The AUTOMOTOR JOURNAL

A Record and Review of Applied Automatic Locomotion.

No 417. (No. 1, Vol. XIV.) JANUARY 2ND, 1909. [Registered at the G.P.O. as a Newspaper.] [Weekly. Price 3d. Post Free, 3½d.

SOME REMINISCENCES OF THE PAST YEAR.—1. French Aeronauts in London—The start of the "Valkyrie" (February). 2. Brooklands First Meeting—Newton returning to weigh in after fourth race (April). 3. R.A.C. Associate Meet at Nottingham (May). 4, and 6. Motor Boat Racing at Gravesend—Napier IV and Defender I (May). 5. The North Middlesex A.C. Hill Climb at Cat Hill (May). 7. The Essex A.C. Gymkhana near Braintree (May). 8. Aero Club's Balloon Contest at Hurlingham (May). 9. The Start—2,000 Miles' Trial (June). 10. 2,000 Miles' Trial—Ascending Kirkstone Pass (June). 11. Finishing Test in the 2,000 Miles' Trial at Brooklands (June).

C

THE AUTOMOTOR JOURNAL.

Telegraphic address: Truditur, London. Telephone: 1828 Gerrard.

SUBSCRIPTION RATES

THE AUTOMOTOR JOURNAL *will be forwarded, post free, to any part of the world at the following rates:—*

UNITED KINGDOM.	s. d.	ABROAD.	s. d.
3 Months, Post Free ...	3 6	3 Months, Post Free ...	5 0
6 " " ...	7 0	6 " " ...	10 0
12 " " ...	14 0	12 " " ...	20 0

Nearly all the BACK NUMBERS *can still be obtained separately by application to the Publishers. Many of the back numbers are raised in price; and all other copies beyond a month old are* SIXPENCE *each.*

COVERS FOR BINDING VOLUMES.

Price 2s.; post free, 2s. 3d. Can be obtained through the usual Agents, or direct from the Publishers.

Cheques and Post Office Orders should be made payable to F. KING AND CO., Limited, 44, St. Martin's Lane, W.C., *and crossed London and County Bank; otherwise no responsibility will be accepted.*

When any difficulty is experienced in procuring the Journal rom local newsvendors, intending subscribers can obtain each issue direct from the Publishing Office, by forwarding remittance as above.

NOTICE.—Advertisement instructions should reach the office, 44, St. Martin's Lane, W.C., by first post, Wednesday. The latest time for receiving small alterations for Advertisements is 12 noon, Wednesday. No alterations can be made after that hour.

DIARY OF FORTHCOMING EVENTS.

British Events.

1909.	
Jan. 14 ...	Associates' Dinner (R.A.C.).
Jan. 22–30 ...	Edinburgh Motor Show.
Feb. 19–27 ...	Manchester Motor Show.
Feb. (end) ...	War Office Trial for Tractors.
Mar. ...	Olympia Aeronautic and Commercial Vehicle Show.
June 14–19 ...	Scottish Trials.

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

1909.	
Mar. 14–17 ...	Cannes Meeting.
Mar. 20–28 ...	Nice Meeting.
Mar. 31–April 14.	Monaco Motor Boat Meeting.
May 2 ...	Targa Florio.
May 26 ...	Moscow-St. Petersburg Race.

CONTENTS.

THIS WEEK'S PORTRAIT.
NO. 1.

H.S.H. PRINCE FRANCIS OF TECK, K.C.V.O., D.S.O.

A MAN of commanding stature, keen observation, and firmness of action—such is the present popular Chairman of the Royal Automobile Club, who, much to the gratification of the entire motoring community throughout the United Kingdom, consented to accept that arduous office in May last. In the very prime of life, Prince Francis is a striking figure wherever he may be; while his exceptional capacity for hard work has never been better exemplified than in the active interest which he has displayed in every phase of the business of the R.A.C. Tactful determination, following upon mature consideration, is the leading characteristic which is proving so invaluable to the automobile movement now that he is at the head of affairs, the close personal touch in which he has placed himself with the R.A.C. campaign against inconsiderate driving being, in particular, typical of the strong influence which he is bringing to bear for the good of the cause. As everybody knows, His Serene Highness is the second son of the late Duke of Teck and of H.R.H. Princess Mary Adelaide; and his military career since 1890, when he joined the 1st Dragoons, has included service in India, Egypt, and South Africa.

OUR ANNUAL RETROSPECT. 1908.

IN our 1907 retrospect, we spoke of that year as a particularly prosperous period in the annals of the industry, and as one in which the stern work of competitive manufacture had definitely replaced the preceding semi-amateurish days when motor car construction and design was still to some extent the hobby of the enthusiast. It would be idle to contend that the year 1908 can claim the same degree of prosperity, since the financial returns of manufacturers have been extremely disappointing when taken all round; but at the same time no cause has been given to justify a pessimistic attitude on the situation, and indeed the motoring industry is by comparison with other engineering undertakings in a highly-favoured position to-day. The ordeals through which it has passed during a trying year of general trade depression have merely been the natural outcome of an internal reaction, after the previous period of abnormal profits by some of the leading firms, the difficulties of the situation having partly taken the form of over-production, and having partly resulted from that inevitable weeding-out process among the smaller or unfit firms, which is all to the ultimate good of the cause. As regards the real progress of the movement, not even the most exacting cynic could find cause for complaint, since the number of cars which are in daily use both for pleasure purposes and for business has increased during the 1908 twelve months by leaps and bounds and the demand continues to be high.

Similarly, the year that has gone compares most favourably with any previous year as regards the improved trend of public opinion in general towards the new form of locomotion upon the ordinary roads. It is true that the summer saw an exceptionally violent silly season onslaught, conducted in a large section of the lay press, against motors and motorists, and that occasional fresh outbursts of indignation still accompany any accidents that occur; but in spite of the continued hostility of a small and apparently unreconcilable anti-motorist party, popular feeling has been settling down satisfactorily, and the obvious utility of the automobile has been rapidly ousting the nervousness caused by its superior powers. The hopefulness inspired by the events of the year 1908 is perhaps not so much due to any marked diminution of prejudice on the part of the masses as it is to the more general recognition among the ruling classes that not only is *recklessness rather than speed* the evil which has to be feared, but that the motoring community itself is quite as much concerned with the suppression of thoughtlessness and carelessness on the highways as anyone else can be. Wisely enough, all the best elements in automobile circles have been directed towards the amelioration of those inconveniences which are caused to motorists and non-motorists alike by the use or abuse of the public roads in their present state; and very fortunately the Government, as well as other important official bodies in this country, have seen fit to adopt a reasonable attitude of masterly inactivity in spite of the pressure that has been brought to bear on them from time to time to introduce restrictive legislation on the subject of speed. Much remains to be done in the immediate future, but much has, in fact, been done during 1908—in spite of all minor tendencies the other way—to prepare for the ultimate removal of the vexatious 20 m.p.h speed-limit, and for the introduction of measures whereby the construction, maintenance, and control of the roadways may be put on a sound, systematic and efficient footing.

As regards the development of the industry in other ways, there are two aspects which have stood out in some prominence. One is the welcome tendency which has been so marked during 1908 for owners and users to band themselves together in defence of their common interests by joining one or other of the institutions founded for the purpose; and the other is the hardly less welcome pause that has been given during the same period to all experimental work of a daring character in the design of motor vehicles. Considering the unfortunate dissensions which have split representative motordom up into rival groups, it is remarkable how largely the membership of each body has increased during the twelvemonth—a fact which bodes well for the days that are to come, since powerful membership combined with strong individual interest can but lead to re-amalgamation of forces, however impossible it may be found to bring about official reconciliation. The pause in the experimental field has led to the refinement of a definite type of vehicle, and has also enabled manufacturers to concentrate their attention upon a close study of the exact requirements of the average owner; so that although experimental work is, on all general principles, beneficial to progress, the halt of the past year or so has been of even greater value. Signs are not lacking that this period of rest may only be a brief temporary phase—as is, for instance, indicated by the action of the Daimler Co. in introducing their new form of engine—and, indeed, it appears more than likely that the astounding strides which have been made during the year in the realms of mechanical flight will have a strong reflex action upon the design of high-speed engines, and therefore upon other parts of motor car chassis.

So closely akin is the aeronautical field to that of the automobile, and so keenly has all progress in that field been followed for many years in THE AUTOMOTOR JOURNAL, that special mention should be made of it in this introductory portion of our retrospect, apart from the attention which the subject demands from us under its own heading presently. The year that has gone has witnessed the transformation of the problem of mechanical flight out from the deeply interesting stage into a position of world-wide importance. It has, in fact, seen the virtual birth of an entirely new industry, the boundless possibilities of which are well calculated to stagger the imagination of most present-day people. On this score, 1908 will ever stand out as a particularly momentous period, and will probably be referred to for all time as the actual dawn of the flying era.

◆ ◆ ◆

Legislation. As already indicated above, the year 1908 has been remarkably free from any legislative measures that affect the automobile industry. A considerable amount of talk has been indulged in at times, in and out of Parliament, both as to the question of speed-limit, and as to the further taxation of motorists to meet the expenses of road upkeep; but most of it has been of a desultory nature, and has arisen from questions asked in the House by over-zealous anti-motorists, whose personal hostility to the movement is already well recognised. The chief events of any importance have been the inquiries pursued by the Chancellor of the Exchequer to ascertain the views, and obtain the advice, of the Royal A.C. on possible methods of taxing motor cars; and the historic public warning issued in the House by Mr. John Burns (as President of the Local Government Board) when he recommended the motoring community to put their own house in order lest it should become necessary for the Government to take action owing to the external pressure that was being brought to bear on him.

It is a source of regret that nothing further has been done towards the establishment of a Central Traffic Board for London, in spite of the fact that the ever-growing need for such a body has been emphasised frequently during the year by all sections of the Press and upon the public platform. The only official move which has been made in that direction has been the work performed by the Traffic Department of the Board of Trade, whose report—bringing that of the Royal Commission up to date—includes a strong recommendation that some such advisory authority is essential unless the present chaotic state of the traffic is to continue indefinitely. Similarly, it may be said that the only serious step which has been taken to draw the official attention of the Government to the subject was when a deputation from the London County Council waited upon the Premier to point out the urgency of the situation. All that has therefore been done during the whole twelve months has been to prove what has been known for many years, and to extort a promise from the present Premier that he would give the matter his consideration. Some small gain has truly resulted to the cause, inasmuch as the deputation volunteered the opinion that it would not do for the L.C.C. to assume the *rôle* itself, since that body is virtually a competitor in the field with its extensive tramway system.

Administration.

Although police-traps have been as much in evidence as ever in some parts of the country—and the long-distance system has been operated for all it is worth in a few areas — yet the police in most districts have, during the year, shown a marked inclination to adopt a more reasonable view of their duties towards the public, and the signs have become distinctly hopeful that they will ere long be working in unison with the R.A.C. and kindred bodies in checking recklessness (as distinct from the purely technical offence of speedy travel) upon the highways. This is essentially one of the most promising developments of the 1908 season, as is also the expressed determination of the Royal Club to take active measures on behalf of motordom to suppress every species of inconsiderate driving. The period under review cannot, of course, claim to have seen more than the first start of this comparatively new campaign (and co-operative alliance), and it yet remains to be seen the lengths to which it will be necessary to go in order to place road locomotion upon a business-like footing. But, for all that, a very noticeable change for the better has already set in; and much greater all-round thoughtfulness and caution is observable in the way in which cars are handled on the roads. Additional speed-limits have been imposed in several localities, and applications have been made in many more; but, for the most part, they only affect short stretches of road through country towns or villages, and in some instances are unobjectionable enough except on the unassailable and very broad ground of principle.

Automobile Policy.

It is probably in this sphere—that of the internal policy of motordom—where the greatest change of all has taken place during the past year. On the one hand it has been felt that the self-propelled road vehicle needs no further proofs of its capabilities, utility, or reliability in the eyes of the public; and on the other hand the manufacturers have realised the stern necessity of nursing their resources in the face of the keen commercial competition which now meets them on every hand. At the same time, too, the inevitable sequel has made its presence felt in the greatly swollen ranks of owners and users, for not only are their energies and resources needed to combat the forces of reaction as represented by the ultra-conservative section of the public, but steps have become more and more urgently needed to bring the roads adequately up-to-date after their long virtual disuse, and to instil into all users a proper sense of their individual duties to one another. The days of road-races, and other long-distance competitions upon the ordinary highways, have practically been put an end to during the past year. And, in their place, have been taken up schemes for imbuing *all* drivers with a due appreciation of their responsibilities; for proving to the general public that the great majority of motorists abhor "road-hoggism" in any form quite as intensely as anyone else can do; for teaching the non-motorist that high-speed and dangerous driving are far from synonymous; and for introducing improvements whereby the roads can be rendered more durable and more cleanly, as well as safer to those who do not happen to be fully acquainted with the district through which they are journeying. The two most important events of the year which mark this development are unquestionably the R.A.C. campaign against inconsiderate driving, and the International Road Congress which was held in Paris. The action of the Royal Club in many other ways—as for instance in refusing to grant further permits for any road contests in which the 20 m.p.h. speed-limit is likely to be exceeded, and in deprecating the use of dazzling head-lamps within the London area—has, however, also been pre-eminently consistent with the policy referred to; and similarly the attitude of the Motor Union and of the Automobile Association has been essentially conciliatory to non-motorists, while being as active as possible in the interests of private motorists.

Representation.

Except that the membership of one and all has greatly increased during the year, no important change has occurred amongst the representative automobile bodies. No past feuds have been brought to an end by mutual consent, nor have any fresh controversies of a specific character arisen. Each has gone its own way; and the time has not yet come when unity of representation, with its resultant strength and economy, can be secured by British motorists. It is indisputable, however, that the Royal Club, above all other institutions, has added very greatly to its power during the past twelvemonth. Its Associates' scheme has made very substantial headway, and under that scheme its affiliated clubs constitute strong local branches throughout the entire country. Of the R.A.C. campaign against recklessness on the roads, and of other steps which they have taken, we have already spoken at some length in previous paragraphs. Otherwise, the most momentous happenings of 1908 at 119, Piccadilly, have been the acquisition of Prince Francis of Teck as Chairman, and the inauguration of the R A.C. scheme for securing a magnificent new clubhouse.

UNCONVENTIONAL PORTRAITS OF LEADERS IN MOTORISM.

1.—H.S.H. PRINCE FRANCIS OF TECK, K.C.V.O., D.S.O.,
Chairman of the Royal Automobile Club.

The least edifying occurrence of the year has been the competitive scramble with the Motor Union to secure affiliation with the various provincial clubs and with other smaller bodies. Party warfare of this kind—and also of the type which has led the M.U. to endeavour to usurp various R.A.C. functions of long standing—has unquestionably caused a weakening in the ranks of motorists; and as matters now stand, at the end of the year, the two camps are unfortunately divided in such proportions that internal strife can still continue. Good work has undeniably been done by the M.U. in various directions during the year, and in this sense they have, of course, amply justified their existence; but it would be useless to deny that the R.A.C. and the M.U. are inherently "thorns in the flesh" to one another, or that so long as this kind of dual representation continues, the best interests of the movement can be served.

A few words should also be said in this retrospect about the Automobile Association. That body has displayed a very great deal of activity during the year, and has, while still maintaining its original characteristics, redoubled its efforts towards putting itself in a more favourable light with the police and the general public. That portion of its policy whereby its scouts are employed to restrain recklessness and to assist the police in tracking any wrong-doing driver, has been very greatly widened; and even if the Association is still regarded with disfavour by the police authorities in general, it has at least played a sufficiently useful *rôle* to retain the loyal support of a large membership.

Of those bodies which represent the manufacturer, the engineer and the designer, little need be said except to record their added strength and importance. During the year, the Society of Motor Manufacturers has done more than ever before to assert itself in all matters that affect the trade, as distinct from the owner and user. A much better understanding has, moreover, been come to between it and the R.A.C., with the result that progress has in many ways been greatly facilitated. Considerable attention has been devoted by the Society to matters of a technical nature, which have hitherto received little or no official consideration from it, amongst its notable undertakings during the year being the drafting of an exhaustive report upon the question of horse-power rating for petrol engines. Mention should, moreover, be made of the Institute of Automobile Engineers, for the membership of that institution has increased very satisfactorily, and an exceptionally large number of valuable papers have been read at its meetings.

Road Contests and Other Trials.

The two International competitions which were held in this country under the auspices of the R.A.C. were the 2,000-Miles Trial and the "Four-Inch" Race for the Tourist Trophy. The former was partly carried out in conjunction with the Scottish Club's trial, since the same route was traversed in Scotland, and a number of the competing cars took part simultaneously in both contests. Some singularly good performances were made; and, in fact, the trial amply proved the redundancy of such competitions nowadays, except as a pure means of advertisement for the manufacturers, or as an opportunity for new makers to obtain a wide recognition of the merits of their productions. Several of the already well-established manufacturers refrained from taking part even in this 1908 trial, on the score of disproportionate cost to themselves; while, since then, this feeling has become so much more general that it is extremely doubtful whether any further big events of the kind will be held. As regards the "Four-Inch" Race moreover, and in spite of the fact that a more successful speed-contest has (from several points of view) never been held in the Isle of Man, it is more than probable that the year 1908 has seen the last of road-racing in the British Isles. Marvellous developments of engines having four cylinders of 4-inch bore resulted from the inauguration of the race; but, on the other hand, the opinion was very generally held that the game was not worth the candle—especially on grounds of public policy, but also because the element of luck looms so largely in all contests of this sort. In Scotland and in Ireland, very successful reliability trials of much the same character as in former years were held by the respective clubs of those countries.

Brief mention should also be made of the Dust Trials which were once more carried out by the R.A.C. at Brooklands; and reference should be made to the various individual tests conducted by the same body with cars, tyres, accessories or special devices, entered by those interested in their sale. Altogether, in fact, the year has been a fairly busy one in this department, even though comparatively few hill climbs have been held.

Foreign Events.

On the Continent and in America, the great road races have been run as in former years, but, nevertheless, as the year has drawn to a close, dissatisfaction concerning such contests has begun to be freely expressed by the leading firms who are affected. In France, it is, as we write, extremely doubtful whether the Grand Prix will take place in 1909, because many of the largest manufacturers in that country (and in Germany also) have expressed their desire to see it discontinued. There, possibly even more than in this country, the full effects of competition are being felt with ever-increasing keenness, and it was at one time during the past few weeks deemed possible that even the Paris Salon might be abolished for the year that is just commencing. It is, therefore, evident that 1908 will stand out for all time as the period in which road-racing was doomed to extinction, even if it is left to the year 1909 to see this stage of evolution completed.

Track Racing and Brooklands.

An extremely critical time has been passed through by the Brooklands Track at Weybridge; but, even if the proprietors have not much cause for actual satisfaction, they at least have good grounds for congratulating themselves on their future prospects. The race meetings of the year were fairly well attended, and the entries were maintained at a reasonably high standard. Similarly, too, many fresh records of a sensational character were set up by the crack racing drivers; so that, as regards speed, *per se*, and all that is connected with it, the showing of the year is all that the racing motorist could demand from Brooklands. That which the Brooklands Automobile Club have really done, however, is to prove to the automobile world the unique value of their track for testing purposes. Numerous trials have been carried out to the very great gain of everyone concerned; and the proprietors, under the energetic and able management of Mr. E. de Rodakowski, have not only collected the most valuable data for the private owner, as well as for the engineer, but have installed a series of special instruments and other plant that has boundless possibilities for the future. Apart from the R.A.C. trials held on the track during the year, many experiments have been conducted which conclusively go to show the absolute thoroughness with which any form of self-propelled vehicle can be "put through its paces" at Brooklands, without that waste of time and without that final uncertainty which usually accompanies such tests under ordinary conditions. The B.A.R.C. have, in fact, the means to appeal to every owner and user who wants to ascertain the true merits of any particular car; and they have, moreover, every facility at hand for arranging valuable, instructive, and enjoyable contests for the private member of every club to take part in. Race meetings are still contemplated during 1909; but the real future of the track is now wrapped up in its development as a national trial-ground. Even the temporary gloom that was thrown over the undertaking by the loss of Mr. Rodakowski, as Clerk of the Course, has been effectually removed, for not only have his services been retained on all the B.A.R.C. committees, but an admirable successor has been found in Major Lindsay Lloyd, who has for many years been a well-known and enthusiastic worker on the R.A.C. Technical Committee, and has had an extremely wide experience with automobile work of all kinds.

