, when the President of the United States will review the paraders. It is estimated that at least 12 miles of automobiles, the machines 25 feet apart, will pass the reviewing stand. The committee having in charge the run has opened in New York an office where business is being transacted as in the counting-room of a large wholesale house, and the office force is being rapidly added to as the exigencies demand.

* [Elsewhere we give the date and other details received by cable.—ED.]

SPEED LIMIT APPLICATIONS.

Two further inquiries under the Motor Car Act have been held during the last few days at Beverley and Todmorden, the former having applied for a five-mile limit for three places within the borough, and a ten-mile limit on all other roads.

Earl Russell and Mr. Rees Jeffreys appeared in opposition to the application on behalf of the Automobile Club and the Motor Union of Great Britain and Ireland.

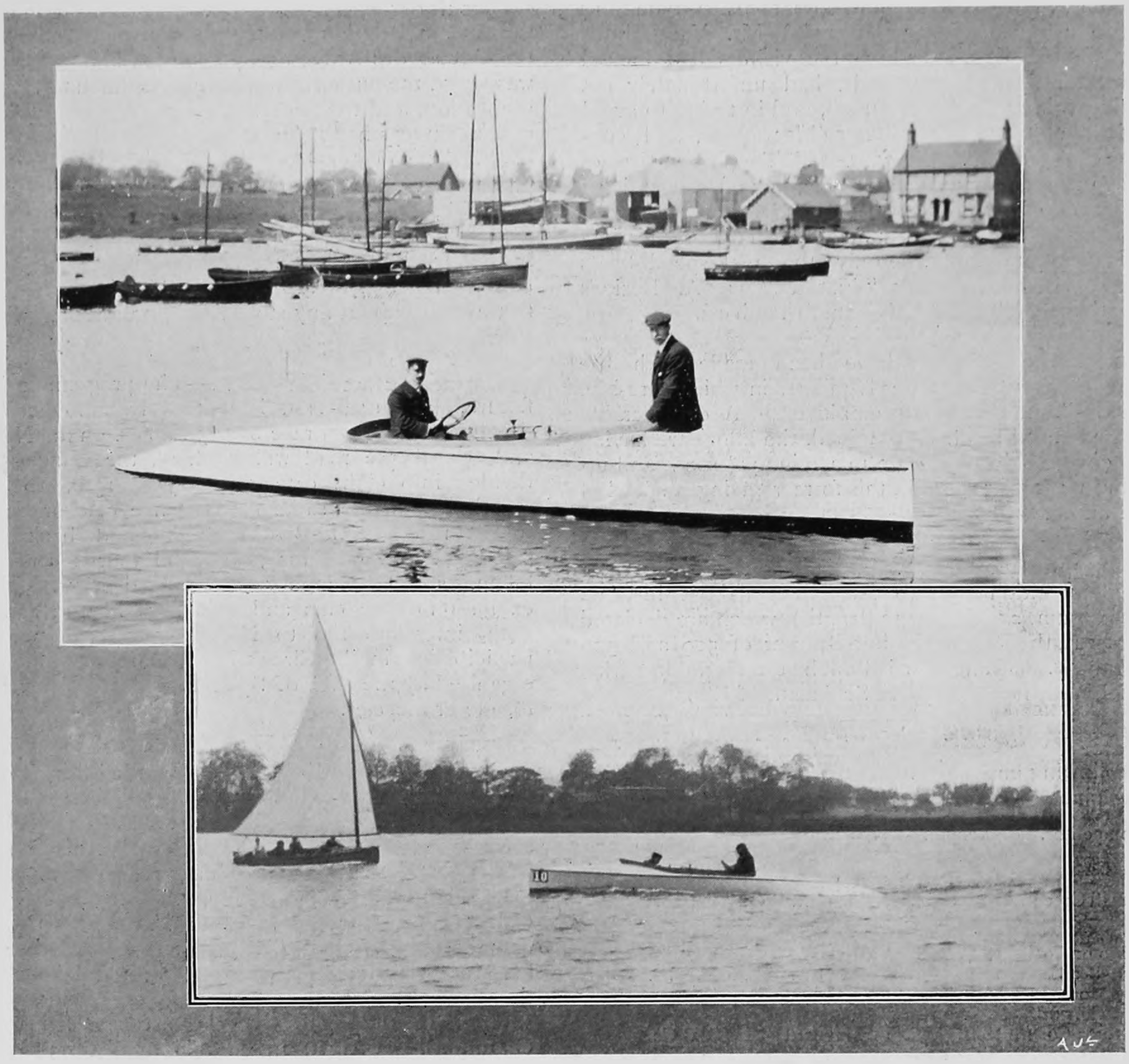
The Town Clerk called, in support of the application, the Borough Surveyor and the Chief Constable. Mr. Rees Jeffreys, on behalf of the Club and the Union, called as witnesses Earl Russell, Mr. E. Starkey Wade, of Kirk Ella Hall, Hull, and Mr. F. Lambert, of Beverley, who all gave evidence in opposition to the application.

The Inspector, after hearing the evidence and speeches from both sides, stated that he would report to the Board.

The second inquiry was held at Todmorden the following day. Todmorden applied for a ten-mile limit for all roads within the borough. The Town Clerk called in support of the application the Surveyor and several members of the Highways Committee. Mr. Rees Jeffreys pointed out that no police witnesses had been called, nor was any evidence forthcoming that the ordinary law and the provisions of Clause 1 of the Motor Car Act had been proved insufficient to deal with the motor traffic passing through the borough.

In opposition to the application he called Earl Russell on behalf of the Automobile Club and of the Motor Union; Dr. Crossley Bright on behalf of the Yorkshire A.C.; Dr. McRoberts and Mr. Petrie on behalf of the local automobilists; and Mr. Herbert Wright (hon. local correspondent of the Motor Union at Rochdale) and Mr. O'Neill on behalf of the Manchester Automobile Club. Mr. Smith Lawson appeared on behalf of the Burnley Automobile Club, and the Halifax A.C. was also represented.

MOTOR BOATING.



A considerable business is now being done by Messrs. J. W. Brooke and Co., Limited, of Lowestoft, in motor boats. Being near to the Broads, the firm are in a good position to cater for the requirements of the motor-boating community. We had occasion recently to illustrate a speedy little launch which they had built, and in our pictures above we show their latest production, the "Baby" Brooke. The lines of the little craft are particularly well designed, as will be seen from our top picture, in which the boat is lying stationary, whilst in the lower view the "Baby" is seen showing her paces at a speed of 11 knots per hour. She is capable of adding another knot to this under good conditions. She is only 25 feet long and fitted with one of the 3-cylinder 14-h.p. Brooke motors.

Motor Boat Races at Meulan.—The 100 kilometre race for motor boats between De Poissy and Meulan, on the Seine, was carried through last Sunday. Owing to various causes, considerable disappointment was experienced in the entries. "Trefle-a-Quatre," which earned such a reputation at Monaco, was unable to take part, and "Marsouin II.," which has recently come to the front, retired from the race after covering a few kilometres. The best time was made by "Titan II.," in the 8-metre class, the time for this boat being 2 hrs. 56 mins. 36 secs., the owner securing thereby the Marius Dubonnet Cup, held up to that date by "Flore." "Princess Elisabeth" was second in 3 hrs. 8 mins. 24$\frac{3}{5}$ secs. In the racers over 8 metres, "Musette's" time, the winner, was 4 hrs. 18 mins. The results for the cruisers were:—

1. Boats under 6$\frac{1}{2}$ metres (66 kiloms. distance), "La Marguerite," 3 hrs. 14 mins. 13 secs.

Boats 6$\frac{1}{2}$ to 8 metres, "Consul," 3 hrs. 14 mins. 22 secs.

Boats 8 to 12 metres (100 kiloms. distance), "Vas-Y," 5 hrs. 7 mins. 42 secs. (record for cruisers).

