

INCORPORATING

Motor
Cycling

and
Motoring

THE GORDON-BENNETT TROPHY.

The History of the Beautiful Trophy which was competed for on July 2nd.

Mr. James Gordon-Bennett, the donor of the trophy (which is often erroneously described as a cup), is an American and the proprietor of the "New York Herald." He presented the trophy in 1900 for an international contest, and the first race took place in June, 1900. So far as its international character was concerned this first contest was a lamentable fiasco, for the only complete team participating was that representing France. By some unfortunate oversight most of the foreign competitors who had entered were not given sufficient notice, and, as a consequence, declined to start, so that out of seven

countries, with twenty-one competitors, only five started, representing three countries. The French team consisted of Charron, Rene de Knyff and Girardot, and the other starters were: Winton (America) and Jenatzy (Belgium). The race was a chapter of accidents from the start. The course was from Paris to Lyons, 347 miles, and the start took place at Ville d'Avray, just outside Paris, at three o'clock in the morning. Jenatzy, Winton and de Knyff were all early out of the race through accidents. Girardot

was leading until nearing Orleans, and then lost one hour through a mishap, so that Charron took the lead, and, although delayed through several accidents, eventually won in 9 hrs. 9 mins. at an average speed of 39 miles an hour throughout. Girardot was second. Thus the cup went to France as a result of the first contest. The second race was held on Wednesday, June 29th, 1901, in conjunction with the Paris-Bordeaux race, and from the international point of view was once more a failure. No American car competed, and the Germans were not represented. Mr. Edge had entered his

Napier, but this was not qualified to compete in the Gordon-Bennett section because at the last moment French tyres had to be substituted, this being against the rules, as every part of each competing car must be manufactured in the country which it represents. Thus the Gordon-Bennett race was again a fiasco, as only the French team, consisting of Charron, Levegh and Girardot, competed, and the winner turned up in Girardot—who finished alone, the other two both having to give up in consequence of breakdowns. In 1902 the race took place in connection with the Paris-Vienna

contest. France was represented by Fournier on a Mors, Rene de Knyff on a Panhard, and Girardot on a C.G. & V. England entered S. F. Edge (Napier) and Graham White and H. Austin (Wolsleys). The race started at 3.30 on the morning of Thursday, June 26th, last year. At the end of the first stage Rene de Knyff was first and Edge eleventh, and on resuming the race the next day the worst part of the route had to be tackled. Rene de Knyff entered the Arlberg Pass leading, and here he was still an hour and

three-quarters ahead of Edge; but his Panhard car proved unequal to the fearful ordeal; with only thirty miles to go Edge passed him, and, entering Innsbruck first, having covered the distance from Paris of 387 miles in 10 hrs. 41 mins. 58 4-5th secs, won the Gordon-Bennett Cup for England. It is one of the conditions of the competition that the race shall be held in the country to which the winner owns allegiance; and so the Gordon-Bennett Race for 1903 has been held this year in Ireland, and the entry was the most representative ever obtained. The story of the contest is set forth elsewhere.



THE GORDON-BENNETT TROPHY.



AMERICAN TOPICS.

By Our Own Correspondent.

NEW YORK, June 20th, 1903.

Hartford, Connecticut, was the first American city to instal electric patrol waggons and ambulances, and the Chief of Police of that municipality is authority for the statement that the annual cost to the department of the motor service has been about 50 per cent. of that for maintaining horses during the last year they were used. He also says there were further benefits because of instant readiness for use and the higher average speed of the electric vehicles. These vehicles perform more than the work formerly done by five horses, and have entirely superseded two horse-drawn patrols—the "black maria" and the old ambulance. The entire outlay for electric current and repairs to the electric patrol waggon for one year to October 1st last, and for the ambulance for five months from May, when it went into commission, was 467.98 dollars. The cost of keeping up the horse-drawn equipment during the last year it was in use was 1,180.08 dollars, the figures including only the amounts expended for food, shoeing, necessary repairs and supplies. The patrol waggon covers on an average about 35 miles per day and the ambulance about nine miles, so that the cost for current and normal wear and tear for the latter vehicle amounts to only about one-fourth that for the patrol.

The Orient motor, which is fast becoming a favourite, is a much larger and more heavily constructed machine than any other motorcycle made, and is distinctly in a class of its own. It has been found, from long experience, that it is necessary for safety and comfort that a motorcycle which has sufficient strength to stand the great strain of

its motive power must also have weight enough to absorb the vibration of the motor. A light-weight motor-bicycle is not a practical or successful machine, and even should it not actually break down and injure the rider, the vibration from the motor would be so excessive

there been any attempt to make the motor or other working parts serve as portions of the frame, to the disadvantage of both. The frame of the Orient is heavily constructed of cold drawn steel tubing, strongly brazed in suitable connections. The motor and operating



Electric Motor Ambulances used in Hartford, Connecticut.

that the operator would very likely tire of his mount after a few ordinary rides and the machine would be well shaken to pieces. All these conditions, it is claimed, have been carefully considered in the building of the Orient. No working advantages have been sacrificed to try to make the machine look like an ordinary bicycle, nor has

parts are strongly secured to the frame in the position that practice has proved to be the most desirable, and in a manner to admit of their convenient removal when required.



THE ORIENT.—A popular American Motor-Bicycle.

In order that the motorcycie may become popular with ex-bicycle riders and the public at large, it must be simple in its operation, easy to understand and control, powerful enough to ascend the steepest of grades, have a speed of from five to forty miles an hour on the level road, when desired. All these points have been fully attained in the Marsh Motorcycle, 1903 model. The makers claim that 5,000 Marsh motorcycles will be made during the present year, and they guarantee that everyone will be a source of joy to the agents and riders in general as a means of rapid transportation. It glides with perfect ease over the state highways and the sandy country roads, and, owing to the high power of the motor, hills of incredible steepness are climbed with but slight effort. The Marsh machine is of 3 h.p., has the double truss forks, is neatly and compactly built, easily governed, and capable of a speed of from four to forty miles an hour. It also

has a large fuel tank holding between five and six quarts of gasoline, enabling the rider to take a trip of 80 or 90 miles without refilling. It has a large pulley, which is attached to the wheel for racing purposes, and the machine has many up-to-date improvements. The wheel speaks for itself on seeing and operating, and it sells for 125 dollars, which is the main consideration.

The number of army officers in Washington who appreciate the fact that the motor-vehicle is gradually creeping into the American Army, and will soon be adopted for transport and other purposes, have suggested to the Secretary of War that a school of army chauffeurs should be established at one of the large army posts. If the army chauffeur is to take the place, in time, of the army teamster, men should be trained for the work. Of course, the teamster will not entirely disappear for possibly a score of years, but the motor-vehicle will be very extensively used in all armies of the world within two or three years. The ordinary teamster cannot handle these vehicles, and it would be impossible for the army authorities to secure experienced chauffeurs.



The latest Marsh Motor-Bicycle.

feurs. They would not enlist. Men who are already in the service must be trained by the Government to do the work.

Proper uniforms for private chauffeurs is a matter which will shortly be taken up by the Automobile Club of America. If an official garb could be decided upon it would be an excellent thing. Every wealthy man who has

one or more cars wants to see his chauffeur dressed properly, but as there is no standard yet, each owner leaves the selection of a uniform to the choice of the chauffeur. The consequence is that some of the men get themselves up like steam-engine drivers, others like street car motormen, and others make a vain attempt to imitate some chauffeur they have seen in Paris. Thus there is a motley collection of uniforms.



"ANOTHER INJUSTICE!"

McGinty has heard that the Gordon-Bennett course was kept by the Military, and, faith! imagines this bloodthirsty scene.

NEWS.

The great race!

The great race number!

Fifty thousand copies of "THE MOTOR."

The largest circulation ever attained by a motor journal.

The reporters, artists and photographers representing this journal were encamped at Ballyshannon.

J. van Hooydonk was prevented by business from going to Ireland, and his new motor-bicycle, which is illustrated elsewhere, was ridden by R. W. Stevens, of Dublin.

Riders passing through Studley (a village between Birmingham and Alcester) should ride carefully, as the police have measured up a quarter-mile. On Monday last two motorcyclists were fined at the Alcester police court as the first haul of the Studley police.

Coming Events.

- July 7. Racing and Hill Climbing Trials at Newcastle (Ireland).
 " 11. Motor Boat race at Queenstown.
 " 15. Hill Climbing Trial near Tralee.
 " 25. Winton-Fournier Match at New York.
 Aug. 10. Commencement of the Motorcycle Reliability Trials.
 " 22. Motor Cycle Race Meeting of A.C. in London.

The light car movement grows apace in America.

"The Matin," dealing with the Gordon-Bennett course, says:—"The opinion is unanimous that the course is a deplorable one, and renders the race without interest. There is a lot of loose granite on the roads, which are winding in the extreme, with few straight stretches."

"THE MOTOR" staff in Ireland consisted of sixteen, all told.

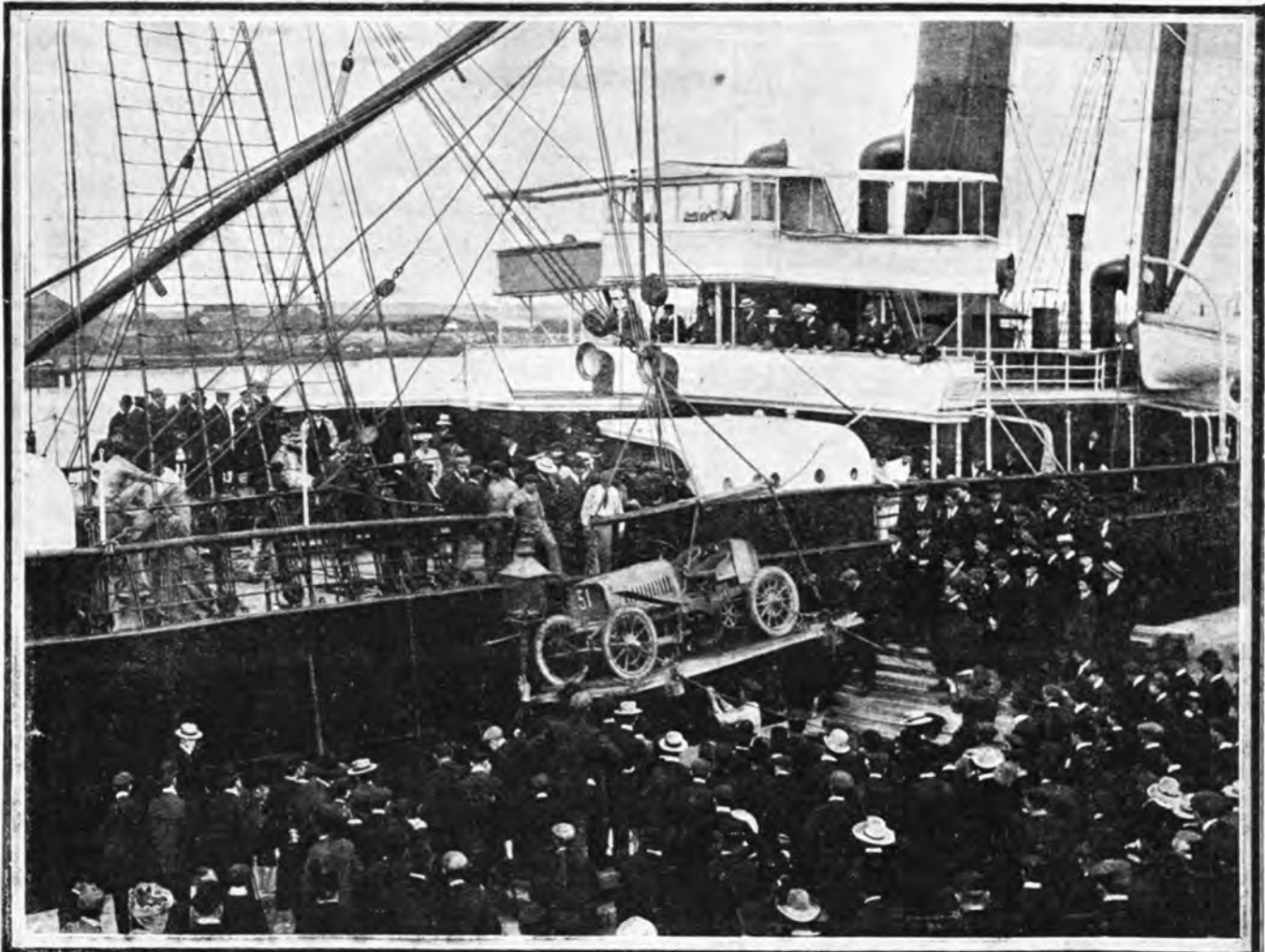
Mr. J. Scott Montagu's Bill was stopped in Parliament, last week, by Mr. Disraeli.

Efforts are being made by carriage people to get motorcars excluded from Hyde Park.

The Motor Bill is expected to be introduced into the House of Lords next week. We refer to the matter editorially.

This number of "THE MOTOR" is issued at one penny, and we shall be glad to hear of any attempt being made to sell it at a higher price.

Owing to the absence of the staff in Ireland for the Gordon-Bennett and other events, replies to queries are delayed for a few days, and we crave the indulgence of our correspondents under the exceptional circumstances.



[Photo]

[Lafayette, Dublin.

Landing one of the Panhard Racers from the s.s. "Ferdinand de Lesseps" for the Gordon-Bennett Race.

Motorists and Hyde Park.

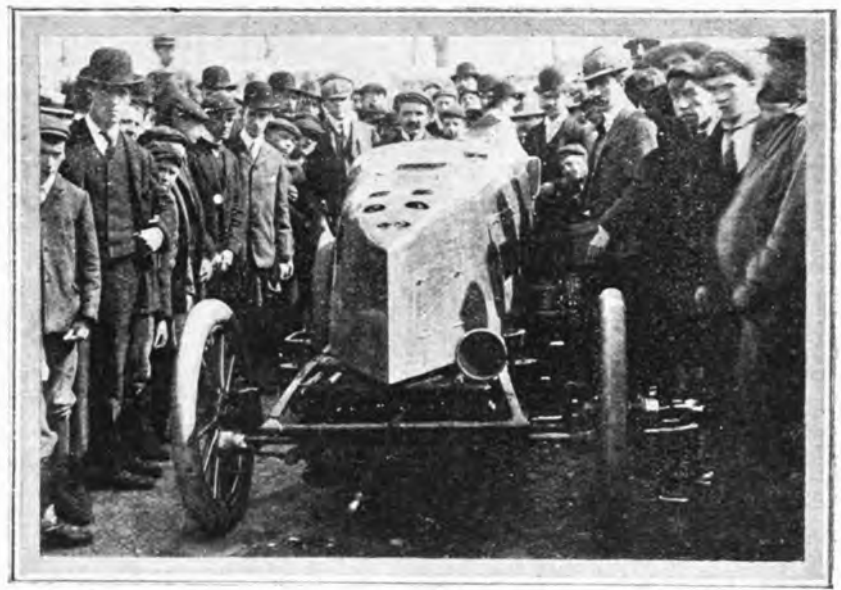
Carriage owners are said to be agitating for the exclusion of motorcars from Hyde Park, or at least that the legal speed of twelve miles an hour be curtailed considerably. The London County Council has had the subject under consideration for some time, and it is likely that the Government will take action in the matter before long. The contention of the objection is that Hyde Park is quite an unsuitable place for motorcars.

"Bats" on the Wing.

The staff and employees of The Bat Motor Company journeyed to Folkestone by motorcar, cycle and rail, on Saturday, June 27th, for the annual outing. A most enjoyable day was spent. Mr. S. R. Batson presided over the dinner, at the Central Hotel, to which over seventy sat down. A group photograph was taken, but by ill-luck the one plate was exposed twice. This is the more difficult to account for—as it happened before, not after the dinner.

What to Read.

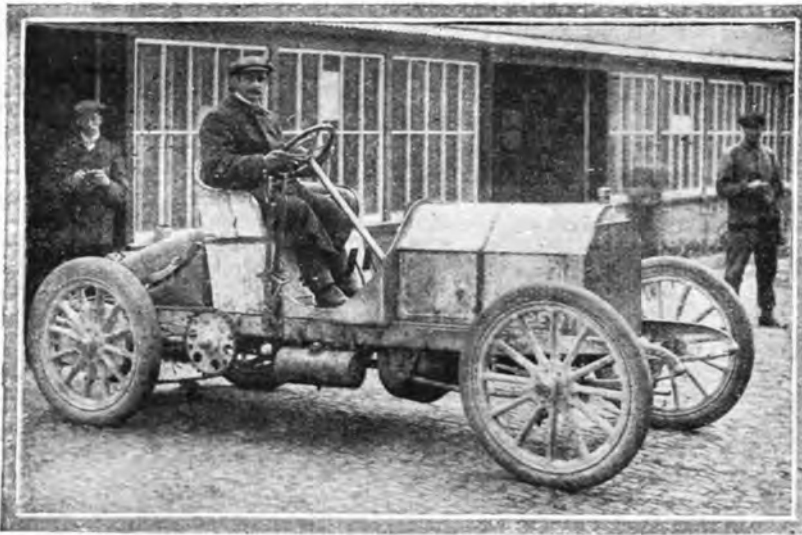
We have received the following books for review, and recommend them to the notice of our readers:—



[Photo]

[Lawrence, Dublin.]

Gabriel on the Mercedes just landed in Dublin.



[Photo]

[Lawrence, Dublin.]

Baron de Caters on the Mercedes.

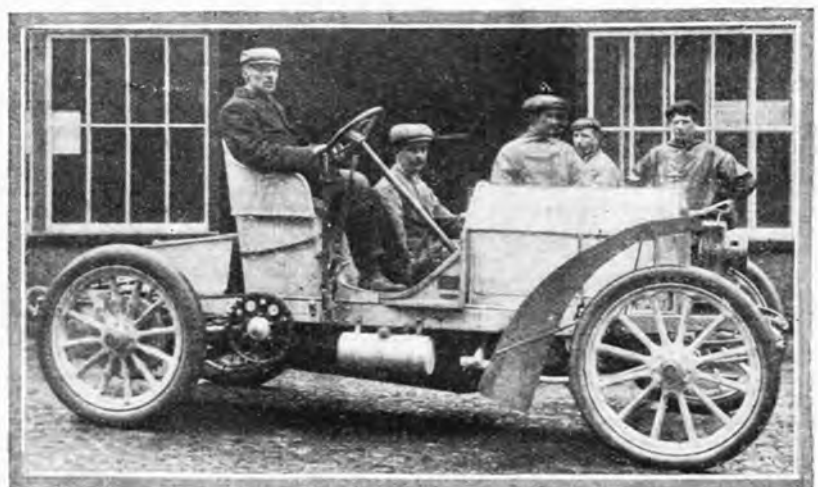
"Protection." By a J.P. This should be read by all who are interested in the welfare of the country. The author advocates preferential tariffs in cases where too much strictness in the matter of duty might involve unpleasantness. He also thinks that prison labour should not be encouraged, as such a system of "cell"-ing must reduce the revenue.

"Practical Trigger-nometry." By Sir Ralph P. G. A new system, involving the free use of the Number 9; but one would not have expected its appearance in such serious "Times."

"The Properties of Gas." By a reader of the papers. It is encouraging to learn that gas, blown off in heavy columns through a Press, evaporates immediately without producing any harmful result. When sufficiently agitated, it sometimes produces spasmodic explosions, but in the presence of other matter the columns diminish in size, generally towards the end of the silly season.

Compression as Brake.

It is pretty generally known that the engine of a motor-bicycle can be made to serve as a brake of considerable power, and there are some riders who make frequent use of it. The writer is of opinion that this method of pulling up the machine should only be resorted to in case of emergency, when, for instance, an exceedingly steep hill is met with, when the two-wheel brakes can only just manage to keep the machine from gaining pace. The effect of frequent use of the engine compression is noticeable on the tread of the tyre. At each compression stroke the check to the momentum of the machine is so considerable that for an instant the driving wheel "skids" perceptibly, and, of course, the lower the speed the more apparent it is. This means rapid wear of the tyre tread. If the speed of the machine is considerable the belt will slip and grind on the motor pulley. Another disadvantage of this system of braking is that the engine does not get a chance to cool. It is much the better plan to lift up the exhaust valve and free the engine



[Photo]

[Lawrence, Dublin.]

Jenatzy on the Mercedes.

The lads who race through London streets loaded with the editions of evening papers are beginning to use motorcycles in preference to the ordinary push-cycle. Recently we have noted two—one on an F.N. and one on a Minerva—speeding over Blackfriars Bridge, journeying south.

A Firm which Supplies Genuine Platinum.

Complaints of the substitution of inferior metals for platinum are becoming numerous. Messrs. Derby and Co., 44, Clerkenwell Road, London, E.C., are reliable dealers in platinum. The purity of the metal they supply is guaranteed. They sell, buy, or exchange platinum in any form, and pay special attention to articles suitable for motor requirements.

Midlands Should Note!

Midland motorists will be interested to learn that the Woodstock Manufacturing Company have recently made great alterations to their premises in Broad Street, Birmingham, and that the new garage is replete with everything that a motorist requires. Spare parts of all the best known makers are kept in stock, and all repairs receive prompt personal attention at the hands of the management.

The "Riley" 2½ h.p. Motor-Bicycle.

The Riley Company are about to place on the market a new type of motor-bicycle, in which will be embodied all the superior equipment of their 2½ h.p. machines. The engine is 2½ h.p. (75 by 75 mm.) placed in an inclined position, the Longuemare carburettor with float feed and throttle is used, Basse Michel trembler coils are fitted, both coils and accumulators, of which two sets are supplied, being carried in a neat wooden case behind the diagonal tube of frame. The exhaust valve lifter is operated by twisting handle, and it is practically decided to control both the throttle and the cut-off from a twisting handle also.

A Trial Run on the "Iris" Motorcycle.

This novel motorcycle, introduced into England by the Iris Motor Co., of Holland Street, Brixton, is notable because of its water cooled free engine. Particulars of it were given in a former issue. We recently tested one of these machines and can give an account of its behaviour on the road. The machine is rated at 2½ h.p. and we found it easily capable of attaining a very high rate of speed. Harness'd to a trailer (a very comfortable "Triox"), with the sparking well retarded, it did its work satisfactorily, pulling for miles at a regular steady speed, just under the margin of the legal limit. On hills its power is surprising, the engine retaining its speed to a much greater extent than when air cooling is used. The engine can be started by hand, a pulley and strap supplied for the purpose being temporarily fixed to the end of the crank axle. A tug at the strap and the engine starts, but the bicycle remains at a standstill. With the engine running the rider mounts the machine, and as soon as he is under way, gently throws in the clutch by releasing a Bowden wire handle on left handlebar. For riding through traffic the speed is regulated to a nicety by using the clutch, and if it becomes necessary to stop the bicycle, it can be done without stopping the engine. The "Iris" motor-bicycle should become a popular mount.

B10



The Latest Peugeot Motor-Bicycle.

A good sparking plug is that supplied by Messrs. Bluemel Bros. of Globe Road, Bow, London, E. It is called the "Bluemel," and all the metal parts are made of brass. A wooden cap, a copper asbestos washer, and a terminal is supplied with each one sold. The porcelain is rounded on the point, so that it may be as free as possible from sooting and oil troubles.

An Acid Resisting Varnish.

Messrs. R. W. Blackwell and Co., Engineers, 59, City Road, London, have recently introduced a most useful composition for treating various parts of a motor-car or cycle. It is in the nature of a thick varnish that can be painted on wires, cables, accumulator cases, terminals, metal parts, woodwork, etc. It is claimed to be absolutely acid, alkali, and wet proof, and is bound to prove a boon to motorists, especially for its acid resisting and insulating properties. It will improve the insulation of wiring circuits, and leather and wood accumulator cases can be rendered quite impervious to acid. Metal parts liable to get damp and corrode can be similarly treated. We have had a sample placed at our disposal and find it very serviceable.

Information that is Worse than Useless.

Looking through a copy of one of the leading American motor journals recently, we were rather surprised to find a paper of established reputation giving the following advice to a correspondent who wrote up and enquired how he could test whether the accumulator of his car was fully charged. He had tried a voltmeter, and found that it registered 4 volts, and yet the car only ran 25 instead of 500 miles. In reply, he is advised to get a pocket amperemeter and join it across the terminals. The result of this will be that the correspondent will probably go and buy an amperemeter for 30s., join it up to his battery, burn out the coil of the instrument straightaway, and ruin it. A small test lamp, costing a couple of shillings, was all he required to get. It is surprising that such stuff should be printed.

The Harringay Fire Station has recently been fitted up with a motor fire engine, a motor chemical fire engine and combined fire escape.

The car which Louis Renault drove to Bordeaux in the recent ill-fated race has been sold for 15,000 francs (£600) to the painter, W. T. Dannat. It has been incorrectly stated that the car was purchased by W. K. Vanderbilt, junr.

Comprehensive.

The word "Chauffeur," which is purely French, is defined as follows in Gase's French-English dictionary:—"Chauffeur, s.m. fireman-stoker: (hist.) a robber who burned the feet of his victims to make them surrender their money: (slang) courtier, sweetheart, lover; exhilarating companion, leader—life and soul, humbug boaster, braggart." A list which is comprehensive enough to include all present-day chauffeurs.

The Latest Pattern "Peugeot" Motor-Bicycle.

This excellent machine of French construction has recently undergone many improvements in detail. The motor will develop 2½ h.p., and is fitted with a Longuemare carburettor. There is also an exhaust valve lifter added. The front forks are of the duplex pattern, and two rim brakes are provided. Transmission is by "Lincona" belt, and lubrication by force pump. A luggage carrier is fitted which can also be used as a stand.

A 3½ h.p. Werner Motor-Bicycle.

Werner Motors, Ltd., 151a, Regent Street, London, have a strictly limited supply of 3½ h.p. machines, identical with those that ran in the Paris-Madrid event. Preference will be given to those orders which include a fore-carriage. The price of the machine is £60. The fore-carriage can now be supplied with the connecting arms from the fore-carriage taken to the axle of rear wheel, or to main fixing bolt of the engine as previously. The price is the same in either case.

The Midland Traps.

The police crusade against motorists in the Midlands is still going on. At the Colleshill Court recently half-a-dozen well-known Midland motorists appeared to answer charges of "driving to the public danger" on the Coventry-Birmingham road. Fines from £2 to £3 and costs were imposed.

"Phoenix" Belting.

The "Phoenix" belting has just been introduced by J. van Hooydonk, of No. 736, Holloway Road, London, N. The belt is 3-ply, V-shaped, copper sewn, and is made of specially selected and prepared hide. It is soft and pliable, and possesses great gripping power. The belting is sold at the low price of 1s. 6d. per foot, and a sample piece will be sent on receipt of stamped label.

Eccentric Belt Rims

Cause Trouble on Motor-Bicycles.

Riders who experience continual stretching of the belt would do well to closely examine the rear pulley rim. One sometimes happens to come across a machine where the makers have worked on the "near enough" principle, and trusted to the elasticity of the belt to compensate for lack of truth in the pulley rim. A little consideration will show that if a belt be tightened with the pulleys in one position, it is quite likely that it will be pulled still tighter when the pulleys are in another position. At any rate, the belt is subjected to rapidly varying strains that are most injurious to it. The fibre of the belt gets strained, and loses its elasticity and drives badly. It is a very easy matter to prove if the rim is true thus:—Put the back wheel in the stand, and remove the belt, then spin the wheel moderately fast with the pedals; now hold a pencil firmly up against the forks and within an eighth of an inch of the edge of the pulley rim. If the rim is quite true the edge will not approach any nearer than an eighth of an inch to the pencil; if untrue it will alternately hit the pencil and then clear it. A good cycle repairer will make it true in a few minutes, unless the rim is fixed by stout metal arms to the tyre rim. Unfortunately this system of rim fixing is the

one generally found out of truth, and is difficult to put right. A rim can be "out of flat," to use a trade term; but if it be in circle at the same time this is not a serious matter. The important point is to see that the rim is quite concentric with the axle.

250 Miles an Hour Feasible.

At the present time eighty miles on ordinary roads is, we think, fast enough to more than satisfy the most speed-thirsty individual. However, Mons. Devic, a French electrical engineer of some note, claims that he has developed a railway system which will accomplish 250 miles in the hour. He thinks he has found the open sesame to safe high speed travelling to be the attainment of sufficient adhesion between the rail and car wheels. He proposes to use motors of prodigious power, and have the cars gripped by the wheels to the rails. We appear to be getting near Jules Verne's idea of being shot out of a cannon in a car-shaped projectile and being caught in a net at the terminus



The new "Phoenix" 3 h.p. Motor-Bicycle, which Mr. R. W. Stevens, of Dublin, is riding in Ireland

Werner Reductions.

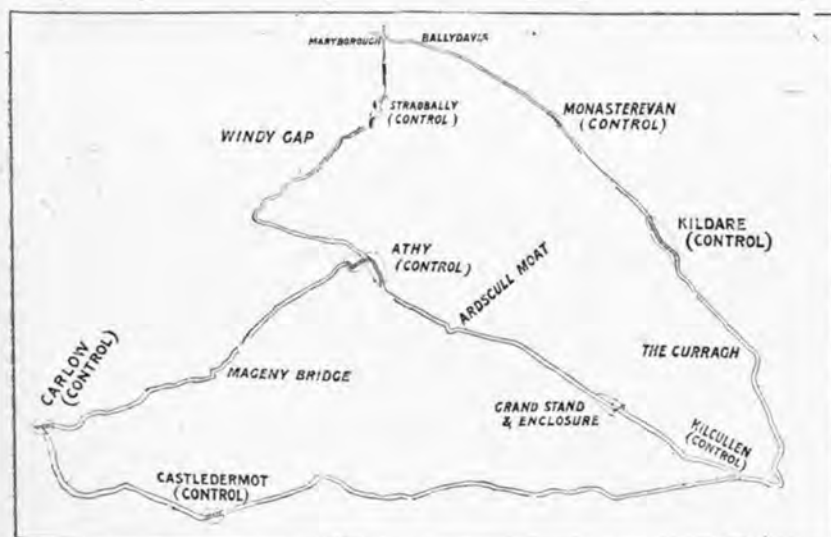
We are asked to announce in future the prices for Werner motor-bicycles will be as follows:—Model "Tourist," 2 h.p., £40; Model "Paris-Vienna," 2½ h.p., £45. For special use with Werner fore-carriages a new model "Paris-Madrid" Werner of 3½ h.p. will be supplied at £60 nett.

The New "Phoenix" Racer.