Mechanical Progress. As already mentioned, but for the new Daimler engine there has been very little disposition on the part of manufacturers to introduce important novel features into the design of their standard cars. At the same time, however, a vast amount of attention has been paid to small details, almost every minute part of the chassis having been simplified or improved to a greater or less extent, while, above all, nearly every manufacturing firm has busied itself in the production of cars of 12 to 20 horse-power, instead of reserving its chief activities to the construction of very powerful machines. For the most luxurious models, the use of 6-cylinder engines has become almost universal during the year, even the most conservative home and foreign makers having at length given in after having stood out against the principle for some time. Otherwise, all the rage has been for the light 4-cylinder car, the result being that, whether petrol or steam is favoured by the motorist, a far more economical—but hardly less lively—type of vehicle is available for those who still demand the finest workmanship and material, but are content with less lavish roominess.

In the way of accessories, 1908 has been a great year for the high-tension magneto, for detachable rims and wheels, for speed-indicators, and for improved tyres. It is, indeed, rather the rule than the exception to find magnetos and speed indicators on a pleasure car; while any device or fresh invention which effects a saving of time or expense with tyres receives ready acknowledgment of an eminently practical nature from the motoring community at large. Much the same, too, can be said about efficient head-lamps, for not only is it fully realised that good lamps are essential to safety at night, but a great deal of stress has now come to be laid upon the desirability of reducing their dazzling character as much as possible.

Quite one of the most striking features of the year has been the phenomenal growth of the motor cab in London and in several other large towns. A wonderfully silent and handy type of machine has been evolved for this use; so that the "taxi" has, as a result, "caught on," and now become a huge permanent institution with the travelling public. Its practical success has been so complete that it is to be hoped the motor cab industry may be spared the financial troubles which led to fiasco in the case of the motor 'bus; but there are those who view with some alarm the extent to which cab company promotions have been boomed before sufficiently reliable figures are available on which to base an accurate estimate of ultimate profits. There is no disguising the fact, moreover, that the motor cab has greatly increased the difficulties of other traffic—particularly of private cars—in negotiating the streets; and that, as at present driven, due regard is neither paid to the safety of others nor to the durability of the machine itself, by many of the men.

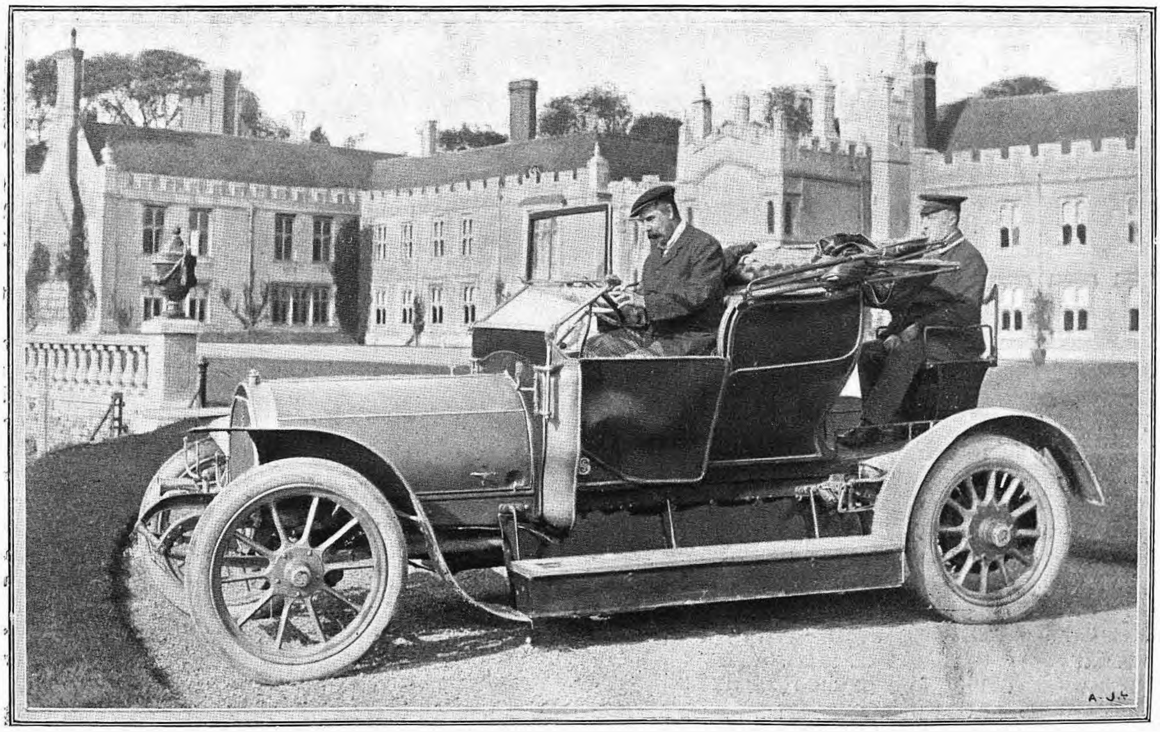
Improved Roads. Excellent progress has been made in several counties—especially in Kent—in the work of rendering the principal roads dustless, and at the same time increasing their life. This aspect of the road question has received far more attention than ever before from the surveyors and engineers throughout the country. A great impetus has been given, too, by the recent Congress which met in Paris; but hardly any move has yet been made to solve the financial side of the question, and thus to enable the most willing local authorities to act in accordance with the enlightened views they may entertain. The ground has nevertheless been prepared for a campaign to be entered into in favour of centralisation of control, as well as of finance; so that the 1908 developments may safely be said to constitute an earnest of better times in store for the highways of the Kingdom, even if the immediate outcome of those developments is not as noticeable or as widespread as might have been hoped. Much has at least been learnt as to how to make durable roads, and as to what earlier practices are bad; while an enormous amount of data has been collected and distributed on the use of tar as a waterproof binding for road material, and some excellent results have already accrued.

Marine Motoring. Although it has been rather an uneventful year for the motor boating industry in this country, yet steady headway can be claimed, and greater popularity and confidence has unquestionably been earned. The field for motor boats for home use is essentially restricted, or otherwise a highly prosperous industry would ere now have sprung up, for—as the trials held by the Motor Yacht Club once more showed—the boats themselves and their engine equipment, when made by the best known firms, have reached that stage at which absolute reliance can be placed on them. A good deal has been done during the year in the building of engines of several hundred horsepower for comparatively large craft, the Thornycroft and Wolseley firms being particularly to the fore in this respect; but possibly the most notable event of the 1908 season has been the initial introduction of the hydroplane to British boating men. The first of these curious little "water-skimmers" was brought over to Southampton Water by Mons. Le Las at the time of the M.Y.C. reliability trial; and so great was the interest aroused by it in those on board the "Enchantress," that numbers of hydroplanes are now being built for private members' own use next year. The M.Y.C. have also officially encouraged the departure by instituting a special hydroplane class under their racing rules.

Aeronautics. The revolutionising events of 1908 are too fresh in the memory of everyone to need recapitulation at any length; but the advent of Mr. Wilbur Wright in France, and the extraordinary impetus which his performances have given to the exploits of other men there, must of necessity be recorded in this retrospect. At the beginning of the year the Wright Brothers had not emerged from their U.S.A. seclusion, and the experimenters in France, headed by Mr. Henry Farman had but just established beyond further question the actual fact that mechanical flight was a physical possibility with heavier-than-air machines fitted with motors of comparatively low power. Since then many long flights have been made with aeroplanes carrying either one or two men, and heights of over 100 metres have been attained with almost complete immunity from accident. Similar progress, too, would doubtless have been achieved by Mr. Orville Wright, in America, had not he unfortunately been laid up by the accident which befell him. Except that Mr. Moore-Brabazon has achieved a few short flights with a Voisin-built machine —after experimenting with aeroplanes of his own design at home—and that a few other machines have been built in this country (including one by the War Office), the practical side of the coming industry has been sadly neglected in the United Kingdom; and the purse-strings of the British people have been drawn up tightly as regards aeronautic experiment. France has therefore obtained a decided lead during this period, so that it will need all the energies of the Aero Club, and of the Aeronautical Society, to make up the leeway by inspiring widespread interest in the coming industry, and by offering every encouragement to home development.

In France, an immense number of money prizes have been offered, Government assistance (and public recognition) has been given to the intrepid pioneers, a new department has been formed to foster the movement, and already plans have been made to draw up international and national laws in readiness for the dawning era. At home, both the Aero Club and the Aeronautic Society have made arrangements whereby flying-grounds will very soon be available for their members; and simultaneously also the former body has constituted a League in connection with the Club with the object of widening its scope to include, at a low annual figure, everyone who is in any way interested in aeronautic developments. During the year, too, another club—under the style of the Aeroplane Club—has been brought into being, but it is yet to be hoped (solely in view of the ills that inevitably attend any attempted duplication of national representation), that the full weight of support which is available in this country will be concentrated upon one body only. In several other ways, the United Kingdom is gradually waking up to a recognition of the great economic change which is impending; and not only has the lay press begun to do useful work in calling attention to the matter, but it is an open secret that a number of well-known men in this country have busied themselves with the construction of experimental aeroplanes.

The "Yellow Cover." Throughout Vol. XIII of THE AUTOMOTOR JOURNAL, we hope we can claim to have fully maintained previous traditions. We can at least vouch for having made an honest endeavour to keep our readers thoroughly and accurately informed as to all important happenings and developments that have come within our province. It is possible that at times some readers may not have seen quite eye to eye with us on some matters of automobile policy, but every view that has been expressed in our editorial columns has been most carefully considered in advance in the light of our own knowledge; and whatever line we have seen fit to follow has only been adopted with the full conviction that it is to the greatest good of the important industry with which we are proud to be associated. We have also tried our best during the year to make our pages as interesting and as instructive as possible; and we can only trust that such new features as we have from time to time incorporated in the Journal have been deemed to be improvements.



Sir Bache Cunard outside his residence Nevill Holt Market Harboro', on his 6-cyl. Sheffield-Simplex car.

HOW TO DRIVE A MOTOR CAR.

PRACTICAL HINTS FOR THE NOVICE—AND OTHERS.

(*Continued from page* 1683, *December 26th, Vol. XIII.*)

THE first portion of this article appeared in our issue of October 31st, and subsequent portions of it have been published in these columns week by week (with the exception of our number of November 21st) since that date. This week's issue commences a new volume (Vol. XIV) of THE AUTOMOTOR JOURNAL, and hence a brief *résumé* of the ground that has already been covered in "How to Drive a Motor Car" may, to advantage, be given. As explained in the introductory section, no mechanical considerations concerning the construction, selection, manipulation or management of a car come within the scope of this article; it being assumed that the novice has already obtained lessons of some kind in those elements of the art which can alone be acquired by personal instruction and practical experience. Our endeavour, in giving the present series to the motoring community, has been to create a more widespread interest in motor driving as a pastime, and at the same time to lay down some definite basis upon which driving, as a specific art, may, with safety to all concerned, be cultivated by anyone—whether amateur or professional.

Those preceding sections which are to be found in Vol. XIII are as follows:—

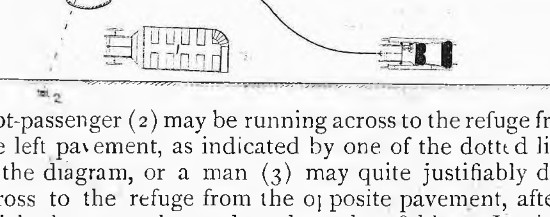
Section XV.—Street Refuges.

If there is one particular sin which is unpardonable to the driver of any vehicle, it is that of passing on the wrong side of a street refuge. The chief reason why it is inexcusable is because refuges are erected for the convenience of pedestrians crossing the road, and not merely for the subdivision of the wheeled traffic passing along it. It consequently follows that no pedestrian ought to be expected to look to the right as well as to the left before stepping off a refuge, since it is to him an authorised midway stopping place that *does* divide the two opposing streams of traffic.

No Possible Excuse.

The only times when there is any strong temptation to pass outside an ordinary refuge (such as that indicated in Diagram XV) is when the proper side is already occupied by another vehicle (1) or by a string of slow-moving vehicles. But it is also just then that the very greatest risk is run of doing an injury to some pedestrian, because the driver cannot see what may be in front of the obstructing vehicle. A

But, Occasional Temptation.

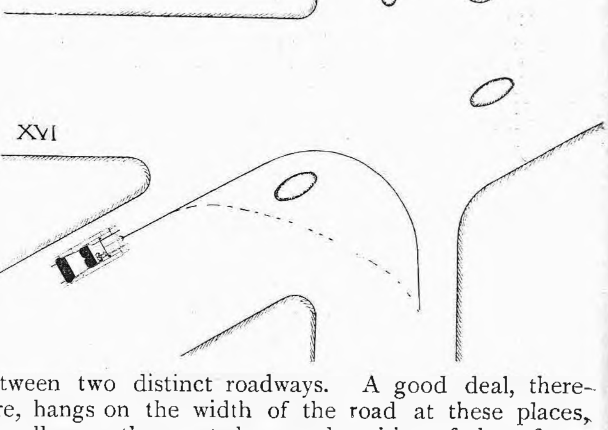


XV

foot-passenger (2) may be running across to the refuge from the left pavement, as indicated by one of the dotted lines in the diagram, or a man (3) may quite justifiably dash across to the refuge from the opposite pavement, after a quick glance up the road to the right of him. In either case no blame could be attached to anyone but the driver of the car for the accident which would almost inevitably follow. If, of course, the proper side of the road is "up," or is otherwise closed for traffic, then it is necessary to pass to the right of the refuge; but in that event, be it noted, the refuge has ceased, for the time, to be a refuge at all (on technical grounds), for all that has happened is that the width of the roadway has been reduced by one half at that point.

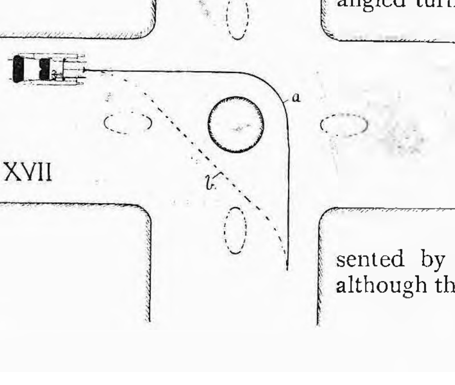
Refuges may nevertheless be very confusing to the novice in some of the larger towns and cities; and, consequently, a few typical examples of the kind may usefully be given. Those which stand where two streets intersect are a striking case in point, for it all depends on circumstances whether the refuge is intended to divide the two streams of traffic in one roadway, or whether it is more correctly an "island"

"Islands" not Refuges.



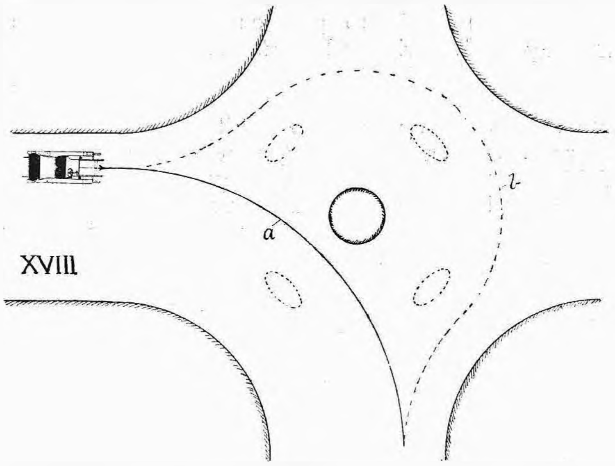
XVI

between two distinct roadways. A good deal, therefore, hangs on the width of the road at these places, as well as on the exact shape and position of the refuge; and, consequently, a driver needs to take a broad view of the general lay of the situation if he is called upon to decide for himself which course to follow. In Diagram XVI is shown one of the most catchy instances which is very far from being uncommon. The two main streets intersect diagonally, and the car is about to take the acute-angled turn to the right. This is a case in which the refuge must always be left on the right (as represented by the full line) although the tendency is



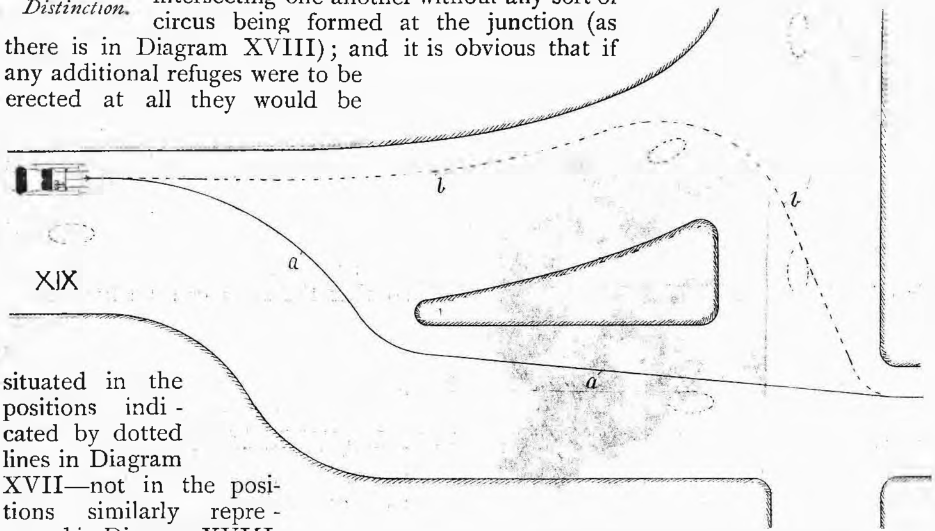
XVII

for the novice to follow the course which is indicated by the dotted line, and to feel quite justified in doing so.

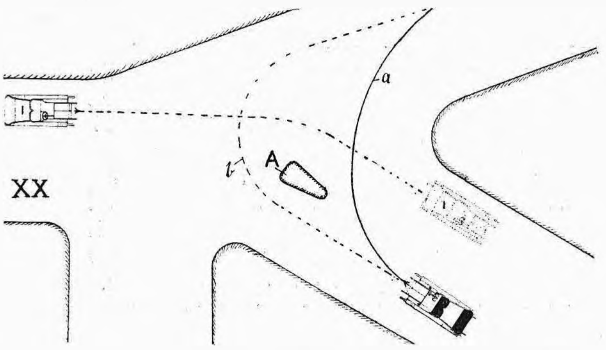


Diagrams XVII and XVIII will probably serve a particularly useful purpose in enabling a basic distinction to be drawn between a "refuge" and an "island." In the former, we merely have two streets intersecting one another without any sort of circus being formed at the junction (as there is in Diagram XVIII); and it is obvious that if any additional refuges were to be erected at all they would be

A Basic Distinction.

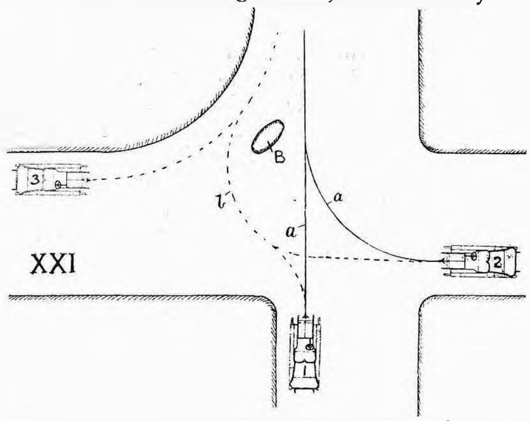


situated in the positions indicated by dotted lines in Diagram XVII—not in the positions similarly represented in Diagram XVIII. Hence it follows that the centrally placed "refuge" must be passed around in the former case, but that an inside course—leaving the "island" on the left—is correct in the latter. The car must, in fact, follow the respective courses indicated by the full lines (*a*), *not* the dotted courses (*b*).