A SERIES of motor boat races were held on May 30th on Long Island Sound (U.S.A.). This was an inaugural meeting by the American Power Boat Association, which was working in co-operation with the Manhasset Bay

Yacht Club. About thirty craft had been entered, but of these there were only twelve starters at the line for the various events. These being divided between the seven different classes, reduced the races to something akin to a series of "sail-overs" Mr. Vanderbilt's "Hard-Boiled Egg," to which the visitors had looked forward for some high speeds, had unfortunately got mixed up with a Panhard launch, and in trying to avoid a serious collision, bent her rudder blade, and consequently retired from the contests. The fastest time of the day was made by the "Japansky," a 39 feet boat fitted with a 40-h.p. Speedway motor, and against her a protest was lodged by the owner of "Fiat II." This boat made a speed of 20·3 m.p.h. The only other real speed boats were C. H. Tangemann's "Fiat II," H. A. Lozier's "Shooting Star," and A. Massanet's Panhard.

FURTHER experiments have been made with the gliding boat by Count de Lambert, in which a 12-h.p. De Dion-Bouton motor is employed. A considerably increased speed has been obtained, the kilometre having been covered down stream in 1 min. 44$\frac{2}{5}$ secs., and up stream in 1 min. 51$\frac{3}{5}$ secs., the former giving a speed of 21·42 m.p.h.

AMONG the most recent entries for the Kiel Motor Boat Competition are two very powerful boats in Class I. (maximum 25 metres in length), which are declared to possess the enormous horse-power of 500 and 320 respectively. The former is built by the Howaldtswerke, of Kiel, and the latter by F. Schichau, of Elbing.

Motor Boat Reliability Trials of the A.C G.B.I.—The following entries have been received for these trials, taking place on July 26–27.

Competitor.	Length.	Builder of— Hull.	Engine.
		CLASS 1.	
Mr. Miall Green...	13 ft. 6 in.	Aldons ...	... Popular.
		CLASS 2.	
Vaal Motor Co. ...	18 ft.	... Vaal Co. ...	... Vaal Co.
Mr. H. Beadle ...	16 ft.	... Tolch ...	... M.M.C.
Crosby Motor and Eng. Co.	16 ft. 6 in.	Cole and Son	... Cushman.
Seal Motor Co. ...	18 ft.	... F. Maynard	... Seal Co.
		CLASS 3.	
Mr. G. P. Spooner	25 ft.	... Hart Harden	... Tangyes, Ltd.
Mr. E. C. Muir ...	22 ft.	... Paul Jones	... Milnes Daimler.
Mitcham Motor Co.	20 ft. 3 in.	Clare Lallow	... Fay and Bowen.
Vosper and Co. ...	22 ft. 5 in.	Camper & Nicholson	Vosper.
Thornycroft, Ltd.	—	—	—
		CLASS 4.	
Maudslay Motor Co.	25 ft. 6 in.	Sergeant and Co.	Maudslay Co.
Mr. Frank Beadle	29 ft. 7½ in.	Saunders...	... M.M.C.
Gobron Motor Co.	30 ft.	... Hansen ...	... Gobron-Brillie.
Thornycroft, Ltd.	—	—	—
		CLASS 5.	
S. F. Edge, Ltd.	35 ft.	... Saunders...	... Napier and Son.
Mr. J. Gorham ...	40 ft.	... Canstadt-Daimler	Daimler Co.

AUTOMOBILISM is progressing steadily in Australia. Last month Mr. R. A. Duncan, secretary of the South Australian Automobile Club, completed a motor car journey of over 600 miles between Adelaide and Melbourne in the time of 38 hours. Beyond tyre punctures Mr. Duncan had no mishap with the exception of a slight difference with a tree one dark night.

RACES, RECORDS, AND TRIALS.

Circuit des Ardennes.—Last year it was proposed by the A.C. of Belgium to vary and increase the route of the Circuit des Ardennes by about 25 kiloms., but time was short, the authorities were not inclined to favour the innovation, and the matter was therefore dropped, after careful surveys had been made on behalf of the Belgian Club. The matter has now been revived, and in all probability, when the circuit this year is run on July 25th and 26th, it will be found that arrangements have been made to add to the original circuit of 85$\frac{1}{2}$ kiloms. a further 34$\frac{1}{2}$ kiloms., making a total distance over the new circuit altogether of 120 kiloms., which it will be possible to traverse without any stops or neutralisation.

Ostend Automobile Week.—The programme for this fixture, July 14th-21st, is tentatively announced. On the first day a speed race over 5 kiloms. on the Nieuport and Snaeskerke road will be held, the vehicles being divided into eight categories:—July 15th, 10 kilom. speed race on the same road in five categories; 16th, tourist run Ostend-Blankenberghe and back; 18th, standing speed mile for racers and tourist cars; 20th, kilom. speed trials for racers and tourists; 21st, exhibition of the cars and Concours Fleuri; 23rd and 24th, inter-club run to Namur and Bastogne; 25th, participation in the Circuit des Ardennes and hill climb organised by the A.C. of Spa; 26th, long distance run for motor bicycles.

St. Etienne Hill-Climb.—Organised by the A.C. Forezien, this hill-climb was contested last week, the race being held over 8 kilometres on the Digonière à la Republique road. The best times were made by (1) Verpilleux (24-h.p. Rochet-Schneider), 7 mins. 40 secs.; (2) Collomb (30–40-h.p. Mors), 8 mins. 25 secs; (3) Luc Cort (16-h.p. Luc Cort), 9 mins. 40 secs. In all 15 competitors participated. During the day Collomb, on his Mors, was timed for 37 secs. over the kilometre on the flat, although the road was heavy and the rain severe. In the motor bicycle section, Perrin (6-h.p. Giraudon), was first, in 11 mins. 50 secs.; Delorme (2$\frac{1}{2}$-h.p. Bruneau) second, in 12 mins. 35 secs.; Digonnet (4$\frac{1}{2}$-h.p. Iris), third, in 14 mins. 40 secs. The best time in this section, 11 mins. 23 secs., was made by Maraudon, on a 4$\frac{1}{2}$-h.p. Griffon, but he was disqualified for starting twice.

As a result of the competition for the Rochet-Schneider Cup, full particulars and results of which we gave last week, this inter-club challenge cup now passes into the hands of Switzerland.

MONT CENIS Hill Climb, it is now announced, has been officially authorised for this year, and will take place on July 10th next. Last year permission was refused just before the event in consequence of the panic which followed the Paris-Madrid disaster. The course is a continual rise over about 23 kiloms., varying from 1 in 13 to 1 in 10. There will be classes for racers, tourist vehicles, and motor bicycles, and in addition to a number of minor prizes, three challenge cups will be competed for, including the Coupe Prince Amédée offered by Princess Lætitia Napoleon Buonaparte.

THE SECOND ASCENT OF SNOWDON.

Photos by Rowlands, Llanduano.

Mr. W. M. Letts' feat on Monday, June 6th, of climbing Snowdon on one of the standard Oldsmobile Cars is well illustrated in the three pictures which we reproduce above. We gave a few points in regard to this climb last week, and in this issue we publish some further details in regard to this remarkable achievement. The top photograph shows the car half-way up, and gives an idea of the grand sweep of the mountain. The photograph underneath shows Mr. Letts at the extreme end of the railway line at the top, whilst in the picture to the right a slightly higher point on the very summit above the railway line has been reached.

No one can take from Mr. Harvey du Cros the honour of having been the first to scale Snowdon on a motor car, but if he is a good first, Mr. Letts has proved a very good second, and, as mentioned in our last number, he successfully drove a 5-h.p. Oldsmobile up the railway to the top of the mountain, on Monday the 6th instant—by a slip last week we said Sunday. The Oldsmobile is, of course, just the car for work of this kind, as it is exceedingly light and manageable, and deducting a couple of stops of about ten minutes' duration, made in one place to take in water and in another to be photographed, the total time occupied in the climb from the bottom of the railway to the summit was only 57 minutes, which, considering the nature of the route and the fact that the car had to run all the way on ballast and sleepers, is a very remarkable performance. In fact, in Mr. Letts' own picturesque language, the Oldsmobile simply "romped" up to the summit. Permission had been obtained from the Snowdon Mountain Railway to use the line for the experiment and a special train was chartered to follow the car. The rack in the middle of the line was the cause of considerable inconvenience, as the rails had to be unevenly straddled to prevent the differential from coming into contact with it, as may be clearly seen in one of the photographs which we reproduce above. This brought the wheels, on one side, dangerously near to the edge of the ballast, and was very nearly the cause of a serious accident, as, when approaching the summit, the differential came in contact with the rack and deflected the outer wheels of the car to within a few inches of a precipitous descent of about 1,000 feet. Mr. Letts, however, with great coolness, though with considerable effort, brought the car back into safety again, and all ended well. The weather throughout the

climb was most satisfactory, and little trouble was experienced in getting over the points, as three men were sufficient to lift the vehicle over the first two, while the last group of points was negotiated without any lifting at all, the car simply being driven over them with the same verve as Mr. Letts employed in climbing up the big stone staircase at the Crystal Palace. Had it not been for the culverts which had to be boarded over, the time occupied in the climb would probably have been even shorter than it was. Mr. Letts was accompanied on this venturesome excursion by Mr. A. C. Slater, of Llandudno.