The illustration depicts the machine which R. W. Stevens, of Dublin, is riding in the speed trials in Ireland. It is fitted with a 3 h.p. Minerva motor, having a mechanical inlet valve. The carburettor is a L. nguenare spray type. It will be noticed that the machine is stripped of all touring equipment, and has an ordinary light bicycle saddle. A special feature about the frame is the compound down tube system, to give the necessary rigidity for the power of the engine. Duplex front forks are also fitted. The silencer is also of good proportions. An ordinary Lincona belt transmission is used. Ignition is by coil and accumulator, and extra large petrol capacity is provided for.

The Motor Volunteer Corps.

Enrolment in this corps, which has been doing good work lately, is proceeding very satisfactorily. The following members have been doing duty:—Mr. H. R. Mosenthal drove the officer commanding Royal Engineers, 4th Army Corps, to Hounslow and back on June 16th; Mr. F. A. Rodewald drove the officer commanding Royal Engineers, Home District, to Cooper's Hill College and back, for inspection of the battalion there, on June 17th; Mr. Oliver Stanton drove Lord Grenfell, the general officer commanding 4th Army Corps to Cowshot, near Brookwood, on June 25th, for manoeuvres in connection with the Militia Brigade which is encamped there. The services of members of the corps will be used to some extent in connection with the reception of the President of the French Republic on his approaching visit to the King. The uniform of the corps has now been approved by the War Office. It is on the lines of the service dress, with dark green cuffs and collar, the cap being of the present staff pattern.



Key to the Supplement View of the Gordon-Bennett Race Course, issued with this number of "The Motor." Controlled areas are encircled in dots and shaded on the plan.



The Circulation of "The Motor" exceeds that of any FOUR other motor papers combined.

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OPINION

The Motor Bill.

The Motor Bill, which has been prepared in accordance with the pledge given to Parliament, is expected to be introduced into the House of Lords one day next week by Lord Balfour of Burleigh, on behalf of the President of the Local Government Board. It is anticipated that the Bill will be favourably received, and that it will be passed this session. Of course, the provisions of this Bill can only be a matter of conjecture until it is actually presented, but we are in a position to state that numbering for the purpose of identification is certain, and arrangements for the registration of motorcars will promptly be made all over the kingdom. Further than this, professional drivers will need to be licensed, and magistrates will have the power to endorse any license on the conviction of the holder for any offence, and to suspend the license on the repetition of any such offence. It is certain that penalties will be more stringent than heretofore, and in certain events imprisonment will be made a part of the punishment. As to the speed limit, it is not quite certain what the Bill will provide, but it is expected that some sort of speed limit will be retained, varying according to conditions and surroundings. Such, briefly, is the outline of the Motor Bill, and its provisions will, we think, be sufficiently drastic to satisfy the most exacting of those who have clamoured for legislation as a solution of what some people are pleased to call "the motor problem."

The Gordon-Bennett Race.

Mr. Gordon-Bennett must be congratulated upon his foresight. When, in 1900, he presented a trophy to automobilism, his prophetic soul must have hinted at some future boom of a colossal and widespread character—and it has come. The first two contests for the beautiful trophy were only international in name, and even last year's race was by no means a representative one. It is just three years after the conception of the idea, therefore, that Mr. Gordon-Bennett is reaping the reward of his enterprise, for the Gordon-Bennett race of 1903 was really the first international race in fact as in name. Surely, never before has the name of a single individual rushed through the world's printing presses, spread broadcast round the earth, and been scanned by so many millions of readers as the name of Gordon-Bennett. Nor can it be said that this astute American has only achieved fame for himself by his perspicacity. It has taken three years for the nations to realise

the importance of a competition, the winning of which means so much to the automobile industry of the nation which is fortunate enough to secure this trophy. There must always be an element of luck about a contest of the kind, but the fact remains that the car which passes through the ordeal stands for all that is best in car construction in the world, when the entries are as complete and as representative of the nations as were those for the Gordon-Bennett race of 1903.

Scorching.

The "scorching" outcry, accompanied by the "registration" remedy, which was at one time levelled indignantly against cycling, is now transferred to the motorist. Cyclists, no less than other users of the road, are interested in the putting down of motor scorching, but no one who rides much in public on a bicycle can have any confidence in a successful issue to the question under its present treatment. The police—inspired, presumably, by official mandate—waste far too much time and energy in defending the letter of the law, and cause endless annoyance to drivers of motors who conscientiously strive to observe the spirit. In so acting, officialdom defeats its own object, if we may assume that the public welfare and not the gratification of private spite, or the exhibition of authority is the object of those in office. To take less notice of those who, wittingly or unwittingly, infringe the letter, and to deal out peremptory and severe punishment to those who violate the spirit, is the only equitable method of procedure. The question at issue ought never to be, "How many miles an hour was the defendant going?" but rather, "Was the rate of speed consistent with public safety under the special circumstances of this case?" No rational person wishes to clog the wheels of any vehicle; but every rational person desires to limit every vehicle using the road to that maximum of speed which is consistent with the safety of other users. In the vast majority of cases, no matter whether the users be bus drivers, cabbies, vanmen, motorists, or cyclists, the individual is sufficiently sensible and law-abiding to impose a safe limit of his own accord; in cases where he is not so sensible or so peaceably inclined, the law should inflict a punishment sufficiently severe to act as a deterrent. It cannot be maintained that the law as administered at present acts as a deterrent to the habitual scorcher. The type of individual who scorches for the fun of the thing is very apt to look upon a somewhat trifling pecuniary penalty as part of the fun, but it would be interesting to learn whether a short sentence of hard labour would present itself to the scorching mind in an equally humorous aspect. Not less interesting would it be to ascertain, if that were possible, in what percentage of cases offenders who are fined for "exceeding the legal limit" constitute a danger to any man, woman or child, or domestic pet within striking distance, so to speak, of the spot where the offence was committed. Above all, we think motorists will be well advised to do all in their power to retain the good will of cyclists.

The Petrol Problem.

It is the policy of this journal to look ahead, and in regard to the petrol problem one has not to look very far into the future to foresee very serious trouble. Complaints continue to reach us regarding the spirit now on the market. The petrol makers appear to be only able to offer us the doubtful consolation that it is likely to deteriorate instead of improve, and we are advised to be prepared for the worst. The suggestion by the makers that petrol of from 700 to 720 specific gravity is a satisfactory motor spirit is not by any means borne out in practice, in our own experience or that of our readers, and it seems to us that the time is ripe for the alternative of alcohol to receive serious consideration. The present position of affairs as regards petrol is distinctly unsatisfactory, and the troubles about which we hear so much now through the heavy density of the spirit will be increased as time goes on. We hope to deal more fully with this important matter in an early issue of "THE MOTOR."



The motive underlying the gift of the Gordon-Bennett Cup is now better understood and appreciated in this country. Previous to this year, we feel we are quite right in saying the only Englishman to appreciate the value attaching to the possession of the cup—even if only for the period of a single year—was S. F. Edge, the old racing cyclist. He had passed through the stage which we may describe as the "Surrey Cup or Cuca Cup stage," and he consequently knew that the winning of a classical event not only meant name and fame to the winner, but he saw clearly that there is money in it and, as an Irish jarvey replied to a remark of ours to the effect that the race was taking a lot of money into the country, "And phwat else are we here for, phwatsoever?" France all along has appreciated

very reliable, not a little of the success of Jenatz's vehicle being due, we should say, to the fact that the old 40 h.p. carburettor was being used. We were not able to gain any idea from Jenatz as to whether he really thought it better, but we may take it that actions speak louder than words. To France is due the credit of getting all three representatives through and if it has been beaten, its foe was one worthy of its steel. In the Panhard and Mors cars chosen to represent France, its reputation was not jeopardised. The weight of the three cars was dangerously great, perhaps, and we only hope that the reweighing of the cars after the race will have shown no grounds for any disqualification of either. To trust to one make of car to represent a country is not wise.

worked up. As a result of lack of trial his little belt for driving the fan kept throwing off, and so overheating of the water resulted. So we saw Edge

A TARDY, FLURRIED COMPETITOR,

dragging at the tail end of a classical race, instead of the cool, collected victor as he might have been. Jarrot had been wiser, and had declined to use the high-powered car, and we confess to having fancied him a winner—with ordinary luck. Whether he would have beaten Jenatz, however, is open to doubt. America has had a rebuff and, to anyone who heard the boastful talk and witnessed the many attempts at bluffing and the awful amount of "side" of the Yankees, the fact will not be regretted. Americans must learn that they are but as children cutting their eye teeth as compared with men like Mors, Jellinek, Maybach, Panhard or Napier. The cars should have been tested before they were dumped down to tour over a racing course, hampering other vehicles, and bringing a farcical element into a classical event. A little less boasting and more earnest work in the drawing office will effect some good. We hope the Americans will take their lesson to heart and not consider themselves the victims of chance. And if the lesson be learned thoroughly and properly applied, we are convinced that much good will yet come out of America. To Jenatz, to Mr. Gray Dinsmore, and last, but not least, to the Daimler Company.

THE CONGRATULATIONS OF EVERY ENGLISHMAN

will be cordially extended, with the hope that nothing will prevent the Gordon-Bennett race being contested over the fine German roads in twelve months' time. The Automobile Club is at once to be congratulated on the conclusion of a difficult task, and to be commiserated upon the financial loss which it seems impossible to avert. The event was weighted down with complications and difficulties, and if the club failed in certain detail matters, it succeeded in avoiding mishaps to spectators, and that was the main thing. Its arrangements to this end were perfect, and they enabled a race, run at the average pace of 40½ miles an hour, with occasional bursts of 75 miles an hour, to be concluded without injury to spectators or collision between competing cars, and for that alone the club will find itself generally praised.

The visit of the motors to Ireland has done general good. It has given the Irish folk something to see and talk about and remember to the end of their days. It has also opened the eyes of many to the beauties of the distressful country, and in a few years the motor may have effected a vast change in the country.



MR. JULIAN ORDE.
Secretary of the Automobile Club, G.B.I.

France did not attempt such a thing, and it has reaped its reward. Even Germany lost two out of its team of three, England too, depended on one idea, and it proved a broken reed. Jarrot's accident an exact replica of Mr. Mayhew's in the Paris-Madrid race on a similar car, should have been guarded against, especially as there was an ample weight margin to play with in the Napiers. Stocks's mishap was one of those unavoidable fortunes of war, and so is beyond discussion. Edge suffered from obstinacy. He persisted in using one of the two high-powered Napiers just out of the works—untried and untuned. He also insisted on using 3½ in. tyres, when other competitors were using 5 in. tyres. Moreover, the tyres were a bad fit for the wheels, and would fly off and go gaily skimming across fields when the pace

THE VALUE OF HOLDING THE TROPHY,

and when it lost it last year there was a determined vow to recover it at all hazards. America and Germany, too, observed last year how much Edge's win elevated this country on the ladder of the motor industry, and both determined to come in and compete, with the result that America stands disgraced by the utter failure of its representatives, whilst Germany has had the seal set to a reputation already gained. The Mercedes cars are splendid

have been splendid from the time when they set the fashion to the motor world—and now that they have won the blue ribbon of the sport, we may expect the Daimler Company to go ahead and take full advantage of the chance given them. We wish to remove what must be a false impression that Germany utilised low-powered cars of poor calibre. True, the Daimler Co. had built three 60 h.p. cars for the race, but they had not proved the success anticipated for them. They would have been withdrawn altogether from the Paris-Madrid event, but a means was discovered of improving them before that race took place. But even then they were beaten by the 60 h.p. cars of the same make. The company were in doubt and difficulty, and the great fire removed that difficulty, because it burnt up the 60 h.p. cars and thus an opportunity was afforded for sportsmen of the calibre of Mr. Gray Dinsmore to come forward and offer the use of the 60 h.p. Mercedes car built for the Nice week.

THE CREDIT FOR THE SELECTION OF JANATZ

is due to Mr. Dinsmore, and in an interview which he accorded to us (the only Pressmen, by the way, to whom the secret of the ownership of the car was confided), he showed how much he loved the sport of motoring and, incidentally, how much the sport owes to him. The Mercedes cars are very fast and, moreover,

THE WEIGHING AND INSPECTING AT NAAS.

Preliminary to the great race was the "Pesage" of the cars at Naas. The French give in one word what we have to describe as weighing, inspecting and sealing of the cars. The Market Square at Naas presented a busy scene all day on Wednesday. Mr. Lyons Sampson, of the Automobile Club, had installed two beam balances, and on each was laid a piece of channel steel, ramps being provided for running the cars on to the scales. The wheels on one side of a car thus rested on one scale and the other wheels rested on the other scale, and the two readings totalled gave the weight of the car. The weight allowed was 1,000 kilos., equal to 19 cwt. 2 qrs. 20.6 lbs., with 15 lbs. additional if magneto ignition were fitted. Oil, water, petrol and batteries could be removed. Of the French cars, Gabriel's torpedo-shaped Mors was 5½ lbs. inside weight, and certain fittings had to be removed to prevent disqualification on the ground of overweight. De Knyff's car was 19 lbs. overweight, and Farman's no less than 31 lbs. overweight. It was funny to see stuffing being removed from cushions and things of that sort, but it was serious to see vital parts of the car being removed. Of the Americans, the Wintons, were well inside. Owen's car turning the scale at 17 cwt.

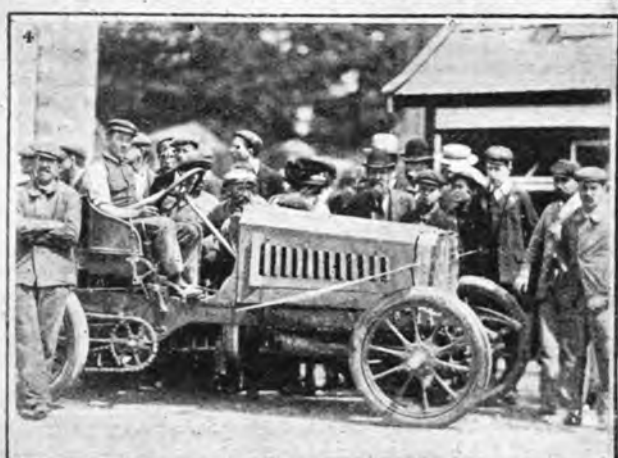
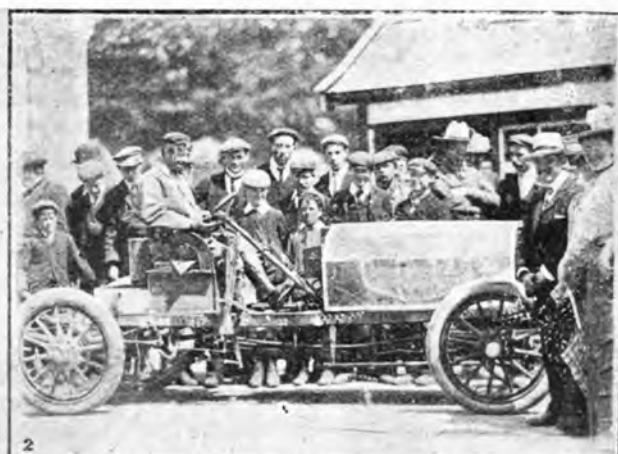
21½ lbs., and Winton's at 19 cwt. 22½ lbs. Moore's car, on the other hand, was nicely overweight, and we observed a typical Yankee attempt at bluff. As the car came on the scales, the two beams were balanced, and a slip of paper was handed to the Clerk of the Scales by one of Moore's



On the slow speed to the weighing-in.

compatriots. "That's our weight" (the figure being well inside limit, of course), and then the Americans started to push the car off the scales. But that was not allowed to wash, and when the weights had been read off the car was found to be

12 lbs. overweight. Then the silencer and its bracket were removed, oil caps and lubricators were detached, the box for tools and battery was discarded, and so on. Someone suggested that the "Meat Safe" (alluding to the gauze bonnet) might go! Needless to say the Peerless car did not survive the contest. The Napiers were well inside the limit, as was De Caters' Mercedes. But some little things had to be discarded on the other two Mercedes cars. The German cars were fitted with Michelin tyres. Now Michelin is a French maker, but in order to get his tyres on the German cars, and to comply with the rule which demands that every item of a car shall be built in the country to which it belongs, he had established a small factory in Germany (this is all since the Circuit des Ardennes), and had made the tyres for the Mercedes cars. But so keen is the fight that the other competitors looked the tyres over and protested, and then it transpired that the fabric was Belgian, and some portions of the valves were French, so the International Commission demanded the withdrawal of the tyres and Continentals were fitted. De Knyff was so dissatisfied with the results of the weighing that he challenged the scales. So the standard weights were brought from the gaol and the scales proved to be right to a couple of ounces.



SCENES AT NAAS DURING THE WEIGHING-IN.

1. Jenatzky's Mercedes going on the scales.
3. Gabriel on the Mors.

2. Mooers on the American Peerless car.
4. Farman's Panhard.

AT THE STARTING POINT.

Naturally, Ballyshannon, on the main road out to Athy, having been chosen as the starting and finishing point, became the focus of the great race. Preparations on an extensive scale had been made, and everywhere for miles along the route it was evident that an enormous crowd was expected. Just what had served to create this impression, and to make it so general, is difficult to point to. There seemed to be an idea that the Motor Derby of the world must necessarily be contested in full view of a Derby crowd, and we fancy that, in expecting so much, the Irish people will have to confess to disappointment. The stands erected were not, for an instant, seized with the clamouring rush of spectators for whom they were built, and in one way it is fortunate that they were not, for they were in many cases of the flimsiest and roughest description. The big structure erected by the Automobile Club, and known as the Viceregal Stand, from the fact that the Viceroy intended to view the race from a small enclosed portion of it, had been placed right across the road, and it provided accommodation for about a thousand persons. It was well designed and soundly built of timber, but the occupants were fully exposed to the elements. It may have been due to this latter fact that, at no time during the race, was the stand more than one-half filled. Flanking the road, which here

flimsy wire railing which protected the edge of the bank. Many a time was it necessary to shout a warning to the eager, straining spectators to take their weight off the fence, until, at last, some of the constabulary were posted on the narrow ledge in front in order to restrain them.

did not proceed very far with the seating accommodation, and, when the day of the race came, anyone could get a seat for a shilling or two. The crowds having thus contracted to a mere fractional part of what had been expected, the extensive policing of the course seemed somewhat

THE FOLLOWING PARTICULARS, SHOWN IN TABULAR FORM, WILL BE FOUND INTERESTING, ESPECIALLY THE COLUMN GIVING THE NATIONALITY OF THE DRIVERS:—

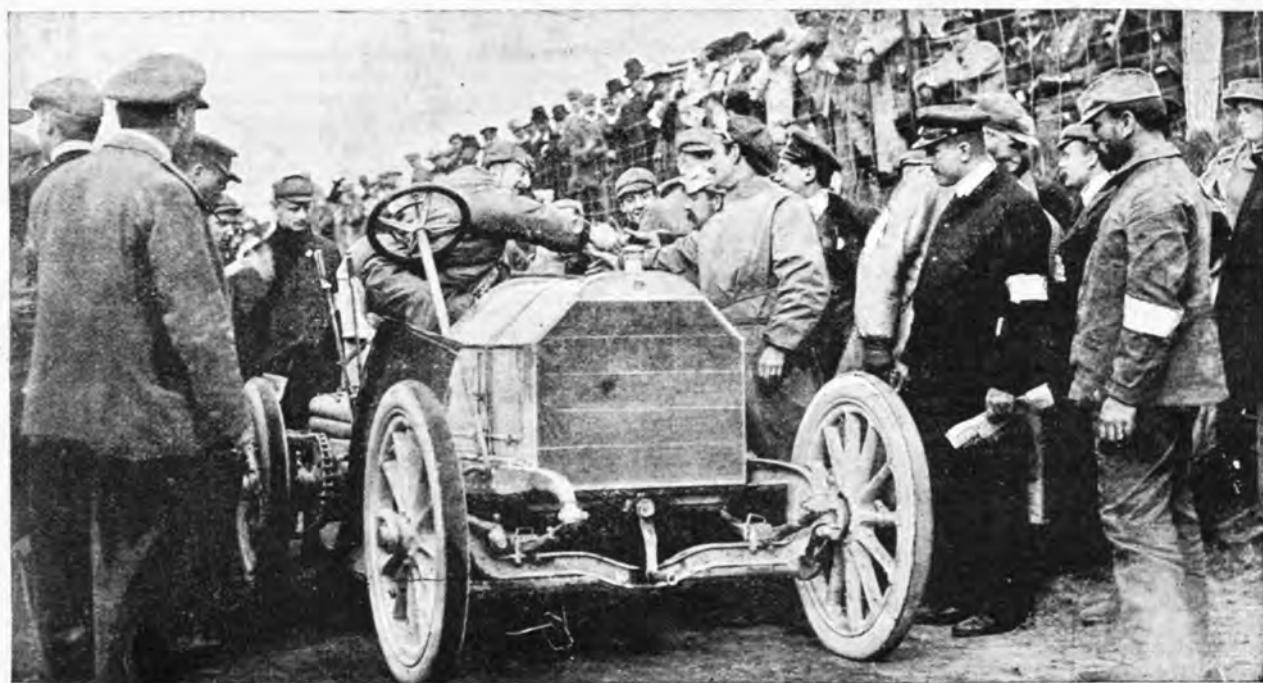
No.	Competitor.	Country represented.	Car.	Actual Nationality of Driver.	Time of starting.
1	Edge	England ...	Napier ...	Australian ...	7.0
2	De Knyff	France ...	Panhard ...	Belgian ...	7.7
3	Owen	America ...	Winton ...	American ...	7.14
4	Jenatzy	Germany ...	Mercedes ...	Belgian ...	7.21
5	Jarrott	England ...	Napier ...	English ...	7.28
6	Gabriel	France ...	Mors ...	French ...	7.35
7	Moore	America ...	Peerless ...	American ...	7.42
8	De Caters	Germany ...	Mercedes ...	Belgian ...	7.49
9	Stocks	England ...	Napier ...	English ...	7.50
10	Farman	France ...	Panhard ...	English ...	8.3
11	Winton	America ...	Winton ...	American ...	8.10
12	Foxhall Keene ...	Germany ...	Mercedes ...	American ...	8.17

The rearward part of the lowest floor of the grand stand was used as a footpath from one side of the course to the other, so that there was little or no need to actually use the roadway. Altogether there were, at Ballyshannon, not more than two thousand persons; a little lower down the road was the Kilrush stand, and farther down another large stand. So little had these been supported that the promoters

excessive, and, when a few hours' experience of

THE PASSAGE OF FAST CARS

had been gained, the rigidity with which the course had been kept clear was relaxed somewhat, and spectators were allowed to cross; but we noticed, as evidence of the thoroughness with which the Royal Irish Constabulary carried out



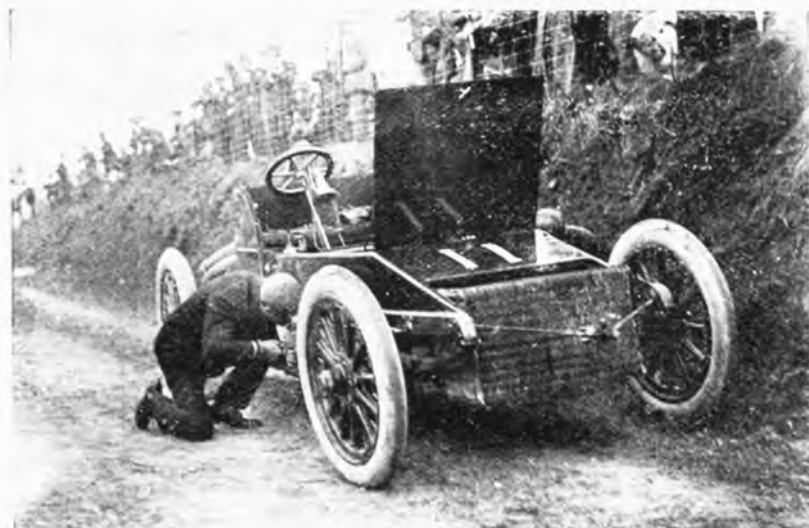
JENATZY ABOUT TO START.
The ultimate winner is shown shaking hands with his well-wishers. Gabriel is on the right of car, with goggles upraised, proffering his hand.

their duties, that any person attempting to cross the course was either stopped, or, if allowed to go over, was watched until he had passed beyond the danger line. Officials, however, were allowed a sufficiently free hand, but at first the police were inclined to restrain what they thought to be reckless ardour. When they learned, however, that the officials were but doing necessary work, and were fully

ALIVE TO THEIR DUTIES AS ENFORCED,

the police gave up their slight interference. The rapidity with which they desisted may have been due to the sudden and masterful resentment which some timekeepers showed when a constable came to press them back just when the timekeeper was on the point of splitting the second hand.

There was no real division between Wednesday and Thursday, as men were at work all night: cars were running up and down the road, racing cars were out for practice spins earlier in the evening, and enterers with their steam waggons and loaded trolleys were moving about and preparing for the coming fray. At 2.30 reveille was called for the Constabulary,



Winton's car goes wrong at the start, and was held up for repairs. Winton is at work on his knees.



Baron de Caters on a Mercedes passing under the Grand Stand.

and at 4 o'clock these fine Irish police took up their positions on the route, in expectation of the crowd which never came. Wednesday had been a glorious day, but Thursday—perhaps in order to provide the missing line of division—was cloudy and overcast, and the early morning, when the staff of "THE MOTOR" turned out of their private camp, was somewhat uninviting. At five o'clock a goodly proportion of the day's crowd had either arrived or were arriving, the marvel being where they all sprang from. At 6 o'clock

THE ROADS NOMINALLY WERE CLOSED,

and spectators were supposed to be on the other, or safe side of the hedges. At half-past six De Knyff's car came to the starting point, and the big burly Chevalier was at once the centre of a group of officials, and of his compatriots. Edge was an early arrival, and the other Englishmen were very little behind him. F. R. Goodwin, the old speed cyclist, now gave a smart turn to the starting handle of the Star racer, and, with J. Lisle at the helm, the first pilot car went away, its large label denoting the race would soon be under weigh. Then Lieutenant Smith

Cummings brought his Wolseley up for the same purpose, and started away. The idea was that the Star car should take the eastern circuit, via Carlow to Athy, and back to Ballyshannon; whilst the Wolseley should take the western, via Kildare to Athy, where its work would be done. But owing to some misunderstanding, it would seem as if the Star went straight ahead to Kildare, and then round over the Curragh to Kildare, where it is reported to have arrived at 6.50 a.m., and eight minutes later it was at Monasterevan. No further news of it could be obtained. The Wolseley followed the Star as far as Monasterevan, and then seems to have made for Waterford, somebody having seen a pilot car tearing along over a road which was right away off the course. At any rate, our representatives, after Monasterevan, report that no pilot car came through, whilst the eastern circuit received no warning whatever.



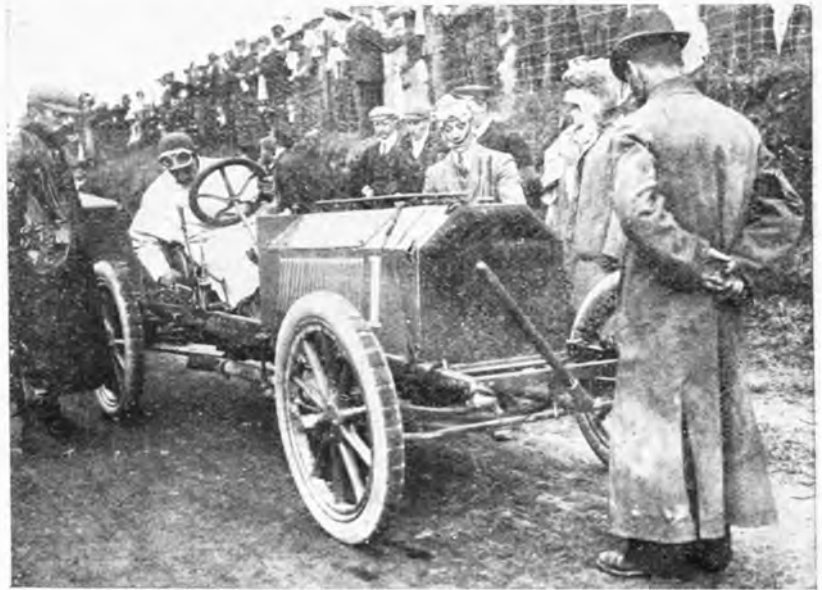
De Knyff passing the club enclosure after the first round. Winton's car in the background still under repair.

THE START.

At a few minutes before seven the great starting lever of the big Napier was pulled over, and with a roar the four-cylinder engine leapt into life. Edge was driving one of the two high-powered cars built specially for the race. Its engine is the same as that used in the early Napier racers, the stroke being shorter, and it develops about 80 h.p. Edge when he took his seat was dressed in the white waterproof in which he is generally seen. He sat quite impassive under the scrutiny of a crowd which knew it was gazing at the most famous man of the moment, his face merely lighting up into that sudden smile of his whenever he was spoken to. Cecil Edge, who was filling his accustomed post of mechanician to his cousin, most carefully scanned each part of the vehicle, and then took his seat on the floor. "Two minutes to go," said Major Lindsay Lloyd, who was acting as starter, and Edge withdrew his clutch, and then shifted his speed lever from the neutral notch to the first speed. "One minute," said the starter. "Thirty seconds!" "fifteen," "ten," "five," "four," "three," "two," "one," "go!"

Almost with a bound the car jumped into thirty miles an hour. Then forty, and she was through the arch of the grand stand, and with a sudden turn all the spectators had screwed round and were peering through the gaps in the woodwork in order to catch a rear view of the car as it leaped down a slope, over a ridge and shot out of sight towards Old Kilnellen. The general feeling was one of wonder at the sudden disappearance, but Edge was going to improve on that. De Knyff now brought his Panhard to the mark, and we were able to observe the little points where the extra paring down had taken place. The saving of even the few ounces represented by a piece of supple wood used to brace the connecting rod of the steering gear had been considered important enough to justify its sacrifice. Edge had left at 7 o'clock, and at an interval of seven minutes

DE KNYFF WAS GIVEN THE WORD TO GO, and he also leapt into his stride with marvellous rapidity. Edge had been cheered to the echo, and his greatest opponent (as everybody thought) had a reception none the less hearty. He took both hands from the wheel and waved them to the spectators, and—was gone. Owen, on a little Winton, was next in



S. F. Edge at the start. Cecil Edge standing on right and M. S. Napier on left (looking at photo.)

order, although everyone thought that the big Winton would naturally go first of the two. The Wintons are very clean-looking cars with long shallow bodies. Their appearance was a distinct change from the competing European cars. Owen was away at 7.14 o'clock, starting slow, and then came Jenatzy, who was driving one of the 60 h.p. Mercedes, which competed at Nice. A curious-looking man is he, with a perpetual and not unpleasant smile; his complexion and hair of the same sandy colour giving him his peculiar appearance. His grey-white Mercedes had an enormous brown leather bag on the rear platform for tools and parts, a fitting which excited the risibility of the foreigners. One, Georges Prade, the well-known contributor to our Parisian contemporary "L'Auto," asked him if it were for the purpose of taking away the cup. Jenatzy laughed and said it would do exceedingly well. At 7.21 he was told to go, and it was admitted that he had made the best start up to that point.