A case of a much more obvious "island" is given in Diagram XIX, and examples which are conversely very confusing because the refuges are sometimes "refuges" and sometimes "islands" are shown in Diagrams XX and XXI. In the first of these, an open space is formed at the junction of the two intersecting streets; and in reality a fresh

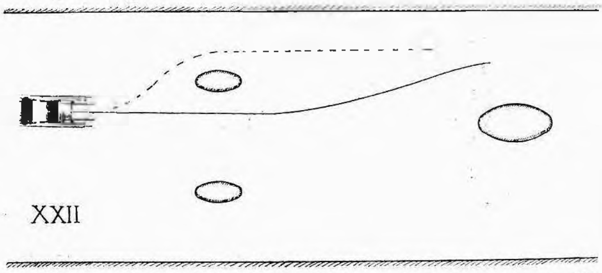
Typical "Islands."



diagonal street is constructed across one of the corners. The triangular island in the centre of the space is consequently not a "refuge" at all; and, indeed, if refuges were needed to facilitate direct crossing, they would be placed more or less in the positions we have indicated on the diagram. That being so, it is clearly wrong for the vehicle to follow the dotted line (*b*) around the island instead of proceeding direct along the path (*a*) denoted by the full line.

In Diagram XX, the refuge, A, at the mouth of a wide street opening out into a large square, may be an "island" for traffic (coming up that street) which intends to leave the square by one of the roads to the right, or for that which is to take the turning to the left; but it may also be a "refuge" for the traffic (such as for vehicle No. 1) which is following a straight-through course. In this particular instance, the correct course for our car is that indicated by the full line (*a*), and it is incorrect to follow the dotted course (*b*). No hard and fast rule can be laid down for the guidance of the novice in such cases as these; but, since they only occur in particularly busy localities, the best advice that can be

Confusing Cases.



given to him is to watch the doings of the other traffic in front of him. The case given in Diagram XXI is a good deal more simple. In some respects it is analogous to that already mentioned in connection with Diagram XIX, inasmuch as the narrow road inside the refuge, B, forms a short-cut across one of the corners at a two-street junction. The refuge, B, does not therefore affect either the car No. 1 or the car No. 2; but it is only car No. 3 which must pass inside it. It is, in fact, an "island" to the greater part of the traffic, and the correct courses for cars numbered 1 and 2 are those denoted by the full lines (*a*), as distinct from the dotted lines (*b*). Another useful tip to remember, in connection with this subject, is that the actual shape of the refuge, and its "lay" in relationship to the adjacent pavements, usually constitutes a very good guide as to its intended use. In Diagram XXI, for instance, the refuge, B, would neither be a plain oval (in plan), nor would its centre-line be tangential to the curved pavement, if its functions were more comprehensive than they are, and if it were intended to be a refuge for more than one stream of traffic.

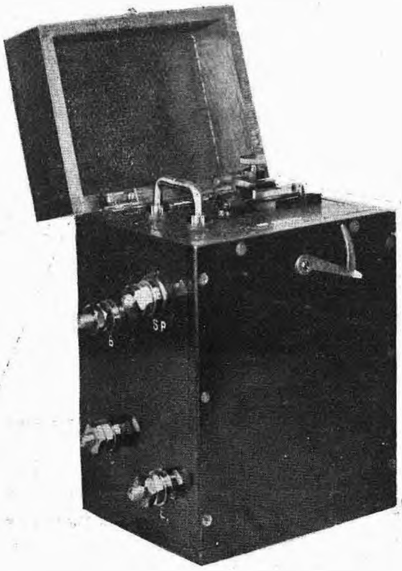
Yet another exceptional instance may be quoted—and there are, of course, still more which are encountered occasionally in large cities—of refuges which it is permissible to pass on the "wrong" side.

An Exception. Referring to Diagram XXII, it will be seen that the roadway is so broad that it virtually forms three distinct roads. It is, at any rate, divided into three strips by the two small refuges which are shown, although a little further on it may once more be divided centrally instead by the larger and more usual refuge that is also represented. Between the two small refuges, two opposing streams of traffic pass, as in any ordinary thoroughfare; while, between each refuge and the pavement, all vehicles move in one direction only. The car shown in this diagram is equally at liberty to follow the full line or to follow the course represented by the dotted line. Such cases as these *are*, however, exceptions, and can never be held to justify a driver in steering outside any ordinary kind of refuge.

(*To be continued.*)

LODGE COIL FOR SINGLE-CYLINDER ENGINES.

THOSE who motor by the aid of single-cylinder engines, and who have so far studied the subject of ignition as to have grasped the principles of the Lodge system described in THE AUTOMOTOR JOURNAL of January 21st, 1905, will be interested to learn that the manufacturers have brought out a new coil for their especial benefit. It works upon exactly the same principle as do any of the other Lodge coils; that is to say, it contains a pair of Leyden jars in the secondary circuit which produce the so-called "A" and "B" sparks, of which the former takes place in the atmosphere and the latter at the ignition-plug. It is claimed for the B spark that it is practically immune from short circuit by the ordinary deposits of soot, oil, or moisture, and that it therefore affords a peculiarly reliable form of ignition for motor car use.



The Lodge Single-Cylinder Coil.

The new single-cylinder coil which we illustrate has been governed in its design by considerations of size, the idea having been to produce as compact a coil as possible which shall be capable of performing its duties in connection with a single-cylinder engine. Its dimensions are 7 ins. by $4\frac{1}{2}$ ins. by $3\frac{1}{2}$ ins. All the terminals are on the same side of the box so that the wires can be kept compactly together, and the trembler is situated in its usual position on the top of the coil. Alongside the trembler is the "A" spark-gap, and both members are protected by a hinged lid which would, however, be somewhat more convenient if it were so constructed as to open with the coil-box fastened close against the dash in any position.

The City Corporation Traffic Bill.

IT was only last week that we referred in our "Passing Events" column to the Bill which is to be introduced into Parliament by the City of London authorities next session; but we are glad to see that the text of that Bill has already been published. Contained in it are clauses for regulating the routes to be taken by the various types of vehicle, the course to be followed by vehicles or led animals, the extent to which the streets may be used by costermongers, the obstruction of the streets owing to any display of advertising devices, and the driving of cattle through the City. The hours at which coal-carts may not unload are moreover increased to between 8 a.m. and 8 p.m.

Sir John Macdonald on Roadway Reform.

ONCE more the Lord Chief Justice Clerk of Scotland has been doing yeoman service on behalf of motorists. At a conference between the Scottish A.C. and the Roads Surveyors' Association of Scotland, he urged the necessity of so constructing roads that the water would run off them; and laid special emphasis on the fact that until the highways are all placed under one central authority, it is hopeless to expect soundness of construction and economy of upkeep.

Foreign Tariffs on British Motor Cars.

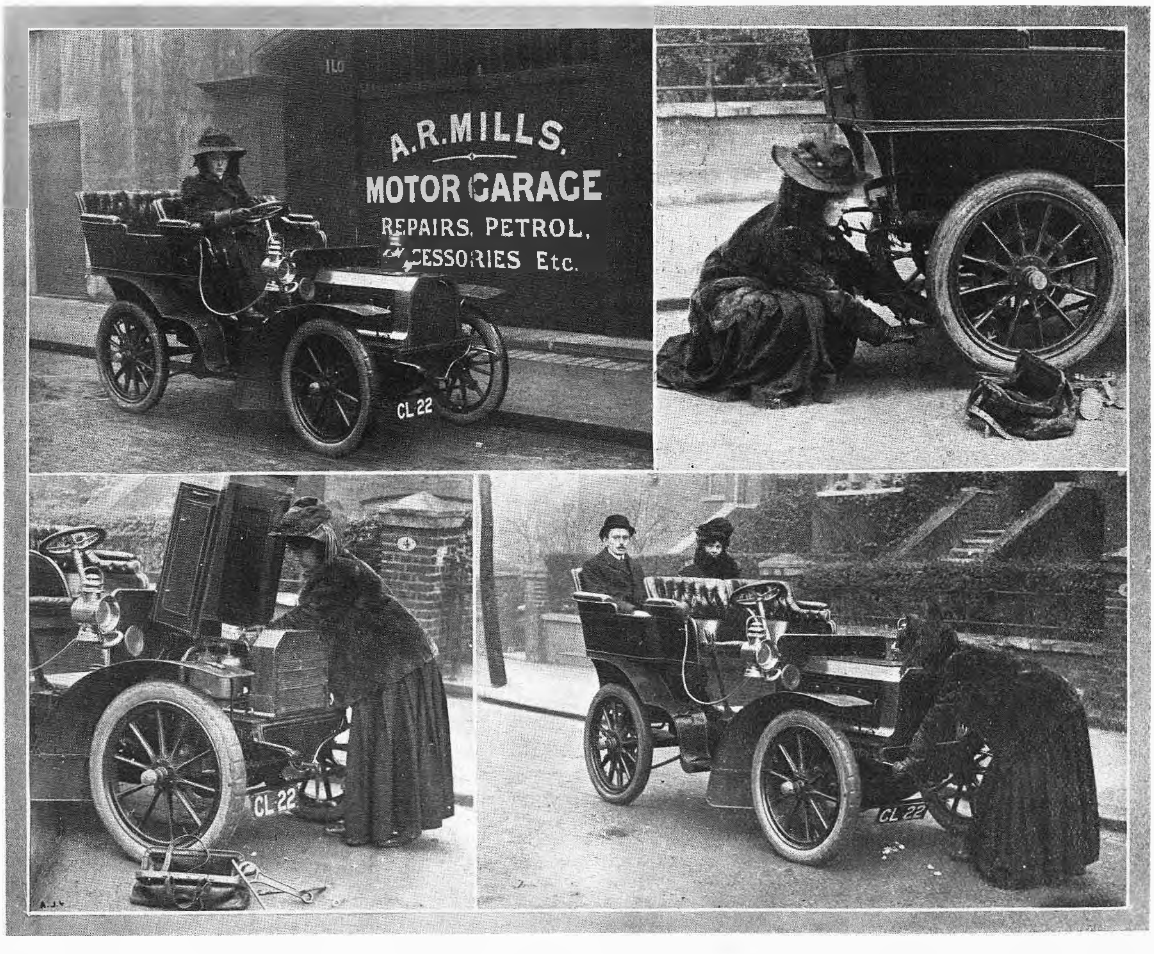
BY way of showing the enormous handicap which the Customs duties impose in some countries upon those who desire to purchase British-built cars, Mr. Edge sends us some very significant figures that relate to a few Napier cars despatched abroad by his firm before Christmas. These show that a duty of no less than £1,474 5*s.* 6*d.* had to be paid on three vehicles sent to the United States; £964 11*s.* 2*d.* on four others to Canada; and £367 4*s.* on one to Mexico. As Mr. Edge truly remarks, these facts show the appreciation that is felt for cars manufactured in this country, even if they also mean that comparatively few people in those foreign lands can afford to satisfy their personal inclinations.

MISS SHEILA "O'NEILL"—CHAUFFEUSE.

SHOULD the occupation of lady chauffeuse—originally a hobby—which Miss Sheila O'Neill—the assumed name under which she has elected to be known—has just taken up, prove to fill a want of the day, a new profession will be opened up to quite a number of ladies who, although quite unfitted for the hard life of a taxi-cab driver, are, nevertheless, capable of undertaking the driving of motor vehicles under less arduous conditions. It will be remembered that last September we mentioned in this Journal the advent of Miss O'Neill, who is the daughter of a military officer, into the ranks of professional driving, this fact being communicated to us by Miss O'Neill herself, who has been a regular subscriber to THE AUTOMOTOR JOURNAL for six years or more. Miss O'Neill is capable of attending to all the ordinary requirements of a car, our photographs showing her at work under varying conditions, and has passed the R.A.C. mechanical examination, after going through a course of training at the London School of Motoring. Later she has been traffic driving with Mr. Mills, of 13, Little James Street, under varying conditions and with different types of cars, including a Panhard, Darracq, Humber, Gladiator, and Hotchkiss. It is from this gentleman's garage that Miss O'Neill will emerge as hire duties call her, whether by the hour, day or tour—the police licensing regulations not permitting a lady driver to "ply for hire" publicly, even were Miss O'Neill inclined to include that part of driving in her scheme.

Miss O'Neill also has the distinction of being a trained hospital nurse, she having been to South Africa and through the siege of Ladysmith professionally during the late Boer War, and secured both the Queen's and the King's medals, which she wears when on driving duty. She carries with her in case of accident—although she hopes she will never have occasion to make use of it—a St. John's emergency case, which she is well qualified to make use of as a first aid, whether the emergency be concerned with her own car or any outside mishap.

Being Irish, it is hardly surprising to learn that Miss O'Neill has the bump of superstition fully developed, the outward form which this particular trait takes in the new circumstances being the employment of a "mascot," in the form, no doubt upon the principle of like curing like, of a miniature "Bobby" seated on the engine bonnet, to guard her against falling into the hands of the "man of law." Miss O'Neill has had a good send-off in the general press this week, which should serve her in good stead in her plucky venture, and in wishing her every success, we also wish her more propitious weather than the first days of her experience have brought her.



"Automotor Journal" (Yellow Cover) Copyright Photo.

MISS SHEILA "O'NEILL," THE LATEST ADDITION TO LONDON'S MOTOR EQUIPMENT.—Miss O'Neill, an ex-hospital nurse and an Irish lady, as her name denotes, has now adopted professional motor driving as her business career. In our photographs this plucky chauffeuse is seen in the car she is at present controlling, and at work under varying conditions of her duties.

Flight

Wright's Flight for the Michelin Cup; Official Record.

THE Committee who witnessed Wright's long flight for the Michelin Cup on December 18th have issued their official report, which gives the following details of the event.

The course was marked out by flags forming an isosceles triangle, having two long sides of 1 kilom. each and a short side of 200 metres, the total length being thus 2·2 kiloms.

Wilbur Wright started by the aid of his derrick at 10h. 11m. 40s. a.m. He made forty-five complete circuits of the triangle in 1h. 53m. 59⅗s., which is equivalent to 99 kiloms., reckoning according to the Michelin Cup rules. In addition he flew 400 metres to and from his starting rail, thereby bringing the total official distance to 99·8 kiloms., which constitutes the world's record to date. The total duration of the flight was 1h. 54m. 53⅖s.

His Previous and Latest Speed Records.

ON September 21st, as our readers will remember, Wright flew 66·6 kiloms. in 1h. 31m. 20⅘s.; on December 18th the same distance, reckoning from the commencement of the Michelin Cup flight, occupied only 1h. 15m. 57⅗s., or conversely he flew 12·4 kiloms. further in the same time.

His Further Attempts.

IT was Wilbur Wright's intention to make a further attempt to improve his record for the Michelin Cup on December 26th, his flight on the 18th of that month having been brought to a premature conclusion by the accidental closing of the petrol tap. As the thermometer registered 2 degrees of frost, however, he decided that it would be too unpleasantly cold to remain as long in the air as he wished, and but for the arrival of M. Henri Lillaz (chief official in the Public Works Department) he would not have gone out at all. As it was, he only made a short demonstration flight at half past three in the afternoon. There was a little delay in starting, but once the motor was got under way, Wright indulged his visitors to a very fine sight, for instead of going far away, he made sudden turns, rising and falling at an angle of 45 degrees or thereabouts, sometimes coming quite close to the ground, and at other times spinning across the heads of the officials. As a grand finale he made five circuits of the trial ground at a speed of from 50 to 60 kiloms. per hour, with the engine going all out, and finally he descended just in front of his shed.

It has been reported that when Mr. Wright examined his machine before the start of this demonstration flight—which it must be remembered was to have been his big attempt for the Michelin Cup—he found petrol instead of lubricant in his oil tank. If this be true, it would have been a singular mistake for Wright himself or any of his assistants to have made, and it is significant that he was prevented for the first time from returning to sleep in his shed on Christmas night through dining with the members of the Sarthe Aero Club.

Wilbur Wright's Migration.

WILBUR WRIGHT does not like the cold weather, and as the days of glass screens and exhaust-heated floor-boards have not yet arrived in the aeronautical world, he has to bear the full brunt of the elements, with the assistance of a favourite leather waistcoat, which, as a French contemporary politely expresses it, "fut élégant aux premiers âges de l'automobile." Very soon now, however, he will migrate to a warmer climate, for it is expected that he will start for Pau late in January. It is also reported that he may shortly visit Italy in response to an invitation from the Italian Aeronautical Society, who have, it is said, asked him to allow three Italian aeronauts to attempt flights on his machine. It was not until Monday last that he found time to visit the Paris Salon, where he made a critical inspection of the exhibited machine which bears his name.

Flight at Olympia.

STEPS are now being taken by the Society of Motor Manufacturers and Traders to obtain exhibits for the aeronautic section of the exhibition to be held at Olympia next March, so as to make it a thoroughly representative show. With this end in view, Mr. T. F. Woodfine, the Secretary, was in Paris during the Christmas holidays, endeavouring to induce the successful French experimenters to exhibit in London.

The Marquis de Mouzilly de St. Mars Enters the Field.

A PURCHASE of considerable interest, which is reported to have been effected at the Paris Salon, concerns the acquisition of a Breguet aeroplane by the Marquis de Mouzilly de St. Mars. The machine, which is to be fitted with one of the Gobron aviation motors, is quite unlikely to be anything like the helicopter exhibited at the Salon, although, if made by Breguet himself, it is pretty well certain to have a steel framework throughout. According to rumour, it is to be a biplane with two propellers, but there is an air of mystery about most purchases of aeroplanes at the present time.

The Marquis himself is a well-known figure in English motoring circles, where he has in especial conferred his patronage upon the motor cycling movement, and has been a very good friend indeed to that cause. We welcome his early advent in the flying world, and wish him every success in his endeavours, more especially as we understand that he proposes bringing his aeroplane to this country, where it will be one of the first to be given a practical trial.

Robart Aeroplane.

M. HENRI ROBART, of Amiens, has recommenced his flying experiments with a new aeroplane weighing 400 kilogs., and fitted with a 40-h.p. Antoinette engine. The surface is 50 sq. metres, and the engine drives two twin-bladed propellers through chains; the propellers are 2·32 metres in diameter and 3 metres in width.

De Caters' Aeroplane.

BARON DE CATERS, who has entered for the kilometre prize instituted by the Belgian Aero Club, succeeded in accomplishing a few flights of about 100 metres in length at Brecht on December 20th. Foggy weather brought his trials to a conclusion.

German Aeroplane—The Grade.

IT is reported from Berlin that an engineer named Grade has succeeded in making flights of from 100 to

400 metres in length at an altitude of about 1 metre and at speeds varying from 30 to 40 kiloms. per hour.

"Antoinette IV" at Work.

PILOTED by M. Welferinger, the monoplane, "Antoinette IV" made some successful flights at Issy on Wednesday of last week, December 23rd. The flights were carried out at an altitude of 8 metres, and the parade ground was traversed in all directions. Later on, M. Welferinger will make tests with the machine which was exhibited at the Paris Salon.

During one of the flights with "Antoinette IV" it is stated that the "closed" circuit kilom. was accomplished at a speed of 75 kiloms. an hour. The occasion was during the flights carried out on December 26th.

Abris-Calas Aeroplane.

Two old students of the Marseilles School of Engineering, MM. Abris and Calas, are constructing an aeroplane something on the lines of the Wright aeroplane, which will be fitted with a 4-cyl. Gregoire engine.

An Aeroplane from Spain—The Sanchis.

ANOTHER aeroplane, which has been designed somewhat on the lines of the Wright model, is one which a Spanish engineer named Sanchis has brought before the notice of his Government at Madrid. It is reported that official trials are to take place.

Aeronautics in Spain.

A GRANT of 300,000 pesetas for the acquisition of flying machines has been asked for in the Spanish Budget.

Juvisy Aerodrome Opens on January 10th.

THE event of next week in the flying world will be the opening, on January 10th, of the Juvisy Aerodrome, belonging to the Sociéte d'Encouragement à l'Aviation.

Liege-Spa Aero Club.

THE Aero Club of Liege-Spa was recently formed at the head-quarters of the Liegeois Automobile Club, under the Presidency of M. Emil Digneffe. MM. Dumoulin and Piedboeuf are vice-presidents and Chevalier Jules de Thier is general secretary.

Seine-et-Oise A.C. Aero Section.

RECOGNISING the importance of flight, the Seine-et-Oise Automobile Club has formed an aeronautical section, which is at present under the control of MM. Maunel, Petitpas, Eté, Sarret, and Allayrac.

Union Française Aerienne.