JANUARY 14 to 26, 1905, has been fixed for the next Brussels Salon.

SEMMERING Hill Climb, organised annually by the A.C. of Austria, will take place this year on August 18th, the cars being run in four categories. The course is over a distance of 10 kiloms.

THE date for the Van Trials next year has again been changed, viz., to April 1st, owing to March 1st, the date previously selected, clashing with the Agricultural Hall Exhibition.

GORDON-BENNETT ITEMS.

The Kurhaus at Homburg will be the headquarters of the A.C.G.B.I. during the Gordon-Bennett week, the Oberbürgermeister of Homburg, Dr. J. Von Marx, having placed a room at the club's disposal. All members should at once register their arrival in the city.

A report is to hand that Mr. Edge's car, which has arrived at Homburg, has suffered from an accident to the crank-shaft. With commendable promptitude Mr. Edge at once ordered his more powerful spare 6-cylinder car, a description and illustrations of which appear elsewhere in this issue of the Journal, to be sent out to Homburg to be ready to replace the vehicle which has had the mishap. Should the repairs to the latter fail to be executed in time for the Race, we trust the Races Committee of the A.C.G.B.I. will exercise their prerogative and permit him to drive his spare car, so that England may be represented by the best possible drivers.

At the Piccadilly Club House arrangements were made to watch the progress of the Race on a screen in the smoking room, under the direction of Mr. R. E. Phillips, special race cards being provided by means of which the Race could be easily followed. To carry out this arrangement special telegrams were sent direct from the course reporting the progress of the Race. All news so received by the Club was placed at the service of the Press generally, editors being invited to send representatives to the club, a special room being reserved for them.

The German Automobile Club organised a tour round the course for tourist cars for the day following the race, starting from the Saalburg and finishing at Homburg. Limburg was selected for lunch at one o'clock, a re-start from there being made at 2.30 for the second half of the "circuit."

On the day before the Gordon-Bennett Race the authorities arranged for a dress rehearsal on the part of those who were appointed to guard and manage the course. All the policemen and other course-keepers had to be in their places and an imaginary race was arranged, so as to enable the officials to see that the arrangements were all in good working order and to form an opinion if any alterations required to be made in them at the last moment.

The Homburg authorities have co-operated cordially with the Race Committee to make the occasion successful. The management of the Kurhaus and Gardens arranged for evening performances at the Opera on Wednesday, Thursday, and Friday of this week, while to-night (Saturday) and Sunday concerts and illuminations will be carried out on an extensive scale. The Elegance Competition, to which we have already referred, will take place to-morrow (Sunday), and the day will finish up with a ball at the Kurhaus.

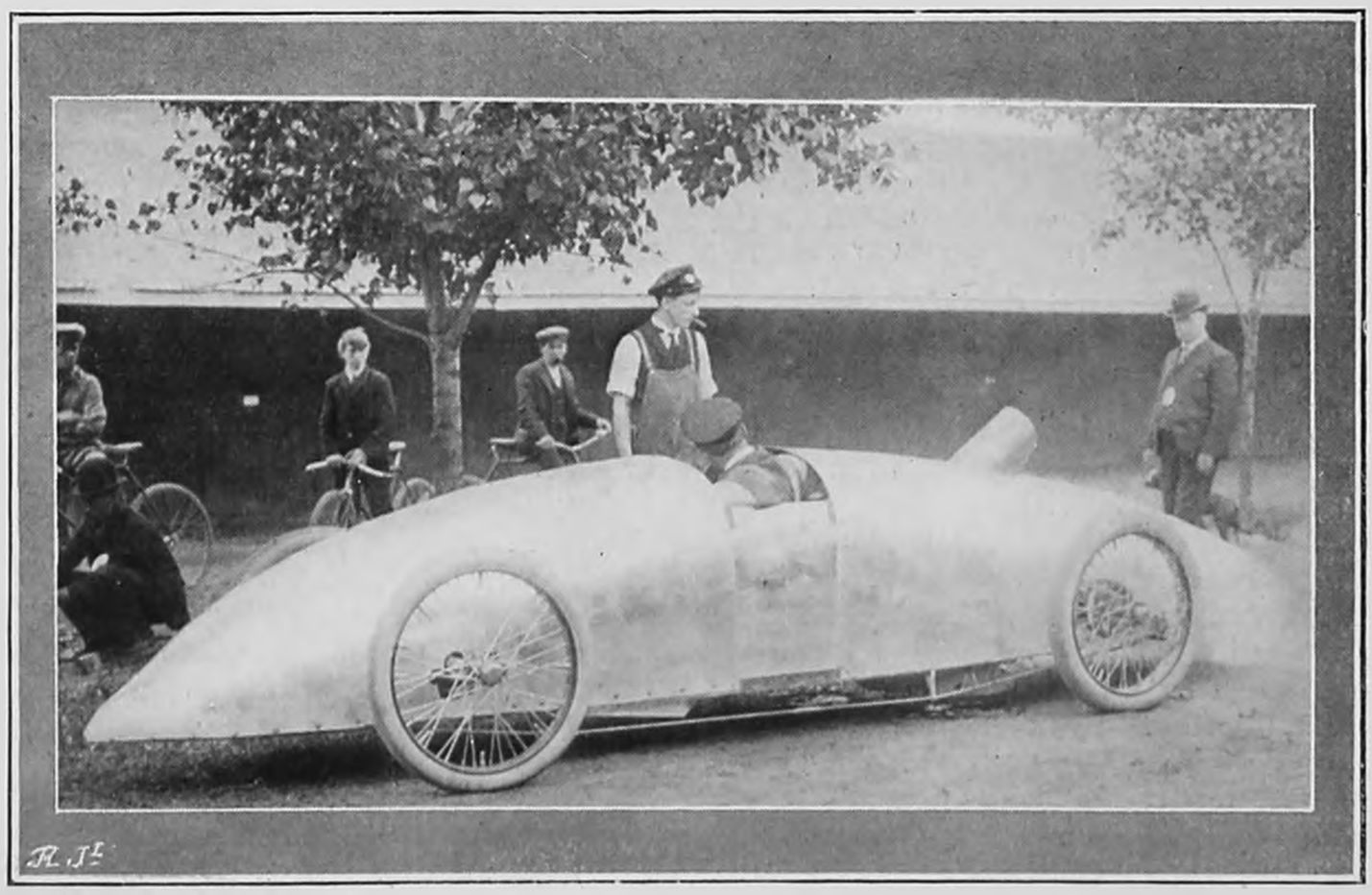
The German Automobile Club last week decided to face the very great expense of providing sufficient Westrumite to treat the *whole* of the Gordon-Bennett course. On this account they requested all car owners having occasion to cross or run along short portions of it, either before or on the day of the race, to travel as slowly as possible, in order to save the Westrumited surface.

IT will doubtless be remembered by all those who followed the Isle of Man Eliminating Trials how well the set of Palmer Cord *touring* tyres fitted to Mr. Earp's car survived their first racing ordeal. Such a performance was not to be lightly passed over, and we are not surprised to learn that this company had the option of fitting their tyres to three out of the five cars which represent England in Germany. It is unfortunate, however, that the sizes required differ from those which are stocked by the company, and that as new plant could not be completed in time, they were reluctantly compelled to refuse the offer. It would have been distinctly interesting to have been able to watch the result of such a test, for, despite the already-proved excellence of some other makes, the inclusion of another tyre in the same category could not but be welcomed as a valuable acquisition to the motoring industry.