JARROTT, ENGLAND'S SECOND STRING, some well-informed persons regarded him as the first, now came to the post,

driving a Napier car of about two-thirds the power of Edge's. Bianchi, his clever little mechanician, was with him, and both were as calm and self-possessed as if merely a Brighton run were in contemplation. Jarrott left at 7.28; and now Gabriel, on the blue torpedo-shaped Mors, tied the line. A nice gentlemanly face has Gabriel, with a clear far-seeing eye, and one can see that here is Edge's greatest foe. He is entirely without nerve or fear, and his pluck and determination go hand-in-hand with cool calm discrimination. He had passed us the day before in a narrow road, when our car was travelling fast, and the easy way in which he ran his off-side wheels over on to the grass, and then sped by, as if we were standing still, excited our admiration.

THE NEWEST MORS

is a fine car of about 90 h.p., and, although the frame and axles were light, they were quite suited to the Irish course. A very clean start was made by Gabriel at 7.35; and then Mooers, the American, came to the front, and it was noticed that, now the battery box had been removed, in



A general view at the start, taken just as Edge was on the point of starting.



SCENES AT THE START.

*Rene De Kayff (Panhard).
J. Stocks (Napier).*

*C. Jarrott (Napier).
L. P. Mooers (Peerless).*

order to bring the machine inside the weight limit, the batteries were merely held by a strap. The French motorists present viewed with derision the method of starting, the mechanic gripping the near-side driving wheel, and giving the car a push off as the clutch was let in. But, despite the precaution, Mooers stopped his engine, and at the next attempt the machine started to creep away, and somebody had to tell the driver that his brake should be released. It was funny, but it was not sport. There must be no nodding in a game of this sort.

DE CATERS ON A MERCEDES.

was the next away at 7.49, giving a parting wave of the hand to Baroness de Caters on the grand stand as he shot by. Now came Stocks on the light Napier. He, too, made a slow start, whilst Henri Farman, in stopping his engine when given the word to go, lost over 17 seconds. He drove a Panhard, similar to De Knyff's. Winton had been at the rear endeavouring to start his engine. As Stocks left he had come up to Major Lloyd, and said: "Well, I guess I can't go!" "All right," coolly answered the Major, "I'll give you the official word!" When Farman had gone, the Winton was brought to the starting line, and the driver and his mechanic commenced to detach the carburetter. The word to go was

given, and Winton smiled and said: "That fell flat, eh?" Foxhall Keene, on his Mercedes, now came alongside his countryman, but said not a word, shooting away at 8.17 a.m., the last of the competitors. Winton finally found his feed jet choked with a small piece of rubber, and after refitting, got the engine to run. He went away at 8.50 a.m., or 40 min. 7 1-5th sec. late.

The course had long ago been cleared of everybody else but Winton and the officials.

From Ballyshannon the route to be taken was to the fork roads just below Kileullen. Here the angle had been cut away, so that the cars could sweep round on to the eastern or smaller circuit. As this was the parting of the ways, a stop of one minute was imposed, and, during that lapse of time, a card would be given to the driver informing him which route he was to follow. In addition, the duplicate vouchers issued in connection with the passage of each car in control would be removed from the pouch, and dispatched to the timekeepers at the headquarters at Ballyshannon. For the first circuit the cars were sent via Carlow. The road is very fair, although narrow in most parts. The approach to a village was marked by warning flags, suspended over the middle of the road, whilst, where necessary, a large cautionary banner

stretched across, indicating the approach to a corner, the route being pointed out by signposts. The notices "Sharp turn to left," or to right, as the case might be. Castledermot's short street, ending in a fork road, temptingly inviting the driver down the wrong way, was controlled, five minutes being allowed. Five miles farther on came sedate old-time Carlow, which marked the extreme end or V of the eastern circuit, ere the cars careered towards Athy. Carlow was fully and proudly conscious of its importance as the date of the great race approached. Perhaps at no portion of the route did the inhabitants follow every detail with closer attention. Nearly all the shops were closed for the day. Carlow is a delightful old place, on the Barrow river, with a ruined castle as one of its features, and many houses fully two centuries old. The inward control here was about half a mile on the Castledermot road, and extended for barely a mile into the town, taking a sharp curve round by the Court House, and along the Athy road, when a fairly clear run was obtained to the Athy (east) control. The control period, excluding any special extension for the proximity of other cars, was ten minutes. Visitors to Carlow were comparatively few, intending sightseers preferring to get further afield. Here a view of the cars in actual contest could only be obtained three times.



Baron De Caters (Mercedes) at the start.

Probably the largest gathering was just beyond the outward control, towards Mageney Bridge, but, generally speaking, there was at no time a large crowd in the district.

All day on Wednesday cars of every size and description passed through the town, and the commissariat department became heavily taxed towards the evening, when parties of many nationalities began to arrive on the scene. Carlow boasts that it was one of the first towns in Ireland to adopt electricity for public lighting—and its tall standard opposite the Court-house marked the lowest point touched on the course. A strong posse of the constabulary were drafted in for duty on the eve of the race, and it need hardly be added that they took a keen interest in the proceedings. The R.I.C. are nothing if not genuine sportsmen, and the fact that they had to be on duty at 3.30 a.m. did not trouble them at all. The control area had been watered and carefully scrutinised ready for the morrow, and as the evening advanced the locals turned out in force to discuss the pros and cons of the situation. Throughout the night intonation of engines and the harsh unsympathetic sound of the motor horn were heard. In fact, after daybreak it was absurd to try and take further rest. The morning brought with it a calmness indicative of that storm of speed and thrilling excitement inseparable from such a contest. Major Bower, head marshal of Carlow control, was early at his duties, and after 5 a.m. the various officials commenced to arrive. Adjacent to the control points were the camps of the mechanics, considerable interest being evinced in the operations of these agile workers, who, by the way, were not allowed to do anything to the cars whilst they were actually in control. The first item of interest was the passing of Owen and Winton (America) through the control on their way to the start. No pilot car or racing monster were seen, but a loud cheer greeted the approach of the first man, S. F. Edge, at 7 hrs. 31 mins. 30 secs., which time shows that he had travelled well over the 25 miles dividing the start and the inward Carlow control. "All right; fit and well," he sang out to our representative, getting away promptly through the odd mile of neutralisation. Barely ten minutes later came the bearded De Knyff—to be exact, at 7 hrs. 41 mins. 10 secs.—having thus lost

on Edge. He told us that he had fortunately escaped a smash at the awkward fork roads in Castledermot. The old straightaway road had been closed by the erection of posts at each side, and the gap was filled by a very strong wire netting, the mesh being about nine inches square. This barrier had been placed at every side road round the course. De Knyff said that he took the wrong course, saw the barrier, and pulled up sharply on the wire, which marked his radiators. The veteran driver backed out, and proceeded on his way, making a mental note of the corner. As subsequent events proved, a man with a flag was urgently required here. Percy Owen, on No. 3, heralded the first of the American team. He had lost seven minutes on Edge, for 52 mins. 35 secs. after the hour of seven was his time at the inward control. A flash and a whiz!

JENATZY CREATED A GOOD IMPRESSION

by his approach. "A winner" was the general verdict at this early time in the race, and, strangely enough, the predic-



Foxhall Keene on the Mercedes, going at top speed near Ballyshannon.

tion was fulfilled. But he had overshot the mark (the first and only one, by way of parenthesis) in the first lap at Carlow control, and had to retrace his wheel marks. Jenatzy had lost three minutes on Edge, 7 hrs. 55 mins. being recorded by the registrar. The usual Continental enthusiastic shaking hands and the valuable outpouring of queries, now started. Jenatzy, in his sou'-wester and overalls, looked the ideal skipper. A shake, an adieu, and Jenatzy followed his pilot cyclist. Eight o'clock dead saw the advent of Britain's second hope—Jarrott. Gabriel, the next arrival, appeared quite unruffled in his now familiar Mors. He was about 14 minutes late, based on Edge's time. Mooers, the next arrival, had lost over two minutes on this basis. He told us he had been bothered at the turns. Baron de Caters, "all smiles,"

glided in, having gained six minutes on Edge. In fact, over the first lap he led the field. No sign of Stocks. Rumours gained currency that he had been upset, and was out of the race, one excitable cyclist, indeed, alleging that he had witnessed him smashed up, and pouring forth a gruesome story of death and disaster. As a matter of fact, we saw Stocks shortly after his contretemps, and heard the true tale. He had successfully cleared the Castledermot control, having covered 18 miles of the course in 22 minutes, when he ran on to the old Carlow road, and met the wire barrier over which De Knyff had nearly come to grief. Unfortunately for Stocks, the wire wound round one of the front wheels and broke it up, after the car had slewed round. Stocks got off without mishap, and so did his mechanic, but the damage was too serious to attempt any repair, so the Napier man figured henceforward as a spectator.

He had driven into Carlow on a private car, and then proceeded to the control exit. At fifty miles an hour it was impossible to clear the wire and negotiate the turn. When the control men heard of the accident they immediately sent up an urgent appeal to safeguard the drivers that followed. Henri Farman, travelling well, came through in fine style. Winton, complaining of water in his petrol, did not arrive for fifty minutes after No. 12. Foxhall Keene, the American millionaire, had come along. It was distinctly comical to see him, in his dust covered suiting, grovelling beneath the car, his brake gear having become a little deranged. It was interesting to note the varying characteristics of the men. Jenatzy threw up his hands at any remark, and then remained with the air of a stoic at his wheel; De Knyff gesticulated a good deal, and his voice could be heard rising above all others. Farman left a good deal to his mechanic, and seemed the freest of all from trouble. Edge was looking rather worried, and the Americans, thus early in the race, assumed a pessimistic air. The Mercedes cars started off with tremendous rapidity.

After leaving Carlow there came the most tricky part of the course. For eleven miles the road runs through fine scenery, but is extremely narrow and winding, with two right-angled turns over Mageney Bridge. We ourselves had travelled the course in a moderately fast car, and found thirty miles an hour distinctly dangerous, but, of course, racing cars with longer wheel base, more lock to the steering wheels, and with the weight low down, can take a corner at a greater pace than



The Wolseley pilot car about to start its journey round the course.

can a touring car, however fast it be. Approaching Athy there is another bad double turn over the river again, but this was included in the controlled ground.

The picturesque town of Athy formed a very interesting centre for the race, as it was through here that the competitors were to pass no less than seven times, entering it at two points, one eastward from Carlow, and the other westward from Stralbally, both sections merging below the town, the competitors thus leaving by one point for the finishing run to Ballyshannon corner.

The officials at the east control were early on the look out for the first arrival, an interim item of excitement being caused

one minute later. Then an interval of six minutes, and Jarrott appeared in sight. He left at 8.44. Eight minutes after Jarrott, Gabriel drove up on his Mors, and then there was a considerable interval, during which Mooers should have passed through. He broke down, however, just outside the control, and had to spend a considerable time repairing his car, not finally leaving until ten o'clock. Barnard's Cater, however, appeared in good time at 8.48, and Farman, at 8.57, bringing the news of Stock's accident. Thirteen minutes afterwards Foxhall Keene, the last competitor despatched from Ballyshannon, stopped at the control, Winton not arriving till 9.54, when most of the

see so far away, and usually the first warning was that given by telephone from the commencement of the last mile to Ballyshannon. Mr. R. E. Phillips, the head timekeeper, had laid electrical connections across the track a mile apart, the passage of the car either breaking a string, and so making a contact, or bringing by pressure the negative and positive poles together. As the car passed over the device at the commencement of the mile it started a stop-watch at the other end, and, as it completed the mile, the watch was stopped, and thus the speed over the flying mile was ascertainable. The telephone was also in use over this distance, and when



View taken from the Grand Stand at about the time Edge was expected after completing the first round.

by the appearance of the car carrying the inspecting officials, but no pilot car came through. Some minutes before he was expected Edge dashed up at 7.54, looking in the pink of condition, and bringing his car to a standstill within the allotted lines. In accordance with a prior arrangement, he was retained within the control area for a period in excess of the official limit of 12 minutes, in order that he should not reach the starting point at Ballyshannon until all the competitors had commenced their journey. After a total interval of 21 minutes, punctually at 8.15 he was despatched on his journey. In the meantime, De Knyff had arrived at the control at 8.4. He, as well as the other riders on this occasion, was detained for 21 minutes, leaving Athy at 8.25. The third arrival was Owen, who came in at 8.10, closely followed by Jentrey,

other riders were well on their journey at and the second circuit.

From Athy, long stretches of straight road only wide enough in places for two cars to pass, if one went partly on the grass and the other kept well over to its side. The only point where it would be necessary to slow up was at Ardsclull Moat, round which the road curved. At dangerous turns along the route petrol-lamps had been laid down in order to suppress the dust and keep the road firm under the crushing roll of the tyres. The road could be seen for nearly three miles from the Ballyshannon grand stand, if one were provided with powerful binoculars. But as the day wore on the mist in the distance and the fact that the intervals were so long that no eyes were continually seeking cars through binoculars reduced the value of the ability to

a car came into sight at the distant end the news was telephoned through, so that the spectators had about a minute's notice of the approach of a car. The race was being timed on six chronographs, three being operated by Mr. T. H. Woollen, through his new multiplex device, Mr. Swindley, Mr. Pembroke Coleman, and M. Tampier, the famous French timekeeper, also timing each arrival. Foxhall Keene had been gone five minutes when there was a shout of a car in sight. Winton's car was at the side of the road, occupying valuable spare space. Winton himself was still tinkering. Away in the distance and coming down the slope three-quarters of a mile from the finish, was seen the silhouette of a car. It moved with a curious undulating motion unfamiliar to most of those present, but well-known to everyone who had seen



SOME OF THE CARS AT TOP SPEED.

1. Edge at Kilrush. The steam will be seen coming from the radiators.

3. Jarrott at Kilrush going at full speed.

2. Edge passing the club enclosure after the first round.

4. De Knyff passing Kilrush at top speed.

the speed events on the Continent. A traction engine stationed in a field some way down the road was utilised by some enterprising spirit for the purpose of signalling the approach of the car. The white coat of the driver proclaimed the fact that the car was Edge's, and then the flimsy fencing on the top of the bank bent over with the weight of humanity resting on it, until spectators on the other side of the road yelled to the crowd to keep back, for it looked as if the fence would go, and the whole of the front row be precipitated under the tearing locomotive. The car came on with a series of bounds; it approached and passed with a roar, and Edge was seen bending over the wheel holding it with a rigidity which gave the spectator an idea of the fearful strain. His white waterproof was bulged out with the wind, and as the car shot under the grand stand over a series of dips and rises, Edge was in and out of his seat like a jockey on a horse. With never a look at aught but the road in front, Edge took the machine out of sight at sixty miles an hour, and then the crowd looked up with whitened faces and a look of fear in its eyes. For the first time the spectators realised what racing speed meant; that which had, up to that moment, provided sport and amusement for them, and had seemed to be merely an exhibition of speed and skill, was now recognised to be a horrible fight with death, and there was almost an indefinable universal feeling that each one should go away and not encourage, by his or her presence, such a fierce struggle. Edge's passage had made a deep

impression, even upon those who have seen the big Continental races in progress, and we ascribe this to the fact that the narrowness of the road and the generally restricted space gave a different complexion to the incident. Edge had been 1 hr. 23 mins. 23.35th secs. on this the first circuit, and now every eye was turned towards Kilrush, to see if De Knyff would appear within his seven minutes. The seventh minute passed, however, with no sign of him, then the eighth and then the ninth and tenth, and we breathed more freely. At last the hooter of the traction engine sounded, and De Knyff came in and passed with the rush which had now lost the charm of novelty. Moreover, De Knyff had an easier way of seating himself, and his heavy car seemed to keep the road better. He had taken 1 hr. 20 mins. 47 secs., and now a wait of fourteen minutes ensued, and then the hooter blew and blew again. "Owen!" we all shrieked, and the little low, flat table on wheels came hurtling along; but there, away behind, was a flying monster overhauling the vehicle in front of it hand over hand. It was Jenatzy's Mercedes, and the driver's sandy face, with the lips apart and the teeth set, gave one the horrible impression that the man had really lost his reason, and was just going to crash the thing into the hedge. Owen flew by the timekeepers' box with Jenatzy exactly one second behind him, and before the first was clear of the arch of the grand stand Jenatzy, with his distended black waterproof, his goggled sandy ragged face and south-wester standing straight out behind his head leaving his

forehead exposed, had rushed alongside of Owen and had passed him. But before the day was out we were to become accustomed to the awful apparition of Jenatzy and his white Mercedes; still, let it be confessed that each sight of it turned the heart to stone because of the visions of catastrophe it conjured up, whereas we have not the slightest doubt but that it looked twenty times more dangerous than it was in reality. Five minutes later Jarrott was signalled, and the white clothing of the English drivers was by now so well known and so distinctive that we felt it was going to help us all day. Unfortunately we saw white clothing not a third as much as we ought to have done. Jarrott came by looking cool and collected, and although he had taken 1 hr. 25 mins. 14 secs., we felt that there was ample time for Jarrott to go ahead and win, because somehow his chance was fancied above Edge's, the latter being rather unreasonable on the matter of tyres, and moreover, had apparently changed his mind a lot about the machine he was going to drive. Now we looked for the greatest of England's rivals, Gabriel, the winner of the Paris-Bordeaux stage of the recent ill-fated race to Madrid. But over ten minutes elapsed, and when he came in in 1 hr. 30 mins. 10 secs. we almost felt that the cup was nearly safe. Now came the smiling De Caters, having done a minute faster than Gabriel. He waved his hand to the Baroness, his wife, as he shot below the stand and was gone, leaving a pleasing impression of a cool, skilful driver. He was to earn the love of that crowd very shortly, as well, so it turned out. Motors was missing; and

now the minutes went by and Stocks had not arrived, and then as Farman came up in 1 hr. 24 mins. 31 secs., and Foxhall Keene, another cool driver, in 1 hr. 23 mins. 3 secs., beating Edge by 20 secs., we began to worry about Stocks, and the absence of news made matters worse. Thus at the end of the first circuit it was seen that the Mercedes had figured best from a speed point of view, with the Napier close up, and Farman's Panhard a nice third, but neither Keene nor Farman was greatly fancied. Gabriel was not driving up to his reputation, and De Knyff was not so dangerous as had been expected. Jenatzy was not so far fancied either, because his appearance was not suggestive of any real ability to get through. The Americans were making a poor show, Owen being the saving clause for the Yankees. Although it was yet early to talk, the cup was, seemingly, not in any very great danger.

From the starting point Edge continued over the same road to the fork roads, where the circuits part. Here his pouch was emptied, and the duplicates contained in it were sent up to Ballyshannon, so that some idea could be gained of his actual performance, and then he had to proceed for about a mile into Kilcullen, where there was a sharp right angle in the street between a high brick wall on one side and cottages on the other. The road here had been laid with petroleum, and was quite solid. The corner was slowed down for, and taken in safety, and as each competitor came up for his first attempt, he took it cautiously, but gradually the speeds became greater and greater as the drivers became used to it. Only one car went round badly, scraping the wall with a dust guard. After Kilcullen came the fine open space, the Curragh, and here were to be found the Infantry detailed off to police this part of the course. The road from Kilcullen strikes the main Dublin to Cork road with a sharp sweep. We noticed that this curve had been widened, whilst for the benefit



M. JAMES GORDON-BENNETT.
The donor of the Gordon-Bennett Trophy.

of any driver who might miss his turn, the bank on the outer edge of the road had been cut away, so that in case of mishap the car would run harmlessly on to the grass. To avoid risk no person was allowed to stand near the corner, but at no point was the crowd extensive. At

the end of the open country came Kildare, and Edge reached here at 8 hrs. 37 mins. 30 secs.

He seemed in good form, and while his tank was being filled he informed us that he had gained four minutes on De Knyff. Eleven minutes and a half later came De Knyff who, after allowing for the seven minutes' start, was now 4 mins. 30 secs. behind Edge. Jenatzy, the third man, arrived at 8 mins. 51½ secs., three minutes before Owen. So great was Jenatzy's pace as he drove up to the control that the officials frantically shouted and motioned him to ease down. But the warning was not needed, for he had no intention of repeating his Carlow experience, and knowing his car, he pulled up well within the limit. On account of his skill in this respect there is no doubt that Jenatzy gained time at each control. Owen was the next arrival, and two minutes after came Jarrott, followed 11½ minutes later by Gabriel, who after making time allowance, was apparently 7 mins. 30 secs. behind Edge. An interval of 14 mins. 30 secs. elapsed before Baron de Caters, who was the next to arrive, crossed the line; then followed Farman, whose time showed that he was running a tie with Jarrott, both men being three minutes behind Edge, who still held the lead.

Near Donnelly's Hollow, Keene lost a tyre, and it took him about ten minutes to effect replacement. He entered Kildare control 20½ minutes after Farman. Then came Mooers, looking very hot and over-tired. As he approached the control, he shouted for water, but as he brought his



JENATZY.
The winner of the Gordon-Bennett Trophy.



An Impression of the Gordon-Bennett Race at Ardscull Moat.

car to a standstill in the control the water could not be supplied.

The last man of the batch, Winton, arrived in Kildare control at 10 hrs. 39 mins. 30 secs., or about 52 minutes slower, after making time allowance, than the leading man, Edge. Midway in the control Winton's car stopped, and some five minutes elapsed before he could start again.

At the end of Monasterevan is the "Market Square," which, in reality, is merely a widening out of the road, along which the cars were to pass. This has a cross in the centre commemorating an incident of the stirring times of the Rebellion of '98. The district, in fact, is rich in relics of this period. One looks in vain for a hotel, with the exception of a cottage adorned with the word "Hotel." There was an air of subdued excitement amongst the group of natives who stood at every corner and sat around the cross in the Square, wondering what this new thing in sport can be like. Never before had so much bustle and excitement disturbed the little town. Groups of constabulary discussed the pros and cons of the great event in an intelligent manner, and were as interested as any spectator could be. Looking up the road towards Kildare, a good view is provided for about 500 yards. The red and green flag to warn the competitors of the beginning of the control was clearly seen. The road here is wide, and has on this stretch a moderately good surface. Through the control, however, the surface is poor, and on beyond

the surface deteriorates into a vile condition. Half a mile past the control flag the road passes over the canal bridge, and a more deadly turning could not be imagined than exists at this point. It is "S" shaped, with sharp loops, and the road surface is worn into deep channels and holes. Any attempt to negotiate this rise and turning at any speed could only end in disaster. Some crude and fragile looking stands had been rigged up here, as, indeed, there had been on many parts of the course.

During the night cars and cycles had been bringing spectators. At 5 a.m. the constabulary had filed on to the route, and at this time the weather gave promise of a fine day. Visitors came in up till 8 o'clock, by which time the side roads were roped off, and the police took up their positions. A very complete repair shop had been fitted up by the Mercedes people, and the Continental Tyre Company had a large stock of tyres and many attendants at hand. Two hours after the pilot cars had passed, Edge arrived amidst great excitement. He was looking fit, but reported trouble with his water circulation, water having been escaping from the radiators. Edge arrived at 8.52. Rene de Knyff came in at about 9.4, reporting all well. The sides of the bonnet were wide open for cooling purposes. The road surface was worrying him, and high speed for any length of time was impossible. Jenatzky came in at 9.18 at high speed, and with perfect control of his beautiful Mer-

cedes car. We could hear the roar of his exhaust a long way off. At 9.21 Owen passed through Monasterevan on his low built Winton, seeming a trifle nervous. He had lost time, but reported that his motor was running well. A couple of minutes later Jarrott drove into the control and received a great ovation. He seemed to be gaining on Edge, and looked determined and cheerful. All seemed well with his car, and after a glance at his tyres he drove off again. Gabriel next came in sight at 9.34, his torpedo-like Mors rendering identification easy. Straight as an arrow he steered up to the control, and after a brief examination by his mechanic he was off down the road at top speed. De Caters was the next arrival at about 9.50. He came in well, and the Mercedes staff soon overhauled his car, filling the tanks and testing nuts and tyres. At 9.58 Farman drew up and reported the accident to Stocks. Foxhall Keene was the next arrival, at 10.20, reporting two mishaps to his car, one tyre having punctured a mile from the control, which nearly caused a disaster while turning a corner. His back axle had broken, too, and many thought him rash to continue, but he left the control after a brief survey of his car. Mowers came in at 10.35, and his car created much interest with its immense engines and gauze bonnet. It was without exhaust box, and its rattle was ear splitting. Water was poured over the tyres, and he got away again after experiencing some difficulty in start-



Watching the departure of the racers at Kildare Control.

log, the noise of his engine echoing till it was a mile or so away. Winton passed at 11.0, having experienced tyre and engine troubles, which had delayed him an hour.

At 11.30 spectators from a mile or two up the course reported that the road was getting badly cut up, and that one of the French cars had had a narrow shave, the driver missing his steering, and making a violent swerve, which greatly scared the spectators. Several officials on the control agreed that the three-mile stretch before Monasterevan was reached had seen some exceedingly fast running, Gabriel touching 74 miles an hour at one part. There was a lull in the excitement now, as it had been heard by telegraph that Stocks had definitely withdrawn from the race. The sky became overclouded, and rain looked not improbable. At this time the sound of another car was heard, and it was seen that five people were on board. Great excitement occurred when it was found that two surgeons were among them. A serious smash had undoubtedly occurred, and great anxiety was felt for Keene, who had gone on with a broken axle, and who, it was thought, might be the sufferer. The telegraph was set to work, and news anxiously awaited. A rumour first gave Edge as being injured; a later report said Jarrott. An official telegram now came through saying that Jarrott's car had overturned. After passing Monasterevan the road is splendid for nine miles, being straight and, in many places, fairly wide. At Ballydavis the course had been deflected south by a double acute-angled turn, which simply had to be taken slowly, then down to the junction with the road which runs from Maryborough to Carlow. The turn is again sharp, and then comes the fine run to Stradbally, past the rock of Dunamais. The drop into Stradbally is very sharp, and after first arranging that a caution should be given to



Edge "steams" into Monasterevan.

the drivers, it was decided to control the village for a mile. Perhaps it was the wisest thing to do; but the inhabitants were robbed of a fine sight. Stradbally is a straggling street, lined by whitewashed houses, roofed promiscuously with slate, red tiles, or thatch, leads down to the bottom of the dip, where the central cluster of cottages and shops nestle. At the exit of the control the road begins to rise for the ascent of

THE PASS KNOWN AS WINDY GAP, the southward stretch of which was expected to provide one of the fastest and most exciting runs of the day. Leaving the control the stretch leading to the top of the pass is bounded by a three-foot stone wall, affording excellent and safe observation; but here there was but a scanty gathering, composed principally of natives, visitors naturally preferring to place themselves further from a control, where higher speeds could be seen. The wind was considered to favour a car of

the Mors type, less resistance being offered.

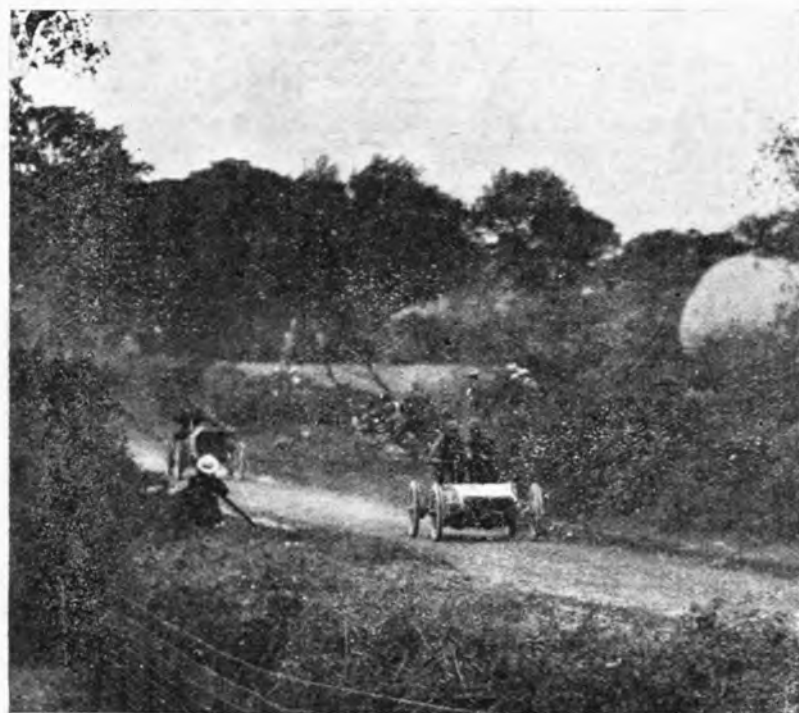
The officials passed through, inspecting at 7.20, and at 8 o'clock the pilot car came through and proceeded to Athy. Then came a long wait, and finally Edge was announced. He swung in at 9.21, having lost five minutes outside the village in endeavouring to locate some defect in the machinery. De Knyff was taking things much cooler than Edge was doing. Jenatzy was inside time as compared with the preceding two, whilst Owen, whom he passed at Ballyshannon, was now eight minutes behind, two wheels being very shaky. Gabriel, the next arrival, brought news of Jarrott's smash two miles back. With the well-known sangfroid of the French driver, we were told that Jarrott was lying apparently badly hurt, whilst his car was all in pieces. Twenty minutes later De Caters came in, and confirmed the bad news, but said that Jarrott was not hurt, and had asked him to remount



Jenatzy makes anxious enquiries at Monasterevan.

and re-sume the race. De Caters promised to send help, and thus came on to Stradbally. A relief car was sent out, and it returned with him soon after eleven. He told us that his steering gear had snapped, and that he had been precipitated into a bank, his car turning a complete somersault and being badly smashed. He and his mechanic were thrown, Jarrott dislocating his shoulder blade, and in falling struck a boy, who got severely shaken by the impact. Bianchi, the mechanic, although not damaged, was badly bruised and shaken, and fainted once or twice. The injured men were taken to a house in Stradbally, and medical help secured. Jarrott was very cool and calm over his smash, and he smiled appreciatively at the sympathetic remarks of the crowd. Earnan and Foxhall Keene passed through, and then, soon after noon, Meyers rushed the control without stopping. It had been a bad first round for Stradbally.