YET another aeronautical body has sprung up in France with the object of furthering the interests of flight by the enrolling of members at small annual fees, and the inspiring of more wealthy persons to become patrons by the payment of larger sums. This latest body is the Union Française Aerienne, which has been founded by Baron G. Onffroy de Verez, and M. Couronneau, with offices at 56 Rue de Rome, Paris. Members are admitted at 5 fr. a year, life members for 100 fr. down, patrons for a minimum donation of 200 fr. and founder members for a minimum donation of 1,000 francs. The following are the principal objects of this new society:—(1) the study of aeronautics generally by a committee of engineers chosen from among the members of the society; (2) the construction of experimental flying machines at the expense of the society's funds; (3) the holding of lectures on flight; (4) the acquisition of an aerodrome; (5) the holding of aeronautical concours; (6) organising a permanent exhibition of small scale models.

The town of Hyères has voted a sum of 500 francs for the furtherance of the project.

Dufayel Prize.

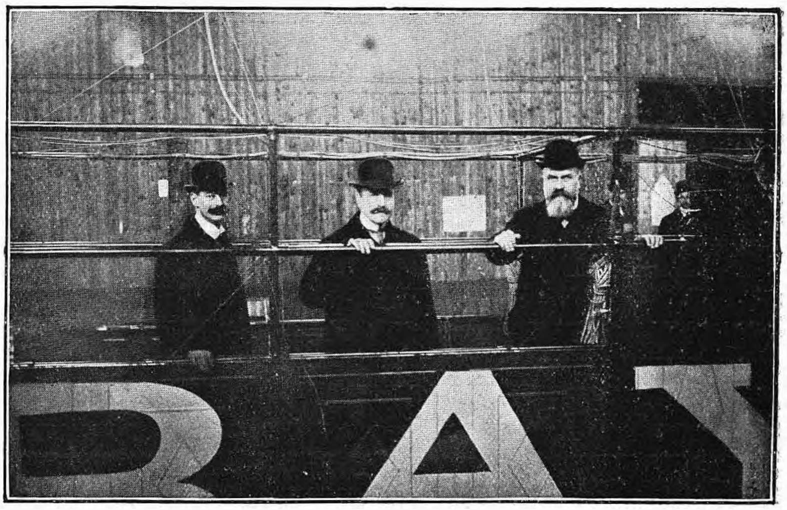
FOUNDED at a luncheon held at the Grand Palais on the opening day of the Paris Aeronautical Salon, the Dufayel Prize was auspiciously inaugurated. M. Dufayel has placed at the disposal of the Automobile Club of France, who are charged with the organisation of the event, a sum of 20,000 francs to constitute four prizes in a race from Bagatelle to Sainte-Adresse. The event is to take place on July 18th, 1909, and it is specified that the journey must be finished on the same date. The prize money is to be divided into sums of 10,000, 5,000, 3,000 and 2,000 francs.

All the aviators present at the meeting when the prize was founded, including MM. Bleriot, Kapferer, Pelterie, Delagrange, Breguet, Surcouf and Voisin, notified their intention of competing.

It was subsequently decided that if the aviator should carry a lady passenger he would, by winning, receive an additional 5,000 francs.

M. Quinton's Wager.

DURING the course of the same interesting function, M. Quinton, founder of the Ligue Nationale Aerienne, offered to wager a sum of 10,000 francs that before five years an aviator would fly from Paris to Indus in 48 hours. There are truly progressive ideas in France.



Rumours are rife that M. Clement intends some fine day, not over distant, to sail across the Channel in his fine Bayard-Clement airship and cross London, thereby in a measure fulfilling the suggestion of the Duke of Argyll put forward at the recent Aero Club Dinner. In the meantime Lord Shrewsbury and Mr. Frank Shorland, Chairman and General Manager of Clement-Talbot, Ltd., respectively, upon a recent visit to Paris, were passengers with M. Clement (a Vice-Chairman of the Company) in the airship, our photograph being taken upon the occasion. No doubt this little gathering may have some significance in regard to the rumoured trip.

The Lortet Prize.

M. LORTET, of Tarbes, has offered a prize, consisting of an ingot of gold weighing 1 kilog., to the aviator who first starts from Tarbes and descends on certain property belonging to M. Lagarde, situated 10 kiloms. away. At the present price of bar gold the prize is worth about 3,400 francs.

The Soulé Prize.

M. SOULÉ, who has already subscribed half of the prize offered by the town of Bagneres, has now given the Ligue Nationale Aerienne another personal prize of 2,000 francs, to be awarded to the first aviator who descends from an altitude of 500 metres, without using his engine, while following naturally sloping ground: in other words, the aviator must glide down the side of a mountain without touching earth.

Flight Experiments in America.

THE Aerial Experiment Association are continuing their experimental work in America, and have just completed their fourth biplane, which has been christened "Silver Dart." It follows very much the lines of the "June Bug," but is slightly smaller. The planes are 6 ft. across at the centre, where they are placed 6 ft. apart, diminishing to 4 ft. wide at the tips and 4 ft. apart. The spread of the wings, including the movable tips at each end, is 49 ft., and the total lifting area of the machine amounts to 420 sq. ft.; 15 ft. in front of the main planes there is a double elevating rudder, while at the rear—11 ft. from the main planes—is the single vertical rudder. The wooden propeller is also at the rear, is 8 ft. in diameter, and driven at a speed of 1,000 revs. per min. by an 8-cyl. Curties motor. At each end of the main planes are fitted movable triangular planes which are controlled by the swaying of the operator's body. These "wing tips" have a total area of 40 sq. ft.

The "June Bug" has now been slightly remodelled and mounted on pontoons, so that experiments may be conducted upon the water. During some recent tests upon Lake Keuka at Hammondspout, N.Y., the machine, now known as the "Loon," covered 2 miles (1 mile with and 1 against a wind of 5 or 6 miles an hour) at an average speed of 27·06 miles per hour, but this was not sufficient to enable the apparatus to completely rise from the water. Further experiments are now being conducted with hydroplane hulls of various types.

Airships and Wireless Telegraphy.

WITH the object of ascertaining whether the working of wireless telegraphy from airships would in any way prove a source of danger to the occupants, the German military authorities have recently been carrying out extensive experiments. Apparently the results have been entirely satisfactory, and show that no danger need be anticipated; similar conclusions have, it is stated, already been arrived at by the French and Belgian authorities.

Zeppelin Subscription.

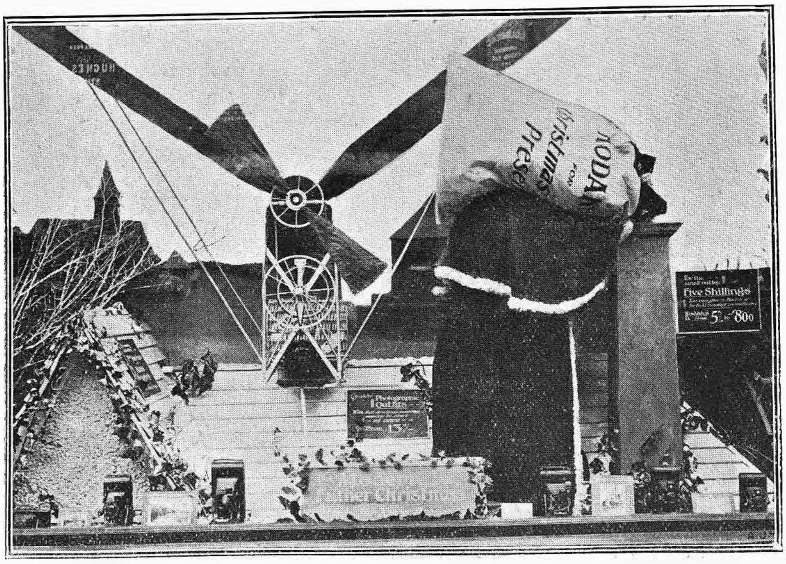
ON December 24th the Zeppelin Subscription Fund was closed, with a total of over six million marks.

Ballooning Home.

ON Saturday last the Hon. C. S. Rolls gave an exhibition of the possibilities of ballooning by taking his mother, Lady Llangattock, home by balloon. The ascent was made at Monmouth in the balloon "Mercury," the occupants of the basket being Lady Llangattock, Hon. C. S. Rolls, Hon. Mrs. Assheton-Harbord, Mr. Claud Crompton, and Mr. Charles Freeman, and the balloon landed on the lawn in front of Lord Llangattock's house, The Hendre. After lunch the balloon again ascended, Lady Llangattock relinquishing her place to Mr. Benham Smith, and after crossing the mountains, the peaks of which were covered in clouds, the balloon was finally brought down at Blaenavon. All the ropes, &c., attached to the balloon were frozen.

Monster Balloon Trip.

MR. CARL FISHER and Mr. George Bumgaugh are, it is reported, arranging to cross the Atlantic from the eastern coast of America in a gigantic balloon. A feature of the experiment will be the carrying of supplementary ballonettes containing a reserve supply of gas for the purpose of replenishing the main envelope. A specially-designed boat is to take the place of the usual basket, and a small steamer will accompany the expedition to render aid in case of emergency. An experimental ascent was made recently with the "Columbia," of 40,000 cu. ft. capacity, with two 2,000 cu. ft. ballonettes attached.



The Kodak Company are ever up to date in their methods, and preceding the Christmas Holiday their window in the Strand, reproduced in our photograph, was a centre of considerable attention. This was arranged to represent the roof of a cottage, with Santa Claus just arrived by aeroplane laden with presents—naturally Kodak cameras—which he promptly pours down the recognised channel—the chimney. The "aeroplane" was the work of Mr. Chippendale.

Airy Hopes.

LAST week, at the Shoreditch County Court, Judge Smyly met a *rara avis*—a creditor who did not wish to press a judgment summons. Such an extraordinary state of affairs demanded investigation, and it transpired that the plaintiff had been mollified by the fact that the debtor was interested in an airship invention, which he thought was "all right." The Judge seemed a little dubious, as a great many other people were interested in such patents, but in view of the optimistic view taken by the plaintiff the case was adjourned for a month.

THE FIRST PARIS AERONAUTICAL SALON.

ON Thursday, December 24th, the President of the French Republic opened the second half of the Annual Automobile Salon at the Grand Palais, and incidentally inaugurated the first real exhibition of practical flying machines that has ever been held anywhere. This is the first occasion on which the industrial and pleasure car sections have been arranged consecutively, for hitherto they have, as our readers know, run concurrently in separate buildings. The executive, however, considered that the changed conditions warranted, if they did not compel, a departure from precedent, and hence the present arrangement by which the science of flight finds room for its expression among industrial vehicles and motor boats.

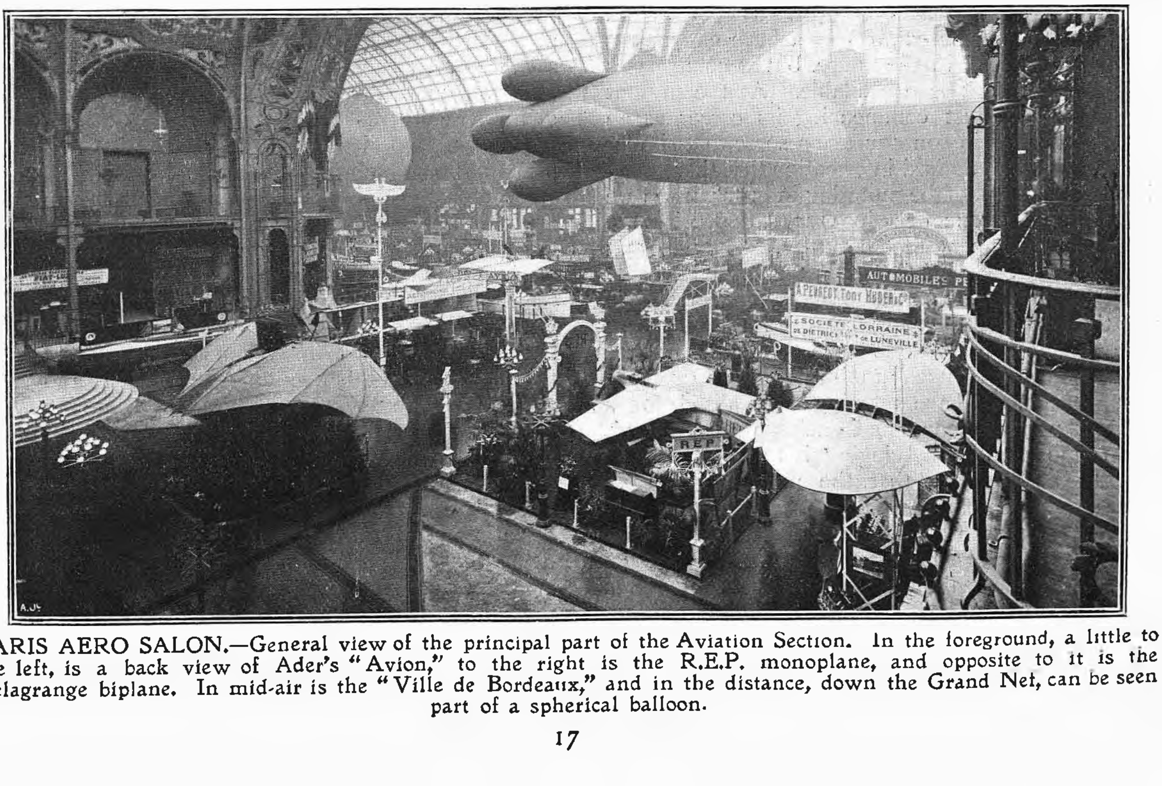
It is for this latter reason, too, that the "*deuxième serie*" of the 1908 Paris Salon has an importance which hardly attached to the pleasure car show, and is certainly not accorded by the majority of the visitors to the industrial vehicles now on view. The flying machines are, without a shadow of doubt, the main attraction for everyone; but whether this had happened to be the case or not, the fact would still remain that they are sufficiently in evidence to justify the use of the significant title, "First Aeronautical Salon." It is an event sure to be of historic interest in the future—even in the very near future, if the progress of flight continues as rapidly as it is doing at present—and as such it must form a basis of comparison for all time.

Those visitors to the Grand Palais who, going specially to see the aeronautical exhibits, entered for the first time by the main doors, must have been disappointed, even if they were not surprised—for no one quite knew beforehand how the show was going to turn out—to find themselves entirely surrounded by heavy machinery and industrial motor vehicles. At first glance, flying machines and all other *appariels d'aviation*, are apparently absent, and it is not until the Grande Nef has been traversed towards the Cupole d'Antin that the Aviation Section is reached. True, there is the "Ville de Bordeaux" airship suspended aloft above this very aisle, but it is so big that its long yellow envelope is not at first observed, although the two iron staircases which lead up to its car cause a sufficiently obvious obstruction in the gangway. Further down the Grande Nef, too, is a spherical balloon also hung from the lofty roof by wires, and it, being in the immediate perspective, is the more noticeable of the two.

It is, however, around the Grand Staircase and beneath the Cupole d'Antin that those interested in flight congregate. Placed on a pedestal, in a position of honour, a fearful and wonderful bird like structure stretches its uncanny wings in silent benediction over all who enter: it is Ader's Avion (No. 3) which is thus so appropriately placed to form at once a portal to the present and a link with the past. Looking down from the superior elevation of the staircase—and, therefore, in an equally appropriate place—is the full-sized Voisin aeroplane known as "Farman I." Messrs. Voisin, as designers and constructors of some of the leading French machines, deserve a degree of credit for their work, which is far higher than the uninitiated are apt to accord them, although their name must of course always stand second to those intrepid pioneers who have actually practised the art of flight.

Among other full-sized machines are the Delagrange and the Bleriot biplanes—the latter a 3-seater—the Bleriot, R.E.P., and Antoinette monoplanes, Kapferer's double monoplane, and the Breguet aeroplane-helicopter. The Wright aeroplane is represented by a full-sized model, but the others above-mentioned are actual machines, and form a collection which is, it will be seen, quite as representative as could be expected under the circumstances, and remarkably interesting to boot.

It is a distinct pity that the official catalogue should have contained no list of these and other exhibits, and in view of the importance which may at any time be asso-



PARIS AERO SALON.—General view of the principal part of the Aviation Section. In the foreground, a little to the left, is a back view of Ader's "Avion," to the right is the R.E.P. monoplane, and opposite to it is the Delagrange biplane. In mid-air is the "Ville de Bordeaux," and in the distance, down the Grand Nef, can be seen part of a spherical balloon.

ciated with such a record, we shall endeavour to remedy the defect as far as possible by compiling a summary. Incidentally, it is interesting simply as a curiosity to reproduce the actual contents of the official catalogue so far as they apply to the present subject. Thus the two lines in the catalogue :—

XXI. Aerostation et Aviation.
Grande Nef.

The public at large, however, was in no way deterred by any lack of official guidance in its ferreting out of the novelties, and during the afternoons and evenings the crowd round the different stands was simply enormous. Adding to the numbers, came parties of schoolboys; and on one occasion we observed a large band of Esperantists in charge of a guide who explained the different exhibits in the International tongue. At the stand where the Wright machine was exhibited they met with a particularly hearty reception from one of the directors, who himself addressed them in Esperanto. So popular was the exhibition right from the very first that the Administration was solicited to extend its duration; the terms of the notice in which they announced that they could not do so, we give verbatim as follows :—

"Le Salon de l'Automobile 2e Série, Véhicules Industriels Navigation, Machines-Outils, Premier Salon de l'Aéronautique, fermera irrévocablement ses portes Mecredi soir 30 Décembre.

"De nombreuses demandes de prolongation ont bien été adressées à l'Administration, mais le Commissaire Général, fidèle aux traditions, a décidé de ne point modifier la date de cloture primitivement fixée."

To anyone already interested in the experimental side of the problem of flight it may readily be believed that the Show is open all too short a time for even such a small number of machines to be studied in detail, especially as it is not customary for Englishmen to spend their Christmas holidays in exhibitions. Many from this country, therefore, will doubtless have found themselves unable to be present at all, and will to an even greater extent than usual have to turn to the Flight section of THE AUTOMOTOR JOURNAL for information. We have endeavoured in what follows to give as complete an account as possible of the exhibits in a form convenient for reference now and in the future, but in some cases full particulars have not been available. At the present time flight is only just commencing its career as an industry, and there is in consequence a somewhat similar difficulty in obtaining desired information that there used to be in the early days of the motoring industry, when we were on more than one occasion threatened with the police for our all too-persistent curiosity. The public at large is rigorously excluded from the stands.

Although these are the earliest of days, it is impossible to ignore the fact that the flying industry is already born. It is one of those half-hidden aspects of the present situation which makes itself unobtrusively apparent at the Salon, but might have remained unrealised for a much longer period to come had such an occasion not offered an opportunity for bringing it to light. It is a little apt to be forgotten that the more prominently successful experimenters have been at work for a long time; it must seem an almost incredibly long time to those who have hardly given a thought to the subject before the latter part of the year that has just terminated. One has only to turn back through the pages of THE AUTOMOTOR JOURNAL to appreciate how far even the publicly known efforts in aviation extend; and, as everyone knows, there is always a vast amount of secret labour in pioneer work which never comes to light until long afterwards.

The history of the Wrights is, happily, already fairly complete, and serves as an undying example of "*labor omnia vincit*" applied to flight. Who would have guessed, however, that it was six years ago that M. Esnault-Pelterie first commenced the work which he has since continued without interruption to the present day? His case is the more interesting since he has not confined himself to any one department; he has built aeroplanes, designed and constructed a very successful engine, and laid down an aviation factory which has now been working for a year and is at present probably the largest in existence. And yet he is one of the youngest of those in the field; in fact, M. Pelterie is a "flying engineer" pure and simple, for he commenced his practical career as soon as he had left his regiment—which he joined directly after taking his degree in science—and he has not, like so many others, graduated in an allied industry. We have cited M. Pelterie as an example not only because it is undoubtedly one of exceptional interest, but because it so aptly points the moral of "going slow" at first in a new thing. As M. Pelterie himself remarked to us at the Salon, "Everywhere to-day I hear the same expressions of surprise and wonder at what is on view, followed by optimistic conclusions of further wonders to come *immediately*. I am afraid they are going to go too fast; they forget our past laborious work."

It is not alone in the fashioning of complete aeroplanes, and in the designing of light engines, that the present Salon has developed an industrial aeronautic side. There is an even stronger proof of our contention that the industry is born, in the fact that there have already sprung into existence some firms who are devoting special attention to the making of parts. Propellers, frames, radiators, and surface materials are among the *pieces detaché* appertaining to flight, and several most interesting and clever inventions have already found practical expression.