Vanderbilt Cup.—As we anticipated last week, the A.C. of America has decided that this cup shall be international, and open to every type of vehicle. The broad principles governing the competition for the cup are that each nation entering will be allowed a maximum of 10 vehicles. The distance of the course is to be not less than 250 and not more than 300 miles. The first competition for this cup is to take place on October 8, entries closing on September 8. The race both this year and next will take place in America. In subsequent years the course will be selected by the holder of the cup, and the race must be held between August 15 and October 15, entries closing each year on March 15. The entrance fee will be £60 per car, of which a proportion will be returned to starters. Entries, other than American, must be addressed to the A.C. of France, which club is to have charge of the organization of the race when taking place in any country other than America. In the United States the race will be run under American rules, in all other countries under A.C. de France rules. Cars are to be dispatched at intervals of one minute.

BOSTON (U.S.A.) RACE MEET.—A general view of the Readville Track on May 30th, when over 12,000 people were present to witness the Races, which had ultimately to be postponed owing to the heavy downpour of rain.

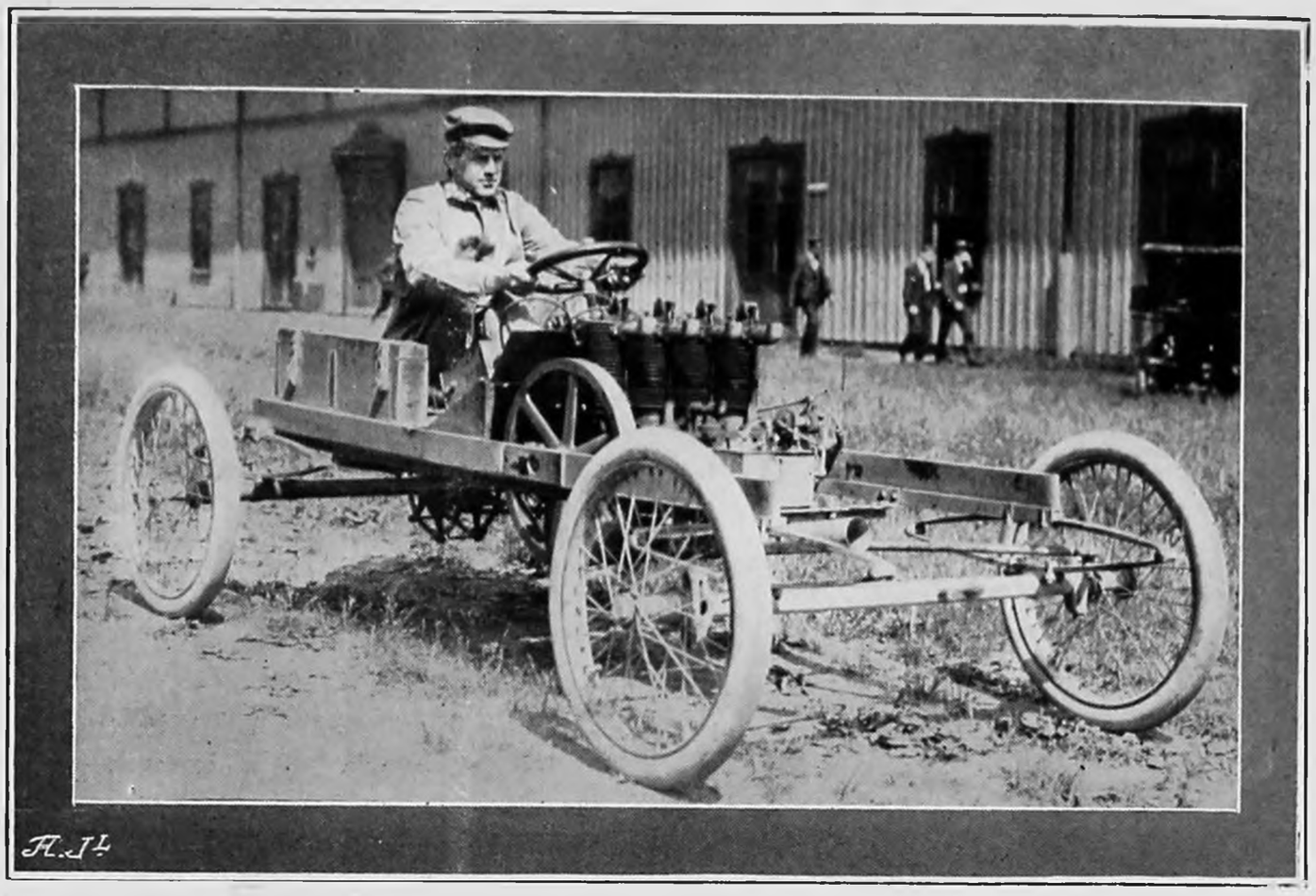
Boston Track Race Meeting.—On Decoration Day, at the Readville Track, near Boston, U.S.A., a very attractive programme had been got together by the Massachusetts Automobile Club, and fully 12,000 people were drawn to the meeting, in consequence the gate receipts totalling up, it is said, to over £3,500. Every seat and admission ticket was sold, and the management ultimately stopped the entrance of further persons to the track. There was some indication of rain to come even before the start of the first race at 2 o'clock, which was a 5-mile touring car race. This was followed by a 10-mile open race, which was got through without any mishap. Following this, when Barney Oldfield, with a Winton Bullet No. 2, and Otto Nestman, with a Stevens-Duryea "Spider," and J. W. Hillyard, with his Decauville car, came forward, the rain began to come down in earnest and completely swamped the track in a very short time. Racing became obviously impossible and after a meeting amongst the officials and a run round the course on the Bullet by Chairman Wallace, it was announced that the committee were compelled to postpone the races until the following Saturday afternoon, when it was determined to make the admission free and re-run the whole of the race programme in full, if possible.



BOSTON (U.S.A.) RACE MEET.—The Stanley Steamer seen in our photograph, and which is fitted with two large steam engines, took part in this meeting. Louis Ross, the driver, is just taking on water for his next race.

Philadelphia (U.S.A.) Motor Race Meeting.—A poor attendance of the public was recorded at this meeting, held under the auspices of the Philadelphia Club at Point Breeze Track on May 30th. From whatever reason, the cars had, in nearly all cases, been badly classified. In the first instance the entries for the various classes were governed only by weight. About five days before the race meeting, however, the club issued circulars announcing a change to classification by horse power, it not being mentioned whether this was in addition to the weight classification. The consequence was that, for every race, protests rained down upon the judges. Most of the events resolved themselves into practically a walk-over, owing to the disparity of the power of the various cars running against each other.

The state of the track, which was soft and in bad condition, besides the evidence of a quantity of glass and nails being present, did not help to make the meeting a success. To make matters worse, when the 15-mile race, the special event of the day, was "called on," Oldfield, on the Bullet, was disabled in the second mile, leaving Nathaniel Huggins, with his Decauville, to finish alone. With sportsmanlike action Huggins, however, declined this, and notified that he was quite willing that the race should be "called off" rather than that he should have a walk-over. Some good times were made by the 10-h.p. Franklin car, which carried off three first prizes and one second. This was the same car that made a standing mile in 1 min. 10 sec. at the Empire City track last year, and its peculiar construction is well shown in our photograph.



THE PHILADELPHIA (U.S.A.) AUTOMOBILE MEET AT POINT BREEZE.—The 10-h.p. Franklin Skeleton Car which won several events at the Philadelphia Meeting. This vehicle, which weighs 700 lbs., was designed by John Wilkinson, who is seated at the wheel of the car.

SMALL CAR TRIALS, 1904.

THE Rules for these trials, organised by the A.C.G.B.I., are now to hand. These state that:—

The trials shall consist of 12 non-stop runs of approximately 50 miles each, starting from and finishing at the same point. A 50 mile non-stop run shall be made in the morning, and a similar run shall be made in the afternoon, for six days, a total distance of about 600 miles, and every car, in order to be eligible for any award, must complete the whole of the 600 miles.

The trials shall be confined to cars costing not more than £200.