From Stradbally the road proceeds over Windy Gap, which, we believe, is a name for almost every Irish mountain or hill pass. The drop on the other side is fearful, passing through Ballylynan to Simmonds Corner, where a sharp turn to the left leads on to the wide and straight road into Athy. The distances for the whole circuit are: Ballyshannon to Killeullen cross-roads, 3½ miles; Castleblinny, 19;



One of the exciting moments. Jenatzy coming up to pass Owen near Ballyshannon.

Carlow, 26; Athy, 38; and back by this, the smaller circuit, to Ballyshannon, 47 miles. The larger circuit is as follows:—To Killecullen town, 4½; Kildare, 12; Monasterevan, 20; Stradbally, 43½; Simmonds Corner, 50; Athy, 55; Ballyshannon, 64; or a total of 111 miles.

The hard-working officials at the outward control at Athy had very brief intervals of leisure throughout the day. Hardly had the last of the riders cleared the first circuit before the pioneers began to come in for the second time. Thus, Foxhall Keene had left Athy at 9.31, when Edge entered it seven minutes later, at 9.38. He reported tyre trouble at Monasterevan, and a loss of five minutes on the circuit. His engine was very much overheated, and, on leaving the control he had a slight difficulty in getting her to re-start, some protest being made by the French attendants at an alleged breach of the rules in being pushed off while outside the control area. Edge left at 9.50, and in the meantime De Knyff had arrived at 9.45. Jenatzy followed at 9.58, having displaced Owen, who did not turn up until 12 minutes later. Four minutes afterwards (at 10.14) Gabriel turned up, to the surprise of the officials, who were expecting Jarrott as the next arrival. Their surprise turned to dismay when he reported a severe accident to the English rider. But at 10.34 De Caters brought better news, to the great relief of everybody. Eleven minutes afterwards Farman came in, and at 11.13 Foxhall Keene made his appearance. It was noticed that the back axle of the car was split, but the American representative of Germany elected to continue his journey. There were no others to arrive at Athy, but the two American riders, Mooers (No. 7) and Winton (No. 11). Mooers came in at 12.30, having given up the race after a series of mishaps. Winton passed through at 1.1. At Ballyshannon once more there was but an interval of twenty minutes after Keene's car had gone before the useful hooter sounded again, and once more the timekeepers prepared for their task. Their steward (a member of the staff of "THE MOTOR"), through his binoculars watched the brow of the hill, three-quarters of a mile away, and as the



Passing under the Grand Stand.

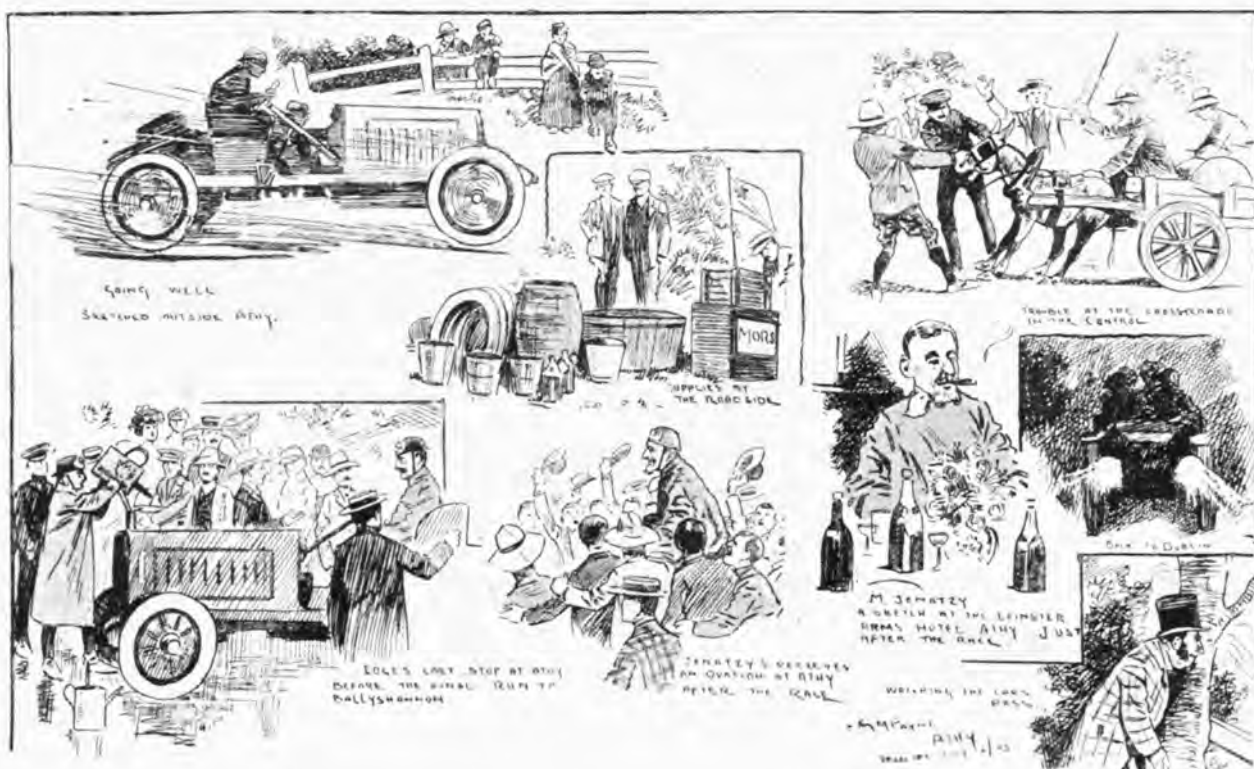
car came over it was able to say who it might be. At once the white clothing gave the clue. "Edge" was the word, and again we saw him rush down into the greasy hollow, where the fool-labourers had poured oil until it had become a pool, and then up the gradient to the grand stand, disappearing with three or four bounds in a cloud of dust. Cecil Edge was holding on in what looked a precarious position, but which was no doubt nothing of the kind. Edge had taken 1 hr. 37 mins. 3 secs. on the large circuit. In less than six minutes De Knyff came through, and then we saw that he had gained on Edge, because the latter could not have been subject to any two minutes' extra control stoppage to allow any other car to get away. So our hearts sank a wee bit. During the wait, Mooers came through, having taken 2½ hours over his

first circuit—we laughed. Then Jenatzy was seen coming down the hill, and as we got his time—1 hr. 31 mins. 19 secs.—we found that here was another element of danger. The time was abnormal, but Gabriel was found to have done even a minute better. Owen had got through fairly well, and Winton had now completed his first circuit in fair time, but he had handicapped himself out of it by his bad start. Stocks was still not through, and now Jarrott was missing. At this point a curious group was astrid on the road. One of the group, Mr. Wallace, held a telegram. "Jarrott!" was the whispered word. "A doctor and a car!" What did it mean, and why were the officials keeping the news quiet? But our representative got a glimpse of the wire. "Jarrott knocked out; send doctor to Stradbally," and the inner circle had got the news. It seemed to spread, as bad news always does. Then De Caters was seen coming down the hill. But why was he slowing down? Yes; he was stopping! And as he reached the starting line he beckoned to "Cyclomot," who ran forward and received his message, "Jarrott not hurt, but his car smashed to pieces." Then the clutch was let in, and away he rushed. The crowd breathlessly waited to know the meaning of the incident. The news was given to the Club President and Secretary, who ran up to hear it, and then it was announced to the crowd, who cheered and gave vent to a big sigh of relief, and the sportsmanlike action of De Caters was deeply appreciated. Farman came through in ten minutes' slower time than Gabriel, and Foxhall Keene a quarter of an hour slower still. The impression after a car has shot by is disturbing, because the rear wheels jump about in a most violent fashion, and every second one seems to expect that the axle or the springs will go.

The question which agitated all was: Would Edge maintain his lead round the third circuit? And those at Carlow were soon to know. A roar went up as the first car appeared. "De Knyff! De Knyff!" Great excitement in the French camp,



Fortunately, the warning to occupiers of premises near the route to keep their live stock under control was acted upon, and there is no record of pig-curling during the race.



Sketched by our Artist at Athy on the day of the Great Race.

and a retiring disposition among the Napier crowd as the Panhard came in. Edge had had tyre troubles the other side of Castledermot. Next came Jenatzy, travelling in excellent style. Edge, still our hope, at last arrived, and hearty cheers greeted his appearance. Trouble with his tyres was the crux of his misfortunes. At once the outer cover was slipped off, before control time was up; then the car was taken out of control, and a fresh cover put on. The time, it is interesting to note, for the operation was 8 mins. 54 secs. Before Edge left, Owen came in, appearing to be in difficulty. Another shout went up, and the blue-painted Mors beat time until the Winton got clear. Where was Jarrott? The affable De Caters, who followed Gabriel, told us that he had come across the Napier man with his car smashed. Stopping to make enquiries, he found that the driver had received an injury to his shoulder, and then, with a courteous salute, the German representative was lost to our sight. France's hope of success was heightened by the appearance of Farman, who, however, had experienced some trouble with one of his tyres. He utilised a spare five minutes with a promenade, a bottle of Bass, and some sandwiches. Foxhall Keene, the last of the starters, could give no news of Mooers and Winton, who were now presumed to have given up the race.

Ten minutes before, Keene, the twelfth competitor, had arrived at the Athy control on the second round, viz., at 11.3. De Knyff was now round for the third time, having passed Edge, who later told us of the troubles with his tyres. The burly Frenchman was as imperturbable as ever, and dashed off at 11.15, his only trouble being, as he said, that owing to the nature of the course, he could not let his engine go at full speed. Thirteen

minutes afterwards, at 11.16, Jenatzy reached Athy. He seemed excited, and in great form. Assuming that the neutral times had been the same in his case as in that of De Knyff, he was one minute in front. He dashed out of the control at 11.28 with great determination. Seven minutes after he had left, Edge turned up, to the great relief of everyone, who had feared some accident when he was so much overdue. Gabriel came into control at 11.44, and De Caters at 11.55. The latter reported that Owen had broken a wheel. Here the rain, which had for some time been threatening, came down and the rest of the day showed unsettled weather, there being sharp showers at intervals. At four minutes past noon Farman arrived, Keene turning up at 12.31, having, to the astonishment of everybody, survived another circuit with his broken axle. He left at 12.43, with some misgiving as to his chances of being able to continue the journey much longer. The two American riders, Winton (No.

11) and Owen (No. 3) arrived at 2.42 and 3.14 respectively.

The scene again shifts to Ballyshannon, and the hour of the day is past eleven, although few could give any idea as to the time at any moment of the day, the usual effect being one of astonishment that the day was yet so young. We had heard some details of Stocks's accident, and the spectators heard the announcement with a sense of relief. Interest now centred in De Knyff, and, when he was announced and shot through as before, it was found that he had covered the small circuit in 1 hr. 18 mins. 57 secs., and we began to give the great Panhard more credit for stability than we had so far accorded it. Now came Jenatzy, doing the last mile in 50 secs., and again we saw that curious face and caught the infection of the man's determination. He had covered the circuit in 14 minutes less than De Knyff, and as we now heard through the motorcyclist messengers that Jenatzy had been held back two minutes in Athy on the first round, in order to let Owen get away, we saw that he was rapidly pulling back the 14 minutes' interval which separated him from De Knyff. Edge flew through next at a very great pace—again 64 m.p.h.—but he had been nearly two hours on this circuit. Gabriel had taken 1½ hours, but De Caters, the fifth man in, had done 11 minutes better. His last flying mile was at the rate of 61 miles per hour, and he gave his usual wave to the grand stand, and was wildly cheered because he had become the popular favourite. Farman, next to arrive, had done 1 hr. 17 mins. 34 secs., and Keene 1 hr. 19 mins. 14 secs. Just as a matter of interest, Winton came in some three hours afterwards, completing his third circuit, but he was travelling fairly well. Owen, however, had taken over five hours on the lap.



Laying timing wire from back of a Lanchester car.

Jenatzy was gaining seconds at every control throughout the fourth lap, which was the second turn round the large circuit. Edge on the other hand was losing all the time. Farman and De Caters were both traveling well. Winton, hours and hours behind, had a side-slip in Kildare, but skilfully pulled the car into line. Mooers had gone to pieces long ago, and Owen was now simply muddling about. Rain had been fairly general at about noon, and the road to Ballyshannon was in a very bad state, the appearance being that of an oily, slimy ooze.

Hard on the tail of Keene, who left Athy for the third time at 12.43, De Knyff entered the town at the other end at 12.42 for the fourth time. His great rival, Jenatzy, had apparently gained seven minutes during the circuit, arriving at 12.48, and was now probably eight minutes ahead. Edge arrived a bad third at 1.15, and on being given the word to start at 1.27, stayed to repair a tyre outside the control. Three minutes after Edge came Gabriel at 1.18. He had lost two minutes on Jenatzy, but was going well. De Caters followed at 1.30, having taken one minute longer than Gabriel and Farman; these completed the tail of the riders, reaching Athy at 1.37. Foxhall Keene had given up at Killeullen owing to the dangerous condition of his axle, although a report had reached Athy that the axle had given way, precipitating the rider and his mechanic into a ditch. Owen and Winton arrived on their touring expedition for this circuit at 5.18 and 5.20 respectively.

The fifth lap was over the smaller circuit, which would now be used for the last time. Rain was falling heavily, and fears were expressed that the trouble would be experienced if the roads became greasy. Fortunately, the rain did not last long, and shortly after 1.30 the Panhard (De Knyff) hove in sight. He had gained on his time, but Jenatzy, arriving some six minutes later, was going even faster. The crowd at the control now became more dense as the end was approaching, and it became increasingly difficult to keep near the cars. Winton crawled up to complete his second round. He stayed three minutes outside control, finding it difficult to start his machine, and it was evident that he was finished with. Each minute that elapsed spelt disaster to the British chances. 'A car is coming! Is it Edge's? No, Gabriel appears instead, and travelling badly! Ten minutes later De Caters reached us, and shortly afterwards



Baron De Caters' car being towed, after breaking down, to Athy Station.

Farman came in, made several adjustments, and hurried off. Where was Edge? At last he came through the control at a fast pace, and, having six minutes at his disposal, all the time was taken up in



Officials sighting a car.

cooling the engine and filling the tanks. He reported a plethora of tyre troubles, and any hope of his finishing among the early cars was dispelled instantaneously. Never was a crowd more disappointed. The race was over from a spectacular point of view, and the people began to disperse at three o'clock.

De Knyff put in an appearance at Athy at 2.2 p.m., followed by Jenatzy at 2.7 p.m., who had gained another minute on De Knyff. Twenty minutes later Gabriel reached the control at 2.27 p.m., having gained ten minutes on Jenatzy. The next

to arrive was De Caters at 2.52 p.m., followed by Farman at 2.59 p.m. Then came Edge at 3.12 p.m., who had now been passed by Gabriel, De Caters and Farman. Owen passed just before 7 p.m.

Over the greasy road to Ballyshannon the pace became dangerous, and some of the competitors slowed down for the curve at Ardscoil Moat more than they had hitherto done. Farman again did fastest time, namely, 1 hr. 18 mins. 31 secs. De Knyff was now only 7 minutes ahead of Jenatzy, instead of fourteen, and the latter had suffered control delays which when deducted would still further improve his position. De Knyff, Gabriel and De Caters were moving well, and now started off on the last two rounds of the course, which were both to be via Kildare and Athy. In this order the competitors proceeded at their high speed:—De Knyff Jenatzy (7 minutes behind and gaining), Gabriel (42 minutes behind Jenatzy and losing), De Caters (8 minutes behind Gabriel and gaining), Farman (a minute behind De Caters and going nearly as fast as Jenatzy), and Edge (two hours behind De Knyff and losing hopelessly).

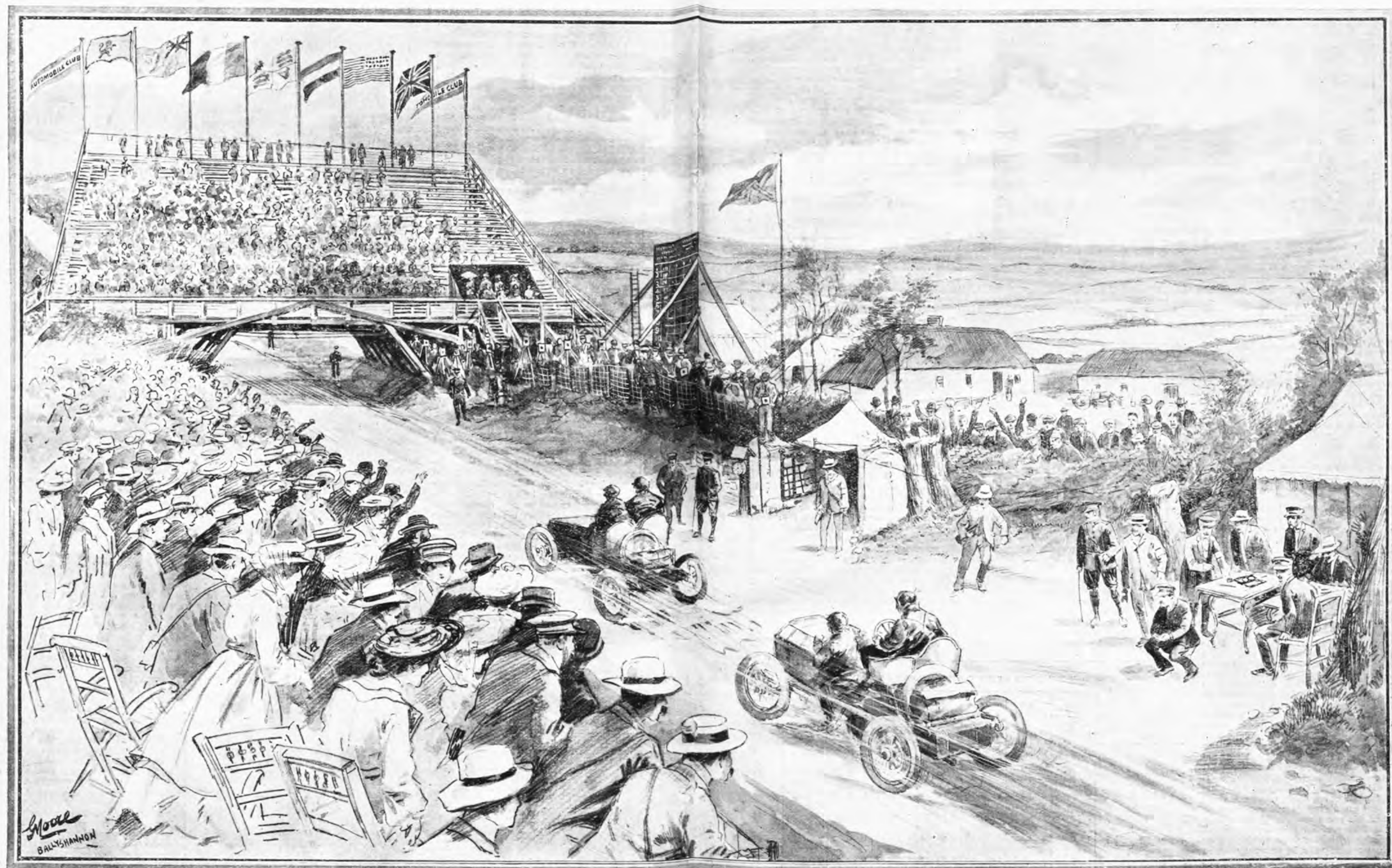
De Knyff was received with a cheer on his arrival at Athy for the last time at 5.11 p.m., which were renewed when Jenatzy dashed up three minutes later. He started off on a stern chase up the finishing straight. Gabriel reached Athy at 5.58 p.m., and Farman at 6.8 p.m. The latter was apparently well in front of Gabriel for the third place. De Caters, who had been going very well, had the misfortune to break down outside the control and was unable to finish. Edge came in very much later.

Thus the order was maintained to the finish, the only point of doubt being whether Farman would be able to retain the second place into which he had apparently run on the previous round, but as it happened he lost nearly a minute on the circuit. De Knyff came along at a fine pace, and finished 10 hrs. 25 mins. 40 4-5th secs. after his start. Now all eyes were directed impatiently up the road to see if Jenatzy would be up to time. The timekeepers announced "he should be here in two minutes." Almost instantly the telephone bell rang, and then the steam from the traction engine was soon seen, and in a second or two the sound of its hooter reached us, and very shortly he came over the brow of the hill and rushed up and stopped at the signal given by Mr. Basil Joy. His face was wreathed in smiles as he pushed forward a few yards to shake hands with Mr. Gray Dinsmore, the owner of the car. His reception was as sincere and as enthusiastic as if he had

(Continued on page 54.)



EDGE ENTERING THE ATHY CONTROL.





Jarrott smiles—so does the lady.

been a Britisher. His gross time was 10 hrs. 15 mins. 1-8th sec. In the course of a few moments' chat with the winner he told us that he was proud to be the winner—"although," said he, "there will yet be doubt until the award is announced, you know." And his car? "A beauty. She had travelled with great regularity, and was better than the 40 h.p. that had been burnt." And the course? "Well, well" (with a shrug), "most variegated and picturesque—not so straight or wide as the Continental roads; but he had only been troubled once, and that was when he tried to get past Owen." With a charming smile and a nod he was gone, like a stone from a catapult. We were introduced to his wife by Mrs. Mark Mayhew, and she seemed to be rejoicing in a suppressed kind of way. A very tall, well made woman, with but a scanty knowledge of English, she was thoroughly *au courant* with motor lore, knowing many little things which (to a Pressman) it was worth while hearing.

Twenty minutes later Edge came in. He stopped, although he had still one complete circuit to do, and asked who had won. With wise caution the officials replied that De Knyff and Jenatzky had finished. Edge again asked "Should he go on?" The officials replied that he must do just as he liked, the car denoting that the race was over being nearly ready to start. So Edge shot away on what we know to be a needless journey; but, of course, he was quite right in going on, because many things might yet happen to disqualify those finishing in front of him, and he might even find himself a technical winner. A wait of twenty minutes ensued after Edge's arrival and then Gabriel flew up and stopped. It was a face unmoved by any kind of emotion. He was, no doubt, piqued at his mishaps, but not a word was said about them—no grumbling with his tools, such as a bad workman would do. There was just the flicker of a smile as he acknowledged the wish that luck would favour him better next year in Germany. Ten minutes later Farman rushed in. He was behind time, but still did 10 hrs. 26 mins. 45 1-5th secs. The time of day was now

half-past six, and we waited for Edge until patience was exhausted, but he finally reached the end of his unfortunate journey before 7.30 o'clock.

The accompanying table shows the times occupied by each driver in covering every one of the circuits, and the total time. These times are net and are official. They are arrived at by deducting the time occupied in the compulsory stoppages in controls from the gross times already given in these pages. The average speed is based upon the actual racing distances.

A comparison of circuits 1, 3, and 5, round the shorter portion of the figure-eight course shows that Edge's first time round was very fast, although, of course, it was beaten by 20 seconds by Foxhall Keene. Gabriel's first time round the larger circuit was the fastest over that route. The regularity of Jenatzky's running is plainly shown, whilst it can be seen at a glance where Gabriel met with trouble. The average pace is fastest on record for the Gordon-Bennett Cup race. The Scott Montagu Trophy, offered to the team which does the best collective performance goes to France.

Immediately the cars arrived the drivers were staggered by having an observer

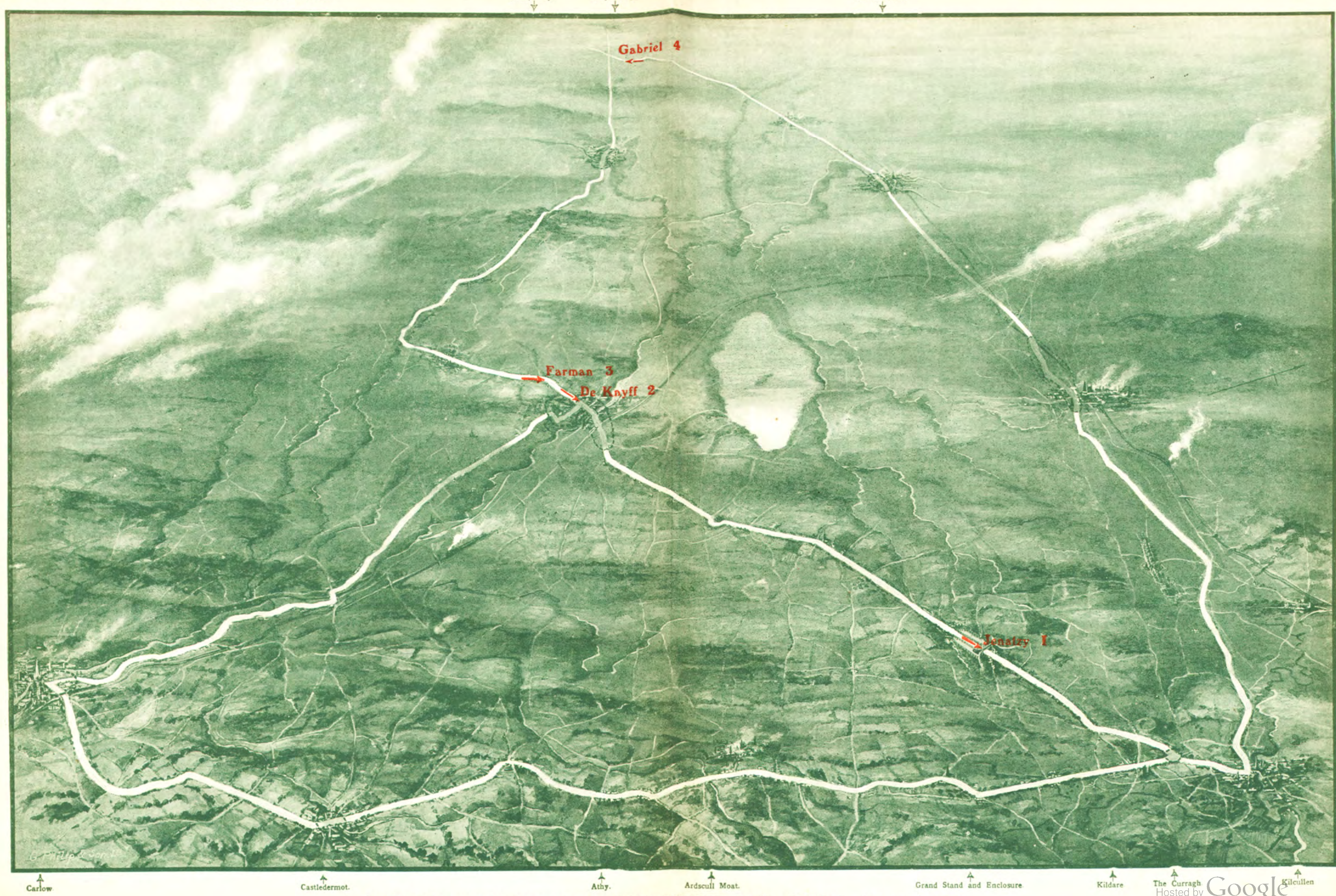
placed on board who accompanied the car into the enclosure at Ballyshannon House and kept guard over it. De Knyff wanted to know the reason, and was told the cars would now be re-weighed. As somebody said, if this had been known, some of the cushions and things could have been cast into the hedge as they came over the last circuit! All the preparations had been secretly made, and the cars were run on to the scales. It was funny to see the frantic efforts to remove the last speck of oil or grease or dust from the car in order that the chance of winning should not be spoiled. We believe that variations were found in the weights, but until the International Commission has considered all the points, it is still possible that some of the later placings may be amended.

OUR SUPPLEMENT.

The bird's-eye view of the Gordon-Bennett course which constitutes the magnificent Supplement to this issue was taken from the mountain heights in Wicklow. In the foreground is the road running from Kildare to Carlow (from left to right) and then up to Athy in the centre of the picture. The road then drops again past the starting and finishing line to Kildare, where it strikes away over the Curragh and through Kildare and Monasterevan to Maryborough, whence it drops again to the right-angled turn for Athy. The details of the country are beautifully shown, the open bog land between Kildare and Athy being most prominent. In order that our readers may gain a clear idea of the distances separating the competitors at the finish of the race, we have taken the actual net time of each competitor, have worked out his average pace attained over the last stages of the race, and have thus arrived at the distances. Jenatzky's time of 6 hrs. 39 mins. gave him a lead on De Knyff of about eleven miles. De Knyff would be a mile ahead of Farman, and the latter would be quite 18 miles ahead of Gabriel. Thus, if the men had all been started together, Jenatzky would have been declared the winner on his reaching the finishing line and, at that moment, De Knyff would have been back as far as the other side of Athy, with eleven miles still to cover; Farman being a mile behind him, and Gabriel away back at Ballydavis. Edge would have had quite ninety miles to cover, giving him considerably more than a lap and a half to go. The skeleton map on page 505 will be an aid to the study of our Supplement.

THE NET TIMES FOR EVERY CIRCUIT AND THE TOTAL TIME.

Order of Finish.	1st Circuit via Carlow.	2nd Circuit via Kildare.	3rd Circuit via Carlow.	4th Circuit via Kildare.	5th Circuit via Carlow.	6th Circuit via Kildare.	7th Circuit via Kildare.	Total time.	Average pace in miles per hour.
	M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	
1 Jenatzky.. (Germany)	48 58	1 1 19	49 45	1 1 52	53 16	1 1 32	1 2 18	6 39 0	49.25
2 De Knyff (France)	49 47	1 2 31	50 57	1 8 16	51 49	1 3 39	1 3 50	6 50 49	47.85
3 Farman (France)	47 31	1 10 27	49 35	1 5 55	50 31	1 2 17	1 5 28	6 51 44	47.72
4 Gabriel.. (France)	53 10	1 0 19	1 2 37	1 4 20	51 4	1 13 58	1 6 5	7 11 33	45.33
5 Edge... (England)	46 23	1 7 3	1 27 59	1 24 59	1 14 35	1 52 21	1 22 28	9 15 48	35.16



Gabriel 4

Farman 3

De Knyff 2

Jensley 1

Carlow

Castledermot

Athy

Ardscoil Moat

Grand Stand and Enclosure

Kildare

The Curragh

Kilkullen

BIRD'S-EYE VIEW OF THE GORDON-BENNETT RACE COURSE. (See key in text.)