Many visitors doubtless expected to find the greater part of the Salon constituted by models, but such is not at all the case. Models there are in plenty, but we can say without prejudice that in general they do not improve upon the standard of the Agricultural Hall exhibits, either as regards ingenuity or workmanship. A few are designed directly at variance to those main principles on which present day "experts" are fairly well agreed—such as for example a model of a machine in which the narrow planes are placed longitudinally—but the majority are nothing but crude conceptions of the modern machines with an additional plane here or there as their sole claim to originality. The flapping-wing machine is in evidence as usual, and is apparently going to be the pet freak of the Flying Salons of the future. Most of the exhibitors in this section have a seedy and dejected air, and are too obviously waiting for some ignorant but kind-hearted philanthropist to place a small sum at their disposal for the development of their ideas; we imagine that the smallest of donations would be acceptable in most cases. Before proceeding to a more detailed description of the individual exhibits, we purpose devoting a short article to the more general subject of aeroplane construction and design as it is represented by the collection of machines at the Grand Palais. Interesting at any time, such a comparison is all the more important now since this is the first time in history that it has been possible.

AEROPLANE DESIGN AND CONSTRUCTION.

Types.

MONOPLANES have a distinct superiority in numbers over the biplanes at the first Aeronau ical Salon, but presumably it is only a matter of individual preference at the present time as to which of the two types has been adopted. The monoplane has of course less surface than a biplane occupying the same width of spread, and is therefore a higher speed machine. It lends itself to simplicity of construction, and if fitted with a tractor screw, as most are, to the use of a direct coupled engine. The absence of transmission chains is, of course, a me it in itself, but the direct drive involves a high-speed propeller, which appears to be attended with other complications. On a monoplane, the size and pitch of a screw of reasonable size appears to render high speed necessary in order to give the velocity required for flight, so to this extent the conditions are in common accord. On the Pischoff monoplane there are two chain-driven propellers placed behind the main wings, as on most biplanes.

Having thus briefly dealt with the types in general, we give below a table summarising the various aeroplanes on view. Among the details included in this list are certain leading dimensions, and also the weight of the different machines in flying order but without the pilot; these latter figures, however, are not such as should be regarded as too literally exact, if the comparative appearances of the aeroplanes themselves may be taken as any guide.

Machine.	Exhibitor.	Details. Spread.	Surface.	Weight.	Engine.
Monoplanes.					
		m.	sq. m.	kgs.	h.p.
Ader's Avion (No. 3)	Arts et Metiers Museum	16	56	258	40 steam
R E.P. (No. 2 bis)	Etab. R. E. Pelterie ...	9·6	15·7	360	35 7-cyl. R.E.P.
Bleriot (No. 9) ...	Soc. Bleriot	9	24	410	50 16-cyl. Antoinette
Bleriot (No. 11) ...	Soc. Bleriot	7	13	160	35 7-cyl. R.E.P.
Antoinette	Soc. Antoinette ...	12	40	500	50 8-cyl. Antoinette
La Demoiselle ...	Santos Dumont ...	—	9	67	2-cyl.
Pischoff	Pischoff and Koechlin	—	23	—	17 2-cyl.
Vendome (No. 2) ...	R. Vendome	9	26	305	50 3-cyl. Anzani
Clement-Bayard ...	Clement-Bayard ...	12·5	23	400	50 7-cyl. B.-C.
Double Monoplanes.					
Astra (Kapferer) ...	Soc. Surcouf	10	40	—	35 7-cyl. R.E.P.
Biplanes.					
Wright (model) ...	Cie. Navigation Aèrienne	12·5	—	450	22 4-cyl. B.M.
Farman (No. 1) ...	Voisin Frères	10·2	52	500	50 8-cyl. Antoinette
Delagrange (No. 3)	Soc. d'Encouragement	10·5	40	450	50 8-cyl. Antoinette
Bleriot (No. 10) (3-seater)	Bleriot...	13	65	480	50 8-cyl. Antoinette
Lejune (No. 1) ...	Lejune...	6·5	23	150	12 3-cyl. Buchet
Special.					
Breguet helicopter-aeroplane	Breguet	14	60	550	50 8-cyl. Antoinette

Installation.

The tractor screw in front, as representing a principle of propulsion, is one to which Sir Hiram Maxim, in his recent book, is strongly opposed, on the ground that it fails to take advantage of the air set in motion by the machine as a whole as a means of neutralising some of the normal slip. On the other hand, M. Esnault-Pelterie, among others, considers that the wake from the slip itself is turned to better account with a tractor screw because it creates a higher effective velocity of the air under the centre of the main wings. The Pelterie monoplane, however, is constructed to make as much use of this central air current as possible, but there are others which are not, and at the best, the frame, whatever its shape, occupies a considerable cross-section behind the screw. At the moment, therefore, it may be said that the engines are usually placed in front of monoplanes because that position makes the best mechanical job of the installation.

On biplanes the engine is either on one side of the pilot, as on the Wright and Bleriot machines, or immediately behind, as on the Farman and Delagrange (Voisin) aeroplanes. In all cases the propellers are just behind the main planes, and on the Wright, where there are two, and on the Bleriot, where there is only one, they are driven by chains. The Voisin machines have a direct drive. When there are two propellers they should turn in opposite directions in order to neutralise the tilting effect, and on the Wright machine this is accomplished by crossing one of the chains. The chains are enclosed in tubes, and as the motor is alongside the pilot one chain is longer than the other; it is this one which is crossed.

Frames.

Wood is the favourite material at the present time for the framework of aeroplanes, and, indeed, it seems likely to give birth to quite a new development of constructive engineering.

Already two firms have specialised in the manufacture of hollow wood beams and struts, and one in particular—the Soc. Anon. Construction d'Appareils Aériens — exhibit some most interesting models of elliptic lattice girders showing great refinement of workmanship. Wood, as is well known, is ordinarily lighter than metal for the same strength, although it is much more bulky.

On an aeroplane the bulk of wood required is not disproportionate to the present size of the machine—whatever it may be in the future—and in consequence it has become a very popular material. Only two notable examples of steel need be referred to, the Breguet and the R.E.P. In the latter case the frame is comparatively small, and in the former it is very extensive, and, in fact, forms an interesting example of tubular steel work quite apart from any reference to its application to the subject under discussion.

Most of the monoplanes have boat-like frames of V section, which gives some of them the appearance of racing skiffs; in a few cases, the sides are actually wood-covered, at any rate in part, but in general the frame is a light skeleton structure covered with fabric. In general, such frames taper in section aft, and either have a bluff end forward or a short sharp point. A feature of the Wright frame is the detachability of the struts between the two main planes; the ends of the struts are fitted with steel screw-eyes, which fasten on to corresponding curled hooks. Diagonal wire stays give the necessary stiffness in conjunction with the runners, which form a base for the machine as well as a support for the elevator in front.

Surface Materials.

Fabric, made of Egyptian cotton treated with rubber, constructed by the Continental Tyre Co., is a popular surface material for covering the wings of aeroplanes, as it is readily obtainable in any weight and strength, and is impervious to rain. Some of the machines, however, use other things, as, for instance, the Bleriot No. 9, which has a vellum-like paper covering; the Bayard-Clement, which employs varnished silk; and the Antoinette, which uses varnished linen. This latter is hand polished to give great smoothness, and has a fine glossy finish; so, too, has the silk of the Bayard-Clement monoplane, but the fabrics are not usually prepared with a specially smooth surface.

Systems of Control.

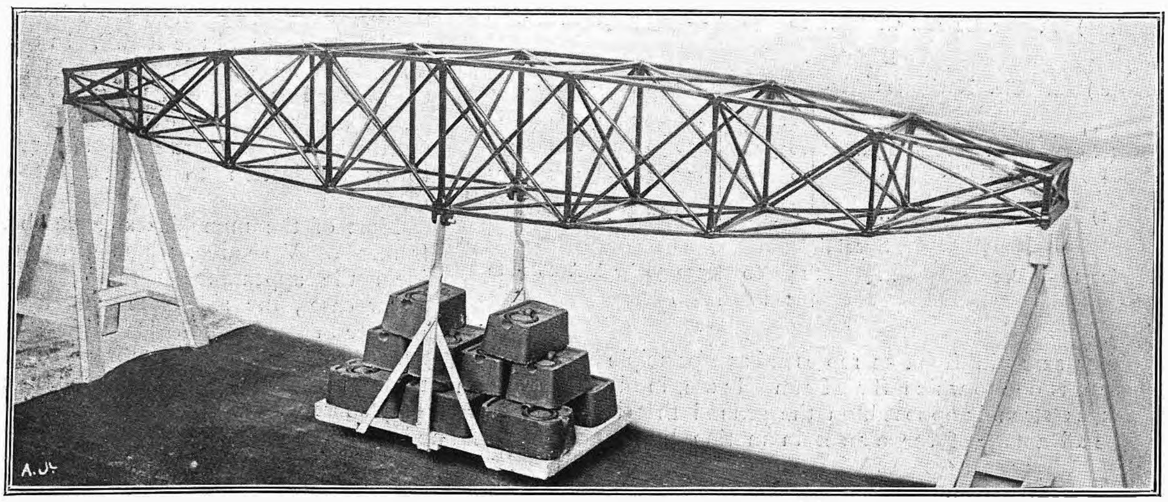
There is no more interesting feature of the aeroplane nor one in which greater differences in detail find expression in practice, than the system of control. Especially is this the case in connection with the steering and elevating levers themselves, all kinds of devices having been adopted by the different inventors as being most in accord with their own individual ideas on the subject. So far as the actual means of manœuvring the machine are concerned, the difference is naturally less marked, for most of them have well-defined rudders and elevators.

In the monoplane type of machine there is greater variety in the details of control than with the biplanes, the differences in the latter class being mainly concerned with the placing of the rudder aft and elevator forward, or *vice versâ*. On the monoplanes, however, the main wings themselves are generally brought into play in one way or another, either by total flexion or warping as on the R.E.P. and Vendôme aeroplanes, or by the use of steering tips as on the Bleriot No. 9 and Antoinette. In the R.E.P. monoplane the warping of the wings in opposite directions simultaneously serves for all ordinary manœuvring without resorting to the rudder, which is under the control of a separate lever. Rising and falling is accomplished by tilting the elevator by a to-and-fro motion of the same pivoted lever which warps the wings. On the Vendôme monoplane each wing is warped by a separate lever, and as these levers are very massive and pronounced, standing out well above the frame, the pilot must assume somewhat the same attitude as is presented by the driver of a traction engine, who is ordinarily seen wending his way with each hand firmly grasping a handle.

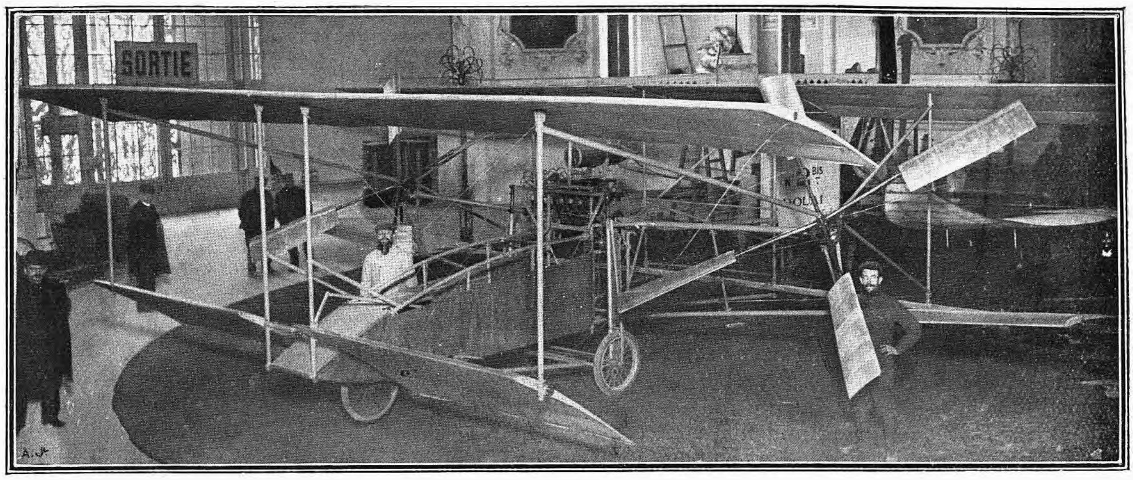
Although, as in the R.E.P. monoplane, the warping of the wings is used for the purpose of steering, it is necessary to draw a distinction between such arrangements and the rudder pure and simple, because for the most part they are provided to assist in maintaining stability, quite apart from any use which they may have for governing direction. It is in this capacity, too, that the designers regard the use of steering-tips, which consist of small pivoted extremities attached to the ends of the main wings. Being at a great distance from the centre of the machine, they have a considerable leverage, and, operating as they do upon both sides of the centre simultaneously, the rapidity with which they are able to produce an effect is enhanced. It is, therefore, upon this device that the pilot mostly relies to keep his equilibrium. The warping of the main planes is, as our readers know, one of the great features of the Wright aeroplane; but in the machine exhibited, the movement is accompanied by a turning of the rudder; the elevator on the Wright aeroplane is under the control of a separate lever.

As to the levers themselves, custom differs widely, as we have already mentioned. Wright (on the machine exhibited) uses two simple rods, one hinged to rock laterally for steering, the other to move to and fro for rising and falling. In the Farman, Delagrange, and Kapferer aeroplanes, the pilot clutches a steering wheel similar to that used on a motor car, but placed in a vertical plane; for steering, it is turned as on a boat, while for varying the altitude of flight it is pulled or pushed bodily to and fro. Such a system as this, it will be observed, allows either or both hands to do all the work that is required. On the R.E.P. and Breguet machines the system of single-lever control has been restricted to the pilot's left-hand, the lever in question on the R.E.P. monoplane being pivoted universally to move in any direction; while the Breguet system is to fit the elevating lever with a rotary handle which is twisted for the purpose of steering.

In the following tabular summary, brief particulars, so far as they are available, are given of the methods of control adopted on the various aeroplanes exhibited:—



PARIS AERO SALON.—View of a model girder made of wood, by the Société Construction d'Appereils Aeriens.



PARIS AERO SALON.—General view of the Breguet Helicopter-Aeroplane. The large inclined screws are visible in this illustration, as also is the transverse arrangement of the engine; but the machine as a whole is so large and in such an awkward position that it is impossible to convey a comprehensive idea of its construction by means of a photograph.

One Hand Control.

"Bleriot No. 9."—Pivoted lever, fitted with steering-wheel handle, to and fro to ascend (elevator), sideways to turn (rudder and steering tips).

"Voisin" (Delagrange and Farman).—Vertical steering-wheel, rotate to turn (rudder), pull and push to go up or down (elevator).

"Astra" (Kapferer).—Same as "Voisin."

"R.E.P."—Three levers. One pivoted, to and fro to ascend (elevator), sideways for stability and to steer (warp wings), one to set rudder, one to set elevator.

Hand and Foot Control.

"Bleriot No. 10."—Pivoted lever fitted with steering-wheel handle. To and fro to ascend (elevators), sideways for stability and to turn (elevators); foot rudder.

"Bleriot No. 11."—Pivoted lever as on No. 10. To and fro to ascend (elevators); sideways for stability and to turn (warp wings); foot rudder.

"Breguet."—Hinged lever with pivoted handle, to and fro to ascend (elevator), rotate handle to turn (rudder), foot operates extra steering planes.

"Vendome."—Three levers and two pedals all separate. Two levers to warp wings, separately or together (steering or ascending); one lever to set tail (long ascents); two pedals to work steering tips separately (sharp turning).

Two-Hand Control.

"Antoinette."—Rudder operated by ropes; steering tips by another rope; elevator by a wheel at the pilot's side.

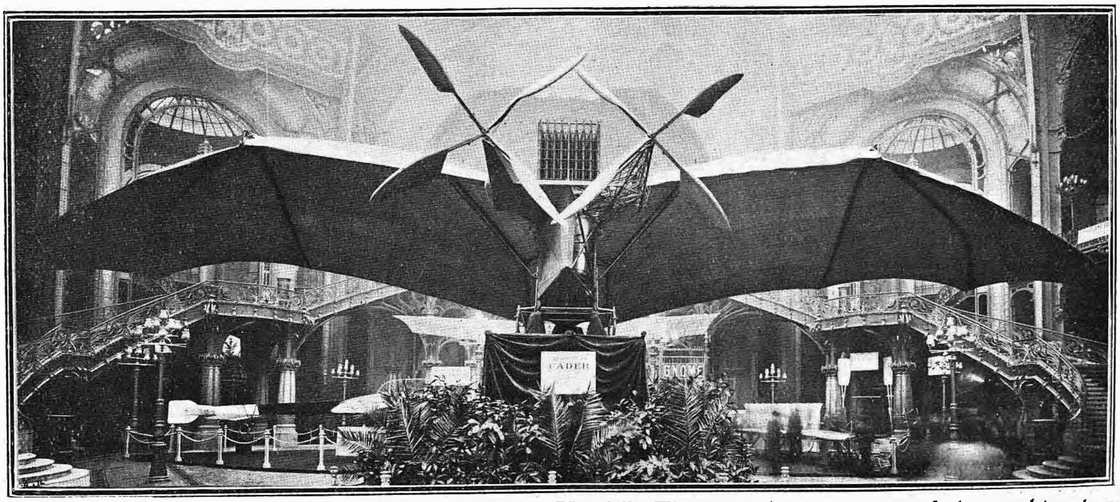
"Clement."—One lever and one wheel; lever for elevator, wheel for rudder.

"Wright."—Two levers; one for elevator, one for rudder and warping wings.

Ader—A Pioneer.

In the electrical world, the name of M. Ader is one of renown for his valuable work in connection with telephones; in the new realm of flight he has an almost equal claim to respect, for he was an early pioneer who not only diligently laboured to attain the conquest of the air, but actually achieved some measure of success. It is on record that he flew a distance of 50 metres on October 9th, 1890, in the grounds of the Chateau d'Armainvilliers, and subsequently, on October 14th, 1897, he flew a distance of 300 metres at Satory before a committee of army officers delegated by the French Government to witness the trial.

The machine was undoubtedly in the air—as shown by the absence of wheel tracks in the wet ground—while it travelled this latter distance, but its direction of flight was, owing to a strong cross-wind, far from the circular course marked out, and this fact, coupled with the damage done to the machine in landing, doubtless led



PARIS AERO SALON.—Front view of Ader's "Avion No. 3." The bird-like appearance of the machine is well shown, as also are the curious feather propellers.

the principal officials to take a gloomy view of its prospects. At any rate, the Government refused to continue its financial assistance to the inventor, and M. Ader had reluctantly to abandon his favourite work.

The histories of many pioneers are sad, especially if they are before their time—and Ader was certainly that. Being a Frenchman, he was born in a sympathetic land, however, but even so, he was very fortunate to get so far as to gain the assistance of the Government at such an early stage in the proceedings. M. Ader himself was an enthusiast on flight from boyhood, and was of course, therefore regarded by many as a mere dreamer. That was in the days before he became sufficiently wealthy as an electrical engineer to put some of his ideas into practice. To modern eyes, his attempts seemed doomed to failure, it is true, but he did his best with the materials at his disposal, and his name unquestionably deserves to go down to history among those of the great. And, although he himself is now perhaps past taking an active interest in modern work, his engineer, M. Espinosa, is actively engaged in the industry.

His Avions.

Ader built three flying machines, and it is the last of these that has been taken from the museum of the Arts et Metiers to grace the first Aeronautical Exhibition; the others no longer exist. His first machine he called "L'Eole," and with that he achieved the flight of 50 metres in 1890; the third machine, on view in the Grand Palais, is the "Avion," with which he demonstrated before the French Government in 1897.

It is a machine of the monoplane type, constructed to resemble a bird in its general shape. Its wings are deeply cambered and arched, and their surface material is stretched over an elaborate framework, presumably intended as a copy of the natural formation of a bird's wing. The wings have a total spread of 16 metres, and present an area of 56 sq. metres; they extend on either side of the body, and are so mounted that they can be swung forwards or backwards slightly in order to shift the centre of pressure relatively to the centre of gravity when desiring to ascend or descend. Beneath the rear portion of the wings, which extend far back in the centre, is a rudder controlled by pedals.