There shall be four classes:—

CLASS A.—Not exceeding £125. Entrance fee £10.
CLASS B.—Exceeding £125, but not exceeding £150. Fee £12.
CLASS C.—Exceeding £150, but not exceeding £175. Fee £14.
CLASS D.—Exceeding £175, but not exceeding £200. Fee £16.

No fore-carriage, tricycle, or quadricycle shall compete.

Entries will only be accepted from manufacturers or their nominees. No manufacturer shall enter directly or indirectly more than two cars, which, unless there is more than 20 per cent. difference in volume swept by the piston, shall then be run as a team; that is to say, each car shall be awarded marks equal to the average marks gained by the two cars.

Entries close, at single fees, July 23rd. Up to August 13th, the latest date, fees increase at the rate of 25 per cent. per week.

Every entry shall be accompanied by a written guarantee by the manufacturer of the car to accept all orders from all persons for exact duplicates of the vehicle entered for trial, which may be given on or before December 14th, 1904, and to deliver all such vehicles so ordered, complete and in perfect working order, on or before June 1st, 1905, provided a cash deposit, not exceeding one-third of the price of the vehicle, is paid at the time of giving the order.

Should the manufacturer fail to comply with such guarantee, he may, at the discretion of the committee of the club, be disqualified from taking part in any trial or event organised by the club for a period not exceeding one year from the date when the committee shall decide to so disqualify him.

All vehicles taking part in the trials must be fully painted and have their full, not temporary, upholstery.

Any stoppage of the road wheels whatever, except for traffic or legal requirements, shall be considered as the end of a non-stop run; but, provided the engine is kept running, the car may be stopped with the consent of the Observer.

If possible, there will be a timed hill climb every day.

A car carrying more than two passengers throughout the whole of the trials shall be credited with an increase in speed over that actually shown on the hills amounting to 12½ per cent. for each such additional passenger carried.

The changing of sprockets at any time during the trials shall not be permitted, except in the case of a breakage, when the new sprocket fitted must be of the same size as the broken one.

Any car which drops a passenger shall be considered not to have made a non-stop run for that run.

The fuel consumption will be taken on one or more days.

Sufficient time will be allowed for replenishing petrol and oil tanks, &c., at the beginning of each run. Notes will, however, be made by the Observers. Any vehicle which refills tanks or replenishes lubricators when under way will be considered as not having made a non-stop run.

At the end of the first run on any day nothing shall be done to the car except turning off the fuel and lubricating taps and switching off, until the order to commence repairs and adjustments for the second run is given by the Observer. At the conclusion of the second run on every day nothing whatever may be done except the washing of the car, and turning off the fuel and lubricating taps, and switching off.

Washing must be done only in the presence of the Observer of the car, a maximum period being allowed every evening, to vary according to the condition of the roads.

AWARDS.

The committee will give awards on the recommendation received from the Judges appointed by the club, as follows:—

(*a*) The first award in respect of non-stop runs in each class shall be given to the car which makes the greatest number of non-stop runs. If there be more than one car or team in a class making the same number of non-stop runs, the award shall be given to the car or team which is credited with the highest average speed on the hills in the trials.

(*b*) A car which occupies more than 20 minutes before any run in repairs, replacements or adjustments is precluded from receiving any award in the non-stop competition.

(*c*) A car which is stopped for more than 20 minutes for repairs, replacements, or adjustments on the road during any one run is precluded from receiving any award in the non-stop competition, except in case of repairs wholly connected with tyre trouble, which shall cause that car to forfeit its non-stop for that run, but shall not disqualify it for the non-stop award.

(*d*) Cars not ready to start by 11 o'clock in the morning for the first run of the day or by 3 o'clock in the afternoon for the second run of the day, and cars not completing the 100 miles by ten minutes past 7 o'clock in the evening of every day for Classes B, C, and D, or by 8 o'clock for Class A, will be disqualified from all awards, and must take no further part in the trials.

The awards for the non-stop trials shall consist of certificates.

There shall be further awards, to be given at the discretion of the judges, which shall consist of Gold, Silver, or Bronze Medals, accompanied by a certificate stating the ground upon which the award is made and the Class in which the car is entered.

Note.—Although a car may be disqualified from obtaining a non-stop award for the reasons set out above, it may, if it has completed the whole of the distance of the trials, be eligible for the awards placed at the disposal of the judges.

The judges, in making their awards, will assume all cars to be new on entering for the trials, and no allowance can be made for any wear which may have taken place previous to the trials.

The judges shall have power to disqualify at any time any cars which, in their opinion, may be short of brake power or have faulty steering gear.

OBSERVERS.

Every vehicle will carry an official Observer, for whom a front seat must be provided.

The club will, as far as possible, obtain independent Hon. Observers, but the manufacturers must be prepared to furnish one Observer in respect of each car entered by them.

The name of each Observer must be submitted by the manufacturers to the committee on or before Saturday, August 6th. Competitors failing to comply with this shall not be permitted to take part in the trials. The Observer shall not act as Observer on the car of the competitor by whom he is furnished.

An Observer will, as far as practicable, ride on a different vehicle each day. He must not in any way assist drivers of cars; for instance, he must not turn on lubricators or perform any function, however small, in connection with the car. He must not assist drivers by suggestions. He must in all cases act impartially as the representative of the club. The only exception to this rule is that, in the case of cars carrying only two persons, the Observer may, if he thinks fit, and is requested to do so by the driver, assist in repairing tyres.

Observers must fill in a form giving particulars of experience, &c.

PASSENGERS.

All cars shall carry their full complement of passengers, or equivalent weight, and no extra passengers shall be carried beyond those for whom proper seats are provided. Passengers shall not be allowed to ride on the floor or step, or leave their seats when the car is under way.

DRIVERS.

A vehicle shall be driven by the same person throughout a day's run, unless he be incapacitated, when his place may be taken by a substitute.

SPEED REGULATIONS.

No speed above the legal limit is allowed. Any car which is shown to have made an average of more than 18 miles an hour on any 50-mile run shall be disqualified, and no car which makes an average speed of less than 12 miles an hour on any one run shall receive an award, except in Class A, where an average speed of 10 miles an hour will be admitted.

ARRIVAL AND STARTING.

All competing vehicles shall be within the gates of a place to be hereafter named by 12 o'clock noon on Saturday, August 27th. Any car arriving at the gates after that hour shall only be allowed to take part in the trials on payment of a fine of £10 up to 5 o'clock on the evening of that day; and no car arriving at the gates after that hour will be allowed to take part in the trials under any consideration whatever.

The first run shall start at 8 o'clock on the morning of Monday, August 29th, 1904, and the last run shall be on Saturday, Sept. 3rd.

Vehicles will be started at 20 seconds interval in order of numbers, which will be secured by drawing lots for each day.

SPARE TYRES.

The carrying, during a trial run, of spare outer covers of pneumatic tyres, so attached to a motor vehicle as to be within sight of the public, is prohibited.

The rules conclude with the usual provisions as to non-passing on the road, control speeds in towns, disqualification, protests, &c.

CLUB DOINGS.

INTER-CLUB MEET AT THE EMPIRE HOTEL, BUXTON.—View of the Cars assembled at the Hotel.

Buxton Inter-club Meet.—It was quite certain after the success of the first inter-club meet at Buxton last September that the event would be an annual one, and judging by the enthusiasm on Saturday last, it will become, if not so already, one of the largest and best motor meets held in the country, for quite a hundred fully loaded cars were driven over, and a very representative event resulted. The same clubs as last year, the Manchester, N.E. Lancashire, Sheffield, Yorkshire, Nottinghamshire, and Lincolnshire took part, and each club was well represented. To get together these hundred cars at a meet is a creditable achievement of the Manchester club, which has taken the initiative, and which, guided by the hon. sec., Mr. J. Hoyle Smith, has carried out the arrangements admirably. The cars drew up on arrival in the courtyard of the Empire Hotel, which was again the rendezvous, and the place was soon full.

During the interval before dinner was announced some of the best cars were closely inspected, especially those belonging to Mr. Higgingbotham (Macclesfield) and Miss Daisy Hampson (Southport).