TROPHY TRIFLES.

It is characteristically Irish to call a well-wooded hill a "moat."

The racing cars were being exhibited at Earls Court Rink, Dublin, at the end of the week.

It may be interesting to note that Jenatzky has lost his right thumb, but this does not appear to cause him any inconvenience when driving.

In addition to the Ardscoil camp, the Yorkshire Automobile Club also had an encampment on the other side of the hill, and a right merry party they were.

One of the most popular heroes of the race was Baron de Caters, whose generous actions in connection with Jarrett's mishap were much admired. Every one was sorry when his own accident prevented him finishing the race with but ten miles to go.

Much dissatisfaction was caused by the totally inadequate arrangements made for the comfort and convenience of the representatives of the Press, who had, many of them, travelled a considerable distance for the purpose of recording the incidents of the race. It is sometimes said that the Press is exacting, but on this occasion complaint is well justified.

A close inspection of the Michelin tyres used for the Panhards showed them to be exceedingly light and resilient. There was no rubber on the sides, and the thick tread was comparatively narrow. They were perfect racing tyres in fact, and the inner tubes struck one as being abnormally thin. The marvel was they went through unscathed. Neither De Knyff nor Farman worried in any way about their tyres.

The gathering at Ardscoil Moat Camp on the Wednesday evening was representative of the cycle trade. Among those present were Messrs. C. V. Pugh (Rudge-Whitworth), Henry Belcher (Humber), Frank Bowden (Raleigh), Austin (Wolseley), Albert Eadie (Eadie and Enfield), C. A. Hyde, R. L. Philpott, W. Pilkington and W. Williamson (Rex), Johnny Price, Frank Shorland, H. Lampugh, H. Smith (Rover), Ernest Stephens (Clippers), Burgin (Dunlop), G. B. Peart, Johnny Dring (Bowden), Charles Sangster (Components), A. C. Hills, T. H. Woollen and A. Riley.

The wire barrier which De Knyff flattened down, and upon which Stocks found his Waterloo, did not consist merely of a few strands of wire across the road; it was a substantial affair, and was just the thing for the purpose intended, i.e., keeping all animal and human trespassers off the route. When one of our representatives visited the spot the night before, he feared the sharp turn would cause some trouble, and Stocks failed to negotiate the curve at his high rate of speed, whilst another representative, when driving along the route, actually and naturally took the wrong road, and only pulled up on seeing the wire, having to reverse to get out. To understand the position, it should be stated that the old road (with wire barrier) leads straight into the control at Carlow, while the new road takes a wide sweep to the left, and joins the other road just outside of that town.

Foxhall Keene took all the corners in a most daring fashion.

Canopies to cars are very popular in Ireland; a large number of cars are so fitted, and in showery weather, so prevalent, are most useful.

De Caters broke down about ten miles from the finish. Up to that point his position was a splendid one, and his mishap disappointed everyone who had any love for a sportsman.

The dangerous bridge over the canal just beyond Monasterevan nearly brought Gabriel to grief. He made a violent swing over to the left, which brought his left rear wheel within seven inches of the wall. This was verified by measuring the position of the wheel track left in the dust.

The vagaries of the Irish railway officials were very amusing. After the racing was over, special trains were announced to take visitors back to Dublin, but the expectations as to traffic requirements were evidently mistaken, for one of the specials remained in Athy station for over an hour, and when the stationmaster was remonstrated with, he explained with every politeness and deference that they would be starting as soon as the train had obtained a load of passengers.

Among the incidents of a somewhat unpleasant nature was one we noticed at Newbridge, while driving from Naas to Kildare after watching the weighing-in at the former place. Going up the hill was a large French car with French occupants. Their speed was excessive. Some dogs were playing about in the roadway, and the driver of the car went clean over one of them—a beautiful spaniel, which shortly afterwards died in agony. Although we held out our hand for the driver to stop, he went faster than ever. It is this kind of dastardly conduct that does so much to prejudice the motorist in the eyes of the villagers.

Visitors driving in Ireland will not forget the culverts to be found on most of the roads. The first one experienced was generally sufficient to make drivers more careful of the next they met.

Nearly every competitor turned up at the Shelbourne Hotel on Friday, the scene outside and inside the vestibule being a very animated one. Cars were arriving and departing every minute of the day.

Moors had been experiencing a bad time with his engine, and both himself and mechanic were about exhausted. There was clearly a hot shaft or piston, for only by desperate efforts could a revolution of the starting handle be got.

As evidence of the accuracy of the information gleaned by some of the great daily papers, it may be mentioned that of the twelve starters, of which details are given in the "Daily Telegraph" of the 3rd instant, only four are correctly set forth.

It is not infrequent that the precautions taken to avoid accidents lead to accidents in another direction. Thus the wire fencing at the entrance of a side turning placed there to prevent cattle or individuals straying on to the course, resulted in Stock's accident, through his car becoming entangled with the wire.

Owing to the limited accommodation at Ardscoil, Messrs. Percy and McCreedy organised a camp at the side of the moat, and the applications were so great that 150 tents were provided. Even this number did not suffice, as from mid-day, Wednesday, until the early hours of Thursday, there was a constant stream of motors and cycles of every description arriving. "House room" was afforded to 680, but many had to sleep on the moat, with no other covering than a rug and the canopy of Heaven.



Scene at Naas at the weighing-in. Gabriel's Mors car is on the scales.

THE SPEED TRIALS IN PHOENIX PARK.

86 MILES AN HOUR ACCOMPLISHED!

Saturday's programme in connection with the Irish fortnight consisted of speed trials for motorcycles, touring and racing cars. The splendid stretch of road, some 2½ miles in length, which extends in an almost Euclidean straight line from gate to gate of Phoenix Park had been reserved for these trials, and subjected to a special treatment with crude oil, the event being one of the most important in the fortnight. Causing, perhaps, less intense excitement than the Gordon-Bennett race, the trials, nevertheless, may claim to have been of even greater practical and general importance.

Elaborate and judicious arrangements had been made to ensure the success of the trials from a viewing point of view, as well as the convenience and safety of the public.

The entire length of the road, including the course of 2,853.6 yards, and a space of 400 yards to pull up in, was safeguarded by the additional protection of a post and rail fence ten yards behind the edge of the side path, leaving a clear track of 40 yards, except in some places where the permanent iron rail reduced this width to 30. With a big entry list and a long series of events set down for decision, an early start was necessary. Cycling competitors and their vehicles were summoned for 7.15, and cars for 8 o'clock, and racing was advertised for 8 sharp.

Proceedings did not actually begin till half-past eight, at which time the general public was only sparsely represented, except around both sides of the winning post, where lines two or three deep had already formed. The morning was sunny, with a fresh breeze from the west, giving promise of a fine day, which was amply fulfilled later.

The start was arranged at the cross roads about a quarter of a mile from the Castleknock Gate. Between the gate and this point all the competing cars and cycles were drawn up, each in its allotted place. Mr. T. W. Murphy was the time-keeper here, and Major Lindsay Lloyd the starter.

During the course of the day a course lined the track and filled the enclosure, which had been reserved at a charge of 10s., opposite to the winning post. Automobilism and cycling were represented by a host of familiar faces.

Amongst those who by reason of current events are looming largely in the public eye, we noticed the Chevalier de Knyff and Messrs Jarrott, Stocks, Edge and Gabriel, the two latter of whom, as will be seen later, competed in various events; much satisfaction was expressed at Jarrott's appearance, this plucky, but unlucky, sportsman looking fairly fit after his experience of Thursday.

Soon after mid-day, the vice-regal party drove up to the strains of the National Anthem, in good time for the second part of the programme, which to the ordinary spectator was the more interesting of the two.

The Press arrangements, though by no means perfect, were a great improvement



Rolling the roads in Phoenix Park between the trials.

on those of the Gordon-Bennett race. The Press enclosure was conveniently situated close to the winning post and time-keeping hut, and the officials showed a disposition to facilitate Press work; although we doubt whether, unless two volunteers, not entirely unknown to journalism, had imparted a little method and promptitude to officialdom, the reporters would have obtained any official figures in time to be of any practical use. The displaying of the winning numbers and times on a board was intermittent, and lapsed altogether eventually, but this deficiency was

more than compensated for by a continuous stream of verbal information through the lips of the two gentlemen previously referred to.

As it was the professed object of the meeting to be a trial of speed between machines rather than a personal encounter between men, it is not to be wondered at that exciting sport was at a minimum, but to the expert the trials cannot fail to have been both interesting and edifying.

General opinion agreed that a better track for the purpose could not have been found or devised; and many were the comparisons between the Phoenix Park course and that at Bexhill, invariably to the discredit of the latter.

It will be remembered that the authorities evinced their keen interest in the matter by grudging no sacrifice which could improve or render safer the course. At a point about three-quarters of a mile from the starting line, the Phoenix Monument erects itself in the plumb centre of the roadway. Of considerable breadth, and flanked by flights of stone steps and lampposts, it would have offered a serious if not an insuperable obstacle to high-speed vehicles; at best it would have necessitated a very perceptible reduction of speed. Recognising this, the authorities boldly removed steps and lampposts and took up the paving surrounding the base of the monument. This left still a slight curve, but not enough to cause any anxiety, except perhaps in the case of two racing cars swerving inwards simultaneously after passing the monument. The road surface here was naturally poor and soft, but a periodical application of a steam roller (of which there were two on the ground) prevented it from getting dangerous.

Racing began with the motorcycles, this section comprising three classes of machines: "bantams" (if we may use the term in its non-cycling sense) up to 50lbs., middle-weights up to 114lbs., and heavy-weights up to 170lbs.

The first class brought out only two starters, C. G. Garrard having an easy win on a Clement-Garrard machine.

Of the four preliminary heats in the middle-weight class, only the last two were noteworthy. No. 3 was a very close finish between Andre Gommers and A. Goodwin, the former just winning in 2 min. 55 sec.,



Starting for the Motor-Cycle Speed Trials, Phoenix Park.
J. F. Crundall (Humber). A. Gommers (Gamage). T. C. Furlong (Werner).



MOTOR-BICYCLE SPEED TRIALS.

H. Martin (Excelsior). E. Yates (Humber). S. Wright (Excelsior). W. H. Burden (Riley). H. Prickett (Riley).

a feat which he repeated in the final in five seconds' better time.

Gommers rode a Gamage motor-bicycle. It had a 4 h.p. engine, and as it came within the weight limit of 114lbs., it was quite a triumph of mechanical skill, for no other machine of that small weight was so powerful and speedy.

The task of "spotting the winner" in this event was not facilitated by the fact that two competitors carried the same number, as also happened in the second heat of the heavy-weight class. By a curious coincidence, here again, one of the duplicate number carriers, H. Martin, won both his heat and the final on an Excelsior.

Shortly before the close of the motor-cycling events, one of the stewards at the winning post cheered the drooping spirits of the knights of the pencil by announcing that no times could be officially given immediately after the races, as the telephone and the timekeepers at the starting post had been "not in communication"; that is, they were on opposite sides of the road. Fortunately this "Solomon-eagle"-like utterance proved false later on.

In the tourist car section there were five classes, viz.:—Class C, cars costing £300 or under, to carry two people or more; Class D, between £300 and £650, to carry four or more; Class E, between £650 and £1,000, to carry four or more; Class F, over £1,000, to carry four or more; and Class G, steam cars, up to value of £800, to carry full complement of passengers. This last class did not fill, and W. J. Warren, in a 6 h.p. Gardner-Serpollet, had a walk-over. Of the other classes, Class D provided a good race in the eighth heat, A. E. Crowdy, on a 24 h.p. Wolseley, beating S. Girling, on a 12 h.p. car of same make.

The finals were all won easily, and the impression conveyed to the mind of the average spectator was that the second car was doing its best to avoid exceeding the legal limit.

The timekeepers at the kilometre mark were Messrs. Woollen and Swindley, and at the finish, Mons. Tampier (A. C. de F.) and Mr. R. E. Phillips.

After a short interval, the events in the racing Section opened. In these events the cars ran singly against the clock. In Class H a particularly meagre and disappointing result ensued. Of three starters,

two were disqualified, apparently for informalities at the start.

In the heavier classes some fine bursts of speed were seen. The cars driven by J. E. Hutton, S. F. Edge (who had a great reception), Louis Rigolly, Hon. C. S. Rolls and Baron de Forest tore along the track at a terrific pace. The Gobron-Brillie had a particularly resonant and not unpleasant hum, and the Baron's torpedo-shaped Mors car excited great admiration, and travelled in devilish fashion. J. E. Hutton, on his 60 h.p. Mercedes, won Class J at a mileage of 78 per hour; Baron de Forest second.

For the "Daily Mail" Cup the Baron reversed the order, and, increasing his velocity to the terrific rate of 83 in the hour, beat all comers.

The last item on the official programme was for the "Autocar" Challenge Cup. This produced the finest contest of the day. The Hon. C. S. Rolls, on his 80 h.p. Mors, created a sensation by knocking off the kilometre in 28 seconds, but when Gabriel, also on a Mors, did 20.4, which represents the appalling rate of 85½ miles an hour in an open public park, with 30,000 people on either side of him, at ten yards distance, automobilism was amazed. It was thought that the end of the possible had been reached, and when Baron de Forest, on his Paris-Madrid Mors, literally leapt through the air at 80 miles per hour, and beat Gabriel's

newly-established record by one-fifth of a second, terrific applause greeted the remarkable feat.

Thus ended the official portion of a most successful, enjoyable, and historical event. Whatever bad effect may have been wrought on the public mind by Continental racing, much of it must have been removed by the spectacle of so many machines and cars of every shape, size, and power tearing along at almost super-mechanical speeds, under perfect control, and with an utter absence of danger. The way in which the racing giants, after crossing the line at 80 miles an hour, pulled up dead after their 200 yards' interval, was an eye-opener to such as believe them to be uncontrollable.

Amongst the more enthusiastic members of the A.C., the speed bursts of the racing cars had excited their sporting proclivities, with the result that two matches were arranged to be run off immediately after the final event figuring on the card. One batch of members desired very much to see a race between Mr. J. E. Hutton and Baron de Forest, both of whom had been doing the fastest times. Then some of the Hon. C. S. Rolls' friends subscribed together, and put up a 30 guinea cup for a match between him and Mr. Hutton. Needless to say, when these matches were announced on a puny little blackboard to that portion of the multitude who could see it, a burst of cheering broke out from



Start Heat 5, Motor-Cycle Trials. R. W. Stevens and W. Weekes.

the sporting Irish crowd. No cars of such power have ever before been raced side by side. All three of the men had been doing over 80 an hour, and the prospect of a neck-and-neck contest at this speed was most thrilling. The Rolls-Hutton match was run off first, Rolls on his last year's 80 h.p. Mors, and Hutton on the 60 h.p. Mercedes. Rolls had the right-hand side of the course. They got off well, and went flying along together, with a terrific cloud of dust from eight wheels rising behind them. When the mile had been covered Hutton had got ahead by about a length. Rolls, however, pulled up again, and passed his rival about 200 yards before the line, winning, looking round. The time for the flying kilometre was not quite so good as Rolls had already done, being 28.4.5, as against 28 dead. Hutton, however, did 28.4.5 when competing for the "Daily Mail" cup.

Hutton v. Forest was most exciting. The latter had done 26.3.5th in the final event on the programme, which works out at 80 miles per hour, the fastest time ever officially recorded of any moving machine in the world.

The two skilful experts got away together at the end of the mile, and at the commencement of the kilometre Hutton had gained no less than 50 or 60 yards, so much so that from the finishing line it looked as if Forest was missing. He, however, was only enjoying the dust from the speedy Mercedes, and just before the finish he came with a mighty rush, as though he had saved himself for an additional bit of speed effort, and nearly caught Hutton, who won by about a length. The time was a second slower than the first match, viz., 29.4.5. We should say it will be some years before 30,000 odd people are able to witness such wonderful speed contests. It was, indeed, a sight worth seeing.

Results of the Speed Trials.

Motorcycles (full course, 2,853.6 yards). Competitors allowed to pedal for first 100 yards only.

Class A 1. (cycles up to and including 70 lbs.).—Preliminary and Final: 1, C. G. Garrard (Clement Garrard); 2, Bert Yates (Humber). Won easily in 2.53.3.5.

Class A., preliminary (cycles up to and including 114 lbs.).—Heat 1: 1, T. C.



Group at the alfresco Motor-Bicycle Garage in Phoenix Park on Saturday last.

Furlong (Werner); 2, R. Samson (Quadrant). Time 2.33.4.5.

Heat 2.—1, J. F. Crundall (Humber); 2, Henry Stones (Rex). Time, 2.12.1.5.



**C. G. GARRARD,
Winner Class A1 Motor-Bicycle trial
on Saturday, at Phoenix Park,
Dublin.**

Heat 3.—1, Andre Gommers (Gamage); 2, A. Wright (Ormonde); 3, C. G. Garrard (Clement Garrard). A fine race, won by a length in 2.5.

Heat 4.—1, C. W. Hacking (Ormonde). Final.—1, Andre Gommers (Gamage); 2, J. F. Crundall (Humber); 3, T. C. Furlong (Werner). Time 2.6.1.5.

Class B (middle weight motorcycles up to and including 170 lbs.).—Heat 1: 1, B. Yates (Humber); 2, W. H. Yates (Hobart); 3, Hon. Captain W. Ruthven (Singer). 2.15.

Heat 2.—1, H. Martin (Excelsior); 2, J. F. Crundall (Humber); 3, C. G. Garrard (Clement Garrard). 1.59.

Heat 3.—1, S. Wright (Excelsior); 2, E. W. Chase (Chase); 3, R. W. Irton (Riley). 3.1.4.5, by 20 yards, bad third.

Heat 4.—1, W. H. Burden (Riley). 2.33.1.5. No other finished.

Heat 5.—1, H. Prickett (Riley); 2, W. Weekes (Crypton). Won by 150 yards, 2.7.1.5.

Final.—1, H. Martin (Excelsior); 2, S. Wright (Excelsior); 3, H. Prickett (Riley). Time 2.1.

Class C.—Preliminary. Tourist cars, value £300 or under, which need not carry more than two people.

Heat 1.—1, E. T. Baker (10 h.p. Duryea phaetonette); 2, G. Burnett (5 h.p. Humber). 2.27.4.5. Burnett was balked at the Monument by a red flag, which spoiled his chance.

Heat 2.—1, Dr. Edwd. Lehwess (10 h.p. Durkopp). 2.53.1.5. Other did not finish.

Final.—1, E. T. Baker (Duryea phaetonette); 2, Dr. E. Lehwess (10 h.p. Durkopp). Won easily; time, 2.39.

Class D.—Preliminary. Tourist cars, value between £300 and £650, to carry four people or more.

Heat 1.—Alec Govan (10 h.p. Argyll); J. R. Sharp (20 h.p. Thornycroft). 2.29.1.5.

Heat 2.—1, T. B. Browne (18 h.p. James and Browne); 2, H. du Cros, jun. (12 h.p. Ariel). 2.44.

Heat 3.—1, W. Lecocq (10 h.p. Renault); 2, F. Lancheater (10 h.p. Lancheater). 2.49.1.5.

Heat 4.—1, J. T. Overton (24 h.p. Georges-Richard); 2, R. W. Leader (10 h.p. Century). 2.13.4.5; a fast heat.

Heat 5.—1, A. J. Clay (10 h.p. Decauville); 2, H. Lee (12 h.p. Magneti). 3.27.

Heat 6.—1, J. Eisle (10 h.p. light Star); 2, R. W. Buttemer (10 h.p. Decauville). 2.55.

Heat 7.—1, R. J. Dickson (18 h.p. Elswick); 2, H. Porlier (12 h.p. Belgica), disqualified. 3.14.3.5.



Showing how the curve by the Phoenix Monument was taken by the speed cars at Saturday's trials.

Heat 8.—1, A. E. Crowdy (24 h.p. Wolseley); 2, S. Girling (12 h.p. Wolseley). 2.53 3-5; won by a length.

Heat 9.—1, A. S. Visick (20 h.p. Wolseley); 2, R. Dennis (20 h.p. Dennis). 2.34 3-5.

Heat 10.—1, H. Norman (12 h.p. De Dietrich); 2, H. Belcher (12 h.p. Humbler). 2.47 2-5.

Heat 11.—1, W. L. Adams (10 h.p. Boyer); 2, Capt. A. G. Stevenson (24 h.p. Darracq). 2.51 3-5.

Heat 12.—1, A. Rawlinson (24 h.p. Darracq); 2, F. Perry (12 h.p. Meteor). 2.50 2-5.

Final.—1, J. T. Overton (24 h.p. Georges-Richard); 2, Alec. Govan (10 h.p. Argyle). Won by 50 yards; time 2.10 4-5.

Class E. Preliminary. Tourist cars, value £50 to £1,000, to carry four or more.

Heat 1.—1, G. Cornwallis-West (20 h.p. Brush); 2, H. du Cros, junr. (20 h.p. Ariel). 3.20 4-5.

Heat 2.—1, J. W. Cross (20 h.p. Humbler); 2, Hon. J. Scott Montagu (22 h.p. Light Daimler). 2.11 4-5.

Heat 3.—1, E. Pitman (18 h.p. Peugeot); 2, H. Parnis (15 h.p. Pipe). 2.25 1-5.

Heat 4.—1, E. Manville (22 h.p. Light Daimler); 2, A. J. W. Millership (10 h.p. Lanchester). 2.10 2-5.

Heat 5.—1, C. C. Maudsley (25 h.p. Maudsley); 2, E. M. C. Instone (22 h.p. Light Daimler). 2.30 1-5.

Heat 6.—1, G. H. Lanchester (10 h.p. Lanchester); 2, T. R. S. Bircham (Special Design). 2.20 2-5.

Heat 7.—1, R. Moffat Ford (10 h.p. Deauville); 2, E. Kennard (12 h.p. Napier). 3.20.

Heat 8.—1, G. Iden (20 h.p. M.M.C.); 2, F. Barbour (10 h.p. Panhard). 2.20 2-5.

Heat 9.—1, A. Burgess (20 h.p. M.M.C.); 2, W. G. Wilson (10 h.p. Wilson-Pilcher). 2.21 1-5.

Final. 1, J. W. Cross (20 h.p. Humbler); 2, E. Manville (22 h.p. Light Daimler). Won by 50 lengths. Time 2.0 1-5.

Class F.—Tourist Cars, value £1,000 or over, to carry four.

Preliminary.—Heat 1.—J. Hargreaves (20 h.p. Napier); J. M. Gorham (20 h.p. Daimler). 2.24 1-5.

Heat 2.—P. Richardson (22 h.p. Daimler). 2.24.



Hutton (winner of the Irish A.C.'s 200 guinea Challenge Cup and Purse of 20 guineas) on his Mercedes at the end of the course. The gates were erected to keep the public off the course.

Heat 3.—1, D. B. Hall (30 h.p. Wolseley); 2, H. Barbour (22 h.p. Daimler). 2.18 1-5.

Heat 4.—1, C. W. Hacking (20 h.p. Panhard); 2, A. M. T. Fletcher (18 h.p. Mercedes). 2.20.

Heat 5.—1, R. H. Fuller (16 h.p. Napier); J. F. Ocks (10 h.p. Napier). 2.35 1-5.

Final.—1, D. B. Hall (30 h.p. Wolseley); 2, C. W. Hacking (20 h.p. Panhard). Time 2.13 2-5.

Racing Section.—All cars run singly, against the clock, over the full course.

Class H.—For racing cars less than 650 kilos (12 cwt. 3 qrs. 5 lbs.)

1, A. Rawlinson (30 h.p. Darracq) 2 mins. 10 secs., 51 miles per hour; 2, M. Barbaroux (60 h.p. Parsifal); 3, E. Brun (20 h.p. Prunel). Brun and Barbaroux were disqualified for false start.

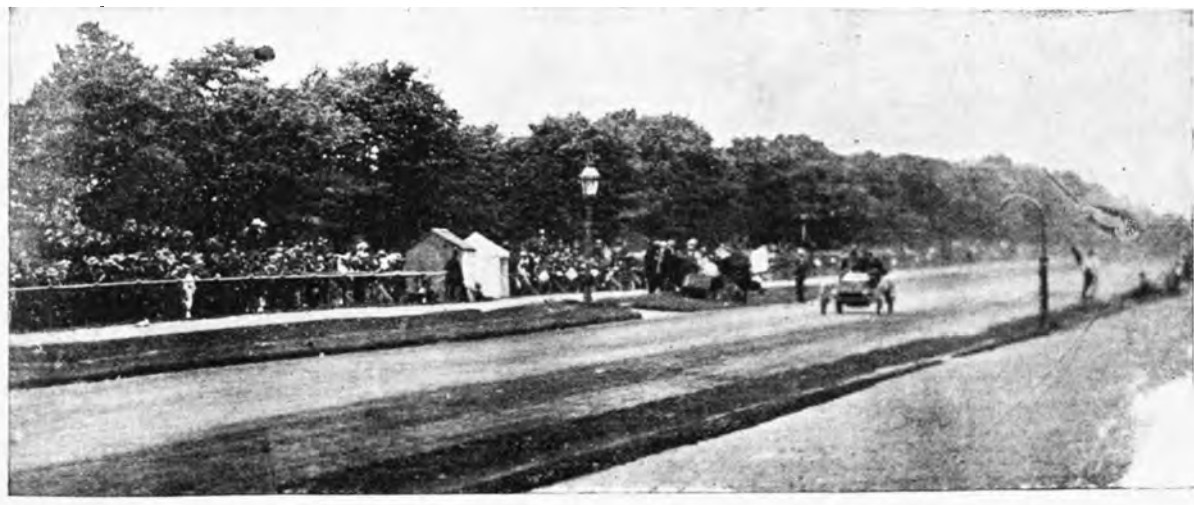
Class J.—For racing cars weighing not more than 1,000 kilos. (10 cwt. 2 qrs. 20 lbs.) 1, J. E. Hutton (60 h.p. Mercedes). 1.28 2-5, 78 miles an hour; 2, Baron de Forest (70 h.p. Mors), 1.20 1-5; 3, Hon.

C. S. Rolls (80 h.p. Mors), 1.29 4-5 77 miles an hour.

Also competed.—G. Higginbotham (60 h.p. Mercedes), 1.43 4-5; E. C. Muir (60 h.p. Mercedes), 1.33 1-5; G. Vaudepol (24 h.p. Pipe), 1.52; G. P. Burton (40 h.p. Mercedes), 1.50; A. Callan (45 h.p. Wolseley Racing), 1.51 3-5; H. Austin (50 h.p. Wolseley Racing), 2.27; de Bron (45 h.p. de Dietrich), 1.41 3-5; Louis Rigolly (100 h.p. Gobron Brilliet), 1.52; Gabriel (80 h.p. Mors), 2.2 2-5.

J. E. Hutton won the prize, viz., the Irish Automobile Club's 200 guinea challenge cup and purse of 20 guineas. Baron de Forest was second, and took the silver medal. The Hon. C. S. Rolls was third.

Open Events (flying kilometre), Class K. Scratch race for "Daily Mail" Challenge Cup, for fastest car, under 1,000 kilometres, any motive power.—1, Baron de Forest (70 h.p. Mors), 27 1-5, 83 1/2 miles per hour; 2, Hon. C. S. Rolls (80 h.p. Mors), 28, 80 1/2 miles per hour; 3, Louis Rigolly (100 h.p. Gobron Brilliet), 28 2-5, 80 miles per hour.



The Wolseley Car going at full speed over the course in Phoenix Park.

Also competed.—De Bron (45 h.p. de Dietrich), 31 2-5 secs.; E. C. Muir (60 h.p. Mercedes), 31 2-5 secs.; G. Higginbotham (60 h.p. Mercedes), 32 4-5 secs.; H. Austin (50 h.p. Wolseley), 33 3-5 secs.; A. Callan (45 h.p. Wolseley), 35 2-5 secs.; G. P. Burton (40 h.p. Mercedes), 30 3-5 secs.

Class L., "Autocar" Challenge Cup (same conditions as previous races).—1, Baron de Forest (70 h.p. Mors), 20 3-5 secs., 80 miles per hour; 2, Gabriel (80 h.p. Mors), 20 4-5 secs., 85½ miles per hour; 3, L. Rigolly (100 h.p. Gobron Brillié), 27 1-5 secs.

Also competed.—Hon. C. S. Rolls (50 h.p. Mors), 28 sec.; E. C. Muir (60 h.p. Mercedes), 29 2-5 secs.; J. E. Hutton (60 h.p. Mercedes), 30 secs.; S. F. Edge (40 h.p. Napier), 30 4-5 secs.; de Bron (45 h.p. de Dietrich), 31 3-5 secs.; G. Higginbotham (60 h.p. Mercedes), 32 3-5 secs.; G. P. Burton (40 h.p. Mercedes), 38 4-5 secs.

Thus ended a memorable series of tests, to witness which it was well worth making the special journey to Dublin.

Cause of Gabriel's Slow Pace.