The mechanism, all of which is carried by the main body, consists of a multi-tubular alcohol-fired boiler and two horizontal compound engines. The boiler was rated at 40-h.p., and, when working at 10 atmospheres (140 lbs. per sq. in.), the steam in the dome was usually about 215 degrees C. The engines are placed in front with their cylinders horizontal and their crankshafts longitudinal. Each is coupled direct to the shaft of a tractor screw. They are compound engines with two high-pressure and two low-pressure cylinders each, the dimensions being 65 and 100 mm. bore by 100 mm. stroke. At the normal boiler pressure they developed 20-h.p. each at a speed of 600 r.p.m.; their weight is 21 kilogs. each.

The propellers are most peculiar, for they resemble nothing so much as eight gigantic quill pens arranged in two sets of four. The blades are, in fact, imitation feathers, and are made of bamboo. Each propeller is three metres in diameter, and has a pitch approximating to three metres (it is impossible to give an exact figure with such a form of construction). Their position is such, too, that they overlap one another considerably, and it appears as if that on the port side must have been working under difficulties.

Quite the most interesting fact about the "Avion" is that its entire weight was only 258 kilogs. This is due to the use of nothing but wood in the construction of the framework, and a system of making the joints and employing hollow struts and beams was thought out by M. Ader for the purpose; it is the same as is now put into practice by the Soc. Cons. d'Appareils Aeriens, of which M. Espinosa (M. Ader's engineer) is a Director.

"Ville de Bordeaux."

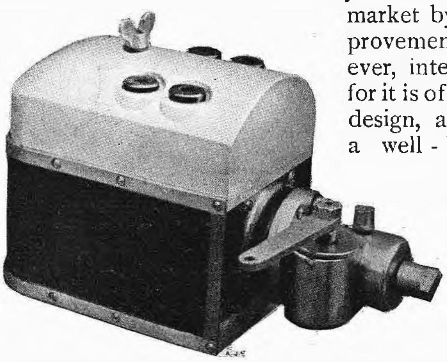
An airship built by Soc. Surcouf for military work, but if not accepted by the Army, to go to the Soc. Aerienne, who purpose using it for pleasure-trip service. It is one of the noteworthy series, "La Ville de Paris," "Clement-Bayard," "Col. Renard," and "La Ville de Nancy."

The gas-vessel, which is made of "Continental" fabric, is 53 metres long and 15 metres in diameter; it holds 3,000 cu. m. of gas, and contains an air ballonette which maintains the pressure at 45 mm. water-gauge under all atmospheric conditions. The engine is an 80-h.p. 4-cyl. Renault, and is mounted on four quarter-elliptic leaf-springs placed transversely and shackled to the car. The propeller is 5 m. in diameter, and 3·6 m. in pitch; it runs at 360 r.p.m., being geared down from the main shaft. In front of the car is a triplane elevator having a surface of 16 sq. metres, and behind is a double rudder for steering. Stability against pitching and rolling is provided for by a group of four pear-shaped gas-bags surrounding the rear end of the main envelope.

The car itself was made by Messrs. Esnault-Pelterie, and is mainly of tubular steel work; it is 28 metres long. The envelope is made of "Continental" yellow fabric, and its maximum diameter is well forward; there is, however, not much difference in the diameter along most of the centre part of the envelope. In front it terminates in a short sharp cone, and behind, in a longer cone with a hemispherical end. To serve as an attachment for the car cords, a strip of wood-cored canvas is sewn to the envelope. The cords are lashed to this, and the car is hung from the cords by steel wires.

A NEW BRITISH MAGNETO.

There are, comparatively speaking, so few makers of magnetos in this country that the advent of a new British-built machine is a matter of moment. That which has just been placed on the market by the Motor Improvements Co. is, however, interesting in itself, for it is of quite an original design, and is made by a well-known firm of electrical engineers—Messrs. Muirhead. Incidentally, it may be mentioned, the makers' confidence in its reliability has led them to guarantee the material and workmanship for three years. A detailed description of its construction will be included in our series of magneto articles in due course.



The Muirhead High-Tension Magneto.

PROGRESS OF MECHANICAL FLIGHT.

PROGRESSIVE RECORDS.

THE following table is interesting as showing the gradual progress of the solution of the problem of mechanical flight:—

Distance or Time.	Place.	Aeronaut.	Date.
300 metres	Satory	Ader	14 Oct., 1897
Few seconds	Bagatelle	Santos Dumont	22 Aug., 1906
7–8 metres	,,	,, ,,	14 Sept., 1906
50 metres	,,	,, ,,	24 Oct., 1906
60 metres	,,	,, ,,	13 Nov., 1906
82·6 metres	,,	,, ,,	,, ,, ,,
220 metres	,,	,, ,,	,, ,, ,,
363 metres	Issy	Henry Farman	26 Oct., 1907
403 metres	,,	,, ,,	,, ,, ,,
771 metres	,,	,, ,,	,, ,, ,,
1·500 kiloms.	,,	,, ,,	13 Jan., 1908
2·004 kiloms.	,,	,, ,,	21 Mar., 1908
2·5 kiloms.	,,	Delagrange	10 April, 1908
3·925 kiloms.	,,	,,	11 ,, ,,
5 kiloms.	Rome	,,	27 May, 1908
9 kiloms.	,,	,,	,, ,, ,,
12·5 kiloms.	,,	,,	30 ,, ,,
17 kiloms.	Milan	,,	22 June, 1908
19·7 kms. (20m. 19s.)	Gand	Henry Farman	6 July, 1908
24·727 kms. (29m. 53s.)	Issy	Delagrange	6 Sep., 1908
57m. 31s.	Fort Meyer	Orville Wright	9 ,, ,,
1h. 2m. 30s.	,,	,, ,,	,, ,, ,,
1h. 5m. 57s.	,,	,, ,,	10 ,, ,,
1h. 10m. 50s.	,,	,, ,,	11 ,, ,,
1h. 15m. 20s.	,,	,, ,,	12 ,, ,,
1h. 31m. 25s.	Auvours	Wilbur Wright	21 ,, ,,
1h. 54m. $22\frac{3}{5}$s.	Le Mans	,, ,,	18 Dec., 1908

Wilbur Wright holds the record for passenger flight, having carried M. P. Painlevé for 1h. 9m. 45s., and covering a distance of about 80 kiloms. at Auvours on October 10th.

INDIVIDUAL PERFORMANCES TO DATE.

THE accompanying table gives the performances which have been made by the most prominent aviators of the last few years:—

Date.	Place.	Duration.	Distance.
ADER.			
		h. m. s.	
14 Oct., 1897	Satory	—	300 metres
SANTOS DUMONT (biplane, rudder in front).			
22 Aug., 1906	Bagatelle	—	Few metres
14 Sept., 1906	,,	0 8 0	,,
24 Oct., 1906	,,	—	50 metres
13 Nov., 1906	,,	—	60 ,,
,, ,,	,,	—	82·6 ,,
,, ,,	,,	0 0 $21\frac{1}{5}$	220 ,,
SANTOS DUMONT (second biplane, with rear rudder).			
17 Nov., 1907	Issy	—	200 metres
SANTOS DUMONT (monoplane).			
21 Nov., 1907	Bagatelle	—	145 metres
VUIA (monoplane).			
8 Oct., 1906	Issy	—	5 metres
Mar. 1907	Bagatelle	—	5 ,,
17 July, 1907	,,	—	60 ,,
DE LA VAULX (monoplane)			
18 Nov., 1907	St. Cyr	—	60 metres
DELAGRANGE (biplane).			
16 Mar., 1907	Bagatelle	—	10 metres
30 ,, ,,	,,	—	200 ,,
16 ,, 1908	Issy	—	600 ,,
20 ,, ,,	,,	—	,, ,, *
21 ,, ,,	,,	—	1·5 kiloms.
24 ,, ,,	,,	—	,, ,,
10 April, 1908	,,	—	2·5 ,,
11 ,, ,,	,,	—	3·925 ,,
27 May, 1908	Rome	—	9 ,,
30 ,, ,,	,,	0 15 25	12·5 ,,
22 June, 1908	Milan	—	17 ,,
9 July, 1908	Turin	—	200 metres†
6 Sept., 1908	Issy	0 29 $53\frac{4}{5}$	24·727 kms.
17 ,, ,,	,,	0 30 27	—
BLERIOT (monoplane).			
5 April, 1907	Bagatelle	0 6 0	—
11 July, 1907	,,	—	30 metres
25 ,, ,,	Issy	—	150 ,,
6 Aug., 1907	,,	—	143 ,,
17 Sept., 1907	,,	—	186 ,,
1 Dec., 1907	,,	—	—*
4 ,, ,,	,,	—	200 metres
6 ,, ,,	,,	—	600 ,,
17 June, 1908	,,	—	600 ,,
29 ,,	,,	—	700 ,,
4 July, 1908	,,	0 5 47	6 kiloms.
6 ,,	,,	0 8 45	—
21 Oct., 1908	Toury	—	7 kiloms.
31 ,,	,,	0 11 0	14 ,,‡
FARMAN (biplane).			
15 Oct., 1907	Issy	—	285 metres
26 ,,	,,	—	771 ,,*
30 Dec., 1907	,,	—	—
13 Jan., 1908	,,	0 1 28	1·5 kiloms.
21 March, 1908	,,	—	2·004 ,,
29 ,, ,,	Ghent	—	138 metres†
2 June, 1908	,,	—	1·241 kms.†
6 July, 1908	,,	0 20 $19\frac{3}{5}$	19·7 ,,
29 Sept., 1908	Chalons	0 42 0	39 ,,
30 ,, ,,	,,	0 43 0	41 ,,
2 Oct., 1908	,,	0 44 32	40 ,,
28 ,, ,,	,,	0 4 0	2 ,, †
30 ,, ,,	,,	0 17 0	27 ,,
31 ,, ,,	,,	Height prize, 25 metres	
ESNAULT-PELTERIE (monoplane).			
19 Oct., 1907	Buc	—	(first flight)
22 ,, ,,	,,	—	30 metres
27 ,, ,,	,,	—	150 ,,
8 June, 1908	,,	—	1·2 kiloms.
DE PISCHOFF (biplane).			
17 Dec., 1907	Issy	—	500 metres
GASTAMBIDE-MENGIN (monoplane).			
8 Feb., 1908	Issy	—	6 metres
12 ,, ,,	Bagatelle	—	150 ,,
21 Aug., 1908	Issy	0 1 30	1·6 kiloms.
GRAHAM BELL (biplane).			
12 Mar., 1908	Hammondsport, N.Y.	—	318 ft.
4 July, 1908	,, ,,	—	3,420 ft.
CORNU (helicopter).			
26 Mar., 1908	Coquainvillier	(machine raised itself 40 cm. from earth)	
BREGUET (helicopter aeroplane).			
22 July, 1908	Donai	—	20 metres
MOORE-BRABAZON (biplane).			
3 Dec., 1908	Issy	—	600 metres
VANIMAN (triplane).			
18 Dec., 1908	Issy	—	150 metres

WILBUR WRIGHT (biplane).

8 Aug., 1908 ...	Hunaudières... ...	0 1 45	—
11 ,, ,, ...	,, ...	0 3 43	—
12 ,, ,, ...	,, ...	0 6 56	—
13 ,, ,, ...	,, ...	0 8 $13\frac{2}{5}$	—
3 Sept., 1908 ...	Auvours	0 10 40	—
5 ,, ,, ...	,, ...	0 19 $48\frac{2}{5}$	—
10 ,, ,, ...	,, ...	0 21 $43\frac{2}{5}$	—
16 ,, ,, ...	,, ...	0 39 $18\frac{2}{5}$	—
,, ,, ,, ...	,, ...	0 2 20 †	—
21 ,, ,, ...	,, ...	1 31 $25\frac{4}{5}$	—
25 ,, ,, ...	,, ...	0 9 $1\frac{3}{5}$	—
28 ,, ,, ...	,, ...	0 11 35 †	—
3 Oct., 1908 ...	,, ...	0 55 $37\frac{2}{5}$†	—
6 ,, ,, ...	,, ...	1 4 $26\frac{1}{5}$†	—
10 ,, ,, ...	,, ...	1 9 $45\frac{2}{5}$†	—
18 Dec., 1908 ...	Le Mans	1 54 $22\frac{3}{5}$	—

FERBER (biplane).

12 Aug., 1908 ...	Issy	—	First flight.
19 ,, ,, ...	,, ...	—	256 metres.
,, ,, ,, ...	,, ...	—	500 ,,

ORVILLE WRIGHT (biplane).

9 Sept., 1908 ...	Fort Meyer (U.S.A.)	0 6 0†	—
,, ,, ,, ...	,, ,,	1 2 30	—
10 ,, ,, ...	,, ,,	1 5 57	—
11 ,, ,, ...	,, ,,	1 10 50	—
12 ,, ,, ...	,, ,,	1 15 20	82 kiloms.
,, ,, ,, ...	,, ,,	0 9 6†	—

DE CATERS (triplane).

26 Oct., 1908 ...	Brussels	—	800 metres.

ZIPFEL (biplane).

24 Nov., 1908 ...	—	—	200 metres.
1 Dec., 1908 ...	—	—	1,000 ,,
9 ,, ,, ...	—	—	1,500 ,,

* First attempt at turning.
† With passenger.
‡ Flight across country.
m. = metres.
kms. = kilometres.

CORRESPONDENCE.

*** *The name and address of the writer (not necessarily for publication)* MUST *in all cases accompany letters intended for insertion, or containing queries.*

WHAT IS AN AERODROME?

To the Editor of THE AUTOMOTOR JOURNAL.

SIR,—I regret to see that the misuse of the word "aerodrome" is receiving your support in your columns.

This word was invented by Langley and applied by him as meaning a flying machine of the "aeroplane" type; it is in this signification quite regular in its definition, and at the present time constitutes a part of the English language (see recent editions of Webster's and other dictionaries).

I suppose because a hippodrome is a big open space for horses, you think that an aerodrome should be a big open space for flying machines (or rather, I should say for *air*), but as this is not the signification, the idea is not well founded.

You will find in a footnote to the preface of my "Aerodynamics" the remark:—The word aerodrome has been grossly misapplied by Continental writers to denote a balloon shed; shall I have to add "and by home writers to denote a ground or space for exhibition flights."

I do not know whether you wish to be taken for the kind of man who says a thing is "chronic" simply because it is very bad, but this should not be the ambition of a leading motor paper.

Excuse my bluntness, but do not let us have a dozen meanings to one word, one meaning is enough if that is the right one.

Yours faithfully,
F. W. LANCHESTER.

[Mr. F. W. Lanchester is quite right in saying that we have used the term "aerodrome," editorially, to signify a piece of land set apart for the trial of flying machines, or for the holding of races with flying machines, as the case may be. We consider, moreover, that such use of the term is fully justified by analogy with "hippodrome," which Webster gives as being derived from the Greek ἵππος = horse, and δρόμος = course; *i.e.*, a place set apart for equestrian and chariot races; a circus. While the root derivation of the expression "drome" is δραμεῖτ = to run, and as such might perhaps have been better suited to form an adjective qualifying the noun with which it is compounded—as Mr. F. W. Lanchester suggests it should do in the case of "aero-drome"—custom has, it will be seen, already established a prior claim in the other direction which we have indicated. With all respect, therefore, both to Professor Langley and to Mr. Lanchester, we think that it is more in the natural course of things to let the word "aerodrome" denote a "flight-ground," than it is to change the accepted meaning of "hippodrome," and of "motodrome" to "horse-drawn vehicle" and to "motor car," respectively.—ED.]

To the Editor of THE AUTOMOTOR JOURNAL.

SIR,—As a humble student of aeronautical science, I should feel much obliged if you will explain the meaning of the term "aerodrome" as used in your issue of the 19th inst.

The definition of this word given in one of your contemporaries is as follows:—

"Aerodrome (an air runner), firstly used by Professor Langley, is the most suitable and comprehensive word used to denote a flying machine of any kind. It should never be used in the meaning of a balloon shed. . . ."

On page 1666 of the issue in question, you use it in the sense of a flying machine. "The most successful types of flying machines or aerodromes at present in existence, &c., &c.," whilst on page 1662, under the headings respectively of the Juvisy and Lannemazan aerodrome, you refer to it as a sort of "space" or ground for the purpose of practising aerodromics. Now I submit that the word aerodrome cannot stand both for a flying machine and an open piece of ground, and in the interests of aeronautical terminology I should be glad if you will explain how this term can be used to convey two such different meanings. Enclosing my card,

I remain, Sir,
IGNORAMUS.

[The answer to "Ignoramus" will, for the most part, be found in our note which follows Mr. Lanchester's letter on the same subject. Otherwise it is only necessary to explain that the paragraphs referred to on page 1662 were our own, whereas the article referred to on page 1665 of this Journal was written by Mr. Lanchester.—ED.]

PROGRESS IN FLIGHT.

To the Editor of THE AUTOMOTOR JOURNAL.

SIR,—It is with great pleasure that I read the article in last week's issue by Mr. F. W. Lanchester, on the merits of the two machines made by the Voisin Frères and Wilbur Wright.

I think it is a pity that the fact that the Voisin machine was invented, built, and made to fly by Voisin is not more prominently stated in other journals, as it is popularly supposed that credit attached to Farman, whereas all the credit should be given to the Brothers Voisin.

Owing to a quarrel the Voisins had with the French press, the papers abroad make a point of avoiding their name as much as possible; but in England, where, happily, the news department of a paper is not directly affected by advertisements, there is no reason why justice should not be done to the two brothers who have done so much for France in aeronautical matters.

I write this to your paper, Sir, because I believe the time has come when you should slightly alter the name of your paper to include aeronautics.

THE AUTOMOTOR JOURNAL has been always the paper which has shown most sympathy with the movement, and when at last our sleepy countrymen are awakening to the fact that the aeroplane has come to stay, and in future must be reckoned with as a factor in modern civilisation, the time is at hand when your paper should take advantage of the work it has done in the past and reap the reward.

When motor cars were in an empiric stage they were interesting to many people, but now motor cars and their construction must be put aside under the head of engineering, and left to develop as any other industry.

In the aeroplane we have something new, something that is not standardised down, and commercialised so far as to have aero-taxis and aero-buses. No doubt it will soon come, but, in that that stage has not yet come, it is, therefore, an epoch the more interesting by far; and what better thing could your paper do than foster and encourage the movement in this country?

I have, perhaps as much as anybody, known the difficulties of constructing a machine in England, where everyone is so ready to discourage one, ridicule one, and look upon one as an amiable lunatic; but thanks to Wright and Voisin, who have shown that it is possible to fly, I hope that state of affairs has passed, and that anyone building a machine in England will be surrounded by a band of enthusiasts ever ready to help and encourage an inventor, however crude his machine may be.

It is this trait in the French character which produces men like Bleriot, Esnault-Pelterie, Ferber, Levavasseur and many others. They are continually urged to go on building, while in England the poor inventor is laughed at.

My advice to anyone about to build a machine is to do it in France; there he will find the enthusiasm without which it is so difficult to really make a machine fly; remember it took Voisin six months to make Farman's machine fly, experiments being made every morning.

Picture an inventor testing a machine every day for six months in England trying to make it fly! What sort of treatment would he have got? Ridicule, discouragement, and finally would have been called an imposter, a crank and a lunatic.

Therefore, Sir, I entreat you, by your work already begun so ably, to continue to educate a certain section of the public with whom you are in touch to a state of mind not altogether sceptical as to the final "conquest of the air."

With this end in view I have asked you to change the title of your paper, so as to show you *recognise* the movement and are *alive* to it; and if this suggestion seems to you in any way impertinent, I apologise most humbly, but I do it because I wish to see your paper rewarded for its past work, which has been so much appreciated by

Yours truly,
J. T. C. MOORE-BRABAZON.

20th Dec..

[We need hardly say that we very greatly appreciate Mr. Moore-Brabazon's remarks about THE AUTOMOTOR JOURNAL, as also the suggestion which he makes as to change of title. What we deem to be an even more satisfactory course has, however, been taken by us instead, arrangements having for some time been in progress for the production of a special aeronautic paper from this editorial office. Commencing with the present week—the first of 1909—"FLIGHT," issued by the Proprietors of this Journal, will be obtainable through all the usual news agency channels. In "FLIGHT" will be found, week by week, all the aeronautic news which constitutes one of the regular features of THE AUTOMOTOR JOURNAL, together with other articles of special interest to everyone following the movement.—ED.]