At the dinner which was held in the evening, Mr. F. Smith, President of the Manchester Club, presided over a gathering of quite 200. After the loyal toast had been given from the chair and heartily received, "Automobilism" was given from the chair in a racy speech which gave interesting reminiscences of the very early days, and placed in contrast the happier conditions prevalent now. The speaker emphasised the urgent need for something to be done in respect to the dust problem, which, he thought, and not the speed, was the cause of all the antipathy.

Mr. Rees Jeffreys, of the A.C.G.B.I., who drove over in Mr. Ingram's car, responded. Captain J. A. Cole, J.P., responded for the Lincolnshire Club, Mr. F. B. Cawood for the Sheffield Club, Mr. E. H. Hebber for the Yorkshire Club, and Mr. G. H. Kirk for the Notts Club.

After dinner a few of those present went for a run in the moonlight, while others stayed for the concert in the hotel. On Sunday rides to the many beauty spots in the neighbourhood, and, of course, a run to the "Cat and Fiddle," were indulged in, a few staying over till Monday.

Among the great number present at the meet we were able to pick out Mr. and Mrs. Harvey Foster, Sheffield, 10-h.p. Wolseley; Mr. and Mrs. Cronshaw and Mr. Hawkins, 15-h.p. Panhard; Mr. and Mrs. W. B. Jevons, Market Rasen, 9-h.p. De Dion; Mr. and Mrs. C. Cordingley and Miss Pursehouse, 60-h.p. Mercedes; Mr. J. Hoyle-Smith, hon. sec. Manchester Club, and Mr., Mrs. and Miss King, Manchester, 15–20-h.p. Belsize; Mr. and Mrs. Peter Eadie, Didsbury, 12–16-h.p. Clement; Mr. and Mrs. Armitage, Leeds, 11-h.p. Clement; Mr. Wilkinson, Manchester, 6½-h.p. Stanley steam; Mr. and Mrs. Davison and Mr. Kay and party, Eaton, 14-h.p. Darracq; Mr. and Mrs. J. W. Taylor, Manchester, and Miss Barker, 12-h.p. Darracq; Mr. J. Higginson, Cheadle Hulme, and Mr. A. W. Walton, Ashton-on-Mersey, and Mr. Avondale, 6-h.p. Vinot; Mr. and Mrs. J. Smith, jun., Bradford, 7-h.p. M.M.C.; Mr. and Mrs. Parkyn and Mr. Whitehead, Gee Cross, 7-h.p. M.M.C.; Mr. Gould, Mr. C. King, and Mr. Charles, London, 12-h.p. Gladiator; Mr. and Mrs. J. A. Morris, Altrincham, 16-h.p. Lanchester; Mr. J. C. and Miss Evens, Sheffield, and Mr. Rickard, Altrincham, 12-h.p. Darracq; Mr. Ellis, Sheffield, 8-h.p. M.M.C.; Mr. J. Hinde, Mr. Robinson, Mr. Sylvester, and Mr. W. B. Cawood, hon. secretary Sheffield Club, 12-h.p. La Plata; Mr. A. A. Padley, Market Rasen, 6-h.p. De Dion; Mr. Schwabe and Mr. Schwabe, sen., Baby Peugeot; Mr. L. Schwabe and Mr. J. Ash, and Mr. Lee, Manchester, 10-h.p. Panhard; Mr. A. E. Jones, Mr. and Mrs. Kenyon, and Mr. H. Jones, Manchester, 12-h.p. Clement; Mr. Rowcliffe and Mr. B. S. Harbourne, Manchester, 9-h.p. Clement; Mr. and Mrs. Crossland Taylor, Hilsbury, and Mr. M. Bonnallie, Chester, 10-h.p. Wolseley; Mr. Higgingbotham, Macclesfield, Dr. Fernando Guerra, St. Santander, Mr. Crewe and Mr. Kershaw, 60-h.p, Mercedes; Mr. Parker, Baguley, Mr. and Mrs. Hall, Woodley, 15-h.p. Panhard; Mr. Carter and Dr. Stanton, Market Deeping, 2¾-h.p. Royal George motor bicycles; Mr. Arrowsmith, and Mr. and Mrs. Cranshaw, Manchester, 12-h.p. Horbick; Mr. Heywood, Middleton, and Mr. Beasley, Rochdale, 5½-h.p. Humberette; Dr. and Mrs. Ferguson and family, Manchester, 9-h.p. Clement; Mr. and Mrs. J. Barber, Sheffield, 12-h.p. Belsize; Mr. A. Bennett, London, and Mr., Mrs. and Miss Lawton, Sheffield, 12-h.p. Clement; Mr. F. Lea, Bowdon, 12-16-h.p. Clement; Mr. and Mrs. D. Moseley and Miss Preece, Manchester, 12-h.p. Daimler; Mr. W. S. Foster, Mrs. R. M. Wright, and the Misses Nessler, Lincoln, 24-h.p. Georges-Richard; Mr. W. Nessler and Mr. W. Percival, Lincoln, 8-h.p. De Dion; Mr. R. M. Wright, and Mr. and Mrs. J. M. Gay, Lincoln, 12-h.p. Georges-Richard; Mr. and Mrs. Ward, Nottingham, 12-h.p. Humber; Mr. Tillwright, Rudgard, Lincoln, 12-h.p. Lanchester; Mr. F. Smith (President, Manchester A.C.), Bowdon, Mrs. Smith and Mrs. Thorp, Waite, York, 24-h.p. Mors; Mr. Hall, 24-h.p. Napier; Mr. Hollingbrake, Mr., Mrs., and Miss Time, Stockport, 12-h.p. Talbot; Mr. and Mrs. J. R. Richardson and Mr. W. S. Richardson, Lincoln, 16-h.p. Richardson; Mr. and Mrs. C. W. Rennell, Mr. W. R. Rennell, and Mrs. Newsum, Lincoln, 12-h.p. Richardson; Miss Hampton and Mr. and Mrs. Ridpath, Stockport, 60-h.p. Mercedes; Mr. H. M. and Mrs. Lowth, Baby Peugeot; Mr. and Mrs. Burley, Sheffield, 6-h.p. La Plata; Mr. and Mrs. Dodson, Manchester, and Mr. and Mrs. Whittaker, Wilmslow, 60-h.p. Mercedes; Mr. H. W. Lee, Mr. Lloyd Jones, and Mr. J. A. Bennett and Mr. Saville, Mr. Higginson, Mr. Hesse, Manchester A.C.; Mr. H. Artenfeld, Bolton, and Dr. Rowcliffe; Mr. L. C. Ingram and Mr. Rees-Jeffreys (A.C.G.B.I.), 12-h.p. Durkopp; Mr. Pickford and Mr. Lamb, Sheffield, and Mr. J. E. Kershaw, Eccles, 20–24-h.p. Spyker; Mr. G. H. Kirk, Mr. Brown, and Miss Crawford, Nottingham, 12-h.p. Georges-Richard; Mr. C. Evinson, Mr. and Mrs. Hill, 8½-h.p. Humber; Mr. Orchard, Derby, 9-h.p. Napier; Mr. Ward, Nottingham, 12-h.p. Humber; Mr. and Mrs. G. Linnell and Mr. and Mrs. Wade, Market Deeping, 10-h.p. Wolseley. The following members of the Sheffield Club:—Mr. Watts and party, 6½-h.p. Humber; Mr. J. E. Evans and party, 12-h.p. Darracq; Mr. A. J. Blyth, 3½-h.p. Quad; Mr. C. Hatfield and party, 6-h.p. De Dion; Mr. J. H. Pickford and party, 12-h.p. Wolseley; Mr. C. Bradbury, 6-h.p. La Plata; Mr. Beasley, 6-h.p. Wolseley; Mr. Turton-Chatterton, 6-h.p. De Dion; and Mr. and Mrs. B. Shaw, 6-h.p. De Dion; Capt. Lyall and Mr. C. J. E. Parker, Grantham, and Capt. J. A. Cole, J.P., Roxholme (Chairman of the Lincolnshire A.C.), 7-h.p. Panhard; Mr. C. Nelson and Mr. N. Bell, Lincoln, 4½-h.p. De Dion, and several others.