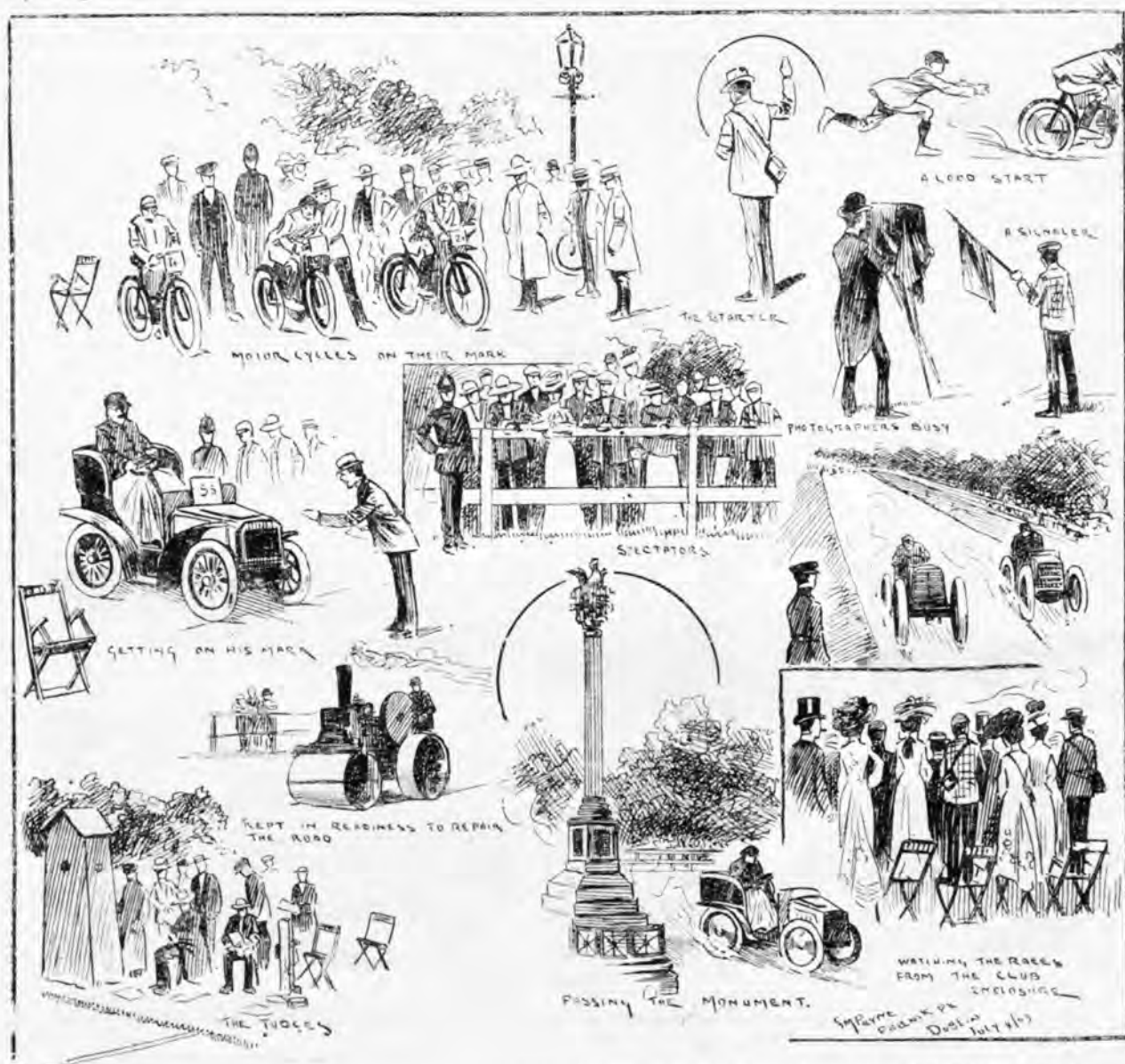
Before the start, whilst running over Gabriel's car, it was found that the cap of the petrol tank was somewhat loose. A cork washer was improvised, but the making of a little hole in the centre to allow for the ingress of air was, in the hurry, overlooked. As a consequence, Gabriel did not get quite a full feed to his carburettor all day, for the trouble was only discovered after the finish.

Extortionate Prices.

The average Irishman may be a good hearted fellow, but he cannot be accused of tender heartedness in his dealings with unfortunate visitors. Complaints were rife on every hand as to the shameful extortion by hotel keepers and others. In Kildare, for example, £6 was asked for the luxury of two beds at a private dwelling house, and £5 was actually paid for this accommodation; a plain lunch cost £1 in Athy; 21s. was asked for a single chair bedstead in a room with five others.

A Wonderful Issue.

"THE MOTOR" is well up with the daily papers this time with its report of the speed trials which took place in Phoenix Park, Dublin, on Saturday afternoon. It is away beyond them, however, with its excellent illustrations of the various events, published, as they are, in this number, and on sale first thing on Monday morning. It has been a huge task, the getting to press of this great number, necessitating almost continuous work on the part of the staff since the very early hours of Thursday morning last. There are forty-eight pages of reading matter, containing close upon one hundred illustrations, and the special double-page Bird's-eye View Supplement. This wonderful issue is offered to the public at the usual price of one penny, and 50,000 copies were on sale on Monday morning. In the next issue of "THE MOTOR" special reports and illustrations of the further events in connection with the Irish fortnight will appear.



SKETCHED BY OUR SPECIAL ARTIST AT THE PHOENIX PARK SPEED TRIALS LAST SATURDAY.

SCENE OF JARROTT'S ACCIDENT.

The accident which put Jarrott so early out of court, and about which so many wild reports—fortunately much exaggerated—circulated at the time around Stradbally, and in various parts of the course, occurred at the foot of the Rock Hill, between two and three miles short of the entrance to the Stradbally control. A short description of the road about here will enable the reader to form a clearer idea of the incident. After taking the route angled turn to the left beyond Maryborough Heath there is a straight strip of road, five miles long, into Stradbally, passing over the flat bed of an extensive bog, the road across which is fenced in on either side with posts and rails of old railway sleepers, the cars ascended gradually for a couple of miles, until the highest point between Maryborough and Stradbally was reached at the top of the Rock Hill. The scene here is a charming one. To the west lies Maryborough, and eastward the road stretches across Stradbally—lying in a dip—to the distant pass of Windy Gap. On the left of the spectator, as he stands on the Rock Hill looking to Stradbally, is the picturesque ruin-crowned rock of Dunamase; and on the right, a lofty eminence, tree-clad on its western and northern slopes, and breaking boldly out into rocky scarps towards Stradbally. On this hill large numbers of spectators got a fine view of the race, and from here they poured down to gaze at the wreck of poor Jarrott's car. Beyond the fact that

THE DOWNWARD SLOPE IS FAIRLY STEEP, and offers a grand opportunity for fast driving, there is nothing in any way dangerous about the spot. The road is perfectly straight, and of a good width, and it is difficult to account for the mishap, except on the assumption that the steering gear failed. The spot where the car first left the macadam is on the left-hand side of the road, just short of the bottom, and within 40 yards of Fingalton's Farm, "The Grange," a thatched and white-washed cottage, with outbuildings, standing on the opposite side of the road to that where the accident occurred.

THE WHEEL MARKS ARE PLAINLY VISIBLE on the slope of the low bank which supports a three-foot stone wall, in its turn surmounted by a hedge of briars, hazel and mountain ash. The hedge is high and thick, and possibly helped in some measure to check the awful momentum at the moment of impact. A dark blotch of petrol in the centre of the road shows that the car must have rebounded and leapt from the hedge a distance of quite 15 yards before coming to rest. The wrecked chassis, with its battered petrol tank, and one tired wheel—the left-hand back one—lay, on Friday morning, under a tarpaulin on the green edge of the road, exactly opposite where it came to rest. The other wheels, and a heap of other barely recognisable debris lie in an outhouse of the farm. Fingalton (the farmer) and his wife expressed great concern as to how the two men were progressing. The fact of "The Grange" being so close to the scene of the accident was a fortunate one, as it enabled the sufferers to receive some necessary and kindly attention before the arrival of medical aid. Bianci, the most seriously injured of the two, was laid on a bed in

the cottage until his removal in the relief car. Jarrott, after a stiffener of whisky, lit a cigar, and forgot his own hurts in his concern for his mechanic, whom he constantly inquired after. A large, bare, trodden-down patch in the hedge on the left-hand side of the road, which will no doubt be pitched upon by spectators coming from Stradbally as the scene of the disaster, which really occurred on the opposite side, 15 yards higher up the hill. This second gap indicates where the curious of Thursday afternoon and evening climbed and stood to look down upon the ruin of Jarrott's Napier.



Lord Roberts (on right, about to put on his overcoat) snapped at Kildre.



The Lord-Lieutenant of Ireland (Earl Dudley) watching the racing from the Grand Stand.

C. JARROTT INTERVIEWED.

A representative of "The Motor" had an interview with Chas. Jarrott at the Shelbourne Hotel on Friday night, and elicited from the famous driver some very interesting details of his unfortunate mishap. The injury he has sustained is a fractured scapular, but he is going on well, and is as cheerful as ever. It appears that the car rolled on to him, then over again on to his mechanic, Bianci. The natives were afraid to help by cutting the strap which held Bianci, and Jarrott was partially stunned. On recovering his senses, Jarrott immediately set about to release his mechanic, who was very badly bruised. The car was broken to pieces, and the two prostrate figures had been covered with a sheet by the local people, who thought they were dead, and became very seriously alarmed when a movement beneath the sheet showed that the two were recovering consciousness. Jarrott says the accident was undoubtedly caused by the steering gear going wrong, but he cannot say what actually happened to it. He regards the escape of himself and Bianci as miraculous, but his nerve is quite unimpaired by the accident. He told us he had entered for the Ostend races, and chatted cheerfully; he thanks God he is alive and so little hurt after what might have been a fatal mishap. Questioned as to Edge's failure to hold the cup, Jarrott expressed the opinion that, despite his ill-luck, Edge drove marvellously, and made up his mind to take all and every risk. He thinks, however, that Edge should not have used the new car. Napier begged him not to, but Edge persisted.

The one unfortunate thing which has occurred to mar the otherwise completely successful carrying out of "The Motor" plans has happened in connection with Jarrott's smash. A photographer was stationed near where the accident occurred, and he secured photos of the smashed car, but the camera got opened by accident and the negatives were spoiled. We fear, therefore, illustrations of the scene will be delayed.



A GLIMPSE OF LIFE IN THE CONTROL AT ATHY DURING THE GREAT RACE.

As was natural at such an important centre as Athy, which was the junction for the eastward and western laps of the course, there was great excitement manifested in this typical Irish town as to the progress of the race. Moreover, it was the headquarters of the English contingent, and throughout the whole of the preceding day the town was thronged with visitors, many arriving towards the evening, hotel accommodation being at a high premium. Wednesday was a very fine warm day, and crowds of motorists and cyclists hung about the entrances to the various hotels watching the comings and goings of the various principals. Cars and cycles were rushing through the main streets until a late hour of the night, and sleep was a luxury indulged in by the few. The first special steamed into Athy between 4 and 5, bringing an eager

CROWD OF ENTHUSIASTS FROM DUBLIN.

About 6 o'clock the various officials took up their allotted stations, and although there were some absentees, most of them were at their posts at the stipulated time, and stuck manfully to their duties throughout the long and eventful day. There were three control stations at Athy, two inward and one outward. The cars were to pass the eastward station three times, and the westward four times, going out at the top of the town seven times. At the outward station there was practically no cessation of duties, for no sooner had the last car left for its journey upon one of the circuits than the first for the next circuit came into sight. Indeed, on one occasion the cars actually overlapped.

A cheer went up from the enthusiastic spectators when, shortly after 6 a.m., the English competitors started down the main street on their way to the starting post. All three seemed in good condition, and piloted their Napiers with ease through the crowded thoroughfare. Soon afterwards

THE POLICE CLEARED THE COURSE,

which they maintained in a smart manner right throughout the day, marshalling the wayfarers with that ease and courtesy for which the members of the Royal Irish Constabulary are noted. The day opened warm, although cloudy.

Shortly after 7, a large car, bearing the notice "Official," came along, and the roll call of officials was taken. At Athy East, however, some inconvenience was caused by the fact that neither the marshal nor the assistant marshal had arrived, and it is, indeed, a matter of surprise that gentlemen who allow themselves to be appointed to important official positions should treat their responsibilities so lightly, and set so bad an example to the minor officials as to arrive late at their posts. It cannot be said that certain of the gentlemen selected to manage the controls were well acquainted with their duties. That the details of the contest were carried through so well is largely to the credit of the minor officials, who worked unceasingly and cheerfully. The pilot cyclists particularly were very effective, and did good work; so did the timekeepers and registrars.

The official instructions had stated that a pilot car would precede the first competitor, but something must have hap-

pened to this before reaching Athy, as the expectant officials at this centre did not set eyes on anything answering the description, but a mild diversion was created by the appearance of a second official car carrying the Hon. C. S. Rolls. According to an approximate time-table which had been previously drawn up, the first competitor,

EDGE, WAS EXPECTED TO ARRIVE

about 8.10, but by an agreeable surprise he was signalled below the control much before that time, arriving at 7.54. Twelve minutes' interval was allowed her, but orders had been received that the first rider should not be allowed to start upon the second circuit until 8.15, as the first rider at Ballyshannon was not scheduled to leave until 8.17. The 21 minutes was allowed to every rider here, and was apparently much appreciated, most of them taking the opportunity to get off and chat with their friends. Edge mentioned that he had every reason to be satisfied with his progress so far. While he was waiting at the exit for the word to go, De Knyff also arrived, and a voluble conversation then ensued between this competitor and his compatriots. Edge had already had some difficulty with his car, owing to excessive heating, causing steam and scalding water to rush out of the filling hole. In order to obviate the danger of scalding to both driver and mechanic, he took the opportunity while in control to tie a towel over the nozzle, causing much searching of hearts among the foreign representatives as to whether this was an "adjustment" allowable within

the regulation. The third competitor to arrive was

OWEN, THE AMERICAN REPRESENTATIVE,

who had lost five minutes to De Knyff. One minute afterwards a curious looking driver, Jenatz, dressed like a London coalman, with red beard, came into the control. He had gained six minutes on the preceding driver and one minute on De Knyff, and seemed from the very first a very dangerous rival. Jarrott and Gabriel, the latter on the torpedo-like Mors, followed, strictly in programme order. While in control the latter desired to perform some necessary repair to the dust screen, but the starter, Captain Dyke Acland, declined to permit this, contending that repairs of this nature were not allowed. The French attendants produced copies of the French version of the rules, and protested volubly, but without avail. For a minute the incident was somewhat exciting, and the competitor nearly lost his start through the zeal of his friends.

Some surprise was felt at the non-appearance of Mooers, the American, but when, shortly afterwards, Baron de Caters appeared, he told us that the missing competitor had broken down some twenty yards below Athy. Another surprise was in store for the officials at

THE NON-APPEARANCE OF STOCKS,

who was relied upon to a considerable extent to uphold the fame of England. When he did not appear according to schedule we waited with some misgiving, but Fernan, who next arrived, told the



Mending Edge's tyres in the Athy control.



Mechanics watering the tyres of Baron de Caters' Mercedes in Athly control.

officials that Stocks had been overturned near Carlow, but was unhurt. It was learned later that Stocks had taken a wrong turning and had run into a wire barrier. His machine had been so disabled as to throw him out of the race. He himself turned up shortly afterwards and confirmed the welcome news of his uninjured condition.

Foxhall Keene, the American, who was driving a car for Germany, gave everyone the impression that he was a dangerous competitor. He seemed very cool and collected, although his mechanic, a German, seemed to be all flurry and nerves. Mr. Keene was doing grand time, and his car, a Mercedes, seemed to be going very well. The remaining competitor to be accounted for, Winton, of America, did not arrive till much later.

A very few minutes after Keene had restarted

EDGE CAME IN UPON THE WESTERN CIRCUIT. He was obviously in difficulties through overheating, the car seeming nearly on fire. He had some difficulty in getting a start at the control exit and appealed to the starter as to whether he could accept assistance. The starter said yes, if this is rendered outside the control area. Accordingly he and his mechanic, Cecil Edge, pushed the car over the boundary by a score of attendants. An outcry was immediately raised by the French partisans, who contended that this action was a breach of the rules, and Chevalier de Knyff, who had arrived in the meantime, and saw the incident, said, very courteously, that he was sorry he should have to lodge a protest. Edge had to stop again about 100 yards higher up the road, when De Knyff passed him, and thereafter assumed the position of leader of the competitors, a position he was not dispossessed of throughout the remainder of the race.

JENATZY FOLLOWED DE KNYFF

at an interval of 13 minutes, having commenced to overhaul the Frenchman, and Owen arrived shortly afterwards. While riding through the control he bore down the cyclist pilot, but as the incident was not a serious one, and obviously involuntary, no notice was taken of the matter. Then occurred the most alarming circum-

stance of the day. When Gabriel arrived he reported that he had passed Jarrott overturned, and his car smashed to atoms. He said that Jarrott was seriously injured, and he was unable to state whether he was alive or dead. Great gloom fell upon all the company, and the next competitor was anxiously expected for fresh tidings. Baron de Caters soon followed, and our anxieties were speedily relieved. The Baron stated that he had found Jarrott upset and his car smashed; that he had slowed down and offered assistance, which Jarrott had declined, stating that he was not injured. He located

THE SCENE OF THE ACCIDENT

Between Stradbally and Athly. The Baron told his tale in a very simple and modest way, and, when his own part in it was appreciated by the company, three hearty cheers were given him for his magnanimity. The Baron smilingly acknowledged this tribute, and at his request a

note was written, with these words, "Jarrott is uninjured; his car is smashed.—De Caters," and he took it with the intention of throwing it out at a suitable place. There is no doubt that the sportsmanlike action of this competitor lost him several minutes, but his behaviour will be greatly esteemed by Englishmen generally. Shortly afterwards Jarrott drove into Athly. He had apparently dislocated his shoulder, was in pain, and was proceeding to get medical assistance. His mechanic, Bianchi, was more severely injured internally, for when the car overturned, in consequence of a derangement of the steering gear, the unfortunate fellow was pinned beneath the vehicle. Farman arrived next to De Caters, but could add nothing more to the news. The next incident of interest was the arrival of Foxhall Keene, who had been making good time. While examining the machine at the exit of the control, it was pointed out that

THE BACK AXLE WAS SPLIT.

The competitor did not like the appearance of things, but he decided to continue the race and risk the consequences. He started off somewhat mournfully, and none of those present expected to see him round again. This practically completed the attenuated list of competitors, but a final sensation to the circuit was caused by Mogens rushing through the control at 40 miles an hour, although he received the usual warning to slacken speed. It appears that he had decided to retire from the race, having had several mishaps with his tyres, and collisions with hedges. He finished up at the outside control at 12.30. His behaviour at the control will no doubt be the subject of a special report. The system of controls was designed to slacken pace for the safety of the public, and it was, without doubt, a reprehensible proceeding, whether he was racing or not, to dash through the control area so fast.

Before Keene had passed through,

DE KNYFF ARRIVED FOR THE THIRD TIME, as cool as ever. We expected next to see Edge arrive, but the second place was taken by Jenatzy, whose car got out of the



Mechanics attending to Gabriel's motorcar at the Athly control.

control at a fine rate of speed. Jenatzy was now only 13 minutes after De Knyff, but, as he started 14 minutes later, he was actually one minute ahead. He seemed very determined, and was by now picked out as the winner, bar accident. Edge did not turn up till 19 minutes after Jenatzy. He seemed very troubled with his tyres, having on this circuit lost 35 minutes from this cause. He pushed on, however, determined to do his best, in the face of

AN ARRAY OF MISFORTUNE.

Gabriel came in nine minutes later, and De Caters 11 minutes after him. The Baron was our special correspondent, and could generally be expected to bring us the latest intelligence of any happening along the road. This time he told us that No. 3 (Owen, of America) had broken a wheel. The Baron, as he waited his orders to go, laughed and chatted pleasantly in polished English, and consistently smoked a welcome cigarette. While he was waiting the rain, which had threatened for some time, came down rather sharply, and a number of the spectators seized the opportunity to wend their way homewards. To them the race must have proved somewhat uninteresting, especially within the control areas. There was very little of the racing of car against car, and they were unable to appreciate the niceties of the timing. The officials, however, were able to get a much greater amount of interest, in spite of the fact that they were beginning to feel somewhat tired, after many hours of close watching of the various incidents of the race. The weather had turned out somewhat unsatisfactory, sharp showers alternating with cold wind, with an occasional interval of warm sunshine. Farman reached Athy next in order to De Caters. His racing was consistent throughout, and without incident, so far as this control was concerned. Keene turned up again with his fractured axle to the surprise of everyone, who had no expectation that the car would have lasted so long. This was, however, his last appearance, and we subsequently learned that he had made a virtue of necessity, and had

RETIRED AT KILCULLEN CORNER.

The first rumour spoke of a smash-up and a spill, but we were relieved to hear that this calamity had been averted. Keene was a daring and dogged rider. At one time in the race he looked a possible winner, and though one cannot but admire the reckless courage which induced him to continue in face of the serious danger which had been disclosed, it is satisfactory that this courage was later tempered by discretion. The American riders, Owen and Winton, were still continuing the race, but were four hours behind the field on this fourth circuit. It was difficult to understand their reasons for continuing under the circumstances, as the performance could have no commercial value. It was noticeable also that in control the competitors in question did not seem to appreciate the serious nature of the contest, and that their efforts seemed to be directed to emphasising the humorous side of the race.

De Knyff put in an appearance for the fifth time at two minutes past two, and was still going very easily. He complained



Jenatzy leaving Athy control.

somewhat of the difficulties of the course, in that he was unable to put his engine at top speed for more than five minutes at a stretch. Jenatzy was slowly creeping up to him, being now only five minutes behind, and every time he left a control it was noticed that he dashed off with vigour. Quite 20 minutes behind followed Gabriel who, it was reported, had at one point of the race.

COLLIDED WITH JENATZY,

causing injuries to several persons. A brief glance at the timekeeper's records showed at once the baselessness of this rumour, for at no time were the riders within 14 minutes of each other. De Caters came next, 23 minutes after, and seven minutes after him came Farman. Edge had now gone from bad to worse, and had let up three others of the competitors. He still pluckily continued his efforts, and doggedly fought against the difficulties with which he was surrounded.

At 3.35, De Knyff came in for the sixth time, and five minutes later came Jenatzy. No change had been made in the relative positions during this circuit, and speculation was rife whether the German would overhaul his French rival before the finish. Both competitors had plenty of determination, and both seemed ready to go all out in the struggle. It would have been

A VERY PRETTY FIGHT

upon a wide French road with due precautions against accidents. The excitement was becoming intense, especially when Gabriel and De Caters came in at 4.18 and 4.25. Both these riders had some difficulty in getting off, the former wasting two minutes outside the line for cooling purposes, and the latter discovering at the moment the word "go" was given that his petrol was exhausted. Farman, who came up at 4.30, also stopped to water. Edge was now hopelessly in the rear, arriving 66 minutes after Farman, a lapse of 53 minutes since his previous appearance. He seemed to be in doubt as to whether to finish, and proposed to consider his position at Ballyshannon. In the meantime, both De Knyff and Jenatzy had made

THEIR LAST APPEARANCE,

three minutes now only separated them, although, of course, the latter was in point of net time 11 minutes in front. Loud cheers followed the redoubtable riders as

they were dismissed on the final portion of their long journey. Each panting car tore up the hill from the control and disappeared in a cloud of dust. The race was now over so far as Athy was concerned, but a sufficiency of interest was still reserved for the other principals in the historic struggle. Gabriel came some time afterwards, at 5.58, and was also sent off with a demonstration. Speculation was now agog as to whether Farman would arrive in sufficient time to put him into third place, and when ten minutes later he came into the control it seemed that his third position was not only assured, but that he was

WITHIN ONE MINUTE OF DE KNYFF.

It was possible that in the final distance he might gain the required seconds, and he was watched away with interest. There yet remained De Caters and Edge, the latter of whom was too far behind for any alteration in the result. De Caters did not come when expected, but we soon heard that the chivalrous Baron had had a misfortune just outside the control. One of his wheels had collapsed, but happily he was uninjured. Shortly afterwards he came through on a touring car, placidly smoking his pipe and looking the picture of contentment. With a smile of amusement he related the circumstances of his mishap, and told how the car had suddenly sat down. He then shook hands with the officials, and proceeded on his way in the touring car to Ballyshannon. Edge again turned up just before seven, having decided after all to complete the distance.

Shortly afterwards the race was declared over, and the hard worked officials were released from their duties to proceed as best they could to their several destinations.

The pace De Knyff was going on the third circuit might be judged from the fact that when Edge had arrived on his second circuit and pulled up in the Monasterevan control, he shouted to the timekeeper that De Knyff was close behind him, as he had observed him in the distance. Sure enough this proved to be the case, and Edge had no sooner got out of sight when the cry went up "De Knyff is coming!" and round the bend dashed the Panhard at a fearful pace. De Knyff was now on his mettle, and fully appreciated the fact that Jenatzy was pressing him hard. He seemed to start away faster this time from the control than on the previous ones.

RETURNING FROM THE RACE: IMPRESSIONS ON THE ROAD TO DUBLIN.

The Motor Derby is a thing of the past. Those who were at the starting point at Ballyshannon will not forget the scene in a hurry. It proved a weird contrast to the control station, for at the latter spot one saw but little of the actual racing, although to the writer's mind, more interest centred therein. Having officiated at Carlow control, and consequently finished our duties early in the evening, we proceeded along the course, through Castledermot control, now deserted, Moone, Timolin, and so, over the official route, to Ballyshannon. The only cars we met were those of Percy Owen and Winton, presumably returning to their quarters, and the "race is over" car—which meant little to those in the vicinity, for the spectators had dispersed—and with steady tramp the constabulary, who had worked so well during the long and trying day, were being marched off to their quarters. In fact, with the exception of

A FEW STRAGGLERS

at the villages, the deserted control, and a caution flag or two, it was difficult to realise that anything out of the ordinary had taken place that day. But, nearing the starting point, the scene was changed. There was there the semblance of excitement. The stands were slowly emptying, it is true, but it was still possible to obtain an idea of the impressive sight, unique in the annals of sport. And then came the return. Dublin appeared to be the one and only objective of the great crowd

which had come in all sorts of vehicles, but mostly of the motor-driven kind, as a matter of course. Country families and local folk, it is true, came in waggons, jaunting cars, and the quaint little donkey cart, and they turned at all points on the road; but the hum of the motor prevailed over all. It might be said that for hours a triumphant procession of those vehicles with which the day had been identified streamed along the roads. At

every village crowds stood and waved their "good-byes" to the visitors. Motor-bicycle and huge car sped by of all shapes and patterns: sometimes a racing pattern, with begoggled occupants—their path cleared by the discordant croak of

A DUST-CHOKED HORN.

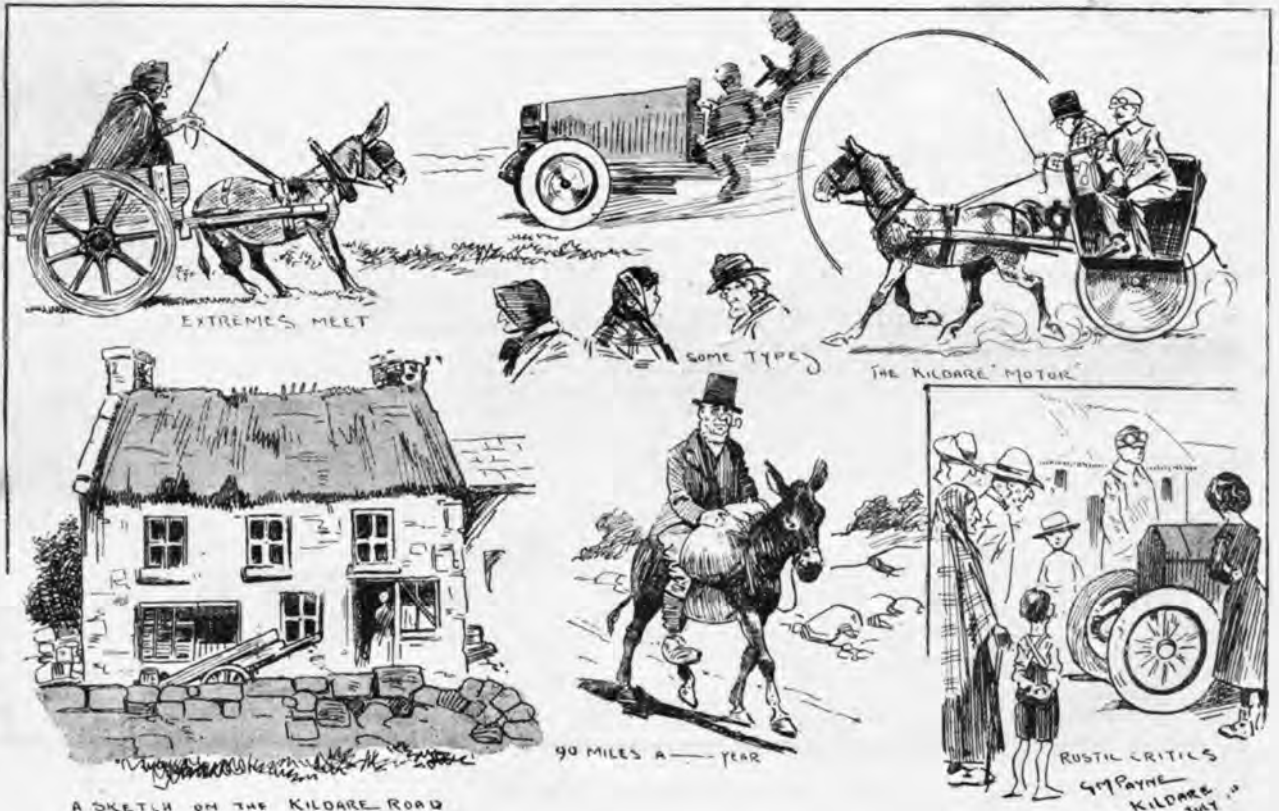
Along the splendid roadway there was room for all. Now it was through the marvellously wide expanse at Naas, where the racing cars were weighed in on Wednesday, again along straight, smooth stretches, but never long ere the familiar car, with oilskin-covered men and hooded ladies—merry folk all—flashed by. It was only by taking one's time over the roadway that it was possible to realise what a great number of cars had been pressed into service for the purpose of providing an eminently practical and appropriate way of journeying to and from the Mecca of all motorists on Gordon-Bennett Day. No one who traversed that road could fail to be impressed with the care all who drove their cycles and cars exercised, and, indeed, the control which was shown throughout

IN TORTUOUS LANES AND CROWDED ROADS.

It was natural to make comparisons between motor Derby Day and the gee-gee event, but to those who have now experienced both varieties it is safe to say that the time-honoured and old-fashioned fixture suffers badly in the comparison.



By payment of a single penny one receives innumerable blessings. Otherwise, if payment be deferred indefinitely.



Sketched in and around Kildare on Gordon-Bennett Day.

TIMING AND CHECKING AT THE CONTROLS.