UNCONSIDERED WEIGHTS ON MOTOR CARS.

To the Editor of THE AUTOMOTOR JOURNAL.

SIR,—Writing on the "Unconsidered Weights on Motor Cars," Mr. S. F. Edge gives the total of necessary accessories as 2 cwt. 92 lbs. We think that the weight given for several articles is unnecessarily great. Mr. Edge, for instance, gives the weight of his speedometer as 8½ lbs., whereas an O.S. speedometer of the largest model, with trip recorder, complete with all fittings, weighs exactly 4 lbs. 4 ozs., which is one-half of the weight given by Mr. Edge. Although we do not think it possible to save much on the articles mentioned, we have picked out one which will save exactly one-half the weight given in Mr. Edge's letter.

Yours truly,
W. SEARLE AND CO.,
Dec. 24th. G. MAXWELL BROWN, Manager.

"GRAND PRIX," 1909.

To the Editor of THE AUTOMOTOR JOURNAL.

SIR,—In view of the very lukewarm way in which the whole question has been regarded on the Continent, and the fact that the majority of the large firms in France have provisionally decided not to enter for the "Grand Prix" next year, we have decided not to interest ourselves further in the matter, at any rate until some satisfactory conclusion has been arrived at. As we had arranged to enter for this race, and had made certain preparations, we are naturally somewhat disappointed; but it is obviously useless any serious firm taking part in such an event unless the majority of the large firms also enter.

Yours faithfully,
THE AUSTIN MOTOR CO., LTD.
Dec. 22nd. H. AUSTIN, Governing Director.

FRENCH CRITICISMS OF OLYMPIA.

To the Editor of THE AUTOMOTOR JOURNAL.

SIR,—I see in your issue of December 19th that my friend, Mr. Claude Johnson, suggests that I have gone a little too far in terming the 6-cylinder engine Mr. Napier's principle. I think Mr. Johnson is right, and I should have said Mr. Napier's principle of a 6-cylinder engine for motor cars.

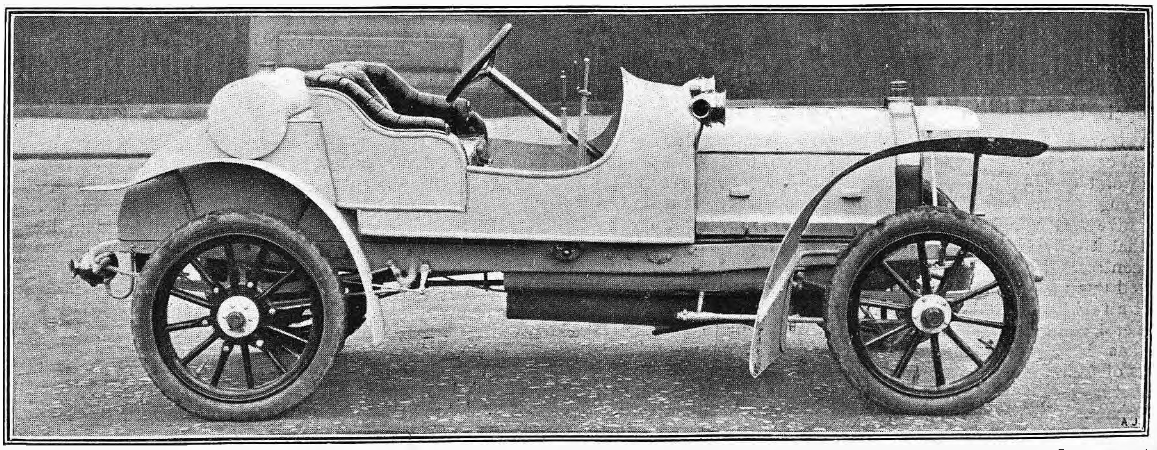
He was the originator of this principle. Mr. Johnson may, of course, be referring to the claim made on behalf of a Dutch maker of motor cars who, some year or two back, suggested that he was the first maker of 6-cylinder motor cars, but this was absolutely disproved at the time by reading the reports of the show where it was suggested that this vehicle was shown, and the show reports clearly set out that this vehicle, although stated was going to be shown, did not make its appearance, at any rate on the first day of the show, whereas the 6-cylinder Napier was in evidence not only at the show stands, but also in the form of a trials car outside the Crystal Palace.

In October, 1903, the 6-cylinder Napier was first made public, but, as everyone with any knowledge of motor car construction is aware, it must have been in progress in the works for very nearly a year before this.

Mr. Napier's principle of six cylinders for motor cars is a British invention, and has been brought to perfection by British engineers, and, so far, only good 6-cylinder cars have been made in Great Britain. All others that I have ever seen or tried, lack the characteristic of the 6-cylinder engine.

The foreign ones seem to be simply four cylinders with two added, and apparently have the disadvantages of both types and the advantages of neither.

Yours truly,
Dec. 24th. S. F. EDGE.



"LA PETITE."—A 10-12-h.p. Zedel car recently completed entirely by the British Automobile Commercial Syndicate for Mr. W. R. Chadburn, of Stelvio Court, Eastbourne. Although light in appearance and structure, "she" is built for hard work, and is specially good at hills.

RACES, RECORDS, AND TRIALS.

The Nice Meeting.

A FEW of the events which are to figure in the programme of this annual meeting have been decided upon. Besides a paper-chase on March 17th, and the *Concours d'Elegance* at Monte Carlo on the 24th, there will be the speed trials over the flying kilom. on March 25th, and the hill-climb on La Turbie on the 28th. The competitions for light motor cars and light motor cycles are to be held on April 19th, 20th, and 21st.

Racing in America.

THE success of the race for the Grand Prize of America seems to have reawakened the enthusiasm of the Americans for motor car speed contests, and several meetings are being talked of. At one time it seemed that the Annual Speed Trials on the Ormond-Daytona beach would either be abandoned or dwindle into a very insignificant affair, but there is now the possibility that it may be revived with all its old time glory.

A suggestion has been made that the meeting should be held in the early part of March, but this will not be definitely fixed until the shows in New York are over.

Racing in Argentina.

ON the 19th Nov. a series of speed trials were held at Buenos Ayres over a 10-kilom. course, the chief prize being the Thibaud Challenge Cup. This was won by a 30-h.p. Spyker car, driven by Van der Heyden, which completed the course in 5m. 55⅕s. In the 15-h.p. class, the winner was a 6-cyl. 15-h.p. Delaunay-Belleville, in 6m. 7s., a 4-cyl. 15-h.p. Delaunay-Belleville was second, and an 18-h.p. Berliet third. A 12-h.p. F.N. was first in Class B in 6m. 54⅕s., and a Peugeot in the twin-cylinder class, while a Sizaire was an easy winner in the single-cylinder class in 6m. 36⅖s.

Among the motor cyclists, the honours went to a Peugeot, driven by Baudin, who set up a new local record of 5m. 8⅖s.

Grand Prize of La Plata.

CHRISTMAS DAY in La Plata was celebrated by a motor car race for the Grand Prize of La Plata, which resulted in a win for a 40-h.p. Lorraine-Dietrich touring car driven by Rade. The event, of course, created a good deal of local interest, and the victory was a popular one, the car having attained some notoriety by the part it has played in several expeditions across the Andes.

CLUBS AND ASSOCIATIONS.

British Motor Boat Club.

THE annual dinner of the B.M.B.C. is to be held on February 12th at the Trocadero, when Admiral Sir William Kennedy, K.C.B., Admiral of the Club, will preside, and afterwards Lady Kennedy will distribute the various prizes won during last season. There will also be the usual musical entertainment. The seating accommodation is limited to 150, so early application should be made for tickets.

Scottish A.C.

IN future the Scottish Automobile Club will have a proper club house, for they have purchased 11, Blythswood Square, Glasgow, which was formerly the town residence of Mr. Alex. Baird, of Gartsherrie, and which has been for the last twenty years, until his death recently, occupied by the well-known artist, the late Mr. Joseph Henderson. The house, which has a western exposure, comprises four flats, including the basement, and contains the usual public rooms of commodious dimensions. In addition, there is a handsome saloon to the rear, erected above the stable and coach-house, which latter, with the remaining available basement accommodation to the rear, will be converted into a motor house with accommodation for a considerable number of cars.

MOTOR CYCLING.

Auto-Cycle Union—Local Centre Scheme.

LAST week the Auto-Cycle Union published the draft of its new local centre scheme, and secretaries of motor cycle clubs should make a point of obtaining a copy, as the Union wish to receive all possible suggestions before the idea is finally passed. It is impossible to give very complete details of the scheme here, but it may be stated that it provides for the division of England and Wales into eleven centres. Each centre will have a committee, and will be supported by funds from the A.C.U. Each centre committee will transact all the business for its territory, and will be represented on the general committee. The following is a list of the territories which has been provisionally drawn up, with the proposed headquarters of each :—

1. *Northern* — Northumberland, Cumberland, Westmoreland, and Durham. (Headquarters, Newcastle.)
2. *Yorkshire*—(Headquarters, Bradford).
3. *Lancashire and N. Wales*—Lancashire, Cheshire, Flint, Denbigh, Montgomery, Merioneth, Carnarvon, Anglesea, and Isle of Man. (Headquarters, Manchester.)
4. *Nottingham and District*—Nottingham, Derby, Lincoln, Leicester, and Rutland. (Headquarters, Nottingham.)
5. *Midland*—Shropshire, Stafford, Hereford, Northampton, Worcester, and Warwick. (Headquarters, Birmingham.)
6. *South Wales*—Pembroke, Cardigan, Carmarthen, Radnor, Brecknock, Glamorgan, and Monmouth. (Headquarters, Cardiff.)
7. *Eastern Counties*—Huntingdon, Cambridge, Norfolk, Suffolk, and Essex. (Headquarters, Cambridge.)
8. *Metropolitan*—Within a radius of 20 miles from Charing Cross.
9. *South Western*—Cornwall, Devon, Somerset, Wilts, Dorset, and Gloucester. (Headquarters, Exeter.)
10. *Oxford and District*—Bedford, Hertford, Berkshire, Oxford, and Buckingham. (Headquarters, Oxford.)
11. *South Coast*—Kent, Sussex, Surrey, Hampshire and Isle of Wight, and Channel Islands. (Headquarters, Brighton.)

Motor Cyclists at Cambridge.

VERY successful during the past season has been the career of the Cambridge University M.C.C., but the members are looking forward to eclipsing it next year. They are, therefore, especially anxious that all interested in motor cycling at the University should join the Club, full particulars of which can be obtained from the Hon. Sec., Mr. A. H. Moreing, Trinity College.

A number of fixtures have been arranged for next term, commencing with a Club run to Thetford on January 23rd. There is to be a hill-climb at Croydon on January 30th, and a petrol consumption trial on February 6th. Another competition will be held at the hill at Croydon on February 20th, and the programme will comprise tests both for slow and fast climbing. A speed-judging competition is being arranged for February 27th, and on March 6th there will be a reliability trial, while on March 13th there will be a Club run to Wisbech.

New Motor Cycle Records.

AT the Canning Town track on December 22nd O. C. Godfrey, riding a 5-h.p. twin-cylinder Rex, succeeded in beating Harry Martin's six-hour motor cycle record, and, incidentally, all intermediate records from 101 to 268 miles. In six hours he covered 268 miles 285 yards, and his progress hour by hour was: 1 hour, 46 miles 800 yards; 2 hours, 93 miles 1,200 yards; 3 hours, 139 miles 320 yards; 4 hours, 186 miles 1,300 yards; 5 hours, 228 miles 1,600 yards. The previous best distance for six hours was 244 miles 1,650 yards.

The Hour Motor Cycle Record.

WITH reference to the paragraph in our issue of December 5th relating to Collier's hour motor cycle record made at Brooklands on October 8th, we understand from the Auto-Cycle Union that the mistake originally made in the distance given was not in any way attributable to the Brooklands A.R.C.

MOTOR BOATING.

B.M.B.C. Programme.

A SOMEWHAT lengthy programme, extending from the middle of May to the middle of September, has been drawn up by the British Motor Boat Club for next season. Gravesend having been found unsuitable, the venue for the opening Thames meeting on May 14th will be transferred to Erith, and on the following day there will be racing at Southend. The regatta at Lowestoft and Oulton will take place on May 29th, 31st, and June 1st, and the annual up-river meeting and dinner is to be held at Kingston on June 10th. From July 9th to the 12th there will be racing at Ramsgate, and on July 31st the London to Cowes race will shift the scene of operations to the Solent, where racing is being arranged for August 2nd, 3rd, 6th, and 7th. The season will be wound up by the three day regatta at Burnham commencing on September 9th. There is some talk of organising some races in Ireland and on the Clyde, and June 12–29th has been allocated as a suitable time for them to be held.

Motor Lifeboat.

THE lifeboat, "True to the Core," stationed at Walton-on-the-Naze, is to be brought up-to-date by being equipped with a 4-cyl. Brooke motor of 45-h.p. This will be arranged in a water-tight compartment, the controlling gear being brought to the deck through packing glands, while the air will be fed to the carburettor through a light non-return valve. The solid three-bladed propeller will be driven through a reversing-gear of the spur-wheel type.

Bexhill and Speed Limits.

THE Bexhill Town Council have decided to apply to the Local Government Board for powers to impose a speed limit of 5 miles an hour on motor vehicles using Barnham Road.

Refuges in Pall Mall.

AT a meeting of the Westminster City Council a lively discussion was provoked by a recommendation of the Works Committee that no furthur refuges should be erected in Pall Mall. The report was sent back by a large majority, and Capt. Jessel, in supporting the motion, pointed out that Pall Mall was one of the places where the Traffic Commission recommended that a refuge should be placed.

Speed of Doctors' Cars.

IT is impossible for those who know the absurdity of relying upon speed limits for checking reckless driving to take much interest in the controversy that is now going on as to whether or not doctors should be allowed to exceed the 20-mile limit when hastening to a patient who demands their immediate attention. On the one hand, it has been suggested that medical men should in such cases be authorised to display a red cross on their cars for the information of the police; and, on the other hand, it is held that no doctor has any right to jeopardise the lives of others in his endeavours to save the life of a patient. Both contentions have so much sound common sense in them—particularly if the recognised object of the red cross were to notify *everyone* that just cause for hurrying existed—that we can only wonder at the denseness of those good folk who do not appreciate the real moral of the situation.

Duray Injured in an Accident.

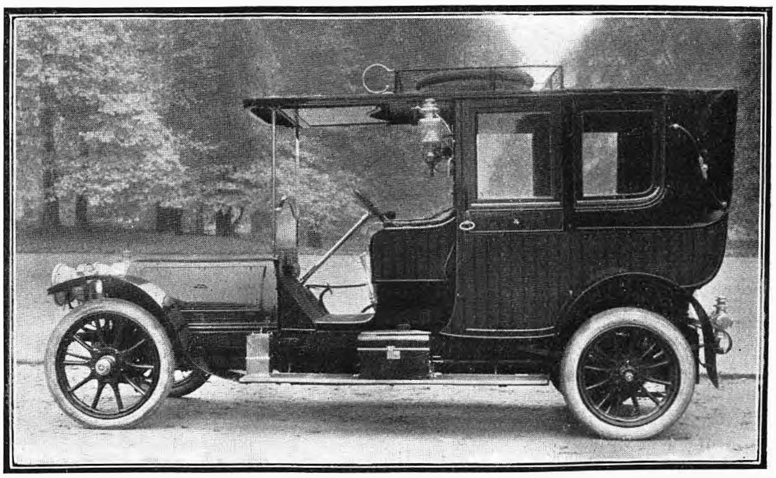
ALTHOUGH Duray, the famous driver of Lorraine-Dietrich cars, has driven many thousands of miles in high powered racing cars, in hotly contested races, without accident, he was involved in a smash two days before Christmas, as a result of which he is suffering from a broken kneecap. He was driving to Paris from Neuilly, at a reasonable speed, soon after dusk, when he suddenly came upon an unlighted vehicle and was unable to avoid a collision, the car finally landing against a tree. The mechanician was thrown out violently and seriously injured, whilst Duray sustained a broken kneecap. His friend, sitting by him, escaped with nothing worse than several bruises.

Passing Tramcars.

THE question as to the proper side on which to pass tramcars crops up periodically, and it is interesting to note a letter which has been received by the Commercial Motor Users' Association from the Commissioner of Metropolitan Police on the subject, in which he says that "he is not aware of any definite rule of law as to the side of which vehicles should pass tramcars. So much, however, depends on the actual circumstances of the moment that he is unable to offer an opinion as to the proper course to be pursued by a driver in a hypothetical case under conditions of which he is ignorant. So far as the Commissioner is aware, there is no special exception in force in cases where rails are laid close to the kerb, as at Brentford High Street and the Thames Embankment."

Motor 'Bus *v.* Lamp-Post.

THE first settlement has just been made under the agreement made in October last between the omnibus Companies and the Holborn Borough Council, whereby the former agreed to share the cost of damage done by their motor omnibuses to the latter's lamp-posts. The account against the 'bus Companies amounted to £21 7*s.* 5*d.*



THE LATEST 6-CYL. GERMAIN.—The engine of this handsome car is one of the smallest 6-cyl. models on the market, for its dimensions are only 86 by 110 mm.; it is rated at 20-h.p.

"Concours de Catalogues."

In connection with the Paris Salon a gold medal and several diplomas are awarded for the best catalogues issued by the various exhibitors, and to those who have been fortunate enough to get a copy, it will come as no surprise to learn that the Berliet catalogue secured the gold medal. Our readers will remember that we mentioned this beautiful production in our issue of May 2nd last, and reproduced a number of the very clever drawings by Rene Vincent which were interspersed with the text. The winners of the first prize diplomas were the Lorraine-Dietrich, Renault, Panhard, Delahaye and Charron firms, while the catalogue of Ducellier lamps easily carried off the honours in the accessory section.

Road Hogs in a Wagonette.

A motor car played a conspicuous part in the capture of a couple of real "road hogs" on Saturday last at Hornsey. A little girl, four years old, was crossing Turnpike Lane, when she was knocked down by a wagonette, receiving injuries from which she died subsequently. There were two men in the vehicle, but instead of stopping to render assistance, they drove off in the direction of Finchley. Fortunately a motor car came along, and the police, having obtained the assistance of the driver, gave chase, and caught up the wagonette and captured the two, who were brought up at Hornsey Police Court on Monday and charged with manslaughter. Will the Highways Protection League consider this a case which merits their attention?

"Everybody Likes to be Up-to-Date."

These were the opening words of a paragraph in a recent issue of one of our American contemporaries, and we naturally expected, on reading further, to be introduced to some startling development in motor car construction. Instead, however, a description was given of the pneumatic buffers, which were introduced by Mr. Simms in the middle of 1905, and a smile was raised by the American version of the *raison d'être* of the invention. It is said that the owner of a large car was greatly annoyed on his country trips by having to wait for cattle to move aside, and "not daring to ram them with the ordinary fragile front end, he conceived the idea illustrated. These cow-catchers, are so strongly built and also so rigidly attached that the cattle are unceremoniously pushed aside."

The Irrepressible Chauffeur Again.

In a recent case which came before the Westminster County Court, the owner of a car was successful in obtaining, on a counter-claim, damages to the extent of £150 against his chauffeur, in respect to an accident which occurred when the car had been taken out at night for an unauthorised pleasure run. The chauffeur, who sued the owner for arrears of wages and for other moneys due to him, endeavoured to maintain that the run was taken in order to test the working of the car after an adjustment had been made to the clutch; but it was proved that he had taken other individuals with him on the car, and that the accident had cost the owner a sum of over £200. Apparently there is still room for some simple lock-up device on private vehicles, whereby the owner can keep a close check upon the doings of his chauffeur when he himself is not actually using the machine. At any rate, it is evident that a sharp lookout should be maintained until the strict probity of the mechanic-driver has been established by his employer.

Chauffeurs' "Howlers."

One is accustomed now to the schoolboy "howlers" which appear in the Press occasionally, but an interesting variant was provided by the *R.A.C. Journal* in its last issue. It consisted of a batch of quaint answers, culled from the examination papers of those who have sat—some of them unsuccessfully, needless to say—for the R.A.C. Driving and Mechanical Proficiency Certificates. Four of the best were :—

"How can compression be lost?—Through the accumulators running down."