Berkshire Automobile Club.—On Wednesday afternoon last week Lieut.-Col. W. Waring, the hon. secretary of this club, entertained the members and their friends at Beenham Grange, near Aldermaston, when the visitors were favoured with a delightful afternoon. Some exquisite country is traversed *en route* for Beenham, which adjoins the main Bath Road. Unfortunately the recent gymkhana at Hall Place, Maidenhead, had prevented several members from joining in the present visit, in spite of the extra inducement offered of an inspection of Mr. Waring's fine stud of thoroughbred yearlings. Nevertheless a good showing of cars was made, amongst the vehicles on the ground being some excellent specimens of Wolseleys, Panhards, Lanchester, New Orleans, De Dietrich, Siddeley, Dennis, &c., while one or two motor bicycles and trailers helped to swell the line. Upon this occasion no competitions were arranged, but the visitors gave their time to the inspection of the charmingly laid-out grounds of the Grange, prior to being conducted by Mr. Henry Waring over his famous stables.

Derby Automobile Club.—A number of members paid a visit to Moor Court, Oakamoor, the residence of one of the vice-presidents of the club, Mr. Francis Bolton, last week. An innovation was inaugurated by the cars proceeding singly to their destination, arriving at intervals between three and four o'clock in the afternoon. This step was taken owing to the very dusty state of the roads, which would otherwise have militated very greatly against the pleasure of the afternoon, and detracted from the enjoyment of the glorious scenery of the surrounding country, which is such a remarkable feature of the county of Derby. Most of the cars took the road through Ashbourne, Mayfield, Ellastone, and Farleigh, which, although extremely hilly, is compensated for by the picturesqueness of the scenery. In view of the somewhat intricate turnings which prevail near Moor Court, Mr. Bolton had considerately placed "scouts," in the form of children, provided with green flags, who at doubtful corners pointed the way to the motorists as they successively came up. Altogether about 20 vehicles were present at the rendezvous, the host having thoughtfully added to the pleasures of the afternoon by providing a band in the grounds. A considerable amount of interest was taken in Mr. Bolton's new Daimler carriage, which he has just received, and which embodies the very latest improvements which the Daimler Company, Coventry, have introduced in their 1904 models.

At the invitation of Mr. A. J. Clay, another of the vice-presidents, the next run of the members is to the Ryknield Motor Works at Burton, Holly Bush Hall being visited afterwards for tea.

Eastern Counties Automobile Club.—From Ipswich to Felixstowe was the run on Saturday for the second fixture of the season of this club, the start being made from the Great White Horse Hotel, opposite the residence of the hon. secretary of the club, Mr. C. K. Moseley. A splendid gathering of well-appointed cars participated in the afternoon's outing, and created an enormous amount of interest amongst the townsfolk, both at Ipswich and Felixstowe. Rather dull and cold weather was experienced, but fortunately there was no dust, and the excellent provision made for the visitors at the magnificent new Felix Hotel sent everybody away in thoroughly good spirits for a run round the town, and thence along the undercliff road to the foot of Bent Hill, where a stiff bit of climbing had to be undertaken by the cars. Ultimately, with the exception of one car, the whole of the vehicles ascended, although in several instances the hill had to be taken running backwards.

For June 25th, the next run of the club, Clacton-on-Sea has been fixed as the destination, members meeting at the Manningtree Railway Station

EAST SURREY AUTOMOBILE CLUB.—The members and cars taking part in the inaugural run to Mr. J. B. Purchase's residence, "Backstone," Redhill.

East Surrey Automobile Club.—The opening run of the season of this club was held on June 4th, when at the invitation of Mr. J. B. Purchase, about 50 members and friends drove to "Blackstone," Redhill, where their host entertained them to lunch. A trip was then made to "Timberham," Charlewood, the residence of Mr. F. E. Charles, where tea was indulged in, this second function making a pleasant finish to the day's outing prior to the return of the members to their respective destinations. Amongst those who took part in the run were:—Major Kingsley, O. Foster (president), Mr. and Mrs. J. B. Purchase and party, Mr. and Mrs. E. K. Purchase, Mr. and Mrs. F. E. Charles and party, Mr. C. H. Whittington, Mr. and Mrs. A. Gunning Keen, Mr. J. Underhill and party, Mr. and Mrs. G. H. Bowden, Mr. H. Hughes, Mr. and Mrs. C. F. Wakefield, Mr. F. W. Ellwood, Dr. J. Hewetson and Mr. Frank Watney, Mr. H. Rosling and party, Mr. A. W. Makovski and party, Mr. J. Humphrey and party, Mr. and Mrs. Cleaver and party, Mr. W. F. Garside, Mr. D. J. Barry (hon. sec.), and Mrs. Barry.

Ladies' Automobile Club.—The following ladies were elected to membership of the club this week:—Mrs. Hornsey Drake, Lady Waldie Griffith, Mrs. Gunston, Mrs. R. W. B. Jardine, Mrs. J. P. Morgan, junr.

At the end of this month a "biograph tea," showing the Gordon-Bennett race in the Taunus will take place.

A ladies' run will probably be held the first week in July.

Leicestershire Automobile Club.—A very enjoyable run was made by this club last Saturday to Stratford-on-Avon, an early start being made, viz., at 10 o'clock in the morning. The route through Coventry, Kenilworth, and Warwick proved one of the most interesting in the Midland district, the lovely Warwickshire scenery being traversed under the most pleasant climatic conditions. After lunch at the Red Lion Hotel the usual round of inspection of the historical old town was made, including Ann Hathaway's cottage, &c. Boating was preferred by some of the members to whom Shakespeare's country was already familiar, and on the return journey halts were made at both Kenilworth and Warwick to enable the castles at both places to be visited, whilst at Coventry a few minutes were taken for replenishments of man and car.

Wolverhampton and District Automobile Club.—On Saturday last, members of the above club had their first non-stop run of the season to Llangollen. Twelve cars were entered, all of which completed the journey without any mechanical or tyre troubles. Altogether thirty-four members and friends met at the Royal Hotel, Llangollen, and returned on Sunday afternoon, a most enjoyable week-end having been spent. The following members drove:—Messrs. J. O. Evans, H. W. Evans, George H. Evans (10-h.p. Wolseley); S. R. Rhodes, Secretary (16-h.p. Ariel); T. F. Young (15-h.p. Star); W. G. Owen (10-h.p. Wolseley; E. Lisle, J. Lisle (12-h.p. Star); F. C. Bishop (7-h.p. Star); T. T. Mills (8-h.p. Sunbeam); F. B. Corker (6-h.p. Sunbeam); and Dr. Pratt (6-h.p. Mobile).

MOTOR CYCLING.

Non-Stop Motor Cycle Run.—On Saturday last the final competition for the S. F. Edge Trophy was successfully carried through, on the same road as the previous test, viz., between Redbourne and Stony Stratford. We gave last week the names of the 12 competitors who were entitled to continue for this run. All of these started on the first 100 miles test, at 3 a.m. on Saturday, with the exception of Hoffmann. Eight were left in at the start for the second 100 miles, whilst for the third 100 miles, owing to various small misfortunes and in several instances to exceeding the speed limit, only three were qualified to continue for this lap, these being Messrs. F. Hulbert (Hulbert Bramley), H. P. Mays (Vinco), and Johnson (Humber). Mays experienced difficulty with his carburettor, and was ruled out, being unable to start, the final struggle resting, therefore, between Johnson and Hulbert. Both successfully finished the 300 miles, and were re-started for a final 50. One of Johnson's tyres by this time was gradually deflating, and handicapped by this bit of bad luck, he had to give way to Hulbert, who, therefore, secured the trophy, Johnson taking second place, Mays being awarded the third position.

London-Edinburgh Motor Cycle Ride.—The following is the official list of the riders completing the distance within twenty-four hours, and thus qualifying for the gold medals and special badges offered by the Motor Cycling Club. This list is compiled after the committee have investigated each claim, and is in alphabetical order:—F. H. Arnott, C. E. Bell, C. W. Brown, D. E. Brown, A. Candler, H. E. Cowles, J. F. Crundall, H. J. Densham, Chester Fox, C. W. Hacking, J. Van Hooydonk, T. Hooydonk, H. P. Maffert, W. J. Milligan, J. H. Reeves, W. A. Sale, F. Silver, L. N. Young, W. H. Wells, H. Williamson, A. C. Wright. It will thus be seen that twenty-one riders have qualified. Twenty-two were reported at Edinburgh, but one has been disqualified.