Considerable misapprehension has apparently arisen over the timing arrangements in the Gordon-Bennett race; and yet the scheme adopted was at once simple and safe. In our opinion, the system is one that can with advantage be adopted by our Continental confreres in any future contest. The timing, in short, was done by a series of deductions. At the seven controls a dozen chronographs were provided, each having a red mark on the dial four seconds from the sixty seconds' mark. The watches were each enclosed in a box, which could only be opened by a master key. Twelve pilot cyclists were at each control ready to carry the box from the inward control to the exit control. The length of time at each varied from three to twelve minutes; as soon as the car was actually in control, one of the watches was set going, the Head Marshal examining this to see if it was running, and then showed it to the driver. Duplicate vouchers setting forth the number of car, name of control, time of arrival, etc., were filled up, and the two slips, together with the watch were placed in the box, handed to

THE PILOT CYCLIST,

who conducted the driver to the exit control. The starter at this end took the watch and informed the driver how long he would be in control, plus an extra two minutes if necessary, when the preceding car had arrived less than two minutes in front of the other drivers. If it was necessary to detain a car, particu-



The Irish constable keeping the local gentry of Athy in order.

lars would be entered on the voucher. One voucher was placed in the box at the side of each car, and the other in a pouch fastened to the box. With five seconds to go, as shown by the red mark, the starter counted "five," "four," "three," "two," "one," "go!" At the word go, the chronograph mechanism was stopped. Thus an accurate record of the neutralisation would be provided. After the departure of each car the watch was replaced in the box, and given to the cyclist, who then returned to the inward control, and gave it back to the head marshal. At each end of the control a large clock was placed, from which the assistant took the times.

A Good Sportsman.

We had the privilege of a chat, at Ballyshannon, with Mr. Gray Dinsmore, the American millionaire, who lent his 60 h.p. Mercedes to the German Automobile Club when the 90 h.p. cars were destroyed. He had expressed the desire for Jenatzy to drive it because he knows him to be a skilful driver with a little touch of the devil in him. Werner would not have been so good because he lacked Jenatzy's fire. He told us that he loved the sport of motor racing, and would always indulge in it whenever he could by entering cars and putting up good drivers. American roads were useless for motor speed, whilst the Bailey Law was so ridiculous that no one would take a car over there if it had to be slowed to eight miles an hour when passing a chicken! So he lived most of his life on the Continent. As to the next race for the Cup, the German Club, although but a social club with no racing element, would do the thing well, and he thought that the importance of the race would secure for it official sanction. The German roads were splendid, and a good race would result. Mr. Dinsmore is as keen a judge of motor machinery as the Duke of Portland is of horseflesh, and he unreservedly criticised the productions of his fellow countrymen in the race. Horizontal cylinders were unsuited to this work because they overheat, and more than four cylinders would always be foolish. He had told the American competitors that not one would see the end of the race; and his words have come true. Mr. Dinsmore regretted that an injured foot now prevented him from driving.



HIS MAJESTY THE KING

in his new motorcar at Singleton, Chichester, leaving for London after spending the week-end at West Dean, Chichester. The villagers will be seen cheering the King as he passes through the village.

THE CATFORD HILL CLIMB.

At the Crown Hotel Yard, Westerham, last Saturday, there was a scene of bustle and excitement, in which motorcycles and those of the "push" variety played the leading part. In fact, it was the weighing-in venue for the Catford Hill Climb on Westerham. It was in 1901 that the suggestion was carried out of running a motorcycle class in connection with the time-honoured cycle event. As it happened, the roads were bad, and only one intrepid rider, Tessier, essayed to mount the hill. Last year, a big improvement was shown, the Singer scooping the prizes in both classes, for those machines not exceeding 1½ h.p., and those not exceeding 2½ h.p. This year, the classes were divided according to weight. Class 1, open to motor-bicycles up to and including 125lbs; Class 2, up to and including 170lbs. A gold medal was given for fastest time, and certificates to all who reached the top. The hill was in fine condition for good times, and the wind, too, if anything, in the riders' favour. This year saw a record entry in the two classes, of 51 entrants, 37 starting. It is worthy of note



A. J. Randall on the "Bat," the winner of the Catford Hill Climb.



Starting for the Catford Hill Climb on Saturday.

that no machine was disqualified in either class for being over weight, although one or two were pariously near the border line. After the cycle brigade had covered the course, the motorists were despatched at minute intervals by J. R. Dainty, A. V. Ebbelwhite timing at the top. The course was from a point about 100 yards below the cross road at the bottom of the hill, to just beyond the danger board at the summit, a distance of about 1,200 yards. It is gratifying to announce that no accidents happened, although the crowd, which was in great force, surged on the road at the bends, and rather impeded the riders. A rope proved exceedingly useful in keeping the people back at one point, and this idea could well be extended in future contests. Another improvement would be to stretch a banderole across the road at the finishing point, as it was difficult on Saturday for the men to see where the exact spot for finishing was.

Some exceedingly fast times were accomplished over the 1,200 yards, which included one gradient of 1 in 0.25. A. J. Randall, on a standard pattern 2½ h.p. Bat, won both classes. In Class 1 his time was 1 min. 31 secs., and in Class 2

1 min. 35 secs. Randall is quite a novice, and this was his first appearance in a hill-climbing competition. Second place

in the 1st Class was taken by J. van Hooydonk on a new pattern 3 h.p. Phoenix, which, slow at starting, afterwards tore up the hill at a surprising pace. Hooydonk's time was 1 min. 37 4-5th secs. The following also did good performances: J. Leonard, 3 h.p. Humber, who started off splendidly, 1 min. 39 4-5th secs.; E. T. Arnott, 4 h.p. Princeps, 1 min. 40 4-5th secs.; C. R. D'Esterre, Ormonde (minus pedals), 1 min. 44 4-5th secs.; and E. Kickmann, 3 h.p. Leader, 1 min. 50 secs. The second man in Class 2 was H. A. Collier, the well-known track rider, on his 2½ h.p. Matchless, his time being 1 min. 37 secs. Other good times were: J. van Hooydonk, 1 min. 41 secs.; H. Nyross, 3 h.p. Humber, 1 min. 49 1-5th secs.; and A. J. Goldsworthy, 3 h.p. Singer, 1 min. 50 1-5 secs. It will be noticed that the same men competed, in some cases, in both classes. The judges were Messrs. C. W. Hartung and Walter Phillips, and Hon. Sec. E. J. Southcott supervised the arrangements in an excellent manner. The competitors, by the way, were given the choice of being pushed off the mark, or running with their machines and jumping on.



J. Leonard on Humber, at the Catford Hill Climb.

OTHER PEOPLE'S VIEWS.

NOTE.—These columns are set apart for the discussion of motor topics by bona-fide readers of "THE MOTOR," and trade letters containing veiled advertisements are not admitted.

The Editor invites correspondence on any motor subject, but owing to the very large number of letters received he directs attention to the following rules:

1. Plain Writing. Type-writing for preference.
2. All letters to be written on one side of the paper.
3. Letters to be kept as brief as possible.
4. For the purpose of illustrating any letter, rough diagrams may be sent, which will be worked up by one of our artists.

The Editor is not responsible for opinions expressed by correspondents in this section.

"A Puzzling Case."

Sir,—With my motorcycle I had the same symptoms as had Mr. Reet (vide query in recent issue), and I found they were due to the use of some unsuitable cylinder oil. Possibly this may be the cause of his trouble.—Yours faithfully,
S. J. LLOYD.

Sir,—I have taken in your paper since it first came out, and although I thought I knew most things about motors, I find I learn something every week from "THE MOTOR." On taking up a recent number, I saw a question asked by C. S. Reet (London), headed "A Puzzling Case." The letter might have been written by myself, it describes my experiences so exactly. After trying everything I could think of, without success, I took the two to one timing gear to pieces to discover that the pin, which held the small cog wheel on to the main shaft, had broken in half, and sometimes it jammed in position, and sometimes it moved round, this, I suppose, taking place when there was any great pace on. If this information is of any use to your correspondent he is welcome to it.—Yours faithfully,
G. F. MONSON.

De Dion Coil and Pedal Geared Trailer.

Sir,—From a recent issue of "THE MOTOR" I see Mr. E. Stockbridge is in difficulties about a De Dion coil. I think I can suggest a reason for the coil being ineffective. He mentions the fact that there are two brass bands round the coil; one of these bands is connected to the earth wire by means of a screw going through the band into the coil. This band must be connected in some way to the frame (usually by a clip or holder). If Mr. Stockbridge does this I think he will find the coil satisfactory. I noticed a letter on page 466 from Mr. G. Wakeman about a trailer with pedal gear. If he will communicate with me I might arrange to have one made, as I like the idea.—Yours faithfully,
G. F. MONSON.
Lauriston, Guildford.

A New Cooling System.

Sir,—I am afraid your correspondent's, J. Hubbard, invention won't hold water, as a friend of mine long since (exact date I will obtain shortly) fitted the "invention" to his machine, and had it running in a room for some hours without overheating, but his process had a peculiar method of application, particulars of which I purposely withhold, and without which a good effect cannot be obtained.—Yours faithfully,
E. PARE.

Clutch and Free Engine Experiences.

Sir,—In reply to the letter signed "T.W.F." in a recent issue of "THE MOTOR," about clutch and free engine, I would like to give my experience. I have been riding an "Iris" motor-bicycle, which, fitted with a friction clutch, operated from the handlebar by a Bowden wire, gives a free engine at will. I have found it satisfactory in every way, and as the engine is also fitted with a hand starter it is an ideal machine for use with a fore-seat or trailer. I do not know how the device would act with an air-cooled engine, but should think the motor would be liable to overheat when running free. I wonder other makers have not adopted this arrangement, as it costs little, and is a great convenience.—Yours faithfully,
"FREE ENGINE."

In Favour of Solid Tyres.

Sir,—I should like to tender a word of advice to that much discussed gentleman "The Man of Moderate Means." It has often occurred to me that the makers are wrong in so generally fitting pneumatic tyres to their small cars. I maintain that pneumatic tyres as applied to motorcars are a luxury for the man of ample means. In my opinion, if a small car is properly balanced, well sprung and upholstered, the slight difference between a pneumatic tyre and a good solid or cushion tyre in point of comfort, does not compensate for the difference in initial cost and upkeep, to say nothing of the delay and annoyance so frequently caused by punctures. Do not let him be misled by the mistaken idea that because pneumatic tyres are large and costly they are immune from these troubles; they are not. I have a very lively recollection of many a run spoilt from this cause; again solid tyres are much less liable to side-slip, and that is no small consideration. It is certainly very alarming, at the first sudden application of the brakes on a bit of grease, to see your car go waltzing down the road, more especially if there is any traffic about. Therefore, I would strongly advise the intending purchaser of a small car to consider the advisability of having cushion tyres fitted. By so doing he will save about £20 in the first cost, and a lot of trouble and expense afterwards.—Yours faithfully,
W. H. TUSON.

Police Trap near Bournemouth.

Sir,—I would like you to warn motorists leaving Bournemouth by the Christchurch Road of a trap between Pokesdown and Christchurch under the avenue of trees just over the narrow bridge leaving Pokesdown. The distance over which motorists are timed is 1-16th of a mile. I might say that several motorists here have agreed to spread confetti a short distance from each end of trap.—Yours faithfully,
G. W. LEWIS.

Police Traps on the Lancaster Route to Scotland.

Sir,—Will you allow me through the medium of your valuable paper to warn fellow motorists against police traps from Preston to Lancaster? As this road is the main road to Scotland, it is greatly used by motorists, and my advice is do not go above nine or ten miles an hour after leaving Preston until Lancaster is reached, and vice versa, otherwise it will be a case of pay! pay!! pay!!! I, myself, use this road a great deal, and have noticed the great number of traps almost the whole distance from Preston to Lancaster. The police are very sharp on Saturdays and Sundays. The Mayor of Southport was recently trapped, I think three times one afternoon, on this road.—Yours faithfully,
"A MOTORIST."

Magneto Ignition and the Tricycle.

Sir,—Having read so many of your correspondents' remarks regarding magneto ignition, I should like to say a few words concerning my own experiences, and the excellent results I have obtained with it.

During twelve months' constant use I have never had one misfire; in fact, the only trouble I have had was when the bracket worked loose and snapped the fine copper wire screwed to it—not a very serious mishap, as I simply took the magnet out, twisted the broken wire ends together, and was off again as merrily as ever, with but very slight delay, which is a very considerable item to a poorly paid commercial traveller, to whom time is money. If it is correctly fitted and occasionally oiled, I should say it would last for years—if, in fact, the engine did not become worn out first. Naturally, it requires adjusting about every 2,000 miles, as the rocking parts work at such a high rate of speed.

In reading your paper every week, I notice a good deal of correspondence about the high tension system, but from conversations I have had with friends riding machines fitted with it, and the stoppages I see, should say it will in time be superseded by the magneto, with which so many of the cars in the Paris-Madrid race were fitted. I would also like to say a few words in favour of the despised tricycle. In choosing between a bicycle and tricycle, and having no superfluous cash to invest in a good car, yet requiring

carrying capacity for sample, I decided upon a Singer front-drive tricycle, which I find a success in every way, for where other makers fit their engines, petrol tanks, accumulators, etc., I am able to have a carrier, taking either sample case or basket chair for one person. Now that the fore-carriage has come, and looks like staying, the bicycle is at once converted into a tricycle, but with a more up-to-date name, and owners with whom I have conversed seem loth to return to the single tracker. The disadvantages of the bicycle seem to be: Firstly, the danger of skidding; secondly, having to dismount in traffic; thirdly, very little luggage capacity; and fourthly, the damage to engine and other parts through the slightest fall, from all of which the tricycle is practically free.—Yours faithfully,

P. H. CLARKE.

Coventry.

Efficient Firing with 2 volts.

Sir,—Referring to the letter of "H.G.D." in a recent issue of "THE MOTOR," I have a similar machine, and am unable to get good firing with one cell, even if it be newly charged up. As I am a novice, it is difficult for me to account for this. How is it that he could not run his machine with two cells (which I presume were in series), and yet uncouple one and still work with the other? The current would surely flow through the other cell, although perhaps run down. I should also like to give a word of warning to riders of the Clement-Garrard machine to keep a sharp eye on the nuts. I decided to have lock nuts fitted, and perhaps the makers will take the hint. I discovered just in time the other day that two nuts on the rear engine sprocket had worked quite loose.—Yours faithfully, M.P.

Engine Speed and its Relation to Hill Climbing Capacity.

Sir,—In reading the advertisements in "THE MOTOR" I am somewhat perplexed at some of the statements of manufacturers, although I do not question their truth. Some motorcycle firms claim that with an engine running normally, at say, 1,500 r.p.m., and when accelerated, say 1,750 r.p.m., a speed of 35 m.p.h. can be developed on the level. As is commonly the case, let the ratio between the engine pulley and road wheel be 5 to 1. The road wheel is never more than 28 inches diameter, and revolves 720 times for each statute mile. By multiplying 720 by 5 by 35 we get 126,000 revolutions of engine for 35 miles per hour. By dividing 126,000 by 60 we get 2,100 r.p.m., which seems rather high for a 1,500 engine to work with any degree of efficiency. Some firms on the other hand make some such claim as that their 2½ h.p. motorcycle can go up a mile of 1 in 7 gradient. From a lengthy experience of making sections of hills of different gradients, I know what 1 in 7 means. A gradient is much steeper on the ground than it looks when plotted on the sheet of paper. I should like to see a mile of 1 in 7, as it means a rise of 754 feet from start to finish. Some gradients in my district which were known as 1 in 10, I have found out to be only 1 in 15. It would be interesting to hear the opinions of riders regarding the development of speed by a motorcycle, having regard to the revolutions per minute and efficiency, and also if any motorcycle, ex-

cept a very low geared, normal horse-powered machine or a normally geared machine of very high horse power, could climb a continuous gradient of 1 in 7 a mile long.—Yours faithfully,

"PATRICK-DOWN."

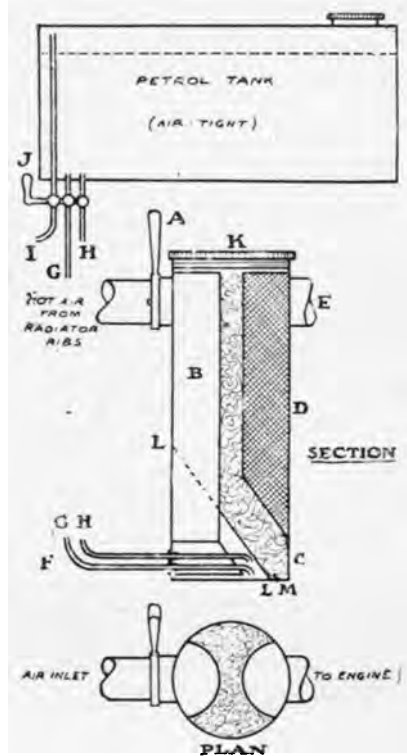
Hints Required about Removal of Solid Tyres on Benz Car.

Sir,—I have an old Benz car, and I thought that perhaps some of your readers could give me a few hints on how to safely remove the solid tyres so as to be able to put new spokes in the wheel. The tyres are jointed, and about 1½ inch deep, and 1½ inch wide, and appear to be wired on. I do not care to experiment till I know the method by which they are fixed.—Yours faithfully,

F. M. HAMILTON.

Design for Wick Carburettor.

Sir,—I beg to send sketch of Wick carburettor, which I think is an entirely new design, and I should be glad of some of your readers' opinions on it. The following are the details:—A, air inlet valve; B, air chimney; C, cotton wool; D, coarse wire gauze; E, pipe to engine,



Novel suggestion for a "Wick" Carburettor.

another mixture lever may be fitted on induction pipe; F, petrol level; G, petrol supply pipe; H, petrol level regulator; I, air vent to tank when B and H are closed; J, triple tap; K, screw tap; L, perforated brass. D and B are tubular in shape. L can be a loose fit resting against M and held in place by the cotton wool. D is moveable, so that every part of the carburettor can be cleaned and inspected.—Yours faithfully,

W. NOBLE.

The Fifth Edition of
"THE MOTOR MANUAL"
is now in preparation.

Brakes on Fore-Carriages.

Sir,—With reference to Mr. Leonard Straker's letter in your issue of June 24th, I venture to disagree with him on the point of brakes on the front wheels of fore-carriages. Mr. Straker says: "I have a hack-peddalling hub brake and a rim brake on hack wheel." Now, if either one of these brakes will absolutely lock the wheel, as is required by the law, what is the use of the other one? On a car it is necessary to apply alternately the brake on the countershaft or differential and those on the hack hubs, as the metal-to-metal surfaces generally used get very warm, even when water-cooled. On a bicycle, however, surely this is not necessary? Again, when going down a hill, the back wheel of a fore-carriage lifts slightly. In this case, any number of brakes are absolutely useless. On a car, if the brakes be too suddenly applied, the back part will swing round on the front, even on quite dry roads.—Your faithfully,

"INTERESTED"

The Safety of Fore-Carriages.

Sir,—This question is one of such vital importance to both public and trade alike, that I shall be glad if you will allow me to answer that portion of Mr. Leonard Straker's letter appearing in your last issue, in which he makes the really remarkable statement that brakes on the front wheels of fore-carriages are an actual danger. The statement is all the more remarkable when later on Mr. Straker states that he had driven a fore-carriage some thousands of miles since last November in all weathers, and has had "many narrow shaves, and one slight collision," and yet he further goes on to state that he never found the need of more braking power than that which he has in the form of a hub brake and a rim brake on the back wheel. Surely "many narrow shaves and one slight collision" do not carry out the contention that more braking power is not necessary. I do not think that many of your readers will agree with Mr. Straker that it is the wrong practice to brake the front wheels of any vehicle, as everyone will agree that an ordinary bicycle, for instance, is much better with one brake on the front wheel and one on the back than two in the latter position, and the same remark applies equally in regard to the motorcycle fore-carriage. Two brakes on the back wheel of fore-carriage machine, must, when both applied, grip the back wheel so that it tends to skid along, and perhaps herein is the cause of the many narrow shaves which Mr. Straker has experienced. In going down even a slight decline the weight is naturally lessened on the back wheel, and correspondingly thrown on to the front wheels. If the road is greasy the application of the back brake is almost certain to lock the back wheel, which will then only skid along. I have, in fact, often done this in experimenting, and find that on a really greasy decline I could always lock the back wheel, and that with only a moderate application of brake power. With braking power distributed over three wheels, complete control is secured, and a long experience has taught me that it is absolutely necessary for the safety of the passenger as well as for the fair treatment of the machine that the braking should be

so applied. I know that there are manufacturing difficulties in supplying brakes to the front wheels, but these have been overcome, and that successfully. It may be easy to get over the difficulty by the double braking of the back wheel, but I am sure that even though two or even three brakes were placed thereon they would not be anything like so efficient as a brake on each of the three wheels.—Yours faithfully,

J. VAN HOOXDONK.

A Trailer Accident.

Sir,—A trailer accident that occurred to me might be of interest as a warning to other motorcyclists who attach trailers without inquiring into their construction. I bought a trailer with a motor-bicycle, and it has frequently carried a 12-stone man several hundred miles, but on my taking out a lady for a short distance the frame broke at the junction of the pulling rod to the axle. Fortunately the trailer tipped backwards, and slid on the springs, attached by a part of the tube, so no great damage was done. On my writing to the makers of the trailer they informed me that the trailer was only intended for a pedal propelled bicycle. Had the lady not been sitting well back the chair would have tipped forward, and I tremble to think what the result would have been. I also think that there should be a lockfast hold to the clips which hold the universal joint. I bind mine with copper wire, which ensures safety, I think, and I test the thumb screw frequently from the saddle.—Yours faithfully, L. G. OLIVER.

Converting Tube Ignition to Electric.

Sir,—Having had three Bollee cars to convert, possibly my experience may be of use to your correspondent. The first was a Leon Bollee, the cylinder of which had been re-bored about $\frac{1}{4}$ in. larger in diameter. This, as in the others, was fitted with trembler coil and wipe spark. Evidently the increased cylinder capacity was not suited to the valves, as I was never able to get full power out of the engine. Number two was an English Bollee. This I had altered from tube to electric at a cost of £6, but was never able to get as good results from electric as tube ignition. A hill which I formerly used to take on the second speed, after the alteration I had to use the lowest gear for. The third was also an English Bollee, but of a later type, viz., raised driver's seat and valve gearing on top of cylinder. I fitted electric ignition to this car myself, at a cost of £3 2s., after the plan mentioned by your correspondent, W. A. Fullalove, viz., by an extra gear wheel, with contact breaker on same. I also found the plan very noisy. To deaden the sound I rivetted a disc of leather at the back of the wheel, and found this improved matters. This car also I found ran better with tube ignition than electric. The only advantage I have found with electric ignition is, first, an absence of back-fires at starting, with the often painful results. Second, the ability to run the engine slowly while car is standing, thus avoiding overheating the cylinder, and the noise and vibration caused by the engine running full speed while the car is stationary. It was very rare indeed for the lamp to blow out, or give the slightest trouble. This, perhaps, was due to a perforated pipe I fitted over the burner. In conclusion, I may say my experience has been exactly the reverse of

your correspondent, "East Anglian," viz., I have found Bollees run better with tube than with electric ignition. I certainly think the Bollee has many advantages over the Trimo type, and am surprised to find no firm bringing out an up-to-date Bollee. Even with all their faults, they possess some very good points.—Yours faithfully, "KENTISH BOLLIST." Lewisham.

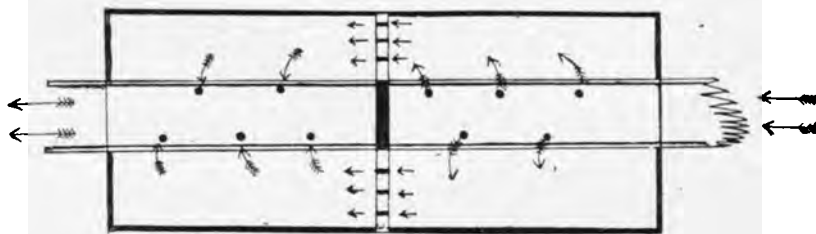
A Silencer Idea.

Sir,—I beg to submit the enclosed design for a silencer, which, if effective, could be made very cheaply. Perhaps if you printed it some of your correspondents would experiment? The device would only consist of a short piece of piping stopped in centre with a flange bored like a baffle plate, and so arranged as to hermetically divide the casing into two parts.—Yours faithfully,

CYRIL DE L'ISLE.

Steam Motor-Bicycles.

Sir,—I notice in your issue of the 10th, a letter from B.J.L.H. on steam as a motive power for bicycles. Speaking about flash boilers, your correspondent says: "These boilers are of such excellent workmanship, the risk of bursting is practically non-existent." From this it would appear that flash boilers don't explode on account of their excellent workmanship. This is quite a mistake;



Illustrating Letter from Cyril de L'Isle.

flash boilers explode as often as any other boilers, but never with dangerous results, because when exploded there is nothing to follow the explosion up with, the space containing steam being so small; because in these boilers steam generation is instantaneous, it being generated as wanted, and no supply is kept to call upon. But with the ordinary, or fire tube, or locomotive type of boiler a large area is always full of steam; consequently on explosion there is a great stock of power to follow it up. Among the advantages claimed for the machine is (4) control by one lever (throttle). As B.J.L.H. favours the use of a slide valve engine, I cannot see the advantage in one lever control, because then the travel of the valves could not be altered. The engine would have to be geared down, slightly, at any rate, which would mean that at normal running it would be doing a rather high number of revolutions (for a steam engine). Now, supposing one could not vary the travel of the valves, this is what would happen: To start, it would be necessary to give the valves full travel, in other words, to run in full forward gear; also when hill climbing, or doing other hard work. After starting the speed would gradually rise until a certain speed (fairly low) was reached, when the excess of steam given by full forward gear would be counteracted by back pressure; if the throttle was then opened wider to give

more pressure of steam, no result could ensue. The only possible way to increase speed would be to "notch up," in other words, shorten the travel of the valves. There is no doubt that for motor work a slide valve engine must have a variable valve travel; without it, waste of steam occurs, as the power used on an out-stroke is nullified by the back pressure on the exhaust stroke. This argument hangs on the supposition that the valves are set for their maximum travel; if not so set, then the engine could never use its reserve of power for starting, or hills, or trailer work. With regard to weight, the comparison is this:—Steam equipment consists of boiler and its fittings, water tank, fuel tank, engine and its parts, and oil tank. Petrol equipment consists of petrol tank, engine and its fittings (i.e., carburetter), ignition system and oil tank. I think the steam would be the heavier.—Yours faithfully C. S. STOCK.

Cause of Leaky Carburetters.

Sir,—Having seen from time to time in "THE MOTOR" that many of your correspondents are continually in trouble with their surface carburetters, I have taken the liberty of sending you a specimen of the material usually used in the manufacture of same, and after you have examined it I think you will agree with

me that when such light material is used it is surprising that some serious accidents have not occurred. All that I have repaired seem to be made of the same material, viz.:—The petrol tank inside is made of 28 B.W.G. sheet brass, which in my opinion should be not less than 20 B.W.G., and the outside casing is made of 24 B.W.G. lead coated iron, which is the cheapest material that can be obtained, and yet this is the class of carburetter that some of the leading manufacturers place upon their motorcycles. You will see that there is a crack marked upon the piece of brass (which is the bottom of a petrol tank) near where the needle valve has been. Many would say that this crack was caused by the pressure of the needle valve, but it is not so; the real reason is that the bottom is so thin that the vibration causes it to buckle, and in a very short time to crack. Thus the carburetter is flooded, the rider imagining that the needle valve is leaking. In some cases that is so, and is caused by a little grit finding its way between the seat and the cone of the valve. I might say that I have devised a needle valve for surface carburetters that can be taken out of the tank when necessary, examined and replaced without any difficulty, and I shall be pleased to show anyone the valve, if they will call at my address.—Yours faithfully, J. SANDERS.

88, Roscoe Street, Canning Town, E.

Enriching Petrol.

Sir,—Referring to the heavy density of petrol, about which there has been so much correspondence lately, and which unfortunately cannot be avoided, as explained by the oil company, we wish to state that the only difficulty we have experienced has been at starting the motor. But this is now entirely overcome by the use of our Picrator" (patent applied for). This provides a means of using picric acid without bad results, and we send a sketch which explains the system. We shall be prepared to put this on the market in the course of a few weeks. In conclusion we may say that we have ridden a distance of over 500 miles, using picric continuously (the bypass being only added lately), without any trace of corrosion in the cylinder or the valves.—Yours faithfully,

GUY AND WHEELER.

For Injecting Paraffin.

Sir,—In reply to "Paraffin," may I mention what I consider a far handier method of getting paraffin into motor head for easy starting than drilling the compression head screw? The "considerable nuisance" is to have to remove the compression head screw at all, and I doubt whether the continual screwing and unscrewing of this important nut does it any good, and should fear that loss of compression would occur when the worm gets worn. For short journeys (to business) I couldn't spare time to unscrew and screw up this awkward nut, and so I got over the trouble this way: I had a hole bored right through the centre of compression screw, and a butterfly tap screwed into the top. Then all one has to do is to twist the butterfly wings, squirt in the paraffin and close the tap again. Mine is perhaps rather an ugly fitting, and large, but very easily turned with the fingers, and appearance is nothing when compared with the convenience. I believe in keeping the compression screw quite tight, and by this method it never needs touching.—Yours faithfully,

HORACE W. BARNARD.

Motor Prospects in Australia. An Appreciative Letter.

Sir,—Thank you for sending me the Show number of "THE MOTOR," and I may here state that I am the proud possessor of every number from the first issue of your valued journal. I missed getting No. 1, but you were kind enough to send it to me, and I now have a copy of every issue. I cannot pass without remarking the great strides you have made during the short period of your journal's existence. This success I foresaw, when first reading the issues. I felt that it was a public necessity from a motorist's point of view, and, therefore, success was assured from its inception. I look forward every week to getting "THE MOTOR," as I feel more interest in it than in any other paper I get, as it contains more information than any journal that I know. I am pleased that you are giving us some "Light Car" matter, and on this account I welcome the change lately made. Needless to say I am very much interested in motors, and have already constructed a few motor-bicycles, and have now in hand a light car. It is being constructed of imported fittings. I will send you a photo of same when it is finished, to give you an idea of what we are doing in

E22



An Australian-built Motor-Bicycle.

Australia. Buyers in prospect are very numerous in Melbourne, but a salesman can talk "motor" day by day, with very poor results, and I can assure you that the motor boom, so far as we are concerned here, is very far off. A great many expect in the near future to buy a first-class motorcar for less than £100, and a motor-bicycle of the very best make for £30, so you may imagine that they will take some pushing before they are sold. I think that I can safely say that there has been more money sunk than made here in "motors," still we hope for better prospects, and I feel that we still have a good field before us, as we must follow in the footsteps of the older world, and we realize that motor vehicles have come to stay. You have my best wishes for the continued prosperity of "THE MOTOR," and my thanks for enabling me through its agency to secure much valued information that I cannot get through other sources. I also send you a photograph of a motor-bicycle that I manufacture. It has combined belt and gear drive, neat in design and light in weight. I might mention that a long distance road race for motor-bicycles (limit $3\frac{1}{4}$ inch bore and $3\frac{1}{4}$ inch stroke) from Warnambrook to Melbourne (first road event) will be run off in about four weeks' time.—Yours faithfully,

EDGAR TOZER.