"If the water circulation were to stop, what part of the car would suffer?—The accumulator would be strained."

"What is compression for?—Compression is the power that drives the crooked shaft."

"What is the radiator intended for?—The radiator is fitted to the car so that the starting handle can be fastened to it."

Sarcasm.

Rules and regulations are not usually associated with humour, but the Committee of a chauffeurs' club at Wausau (Wis., U.S.A.) have determined to strike out a line of their own, and not to be governed by "dry-as-dust" bye-laws of the old-fashioned type. The new set of rules is simply chock full of sarcasm. For instance, one of them directs that when a horsed vehicle is met, the motorist is to stop on the proper side of the road, and cover the car with a tarpaulin, which shall match the surrounding scenery. Should the horse show signs of restiveness in spite of this, the car should be taken to pieces as rapidly as possible, and the various parts hid in the grass. When approaching a corner where he cannot see the road ahead, the motorist is bidden to pull up, ring a bell, fire a revolver, shout, and send up a bomb about every five minutes. It is also suggested that motor cars should be painted according to the seasons of the year, green for spring, gold for summer, red for autumn, and white for winter.

Motor Cars in India.—A striking commentary on the progress which motoring is making in India is afforded by the very complete catalogue which is to hand from Messrs. Oakes and Co., of Madras. The book, which has been produced by the native staff, contains 150 pages, and is full of illustrations of the many cars and accessories for which Messrs. Oakes and Co. are agents. In addition to this, the book contains quite a lot of information regarding the proper care of the various parts of a car, and altogether it should prove a valuable reference book for Indian motorists.

PUBLICATIONS RECEIVED.

The "Practical Engineer" Pocket Book and Diary, 1909. London: The Technical Publishing Co., Ltd., 55-56, Chancery Lane. Price, cloth 1*s.* (post free 1*s.* 3*d.*); leather 1*s.* 6*d.* (post free 1*s.* 9*d.*).

The "Trader" Handbook and Diary, 1909. London: The Cycle Trade Publishing Co., Ltd, 19-21, Wilson Street, E.C. Price 7*s.* 6*d.*

Golden Opinions. The London and Parisian Motor Co., Ltd., 87, Davies Street, W.

Old Students' Association Magazine. Vol. I, No. 3. London: Finsbury Technical College.

Catalogues.

Piccard-Pictet Cars and Chassis. Donne and Willans, Ltd., 29A, Gillingham Street, South Belgravia, S.W.

Rex Motor Bicycles. The Rex Motor Manufacturing Co., Ltd., Coventry.

Heating Motor Houses. R. Jenkins and Co., Rotherham.

"H.H." Complete System of Dry Battery Ignition. A. H. Hunt, 115-117, Cannon Street, E.C.

Siddeley Autocars, 1909. The Wolseley Tool and Motor Car Co., Ltd., York Street, Westminster, S.W.

Motor Cars, Cycles, Launches, and Accessories: Season 1908-09. Oakes and Co., Ltd., Mount Road, Madras.

Sheffield-Simplex. The Sheffield-Simplex Motor Works, Ltd. Tinsley, Sheffield.

COMPANY DOINGS.

Darracq-Serpollet Omnibus Co., Ltd.

At the meeting of shareholders last week, the Chairman, Mr. J. S. Smith-Winby, who presided, said that although the directors deplored the loss on the year of £17,154, and the disappointing character of the trading, the shareholders need not despair, as a change would come, and the general depression would pass away, when the directors would avail themselves of every opportunity to find remunerative business for the Company. In the meantime they were simply marking time, retrenchment in every direction being made, and whilst it was true they were not making money at the present time, very little expense was being incurred. Moreover, the directors were under the circumstances drawing no fees. Besides the death of Mons. Serpollet, which had naturally affected them adversely, they had also to contend with the absolute blight which had overtaken the business of supplying motor 'buses and other heavy motor vehicles such as their Company was formed to produce. Up to the present time, said the Chairman, the average receipts of the omnibuses belonging to the big London companies had been a fraction less than a shilling per mile. On the other hand, the cost of running, including only a very moderate allowance for depreciation, was admitted to have been not less than fifteen pence per mile. There were many routes in London on which passengers were now being carried for less than a halfpenny a mile. It simply could not be done without heavy loss, and it was beyond contention that the present fares will require to be raised by at least 50 per cent. all round before the business can be made to yield a reasonable return upon the capital involved.

In regard to the twenty Darracq-Serpollet omnibuses being run in London by the Metropolitan Steam Omnibus Co., they claimed that the running expenses were less than any other type at present before the public. If they were not earning much profit, they were certainly the only omnibuses in London which were not losing money at the present moment—and losing it heavily—and, with only a moderate increase in the tariff, the directors of the Metropolitan Company felt assured, as a result of over twelve months' experience, that their omnibuses could be run in London to pay, and to pay well, especially if they could see their way to increase the number.

Humber, Ltd.

The directors' report and accounts for the year ended August 31st, 1908, report a loss on trading of £23,082. The report states that whilst in the early part of the financial year the trade was quite satisfactory and the contracts obtained for cars in excess of those for the same period of the previous year, the business done in the car branch in the spring and summer months fell off considerably, a large proportion of those contracted for not being taken. The general depression in trade greatly affected the motor industry, and the placing on the market of many competitive cars at greatly reduced prices necessitated the disposal of a large portion of the output of the company's works at unremunerative prices. Steps were taken to reduce the establishment charges immediately on its becoming known that a reduction in the sales would occur. This served to minimise the loss, but as the reductions were made late in the season their full effect is not shown in the accounts. The concentration of the manufacturing at Coventry will, it is confidently believed, lead to considerable economies in production. To meet the public demand, the company is now producing a small two-cylinder car, which has met with much approval. In the cycle department, notwithstanding the depression, the returns shown are satisfactory, and the production of a new motor bicycle of up-to-date design promises to still further enhance the prosperity of this branch of the business. In view of the large expenditure on the new works, and of the fact that the motor as well as the cycle branch has now to be conducted to some extent on a credit basis, the directors feel that the best interests of the company make it incumbent upon them to raise fresh capital. In the present state of the money market they have no alternative but to ask the shareholders to consent to a reconstruction, which it is believed will place the company in a strong financial position, to the advantage of both classes of shareholders.

It is proposed that a new company (with the same board of directors) be registered with a capital of 550,000 shares of £1 each, of which 250,000 shall be preference shares entitled to a cumulative preferential dividend at the rate of 8 per cent. per annum, ranking for dividend from January 31st, 1909, and entitled to preferential repayment of capital, and the remainder shall be ordinary shares. It is then proposed to sell to the new company the whole of the assets of Humber, Limited, subject to the liabilities thereof. The members to be entitled, within twenty-one days of the date of the agreement hereinafter referred to, to claim one preference share of the new company credited with 13*s.* 4*d.* paid up thereon for each fully-paid preference share of the old company, and one ordinary share of the new company credited with 15*s.* paid up thereon for each fully-paid ordinary share of the old company. The balance of 6*s.* 8*d.* on each preference share and 5*s.* on each ordinary to be payable as to one moiety on the shares being claimed, and the other moiety on March 31st, 1909.

Fiat Motor Cab Co., Ltd.

The report and accounts for the period August 1st, 1907, to November 24th last state that considerable delay was experienced in the delivery of the cab chassis, but recently these have been coming forward satisfactorily, with the result that the company have now 180 complete cabs. This number is being added to almost daily. The delay before referred to, the instruction of drivers, the work of organisation, and the loss of revenue from 40 cabs, for a period of about four months, which were prevented from plying for hire owing to the dispute with the Thames Bank Wharf Motor Works, Limited (the maintenance contractors), have affected the first profit and loss account, and after allowing for depreciation on the company's cabs the debit balance carried forward amounts to £3,766. The company's cabs are now running efficiently, and the average revenue being earned is in excess of that estimated at the formation of the company. The company have also some private 15-20-h.p. landaulettes for hiring purposes. The company soon after its formation entered into the contract above referred to for the garaging and maintaining of its cabs. Serious difficulties having arisen under the contract, the directors gave notice of determination. The maintenance is now performed by the company's own servants, with entirely satisfactory results, the garage being at 10, Pancras Road.

Riley Cycle Co., Ltd.

The directors report that the Company has suffered owing to the severe depression in trade, which has seriously affected the cycle department. The tri-car department, in which large preparations for output had been made, has proved unsatisfactory, sales having decreased considerably, and a loss having resulted. The demand for cars has been very well maintained, and if quicker deliveries of the larger-type cars had been possible during the early months of the season, the trading results would have been different. The business done at the recent Show was well in excess of that of the previous year. There was a loss for the year of £1,146.

NEW COMPANIES REGISTERED.

Metropolitan Auto-Cab Co., Ltd., 46, Gresham Street, E.C.—Capital £100,000 (96,500 pref. ord. of £1 each and 70,000 def. of 1*s.* each). Formed to work under agreement with the Universal Development Co., Ltd., A. Pye-Smith, and the St. Pancras Ironwork Co., Ltd. The first vehicles are to be supplied by the Société Vinot et Deguingand, of Puteaux, France.

Private Companies.

Brookes Manufacturing Co., Ltd., 18, Bennett's Hill, Birmingham.—Capital £1,000, in £1 shares. Engineers, motor car, boat, and accessory manufacturers, &c.

Huntley Walker and Co., Ltd.—Capital £5,000, in £1 shares. Manufacturers and factors of, agents for, and dealers in motors, omnibuses, &c.

Marble Arch Garage, Ltd.—Capital £3,500, in £1 shares (1,000 6 per cent. preference).

Mercedes Cab Co., Ltd.—Capital £100, in £1 shares. Formed to carry on (by arrangement with the Mercedes-Daimler Motor Co., Ltd., and/or the Mercedes Co., Ltd.) the business of cab proprietors, motor cab manufacturers and vendors, &c.

New Automobilia Publishing Co., Ltd., 8-9, Essex Street, Strand, W.C.—Capital £40,000, in £1 shares (20,000 preferred ordinary). Formed to take over the Publications Automobilia, Ltd.

COMMERCIAL POINTS.

Owing to the renumbering of Ladbroke Grove by the Borough of Kensington, the address of Mass Cars is now 99, Ladbroke Grove, and all interested in these cars are requested to make a note of the change.

Gregoire-Gordon Cars.—Capt. Theo Masui wishes to inform amateur motorists that only those Gregoire-Gordon chassis which are supplied through him, and bearing his special name plate and number, carry his full guarantee. They are built especially for the English market according to his specification, and will be tuned up under his supervision. He cannot accept any liability regarding Gregoire chassis which are supplied through other sources, and which should not embody these latest improvements, neither is he prepared to supply spare parts for same.

Deasy Company Busy.—In view of the particularly good results from the Olympia Exhibition, the Deasy Co., whose new "Fifteen" model met the fancy of purchasers, have ordered the works to start on overtime now the Christmas holidays are over. It has also been found necessary to work a night shift in some of the departments to meet the demand for the Deasy cars.

Sheffield-Simplex Cars.—The appearance of the gear-boxless model of the Sheffield-Simplex Co. at the Olympia Exhibition, aroused a good deal of interest, and doubtless a good many people who were unable to inspect it then will send for a copy of the new catalogue. This gives details of the severe tests to which the car was subjected before being placed upon the market, and is illustrated by a number of very striking photographs showing the car on the various steep hills in England and Scotland which it was made to climb. Complete specifications of both Sheffield-Simplex models are also included.

Siddeley Cars.—The 1909 catalogue of Siddeley cars is splendidly got up, even better than the 1908 edition. It contains a number of sketches showing various types of Siddeley cars and the work for which they are most suited. For instance, the six-cylinder Limousine, as used by Her Majesty the Queen, is shown in St. James's Park, and a phaeton is depicted in a street of Carthagena. Needless to say, the book also contains the fullest possible particulars of all Siddeley models, and should be secured by all prospective owners.

The "Daimler Bulletin."—The second number of the "Daimler Bulletin" contains several items of interest to Daimler owners. Mr. Knight gives some particulars regarding the antecedents of the "Silent Knight" engine, Mr. A. E. Bush deals with the new gear-box, and Max Pemberton gives a graphic description of an incident in the Paris-Bordeaux Race of 1901. Daimler owners who have interesting reminiscences and photographs of tours on their cars are asked to send them along to Coventry, and if suitable they will be published in the "Bulletin."

A Doctor on Adams Cars.—A medical client of the Adams Co. writes as follows with reference to his little Adams car:—"So far we have done 6,200 miles; we can get any pace we like in reason, and to-day I took the car up the worst pitch in Newport, viz., Hill Street, which is, I should say, 1 in 5. (This has been verified by the borough surveyor.) It seems a good deal worse than 'Rest and be Thankful,' or Netherhall Gardens. I stopped twice on the steepest part—I got no run at the hill at all. This may be of use to inquirers from this part of the world. The other day we ran from near the Crystal Palace to Folkestone, 66 miles, in 3 hrs. 10 mins."

Sizaire Expenses.—Mr. Chas. Jarrott has just got out some rather interesting figures in regard to the running of a single-cylinder Sizaire-Naudin car which go to prove that a small powered car can be run a great distance at a very low cost. The car was driven by Mr. Ernest Gould, who has been travelling on behalf of Messrs. Jarrott and Letts through various parts of England. The distance covered between August 3rd and December 14th was 7,713 miles, the total cost of running for petrol, oil and garage charges showing an amount of £30 9*s.* 7*d.* Three hundred and fifteen gallons of petrol were used on the car during that distance, and 21 gallons of lubricating oil.

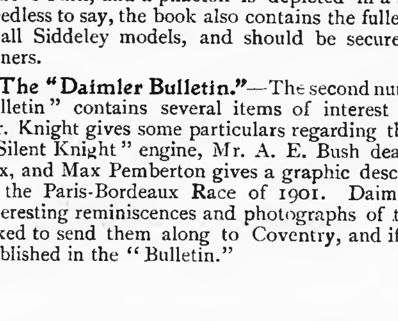
THE first ten cars to finish the 400-mile course of the American Grand Prize race of November 26th last were fitted with Bosch magneto ignition.

MR. E. H. WATSON, we learn, is severing his connection with Argyll Motors, Ltd., at the end of this month. Mr. Watson will have with him in his retirement a very generally expressed feeling of sympathy over the whole business in the past, and his efforts to keep things in good order since the collapse, pending the new arrangements which are culminating in the carrying out of the scheme of reconstruction. Mr. Watson informs us that as yet he has not attempted to make any fresh business arrangements of a definite character.

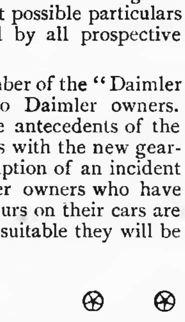
BRITISH PATENT SPECIFICATIONS. Selected and Abridged by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

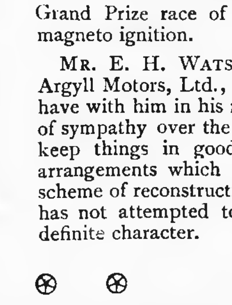
The first date given is the date of application; the second at the end, the date of the advertisement of the acceptance of the complete specification.

5117. 6th March, 1908. Improvements Relating to "Spare Wheels" for Motor Vehicles and their Attachment Devices. J. C. Dennis, of St. Mary's House, Guildford, Surrey. This invention has reference to spare wheels designed for attachment to the sides of the wheels of motor road vehicles for use when a tyre of the car wheel has become punctured or otherwise unusable. It relates to improved clips or clamps particularly for use with that type of spare wheel which is formed or provided with an annular seating or the like, adapted to fit the rim of the car wheel. Fig. 1 shows an annular seating on both sides of the spare wheel with the improved swivelling clamping-device. The rim, *a*, of the spare wheel is provided with an annular flange or flanges such as *b*, which are more or less conical or shaped to seat itself within the rim, *c*, of the car wheel, and so locate the two rims in position side by side, free from any radial movement. *d* is a clamping-jaw which is formed at one end with a shaped part, *e*, to engage the rim, *c*, of the car wheel, and at the other is pivotally connected at *f* to a lever, *g*, which is pivoted at *h* to a bracket, *i*, attached to the rim, *a*, of the spare wheel. A slip-ring, *k*, may be pivoted to the jaw, *d*, so as to engage the end of the lever, *g*, and prevent accidental unlocking, which may be brought about by sudden shock. The jaw, *d*, may be constructed in two parts overlapping each other, and formed with projecting ends or rings, *l*, between which a spring, *m*, is located, so as to provide a slight yielding or elastic grip. The clamping-device is reversible, that is to say, it may be swivelled round so as to enable its use on either side of the spare wheel, according which annular-seating, *b*, *b'*, is used for the attachment, it being understood that the two seatings are formed of different diameters to render the spare wheel more universal in its application. The bracket, *i*, is therefore formed with an annular flanged part, *n*, which fits within a housing, *o*, fixed to the rim, *a*, and is centred by a boss-plate, *p*, also fixed to the rim, *a*. In another figure the clamp is shown without the spring.—December 18th, 1908.



26580. 4th December, 1907. New or Improved Device for Cooling Liquid or Gaseous Media. This invention relates to a device for the purpose of cooling liquid in an effective manner by a current of air induced by a fan. In the so-called honeycomb radiators, in which the medium to be cooled passes over small cooling-tubes through which the cool air is drawn by a fan, the air is generally used only on the suction side of the fan, excepting in the rare cases in which two stacks of tubes or two radiators, peripherally connected, have had the fan situated between them. The object of the invention is to utilise not only the suction of the fan, but also what may be termed the peripheral throw-off as well as sometimes the pressure created by the fan. The cooling action of the air on the pressure side is a better one than on the suction side, as the air comes into more intimate contact with the surfaces of the cooler on the former side than on the latter. Fig. 4 is a vertical section parallel to the fan-shaft. Fig. 5 shows another form of construction in vertical section perpendicularly to the fan-shaft. Small tubes, *f*, are arranged in the tank, *b*, in addition to those in the honeycomb radiator proper. The water to be cooled enters at *c* and passes out at *d*. The air sucked in by the fan, *a*, through the small tubes of the radiator, *h*, is precipitated by the fan against the tank wall, *k*, surrounding it, and is forced through the tubes at those places at which the tank is provided with tubes. In the construction shown in Fig. 4, two honeycomb radiators, *h* and *i*, are arranged one behind the other, and the fan, *a*, is situated between them. The coolers, *h* and *i*, are connected by means of the extended rim, *b*, surrounding the fan circumferentially, and having small tubes, *f*. The air drawn through the cooler, *h*, is precipitated partly against the extended rim, *b*, and is forced through the small tubes, *f*, of the rim, and partly through the rear cooler, *i*. In the construction Fig. 5, the extended rim, *b*, surrounding the fan, *a*, is provided with small tubes, *f*, which run tangentially in the direction of rotation of the fan. By this arrangement, the passage of the air through the tubes is rendered as rapid as possible. This is of advantage when the air is in itself already comparatively warm, and therefore not so effective for cooling.—December 18th, 1908.





Patent Specifications Published.

Abbreviations:—I.C. = Internal combustion

Applied for in 1907.

Published December 31st, 1908.

24,100. L. A. HINDLEY. Wheels.
27,328. A. ANTHONY AND J. H. BROWNHILL. Divided rims.
27,473. W. T. BELL. I.C. engines.
27,584. J. NASH. Sectional pneumatic tyre.
27,598. J. H. HILL AND H. C. PHILLIPS. Carburettors.

Applied for in 1908.

Published December 31st, 1908.

2,216. G. F. LARKIN AND E. M. BOWDEN'S PATENTS SYND., LTD. Flexible transmission controlling device.
3,484. P. KRAUSE. I.C. engines.
4,814. C. DAVIS. Lamps.
6,452. C. SELLA. Change-speed gears.
14,388. G. INRIG. Pneumatic tyres.
14,554. P. ALLMAN AND G. W. T. LEESON. Electrical vulcanizing apparatus.
14,555. A. MONTENEGRO E IRISARRI. Band clutches.
16,608. O. L. VON PRAGENAU. Automobile trains.
17,689. R. ESNAULT-PELTERIE. Lubricating I.C. engines.