Motor Cycle Union of Ireland Speed Trials.—The second of the series of speed trials under the auspices of the Motor Cycle Union of Ireland was held at the Velvet Strand at Portmarnock, Dublin, on Saturday last. The events were quite as successful as the first trials held about a month ago, and the suitability of the

beach for speed work has been incontestably proved. As on the first occasion, the competing motor cycles were divided into three classes—under 120 lbs., under 150 lbs., and a third class unrestricted as to weight. The first two were run over a distance of a mile from a standing start, and the third, which was open to non-members as well as members, was run over a distance of 1 kilometre (1,096 yards) with a flying start. In the standing start classes, the speeds of the winning motor cycles were equal to about 37 miles per hour, and in the flying start class the speed of the winner equalled 42½ miles per hour. Results are appended :—

CLASS A.—One mile from standing start (confined to members riding cycles of 120 lbs. or under) :

F. A. Wallen, 70 × 76 mm. Triumph ; J. G. Drury, 64 × 70 mm. Triumph.

CLASS B.—One mile from standing start (confined to members riding motor cycles of 150 lbs. or under):

H. S. Huet, Minerva ; F. A. Wallen, Triumph.

CLASS C.—One kilometre (1,096 yards), with flying start (open to members and non-members ; motor cycles unrestricted as to weight ; horse power limited to 3½) :

1. L. R. Oswald Sealy, Dublin, 84 × 84 Excelsior, 54⅕ secs.
2. C. B. Franklin, Dublin, 70 × 80 F. N., 54⅘ secs.
3. H. S. Huet, Dublin, 82 × 82 James, 55⅗ secs.
4. F. A. Wallen, Dublin, 70 × 76 Triumph, 56⅘ secs.
5. B. Gannon, Dublin, 3½-h.p. Riley, 57⅖ secs.

Catford Hill-climb.—On Saturday last, in the presence of a very large crowd of spectators, this annual contest was carried through on the well-known Westerham Hill, over a distance of 981 yards, with an average gradient of 1 in 9½. In the motor classes the results were :—

Class I (Cylinder 70 × 70 mm.).—1. H. Tyler (Humber), 2 mins. 32⅖ secs. 2. A. A. Chase (Chase), 2 min. 33 secs.

Class II (exceeding 70 × 70, but less than 80 × 80 mm.).—1. A. A. Chase (Chase), 1 min. 43 secs. 2. W. W. Genn (Eland), 1 min. 43⅗ secs. 3. F. W. Chase (Chase), 1 min. 50⅕ secs. 4. J. J. Leonard (Lurquin Coudert), 1 min. 52⅖ secs.

In Class II. there were 34 entrants of whom 25 started.

The Motor-Cycle Reliability Trials.—It has now been decided that the long distance trials being organised by the Auto Cycle Club shall be held from August 15th to 20th next. This was finally decided upon at the meeting of members of the club and the trade, held last week, when an organising committee was duly elected. The trial will consist of six out and home runs, two of which will extend to 200 miles, and the remainder to 150 miles each, making a total of 1,000 miles. There will be no private owner class, and hill-climbing competitions are to be substituted for speed trials on the track.

A MOTOR bicycle run over 135 kiloms., organised by the *Cote d'Azur Sportive*, from Nice and back *viâ* Turbie, Mentone, Monaco, &c., was carried through at the end of last week. 24 entries were received ; 16 machines started, and 10 completed the course. At Cannes a speed test for 300 metres, with a standing start and a "standing stop," formed part of the trial, in addition to a hill speed test over a kilometre on the Turbie Hill, and a kilometre on the flat at St. Cassien (near Cannes), upon which combined data the judges determined their awards. The official decision is not yet announced, but Lamberjack, on a 2¾-h.p. Griffon, appears to be the favourite for first place.

AERONAUTICS.

ON Friday the 10th inst., M. Santos Dumont started from Paris *en route* for New York, and took the *Savoie* at Havre—his No. 7, packed in its six different cases, having already arrived on board beforehand. M. Dumont anticipates recommencing his experiments at St. Louis the first week in July. Just before leaving he gave his opinion to one of our French contemporaries about the St. Louis competition. He regards it as an exceedingly difficult one ; to reach the velocity of 20 miles per hour on three separate occasions and maintain it over the L-shaped course is, in his view, a very exacting condition considering the present position of navigable ballooning. In spite of this, M. Santos-Dumont, however, is fairly confident of success, and only regrets that he has not more competitors, as the fight, he thinks, would then be more interesting.

IN reply to several enquiries, the present London address of the Elswick Motor Company, of Newcastle and London, is 66, Great Russell Street, W.C. We announced this some little time ago, but the old address in Oxford Street has for some few weeks been appearing in the advertisement of the Company. Hence the query which has arisen.

ON Tuesday evening the Junior Institute of Engineers paid a visit to the Motor Car Works of Messrs. D. Napier and Son at Acton Vale, W.

ACCORDING to the *African Review*, a motor car service has been started in Pretoria, the scale of fares being the same as for cabs.

AN opportunity will offer to see the Pedrail—that remarkable mechanical "elephant"—in operation at the Royal Agricultural Society's Show taking place at Park Royal from the 21st to the 25th instant.

THE cryptogram maniac has been let loose on the names of the competitors for the Gordon-Bennett Race, and he finds that different arrangements of the names of the competitors each provide a cryptogram which might be interpreted as showing that eight of the whole number are likely to win. Like most oracles, therefore, this attempt is likely to console nearly everybody.

DOINGS OF PUBLIC COMPANIES.

NEW COMPANIES REGISTERED.

Martin, Smith, and Co. (Limited), 69, Hatton Garden, E.C.—Capital, £2,000 in £1 shares. Object, to carry on business of manufacturers and dealers in tyres, cycles, motor cars, carriages, &c. First directors, H. A. Martin and A. P. Smith.

The Motor Agencies (Limited), Scotch Co.—Capital, £5,000 in £10 shares. Object, to carry on the business of motor agents, &c.

Simpson and Bailey (Limited).—Capital, £1,000 in £1 shares. Object, to acquire the business carried on by A. L. Abraham, at 14, Pembridge Road, Notting Hill, as Simpson and Bailey, manufacturers of, and dealers in cycles, motor cars, and motor cycles, &c.

Tyre Syndicate (Limited), 37, Great Marylebone Street, W.—Capital, £1,000 in £1 shares. Object, to manufacture and deal in tyres of every description, and make component parts, fittings, and accessories of all kinds of motor and other carriages, &c.

J. I. Thornycroft and Co. (Limited).—The directors of this important company have issued a circular to their shareholders announcing the necessity of acquiring more convenient premises to enable them to retain their proper share of Admiralty work. A suitable yard has been arranged for in one of our leading ports—we have reason to believe Southampton—and in the event of the scheme, as put forward by the directors, being sanctioned, the business of the Thornycroft Steam Wagon Company, Limited, will be incorporated with the larger company, arrangements having been made for its purchase at a price to be arrived at by a joint valuation. It is proposed to make a fresh debenture issue for the purpose of the scheme. The present works at Chiswick, which are now thoroughly well equipped and up to date, will be retained for doing small marine, engine, motor car and wagon, and general work, while the building of larger boats and repair work will, by degrees, be transferred to the new yard. The combined profits, as shown by the last published balance sheets of the companies, after payment of debenture interests and preference dividend, would be sufficient to admit of the payment of a dividend of 8 per cent. on the ordinary shares on the new capital basis which is put forward under the present scheme.

LAW.

Napier *v.* **Jarrott.**—In the Appeal Court, judgment was, upon the suggestion of the Court, reserved in the appeal lodged by the defendant, to give the parties an opportunity of coming to terms.

BANKRUPTCY COURT.

Motor Manufacturing Company (Limited).—On the petition of Frank E Beadle, a debenture-holder and a director of the company, a Receiver was appointed by Mr. Justice Joyce on Tuesday this week.