Swanstone Street, Melbourne.

Photography and the Motor-cycle.

Sir,—In your issue of April 15th you mention the best way to carry a camera on a motor-bicycle. I have just seen a suitable article for motorists, something that cannot be shaken or jarred to pieces by the motor. The Rochester Optical and Camera Company, 112-113, Fore Street, London, E.C., I believe, are the makers of the "Premo Film Pack," which, with the proper adapters, makes the camera a magazine camera loaded with twelve flat films; each film is attached to a strip of black paper, and to expose, the paper is simply pulled out and torn off. The films lie as flat as glass plates and are non-curling.—Yours faithfully,

London, S.E.

C. H. SANDFORD.

The Glasgow-London Run.

Sir,—I think the letter from Mr. Basil H. Joy, in a recent issue of "THE MOTOR," is likely to convey a wrong impression to the public. It would appear by his statement that the first motor-bicycle to arrive in London was the one which had done the distance (Glasgow to London) in the shortest time; but what about the first, and by far the worst, half, Glasgow to Leeds? In this two hundred and odd miles, over mountains and moor land, which was by far the most severe test of reliability, the Humber motor-bicycle arrived in Leeds over an hour in advance of the Quadrant. If there is any importance attached to speed, it should be taken for the whole journey, and not for the easier half.—Yours faithfully,

AUTON WALKER.

Surface v. Spray Carburetters.

Sir,—It seems to me pretty well admitted by those who have compared them that the surface carburetter gives stronger explosions up hill than a spray carburetter. It appears to me probable that the chief reason of this is because the longer induction tube of the surface type allows a more intimate mixture of vapour and air than in the case of a spray carburetter placed very near the inlet valve. To those who have frequently exploded a mixture of oxygen and hydrogen in a soda water bottle it will be well known that a much louder report is obtained if the mixed gases are allowed to stand some hours than if they are exploded at once after mixing. The mixture from a spray carburetter, with a short induction tube, on entering the cylinder would be hardly a gaseous mixture, much less anything approaching a molecular mixture, the ideal to be aimed at. I shall be glad to hear if any research has been made bearing on this point. What I propose doing with my machine is to lengthen the induction tube by coiling it between carburetter and inlet valve, and I have no doubt in my mind that the power of the engine will be increased.—Yours faithfully, F. W. DAW.

Ebbw Vale, Mon.

We regret to say that quite four pages of correspondence is unavoidably crowded out.

—EDITOR.

OUR INFORMATION BUREAU.

SPECIAL NOTICE.

The Editor is at all times pleased to answer any queries put to him by the readers, or to receive correspondence from readers upon any motor topic. In consequence of the large number of letters received, however, he must insist upon the following simple rules being strictly adhered to:—

1. Plain writing. Type writing for preference.
2. All letters to be written on one side of the paper only.
3. Questions to be clear, terse, and to the point, without tedious preamble or needless flattery.
4. Should an immediate reply be required, an envelope must be enclosed bearing a penny stamp, and the name and full address of the sender. NOT a stamped undirected envelope.

G.R.R. (Burnley).—The position and system of attaching motor you refer to is quite practicable. You must remember, however, that they are the subject of a patent.

H.A.B. (South Lowestoft) wishes to know (1) a good dressing for a twisted hide belt; (2) also how to prove whether the contacts on his motor are genuine platinum.—(1) Ordinary castor oil forms a good dressing for this class of belt. (2) Touch the contacts with a drop of the strongest nitric acid obtainable; if base metal they will colour the acid green.

Motor to Drive a Fan.

N. A. Nicholson (Glasgow) inquires if a motor-bicycle engine would be suitable for the purpose of driving a 10in. diameter fan.—It would be quite practicable; the only objection, perhaps, would be the noise. Of course, it would be necessary to use either a water-cooled motor, or arrange the fan to cool the cylinder. A 1 b.h.p. motor would be amply powerful.

Concerning a Frame, etc.

W. H. Parker (Ferrybridge, Yorkshire) writes:—Will you please recommend to me a firm of motorcycle manufacturers where I can obtain a motorcycle frame on which I can rely for quality, good workmanship and reliability, as I have in my possession a 2½ h.p. motor of a very good make, and in every way a most trustworthy engine, and I want a frame to suit it? I should like the frame to be made in the shape of a loop near the bottom bracket, so that the engine may be placed in a vertical position. Also, what method do you favour in the attachment of a belt rim on rear wheel of motorcycle?—We advise you to order through a good local cycle agent a Chater Lea frame (the makers do not supply retail). It is best, if possible, to attach the belt rim to the tyre rim by short arms. It is not always possible to do this; but another good way is to spoke the rim separately, with distance pieces rivetted through the belt rim, and provided with slots to grip the wheel spokes.

Consumption of Petrol, etc.

"Inquisitive" (Warrington) writes:—Please say how much petrol should be consumed in a proper mixture at each explosion in an engine, with cylinder bore 3½in. diameter by 4in. stroke (crank 2in. throw), and what b.h.p. should such an engine give, and how many revolutions per minute should it run for maximum power?—The quantity of petrol used would be very small. We could not say exactly how much, but it would not be more than a fair-sized drop for each charge. (2) Power of motor 3½ h.p.; maximum speed 1,200 revs. per minute.

Leakage of Oil, etc.

H. Nelson Smith (Higham Ferrers) writes:—I shall be obliged if you will answer the following questions. I may mention that my machine is a new 2½ h.p. standard make. (1) The oil leaks out of the crank case on to engine pulley, and so gets on the belt, and also splashes over machine. Would it be advisable to fit a ball air release valve in conjunction with the valve at present fitted? (2) Oil gets blown out between combustion head and cylinder, though with no loss of compression. I have had combustion head off and put on new washer, with slight improvement. Would it conduce to overheating to pack joint with asbestos thread alone, and without copper washer? (3) Crank case gets very hot. I use Price's Motorine for lubrication, and there is no loss of compression. Do you think it due to compression of air in crank chamber?—(1) We do not think there would be any advantage in fitting an additional valve. A remedy we have heard well spoken of is to fit a thick felt washer between pulley and crank case. It is quite possible you use too much oil. (2) Oil cannot get out between combustion head and cylinder if the washer fits well, and the surfaces are tightly screwed down. When cylinder gets hot the joint expands a little, and hence oil gets through, unless everything is tight there. (3) If crank case gets abnormally hot, we should expect to find the charge fires past the piston, owing to a defective ring, or the slots being in line. There is hardly likely to be much compression in crank case. (4) You cannot use plain asbestos for packing. It gets blown out very soon.

THE MOTOR MANUAL

Has proved itself the most accurate and the most popular of all the hand-books on motors. The reason is obvious. It is interestingly written and clearly illustrated, and it is, above all, helpful. No beginner should be without a copy of the Fifth Edition of this most useful book, which is now in the press and will be ready in a week or so. Four Editions have already been disposed of, which fact in itself is sufficient to prove the merit of the work. It is cheap, too! One Shilling!

H.M. (Batham).—The Phoenix "Trimo" will easily surmount the hill you name.

Finding Capacity of Cells.

G. Brown (Birkenhead) wishes to know if there is any accurate method of determining the capacity in ampere hours of a motor-bicycle accumulator, as he finds his cells do not come up to the mark.—The only scientific method is to discharge the battery through an amperemeter and resistance, and note the time the cells will discharge at a given rate, say, 1 ampere; but as it is not everyone who has an amperemeter and resistance, the alternative method is to put a 4-volt test lamp across the terminals. The average lamp takes about half ampere, hence, if the lamp keeps well lighted for 20 hours, the battery has a full 10 ampere hour capacity.

Difficulty with 2½ h.p. De Dion Motor-Bicycle.

H. Hotherspath (London) writes:—I have of late been taking a trailer with passenger (8 stone) behind my motor-bicycle, but find that the performance of the machine on hills is not satisfactory. The compression is perfect, and I can stand on pedal for a considerable time before compression is overcome—weight 15 stone. There is no misfiring when climbing, but the motor gets weaker and weaker and finally stops. Up Nettlebed Hill, near Henley (1 in 15), I have to shed my passenger, and even then pedalling will not take machine and empty trailer up. I may say I run the engine, to which is fitted De Dion spray tricycle carburetter, with air and throttle levers, on as little gas as possible, and on Saturday last ran 160 miles on 1½ gallons, measured, which is, I think, economical. (1) On examining gearing of engine, I find, measuring from centre of belt over small pulley, that the size is 4in., and 19in. for the large rim on rear wheel. Is this gear too high? The belt (Lincona) having stretched, now lies in the bed of pulley, and does not come to the top as formerly. (2) The machine is fitted with De Dion trembler, Basse Michel coil, P. and R. accumulator and De Dion plug, but though I never have misfiring, there does not seem to be the good fat blue spark at plug I used to get with the make and break Minerva contact. In my opinion there is nothing wrong with carburetter, as the power is given off strongly when throttle is open, but it does not last long, and it looks as if the engine overheats, unless driven very carefully on hills and on the level. (3) Would a fan run from engine pulley over combustion head be any real help for cooling, as I can get one fitted for £2?—The gear, we consider, is too high. We should reduce engine pulley to 3½in. diameter. But there is clearly overheating taking place, and you must look mainly for the cause of this in the mixture. Look out for a flooding jet, and see that the petrol is of good quality. A fan would undoubtedly assist to some extent, but we should certainly get to the bottom of the cause before adding further complications to the machine.

S. Butcher (Dunmow).—We can only advise you to advertise a full description of the machine in "THE MOTOR." You may get news of it in that way. We regret to hear of the theft, but it was extremely unwise to let a stranger ride the machine.

Driving with Paraffin.

W. G. Boulton (Crookhaven). Could you tell me how I can adapt my 3½ h.p. motor to use petroleum, as petrol is very difficult and expensive to obtain here? How about starting and sooting? My engine has "Star" spray carburetter. There is no method of using paraffin oil with much success in an ordinary carburetter. You would require to get the oil to spray on to a very hot tube to get it to vaporize, or else introduce it right into the cylinder. You would have to start motor with petrol in any case, as there would be no heat available till the motor was running. Sooting is also very likely to occur unless you can get very perfect combustion.

Wearing out of Tyres.

C. L. Woodward (Lendon) writes:—I shall be much obliged if you can advise me as to suitable tyres for my chain driven motor-bicycle. I have only driven the machine about 400 miles, but in that distance have practically worn out two outer covers. The first was an ordinary 2in. Dunlop motor-bicycle cover, but it soon got so thin that a new one became necessary, and I therefore obtained a cover from the Dunlop Company with a plain tread, and instructed Messrs. Smith to solution on to it one of their thickest bands. I have run this about 300 miles, and it has worn so thin that the inner tube is constantly getting punctured. A tyre that impressed us favourably as a motor-bicycle tyre to fit a Dunlop rim was the "Liberty." This has a specially toughened tread and extra insertions of fabric, which add considerably to the wearing qualities. At the same time, we should think that there is something amiss with the transmission, probably too rigid a drive through the clutch. It is an important matter to keep the tyres, especially the driver, blown up hard. The slacker it is kept the quicker it will wear out.

A Spare Battery.

H. Bourne (Bexhill) writes:—I ride a 3 h.p. Quadrant and carry a spare accumulator, which I fix low down on back stay (chain side), and carry wires through the top of door, in order that I can connect up should the other accumulator run out. I have the handlebar switch, but should be glad to know if there is any sort of two-way switch that I could fix up on this cycle and thus save trouble of having to connect up fresh accumulator on the road. If you can give me information as to switch and wires I shall be much obliged. May I also thank A. Fenning for his useful tip? I very soon found out that even if I oiled the tappet every 20 miles the valve action was so perfect that little or no oil got inside. I at once had a small hole drilled and spring clip fixed on the timing lid, as he mentioned in your issue of the 17th. I must also thank you for tips and information. You will find an excellent diagram of the connections in the issue for April 1st, page 182. You might try Peto and Radford, or Bransom, Kent and Co., for a special switch. An ordinary two-way bell switch, small in size, could be utilised in case of difficulty in obtaining one.



Gordon-Bennightmare. After reading the special Gordon-Bennett number of "The Motor."

Requires a Speed Indicator.

"A Subscriber" (Skipton) writes:—Will you please say whether it is possible to obtain any kind of instrument for indicating the speed that a motorcar or motor-cycle is travelling at, and, if not, would there, in your opinion be a demand for a reliable indicator? If such a thing is on the market, kindly let me know where I can obtain particulars of same. You can obtain particulars of the Veeder Tachometer and Jones' Speedometer suitable for cars from Messrs. Markt Bros., 21, Chapel Street, London, E.C.; also the Bell Odometer from the Automotor Accessories Company, Southampton Row, London, E.C. We do not know a correct reading type satisfactory for motorcycles. There is a field for a really good indicator.

Probable Overheating.

A.W.S.A. (Streatham) writes:—I observe that you have helped others in their motor troubles, and shall feel obliged if you can tell me why my 2½ h.p. Excelsior machine, with fore-carriage, misfires after going ten miles. It does not stop, except on a hill, but every mile or so misfires. I have looked to the sparking plug and the trembler, and both seem in perfect order. Will you tell me the cause of misfiring, and I will see if I have overlooked anything? In May I went with my wife to Brighton, averaging eighteen miles an hour and the machine went grandly. I only stopped at the level crossing, Crawley, and once on the top of a hill to take up the belt. I am informed that this is an extraordinary run; surely it is nothing out of the way? I have run on as weak a mixture as possible, but have to increase the gas to get up the hills. Providing the contact breaker points are real platinum (we know of one or two similar misfiring troubles which have been cured by replacing the contacts with the genuine metal), we should be inclined to put down the misfiring to the motor overheating now and again. This is quite likely if you take hills with gas full on, and fail to assist with the pedal when the speed of the motor begins to fall off considerably. The ride was a good one, but not an unusual one.

French and English Power Units.

L. R. Ajello (London) writes:—I have purchased a 9 h.p. Darracq car from a friend, and, on making inquiries from the makers for particulars, they state it to be a 6½ h.p. Can you tell me if there is any difference between the French power and the English in calculating?—The difference between French and English horse-power is very small. The exact figures are that the French horse-power equals .9863 of the English, or about one-fiftieth less.

Flywheel and Gearing Queries.

A. Glazier (Ilford) writes:—I have a motor of the following dimensions:—Bore 2½ in., stroke 2½, exhaust valve 15-16th inch diameter, inlet valve ¾ in. diameter, weight of fly-wheels 9lbs. Would it increase power if fly-wheels were increased to 15 lbs. (revs. per min. 1,500)? How can I find diameter of rear belt pulley required? Could you also inform me which is best form of coil, trembler or non-trembler? Also, could you tell me what the two holes on the side of the mixing chamber in a Longuemare carburetter are for? Strictly speaking, a fly-wheel cannot add to the power. There is a certain weight of wheel necessary to take the piston over the compression, and store a certain amount of motion to keep the piston moving till the next explosion. Too much weight is a disadvantage on a cycle engine, as it increases the dead weight to be propelled. We consider 9lbs. ample for such a small cylinder. Inlet valve, by the way, is, if anything, a bit small; ¾ in. dia. would have been better. (2) For a motor of this power (1½ h.p.) a 7 to 1 gear is advisable; ¾ in. dia. of motor pulley, 2 in. for belt rim. (3) Both coils have their advantages, but it is generally conceded that a trembler coil circuit requires less attention. (4) Could not say unless we knew exactly what pattern you have, but it is most probably a warm air jacket connection if a union nut is provided, otherwise it will be an additional air supply for the mixture. The warm air connection is seldom required when carburetter is placed close to engine.

Leakage of Oil.

H. J. Hopkinson (West Drayton) writes:—I have a motorcycle fitted with oil retaining belt pulley, and am having considerable trouble with the lubrication. It is all right when running, but, upon stopping, the oil leaks out between the crank chamber and the belt pulley, getting on to the belt. I should be obliged if you could tell me how to stop this.—We should be inclined to say that there is far too much oil in the crank case. Are you sure that there is not a leakage between the oil tank and crank case?

Gearing for Devonshire Roads.

C. B. M. (Lisbury) writes:—I intend ordering a $2\frac{1}{2}$ h.p. gear-driven Singer motor-bicycle, and I should be glad of your advice on the following points:—(1) The Singer standard ratio of gearing is seven to one. As I anticipate touring in Devon, would you advise me to order a higher ratio, or is seven to one suitable? I weigh less than 10 stone. (2) If I have a Wilkinson tread fitted to the back wheel, can I dispense with a self-sealing air tube on that wheel?—(1) We believe that the seven to one gear would be quite equal to the work, but you had better leave this to the makers' discretion, stating the gradients it will have to take. (2) We advise you to retain the self-sealing air tube.

Lift of Valve, etc.

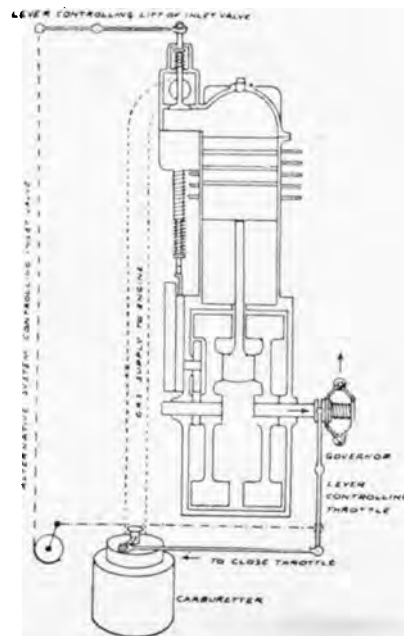
H. T. Burbury (Wakefield).—In recent issues you have recommended a maximum lift of $\frac{1}{4}$ in. for inlet valves. I have a $2\frac{1}{2}$ h.p. Humber. The inlet valve has only $\frac{3}{16}$ inch lift. Would it be an improvement to increase the lift? The exhaust lift is a bare $\frac{1}{4}$ in. Is this sufficient? Ought I to be able to turn the pedals at all by hand, with full compression on, if compression is as it should be? Should a washer be used for inlet valve in Humber cycles? There were none when I received the machine.—It does not necessarily imply that if the valve has $\frac{3}{16}$ lift it will open that much. A lot depends on the spring. We do not think you will gain anything by altering the lift of either valve. (2) Most probably the joint has a ground surface, and does not need a washer. If compression is perfect it should only be possible to overcome it by getting a good momentum up first.

Motor Dimensions, etc.

J. Paterson (Glasgow) writes:—I have made an engine of the following dimensions, bore $2\frac{1}{2}$ inches, stroke 3 inches, diameter of inlet valve $1\frac{1}{2}$ inches, of exhaust $1\frac{1}{4}$ inches, lift of exhaust valve 1 inch. My compression space is 1 inch exclusive of the passage from cylinder to exhaust. Is that about right? I tried to start it on the stand, using a Sthenos carburetter, type O. Using a surface carburetter I got the engine to start on the stand, but it would not keep going. The flywheels are inside case and weigh about $7\frac{1}{2}$ lb. the pair. Do you think that the light weight is the reason? I propose trying an outside one of 6 lb., in addition. Would that do? The coil and battery were all right. The engine is for a tandem cycle, gear $6\frac{1}{2}$ to 1. I think I should get at least $2\frac{1}{2}$ h.p. Do you think it suited to the work?—Dimensions given are fairly correct, but your flywheels are certainly too light—but main fault we should imagine is that the exhaust valve and spark are not timed properly. The sizes are ample for $2\frac{1}{2}$ h.p., and the gear is quite low enough.

Methods of Governing Motors.

"Governor" (Liverpool) writes:—I have received some valuable tips from your estimable paper, and shall be glad if you would give me some information upon a subject which, as far as I know, has not yet been touched upon in "THE MOTOR." I am anxious to have my 4 h.p. petrol engine governed, as the racing of the engine, when disengaging the gear, is a nuisance. I shall be glad if you would kindly tell me the best and cheapest way to go about this. A diagram, if necessary, would be greatly appreciated.—There are several points on the motor where control might be effected. The simplest, perhaps, is the throttle control, actuated precisely in the same way as the steam supply of a stationary engine. A centrifugal governor is run direct, or by belt, from the shaft, and as the speed rises the balls fly out and



Illustrating principle of governing a Petrol Motor, referred to in reply to "Governor."

draw up a collar, which in turn moves a lever acting on the throttle and reduces the supply. Another method is to employ the centrifugal principle to control the lift of the inlet valve. If the motor begins to "race," the governor actuates levers, which are connected with a fork, which prevents the inlet valve opening to its full extent. This reduces the amount of gas taken in till the speed becomes normal again. The other method is governing on the exhaust. The centrifugal governor controls a lever, which, as soon as a certain speed has been reached, causes the lifter of the exhaust to miss hitting the end of the exhaust valve stem, and thus the valve remains closed through several complete "cycles." The burnt gases thus remain in the cylinder, and prevent the motor firing for a number of revolutions till the speed drops again. It would be possible to govern by cutting off the spark in the same way, but this would obviously be wasteful of gas, as the full charges would be drawn in and pumped out without doing any work. The diagram shows the bare principle of the first two methods.

Wrong Accumulator Connection.

T. Tait (Invernie) writes:—I have connected my accumulator the wrong way in charging up, and would take it as a favour if you could say how to make it right again, what resistance to put in circuit, etc.—There is only one remedy, and that is to give the battery a prolonged charging in the right direction, then discharge it through a 4-volt. lamp and charge up again. Repeat this about three times and the battery will be none the worse.

Liquid for Accumulators.

C. B. Harrison (Birmingham) writes:—I want to get the accumulators of my motor-bicycle charged, as they have been standing for some time merely filled with water. A friend of mine has a continuous electric current, but he wishes me to tell him the composition of the acid necessary. Would you kindly inform me of this, and oblige?—The proper liquid consists of one part strong sulphuric acid added to five parts of water, and placed in cells when it is quite cold.

Ignition Queries.

H. W. Claridge (Ashford) writes:—(1) Can you kindly give me an answer to the following:—With B and M trembler coil (three terminals) what should be the length of spark to frame? Is a shower of sparks when wire is held at about $\frac{3}{16}$ ths inch correct? (2) Will oil on make and break affect sparking with trembler coil? (3) With three terminal coil, how does current return with no main connection? The bands of coil attached to frame are insulated by case of coil.—(1) We consider $\frac{3}{16}$ ths inch rather a feeble spark. The coil should give $\frac{5}{16}$ ths inch easily if battery is well charged. (2) Oil is no disadvantage on a brush contact. (3) The "M" connection is made through the contact breaker every time this touches the brass segment.

Exhaust Valves Breaking.

W. E. May (London) writes:—Please advise me on the following:—I am riding a motorcycle, and am troubled with my exhaust valve breaking. The original one ran 330 miles, and then broke just where the stem begins to narrow. I then had a De Dion nickel head fitted. This ran 90 miles, and broke at the base, where it is drilled for the split pin. I had this put right, and it ran 20 miles, and broke the head off. I then had a "Quadrant" valve fitted. This ran nearly 100 miles, but then broke exactly the same as the others. I used to ride much faster on the original one than I do now, and at the time the last went I was not doing more than 15, spark not far advanced, and as much air as possible (surface). A local maker says it is due to the design of the machine. If this is so, why should the first valve have lasted so much longer than the others?—It would seem to us as though the trouble with the valve was due to two matters. (1) The shape of the valve chamber is such that it throttles the gas, and valve stem gets white hot; or (2) you use too strong a spring. The best valve is made in one piece. Try a weaker spring. Evidently the head gets hammered off with the present spring. Do not run with more gas than you can possibly manage with, and keep this on the weak side to prevent valve getting so hot. Also have more holes drilled in silencer to give the gas freer exit.

Acid for Cells.

W. Hodson (Windermere) writes:—I have just received a Castle accumulator (empty), and would be glad to know whether gelatine or plain acid and water electrolyte is the better for a motorcycle (Humber). If you consider gelatine best, will you kindly give formula?—We advise the plain acid (1 to 5 water). The silicate of soda electrolyte reduces capacity 25 per cent, and is a difficult material to get out of the cells if at any time it is required to do so.

Dry Cells v. Accumulators.

F. W. Cavendish (London) writes:—I am no lover of dry batteries, and propose to use instead the accumulator. A friend tells me the coil on my about-to-be-possessed 6 h.p. De Dion-Bouton car works at 5 amperes. I also learn that accumulators can only be bought of 4 or 6 amperes. Can you inform me if the 6 ampere accumulator will damage the coil?—Your informant has got mixed up in his ideas. It is too long a matter to explain ampere hours in this column, but you will find, if you get a good 40 ampere hour 4-volt accumulator, either from Peto and Radford's or the United Motor Industries, and use it instead of a dry battery, you will get excellent results.

Fitting "Auto Trembler."

R. H. Pritchard (Rock Ferry) writes:—Please advise me what steps I should take to improve the ignition in my 4½ h.p. De Dion (genuine) car. I find the platinum contacts wear away and cause misfiring. I read that an Auto trembler will rectify this. My coil is an ordinary Basse Michel 6-volt, and I run the car either with a two-cell accumulator and a dry battery, or four dry batteries. The trouble I have is not great, but if with a small expense I could do away with it, I would like to do so. Will you please advise me as to the most economical and satisfactory way of changing the system, or if it is better to go on as it is? I use an E.I.C. plug, and the contact is trembler make and break.—It is not an easy matter to prevent fusing of the platinum tips. It is possible with some coils to minimise it by inserting a few inches of German silver wire in the circuit—about No. 20 gauge is best—but this is not always a success, as it may stop the spark altogether.

Best plan would be to change to a brush contact, and use an "Auto trembler." You can obtain a suitable contact from the United Motor Industries, Limited. There is no sparking of any moment at the brush contact.

Converting Contact System.

T. V. Southey (Tunbridge Wells) writes:—I have been reading J. C. Meredith's, also "Ormonot's" letters in the issue of June 17th of "THE MOTOR," page 441, on altering make and break contact to brush contact. Not having seen one of these, I am puzzled at there not appearing to be any platinum tips on the brush method. Would you tell me (1) Whether platinum is used with this method, and if so, how affixed? (2) Whether the brush system is less likely to misfire, and is generally more reliable than the other? (3) Can one advance and retard the sparking by this method? (4) What the cost of changing my present G and L contact breaker (1½ h.p.) to the brush system would be?—The platinum contacts are transferred to the trembler of coil with a brush contact. (2) Generally considered the more reliable of the two systems, as there is little fear of imperfect contact at the motor. (3) You can advance and retard spark exactly the same with either system. (4) The cheapest system is to use an "Auto trembler," which Gamages supply at 27s. It gives practically same result as brush contact and trembler coil.

Ignition Troubles.

F. F. Paxman (Tewkesbury) writes:—I have again to ask the favour of your assistance. My 2 h.p. 1902 machine fitted with Minerva engine is giving me trouble with the ignition. Symptoms: When travelling fast and advancing spark it repeatedly misses fire. I have had accumulator recharged, fitted new plug and trembler, and gone over all connections to see all are secure, but cannot account for it. I am using 'Carless' petrol. Should mention that when making contact by pressing trembler against platinum screw there is a peculiar click at each spark in the neighbourhood of the coil. Should this be? Your reply will greatly oblige, failing to trace anything similar in back numbers of "THE MOTOR" or "Motor Manual,"

both of which I find of great help.—It is just possible the secondary current sparks to the frame inside the tank. Examine in a dark room. A click in the coil is always heard; it really comes from the condenser discharging. But if the click is a very distinct one, it may point to a short circuit in the coil, but this is unusual. Should advise you to make certain accumulator is really charged, sparking plug clean, and contacts trimmed up—they may not touch properly at high speeds—also make sure contacts are real platinum.

* * A large number of answers are held over, but will appear as soon as possible.—EDITOR.

ANSWERS BY POST.

In addition to answers appearing on these four pages the following correspondents have been replied to through the post:—

Friday, June 26th.—G. Crampton (Falkingham), F. Paxman (Tewkesbury), H. W. Bowman (Ashwell), W. E. S. May (London), T. V. Southey (Tunbridge Wells), C. B. Harrison (Birmingham), J. S. Mayne (Aylesbury), P. G. Quirk (Workington), H. Smith (Sutton, Surrey), P. Noble (South Kensington), E. Dupont (Stowmarket), A. Hammond (Godalming), O. E. Sheffield (London, N.), A. H. Staple (Winchester), W. McLarran (Kirkwall, Orkney), W. E. Anderson (Bristol).

Monday, June 29th.—S. Cullen (Gorey, Ireland), A. Elliot (London, S.W.), J. Sheane (Leeds), F. Higgs (New Swindon), R. B. Gilmore (Perth), J. C. Mercer (Nelson), P. Dewar (Lochwinnoch), A. Gordon (Cavan), C. H. Stevenson (Hartford, Cheshire), D. Mappin (Epsom), C. Lapage (Nantwich), E. Richards (Pontardulais), G. H. Ward (Grange-over-sands), E. Vignes (London, N.E.), T. Charlton (Newcastle-on-Tyne), A. Day (London, S.E.), E. May (Harlesden), B. G. Dye (S. Norwood), H. S. Picton (Thornton Heath), G. F. Jones (Greenwich), C. Dent (Tamworth), R. Raiton (Clitheroe), A. W. Smith (London, W.), G. Gibbon (London, W.), H. A. Morgan (Manchester), F. Wilson (Portsmouth), A. S. Henderson (Windsor), B. L. Playfoot (Lamberhurst), W. J. Silley (Gloucester).

Tuesday, June 30th.—H. Winpenny (Dunedin, New Zealand), E. T. Whitehead (London, S.), A. Brown (Walsall), C. S. Prentice (Snaresbrook), H. Rippon-Seymour (Edinburgh), A. Spotten (Dublin), E. Stourton Langdale (Stonyhurst), J. G. Wood (Hampshire), W. E. Barker (Melksham), H. S. Marriot (Truro), A. Meigh (Stoke-on-Trent), J. Horswill (Chester), J. H. Gibben (Henley-on-Thames), J. Challenor (Middlesboro), R. A. Frank (Leeds), C. Crosland (Harrow), W. Crew (Grays), A. Waddington (Dewsbury), R. E. Sprott (Eccles).

* * We ask the kind indulgence of those correspondents who have not received prompt replies to their queries this week, as owing to the absence of the staff in Ireland, replies to letters received after Tuesday morning are unavoidably delayed.—EDITOR.



Passing through Dunstable in the 200 Miles Trials on Saturday week.